



Technical Catalogue

ENGLISH
ISSUE 7

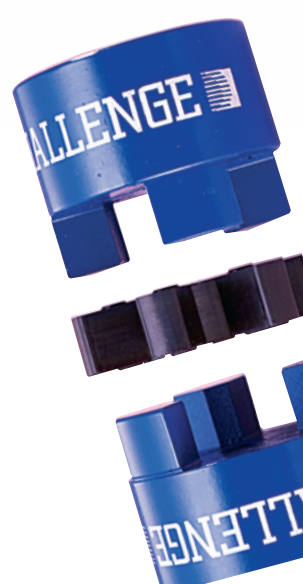
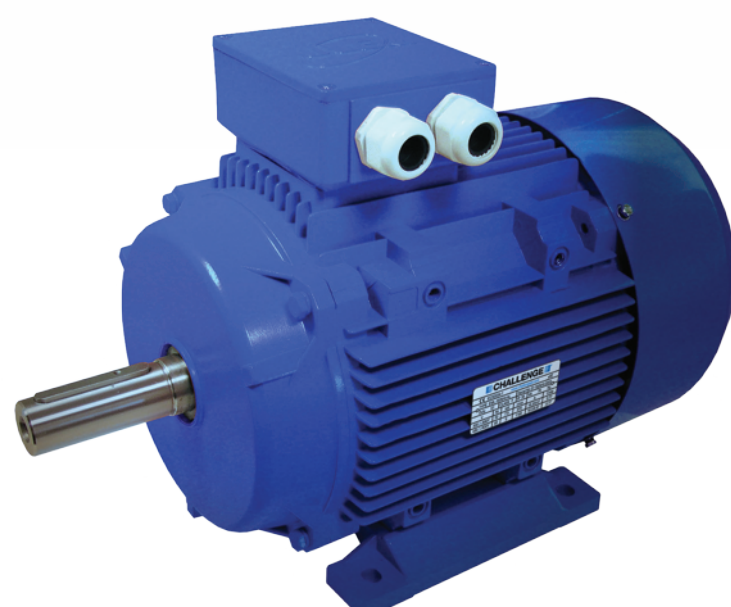
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Never a problem, always a...

 **CHALLENGE**  [®]





CHALLENGE
Roller Chain
10BSS-2 x 5m

ISO
9001

CHALLENGE

10BSS-2 x 5m

Challenge Roller Chain
CHALLENGE

CHA



Never a problem always a ...





Technical Catalogue

CHALLENGE PRODUCTS

PRECISION ROLLER CHAIN, IN STEEL, STAINLESS STEEL & ZINC/NICKEL PLATED
LEAF CHAIN
HEAVY DUTY DRIVE CHAIN
WELDED STEEL CHAIN (DRAG AND MILL CHAIN)
FOOD INDUSTRY CHAIN
AGRICULTURAL CHAIN
SPECIAL CHAIN AND ATTACHMENT CHAIN
CONVEYOR CHAIN
BLOCK CHAIN
ENGINEERED BUSH CHAIN
PALM OIL CHAIN
DROP FORGED CHAIN
SUGAR CHAIN
TAPER BORE & PILOT BORE V-PULLEYS
SYNCHRONOUS PULLEYS
PV PULLEYS
TAPER BUSHES
MULTIPLE GROOVE PULLEYS AND BUSHES
WEDGE AND CLASSICAL V-BELTS
TAPER BORED SPROCKETS
PILOT BORED & PLATEWHEEL SPROCKETS
FINISH BORED SPROCKETS
WELD-ON-HUBS AND BOLT-ON-HUBS
HRC COUPLINGS
FFX TYRE COUPLINGS
JAW COUPLINGS
NPX COUPLINGS
RPX COUPLINGS
CHAIN COUPLINGS
TORQUE LIMITERS
CLAMPING ELEMENTS
MOTOR MOUNTS
ELECTRIC MOTORS
WORM GEARS
SHAFT MOUNTED SPEED REDUCERS (SMSR + TXT)
SELF LUBE BEARING UNITS
PLUMMER BLOCKS
BEARINGS

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Technical Information

Engineering Units

SI units

The table below shows units corresponding to the International system of units, more commonly called SI (Système International d'Unités) From these , all other units can be derived.

| quantity | unit | metric symbol | imperial symbol |
|------------------|----------|---------------|-----------------|
| mass | kilogram | kg | pound (lb) |
| length | metre | m | inch (in) |
| time | second | s | s |
| temperature | Kelvin | K | Fahrenheit (F) |
| electric current | Ampere | A | A |

Some common units in general use appertaining to Power Transmission

| quantity | unit | metric symbol | imperial symbol |
|-----------------------|------------------------------|-------------------|---------------------|
| force | Newton | N | pound force (lbf) |
| | kilogram force | kgf | |
| torque | Newton metre | Nm | pound inch (lbf.in) |
| | kilogram metre | kgf.m | pound foot (lbf.ft) |
| power | Watt or kilowatt | W kW | horsepower hp |
| | pressure | Pascal | Pa |
| bar | | bar | psi |
| temperature | degree Celsius | °C | °F |
| frequency | Hertz | Hz | cycles/second (c/s) |
| speed – linear | metres/second | m/s | feet/min |
| speed – angular | revolutions per minute (rpm) | rev/min | rev/min |
| inertia | MR ² | kg.m ² | lb.in ² |
| | | | lb.ft ² |
| electrical potential | Volt | V | |
| electrical resistance | Ohm | Ω | |
| electrical capacity | Farad | F | |

Common multiples and sub-multiples

| prefix | symbol | factor |
|--------|--------|---------------------|
| micro | μ | ÷ 1,000,000 |
| milli | m | ÷ 1,000 |
| kilo | k | × 1,000 |
| mega | M | × 1,000,000 |
| tera | T | × 1,000,000,000,000 |

Common conversion factors

The factors given below are typical of those used in Power Transmission engineering :-

Metric to Imperial are on the left and the converse on the right

Length

millimetres (mm) x 0.0394 = inches (ins) inches x 25.4 = mm
 metres (m) x 39.37 = inches inches x 0.0254 = metres (m)
 metres x 3.281 = feet (ft) feet x 0.305 = metres
 kilometres x 0.6213 = miles miles x 1.61 = kilometres

Force

Newtons x 0.225 = pound force (lbf) lbf x 4.45 = Newtons (N)
 kilogram force (kgf) x 2.205 = lbf lbf x 0.454 = kgf
 kgf x 9.81 = Newtons
 N x 0.102 = kgf

Torque

Newton metre (Nm) x 0.735 = pounds feet (lbf.ft)
 Newton metre (Nm) x 8.85 = pounds inches (lbf.ins)
 kilogram force metre (kgf.m) x 9.81 = Newton metre

Power

kilowatt (kW) x 1.34 = horse power (hp) hp x 0.746 = kW

Note – the French Cheval-Vapeur (CV) and the German Pferdestärke (PS) are virtually the same value of horse power.
 To be exact, hp x 0.98 = CV or PS

Inertia

kg.m² x 23.73 = lb.ft²

Temperature

°C = $\frac{5}{9} \times (°F - 32)$ °F = $\frac{9}{5} \times °C + 32$

Pi (π)

The ratio between the circumference and diameter of a circle is π
 diameter x π = circumference

π = 3.1416

so diameter x 3.1416 = circumference

Common formulae useful in Power Transmission

Torque, Power and Speed

$$\text{Power (kW)} = \frac{\text{Torque (Nm)} \times \text{rev/min}}{9550}$$

$$\text{Torque (Nm)} = \frac{\text{Power (kW)} \times 9550}{\text{rev/min}}$$

'V' - Drive shaft/bearing loads

The following simple formulae give a good indication as to the static and dynamic loads imposed on shafts/bearings by 'V' - Belts

It is useful formulae being based on the actual setting force used to tension the drive

$$\begin{aligned} T_s &= \text{static tension} \\ T_c &= \text{centrifugal tension} \\ T_d &= \text{dynamic tension} \\ T_s &= 16 \times 2 \times P \times B = N \\ T_c &= M \times S^2 \times 2 \times B = N \\ T_d &= T_s - T_c = N \end{aligned}$$

where :-

$$\begin{aligned} 16 &= \text{a constant} \\ 2 &= \text{the tight and slack sides of the belt} \\ P &= 80\% \text{ of the higher tensioning force figure (1.3 x column) - kgf} \\ &\quad \text{(from page 170 in the CHALLENGE technical catalogue)} \\ B &= \text{the number of belts on the drive} \\ M &= \text{belt mass per unit length - kilogram per metre - kg/m} \\ &\quad \text{(from page 154 in the CHALLENGE technical catalogue)} \\ S &= \text{belt speed in metres per second (m/s)} \\ S &= \frac{d \times n}{19100} \text{ m/s} \end{aligned}$$

whereby :-

$$\begin{aligned} d &= \text{small pulley pitch diameter - mm} \\ n &= \text{rotational speed of small pulley - rev/min} \end{aligned}$$

Example

Calculate the dynamic tension from the following drive.

90kW 1440 rev/min direct start electric motor to a Belt Conveyor running at 400 rev/min for 12 hours/day carrying copper ore and absorbing 81 kW.

Motor shaft is 75 mm, conveyor shaft 105 mm. 1200 mm drive centres

The drive chosen is :-

Motor Pulley: 280 x 5 SPB with a 3535 / 75 mm bore taper bush

Conveyor pulley: 1000 x 5 SPB with a 4545 / 105 mm bore taper bush

Belts: 5 off SPB 4500 Wedge Belts giving 1191 mm drive centres

Calculating the Dynamic Tension

$$\begin{aligned} T_s &= 16 \times 2 \times P \times B \\ &= 16 \times 2 \times (8.2 \times 9.81 \times 0.80) \times 5 = 10297 \text{ N} \end{aligned}$$

$$T_c = M \times S^2 \times 2 \times B$$

whereby :-

$$\begin{aligned} M &= 0.19 \text{ kg/m} \\ S &= \frac{d \times n}{19100} = \frac{280 \times 1440}{19100} = 21.11 \text{ m/s} \end{aligned}$$

$$T_c = 0.19 \times 21.11^2 \times 2 \times 5 = 847 \text{ N}$$

$$T_d = T_s - T_c$$

$$T_d = 10297 - 847$$

$$= 9450 \text{ N}$$

The calculation of weights

Weight is mass measured vertically and simple empirical formulae can be used to calculate the weight of round and rectangular objects:

Round objects

diameter (mm) squared x length (m) x factor = weight (kgf)

$$\text{factor for mild steel} = 0.00617$$

$$\text{factor for stainless steel} = 0.00636$$

$$\text{factor for cast iron} = 0.00598$$

Example

calculate the weight of a 25mm diameter rod of mild steel with a length 500 mm.

$$25^2 \times 0.5 \times 0.00617 = 1.928 \text{ kgf}$$

Rectangular objects

depth (mm) x height (mm) x length (m) x factor = weight (kgf)

$$\text{factor for mild steel} = 0.00785$$

$$\text{factor for stainless steel} = 0.00809$$


$$\text{factor for cast iron} = 0.00761$$

Example


calculate the weight of a rectangular mild steel bar 25 mm x 35 mm with length 600 mm

$$25 \times 35 \times 0.6 \times 0.00785 = 4.121 \text{ kgf}$$


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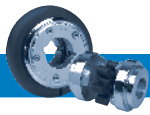
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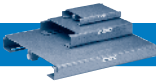
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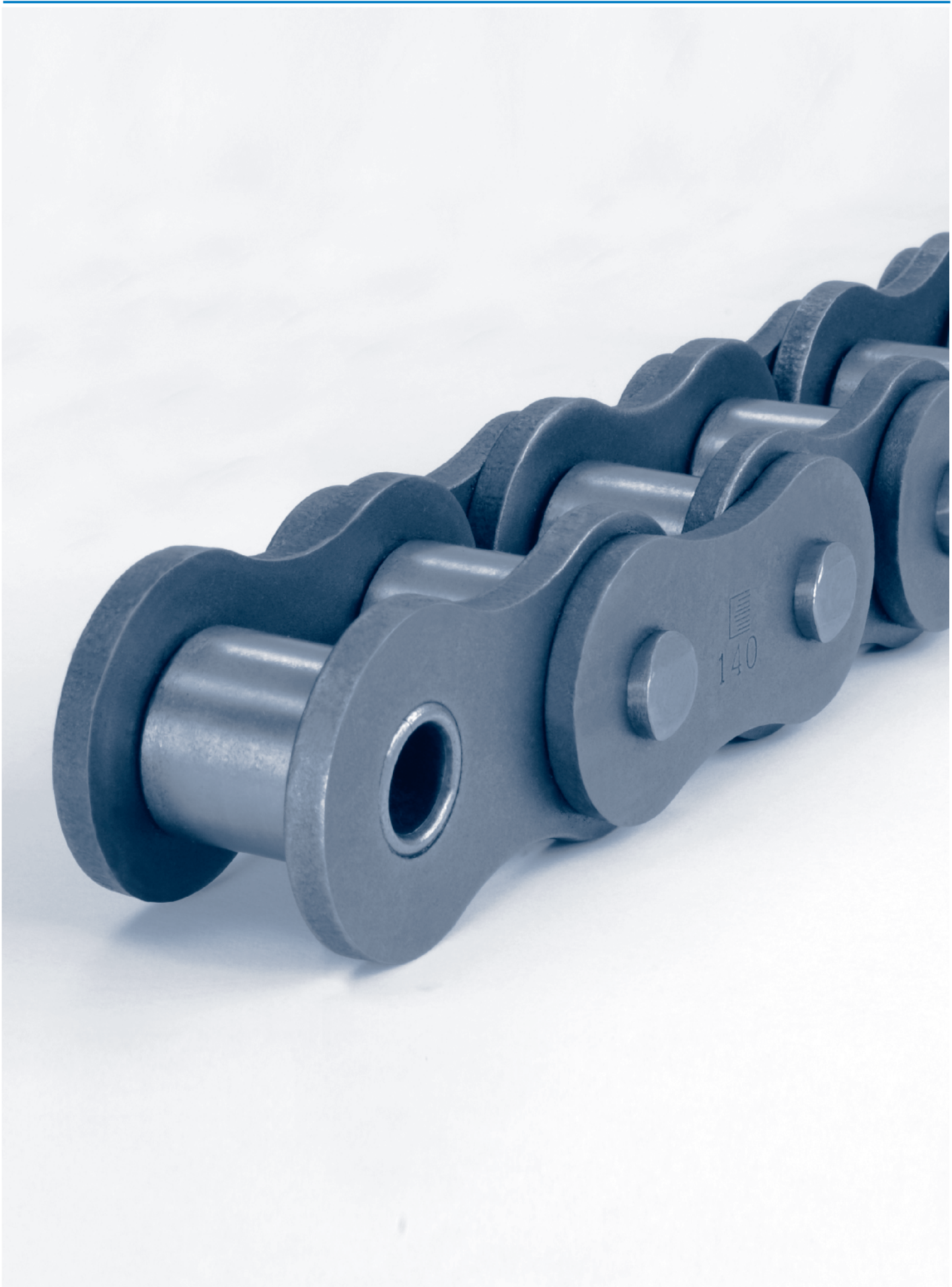
Bearings

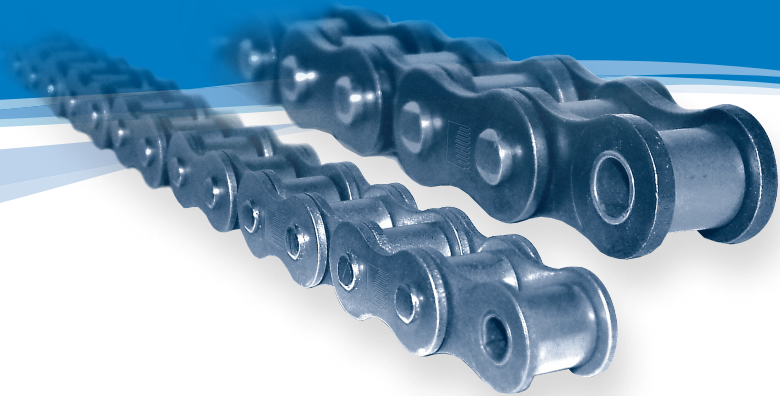
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Roller Chain





Features

Challenge offer a large range of various types of chain including – Transmission, Conveyor, Agricultural, Leaf and many types of special chains

Challenge Transmission Roller chain

Challenge roller chain is supplied in five meter boxes including one connecting link. Some sizes are available on reels or in 10ft boxes.

The range includes – ISO, BS, ANSI and many bespoke chains.

ISO roller chain – standard, straight side plate, extended pin, hollow pin, stainless steel, nickel plated, zinc plated, double pitch and specials.

ANSI roller chain – standard, heavy duty, cottered, cottered heavy duty, straight side plate, extended pin, stainless steel, nickel plated, zinc plated, double pitch (including extended pin, hollow pin) and specials.

Roller chain attachments – cover a large range for both ISO and ANSI chain, Timber, Agricultural and Conveyor chain.

Challenge transmission chains have a longer life because:

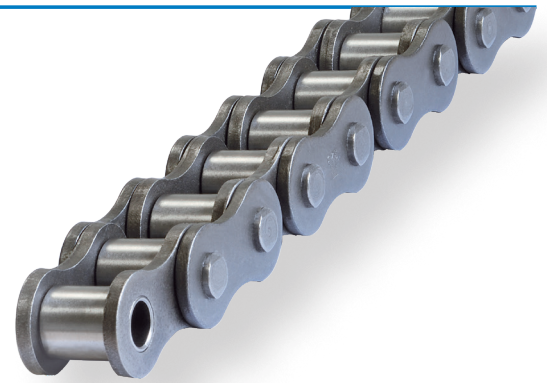
- **Pins** – manufactured from case hardened chrome manganese molybdenum steel. This increases wear resistance with more shock absorption ability.
- **Pre-stretched** – “fit and forget”.
- **Ball swaged holes** – combats fatigue failure.
- **Shot peened rollers and side plates** – reduces fatigue failure.
- **Deep waisted side plates** – increases breaking load and reduces stress.
- **Solid rollers** – prolongs wear life.

Roller Chain

The Benefits...

CHALLENGE X Series Transmission Chain

- **Heavy Rivet Case Hardened Pins in Alloy Steel**
- For optimum life
- **Pre-stretched** - Fit and forget
- **Ball swaged holes** - Combats fatigue
- **Shot peened**
- Produces strong surface and reduced fatigue
- **Deep waisted side plates** - Reduces stress
- **Rollers from seamless tube**
- For strength and long life



The X Series Range...

| British standard | | American standard | |
|------------------|----------|-------------------|--------|
| 20B-1X | 32B-2X | 100-1X | 180-1X |
| 20B-1GLX | 32B-3X | 100-2X | 180-2X |
| 20B-2X | 40B-1X | 100-3X | 180-3X |
| 20B-2GLX | 40B-1GLX | 120-1X | 200-1X |
| 20B-3X | 40B-2X | 120-1X | 200-2X |
| 20B-3GLX | 40B-3X | 120-1X | 200-3X |
| 24B-1X | 48B-1X | 140-1X | 240-1X |
| 24B-1GLX | 48B-1GLX | 140-2X | 240-2X |
| 24B-2X | 48B-2X | 140-3X | 240-3X |
| 24B-3X | 48B-3X | 160-1X | |
| 28B-1X | 56B-1X | 160-2X | |
| 28B-1GLX | 56B-2X | 160-2X | |
| 28B-2X | 56B-3X | | |
| 28B-3X | 64B-1X | | |
| 32B-1X | 64B-2X | | |
| 32B-1GLX | 64B-3X | | |

Also in the Roller Chain range

Roller Chain

- British Standard Roller Chain
- ANSI Standard Roller Chain
- ANSI Heavy Duty Roller Chain
- ANSI Cottered Series Roller Chain
- ANSI Cottered Heavy Duty Series Roller Chain
- ANSI Straight Side Plate Roller Chain
- British Standard Straight Side Plate Roller Chain
- Chain Breakers
- Timing Chain
- Bush Chain
- Bicycle Chain
- Bicycle Chain/Connecting Links
- Roller Chain with Extended Pins
- Special Transmission Roller Chain
- Hollow Pin Roller Chain
- Special Chain with "U" Elements
- Special Chain with "U" and Rubber Elements
- Transport Chain
- Special Chain with Driver
- Stainless Steel Transmission Roller Chain
- Side Bow Chain
- Nickel & Zinc Plated Transmission Roller

- Chain
- Roller Chain Attachments

Double Pitch Chain

- Double Pitch Transmission Chain
- Double Pitch Conveyor Chain
- Double Pitch Attachments
- Double Pitch Special Chain
- Double Pitch Extended Pin Chain
- Double Pitch Hollow Pin Chain

Leaf Chain

- LH / BL Series Leaf Chain
- LL Series Leaf Chain
- AL Series Leaf Chain
- FL Series Leaf Chain
- Clevis Pins
- Special Leaf Chain with Hollow Pin

Timber Chain

- Welded Steel Chain
- Welded Steel Chain Attachments (offset sidebar)
- Welded Steel Chain (offset side bar)
- Offset Sidebar Roller Chain

- Straight Sidebar Roller Chain
- Welded Steel Drag Chain
- Drag Chain Attachments

Agricultural Chain

- Steel Agricultural Chain
- Agricultural Chain Attachments

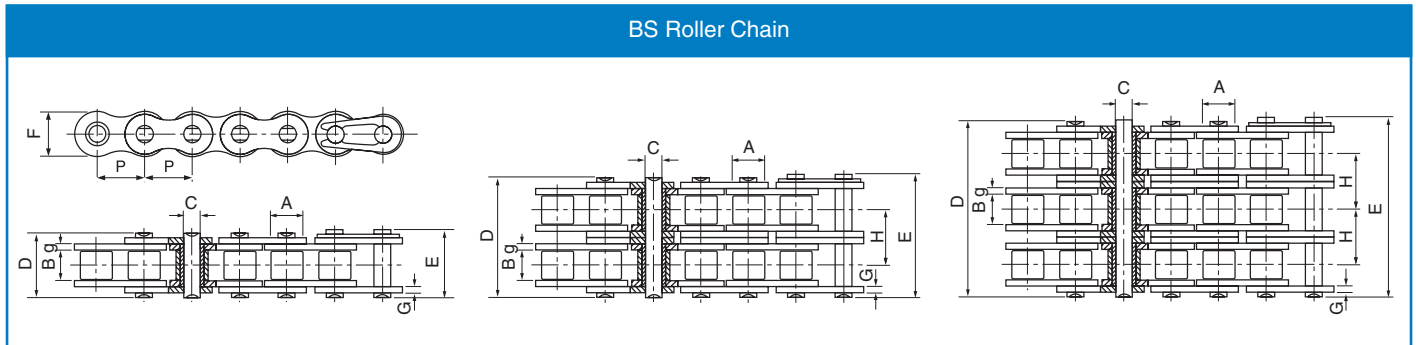
Conveyor Chain

- BS Z Series with Solid Pin Chain
- BS ZC Series with Hollow Pin Chain
- BS Z/ZC Series Attachments Chain
- BS ZE Series Deep Link Chain
- M Series Metric Solid Pin Chain
- M Series Chain Attachments
- MC Series Hollow Pin Chain
- MT/ME Series Deep Link Chain
- FV/C Series Metric Solid Pin Chain
- FV/C Series Metric Hollow Pin Chain
- FV/C Series Chain Attachments
- FVT/CE Series Metric Deep Link Chain
- FV/CR Series Metric Scraper Chain
- Special Conveyor Chain
- Special Conveyor Chain
- Conveyor Chain Attachment Chain Designations

Roller Chain

British Standard Roller Chain

BS228, ISO R606, DIN 8187



| ISO Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height | Plate thickness | Transverse pitch | Minimum tensile strength | Average tensile strength | Weight |
|------------------|---------|-----------------|----------------------------|--------------|------------|--------|--------------------|-----------------|------------------|--------------------------|--------------------------|--------|
| | P | A | B | C | D | E | F | g/G | H | kN | kN | kg/m |
| SIMPLEX | | | | | | | | | | | | |
| 04B-1 | 6.000 | 4.00 | 2.80 | 1.85 | 6.80 | 7.80 | 5.00 | 0.60 | - | 3.00 | 3.20 | 0.11 |
| 05B-1 | 8.000 | 5.00 | 3.00 | 2.31 | 8.20 | 8.90 | 7.10 | 0.80 | - | 5.00 | 5.90 | 0.20 |
| 06B-1 SSP | 9.525 | 6.35 | 5.72 | 3.28 | 13.15 | 14.10 | 8.20 | 1.30 | - | 9.00 | 10.40 | 0.41 |
| 08B-1 | 12.700 | 8.51 | 7.75 | 4.45 | 16.70 | 18.20 | 11.80 | 1.60 | - | 18.00 | 19.40 | 0.69 |
| 10B-1 | 15.875 | 10.16 | 9.65 | 5.08 | 19.50 | 20.90 | 14.70 | 1.70 | - | 22.40 | 27.50 | 0.93 |
| 12B-1 | 19.050 | 12.07 | 11.68 | 5.72 | 22.50 | 24.20 | 16.00 | 1.85 | - | 29.00 | 32.20 | 1.15 |
| 16B-1 | 25.400 | 15.88 | 17.02 | 8.28 | 36.10 | 37.40 | 21.00 | 4.15/3.1 | - | 60.00 | 72.80 | 2.71 |
| 20B-1X | 31.750 | 19.05 | 19.56 | 10.19 | 41.30 | 45.00 | 26.40 | 4.5/3.5 | - | 95.00 | 106.70 | 3.70 |
| 24B-1X | 38.100 | 25.40 | 25.40 | 14.63 | 53.40 | 57.80 | 33.20 | 6.0/4.8 | - | 160.00 | 178.00 | 7.10 |
| 28B-1X | 44.450 | 27.94 | 30.99 | 15.90 | 65.10 | 69.50 | 36.70 | 7.5/6.0 | - | 200.00 | 222.00 | 8.50 |
| 32B-1X | 50.800 | 29.21 | 30.99 | 17.81 | 66.00 | 71.00 | 42.00 | 7.0/6.0 | - | 250.00 | 277.50 | 10.25 |
| 40B-1X | 63.500 | 39.37 | 38.10 | 22.89 | 82.20 | 89.20 | 52.96 | 8.5/8.0 | - | 355.00 | 394.00 | 16.35 |
| 48B-1X | 76.200 | 48.26 | 45.72 | 29.24 | 99.10 | 107.00 | 63.80 | 12.0/10.0 | - | 560.00 | 621.60 | 25.00 |
| 56B-1X | 88.900 | 53.98 | 53.34 | 34.32 | 114.60 | 123.00 | 77.80 | 13.5/12.0 | - | 850.00 | 940.00 | 35.88 |
| 64B-1X | 101.600 | 63.50 | 60.96 | 39.40 | 130.00 | 138.50 | 90.17 | 15.0/13.0 | - | 1120.00 | 1240.00 | 46.50 |
| DUPLEX | | | | | | | | | | | | |
| 04B-2 | 6.000 | 4.00 | 2.80 | 1.85 | 12.00 | 13.00 | 5.00 | 0.60 | - | 4.68 | 5.50 | 0.18 |
| 05B-2 | 8.000 | 5.00 | 3.00 | 2.31 | 13.90 | 14.50 | 7.10 | 0.80 | 5.64 | 7.80 | 10.20 | 0.33 |
| 06B-2 SSP | 9.525 | 6.35 | 5.72 | 3.28 | 23.40 | 24.40 | 8.20 | 1.30 | 10.24 | 16.90 | 18.70 | 0.77 |
| 08B-2 | 12.700 | 8.51 | 7.75 | 4.45 | 31.20 | 32.20 | 11.80 | 1.60 | 13.92 | 32.00 | 38.70 | 1.34 |
| 10B-2 | 15.875 | 10.16 | 9.65 | 5.08 | 36.10 | 37.50 | 14.70 | 1.70 | 16.59 | 44.50 | 56.20 | 1.84 |
| 12B-2 | 19.050 | 12.07 | 11.68 | 5.72 | 42.00 | 43.60 | 16.00 | 1.85 | 19.46 | 57.80 | 66.10 | 2.31 |
| 16B-2 | 25.400 | 15.88 | 17.02 | 8.28 | 68.00 | 69.30 | 21.00 | 4.15/3.1 | 31.88 | 106.00 | 133.00 | 5.42 |
| 20B-2X | 31.750 | 19.05 | 19.56 | 10.19 | 77.80 | 81.50 | 26.40 | 4.5/3.5 | 36.45 | 170.00 | 211.20 | 7.20 |
| 24B-2X | 38.100 | 25.40 | 25.40 | 14.63 | 101.70 | 106.20 | 33.20 | 6.0/4.8 | 48.36 | 280.00 | 319.20 | 13.40 |
| 28B-2X | 44.450 | 27.94 | 30.99 | 15.90 | 124.60 | 129.10 | 36.70 | 7.5/6.0 | 59.56 | 360.00 | 406.80 | 16.60 |
| 32B-2X | 50.800 | 29.21 | 30.99 | 17.81 | 124.60 | 129.60 | 42.00 | 7.0/6.0 | 58.55 | 450.00 | 508.50 | 21.00 |
| 40B-2X | 63.500 | 39.37 | 38.10 | 22.89 | 154.50 | 161.50 | 52.96 | 8.5/8.0 | 72.29 | 630.00 | 711.90 | 32.00 |
| 48B-2X | 76.200 | 48.26 | 45.72 | 29.24 | 190.40 | 198.20 | 63.80 | 12.0/10.0 | 91.21 | 1000.00 | 1130.00 | 50.00 |
| 56B-2X | 88.900 | 53.98 | 53.34 | 34.32 | 221.20 | 229.60 | 77.80 | 13.5/12.0 | 106.60 | 1600.00 | 1760.00 | 71.76 |
| 64B-2X | 101.600 | 63.50 | 60.96 | 39.40 | 249.90 | 258.40 | 90.17 | 15.0/13.0 | 119.89 | 2000.00 | 2200.00 | 93.00 |
| TRIPLEX | | | | | | | | | | | | |
| 05B-3 | 8.000 | 5.00 | 3.00 | 2.31 | 19.50 | 20.20 | 7.10 | 0.80 | 5.64 | 11.10 | 13.80 | 0.48 |
| 06B-3 SSP | 9.525 | 6.35 | 5.72 | 3.28 | 33.50 | 34.60 | 8.20 | 1.30 | 10.24 | 24.90 | 30.10 | 1.16 |
| 08B-3 | 12.700 | 8.51 | 7.75 | 4.45 | 45.10 | 46.10 | 11.80 | 1.60 | 13.92 | 47.50 | 57.80 | 2.03 |
| 10B-3 | 15.875 | 10.16 | 9.65 | 5.08 | 52.70 | 54.10 | 14.70 | 1.70 | 16.59 | 66.70 | 84.50 | 2.77 |
| 12B-3 | 19.050 | 12.07 | 11.68 | 5.72 | 61.50 | 63.10 | 16.00 | 1.85 | 19.46 | 86.70 | 101.80 | 3.46 |
| 16B-3 | 25.400 | 15.88 | 17.02 | 8.28 | 99.80 | 101.20 | 21.00 | 4.15/3.1 | 31.88 | 160.00 | 203.70 | 8.13 |
| 20B-3X | 31.750 | 19.05 | 19.56 | 10.19 | 114.20 | 117.90 | 26.40 | 4.5/3.5 | 36.45 | 250.00 | 290.00 | 10.82 |
| 24B-3X | 38.100 | 25.40 | 25.40 | 14.63 | 150.10 | 154.60 | 33.20 | 6.0/4.8 | 48.36 | 425.00 | 493.00 | 20.10 |
| 28B-3X | 44.450 | 27.94 | 30.99 | 15.90 | 184.20 | 188.70 | 36.70 | 7.5/6.0 | 59.56 | 530.00 | 609.50 | 24.92 |
| 32B-3X | 50.800 | 29.21 | 30.99 | 17.81 | 183.20 | 188.20 | 42.00 | 7.0/6.0 | 58.55 | 670.00 | 770.50 | 31.56 |
| 40B-3X | 63.500 | 39.37 | 38.10 | 22.89 | 226.80 | 233.80 | 52.96 | 8.5/8.0 | 72.29 | 950.00 | 1092.50 | 48.10 |
| 48B-3X | 76.200 | 48.26 | 45.72 | 29.24 | 281.60 | 289.40 | 63.80 | 12.0/10.0 | 91.21 | 1500.00 | 1710.00 | 75.00 |
| 56B-3X | 88.900 | 53.98 | 53.34 | 34.32 | 327.80 | 336.20 | 77.80 | 13.5/12.0 | 106.60 | 2240.00 | 2240.00 | 107.64 |
| 64B-3X | 101.600 | 63.50 | 60.96 | 39.40 | 369.80 | 378.30 | 90.17 | 15.0/13.0 | 119.89 | 3000.00 | 3300.00 | 139.50 |

* SSP =Straight Side Plate Chain

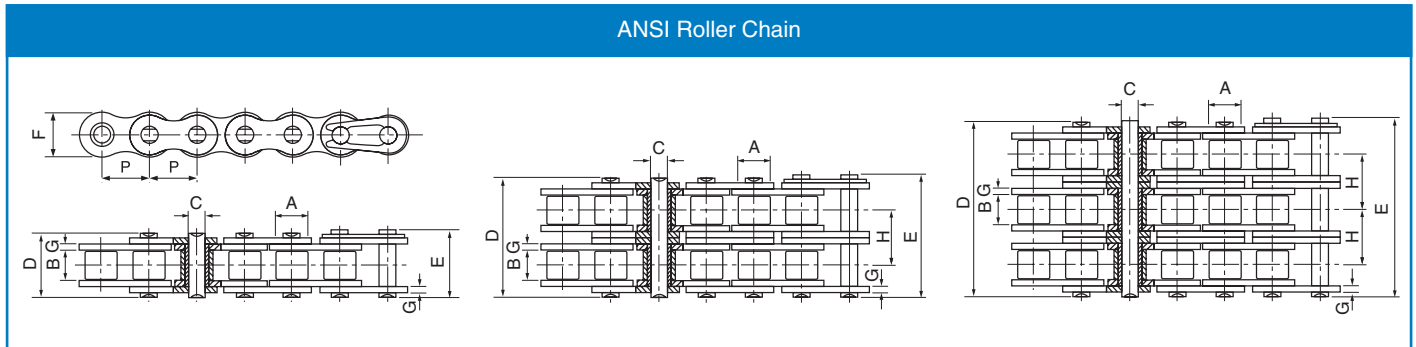
Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain

ANSI Standard Roller Chain

ANSI B29.1, ISO R606, DIN 8188



| ANSI Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height | Plate thickness | Transverse pitch | Minimum tensile strength | Average tensile strength | Weight |
|-------------------|--------|-----------------|----------------------------|--------------|------------|--------|--------------------|-----------------|------------------|--------------------------|--------------------------|--------|
| | P | A | B | C | D | E | F | g/G | H | kN | kN | kg/m |
| SIMPLEX | | | | | | | | | | | | |
| *15-1R | 4.763 | 2.48 | 2.38 | 1.62 | 6.10 | 6.90 | 4.30 | 0.60 | - | 1.8 | 2.0 | 0.08 |
| *25-1R | 6.350 | 3.30 | 3.18 | 2.31 | 7.90 | 8.40 | 6.00 | 0.80 | - | 3.5 | 4.6 | 0.15 |
| *35-1R | 9.525 | 5.08 | 4.77 | 3.58 | 12.40 | 13.17 | 9.00 | 1.30 | - | 7.9 | 10.8 | 0.33 |
| 41-1R | 12.700 | 7.77 | 6.25 | 3.58 | 13.75 | 15.00 | 9.91 | 1.30 | - | 6.7 | 12.6 | 0.41 |
| 40-1R | 12.700 | 7.95 | 7.85 | 3.96 | 16.60 | 17.80 | 12.00 | 1.50 | - | 14.1 | 17.5 | 0.62 |
| 50-1R | 15.875 | 10.16 | 9.40 | 5.08 | 20.70 | 22.20 | 15.09 | 2.03 | - | 22.2 | 29.4 | 1.02 |
| 60-1R | 19.050 | 11.91 | 12.57 | 5.94 | 25.90 | 27.70 | 18.00 | 2.42 | - | 31.8 | 41.5 | 1.50 |
| 80-1R | 25.400 | 15.88 | 15.75 | 7.92 | 32.70 | 35.00 | 24.00 | 3.25 | - | 56.7 | 69.4 | 2.60 |
| 100-1XR | 31.750 | 19.05 | 18.90 | 9.53 | 40.40 | 44.70 | 30.00 | 4.00 | - | 88.5 | 109.2 | 3.91 |
| 120-1XR | 38.100 | 22.23 | 25.22 | 11.10 | 50.30 | 54.30 | 35.70 | 4.80 | - | 127.0 | 156.3 | 5.62 |
| 140-1XR | 44.450 | 25.40 | 25.22 | 12.70 | 54.40 | 59.00 | 41.00 | 5.60 | - | 172.4 | 212.0 | 7.50 |
| 160-1XR | 50.800 | 28.58 | 31.55 | 14.27 | 64.80 | 69.60 | 47.80 | 6.40 | - | 226.8 | 278.9 | 10.10 |
| 180-1XR | 57.150 | 35.71 | 35.48 | 17.46 | 72.80 | 78.60 | 53.60 | 7.20 | - | 280.2 | 341.8 | 13.45 |
| 200-1XR | 63.500 | 39.68 | 37.85 | 19.85 | 80.30 | 87.20 | 60.00 | 8.00 | - | 353.8 | 431.6 | 16.15 |
| 240-1XR | 76.200 | 47.63 | 47.35 | 23.81 | 95.50 | 103.00 | 72.39 | 9.50 | - | 510.3 | 622.5 | 23.20 |
| DUPLEX | | | | | | | | | | | | |
| *25-2R | 6.350 | 3.30 | 3.18 | 2.31 | 14.50 | 15.00 | 6.00 | 0.80 | 6.40 | 7.0 | 8.6 | 0.28 |
| *35-2R | 9.525 | 5.08 | 4.77 | 3.58 | 22.50 | 23.30 | 9.00 | 1.30 | 10.13 | 15.8 | 19.7 | 0.63 |
| 41-2R | 12.700 | 7.77 | 6.25 | 3.58 | 25.70 | 26.90 | 9.91 | 1.30 | 11.95 | 13.3 | 16.9 | 0.81 |
| 40-2R | 12.700 | 7.95 | 7.85 | 3.96 | 31.00 | 32.20 | 12.00 | 1.50 | 14.38 | 28.2 | 35.9 | 1.12 |
| 50-2R | 15.875 | 10.16 | 9.40 | 5.08 | 38.90 | 40.40 | 15.09 | 2.03 | 18.11 | 44.4 | 58.1 | 2.00 |
| 60-2R | 19.050 | 11.91 | 12.57 | 5.94 | 48.80 | 50.50 | 18.00 | 2.42 | 22.78 | 63.6 | 82.1 | 2.92 |
| 80-2R | 25.400 | 15.88 | 15.75 | 7.92 | 62.70 | 64.30 | 24.00 | 3.25 | 29.29 | 113.4 | 141.8 | 5.15 |
| 100-2XR | 31.750 | 19.05 | 18.90 | 9.53 | 76.40 | 80.50 | 30.00 | 4.00 | 35.76 | 177.0 | 219.4 | 7.80 |
| 120-2XR | 38.100 | 22.23 | 25.22 | 11.10 | 95.80 | 99.70 | 35.70 | 4.80 | 45.44 | 254.0 | 314.9 | 11.70 |
| 140-2XR | 44.450 | 25.40 | 25.22 | 12.70 | 103.30 | 107.90 | 41.00 | 5.60 | 48.87 | 344.8 | 427.5 | 15.14 |
| 160-2XR | 50.800 | 28.58 | 31.55 | 14.27 | 123.30 | 128.10 | 47.80 | 6.40 | 58.55 | 453.6 | 562.4 | 20.14 |
| 180-2XR | 57.150 | 35.71 | 35.48 | 17.46 | 138.60 | 144.40 | 53.60 | 7.20 | 65.84 | 560.5 | 695.0 | 29.22 |
| 200-2XR | 63.500 | 39.68 | 37.85 | 19.85 | 151.90 | 158.80 | 60.00 | 8.00 | 71.55 | 707.6 | 877.4 | 32.24 |
| 240-2XR | 76.200 | 47.63 | 47.35 | 23.81 | 183.40 | 190.80 | 72.39 | 9.50 | 87.83 | 1020.6 | 1255.3 | 45.23 |
| TRIPLEX | | | | | | | | | | | | |
| *25-3R | 6.350 | 3.30 | 3.18 | 2.31 | 21.00 | 21.50 | 6.00 | 0.80 | 6.40 | 10.5 | 12.6 | 0.44 |
| *35-3R | 9.525 | 5.08 | 4.77 | 3.58 | 32.70 | 33.50 | 9.00 | 1.30 | 10.13 | 23.7 | 28.6 | 1.05 |
| 40-3R | 12.700 | 7.95 | 7.85 | 3.96 | 45.40 | 46.60 | 12.00 | 1.50 | 14.38 | 42.3 | 50.0 | 1.90 |
| 50-3R | 15.875 | 10.16 | 9.40 | 5.08 | 57.00 | 58.50 | 15.09 | 2.03 | 18.11 | 66.6 | 77.8 | 3.09 |
| 60-3R | 19.050 | 11.91 | 12.57 | 5.94 | 71.50 | 73.30 | 18.00 | 2.42 | 22.78 | 95.4 | 111.1 | 4.54 |
| 80-3R | 25.400 | 15.88 | 15.75 | 7.92 | 91.70 | 93.60 | 24.00 | 3.25 | 29.29 | 170.1 | 198.4 | 7.89 |
| 100-3XR | 31.750 | 19.05 | 18.90 | 9.53 | 112.20 | 116.30 | 30.00 | 4.00 | 35.76 | 265.5 | 309.6 | 11.77 |
| 120-3XR | 38.100 | 22.23 | 25.22 | 11.10 | 141.40 | 145.20 | 35.70 | 4.80 | 45.44 | 381.0 | 437.2 | 17.53 |
| 140-3XR | 44.450 | 25.40 | 25.22 | 12.70 | 152.20 | 156.80 | 41.00 | 5.60 | 48.87 | 517.2 | 593.3 | 22.20 |
| 160-3XR | 50.800 | 28.58 | 31.55 | 14.27 | 181.80 | 186.60 | 47.80 | 6.40 | 58.55 | 680.4 | 780.6 | 30.02 |
| 180-3XR | 57.150 | 35.71 | 35.48 | 17.46 | 204.40 | 210.20 | 53.60 | 7.20 | 65.84 | 840.7 | 983.6 | 38.22 |
| 200-3XR | 63.500 | 39.68 | 37.85 | 19.85 | 223.50 | 230.40 | 60.00 | 8.00 | 71.55 | 1061.4 | 1217.8 | 49.03 |
| 240-3XR | 76.200 | 47.63 | 47.35 | 23.81 | 271.30 | 278.60 | 72.39 | 9.50 | 87.83 | 1530.9 | 1756.5 | 71.60 |

* Bush chain: A in the table indicates the external diameter of the bush

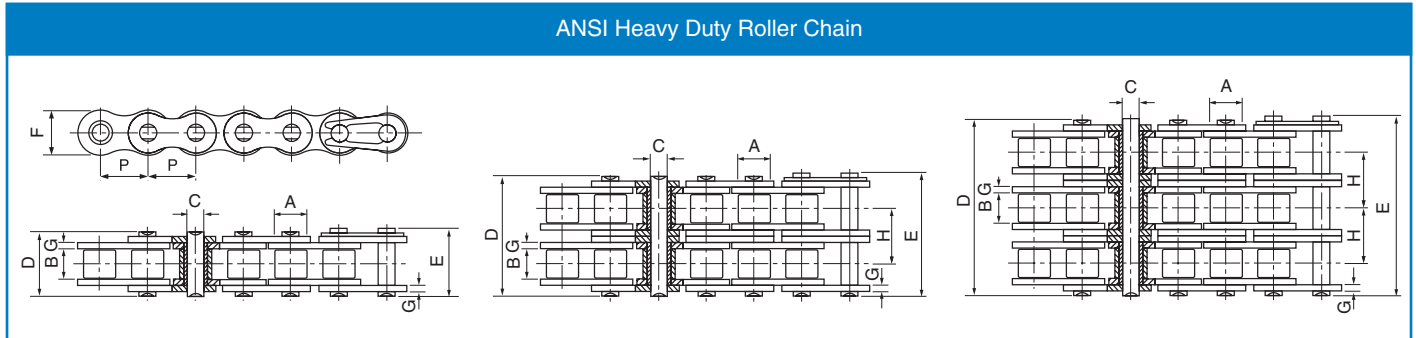
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Roller Chain

ANSI Heavy Duty Roller Chain

ANSI B29.1, ISO R606, DIN 8188



| ANSI Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height | Plate thickness | Transverse pitch | Minimum tensile strength | Average tensile strength | Weight |
|-------------------|--------|-----------------|----------------------------|--------------|------------|--------|--------------------|-----------------|------------------|--------------------------|--------------------------|--------|
| | P | A | B | C | D | E | F | G | H | kN | kN | kg/m |
| SIMPLEX | | | | | | | | | | | | |
| 40H-1R | 12.700 | 7.95 | 7.85 | 3.96 | 18.80 | 19.90 | 12.00 | 2.03 | - | 14.10 | 19.10 | 0.82 |
| 50H-1R | 15.875 | 10.16 | 9.40 | 5.08 | 22.10 | 23.40 | 15.09 | 2.42 | - | 22.20 | 30.20 | 1.25 |
| 60H-1R | 19.050 | 11.91 | 12.57 | 5.94 | 29.20 | 31.00 | 18.00 | 3.25 | - | 31.80 | 42.70 | 1.87 |
| 80H-1R | 25.400 | 15.88 | 15.75 | 7.92 | 36.20 | 37.70 | 24.00 | 4.00 | - | 56.70 | 71.40 | 3.10 |
| 100H-1XR | 31.750 | 19.05 | 18.90 | 9.53 | 43.60 | 46.90 | 30.00 | 4.80 | - | 88.50 | 112.40 | 4.52 |
| 120H-1XR | 38.100 | 22.23 | 25.22 | 11.10 | 53.50 | 57.50 | 35.70 | 5.60 | - | 127.00 | 160.90 | 6.60 |
| 140H-1XR | 44.450 | 25.40 | 25.22 | 12.70 | 57.60 | 62.20 | 41.00 | 6.40 | - | 172.40 | 217.30 | 8.30 |
| 160H-1XR | 50.800 | 28.58 | 31.55 | 14.27 | 68.20 | 73.00 | 47.80 | 7.20 | - | 226.80 | 285.80 | 10.30 |
| 200H-1XR | 63.500 | 39.68 | 37.85 | 19.85 | 86.60 | 93.50 | 60.00 | 9.50 | - | 353.80 | 444.50 | 19.16 |
| DUPLEX | | | | | | | | | | | | |
| 60H-2R | 19.050 | 11.91 | 12.57 | 5.94 | 55.30 | 57.10 | 18.00 | 3.25 | 26.11 | 63.60 | 84.50 | 3.71 |
| 80H-2R | 25.400 | 15.88 | 15.75 | 7.92 | 68.80 | 70.30 | 24.00 | 4.00 | 32.59 | 113.40 | 145.30 | 6.15 |
| 100H-2R | 31.750 | 19.05 | 18.90 | 9.53 | 82.70 | 86.00 | 30.00 | 4.80 | 39.09 | 177.00 | 225.90 | 9.03 |
| 120H-2XR | 38.100 | 22.23 | 25.22 | 11.10 | 102.40 | 106.40 | 35.70 | 5.60 | 48.87 | 254.00 | 322.70 | 13.13 |
| 140H-2XR | 44.450 | 25.40 | 25.22 | 12.70 | 109.80 | 114.40 | 41.00 | 6.40 | 52.20 | 344.80 | 437.70 | 16.60 |
| 160H-2XR | 50.800 | 28.58 | 31.55 | 14.27 | 130.10 | 134.90 | 47.80 | 7.20 | 61.90 | 453.60 | 571.60 | 20.20 |
| 200H-2XR | 63.500 | 39.68 | 37.85 | 19.85 | 164.90 | 171.80 | 60.00 | 9.50 | 78.31 | 707.60 | 894.90 | 38.11 |
| TRIPLEX | | | | | | | | | | | | |
| 60H-3R | 19.050 | 11.91 | 12.57 | 5.94 | 81.40 | 83.20 | 18.00 | 3.25 | 26.11 | 95.40 | 113.90 | 5.54 |
| 80H-3R | 25.400 | 15.88 | 15.75 | 7.92 | 101.40 | 102.90 | 24.00 | 4.00 | 32.59 | 170.10 | 203.50 | 9.42 |
| 100H-3XR | 31.750 | 19.05 | 18.90 | 9.53 | 121.80 | 125.10 | 30.00 | 4.80 | 39.09 | 265.50 | 314.80 | 12.96 |
| 120H-3XR | 38.100 | 22.23 | 25.22 | 11.10 | 151.20 | 155.20 | 35.70 | 5.60 | 48.87 | 381.00 | 444.70 | 19.64 |
| 140H-3XR | 44.450 | 25.40 | 25.22 | 12.70 | 162.00 | 166.60 | 41.00 | 6.40 | 52.20 | 517.20 | 598.40 | 24.90 |
| 160H-3XR | 50.800 | 28.58 | 31.55 | 14.27 | 192.00 | 196.80 | 47.80 | 7.20 | 61.90 | 680.40 | 787.30 | 30.10 |
| 200H-3XR | 63.500 | 39.68 | 37.85 | 19.85 | 243.20 | 250.10 | 60.00 | 9.50 | 78.31 | 1061.40 | 1228.20 | 57.06 |

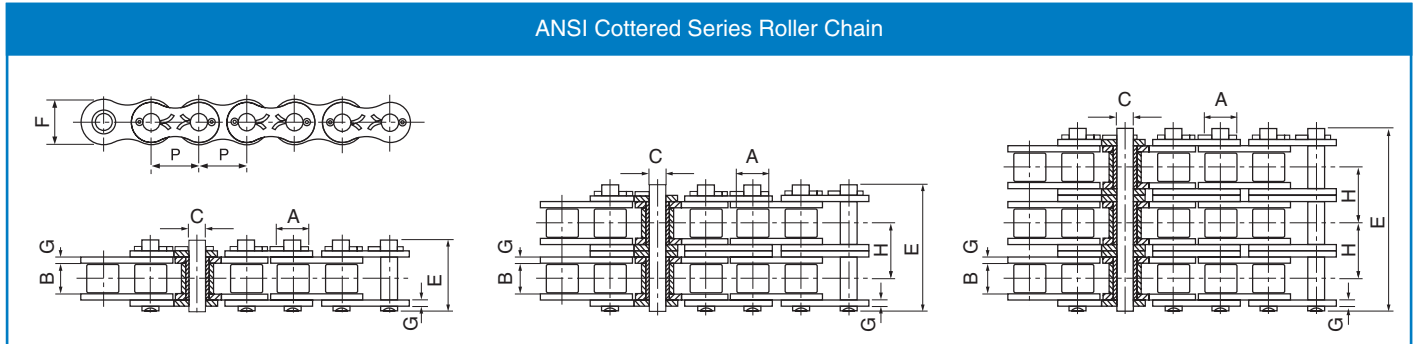
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Roller Chain

ANSI Cotted Series Roller Chain

ANSI B29.1, ISO R606, DIN 8188



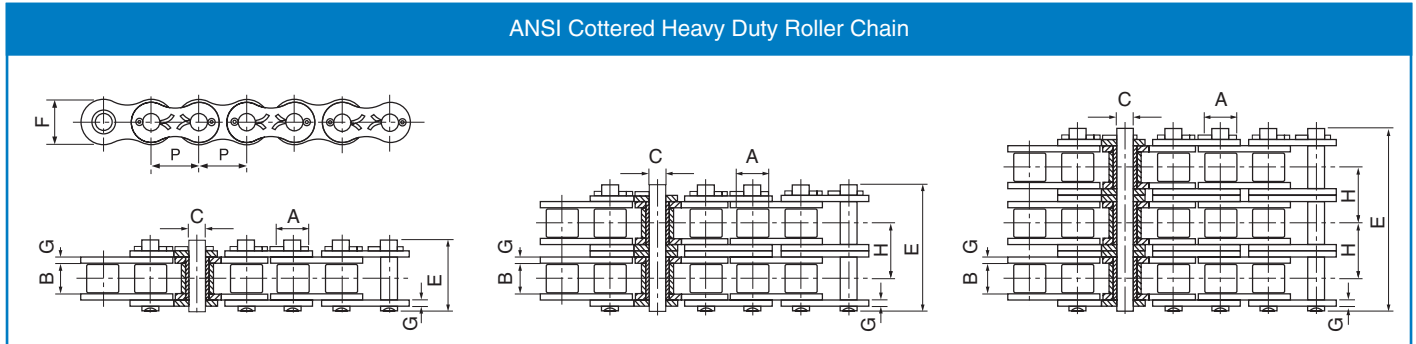
| ANSI Chain number | Pitch P | Roller diameter A | Width between inner plates B | Pin diameter C | Pin length E | Inner plate height F | Plate thickness G | Transverse pitch H | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|-------------------|------------|----------------------|---------------------------------|-------------------|-----------------|-------------------------|----------------------|-----------------------|--------------------------------|--------------------------------|----------------|
| SIMPLEX | | | | | | | | | | | |
| 50-1C | 15.875 | 10.16 | 9.40 | 5.08 | 23.00 | 15.09 | 2.03 | - | 22.20 | 29.40 | 1.02 |
| 60-1C | 19.050 | 11.91 | 12.57 | 5.94 | 28.30 | 18.00 | 2.42 | - | 31.80 | 41.50 | 1.50 |
| 80-1C | 25.400 | 15.88 | 15.75 | 7.92 | 36.50 | 24.00 | 3.25 | - | 56.70 | 69.40 | 2.60 |
| 100-1C | 31.750 | 19.05 | 18.90 | 9.53 | 44.70 | 30.00 | 4.00 | - | 88.50 | 109.20 | 3.91 |
| 120-1C | 38.100 | 22.23 | 25.22 | 11.10 | 54.30 | 35.70 | 4.80 | - | 127.00 | 156.30 | 5.62 |
| 140-1C | 44.450 | 25.40 | 25.22 | 12.70 | 59.00 | 41.00 | 5.60 | - | 172.40 | 212.00 | 7.50 |
| 160-1C | 50.800 | 28.58 | 31.55 | 14.27 | 69.60 | 47.80 | 6.40 | - | 226.80 | 278.90 | 10.10 |
| 180-1C | 57.150 | 35.71 | 35.48 | 17.46 | 78.60 | 53.60 | 7.20 | - | 280.20 | 341.80 | 13.45 |
| 200-1C | 63.500 | 39.68 | 37.85 | 19.85 | 87.20 | 60.00 | 8.00 | - | 353.80 | 431.60 | 16.15 |
| 240-1C | 76.200 | 47.63 | 47.35 | 23.81 | 103.00 | 72.39 | 9.50 | - | 510.30 | 622.50 | 23.20 |
| DUPLEX | | | | | | | | | | | |
| 50-2C | 15.875 | 10.16 | 9.40 | 5.08 | 41.20 | 15.09 | 2.03 | 18.11 | 44.40 | 58.10 | 2.00 |
| 60-2C | 19.050 | 11.91 | 12.57 | 5.94 | 51.10 | 18.00 | 2.42 | 22.78 | 63.60 | 82.10 | 2.92 |
| 80-2C | 25.400 | 15.88 | 15.75 | 7.92 | 65.80 | 24.00 | 3.25 | 29.29 | 113.40 | 141.80 | 5.15 |
| 100-2C | 31.750 | 19.05 | 18.90 | 9.53 | 80.50 | 30.00 | 4.00 | 35.76 | 177.00 | 219.40 | 7.80 |
| 120-2C | 38.100 | 22.23 | 25.22 | 11.10 | 99.70 | 35.70 | 4.80 | 45.44 | 254.00 | 314.90 | 11.70 |
| 140-2C | 44.450 | 25.40 | 25.22 | 12.70 | 107.90 | 41.00 | 5.60 | 48.87 | 344.80 | 427.50 | 15.14 |
| 160-2C | 50.800 | 28.58 | 31.55 | 14.27 | 128.10 | 47.80 | 6.40 | 58.55 | 453.60 | 562.40 | 20.14 |
| 180-2C | 57.150 | 35.71 | 35.48 | 17.46 | 144.40 | 53.60 | 7.20 | 65.84 | 560.50 | 695.00 | 29.22 |
| 200-2C | 63.500 | 39.68 | 37.85 | 19.85 | 158.80 | 60.00 | 8.00 | 71.55 | 707.60 | 877.40 | 32.24 |
| 240-2C | 76.200 | 47.63 | 47.35 | 23.81 | 190.80 | 72.39 | 9.50 | 87.83 | 1020.60 | 1255.30 | 45.23 |
| TRIPLEX | | | | | | | | | | | |
| 50-3C | 15.875 | 10.16 | 9.40 | 5.08 | 59.30 | 15.09 | 2.03 | 18.11 | 66.60 | 77.80 | 3.09 |
| 60-3C | 19.050 | 11.91 | 12.57 | 5.94 | 73.90 | 18.00 | 2.42 | 22.78 | 95.40 | 111.10 | 4.54 |
| 80-3C | 25.400 | 15.88 | 15.75 | 7.92 | 93.60 | 24.00 | 3.25 | 29.29 | 170.10 | 198.40 | 7.89 |
| 100-3C | 31.750 | 19.05 | 18.90 | 9.53 | 116.30 | 30.00 | 4.00 | 35.76 | 265.50 | 309.60 | 11.77 |
| 120-3C | 38.100 | 22.23 | 25.22 | 11.10 | 145.20 | 35.70 | 4.80 | 45.44 | 381.00 | 437.20 | 17.53 |
| 140-3C | 44.450 | 25.40 | 25.22 | 12.70 | 156.80 | 41.00 | 5.60 | 48.87 | 517.20 | 593.30 | 22.20 |
| 160-3C | 50.800 | 28.58 | 31.55 | 14.27 | 186.60 | 47.80 | 6.40 | 58.55 | 680.40 | 780.60 | 30.02 |
| 180-3C | 57.150 | 35.71 | 35.48 | 17.46 | 210.20 | 53.60 | 7.20 | 65.84 | 840.70 | 983.60 | 38.22 |
| 200-3C | 63.500 | 39.68 | 37.85 | 19.85 | 230.40 | 60.00 | 8.00 | 71.55 | 1061.40 | 1217.80 | 49.03 |
| 240-3C | 76.200 | 47.63 | 47.35 | 23.81 | 278.60 | 72.39 | 9.50 | 87.83 | 1530.90 | 1756.50 | 71.60 |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Roller Chain

ANSI Cotteded Heavy Duty Roller Chain

ANSI B29.1, ISO R606, DIN 8188

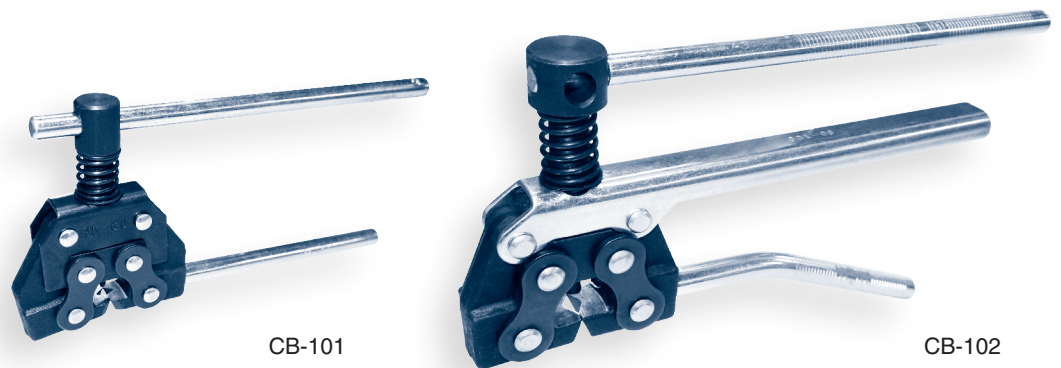


| ANSI Chain number | Pitch P | Roller diameter A | Width between inner plates B | Pin diameter C | Pin length E | Inner plate height F | Plate thickness G | Transverse pitch H | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|-------------------|------------|----------------------|---------------------------------|-------------------|-----------------|-------------------------|----------------------|-----------------------|--------------------------------|--------------------------------|----------------|
| SIMPLEX | | | | | | | | | | | |
| 50H-1C | 15.875 | 10.16 | 9.40 | 5.08 | 24.40 | 15.09 | 2.42 | - | 22.20 | 30.20 | 1.25 |
| 60H-1C | 19.050 | 11.91 | 12.57 | 5.94 | 31.60 | 18.00 | 3.25 | - | 31.80 | 42.70 | 1.87 |
| 80H-1C | 25.400 | 15.88 | 15.75 | 7.92 | 39.40 | 24.00 | 4.00 | - | 56.70 | 71.40 | 3.10 |
| 100H-1C | 31.750 | 19.05 | 18.90 | 9.53 | 46.90 | 30.00 | 4.80 | - | 88.50 | 112.40 | 4.52 |
| 120H-1C | 38.100 | 22.23 | 25.22 | 11.10 | 57.50 | 35.70 | 5.60 | - | 127.00 | 160.90 | 6.60 |
| 140H-1C | 44.450 | 25.40 | 25.22 | 12.70 | 62.20 | 41.00 | 6.40 | - | 172.40 | 217.30 | 8.30 |
| 160H-1C | 50.800 | 28.58 | 31.55 | 14.27 | 73.00 | 47.80 | 7.20 | - | 226.80 | 285.80 | 10.30 |
| 200H-1C | 63.500 | 39.68 | 37.85 | 19.85 | 93.50 | 60.00 | 9.50 | - | 353.80 | 444.50 | 19.16 |
| DUPLEX | | | | | | | | | | | |
| 60H-2C | 19.050 | 11.91 | 12.57 | 5.94 | 57.70 | 18.00 | 3.25 | 26.11 | 63.60 | 84.50 | 3.71 |
| 80H-2C | 25.400 | 15.88 | 15.75 | 7.92 | 72.00 | 24.00 | 4.00 | 32.59 | 113.40 | 145.30 | 6.15 |
| 100H-2C | 31.750 | 19.05 | 18.90 | 9.53 | 86.00 | 30.00 | 4.80 | 39.09 | 177.00 | 225.90 | 9.03 |
| 120H-2C | 38.100 | 22.23 | 25.22 | 11.10 | 106.40 | 35.70 | 5.60 | 48.87 | 254.00 | 322.70 | 13.13 |
| 140H-2C | 44.450 | 25.40 | 25.22 | 12.70 | 114.40 | 41.00 | 6.40 | 52.20 | 344.80 | 437.70 | 16.60 |
| 160H-2C | 50.800 | 28.58 | 31.55 | 14.27 | 134.90 | 47.80 | 7.20 | 61.90 | 453.60 | 571.60 | 20.20 |
| 200H-2C | 63.500 | 39.68 | 37.85 | 19.85 | 171.80 | 60.00 | 9.50 | 78.31 | 707.60 | 894.90 | 31.11 |
| TRIPLEX | | | | | | | | | | | |
| 60H-3C | 19.050 | 11.91 | 12.57 | 5.94 | 83.80 | 18.00 | 3.25 | 26.11 | 95.40 | 113.90 | 5.54 |
| 80H-3C | 25.400 | 15.88 | 15.75 | 7.92 | 104.60 | 24.00 | 4.00 | 32.59 | 170.10 | 203.50 | 9.42 |
| 100H-3C | 31.750 | 19.05 | 18.90 | 9.53 | 125.10 | 30.00 | 4.80 | 39.09 | 265.50 | 314.80 | 12.96 |
| 120H-3C | 38.100 | 22.23 | 25.22 | 11.10 | 155.20 | 35.70 | 5.60 | 48.87 | 381.00 | 444.70 | 19.64 |
| 140H-3C | 44.450 | 25.40 | 25.22 | 12.70 | 166.60 | 41.00 | 6.40 | 52.20 | 517.20 | 598.40 | 24.90 |
| 160H-3C | 50.800 | 28.58 | 31.55 | 14.27 | 196.80 | 47.80 | 7.20 | 61.90 | 680.40 | 787.30 | 30.10 |
| 200H-3C | 63.500 | 39.68 | 37.85 | 19.85 | 250.10 | 60.00 | 9.50 | 78.31 | 1061.40 | 1228.20 | 57.06 |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Chain Breakers

| Model | Range | |
|----------------|-----------|---------|
| | From inch | To inch |
| CB-101 (Small) | 3/8" | 3/4" |
| CB-102 (Large) | 3/4" | 1.1/4" |

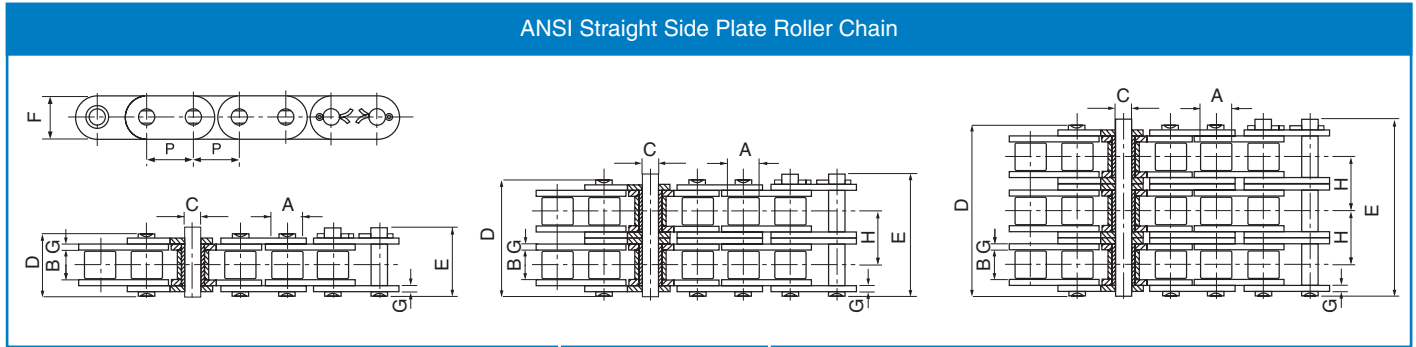


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain

ANSI Straight Side Plate Roller Chain

ANSI B29.1, ISO R606, DIN 8188

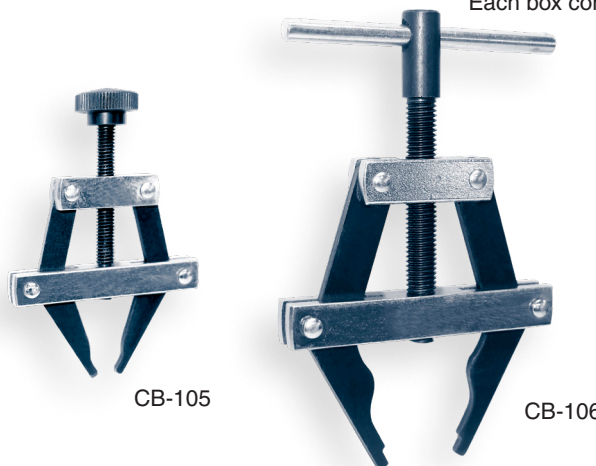


| ANSI Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height | Plate thickness | Transverse pitch | Minimum tensile strength | Average tensile strength | Weight |
|-------------------|--------|-----------------|----------------------------|--------------|------------|--------|--------------------|-----------------|------------------|--------------------------|--------------------------|-----------|
| | P | A | B | C | D | E | F | G | H | kN | kN | kg/m |
| SIMPLEX | | | | | | | | | | | | |
| C40-1R | 12.700 | 7.95 | 7.85 | 3.96 | 16.60 | 18.80 | 12.00 | 1.50 | - | 14.10 | 17.50 | 0.73 |
| C50-1R | 15.875 | 10.16 | 9.40 | 5.08 | 20.70 | 23.30 | 15.09 | 2.03 | - | 22.20 | 29.40 | 1.23 |
| C60-1R | 19.050 | 11.91 | 12.57 | 5.94 | 25.90 | 28.30 | 18.0/18.2 | 2.42 | - | 31.80 | 41.50 | 1.81/1.83 |
| C80-1R | 25.400 | 15.88 | 15.75 | 7.92 | 32.70 | 36.50 | 24.00 | 3.25 | - | 56.70 | 69.40 | 3.09 |
| C100-1XR | 31.750 | 19.05 | 18.90 | 9.53 | 40.40 | 44.70 | 30.00 | 4.00 | - | 88.50 | 109.20 | 4.56 |
| C120-1XR | 38.100 | 22.23 | 25.22 | 11.10 | 50.30 | 54.30 | 35.70 | 4.80 | - | 127.00 | 156.30 | 6.86 |
| C140-1XR | 44.450 | 25.40 | 25.22 | 12.70 | 54.40 | 59.00 | 41.00 | 5.60 | - | 172.40 | 212.00 | 8.49 |
| C160-1XR | 50.800 | 28.58 | 31.55 | 14.27 | 64.80 | 69.60 | 47.80 | 6.40 | - | 226.80 | 278.90 | 11.50 |
| DUPLEX | | | | | | | | | | | | |
| C40-2R | 12.700 | 7.95 | 7.85 | 3.96 | 31.00 | 33.20 | 12.00 | 1.50 | 14.38 | 28.20 | 35.90 | 1.43 |
| C50-2R | 15.875 | 10.16 | 9.40 | 5.08 | 38.90 | 41.40 | 15.09 | 2.03 | 18.11 | 44.40 | 58.10 | 2.42 |
| C60-2R | 19.050 | 11.91 | 12.57 | 5.94 | 48.80 | 51.10 | 18.0/18.2 | 2.42 | 22.78 | 63.60 | 82.10 | 3.58/3.62 |
| C80-2R | 25.400 | 15.88 | 15.75 | 7.92 | 62.70 | 65.80 | 24.00 | 3.25 | 29.29 | 113.40 | 141.80 | 6.12 |
| C100-2XR | 31.750 | 19.05 | 18.90 | 9.53 | 76.40 | 80.50 | 30.00 | 4.00 | 35.76 | 177.00 | 219.40 | 9.08 |
| C120-2XR | 38.100 | 22.23 | 25.22 | 11.10 | 95.80 | 99.70 | 35.70 | 4.80 | 45.44 | 254.00 | 314.90 | 13.60 |
| C140-2XR | 44.450 | 25.40 | 25.22 | 12.70 | 103.30 | 107.90 | 41.00 | 5.60 | 48.87 | 344.80 | 427.50 | 16.86 |
| C160-2XR | 50.800 | 28.58 | 31.55 | 14.27 | 123.30 | 128.10 | 47.80 | 6.40 | 58.55 | 453.60 | 562.40 | 22.90 |
| TRIPLEX | | | | | | | | | | | | |
| C40-3R | 12.700 | 7.95 | 7.85 | 3.96 | 45.40 | 47.60 | 12.00 | 1.50 | 14.38 | 42.30 | 50.00 | 2.14 |
| C50-3R | 15.875 | 10.16 | 9.40 | 5.08 | 57.00 | 59.50 | 15.09 | 2.03 | 18.11 | 66.60 | 77.80 | 3.62 |
| C60-3R | 19.050 | 11.91 | 12.57 | 5.94 | 71.50 | 73.90 | 18.0/18.2 | 2.42 | 22.78 | 95.40 | 111.10 | 5.36/5.41 |
| C80-3R | 25.400 | 15.88 | 15.75 | 7.92 | 91.70 | 95.10 | 24.00 | 3.25 | 29.29 | 170.10 | 198.40 | 9.10 |
| C100-3XR | 31.750 | 19.05 | 18.90 | 9.53 | 112.20 | 116.30 | 30.00 | 4.00 | 35.76 | 265.50 | 309.60 | 13.60 |
| C120-3XR | 38.100 | 22.23 | 25.22 | 11.10 | 141.40 | 145.20 | 35.70 | 4.80 | 45.44 | 381.00 | 437.20 | 20.43 |
| C140-3XR | 44.450 | 25.40 | 25.22 | 12.70 | 152.20 | 156.80 | 41.00 | 5.60 | 48.87 | 517.20 | 593.30 | 25.23 |
| C160-3XR | 50.800 | 28.58 | 31.55 | 14.27 | 181.80 | 186.60 | 47.80 | 6.40 | 58.55 | 680.40 | 780.60 | 34.19 |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Chain Pullers

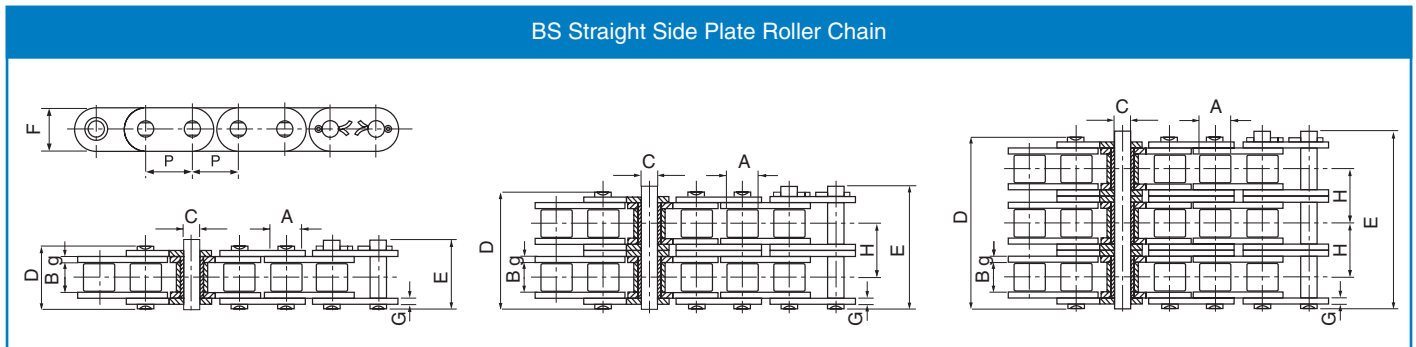
| Model | Range | |
|----------------|-----------|---------|
| | From inch | To inch |
| CB-105 (Small) | 1/4" | 3/4" |
| CB-106 (Large) | 3/4" | 1.1/4" |



Roller Chain

BS Straight Side Plate Roller Chain

ANSI B29.1, ISO R606, DIN 8187



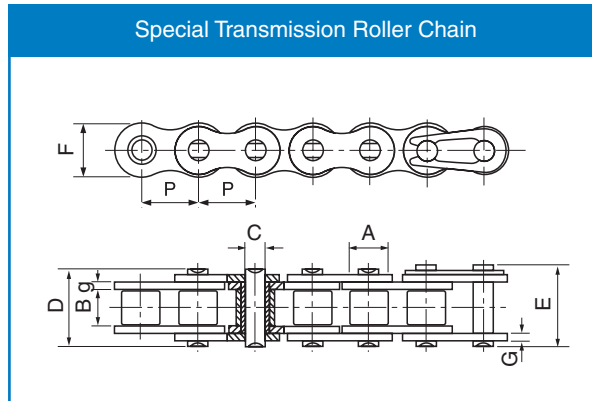
| ISO Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height | Plate thickness g/G | Transverse pitch | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|--------|-----------------|----------------------------|--------------|------------|--------|--------------------|---------------------|------------------|-----------------------------|-----------------------------|-------------|
| | P | A | B | C | D | E | F | | H | | | |
| SIMPLEX | | | | | | | | | | | | |
| 08B-1 GL | 12.700 | 8.51 | 7.75 | 4.45 | 16.70 | 18.20 | 11.80 | 1.60 | - | 18.00 | 19.50 | 0.80 |
| 10B-1 GL | 15.875 | 10.16 | 9.65 | 5.08 | 19.50 | 20.90 | 14.70 | 1.70 | - | 22.40 | 27.90 | 1.06 |
| 12B-1 GL | 19.050 | 12.07 | 11.68 | 5.72 | 22.50 | 25.20 | 16.00 | 1.85 | - | 29.00 | 32.20 | 1.32 |
| 16B-1 GL | 25.400 | 15.88 | 17.02 | 8.28 | 36.10 | 39.10 | 21.0/24.0 | 4.15/3.1 | - | 60.00 | 72.80 | 3.08/3.49 |
| 20B-1 GLX | 31.750 | 19.05 | 19.56 | 10.19 | 41.30 | 45.00 | 26.40 | 4.5/3.5 | - | 95.00 | 106.70 | 4.16 |
| 24B-1 GLX | 38.100 | 25.40 | 25.40 | 14.63 | 53.40 | 57.80 | 33.20 | 6.0/4.8 | - | 160.00 | 178.00 | 7.47 |
| 28B-1 GLX | 44.450 | 27.94 | 30.99 | 15.90 | 65.10 | 69.50 | 36.70 | 7.5/6.0 | - | 200.00 | 222.00 | 9.90 |
| 32B-1 GLX | 50.800 | 29.21 | 30.99 | 17.81 | 66.00 | 71.00 | 42.00 | 7.0/6.0 | - | 250.00 | 277.50 | 10.45 |
| DUPLEX | | | | | | | | | | | | |
| 08B-2 GL | 12.700 | 8.51 | 7.75 | 4.45 | 31.20 | 32.20 | 11.80 | 1.60 | 13.92 | 32.00 | 38.70 | 1.45 |
| 10B-2 GL | 15.875 | 10.16 | 9.65 | 5.08 | 36.10 | 37.50 | 14.70 | 1.70 | 16.59 | 44.50 | 57.80 | 2.00 |
| 12B-2 GL | 19.050 | 12.07 | 11.68 | 5.72 | 42.00 | 44.70 | 16.00 | 1.85 | 19.46 | 57.80 | 66.10 | 2.62 |
| 16B-2 GL | 25.400 | 15.88 | 17.02 | 8.28 | 68.00 | 71.00 | 21.0/24.0 | 4.15/3.1 | 31.88 | 106.00 | 133.00 | 6.10/6.92 |
| 20B-2 GLX | 31.750 | 19.05 | 19.56 | 10.19 | 77.80 | 81.50 | 26.40 | 4.5/3.5 | 36.45 | 170.00 | 211.20 | 8.23 |
| 24B-2 GLX | 38.100 | 25.40 | 25.40 | 14.63 | 101.70 | 106.20 | 33.20 | 6.0/4.8 | 48.36 | 280.00 | 319.20 | 14.77 |
| 28B-2 GLX | 44.450 | 27.94 | 30.99 | 15.90 | 124.60 | 129.10 | 36.70 | 7.5/6.0 | 59.56 | 360.00 | 406.80 | 19.82 |
| 32B-2 GLX | 50.800 | 29.21 | 30.99 | 17.81 | 124.60 | 129.60 | 42.00 | 7.0/6.0 | 58.55 | 450.00 | 508.50 | 20.94 |
| TRIPLEX | | | | | | | | | | | | |
| 08B-3 GL | 12.700 | 8.51 | 7.75 | 4.45 | 45.10 | 46.10 | 11.80 | 1.60 | 13.92 | 47.50 | 57.80 | 2.10 |
| 10B-3 GL | 15.875 | 10.16 | 9.65 | 5.08 | 52.70 | 54.10 | 14.70 | 1.70 | 16.59 | 66.70 | 84.50 | 2.87 |
| 12B-3 GL | 19.050 | 12.07 | 11.68 | 5.72 | 61.50 | 64.20 | 16.00 | 1.85 | 19.46 | 86.70 | 101.80 | 3.89 |
| 16B-3 GL | 25.400 | 15.88 | 17.02 | 8.28 | 99.80 | 102.90 | 21.0/24.0 | 4.15/3.1 | 31.88 | 160.00 | 203.70 | 9.12/10.34 |
| 20B-3 GLX | 31.750 | 19.05 | 19.56 | 10.19 | 114.20 | 117.90 | 26.40 | 4.5/3.5 | 36.45 | 250.00 | 290.00 | 11.34 |
| 24B-3 GLX | 38.100 | 25.40 | 25.40 | 14.63 | 150.10 | 154.60 | 33.20 | 6.0/4.8 | 48.36 | 425.00 | 493.00 | 22.10 |
| 28B-3 GLX | 44.450 | 27.94 | 30.99 | 15.90 | 184.20 | 188.70 | 36.70 | 7.5/6.0 | 59.56 | 530.00 | 609.50 | 29.64 |
| 32B-3 GLX | 50.800 | 29.21 | 30.99 | 17.81 | 183.20 | 188.20 | 42.00 | 7.0/6.0 | 58.55 | 670.00 | 770.50 | 31.27 |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain

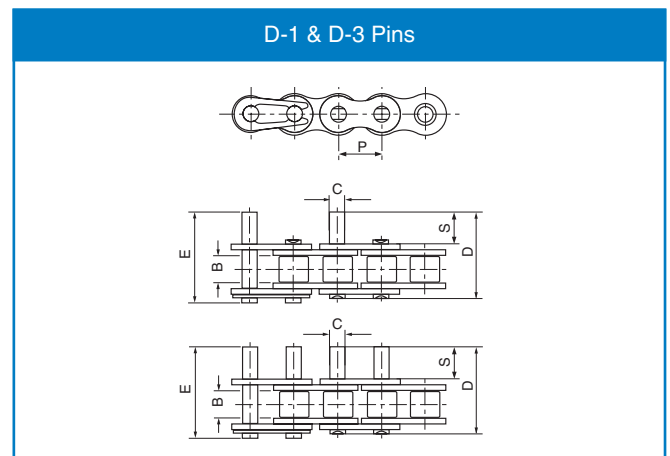
Special Transmission Roller Chain



| ISO Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height F | Plate thickness g/G | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------|-----------------|----------------------------|--------------|------------|-------|----------------------|---------------------|-----------------------------|-----------------------------|-------------|
| | P | A | B | C | D | E | | | | | |
| 04BH | 6.00 | 4.00 | 2.80 | 1.85 | 8.40 | 9.40 | 5.00 | 0.90 | 5.00 | 5.30 | 0.14 |
| 081 | 12.70 | 7.75 | 3.30 | 3.66 | 9.30 | 12.30 | 9.90 | 1.00 | 8.00 | 9.40 | 0.28 |
| 084 | 12.70 | 7.75 | 4.88 | 4.09 | 14.60 | 17.60 | 11.50 | 1.80 | 15.60 | 15.70 | 0.51 |
| 415 | 12.70 | 7.77 | 4.76 | 3.60 | 11.00 | 12.40 | 9.70 | 1.00 | 6.86 | 7.60 | 0.32 |
| 415H | 12.70 | 7.77 | 4.76 | 3.96 | 13.10 | 14.50 | 12.00 | 1.50 | 14.40 | 16.10 | 0.55 |
| 415B/083 | 12.70 | 7.75 | 4.88 | 4.09 | 12.90 | 14.40 | 10.30 | 1.30 | 12.00 | 14.20 | 0.44 |
| 415BF1 | 12.70 | 7.75 | 4.88 | 4.09 | 11.50 | 13.00 | 10.30 | 1.00 | 9.00 | 10.60 | 0.38 |
| 423 | 12.70 | 8.51 | 6.40 | 4.45 | 15.60 | 17.10 | 12.40 | 1.70 | 19.60 | 21.90 | 0.71 |
| 478 | 12.70 | 7.80 | 4.80 | 4.00 | 11.60 | 13.65 | 10.46 | 1.25 | 9.80 | 12.80 | 0.39 |
| 08BF | 12.70 | 8.51 | 5.55 | 4.45 | 14.60 | 16.10 | 11.80 | 1.60 | 17.80 | 19.20 | 0.66 |
| 12BH | 19.05 | 12.07 | 11.68 | 5.94 | 25.20 | 26.80 | 16.00 | 2.42 | 40.00 | 44.40 | 1.45 |
| 12BHF1 | 19.05 | 12.07 | 11.68 | 6.10 | 25.00 | 27.20 | 16.50 | 2.50 | 44.00 | 48.80 | 1.46 |
| 16BF1 | 25.40 | 15.88 | 12.20 | 8.28 | 31.40 | 32.70 | 21.00 | 4.15/3.1 | 60.00 | 71.40 | 2.60 |
| 16BF2 | 25.40 | 15.88 | 17.02 | 8.28 | 38.60 | 39.80 | 21.00 | 4.15 | 60.00 | 71.40 | 3.08 |
| 16BF5 | 25.40 | 15.88 | 12.70 | 8.28 | 30.80 | 32.10 | 20.00 | 3.5/3.0 | 50.00 | 57.50 | 2.37 |
| 16BH | 25.40 | 15.88 | 17.02 | 8.90 | 35.70 | 38.90 | 24.10 | 4.0/3.1 | 80.00 | 94.20 | 3.11 |
| 24BH | 38.10 | 25.40 | 25.40 | 14.63 | 58.60 | 63.40 | 36.20 | 7.5/6.0 | 225.00 | 250.30 | 9.00 |

Extended Pin Chain

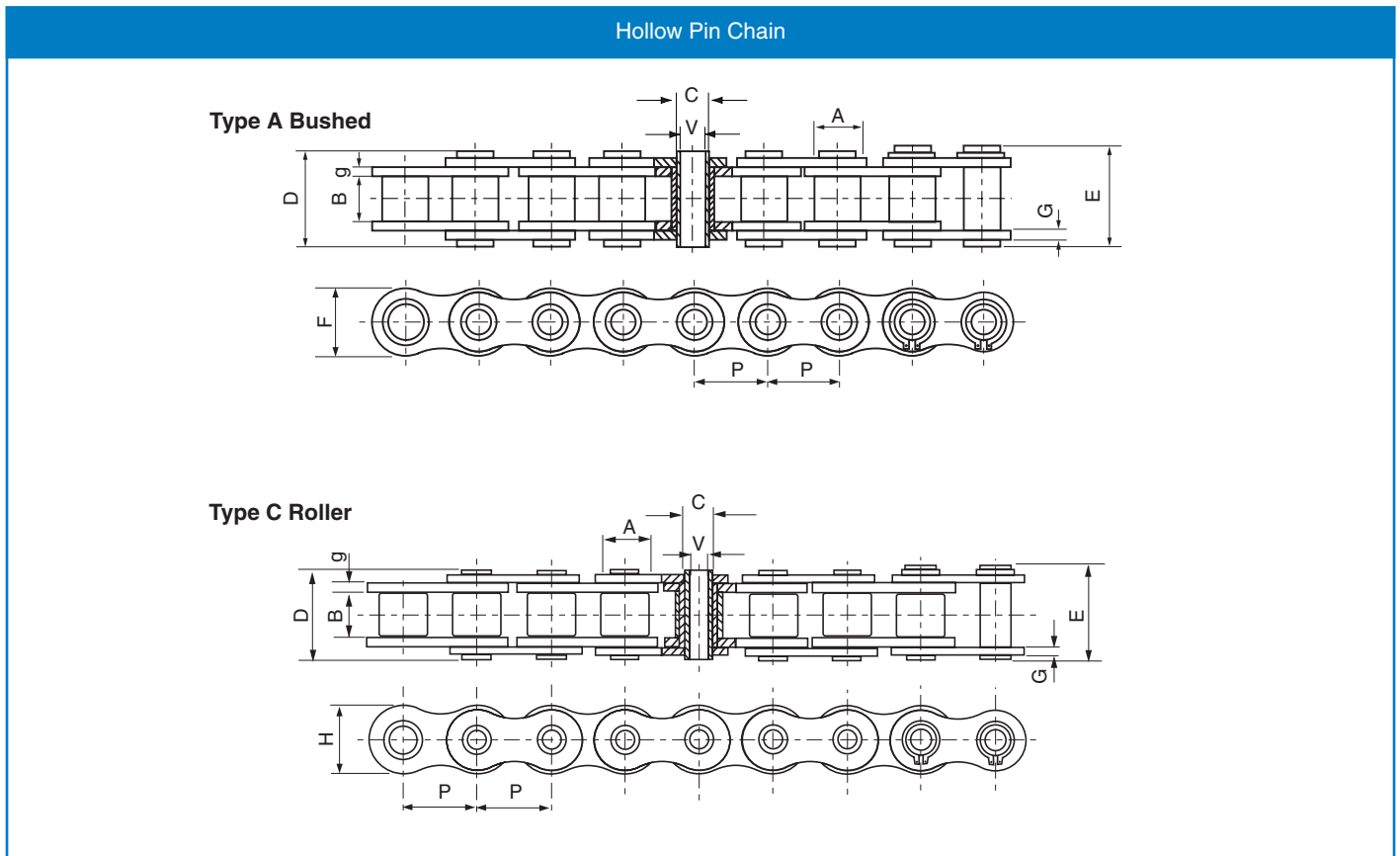
| ISO Chain No. | ANSI Chain No. | P | B | C | S | D | E |
|---------------|----------------|--------|-------|-------|-------|-------|--------|
| | 35 | 9.525 | 4.77 | 3.58 | 9.50 | 20.80 | 21.60 |
| | 40 | 12.700 | 7.85 | 3.96 | 9.50 | 25.10 | 26.20 |
| | 50 | 15.875 | 9.40 | 5.08 | 11.90 | 31.30 | 33.10 |
| | 60 | 19.050 | 12.57 | 5.94 | 14.30 | 38.60 | 40.60 |
| | 80 | 25.400 | 15.75 | 7.92 | 19.10 | 50.30 | 53.30 |
| | 100 | 31.750 | 18.90 | 9.53 | 23.80 | 61.80 | 66.10 |
| | 120 | 38.100 | 25.22 | 11.10 | 28.60 | 76.40 | 80.40 |
| | 140 | 44.450 | 25.22 | 12.70 | 33.30 | 84.80 | 89.40 |
| | 160 | 50.800 | 31.55 | 14.27 | 38.10 | 99.60 | 104.40 |
| 08B | | 12.700 | 7.75 | 4.45 | 9.50 | 25.10 | 26.60 |
| 10B | | 15.875 | 9.65 | 5.08 | 11.90 | 30.10 | 31.50 |
| 12B | | 19.050 | 11.68 | 5.72 | 14.30 | 35.40 | 37.10 |
| 16B | | 25.400 | 17.02 | 8.28 | 19.10 | 53.00 | 54.30 |



Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Roller Chain

Hollow Pin Chain



| Chain number | Pitch | Roller/Bush diameter | Width between inner plates | Pin diameter | | Pin length | | Inner plate height | Plate thickness | Minimum tensile strength | Average tensile strength | Weight | Type form |
|--------------|--------|----------------------|----------------------------|--------------|------|------------|------|--------------------|-----------------|--------------------------|--------------------------|--------|-----------|
| | P | A | B | C | V | D | E | F | g/G | kN | kN | kg/m | |
| 08BHP(4.0) | 12.700 | 8.51 | 7.75 | 6.55 | 4.00 | 16.4 | 17.6 | 11.80 | 1.6/1.3 | 11.10 | 12.1 | 0.60 | A |
| 08BHP(4.5) | 12.700 | 8.51 | 7.75 | 6.55 | 4.50 | 16.4 | 17.6 | 11.80 | 1.6/1.3 | 11.10 | 12.1 | 0.56 | A |
| 10BHP | 15.875 | 10.16 | 9.65 | 5.94 | 4.04 | 19.3 | 20.6 | 14.70 | 1.70 | 17.00 | 20.8 | 0.86 | C |
| 12BHP | 19.050 | 12.07 | 11.68 | 6.50 | 4.00 | 21.6 | 22.8 | 15.90 | 1.85 | 23.60 | 25.9 | 1.09 | C |
| 40HP | 12.700 | 7.95 | 7.85 | 5.63 | 4.00 | 16.5 | 17.6 | 12.00 | 1.50 | 11.00 | 12.2 | 0.54 | A |
| 50HP | 15.875 | 10.16 | 9.40 | 7.03 | 5.13 | 20.7 | 21.9 | 15.09 | 2.03 | 20.00 | 22.6 | 0.91 | A |
| 60HP | 19.050 | 11.91 | 12.70 | 8.31 | 6.00 | 25.8 | 26.8 | 18.00 | 2.42 | 24.00 | 26.9 | 1.29 | A |
| 60HPF1 | 19.050 | 11.91 | 12.70 | 8.31 | 5.01 | 25.5 | 26.8 | 18.00 | 2.42 | 28.00 | 30.9 | 1.37 | A |
| 60HB | 19.050 | 11.91 | 12.70 | 7.00 | 5.01 | 25.5 | 26.6 | 18.00 | 2.42 | 20.00 | 22.4 | 1.35 | C |
| 80HP | 25.400 | 15.88 | 15.75 | 11.40 | 8.05 | 32.5 | 33.8 | 24.00 | 3.25 | 50.00 | 58.3 | 2.26 | A |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain

Special Chain - Challenge produce many special chains. The following pages are examples of a few. Contact Challenge for a quote on any special chains or attachments that aren't shown in our catalogue.

Special Chain with "U" Attachments

SIMPLEX

DUPLEX

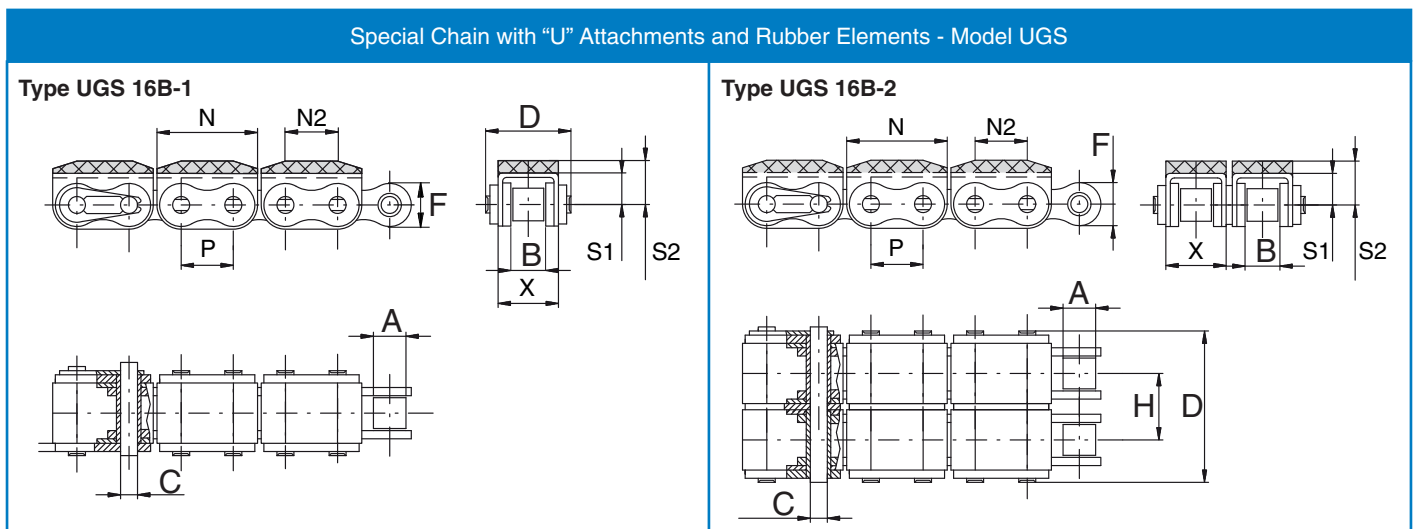
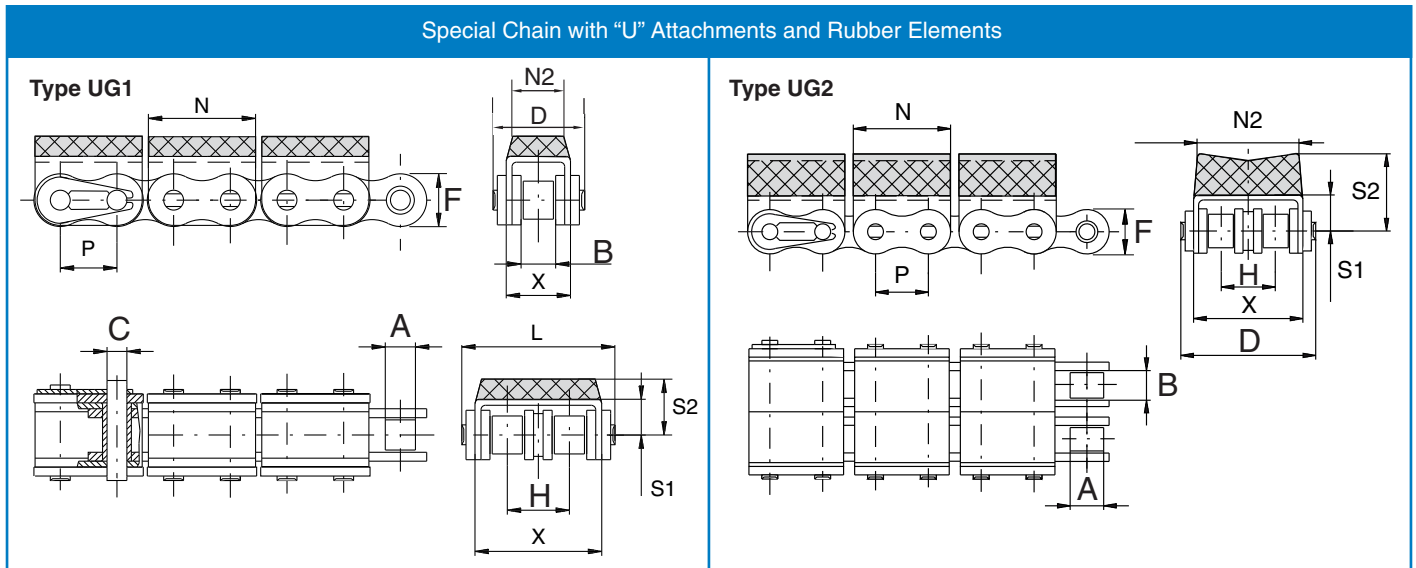
| Chain number | Chain Pitch | Roller diameter | Width between inner plates | Pin diameter | Side Plate Height | Pin length | Hole diameter | Hole pitch | | | | Tensile strength kN |
|--------------|-------------|-----------------|----------------------------|--------------|-------------------|------------|---------------|----------------|------|------|----------------|------------------------|
| | P | A | B | C | F | D | O | P ₁ | X | N | S ₁ | |
| 08B-1/U1 | 12.700 | 8.51 | 7.75 | 4.45 | 11.8 | 20.4 | - | - | 14.4 | 24.0 | 8.5 | 14.60 |
| 08B-1/U2 | 12.700 | 8.51 | 7.75 | 4.45 | 11.8 | 20.4 | 5 | - | 14.4 | 24.0 | 8.5 | 14.60 |
| 08B-1/U3 | 12.700 | 8.51 | 7.75 | 4.45 | 11.8 | 20.4 | 5 | 12.7 | 14.4 | 24.0 | 8.5 | 14.60 |
| 08B-2/U1 | 12.700 | 8.51 | 7.75 | 4.45 | 11.8 | 34.4 | - | - | 28.4 | 24.0 | 8.1 | 28.60 |
| 08B-2/U2 | 12.700 | 8.51 | 7.75 | 4.45 | 11.8 | 34.4 | 4 | 14.0 | 28.4 | 24.0 | 8.1 | 28.60 |
| 08B-2/U3 | 12.700 | 8.51 | 7.75 | 4.45 | 11.8 | 34.4 | 4 | 12.7 | 28.4 | 24.0 | 8.1 | 28.60 |
| 10B-1/U1 | 15.875 | 10.16 | 9.65 | 5.08 | 14.7 | 22.8 | - | - | 16.4 | 30.0 | 10.6 | 18.20 |
| 10B-1/U2 | 15.875 | 10.16 | 9.65 | 5.08 | 14.7 | 22.8 | 5 | - | 16.4 | 30.0 | 10.6 | 18.20 |
| 10B-1/U3 | 15.875 | 10.16 | 9.65 | 5.08 | 14.7 | 22.8 | 5 | 15.8 | 16.4 | 30.0 | 10.6 | 18.20 |
| 10B-2/U1 | 15.875 | 10.16 | 9.65 | 5.08 | 14.7 | 39.0 | - | - | 33.3 | 30.0 | 10.6 | 36.30 |
| 10B-2/U2 | 15.875 | 10.16 | 9.65 | 5.08 | 14.7 | 39.0 | 5 | 16.6 | 33.3 | 30.0 | 10.6 | 36.30 |
| 10B-2/U3 | 15.875 | 10.16 | 9.65 | 5.08 | 14.7 | 39.0 | 5 | 15.8 | 33.3 | 30.0 | 10.6 | 36.30 |
| 12B-1/U1 | 19.050 | 12.07 | 11.68 | 5.72 | 16.0 | 26.5 | - | - | 19.4 | 35.0 | 13.0 | 23.60 |
| 12B-1/U2 | 19.050 | 12.07 | 11.68 | 5.72 | 16.0 | 26.5 | 5 | - | 19.4 | 35.0 | 13.0 | 23.60 |
| 12B-1/U3 | 19.050 | 12.07 | 11.68 | 5.72 | 16.0 | 26.5 | 5 | 19.0 | 19.4 | 35.0 | 13.0 | 23.60 |
| 12B-2/U1 | 19.050 | 12.07 | 11.68 | 5.72 | 16.0 | 46.5 | - | - | 39.4 | 35.0 | 12.0 | 46.60 |
| 12B-2/U2 | 19.050 | 12.07 | 11.68 | 5.72 | 16.0 | 46.5 | 5 | 19.5 | 39.4 | 35.0 | 12.0 | 46.60 |
| 12B-2/U3 | 19.050 | 12.07 | 11.68 | 5.72 | 16.0 | 46.5 | 5 | 19.0 | 39.4 | 35.0 | 12.0 | 46.60 |
| 16B-1/U1 | 25.400 | 15.88 | 17.02 | 8.28 | 21.0 | 39.2 | - | - | 29.4 | 49.0 | 15.4 | 58.00 |
| 16B-1/U2 | 25.400 | 15.88 | 17.02 | 8.28 | 21.0 | 39.2 | 5 | - | 29.4 | 49.0 | 15.4 | 58.00 |
| 16B-1/U3 | 25.400 | 15.88 | 17.02 | 8.28 | 21.0 | 39.2 | 5 | 25.4 | 29.4 | 49.0 | 15.4 | 58.00 |
| 16B-2/U1 | 25.400 | 15.88 | 17.02 | 8.28 | 21.0 | 73.0 | - | - | 29.4 | 49.0 | 15.4 | 98.00 |
| 16B-2/U2 | 25.400 | 15.88 | 17.02 | 8.28 | 21.0 | 73.0 | 5 | - | 29.4 | 49.0 | 15.4 | 98.00 |
| 16B-2/U3 | 25.400 | 15.88 | 17.02 | 8.28 | 21.0 | 73.0 | 5 | 25.4 | 29.4 | 49.0 | 15.4 | 98.00 |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

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Roller Chain

Special Chain with "U" Attachments and Rubber Elements



| Chain Number | Chain Pitch | Roller diameter | Width between inner plates | Pin diameter | Side Plate Height | Pin length | "U" profile | "U" profile | "U" profile | "U" Profile height | "U" Profile height | Transverse pitch | Min. Tensile strength |
|--------------|-------------|-----------------|----------------------------|--------------|-------------------|------------|-------------|-------------|-------------|--------------------|--------------------|------------------|-----------------------|
| | P | A | B | C | F | D | X | N | N2 | S1 | S2 | H | kN |
| 08B-1/UG1 | 12.700 | 8.51 | 7.75 | 4.45 | 11.80 | 20.40 | 14.4 | 24 | 10.0 | 8.50 | 13.00 | - | 14.60 |
| 08B-2/UG1 | 12.700 | 8.51 | 7.75 | 4.45 | 11.80 | 34.40 | 28.4 | 24 | 20.0 | 8.10 | 12.50 | 13.92 | 28.60 |
| 10B-1/UG1 | 15.875 | 10.16 | 9.65 | 5.08 | 14.70 | 22.80 | 16.4 | 30 | 13.5 | 10.60 | 17.00 | - | 18.20 |
| 10B-2/UG1 | 15.875 | 10.16 | 9.65 | 5.08 | 14.70 | 39.00 | 33.3 | 30 | 30.0 | 10.60 | 15.50 | 16.59 | 36.30 |
| 12B-1/UG1 | 19.050 | 12.07 | 11.68 | 5.72 | 16.00 | 26.50 | 19.4 | 35 | 12.0 | 13.00 | 21.00 | - | 23.60 |
| 12B-2/UG1 | 19.050 | 12.07 | 11.68 | 5.72 | 16.00 | 46.50 | 39.4 | 35 | 36.0 | 12.00 | 20.00 | 19.46 | 46.60 |
| 16B-1/UG1 | 25.400 | 15.88 | 17.02 | 8.28 | 21.00 | 39.20 | 29.4 | 49 | 22.0 | 15.40 | 21.40 | - | 58.00 |
| 16B-2/UG1 | 25.400 | 15.88 | 17.02 | 8.28 | 21.00 | 73.00 | 29.4 | 49 | 22.0 | 15.40 | 21.40 | 31.88 | 98.00 |
| 12B-1/UG2 | 19.050 | 12.07 | 11.68 | 5.72 | 16.00 | 26.50 | 19.4 | 35 | 13.5 | 13.00 | 21.00 | - | 23.60 |
| 12B-2/UG2 | 19.050 | 12.07 | 11.68 | 5.72 | 16.00 | 46.50 | 39.4 | 35 | 36.0 | 12.00 | 28.00 | 19.46 | 46.60 |
| 16B-1/UGS | 25.400 | 15.88 | 17.02 | 8.28 | 21.00 | 39.20 | 29.4 | 49 | 25.4 | 15.40 | 21.40 | - | 58.00 |
| 16B-2/UGS | 25.400 | 17.02 | 15.88 | 8.28 | 21.00 | 73.00 | 29.4 | 49 | 25.4 | 15.40 | 21.40 | 31.88 | 98.00 |

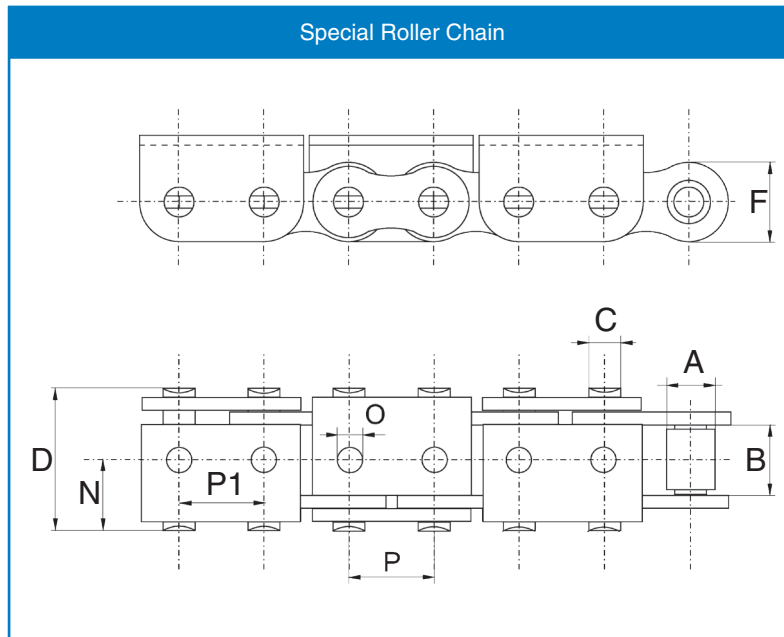
Rubber tops are produced using NBR (Nitrile Buna Rubber) with hardness 65-75 Shore A

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain

Special Roller Chain

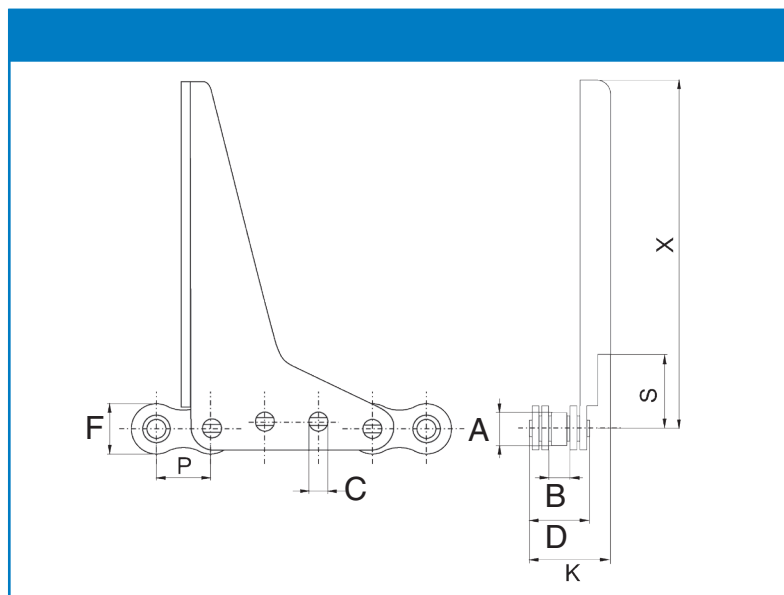


| Chain number | Pitch | Width between inner plates | Roller diameter | Pin diameter | Pin length | Side plate height | Hole diameter | Hole pitch | Tensile strength | |
|--------------|-------|----------------------------|-----------------|--------------|------------|-------------------|---------------|------------|------------------|----|
| | P | B | A | C | D | F | O | P1 | N | kN |
| 16B-1/P | 25.4 | 17.02 | 15.88 | 8.28 | 36.1 | 21.0 | 6.5 | 25.4 | 15.9 | 58 |

Special Chain with Driver

Note: Various configurations of this chain are available.

Please provide dimensions when enquiring.



| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | Side plate height | Attachment width | Attachment height | Tensile strength | |
|--------------|-------|-----------------|----------------------------|--------------|------------|-------------------|------------------|-------------------|------------------|-------|
| | P | A | B | C | L | F | K | X | S | kN |
| 08 X3/Z1 | 12.70 | 7.75 | 4.88 | 4.09 | 13.00 | 9.90 | 16.00 | 85.00 | 17.50 | 82.60 |

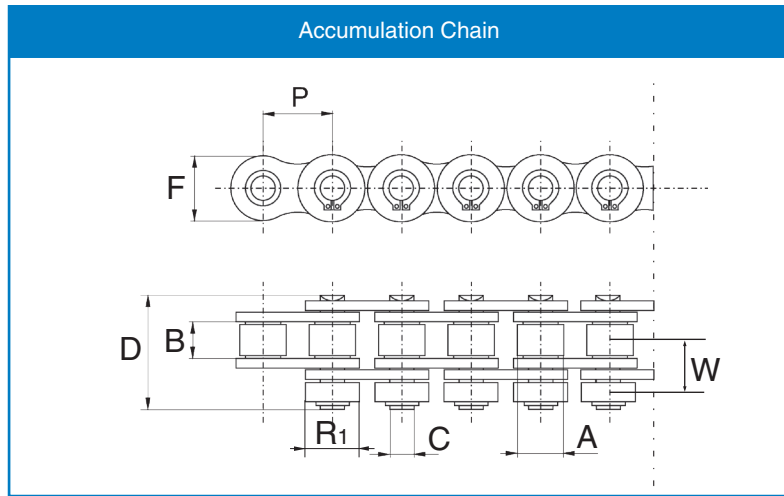
Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Roller Chain

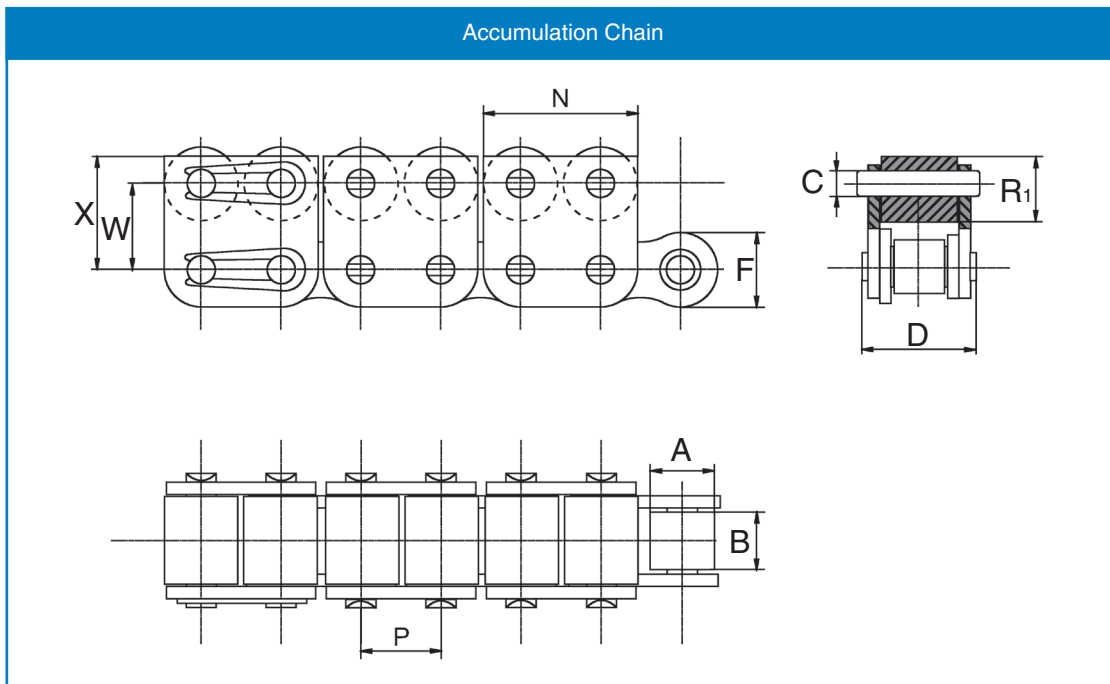
Accumulation Chain

Note: all accumulation chain is available with various roller dimensions as well as different pitches to those quoted below.

To avoid confusion please always supply the chain and accumulation roller dimensions.



| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | Roller diameter | Roller pitch | Tensile strength |
|--------------|--------|-----------------|----------------------------|--------------|------------|-----------------|--------------|------------------|
| | P | A | B | C | D | R_1 | W | kN |
| 10B-1/R | 15.875 | 10.16 | 9.65 | 5.08 | 25.4 | 14.2 | 15.1 | 22.7 |

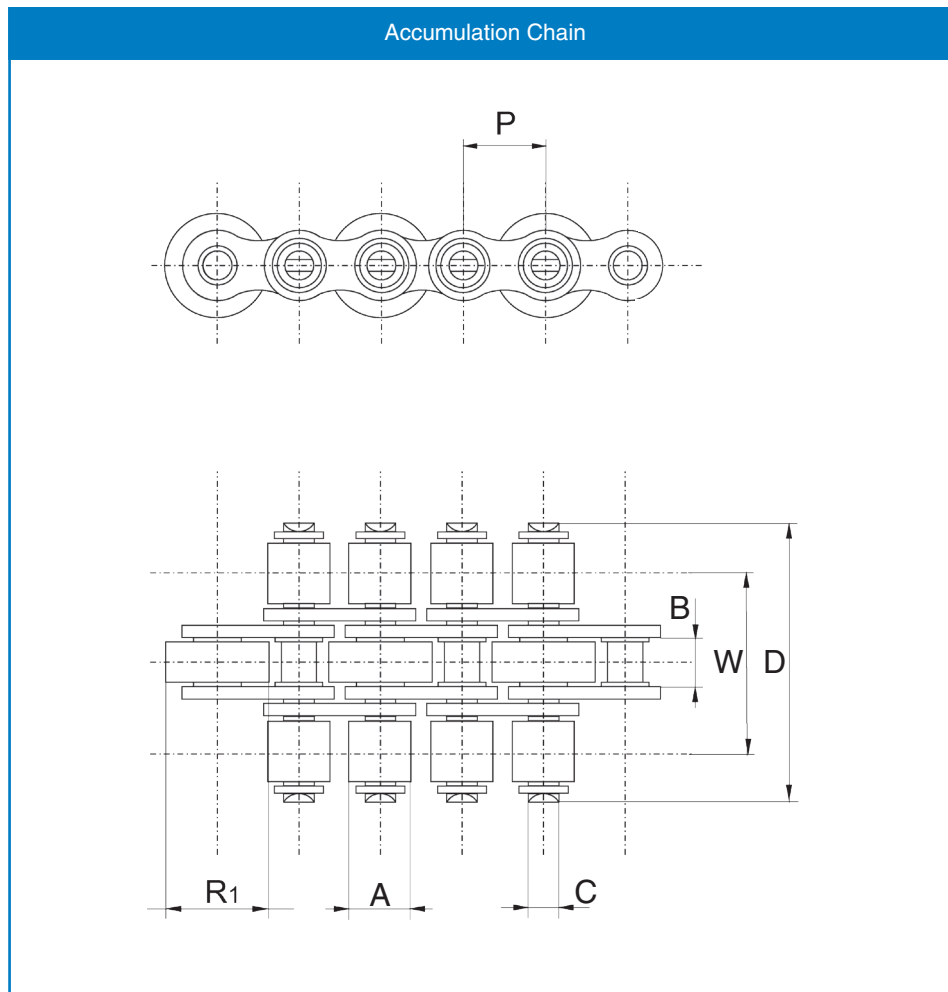


| Chain number | Pitch | Roller diameter | Width between inner plates | Roller diameter | Pin diameter | Pin length | Inner plate height | Tensile strength | | | |
|--------------|--------|-----------------|----------------------------|-----------------|--------------|------------|--------------------|------------------|------|------|------|
| | P | A | B | R_1 | C | D | F | W | X | N | kN |
| 10B/R1 | 15.875 | 10.16 | 10.16 | 13.0 | 5.08 | 19.6 | 14.2 | 15.8 | 20.6 | 28.4 | 22.7 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain

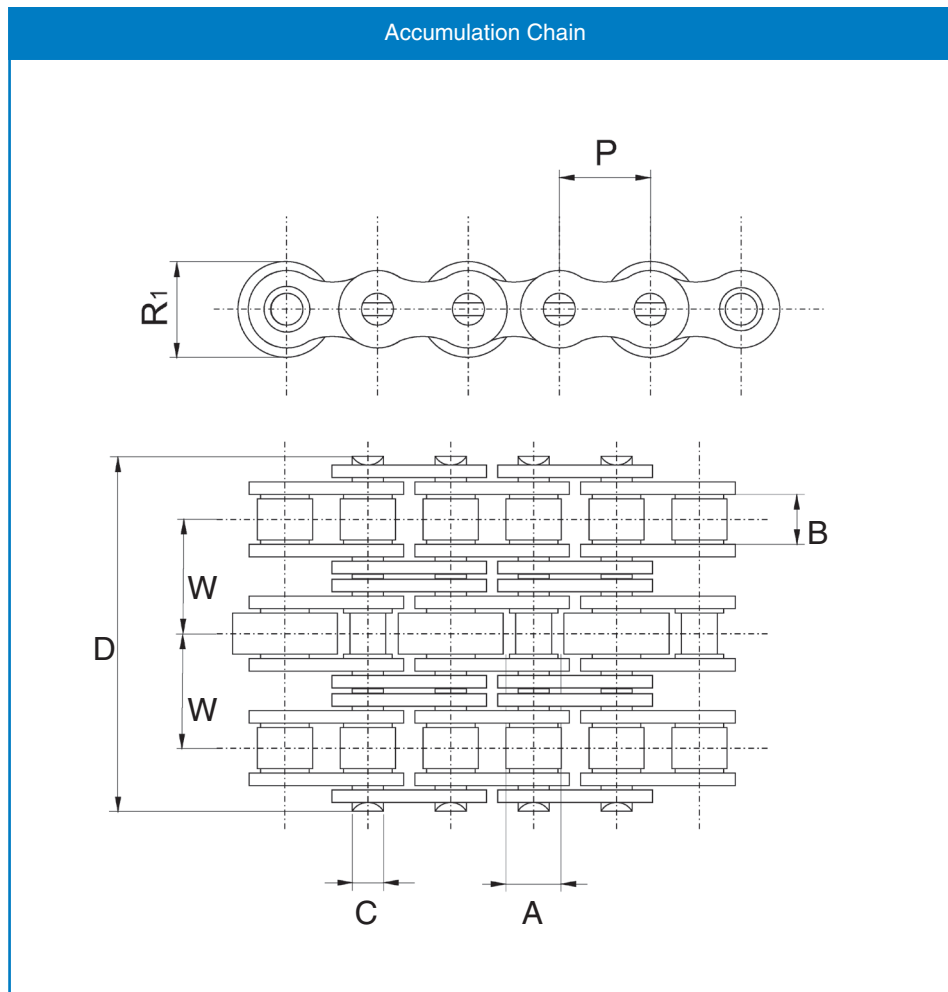
Accumulation Chain



| Chain number | Pitch P | Roller diameter. A | Width between inner plates B | Pin diameter C | Pin length D | Roller diameter R ₁ | Roller pitch W | Tensile strength kN | Weight kg/m |
|--------------|------------|-----------------------|---------------------------------|-------------------|-----------------|-----------------------------------|-------------------|------------------------|----------------|
| 08B-1/S6 | 12.70 | 8.51 | 7.75 | 4.47 | 27 | 16.0 | 19.1 | 18.2 | 1.17 |
| 08B-1/S7 | 12.70 | 8.51 | 7.75 | 4.47 | 33 | 16.0 | 22.0 | 18.2 | 1.38 |
| 12B-1/S1 | 19.05 | 12.07 | 11.68 | 5.72 | 48 | 26.0 | 31.5 | 29.5 | 3.50 |
| 12B-1/S2 | 19.05 | 12.07 | 11.68 | 5.72 | 43 | 26.0 | 29.2 | 29.5 | 3.20 |
| 12B-1/S2a | 19.05 | 12.07 | 11.68 | 5.72 | 43 | 24.0 | 29.2 | 29.5 | 2.80 |
| 12B-1/S3 | 19.05 | 12.07 | 11.68 | 5.72 | 40 | 28.0 | 27.0 | 29.5 | 3.40 |
| 16B-1/S5 | 25.40 | 15.88 | 17.02 | 8.28 | 65 | 38.5 | 44.9 | 58.0 | 7.00 |

Roller Chain

Accumulation Chain

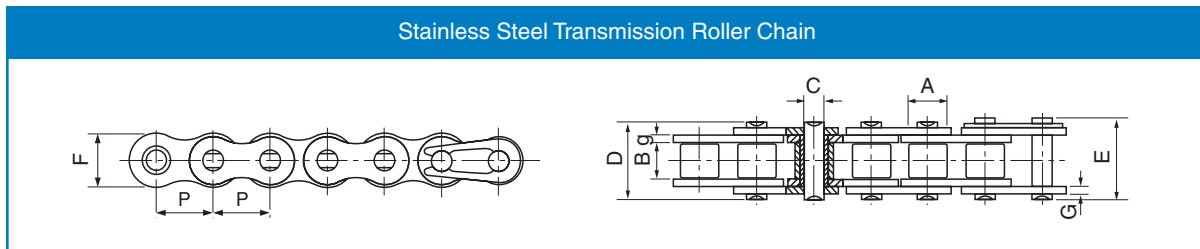


| Chain number | Pitch | Roller diameter | Width between inner plate | Pin diameter | Pin length | Roller diameter | Roller pitch | Tensile strength |
|--------------|-------|-----------------|---------------------------|--------------|------------|-----------------|--------------|------------------|
| | P | A | B | C | D | R1 | W | kN |
| 12B-3/S2a | 19.05 | 12.07 | 11.68 | 5.72 | 61.7 | 24.0 | 19.46 | 88.5 |
| 12B-3/S2 | 19.05 | 12.07 | 11.68 | 5.72 | 61.7 | 26.0 | 19.46 | 88.5 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain

Stainless Steel Transmission Roller Chain (Grade 304)



| ISO Chain number | ANSI Chain number | Pitch P | Roller diameter A | Width between inner plates B | Pin diameter C | Pin length | | Inner plate height F | Plate thickness g/G | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|------------|----------------------|---------------------------------|-------------------|------------|-------|-------------------------|------------------------|--------------------------------|--------------------------------|----------------|
| | | | | | | D | E | | | | | |
| | *35SS | 9.525 | 5.08 | 4.77 | 3.58 | 12.40 | 13.17 | 9.00 | 1.30 | 5.50 | 6.60 | 0.33 |
| | 40SS | 12.700 | 7.95 | 7.85 | 3.96 | 16.60 | 17.80 | 12.00 | 1.50 | 9.60 | 10.80 | 0.63 |
| | 50SS | 15.875 | 10.16 | 9.40 | 5.08 | 20.70 | 22.20 | 15.09 | 2.03 | 15.20 | 17.20 | 1.03 |
| | 60SS | 19.050 | 11.91 | 12.57 | 5.94 | 25.90 | 27.70 | 18.00 | 2.42 | 21.70 | 26.40 | 1.51 |
| | 80SS | 25.400 | 15.88 | 15.75 | 7.92 | 32.70 | 35.00 | 24.00 | 3.25 | 38.90 | 46.60 | 2.62 |
| | 100SS | 31.750 | 19.05 | 18.90 | 9.53 | 40.40 | 44.70 | 30.00 | 4.00 | 60.00 | 70.20 | 3.94 |
| 04BSS | | 6.000 | 4.00 | 2.80 | 1.85 | 6.80 | 7.80 | 5.00 | 0.60 | 2.00 | 2.40 | 0.11 |
| 05BSS | | 8.000 | 5.00 | 3.00 | 2.31 | 8.20 | 8.90 | 7.10 | 0.80 | 3.50 | 4.10 | 0.20 |
| #06BSS | | 9.525 | 6.35 | 5.72 | 3.28 | 13.15 | 14.10 | 8.20 | 1.30 | 6.20 | 6.80 | 0.41 |
| 08BSS | | 12.700 | 8.51 | 7.75 | 4.45 | 16.70 | 18.20 | 11.80 | 1.60 | 12.00 | 14.30 | 0.70 |
| 10BSS | | 15.875 | 10.16 | 9.65 | 5.08 | 19.50 | 20.90 | 14.70 | 1.70 | 14.50 | 17.20 | 0.94 |
| 12BSS | | 19.050 | 12.07 | 11.68 | 5.72 | 22.50 | 24.20 | 16.00 | 1.85 | 18.50 | 20.90 | 1.16 |
| 16BSS | | 25.400 | 15.88 | 17.02 | 8.28 | 36.10 | 37.40 | 21.00 | 4.15/3.1 | 40.00 | 47.60 | 2.73 |
| 20BSS | | 31.750 | 19.05 | 19.56 | 10.19 | 41.30 | 45.00 | 26.40 | 4.5/3.5 | 59.00 | 69.60 | 3.73 |

* Bush chain: **A** in the table indicates the external diameter of the bush

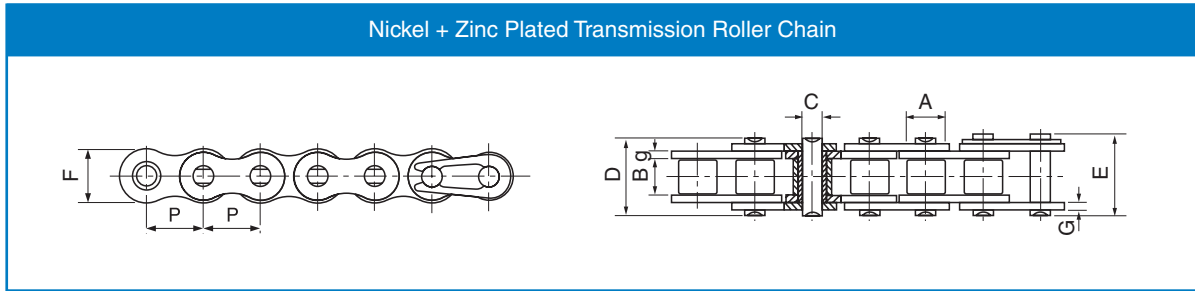
Straight side plate chain

Duplex and Triplex chains are also available.

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Roller Chain

Nickel Plated Transmission Roller Chain



| ISO Chain number | ANSI Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height F | Plate thickness g/G | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|--------|-----------------|----------------------------|--------------|------------|-------|----------------------|---------------------|-----------------------------|-----------------------------|-------------|
| | | P | A | B | C | D | E | | | | | |
| | *25NP | 6.350 | 3.30 | 3.18 | 2.31 | 7.90 | 8.40 | 6.00 | 0.80 | 3.50 | 4.60 | 0.15 |
| | *35NP | 9.525 | 5.08 | 4.77 | 3.58 | 12.40 | 13.17 | 9.00 | 1.30 | 7.90 | 10.80 | 0.33 |
| | 41NP | 12.700 | 7.77 | 6.25 | 3.58 | 13.75 | 15.00 | 9.91 | 1.30 | 6.67 | 12.60 | 0.41 |
| | 40NP | 12.700 | 7.95 | 7.85 | 3.96 | 16.60 | 17.80 | 12.00 | 1.50 | 14.10 | 17.50 | 0.62 |
| | 50NP | 15.875 | 10.16 | 9.40 | 5.08 | 20.70 | 22.20 | 15.09 | 2.03 | 22.20 | 29.40 | 1.02 |
| | 60NP | 19.050 | 11.91 | 12.57 | 5.94 | 25.90 | 27.70 | 18.00 | 2.42 | 31.80 | 41.50 | 1.50 |
| | 80NP | 25.400 | 15.88 | 15.75 | 7.92 | 32.70 | 35.00 | 24.00 | 3.25 | 56.70 | 69.40 | 2.60 |
| | 100NP | 31.750 | 19.05 | 18.90 | 9.53 | 40.40 | 44.70 | 30.00 | 4.00 | 88.50 | 109.20 | 3.91 |
| 04BNP | | 6.000 | 4.00 | 2.80 | 1.85 | 6.80 | 7.80 | 5.00 | 0.60 | 3.00 | 3.20 | 0.11 |
| 05BNP | | 8.000 | 5.00 | 3.00 | 2.31 | 8.20 | 8.90 | 7.10 | 0.80 | 5.00 | 5.90 | 0.20 |
| #06BNP | | 9.525 | 6.35 | 5.72 | 3.28 | 13.15 | 14.10 | 8.20 | 1.30 | 9.00 | 10.40 | 0.41 |
| 08BNP | | 12.700 | 8.51 | 7.75 | 4.45 | 16.70 | 18.20 | 11.80 | 1.60 | 18.00 | 19.40 | 0.69 |
| 10BNP | | 15.875 | 10.16 | 9.65 | 5.08 | 19.50 | 20.90 | 14.70 | 1.70 | 22.40 | 27.50 | 0.93 |
| 12BNP | | 19.050 | 12.07 | 11.68 | 5.72 | 22.50 | 24.20 | 16.00 | 1.85 | 29.00 | 32.20 | 1.15 |
| 16BNP | | 25.400 | 15.88 | 17.02 | 8.28 | 36.10 | 37.40 | 21.00 | 4.15/3.1 | 60.00 | 72.80 | 2.71 |
| 20BNP | | 31.750 | 19.05 | 19.56 | 10.19 | 41.30 | 45.00 | 26.40 | 4.5/3.5 | 95.00 | 106.70 | 3.70 |

Duplex and Triplex chains are also available.

Zinc Plated Transmission Roller Chain

| ISO Chain number | ANSI Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height F | Plate thickness g/G | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|--------|-----------------|----------------------------|--------------|------------|-------|----------------------|---------------------|-----------------------------|-----------------------------|-------------|
| | | P | A | B | C | D | E | | | | | |
| | *25ZP | 6.350 | 3.30 | 3.18 | 2.31 | 7.90 | 8.40 | 6.00 | 0.80 | 3.50 | 4.60 | 0.14 |
| | *35ZP | 9.525 | 5.08 | 4.77 | 3.58 | 12.40 | 13.17 | 9.00 | 1.30 | 7.90 | 10.80 | 0.33 |
| | 41ZP | 12.700 | 7.77 | 6.25 | 3.58 | 13.75 | 15.00 | 9.91 | 1.30 | 6.67 | 12.60 | 0.41 |
| | 40ZP | 12.700 | 7.95 | 7.85 | 3.96 | 16.60 | 17.80 | 12.00 | 1.50 | 14.10 | 17.50 | 0.62 |
| | 50ZP | 15.875 | 10.16 | 9.40 | 5.08 | 20.70 | 22.20 | 15.09 | 2.03 | 22.20 | 29.40 | 1.02 |
| | 60ZP | 19.050 | 11.91 | 12.57 | 5.94 | 25.90 | 27.70 | 18.00 | 2.42 | 31.80 | 41.50 | 1.50 |
| | 80ZP | 25.400 | 15.88 | 15.75 | 7.92 | 32.70 | 35.00 | 24.00 | 3.25 | 56.70 | 69.40 | 2.60 |
| | 100ZP | 31.750 | 19.05 | 18.90 | 9.53 | 40.40 | 44.70 | 30.00 | 4.00 | 88.50 | 109.20 | 3.91 |
| 04BZP | | 6.000 | 4.00 | 2.80 | 1.85 | 6.80 | 7.80 | 5.00 | 0.60 | 3.00 | 3.20 | 0.11 |
| 05BZP | | 8.000 | 5.00 | 3.00 | 2.31 | 8.20 | 8.90 | 7.10 | 0.80 | 5.00 | 5.90 | 0.20 |
| #06BZP | | 9.525 | 6.35 | 5.72 | 3.28 | 13.15 | 14.10 | 8.20 | 1.30 | 9.00 | 10.40 | 0.41 |
| 08BZP | | 12.700 | 8.51 | 7.75 | 4.45 | 16.70 | 18.20 | 11.80 | 1.60 | 18.00 | 19.40 | 0.69 |
| 10BZP | | 15.875 | 10.16 | 9.65 | 5.08 | 19.50 | 20.90 | 14.70 | 1.70 | 22.40 | 27.50 | 0.93 |
| 12BZP | | 19.050 | 12.07 | 11.68 | 5.72 | 22.50 | 24.20 | 16.00 | 1.85 | 29.00 | 32.20 | 1.15 |
| 16BZP | | 25.400 | 15.88 | 17.02 | 8.28 | 36.10 | 37.40 | 21.00 | 4.15/3.1 | 60.00 | 72.80 | 2.71 |
| 20BZP | | 31.750 | 19.05 | 19.56 | 10.19 | 41.30 | 45.00 | 26.40 | 4.5/3.5 | 95.00 | 106.70 | 3.70 |

* Bush chain: A in the table indicates the external diameter of the bush

Straight side plate chain

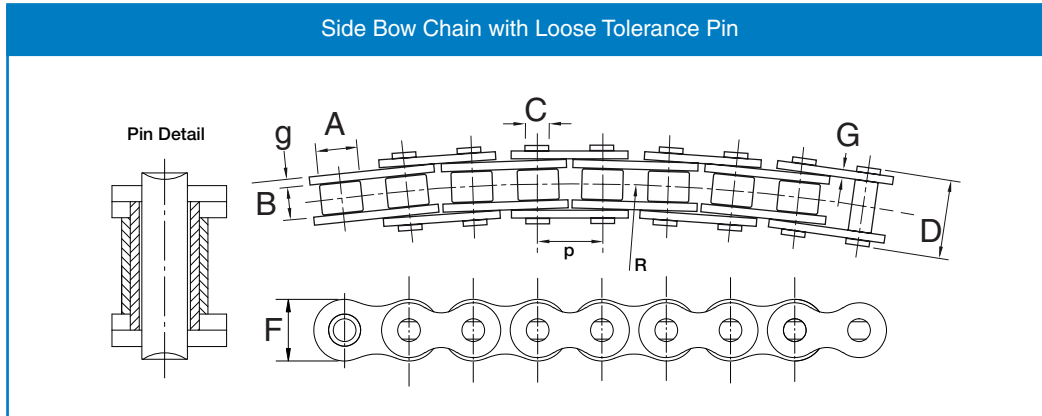
Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Duplex and Triplex chains are also available.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

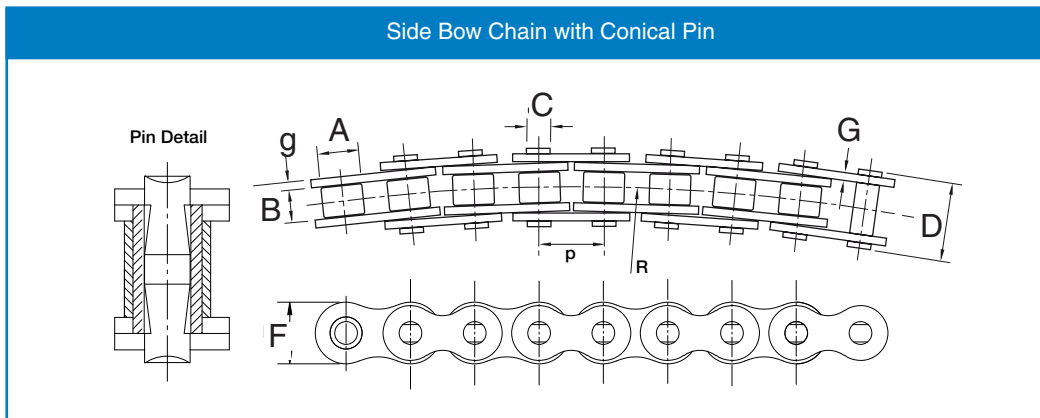
Roller Chain

Side Bow Chain with Loose Tolerance Pin



| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | Inner plate height | Plate thickness | Min. side bow radius | Average tensile strength | Weight |
|--------------|--------|-----------------|----------------------------|--------------|------------|--------------------|-----------------|----------------------|--------------------------|--------|
| | P | A | B | C | D | F | g/G | R | kN | kg/m |
| 40SB | 12.700 | 7.95 | 7.85 | 3.45 | 16.9 | 11.7 | 1.50 | 350 | 11.00 | 0.80 |
| 50SB | 15.875 | 10.16 | 9.40 | 4.37 | 20.7 | 14.9 | 2.03 | 400 | 20.00 | 1.09 |
| 60SB | 19.050 | 11.91 | 12.57 | 5.34 | 26.6 | 18.0 | 2.42 | 500 | 28.00 | 1.54 |
| 63SB | 19.050 | 11.91 | 12.68 | 5.08 | 28.8 | 17.2 | 2.42 / 2.03 | 350 | 25.00 | 1.40 |
| 80SB | 25.400 | 15.88 | 15.75 | 7.19 | 34.0 | 24.0 | 3.25 | 715 | 39.00 | 2.60 |
| 08BSB | 12.700 | 8.51 | 7.75 | 3.97 | 17.4 | 11.8 | 1.50 | 400 | 11.20 | 0.70 |
| 08BSBF1 | 12.700 | 8.51 | 7.75 | 3.97 | 16.3 | 11.8 | 1.60 / 1.20 | 400 | 11.00 | 0.65 |
| 10BSB | 15.875 | 10.16 | 9.65 | 4.50 | 20.1 | 14.7 | 1.70 | 400 | 18.70 | 0.93 |
| 12BSB | 19.050 | 12.07 | 11.68 | 5.12 | 23.1 | 16.0 | 1.85 | 500 | 21.00 | 1.16 |
| 16BSB | 25.400 | 15.88 | 17.22 | 7.90 | 36.5 | 21.0 | 3.70 - 3.00 | 500 | 53.50 | 2.53 |

Side Bow Chain with Conical Pin



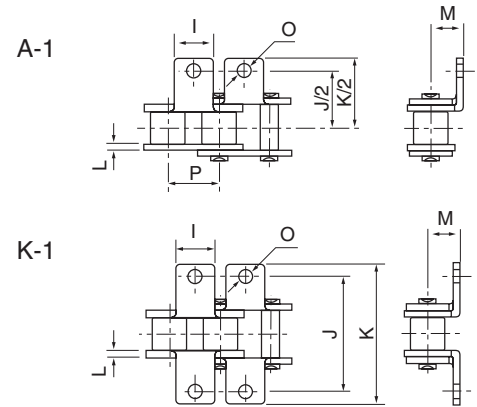
| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | Inner plate height | Plate thickness | Min. side bow radius | Average tensile strength | Weight |
|--------------|--------|-----------------|----------------------------|--------------|------------|--------------------|-----------------|----------------------|--------------------------|--------|
| | P | A | B | C | D | F | g/G | R | kN | kg/m |
| 40SB | 12.700 | 7.95 | 7.85 | 3.98 | 16.9 | 11.7 | 1.50 | 350 | 11.00 | 0.80 |
| 50SB | 15.875 | 10.16 | 9.40 | 5.08 | 20.7 | 14.9 | 2.03 | 400 | 20.00 | 1.09 |
| 60SB | 19.050 | 11.91 | 12.57 | 5.94 | 26.6 | 18.0 | 2.42 | 500 | 28.00 | 1.54 |
| 80SB | 25.400 | 15.88 | 15.75 | 7.92 | 34.0 | 24.0 | 3.25 | 711 | 39.00 | 2.60 |
| 08BSB | 12.700 | 8.51 | 7.75 | 4.45 | 17.4 | 11.8 | 1.50 | 400 | 11.20 | 0.70 |
| 08BSBF1 | 12.700 | 8.51 | 7.75 | 4.45 | 16.3 | 11.8 | 1.60 - 1.20 | 400 | 11.00 | 0.65 |
| 10BSB | 15.875 | 10.16 | 9.65 | 5.08 | 20.1 | 14.7 | 1.70 | 400 | 18.70 | 0.93 |
| 12BSB | 19.050 | 12.07 | 11.68 | 5.72 | 23.1 | 16.0 | 1.85 | 500 | 21.00 | 1.16 |
| 16BSB | 25.400 | 15.88 | 17.22 | 8.28 | 36.5 | 21.0 | 3.70 - 3.00 | 500 | 53.50 | 2.53 |
| C2050SB | 31.750 | 10.16 | 9.40 | 5.08 | 21.3 | 15.0 | 2.03 | 800 | 20.50 | 0.84 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Roller Chain Attachments

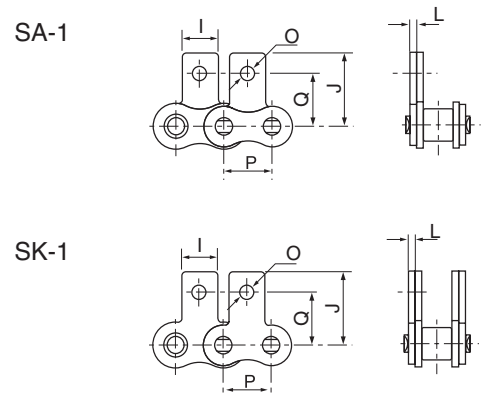
A-1 & K-1 Attachments

| ISO No. | ANSI No. | P | I | J | K | L | M | O |
|---------|----------|--------|-------|--------|--------|------|-------|-------|
| | 40 | 12.700 | 9.50 | 25.40 | 35.20 | 1.50 | 7.90 | 3.40 |
| | 50 | 15.875 | 12.70 | 31.75 | 46.20 | 2.03 | 10.30 | 5.50 |
| | 60 | 19.050 | 15.90 | 38.10 | 55.60 | 2.42 | 11.90 | 5.50 |
| | 80 | 25.400 | 19.10 | 50.80 | 64.80 | 3.25 | 15.90 | 6.80 |
| | 100 | 31.750 | 25.40 | 63.50 | 87.30 | 4.00 | 19.80 | 9.20 |
| | 120 | 38.100 | 28.60 | 76.20 | 108.50 | 4.80 | 23.00 | 9.80 |
| | 140 | 44.450 | 34.90 | 88.90 | 123.00 | 5.60 | 28.60 | 11.40 |
| | 160 | 50.800 | 38.10 | 101.60 | 142.80 | 6.40 | 31.80 | 13.10 |
| *06B | | 9.525 | 8.00 | 19.04 | 27.00 | 1.30 | 6.50 | 3.50 |
| 08B | | 12.700 | 9.50 | 25.40 | 36.40 | 1.60 | 8.90 | 4.50 |
| 10B | | 15.875 | 14.30 | 31.75 | 44.60 | 1.70 | 10.31 | 5.30 |
| 12B | | 19.050 | 16.00 | 38.10 | 52.40 | 1.85 | 13.46 | 6.40 |
| 16B | | 25.400 | 19.10 | 50.80 | 72.60 | 3.10 | 15.88 | 6.40 |



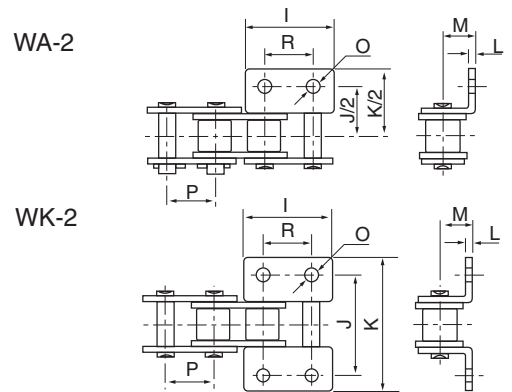
SA-1 & SK-1 Attachments

| ISO No. | ANSI No. | P | I | J | Q | L | O |
|---------|----------|--------|-------|-------|-------|------|-------|
| | 40 | 12.700 | 9.50 | 19.05 | 12.70 | 1.50 | 3.40 |
| | 50 | 15.875 | 12.70 | 25.25 | 15.90 | 2.03 | 5.50 |
| | 60 | 19.050 | 15.90 | 29.33 | 18.30 | 2.42 | 5.50 |
| | 80 | 25.400 | 19.10 | 34.70 | 24.60 | 3.25 | 6.80 |
| | 100 | 31.750 | 25.40 | 43.30 | 31.80 | 4.00 | 9.20 |
| | 120 | 38.100 | 28.60 | 51.60 | 36.50 | 4.80 | 9.80 |
| | 140 | 44.450 | 34.90 | 62.00 | 44.50 | 5.60 | 11.40 |
| | 160 | 50.800 | 38.10 | 69.85 | 50.80 | 6.40 | 13.10 |
| *06B | | 9.525 | 8.00 | 13.50 | 9.52 | 1.30 | 3.50 |
| 08B | | 12.700 | 9.50 | 18.90 | 13.35 | 1.60 | 4.30 |
| 10B | | 15.875 | 14.30 | 22.95 | 16.50 | 1.70 | 5.30 |
| 12B | | 19.050 | 16.00 | 28.60 | 21.45 | 1.85 | 6.40 |
| 16B | | 25.400 | 19.10 | 34.00 | 23.15 | 3.10 | 6.40 |



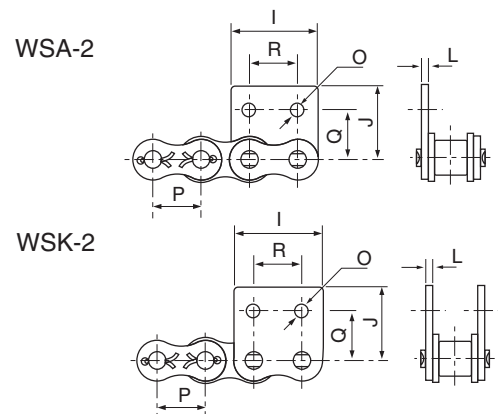
WA-2 & WK-2 Attachments

| ISO No. | ANSI No. | P | I | R | J | K | L | M | O |
|---------|----------|--------|-------|-------|-------|-------|------|-------|------|
| | 40 | 12.700 | 23.00 | 12.70 | 25.40 | 35.60 | 1.50 | 7.90 | 3.40 |
| | 50 | 15.875 | 28.80 | 15.88 | 31.80 | 46.80 | 2.03 | 10.30 | 5.50 |
| | 60 | 19.050 | 34.65 | 19.05 | 38.10 | 56.40 | 2.42 | 11.90 | 5.50 |
| | 80 | 25.400 | 45.90 | 25.40 | 50.80 | 73.20 | 3.25 | 15.90 | 6.80 |
| | 100 | 31.750 | 57.65 | 31.75 | 63.50 | 89.80 | 4.00 | 19.80 | 9.20 |
| 08B | | 12.700 | 24.00 | 12.70 | 25.40 | 36.40 | 1.60 | 8.90 | 4.30 |
| 10B | | 15.875 | 29.58 | 15.88 | 31.80 | 44.60 | 1.70 | 10.31 | 5.30 |
| 12B | | 19.050 | 34.05 | 19.05 | 38.10 | 52.40 | 1.85 | 13.46 | 6.40 |
| 16B | | 25.400 | 46.40 | 25.40 | 50.80 | 72.60 | 3.10 | 15.88 | 6.40 |



WSA-2 & WSK-2 Attachments

| ISO No. | ANSI No. | P | I | R | J | Q | L | O |
|---------|----------|--------|-------|-------|-------|-------|------|------|
| | 40 | 12.700 | 23.00 | 12.70 | 17.40 | 12.70 | 1.50 | 3.40 |
| | 50 | 15.875 | 28.80 | 15.88 | 23.05 | 15.90 | 2.03 | 5.50 |
| | 60 | 19.050 | 34.65 | 19.05 | 26.86 | 18.30 | 2.42 | 5.50 |
| | 80 | 25.400 | 45.90 | 25.40 | 35.45 | 24.60 | 3.25 | 6.80 |
| | 100 | 31.750 | 57.65 | 31.75 | 44.00 | 31.80 | 4.00 | 9.20 |
| 08B | | 12.700 | 23.30 | 12.70 | 18.90 | 13.35 | 1.60 | 4.30 |
| 10B | | 15.875 | 29.58 | 15.88 | 22.95 | 16.50 | 1.70 | 5.30 |
| 12B | | 19.050 | 34.05 | 19.05 | 28.60 | 21.45 | 1.85 | 6.40 |
| 16B | | 25.400 | 46.40 | 25.40 | 34.00 | 23.15 | 3.10 | 6.40 |



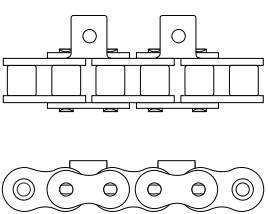
* Straight side plates

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Roller Chain Attachments

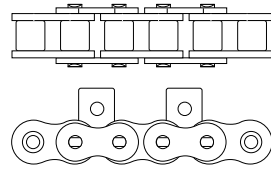
Standard Attachment Chains Designations

1. Bent attachment A1 - one hole - one side - every outer



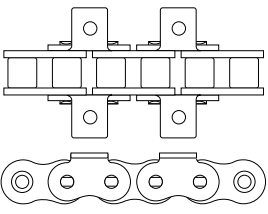
| Chain Reference |
|-----------------|
| 06BA-2 |
| 08BA-2 |
| 10BA-2 |
| 12BA-2 |
| 16BA-2 |

7. Straight attachment SA1 - one hole - one side - every outer



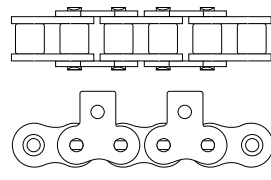
| Chain Reference |
|-----------------|
| 06BSA-2 |
| 08BSA-2 |
| 10BSA-2 |
| 12BSA-2 |
| 16BSA-2 |

2. Bent attachment K1 - one hole - both sides - every outer



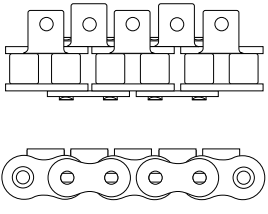
| Chain Reference |
|-----------------|
| 06BK-2 |
| 08BK-2 |
| 10BK-2 |
| 12BK-2 |
| 16BK-2 |

8. Straight attachment SK1 - one hole - both sides - every outer



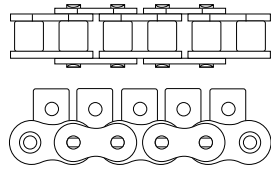
| Chain Reference |
|-----------------|
| 06BSK-2 |
| 08BSK-2 |
| 10BSK-2 |
| 12BSK-2 |
| 16BSK-2 |

3. Bent attachment A1 - one hole - one side - every outer and inner



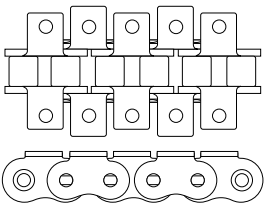
| Chain Reference |
|-----------------|
| 06BA-1 |
| 08BA-1 |
| 10BA-1 |
| 12BA-1 |
| 16BA-1 |

9. Straight attachment SA1 - one hole - one side - every outer and inner



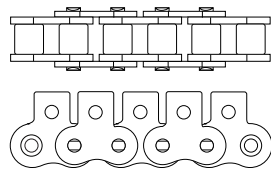
| Chain Reference |
|-----------------|
| 06BSA-1 |
| 08BSA-1 |
| 10BSA-1 |
| 12BSA-1 |
| 16BSA-1 |

4. Bent attachment K1 - one hole - both sides - every outer and inner



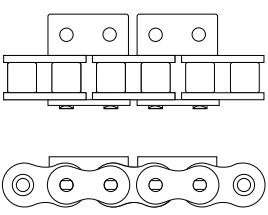
| Chain Reference |
|-----------------|
| 06BK-1 |
| 08BK-1 |
| 10BK-1 |
| 12BK-1 |
| 16BK-1 |

10. Straight attachment SK1 - one hole - both sides - every outer and inner



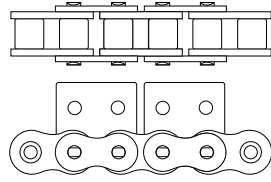
| Chain Reference |
|-----------------|
| 06BSK-1 |
| 08BSK-1 |
| 10BSK-1 |
| 12BSK-1 |
| 16BSK-1 |

5. Bent attachment WA2 - two holes - one side - every outer



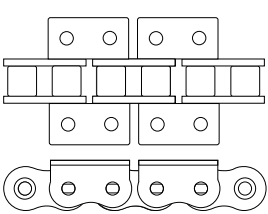
| Chain Reference |
|-----------------|
| 06BWA-2 |
| 08BWA-2 |
| 10BWA-2 |
| 12BWA-2 |
| 16BWA-2 |

11. Straight attachment WSA2 - two holes - one side - every outer



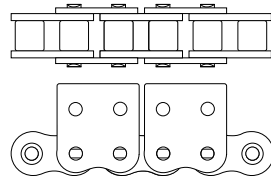
| Chain Reference |
|-----------------|
| 06BWSA-2 |
| 08BWSA-2 |
| 10BWSA-2 |
| 12BWSA-2 |
| 16BWSA-2 |

6. Bent attachment WK2 - two holes - both sides - every outer



| Chain Reference |
|-----------------|
| 06BWK-2 |
| 08BWK-2 |
| 10BWK-2 |
| 12BWK-2 |
| 16BWK-2 |

12. Straight attachment WSK2 - two holes - both sides - every outer



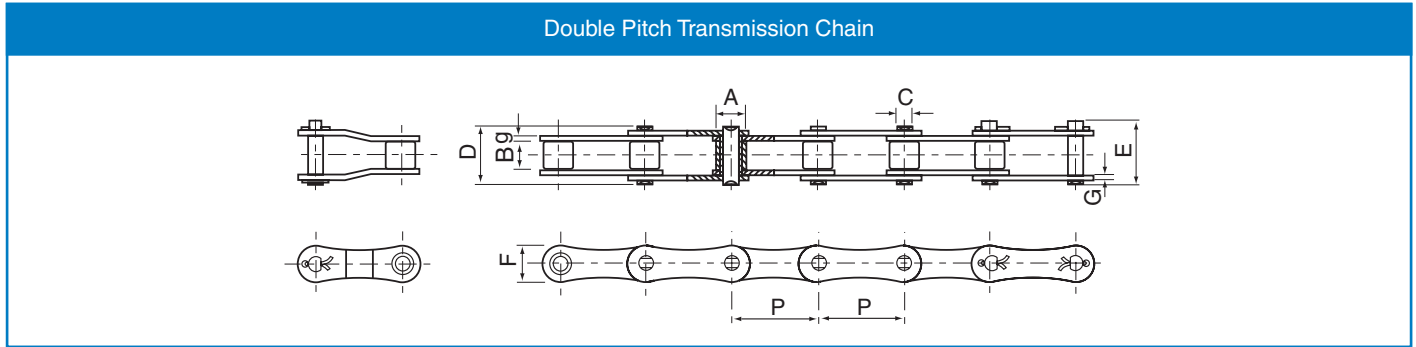
| Chain Reference |
|-----------------|
| 06WSK-2 |
| 08WSK-2 |
| 10WSK-2 |
| 12WSK-2 |
| 16WSK-2 |

Standard boxed lengths are 5 metres or 10 feet.
Special lengths available.

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Double Pitch Chain

Double Pitch Transmission Chain

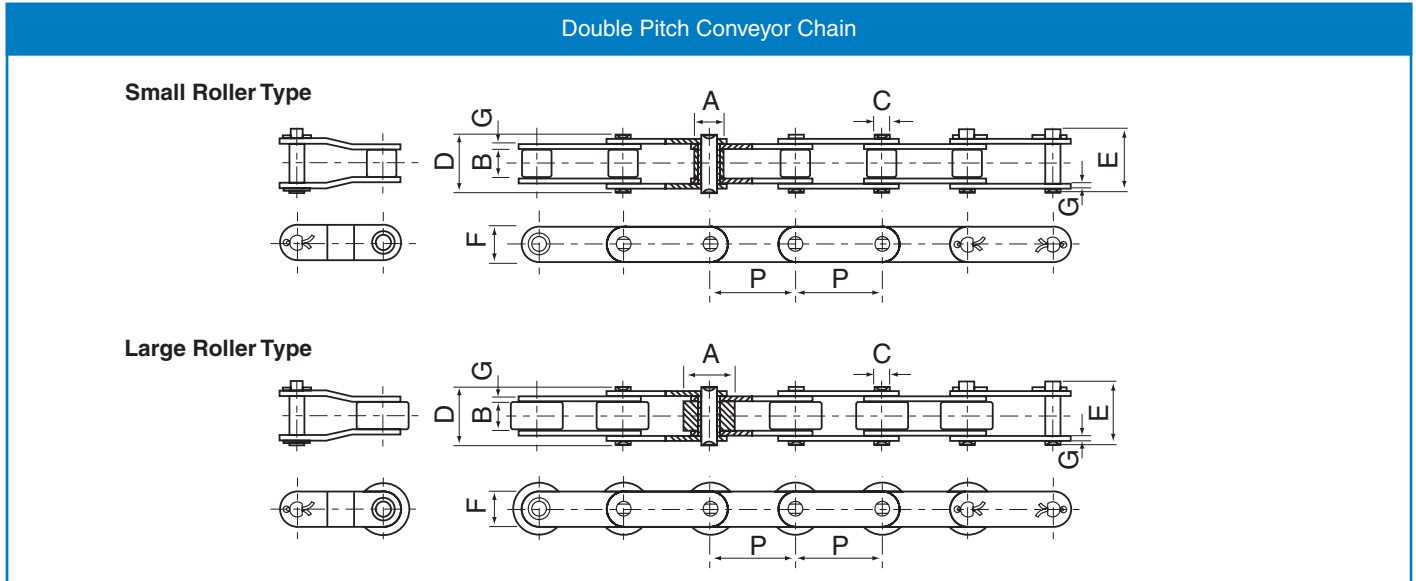


| ISO Chain number | ANSI Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Inner plate height | Plate thickness g/G | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|--------|-----------------|----------------------------|--------------|------------|-------|--------------------|---------------------|-----------------------------|-----------------------------|-------------|
| | | P | A | B | C | D | E | F | | | | |
| | A2040 | 25.40 | 7.95 | 7.85 | 3.96 | 16.60 | 17.80 | 12.00 | 1.50 | 14.10 | 16.70 | 0.42 |
| 208B | | 25.40 | 8.51 | 7.75 | 4.45 | 16.70 | 18.20 | 11.80 | 1.60 | 18.00 | 19.40 | 0.45 |
| | A2050 | 31.75 | 10.16 | 9.40 | 5.08 | 20.70 | 22.20 | 15.00 | 2.03 | 22.20 | 28.10 | 0.73 |
| 210B | | 31.75 | 10.16 | 9.65 | 5.08 | 19.50 | 20.90 | 14.70 | 1.70 | 22.40 | 27.50 | 0.65 |
| | A2060 | 38.10 | 11.91 | 12.57 | 5.94 | 25.90 | 27.70 | 18.00 | 2.42 | 31.80 | 36.80 | 1.02 |
| 212B | | 38.10 | 12.07 | 11.68 | 5.72 | 22.50 | 25.20 | 16.00 | 1.85 | 29.00 | 32.20 | 0.76 |
| | A2080 | 50.80 | 15.88 | 15.75 | 7.92 | 32.70 | 36.50 | 24.00 | 3.25 | 56.70 | 65.70 | 1.70 |
| 216AH | | 50.80 | 15.88 | 15.75 | 7.92 | 36.20 | 39.40 | 24.00 | 4.00 | 56.70 | 70.00 | 2.17 |
| 216B | | 50.80 | 15.88 | 17.02 | 8.28 | 36.10 | 39.10 | 21.00 | 4.15/3.1 | 60.00 | 72.80 | 1.75 |
| | A2100 | 63.50 | 19.05 | 18.90 | 9.53 | 40.40 | 44.70 | 30.00 | 4.00 | 88.50 | 102.60 | 2.55 |
| 220B | | 63.50 | 19.05 | 19.56 | 10.19 | 41.30 | 45.00 | 26.40 | 4.5/3.5 | 95.00 | 106.70 | 2.62 |
| | A2120 | 76.20 | 22.23 | 25.22 | 11.10 | 50.30 | 54.30 | 35.70 | 4.80 | 127.00 | 147.30 | 4.06 |
| 224B | | 76.20 | 25.40 | 25.40 | 14.63 | 53.40 | 57.80 | 33.20 | 6.0/4.8 | 160.00 | 178.00 | 4.70 |
| 228B | | 88.90 | 27.94 | 30.99 | 15.90 | 65.10 | 69.50 | 36.70 | 7.5/6.0 | 200.00 | 222.00 | 6.23 |
| 232B | | 101.60 | 29.21 | 30.99 | 17.81 | 66.00 | 71.00 | 42.00 | 7.0/6.0 | 250.00 | 277.50 | 6.72 |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Double Pitch Chain

Double Pitch Conveyor Chain



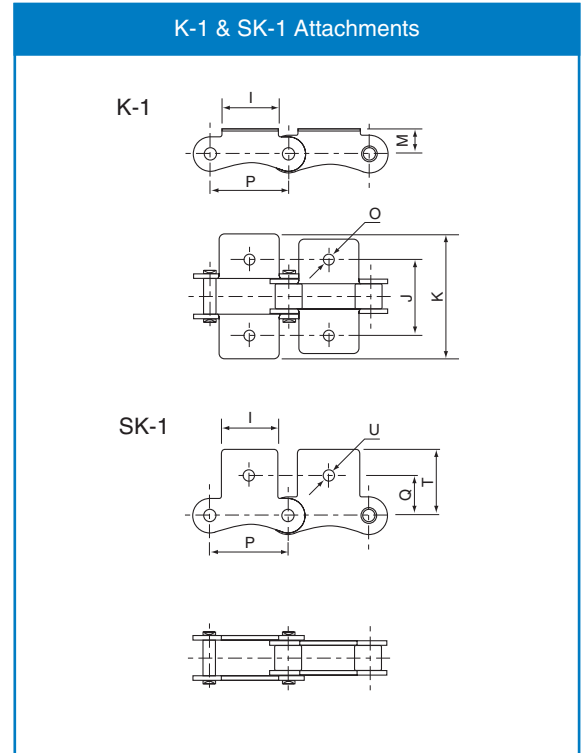
| ISO Chain number | ANSI Chain number | Pitch P | Roller diameter A | Width between inner plates | | Pin length | | Side plate height F | Plate thickness G | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|------------|----------------------|----------------------------|-------|------------|-------|------------------------|----------------------|--------------------------------|--------------------------------|----------------|
| | | | | B | C | D | E | | | | | |
| | C2040 | 25.40 | 7.95 | 7.85 | 3.96 | 16.60 | 17.80 | 12.00 | 1.50 | 14.10 | 16.70 | 0.50 |
| | C2042 | | 15.88 | | | | | | | | | |
| C208B C208BL | C2040H | 25.40 | 7.95 | 7.85 | 3.96 | 18.80 | 19.90 | 12.00 | 2.03 | 14.10 | 17.20 | 0.65 |
| | | | 8.51 | | | | | | | | | |
| | | | 15.88 | | | | | | | | | 0.89 |
| | C2050 | 31.75 | 10.16 | 9.40 | 5.08 | 20.70 | 22.20 | 15.00 | 2.03 | 22.20 | 28.10 | 0.78 |
| | C2052 | | 19.05 | | | | | | | | | 1.27 |
| | C2060 | 38.10 | 11.91 | 12.57 | 5.94 | 25.90 | 27.70 | 18.00 | 2.42 | 31.80 | 36.80 | 1.12 |
| | C2062 | | 22.23 | | | | | | | | | |
| | C2060H | 38.10 | 11.91 | 12.57 | 5.94 | 29.20 | 31.60 | 18.00 | 3.25 | 31.80 | 41.60 | 1.44 |
| | C2062H | | 22.23 | | | | | | | | | |
| | C2080 | 50.80 | 15.88 | 15.75 | 7.92 | 32.70 | 36.50 | 24.00 | 3.25 | 56.70 | 65.70 | 2.08 |
| | C2082 | | 28.58 | | | | | | | | | |
| | C2080H | 50.80 | 15.88 | 15.75 | 7.92 | 36.20 | 39.40 | 24.40 | 4.00 | 56.70 | 70.00 | 2.54 |
| | C2082H | | 28.58 | | | | | | | | | |
| | C2100 | 63.50 | 19.05 | 18.90 | 9.53 | 40.40 | 44.70 | 30.00 | 4.00 | 88.50 | 102.60 | 3.01 |
| | C2102 | | 39.67 | | | | | | | | | |
| | C2100H | 63.50 | 19.05 | 18.90 | 9.53 | 43.60 | 46.90 | 30.00 | 4.80 | 88.50 | 112.40 | 3.56 |
| | C2102H | | 39.67 | | | | | | | | | |
| | C2120 | 76.20 | 22.23 | 25.22 | 11.10 | 50.30 | 54.30 | 35.70 | 4.80 | 127.00 | 147.30 | 4.66 |
| | C2122 | | 44.45 | | | | | | | | | |
| | C2120H | 76.20 | 22.23 | 25.22 | 11.10 | 53.50 | 57.50 | 35.70 | 5.60 | 127.00 | 160.90 | 5.26 |
| | C2122H | | 44.45 | | | | | | | | | |
| | C2160 | 101.60 | 28.58 | 31.75 | 14.27 | 64.80 | 69.60 | 47.80 | 6.40 | 226.80 | 278.90 | 8.23 |
| | C2162 | | 57.15 | | | | | | | | | |
| | C2160H | 101.60 | 28.58 | 31.75 | 14.27 | 68.20 | 73.00 | 47.80 | 7.20 | 226.80 | 285.80 | 9.06 |
| | C2162H | | 57.15 | | | | | | | | | |

Standard boxed lengths are 5 metres or 10 feet. Each box contains one CL. Special lengths available.

Double Pitch Attachments

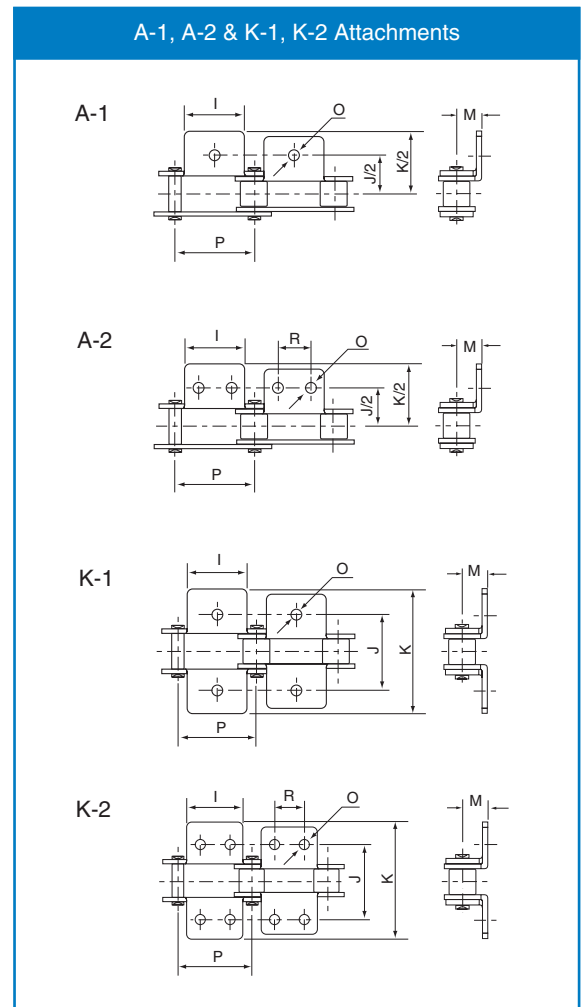
K-1 & SK-1 Attachments

| ANSI Chain number | P | I | J | K | M | O | Q | T | U |
|-------------------|-------|------|------|-------|------|------|------|------|------|
| A2040 | 25.40 | 19.1 | 25.4 | 39.6 | 9.1 | 3.4 | 11.1 | 20.5 | 5.5 |
| A2050 | 31.75 | 23.8 | 31.8 | 49.0 | 11.1 | 5.5 | 14.3 | 25.0 | 6.6 |
| A2060 | 38.10 | 28.6 | 42.9 | 67.8 | 14.7 | 5.5 | 17.5 | 32.9 | 9.2 |
| A2080 | 50.80 | 38.1 | 55.6 | 87.8 | 19.1 | 6.8 | 22.2 | 43.5 | 11.0 |
| A2100 | 63.50 | 47.6 | 66.6 | 107.5 | 23.4 | 9.2 | 28.6 | 50.4 | 13.0 |
| A2120 | 76.20 | 57.2 | 79.3 | 127.5 | 27.8 | 11.0 | | | |



A-1, A-2 & K-1, K-2 Attachments

| ISO Chain number | ANSI Chain number | P | I | R | J | K | M | O |
|------------------|-------------------|--------|-------|-------|--------|--------|-------|-------|
| | C2040 C2042 | 25.40 | 19.10 | 9.50 | 25.40 | 39.60 | 9.10 | 3.40 |
| C208B C208BL | | 25.40 | 23.20 | 12.70 | 25.40 | 39.60 | 9.10 | 4.50 |
| | C2050 C2052 | 31.75 | 23.80 | 11.90 | 31.80 | 49.00 | 11.10 | 5.50 |
| | C2060 C2062 | 38.10 | 28.60 | 14.30 | 42.90 | 67.80 | 14.70 | 5.50 |
| | C2060H C2062H | 38.10 | 28.60 | 14.30 | 42.90 | 67.80 | 14.70 | 5.50 |
| | C2080 C2082 | 50.80 | 38.10 | 19.10 | 55.60 | 87.80 | 19.10 | 6.80 |
| | C2080H C2082H | 50.80 | 38.10 | 19.10 | 55.60 | 87.80 | 19.10 | 6.80 |
| | C2100 C2102 | 63.50 | 47.60 | 23.80 | 66.60 | 107.50 | 23.40 | 9.20 |
| | C2100H C2102H | 63.50 | 47.60 | 23.80 | 66.60 | 107.50 | 23.40 | 9.20 |
| | C2120 C2122 | 76.20 | 57.20 | 28.60 | 79.30 | 121.40 | 27.80 | 11.00 |
| | C2120H C2122H | 76.20 | 57.20 | 28.60 | 79.30 | 121.40 | 27.80 | 11.00 |
| | C2160 C2162 | 101.60 | 76.20 | 38.10 | 104.70 | 151.60 | 36.50 | 13.10 |
| | C2160H C2162H | 101.60 | 76.20 | 38.10 | 104.70 | 151.60 | 36.50 | 13.10 |

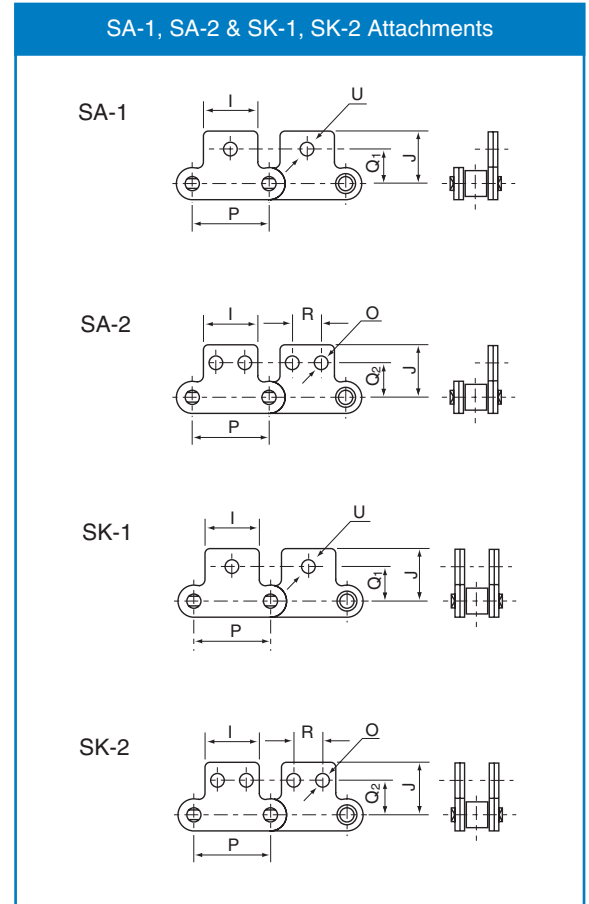


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Double Pitch Attachments

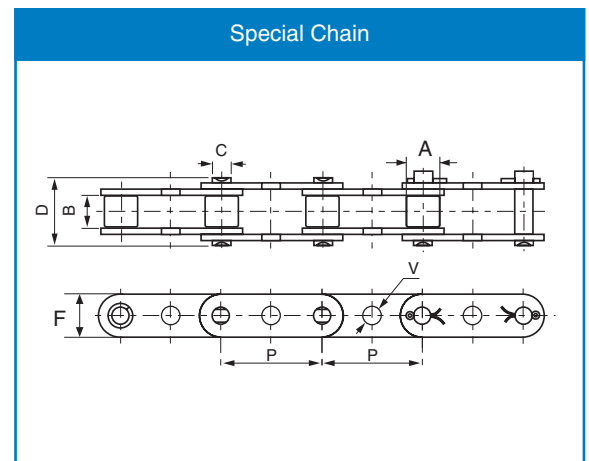
SA-1, SA-2 & SK-1, SK-2 Attachments

| ISO Chain number | ANSI Chain number | P | I | R | Q ₁ | Q ₂ | J | O | U |
|------------------|-------------------|-------|-------|-------|----------------|----------------|-------|------|-------|
| | C2040 C2042 | 25.40 | 19.10 | 9.50 | 11.10 | 13.50 | 20.50 | 3.40 | 5.50 |
| C208B C208BL | | 25.40 | 23.20 | 12.70 | 11.10 | 13.50 | 20.50 | 4.50 | 5.50 |
| | C2050 C2052 | 31.75 | 23.80 | 11.90 | 14.30 | 15.90 | 25.00 | 5.50 | 6.60 |
| | C2060 C2062 | 38.10 | 28.60 | 14.30 | 17.50 | 19.10 | 32.90 | 5.50 | 9.20 |
| | C2060H C2062H | 38.10 | 28.60 | 14.30 | 17.50 | 19.10 | 32.90 | 5.50 | 9.20 |
| | C2080 C2082 | 50.80 | 38.10 | 19.10 | 22.20 | 25.40 | 43.50 | 6.60 | 11.00 |
| | C2080H C2082H | 50.80 | 38.10 | 19.10 | 22.20 | 25.40 | 43.50 | 6.60 | 11.00 |
| | C2100 C2102 | 63.50 | 47.60 | 23.80 | 28.60 | 31.80 | 50.40 | 8.40 | 13.00 |
| | C2100H C2102H | 63.50 | 47.60 | 23.80 | 28.60 | 31.80 | 50.40 | 8.40 | 13.00 |



Special Chain (Attachment Holes in Side Plate)

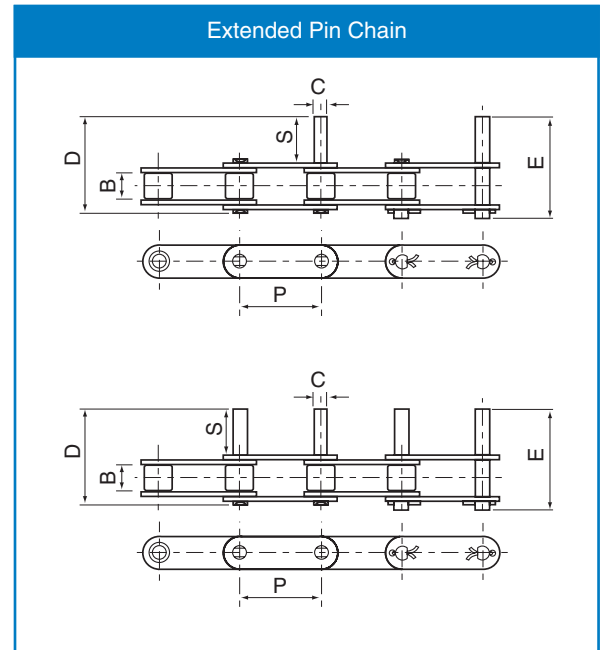
| ANSI Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | Side plate height | Side plate hole diameter |
|-------------------|-------|-----------------|----------------------------|--------------|------------|-------------------|--------------------------|
| | P | A | B | C | D | F | V |
| C2040 C2042 | 25.40 | 7.95 15.88 | 7.85 | 3.96 | 16.60 | 12.00 | 4.10 |
| C2050 C2052 | 31.75 | 10.16 19.05 | 9.40 | 5.08 | 20.70 | 15.00 | 5.10 |
| C2060 C2062 | 38.10 | 11.91 22.23 | 12.57 | 5.94 | 25.90 | 18.00 | 6.10 |
| C2060H C2062H | 38.10 | 11.91 22.23 | 12.57 | 5.94 | 29.20 | 18.00 | 6.10 |
| C2080 C2082 | 50.80 | 15.88 28.58 | 15.75 | 7.92 | 32.70 | 24.00 | 8.10 |
| C2080H C2082H | 50.80 | 15.88 28.58 | 15.75 | 7.92 | 36.20 | 24.00 | 8.10 |
| C2100 C2102 | 63.50 | 19.05 39.67 | 18.90 | 9.53 | 40.40 | 30.00 | 10.10 |
| C2100H C2102H | 63.50 | 19.05 39.67 | 18.90 | 9.53 | 43.60 | 30.00 | 10.10 |



Double Pitch Chain

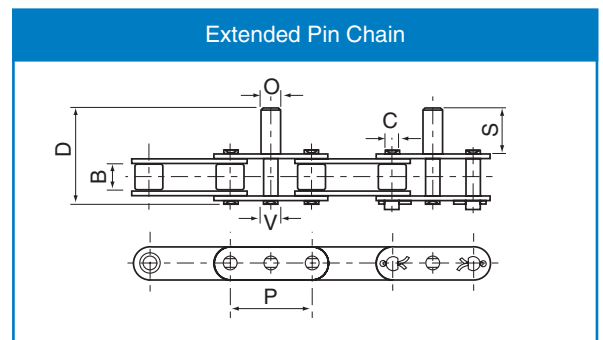
Extended Pin Chain

| ANSI Chain number | Pitch | | | | | |
|-------------------|--------|-------|-------|-------|--------|--------|
| | P | B | C | S | D | E |
| C2040 C2042 | 25.40 | 7.85 | 3.96 | 9.50 | 25.10 | 26.20 |
| C2050 C2052 | 31.75 | 9.40 | 5.08 | 11.90 | 31.30 | 33.10 |
| C2060 C2062 | 38.10 | 12.57 | 5.94 | 14.30 | 38.60 | 40.60 |
| C2060H C2062H | 38.10 | 12.57 | 5.94 | 14.30 | 42.00 | 43.80 |
| C2080 C2082 | 50.80 | 15.75 | 7.92 | 19.10 | 50.30 | 53.30 |
| C2080H C2082H | 50.80 | 15.75 | 7.92 | 19.10 | 53.50 | 55.00 |
| C2100 C2102 | 63.50 | 18.90 | 9.53 | 23.80 | 61.80 | 66.10 |
| C2100H C2102H | 63.50 | 18.90 | 9.53 | 23.80 | 65.00 | 68.30 |
| C2120H C2122H | 76.20 | 25.22 | 11.10 | 28.60 | 79.60 | 83.60 |
| C2160H C2162H | 101.60 | 31.75 | 14.27 | 38.10 | 103.00 | 107.80 |



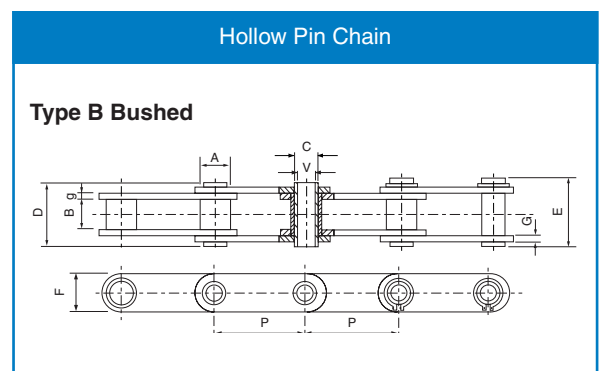
Extended Pin Chain

| Chain number | Pitch | | | | | | |
|--------------|-------|-------|------|------|-------|-------|-------|
| | P | B | C | V | O | S | D |
| C2060H | 38.10 | 12.57 | 5.94 | 5.94 | 8.00 | 25.00 | 53.00 |
| C2060H | 38.10 | 12.57 | 5.94 | 8.08 | 10.00 | 35.00 | 63.00 |
| C2060H | 38.10 | 12.57 | 5.94 | 5.94 | 12.70 | 41.20 | 69.20 |
| C2060H | 38.10 | 12.57 | 5.94 | 5.94 | 14.28 | 41.20 | 69.20 |

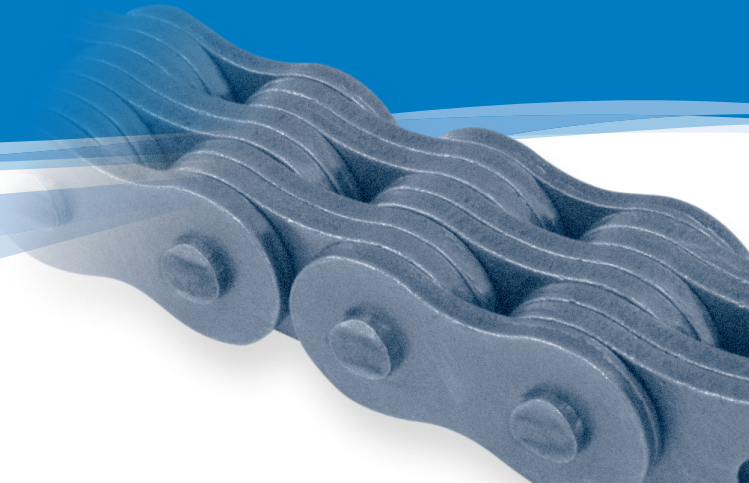


Hollow Pin Chain - Bushed Type (No Roller)

| Chain number | Pitch P | Roller diameter A | Width between inner plates B | Pin diameter | | Pin length | | Side plate height F | Plate thickness g/G | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m | Type |
|--------------|------------|----------------------|---------------------------------|--------------|------|------------|------|------------------------|------------------------|--------------------------------|--------------------------------|----------------|------|
| | | | | C | V | D | E | | | | | | |
| C2040HP | 25.400 | 7.95 | 7.85 | 5.63 | 4.00 | 16.5 | 17.6 | 12.00 | 1.50 | 11.00 | 12.6 | 0.46 | B |
| C2050HP | 31.750 | 10.16 | 9.40 | 7.22 | 5.12 | 20.5 | 21.8 | 15.00 | 2.03 | 20.40 | 22.8 | 0.76 | B |
| 02060HP | 38.100 | 11.91 | 12.70 | 8.31 | 6.00 | 25.8 | 26.8 | 17.00 | 2.42 | 24.00 | 27.1 | 1.02 | B |
| C2080HP | 50.800 | 15.88 | 15.75 | 11.40 | 8.05 | 32.5 | 33.8 | 24.00 | 3.25 | 50.00 | 55.2 | 1.81 | B |



All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.



Challenge Leaf Chain

Applications:

Leaf chain is used in lifting applications such as Fork Lifts, Pneumatic and Hydraulic Jack fittings, etc. all of which move at slow speeds

Challenge offer Leaf Chain complying with ANSI standards in types BL (heavy duty), AL (light duty), EL and FLC

Where applicable, ISO equivalents are also given

Construction:

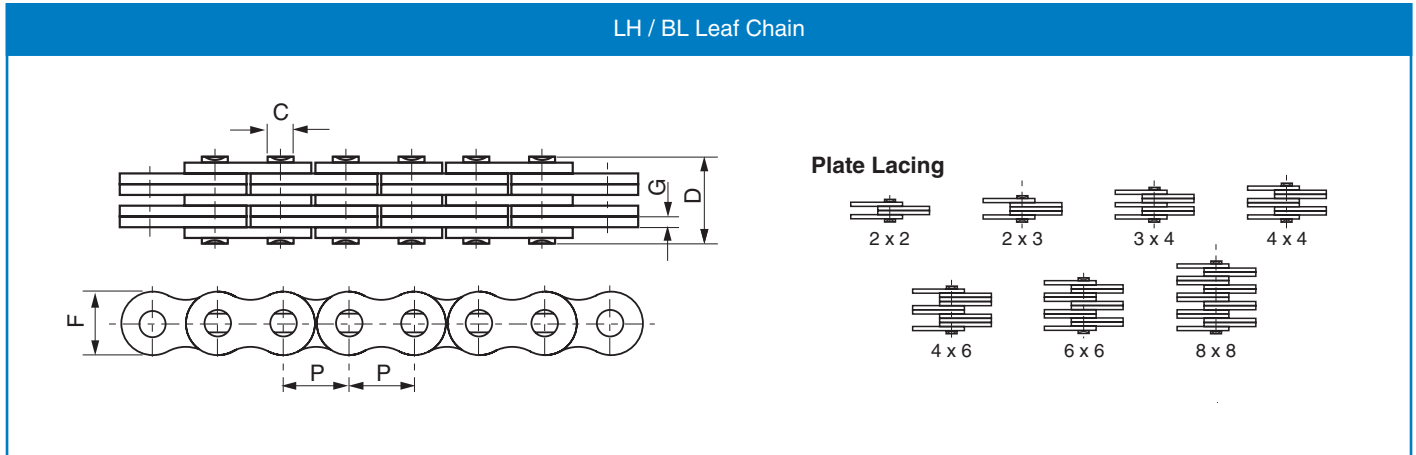
Link plates - produced from alloy steel, especially selected to withstand sudden shock loads. Heat treated to assure maximum breaking loads and wear resistance

Bearing pins - produced from heat treated alloy steel giving excellent resistance to bending

Leaf Chain

LH / BL Series Leaf Chain

ANSI B29.8, ISO 4347, DIN 8152



| ISO Chain number | ANSI Chain number | Pitch P | Chain lacing | Plate height F | Plate thickness G | Pin diameter C | Pin length D | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|---------|--------------|----------------|-------------------|----------------|--------------|-----------------------------|-----------------------------|-------------|
| LH0822 | BL422 | 12.700 | 2x2 | 12.07 | 2.08 | 5.09 | 11.05 | 22.20 | 27.60 | 0.64 |
| LH0823 | BL423 | | 2x3 | | | | 13.16 | 22.20 | 27.60 | 0.80 |
| LH0834 | BL434 | | 3x4 | | | | 17.40 | 33.40 | 41.40 | 1.12 |
| LH0844 | BL444 | | 4x4 | | | | 19.51 | 44.50 | 56.00 | 1.28 |
| LH0846 | BL446 | | 4x6 | | | | 23.75 | 44.50 | 56.00 | 1.60 |
| LH0866 | BL466 | | 6x6 | | | | 27.99 | 66.70 | 81.70 | 1.92 |
| LH0888 | BL488 | | 8x8 | | | | 36.45 | 89.00 | 109.40 | 2.56 |
| LH1022 | BL522 | 15.875 | 2x2 | 15.09 | 2.44 | 5.96 | 12.90 | 33.40 | 43.10 | 0.88 |
| LH1023 | BL523 | | 2x3 | | | | 15.37 | 33.40 | 43.10 | 1.10 |
| LH1034 | BL534 | | 3x4 | | | | 20.32 | 48.90 | 65.60 | 1.50 |
| LH1044 | BL544 | | 4x4 | | | | 22.78 | 66.70 | 84.50 | 1.80 |
| LH1046 | BL546 | | 4x6 | | | | 27.74 | 66.70 | 84.50 | 2.20 |
| LH1066 | BL566 | | 6x6 | | | | 32.69 | 100.10 | 125.10 | 2.65 |
| LH1088 | BL588 | | 8x8 | | | | 42.57 | 133.40 | 169.50 | 3.50 |
| LH1222 | BL622 | 19.050 | 2x2 | 18.11 | 3.30 | 7.94 | 17.37 | 48.90 | 63.60 | 1.45 |
| LH1223 | BL623 | | 2x3 | | | | 20.73 | 48.90 | 63.60 | 1.80 |
| LH1234 | BL634 | | 3x4 | | | | 27.43 | 75.60 | 102.80 | 2.50 |
| LH1244 | BL644 | | 4x4 | | | | 30.78 | 97.90 | 120.90 | 2.90 |
| LH1246 | BL646 | | 4x6 | | | | 37.49 | 97.90 | 120.90 | 3.60 |
| LH1266 | BL666 | | 6x6 | | | | 44.20 | 146.80 | 190.80 | 4.30 |
| LH1288 | BL688 | | 8x8 | | | | 57.61 | 195.70 | 238.80 | 5.80 |
| LH1622 | BL822 | 25.400 | 2x2 | 24.13 | 4.09 | 9.54 | 21.34 | 84.50 | 108.20 | 2.20 |
| LH1623 | BL823 | | 2x3 | | | | 25.48 | 84.50 | 108.20 | 2.70 |
| LH1634 | BL834 | | 3x4 | | | | 33.76 | 129.00 | 170.00 | 3.80 |
| LH1644 | BL844 | | 4x4 | | | | 37.90 | 169.00 | 214.60 | 4.30 |
| LH1646 | BL846 | | 4x6 | | | | 46.18 | 169.00 | 214.60 | 5.40 |
| LH1666 | BL866 | | 6x6 | | | | 54.46 | 253.60 | 324.50 | 6.50 |
| LH1688 | BL888 | | 8x8 | | | | 71.02 | 338.10 | 432.70 | 8.60 |

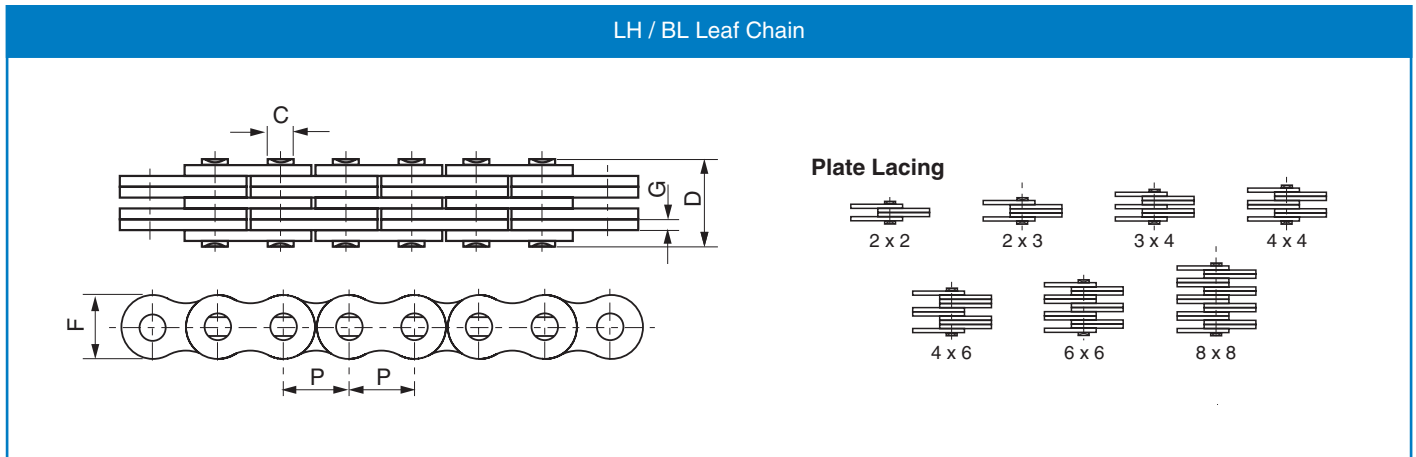
Available on reels.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Leaf Chain

LH / BL Series Leaf Chain (cont)

ANSI B29.8, ISO 4347, DIN 8152



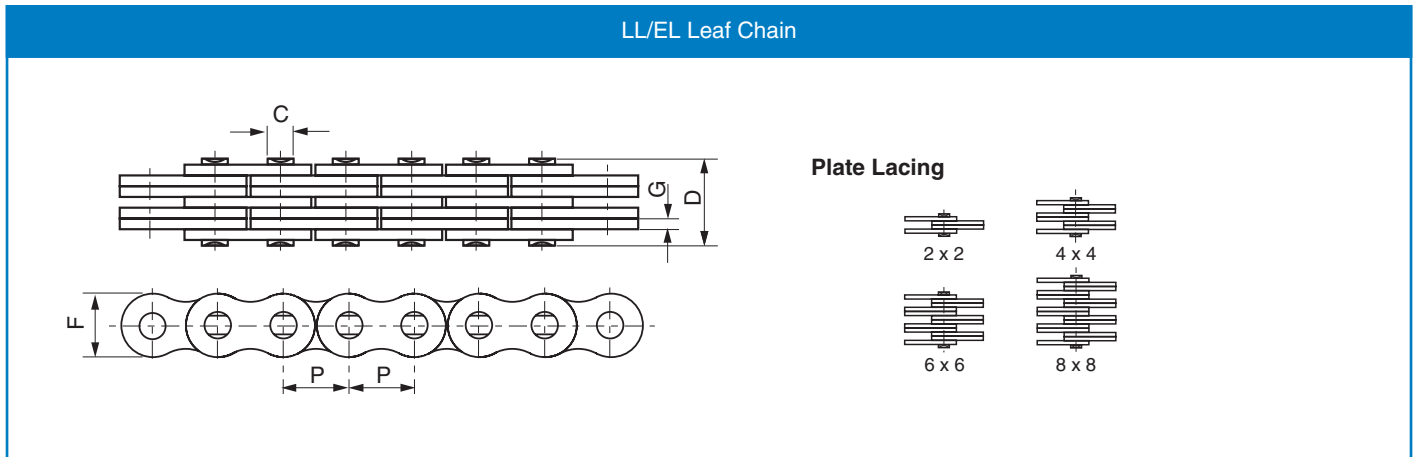
| ISO Chain number | ANSI Chain number | Pitch P | Chain lacing | Plate height F | Plate thickness G | Pin diameter C | Pin length D | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|---------|--------------|----------------|-------------------|----------------|--------------|-----------------------------|-----------------------------|-------------|
| LH2022 | BL1022 | 31.750 | 2x2 | 30.18 | 4.90 | 11.11 | 25.37 | 115.60 | 150.80 | 3.40 |
| LH2023 | BL1023 | | 2x3 | | | | 30.33 | 115.60 | 150.80 | 4.30 |
| LH2034 | BL1034 | | 3x4 | | | | 40.23 | 182.40 | 231.60 | 6.00 |
| LH2044 | BL1044 | | 4x4 | | | | 45.19 | 231.30 | 291.40 | 6.90 |
| LH2046 | BL1046 | | 4x6 | | | | 55.09 | 231.30 | 291.40 | 8.60 |
| LH2066 | BL1066 | | 6x6 | | | | 65.00 | 347.00 | 430.30 | 10.30 |
| LH2088 | BL1088 | 8x8 | 84.81 | 462.60 | 555.10 | 13.80 | | | | |
| LH2422 | BL1222 | 38.100 | 2x2 | 36.20 | 5.77 | 12.71 | 29.62 | 151.20 | 192.00 | 4.60 |
| LH2423 | BL1223 | | 2x3 | | | | 35.43 | 151.20 | 192.00 | 5.80 |
| LH2434 | BL1234 | | 3x4 | | | | 47.07 | 244.60 | 315.90 | 8.10 |
| LH2444 | BL1244 | | 4x4 | | | | 52.88 | 302.50 | 381.10 | 9.30 |
| LH2446 | BL1246 | | 4x6 | | | | 64.52 | 302.50 | 381.10 | 11.60 |
| LH2466 | BL1266 | | 6x6 | | | | 76.15 | 453.70 | 543.60 | 13.90 |
| LH2488 | BL1288 | 8x8 | 99.42 | 605.00 | 726.00 | 18.60 | | | | |
| LH2822 | BL1422 | 44.450 | 2x2 | 42.24 | 6.55 | 14.29 | 33.55 | 191.30 | 225.70 | 6.10 |
| LH2823 | BL1423 | | 2x3 | | | | 40.16 | 191.30 | 225.70 | 7.60 |
| LH2834 | BL1434 | | 3x4 | | | | 53.37 | 315.80 | 372.60 | 10.60 |
| LH2844 | BL1444 | | 4x4 | | | | 59.97 | 382.60 | 451.20 | 12.20 |
| LH2846 | BL1446 | | 4x6 | | | | 73.18 | 382.60 | 451.20 | 15.20 |
| LH2866 | BL1466 | | 6x6 | | | | 86.39 | 578.30 | 682.40 | 18.20 |
| LH2888 | BL1488 | 8x8 | 112.80 | 765.10 | 902.80 | 24.30 | | | | |
| LH3222 | BL1622 | 50.800 | 2x2 | 48.26 | 7.52 | 17.46 | 39.01 | 289.10 | 341.10 | 8.00 |
| LH3223 | BL1623 | | 2x3 | | | | 46.58 | 289.10 | 341.10 | 10.00 |
| LH3234 | BL1634 | | 3x4 | | | | 61.72 | 440.40 | 519.60 | 14.00 |
| LH3244 | BL1644 | | 4x4 | | | | 69.29 | 578.30 | 680.40 | 16.00 |
| LH3246 | BL1646 | | 4x6 | | | | 84.43 | 578.30 | 680.40 | 20.00 |
| LH3266 | BL1666 | | 6x6 | | | | 99.57 | 857.40 | 1000.70 | 24.00 |
| LH3288 | BL1688 | 8x8 | 129.84 | 1156.50 | 1364.60 | 32.00 | | | | |
| LH4022 | BL2022 | 63.500 | 2x2 | 60.33 | 9.91 | 23.81 | 51.74 | 433.70 | 511.70 | 15.80 |
| LH4023 | BL2023 | | 2x3 | | | | 61.70 | 433.70 | 511.70 | 19.80 |
| LH4034 | BL2034 | | 3x4 | | | | 81.61 | 649.40 | 766.20 | 27.70 |
| LH4044 | BL2044 | | 4x4 | | | | 91.57 | 867.40 | 1023.50 | 31.60 |
| LH4046 | BL2046 | | 4x6 | | | | 111.48 | 867.40 | 1023.50 | 39.50 |
| LH4066 | BL2066 | | 6x6 | | | | 131.39 | 1301.10 | 1535.20 | 47.40 |
| LH4088 | BL2088 | 8x8 | 171.22 | 1734.80 | 2046.50 | 63.20 | | | | |

Available on reels.

Leaf Chain

LL/EL Series Leaf Chain

ANSI B29.8-1958, ISO 4347



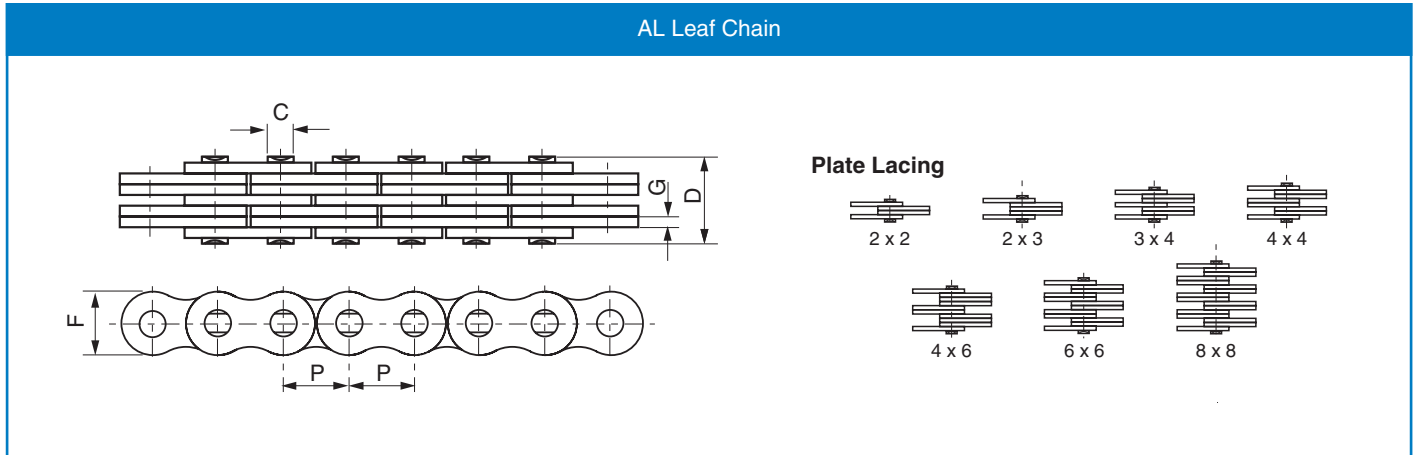
| ISO Chain number | ANSI Chain number | Pitch P | Chain lacing | Plate height F | Plate thickness G | Pin diameter C | Pin length D | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|------------------|-------------------|---------|--------------|----------------|-------------------|----------------|--------------|-----------------------------|-----------------------------|-------------|
| LL0822 | EL0422 | 12.700 | 2x2 | 10.60 | 1.30 | 4.45 | 7.60 | 17.80 | 20.40 | 0.35 |
| LL0844 | EL0444 | | 4x4 | | | | 13.00 | 31.10 | 35.70 | 0.69 |
| LL0866 | EL0466 | | 6x6 | | | | 18.20 | 44.50 | 50.90 | 1.00 |
| LL0888 | EL0488 | | 8x8 | | | | 23.50 | 62.20 | 71.20 | 1.33 |
| LL1022 | EL0522 | 15.875 | 2x2 | 13.70 | 1.60 | 5.08 | 9.20 | 22.30 | 25.50 | 0.54 |
| LL1044 | EL0544 | | 4x4 | | | | 15.80 | 44.50 | 51.00 | 1.06 |
| LL1066 | EL0566 | | 6x6 | | | | 22.10 | 66.70 | 76.30 | 1.57 |
| LL1088 | EL0588 | | 8x8 | | | | 28.80 | 89.00 | 101.90 | 2.10 |
| LL1222 | EL0622 | 19.050 | 2x2 | 16.00 | 1.85 | 5.72 | 10.40 | 28.90 | 33.20 | 0.73 |
| LL1244 | EL0644 | | 4x4 | | | | 17.90 | 57.80 | 66.40 | 1.44 |
| LL1266 | EL0666 | | 6x6 | | | | 25.40 | 86.70 | 99.70 | 2.15 |
| LL1288 | EL0688 | | 8x8 | | | | 32.90 | 115.60 | 132.90 | 2.84 |
| LL1622 | EL0822 | 25.400 | 2x2 | 21.00 | 3.10 | 8.28 | 17.20 | 58.00 | 66.70 | 1.52 |
| LL1644 | EL0844 | | 4x4 | | | | 29.60 | 144.00 | 164.60 | 2.90 |
| LL1666 | EL0866 | | 6x6 | | | | 42.40 | 200.00 | 230.00 | 4.30 |
| LL1688 | EL0888 | | 8x8 | | | | 55.40 | 288.00 | 331.20 | 5.71 |
| LL2022 | EL1022 | 31.750 | 2x2 | 26.40 | 3.70 | 10.19 | 20.10 | 95.00 | 109.20 | 2.33 |
| LL2044 | EL1044 | | 4x4 | | | | 33.80 | 190.00 | 218.50 | 4.40 |
| LL2066 | EL1066 | | 6x6 | | | | 50.10 | 285.00 | 324.60 | 6.79 |
| LL2088 | EL1088 | | 8x8 | | | | 65.40 | 380.00 | 435.10 | 8.75 |
| LL2422 | EL1222 | 38.100 | 2x2 | 33.40 | 5.00 | 14.63 | 28.40 | 170.00 | 195.50 | 4.47 |
| LL2444 | EL1244 | | 4x4 | | | | 46.30 | 340.00 | 380.80 | 8.22 |
| LL2466 | EL1266 | | 6x6 | | | | 66.40 | 510.00 | 571.20 | 12.22 |
| LL2488 | EL1288 | | 8x8 | | | | 86.60 | 680.00 | 775.20 | 16.30 |
| LL2822 | EL1422 | 44.450 | 2x2 | 37.08 | 6.00 | 15.90 | 32.20 | 200.00 | 224.00 | 5.10 |
| LL2844 | EL1444 | | 4x4 | | | | 56.40 | 400.00 | 448.00 | 9.90 |
| LL2866 | EL1466 | | 6x6 | | | | 80.60 | 600.00 | 672.00 | 14.60 |
| LL2888 | EL1488 | | 8x8 | | | | 105.20 | 800.00 | 896.00 | 19.40 |
| LL3222 | EL1622 | 50.800 | 2x2 | 42.00 | 6.00 | 17.81 | 33.20 | 260.00 | 291.20 | 5.80 |
| LL3244 | EL1644 | | 4x4 | | | | 57.40 | 520.00 | 582.40 | 11.40 |
| LL3266 | EL1666 | | 6x6 | | | | 81.60 | 780.00 | 873.60 | 16.90 |
| LL3288 | EL1688 | | 8x8 | | | | 105.00 | 1050.00 | 1176.00 | 24.00 |
| LL4022 | EL2022 | 63.500 | 2x2 | 52.76 | 8.25 | 22.89 | 44.70 | 360.00 | 403.20 | 10.30 |
| LL4044 | EL2044 | | 4x4 | | | | 77.90 | 780.00 | 873.60 | 20.00 |
| LL4066 | EL2066 | | 6x6 | | | | 111.10 | 1080.00 | 1209.60 | 29.50 |
| LL4088 | EL2088 | | 8x8 | | | | 145.50 | 1560.00 | 1747.20 | 39.10 |
| LL4822 | EL2422 | 76.200 | 2x2 | 63.88 | 10.30 | 29.24 | 56.10 | 560.00 | 627.20 | 18.50 |
| LL4844 | EL2444 | | 4x4 | | | | 97.40 | 1120.00 | 1554.40 | 35.70 |
| LL4866 | EL2466 | | 6x6 | | | | 138.90 | 1168.00 | 1308.10 | 53.00 |
| LL4888 | EL2488 | | 8x8 | | | | 182.40 | 2240.00 | 2508.80 | 70.40 |

Available on reels.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Leaf Chain

AL Series Leaf Chain

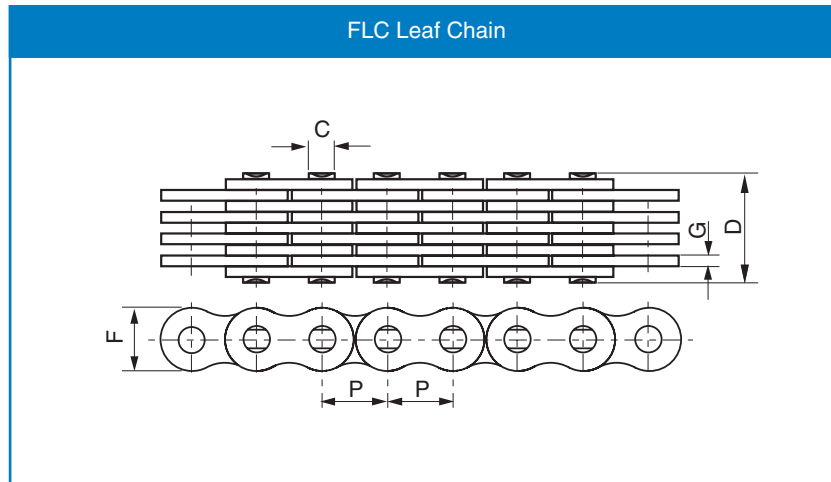


| ANSI Chain number | Pitch P | Chain lacing | Plate height F | Plate thickness G | Pin diameter C | Pin length D | Minimum tensile strength kN | Average tensile strength kN | Weight kg/m |
|-------------------|---------|--------------|----------------|-------------------|----------------|--------------|-----------------------------|-----------------------------|-------------|
| AL322 | 9.525 | 2x2 | 7.70 | 1.30 | 3.58 | 6.80 | 9.00 | 10.20 | 0.23 |
| AL422 | | 2x2 | | | | 7.90 | 14.10 | 16.90 | 0.39 |
| AL444 | 12.700 | 4x4 | 10.40 | 1.50 | 3.96 | 14.40 | 28.20 | 35.20 | 0.74 |
| AL466 | | 6x6 | | | | 20.50 | 42.30 | 52.70 | 1.10 |
| AL522 | | 2x2 | | | | 10.30 | 22.00 | 27.50 | 0.61 |
| AL534 | 15.875 | 3x4 | 12.80 | 2.03 | 5.08 | 17.00 | 33.00 | 46.00 | 1.10 |
| AL544 | | 4x4 | | | | 18.90 | 44.00 | 55.00 | 1.19 |
| AL566 | | 6x6 | | | | 26.90 | 66.00 | 82.50 | 1.79 |
| AL622 | | 2x2 | | | | 12.40 | 37.00 | 44.40 | 0.86 |
| AL644 | 19.050 | 4x4 | 15.60 | 2.42 | 5.94 | 22.70 | 64.00 | 78.80 | 1.69 |
| AL666 | | 6x6 | | | | 32.40 | 101.00 | 118.60 | 2.52 |
| AL822 | | 2x2 | | | | 16.00 | 56.70 | 68.60 | 1.54 |
| AL844 | 25.400 | 4x4 | 20.50 | 3.25 | 7.92 | 29.40 | 113.40 | 135.60 | 3.00 |
| AL866 | | 6x6 | | | | 42.50 | 170.00 | 202.30 | 4.46 |
| AL1022 | | 2x2 | | | | 19.60 | 88.50 | 107.10 | 2.37 |
| AL1044 | 31.750 | 4x4 | 25.60 | 4.00 | 9.53 | 35.90 | 177.00 | 203.60 | 4.68 |
| AL1066 | | 6x6 | | | | 52.30 | 265.00 | 315.30 | 7.00 |
| AL1222 | | 2x2 | | | | 24.30 | 127.00 | 151.10 | 3.65 |
| AL1244 | 38.100 | 4x4 | 30.50 | 4.80 | 11.10 | 43.80 | 254.00 | 299.70 | 7.05 |
| AL1266 | | 6x6 | | | | 63.00 | 381.00 | 426.30 | 10.44 |
| AL1444 | 44.450 | 4x4 | 36.40 | 5.60 | 12.64 | 51.30 | 372.70 | 413.60 | 10.34 |
| AL1466 | | 6x6 | | | | 74.56 | 559.00 | 620.40 | 15.16 |
| AL1644 | 50.800 | 4x4 | 41.60 | 6.40 | 14.21 | 58.06 | 471.00 | 522.80 | 12.98 |
| AL1666 | | 6x6 | | | | 84.46 | 706.00 | 783.60 | 19.41 |

Available on reels.

Leaf Chain

FLC Series Leaf Chain

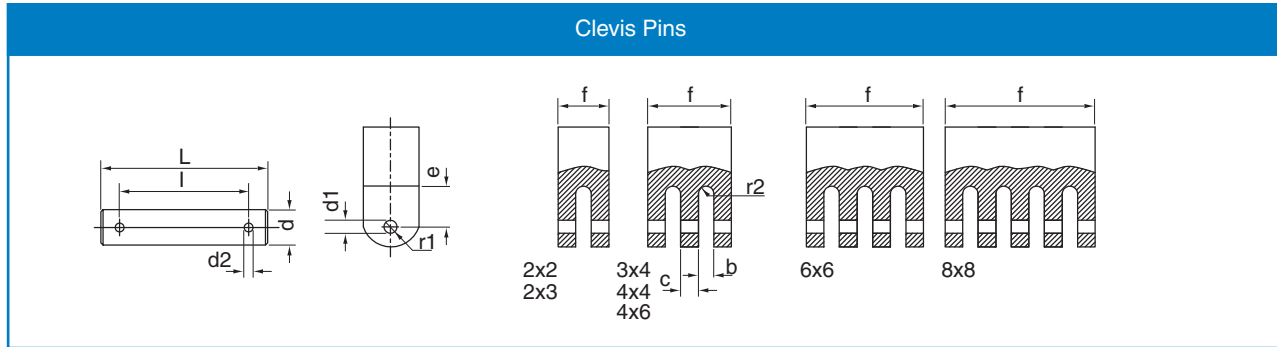


| Chain number | Pitch | Chain lacing | Plate height | Plate thickness | Pin diameter | Pin length | Minimum tensile strength | Average tensile strength | Weight |
|--------------|--------|--------------|--------------|-----------------|--------------|------------|--------------------------|--------------------------|--------|
| | P | | F | G | C | D | kN | kN | kg/m |
| FL644 | 19.050 | 4x4 | 4.70 | 0.60 | 1.85 | 6.60 | 6.50 | 7.80 | 0.13 |
| FL666 | 19.050 | 6x6 | 4.70 | 0.60 | 1.85 | 9.30 | 9.75 | 11.80 | 0.20 |
| FL688 | 19.050 | 8x8 | 4.70 | 0.60 | 1.85 | 12.00 | 13.00 | 15.60 | 0.25 |
| FL844 | 25.400 | 4x4 | 6.90 | 0.73 | 2.31 | 7.90 | 10.00 | 12.10 | 0.25 |
| FL944 | 9.525 | 4x4 | 8.70 | 1.04 | 3.28 | 10.40 | 21.00 | 24.70 | 0.43 |
| FL966 | 9.525 | 6x6 | 8.70 | 1.00 | 3.28 | 14.90 | 31.00 | 36.80 | 0.65 |
| F1222 | 38.100 | 2x2 | 8.20 | 1.00 | 3.58 | 7.00 | 11.43 | 13.60 | 0.19 |
| F1223 | 38.100 | 2x3 | 10.20 | 2.03 | 4.45 | 12.80 | 20.00 | 23.80 | 0.61 |
| F1244 | 38.100 | 4x4 | 10.20 | 1.70 | 4.45 | 16.70 | 44.00 | 52.30 | 0.83 |

Available on reels.

Leaf Chain

Clevis Pins

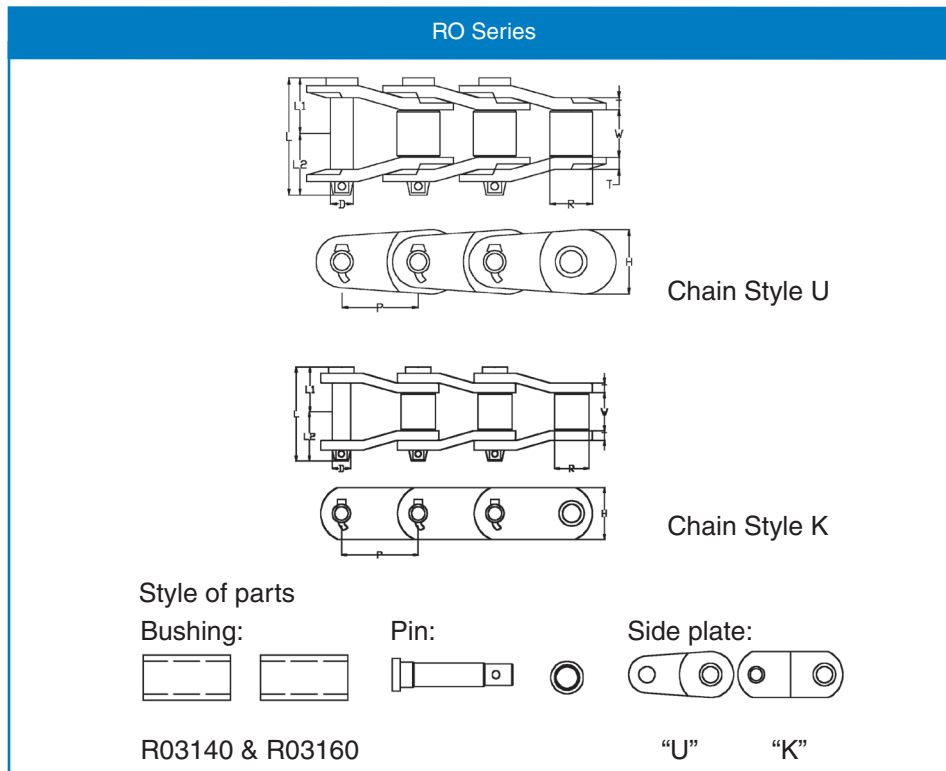


| Type | l min. | L max | d max | d2 | f max | b min | c max | d1 | e min | r1 max | r2 max |
|---------------|-----------|----------|----------|-----|----------|----------|----------|-------|----------|-----------|-----------|
| BL422/AL522 | 10.8 | 17.0 | | | 10.7 | 4.2 | - | | | | 2 |
| BL423 | 12.7 | 18.9 | | | 12.6 | 6.4 | - | | | | 3 |
| BL434 | 17.0 | 23.2 | | | 16.9 | 4.2 | 2.0 | | | | 2 |
| BL444/AL544 | 19.0 | 25.2 | 5.80 | 1.6 | 18.9 | 4.2 | 4.0 | 5.15 | 9.0 | 6.5 | 2 |
| BL446 | 23.0 | 29.2 | | | 22.9 | 6.4 | 4.0 | | | | 3 |
| BL466/AL566 | 27.0 | 33.3 | | | 26.9 | 4.2 | 4.0 | | | | 2 |
| BL488/AL588 | 35.5 | 41.8 | | | 35.4 | 4.2 | 4.0 | | | | 2 |
| BL522 | 12.8 | 19.4 | | | 12.7 | 5.0 | - | | | | 2 |
| BL523 | 15.0 | 21.6 | | | 14.9 | 7.5 | - | | | | 3 |
| BL534 | 20.0 | 26.6 | | | 19.9 | 5.0 | 2.4 | | | | 2 |
| BL544/AL644 | 22.5 | 29.1 | 5.95 | 2.0 | 22.4 | 5.0 | 4.8 | 6.00 | 11.0 | 8.0 | 2 |
| BL546 | 27.0 | 33.7 | | | 26.9 | 7.5 | 4.8 | | | | 3 |
| BL566/AL666 | 32.0 | 38.7 | | | 31.9 | 5.0 | 4.8 | | | | 2 |
| BL588/AL688 | 42.5 | 49.3 | | | 42.4 | 5.0 | 4.8 | | | | 2 |
| BL623 | 20.0 | 30.7 | | | 19.9 | 10.3 | - | | | | 5 |
| BL634 | 27.0 | 37.7 | | | 26.9 | 6.8 | 3.2 | | | | 3 |
| BL644/AL844 | 30.0 | 40.7 | 7.93 | 3.2 | 29.9 | 6.8 | 6.4 | 8.00 | 14.0 | 9.5 | 3 |
| BL646 | 37.0 | 47.7 | | | 36.9 | 10.3 | 6.4 | | | | 5 |
| BL666/AL866 | 43.0 | 53.7 | | | 42.9 | 6.8 | 6.4 | | | | 3 |
| BL688 | 56.5 | 67.2 | | | 56.4 | 6.8 | 6.4 | | | | 3 |
| BL823 | 25.0 | 35.7 | | | 24.9 | 12.8 | - | | | | 6 |
| BL834 | 33.0 | 43.7 | | | 32.9 | 8.5 | 4.0 | | | | 4 |
| BL844/AL1044 | 37.0 | 47.7 | 9.52 | 3.2 | 36.9 | 8.5 | 8.0 | 9.60 | 18.0 | 12.5 | 4 |
| BL846 | 46.0 | 56.7 | | | 45.9 | 12.8 | 8.0 | | | | 6 |
| BL866/AL1066 | 53.0 | 63.7 | | | 52.9 | 8.5 | 8.0 | | | | 4 |
| BL888/AL1088 | 69.5 | 80.3 | | | 69.4 | 8.5 | 8.0 | | | | 4 |
| BL1023 | 30.0 | 42.4 | | | 29.8 | 15.1 | - | | | | 7 |
| BL1034 | 39.2 | 51.6 | | | 39.0 | 10.0 | 4.7 | | | | 5 |
| BL1044/AL1244 | 44.2 | 56.6 | 11.09 | 4.0 | 44.0 | 10.0 | 9.4 | 11.20 | 22.0 | 15.0 | 5 |
| BL1046 | 54.2 | 66.6 | | | 54.0 | 15.1 | 9.4 | | | | 7 |
| BL1066/AL1266 | 63.2 | 75.6 | | | 63.0 | 10.0 | 9.4 | | | | 5 |
| BL1088/AL1288 | 79.9 | 92.4 | | | 79.7 | 10.0 | 9.4 | | | | 5 |
| BL1223 | 34.5 | 46.9 | | | 34.3 | 17.7 | - | | | | 8 |
| BL1234 | 46.2 | 58.6 | | | 46.0 | 11.8 | 5.5 | | | | 5 |
| BL1244/AL1444 | 50.0 | 64.4 | 12.70 | 4.0 | 49.0 | 11.8 | 11.0 | 12.80 | 26.0 | 19.0 | 5 |
| BL1246 | 63.5 | 76.0 | | | 63.3 | 17.7 | 11.0 | | | | 8 |
| BL1266/AL1466 | 75.3 | 87.8 | | | 75.1 | 11.8 | 11.0 | | | | 5 |
| BL1288/AL1488 | 98.6 | 111.1 | | | 98.4 | 11.8 | 11.0 | | | | 5 |
| BL1423 | 38.7 | 51.1 | | | 38.5 | 20.1 | - | | | | 10 |
| BL1434 | 52.2 | 64.6 | | | 52.0 | 13.4 | 6.3 | | | | 6 |
| BL1444 | 58.6 | 71.1 | 14.27 | 4.0 | 58.4 | 13.4 | 12.6 | 14.35 | 31.0 | 22.0 | 10 |
| BL1446 | 71.7 | 84.2 | | | 71.5 | 20.1 | 12.6 | | | | 10 |
| BL1466 | 85.1 | 97.7 | | | 84.9 | 13.4 | 12.6 | | | | 10 |
| BL1623 | 43.1 | 60.6 | | | 42.8 | 22.5 | - | | | | 10 |
| BL1634 | 58.0 | 75.5 | | | 57.7 | 15.0 | 7.1 | | | | 7 |
| BL1644 | 65.7 | 82.9 | 17.46 | 5.0 | 65.4 | 15.0 | 14.2 | 17.50 | 34.0 | 25.0 | 7 |
| BL1646 | 79.9 | 97.4 | | | 79.6 | 22.5 | 14.2 | | | | 10 |
| BL1666 | 94.6 | 112.2 | | | 94.3 | 15.0 | 14.2 | | | | 7 |
| BL1688 | 124.0 | 141.6 | | | 123.7 | 15.0 | 14.2 | | | | 7 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Heavy Duty Drive Chain

RO Series



| Challenge Chain number | Chain Style | Pitch Inches P | Pitch mm P | Roller diameter R | Width | | Bearing Pin Diameter D | Pin Length | | Side plate height H | Plate Thickness s T | Tensile strength kgf | Approx Weight kg/m |
|------------------------|-------------|----------------|------------|-------------------|------------------------|------------------------|------------------------|------------|-------|---------------------|---------------------|----------------------|--------------------|
| | | | | | between inner plates W | Bearing Pin Diameter D | | L | L1 L2 | | | | |
| RO3140 | U | 1.75 | 44.45 | 25.4 | 25.4 | 12.15 | 62.6 | 28.55 | 34.05 | 43.2 | 5.6 | 24000 | 7.7 |
| RO3160 | U | 2.00 | 50.80 | 28.58 | 31.75 | 13.73 | 72.3 | 33.40 | 38.90 | 49.2 | 6.4 | 30600 | 10.0 |
| RO1613AK | U | 2.00 | 50.80 | 28.58 | 31.5 | 15.06 | 78.0 | 36.20 | 41.80 | 42.9 | 8.1 | 31750 | 11.3 |
| RO3180 | U | 2.25 | 57.15 | 35.72 | 36.4 | 17.46 | 81.0 | 37.30 | 43.70 | 54 | 7.2 | 36300 | 14.3 |
| RO25H ■ | K | 2.50 | 63.50 | 31.75 | 38.1 | 15.88 | 92.5 | 43.05 | 49.45 | 41.5 | 9.5 | 39700 | 13.7 |
| RO1625 | U | 2.50 | 63.50 | 39.69 | 38.9 | 19.8 | 89.7 | 41.40 | 48.30 | 60.3 | 8 | 43000 | 16.3 |
| RO588 | K | 2.61 | 66.27 | 22.23 | 28.6 | 11.11 | 67.0 | 32.00 | 35.00 | 28.6 | 6.4 | 14700 | 5.4 |
| RO568 ■ | K | 3.07 | 77.90 | 41.28 | 40.1 | 19.05 | 97.0 | 45.05 | 51.95 | 54 | 9.5 | 52400 | 17.7 |
| RO568-T | K | 3.07 | 77.90 | 41.28 | 40.1 | 19.05 | 97.0 | 45.05 | 51.95 | 54 | 9.5 | 50000 | 17.7 |
| RO3 | K | 3.08 | 78.11 | 31.75 | 38.1 | 15.88 | 86.5 | 40.05 | 46.45 | 38 | 8 | 27700 | 10.5 |
| RO3H △ | K | 3.08 | 78.11 | 31.75 | 38.1 | 15.88 | 92.5 | 43.05 | 49.45 | 41.5 | 9.5 | 39700 | 12.4 |
| RO3125 △ | K | 3.13 | 79.38 | 41.28 | 41.2 | 20.32 | 99.5 | 45.90 | 53.60 | 54 | 9.5 | 52000 | 18.8 |
| RO1616 ■ | K | 3.50 | 88.90 | 44.45 | 38.6 | 22.23 | 111.7 | 51.60 | 60.10 | 54 | 12.7 | 63500 | 23.9 |
| RO3924T | K | 3.91 | 99.21 | 57.15 | 38.4 | 30.16 | 121.0 | 56.85 | 64.10 | 82.6 | 14.3 | 118000 | 45.0 |
| RO5 | K | 4.06 | 103.20 | 44.45 | 38.6 | 22.23 | 111.7 | 51.60 | 60.10 | 54 | 12.7 | 63500 | 19.9 |
| RO4 | K | 4.06 | 103.20 | 44.45 | 49.1 | 22.23 | 122.2 | 56.85 | 65.35 | 54 | 12.7 | 63500 | 21.0 |
| RO4HF △ | K | 4.06 | 103.20 | 44.45 | 49.2 | 22.23 | 135.7 | 63.60 | 72.10 | 59 | 16 | 80300 | 23.2 |
| RO4HF-T | K | 4.06 | 103.20 | 44.45 | 49.2 | 22.23 | 135.7 | 63.60 | 72.10 | 59 | 16 | 69000 | 23.2 |
| RO1245 ■ | K | 4.07 | 103.45 | 45.24 | 49.2 | 23.8 | 130.0 | 60.25 | 69.75 | 60 | 14.5 | 84600 | 27.2 |
| RO1245T | K | 4.07 | 103.45 | 45.24 | 49.2 | 23.8 | 130.0 | 60.25 | 69.75 | 60 | 14.5 | 77000 | 27.2 |
| RO1343 | K | 4.09 | 103.89 | 47.63 | 49.2 | 25.4 | 132.0 | 62.25 | 69.75 | 70 | 14.5 | 105000 | 31.9 |
| RO1343T | K | 4.09 | 103.89 | 47.63 | 49.2 | 25.4 | 132.0 | 62.25 | 69.75 | 70 | 14.5 | 86500 | 32.9 |
| RO1345 | K | 4.09 | 103.89 | 50.8 | 49.2 | 25.4 | 132.0 | 62.25 | 69.75 | 70 | 14.5 | 105000 | 32.9 |
| RO41345T | K | 4.09 | 103.89 | 50.8 | 49.2 | 25.4 | 132.0 | 62.25 | 69.75 | 70 | 14.5 | 86500 | 32.9 |
| RO635 ■ | K | 4.00 | 114.30 | 57.15 | 52.4 | 27.9 | 135.5 | 64.25 | 71.25 | 76 | 14.5 | 113000 | 38.3 |
| RO11634A | K | 5.00 | 127.00 | 63.5 | 58.7 | 28.63 | 141.5 | 67.40 | 74.10 | 76 | 14.5 | 109000 | 39.8 |
| RO1602AA ■ | K | 5.00 | 127.00 | 63.5 | 70.0 | 31.75 | 161.2 | 77.05 | 84.15 | 90 | 16 | 156000 | 52.3 |
| RO6042 ■ | K | 6.00 | 152.40 | 76.2 | 76.3 | 38.1 | 184.0 | 86.70 | 97.30 | 101.6 | 19 | 207000 | 71.3 |

Note: RO3140 and RO3160 are specially designed for use where the chains on equipment are subject to heavy twisting and side bow caused by operating misalignment.

■ conforms to American National Standard Institute (ANSI) △ Conforms to American Petroleum Institute (API)

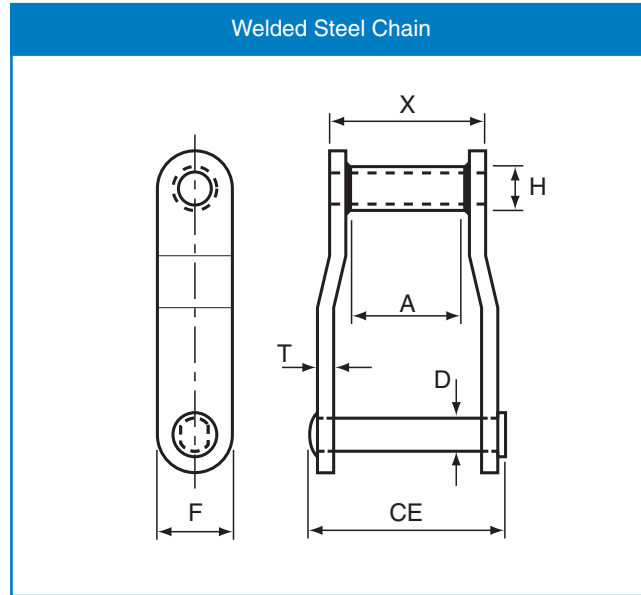
Special heat treating processes are applied to improve material characteristics.

Chains with a "T" mark have through hardened & Induction hardened pins to ensure wear resistance.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Timber Chain

Welded Steel Mill Chain



| Chain number | Pitch | | Average Ultimate Strength lbf | Max. Working Load lbf | Links Per Foot | Average Weight lb/ft | Dimensions | | | | | | |
|--------------|--------|--------|-------------------------------|-----------------------|----------------|----------------------|------------|--------|-------|-------|-------|-------|-------|
| | mm | Inches | | | | | CE | X | D | T | F | H | A |
| WR78 | 66.27 | 2.609 | 20000 | 3000 | 46 | 4.0 | 76.20 | 50.80 | 12.70 | 6.35 | 28.58 | 22.23 | 28.58 |
| WH78 | 66.27 | 2.609 | 30000 | 3500 | 46 | 4.0 | 76.20 | 50.80 | 12.70 | 6.35 | 28.58 | 22.23 | 28.58 |
| WR82 | 78.11 | 3.075 | 25000 | 3800 | 39 | 4.8 | 82.55 | 57.15 | 14.29 | 6.35 | 31.75 | 26.99 | 9.00 |
| WH82 | 78.11 | 3.075 | 36000 | 4400 | 39 | 4.8 | 82.55 | 57.15 | 14.29 | 6.35 | 31.75 | 26.99 | 8.50 |
| WR124 | 101.60 | 4.000 | 45500 | 6200 | 30 | 8.3 | 107.95 | 69.85 | 19.05 | 9.53 | 38.1 | 34.93 | 38.10 |
| WH124 | 101.60 | 4.000 | 67000 | 7200 | 30 | 8.3 | 107.95 | 69.85 | 19.05 | 9.53 | 38.1 | 34.93 | 38.10 |
| WH124HD Spc | 103.20 | 4.063 | 119000 | 10500 | 30 | 14.7 | 120.65 | 76.20 | 25.40 | 12.7 | 50.8 | 44.45 | 41.28 |
| WR111PLUS | 120.90 | 4.760 | 52000 | 7500 | 26 | 9.5 | 123.83 | 85.73 | 19.05 | 9.53 | 44.45 | 34.93 | 60.33 |
| WH111PLUS | 120.90 | 4.760 | 77000 | 8850 | 26 | 9.5 | 123.83 | 85.73 | 19.05 | 9.53 | 44.45 | 34.93 | 60.33 |
| WR110 | 152.40 | 6.000 | 45500 | 6750 | 20 | 7.2 | 117.48 | 76.20 | 19.05 | 9.53 | 38.1 | 34.93 | 47.63 |
| WH110 | 152.40 | 6.000 | 67000 | 7875 | 20 | 7.2 | 117.48 | 76.20 | 19.05 | 9.53 | 38.1 | 34.93 | 47.63 |
| WR106 | 152.40 | 6.000 | 45500 | 6200 | 20 | 7.0 | 107.95 | 69.85 | 19.05 | 9.53 | 38.1 | 34.93 | 41.28 |
| WH106 | 152.40 | 6.000 | 67000 | 7200 | 20 | 7.0 | 107.95 | 69.85 | 19.05 | 9.53 | 38.1 | 34.93 | 41.28 |
| WR132 | 153.67 | 6.050 | 78000 | 13000 | 20 | 14.2 | 158.75 | 111.13 | 25.40 | 12.7 | 50.8 | 44.45 | 73.03 |
| WH132 | 153.67 | 6.050 | 111000 | 15300 | 20 | 14.2 | 158.75 | 111.13 | 25.40 | 12.7 | 50.8 | 44.45 | 73.03 |
| WH132D | 153.67 | 6.050 | 139500 | 16700 | 20 | 16.4 | 171.45 | 117.48 | 25.40 | 15.88 | 50.8 | 44.45 | 73.03 |
| WR150 | 153.67 | 6.050 | 78000 | 13000 | 20 | 16.8 | 158.75 | 111.13 | 25.40 | 12.7 | 63.5 | 44.45 | 73.03 |
| WH150 | 153.67 | 6.050 | 112000 | 15300 | 20 | 16.8 | 158.75 | 111.13 | 25.40 | 12.7 | 63.5 | 44.45 | 73.03 |
| WH150XHD | 153.67 | 6.050 | 151000 | 18200 | 20 | 19.7 | 171.45 | 117.48 | 28.58 | 15.88 | 63.5 | 44.45 | 73.03 |
| WH155 | 153.67 | 6.050 | 145000 | 17750 | 20 | 20.0 | 168.28 | 114.30 | 28.58 | 14.29 | 63.5 | 44.45 | 73.03 |
| WH159 | 155.58 | 6.125 | 230000 | 20250 | 20 | 26.5 | 168.28 | 117.48 | 31.75 | 15.88 | 76.2 | 50.8 | 73.03 |

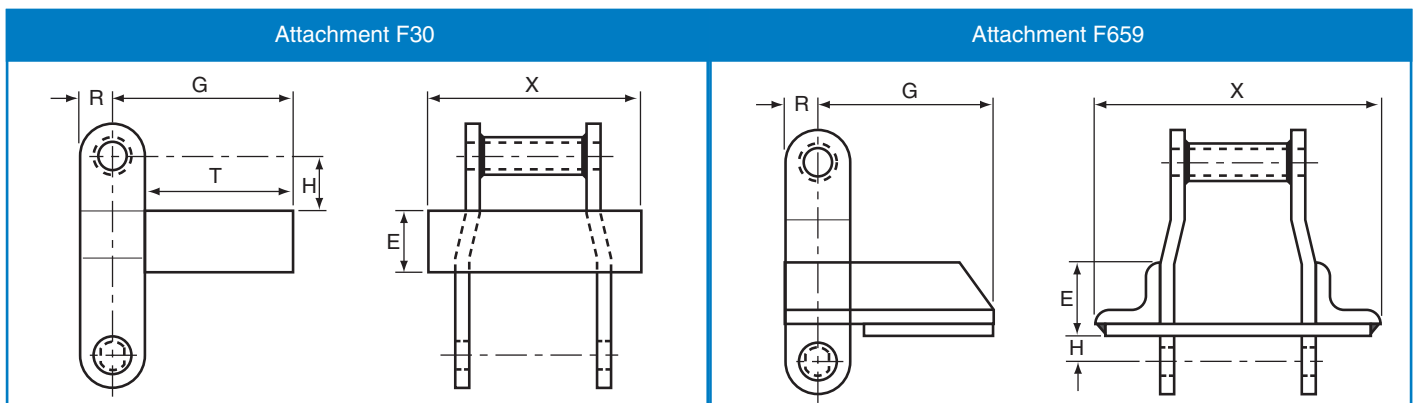
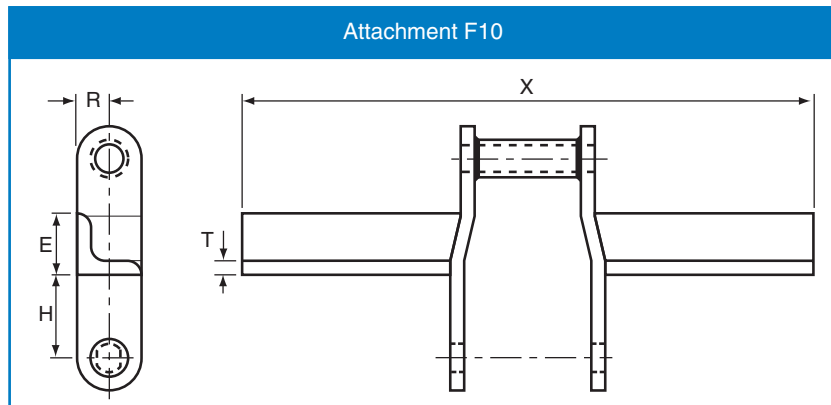
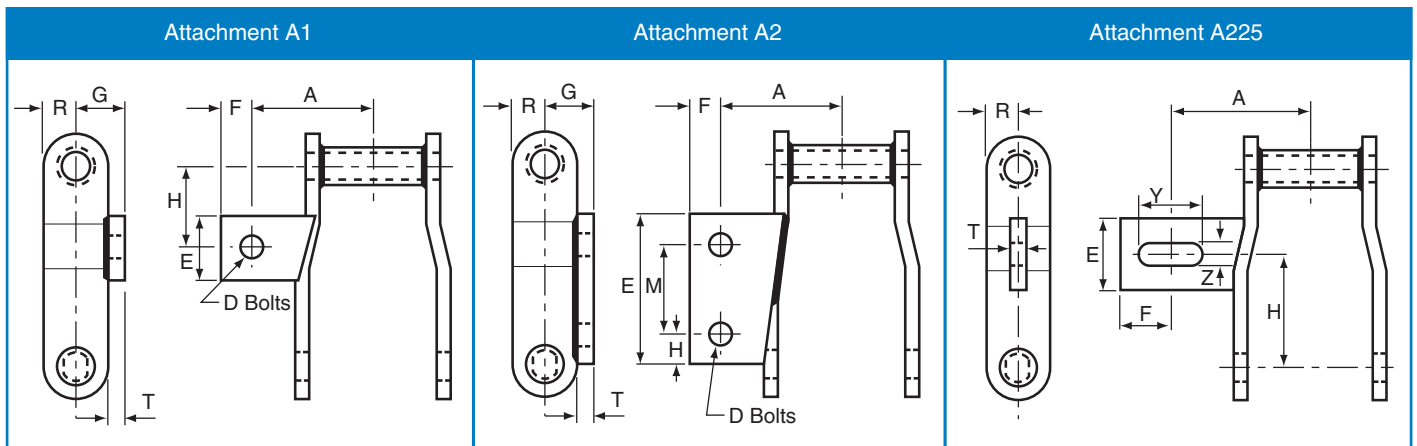
WR - Welded steel chain - through hardened pins and case hardened bushes

WH - Weld steel chain - all components fully heat treated

Timber Chain

Welded Steel Chain Attachments (Offset Side Bar)

| Attachment number | Chain number | Weight lb/ft | Dimensions | | | | | | | | | | | | |
|-------------------|--------------|-----------------|------------|-------|--------|-------|-------|--------|---|-------|-------|-------|--------|-------|-------|
| | | | A | D | E | F | G | H | K | M | R | T | X | Y | Z |
| A1 | WR/WH78 | 4.97 | 50.80 | 9.58 | 31.75 | 12.70 | 20.57 | 31.75 | - | - | 14.27 | 6.35 | - | - | - |
| A1 | WR/WH82 | 6.50 | 54.10 | 9.58 | 44.45 | 15.88 | 23.88 | 38.10 | - | - | 15.88 | 6.35 | - | - | - |
| A1 | WR/WH124 | 8.40 | 66.68 | 15.88 | 50.80 | 15.88 | 28.70 | 45.97 | - | - | 19.05 | 9.53 | - | - | - |
| A2 | WR/WH78 | 4.50 | 50.80 | 9.58 | 54.10 | 12.70 | 19.81 | 10.41 | - | 28.70 | 14.27 | 6.35 | - | - | - |
| A2 | WR/WH82 | 6.00 | 54.10 | 9.53 | 57.15 | 15.80 | 23.88 | 12.70 | - | 31.75 | 15.88 | 7.92 | - | - | - |
| A2 | WR/WH124 | 10.00 | 66.68 | 9.58 | 76.20 | 22.23 | 28.70 | 22.23 | - | 49.28 | 19.05 | 9.53 | - | - | - |
| A2 | WR/WH132 | 17.00 | 95.25 | 12.70 | 101.60 | 19.05 | 38.10 | 41.28 | - | 69.85 | 25.40 | 12.70 | - | - | - |
| A225 | WR/WH124 | 8.90 | 101.60 | - | 50.80 | 49.28 | - | 50.80 | - | - | 19.05 | 12.70 | - | 57.15 | 22.23 |
| F10 | WR/WH82 | 4.80 | - | - | 31.75 | - | - | 23.80 | - | - | 15.88 | 6.35 | 260.35 | - | - |
| F30 | WR/WH78 | 9.90 | - | - | 25.40 | - | - | 68.33 | - | - | 14.27 | 54.10 | 76.20 | - | - |
| F659 | WR/WH124 | 13.10 | - | - | 44.45 | - | - | 120.65 | - | - | 19.05 | - | 167.39 | - | - |

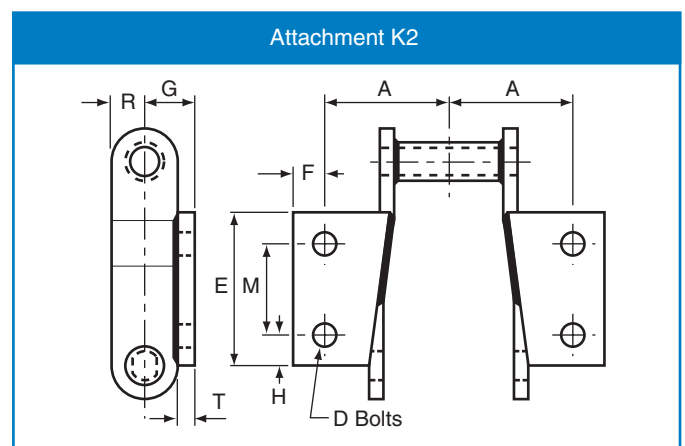
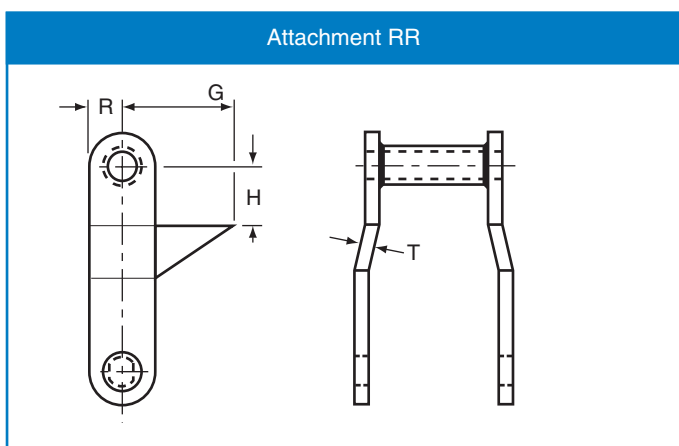
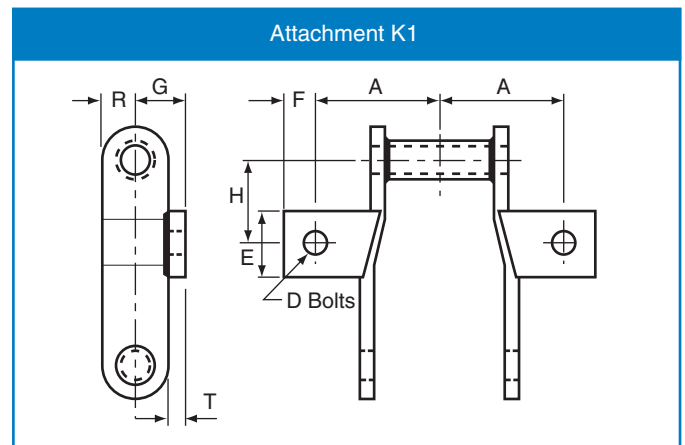
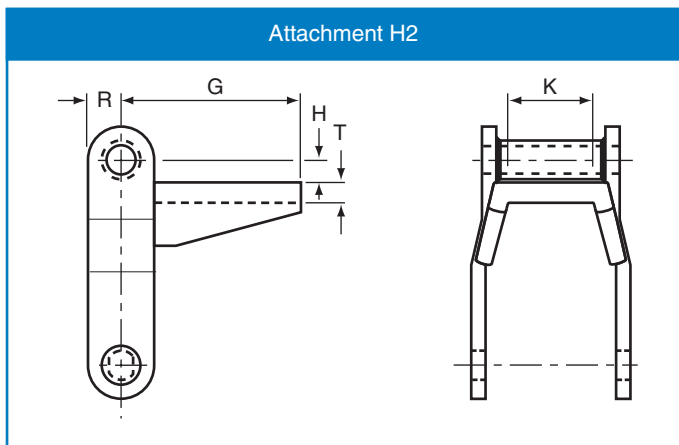


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Timber Chain

Welded Steel Chain Attachments (Offset Side Bar)

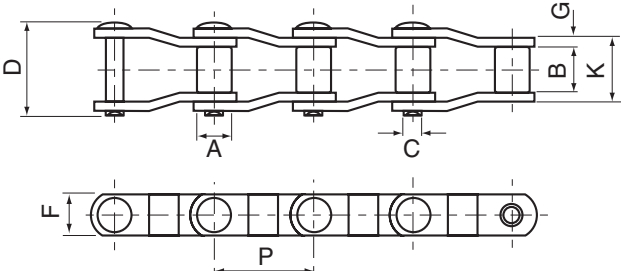
| Attachment number | Chain number | Weight lb/ft | Dimensions | | | | | | | | | | | | |
|-------------------|--------------|-----------------|------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|---|---|---|
| | | | A | D | E | F | G | H | K | M | R | T | X | Y | Z |
| H2 | WR/WH78 | 4.75 | - | - | - | - | 90.42 | 7.87 | 25.40 | - | 14.22 | 6.35 | - | - | - |
| H2 | WR/WH82 | 9.00 | - | - | - | - | 91.95 | 15.75 | 28.70 | - | 15.75 | 4.83 | - | - | - |
| K1 | WR/WH78 | 4.97 | 50.80 | 9.65 | 31.75 | 12.70 | 20.57 | 31.75 | - | - | 14.22 | 6.35 | - | - | - |
| K1 | WR/WH82 | 6.50 | 54.10 | 9.65 | 44.45 | 15.75 | 23.88 | 38.10 | - | - | 15.75 | 6.35 | - | - | - |
| K1 | WR/WH124 | 11.70 | 66.55 | 15.75 | 50.80 | 15.75 | 28.70 | 45.97 | - | - | 19.05 | 9.65 | - | - | - |
| K2 | WR/WH78 | 5.00 | 50.80 | 9.65 | 54.10 | 12.70 | 19.81 | 10.41 | - | 28.70 | 14.22 | 6.35 | - | - | - |
| K2 | WR/WH82 | 8.00 | 54.10 | 9.65 | 57.15 | 15.75 | 23.88 | 12.70 | - | 31.75 | 15.75 | 7.87 | - | - | - |
| K2 | WR/WH124 | 12.00 | 66.55 | 9.65 | 76.20 | 22.35 | 28.70 | 22.35 | - | 49.28 | 19.05 | 9.65 | - | - | - |
| K2 | WR/WH132 | 19.00 | 95.25 | 12.70 | 101.60 | 19.05 | 38.10 | 41.15 | - | 69.85 | 25.40 | 12.70 | - | - | - |
| RR | WR/WH78 | 4.70 | - | - | - | - | 38.10 | 19.05 | - | - | 14.22 | 6.35 | - | - | - |
| RR | WR/WH82 | 7.00 | - | - | - | - | 44.45 | 20.57 | - | - | 15.75 | 6.35 | - | - | - |
| RR | WR/WH124 | 10.00 | - | - | - | - | 47.75 | 38.10 | - | - | 19.05 | 9.65 | - | - | - |



Timber Chain

Offset Side Bar Roller Chain

Offset Side Bar Roller Chain

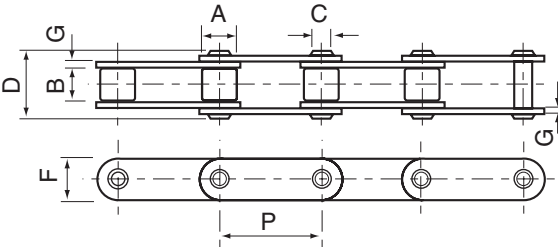


| Material Spec. | | | | |
|----------------|----------|-----|---------|--------|
| | Side Bar | Pin | Bushing | Roller |
| S0-578 | CH | CH | CC | CC |
| M0-88 | C | CH | CC | CC |
| LXS-882 | CH | AH | AC | CH |
| M0H-578 | CH | CH | CC | CH |

| Chain number | Pitch | | Average Ultimate Strength lbf | Max. Working Load lbf | Links Per Foot | Average Weight lb/ft | Dimensions | | | | | | |
|--------------|-------|--------|----------------------------------|--------------------------|----------------|-------------------------|------------|-------|-------|-------|-------|------|-------|
| | inch | mm | | | | | A | B | C | D | F | G | K |
| S0-578 | 2.609 | 66.269 | 19,000 | 2,200 | 4.6 | 2.7 | 22.23 | 26.99 | 9.53 | 52.78 | 25.40 | 3.97 | 36.51 |
| M0-88 | 2.609 | 66.269 | 20,000 | 2,400 | 4.6 | 3.8 | 22.23 | 26.99 | 11.11 | 59.53 | 28.58 | 6.35 | 41.28 |
| LXS-882 | 2.609 | 66.269 | 29,000 | 2,800 | 4.6 | 3.9 | 22.23 | 28.58 | 11.11 | 59.53 | 28.58 | 6.35 | 42.86 |
| M0H-578 | 2.609 | 66.269 | 19,000 | 2,200 | 4.6 | 2.7 | 22.23 | 26.99 | 9.53 | 52.78 | 25.40 | 5.56 | 36.12 |

Straight Side Bar Roller Chain

Straight Side Bar Roller Chain



| Material Spec. | | | | |
|----------------|----------|-----|---------|--------|
| | Side Bar | Pin | Bushing | Roller |
| MS-88 | C | CH | CC | CC |
| 81-X | CH | AC | AC | CH |
| 81-XH | CH | AC | AC | CH |
| 81-XHS | CH | AC | AC | CH |
| SS-188 | CH | AC | CC | CC |

| Chain number | Pitch | | Average Ultimate Strength lbf | Max. Working Load lbf | Links Per Foot | Average Weight lb/ft | Dimensions | | | | | | Side Plate Thickness (G) | |
|--------------|-------|--------|----------------------------------|--------------------------|----------------|-------------------------|------------|-------|-------|-------|-------|-------|--------------------------|------|
| | inch | mm | | | | | A | B | C | D | F | K | Chain | Conn |
| MS-88 | 2.609 | 66.269 | 26,000 | 2,500 | 4.6 | 3.8 | 22.23 | 26.99 | 11.11 | 59.53 | 28.58 | 41.28 | 6.35 | 6.35 |
| 81-X | 2.609 | 66.269 | 22,000 | 2,200 | 4.6 | 2.6 | 23.02 | 26.99 | 11.11 | 47.23 | 28.58 | 34.93 | 3.97 | 3.97 |
| 81-XH | 2.609 | 66.269 | 41,800 | 5,000 | 4.6 | 3.9 | 23.02 | 26.99 | 11.11 | 59.18 | 31.75 | 42.86 | 7.94 | 5.56 |
| 81-XHS | 2.609 | 66.269 | 41,800 | 5,000 | 4.6 | 4.2 | 23.02 | 26.99 | 11.11 | 63.50 | 32.94 | 42.86 | 7.94 | 7.94 |
| SS-188 | 2.609 | 66.269 | 26,000 | 2,500 | 4.6 | 3.8 | 22.23 | 26.99 | 11.11 | 59.53 | 28.58 | 41.28 | 6.35 | 6.35 |

C: Carbon Steel
CC: Carbon Steel Case Hardened

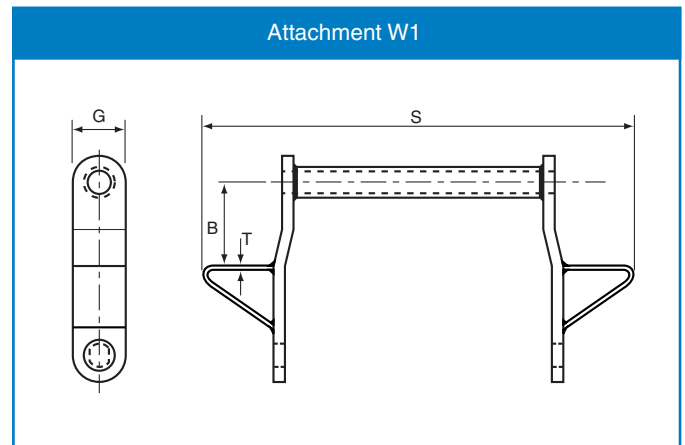
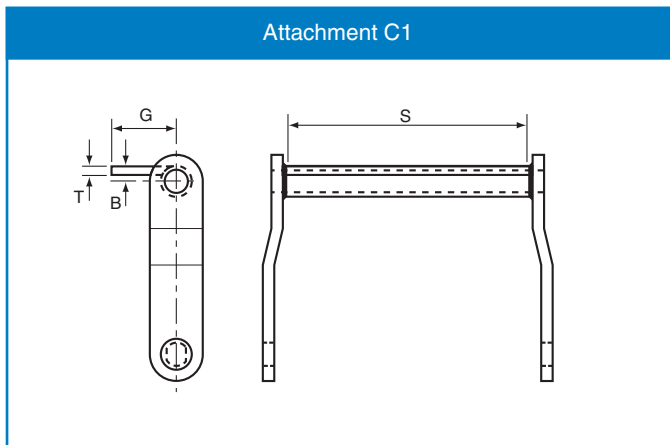
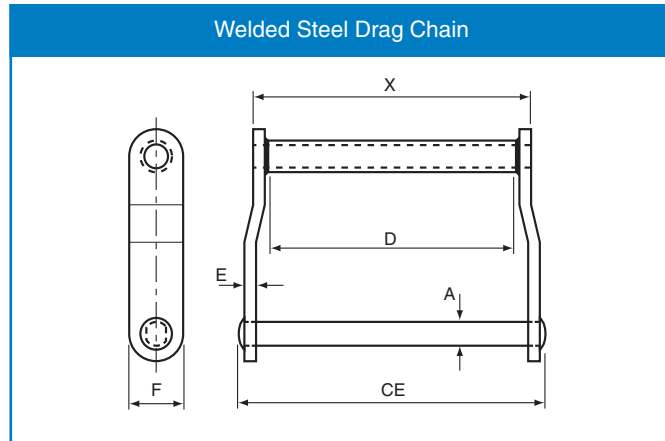
AC: Alloy Steel Case Hardened
CH: Carbon Steel Heat Treated

AH: Alloy Steel Heat Treated

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Timber Chain

Welded Steel Drag Chain



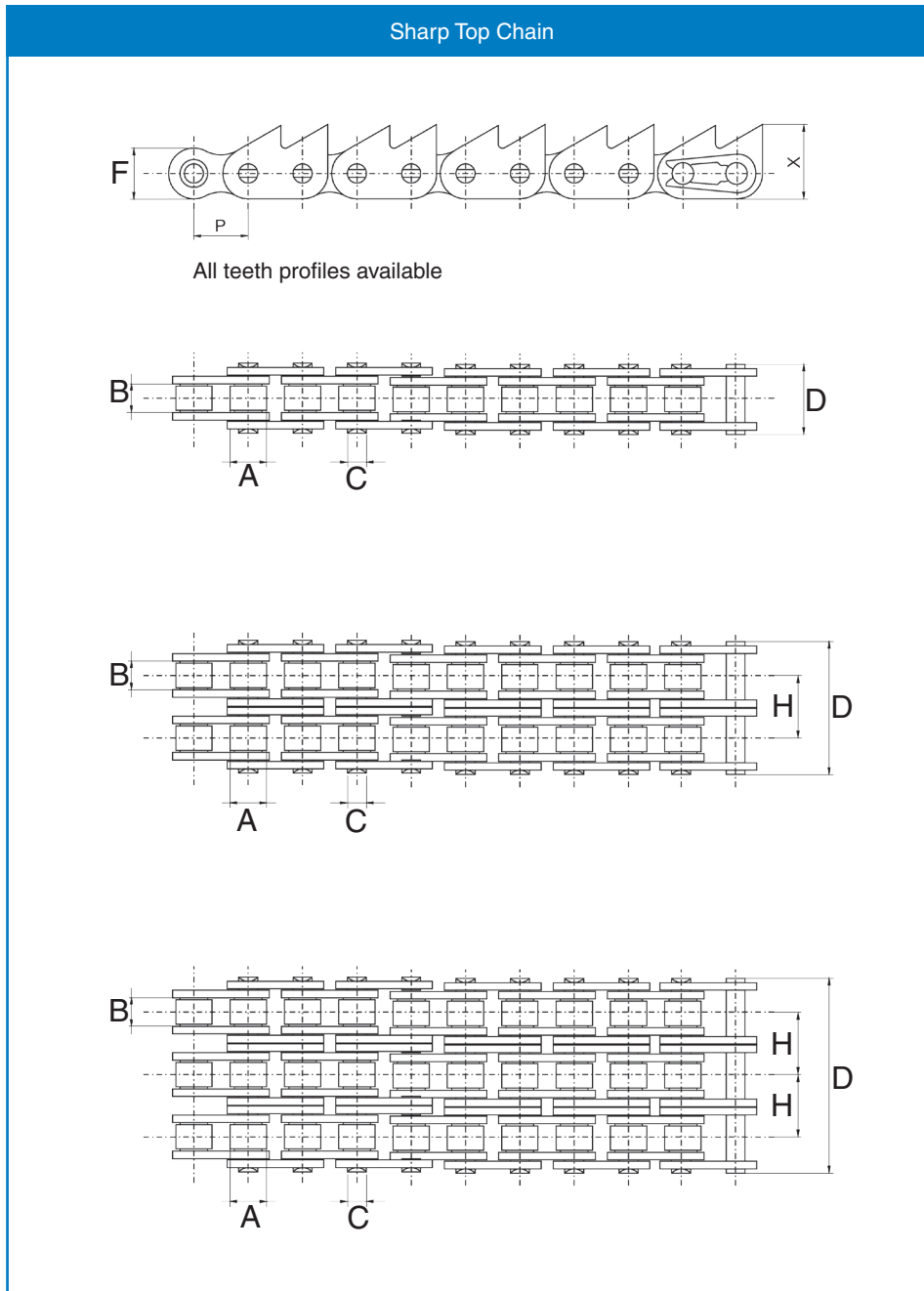
| Chain number | Pitch | | Average Ultimate Strength lbf | Max. Working Load lbf | Links Per Foot | Average Weight lb/ft | Dimensions | | | | | | |
|--------------|--------|--------|-------------------------------|-----------------------|----------------|----------------------|------------|--------|-------|-------|-------|---|--------|
| | mm | Inches | | | | | CE | X | D | T | F | H | A |
| WDH102 | 127.00 | 5.000 | 60000 | 10000 | 24 | 11.8 | 234.95 | 196.85 | 19.05 | 9.53 | 38.1 | / | 161.93 |
| WDH104 | 152.40 | 6.000 | 60000 | 10000 | 20 | 8.7 | 174.63 | 136.53 | 19.05 | 9.53 | 38.1 | / | 104.78 |
| WD110 | 152.40 | 6.000 | 51000 | 8500 | 20 | 12.0 | 301.63 | 263.53 | 19.05 | 9.53 | 38.1 | / | 228.60 |
| WDH110 | 152.40 | 6.000 | 60000 | 10000 | 20 | 12.0 | 301.63 | 263.53 | 19.05 | 9.53 | 38.1 | / | 228.60 |
| WD113 | 152.40 | 6.000 | 55000 | 9200 | 20 | 15.0 | 317.50 | 269.88 | 22.23 | 12.7 | 38.1 | / | 228.60 |
| WDH113 | 152.40 | 6.000 | 70000 | 11700 | 20 | 15.0 | 317.50 | 269.88 | 22.23 | 12.7 | 38.1 | / | 228.60 |
| WD120 | 152.40 | 6.000 | 70000 | 11700 | 20 | 19.4 | 304.80 | 257.18 | 22.23 | 12.7 | 50.8 | / | 215.90 |
| WDH120 | 152.40 | 6.000 | 90000 | 15000 | 20 | 19.4 | 304.80 | 257.18 | 22.23 | 12.7 | 50.8 | / | 215.90 |
| WD112 | 203.20 | 8.000 | 51000 | 8500 | 15 | 9.8 | 301.63 | 263.53 | 19.05 | 9.53 | 38.1 | / | 228.60 |
| WDH112 | 203.20 | 8.000 | 60000 | 10000 | 15 | 9.8 | 301.63 | 263.53 | 19.05 | 9.53 | 38.1 | / | 228.60 |
| WD116 | 203.20 | 8.000 | 55000 | 9200 | 15 | 14.5 | 390.53 | 358.78 | 19.05 | 9.53 | 44.45 | / | 323.85 |
| WDH116 | 203.20 | 8.000 | 69000 | 11500 | 15 | 14.5 | 390.53 | 358.78 | 19.05 | 9.53 | 44.45 | / | 323.85 |
| WD118 | 203.20 | 8.000 | 70000 | 11700 | 15 | 19.8 | 425.45 | 377.83 | 22.23 | 12.7 | 50.8 | / | 336.55 |
| WDH118 | 203.20 | 8.000 | 90000 | 15000 | 15 | 19.8 | 425.45 | 377.83 | 22.23 | 12.7 | 50.8 | / | 336.55 |
| WD122 | 203.20 | 8.000 | 70000 | 11700 | 15 | 16.0 | 304.80 | 257.18 | 22.23 | 12.7 | 50.8 | / | 215.90 |
| WDH122 | 203.20 | 8.000 | 90000 | 15000 | 15 | 16.0 | 304.80 | 257.18 | 22.23 | 12.7 | 50.8 | / | 215.90 |
| WD480 | 203.20 | 8.000 | 70000 | 11700 | 15 | 18.1 | 371.48 | 323.85 | 22.23 | 12.7 | 50.8 | / | 279.40 |
| WDH480 | 203.20 | 8.000 | 90000 | 15000 | 15 | 18.1 | 371.48 | 323.85 | 22.23 | 12.7 | 50.8 | / | 279.40 |
| WDH580 | 203.20 | 8.000 | 123000 | 20500 | 15 | 19.4 | 371.48 | 323.85 | 25.40 | 12.7 | 50.8 | / | 279.40 |
| WDH680 | 203.20 | 8.000 | 134000 | 22300 | 15 | 21.4 | 384.18 | 330.20 | 25.40 | 15.88 | 50.8 | / | 279.40 |

WD - Welded steel chain with through-hardened pins and case hardened bushes

WDH - Welded steel chain - all components fully heat treated

Timber Chain

Sharp Top Chain

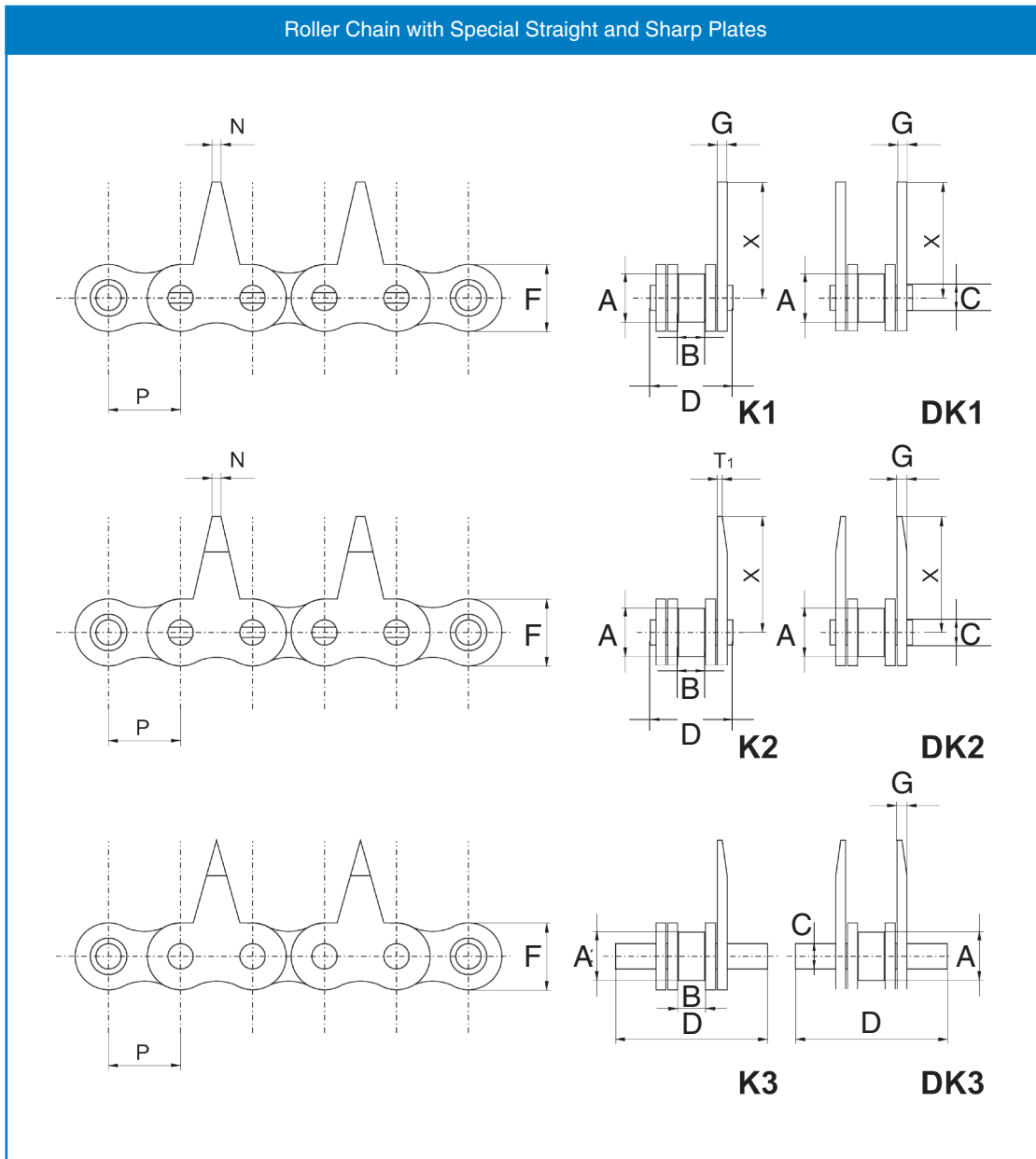


| Chain number | Pitch P | Roller diameter A | Width between inner plates B | Pin diameter C | Pin length D | Side Plate Height F | Transverse pitch H | Tooth height X | Tensile strength kN |
|--------------|--------------|------------------------|-----------------------------------|---------------------|-------------------|--------------------------|-------------------------|---------------------|------------------------|
| 16B-1Z | 25.4 | 15.88 | 17.02 | 8.28 | 36.1 | 21.0 | - | 28 | 58 |
| 16B-2Z | 25.4 | 15.88 | 17.02 | 8.28 | 68.0 | 21.0 | 31.88 | 28 | 110 |
| 16B-3Z | 25.4 | 15.88 | 17.02 | 8.28 | 99.9 | 21.0 | 31.88 | 28 | 165 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Timber Chain

Sharp Top Chain



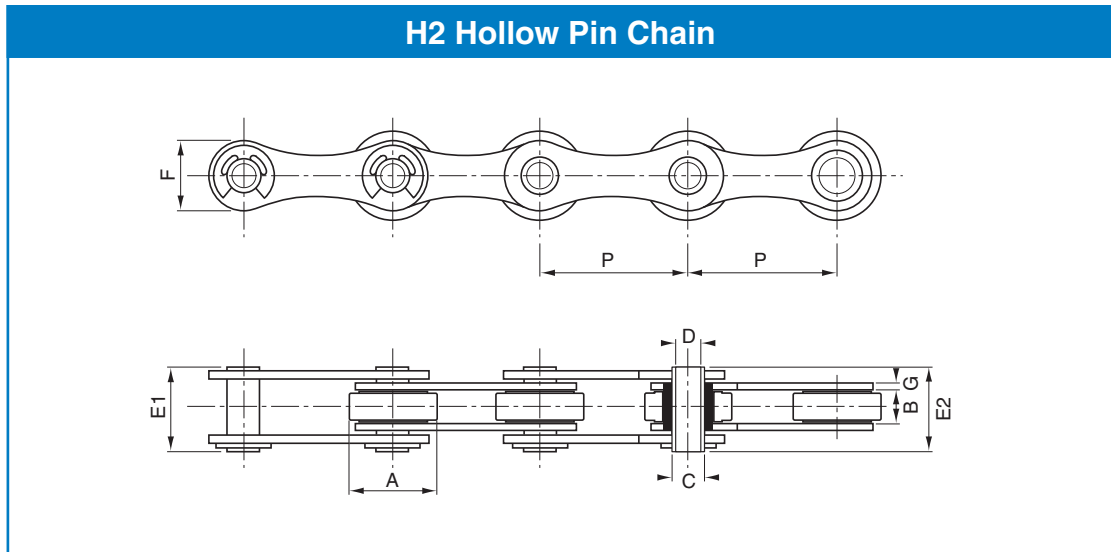
| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Side plate height | Plate thickness | Pin length | Attachment height | Tensile strength | | |
|--------------|-------|-----------------|----------------------------|--------------|-------------------|-----------------|------------|-------------------|------------------|-----|------|
| | P | A | B | C | F | G | L | T1 | X | N | kN |
| 08 B/K1 | 12.70 | 8.51 | 7.75 | 4.45 | 10.80 | 1.60 | 16.70 | - | 14.5 | 1.2 | 18.2 |
| 08 B/K2 | 12.70 | 8.51 | 7.75 | 4.45 | 10.80 | 1.60 | 16.70 | 0.3 | 14.5 | 1.2 | 18.2 |
| 12 B/K3 | 19.05 | 12.07 | 11.68 | 5.71 | 16.13 | 1.85 | 29.35 | - | 14.5 | - | 29.5 |

Notes

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Food Industry Chain

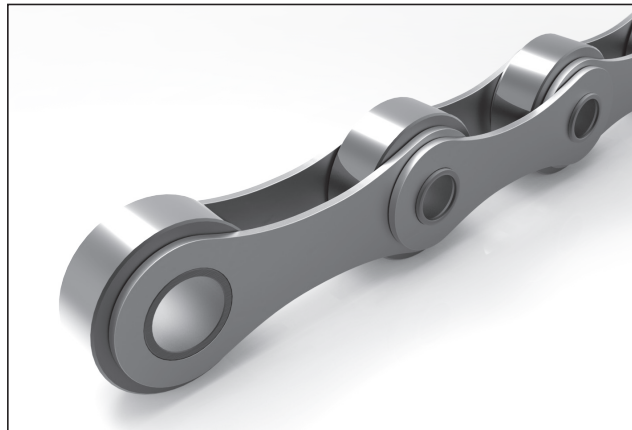
H2 Series



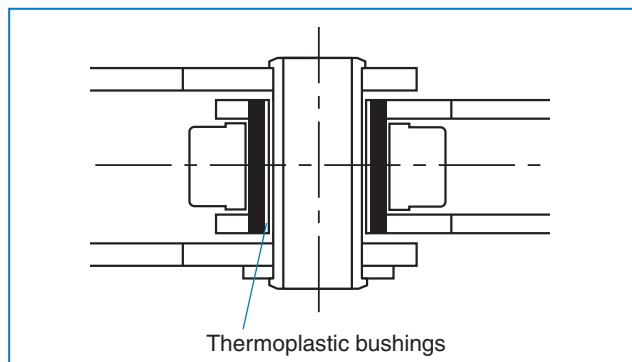
| Challenge chain number | FK chain number | Pitch | Pitch | Roller diameter | Width between inner plates | | Pin | | Pin Length | | Side plate height | Plate thickness | Tensile strength | Weight (Type C3) |
|----------------------------------|------------------|--------|-------|-----------------|----------------------------|------|-----|------|------------|----|-------------------|-----------------|------------------|------------------|
| | | inches | mm | | B | C | D | E1 | E2 | F | | | | |
| Steel | | | | | | | | | | | | | | |
| CH2-HP | FK1650HP | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 2.15 | |
| CH2-HP-D | FK1650HP-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 1.55 | |
| Zinc Plated | | | | | | | | | | | | | | |
| CH2-HP-ZP | FK1650HPZP | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 2.15 | |
| CH2-HP-ZP-D | FK1650HPZP-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 1.55 | |
| Zinc Plated and Stainless | | | | | | | | | | | | | | |
| CH2-HP-ZPSS | FK1650HPZS400 | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 2.15 | |
| CH2-HP-ZPSS-D | FK1650HPZS400-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 1.55 | |
| Stainless | | | | | | | | | | | | | | |
| CH2-HP-SS | FK1650HPSS | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 32 | 2.15 | |
| CH2-HP-SS-D | FK1650HPSS-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 32 | 1.55 | |
| CH2-HP-SS400 | FK1650HPSS400 | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 42 | 2.15 | |
| CH2-HP-SS400-D | FK1650HPSS400-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 42 | 1.55 | |
| Low Maintenance | | | | | | | | | | | | | | |
| CH2-HP-ZP-TPB | FK1650HPZPK | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 2.15 | |
| CH2-HP-ZP-TPB-D | FK1650HPZPK-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 55 | 1.55 | |
| CH2-HP-SS-TPB | FK1650HPSSK | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 32 | 2.15 | |
| CH2-HP-SS-TPB-D | FK1650HPSSK-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 32 | 1.55 | |
| CH2-HP-SS400-TPB | FK1650HPSSK400 | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 42 | 2.15 | |
| CH2-HP-SS400-TPB-D | FK1650HPSSK400-D | 2.0 | 50.8 | 30 | 10.5 | 11.4 | 8.2 | 27.5 | 28.8 | 26 | 3.1 | 42 | 1.55 | |

Food Industry Chain

H2 Hollow pin chains are widely used in many conveyor applications such as agriculture, food and packaging. H2 chain is manufactured to the highest standard for maximum performance. The chain-lengths are matched (paired) and clearly labeled.



Low maintenance CH2 Series with Thermoplastic bushings



Versions:

- Steel
- Zinc
- Stainless
- Stainless 400
- PA6 roller
- Low maintenance

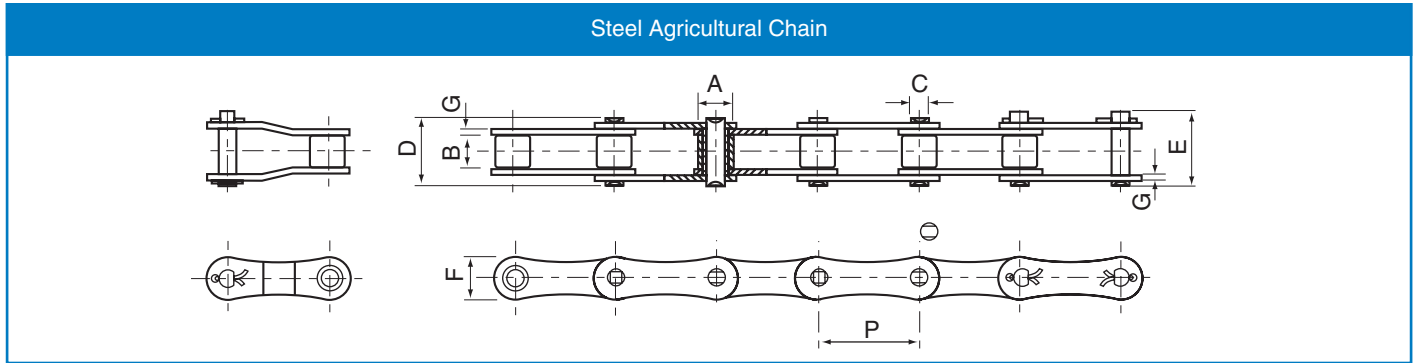
| Challenge chain number | Description | Material Requirement | | | | |
|--|--|--|--|--|---|--|
| | | Hollow pin | Bush | Liner bush | Roller | Plate |
| Steel CH2-HP CH2-HP-D | Steel Rollers Pastic Rollers | ST-CH ST-CH | ST-CH ST-CH | | ST-CH PA6 | ST-HT ST-HT |
| Zinc Plated CH2-HP-ZP CH2-HP-ZP-D | with Steel Rollers with Plastic Rollers | ST-CH-ZP ST-CH-ZP | ST-CH-ZP ST-CH-ZP | | ST-CH-ZP PA6 | ST-HT-ZP ST-HT-ZP |
| Zinc Plated and SS CH2-HP-ZPSS CH2-HP-ZPSS-D | with Stainless Steel Rollers with Stainless Plastic Roller | SS-400-HT SS-400-HT | SS-400-HT SS-400-HT | | ST-CH-ZP PA6 | ST-HT-ZP ST-HT-ZP |
| Stainless CH2-HP-SS CH2-HP-SS-D CH2-HP-SS400 CH2-HP-SS400-D | 300 series with Plastic Rollers 300 series with Plastic Rollers 400 series with Plastic Rollers 400 series with Plastic Rollers | SS-304 SS-304 SS-400-HT SS-400-HT | SS-304 SS-304 SS-400-HT SS-400-HT | | SS-304 PA6 SS-304 PA6 | SS-304 SS-304 SS-304 SS-304 |
| Low Maintenance CH2-HP-ZP-TPB CH2-HP-ZP-TPB-D CH2-HP-SS-TPB CH2-HP-SS-TPB-D CH2-HP-SS400-TPB CH2-HP-SS400-TPB-D | Steel Chain with Steel Roller Steel Chain with Plastic Roller 300 Stainless Steel Chain with SS Roller 300 Stainless Steel Chain with Plastic Roller 400 Stainless Steel Chain with SS Roller 400 Stainless Steel Chain with Plastic Roller | ST-CH-ZP ST-CH-ZP SS-304 SS-304 SS-400-HT SS-400-HT | ST-CH-ZP ST-CH-ZP SS-304 SS-304 SS-400-HT SS-400-HT | TPB TPB TPB TPB TPB TPB | ST-CH-ZP PA6 SS-304 PA6 SS-304 PA6 | ST-HT-ZP ST-HT-ZP SS-304 SS-304 SS-304 SS-304 |

| | | |
|------------|--|---|
| Key | ST-CH - Steel, case hardened | SS-304 - Stainless steel 304 |
| | ST-CH-ZP - Steel, case hardened, zinc plated | SS-400-HT - Stainless steel 400 series, through hardened |
| | ST-HT - Steel, through hardened | PA6 - Nylon PA6 |
| | ST-HT-ZP - Steel, through hardened, zinc plated | TPB - Thermoplastic bushing |

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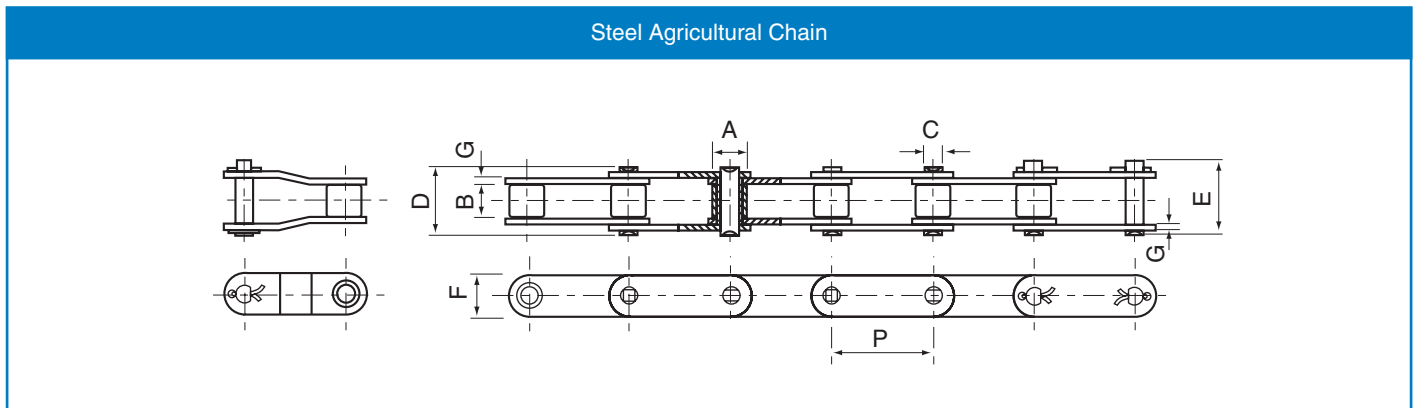
Agricultural Chain

Steel Agricultural Chain



| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Side plate height | Plate thickness | Minimum tensile strength | Average tensile strength | Weight |
|--------------|-------|-----------------|----------------------------|--------------|------------|-------|-------------------|-----------------|--------------------------|--------------------------|--------|
| | P | A | B | C | D | E | F | G | kN | kN | kg/m |
| S32 | 29.21 | 11.43 | 15.88 | 4.45 | 26.70 | 28.80 | 13.20 | 1.80 | 8.00 | 21.60 | 0.86 |
| S42 | 34.93 | 14.27 | 19.05 | 7.00 | 34.30 | 37.00 | 19.80 | 2.80 | 27.00 | 50.80 | 1.60 |
| S45 | 41.40 | 15.24 | 22.23 | 5.72 | 37.70 | 40.40 | 17.30 | 2.80 | 18.00 | 36.10 | 1.66 |
| S52 | 38.10 | 15.24 | 22.23 | 5.72 | 37.70 | 40.40 | 17.30 | 2.80 | 18.00 | 36.10 | 1.68 |
| S55 | 41.40 | 17.78 | 22.23 | 5.72 | 37.70 | 40.40 | 17.30 | 2.80 | 18.00 | 36.10 | 1.80 |
| S55X | 41.40 | 15.88 | 20.00 | 8.28 | 38.00 | 40.70 | 20.00 | 3.00 | 50.00 | 55.00 | 2.20 |
| S55R | 41.40 | 17.78 | 22.23 | 8.90 | 41.00 | 44.00 | 22.40 | 3.50 | 45.00 | 73.10 | 2.49 |
| S62 | 41.91 | 19.05 | 25.40 | 5.72 | 40.30 | 43.00 | 17.30 | 2.50 | 27.00 | 36.10 | 1.87 |
| S77 | 58.34 | 18.26 | 22.23 | 8.90 | 43.20 | 46.40 | 26.20 | 4.00 | 45.00 | 73.10 | 2.65 |
| S88 | 66.27 | 22.86 | 28.58 | 8.90 | 49.80 | 53.00 | 26.20 | 4.00 | 45.00 | 73.10 | 3.25 |

Steel Agricultural Chain



| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Side plate height | Plate thickness | Minimum tensile strength | Average tensile strength | Weight |
|--------------|--------|-----------------|----------------------------|--------------|------------|-------|-------------------|-----------------|--------------------------|--------------------------|--------|
| | P | A | B | C | D | E | F | G | kN | kN | kg/m |
| 38.4 | 38.400 | 15.88 | 19.05 | 6.92 | 33.80 | 37.00 | 17.30 | 2.50 | 25.00 | 33.00 | 1.65 |
| 38.4-V | 38.400 | 15.88 | 18.00 | 6.92 | 33.80 | 37.00 | 17.30 | 3.00 | 31.50 | 40.00 | 1.74 |
| 38.4-VB | 38.400 | 15.88 | 19.05 | 8.27 | 36.20 | 39.40 | 20.50 | 3.00 | 45.00 | 50.00 | 2.12 |
| CA550 | 41.400 | 16.87 | 19.81 | 7.19 | 35.00 | 38.00 | 19.30 | 2.80 | 39.10 | 51.20 | 1.94 |
| CA555 | 41.400 | 16.87 | 12.70 | 7.19 | 29.70 | 33.10 | 19.30 | 3.10 | 39.10 | 56.00 | 1.83 |
| CA557 | 41.400 | 17.78 | 20.24 | 8.00 | 37.40 | 40.60 | 23.10 | 3.10 | 55.61 | 74.30 | 2.65 |
| CA620 | 42.010 | 17.91 | 24.51 | 7.19 | 41.80 | 45.20 | 20.20 | 3.25 | 39.10 | 55.10 | 2.35 |
| CA627 | 30.000 | 15.88 | 19.05 | 8.28 | 36.10 | 39.40 | 20.50 | 3.00 | 50.00 | 55.00 | 2.51 |
| CA650 | 50.800 | 25.00 | 19.05 | 9.53 | 40.40 | 44.70 | 25.00 | 4.00 | 90.00 | 95.00 | 3.49 |
| CA2060H | 38.100 | 11.91 | 12.70 | 5.94 | 29.74 | 31.72 | 17.45 | 3.25 | 31.28 | 40.50 | 1.50 |

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Agricultural Chain Attachments

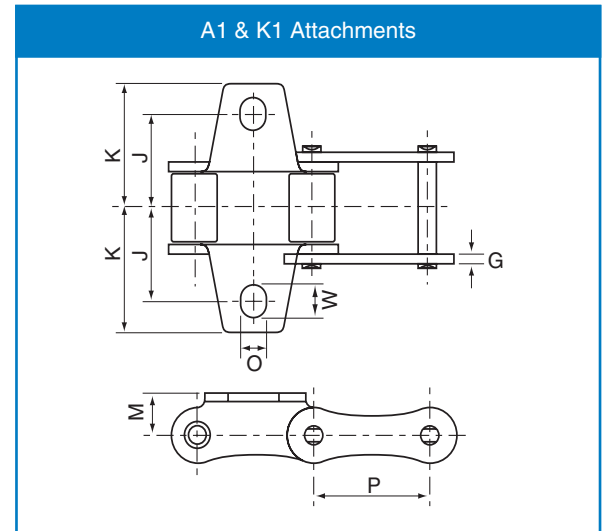
S Series A1 & K1 Attachments

| Chain number | P | G | J | K | M | O | W |
|--------------|-------|------|-------|-------|-------|------|-------|
| S32 | 29.21 | 1.80 | 21.50 | 30.50 | 8.60 | 5.30 | 6.90 |
| S42 | 34.93 | 2.80 | 27.00 | 37.45 | 14.00 | 8.30 | 11.50 |
| S45 | 41.40 | 2.80 | 27.00 | 37.50 | 11.40 | 8.50 | 11.70 |
| S52 | 38.10 | 2.80 | 29.40 | 39.00 | 11.40 | 8.30 | 9.90 |
| S55 | 41.40 | 2.80 | 27.00 | 37.50 | 11.40 | 8.50 | 11.70 |
| S62 | 41.91 | 2.50 | 33.40 | 47.70 | 11.40 | 6.50 | 13.00 |
| S77 | 58.34 | 4.00 | 38.10 | 50.80 | 20.80 | 8.40 | 11.70 |
| S88 | 66.27 | 4.00 | 48.50 | 59.70 | 20.80 | 8.40 | 10.00 |

A1 = Attachment one side

K1 = Attachment both sides

Note:- Slotted holes



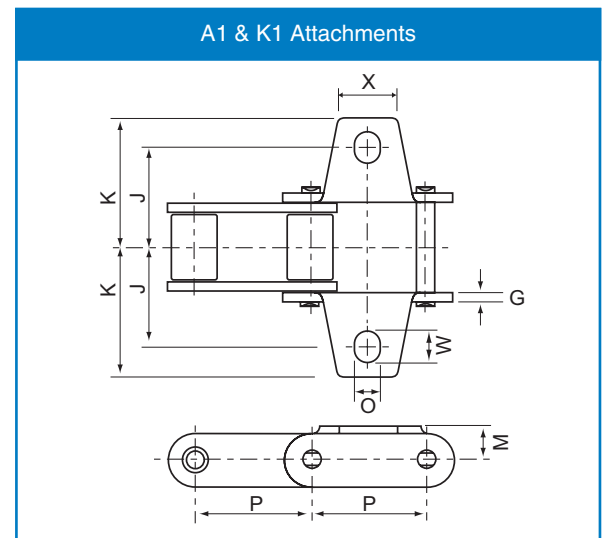
38.4 & CA Series A1 & K1 Attachments

| Chain number | P | G | J | K | M | O | W | X |
|--------------|-------|------|-------|-------|-------|-------|-------|-------|
| 38.4 | 38.40 | 2.50 | 29.00 | 41.50 | 15.40 | 9.00 | | |
| 38.4-V | 38.40 | 3.00 | 28.75 | 41.00 | 15.40 | 9.00 | | |
| 38.4-VB | 38.40 | 3.00 | 29.00 | 43.50 | 14.00 | 10.50 | | |
| CA550 | 41.40 | 2.80 | 26.25 | 38.10 | 12.70 | 8.30 | 10.00 | 22.00 |
| CA557 | 41.40 | 3.10 | 25.40 | 36.00 | 15.90 | 8.70 | | |

A1 = Attachment one side

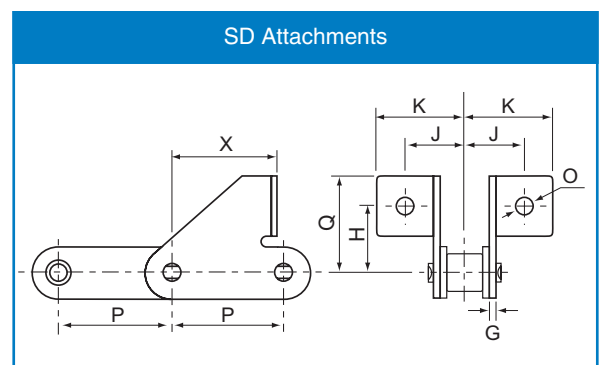
K1 = Attachment both sides

Note:- Slotted holes



S, 38.4 & CA Series SD Attachment

| Chain number | P | G | Q | J | K | H | X | O |
|--------------|-------|------|-------|-------|-------|-------|-------|------|
| S45 | 41.40 | 2.80 | 26.00 | 29.00 | 44.25 | 16.00 | 24.00 | 6.40 |
| S55 | 41.40 | 2.80 | 26.00 | 29.00 | 44.25 | 16.00 | 24.00 | 6.40 |
| 38.4 | 38.40 | 2.50 | 37.00 | 26.00 | 35.50 | 24.00 | 38.40 | 8.40 |
| 38.4-V | 38.40 | 3.00 | 37.00 | 26.00 | 35.50 | 24.00 | 38.40 | 8.40 |
| 38.4-VB | 38.40 | 3.00 | 34.00 | 26.00 | 35.50 | 25.00 | 38.40 | 8.40 |
| CA550 | 41.40 | 2.80 | 42.90 | 23.80 | 34.10 | 31.00 | 36.90 | 8.70 |

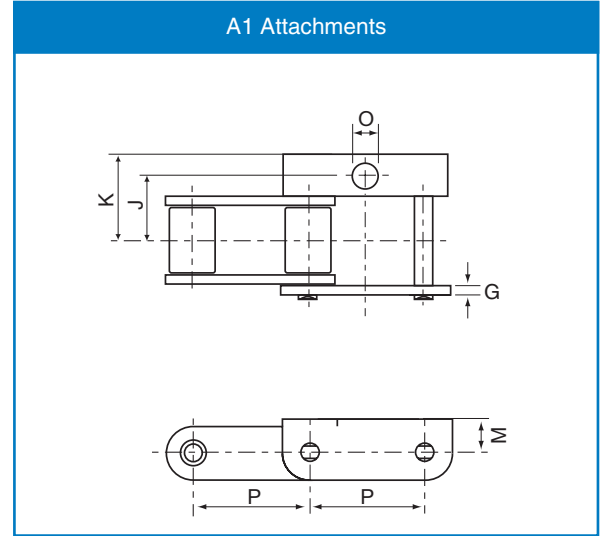


Agricultural Chain Attachments

CA Series A1 Attachment

| Chain number | P | G | J | K | M | O |
|--------------|-------|------|-------|-------|-------|-------|
| CA620 | 42.01 | 3.25 | 34.58 | 45.40 | 14.35 | 10.30 |

A1 = Attachment one side



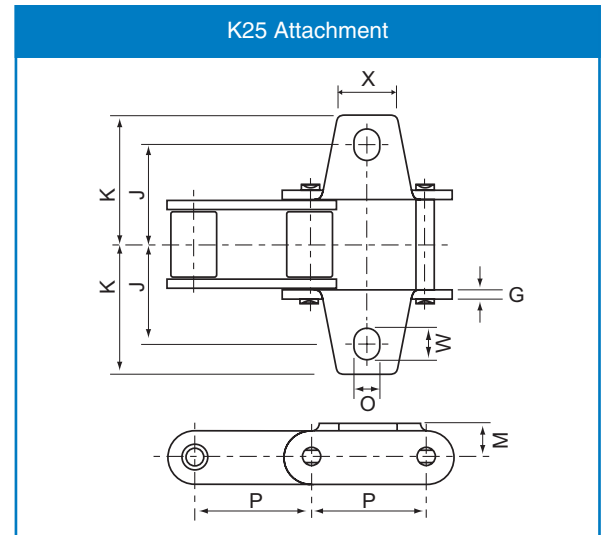
CA Series K25 Attachment

| Chain number | P | G | J | K | M | O | W | X |
|--------------|-------|------|-------|-------|-------|------|-------|-------|
| CA550 | 41.40 | 2.80 | 50.80 | 35.70 | 12.70 | 8.70 | 10.00 | 22.23 |

A1 = Attachment one side

K1 = Attachment both sides

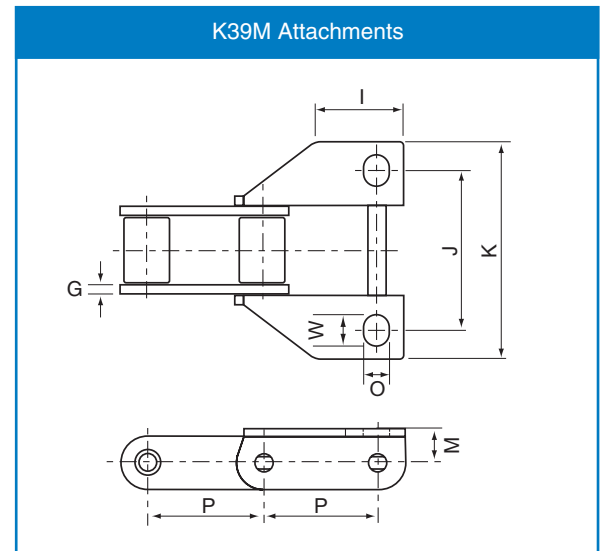
Note:- Slotted holes



CA Series K39M Attachment

| Chain number | P | G | I | J | K | M | O | W |
|--------------|-------|------|------|-------|-------|-------|------|-------|
| CA550 | 41.40 | 2.80 | 30.0 | 50.80 | 72.00 | 12.70 | 9.90 | 13.00 |
| CA557 | 41.40 | 3.10 | 38.1 | 53.94 | 76.20 | 14.60 | 9.90 | 13.00 |

NOTE:- Slotted holes



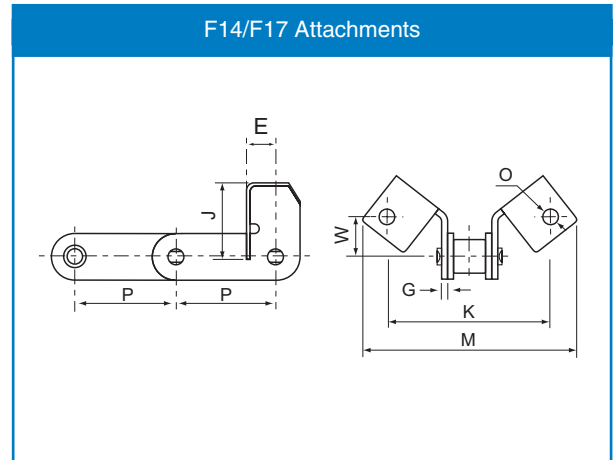
Agricultural Chain Attachments

CA Series F14 Attachments

| Chain number | P | G | J | K | M | O | W | E |
|--------------|-------|------|-------|-------|--------|------|-------|-------|
| CA550 | 41.40 | 2.80 | 31.75 | 79.40 | 101.60 | 8.33 | 15.90 | 20.24 |
| CA557 | 41.40 | 3.10 | 31.75 | 79.40 | 109.80 | 8.60 | 15.88 | 19.60 |

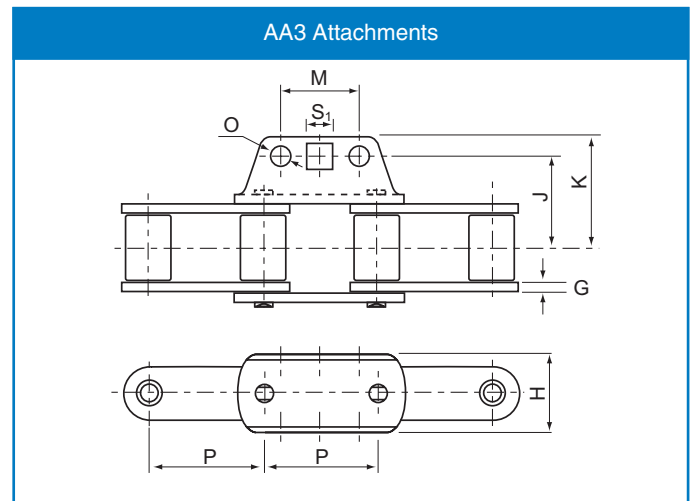
CA Series F17 Attachment

| Chain number | P | G | J | K | M | O | W | E |
|--------------|-------|------|-------|--------|--------|------|-------|-------|
| CA550 | 41.40 | 2.80 | 40.89 | 114.30 | 143.70 | 9.91 | 20.57 | 23.68 |



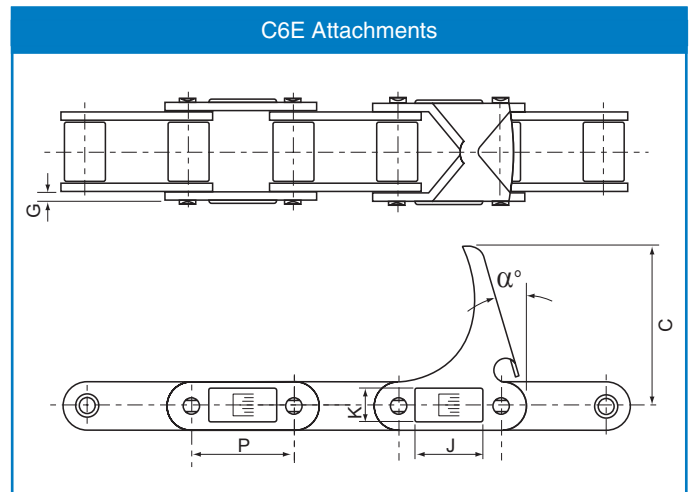
CA Series AA3 Attachment

| Chain number | P | G | J | K | M | H | O | S ₁ |
|--------------|-------|------|-------|-------|-------|-------|------|----------------|
| CA557 | 41.40 | 3.10 | 31.90 | 43.29 | 30.20 | 31.06 | 8.20 | 9.73 |



CA Series C6E Attachment

| Chain number | P | G | C | J | K | α° |
|--------------|-------|------|-------|-------|-------|-------|
| CA550 | 41.40 | 2.80 | 55.60 | 23.60 | 13.50 | 20.00 |
| CA555 | 41.40 | 3.10 | 63.50 | 23.60 | 13.50 | 15.00 |
| C2060H | 38.10 | 3.25 | 63.50 | - | - | 22.50 |

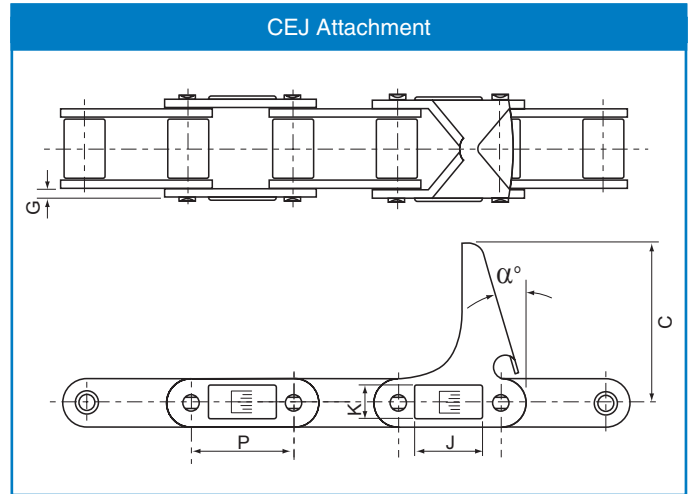


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Agricultural Chain Attachments

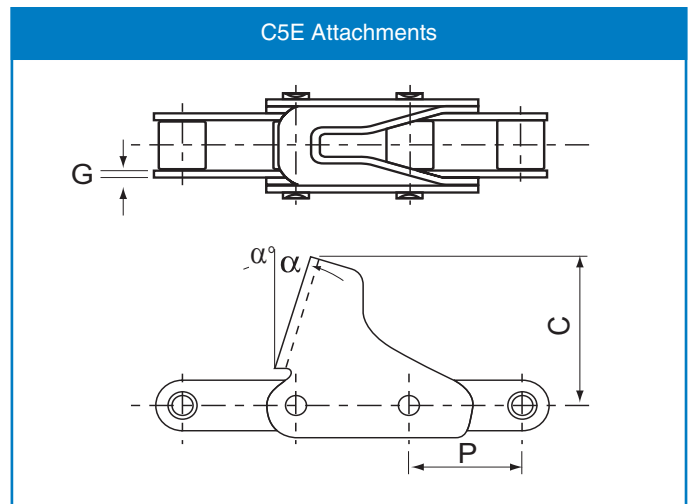
CA Series 6EJ Attachment

| Chain number | P | G | C | J | K | α° |
|--------------|-------|------|-------|-------|-------|----------------|
| CA620 | 42.01 | 3.20 | 66.00 | 23.60 | 13.50 | 15.00 |



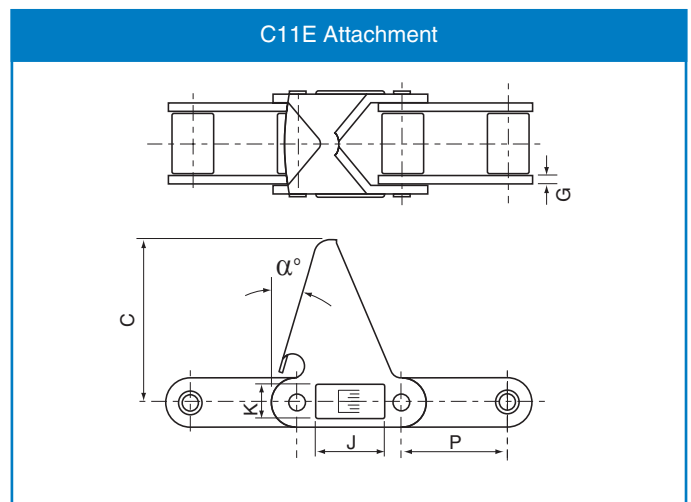
CA Series C5E Attachment

| Chain number | P | G | C | α° |
|--------------|-------|------|-------|----------------|
| CA550 | 41.40 | 2.80 | 59.00 | 15.00 |
| CA555 | 41.40 | 3.10 | 57.15 | 15.00 |



CA Series C11E Attachment

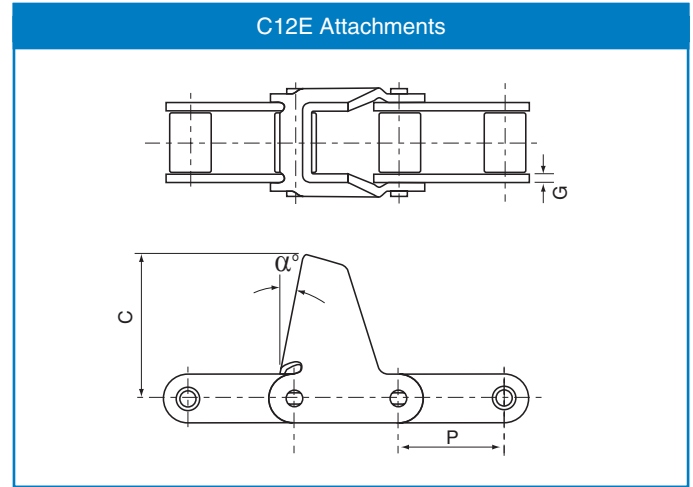
| Chain number | P | G | C | J | K | α° |
|--------------|-------|------|-------|-------|-------|----------------|
| CA550 | 41.40 | 2.80 | 59.00 | 23.60 | 13.50 | 15.00 |



Agricultural Chain Attachments

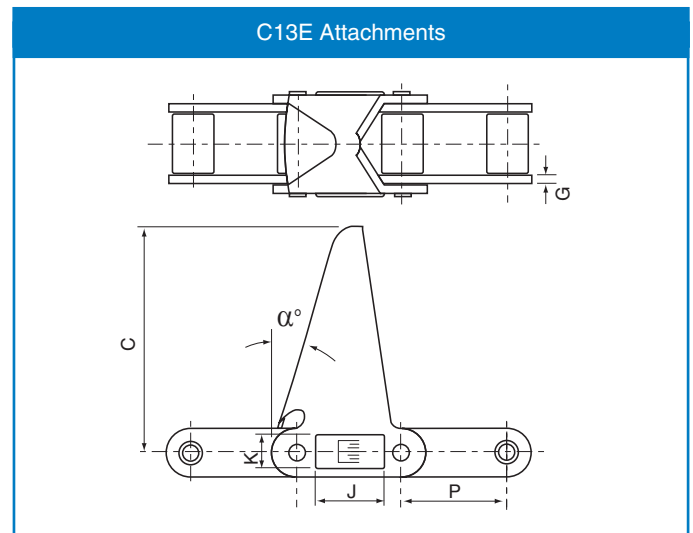
CA Series C12E Attachment

| Chain number | P | G | C | α° |
|--------------|-------|------|-------|----------------|
| CA550 | 41.40 | 2.80 | 59.00 | 9.00 |



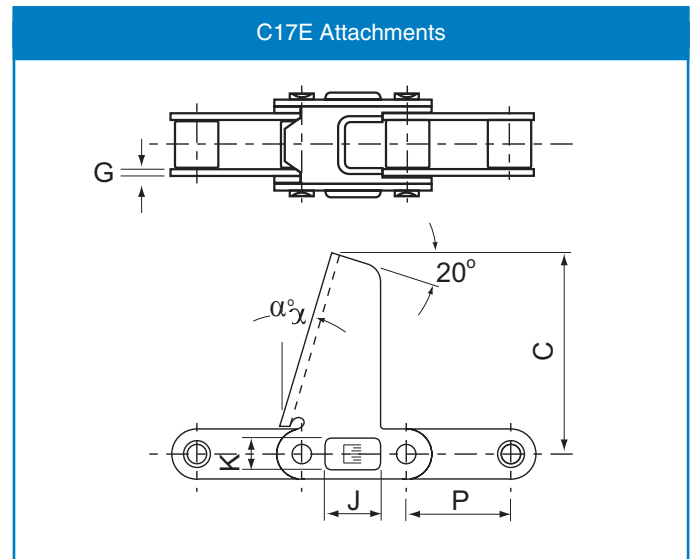
CA Series C13E Attachment

| Chain number | P | G | C | J | K | α° |
|--------------|-------|------|-------|-------|-------|----------------|
| CA550 | 41.40 | 2.80 | 92.10 | 23.60 | 13.50 | 15.00 |



CA Series C17E Attachment

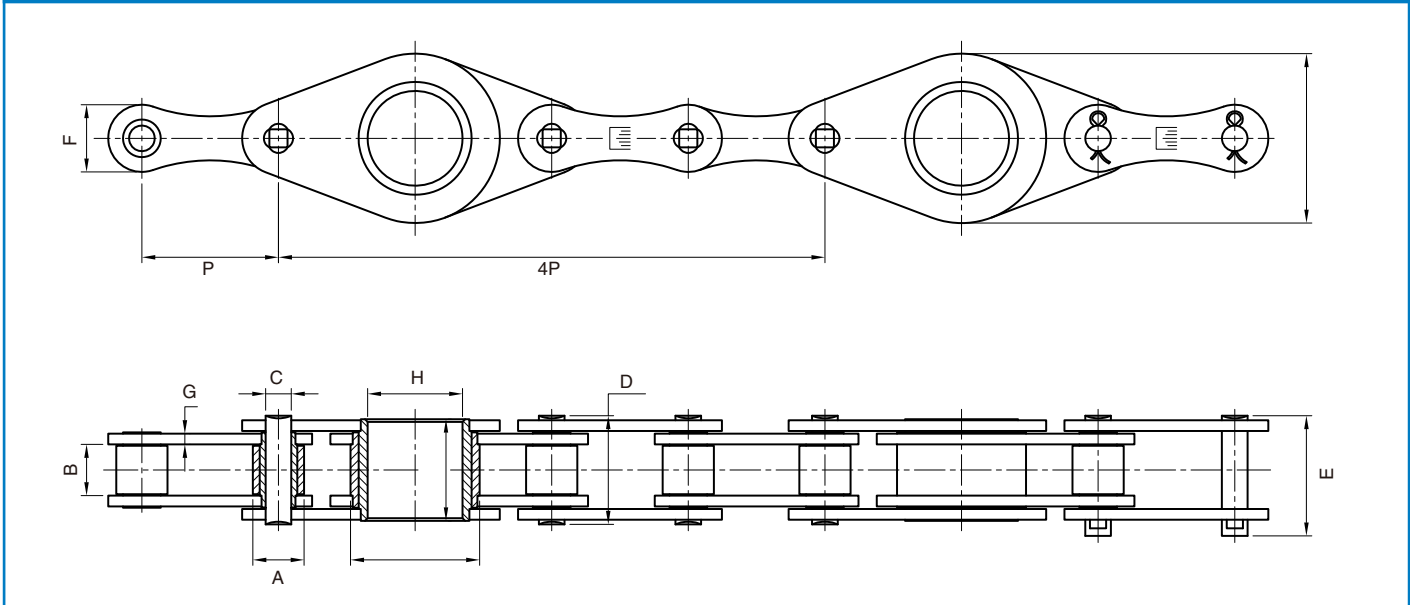
| Chain number | P | G | C | J | K | α° |
|--------------|-------|------|-------|-------|-------|----------------|
| CA550 | 41.40 | 2.80 | 76.20 | 23.60 | 13.50 | 15.00 |



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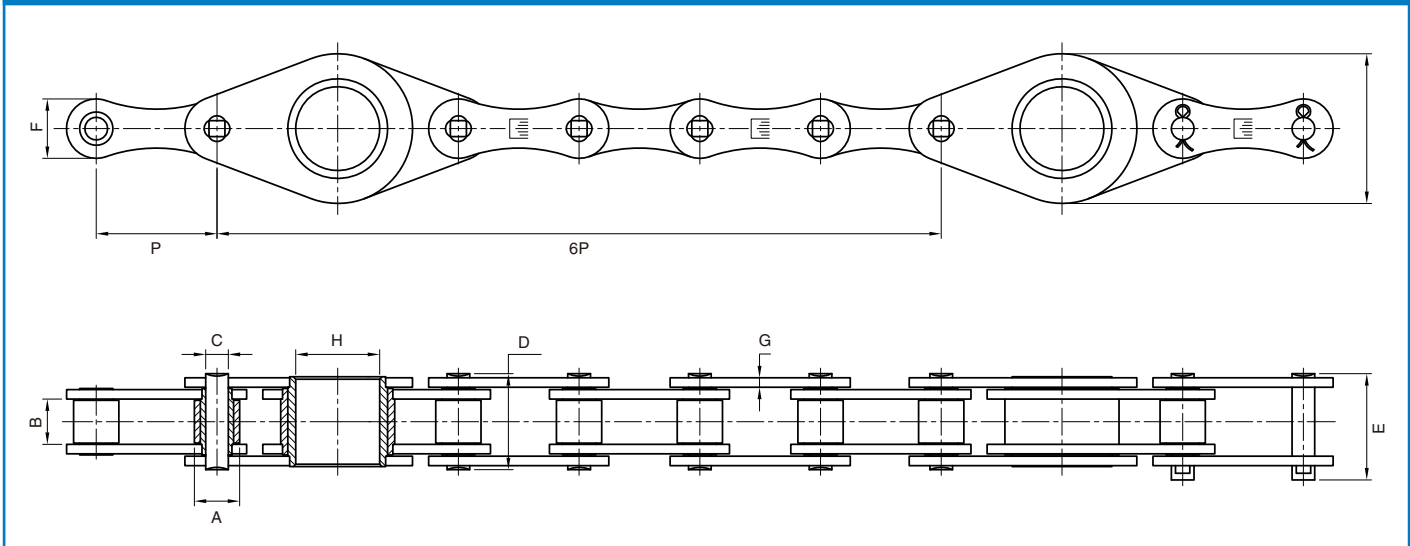
Agricultural Chain Attachments

CA650F3 X L4



| Model | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Side plate height | Plate thickness | Hollow pin inner diameter | Minimum tensile strength kN | Attachment spacing |
|------------|-------|-----------------|----------------------------|--------------|------------|------|-------------------|-----------------|---------------------------|-----------------------------|--------------------|
| | P | A | B | C | D | E | F | G | | | |
| CA650F3/L4 | 50.80 | 19.05 | 19.05 | 9.53 | 40.40 | 44.7 | 25.00 | 4.00 | 35.3 | 90.00 | 4P |

CA650F3 X L6

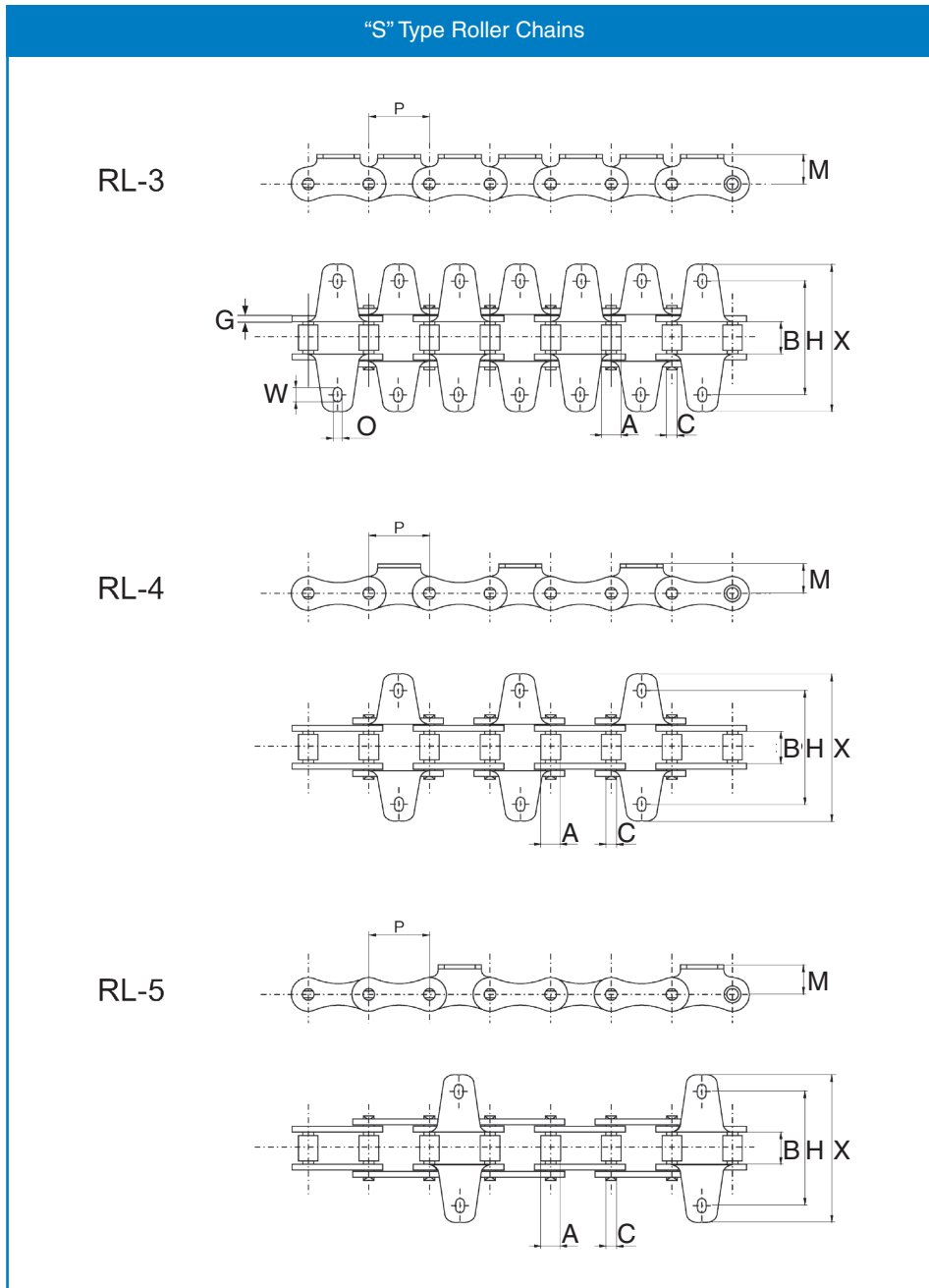


| Model | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | | Side plate height | Plate thickness | Hollow pin inner diameter | Minimum tensile strength kN | Attachment spacing |
|------------|-------|-----------------|----------------------------|--------------|------------|------|-------------------|-----------------|---------------------------|-----------------------------|--------------------|
| | P | A | B | C | D | E | F | G | | | |
| CA650F3/L6 | 50.80 | 19.05 | 19.05 | 9.53 | 40.40 | 44.7 | 25.00 | 4.00 | 35.3 | 90.00 | 6P |

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Agricultural Chain Attachments

“S” Type Roller Chains

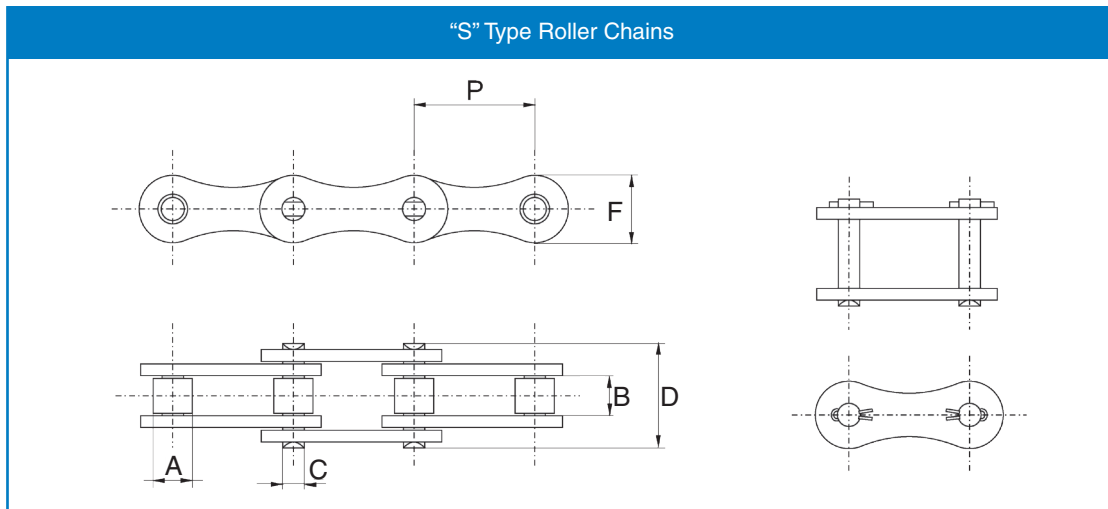


| Chain number | Pitch | Roller diameter | Width between inner plates | Pin diameter | Side plate thickness | Attachment height | | | | | Average tensile strength |
|--------------|-------|-----------------|----------------------------|--------------|----------------------|-------------------|-------|-------|------|-------|--------------------------|
| | P | A | B | C | G | H | X | M | O | W | kN |
| S55X/RL-3 | 41.40 | 15.88 | 20.00 | 8.28 | 3.00 | 52.00 | 79.40 | 17.00 | 8.30 | 10.00 | 55.00 |
| S55X/RL-4 | 41.40 | 15.88 | 20.00 | 8.28 | 3.00 | 52.00 | 79.40 | 17.00 | 8.30 | 10.00 | 55.00 |
| S55X/RL-5 | 41.40 | 15.88 | 20.00 | 8.28 | 3.00 | 52.00 | 79.40 | 17.00 | 8.30 | 10.00 | 55.00 |

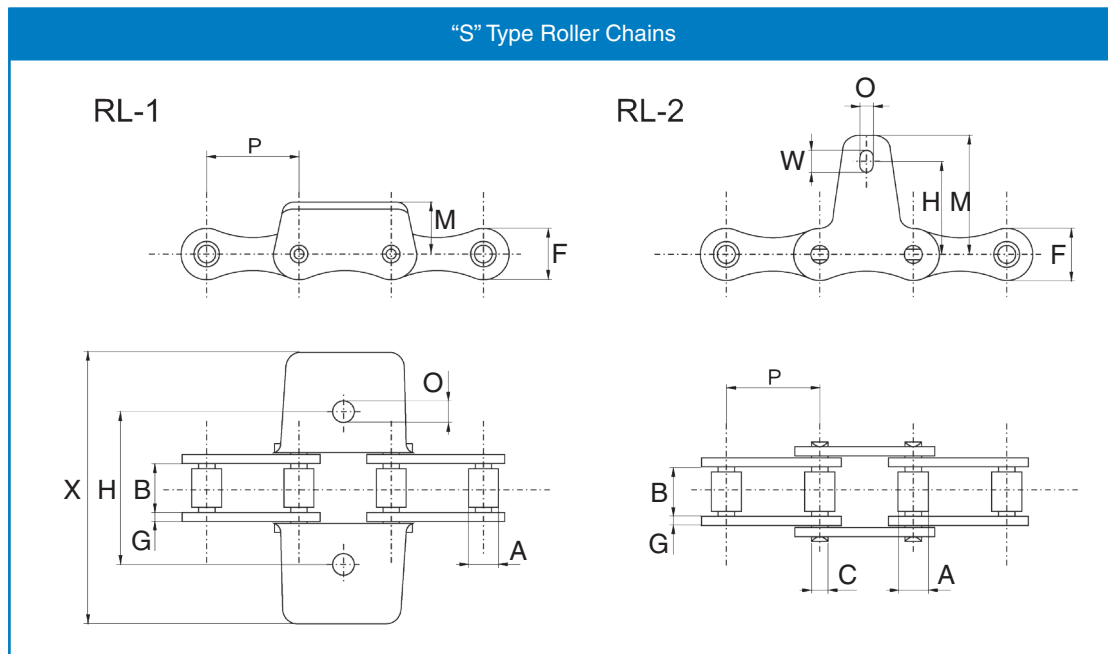
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Agricultural Chain Attachments

“S” Type Roller Chains



| Chain | Pitch | Roller diameter | Width between inner plates | Pin diameter | Side plate height | Pin length | Average tensile strength |
|-----------|-------|-----------------|----------------------------|--------------|-------------------|------------|--------------------------|
| | P | A | B | C | F | D | kN |
| S55X/TM-1 | 41.40 | 15.88 | 20.00 | 8.28 | 20.00 | 38.00 | 55.00 |

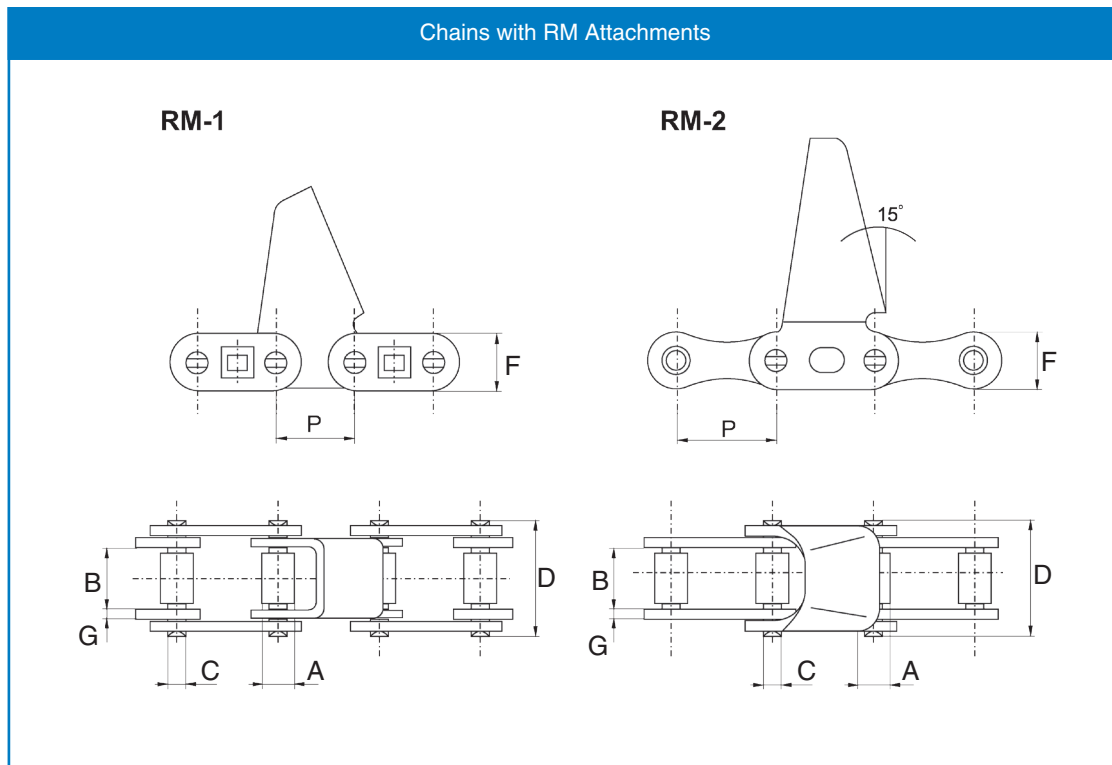


| Chain | Pitch | Roller diameter | Width between inner plates | Pin diameter | Side plate height | Side plate thickness | Attachment height | Average tensile strength | | | | |
|-----------|-------|-----------------|----------------------------|--------------|-------------------|----------------------|-------------------|--------------------------|-------|------|-------|-------|
| | P | A | B | C | F | G | H | X | M | O | W | kN |
| S55X RL-1 | 41.40 | 15.88 | 20.00 | 8.28 | 20.00 | 3.00 | 52.00 | 90.00 | 17.00 | 8.30 | - | 55.00 |
| S55X RL-2 | 41.40 | 15.88 | 20.00 | 8.28 | 20.00 | 3.00 | 23.70 | - | 34.40 | 8.30 | 10.00 | 55.00 |

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Agricultural Chain Attachments

Chains with RM Attachment

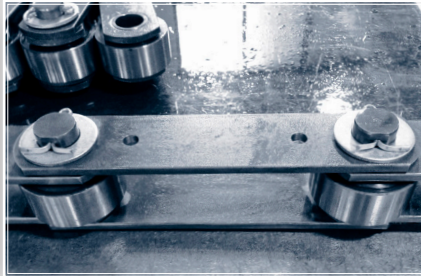
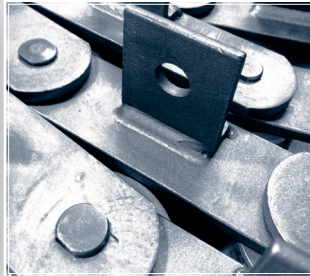
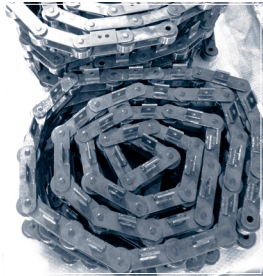
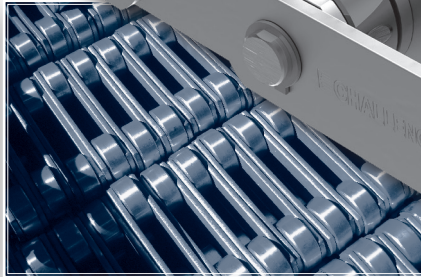
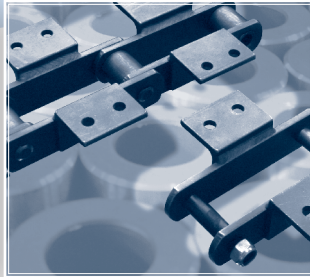
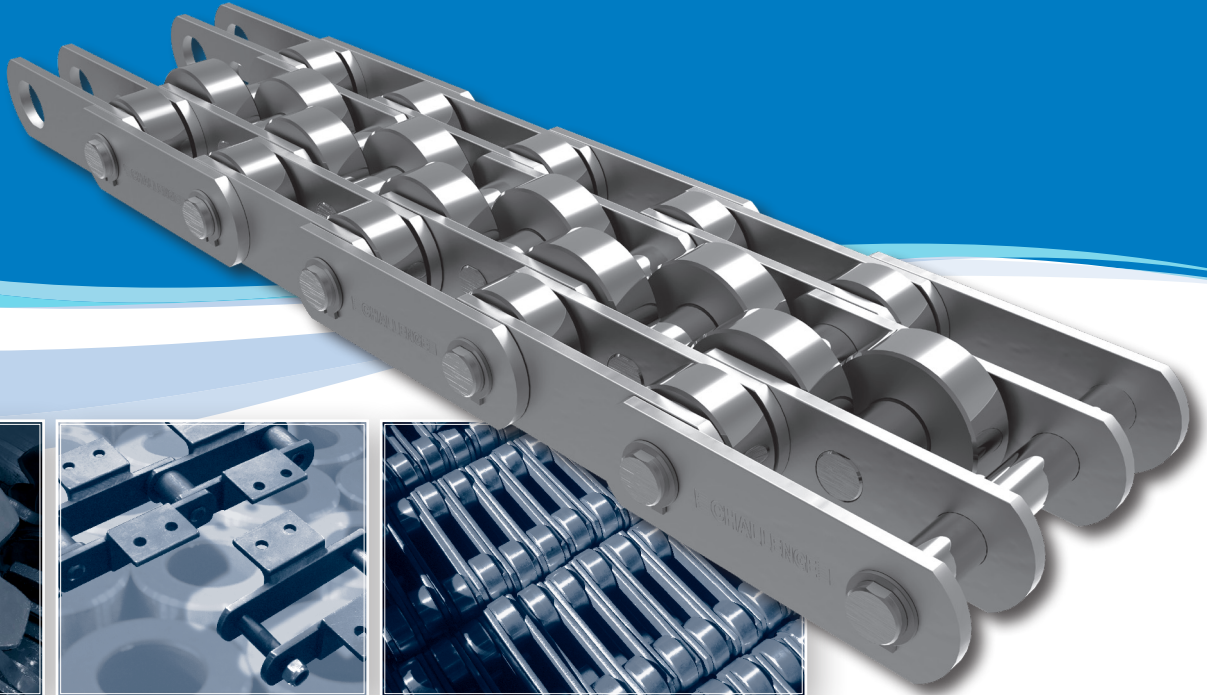


| Model | Pitch | Roller diameter | Width between inner plates | Pin diameter | Pin length | Side plate height | Plate thickness | Minimum tensile strength |
|-------|-------|-----------------|----------------------------|--------------|------------|-------------------|-----------------|--------------------------|
| | P | A | B | C | D | F | G | kN |
| RM1 | 30.00 | 15.88 | 20.00 | 8.28 | 35.80 | 20.70 | 3.00 | 40.00 |
| RM2 | 30.00 | 15.88 | 20.00 | 8.28 | 38.00 | 20.00 | 3.00 | 40.00 |

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Notes

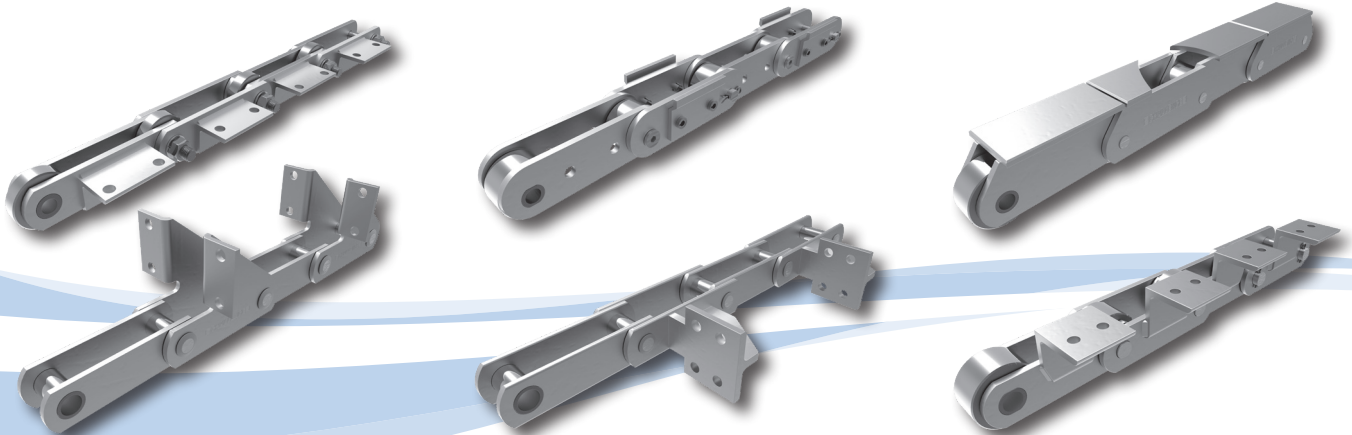
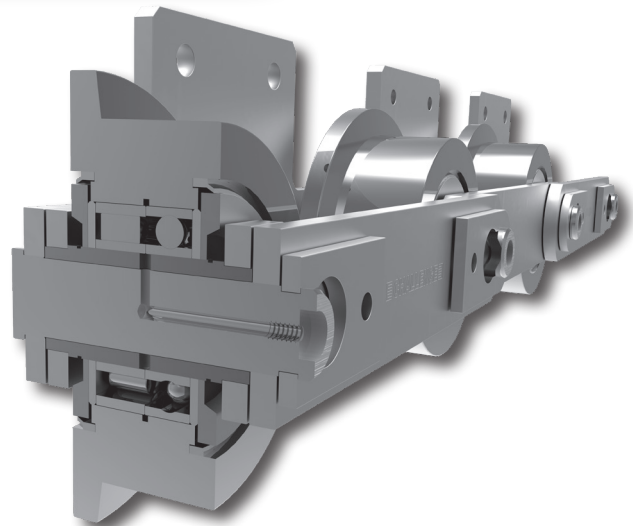
Conveyor Chains



Here's a Challenge:

European-quality Conveyor chains manufactured in our dedicated plant in the industrialised east coast of China supplying a global market.

- Specialists in the production of spin riveted chains
- High grade induction hardened alloy steel pins
- State-of-the-art European machines giving the best rivet on any standard chain



The Benefits of Challenge Spin Riveted Conveyor Chain

- **Material** – High quality steels used throughout

- **Link plates cropped from high carbon cold drawn steel**

To avoid internal stresses associated with guillotined steel, Challenge produces all plates from high tolerance, on size, cold drawn steel bars resulting in a plate better able to withstand fatigue and shock loads.

- **Bushes with location shoulders and interference fit**

For precise assembly; control on inner width and prevention of bush rotation. Bush shoulder length extended to form clearance between inner and outer plates and provide uniform lubrication; increased strength and life. This reduces the possibility of chain seizure.

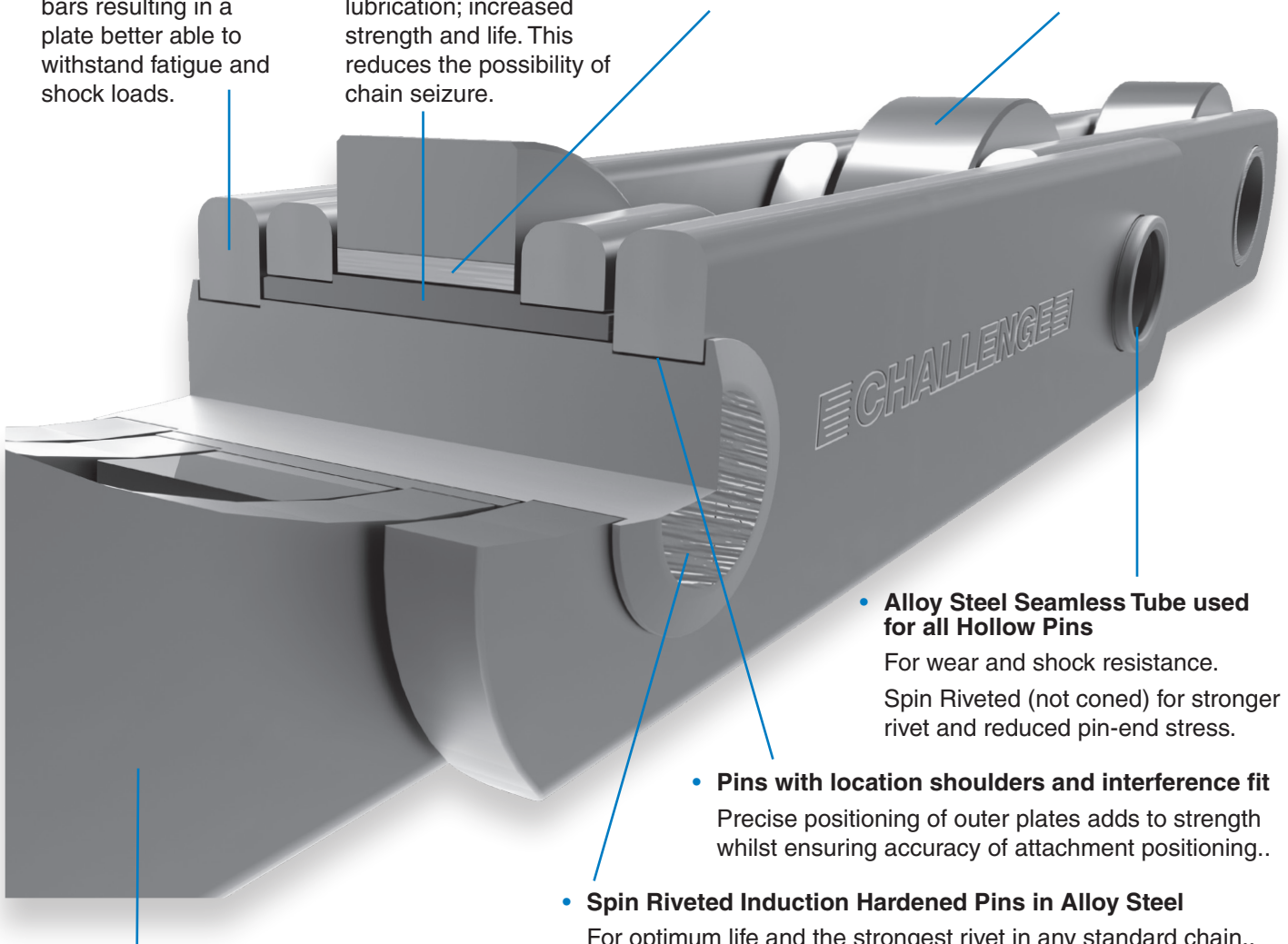
- **Case Hardened Alloy steel bushes precision machined from seamless tube**

Ensuring minimum distortion and superior concentricity.

- **Optional Stainless Steel or Nitride treated liner bushes**

- **Hardened Rollers with grinding**

Grinding the outer diameter gives excellent wear resistance and good load carrying qualities plus reduced wear on sprockets and better visual result.



- **Shot peened to produce a strong surface and reduce fatigue**

- **Challenge has invested heavily in CNC controlled machinery for optimum batch component conformity.**

- **Attachment plates jig assembled maintains position and squareness.**

- **Alloy Steel Seamless Tube used for all Hollow Pins**

For wear and shock resistance.

Spin Riveted (not coned) for stronger rivet and reduced pin-end stress.

- **Pins with location shoulders and interference fit**

Precise positioning of outer plates adds to strength whilst ensuring accuracy of attachment positioning..

- **Spin Riveted Induction Hardened Pins in Alloy Steel**

For optimum life and the strongest rivet in any standard chain..

- **Holes precision punched on dedicated progression tooling**

Guarantees consistently high tolerance pitch control and strong, fatigue resistant chain.

- **Attachment and options**

CNC welded and integral attachments, special bushes, bearings. Zinc and Nickel plated parts, molykoted pins, bushes, and rollers. Plastic rollers, flanged rollers, hardened plates, stainless parts, liner bushes etc. All specials produced in highest quality - fast turnaround.

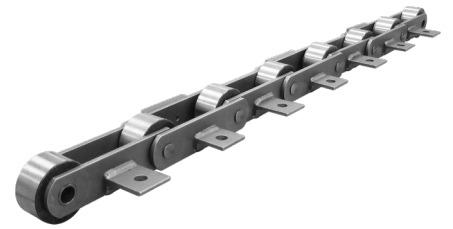
Just a few of the limitless options available:



6" pitch 09060 Sugar Chain w/ A42 attachment



250mm pitch Clay Reclaimer Chain w/ A2 attachment



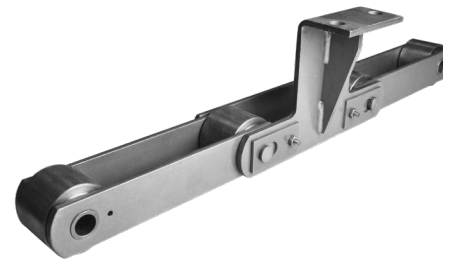
125mm pitch M112 chain with special A1 attachment and bolted plastic wear pad



160mm pitch M160 chain with special integral scraper attachment, sheradised plates and Molykote® round parts



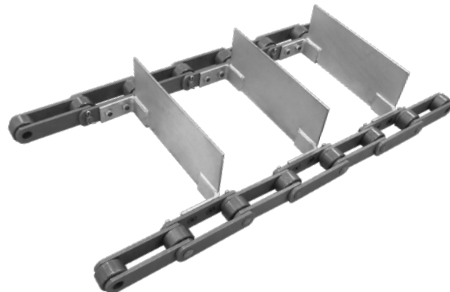
350mm pitch Sugar Chain w/ pin and bush through-lubrication



250mm pitch coal reclaimer chain w/ gusseted integral A2 attachment



160mm pitch bolted furnace chain w/ welded A2 attachment



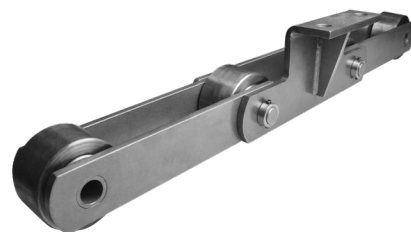
125mm pitch twin strand bolted scraper chain, pin and bush w/ molykote®, sheradised plates and galvanised scraper plate



100mm pitch chain with A2 attachment



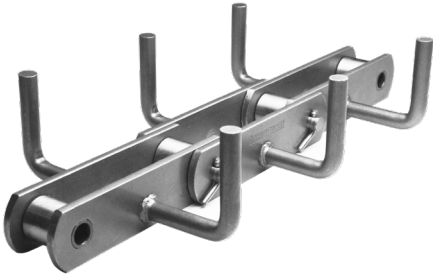
FV180-B-125 w/ drilled integral scraper for feed mill



315mm pitch clay reclaimer chain w/ integral A2 attachment and anti-rotation pins



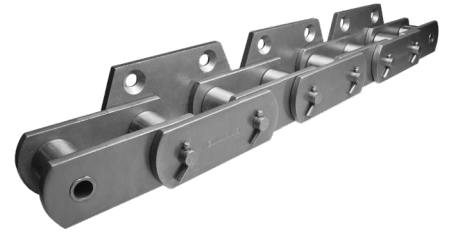
125mm pitch M224 bush chain



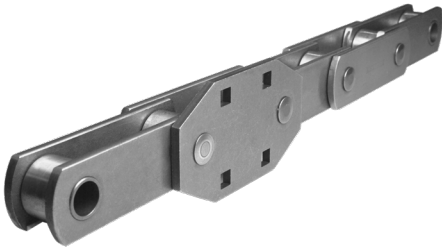
152.4mm pitch FU270 flow conveyor chain w/ welded scraper bars



315mm pitch clinker reclaiming chain w/ SA2 attachment



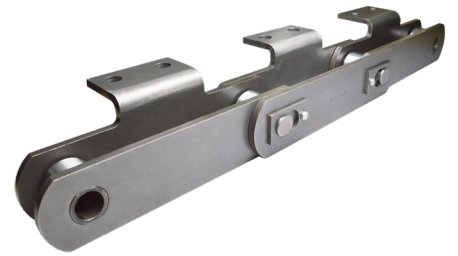
125mm pitch NSE400 bucket elevator chain w/ G4 attachment



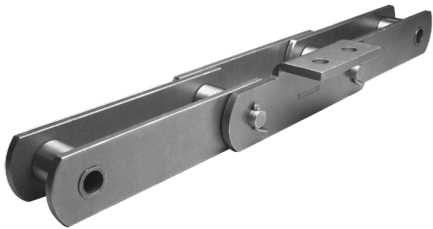
152.4mm pitch bucket elevator chain w/ G4 attachment with square holes for captive bolts



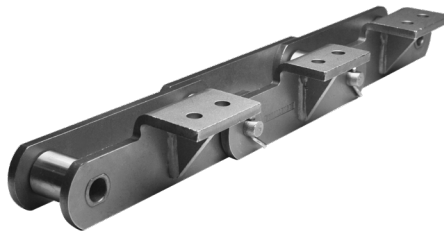
160mm pitch bucket elevator chain w/ G4 attachment for sugar refinery



315mm pitch coal supply chain w/ integral A2 attachment and bolted locking plate



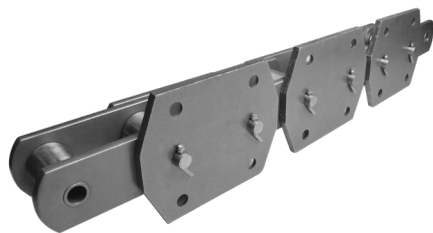
250mm pitch clay supply chain w/ integral A2 attachment



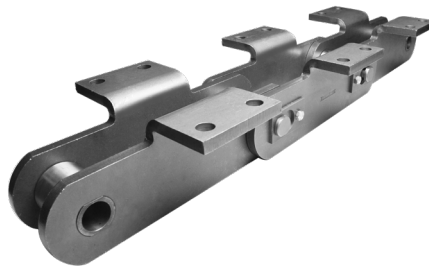
200mm pitch limestone supply chain w/ gusseted integral A2 attachment



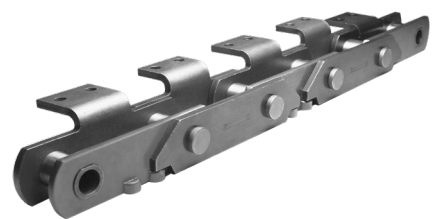
200mm pitch clay scaling supply chain w/ integral K1 attachment



125mm pitch NSE600 bucket elevator chain w/ G4 attachment



315mm pitch clay supply chain w/ integral K2 attachment and bolted locking plate



160mm pitch self supporting clinker tray conveyor chain w/ integral A2 attachment

SPECIAL CHAIN APPLICATIONS?

CHALLENGE® HAS ALL THE OPTIONS!

Oilite® Bushes

Optional Stainless Steel or Nitride treated liner bushes

Twin Track Roller

Needle Bearing Roller

Shot peened to produce a strong surface and reduce fatigue

Flanged Rollers

Outboard Rollers

Link plates cropped from high carbon cold drawn steel

To avoid internal stresses associated with guillotined steel, Challenge produces all plates from high tolerance, on size, cold drawn steel bars resulting in a plate better able to withstand fatigue and shock loads.

Molykote® Dry Lube:- Pins, Bushes, Rollers

Case Hardened Alloy steel bushes precision machined from seamless tube

Ensuring minimum distortion and superior concentricity.

Material

High quality steels used throughout

Robotic Welding

Attachment plates jig assembled to maintain position and squareness

Special Oils

Laser Cut Attachments

Galvanised Attachments

Zinc Plated Attachments

Alloy Steel Seamless Tube used for all Hollow Pins

For wear and shock resistance. Spin Riveted (not coned) for stronger rivet and reduced pin-end stress.

IGUS® Bushes

Spin Riveted Induction Hardened Pins in Alloy Steel
For optimum life and the strongest rivet in any standard chain.

Stainless Steel Pins

Pins with location shoulders and interference fit

Holes precision punched on dedicated progression tooling
Guarantees consistently high tolerance pitch control and strong, fatigue resistant chain.

Sherardized Link Plates

Delrin® Rollers

Through Lube Chain Bush Lubrication

Bushes with location shoulders/flats and interference fit

For precise assembly; control on inner width and prevention of bush rotation. Bush shoulder length extended to form clearance between inner and outer plates and provide uniform lubrication; increased strength and life. This reduces the possibility of chain seizure.

Other Options

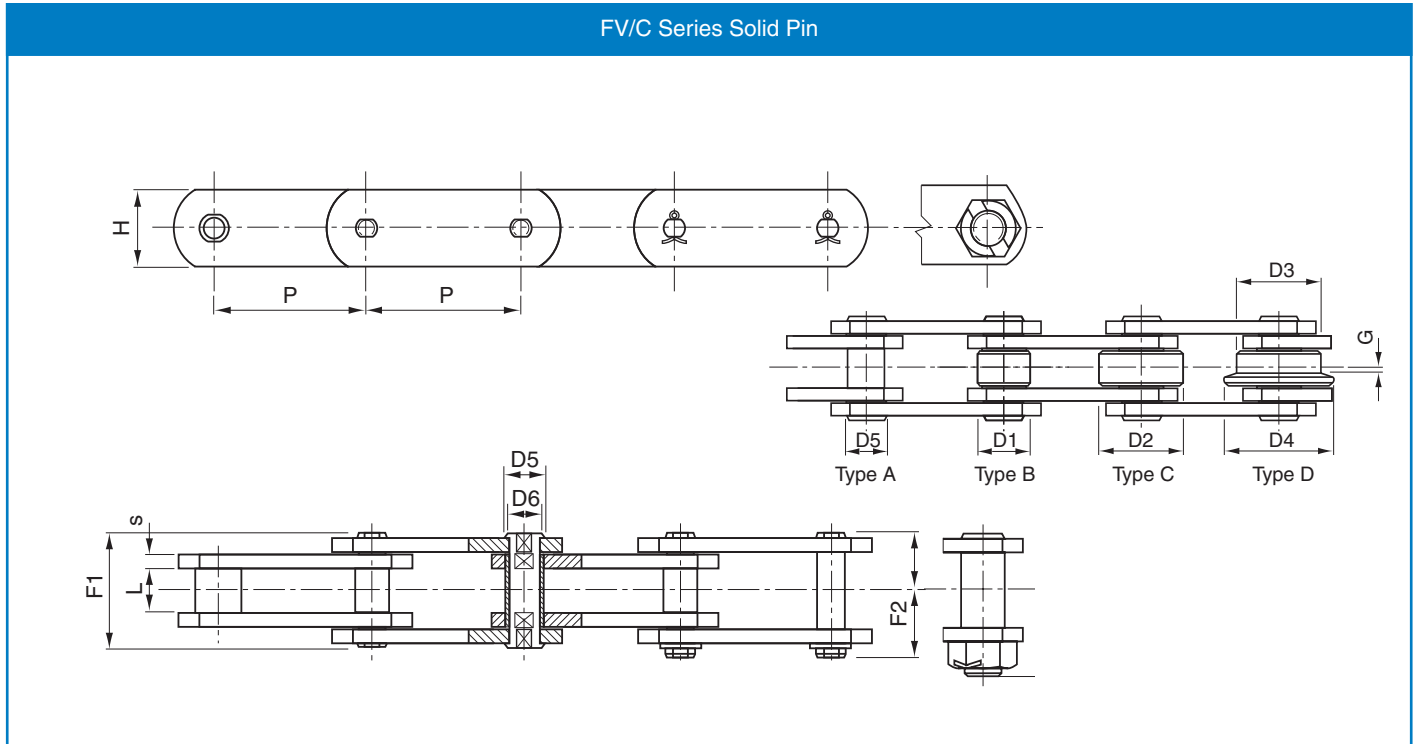
CNC welded and integral attachments, special bushes, bearings. Zinc and Nickel plated parts, molykoted pins, bushes, and rollers. Plastic rollers, flanged rollers, hardened plates, stainless parts, liner bushes etc. All specials produced in highest quality - fast turnaround.

**HOT DIPPED IN
FORMULA 818X
+MOLY**

Conveyor Chain

FV/C Series

Metric Conveyor Chain (DIN 8165)



Solid Pin

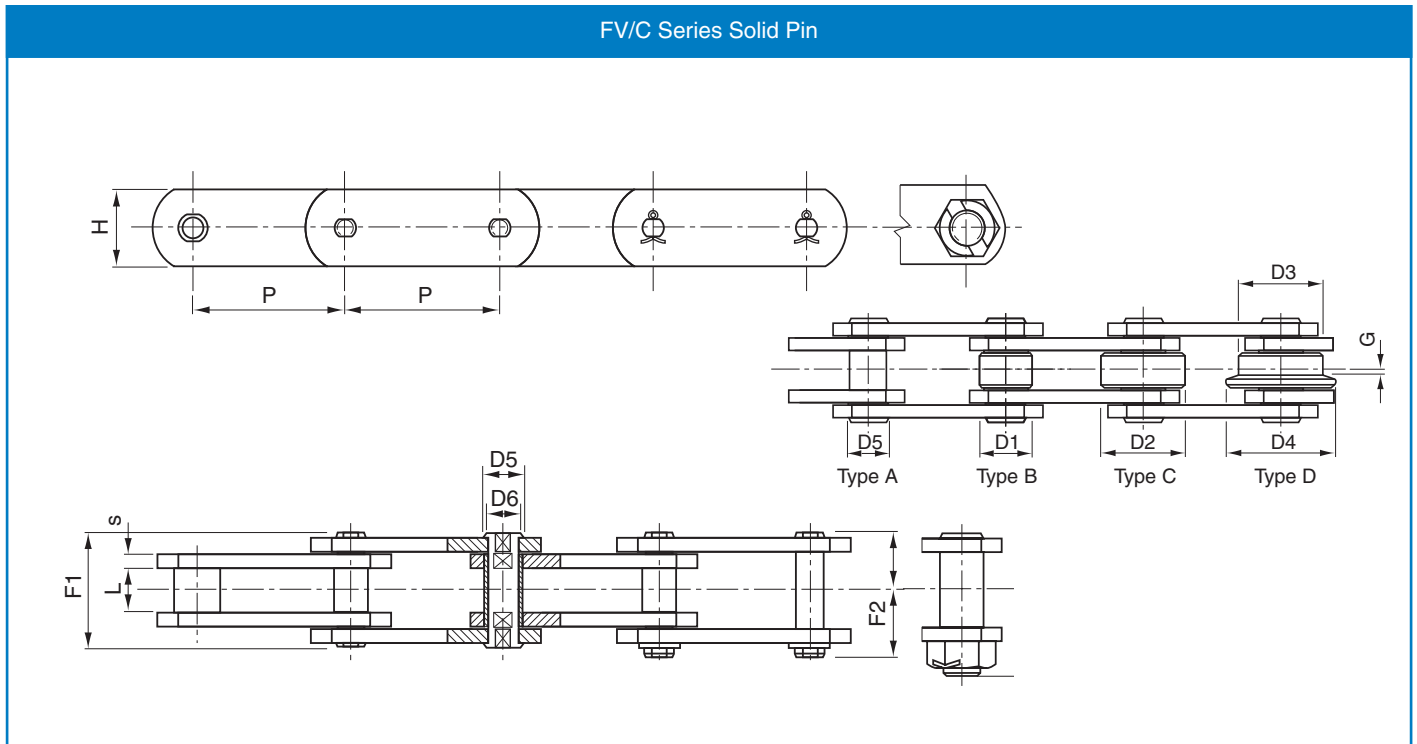
| DIN Number | Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D3 | D4 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|------------|--------------|---------|----|-----|----|---|----|----|----|----|----|----|----|----|------------------|----------------------|----------------------|
| FV40 | C42 | 50 | 18 | 4 | 25 | 3 | 36 | 21 | 20 | 32 | 40 | 50 | 15 | 10 | 42 | 47 | 4.0 |
| " | " | 63 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.3 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.0 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.6 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.3 |
| FV63 | C64 | 63 | 22 | 5 | 30 | 4 | 45 | 26 | 26 | 40 | 50 | 63 | 18 | 12 | 64 | 75 | 6.4 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.3 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.7 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.0 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.5 |
| FV90 | C100 | 63 | 25 | 6.5 | 35 | 5 | 53 | 30 | 30 | 48 | 63 | 78 | 20 | 14 | 100 | 115 | 10.0 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.6 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.3 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.5 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.8 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.8 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.6 |
| FV112 | C120 | 100 | 30 | 7.5 | 40 | 6 | 62 | 35 | 32 | 55 | 72 | 90 | 22 | 16 | 120 | 170 | 11.2 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.6 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.3 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.5 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.7 |

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Conveyor Chain

FV/C Series

Metric Conveyor Chain (DIN 8165)



Solid Pin

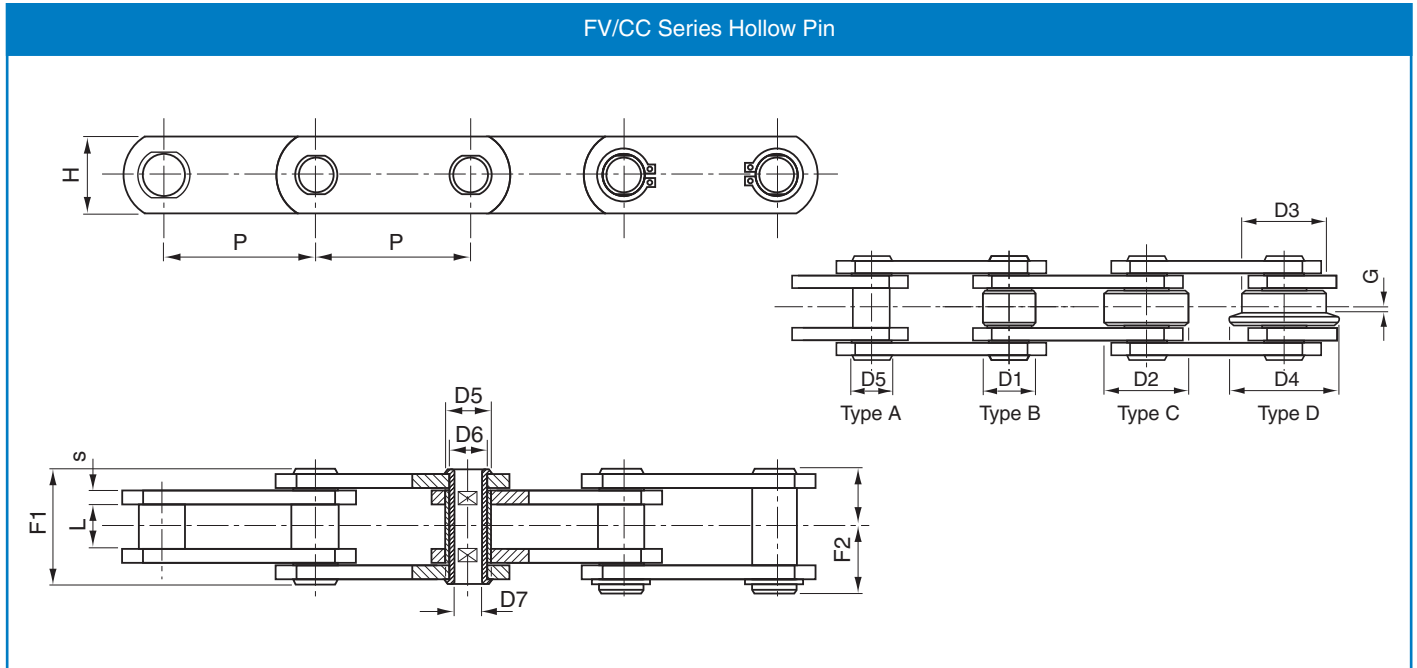
| DIN Number | Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D3 | D4 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|------------|--------------|---------|----|----|----|----|-----|----|----|----|-----|-----|----|----|------------------|----------------------|----------------------|
| FV140 | C145 | 100 | 35 | 9 | 45 | 6 | 67 | 38 | 36 | 60 | 80 | 100 | 26 | 18 | 145 | 180 | 14.3 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 12.3 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 10.5 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.0 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.3 |
| FV180 | C190 | 125 | 45 | 13 | 50 | 8 | 86 | 49 | 42 | 70 | 100 | 125 | 30 | 20 | 190 | 250 | 18.9 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 16.7 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 14.8 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 13.0 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.6 |
| FV250 | C275 | 160 | 55 | 15 | 60 | 8 | 97 | 55 | 50 | 80 | 125 | 155 | 36 | 26 | 275 | 300 | 23.8 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 20.6 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 17.9 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 15.8 |
| " | " | 400 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 13.9 |
| FV315 | C370 | 160 | 65 | 18 | 70 | 10 | 113 | 70 | 60 | 90 | 140 | 175 | 42 | 30 | 370 | 480 | 33.3 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 28.9 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 25.3 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 22.4 |
| " | " | 400 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 20.2 |

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Conveyor Chain

FV/CC Series

Metric Conveyor Chain (DIN 8165)



Hollow Pin

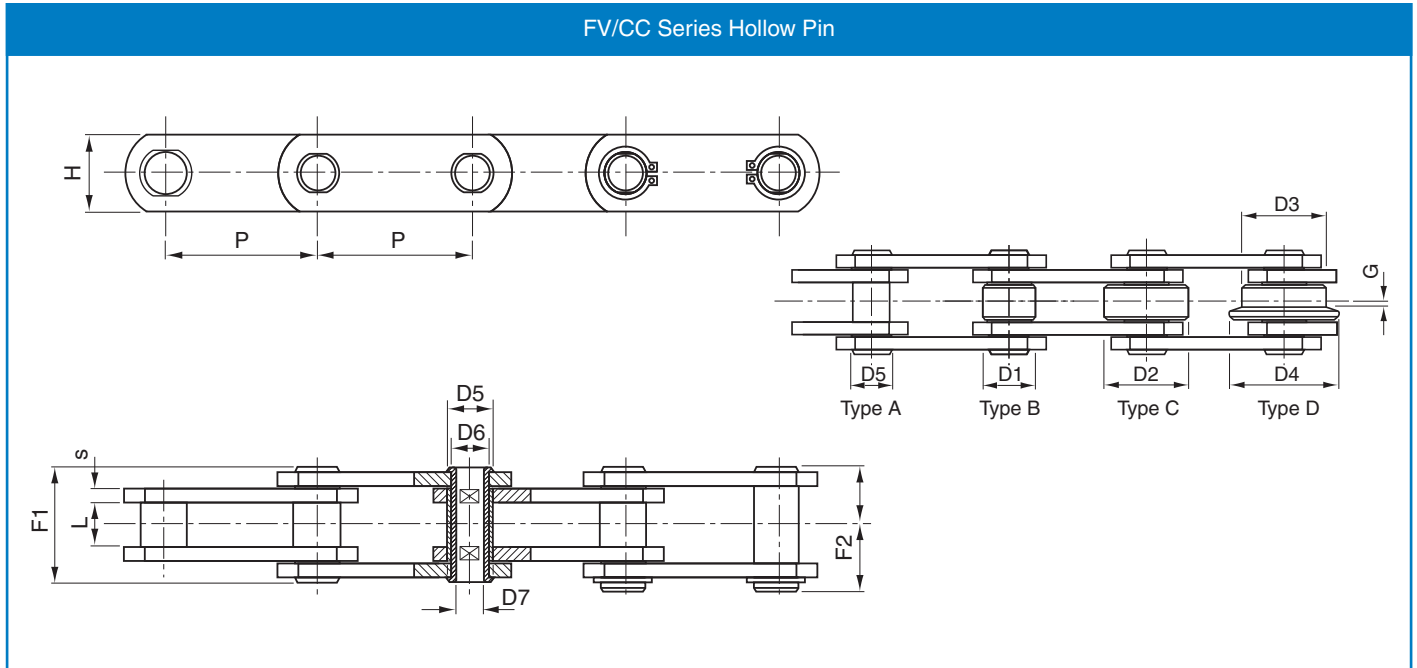
| DIN Number | Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | Breaking Load kN | Weight (Type C) kg/m |
|------------|--------------|---------|----|-----|----|---|----|----|----|----|----|-----|----|----|----|------------------|----------------------|
| FV63 | CC46 | 63 | 22 | 5 | 30 | 4 | 45 | 28 | 26 | 40 | 50 | 63 | 18 | 12 | 8 | 46 | 5.7 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.9 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.3 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.8 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.4 |
| FV90 | CC73 | 63 | 25 | 6.5 | 35 | 5 | 53 | 30 | 30 | 48 | 63 | 78 | 20 | 14 | 10 | 73 | 9.1 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.8 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.8 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.6 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.3 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.7 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.3 |
| FV112 | CC90 | 100 | 30 | 7.5 | 40 | 6 | 62 | 32 | 32 | 55 | 72 | 90 | 22 | 16 | 11 | 90 | 10.2 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.9 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.8 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.0 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.3 |
| FV140 | CC110 | 100 | 35 | 9 | 45 | 6 | 67 | 35 | 36 | 60 | 80 | 100 | 26 | 18 | 12 | 110 | 12.9 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.2 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.7 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.6 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.7 |

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Conveyor Chain

FV/CC Series

Metric Conveyor Chain (DIN 8165)



Hollow Pin

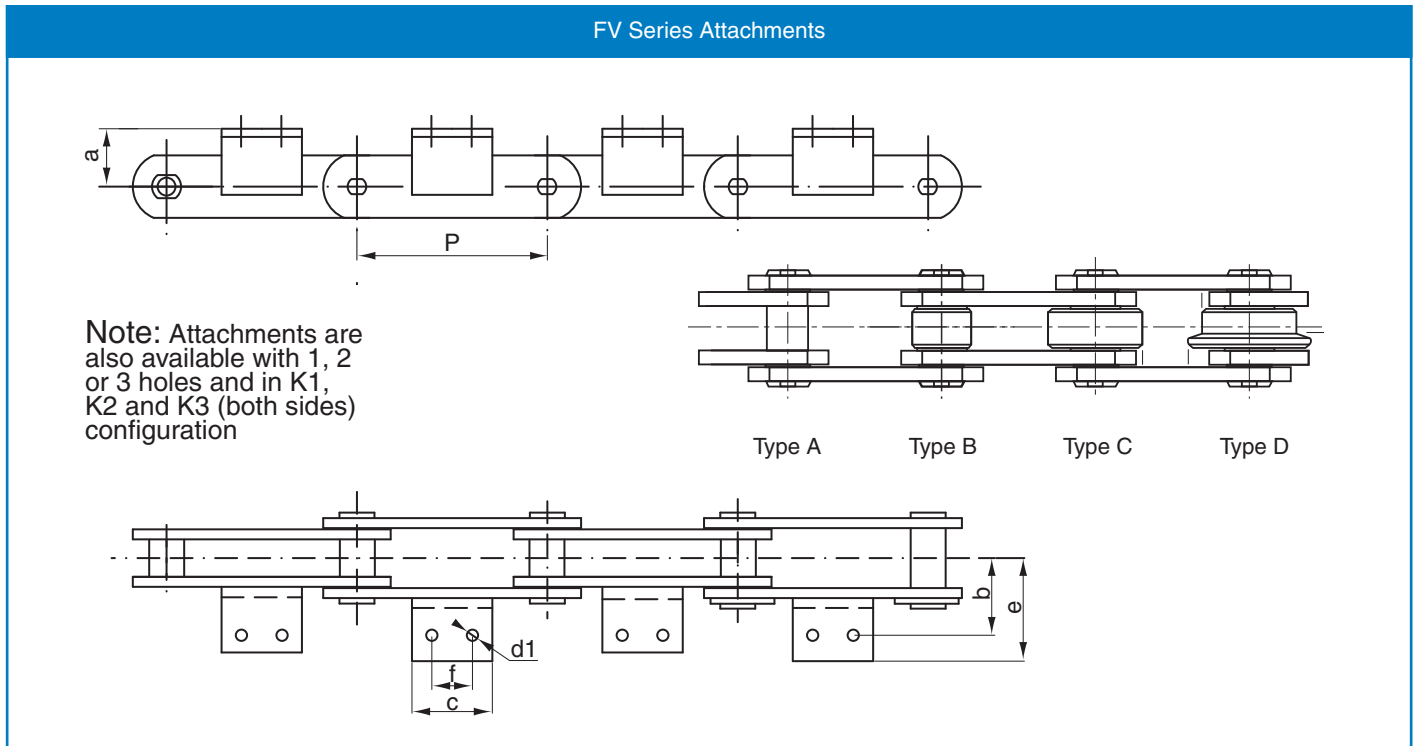
| DIN Number | Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | Breaking Load kN | Weight (Type C) kg/m |
|------------|--------------|---------|----|----|----|----|-----|----|----|----|-----|-----|----|----|----|------------------|----------------------|
| FV180 | CC145 | 125 | 45 | 13 | 50 | 8 | 86 | 45 | 42 | 70 | 100 | 125 | 30 | 20 | 14 | 145 | 18.2 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 15.6 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 13.8 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 12.3 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.0 |
| FV250 | CC215 | 160 | 55 | 15 | 60 | 8 | 97 | 55 | 50 | 80 | 125 | 155 | 36 | 26 | 18 | 215 | 20.5 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 18.0 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 15.9 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 14.2 |
| FV315 | CC295 | 160 | 65 | 18 | 70 | 10 | 117 | 63 | 60 | 90 | 140 | 175 | 42 | 30 | 20 | 295 | 34.1 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 29.5 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 25.8 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 22.8 |
| " | " | 400 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 20.2 |

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Conveyor Chain Attachments

FV Series Attachments

Metric Conveyor Chain (DIN 8165)



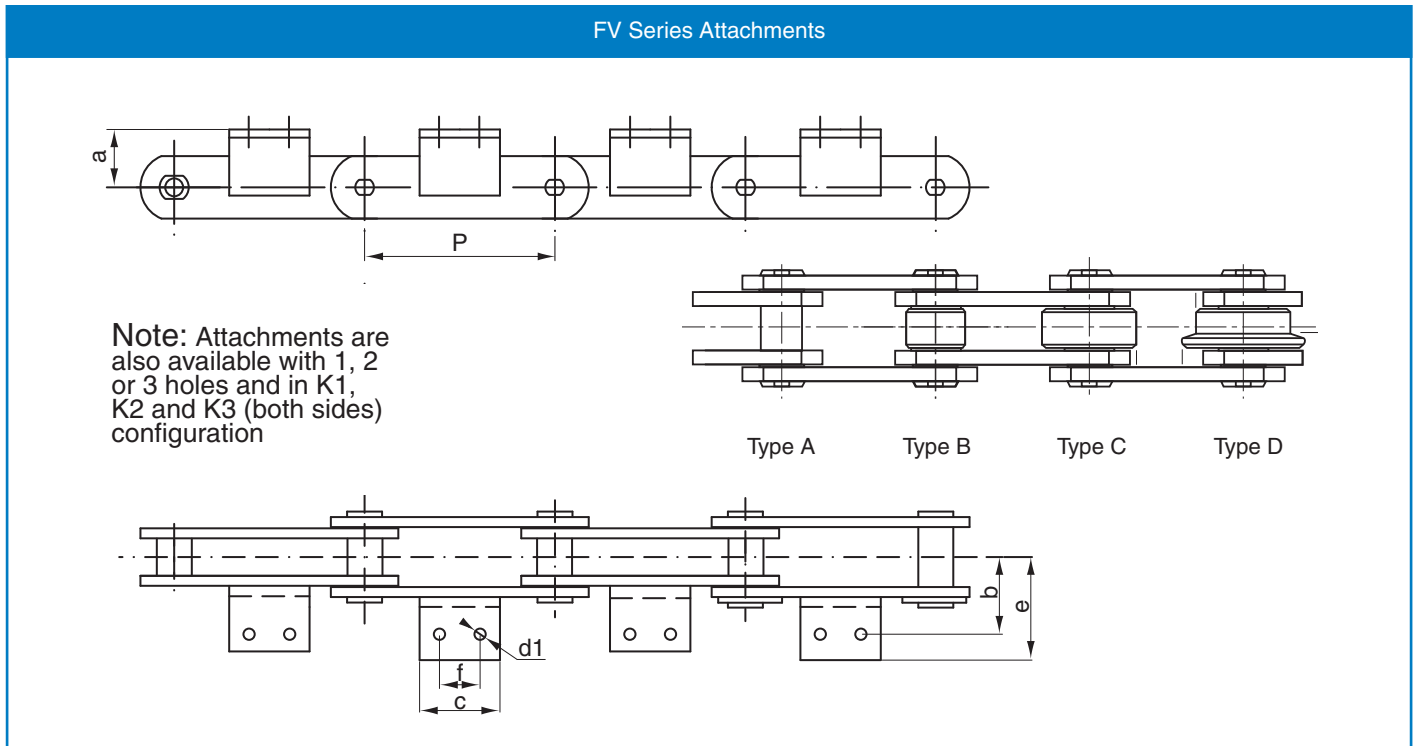
| DIN Number | Chain Number | Pitch P | a | b | c | d1 | e | f | Welded or Integral attachment | Chain Weight - Excluding Attachments kg/metre | | | | Attachment Weight (A2) kg each |
|------------|--------------|---------|----|----|-----|------|------|----|-------------------------------|---|--------|--------|--------|--------------------------------|
| | | | | | | | | | | Type A | Type B | Type C | Type D | |
| FV40 | C42 | 50 | 20 | 25 | 45 | 6.5 | 64.0 | * | x | 2.4 | 2.9 | 4.0 | 5.6 | 0.050 |
| " | " | 63 | " | " | 31 | " | 40.5 | * | x | 2.0 | 2.4 | 3.3 | 4.5 | 0.036 |
| " | " | 80 | " | " | 45 | " | " | 25 | 25x3 | 1.9 | 2.2 | 3.0 | 3.9 | 0.050 |
| " | " | 100 | " | " | 50 | " | " | 30 | " | 1.7 | 2.0 | 2.6 | 3.3 | 0.056 |
| " | " | 125 | " | " | 60 | " | " | 30 | " | 1.6 | 1.9 | 2.3 | 3.0 | 0.067 |
| FV63 | C64 | 63 | 30 | 34 | 40 | 8.4 | 50.0 | * | 30x4 | 3.8 | 4.5 | 6.4 | 8.9 | 0.063 |
| " | " | 80 | " | " | 45 | " | " | 25 | " | 3.2 | 3.8 | 5.3 | 7.2 | 0.095 |
| " | " | 100 | " | " | 50 | " | " | 30 | " | 3.0 | 3.5 | 4.7 | 6.2 | 0.110 |
| " | " | 125 | " | " | 60 | " | " | 40 | " | 2.7 | 3.0 | 4.0 | 5.3 | 0.140 |
| " | " | 160 | " | " | 70 | " | " | 50 | " | 2.4 | 2.7 | 3.5 | 4.4 | 0.170 |
| FV90 | C100 | 63 | 35 | 40 | 30 | 8.4 | 64.0 | * | 40x4 | 5.6 | 6.8 | 10.0 | 14.7 | 0.072 |
| " | " | 80 | " | " | 45 | " | " | 25 | " | 5.1 | 6.0 | 8.6 | 12.3 | 0.110 |
| " | " | 100 | " | " | 50 | " | " | 30 | " | 4.5 | 5.3 | 7.3 | 10.3 | 0.130 |
| " | " | 125 | " | " | 60 | " | " | 40 | " | 4.2 | 4.8 | 6.5 | 8.8 | 0.160 |
| " | " | 160 | " | " | 70 | " | " | 50 | " | 4.0 | 4.5 | 5.8 | 7.6 | 0.200 |
| " | " | 200 | " | " | 80 | " | " | 60 | " | 3.5 | 3.8 | 4.8 | 5.8 | 0.240 |
| " | " | 250 | " | " | 85 | " | " | 65 | " | 3.4 | 3.7 | 4.6 | 5.4 | 0.210 |
| FV112 | C120 | 100 | 40 | 50 | 50 | 11.0 | 70.0 | 30 | 40x6 | 6.7 | 7.7 | 11.2 | 18.8 | 0.190 |
| " | " | 125 | " | " | 65 | " | " | 40 | " | 6.0 | 6.8 | 9.6 | 15.7 | 0.250 |
| " | " | 160 | " | " | 75 | " | " | 50 | " | 5.5 | 6.1 | 8.3 | 13.0 | 0.290 |
| " | " | 200 | " | " | 90 | " | " | 65 | " | 5.2 | 5.7 | 7.5 | 11.3 | 0.350 |
| " | " | 250 | " | " | 105 | " | " | 80 | " | 4.9 | 5.3 | 6.7 | 9.8 | 0.410 |

* Attachment With One Hole

Conveyor Chain Attachments

FV Series Attachments

Metric Conveyor Chain (DIN 8165)



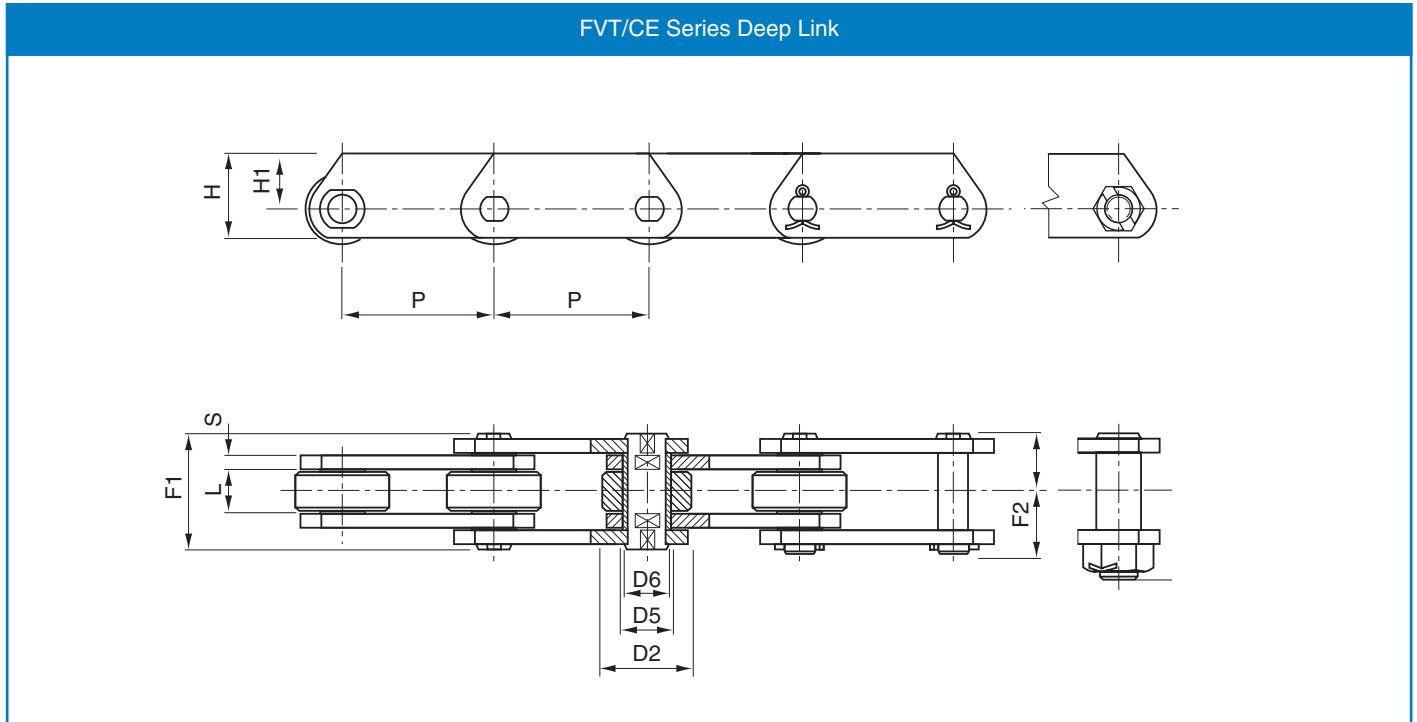
| DIN Number | Chain Number | Pitch P | a | b | c | d1 | e | f | Welded or Integral attachment | Chain Weight - Excluding Attachments kg/metre | | | | Attachment Weight (A2) kg each |
|------------|--------------|---------|----|----|-----|----|-------|-----|-------------------------------|---|--------|--------|--------|--------------------------------|
| | | | | | | | | | | Type A | Type B | Type C | Type D | |
| FV140 | C145 | 100 | 45 | 50 | 55 | 11 | 81 | 30 | 50x6 | 8.2 | 9.5 | 14.3 | 21.4 | 0.23 |
| " | " | 125 | " | " | 65 | " | " | 40 | " | 7.4 | 8.5 | 12.3 | 18.0 | 0.30 |
| " | " | 160 | " | " | 75 | " | " | 50 | " | 6.7 | 7.5 | 10.5 | 14.9 | 0.36 |
| " | " | 200 | " | " | 90 | " | " | 65 | " | 6.0 | 6.7 | 9.0 | 12.8 | 0.45 |
| " | " | 250 | " | " | 105 | " | " | 80 | " | 5.8 | 6.3 | 8.3 | 11.0 | 0.54 |
| FV180 | C190 | 125 | 45 | 64 | 63 | 13 | 91 | 35 | 60x8 | 10.5 | 12.4 | 18.9 | 31.3 | 0.37 |
| " | " | 160 | " | " | 80 | " | " | 50 | " | 10.2 | 11.7 | 16.7 | 26.5 | 0.47 |
| " | " | 200 | " | " | 95 | " | " | 65 | " | 9.6 | 10.8 | 14.8 | 25.9 | 0.56 |
| " | " | 250 | " | " | 110 | " | " | 80 | " | 8.9 | 9.8 | 13.0 | 19.3 | 0.65 |
| " | " | 315 | " | " | 130 | " | " | 100 | " | 8.3 | 9.0 | 11.6 | 16.6 | 0.77 |
| FV250 | C275 | 160 | 55 | 69 | 80 | 14 | 106 | 50 | 60x8 | 13.4 | 16.4 | 23.8 | 45.9 | 0.58 |
| " | " | 200 | " | " | 95 | " | " | 65 | " | 12.3 | 14.7 | 20.6 | 38.3 | 0.69 |
| " | " | 250 | " | " | 110 | " | " | 80 | " | 11.3 | 13.3 | 17.9 | 32.1 | 0.81 |
| " | " | 315 | " | " | 130 | " | " | 100 | " | 10.5 | 12.0 | 15.8 | 27.0 | 0.96 |
| " | " | 400 | " | " | 130 | " | " | 100 | " | 9.8 | 10.7 | 13.9 | 23.8 | 0.96 |
| FV315 | C370 | 160 | 60 | 85 | 50 | 14 | 123.5 | * | 70x10 | 20.4 | 24.9 | 33.3 | 67.8 | 0.52 |
| " | " | 200 | " | " | 95 | " | " | 65 | " | 18.5 | 22.1 | 28.9 | 56.4 | 0.96 |
| " | " | 250 | " | " | 110 | " | " | 80 | " | 17.0 | 20.0 | 25.3 | 47.3 | 1.11 |
| " | " | 315 | " | " | 130 | " | " | 100 | " | 15.9 | 18.2 | 22.4 | 39.9 | 1.32 |
| " | " | 400 | " | " | 130 | " | " | 100 | " | 15.0 | 16.8 | 20.2 | 34.0 | 1.32 |

* Attachment With One Hole

Conveyor Chain

FVT/CE Series

Metric Conveyor Chain (DIN 8165)



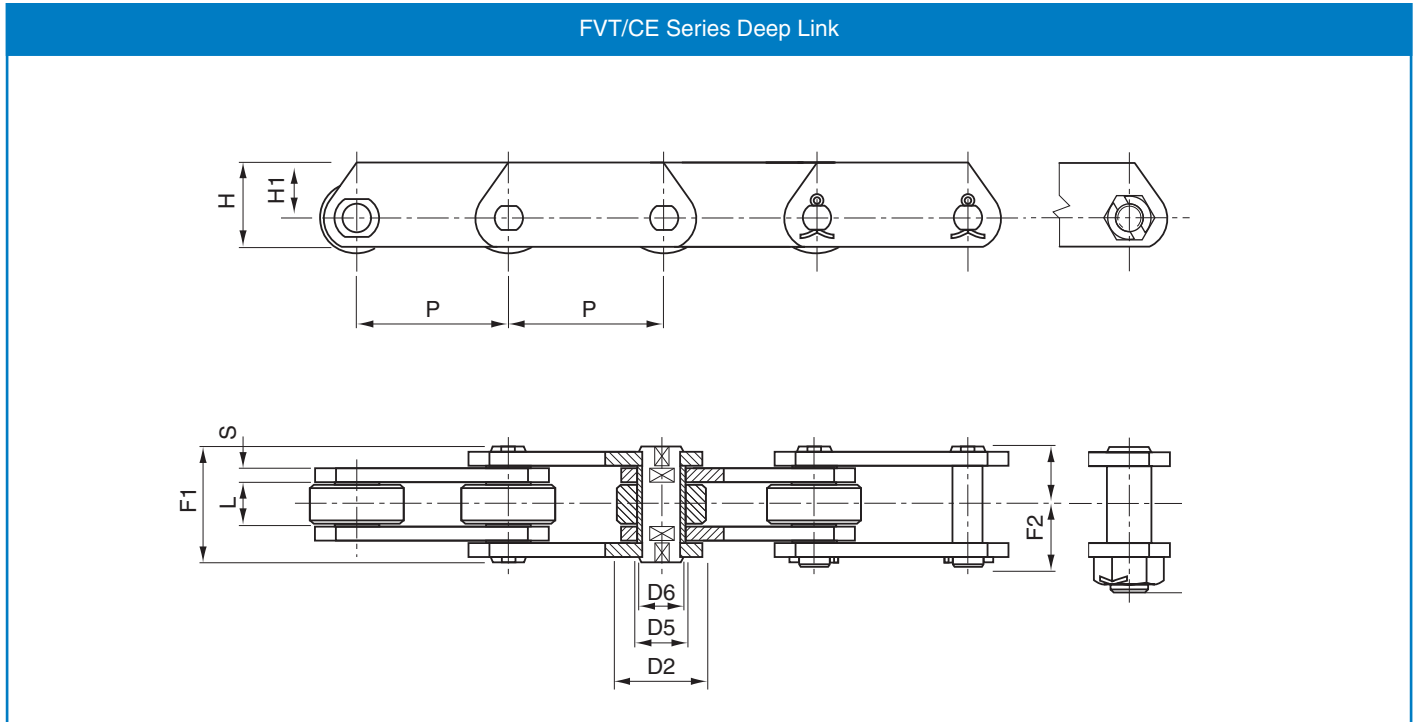
Deep Link

| DIN Number | Chain number | P Pitch | L | H | H1 | S | F1 | F2 | D2 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight kg/m |
|------------|--------------|---------|----|----|------|---|----|----|----|----|----|------------------|----------------------|-------------|
| FVT40 | CE42 | 50 | 18 | 35 | 22.5 | 3 | 36 | 21 | 32 | 15 | 10 | 42 | 47 | 5.0 |
| " | " | 63 | " | " | " | " | " | " | " | " | " | " | " | 4.3 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | 3.8 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | 3.4 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | 3.0 |
| FVT63 | CE64 | 63 | 22 | 40 | 25 | 4 | 45 | 26 | 40 | 18 | 12 | 64 | 75 | 7.5 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | 6.5 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | 5.7 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | 5.1 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | 4.5 |
| FVT90 | CE100 | 63 | 25 | 45 | 27.5 | 5 | 53 | 30 | 48 | 20 | 14 | 100 | 115 | 11.7 |
| " | " | 80 | " | " | " | " | " | " | " | " | " | " | " | 10.0 |
| " | " | 100 | " | " | " | " | " | " | " | " | " | " | " | 8.7 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | 7.7 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | 6.8 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | 5.8 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | 5.4 |
| FVT112 | CE120 | 100 | 30 | 50 | 30 | 6 | 62 | 35 | 55 | 22 | 16 | 120 | 170 | 12.7 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | 11.7 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | 9.7 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | 8.7 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | 8.0 |

Conveyor Chain

FVT/CE Series

Metric Conveyor Chain (DIN 8165)



Deep Link

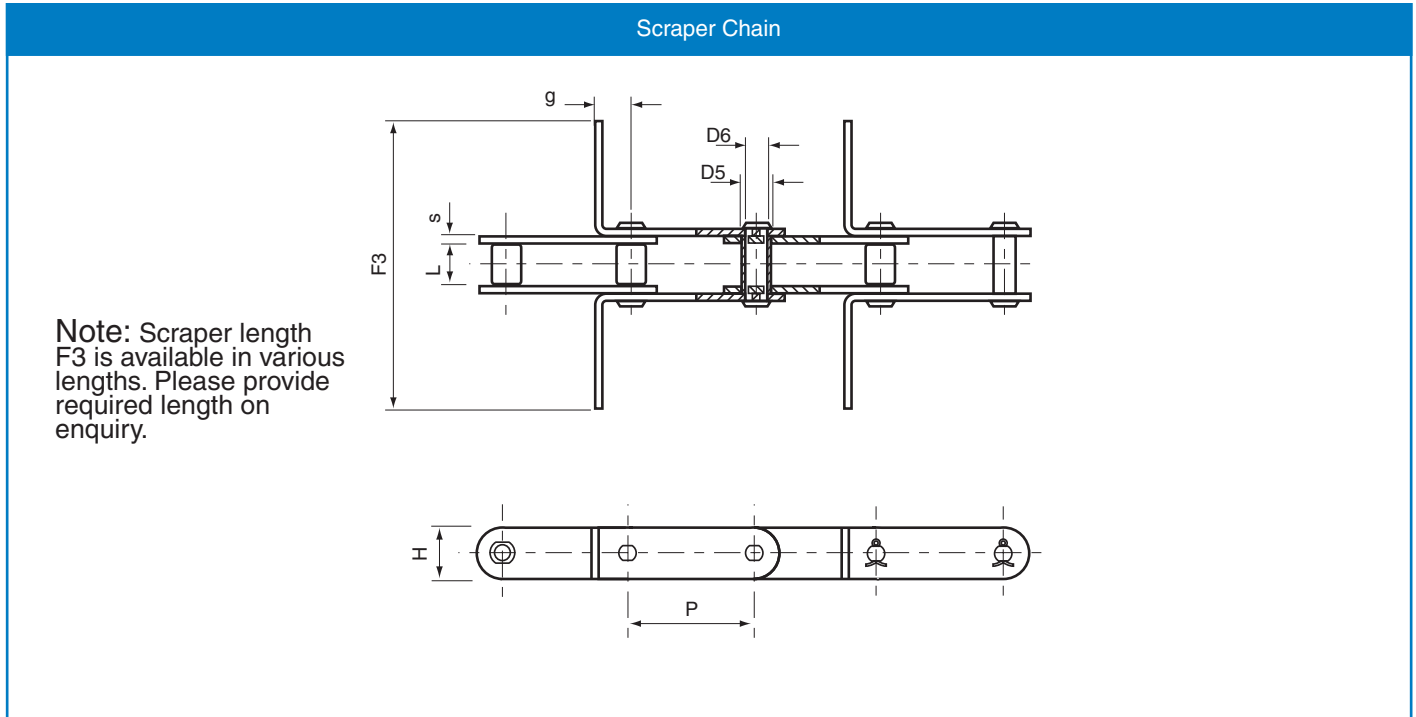
| DIN Number | Chain Number | P Pitch | L | H | H1 | S | F1 | F2 | D2 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight kg/m |
|------------|--------------|---------|----|----|------|----|----|----|----|----|----|------------------|----------------------|-------------|
| FVT140 | CE145 | 100 | 35 | 60 | 37.5 | 6 | 67 | 38 | 60 | 25 | 18 | 145 | 180 | 16.8 |
| " | " | 125 | " | " | " | " | " | " | " | " | " | " | " | 14.6 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | 12.6 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | 11.3 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | 10.1 |
| FVT180 | CE190 | 125 | 45 | 70 | 45 | 8 | 86 | 49 | 70 | 30 | 20 | 190 | 250 | 24.2 |
| " | " | 160 | " | " | " | " | " | " | " | " | " | " | " | 20.8 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | 18.4 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | 16.5 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | 14.9 |
| FVT250 | CE275 | 160 | 55 | 80 | 50 | 8 | 97 | 55 | 80 | 36 | 26 | 275 | 300 | 28.2 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | 24.5 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | 21.7 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | 19.3 |
| FVT315 | CE295 | 160 | 65 | 90 | 55 | 10 | 26 | 70 | 90 | 42 | 30 | 370 | 480 | 39.9 |
| " | " | 200 | " | " | " | " | " | " | " | " | " | " | " | 34.8 |
| " | " | 250 | " | " | " | " | " | " | " | " | " | " | " | 30.6 |
| " | " | 315 | " | " | " | " | " | " | " | " | " | " | " | 27.3 |
| " | " | 400 | " | " | " | " | " | " | " | " | " | " | " | 24.5 |

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Conveyor Chain

FV/CR Series

Metric Conveyor Chain (DIN 8165)



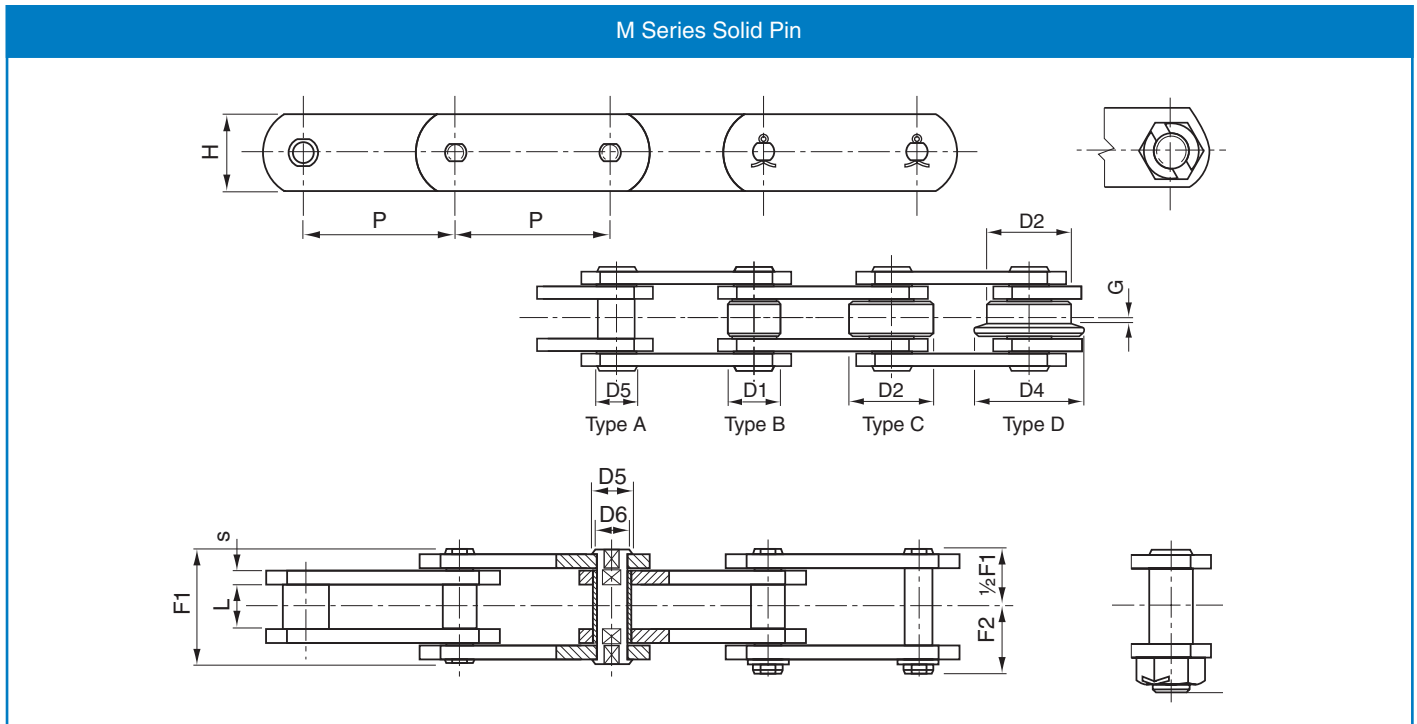
Scraper Chain

| DIN Number | Chain Number | Pitch P | L | H | S | g | F3 | D5 | D6 | Breaking Load kN | Weight kg/m |
|------------|--------------|---------|----|----|---|----|----|----|----|------------------|-------------|
| FV40 | CR42 | 80 | 18 | 25 | 3 | 25 | * | 15 | 10 | 42 | 1.9 |
| " | " | 100 | " | " | " | " | * | " | " | " | 1.7 |
| " | " | 125 | " | " | " | " | * | " | " | " | 1.6 |
| FV63 | CR64 | 100 | 22 | 30 | 4 | 25 | * | 18 | 12 | 64 | 3.0 |
| " | " | 125 | " | " | " | " | * | " | " | " | 2.7 |
| " | " | 150 | " | " | " | " | * | " | " | " | 2.4 |
| FV90 | CR100 | 100 | 25 | 35 | 5 | 30 | * | 20 | 14 | 100 | 4.5 |
| " | " | 125 | " | " | " | " | * | " | " | " | 4.2 |
| " | " | 150 | " | " | " | " | * | " | " | " | 4.0 |
| FV112 | CR120 | 100 | 30 | 40 | 6 | 35 | * | 22 | 16 | 120 | 6.7 |
| " | " | 125 | " | " | " | " | * | " | " | " | 6.0 |
| " | " | 150 | " | " | " | " | * | " | " | " | 5.5 |
| FV140 | CR145 | 100 | 35 | 45 | " | 38 | * | 26 | 18 | 145 | 7.4 |
| " | " | 125 | " | " | " | " | * | " | " | " | 6.7 |
| " | " | 150 | " | " | " | " | * | " | " | " | 6.0 |
| FV180 | CR190 | 125 | 45 | 50 | 8 | 44 | * | 30 | 20 | 190 | 10.5 |
| " | " | 150 | " | " | " | " | * | " | " | " | 10.2 |
| " | " | 200 | " | " | " | " | * | " | " | " | 9.6 |
| FV250 | CR275 | 125 | 55 | 60 | " | 50 | * | 36 | 26 | 275 | 13.4 |
| " | " | 150 | " | " | " | " | * | " | " | " | 12.3 |
| " | " | 200 | " | " | " | " | * | " | " | " | 11.3 |

Conveyor Chain

M Series

Metric Conveyor Chain (DIN 8167)



Solid Pin

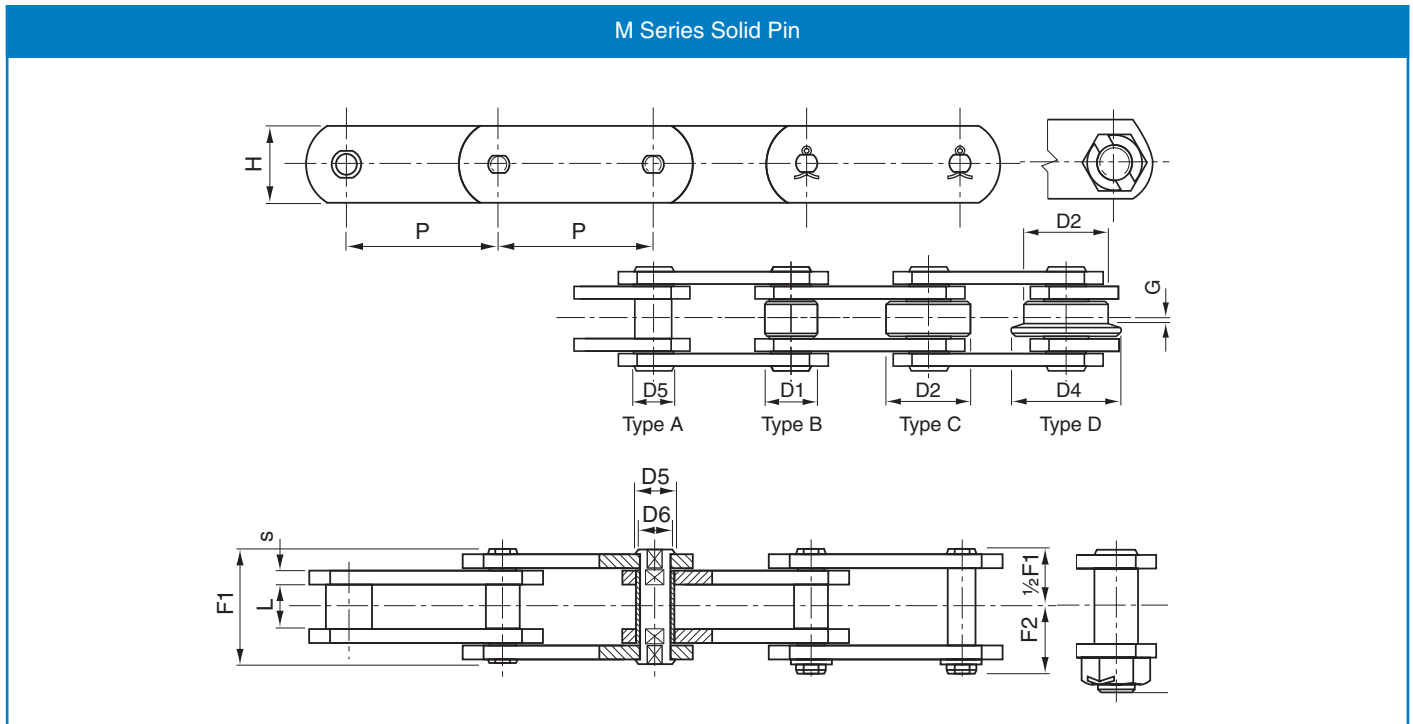
| Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D4 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|---------|----|-----|----|-----|------|------|------|----|----|----|----|------------------|----------------------|----------------------|
| M 20 | 40 | 16 | 3.5 | 18 | 2.5 | 33.0 | 19.0 | 12.5 | 25 | 32 | 9 | 6 | 20 | 32 | 2.4 |
| " | 50 | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.0 |
| " | 63 | " | " | " | " | " | " | " | " | " | " | " | " | " | 1.8 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | 1.6 |
| M28 | 50 | 18 | 4.0 | 20 | 3 | 36.0 | 20.5 | 15.0 | 30 | 36 | 10 | 7 | 28 | 42 | 3.3 |
| " | 63 | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.8 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.5 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.1 |
| M 40 | 63 | 20 | 4.5 | 25 | 4 | 40.5 | 24.0 | 18.0 | 36 | 45 | 11 | 8 | 40 | 60 | 4.4 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.7 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.2 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.9 |
| M 56 | 63 | 24 | 7.0 | 30 | 4 | 45.0 | 26.0 | 21.0 | 42 | 50 | 15 | 10 | 56 | 85 | 6.8 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.7 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.0 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.4 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.9 |
| M 80 | 80 | 28 | 7.0 | 35 | 5 | 54.5 | 30.5 | 25.0 | 50 | 60 | 18 | 12 | 80 | 125 | 9.2 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.9 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.9 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.0 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.3 |

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Conveyor Chain

M Series

Metric Conveyor Chain (DIN 8167)



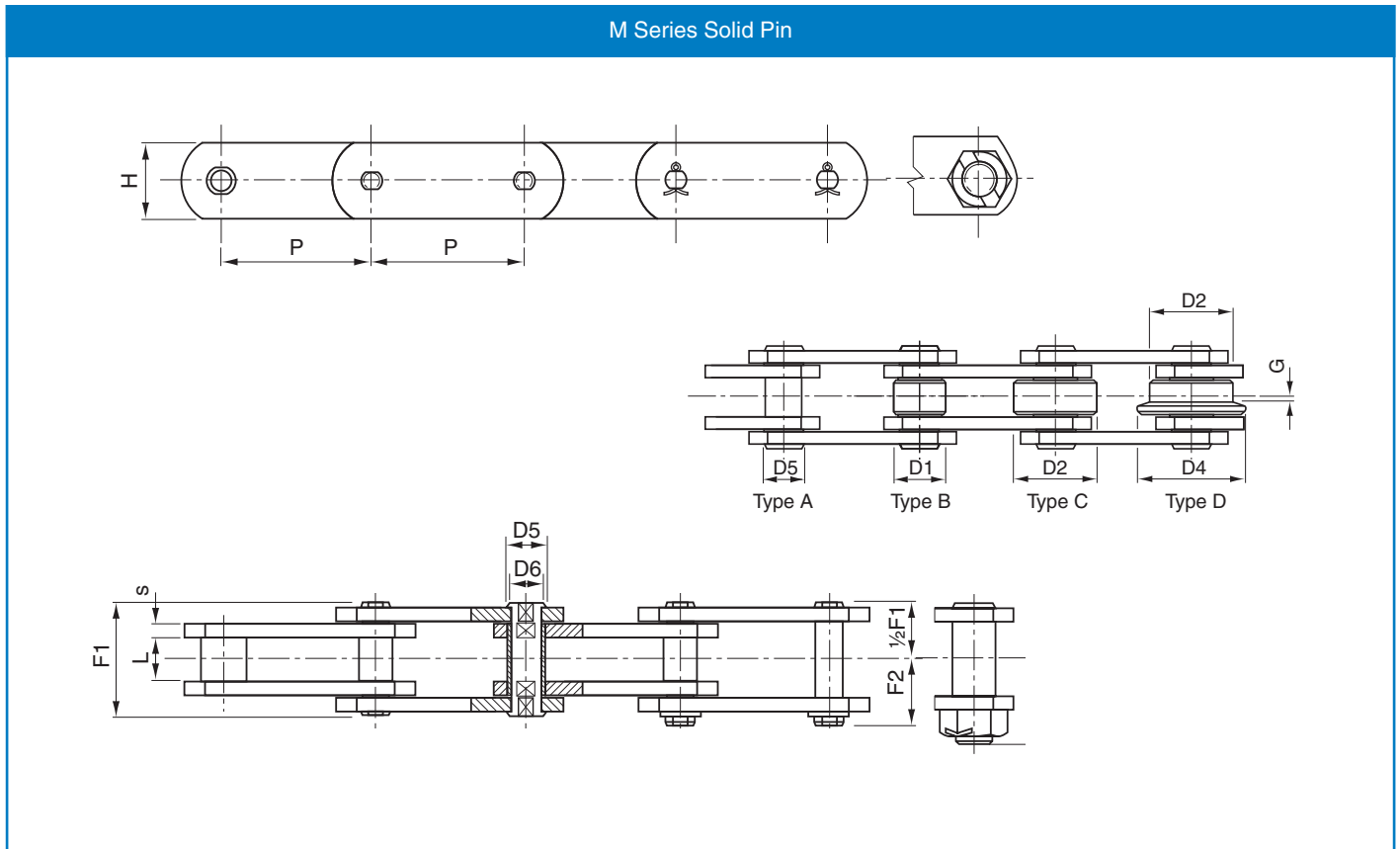
Solid Pin

| Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D4 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|---------|----|------|----|----|----|------|----|-----|-----|----|----|------------------|----------------------|----------------------|
| M 112 | 80 | 32 | 7.5 | 40 | 6 | 63 | 36.0 | 30 | 60 | 75 | 21 | 15 | 112 | 175 | 14.0 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | 12.0 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | 10.4 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.0 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.9 |
| M 160 | 100 | 37 | 8.5 | 50 | 7 | 72 | 41.5 | 36 | 70 | 90 | 25 | 18 | 160 | 260 | 18.9 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | 16.3 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | 14.0 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | 12.2 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.0 |
| M 224 | 125 | 43 | 10.0 | 60 | 8 | 84 | 47.0 | 42 | 85 | 105 | 30 | 21 | 224 | 340 | 25.8 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | 22.0 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | 19.0 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | 16.7 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | 14.9 |
| M 315 | 160 | 48 | 10.5 | 70 | 10 | 97 | 55.0 | 50 | 100 | 124 | 36 | 25 | 315 | 520 | 33.3 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | 28.7 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | 25.2 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | 22.3 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | " | " | 20.0 |

Conveyor Chain

M Series

Metric Conveyor Chain (DIN 8167)



Solid Pin

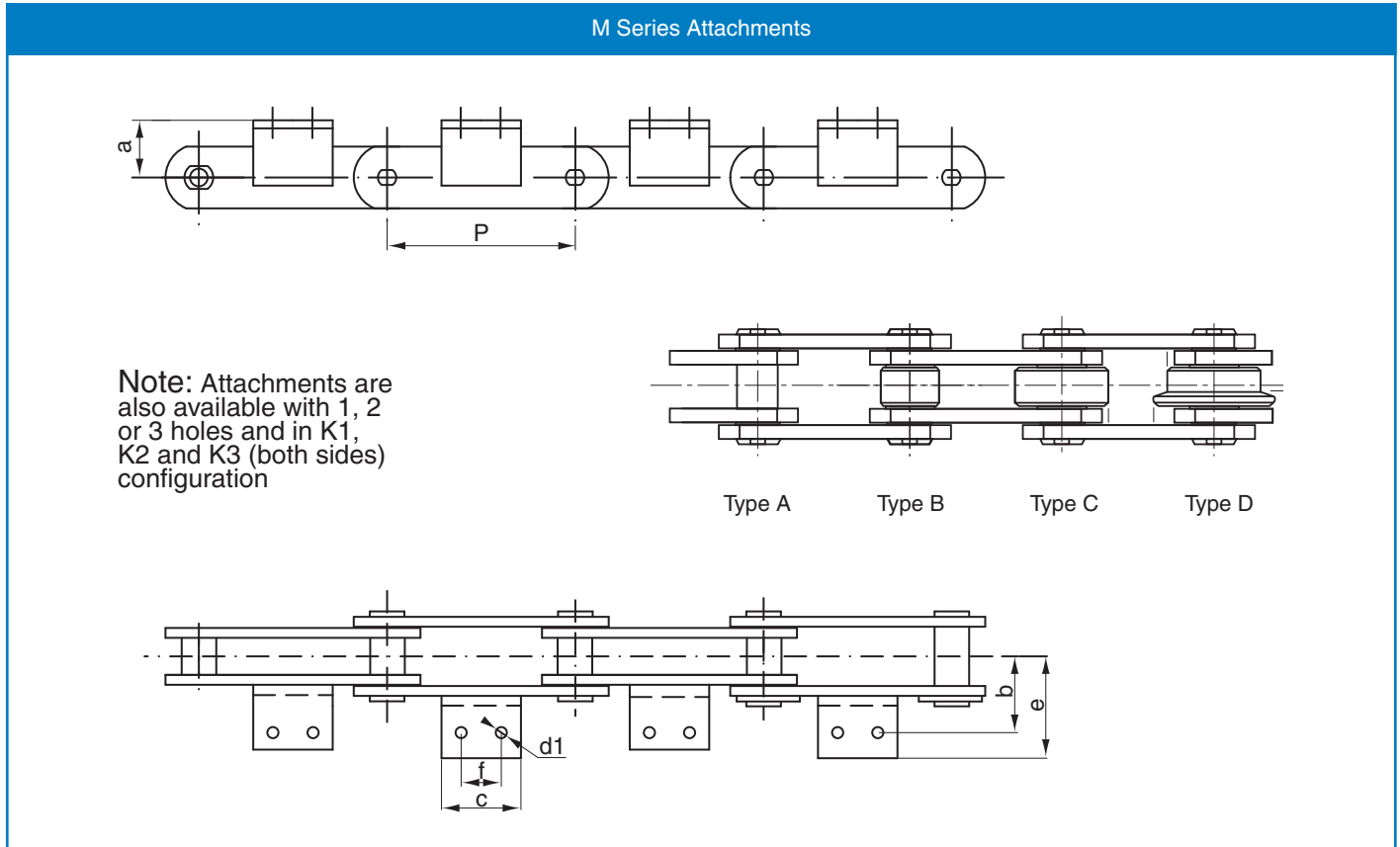
| Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D4 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|---------|----|------|-----|----|-----|------|----|-----|-----|----|----|------------------|----------------------|----------------------|
| M 450 | 200 | 56 | 11.5 | 80 | 12 | 114 | 67.0 | 60 | 120 | 149 | 42 | 30 | 450 | 700 | 40.5 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | 39.5 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | 34.5 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | " | " | 30.5 |
| M 630 | 250 | 67 | 15.0 | 100 | 14 | 137 | 87.5 | 70 | 140 | 170 | 50 | 36 | 630 | 900 | 64.0 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | 55.5 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | " | " | 49.0 |
| " | 500 | " | " | " | " | " | " | " | " | " | " | " | " | " | 43.6 |
| M 900 | 250 | 78 | 17.0 | 120 | 16 | 153 | 95.0 | 85 | 170 | 210 | 60 | 44 | 900 | 1250 | 98.3 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | 84.2 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | " | " | 72.5 |
| " | 500 | " | " | " | " | " | " | " | " | " | " | " | " | " | 63.8 |
| " | 600 | " | " | " | " | " | " | " | " | " | " | " | " | " | 56.6 |

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Conveyor Chain Attachments

M Series Attachments

Metric Conveyor Chain (DIN 8167)



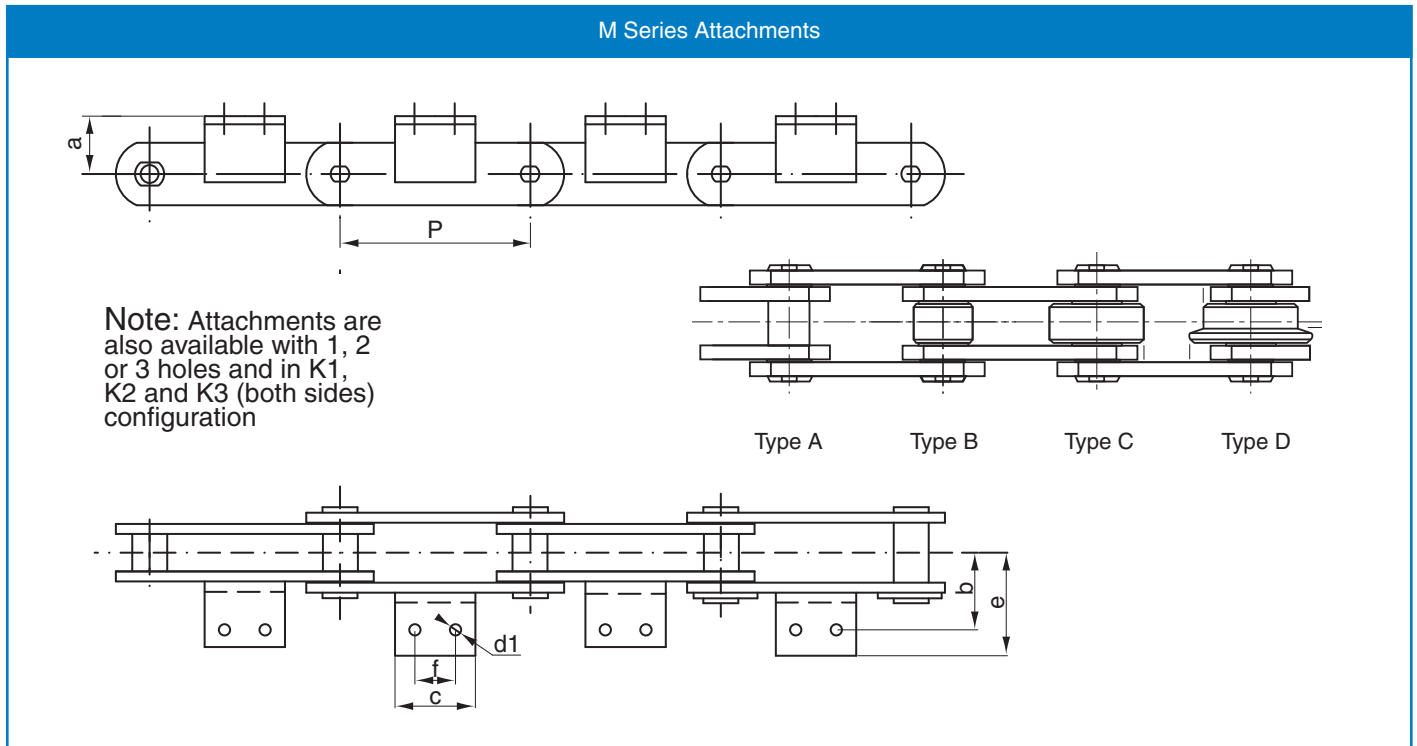
| Chain Number | Pitch P | a | b | c | d1 | e | f | Welded or Integral attachment | Chain Weight - Excluding Attachments kg/metre | | | | Attachment Weight (A2) kg each |
|--------------|---------|----|----|-----|-----|----|-----|-------------------------------|---|--------|--------|--------|--------------------------------|
| | | | | | | | | | Type A | Type B | Type C | Type D | |
| M 20 | 40 | 16 | 27 | 14 | 6.6 | 40 | * | • | 1.10 | 1.3 | 2.4 | 2.5 | 0.02 |
| " | 50 | " | " | 14 | " | " | * | • | 1.01 | 1.3 | 2.0 | 2.1 | 0.02 |
| " | 63 | " | " | 35 | " | " | 20 | 25x3 | 0.99 | 1.2 | 1.8 | 1.9 | 0.04 |
| " | 80 | " | " | 50 | " | " | 35 | " | 0.90 | 1.1 | 1.6 | 1.6 | 0.06 |
| M 28 | 50 | 20 | 32 | 20 | 9 | 47 | * | 20x3 | 1.60 | 1.9 | 3.3 | 3.4 | 0.02 |
| " | 63 | " | " | 20 | " | " | * | 30x3 | 1.50 | 1.7 | 2.8 | 2.9 | 0.02 |
| " | 80 | " | " | 45 | " | " | 25 | " | 1.40 | 1.6 | 2.5 | 2.6 | 0.05 |
| " | 100 | " | " | 60 | " | " | 40 | " | 1.30 | 1.5 | 2.1 | 2.2 | 0.08 |
| M 40 | 63 | 25 | 35 | 31 | 9 | 50 | * | 30x4 | 2.25 | 2.6 | 4.4 | 4.6 | 0.04 |
| " | 80 | " | " | 45 | " | " | 20 | " | 2.00 | 2.3 | 3.7 | 3.9 | 0.07 |
| " | 100 | " | " | 60 | " | " | 40 | " | 1.90 | 2.1 | 3.2 | 3.4 | 0.10 |
| " | 125 | " | " | 85 | " | " | 65 | " | 1.80 | 2.0 | 2.9 | 3.0 | 0.15 |
| M 56 | 63 | 30 | 44 | 22 | 11 | 61 | * | 40x4 | 3.40 | 3.9 | 6.8 | 7.2 | 0.05 |
| " | 80 | " | " | 30 | " | " | * | " | 3.00 | 3.4 | 5.7 | 6.0 | 0.07 |
| " | 100 | " | " | 50 | " | " | 25 | " | 2.80 | 3.1 | 5.0 | 5.2 | 0.12 |
| " | 125 | " | " | 75 | " | " | 50 | " | 2.60 | 2.9 | 4.4 | 4.5 | 0.18 |
| " | 160 | " | " | 110 | " | " | 85 | " | 2.54 | 2.7 | 3.9 | 4.1 | 0.27 |
| M 80 | 80 | 35 | 48 | 30 | 11 | 65 | * | 40x4 | 4.70 | 5.4 | 9.2 | 9.4 | 0.07 |
| " | 100 | " | " | 50 | " | " | 25 | " | 4.30 | 4.8 | 7.9 | 8.0 | 0.12 |
| " | 125 | " | " | 75 | " | " | 50 | " | 4.00 | 4.4 | 6.9 | 7.0 | 0.18 |
| " | 160 | " | " | 110 | " | " | 85 | " | 3.70 | 4.0 | 6.0 | 6.1 | 0.27 |
| " | 200 | " | " | 150 | " | " | 125 | " | 3.50 | 3.8 | 5.3 | 5.4 | 0.36 |

* Attachment With One Hole

Conveyor Chain Attachments

M Series Attachments

Metric Conveyor Chain (DIN 8167)



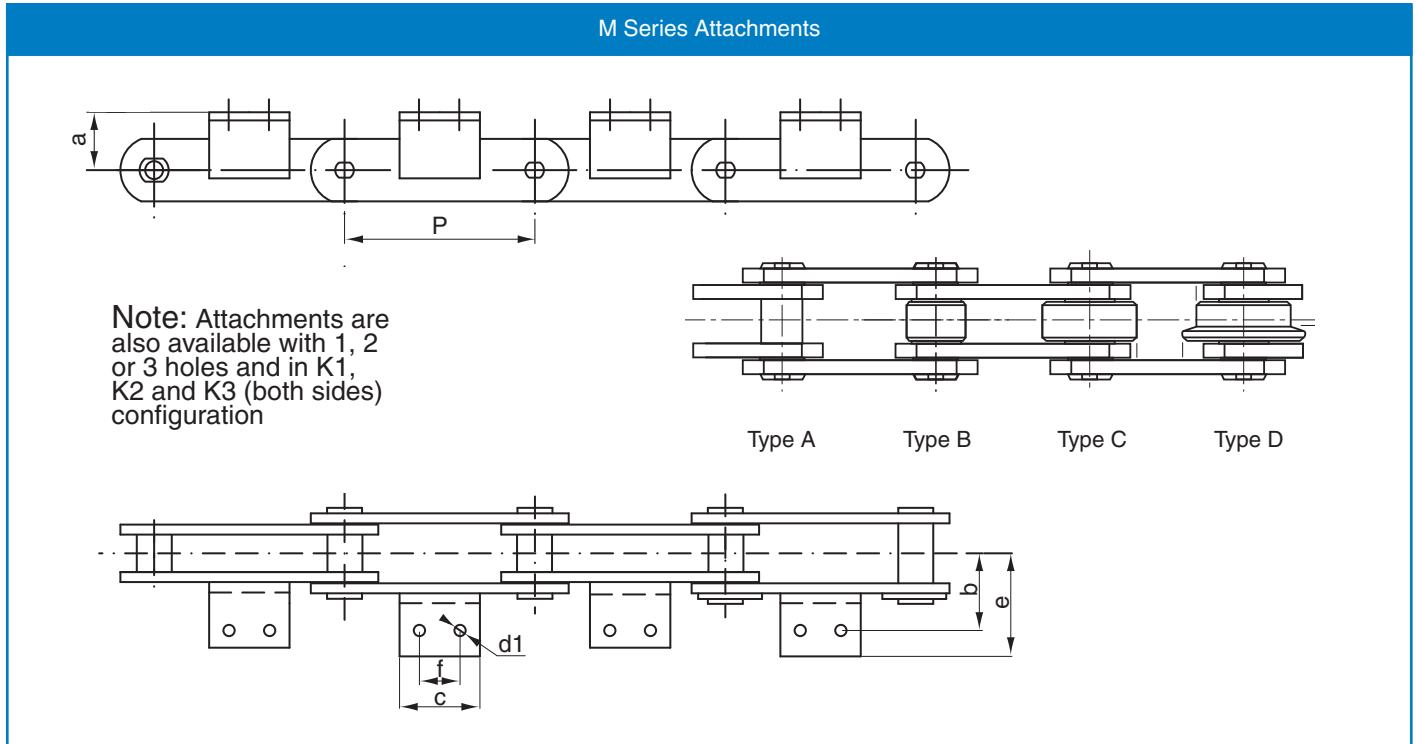
| Chain Number | Pitch P | a | b | c | d1 | e | f | Welded or Integral attachment | Chain Weight - Excluding Attachments kg/metre | | | | Attachment Weight (A2) kg each |
|--------------|---------|----|----|-----|----|-----|-----|-------------------------------|---|--------|--------|--------|--------------------------------|
| | | | | | | | | | Type A | Type B | Type C | Type D | |
| M 112 | 80 | 40 | 55 | 28 | 14 | 80 | * | 50x6 | 6.8 | 8.0 | 14.0 | 14.7 | 0.13 |
| " | 100 | " | " | 40 | " | " | * | " | 6.2 | 7.2 | 12.0 | 12.5 | 0.18 |
| " | 125 | " | " | 65 | " | " | 35 | " | 5.7 | 6.5 | 10.4 | 10.8 | 0.30 |
| " | 160 | " | " | 95 | " | " | 65 | " | 5.3 | 5.9 | 9.0 | 9.3 | 0.44 |
| " | 200 | " | " | 130 | " | " | 100 | " | 5.0 | 5.5 | 7.9 | 8.2 | 0.59 |
| M 160 | 100 | 45 | 62 | 30 | 14 | 85 | * | 50x6 | 9.7 | 11.2 | 18.9 | 20.2 | 0.13 |
| " | 125 | " | " | 50 | " | " | 25 | " | 8.9 | 10.0 | 16.3 | 18.1 | 0.23 |
| " | 160 | " | " | 80 | " | " | 50 | " | 8.2 | 9.1 | 14.0 | 15.4 | 0.37 |
| " | 200 | " | " | 115 | " | " | 85 | " | 7.6 | 8.4 | 12.2 | 13.4 | 0.53 |
| " | 250 | " | " | 175 | " | " | 145 | " | 7.3 | 7.9 | 11.0 | 12.0 | 0.80 |
| M 224 | 125 | 55 | 70 | 35 | 18 | 100 | * | 63x8 | 13.0 | 14.8 | 25.8 | 26.6 | 0.30 |
| " | 160 | " | " | 60 | " | " | * | " | 12.0 | 13.4 | 22.0 | 22.7 | 0.43 |
| " | 200 | " | " | 100 | " | " | 65 | " | 11.0 | 12.1 | 19.0 | 19.5 | 0.71 |
| " | 250 | " | " | 160 | " | " | 125 | " | 10.3 | 11.2 | 16.7 | 17.1 | 1.13 |
| " | 315 | " | " | 230 | " | " | 190 | " | 9.8 | 10.5 | 14.9 | 15.2 | 1.60 |
| M 315 | 160 | 65 | 80 | 35 | 18 | 115 | * | 70x10 | 18.3 | 20.4 | 33.3 | 34.6 | 0.36 |
| " | 200 | " | " | 85 | " | " | 50 | " | 16.7 | 18.4 | 28.7 | 29.7 | 0.84 |
| " | 250 | " | " | 140 | " | " | 100 | " | 15.6 | 17.0 | 25.2 | 26.0 | 1.41 |
| " | 315 | " | " | 190 | " | " | 155 | " | 14.6 | 15.7 | 22.3 | 22.9 | 1.93 |
| " | 400 | " | " | 205 | " | " | 155 | " | 13.9 | 14.8 | 20.0 | 20.5 | 2.08 |

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Conveyor Chain Attachments

M Series Attachments

Metric Conveyor Chain (DIN 8167)



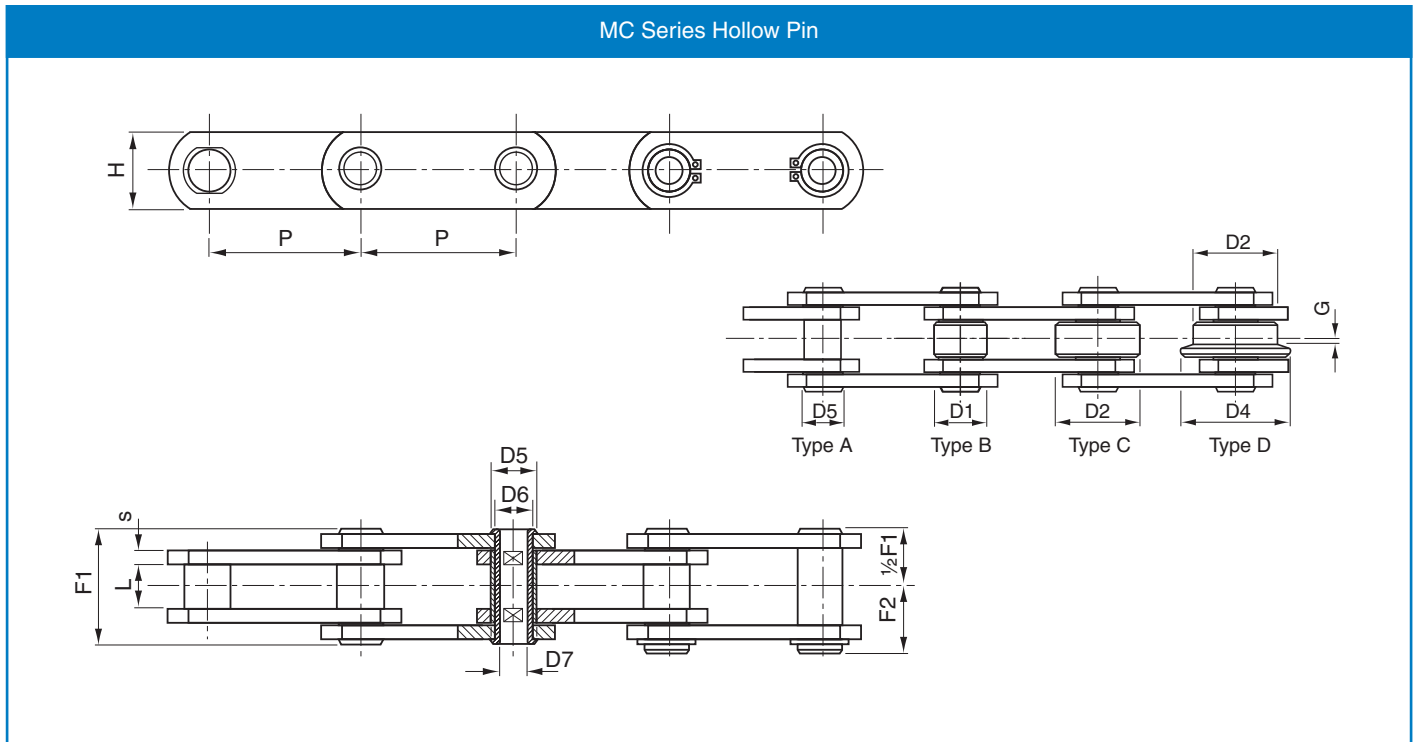
| Chain Number | Pitch P | a | b | c | d1 | e | f | Welded or Integral attachment | Chain Weight - Excluding Attachments kg/metre | | | | Attachment Weight (A2) kg each |
|--------------|---------|-----|-----|-----|----|-----|-----|-------------------------------|---|--------|--------|--------|--------------------------------|
| | | | | | | | | | Type A | Type B | Type C | Type D | |
| M 450 | 200 | 75 | 90 | 50 | 18 | 125 | * | 70x10 | 24.0 | 27.0 | 40.5 | 47.0 | 0.56 |
| " | 250 | " | " | 125 | " | " | 85 | " | 22.0 | 24.9 | 39.5 | 41.0 | 1.35 |
| " | 315 | " | " | 195 | " | " | 155 | " | 21.0 | 23.0 | 34.5 | 36.0 | 2.12 |
| " | 400 | " | " | 280 | " | " | 240 | " | 19.6 | 21.2 | 30.5 | 31.4 | 3.06 |
| M 630 | 250 | 90 | 115 | 50 | 24 | 165 | * | 100x12 | 36.0 | 40.8 | 64.0 | 66.9 | 0.90 |
| " | 315 | " | " | 150 | " | " | 100 | " | 33.4 | 36.6 | 55.5 | 57.7 | 2.70 |
| " | 400 | " | " | 240 | " | " | 190 | " | 31.5 | 33.9 | 49.0 | 50.7 | 4.30 |
| " | 500 | " | " | 350 | " | " | 300 | " | 29.6 | 31.6 | 43.6 | 45.0 | 6.20 |
| M 900 | 250 | 110 | 140 | 60 | 30 | 195 | * | 120x15 | 49.7 | 56.5 | 98.3 | 104.5 | 1.60 |
| " | 315 | " | " | 125 | " | " | 65 | " | 45.5 | 51.8 | 84.2 | 89.7 | 3.30 |
| " | 400 | " | " | 215 | " | " | 155 | " | 42.0 | 46.2 | 72.5 | 76.9 | 5.70 |
| " | 500 | " | " | 300 | " | " | 240 | " | 39.3 | 42.7 | 63.8 | 67.6 | 8.00 |
| " | 600 | " | " | 350 | " | " | 300 | " | 37.3 | 39.9 | 56.6 | 58.9 | 8.00 |

* Attachment With One Hole

Conveyor Chain

MC Series Hollow Pin

Metric Conveyor Chain (DIN 8167)



Hollow Pin

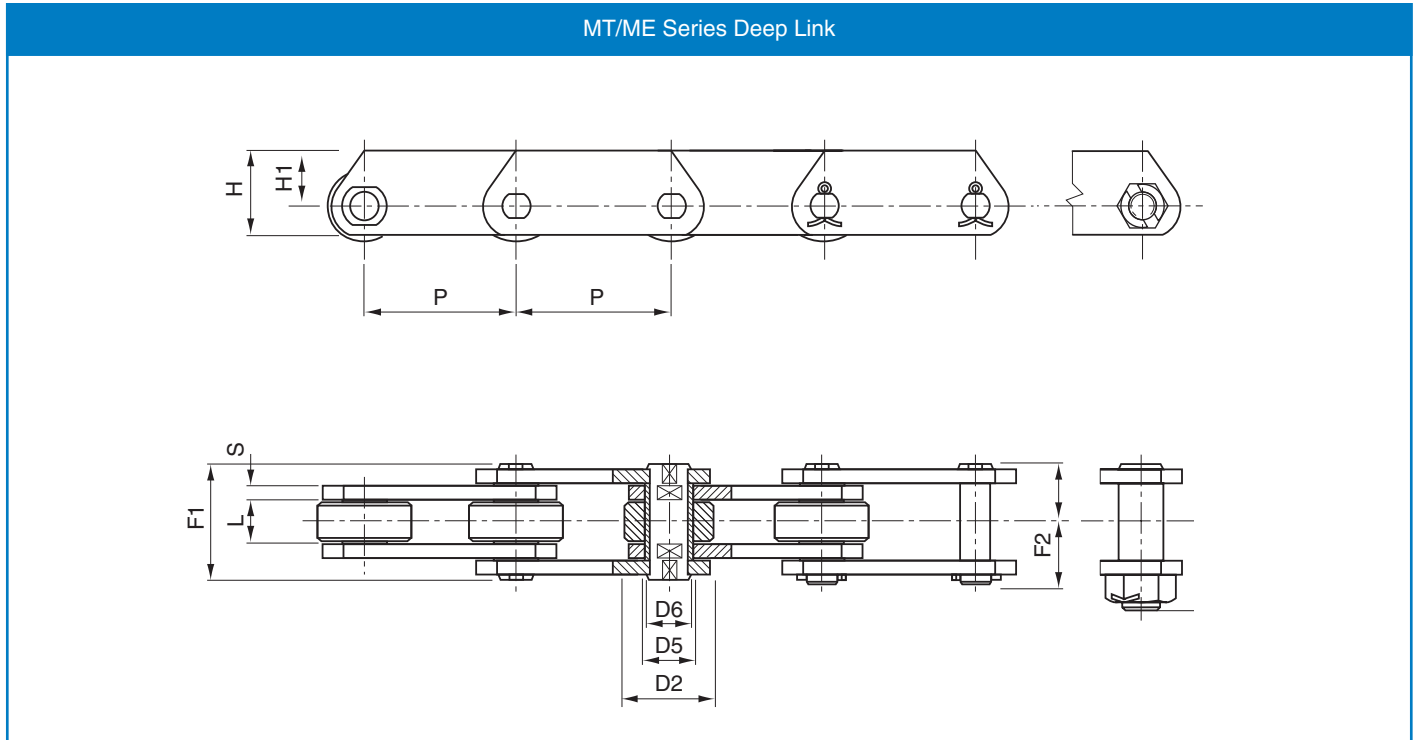
| Chain number | Pitch P | L | G | H | S | F1 | F2 | D1 | D2 | D4 | D5 | D6 | D7 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|---------|----|------|----|---|------|------|----|-----|-----|----|------|------|------------------|----------------------|----------------------|
| MC 28 | 50 | 20 | 4.5 | 25 | 3 | 36.0 | 20.5 | 25 | 36 | 45 | 17 | 13.0 | 8.2 | 28 | 40 | 4.3 |
| " | 63 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.8 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.2 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.8 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.5 |
| MC 56 | 63 | 24 | 7.0 | 35 | 4 | 45.0 | 25.0 | 30 | 50 | 60 | 21 | 15.5 | 10.2 | 56 | 90 | 8.5 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.2 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.2 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.4 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.7 |
| MC 112 | 80 | 32 | 8.5 | 50 | 6 | 62.5 | 33.0 | 42 | 70 | 85 | 29 | 22.0 | 14.3 | 112 | 180 | 16.6 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 14.0 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.2 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 10.2 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.9 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.9 |
| MC 224 | 125 | 43 | 10.5 | 70 | 8 | 83.0 | 44.0 | 60 | 100 | 120 | 42 | 30.0 | 20.3 | 224 | 350 | 32.3 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 27.1 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 23.5 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 20.6 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 17.2 |

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Conveyor Chain

MT/ME Series Deep Link

Metric Conveyor Chain (DIN 8167)



Deep Link

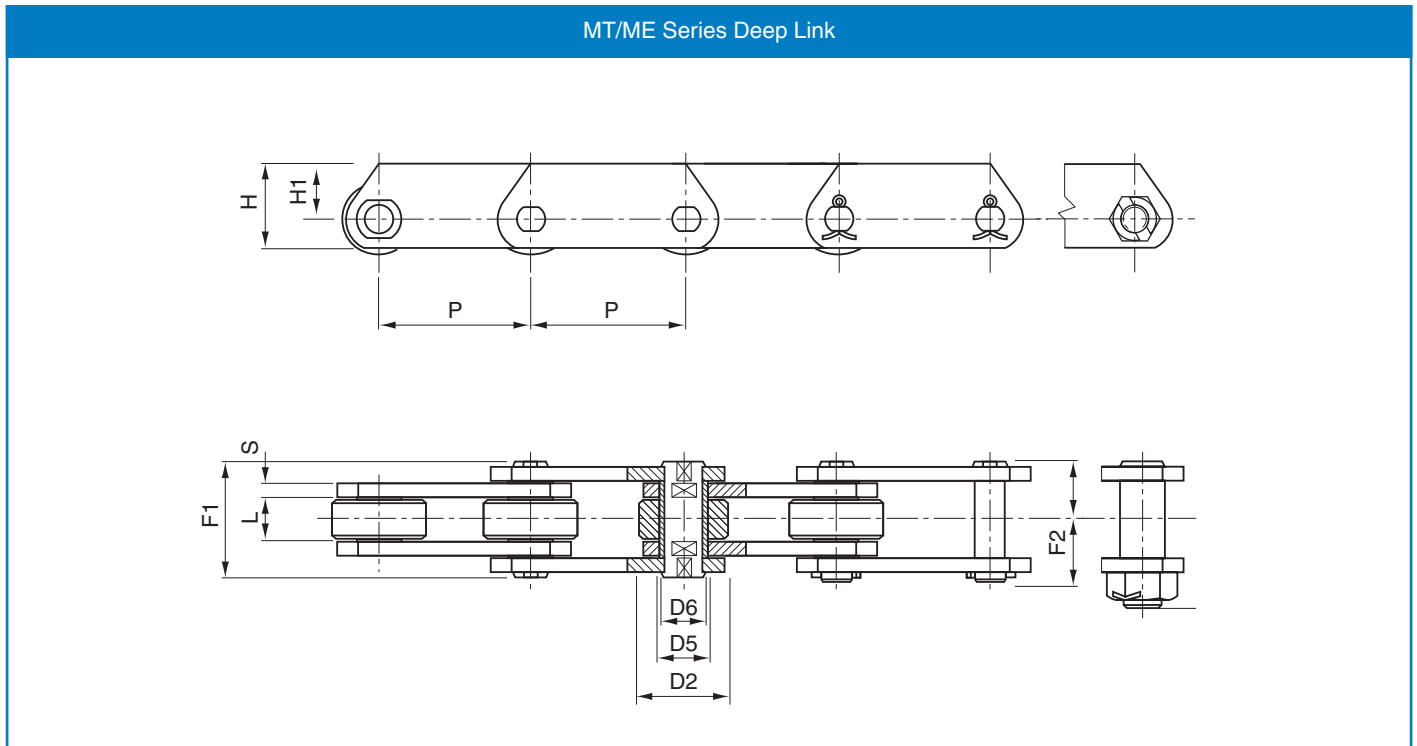
| Chain Number | Pitch P | L | S | H | H1 | F1 | F2 | D2 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|---------|----|-----|----|------|------|------|----|----|----|------------------|----------------------|----------------------|
| ME 20 | 40 | 16 | 2.5 | 25 | 16.0 | 33.0 | 19.0 | 25 | 9 | 6 | 20 | 32 | 3.0 |
| " | 50 | " | " | " | " | " | " | " | " | " | " | " | 2.6 |
| " | 63 | " | " | " | " | " | " | " | " | " | " | " | 2.3 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | 2.0 |
| ME 28 | 50 | 18 | 3.0 | 30 | 20.0 | 36.0 | 20.5 | 30 | 10 | 7 | 28 | 42 | 4.1 |
| " | 63 | " | " | " | " | " | " | " | " | " | " | " | 3.5 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | 3.1 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | 2.8 |
| ME 40 | 63 | 20 | 4.0 | 35 | 22.5 | 40.5 | 24.0 | 36 | 11 | 8 | 40 | 60 | 5.5 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | 4.8 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | 4.2 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | 3.7 |
| ME 56 | 63 | 24 | 4.0 | 45 | 30.0 | 45.0 | 26.0 | 42 | 15 | 10 | 56 | 85 | 8.3 |
| " | 80 | " | " | " | " | " | " | " | " | " | " | " | 7.0 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | 6.1 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | 5.4 |
| ME 80 | 80 | 28 | 5.0 | 50 | 32.5 | 54.5 | 30.5 | 50 | 18 | 12 | 80 | 125 | 11.0 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | 9.5 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | 8.5 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | 7.2 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | 6.0 |

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Conveyor Chain

MT/ME Series

Metric Conveyor Chain (DIN 8167)



Deep Link

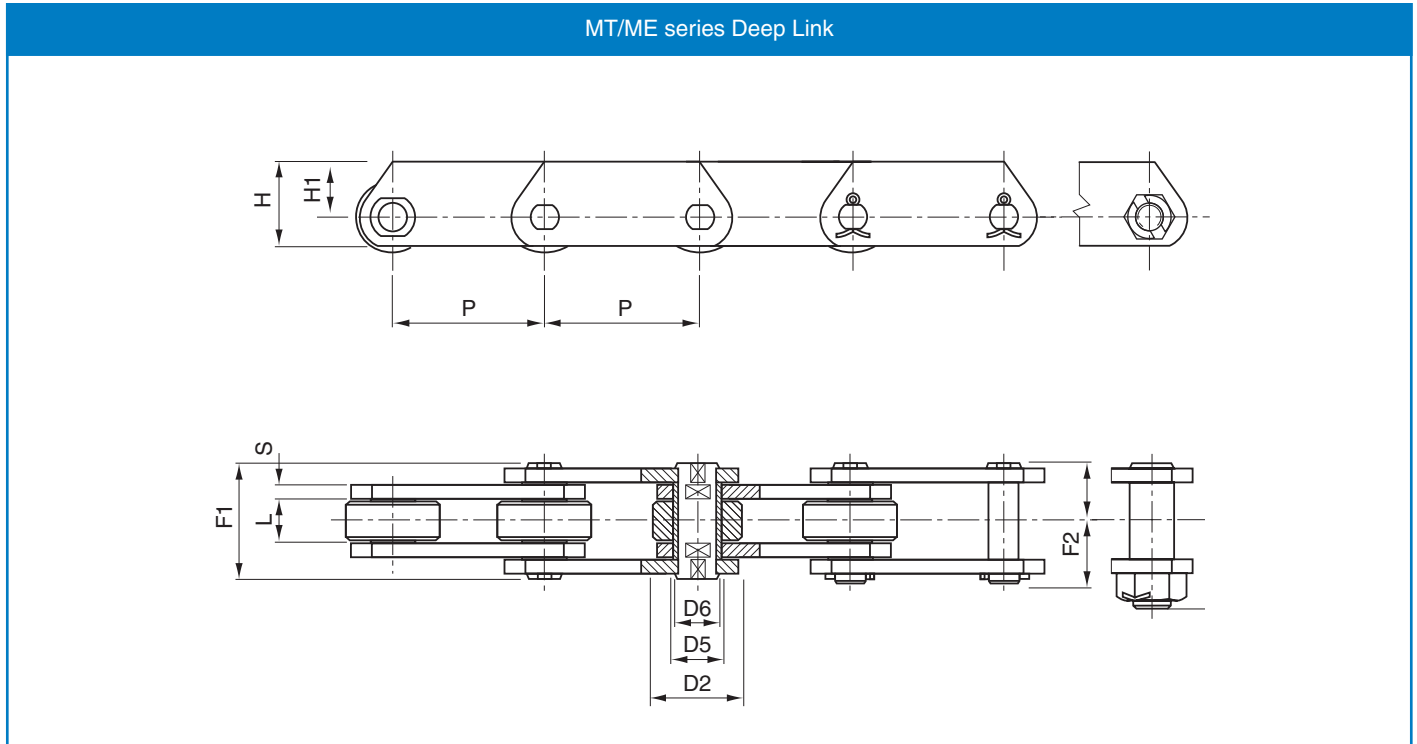
| Chain Number | Pitch P | L | S | H | H1 | F1 | F2 | D2 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight kg/m |
|--------------|---------|----|----|-----|----|----|------|-----|----|----|------------------|----------------------|-------------|
| ME 112 | 80 | 32 | 6 | 60 | 40 | 63 | 36.0 | 60 | 21 | 15 | 112 | 175 | 17.0 |
| " | 100 | " | " | " | " | " | " | " | " | " | " | " | 14.5 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | 13.0 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | 11.0 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | 10.0 |
| ME 160 | 100 | 37 | 7 | 70 | 45 | 72 | 41.5 | 70 | 25 | 18 | 160 | 260 | 21.5 |
| " | 125 | " | " | " | " | " | " | " | " | " | " | " | 19.0 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | 17.0 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | 15.0 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | 13.5 |
| ME 224 | 125 | 43 | 8 | 90 | 60 | 84 | 47.0 | 85 | 30 | 21 | 224 | 340 | 32.5 |
| " | 160 | " | " | " | " | " | " | " | " | " | " | " | 27.5 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | 23.0 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | 21.0 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | 19.0 |
| ME 315 | 160 | 48 | 10 | 100 | 65 | 97 | 55.0 | 100 | 36 | 25 | 315 | 520 | 43.0 |
| " | 200 | " | " | " | " | " | " | " | " | " | " | " | 37.0 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | 32.0 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | 28.6 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | 25.5 |

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Conveyor Chain

MT/ME Series

Metric Conveyor Chain (DIN 8167)



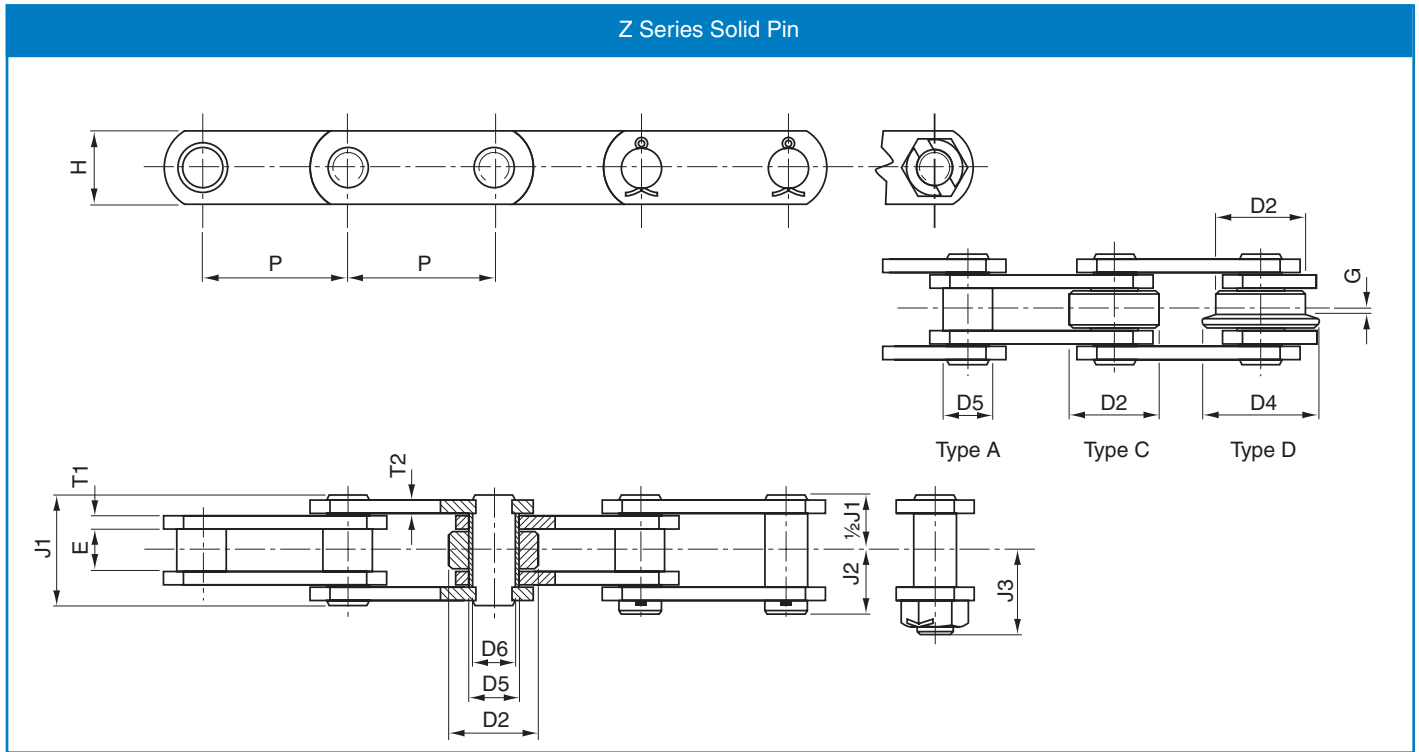
Deep Link

| Chain Number | Pitch P | L | S | H | H1 | F1 | F2 | D2 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight kg/m |
|--------------|---------|----|----|-----|-----|-----|------|-----|----|----|------------------|----------------------|-------------|
| ME 450 | 200 | 56 | 12 | 120 | 80 | 114 | 67.0 | 120 | 42 | 30 | 450 | 700 | 47 |
| " | 250 | " | " | " | " | " | " | " | " | " | " | " | 41 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | 36 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | 32 |
| ME 630 | 250 | 66 | 14 | 140 | 90 | 137 | 87.5 | 140 | 50 | 36 | 630 | 900 | 71 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | 62.5 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | 56 |
| " | 500 | " | " | " | " | " | " | " | " | " | " | " | 50.6 |
| " | 600 | " | " | " | " | " | " | " | " | " | " | " | 46.5 |
| ME 900 | 250 | 78 | 16 | 180 | 120 | 153 | 95.0 | 170 | 60 | 44 | 900 | 1,250 | 108.5 |
| " | 315 | " | " | " | " | " | " | " | " | " | " | " | 94.5 |
| " | 400 | " | " | " | " | " | " | " | " | " | " | " | 82.5 |
| " | 500 | " | " | " | " | " | " | " | " | " | " | " | 73.8 |
| " | 600 | " | " | " | " | " | " | " | " | " | " | " | 66.7 |

Conveyor Chain

Z Series

BS Conveyor Chain (BS 4116 Part 4)



Solid Pin

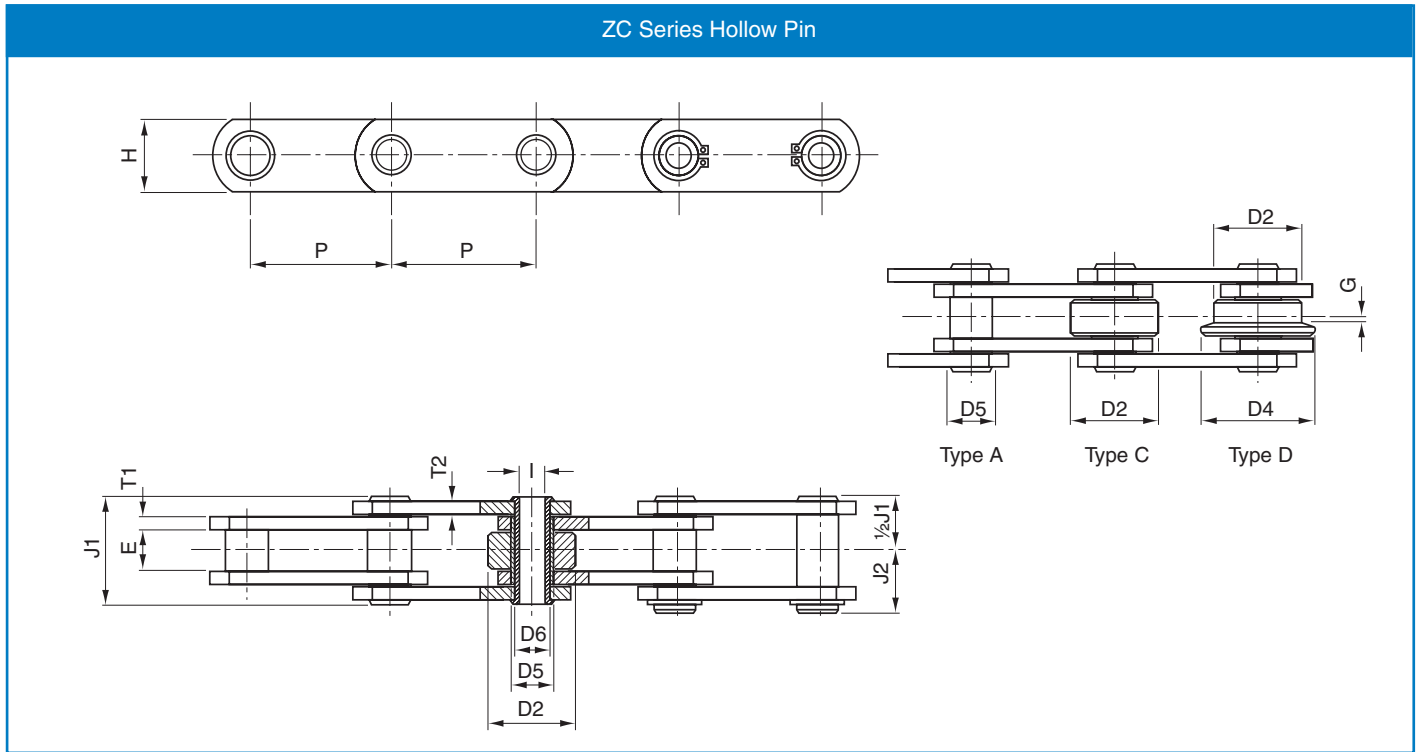
| Chain number | Minimum Breaking Load, lbf | Pitch Inches P | Pitch mm P | E | H | T1 | T2 | J1 | J2 | J3 | D2 | D4 | D5 | D6 | G | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|----------------------------|----------------|------------|------|------|-----|-----|------|------|----|-------|-------|------|-------|-----|------------------|----------------------|----------------------|
| Z40 | 7500 | 2.0 | 50.8 | 15.2 | 25.4 | 3.8 | 3.8 | 37 | 22 | 29 | 31.75 | 40 | 19 | 14 | 2.5 | 40 | 50 | 4 |
| " | " | 2.5 | 63.5 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.5 |
| " | " | 3.0 | 76.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.2 |
| " | " | 3.5 | 88.9 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3 |
| " | " | 4.0 | 101.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.8 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.6 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.4 |
| Z100 | 15000 | 3.0 | 76.2 | 19 | 38.1 | 5.1 | 3.8 | 46 | 28 | 38 | 47.63 | 60 | 25.4 | 19 | 3.5 | 100 | 130 | 7.7 |
| " | " | 3.5 | 88.9 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 7 |
| " | " | 4.0 | 101.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.5 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.8 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.3 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.7 |
| Z160 | 30000 | 4.0 | 101.6 | 25.4 | 50.8 | 7.1 | 5.1 | 59 | 34.5 | 49 | 66.7 | 82 | 34.9 | 26.97 | 3.5 | 156 | 200 | 14.3 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 12.5 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.3 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 10.5 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.8 |
| " | " | 9.0 | 228.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.3 |
| " | " | 10.0 | 254.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9 |
| Z300 | 45000 | 6.0 | 152.4 | 38 | 65 | 10 | 8 | 82.5 | 47 | 65 | 88.9 | 107.9 | 41.3 | 31.75 | 8.5 | 300 | 380 | 24.3 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 22 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 21 |
| " | " | 10.0 | 254.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 18 |
| " | " | 12.0 | 304.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 16.5 |

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Conveyor Chain

ZC Series

BS Conveyor Chain (BS 4116 Part 4)



Hollow Pin

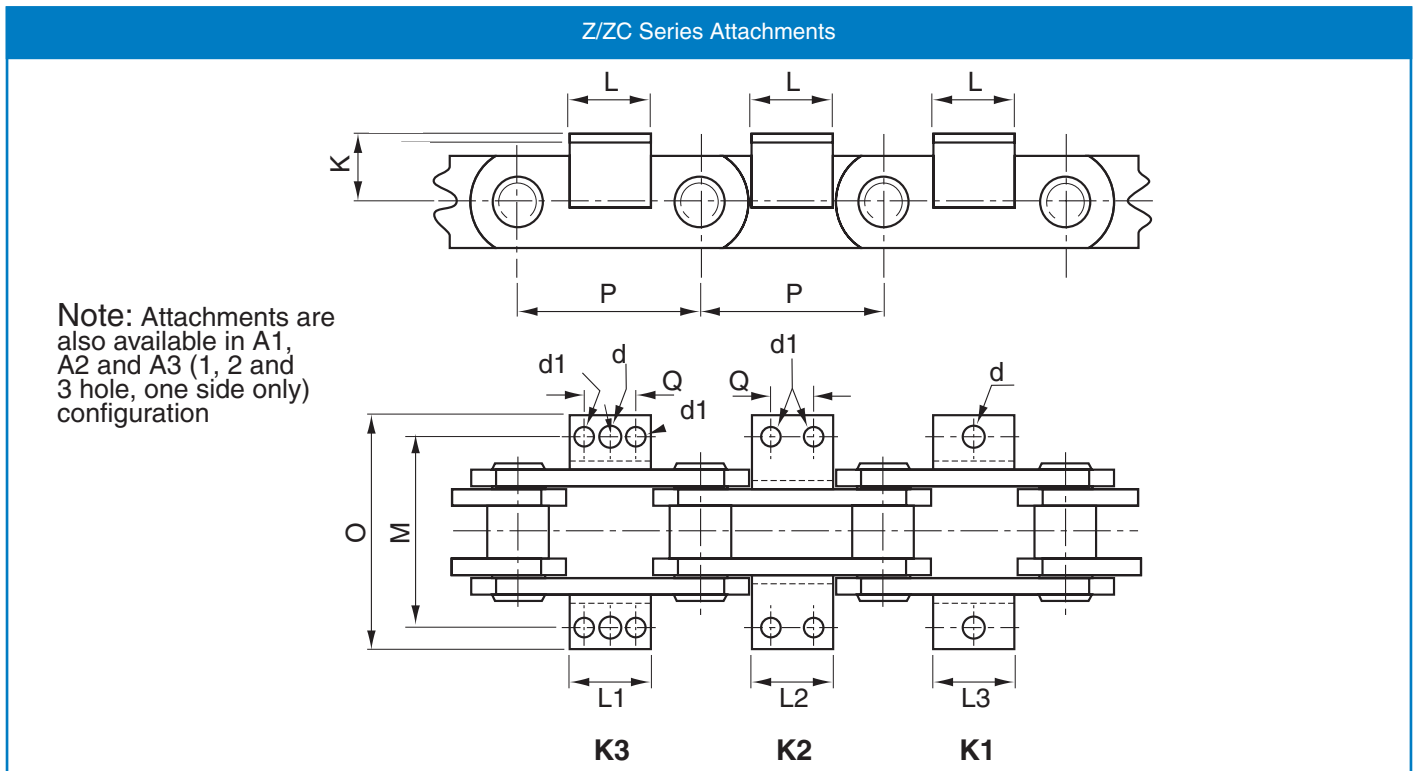
| Chain number | Minimum Breaking Load, lbf | Pitch Inches P | Pitch mm P | E | I | H | T1 | T2 | J1 | J2 | D2 | D4 | D5 | D6 | G | Breaking Load, kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|----------------------------|----------------|------------|------|------|------|-----|-----|------|------|-------|-------|------|-------|-----|-------------------|----------------------|----------------------|
| ZC21 | 4500 | 1.5 | 38.1 | 12.7 | 6.5 | 18 | 2.5 | 2.5 | 26 | 14.5 | 25.4 | / | 11 | 9 | / | 21 | / | 2.2 |
| " | " | 2.0 | 50.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 1.7 |
| " | " | 2.5 | 63.5 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 1.6 |
| " | " | 3.0 | 76.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 1.4 |
| ZC40 | 6000 | 2.0 | 50.8 | 15.2 | 10.3 | 25.4 | 3.8 | 3.8 | 37.2 | 21.5 | 31.75 | 40 | 19 | 14 | 2.5 | 40 | 50 | 3.6 |
| " | " | 2.5 | 63.5 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.2 |
| " | " | 3.0 | 76.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.0 |
| " | " | 3.5 | 88.9 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.8 |
| " | " | 4.0 | 101.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.6 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.4 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 2.3 |
| ZC60 | 12000 | 3.0 | 76.2 | 19 | 13.2 | 38.1 | 5.1 | 3.8 | 44 | 24.5 | 47.63 | 60 | 25.4 | 19 | 3.5 | 60 | 120 | 7.0 |
| " | " | 3.5 | 88.9 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.4 |
| " | " | 4.0 | 101.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.0 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.3 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.9 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.6 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.4 |
| ZC150 | 24000 | 4.0 | 101.6 | 25.4 | 19.6 | 50.8 | 7.1 | 5.1 | 57 | 32 | 66.7 | 82 | 34.9 | 26.97 | 3.5 | 150 | 190 | 12.8 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.3 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.0 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.5 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 9.0 |
| " | " | 9.0 | 228.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.6 |
| " | " | 10.0 | 254.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.2 |
| ZC300 | 36000 | 6.0 | 152.4 | 38 | 23 | 65 | 10 | 8 | 82.5 | 44 | 88.9 | 107.9 | 41.3 | 31.75 | 8.5 | 300 | 380 | 22.3 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 20.2 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 18.8 |
| " | " | 10.0 | 254.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 16.4 |
| " | " | 12.0 | 304.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | " | 15.2 |

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Conveyor Chain Attachments

Z/ZC Series Attachments

BS Conveyor Chain (BS 4116 Part 4)



Conveyor Attachments

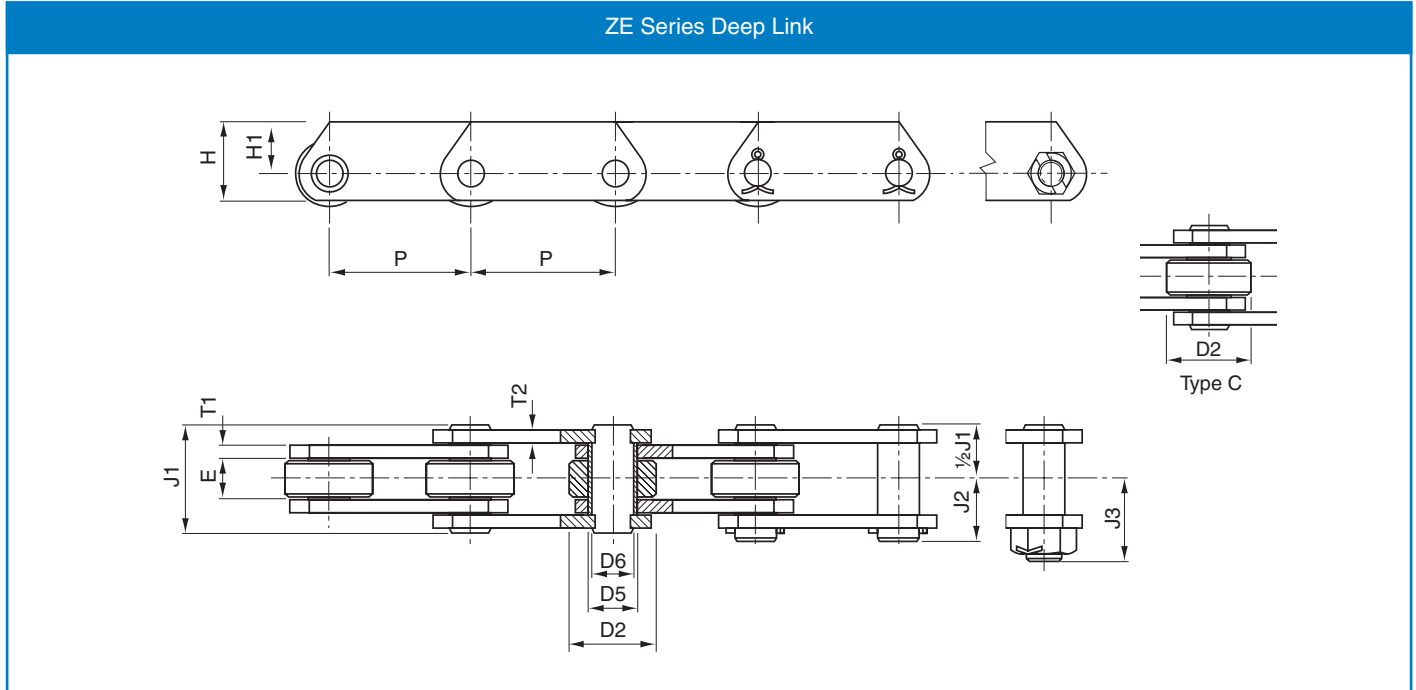
| Chain Number | Pitch Inches P | Pitch mm P | Attachment Type | K | M | L1 | L2 | L3 | d | d1 | O | Q | Average Weight (Each) kg |
|--------------|----------------|------------|-----------------|------|------|-------|-------|-------|------|------|-----|--------|--------------------------|
| Z40 | 2.0 | 50.8 | K1 | 19 | 76.2 | 19.0 | - | - | 10.6 | - | 129 | - | 0.10 |
| " | 2.5 | 63.5 | " | " | " | 19.0 | - | - | " | - | 112 | - | 0.10 |
| " | 3.0 | 76.2 | " | " | " | 28.0 | - | - | " | - | 136 | - | 0.10 |
| " | 3.5 | 88.9 | " | " | " | 28.0 | - | - | " | - | 112 | - | 0.10 |
| " | 4.0 | 101.6 | K1,K2,K3 | " | " | 56.0 | 56.0 | 64.0 | " | 9.2 | 110 | 31.8 | 0.10 |
| " | 5.0 | 127.0 | " | " | " | 56.0 | 56.0 | 85.0 | " | " | 112 | 31.8 | 0.20 |
| " | 6.0 | 152.4 | " | " | " | 83.8 | 83.8 | 88.0 | " | " | 112 | 57.2 | 0.20 |
| Z100 | 3.0 | 76.2 | K1 | 31.8 | 88.9 | 35.0 | - | - | 14 | - | 130 | - | 0.12 |
| " | 3.5 | 88.9 | " | " | " | 35.0 | - | - | " | - | " | - | 0.12 |
| " | 4.0 | 101.6 | K1,K2,K3 | " | " | 35.0 | 56.0 | 64.0 | " | 11 | " | 31.8 | 0.10 |
| " | 5.0 | 127.0 | " | " | " | 56.0 | 56.0 | 64.0 | " | " | " | 31.8 | 0.30 |
| " | 6.0 | 152.4 | " | " | " | 56.0 | 84.0 | 90.0 | " | " | " | 57.2 | 0.32 |
| " | 7.0 | 177.8 | " | " | " | 56.0 | 127.0 | 130.0 | " | " | " | 89 | 0.40 |
| " | 8.0 | 203.2 | " | " | " | 56.0 | 127.0 | 130.0 | " | " | " | 89 | 0.40 |
| Z160 | 5.0 | 127.0 | K1,K2 | 38.1 | 108 | 56.0 | 56.0 | - | - | 12.7 | - | 31.7 | 0.30 |
| " | 6.0 | 152.4 | " | " | " | " | 84.0 | - | - | " | 154 | 57.2 | 0.38 |
| " | 7.0 | 177.8 | " | " | " | " | 108.0 | - | - | " | " | 69.85 | 0.38 |
| " | 8.0 | 203.2 | " | " | " | " | 127.0 | - | - | " | " | 88.9 | 0.60 |
| " | 9.0 | 228.6 | " | " | " | " | 168.0 | - | - | " | " | 133.35 | 0.69 |
| " | 10.0 | 254.0 | " | " | " | " | 168.0 | - | - | " | " | 133.35 | 0.75 |
| Z300 | 6.0 | 152.4 | K1 | 65 | 146 | 70.0 | | | 17.0 | / | 200 | 38.1 | 0.50 |
| " | 7.0 | 177.8 | " | " | " | 70.0 | | | " | / | " | 38.1 | 0.50 |
| " | 8.0 | 203.2 | K1,K2 | " | " | 100.0 | | | " | 14 | " | 76.2 | 0.70 |
| " | 10.0 | 254.0 | " | " | " | 152.4 | | | " | " | " | 90 | 0.90 |
| " | 12.0 | 304.8 | " | " | " | 225.0 | | | " | " | " | 190 | 1.60 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Conveyor Chain

ZE Series

BS Conveyor Chain (BS 4116 Part 4)



Deep Link

| Chain Number | Minimum Breaking Load, lbf | Pitch Inches | Pitch mm | E | H | H1 | T1 | T2 | J1 | J2 | J3 | D2 | D5 | D6 | Breaking Load kN | HT Breaking Load, kN | Weight (Type C) kg/m |
|--------------|----------------------------|--------------|----------|------|------|------|-----|-----|------|------|----|-------|------|-------|------------------|----------------------|----------------------|
| ZE40 | 7500 | 2.0 | 50.8 | 15.2 | 38.1 | 25.4 | 3.8 | 3.8 | 37 | 22 | 29 | 31.75 | 19 | 14 | 40 | 60 | 5.0 |
| " | " | 2.5 | 63.5 | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.6 |
| " | " | 3.0 | 76.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.2 |
| " | " | 3.5 | 88.9 | " | " | " | " | " | " | " | " | " | " | " | " | " | 4.0 |
| " | " | 4.0 | 101.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.8 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.5 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | 3.3 |
| ZE100 | 15000 | 3.0 | 76.2 | 19 | 50.8 | 30 | 5.1 | 5.1 | 48 | 28 | 38 | 47.63 | 25.4 | 19 | 100 | 160 | 8.9 |
| " | " | 3.5 | 88.9 | " | " | " | " | " | " | " | " | " | " | " | " | " | 8.4 |
| " | " | 4.0 | 101.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | 7.6 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.8 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | 6.3 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.9 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | 5.7 |
| ZE160 | 30000 | 4.0 | 101.6 | 25.4 | 70 | 45 | 7.1 | 5.1 | 59 | 34.5 | 49 | 66.7 | 34.9 | 26.97 | 156 | 200 | 17.5 |
| " | " | 5.0 | 127.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | 15.4 |
| " | " | 6.0 | 152.4 | " | " | " | " | " | " | " | " | " | " | " | " | " | 13.8 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | 12.8 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | 12.0 |
| " | " | 9.0 | 228.6 | " | " | " | " | " | " | " | " | " | " | " | " | " | 11.3 |
| " | " | 10.0 | 254.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | 10.5 |
| ZE300 | 45000 | 6.0 | 152.4 | 38 | 90 | 60 | 10 | 8 | 82.5 | 47 | 65 | 88.9 | 41.3 | 31.75 | 300 | 380 | 32.0 |
| " | " | 7.0 | 177.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | 29.5 |
| " | " | 8.0 | 203.2 | " | " | " | " | " | " | " | " | " | " | " | " | " | 27.0 |
| " | " | 10.0 | 254.0 | " | " | " | " | " | " | " | " | " | " | " | " | " | 24.5 |
| " | " | 12.0 | 304.8 | " | " | " | " | " | " | " | " | " | " | " | " | " | 23.0 |

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Conveyor Chain Attachments

Attachment Chain Designations




Attachment Chain Designations

M1-01

Attachment Orientation

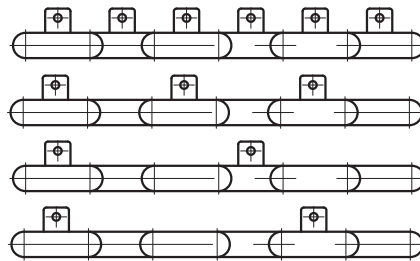
- M = Vertical one side 
- MK = Vertical both sides 
- A = Horizontal one side 
- K = Horizontal both sides 

Mounting Holes

- 1 = Single Hole 
- 2 = Double 
- 3 = Triple 

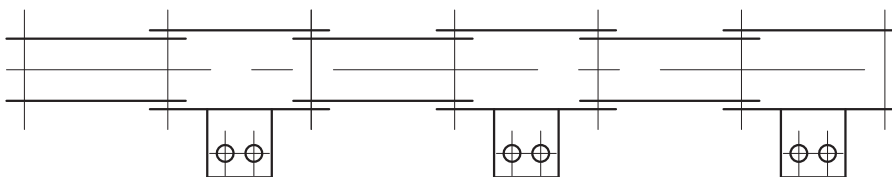
Frequency

- 01 = Every side plate
- 02 = Every other side plate
- 03 = Every third side plate
- 04 = Every fourth side plate

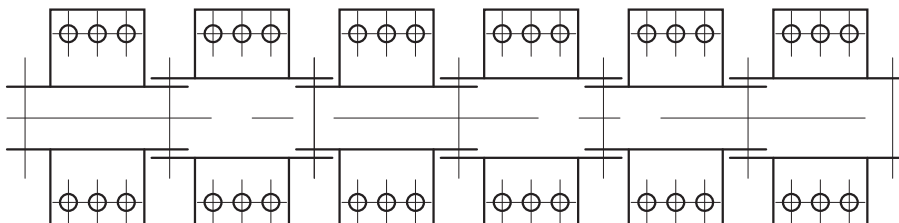


Examples

A2-02

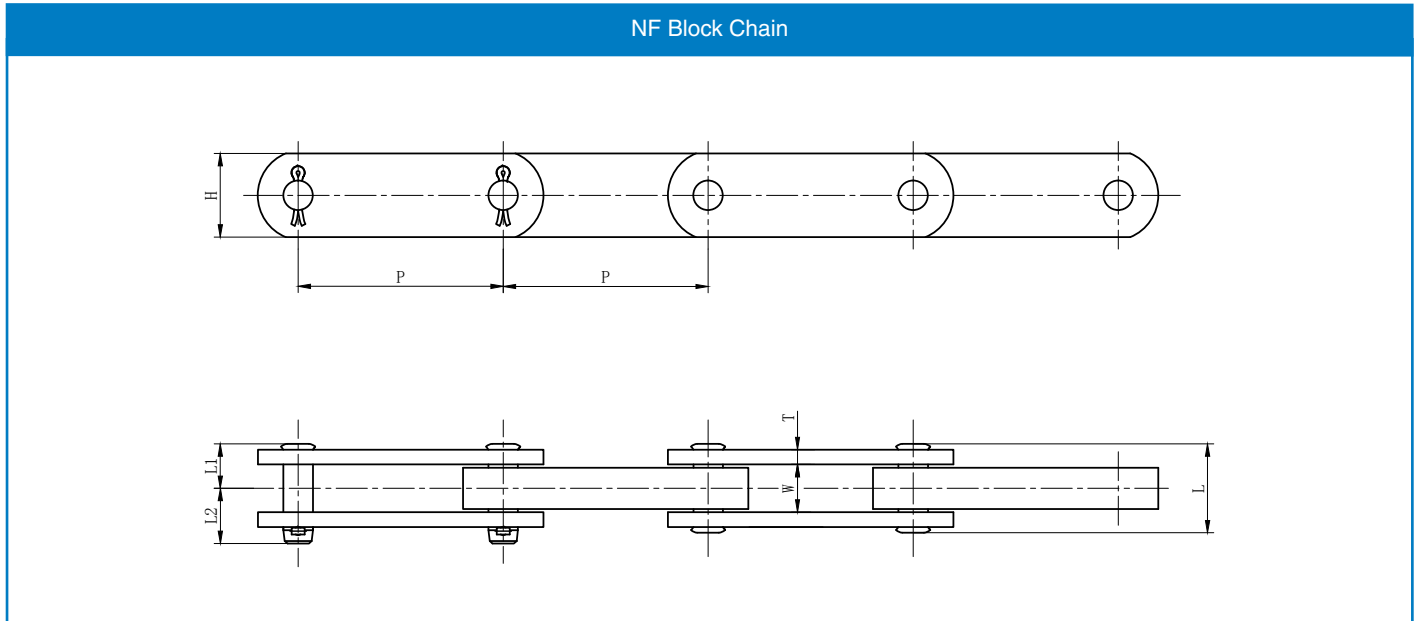


K3-01



Block Chain

NF Block Chain

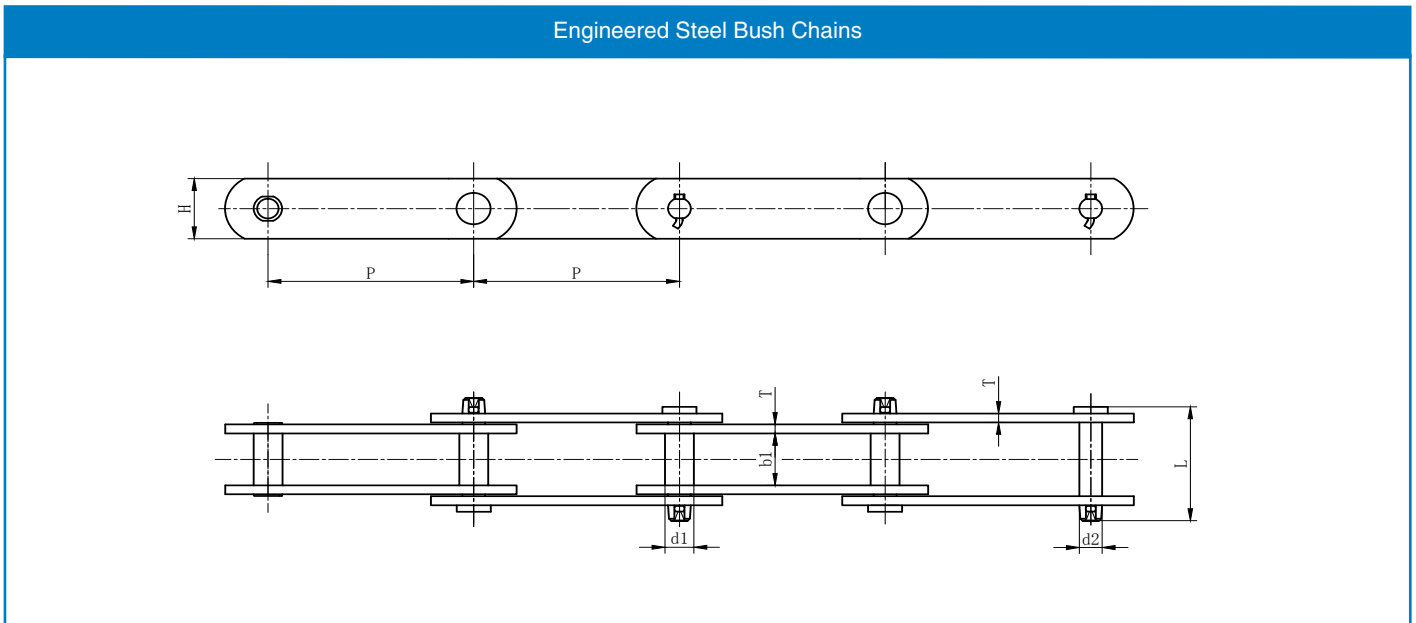


| Chain number | Chain pitch | Roller diameter | Width between inner plates | Bearing pin diameter | Pin length | | | Side plate height | Plate thickness | Tensile strength | Approx weight |
|--------------|-------------|-----------------|----------------------------|----------------------|------------|-------|-------|-------------------|-----------------|------------------|---------------|
| | P | R | W | D | L | L1 | L2 | H | T | kN(kgf) | kg/m |
| NF 30150 | 150.00 | / | 23.3 | / | 47.0 | 24.00 | 32.00 | 38.1 | 7.9 | 309(31500) | 7.0 |
| NF 30200 | 200.00 | / | 23.3 | / | 47.0 | 24.00 | 32.00 | 38.1 | 7.9 | 309(31500) | 6.6 |
| NF 40150 | 150.00 | / | 26.5 | / | 50.0 | 25.50 | 33.50 | 44.5 | 7.9 | 397(40500) | 9.0 |
| NF 40200 | 200.00 | / | 26.5 | / | 50.0 | 25.50 | 33.50 | 44.5 | 7.9 | 397(40500) | 8.5 |
| NF 56200 | 200.00 | / | 29.5 | / | 57.0 | 29.50 | 40.50 | 54 | 9.5 | 554(56500) | 12.3 |
| NF 56250 | 250.00 | / | 29.5 | / | 57.0 | 29.50 | 40.50 | 54 | 9.5 | 554(56500) | 12.0 |
| NF 63200 | 200.00 | / | 31.5 | / | 59.0 | 30.50 | 41.50 | 57 | 9.5 | 618(63000) | 13.7 |
| NF 63250 | 250.00 | / | 31.5 | / | 59.0 | 30.50 | 41.50 | 57 | 9.5 | 618(63000) | 13.0 |
| NF 70200 | 200.00 | / | 33.5 | / | 61.0 | 31.50 | 42.50 | 63.5 | 9.5 | 721(73500) | 16.2 |
| NF 70250 | 250.00 | / | 33.5 | / | 61.0 | 31.50 | 42.50 | 63.5 | 9.5 | 721(73500) | 15.5 |
| NF 90200 | 200.00 | / | 38 | / | 68.0 | 34.50 | 45.50 | 72 | 10.5 | 907(92500) | 21.0 |
| NF 90250 | 250.00 | / | 38 | / | 68.0 | 34.50 | 45.50 | 72 | 10.5 | 907(92500) | 20.0 |
| NF115250 | 250.00 | / | 40 | / | 76.0 | 38.00 | 49.00 | 76.2 | 12.7 | 1120(114000) | 25.0 |
| NF115300 | 300.00 | / | 40 | / | 76.0 | 38.00 | 49.00 | 76.2 | 12.7 | 1120(114000) | 24.0 |
| NF140250 | 250.00 | / | 47.5 | / | 84.0 | 44.00 | 54.00 | 85 | 14 | 1400(143000) | 32.0 |
| NF140300 | 300.00 | / | 47.5 | / | 84.0 | 44.00 | 54.00 | 85 | 14 | 1400(143000) | 31.0 |
| NF180300 | 300.00 | / | 52.5 | / | 94.0 | 48.50 | 58.50 | 95 | 16 | 1740(177500) | 39.0 |
| NF180350 | 350.00 | / | 52.5 | / | 94.0 | 48.50 | 58.50 | 95 | 16 | 1740(177500) | 37.8 |
| NF210300 | 300.00 | / | 59 | / | 101.0 | 51.50 | 61.50 | 110 | 16 | 2150(219500) | 50.0 |
| NF210350 | 350.00 | / | 59 | / | 101.0 | 51.50 | 61.50 | 110 | 16 | 2150(219500) | 48.3 |
| NF250300 | 300.00 | / | 66 | / | 114.0 | 58.50 | 68.50 | 112 | 19 | 2440(248500) | 58.8 |
| NF250350 | 350.00 | / | 66 | / | 114.0 | 58.50 | 68.50 | 112 | 19 | 2440(248500) | 56.7 |
| NF280300 | 300.00 | / | 67 | / | 115.0 | 58.50 | 68.50 | 122 | 19 | 2720(277500) | 66.0 |
| NF280350 | 350.00 | / | 67 | / | 115.0 | 58.50 | 68.50 | 122 | 19 | 2720(277500) | 62.3 |

These chains consist of outer link plates, inner block links and pins.

Engineered Bush Chains

Engineered Steel Bush Chains



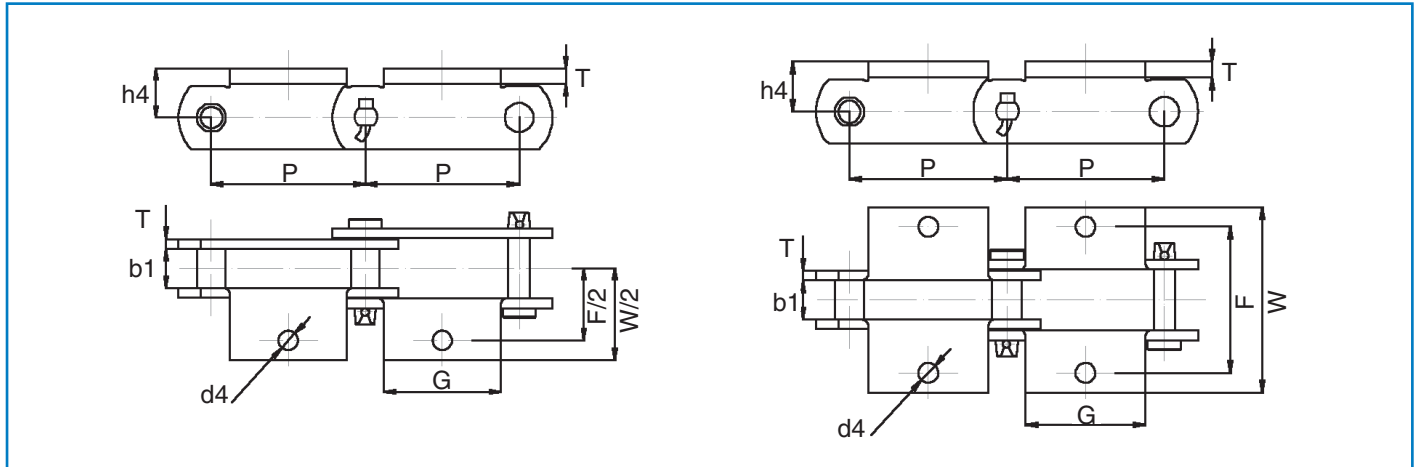
| ANSI chain number | Challenge chain number | Pitch inches | Pitch mm | Bush diameter | Width between inner plates | Pin diameter | Pin length | Side plate height | Plate thickness | Average Tensile strength | Approx weight |
|-------------------|------------------------|--------------|----------|---------------|----------------------------|--------------|------------|-------------------|-----------------|--------------------------|---------------|
| | | P | P | d1 max | b1 min | d2 | L max | H | T | kN/bf | kg/m |
| S102B | S102B | 4.00 | 101.60 | 25.4 | 54.1 | 15.88 | 111.3 | 38.10 | 9.70 | 176.00 | 10.40 |
| S102B | S102B-C | 6.00 | 152.40 | 32 | 54.1 | 15.88 | 111.3 | 38.10 | 9.70 | 176.00 | 9.80 |
| S111 | S111 | 4.76 | 120.90 | 36.6 | 66.8 | 19.05 | 131.2 | 50.80 | 9.70 | 235.40 | 15.90 |
| S131 | S131 | 3.08 | 78.11 | 32 | 33.5 | 15.88 | 90.5 | 38.10 | 9.70 | 176.00 | 11.60 |
| S150 | S150 | 6.05 | 153.67 | 44.7 | 84.3 | 25.4 | 164.6 | 63.50 | 12.70 | 416.00 | 25.70 |
| S188 | S188 | 2.61 | 66.27 | 22.4 | 26.9 | 12.7 | 68.6 | 28.40 | 6.40 | 112.20 | 5.60 |
| S856 | S856 | 6.00 | 152.40 | 44.4 | 76.2 | 25.4 | 154.9 | 63.50 | 12.70 | 401.50 | 25.00 |
| S857 | S857 | 6.00 | 152.40 | 44.4 | 76.2 | 25.4 | 154.9 | 82.60 | 12.70 | 475.20 | 32.00 |
| S859 | S859 | 6.00 | 152.40 | 60.4 | 95.3 | 31.75 | 188.5 | 101.60 | 16.00 | 759.00 | 55.90 |
| S864 | S864 | 7.00 | 177.80 | 60.4 | 95.3 | 31.75 | 188.5 | 101.60 | 16.00 | 759.00 | 51.80 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Engineered Bush Chains

Engineered Steel Bush Chains Attachments A1 & K1

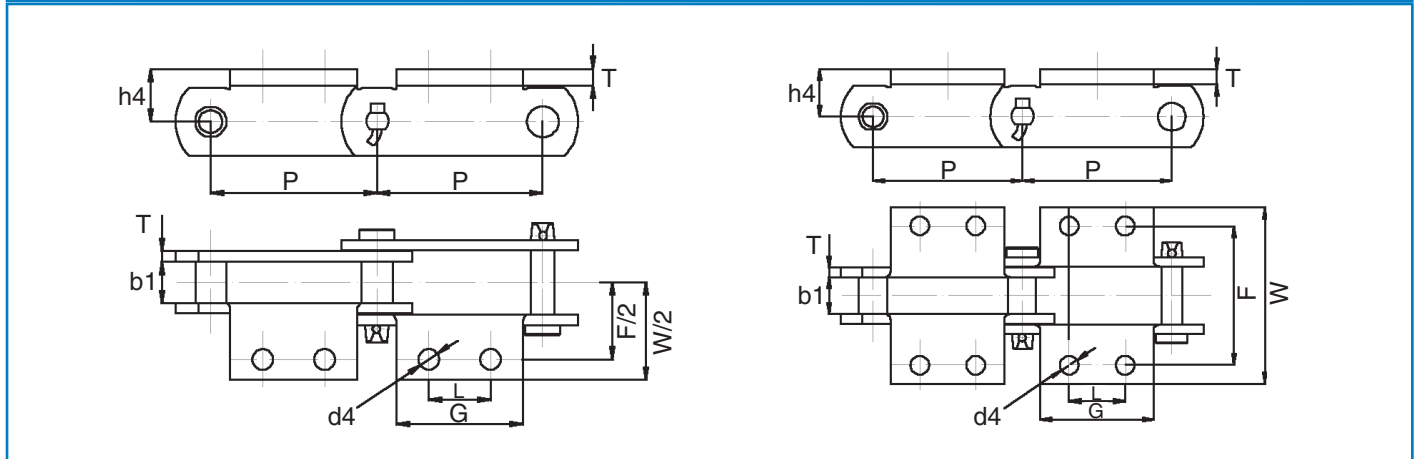
Engineered Steel Bush Chains Attachments A1 & K1



| ANSI chain number | Challenge chain number | Pitch inches | Pitch mm | Attachment diameter | | | | | Plate thickness |
|-------------------|------------------------|--------------|----------|---------------------|-------|-------|------|-------|-----------------|
| | | P | P | G | F | W | h4 | d4 | T |
| S102B | S102B | 4.00 | 101.60 | 77.0 | 121.0 | 180.8 | 25.4 | 10.20 | 9.70 |
| S131 | S131 | 3.08 | 78.11 | 73.9 | 104.6 | 157 | 25.4 | 13.50 | 9.70 |
| S188 | S188 | 2.61 | 66.27 | 54.6 | 95.2 | 131.6 | 20.6 | 10.20 | 6.40 |

Engineered Steel Bush Chains Attachments A2 & K2

Engineered Steel Bush Chains Attachments A2 & K2

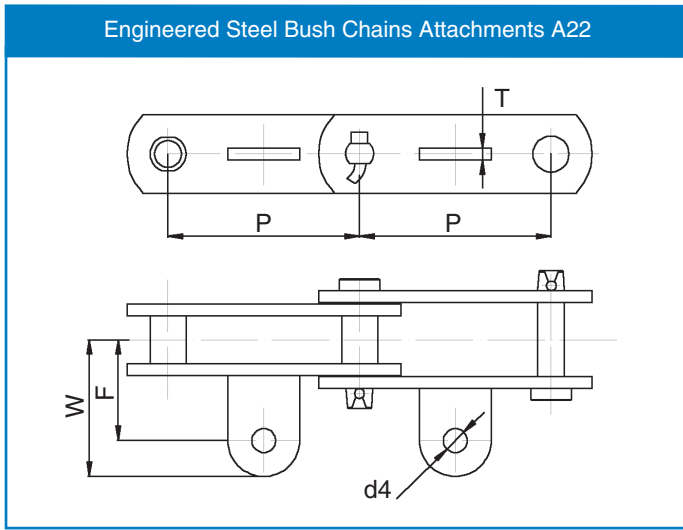


| ANSI chain number | Challenge chain number | Pitch inches | Hole distance | Attachment diameter | | | | | Plate thickness |
|-------------------|------------------------|--------------|---------------|---------------------|-------|-------|------|--------|-----------------|
| | | P | L | G max | F | W max | h4 | d4 min | T |
| S102B | S102B | 101.60 | 44.50 | 69.9 | 134.9 | 180.8 | 25.4 | 10.20 | 9.70 |
| S110 | S110 | 152.40 | 44.50 | 89.6 | 134.9 | 180.8 | 25.4 | 10.20 | 9.70 |
| S111 | S111 | 120.90 | 58.70 | 92.7 | 158.8 | 210.8 | 38.1 | 13.50 | 9.70 |
| S131 | S131 | 78.11 | 38.10 | 73.9 | 104.6 | 157 | 25.4 | 13.50 | 9.70 |
| S150 | S150 | 153.67 | 69.90 | 108.7 | 190.5 | 249.4 | 47.8 | 13.50 | 12.70 |
| S188 | S188 | 66.27 | 31.80 | 54.6 | 106.4 | 131.6 | 20.6 | 8.60 | 6.40 |
| S856 | S856 | 152.40 | 63.50 | 103.1 | 184.2 | 241.3 | 47.8 | 16.80 | 12.70 |

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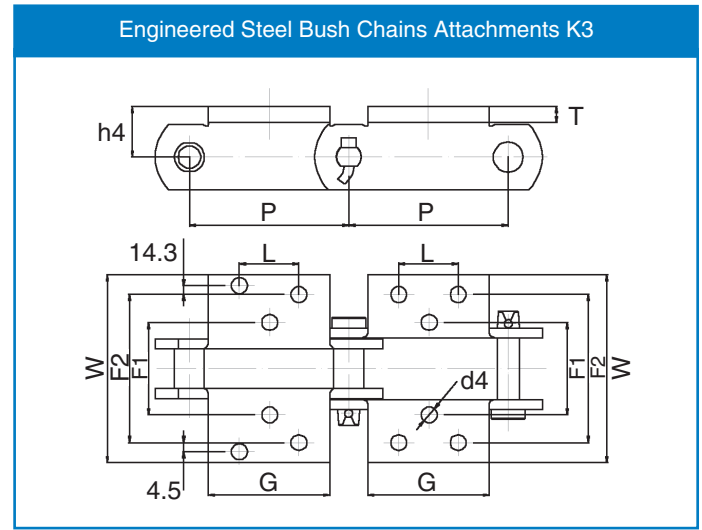
Engineered Bush Chains

Engineered Steel Bush Chains Attachments A22



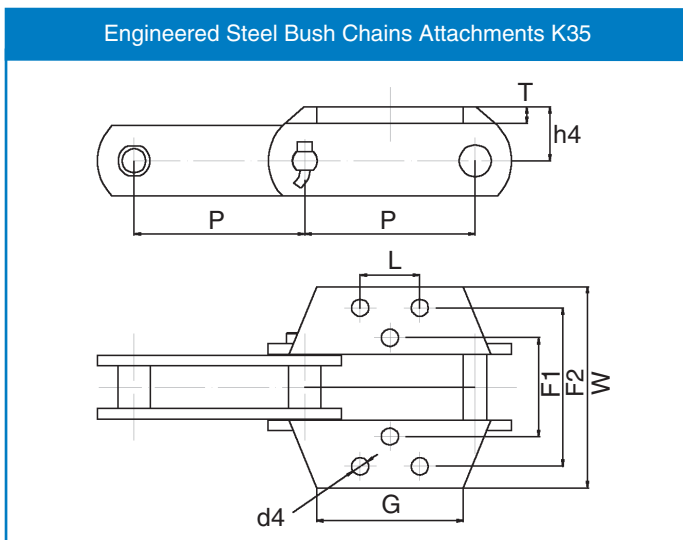
| ANSI chain number | Challenge chain number | Pitch | | Attachment diameter | | | | Plate thickness | |
|-------------------|------------------------|--------|-------|---------------------|------|------|---|-----------------|-------|
| | | inches | mm | P | G | F | W | h4 | d4 |
| S188 | S188 | 2.61 | 66.27 | 49.2 | 45.2 | 61.2 | / | 10.20 | 10.40 |
| / | S188A22F1 | 2.61 | 66.27 | 32.0 | 45.2 | 61.2 | / | 12.00 | 6.40 |

Engineered Steel Bush Chains Attachments K3



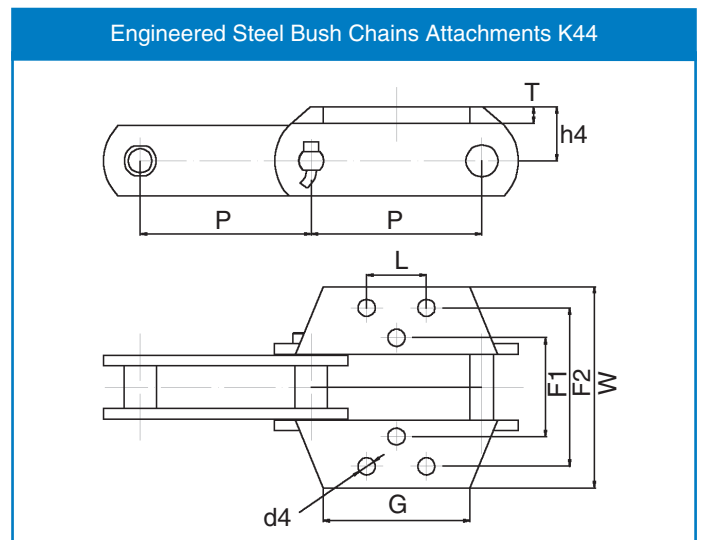
| ANSI chain number | Challenge chain number | Pitch | | Attachment diameter | | | | Plate thickness | | |
|-------------------|------------------------|--------|-------|---------------------|-------|-------|-------|-----------------|-------|------|
| | | inches | mm | P | G | L | F1 | F2 | W | h4 |
| S150 | S150 | 153.67 | 109.5 | 69.9 | 190.5 | 292.1 | 347.5 | 47.80 | 13.50 | 13.5 |
| S856 | S856 | 152.40 | 152.4 | 69.9 | 166.6 | 277.9 | 349.3 | 47.80 | 13.50 | 13.5 |

Engineered Steel Bush Chains Attachments K35



| ANSI chain number | Challenge chain number | Pitch | | Attachment diameter | | | | Plate thickness | | |
|-------------------|------------------------|--------|-------|---------------------|-------|-------|-------|-----------------|-------|------|
| | | inches | mm | P | G | L | F1 | F2 | W | h4 |
| S856 | S856 | 152.40 | 146.1 | 63.5 | 184.2 | 298.5 | 349.3 | 47.80 | 16.80 | 13.5 |

Engineered Steel Bush Chains Attachments K44

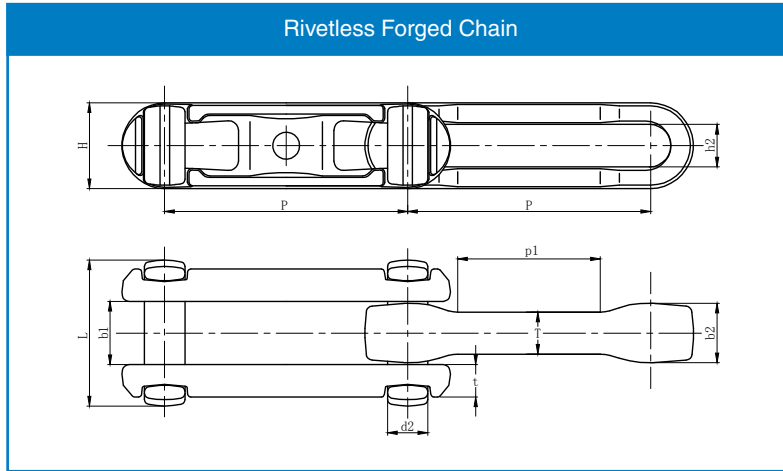


| ANSI chain number | Challenge chain number | Pitch | | Attachment diameter | | | | Plate thickness | | | |
|-------------------|------------------------|--------|-------|---------------------|------|-------|-------|-----------------|-------|------|------|
| | | inches | mm | P | G | L1 | L2 | F1 | F2 | W | h4 |
| S857 | S857 | 152.40 | 146.1 | 88.9 | 88.9 | 177.8 | 304.8 | 355.60 | 63.50 | 13.5 | 13.5 |
| S859 | S859 | 152.40 | 146.1 | 114.3 | 69.9 | 228.6 | 330.2 | 381.00 | 76.20 | 16.8 | 13.5 |
| S864 | S864 | 177.80 | 146.1 | 139.7 | 95.3 | 228.6 | 330.2 | 381.00 | 76.20 | 16.8 | 13.5 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

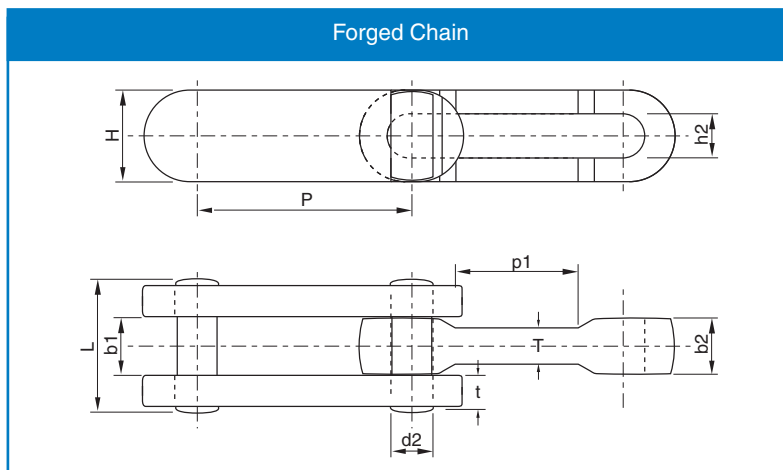
Drop Forged Chain

Rivetless Forged Chain



| Chain number | Pitch mm P | Pin diameter d2 | Pin length L | Center link gap | | Plate thickness | | Center link width b1 | Ultimate tensile strength / kN Q min |
|--------------|------------------|-----------------------|-----------------|-----------------|-------|-----------------|-------|----------------------------|--|
| | | | | h2 min | H max | t | T | | |
| X228 | 50.80 | 6.40 | 27.70 | 7.90 | 18.00 | 6.40 | 9.40 | 13.00 | 26.70 |
| X348 | 76.20 | 12.40 | 43.90 | 13.50 | 27.90 | 10.20 | 13.00 | 20.10 | 97.90 |
| X458 | 101.60 | 16.00 | 57.20 | 16.80 | 36.60 | 12.20 | 16.30 | 27.20 | 210.00 |
| X458XP | 101.60 | 16.00 | 57.20 | 16.80 | 36.60 | 12.20 | 16.30 | 27.20 | 255.00 |
| 468 | 102.40 | 19.05 | 84.10 | 22.35 | 47.80 | 10.40 | 28.70 | 42.93 | 391.00 |
| X678 | 152.40 | 22.10 | 77.00 | 24.10 | 51.60 | 17.80 | 21.10 | 34.30 | 380.00 |
| X678XP | 152.40 | 22.10 | 77.00 | 24.10 | 51.60 | 17.80 | 21.10 | 34.30 | 450.00 |
| 698 | 152.40 | 28.70 | 95.25 | 31.75 | 65.00 | 14.20 | 25.40 | 41.40 | 650.00 |
| 698XP | 152.40 | 28.70 | 95.25 | 31.75 | 65.00 | 14.20 | 25.40 | 41.40 | 720.00 |
| 998 | 229.40 | 28.70 | 95.30 | 31.75 | 67.60 | 14.20 | 25.40 | 42.93 | 578.00 |
| 9118 | 229.40 | 35.00 | 124.00 | 38.10 | 76.20 | 19.80 | 33.30 | 51.10 | 979.00 |

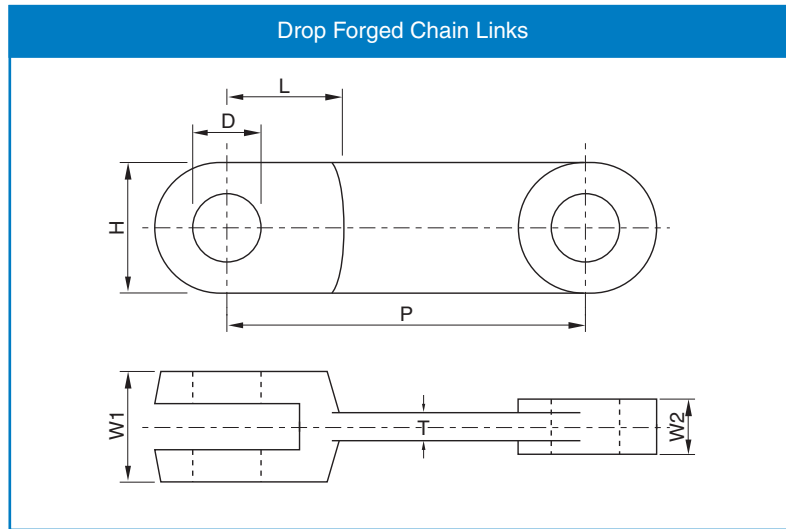
Forged Chain



| Chain number | Pitch mm P | Pin diameter d2 | Pin length L | Center link gap | | Plate thickness | | Center link width b1 | Ultimate tensile strength / kN Q min |
|--------------|------------------|-----------------------|-----------------|-----------------|-------|-----------------|-------|-------------------------|--|
| | | | | h2 min | H max | t | T | | |
| S348 | 76.68 | 12.70 | 44.45 | 20.57 | 28.70 | 12.70 | 14.22 | 8.89 | 3.58 |
| S458 | 102.39 | 16.00 | 52.32 | 26.92 | 35.05 | 16.00 | 17.53 | 17.78 | 5.22 |
| S468 | 102.39 | 19.05 | 74.68 | 42.93 | 50.80 | 28.70 | 22.35 | 29.78 | 11.78 |
| S678 | 153.19 | 22.35 | 76.20 | 36.58 | 50.80 | 20.57 | 25.40 | 34.22 | 12.83 |
| S698 | 153.19 | 28.70 | 82.55 | 41.40 | 63.50 | 25.40 | 31.75 | 48.00 | 17.45 |
| S998 | 229.39 | 28.70 | 82.55 | 42.93 | 63.50 | 25.40 | 31.75 | 48.00 | 18.05 |
| S9118 | 229.39 | 35.05 | 111.25 | 54.10 | 76.20 | 33.27 | 38.10 | 81.33 | 34.75 |

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Drop Forged Chain



| Chain number | Pitch mm P | H | W1 | W2 | T | L | D | *Weight kg | Min. UTS kN |
|--------------|---------------|----|----|----|------|----|----|------------|-------------|
| 102 | 102 | 36 | 28 | 12 | 7.6 | 32 | 14 | 0.44 | 150 |
| 142 | 142 | 50 | 42 | 20 | 11 | 46 | 25 | 1.26 | 300 |
| 142H | 142 | 50 | 62 | 30 | 16.5 | 55 | 25 | 2.1 | 450 |
| 142T | 142 | 50 | 62 | 30 | 16.5 | 55 | 25 | 2.1 | 600 |
| 200 | 200 | 60 | 62 | 28 | 20 | 58 | 25 | 3.2 | 500 |
| 216 | 216 | 72 | 58 | 25 | 18 | 60 | 35 | 4.6 | 582 |
| 260 | 260 | 75 | 70 | 31 | 20 | 79 | 32 | 5.65 | 700 |

* Weight including Pin and Circlip.

Nylon and welded steel flights available, eg:

Square Bar Flight

U Flight

OO Flight

Flat Bar Flight

Closed U Flight

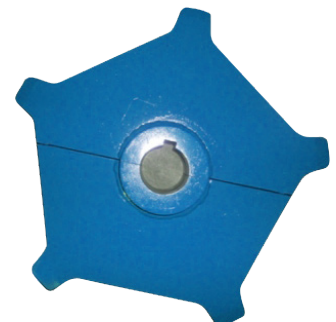
OO Flight with Filler Plates

Paddle Flight

Close U Flight with Filler Plates

Return Cup Flights

All types of sprocket available



The Benefits Spin Riveted Palm Oil Chain

Challenge Palm Oil conveyor chains are designed to withstand the harsh environments found in today's modern Palm Oil mills. Shock loads, heat and lubricating issues demand a tough, high quality solution.

Material – High quality alloy steels used throughout.

Case Hardened alloy steel precision machined bushes

– Ensuring minimum distortion and superior concentricity.

Bushes from seamless tube with location shoulders and interference fit

– For precise assembly; control on inner width and prevention of pin rotation. Bush shoulder length extended to form clearance between inner and outer plates providing uniform lubrication, increased strength and life and greatly minimises possibility of chain seizure.

Spin Riveted Induction Hardened Pins in alloy steel – For optimum life.

Pins with location shoulders and interference fit – For precise positioning of outer plate.

Hardened Rollers with outer diameter finished by grinding

– Gives excellent wear resistance and good load carrying qualities plus reduced wear on sprockets and a better visual result.

Link plates cropped from cold drawn steel

– Ensures internal stresses are minimised resulting in a plate able to withstand fatigue and shock loads.

Holes precision punched on dedicated progression tooling – consistently high tolerance pitch control guaranteed.

Links manufactured from high carbon steel – Giving increased breaking load.

Shot peened – Produces strong surface and reduced fatigue.

Attachments and options

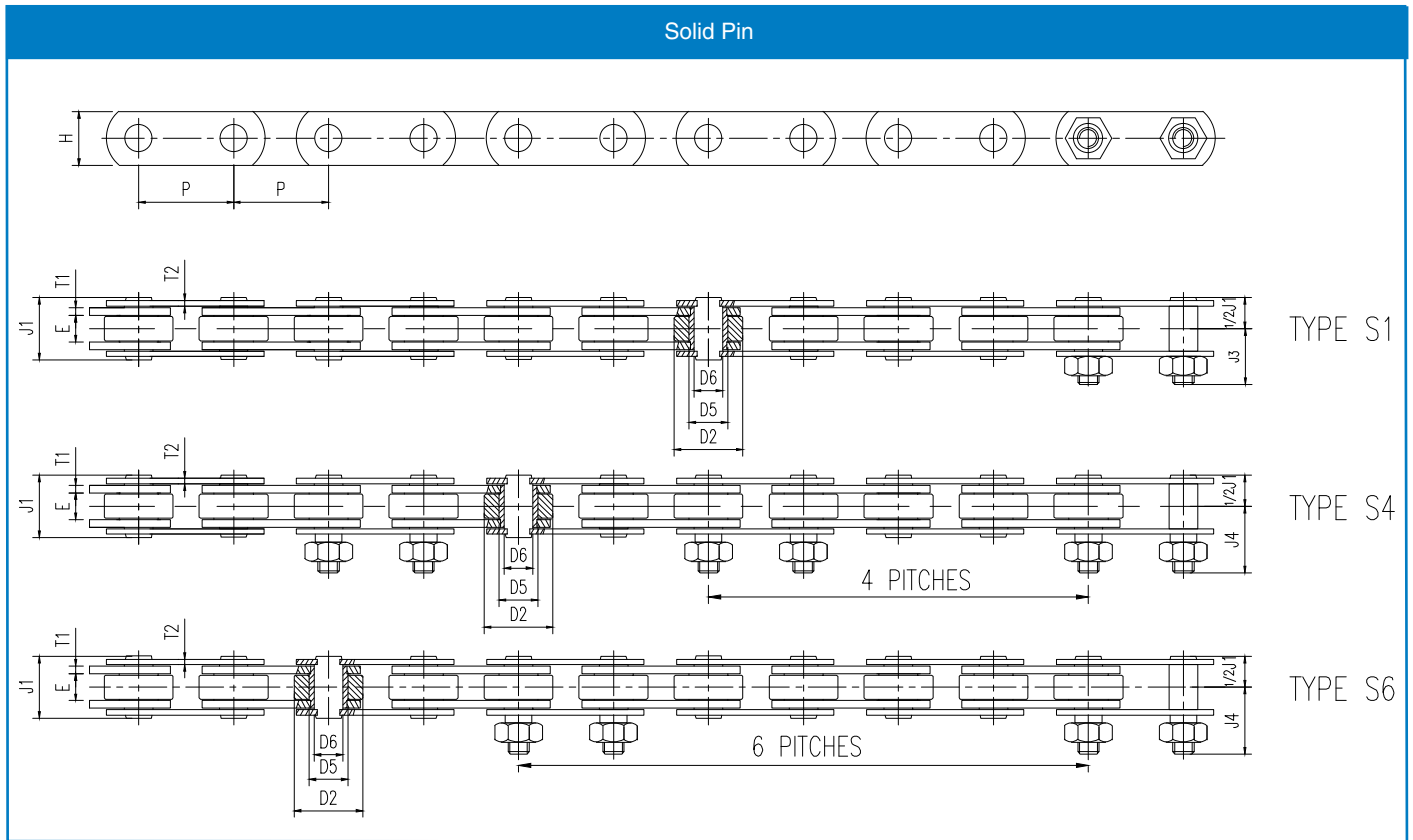
– Zinc and Nickel plated parts, molykoted pins, bushes and rollers. Flanged rollers, hardened plates, Stainless parts, liner bushes etc.

Connecting links – Use zinc plated steel locking nuts (Nyloc).



Palm Oil Chain

BS Conveyor Chain (BS 4116 Part 4)



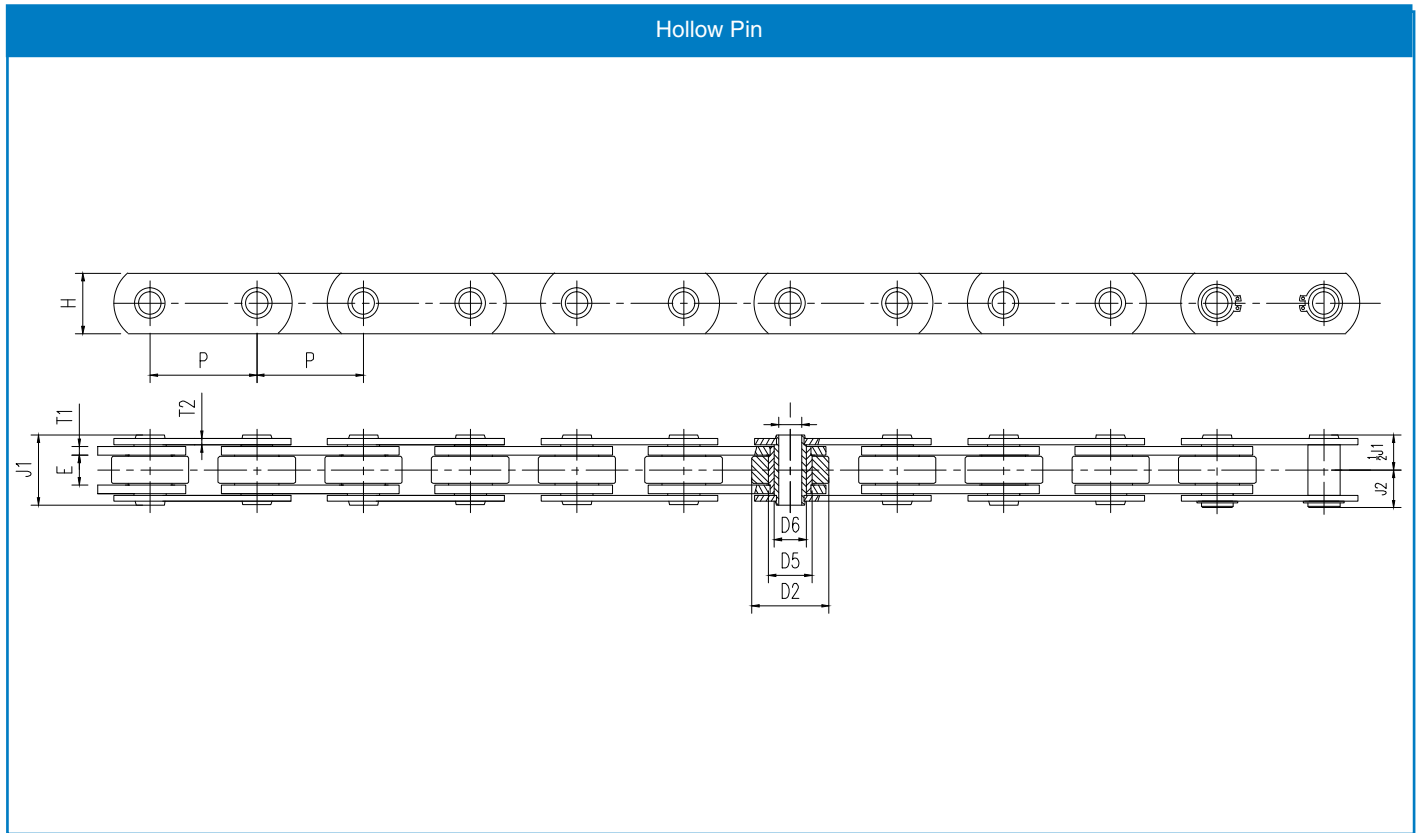
Solid Pin

| BS Chain Range | Chain number | Series | Chain type | Pitch Inches P | Pitch mm P | J1 | | | | | | | | | | Minimum breaking load lbf | Minimum breaking load kN | Weight kg/m |
|----------------|---------------------|------------|------------|----------------|------------|-------|------|-----|-----|-------|------|----|-------|------|-------|---------------------------|--------------------------|-------------|
| | | | | | | E | H | T1 | T2 | num | J3 | J4 | D2 | D5 | D6 | | | |
| Z100 | RCC-Z100C101.6 | Standard | S1 | 4.0 | 101.6 | 19.16 | 38.1 | 5.1 | 3.8 | 46.1 | 38.3 | - | 47.63 | 25.4 | 19 | 20,000 | 89 | 6.5 |
| " | RCC-Z100C101.6* | Extra | " | " | " | " | " | " | " | " | " | - | " | " | " | 27,000 | 120 | " |
| " | RCC-Z120C101.6 | Extra Plus | " | " | " | " | " | " | 5.1 | 48.5 | " | - | " | " | " | 32,000 | 142 | 7.0 |
| Z100 | RCC-Z100C101.6-EP4 | Standard | S4 | 4.0 | 101.6 | 19.16 | 38.1 | 5.1 | 3.8 | 46.1 | 38.3 | 47 | 25.4 | 25.4 | 19 | 20,000 | 89 | 6.7 |
| " | RCC-Z100C101.6-EP4* | Extra | " | " | " | " | " | " | " | " | " | " | " | " | " | 27,000 | 120 | " |
| " | RCC-Z120C101.6-EP4 | Extra Plus | " | " | " | " | " | " | 5.1 | 48.5 | " | 48 | " | " | " | 32,000 | 142 | 7.2 |
| Z100 | RCC-Z100C101.6-EP6 | Standard | S6 | 4.0 | 101.6 | 19.16 | 38.1 | 5.1 | 3.8 | 46.1 | 38.3 | 47 | 25.4 | 25.4 | 19 | 20,000 | 89 | 6.6 |
| " | RCC-Z100C101.6-EP6* | Extra | " | " | " | " | " | " | " | " | " | " | " | " | " | 27,000 | 120 | " |
| " | RCC-Z120C101.6-EP6 | Extra Plus | " | " | " | " | " | " | 5.1 | 48.5 | " | " | " | " | " | 32,000 | 142 | 7.1 |
| Z100 | RCC-Z100C152.4 | Standard | S1 | 6.0 | 152.4 | 19.16 | 38.1 | 5.1 | 3.8 | 46.1 | 38.3 | - | 25.4 | 25.4 | 19 | 20,000 | 89 | 5.3 |
| " | RCC-Z100C152.4* | Extra | " | " | " | " | " | " | " | " | " | - | " | " | " | 27,000 | 120 | " |
| " | RCC-Z120C152.4 | Extra Plus | " | " | " | " | " | " | 5.1 | 48.5 | " | - | " | " | " | 32,000 | 142 | 5.6 |
| Z160 | RCC-Z160C101.6 | Standard | S1 | 4.0 | 101.6 | 25.5 | 50.8 | 7.1 | 5.1 | 59.13 | 48.9 | - | 66.7 | 34.9 | 26.9 | 38,000 | 169 | 14.3 |
| " | RCC-Z260C101.6 | Extra | " | " | " | " | " | " | " | " | " | - | " | " | " | 60,000 | 266 | " |
| " | RCC-Z460C101.6 | Extra Plus | " | " | " | " | " | 10 | 10 | " | " | - | " | " | " | 100,000 | 445 | 18.7 |
| Z160 | RCC-Z160C152.4 | Standard | S1 | 6.0 | 152.4 | 25.5 | 50.8 | 7.1 | 5.1 | 59.13 | 48.9 | - | 66.7 | 34.9 | 26.9 | 38,000 | 169 | 11.3 |
| " | RCC-Z260C152.4 | Extra | " | " | " | " | " | " | " | " | " | - | " | " | " | 60,000 | 266 | " |
| " | RCC-Z460C152.4 | Extra Plus | " | " | " | " | " | 10 | 10 | " | " | - | " | " | " | 100,000 | 445 | 15.4 |
| Z160 | RCC-Z160C152.4-EP4 | Standard | S4 | 6.0 | 152.4 | 25.5 | 50.8 | 7.1 | 5.1 | 59.13 | 48.9 | 63 | 66.7 | 34.9 | 26.9 | 38,000 | 169 | 11.7 |
| " | RCC-Z260C152.4-EP4 | Extra | " | " | " | " | " | " | " | " | " | " | " | " | " | 60,000 | 266 | " |
| " | RCC-Z460C152.4-EP4 | Extra Plus | " | " | " | " | " | 10 | 10 | " | " | " | " | " | " | 100,000 | 445 | 15.6 |
| Z160 | RCC-Z160C152.4-EP6 | Standard | S6 | 6.0 | 152.4 | 25.5 | 50.8 | 7.1 | 5.1 | 59.13 | 48.9 | 63 | 66.7 | 34.9 | 26.9 | 38,000 | 169 | 11.5 |
| " | RCC-Z260C152.4-EP6 | Extra | " | " | " | " | " | " | " | " | " | " | " | " | " | 60,000 | 266 | " |
| " | RCC-Z460C152.4-EP6 | Extra Plus | " | " | " | " | " | 10 | 10 | " | " | " | " | " | " | 100,000 | 445 | 15.6 |
| Z300 | RCC-Z300C152.4 | Standard | S1 | 6.0 | 152.4 | 38 | 65 | 10 | 8 | 82.5 | 60.3 | - | 88.9 | 41.3 | 31.75 | 75,000 | 334 | 24.3 |
| " | RCC-Z500C152.4 | Extra | " | " | " | " | " | " | " | " | " | - | " | " | " | 90,000 | 400 | " |
| " | RCC-Z500C152.4* | Extra Plus | " | " | " | " | " | " | " | " | " | - | " | " | " | 120,000 | 534 | " |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Palm Oil Chain

BS Conveyor Chain (BS 4116 Part 4)



Hollow Pin

| BS Chain Range | Chain number | Series | Pitch Inches | Pitch mm | E | I | H | T1 | T2 | J1 SMinimum | J2 | D2 | D5 | D6 | Minimum breaking load lbf | Minimum breaking load kN | Weight kg/m |
|----------------|------------------|------------|--------------|----------|-------|------|------|-----|-----|-------------|------|-------|------|------|---------------------------|--------------------------|-------------|
| ZC60 | RCC-ZC60C101.6 | Standard | 4.0 | 101.6 | 19.16 | 13.2 | 38.1 | 5.1 | 3.8 | 44.1 | 24.7 | 47.63 | 25.4 | 19 | 20,000 | 89 | 6.0 |
| " | RCC-ZC60C101.6* | Extra Plus | " | " | " | " | " | " | " | " | " | " | " | " | 27,000 | 120 | " |
| ZC60 | RCC-ZC60C152.4 | Standard | 6.0 | 152.4 | 19.16 | 13.2 | 38.1 | 5.1 | 3.8 | 44.1 | 24.7 | 47.63 | 25.4 | 19 | 20,000 | 89 | 4.9 |
| " | RCC-ZC60C152.4* | Extra Plus | " | " | " | " | " | " | " | " | " | " | " | " | 27,000 | 120 | " |
| ZC150 | RCC-ZC150C101.6 | Standard | 4.0 | 101.6 | 25.5 | 19.6 | 50.8 | 7.1 | 5.1 | 57.1 | 31.9 | 66.7 | 34.9 | 26.9 | 35,000 | 156 | 12.8 |
| ZC220 | RCC-ZC220C101.6 | Extra | " | " | " | " | " | " | " | " | " | " | " | " | 46,000 | 205 | " |
| ZC220 | RCC-ZC220C101.6* | Extra Plus | " | " | " | " | " | " | " | " | " | " | " | " | 50,000 | 222 | " |
| ZC150 | RCC-ZC150C152.4 | Standard | 6.0 | 152.4 | 25.5 | 19.6 | 50.8 | 7.1 | 5.1 | 57.1 | 31.9 | 66.7 | 34.9 | 26.9 | 35,000 | 156 | 11.0 |
| ZC220 | RCC-ZC220C152.4 | Extra | " | " | " | " | " | " | " | " | " | " | " | " | 46,000 | 205 | " |
| ZC220 | RCC-ZC220C152.4* | Extra Plus | " | " | " | " | " | " | " | " | " | " | " | " | 50,000 | 222 | " |

Sugar Chain



Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Sugar Chain

The Benefits of Challenge Sugar Chain

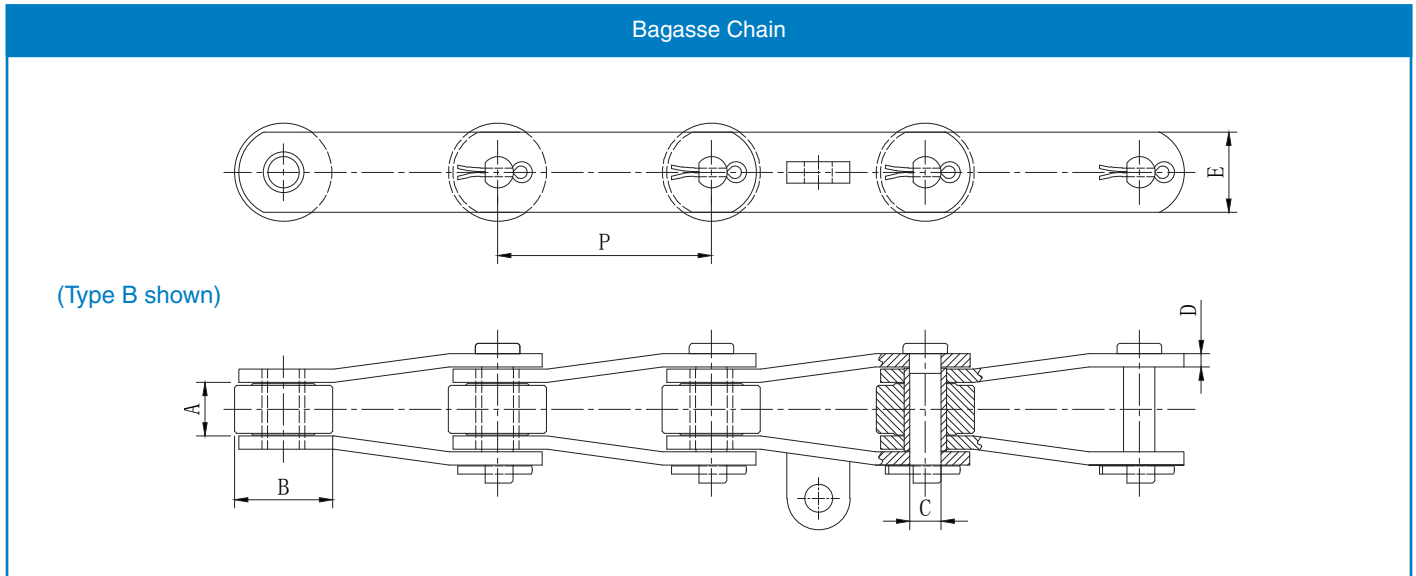
- Material** – High quality steels used throughout
- Link plates cropped from high carbon cold drawn steel**
 To avoid internal stresses associated with guillotined steel, Challenge produces all plates from high tolerance, on size, cold drawn steel bars resulting in a plate better able to withstand fatigue and shock loads.
- Case Hardened Alloy steel bushes precision machined from seamless tube**
 Ensuring minimum distortion and superior concentricity. Interference fit extends wear life by preventing bush rotation. Surface grinding minimises wear between bush and roller
- Induction Hardened Pins in High Chrome Alloy Steel**
 Pins headed and flatted to ensure location and prevent rotation. Challenge EasyFit® pins designed with long lead in to aid on-site maintenance and assembly.
- Hardened Rollers with grinding**
 Grinding the outer diameter gives excellent wear resistance and good load carrying qualities plus reduced wear on sprockets and better visual result. Stepped down to help prevent seizure.
- Flatted bush on 2184 Hyper Chain for increased breaking load.**
- Shot peened to produce a strong surface and reduce fatigue**
- Challenge has invested heavily in CNC controlled machinery for optimum batch component conformity.**
- Attachment plates jig assembled maintains position and squareness.**
- Holes precision punched on dedicated progression tooling**
 Guarantees consistently high tolerance pitch control and strong, fatigue resistant chain.
- Robotic welding of attachment**
 All industry standard attachments available.

In-house design team for all special requirements.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Sugar Chain

Bagasse Chain



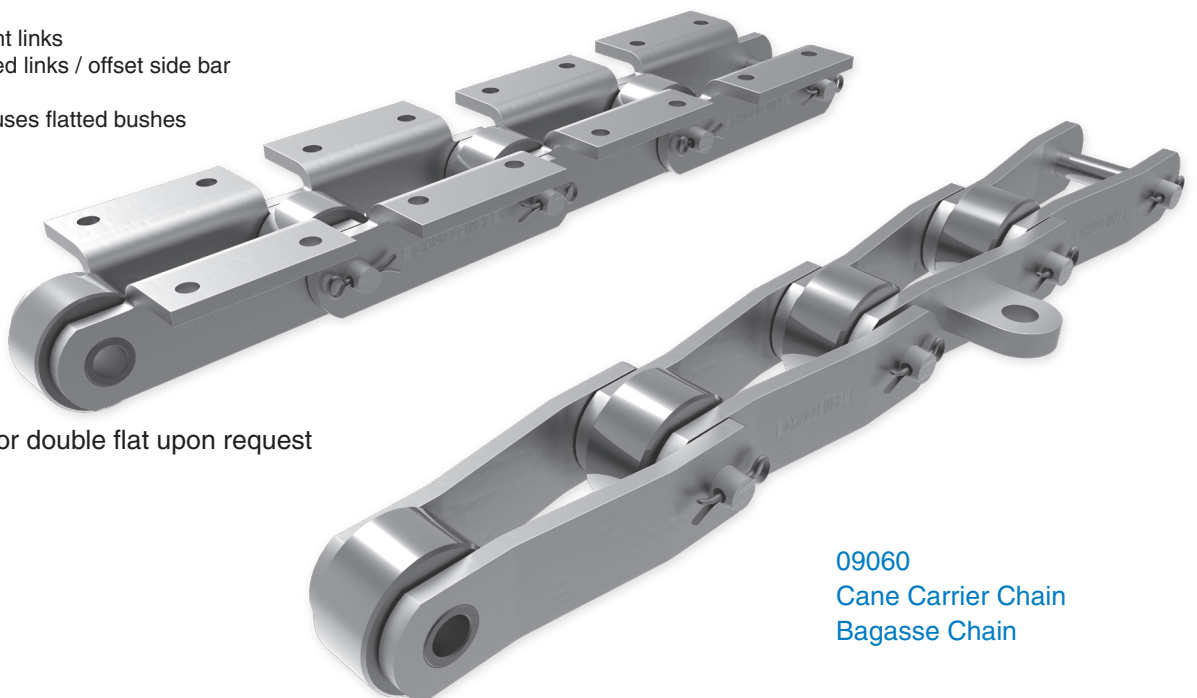
| Chain number | Type | Pitch P | Inside width A | Roller diameter B | Pin diameter C | Plate thickness D | Plate height E | Attachment hole diameter F | Attachment hole centres G | Attachment length H | Attachment face J | Transverse pitch K | Breaking load(kN) | Weight (kg/m) |
|----------------|------|------------|-------------------|----------------------|-------------------|----------------------|-------------------|-------------------------------|------------------------------|------------------------|----------------------|-----------------------|-------------------|---------------|
| CH1796 | A | 152.4 | 38.1 | 69.85 | 22.2 | 9.52 | 57.15 | 12.7 | 82.5 | 114.3 | 115.8 | 88.9 | 445 | 22 |
| CH1796 | B | " | " | " | " | " | " | " | " | " | " | " | " | 22.9 |
| CH2184 | B | 152.4 | 34.93 | 76.2 | 22.2 | 9.52 | 50.8 | 14.3 | 88.9 | 127 | 143 | 88.9 | 356 | 21 |
| * CH2184 HYPER | " | " | " | " | " | " | " | " | " | " | " | " | 380 | " |
| CH9060 | A | 152.4 | 38.1 | 69.85 | 18.9 | 9.52 | 50.8 | 12.7 | 82.5 | 114.3 | 115.8 | 88.9 | 272 | 18.5 |
| CH9060 | B | " | " | " | " | " | " | " | " | " | " | " | " | " |
| CH9061 | A | 152.4 | 38.1 | 69.85 | 18.9 | 9.52 | 57.15 | 12.7 | 82.5 | 114.3 | 115.8 | 88.9 | 386 | 19.85 |
| CH9061 | B | " | " | " | " | " | " | " | " | " | " | " | " | 20.3 |
| CH9063 | A | 152.4 | 38.1 | 76.2 | 23.82 | 10.28 | 63.5 | 14.3 | 88.9 | 127.9 | 142.9 | 100 | 620 | 25.1 |
| CH9063 | B | " | " | " | " | " | " | " | " | " | " | " | " | " |

Stainless steel versions available upon request.

TYPE A with straight links

TYPE B with cranked links / offset side bar

* CH2184 HYPER uses flatted bushes

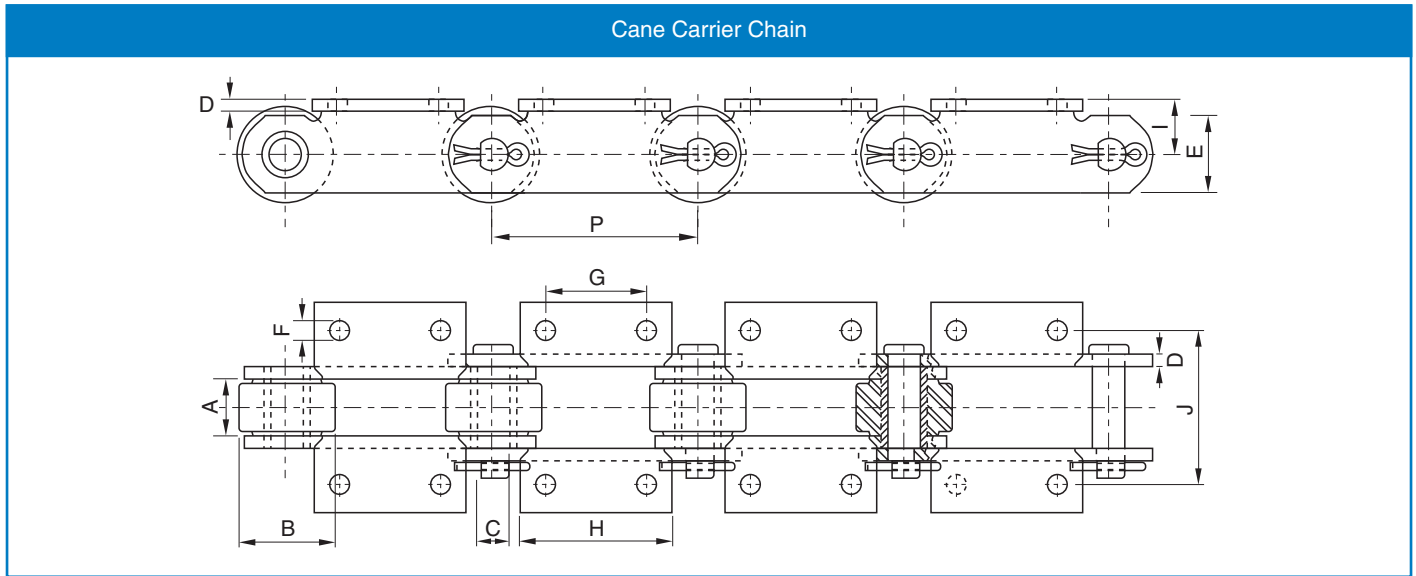


Pins with single or double flat upon request

09060
Cane Carrier Chain
Bagasse Chain

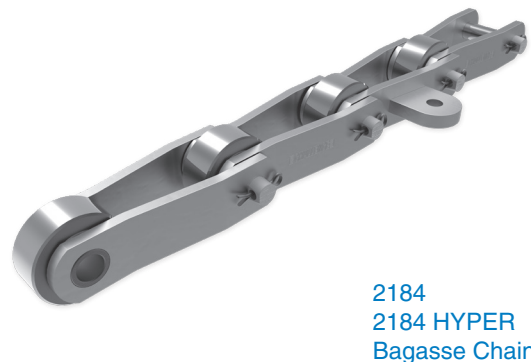
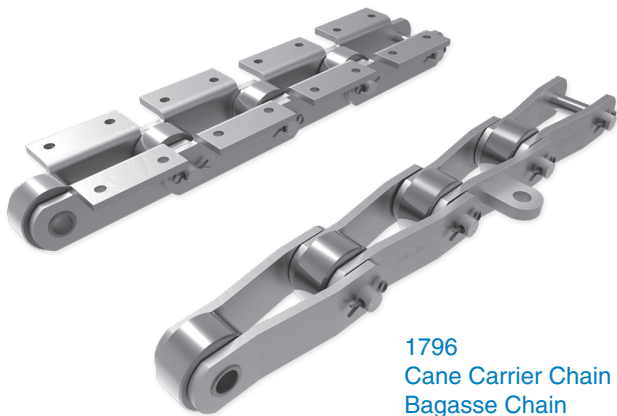
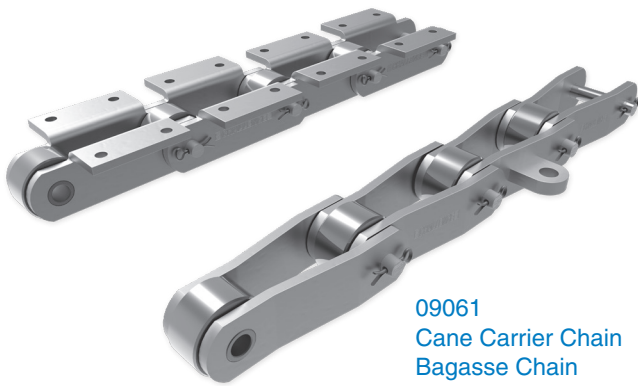
Sugar Chain

Cane Carrier Chain



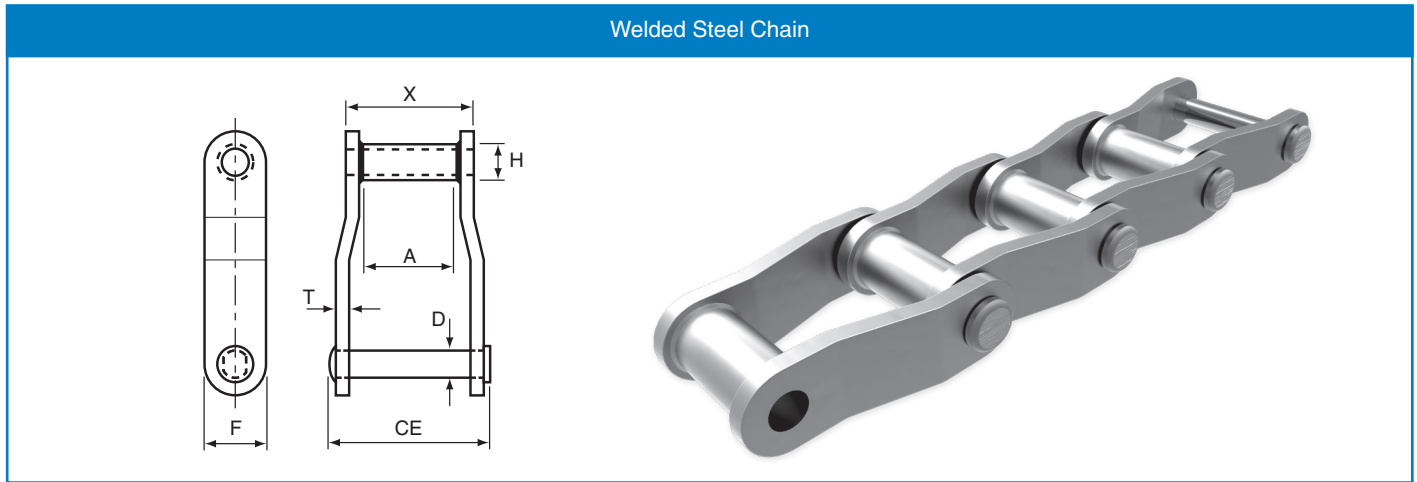
| Chain number | Pitch P | Inside width A | Roller diameter B | Pin diameter C | Plate thick D | Plate height E | Attachent hole diameter F | Attachment hole centres G | Attachment length H | Platform height I | Transverse pitch J | Breaking Load (kN) | Weight (kg/m) |
|--------------|------------|-------------------|----------------------|-------------------|------------------|-------------------|------------------------------|------------------------------|------------------------|----------------------|-----------------------|--------------------|---------------|
| CH9060 | 152.40 | 36.50 | 69.85 | 18.90 | 9.52 | 50.80 | 12.70 | 76.20 | 114.30 | 41.30 | 111.20 | 272 | 24.70 |
| CH9061 | 152.40 | 36.50 | 69.85 | 18.90 | 9.52 | 57.15 | 12.70 | 76.20 | 114.30 | 41.30 | 111.20 | 386 | 25.30 |
| CH9063 | 152.40 | 36.50 | 76.20 | 23.80 | 10.30 | 63.50 | 12.70 | 76.20 | 114.30 | 44.45 | 111.20 | 620 | 27.50 |
| CH1796 | 152.40 | 38.10 | 69.85 | 22.23 | 9.52 | 57.15 | 12.70 | 76.20 | 114.30 | 41.30 | 111.20 | 445 | 26.20 |

Heat treated stainless steel versions available upon request.



Sugar Chain

Welded Steel Chain

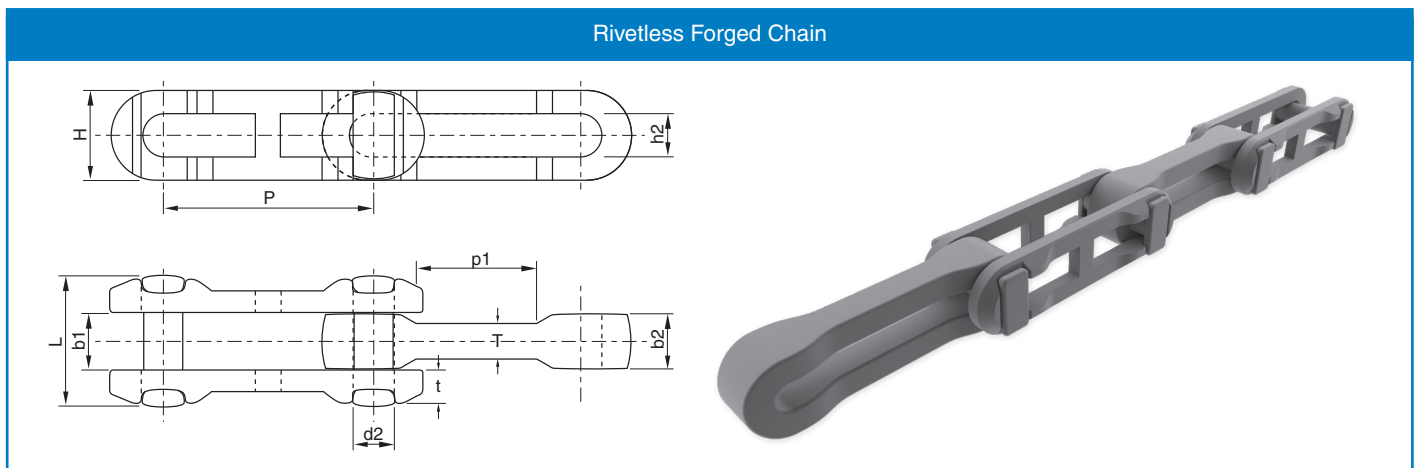


Welded Steel Chain (Offset Side Bar)

| Chain Number | Pitch | | Average Ultimate Strength lbf | Max. Working Load lbf | Approx. Links Per Foot | Average Weight lbf/ft | Dimensions | | | | | | |
|--------------|--------|--------|-------------------------------|-----------------------|------------------------|-----------------------|------------|--------|-------|-------|-------|-------|-------|
| | mm | Inches | | | | | CE | X | D | T | F | H | A |
| WR78 | 66.26 | 2.609 | 24000 | 3000 | 4.6 | 4.0 | 76.20 | 50.80 | 12.70 | 6.35 | 28.58 | 22.23 | 28.58 |
| WH78 | 66.26 | 2.609 | 36000 | 3500 | 4.6 | 4.0 | 76.20 | 50.80 | 12.70 | 6.35 | 28.58 | 22.23 | 28.58 |
| WR82 | 78.10 | 3.074 | 30000 | 5000 | 3.9 | 5.0 | 79.50 | 57.00 | 14.29 | 6.40 | 31.80 | 25.40 | 32.00 |
| WH82 | 78.10 | 3.074 | 40000 | 6650 | 3.9 | 5.2 | 79.50 | 57.00 | 14.29 | 6.40 | 31.80 | 27.00 | 32.00 |
| WR124 | 101.60 | 4.000 | 46000 | 6300 | 3.0 | 8.3 | 107.95 | 69.85 | 19.05 | 9.53 | 38.10 | 31.75 | 38.10 |
| WH124 | 101.60 | 4.000 | 60000 | 7350 | 3.0 | 8.3 | 107.95 | 69.85 | 19.05 | 9.53 | 38.10 | 31.75 | 38.10 |
| WR132 | 153.67 | 6.050 | 84000 | 13100 | 2.0 | 14.2 | 158.75 | 111.00 | 25.40 | 12.70 | 50.80 | 41.28 | 73.03 |
| WH132 | 153.67 | 6.050 | 110000 | 15000 | 2.0 | 14.2 | 158.75 | 111.00 | 25.40 | 12.70 | 50.80 | 41.28 | 73.03 |

WR - Welded steel chain - through hardened pins and case hardened bushes.
 WH - Welded steel chain - all components fully heat treated

Rivetless Forged Chain

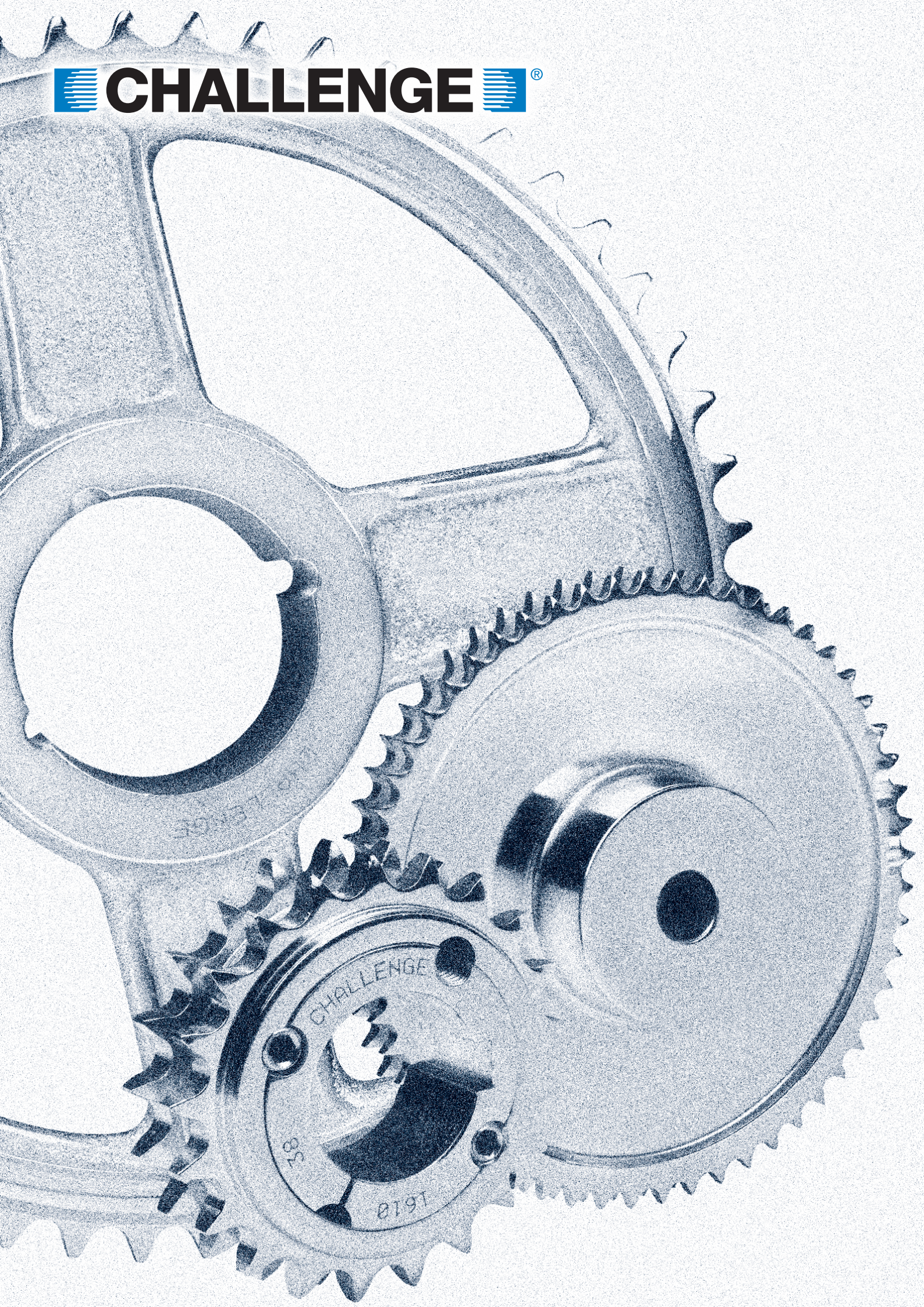


| Chain number | Pitch mm P | Pin diameter d2 | Pin length L | Center link gap | | Plate thickness | | Center link width b1 | Ultimate tensile strength / kN Q min |
|--------------|------------|-----------------|--------------|-----------------|-------|-----------------|-------|----------------------|--------------------------------------|
| | | | | h2 min | H max | t | T | | |
| X348 | 76.20 | 12.40 | 43.90 | 13.50 | 27.90 | 10.20 | 13.00 | 20.10 | 97.90 |
| X678 | 152.40 | 22.10 | 77.00 | 24.10 | 51.60 | 17.80 | 21.10 | 34.30 | 380.00 |
| 698 | 152.40 | 28.70 | 95.25 | 31.75 | 65.00 | 14.20 | 25.40 | 41.40 | 650.00 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Notes

CHALLENGE®





Features

General

The material used is either C45 steel which can be both welded and hardened, or GG22 close grain cast iron.

All standard steel sprockets are produced from either sawn bar or from a forged block.

Special sprockets in small quantities are produced from a plate and then welded onto a hub.

BS Taper Bore Sprockets

- 06B – 24B in simplex, duplex and triplex
- Produced from either C45 steel or from GG22 close grain cast iron dependent upon the sprocket style and design

BS Pilot Bore Sprockets

- 03B – 32B in simplex, duplex and triplex including sizes 081/083/084 and 085
- Produced from either C45 steel or GG22 close grain cast iron dependent upon the sprocket style and design

Plate Wheel Sprockets

- Plate Wheels are available in sizes 03B – 32B including sizes 081/083/084 and 085
- ANSI can be produced to order
- Produced from C45 steel

Double Simplex Sprockets

- Are available in both Taper Bore and Pilot Bore configuration, covering sizes 06B to 16B
- Produced from C45 steel

Idler Sprockets

- With a ball bearing insert, these sprockets are available in British Standard sizes 05B through to 20B
- Also available are sprockets to suit ANSI chain in sizes 35 – 80
- Produced from C45 steel

ANSI Pilot Bore Sprockets

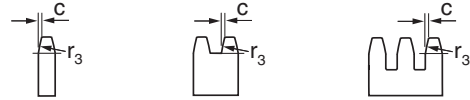
- Sizes 35 – 100 in simplex, duplex and triplex
- Sizes 120 – 160 in simplex and duplex
- All C45 steel construction
- Hardened teeth available for all sizes

Taper Bore Sprockets

BS Taper Bore Sprockets

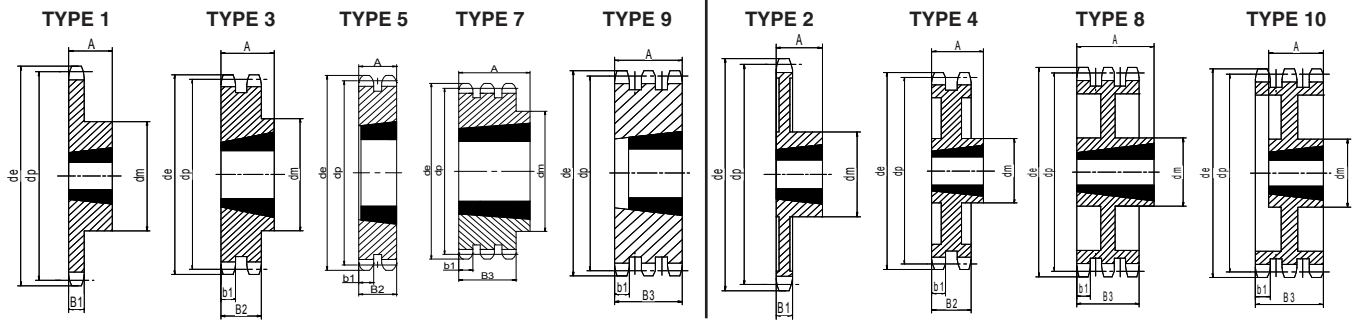
06B 3/8" x 7/32"

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|-------|
| Tooth Radius r_3 | 10.0 | Pitch | 9.525 |
| Chamfer c | 1.0 | Width Between inner Plates | 5.720 |
| Tooth Width b1 | 5.2 | Roller Diameter | 6.350 |
| Tooth Width B1 | 5.3 | | |
| Tooth Width B2 | 15.4 | | |
| Tooth Width B3 | 25.6 | | |



TYPES : 1, 3, 5, 7, 9 C45 STEEL

TYPES : 2, 4, 8, 10 GG22 CAST IRON



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | | | Duplex | | | | | Triplex | | | | |
|-------|--------------|--------------|---------|------------|---------------------|------------|------|--------|------------|---------------------|------------|------|---------|------------|---------------------|------------|------|
| | | | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type |
| 17 | 55.3 | 51.83 | 31-17 | 45* | 22 | 1008 | 1 | 32-17 | 41* | 22 | 1008 | 3 | 33-17 | - | 25.6 | 1008 | 9 |
| 18 | 58.3 | 54.85 | 31-18 | 45 | 22 | 1008 | 1 | 32-18 | 43 | 22 | 1008 | 3 | - | - | - | - | - |
| 19 | 61.3 | 57.87 | 31-19 | 45 | 22 | 1008 | 1 | 32-19 | 46 | 22 | 1008 | 3 | 33-19 | - | 25.6 | 1008 | 9 |
| 20 | 64.3 | 60.89 | 31-20 | 46 | 22 | 1008 | 1 | 32-20 | 48 | 22 | 1008 | 3 | - | - | - | - | - |
| 21 | 68.0 | 63.91 | 31-21 | 46 | 22 | 1008 | 1 | 32-21 | 49 | 22 | 1008 | 3 | 33-21 | - | 25.6 | 1008 | 9 |
| 22 | 71.0 | 66.93 | 31-22 | 50 | 22 | 1108 | 1 | 32-22 | 52 | 22 | 1108 | 3 | - | - | - | - | - |
| 23 | 73.5 | 69.95 | 31-23 | 63* | 25 | 1210 | 1 | 32-23 | 59 | 25 | 1210 | 3 | 33-23 | - | 25.6 | 1210 | 9 |
| 24 | 77.0 | 72.97 | 31-24 | 63 | 25 | 1210 | 1 | 32-24 | 61 | 25 | 1210 | 3 | - | - | - | - | - |
| 25 | 80.0 | 76.02 | 31-25 | 63 | 25 | 1210 | 1 | 32-25 | 64 | 25 | 1210 | 3 | 33-25 | - | 25.6 | 1210 | 9 |
| 26 | 83.0 | 79.02 | 31-26 | 63 | 25 | 1210 | 1 | 32-26 | 65 | 25 | 1210 | 3 | - | - | - | - | - |
| 27 | 86.0 | 82.02 | 31-27 | 63 | 25 | 1210 | 1 | 32-27 | 70 | 25 | 1210 | 3 | 33-27 | - | 25.6 | 1210 | 9 |
| 28 | 89.0 | 85.07 | 31-28 | 63 | 25 | 1210 | 1 | 32-28 | 70 | 25 | 1210 | 3 | - | - | - | - | - |
| 30 | 94.7 | 91.12 | 31-30 | 63 | 25 | 1210 | 1 | 32-30 | 75 | 25 | 1210 | 3 | 33-30 | 79 | 38.0 | 1615 | 7 |
| 38 | 119.5 | 115.35 | 31-38 | 70 | 25 | 1210 | 1 | 32-38 | 80 | 25 | 1610 | 3 | 33-38 | 90 | 36.0 | 1615 | 7 |
| 45 | 140.7 | 136.55 | 31-45 | 70 | 25 | 1210 | 1 | 32-45 | 80 | 25 | 1610 | 3 | 33-45 | 95 | 32.0 | 2012 | 7 |
| 57 | 176.9 | 172.91 | 31-57 | 70 | 25 | 1210 | 1 | 32-57 | 80 | 25 | 1610 | 3 | 33-57 | 95 | 32.0 | 2012 | 7 |
| 76 | 234.9 | 230.49 | 31-76 | 70 | 25 | 1210 | 1 | 32-76 | 80 | 25 | 1610 | 3 | 33-76 | 95 | 32.0 | 2012 | 7 |
| 38 | 119.5 | 115.35 | 31-38 | 70 | 25 | 1210 | 2 | 32-38 | 80 | 25 | 1610 | 4 | 33-38 | 80 | 25.6 | 1610 | 10 |
| 45 | 140.7 | 136.55 | 31-45 | 70 | 25 | 1210 | 2 | 32-45 | 80 | 25 | 1610 | 4 | 33-45 | 80 | 25.6 | 1610 | 10 |
| 57 | 176.9 | 172.91 | 31-57 | 70 | 25 | 1210 | 2 | 32-57 | 80 | 25 | 1610 | 4 | 33-57 | 80 | 25.6 | 1610 | 10 |
| 76 | 234.9 | 230.49 | 31-76 | 70 | 25 | 1210 | 2 | 32-76 | 80 | 25 | 1610 | 4 | 33-76 | 80 | 38.0 | 1615 | 8 |
| 95 | 292.5 | 288.08 | 31-95 | 80 | 25 | 1210 | 2 | 32-95 | 90 | 25 | 1610 | 4 | - | - | - | - | - |
| 114 | 349.6 | 345.68 | 31-114 | 80 | 25 | 1610 | 2 | 32-114 | 95 | 32 | 2012 | 4 | 33-114 | 95 | 32.0 | 2012 | 8 |

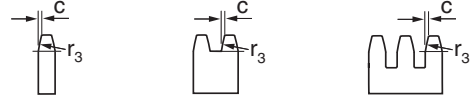
*denotes undercut

Taper Bore Sprockets

BS Taper Bore Sprockets

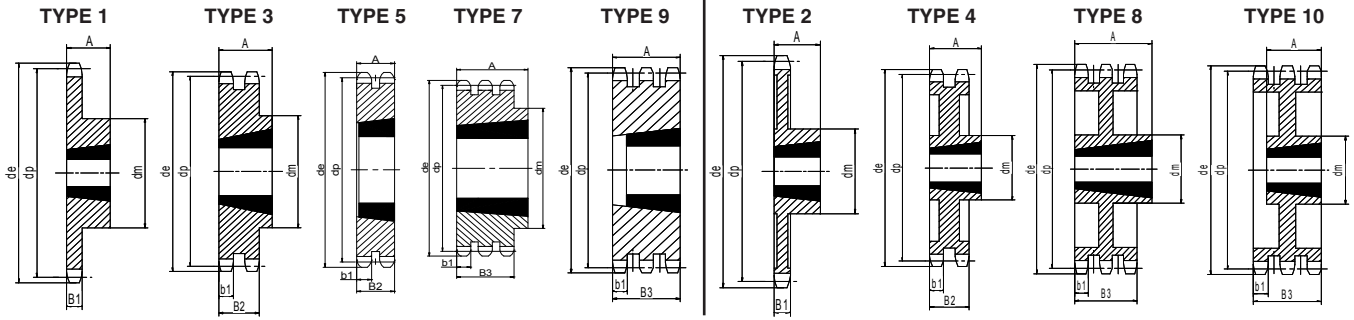
08B 1/2" x 5/16"

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between inner Plates | 7.750 |
| Tooth Width b1 | 7.0 | Roller Diameter | 8.510 |
| Tooth Width B1 | 7.2 | | |
| Tooth Width B2 | 21.0 | | |
| Tooth Width B3 | 34.9 | | |



TYPES : 1, 3, 5, 7, 9 C45 STEEL

TYPES : 2, 4, 8, 10 GG22 CAST IRON



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | | | Duplex | | | | | Triplex | | | | | |
|-------|--------------|--------------|---------|------------|---------------------|------------|------|--------|------------|---------------------|------------|------|---------|------------|---------------------|------------|------|---|
| | | | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | |
| 14 | 61.8 | 57.07 | 41-14 | 45 | 22 | 1008 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 15 | 65.5 | 61.90 | 41-15 | 45 | 22 | 1008 | 1 | 42-15 | 46 | 22 | 1008 | 3 | 43-15 | - | 34.9 | 1008 | 9 | - |
| 16 | 69.5 | 65.10 | 41-16 | 50 | 22 | 1108 | 1 | 42-16 | 50 | 22 | 1108 | 3 | - | - | - | - | - | - |
| 17 | 73.6 | 69.11 | 41-17 | 60 | 25 | 1210 | 1 | 42-17 | 56* | 25 | 1210 | 3 | 43-17 | - | 34.9 | 1210 | 9 | - |
| 18 | 77.8 | 73.14 | 41-18 | 60* | 25 | 1210 | 1 | 42-18 | 60* | 25 | 1210 | 3 | - | - | - | - | - | - |
| 19 | 81.7 | 77.16 | 41-19 | 63 | 25 | 1210 | 1 | 42-19 | 62 | 25 | 1210 | 3 | 43-19 | - | 34.9 | 1210 | 9 | - |
| 20 | 85.8 | 81.19 | 41-20 | 71* | 25 | 1610 | 1 | 42-20 | 66* | 25 | 1610 | 3 | - | - | - | - | - | - |
| 21 | 89.7 | 85.22 | 41-21 | 71 | 25 | 1610 | 1 | 42-21 | 70 | 25 | 1610 | 3 | 43-21 | - | 34.9 | 1610 | 9 | - |
| 22 | 93.8 | 89.24 | 41-22 | 71 | 25 | 1610 | 1 | 42-22 | 76 | 25 | 1610 | 3 | - | - | - | - | - | - |
| 23 | 98.2 | 93.27 | 41-23 | 76 | 25 | 1610 | 1 | 42-23 | 79 | 25 | 1610 | 3 | 43-23 | - | 34.9 | 1610 | 9 | - |
| 24 | 101.8 | 97.29 | 41-24 | 76 | 25 | 1610 | 1 | 42-24 | 84 | 25 | 1610 | 3 | - | - | - | - | - | - |
| 25 | 105.8 | 101.33 | 41-25 | 76 | 25 | 1610 | 1 | 42-25 | 87 | 32 | 2012 | 3 | 43-25 | - | 34.9 | 2012 | 9 | - |
| 26 | 110.0 | 105.36 | 41-26 | 76 | 25 | 1610 | 1 | 42-26 | 87 | 32 | 2012 | 3 | - | - | - | - | - | - |
| 27 | 114.0 | 109.40 | 41-27 | 76 | 25 | 1610 | 1 | 42-27 | 87 | 32 | 2012 | 3 | 43-27 | - | 34.9 | 2012 | 9 | - |
| 28 | 118.0 | 113.42 | 41-28 | 90 | 32 | 2012 | 1 | 42-28 | 87 | 32 | 2012 | 3 | - | - | - | - | - | - |
| 30 | 126.1 | 121.50 | 41-30 | 90 | 32 | 2012 | 1 | 42-30 | 87 | 32 | 2012 | 3 | 43-30 | - | 34.9 | 2012 | 9 | - |
| 31 | 130.2 | 125.54 | 41-31 | 90 | 32 | 2012 | 1 | 42-31 | 87 | 32 | 2012 | 3 | 43-31 | - | 34.9 | 2012 | 9 | - |
| 38 | 158.6 | 153.80 | 41-38 | 90 | 32 | 2012 | 1 | 42-38 | 100 | 32 | 2012 | 3 | 43-38 | - | 34.9 | 2012 | 9 | - |
| 45 | 188.0 | 182.07 | 41-45 | 100 | 32 | 2012 | 1 | 42-45 | 100 | 32 | 2012 | 3 | 43-45 | 110 | 45.0 | 2517 | 7 | - |
| 57 | 236.4 | 230.54 | 41-57 | 100 | 32 | 2012 | 1 | 42-57 | 100 | 32 | 2012 | 3 | 43-57 | 110 | 45.0 | 2517 | 7 | - |
| 76 | 313.3 | 307.33 | 41-76 | 100 | 32 | 2012 | 1 | 42-76 | 100 | 32 | 2012 | 3 | 43-76 | 110 | 45.0 | 2517 | 7 | - |
| 38 | 158.6 | 153.80 | 41-38 | 95 | 32 | 2012 | 2 | 42-38 | 95 | 32 | 2012 | 4 | 43-38 | - | 34.9 | 2012 | 10 | - |
| 45 | 188.0 | 182.07 | 41-45 | 95 | 32 | 2012 | 2 | 42-45 | 100 | 32 | 2012 | 4 | 43-45 | - | 45.0 | 2517 | 8 | - |
| 57 | 236.4 | 230.54 | 41-57 | 100 | 32 | 2012 | 2 | 42-57 | 100 | 32 | 2012 | 4 | 43-57 | - | 45.0 | 2517 | 8 | - |
| 76 | 313.3 | 307.33 | 41-76 | 100 | 32 | 2012 | 2 | 42-76 | 100 | 32 | 2012 | 4 | 43-76 | - | 45.0 | 2517 | 8 | - |
| 95 | 390.1 | 384.11 | 41-95 | 100 | 32 | 2012 | 2 | 42-95 | 100 | 32 | 2012 | 4 | 43-95 | - | 34.9 | 2012 | 8 | - |
| 114 | 400.9 | 460.90 | 41-114 | 110 | 45 | 2517 | 2 | 42-114 | 110 | 45 | 2517 | 4 | - | - | - | - | - | - |

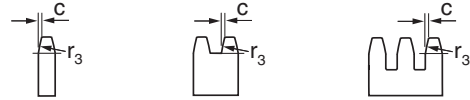
*denotes undercut

Taper Bore Sprockets

BS Taper Bore Sprockets

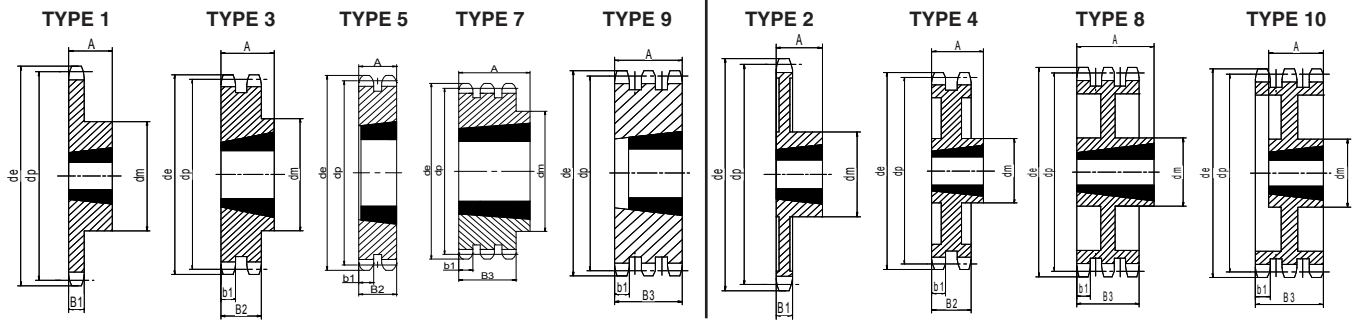
10B 5/8" x 3/8"

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 16.0 | Pitch | 15.875 |
| Chamfer c | 1.6 | Width Between inner Plates | 9.650 |
| Tooth Width b1 | 9.0 | Roller Diameter | 10.160 |
| Tooth Width B1 | 9.1 | | |
| Tooth Width B2 | 25.5 | | |
| Tooth Width B3 | 42.1 | | |



TYPES : 1, 3, 5, 7, 9 C45 STEEL

TYPES : 2, 4, 8, 10 GG22 CAST IRON



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | | | Duplex | | | | | Triplex | | | | | |
|-------|--------------|--------------|---------|------------|---------------------|------------|------|--------|------------|---------------------|------------|------|---------|------------|---------------------|------------|------|---|
| | | | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | |
| 13 | 73.0 | 66.32 | 51-13 | 47 | 22 | 1008 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 14 | 78.0 | 71.34 | 51-14 | 52 | 22 | 1108 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 15 | 83.0 | 76.36 | 51-15 | 60* | 25 | 1210 | 1 | 52-15 | - | 25.5 | 1210 | 5 | 53-15 | - | 42.1 | 1210 | 9 | - |
| 16 | 88.0 | 81.37 | 51-16 | 70* | 25 | 1610 | 1 | 52-16 | - | 25.5 | 1610 | 5 | - | - | - | - | - | - |
| 17 | 93.0 | 86.36 | 51-17 | 71* | 25 | 1610 | 1 | 52-17 | - | 25.5 | 1610 | 5 | 53-17 | - | 42.1 | 1210 | 9 | 9 |
| 18 | 98.3 | 91.42 | 51-18 | 75* | 25 | 1610 | 1 | 52-18 | - | 25.5 | 1610 | 5 | - | - | - | - | - | - |
| 19 | 103.3 | 96.45 | 51-19 | 75 | 25 | 1610 | 1 | 52-19 | - | 25.5 | 1610 | 5 | 53-19 | - | 42.1 | 1615 | 9 | 9 |
| 20 | 108.4 | 101.49 | 51-20 | 75 | 25 | 1610 | 1 | 52-20 | - | 25.5 | 1610 | 5 | - | - | - | - | - | - |
| 21 | 113.4 | 106.52 | 51-21 | 76 | 25 | 1610 | 1 | 52-21 | - | 25.5 | 1610 | 5 | 53-21 | - | 42.1 | 1615 | 9 | 9 |
| 22 | 118.0 | 111.55 | 51-22 | 76 | 25 | 1610 | 1 | 52-22 | - | 25.5 | 1610 | 5 | - | - | - | - | - | - |
| 23 | 123.4 | 116.58 | 51-23 | 76 | 25 | 1610 | 1 | 52-23 | - | 25.5 | 1610 | 5 | 53-23 | - | 42.1 | 2012 | 9 | 9 |
| 24 | 128.3 | 121.62 | 51-24 | 90 | 25 | 1610 | 1 | 52-24 | 90 | 32 | 2012 | 3 | - | - | - | - | - | - |
| 25 | 134.0 | 126.66 | 51-25 | 90 | 32 | 2012 | 1 | 52-25 | 90 | 32 | 2012 | 3 | 53-25 | 105 | 45 | 2517 | 7 | 7 |
| 26 | 139.0 | 131.70 | 51-26 | 90 | 32 | 2012 | 1 | 52-26 | 90 | 32 | 2012 | 3 | - | - | - | - | - | - |
| 27 | 144.0 | 136.75 | 51-27 | 90 | 32 | 2012 | 1 | 52-27 | 90 | 32 | 2012 | 3 | 53-27 | 110 | 45 | 2517 | 7 | 7 |
| 28 | 148.7 | 141.78 | 51-28 | 90 | 32 | 2012 | 1 | 52-28 | 90 | 32 | 2012 | 3 | - | - | - | - | - | - |
| 29 | 153.8 | 146.83 | 51-29 | 90 | 32 | 2012 | 1 | 52-29 | 90 | 32 | 2012 | 3 | 53-29 | 120 | 45 | 2517 | 7 | 7 |
| 30 | 158.8 | 151.87 | 51-30 | 90 | 32 | 2012 | 1 | 52-30 | 90 | 32 | 2012 | 3 | 53-30 | 120 | 45 | 2517 | 7 | 7 |
| 38 | 199.2 | 192.24 | 51-38 | 100 | 32 | 2012 | 1 | 52-38 | 110 | 45 | 2517 | 3 | 53-38 | 110 | 45 | 2517 | 7 | 7 |
| 45 | 235.0 | 227.58 | 51-45 | 100 | 32 | 2012 | 1 | 52-45 | 110 | 45 | 2517 | 3 | 53-45 | 110 | 45 | 2517 | 7 | 7 |
| 57 | 296.0 | 288.18 | 51-57 | 100 | 32 | 2012 | 1 | 52-57 | 110 | 45 | 2517 | 3 | 53-57 | 110 | 45 | 2517 | 7 | 7 |
| 76 | 392.1 | 384.16 | 51-76 | 100 | 32 | 2012 | 1 | 52-76 | 110 | 45 | 2517 | 3 | 53-76 | 110 | 45 | 2517 | 7 | 7 |
| 38 | 199.2 | 192.24 | 51-38 | 100 | 32 | 2012 | 2 | 52-38 | 110 | 45 | 2517 | 4 | 53-38 | 110 | 45 | 2517 | 8 | 8 |
| 45 | 235.0 | 227.58 | 51-45 | 100 | 32 | 2012 | 2 | 52-45 | 110 | 45 | 2517 | 4 | 53-45 | 110 | 45 | 2517 | 8 | 8 |
| 57 | 296.0 | 288.18 | 51-57 | 100 | 32 | 2012 | 2 | 52-57 | 110 | 45 | 2517 | 4 | 53-57 | 110 | 45 | 2517 | 8 | 8 |
| 76 | 392.1 | 384.16 | 51-76 | 100 | 32 | 2012 | 2 | 52-76 | 110 | 45 | 2517 | 4 | 53-76 | 110 | 45 | 2517 | 8 | 8 |
| 95 | 488.5 | 480.14 | 51-95 | 110 | 45 | 2517 | 2 | 52-95 | 110 | 45 | 2517 | 4 | - | - | - | - | - | - |
| 114 | 584.1 | 576.13 | 51-114 | 110 | 45 | 2517 | 2 | 52-114 | 110 | 45 | 2517 | 4 | - | - | - | - | - | - |

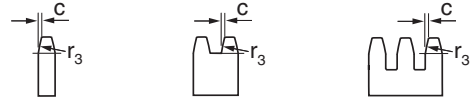
*denotes undercut

Taper Bore Sprockets

BS Taper Bore Sprockets

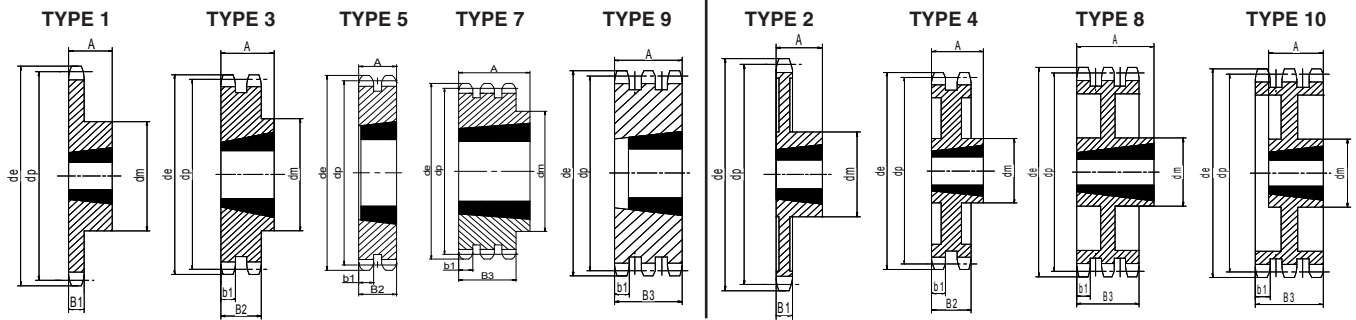
12B 3/4" x 7/16"

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 19.0 | Pitch | 19.050 |
| Chamfer c | 2.0 | Width Between inner Plates | 11.680 |
| Tooth Width b1 | 10.8 | Roller Diameter | 12.070 |
| Tooth Width B1 | 11.1 | | |
| Tooth Width B2 | 30.3 | | |
| Tooth Width B3 | 49.8 | | |



TYPES : 1, 3, 5, 7, 9 C45 STEEL

TYPES : 2, 4, 8, 10 GG22 CAST IRON



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | | | Duplex | | | | | Triplex | | | | | |
|-------|--------------|--------------|---------|------------|---------------------|------------|------|--------|------------|---------------------|------------|------|---------|------------|---------------------|------------|------|---|
| | | | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | |
| 13 | 87.5 | 79.59 | 61-13 | 60 | 25 | 1210 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 14 | 93.6 | 85.61 | 61-14 | 70* | 25 | 1610 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 15 | 99.8 | 91.63 | 61-15 | 70 | 25 | 1610 | 1 | 62-15 | - | 30.3 | 1610 | 5 | 63-15 | - | 49.8 | 1615 | 9 | - |
| 16 | 105.5 | 97.65 | 61-16 | 75 | 25 | 1610 | 1 | 62-16 | - | 30.3 | 1610 | 5 | - | - | - | - | - | - |
| 17 | 111.5 | 103.67 | 61-17 | 76 | 25 | 1610 | 1 | 62-17 | - | 30.3 | 1610 | 5 | 63-17 | - | 49.8 | 1615 | 9 | - |
| 18 | 118.0 | 109.71 | 61-18 | 90 | 32 | 2012 | 1 | 62-18 | 90 | 32 | 2012 | 3 | - | - | - | - | - | - |
| 19 | 124.2 | 115.75 | 61-19 | 90 | 32 | 2012 | 1 | 62-19 | 90 | 32 | 2012 | 3 | 63-19 | - | 49.8 | 2012 | 9 | - |
| 20 | 129.7 | 121.78 | 61-20 | 90 | 32 | 2012 | 1 | 62-20 | 108 | 45 | 2517 | 3 | - | - | - | - | - | - |
| 21 | 136.0 | 127.82 | 61-21 | 102 | 45 | 2517 | 1 | 62-21 | 108 | 45 | 2517 | 3 | 63-21 | - | 49.8 | 2517 | 9 | - |
| 22 | 141.8 | 133.86 | 61-22 | 102 | 45 | 2517 | 1 | 62-22 | 108 | 45 | 2517 | 3 | - | - | - | - | - | - |
| 23 | 149.0 | 139.90 | 61-23 | 108 | 45 | 2517 | 1 | 62-23 | 108 | 45 | 2517 | 3 | 63-23 | - | 49.8 | 2517 | 9 | - |
| 24 | 153.9 | 145.94 | 61-24 | 108 | 45 | 2517 | 1 | 62-24 | 108 | 45 | 2517 | 3 | - | - | - | - | - | - |
| 25 | 160.0 | 152.00 | 61-25 | 108 | 45 | 2517 | 1 | 62-25 | 108 | 45 | 2517 | 3 | 63-25 | - | 49.8 | 2517 | 9 | - |
| 26 | 165.9 | 158.04 | 61-26 | 108 | 45 | 2517 | 1 | 62-26 | 108 | 45 | 2517 | 3 | - | - | - | - | - | - |
| 27 | 172.3 | 164.00 | 61-27 | 108 | 45 | 2517 | 1 | 62-27 | 108 | 45 | 2517 | 3 | 63-27 | 140 | 51 | 3020 | 7 | - |
| 28 | 178.0 | 170.13 | 61-28 | 108 | 45 | 2517 | 1 | 62-28 | 108 | 45 | 2517 | 3 | - | - | - | - | - | - |
| 29 | 184.1 | 176.19 | 61-29 | 108 | 45 | 2517 | 1 | 62-29 | 108 | 45 | 2517 | 3 | 63-29 | 140 | 51 | 3020 | 7 | - |
| 30 | 190.5 | 182.25 | 61-30 | 108 | 45 | 2517 | 1 | 62-30 | 108 | 45 | 2517 | 3 | 63-30 | 140 | 51 | 3020 | 7 | - |
| 38 | 239.0 | 230.69 | 61-38 | 108 | 45 | 2517 | 1 | 62-38 | 140 | 51 | 3020 | 3 | 63-38 | 140 | 51 | 3020 | 7 | - |
| 45 | 282.5 | 273.10 | 61-45 | 108 | 45 | 2517 | 1 | 62-45 | 140 | 51 | 3020 | 3 | 63-45 | 140 | 51 | 3020 | 7 | - |
| 57 | 355.4 | 345.81 | 61-57 | 108 | 45 | 2517 | 1 | 62-57 | 140 | 51 | 3020 | 3 | 63-57 | 140 | 51 | 3020 | 7 | - |
| 76 | 469.9 | 460.99 | 61-76 | 108 | 45 | 2517 | 1 | 62-76 | 140 | 51 | 3020 | 3 | 63-76 | 140 | 51 | 3020 | 7 | - |
| 30 | 190.5 | 182.25 | 61-30 | 108 | 45 | 2517 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 239.0 | 230.69 | 61-38 | 110 | 45 | 2517 | 2 | 62-38 | 140 | 51 | 3020 | 4 | 63-38 | 140 | 51 | 3020 | 8 | - |
| 45 | 282.5 | 273.10 | 61-45 | 108 | 45 | 2517 | 2 | 62-45 | 140 | 51 | 3020 | 4 | 63-45 | 140 | 51 | 3020 | 8 | - |
| 57 | 355.4 | 345.81 | 61-57 | 108 | 45 | 2517 | 2 | 62-57 | 140 | 51 | 3020 | 4 | 63-57 | 140 | 51 | 3020 | 8 | - |
| 76 | 469.9 | 460.99 | 61-76 | 108 | 45 | 2517 | 2 | 62-76 | 140 | 51 | 3020 | 4 | 63-76 | 140 | 51 | 3020 | 8 | - |
| 95 | 585.1 | 576.17 | 61-95 | 108 | 45 | 2517 | 2 | 62-95 | 140 | 51 | 3020 | 4 | 63-95 | 140 | 76 | 3030 | 8 | - |
| 114 | 700.6 | 691.36 | 61-114 | 140 | 51 | 3020 | 2 | 62-114 | 140 | 76 | 3030 | 4 | 63-114 | 165 | 89 | 3535 | 8 | - |

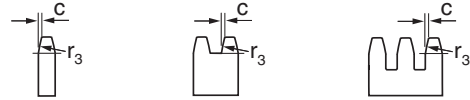
*denotes undercut

Taper Bore Sprockets

BS Taper Bore Sprockets

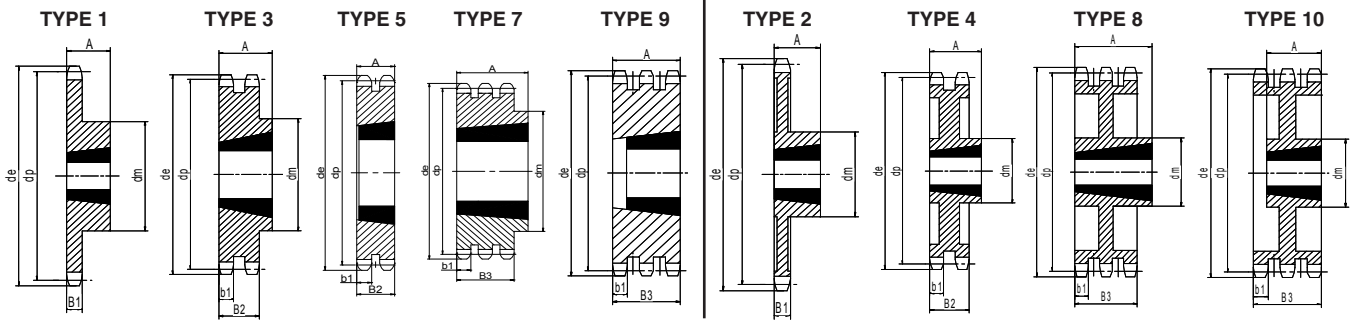
16B 1" x 17.02 mm

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 26.0 | Pitch | 25.400 |
| Chamfer c | 2.5 | Width Between inner Plates | 17.020 |
| Tooth Width b1 | 15.8 | Roller Diameter | 15.880 |
| Tooth Width B1 | 16.2 | | |
| Tooth Width B2 | 47.7 | | |
| Tooth Width B3 | 79.6 | | |



TYPES : 1, 3, 5, 7, 9 C45 STEEL

TYPES : 2, 4, 8, 10 GG22 CAST IRON



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | | | Duplex | | | | | Triplex | | | | | |
|-------|--------------|--------------|---------|------------|---------------------|------------|------|--------|------------|---------------------|------------|------|---------|------------|---------------------|------------|------|---|
| | | | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | |
| 13 | 117.0 | 106.12 | 81-13 | 73 | 38 | 1615 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 14 | 125.0 | 114.15 | 81-14 | 76 | 38 | 1615 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 15 | 133.0 | 122.17 | 81-15 | 76 | 38 | 1615 | 1 | 82-15 | - | 47.7 | 2012 | 5 | 83-15 | - | 79.6 | 2012 | 9 | - |
| 16 | 141.0 | 130.20 | 81-16 | 90 | 32 | 2012 | 1 | 82-16 | - | 47.7 | 2517 | 5 | - | - | - | - | - | - |
| 17 | 149.0 | 138.22 | 81-17 | 90 | 32 | 2012 | 1 | 82-17 | - | 47.7 | 2517 | 5 | 83-17 | - | 79.6 | 2517 | 9 | - |
| 18 | 157.0 | 146.28 | 81-18 | 108 | 45 | 2517 | 1 | 82-18 | - | 47.7 | 2517 | 5 | - | - | - | - | - | - |
| 19 | 165.2 | 154.33 | 81-19 | 108 | 45 | 2517 | 1 | 82-19 | - | 47.7 | 2517 | 5 | 83-19 | - | 79.6 | 3030 | 9 | - |
| 20 | 173.2 | 162.38 | 81-20 | 108 | 45 | 2517 | 1 | 82-20 | - | 47.7 | 2517 | 5 | - | - | - | - | - | - |
| 21 | 181.2 | 170.43 | 81-21 | 110 | 45 | 2517 | 1 | 82-21 | 140 | 51 | 3020 | 3 | 83-21 | - | 79.6 | 3030 | 9 | - |
| 22 | 189.3 | 178.48 | 81-22 | 110 | 45 | 2517 | 1 | 82-22 | 140 | 51 | 3020 | 3 | - | - | - | - | - | - |
| 23 | 197.5 | 186.53 | 81-23 | 110 | 45 | 2517 | 1 | 82-23 | 140 | 51 | 3020 | 3 | 83-23 | 159 | 89 | 3535 | 7 | - |
| 24 | 205.5 | 194.59 | 81-24 | 110 | 45 | 2517 | 1 | 82-24 | 140 | 51 | 3020 | 3 | - | - | - | - | - | - |
| 25 | 213.5 | 202.66 | 81-25 | 110 | 45 | 2517 | 1 | 82-25 | 140 | 51 | 3020 | 3 | 83-25 | 175 | 89 | 3535 | 7 | - |
| 26 | 221.6 | 210.72 | 81-26 | 110 | 45 | 2517 | 1 | 82-26 | 140 | 51 | 3020 | 3 | - | - | - | - | - | - |
| 27 | 229.6 | 218.79 | 81-27 | 110 | 45 | 2517 | 1 | 82-27 | 140 | 51 | 3020 | 3 | 83-27 | 175 | 89 | 3535 | 7 | - |
| 28 | 237.7 | 226.85 | 81-28 | 110 | 45 | 2517 | 1 | 82-28 | 140 | 51 | 3020 | 3 | - | - | - | - | - | - |
| 30 | 254.0 | 243.00 | 81-30 | 140 | 51 | 3020 | 1 | 82-30 | 140 | 76 | 3030 | 3 | 83-30 | 175 | 89 | 3535 | 7 | - |
| 38 | 320.7 | 307.59 | 81-38 | 140 | 51 | 3020 | 1 | 82-38 | 140 | 76 | 3030 | 3 | 83-38 | 175 | 89 | 3535 | 7 | - |
| 45 | 377.1 | 360.13 | 81-45 | 140 | 51 | 3020 | 1 | 82-45 | 140 | 76 | 3030 | 3 | 83-45 | 215 | 102 | 4040 | 7 | - |
| 57 | 474.0 | 461.07 | 81-57 | 140 | 51 | 3020 | 1 | 82-57 | 175 | 89 | 3535 | 3 | 83-57 | 215 | 102 | 4040 | 7 | - |
| 76 | 627.0 | 614.65 | 81-76 | 140 | 51 | 3020 | 1 | 82-76 | 175 | 89 | 3535 | 3 | 83-76 | 215 | 102 | 4040 | 7 | - |
| 95 | 781.1 | 768.20 | - | - | - | - | - | - | - | - | - | - | 83-95 | 215 | 102 | 4040 | 7 | - |
| 30 | 254.0 | 243.00 | - | - | - | - | - | - | - | - | - | - | 83-30 | 175 | 89 | 3535 | 8 | - |
| 38 | 320.7 | 307.59 | 81-38 | 140 | 51 | 3020 | 2 | 82-38 | 140 | 76 | 3030 | 4 | 83-38 | 175 | 89 | 3535 | 8 | - |
| 45 | 377.1 | 364.13 | 81-45 | 140 | 51 | 3020 | 2 | 82-45 | 140 | 76 | 3030 | 4 | 83-45 | 215 | 102 | 4040 | 8 | - |
| 57 | 474.0 | 461.07 | 81-57 | 140 | 51 | 3020 | 2 | 82-57 | 175 | 89 | 3535 | 4 | 83-57 | 215 | 102 | 4040 | 8 | - |
| 76 | 627.0 | 614.65 | 81-76 | 140 | 51 | 3020 | 2 | 82-76 | 175 | 89 | 3535 | 4 | 83-76 | 215 | 102 | 4040 | 8 | - |
| 95 | 781.1 | 768.22 | 81-95 | 140 | 51 | 3020 | 2 | 82-95 | 215 | 102 | 4040 | 4 | 83-95 | 215 | 102 | 4040 | 8 | - |

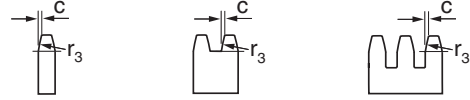
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Taper Bore Sprockets

BS Taper Bore Sprockets

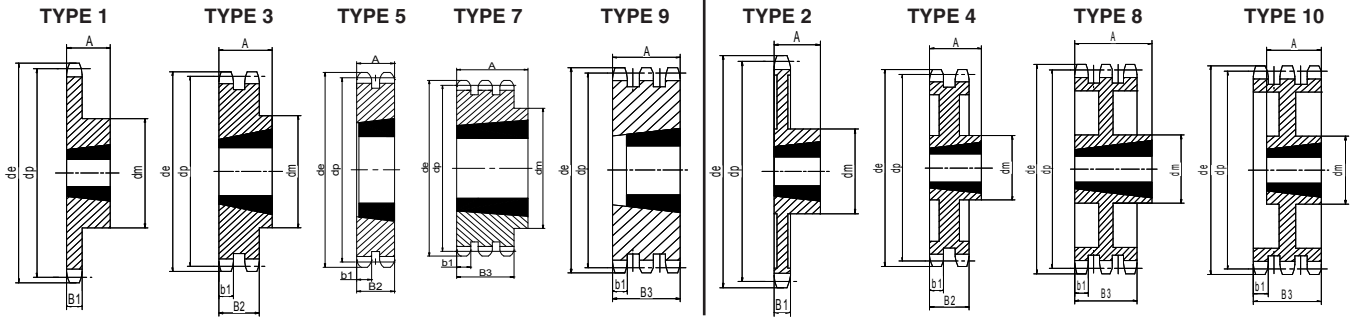
20B 1.1/4" x 3/4"

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 32.0 | Pitch | 31.750 |
| Chamfer c | 3.5 | Width Between inner Plates | 19.560 |
| Tooth Width b1 | 18.2 | Roller Diameter | 19.050 |
| Tooth Width B1 | 18.5 | | |
| Tooth Width B2 | 54.6 | | |
| Tooth Width B3 | 91.0 | | |



TYPES : 1, 3, 5, 7, 9 C45 STEEL

TYPES : 2, 4, 8, 10 GG22 CAST IRON



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | | | Duplex | | | | | Triplex | | | | | |
|-------|--------------|--------------|---------|------------|---------------------|------------|------|--------|------------|---------------------|------------|------|---------|------------|---------------------|------------|------|---|
| | | | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | |
| 13 | 147.8 | 132.65 | 101-13 | 90 | 32 | 2012 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 14 | 157.8 | 142.68 | 101-14 | 108 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 15 | 167.9 | 152.72 | 101-15 | 108 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 16 | 177.9 | 162.75 | 101-16 | 108 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 17 | 187.9 | 172.78 | 101-17 | 108 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 18 | 198.0 | 182.85 | 101-18 | 108 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 19 | 208.1 | 192.91 | 101-19 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 20 | 218.1 | 202.98 | 101-20 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 21 | 228.2 | 213.04 | 101-21 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 22 | 238.3 | 223.11 | 101-22 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 23 | 248.3 | 233.17 | 101-23 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 24 | 258.4 | 243.23 | 101-24 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 25 | 268.5 | 253.33 | 101-25 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 26 | 278.6 | 263.40 | 101-26 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 27 | 288.6 | 273.80 | 101-27 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 28 | 298.7 | 283.56 | 101-28 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 29 | 308.8 | 293.65 | 101-29 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 30 | 318.9 | 303.75 | 101-30 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 369.4 | 354.20 | 101-35 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 399.6 | 384.49 | 101-38 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 45 | 470.3 | 455.17 | 101-45 | 150 | 51 | 3020 | 1 | 102-45 | 215 | 102 | 4040 | 3 | - | - | - | - | - | - |
| 57 | 591.5 | 576.36 | 101-57 | 150 | 51 | 3020 | 1 | 102-57 | 215 | 102 | 4040 | 3 | - | - | - | - | - | - |
| 76 | 783.5 | 768.32 | 101-76 | 150 | 51 | 3020 | 1 | 102-76 | 215 | 102 | 4040 | 3 | - | - | - | - | - | - |
| 38 | 399.6 | 384.49 | 101-38 | 160 | 51 | 3020 | 2 | 102-38 | 140 | 51 | 3020 | 6 | 103-38 | 140 | 91 | 3030 | 8 | 8 |
| 45 | 470.3 | 455.17 | 101-45 | 160 | 51 | 3020 | 2 | 102-45 | 140 | 51 | 3020 | 6 | 103-45 | 165 | 91 | 3535 | 8 | 8 |
| 57 | 591.5 | 576.36 | 101-57 | 160 | 51 | 3020 | 2 | 102-57 | 165 | 89 | 3535 | 4 | 103-57 | 165 | 91 | 3535 | 8 | 8 |
| 76 | 783.5 | 768.32 | 101-76 | 165 | 89 | 3535 | 2 | - | - | - | - | - | 103-76 | 165 | 91 | 3535 | 8 | 8 |

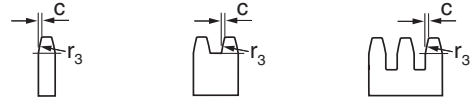
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Taper Bore Sprockets

BS Taper Bore Sprockets

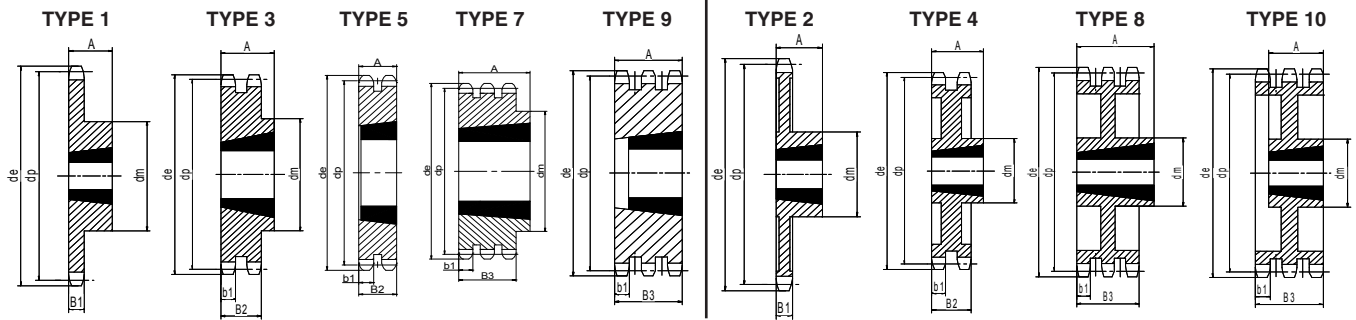
24B 1.1/2" x 1"

| SPROCKET | mm | CHAIN | mm |
|--------------------|-------|----------------------------|------|
| Tooth Radius r_3 | 38.0 | Pitch | 38.1 |
| Chamfer c | 4.0 | Width Between inner Plates | 25.4 |
| Tooth Width b1 | 23.6 | Roller Diameter | 25.4 |
| Tooth Width B1 | 24.1 | | |
| Tooth Width B2 | 72.0 | | |
| Tooth Width B3 | 120.3 | | |



TYPES : 1, 3, 5, 7, 9 C45 STEEL

TYPES : 2, 4, 8, 10 GG22 CAST IRON



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | | | Duplex | | | | | Triplex | | | | | |
|-------|--------------|--------------|---------|------------|---------------------|------------|------|--------|------------|---------------------|------------|------|---------|------------|---------------------|------------|------|---|
| | | | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | Ref | Hub Dia dm | Length thro' Bore A | Taper Bush | Type | |
| 13 | 174.2 | 159.18 | 121-13 | 110 | 44 | 2517 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 15 | 198.2 | 183.26 | 121-15 | 150 | 51 | 3020 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 17 | 222.3 | 207.34 | 121-17 | 165 | 89 | 3535 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 19 | 246.5 | 231.49 | 121-19 | 165 | 89 | 3535 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 21 | 270.6 | 255.65 | 121-21 | 165 | 89 | 3535 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 23 | 294.8 | 279.80 | 121-23 | 165 | 89 | 3535 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 25 | 319.0 | 304.00 | 121-25 | 165 | 89 | 3535 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 30 | 379.5 | 364.50 | 121-30 | 165 | 89 | 3535 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| 45 | 561.3 | 546.20 | 121-45 | 215 | 102 | 4040 | 1 | 122-45 | 235 | 114 | 4545 | 3 | - | - | - | - | - | - |
| 57 | 706.5 | 691.63 | 121-57 | 235 | 114 | 4545 | 1 | 122-57 | 235 | 114 | 4545 | 3 | - | - | - | - | - | - |
| 76 | 936.9 | 921.98 | 121-76 | 235 | 114 | 4545 | 1 | 122-76 | 235 | 114 | 4545 | 3 | - | - | - | - | - | - |
| 38 | 476.2 | 461.39 | 121-38 | 215 | 102 | 4040 | 2 | 122-38 | 215 | 102 | 4040 | 4 | 123-38 | 215 | 102 | 4040 | 10 | |
| 45 | 561.3 | 546.20 | 121-45 | 215 | 102 | 4040 | 2 | 122-45 | 215 | 102 | 4040 | 4 | 123-45 | 215 | 120.3 | 4040 | 8 | |
| 57 | 706.5 | 691.63 | 121-57 | 215 | 102 | 4040 | 2 | 122-57 | 215 | 102 | 4040 | 4 | 123-57 | 215 | 120.3 | 4040 | 8 | |
| 76 | 936.9 | 921.98 | 121-76 | 215 | 102 | 4040 | 2 | 122-76 | 215 | 102 | 4040 | 4 | 123-76 | 215 | 120.3 | 4040 | 8 | |

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Pilot Bore Sprockets

BS Pilot Bore Sprockets

03B 5 x 2.5 mm

| SPROCKET | mm | CHAIN | mm |
|--------------------|-----|----------------------------|-------|
| Tooth Radius r_3 | 5.0 | Pitch | 5.000 |
| Chamfer c | 0.6 | Width Between Inner Plates | 2.500 |
| Tooth Width B1 | 2.3 | Roller Diameter | 3.200 |

Type 1 (C45)

| Teeth | Outer Dia de | Pitch Dia dp | Hub Dia dm | Simplex Length thro' Bore A | Stock Bore D1 | Type |
|-------|--------------|--------------|------------|-----------------------------|---------------|------|
| 8 | 15.2 | 13.06 | 7 | 10 | 4 | 1 |
| 9 | 16.8 | 14.62 | 8 | 10 | 5 | 1 |
| 10 | 18.3 | 16.18 | 9 | 10 | 5 | 1 |
| 11 | 19.9 | 17.75 | 11 | 10 | 6 | 1 |
| 12 | 21.5 | 19.32 | 12 | 10 | 6 | 1 |
| 13 | 23.0 | 20.89 | 14 | 10 | 6 | 1 |
| 14 | 24.6 | 22.47 | 15 | 10 | 6 | 1 |
| 15 | 26.2 | 24.04 | 16 | 10 | 6 | 1 |
| 16 | 27.8 | 25.63 | 18 | 13 | 8 | 1 |
| 17 | 29.4 | 27.20 | 18 | 13 | 8 | 1 |
| 18 | 30.9 | 28.79 | 18 | 13 | 8 | 1 |
| 19 | 32.5 | 30.38 | 18 | 13 | 8 | 1 |
| 20 | 34.1 | 31.96 | 18 | 13 | 8 | 1 |
| 21 | 35.7 | 33.54 | 20 | 13 | 8 | 1 |
| 22 | 37.3 | 35.13 | 20 | 13 | 8 | 1 |
| 23 | 38.9 | 36.72 | 20 | 13 | 8 | 1 |
| 24 | 40.5 | 38.30 | 20 | 13 | 8 | 1 |
| 25 | 42.0 | 39.89 | 20 | 13 | 8 | 1 |
| 26 | 43.6 | 41.48 | 25 | 15 | 8 | 1 |
| 27 | 45.2 | 43.07 | 25 | 15 | 8 | 1 |
| 28 | 46.8 | 44.65 | 25 | 15 | 8 | 1 |
| 29 | 48.4 | 46.25 | 25 | 15 | 8 | 1 |
| 30 | 50.0 | 47.83 | 25 | 15 | 8 | 1 |
| 31 | 51.6 | 49.42 | 30 | 15 | 8 | 1 |
| 32 | 53.2 | 51.01 | 30 | 15 | 8 | 1 |
| 33 | 54.8 | 52.60 | 30 | 15 | 8 | 1 |
| 34 | 56.3 | 54.19 | 30 | 15 | 8 | 1 |
| 35 | 57.9 | 55.78 | 30 | 15 | 8 | 1 |
| 36 | 59.5 | 57.37 | 30 | 15 | 8 | 1 |
| 37 | 61.1 | 58.96 | 30 | 15 | 8 | 1 |
| 38 | 62.7 | 60.54 | 30 | 15 | 8 | 1 |
| 39 | 64.3 | 62.13 | 30 | 15 | 8 | 1 |
| 40 | 65.9 | 63.73 | 30 | 15 | 8 | 1 |

Pilot Bore Sprockets

BS Pilot Bore Sprockets

04B 6 x 2.8 mm

| SPROCKET | mm | CHAIN | mm |
|--------------------|-----|----------------------------|-------|
| Tooth Radius r_3 | 6.0 | Pitch | 6.000 |
| Chamfer c | 0.7 | Width Between Inner Plates | 2.800 |
| Tooth Width B1 | 2.6 | Roller Diameter | 4.000 |

Type 1 (C45)

| Teeth | Outer Dia d_e | Pitch Dia d_p | Hub Dia d_m | Simplex Length thro' Bore A | Stock Bore D_1 | Type |
|-------|-----------------|-----------------|---------------|-----------------------------|------------------|------|
| 8 | 18.0 | 15.67 | 9.8 | 10 | 5 | 1 |
| 9 | 19.9 | 17.54 | 11.5 | 10 | 5 | 1 |
| 10 | 21.7 | 19.42 | 13.0 | 10 | 6 | 1 |
| 11 | 23.6 | 21.30 | 14.0 | 10 | 6 | 1 |
| 12 | 25.4 | 23.18 | 16.0 | 10 | 6 | 1 |
| 13 | 27.3 | 25.05 | 18.0 | 10 | 6 | 1 |
| 14 | 29.2 | 26.96 | 20.0 | 10 | 6 | 1 |
| 15 | 31.1 | 28.86 | 20.0 | 10 | 6 | 1 |
| 16 | 33.0 | 30.76 | 20.0 | 13 | 8 | 1 |
| 17 | 35.0 | 32.65 | 20.0 | 13 | 8 | 1 |
| 18 | 36.9 | 34.55 | 20.0 | 13 | 8 | 1 |
| 19 | 38.8 | 36.44 | 20.0 | 13 | 8 | 1 |
| 20 | 40.7 | 38.34 | 20.0 | 13 | 8 | 1 |
| 21 | 42.6 | 40.25 | 25.0 | 13 | 8 | 1 |
| 22 | 44.5 | 42.16 | 25.0 | 13 | 8 | 1 |
| 23 | 46.4 | 44.06 | 25.0 | 13 | 8 | 1 |
| 24 | 48.3 | 45.96 | 25.0 | 13 | 8 | 1 |
| 25 | 50.2 | 47.87 | 25.0 | 13 | 8 | 1 |
| 26 | 52.1 | 49.77 | 30.0 | 15 | 8 | 1 |
| 27 | 54.0 | 51.67 | 30.0 | 15 | 8 | 1 |
| 28 | 55.9 | 53.58 | 30.0 | 15 | 8 | 1 |
| 29 | 57.8 | 55.50 | 30.0 | 15 | 8 | 1 |
| 30 | 59.8 | 57.42 | 30.0 | 15 | 8 | 1 |
| 31 | 61.7 | 59.31 | 30.0 | 15 | 10 | 1 |
| 32 | 63.6 | 61.21 | 30.0 | 15 | 10 | 1 |
| 33 | 65.5 | 63.11 | 30.0 | 15 | 10 | 1 |
| 34 | 67.4 | 65.02 | 30.0 | 15 | 10 | 1 |
| 35 | 69.3 | 66.93 | 30.0 | 15 | 10 | 1 |
| 36 | 71.2 | 68.84 | 30.0 | 15 | 10 | 1 |
| 37 | 73.1 | 70.75 | 30.0 | 15 | 10 | 1 |
| 38 | 75.0 | 72.66 | 30.0 | 15 | 10 | 1 |
| 39 | 76.9 | 74.56 | 30.0 | 15 | 10 | 1 |
| 40 | 78.9 | 76.47 | 30.0 | 15 | 10 | 1 |
| 45 | 88.5 | 86.01 | 40.0 | 18 | 12 | 1 |
| 50 | 98.0 | 95.55 | 50.0 | 20 | 12 | 1 |
| 57 | 111.4 | 108.93 | 50.0 | 20 | 12 | 1 |

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Pilot Bore Sprockets

BS Pilot Bore Sprockets

| | | | |
|--------------------|-----------|----------------------------|-----------|
| 05B | | 8 x 3 mm | |
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r_3 | 8.0 | Pitch | 8.000 |
| Chamfer c | 1.0 | Width Between Inner Plates | 3.000 |
| Tooth Width b_1 | 2.7 | Roller Diameter | 5.000 |
| Tooth Width B1 | 2.8 | | |
| Tooth Width B2 | 8.3 | | |

Type 1 (C45) Type 1 (C45)

| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|---------------|---------------|---------------------|---------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D1 | |
| 8 | 24.0 | 20.90 | 13 | 12 | 6 | 12 | 18 | 6 | 1 |
| 9 | 26.6 | 23.39 | 15 | 12 | 6 | 15 | 18 | 6 | 1 |
| 10 | 29.2 | 25.89 | 17 | 12 | 6 | 17 | 18 | 8 | 1 |
| 11 | 31.7 | 28.39 | 18 | 13 | 7 | 19 | 18 | 8 | 1 |
| 12 | 34.2 | 30.91 | 20 | 13 | 7 | 21 | 18 | 8 | 1 |
| 13 | 36.7 | 33.42 | 23 | 13 | 7 | 24 | 18 | 8 | 1 |
| 14 | 39.2 | 35.95 | 25 | 13 | 7 | 26 | 18 | 8 | 1 |
| 15 | 41.7 | 38.48 | 28 | 13 | 7 | 29 | 18 | 8 | 1 |
| 16 | 44.3 | 41.01 | 30 | 14 | 8 | 32 | 20 | 10 | 1 |
| 17 | 46.8 | 43.53 | 30 | 14 | 8 | 34 | 20 | 10 | 1 |
| 18 | 49.3 | 46.07 | 30 | 14 | 8 | 37 | 20 | 10 | 1 |
| 19 | 51.9 | 48.61 | 30 | 14 | 8 | 39 | 20 | 10 | 1 |
| 20 | 54.4 | 51.14 | 30 | 14 | 8 | 40 | 20 | 10 | 1 |
| 21 | 57.0 | 53.67 | 35 | 14 | 8 | 40 | 20 | 10 | 1 |
| 22 | 59.5 | 56.21 | 35 | 14 | 8 | 40 | 20 | 10 | 1 |
| 23 | 62.0 | 58.75 | 35 | 14 | 8 | 40 | 20 | 10 | 1 |
| 24 | 64.6 | 61.29 | 35 | 14 | 8 | 40 | 20 | 10 | 1 |
| 25 | 67.5 | 63.83 | 35 | 14 | 8 | 40 | 20 | 10 | 1 |
| 26 | 69.5 | 66.37 | 40 | 16 | 10 | 50 | 22 | 12 | 1 |
| 27 | 72.2 | 68.91 | 40 | 16 | 10 | 50 | 22 | 12 | 1 |
| 28 | 74.8 | 71.45 | 40 | 16 | 10 | 50 | 22 | 12 | 1 |
| 29 | 77.3 | 73.99 | 40 | 16 | 10 | 50 | 22 | 12 | 1 |
| 30 | 79.8 | 76.53 | 40 | 16 | 10 | 50 | 22 | 12 | 1 |
| 31 | 82.4 | 79.08 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 32 | 84.9 | 81.61 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 33 | 87.5 | 84.16 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 34 | 90.0 | 86.70 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 35 | 92.5 | 89.24 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 36 | 95.0 | 91.79 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 37 | 97.6 | 94.33 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 38 | 100.2 | 96.88 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 39 | 102.7 | 99.42 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 40 | 105.2 | 101.97 | 40 | 16 | 12 | 60 | 22 | 12 | 1 |
| 45 | 118.0 | 114.69 | 60 | 20 | 12 | - | - | - | 1 |
| 50 | 130.7 | 127.41 | 60 | 20 | 12 | - | - | - | 1 |
| 57 | 148.6 | 145.22 | 80 | 20 | 14 | - | - | - | 1 |
| 76 | 197.9 | 193.59 | 78 | 34.4 | - | - | - | - | 1 |

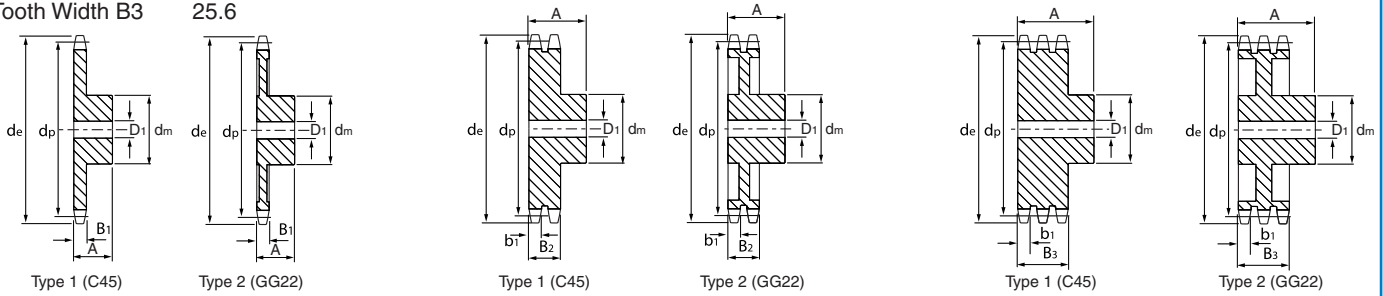
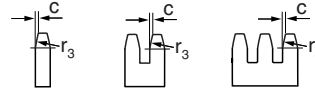
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Pilot Bore Sprockets

BS Pilot Bore Sprockets

06B 3/8" x 7/32"

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|-------|
| | mm | | mm |
| Tooth Radius r_3 | 10.0 | Pitch | 9.525 |
| Chamfer c | 1.0 | Width Between Inner Plates | 5.720 |
| Tooth Width b_1 | 5.2 | Roller Diameter | 6.350 |
| Tooth Width B_1 | 5.3 | | |
| Tooth Width B_2 | 15.4 | | |
| Tooth Width B_3 | 25.6 | | |



| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | |
| 8 | 28.0 | 24.89 | 15 | 22 | 8 | 15 | 22 | 8 | 15 | 32 | 8 | 1 |
| 9 | 31.0 | 27.85 | 18 | 22 | 8 | 18 | 22 | 8 | 18 | 32 | 8 | 1 |
| 10 | 34.0 | 30.82 | 20 | 22 | 8 | 20 | 22 | 8 | 20 | 32 | 10 | 1 |
| 11 | 37.0 | 33.80 | 22 | 25 | 8 | 22 | 25 | 10 | 22 | 35 | 12 | 1 |
| 12 | 40.0 | 36.80 | 25 | 25 | 8 | 25 | 25 | 10 | 25 | 35 | 12 | 1 |
| 13 | 43.0 | 39.80 | 28 | 25 | 10 | 28 | 25 | 10 | 28 | 35 | 12 | 1 |
| 14 | 46.3 | 42.80 | 31 | 25 | 10 | 31 | 25 | 10 | 31 | 35 | 12 | 1 |
| 15 | 49.3 | 45.81 | 34 | 25 | 10 | 34 | 25 | 10 | 34 | 35 | 12 | 1 |
| 16 | 52.3 | 48.82 | 37 | 28 | 10 | 37 | 30 | 12 | 37 | 35 | 12 | 1 |
| 17 | 55.3 | 51.83 | 40 | 28 | 10 | 40 | 30 | 12 | 40 | 35 | 12 | 1 |
| 18 | 58.3 | 54.85 | 43 | 28 | 10 | 43 | 30 | 12 | 43 | 35 | 12 | 1 |
| 19 | 61.3 | 57.87 | 45 | 28 | 10 | 46 | 30 | 12 | 46 | 35 | 12 | 1 |
| 20 | 64.3 | 60.89 | 46 | 28 | 10 | 49 | 30 | 12 | 49 | 35 | 12 | 1 |
| 21 | 68.0 | 63.91 | 48 | 28 | 12 | 52 | 30 | 16 | 52 | 40 | 16 | 1 |
| 22 | 71.0 | 66.93 | 50 | 28 | 12 | 55 | 30 | 16 | 55 | 40 | 16 | 1 |
| 23 | 73.5 | 69.95 | 52 | 28 | 12 | 58 | 30 | 16 | 58 | 40 | 16 | 1 |
| 24 | 77.0 | 72.97 | 54 | 28 | 12 | 61 | 30 | 16 | 61 | 40 | 16 | 1 |
| 25 | 80.0 | 76.00 | 57 | 28 | 12 | 64 | 30 | 16 | 64 | 40 | 16 | 1 |
| 26 | 83.0 | 79.02 | 60 | 28 | 12 | 67 | 30 | 16 | 67 | 40 | 16 | 1 |
| 27 | 86.0 | 82.04 | 60 | 28 | 12 | 70 | 30 | 16 | 70 | 40 | 16 | 1 |
| 28 | 89.0 | 85.07 | 60 | 28 | 12 | 73 | 30 | 16 | 73 | 40 | 16 | 1 |
| 29 | 92.0 | 88.09 | 60 | 28 | 12 | 76 | 30 | 16 | 76 | 40 | 16 | 1 |
| 30 | 94.7 | 91.12 | 60 | 28 | 12 | 79 | 30 | 16 | 79 | 40 | 16 | 1 |
| 31 | 98.3 | 94.15 | 65 | 30 | 14 | 80 | 30 | 16 | 80 | 40 | 16 | 1 |
| 32 | 101.3 | 97.17 | 65 | 30 | 14 | 80 | 30 | 16 | 80 | 40 | 16 | 1 |
| 33 | 104.3 | 100.20 | 65 | 30 | 14 | 80 | 30 | 16 | 80 | 40 | 16 | 1 |
| 34 | 107.3 | 103.23 | 65 | 30 | 14 | 80 | 30 | 16 | 85 | 40 | 16 | 1 |
| 35 | 110.4 | 106.26 | 65 | 30 | 14 | 80 | 30 | 16 | 85 | 40 | 16 | 1 |
| 36 | 113.4 | 109.29 | 70 | 30 | 14 | 90 | 30 | 16 | 90 | 40 | 16 | 1 |
| 37 | 116.4 | 112.32 | 70 | 30 | 14 | 90 | 30 | 16 | 90 | 40 | 16 | 1 |
| 38 | 119.5 | 115.34 | 70 | 30 | 14 | 90 | 30 | 16 | 90 | 40 | 16 | 1 |
| 39 | 122.5 | 118.37 | 70 | 30 | 14 | 90 | 30 | 16 | 90 | 40 | 16 | 1 |
| 40 | 125.5 | 121.40 | 70 | 30 | 14 | 90 | 30 | 16 | 90 | 40 | 16 | 1 |
| 38 | 119.5 | 115.34 | 70 | 32 | 20 | 80 | 40 | 20 | 90 | 56 | 24 | 2 |
| 45 | 140.7 | 136.54 | 70 | 32 | 20 | 80 | 40 | 20 | 90 | 56 | 24 | 2 |
| 57 | 176.9 | 172.91 | 70 | 32 | 20 | 80 | 40 | 20 | 90 | 56 | 24 | 2 |
| 76 | 234.9 | 230.49 | 70 | 32 | 20 | 80 | 40 | 20 | 100 | 56 | 24 | 2 |
| 95 | 292.5 | 288.08 | 80 | 40 | 20 | 90 | 45 | 20 | 100 | 56 | 24 | 2 |
| 114 | 349.6 | 345.68 | 80 | 40 | 20 | 95 | 45 | 20 | 100 | 56 | 24 | 2 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

| 081 | | 1/2" x 1/8" | |
|--------------------|-----------|----------------------------|-----------|
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r_3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.0 | Width Between Inner Plates | 3.300 |
| Tooth Width B1 | 3.0 | Roller Diameter | 7.750 |

Type 1 (C45)

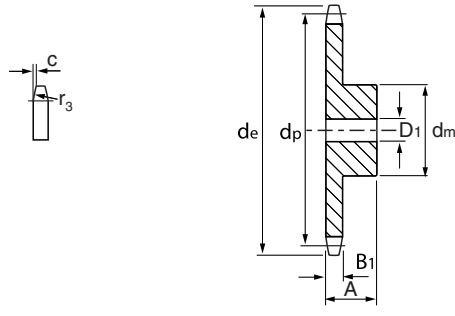
| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | Type |
|-------|-----------------|-----------------|---------------|------------------------|------------------|------|
| | | | Hub Dia dm | Length thro' Bore A | Stock Bore D1 | |
| 8 | 37.2 | 33.18 | 21 | 14 | 8 | 1 |
| 9 | 41.5 | 37.13 | 25 | 14 | 8 | 1 |
| 10 | 46.2 | 41.10 | 28 | 14 | 8 | 1 |
| 11 | 49.6 | 45.07 | 31 | 16 | 8 | 1 |
| 12 | 53.9 | 49.07 | 35 | 16 | 8 | 1 |
| 13 | 58.4 | 53.06 | 39 | 16 | 8 | 1 |
| 14 | 62.8 | 57.07 | 43 | 16 | 8 | 1 |
| 15 | 66.8 | 61.09 | 47 | 16 | 8 | 1 |
| 16 | 70.9 | 65.10 | 50 | 18 | 10 | 1 |
| 17 | 74.9 | 69.11 | 50 | 18 | 10 | 1 |
| 18 | 78.9 | 73.14 | 50 | 18 | 10 | 1 |
| 19 | 82.9 | 77.16 | 50 | 18 | 10 | 1 |
| 20 | 86.9 | 81.19 | 50 | 18 | 10 | 1 |
| 21 | 91.0 | 85.22 | 60 | 20 | 12 | 1 |
| 22 | 95.0 | 89.24 | 60 | 20 | 12 | 1 |
| 23 | 99.0 | 93.27 | 60 | 20 | 12 | 1 |
| 24 | 103.0 | 97.29 | 60 | 20 | 12 | 1 |
| 25 | 107.1 | 101.33 | 60 | 20 | 12 | 1 |
| 26 | 111.2 | 105.36 | 70 | 20 | 16 | 1 |
| 27 | 115.4 | 109.40 | 70 | 20 | 16 | 1 |
| 28 | 119.4 | 113.42 | 70 | 20 | 16 | 1 |
| 29 | 123.4 | 117.46 | 70 | 20 | 16 | 1 |
| 30 | 127.5 | 121.50 | 70 | 20 | 16 | 1 |
| 31 | 131.5 | 125.54 | 70 | 20 | 16 | 1 |
| 32 | 135.5 | 129.56 | 70 | 20 | 16 | 1 |
| 33 | 139.6 | 133.60 | 70 | 20 | 16 | 1 |
| 34 | 143.6 | 137.64 | 70 | 20 | 16 | 1 |
| 35 | 147.6 | 141.68 | 70 | 20 | 16 | 1 |
| 36 | 151.7 | 145.72 | 70 | 25 | 16 | 1 |
| 37 | 155.7 | 149.76 | 70 | 25 | 16 | 1 |
| 38 | 159.8 | 153.80 | 70 | 25 | 16 | 1 |
| 39 | 163.8 | 157.83 | 70 | 25 | 16 | 1 |
| 40 | 167.8 | 161.87 | 70 | 25 | 16 | 1 |

Pilot Bore Sprockets

BS Pilot Bore Sprockets

083 / 084 1/2" x 3/16"

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between Inner Plates | 4.880 |
| Tooth Width B1 | 4.5 | Roller Diameter | 7.750 |



Type 1 (C45)

| Teeth | Outer Dia de | Pitch Dia dp | Hub Dia dm | Simplex Length thro' Bore A | Stock Bore D1 | Type |
|-------|--------------|--------------|------------|-----------------------------|---------------|------|
| 8 | 38.5 | 33.18 | 21 | 14 | 8 | 1 |
| 9 | 41.5 | 37.13 | 25 | 14 | 8 | 1 |
| 10 | 46.2 | 41.10 | 28 | 14 | 8 | 1 |
| 11 | 49.6 | 45.07 | 31 | 16 | 8 | 1 |
| 12 | 53.9 | 49.07 | 35 | 16 | 8 | 1 |
| 13 | 58.4 | 53.06 | 39 | 16 | 8 | 1 |
| 14 | 62.8 | 57.07 | 43 | 16 | 8 | 1 |
| 15 | 66.8 | 61.09 | 47 | 16 | 8 | 1 |
| 16 | 70.9 | 65.10 | 50 | 18 | 10 | 1 |
| 17 | 74.9 | 69.10 | 50 | 18 | 10 | 1 |
| 18 | 78.9 | 73.14 | 50 | 18 | 10 | 1 |
| 19 | 82.9 | 77.16 | 50 | 18 | 10 | 1 |
| 20 | 86.9 | 81.19 | 50 | 18 | 10 | 1 |
| 21 | 91.0 | 85.22 | 60 | 20 | 12 | 1 |
| 22 | 95.0 | 89.24 | 60 | 20 | 12 | 1 |
| 23 | 99.0 | 93.27 | 60 | 20 | 12 | 1 |
| 24 | 103.0 | 97.29 | 60 | 20 | 12 | 1 |
| 25 | 107.1 | 101.33 | 60 | 20 | 12 | 1 |
| 26 | 111.2 | 105.36 | 70 | 20 | 16 | 1 |
| 27 | 115.4 | 109.40 | 70 | 20 | 16 | 1 |
| 28 | 119.4 | 113.42 | 70 | 20 | 16 | 1 |
| 29 | 123.4 | 117.46 | 70 | 20 | 16 | 1 |
| 30 | 127.5 | 121.50 | 70 | 20 | 16 | 1 |
| 31 | 131.5 | 125.54 | 70 | 20 | 16 | 1 |
| 32 | 135.5 | 129.56 | 70 | 20 | 16 | 1 |
| 33 | 139.6 | 133.60 | 70 | 20 | 16 | 1 |
| 34 | 143.6 | 137.64 | 70 | 20 | 16 | 1 |
| 35 | 147.6 | 141.68 | 70 | 20 | 16 | 1 |
| 36 | 151.7 | 145.72 | 70 | 25 | 16 | 1 |
| 37 | 155.7 | 149.76 | 70 | 25 | 16 | 1 |
| 38 | 159.8 | 153.80 | 70 | 25 | 16 | 1 |
| 39 | 163.8 | 157.83 | 70 | 25 | 16 | 1 |
| 40 | 167.8 | 161.87 | 70 | 25 | 16 | 1 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

| 085 | | 1/2" x 1/4" | |
|--------------------|-----------|----------------------------|-----------|
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r_3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between Inner Plates | 6.400 |
| Tooth Width B_i | 5.9 | Roller Diameter | 7.750 |

Type 1 (C45)

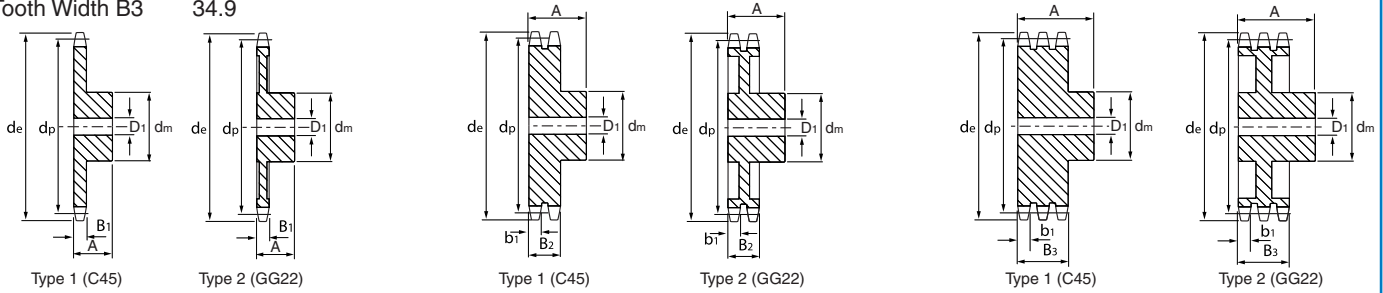
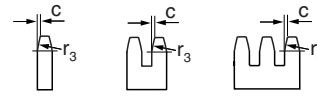
| Teeth | Outer Dia d_e | Pitch Dia d_p | Hub Dia d_m | Simplex Length thro' Bore A | Stock Bore D_1 | Type |
|-------|-----------------|-----------------|---------------|-----------------------------|------------------|------|
| 8 | 38.5 | 33.18 | 20 | 25 | 10 | 1 |
| 9 | 41.5 | 37.13 | 24 | 25 | 10 | 1 |
| 10 | 46.2 | 41.10 | 26 | 25 | 10 | 1 |
| 11 | 49.6 | 45.07 | 29 | 25 | 10 | 1 |
| 12 | 53.9 | 49.07 | 33 | 28 | 10 | 1 |
| 13 | 58.4 | 53.06 | 37 | 28 | 10 | 1 |
| 14 | 62.8 | 57.07 | 41 | 28 | 10 | 1 |
| 15 | 66.8 | 61.09 | 45 | 28 | 10 | 1 |
| 16 | 70.9 | 65.10 | 50 | 28 | 12 | 1 |
| 17 | 74.9 | 69.11 | 52 | 28 | 12 | 1 |
| 18 | 78.9 | 73.14 | 56 | 28 | 12 | 1 |
| 19 | 82.9 | 77.16 | 60 | 28 | 12 | 1 |
| 20 | 86.9 | 81.19 | 64 | 28 | 12 | 1 |
| 21 | 91.0 | 85.22 | 68 | 28 | 14 | 1 |
| 22 | 95.0 | 89.24 | 70 | 28 | 14 | 1 |
| 23 | 99.0 | 93.27 | 70 | 28 | 14 | 1 |
| 24 | 103.0 | 97.29 | 70 | 28 | 14 | 1 |
| 25 | 107.1 | 101.33 | 70 | 28 | 14 | 1 |
| 26 | 111.2 | 105.36 | 70 | 30 | 16 | 1 |
| 27 | 115.4 | 109.40 | 70 | 30 | 16 | 1 |
| 28 | 119.4 | 113.42 | 70 | 30 | 16 | 1 |
| 29 | 123.4 | 117.46 | 80 | 30 | 16 | 1 |
| 30 | 127.5 | 121.50 | 80 | 30 | 16 | 1 |
| 31 | 131.5 | 125.54 | 90 | 30 | 16 | 1 |
| 32 | 135.5 | 129.56 | 90 | 30 | 16 | 1 |
| 33 | 139.6 | 133.60 | 90 | 30 | 16 | 1 |
| 34 | 143.6 | 137.64 | 90 | 30 | 16 | 1 |
| 35 | 147.6 | 141.68 | 90 | 30 | 16 | 1 |
| 36 | 151.7 | 145.72 | 90 | 35 | 16 | 1 |
| 37 | 155.7 | 149.76 | 90 | 35 | 16 | 1 |
| 38 | 159.8 | 153.80 | 90 | 35 | 16 | 1 |
| 39 | 163.8 | 157.83 | 90 | 35 | 16 | 1 |
| 40 | 167.8 | 161.87 | 90 | 35 | 16 | 1 |

Pilot Bore Sprockets

BS Pilot Bore Sprockets

08B 1/2" x 5/16"

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r_3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between Inner Plates | 7.750 |
| Tooth Width b_1 | 7.0 | Roller Diameter | 8.510 |
| Tooth Width B_1 | 7.2 | | |
| Tooth Width B_2 | 21.0 | | |
| Tooth Width B_3 | 34.9 | | |



| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | |
| 8 | 37.2 | 33.18 | 20 | 25 | 10 | 20 | 32 | 10 | 20 | 46 | 10 | 1 |
| 9 | 41.0 | 37.13 | 24 | 25 | 10 | 24 | 32 | 10 | 24 | 46 | 12 | 1 |
| 10 | 45.2 | 41.10 | 26 | 25 | 10 | 28 | 32 | 10 | 28 | 46 | 12 | 1 |
| 11 | 48.7 | 45.07 | 29 | 25 | 10 | 32 | 35 | 12 | 32 | 50 | 16 | 1 |
| 12 | 53.0 | 49.07 | 33 | 28 | 10 | 35 | 35 | 12 | 35 | 50 | 16 | 1 |
| 13 | 57.4 | 53.06 | 37 | 28 | 10 | 38 | 35 | 12 | 38 | 50 | 16 | 1 |
| 14 | 61.8 | 57.07 | 41 | 28 | 10 | 42 | 35 | 12 | 42 | 50 | 16 | 1 |
| 15 | 65.5 | 61.09 | 45 | 28 | 10 | 46 | 35 | 12 | 46 | 50 | 16 | 1 |
| 16 | 69.5 | 65.10 | 50 | 28 | 12 | 50 | 38 | 14 | 50 | 50 | 16 | 1 |
| 17 | 73.6 | 69.11 | 52 | 28 | 12 | 54 | 38 | 14 | 54 | 50 | 16 | 1 |
| 18 | 77.8 | 73.14 | 56 | 28 | 12 | 58 | 38 | 14 | 58 | 50 | 16 | 1 |
| 19 | 81.7 | 77.16 | 60 | 28 | 12 | 62 | 38 | 14 | 62 | 50 | 16 | 1 |
| 20 | 85.8 | 81.19 | 64 | 28 | 12 | 66 | 38 | 14 | 66 | 50 | 16 | 1 |
| 21 | 89.7 | 85.22 | 68 | 28 | 14 | 70 | 40 | 16 | 70 | 55 | 20 | 1 |
| 22 | 93.8 | 89.24 | 70 | 28 | 14 | 70 | 40 | 16 | 70 | 55 | 20 | 1 |
| 23 | 98.2 | 93.27 | 70 | 28 | 14 | 70 | 40 | 16 | 70 | 55 | 20 | 1 |
| 24 | 101.8 | 97.29 | 70 | 28 | 14 | 75 | 40 | 16 | 75 | 55 | 20 | 1 |
| 25 | 105.8 | 101.33 | 70 | 28 | 14 | 80 | 40 | 16 | 80 | 55 | 20 | 1 |
| 26 | 110.0 | 105.36 | 70 | 30 | 16 | 85 | 40 | 20 | 85 | 55 | 20 | 1 |
| 27 | 114.0 | 109.40 | 70 | 30 | 16 | 85 | 40 | 20 | 85 | 55 | 20 | 1 |
| 28 | 118.0 | 113.42 | 70 | 30 | 16 | 90 | 40 | 20 | 90 | 55 | 20 | 1 |
| 29 | 122.0 | 117.46 | 80 | 30 | 16 | 95 | 40 | 20 | 95 | 55 | 20 | 1 |
| 30 | 126.1 | 121.50 | 80 | 30 | 16 | 100 | 40 | 20 | 100 | 55 | 20 | 1 |
| 31 | 130.2 | 125.54 | 90 | 30 | 16 | 100 | 40 | 20 | 110 | 55 | 20 | 1 |
| 32 | 134.3 | 129.56 | 90 | 30 | 16 | 100 | 40 | 20 | 110 | 55 | 20 | 1 |
| 33 | 138.4 | 133.60 | 90 | 30 | 16 | 100 | 40 | 20 | 110 | 55 | 20 | 1 |
| 34 | 142.6 | 137.64 | 90 | 30 | 16 | 100 | 40 | 20 | 110 | 55 | 20 | 1 |
| 35 | 146.7 | 141.68 | 90 | 30 | 16 | 100 | 40 | 20 | 110 | 55 | 20 | 1 |
| 36 | 151.0 | 145.72 | 90 | 35 | 20 | 100 | 40 | 20 | 120 | 55 | 25 | 1 |
| 37 | 154.6 | 149.76 | 90 | 35 | 20 | 100 | 40 | 20 | 120 | 55 | 25 | 1 |
| 38 | 158.6 | 153.80 | 90 | 35 | 20 | 100 | 40 | 20 | 120 | 55 | 25 | 1 |
| 39 | 162.7 | 157.83 | 90 | 35 | 20 | 100 | 40 | 20 | 120 | 55 | 25 | 1 |
| 40 | 166.8 | 161.87 | 90 | 35 | 20 | 100 | 40 | 20 | 120 | 55 | 25 | 1 |
| 38 | 158.6 | 153.80 | 70 | 40 | 24 | 90 | 50 | 24 | 100 | 60 | 24 | 2 |
| 45 | 188.0 | 182.07 | 70 | 40 | 24 | 90 | 50 | 24 | 100 | 60 | 24 | 2 |
| 57 | 236.4 | 230.54 | 70 | 40 | 24 | 90 | 50 | 24 | 100 | 60 | 24 | 2 |
| 76 | 313.3 | 307.33 | 80 | 40 | 24 | 100 | 56 | 24 | 100 | 60 | 24 | 2 |
| 95 | 390.1 | 384.11 | 80 | 45 | 24 | 100 | 56 | 24 | 120 | 67 | 24 | 2 |
| 114 | 466.9 | 460.90 | 80 | 45 | 25 | 100 | 63 | 25 | 120 | 67 | 25 | 2 |

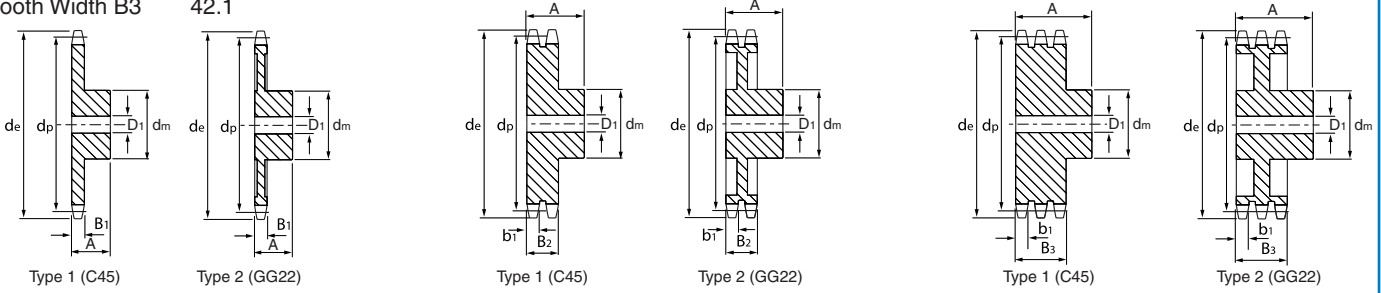
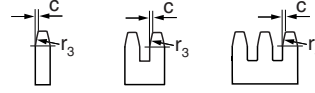
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

10B 5/8" x 3/8"

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r_3 | 16.0 | Pitch | 15.875 |
| Chamfer c | 1.6 | Width Between Inner Plates | 9.650 |
| Tooth Width b_1 | 9.0 | Roller Diameter | 10.160 |
| Tooth Width B_1 | 9.1 | | |
| Tooth Width B_2 | 25.5 | | |
| Tooth Width B_3 | 42.1 | | |



| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|---------------|---------------|---------------------|---------------|---------------|---------------------|---------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D1 | |
| 8 | 47.0 | 41.48 | 25 | 25 | 10 | 25 | 40 | 12 | 25 | 55 | 12 | 1 |
| 9 | 52.6 | 46.42 | 30 | 25 | 10 | 30 | 40 | 12 | 30 | 55 | 12 | 1 |
| 10 | 57.5 | 51.37 | 35 | 25 | 10 | 35 | 40 | 12 | 35 | 55 | 16 | 1 |
| 11 | 63.0 | 56.34 | 37 | 30 | 12 | 39 | 40 | 14 | 39 | 55 | 16 | 1 |
| 12 | 68.0 | 61.34 | 42 | 30 | 12 | 44 | 40 | 14 | 44 | 55 | 16 | 1 |
| 13 | 73.0 | 66.32 | 47 | 30 | 12 | 49 | 40 | 14 | 49 | 55 | 16 | 1 |
| 14 | 78.0 | 71.34 | 52 | 30 | 12 | 54 | 40 | 14 | 54 | 55 | 16 | 1 |
| 15 | 83.0 | 76.36 | 57 | 30 | 12 | 59 | 40 | 14 | 59 | 55 | 16 | 1 |
| 16 | 88.0 | 81.37 | 60 | 30 | 14 | 64 | 45 | 16 | 64 | 60 | 16 | 1 |
| 17 | 93.0 | 86.39 | 60 | 30 | 14 | 69 | 45 | 16 | 69 | 60 | 16 | 1 |
| 18 | 98.3 | 91.42 | 70 | 30 | 14 | 74 | 45 | 16 | 74 | 60 | 16 | 1 |
| 19 | 103.3 | 96.45 | 70 | 30 | 14 | 79 | 45 | 16 | 79 | 60 | 16 | 1 |
| 20 | 108.4 | 101.49 | 75 | 30 | 14 | 84 | 45 | 16 | 84 | 60 | 16 | 1 |
| 21 | 113.4 | 106.52 | 75 | 30 | 16 | 85 | 45 | 16 | 85 | 60 | 20 | 1 |
| 22 | 118.0 | 111.55 | 80 | 30 | 16 | 90 | 45 | 16 | 90 | 60 | 20 | 1 |
| 23 | 123.4 | 116.58 | 80 | 30 | 16 | 95 | 45 | 16 | 95 | 60 | 20 | 1 |
| 24 | 128.3 | 121.62 | 80 | 30 | 16 | 100 | 45 | 16 | 100 | 60 | 20 | 1 |
| 25 | 134.0 | 126.66 | 80 | 30 | 16 | 105 | 45 | 16 | 105 | 60 | 20 | 1 |
| 26 | 139.0 | 131.70 | 85 | 35 | 20 | 110 | 45 | 20 | 110 | 60 | 20 | 1 |
| 27 | 144.0 | 136.75 | 85 | 35 | 20 | 110 | 45 | 20 | 110 | 60 | 20 | 1 |
| 28 | 148.7 | 141.78 | 90 | 35 | 20 | 115 | 45 | 20 | 115 | 60 | 20 | 1 |
| 29 | 153.8 | 146.83 | 90 | 35 | 20 | 115 | 45 | 20 | 115 | 60 | 20 | 1 |
| 30 | 158.8 | 151.87 | 90 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 20 | 1 |
| 31 | 163.9 | 156.92 | 95 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 20 | 1 |
| 32 | 168.9 | 161.95 | 95 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 20 | 1 |
| 33 | 174.5 | 167.00 | 95 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 20 | 1 |
| 34 | 179.0 | 172.05 | 95 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 20 | 1 |
| 35 | 184.1 | 177.10 | 95 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 20 | 1 |
| 36 | 189.1 | 182.15 | 100 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 25 | 1 |
| 37 | 194.2 | 187.20 | 100 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 25 | 1 |
| 38 | 199.2 | 192.24 | 100 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 25 | 1 |
| 39 | 204.2 | 197.29 | 100 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 25 | 1 |
| 40 | 209.3 | 202.34 | 100 | 35 | 20 | 120 | 45 | 20 | 120 | 60 | 25 | 1 |
| 38 | 199.2 | 192.24 | 80 | 40 | 24 | 100 | 50 | 30 | 100 | 60 | 32 | 2 |
| 45 | 235.0 | 227.58 | 80 | 40 | 24 | 100 | 50 | 30 | 100 | 60 | 32 | 2 |
| 57 | 296.0 | 288.18 | 90 | 45 | 24 | 100 | 56 | 30 | 100 | 63 | 32 | 2 |
| 76 | 392.1 | 384.16 | 90 | 50 | 24 | 100 | 63 | 30 | 110 | 67 | 35 | 2 |
| 95 | 488.5 | 480.14 | 100 | 56 | 24 | 110 | 63 | 30 | 125 | 70 | 35 | 2 |
| 114 | 584.1 | 576.13 | 100 | 56 | 25 | 125 | 70 | 30 | 125 | 80 | 35 | 2 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

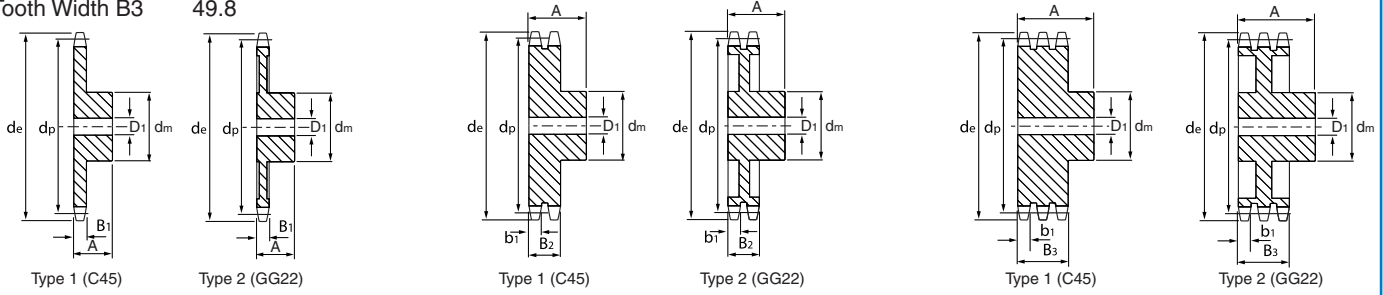
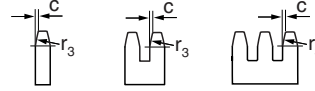
12B 3/4" x 7/16"

SPROCKET

| | |
|--------------------|------|
| Tooth Radius r_3 | 19.0 |
| Chamfer c | 2.0 |
| Tooth Width b_1 | 10.8 |
| Tooth Width B_1 | 11.1 |
| Tooth Width B_2 | 30.3 |
| Tooth Width B_3 | 49.8 |

CHAIN

| | |
|----------------------------|--------|
| Pitch | 19.050 |
| Width Between Inner Plates | 11.680 |
| Roller Diameter | 12.070 |



| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | |
| 8 | 57.6 | 49.78 | 31 | 30 | 12 | 31 | 45 | 12 | 31 | 65 | 16 | 1 |
| 9 | 62.0 | 55.70 | 37 | 30 | 12 | 37 | 45 | 12 | 37 | 65 | 16 | 1 |
| 10 | 69.0 | 61.64 | 42 | 30 | 12 | 42 | 45 | 12 | 42 | 65 | 16 | 1 |
| 11 | 75.0 | 67.61 | 46 | 35 | 14 | 47 | 50 | 16 | 47 | 70 | 20 | 1 |
| 12 | 81.5 | 73.60 | 52 | 35 | 14 | 53 | 50 | 16 | 53 | 70 | 20 | 1 |
| 13 | 87.5 | 79.59 | 58 | 35 | 14 | 59 | 50 | 16 | 59 | 70 | 20 | 1 |
| 14 | 93.6 | 85.61 | 64 | 35 | 14 | 65 | 50 | 16 | 65 | 70 | 20 | 1 |
| 15 | 99.8 | 91.63 | 70 | 35 | 14 | 71 | 50 | 16 | 71 | 70 | 20 | 1 |
| 16 | 105.5 | 97.65 | 75 | 35 | 16 | 77 | 50 | 20 | 77 | 70 | 20 | 1 |
| 17 | 111.5 | 103.67 | 80 | 35 | 16 | 83 | 50 | 20 | 83 | 70 | 20 | 1 |
| 18 | 118.0 | 109.71 | 80 | 35 | 16 | 89 | 50 | 20 | 89 | 70 | 20 | 1 |
| 19 | 124.2 | 115.75 | 80 | 35 | 16 | 95 | 50 | 20 | 95 | 70 | 20 | 1 |
| 20 | 129.7 | 121.78 | 80 | 35 | 16 | 100 | 50 | 20 | 100 | 70 | 20 | 1 |
| 21 | 136.0 | 127.82 | 90 | 40 | 20 | 100 | 50 | 20 | 100 | 70 | 20 | 1 |
| 22 | 141.8 | 133.86 | 90 | 40 | 20 | 100 | 50 | 20 | 100 | 70 | 20 | 1 |
| 23 | 149.0 | 139.90 | 90 | 40 | 20 | 110 | 50 | 20 | 110 | 70 | 20 | 1 |
| 24 | 153.9 | 145.94 | 90 | 40 | 20 | 110 | 50 | 20 | 110 | 70 | 20 | 1 |
| 25 | 160.0 | 152.00 | 90 | 40 | 20 | 120 | 50 | 20 | 120 | 70 | 20 | 1 |
| 26 | 165.9 | 158.04 | 95 | 40 | 20 | 120 | 50 | 20 | 120 | 70 | 20 | 1 |
| 27 | 172.3 | 164.09 | 95 | 40 | 20 | 120 | 50 | 20 | 120 | 70 | 20 | 1 |
| 28 | 178.0 | 170.13 | 95 | 40 | 20 | 120 | 50 | 20 | 120 | 70 | 20 | 1 |
| 29 | 184.1 | 176.19 | 95 | 40 | 20 | 120 | 50 | 20 | 120 | 70 | 20 | 1 |
| 30 | 190.5 | 182.25 | 95 | 40 | 20 | 120 | 50 | 20 | 120 | 70 | 20 | 1 |
| 31 | 196.3 | 188.31 | 100 | 40 | 20 | 120 | 50 | 20 | 130 | 70 | 25 | 1 |
| 32 | 203.3 | 194.35 | 100 | 40 | 20 | 120 | 50 | 20 | 130 | 70 | 25 | 1 |
| 33 | 209.3 | 200.40 | 100 | 40 | 20 | 120 | 50 | 20 | 130 | 70 | 25 | 1 |
| 34 | 214.6 | 206.46 | 100 | 40 | 20 | 120 | 50 | 20 | 130 | 70 | 25 | 1 |
| 35 | 221.0 | 212.52 | 100 | 40 | 20 | 120 | 50 | 20 | 130 | 70 | 25 | 1 |
| 36 | 226.8 | 218.58 | 100 | 40 | 25 | 120 | 50 | 25 | 130 | 70 | 25 | 1 |
| 37 | 232.9 | 224.64 | 100 | 40 | 25 | 120 | 50 | 25 | 130 | 70 | 25 | 1 |
| 38 | 239.0 | 230.69 | 100 | 40 | 25 | 120 | 50 | 25 | 130 | 70 | 25 | 1 |
| 39 | 245.1 | 236.75 | 100 | 40 | 25 | 120 | 50 | 25 | 130 | 70 | 25 | 1 |
| 40 | 251.3 | 242.81 | 100 | 40 | 25 | 120 | 50 | 25 | 130 | 70 | 25 | 1 |
| 38 | 239.0 | 230.69 | 100 | 56 | 24 | 110 | 63 | 30 | 140 | 70 | 30 | 2 |
| 45 | 282.5 | 273.10 | 100 | 56 | 24 | 110 | 63 | 30 | 140 | 70 | 30 | 2 |
| 57 | 355.4 | 345.81 | 100 | 56 | 30 | 120 | 63 | 30 | 140 | 70 | 40 | 2 |
| 76 | 469.9 | 460.99 | 100 | 56 | 30 | 135 | 63 | 30 | 160 | 75 | 40 | 2 |
| 95 | 585.1 | 576.17 | 100 | 65 | 30 | 135 | 70 | 30 | 170 | 82 | 40 | 2 |
| 114 | 700.6 | 691.36 | 100 | 65 | 30 | 135 | 70 | 30 | 170 | 82 | 40 | 2 |

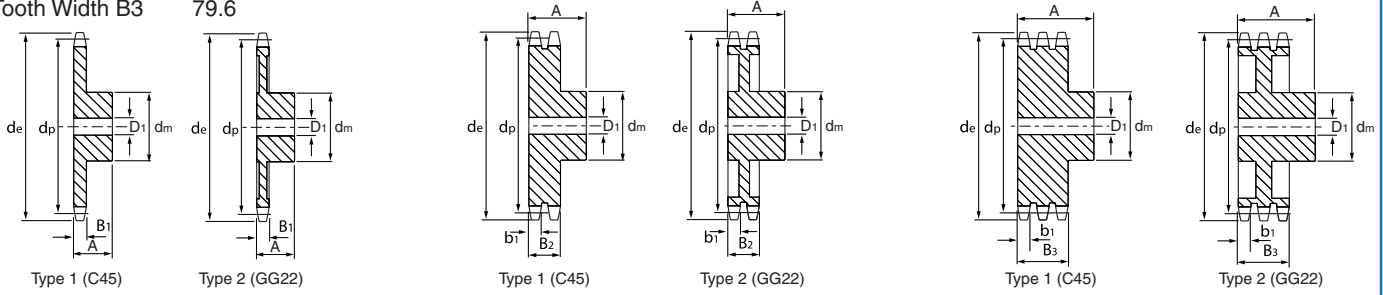
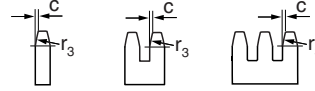
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

16B 1" x 17.02 mm

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|--------|
| mm | mm | mm | mm |
| Tooth Radius r_3 | 26.0 | Pitch | 25.400 |
| Chamfer c | 2.5 | Width Between Inner Plates | 17.020 |
| Tooth Width b_1 | 15.8 | Roller Diameter | 15.880 |
| Tooth Width B_1 | 16.2 | | |
| Tooth Width B_2 | 47.7 | | |
| Tooth Width B_3 | 79.6 | | |



| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | |
| 8 | 77.0 | 66.37 | 42 | 35 | 16 | 42 | 65 | 16 | 42 | 95 | 20 | 1 |
| 9 | 85.0 | 74.27 | 50 | 35 | 16 | 50 | 65 | 16 | 50 | 95 | 20 | 1 |
| 10 | 93.0 | 82.19 | 55 | 35 | 16 | 56 | 65 | 16 | 56 | 95 | 20 | 1 |
| 11 | 99.5 | 90.14 | 61 | 40 | 16 | 64 | 70 | 20 | 64 | 100 | 25 | 1 |
| 12 | 109.0 | 98.14 | 69 | 40 | 16 | 72 | 70 | 20 | 72 | 100 | 25 | 1 |
| 13 | 117.0 | 106.12 | 78 | 40 | 16 | 80 | 70 | 20 | 80 | 100 | 25 | 1 |
| 14 | 125.0 | 114.15 | 84 | 40 | 16 | 88 | 70 | 20 | 88 | 100 | 25 | 1 |
| 15 | 133.0 | 122.17 | 92 | 40 | 16 | 96 | 70 | 20 | 96 | 100 | 25 | 1 |
| 16 | 141.0 | 130.20 | 100 | 45 | 20 | 104 | 70 | 25 | 104 | 100 | 30 | 1 |
| 17 | 149.0 | 138.22 | 100 | 45 | 20 | 112 | 70 | 25 | 112 | 100 | 30 | 1 |
| 18 | 157.0 | 146.28 | 100 | 45 | 20 | 120 | 70 | 25 | 120 | 100 | 30 | 1 |
| 19 | 165.2 | 154.33 | 100 | 45 | 20 | 128 | 70 | 25 | 128 | 100 | 30 | 1 |
| 20 | 173.2 | 162.38 | 100 | 45 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 21 | 181.2 | 170.43 | 110 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 22 | 189.3 | 178.48 | 110 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 23 | 197.5 | 186.53 | 110 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 24 | 205.5 | 194.59 | 110 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 25 | 213.5 | 202.66 | 110 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 26 | 221.6 | 210.72 | 120 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 27 | 229.6 | 218.79 | 120 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 28 | 237.7 | 226.85 | 120 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 29 | 245.8 | 234.92 | 120 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 30 | 254.0 | 243.00 | 120 | 50 | 20 | 130 | 70 | 25 | 130 | 100 | 30 | 1 |
| 31 | 262.0 | 251.08 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 32 | 270.0 | 259.13 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 33 | 278.5 | 267.21 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 34 | 287.0 | 275.28 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 35 | 296.2 | 283.36 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 36 | 304.6 | 291.44 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 37 | 312.6 | 299.51 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 38 | 320.7 | 307.59 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 39 | 328.8 | 315.67 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 40 | 336.9 | 323.75 | 120 | 50 | 25 | 140 | 70 | 25 | 140 | 100 | 30 | 1 |
| 30 | 254.0 | 243.00 | 110 | 65 | 30 | 125 | 75 | 40 | 145 | 90 | 40 | 2 |
| 38 | 320.0 | 307.59 | 110 | 65 | 30 | 140 | 75 | 40 | 160 | 100 | 45 | 2 |
| 45 | 377.0 | 364.12 | 125 | 70 | 30 | 150 | 75 | 40 | 160 | 100 | 45 | 2 |
| 57 | 474.0 | 461.07 | 125 | 70 | 35 | 170 | 90 | 40 | 165 | 100 | 45 | 2 |
| 76 | 627.0 | 614.65 | 140 | 80 | 35 | 175 | 95 | 40 | 200 | 110 | 45 | 2 |
| 95 | 781.0 | 768.22 | 140 | 80 | 40 | 175 | 95 | 45 | 200 | 110 | 50 | 2 |

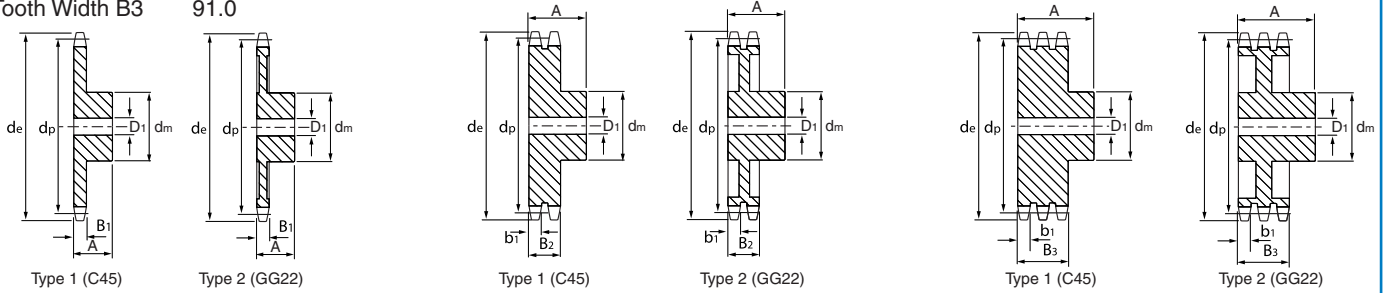
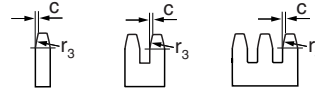
Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

20B 1.1/4" x 3/4"

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r_3 | 32.0 | Pitch | 31.750 |
| Chamfer c | 3.5 | Width Between Inner Plates | 19.560 |
| Tooth Width b_1 | 18.2 | Roller Diameter | 19.050 |
| Tooth Width B_1 | 18.5 | | |
| Tooth Width B_2 | 54.6 | | |
| Tooth Width B_3 | 91.0 | | |



| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | |
| 8 | 98.1 | 82.96 | 53 | 40 | 20 | 53 | 75 | 20 | 53 | 110 | 25 | 1 |
| 9 | 108.0 | 92.84 | 63 | 40 | 20 | 63 | 75 | 20 | 63 | 110 | 25 | 1 |
| 10 | 117.9 | 102.74 | 70 | 40 | 20 | 70 | 75 | 20 | 70 | 110 | 25 | 1 |
| 11 | 127.8 | 112.68 | 77 | 45 | 20 | 80 | 80 | 25 | 80 | 115 | 30 | 1 |
| 12 | 137.8 | 122.68 | 88 | 45 | 20 | 90 | 80 | 25 | 90 | 115 | 30 | 1 |
| 13 | 147.8 | 132.65 | 98 | 45 | 20 | 100 | 80 | 25 | 100 | 115 | 30 | 1 |
| 14 | 157.8 | 142.68 | 108 | 45 | 20 | 110 | 80 | 25 | 110 | 115 | 30 | 1 |
| 15 | 167.9 | 152.72 | 118 | 45 | 20 | 120 | 80 | 25 | 120 | 115 | 30 | 1 |
| 16 | 177.9 | 162.75 | 120 | 50 | 25 | 120 | 80 | 30 | 120 | 115 | 30 | 1 |
| 17 | 187.9 | 172.78 | 120 | 50 | 25 | 120 | 80 | 30 | 120 | 115 | 30 | 1 |
| 18 | 198.0 | 182.85 | 120 | 50 | 25 | 120 | 80 | 30 | 120 | 115 | 30 | 1 |
| 19 | 208.1 | 192.91 | 120 | 50 | 25 | 120 | 80 | 30 | 120 | 115 | 30 | 1 |
| 20 | 218.1 | 202.98 | 120 | 50 | 25 | 120 | 80 | 30 | 120 | 115 | 30 | 1 |
| 21 | 228.2 | 213.04 | 140 | 55 | 30 | 140 | 80 | 30 | 140 | 115 | 30 | 1 |
| 22 | 238.3 | 223.11 | 140 | 55 | 30 | 140 | 80 | 30 | 140 | 115 | 30 | 1 |
| 23 | 248.3 | 233.17 | 140 | 55 | 30 | 140 | 80 | 30 | 140 | 115 | 30 | 1 |
| 24 | 258.4 | 243.23 | 140 | 55 | 30 | 140 | 80 | 30 | 140 | 115 | 30 | 1 |
| 25 | 268.5 | 253.33 | 140 | 55 | 30 | 140 | 80 | 30 | 140 | 115 | 30 | 1 |
| 26 | 278.6 | 263.40 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 27 | 288.6 | 273.80 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 28 | 298.7 | 283.56 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 29 | 308.8 | 293.65 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 30 | 318.9 | 303.75 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 31 | 329.0 | 313.85 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 32 | 339.1 | 323.91 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 33 | 349.2 | 334.01 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 34 | 359.3 | 344.10 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 35 | 369.4 | 354.20 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 36 | 379.5 | 364.30 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 37 | 389.5 | 374.39 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 38 | 399.6 | 384.49 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 39 | 409.7 | 394.59 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 40 | 419.8 | 404.66 | 150 | 55 | 30 | 150 | 80 | 30 | 150 | 115 | 30 | 1 |
| 30 | 318.9 | 303.75 | 115 | 70 | 35 | 130 | 80 | 40 | 160 | 100 | 50 | 2 |
| 38 | 399.6 | 384.49 | 125 | 70 | 35 | 140 | 90 | 45 | 180 | 110 | 56 | 2 |
| 45 | 470.3 | 455.17 | 125 | 70 | 35 | 140 | 90 | 45 | 180 | 110 | 56 | 2 |
| 57 | 591.5 | 576.36 | 135 | 80 | 40 | 160 | 100 | 50 | 180 | 125 | 63 | 2 |
| 76 | 783.5 | 768.32 | 140 | 90 | 50 | 180 | 100 | 56 | 200 | 140 | 63 | 2 |
| 95 | 976.9 | 960.28 | - | - | - | 180 | 100 | 60 | 220 | 140 | 70 | 2 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

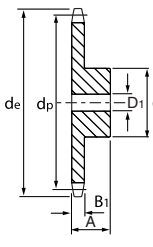
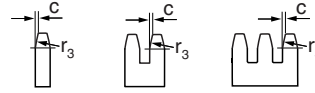
24B 1.1/2" x 1"

SPROCKET

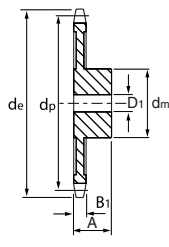
| | |
|--------------------|-------|
| Tooth Radius r_3 | 38.0 |
| Chamfer c | 4.0 |
| Tooth Width b_1 | 23.6 |
| Tooth Width B_1 | 24.1 |
| Tooth Width B_2 | 72.0 |
| Tooth Width B_3 | 120.3 |

CHAIN

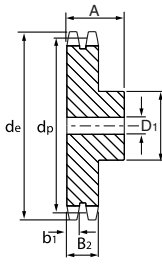
| | |
|----------------------------|--------|
| Pitch | 38.100 |
| Width Between Inner Plates | 25.400 |
| Roller Diameter | 25.400 |



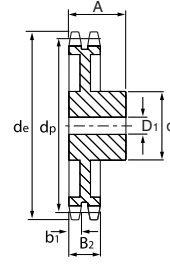
Type 1 (C45)



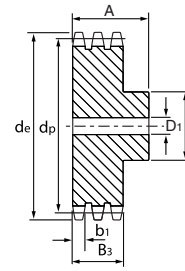
Type 2 (GG22)



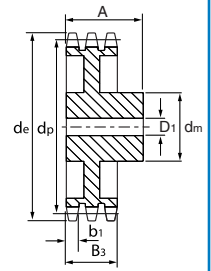
Type 1 (C45)



Type 2 (GG22)



Type 1 (C45)



Type 2 (GG22)

| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | |
| 8 | 115.0 | 99.55 | 58 | 45 | 20 | 58 | 95 | 25 | 58 | 140 | 25 | 1 |
| 9 | 126.4 | 111.40 | 70 | 45 | 20 | 70 | 95 | 25 | 70 | 140 | 25 | 1 |
| 10 | 138.0 | 123.29 | 80 | 45 | 20 | 80 | 95 | 25 | 80 | 140 | 25 | 1 |
| 11 | 150.0 | 135.21 | 90 | 50 | 25 | 90 | 100 | 25 | 90 | 150 | 30 | 1 |
| 12 | 162.0 | 147.22 | 102 | 50 | 25 | 102 | 100 | 25 | 102 | 150 | 30 | 1 |
| 13 | 174.2 | 159.18 | 114 | 50 | 25 | 114 | 100 | 25 | 114 | 150 | 30 | 1 |
| 14 | 186.2 | 171.22 | 128 | 50 | 25 | 128 | 100 | 25 | 128 | 150 | 30 | 1 |
| 15 | 198.2 | 183.26 | 140 | 50 | 25 | 140 | 100 | 25 | 132 | 150 | 30 | 1 |
| 16 | 210.3 | 195.30 | 140 | 55 | 25 | 140 | 100 | 30 | 136 | 150 | 30 | 1 |
| 17 | 222.3 | 207.34 | 140 | 55 | 25 | 150 | 100 | 30 | 140 | 150 | 30 | 1 |
| 18 | 234.3 | 219.42 | 140 | 55 | 25 | 150 | 100 | 30 | 150 | 150 | 30 | 1 |
| 19 | 246.5 | 231.49 | 140 | 55 | 25 | 160 | 100 | 30 | 160 | 150 | 30 | 1 |
| 20 | 258.6 | 243.57 | 140 | 55 | 25 | 160 | 100 | 30 | 160 | 150 | 30 | 1 |
| 21 | 270.6 | 255.65 | 150 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 22 | 282.7 | 267.73 | 150 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 23 | 294.8 | 279.80 | 150 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 24 | 306.8 | 291.88 | 150 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 25 | 319.0 | 304.00 | 150 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 26 | 331.0 | 316.08 | 160 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 27 | 343.2 | 328.19 | 160 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 28 | 355.2 | 340.27 | 160 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 29 | 367.3 | 352.38 | 160 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 30 | 379.5 | 364.50 | 160 | 60 | 30 | 160 | 100 | 30 | 160 | 150 | 40 | 1 |
| 31 | 391.6 | 376.62 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 32 | 403.7 | 388.69 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 33 | 415.8 | 400.81 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 34 | 427.8 | 412.93 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 35 | 440.0 | 425.04 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 36 | 452.0 | 437.16 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 37 | 464.2 | 449.27 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 38 | 476.2 | 461.39 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 39 | 488.5 | 473.50 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 40 | 500.6 | 485.62 | 160 | 60 | 30 | 160 | 100 | 40 | 160 | 150 | 40 | 1 |
| 30 | 379.5 | 364.50 | 130 | 85 | 40 | 160 | 95 | 40 | 180 | 150 | 60 | 2 |
| 38 | 476.2 | 461.39 | 140 | 90 | 45 | 180 | 100 | 45 | 200 | 150 | 60 | 2 |
| 45 | 561.2 | 546.20 | 140 | 90 | 45 | 180 | 100 | 45 | 200 | 150 | 60 | 2 |
| 57 | 706.5 | 691.63 | 160 | 100 | 45 | 200 | 110 | 55 | 200 | 150 | 70 | 2 |
| 76 | 936.9 | 921.98 | 170 | 100 | 45 | 220 | 120 | 55 | - | - | - | 2 |
| 95 | 1167.3 | 1152.33 | 200 | 125 | 50 | 220 | 140 | 55 | - | - | - | 2 |
| 114 | 1402.8 | 1382.72 | - | - | - | - | - | - | 230 | 160 | 75 | 2 |

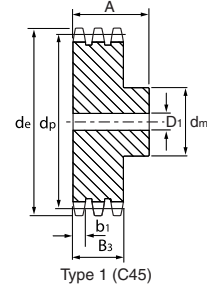
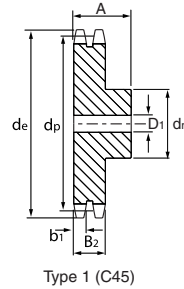
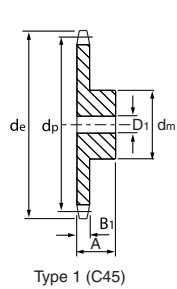
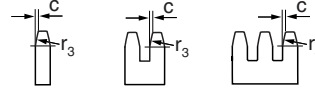
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Pilot Bore Sprockets

BS Pilot Bore Sprockets

28B 1.3/4" x 1.1/4"

| SPROCKET | | CHAIN | |
|--------------------|-------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r_3 | 44.0 | Pitch | 44.450 |
| Chamfer c | 5.0 | Width Between Inner Plates | 30.990 |
| Tooth Width b_1 | 28.8 | Roller Diameter | 27.940 |
| Tooth Width B_1 | 29.4 | | |
| Tooth Width B_2 | 88.4 | | |
| Tooth Width B_3 | 148.0 | | |



| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
| | | | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | Hub Dia d_m | Length thro' Bore A | Stock Bore D_1 | |
| 8 | 132.0 | 116.15 | 74 | 70 | 25 | 74 | 120 | 30 | 74 | 180 | 30 | 1 |
| 9 | 148.4 | 129.96 | 88 | 70 | 25 | 88 | 120 | 30 | 88 | 180 | 30 | 1 |
| 10 | 162.3 | 143.85 | 100 | 70 | 25 | 100 | 120 | 30 | 100 | 180 | 30 | 1 |
| 11 | 176.3 | 157.77 | 112 | 70 | 25 | 112 | 120 | 30 | 112 | 180 | 30 | 1 |
| 12 | 189.3 | 171.74 | 125 | 70 | 25 | 125 | 120 | 30 | 125 | 180 | 30 | 1 |
| 13 | 204.2 | 185.75 | 125 | 70 | 25 | 125 | 120 | 30 | 125 | 180 | 30 | 1 |
| 14 | 218.2 | 199.76 | 130 | 70 | 25 | 130 | 120 | 30 | 130 | 180 | 30 | 1 |
| 15 | 232.3 | 213.79 | 145 | 70 | 25 | 145 | 120 | 30 | 145 | 180 | 30 | 1 |
| 16 | 246.3 | 227.84 | 160 | 75 | 30 | 160 | 120 | 30 | 160 | 180 | 30 | 1 |
| 17 | 260.0 | 241.90 | 160 | 75 | 30 | 160 | 120 | 30 | 160 | 180 | 30 | 1 |
| 18 | 274.0 | 255.98 | 160 | 75 | 30 | 160 | 120 | 30 | 160 | 180 | 30 | 1 |
| 19 | 289.0 | 270.06 | 160 | 75 | 30 | 180 | 120 | 30 | 180 | 180 | 30 | 1 |
| 20 | 303.0 | 284.15 | 160 | 75 | 30 | 180 | 120 | 30 | 180 | 180 | 30 | 1 |
| 21 | 317.0 | 298.24 | 170 | 75 | 30 | 180 | 120 | 30 | 180 | 180 | 40 | 1 |
| 22 | 331.0 | 312.34 | 170 | 75 | 30 | 180 | 120 | 30 | 180 | 180 | 40 | 1 |
| 23 | 345.0 | 326.44 | 170 | 75 | 30 | 180 | 120 | 30 | 180 | 180 | 40 | 1 |
| 24 | 359.0 | 340.55 | 170 | 75 | 30 | 180 | 120 | 30 | 180 | 180 | 40 | 1 |
| 25 | 373.0 | 354.66 | 170 | 75 | 30 | 180 | 120 | 30 | 180 | 180 | 40 | 1 |
| 26 | 387.0 | 368.77 | 170 | 75 | 30 | 180 | 120 | 40 | 180 | 180 | 40 | 1 |
| 27 | 401.0 | 382.88 | 170 | 75 | 30 | 180 | 120 | 40 | 180 | 180 | 40 | 1 |
| 28 | 416.0 | 397.00 | 170 | 75 | 30 | 180 | 120 | 40 | 180 | 180 | 40 | 1 |
| 29 | 430.0 | 411.12 | 170 | 75 | 30 | 180 | 120 | 40 | 180 | 180 | 40 | 1 |
| 30 | 444.0 | 425.24 | 170 | 75 | 30 | 180 | 120 | 40 | 180 | 180 | 40 | 1 |
| 31 | 458.0 | 439.37 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 32 | 472.0 | 453.49 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 33 | 486.0 | 467.62 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 34 | 500.0 | 481.75 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 35 | 514.0 | 495.88 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 36 | 529.0 | 510.01 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 37 | 543.0 | 524.13 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 38 | 557.0 | 538.27 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 39 | 571.0 | 552.40 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 40 | 585.0 | 566.54 | 180 | 75 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |

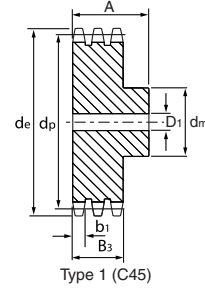
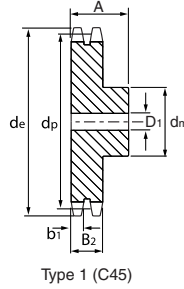
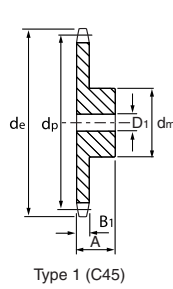
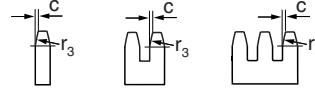
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Pilot Bore Sprockets

BS Pilot Bore Sprockets

32B 2" x 1.1/4"

| SPROCKET | | CHAIN | |
|--------------------|-------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r_3 | 51.0 | Pitch | 50.800 |
| Chamfer c | 6.0 | Width Between Inner Plates | 30.990 |
| Tooth Width b1 | 28.8 | Roller Diameter | 29.210 |
| Tooth Width B1 | 29.4 | | |
| Tooth Width B2 | 87.4 | | |
| Tooth Width B3 | 146.0 | | |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | | | Duplex | | | Triplex | | | Type |
|-------|--------------|--------------|------------|---------------------|---------------|------------|---------------------|---------------|------------|---------------------|---------------|------|
| | | | Hub Dia dm | Length thro' Bore A | Stock Bore D1 | Hub Dia dm | Length thro' Bore A | Stock Bore D1 | Hub Dia dm | Length thro' Bore A | Stock Bore D1 | |
| 8 | 153.2 | 132.74 | 85 | 80 | 30 | 85 | 120 | 30 | 85 | 180 | 30 | 1 |
| 9 | 169.0 | 148.54 | 100 | 80 | 30 | 100 | 120 | 30 | 100 | 180 | 30 | 1 |
| 10 | 185.0 | 164.39 | 115 | 80 | 30 | 115 | 120 | 30 | 115 | 180 | 30 | 1 |
| 11 | 200.8 | 180.31 | 125 | 80 | 30 | 125 | 120 | 35 | 125 | 180 | 35 | 1 |
| 12 | 216.8 | 196.29 | 133 | 80 | 30 | 133 | 120 | 35 | 133 | 180 | 35 | 1 |
| 13 | 232.8 | 212.29 | 145 | 80 | 30 | 145 | 120 | 35 | 145 | 180 | 35 | 1 |
| 14 | 248.8 | 228.29 | 155 | 80 | 30 | 155 | 120 | 35 | 155 | 180 | 35 | 1 |
| 15 | 264.8 | 244.30 | 160 | 80 | 30 | 160 | 120 | 35 | 160 | 180 | 35 | 1 |
| 16 | 280.9 | 260.40 | 160 | 90 | 30 | 160 | 120 | 40 | 160 | 180 | 40 | 1 |
| 17 | 296.9 | 276.46 | 170 | 90 | 30 | 180 | 120 | 40 | 180 | 180 | 40 | 1 |
| 18 | 313.0 | 292.55 | 170 | 90 | 30 | 180 | 120 | 40 | 180 | 180 | 40 | 1 |
| 19 | 329.1 | 308.66 | 170 | 90 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 20 | 345.2 | 324.71 | 180 | 90 | 30 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 21 | 361.3 | 340.82 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 22 | 377.5 | 356.98 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 23 | 393.6 | 373.08 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 24 | 409.7 | 389.18 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 25 | 425.8 | 405.33 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 26 | 441.9 | 421.44 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 27 | 458.1 | 437.59 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 28 | 474.2 | 453.69 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 29 | 492.0 | 469.85 | 180 | 90 | 40 | - | - | - | - | - | - | 1 |
| 30 | 506.5 | 486.00 | 180 | 90 | 40 | 200 | 120 | 40 | 200 | 180 | 40 | 1 |
| 32 | 538.8 | 518.27 | 180 | 90 | 40 | - | - | - | - | - | - | 1 |
| 35 | 589.5 | 566.71 | 180 | 90 | 40 | - | - | - | - | - | - | 1 |
| 38 | 635.5 | 615.16 | 180 | 90 | 40 | - | - | - | - | - | - | 1 |
| 40 | 670.3 | 647.47 | 180 | 90 | 40 | - | - | - | - | - | - | 1 |

Plate Wheels

BS Pilot Bore Plate Wheels

| 03B | | 5 x 2.5 mm | |
|--------------------|-----------|----------------------------|-----------|
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r_3 | 5.0 | Pitch | 5.000 |
| Chamfer c | 0.6 | Width Between Inner Plates | 2.500 |
| Tooth Width B1 | 2.3 | Roller Diameter | 3.200 |

Material C45

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 8 | 15.2 | 13.06 | 4 |
| 9 | 16.8 | 14.62 | 4 |
| 10 | 18.3 | 16.18 | 4 |
| 11 | 19.9 | 17.75 | 5 |
| 12 | 21.5 | 19.32 | 5 |
| 13 | 23.0 | 20.89 | 5 |
| 14 | 24.6 | 22.47 | 5 |
| 15 | 26.2 | 24.04 | 5 |
| 16 | 27.8 | 25.63 | 6 |
| 17 | 29.4 | 27.20 | 6 |
| 18 | 30.9 | 28.79 | 6 |
| 19 | 32.5 | 30.38 | 6 |
| 20 | 34.1 | 31.96 | 6 |
| 21 | 35.7 | 33.54 | 8 |
| 22 | 37.3 | 35.13 | 8 |
| 23 | 38.9 | 36.72 | 8 |
| 24 | 40.5 | 38.30 | 8 |
| 25 | 42.0 | 39.89 | 8 |
| 26 | 43.6 | 41.48 | 8 |
| 27 | 45.2 | 43.07 | 8 |
| 28 | 46.8 | 44.65 | 8 |
| 29 | 48.4 | 46.25 | 8 |
| 30 | 50.0 | 47.83 | 8 |
| 31 | 51.5 | 49.42 | 8 |
| 32 | 53.2 | 51.01 | 8 |
| 33 | 54.8 | 52.60 | 8 |
| 34 | 56.3 | 54.19 | 8 |
| 35 | 57.9 | 55.78 | 8 |
| 36 | 59.5 | 57.37 | 8 |
| 37 | 61.1 | 58.96 | 8 |
| 38 | 62.7 | 60.54 | 8 |
| 39 | 64.3 | 62.13 | 8 |
| 40 | 65.9 | 63.73 | 8 |
| 41 | 67.5 | 65.31 | 8 |
| 42 | 69.1 | 66.91 | 8 |
| 43 | 70.6 | 68.49 | 8 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 44 | 72.2 | 70.09 | 8 |
| 45 | 73.8 | 71.68 | 8 |
| 46 | 75.4 | 73.27 | 8 |
| 47 | 77.0 | 74.86 | 8 |
| 48 | 78.6 | 76.45 | 8 |
| 49 | 80.2 | 78.03 | 8 |
| 50 | 81.8 | 79.63 | 8 |
| 51 | 83.4 | 81.22 | 10 |
| 52 | 85.0 | 82.81 | 10 |
| 53 | 86.6 | 84.40 | 10 |
| 54 | 88.1 | 85.97 | 10 |
| 55 | 89.7 | 87.58 | 10 |
| 56 | 91.3 | 89.17 | 10 |
| 57 | 92.9 | 90.76 | 10 |
| 58 | 94.5 | 92.35 | 10 |
| 59 | 96.1 | 93.94 | 10 |
| 60 | 97.7 | 95.53 | 10 |
| 62 | 100.9 | 98.72 | 12 |
| 64 | 104.1 | 101.90 | 12 |
| 65 | 105.6 | 103.49 | 12 |
| 66 | 107.2 | 105.08 | 12 |
| 68 | 110.4 | 108.26 | 12 |
| 70 | 113.6 | 111.44 | 12 |
| 72 | 116.8 | 114.63 | 12 |
| 75 | 121.6 | 119.40 | 12 |
| 76 | 123.1 | 120.99 | 12 |
| 80 | 129.5 | 127.35 | 12 |
| 85 | 137.5 | 135.31 | 14 |
| 90 | 145.4 | 143.27 | 14 |
| 95 | 153.4 | 151.22 | 14 |
| 100 | 161.3 | 159.18 | 14 |
| 110 | 177.2 | 175.09 | 14 |
| 114 | 183.6 | 181.49 | 14 |
| 120 | 193.2 | 191.01 | 14 |
| 125 | 201.1 | 198.96 | 14 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Plate Wheels

BS Pilot Bore Plate Wheels

| 04B | | 6 x 2.8 mm | |
|--------------------|-----------|----------------------------|-----------|
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r_3 | 6.0 | Pitch | 6.000 |
| Chamfer c | 0.7 | Width Between Inner Plates | 2.800 |
| Tooth Width B1 | 2.6 | Roller Diameter | 4.000 |

Material C45

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 8 | 18.0 | 15.67 | 5 |
| 9 | 19.9 | 17.54 | 5 |
| 10 | 21.7 | 19.42 | 6 |
| 11 | 23.7 | 21.30 | 6 |
| 12 | 25.4 | 23.18 | 6 |
| 13 | 27.3 | 25.05 | 8 |
| 14 | 29.2 | 26.96 | 8 |
| 15 | 31.1 | 28.86 | 8 |
| 16 | 33.0 | 30.76 | 8 |
| 17 | 35.0 | 32.65 | 8 |
| 18 | 36.9 | 34.55 | 8 |
| 19 | 38.8 | 36.44 | 8 |
| 20 | 40.7 | 38.34 | 8 |
| 21 | 42.6 | 40.25 | 8 |
| 22 | 44.5 | 42.16 | 8 |
| 23 | 46.4 | 44.06 | 8 |
| 24 | 48.3 | 45.96 | 8 |
| 25 | 50.2 | 47.87 | 8 |
| 26 | 52.1 | 49.77 | 10 |
| 27 | 54.0 | 51.67 | 10 |
| 28 | 55.9 | 53.58 | 10 |
| 29 | 57.8 | 55.50 | 10 |
| 30 | 59.8 | 57.42 | 10 |
| 31 | 61.7 | 59.31 | 10 |
| 32 | 63.6 | 61.21 | 10 |
| 33 | 65.5 | 63.11 | 10 |
| 34 | 67.4 | 65.02 | 10 |
| 35 | 69.3 | 66.93 | 10 |
| 36 | 71.2 | 68.84 | 10 |
| 37 | 73.1 | 70.75 | 10 |
| 38 | 75.0 | 72.66 | 10 |
| 39 | 76.9 | 74.56 | 10 |
| 40 | 78.9 | 76.47 | 10 |
| 41 | 80.8 | 78.38 | 12 |
| 42 | 82.7 | 80.28 | 12 |
| 43 | 84.7 | 82.19 | 12 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 44 | 86.6 | 84.10 | 12 |
| 45 | 88.5 | 86.01 | 12 |
| 46 | 90.4 | 87.92 | 12 |
| 47 | 92.3 | 89.83 | 12 |
| 48 | 94.2 | 91.74 | 12 |
| 49 | 96.1 | 93.64 | 12 |
| 50 | 98.0 | 95.55 | 12 |
| 51 | 99.9 | 97.47 | 12 |
| 52 | 101.8 | 99.37 | 12 |
| 53 | 103.7 | 101.27 | 12 |
| 54 | 105.6 | 103.17 | 12 |
| 55 | 107.6 | 105.08 | 12 |
| 56 | 109.5 | 107.00 | 12 |
| 57 | 111.4 | 108.93 | 12 |
| 58 | 113.3 | 110.82 | 12 |
| 59 | 115.2 | 112.71 | 12 |
| 60 | 117.1 | 114.62 | 12 |
| 62 | 120.9 | 118.45 | 16 |
| 64 | 124.7 | 122.27 | 16 |
| 65 | 126.6 | 124.18 | 16 |
| 66 | 128.5 | 126.09 | 16 |
| 68 | 132.4 | 129.91 | 16 |
| 70 | 136.2 | 133.73 | 16 |
| 72 | 140.0 | 137.55 | 16 |
| 75 | 145.7 | 143.28 | 16 |
| 76 | 147.6 | 145.19 | 16 |
| 80 | 155.3 | 152.82 | 16 |
| 85 | 164.8 | 162.37 | 16 |
| 90 | 174.4 | 171.92 | 16 |
| 95 | 183.9 | 181.47 | 16 |
| 100 | 193.5 | 191.01 | 16 |
| 110 | 211.6 | 210.11 | 16 |
| 114 | 220.2 | 217.75 | 16 |
| 120 | 231.7 | 229.20 | 16 |
| 125 | 241.2 | 238.75 | 16 |

Plate Wheels

BS Pilot Bore Plate Wheels

| 05B | | 8 x 3 mm | |
|--------------------|-----------|----------------------------|-----------|
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r_3 | 8.0 | Pitch | 8.000 |
| Chamfer c | 1.0 | Width Between Inner Plates | 3.000 |
| Tooth Width b1 | 2.7 | Roller Diameter | 5.000 |
| Tooth Width B1 | 2.8 | | |
| Tooth width B2 | 8.3 | | |

Material C45

Material C45

| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex |
|-------|-----------------|-----------------|------------------|------------------|
| | | | Stock Bore D1 | Stock Bore D1 |
| 8 | 24.0 | 20.90 | 6 | 8 |
| 9 | 26.6 | 23.39 | 6 | 8 |
| 10 | 29.2 | 25.89 | 8 | 8 |
| 11 | 31.7 | 28.39 | 8 | 8 |
| 12 | 34.2 | 30.91 | 8 | 8 |
| 13 | 36.7 | 33.42 | 8 | 8 |
| 14 | 39.2 | 35.95 | 8 | 8 |
| 15 | 41.7 | 38.48 | 8 | 8 |
| 16 | 44.3 | 41.01 | 8 | 10 |
| 17 | 46.8 | 43.53 | 8 | 10 |
| 18 | 49.3 | 46.07 | 8 | 10 |
| 19 | 51.9 | 48.61 | 8 | 10 |
| 20 | 54.4 | 51.14 | 8 | 10 |
| 21 | 57.0 | 53.67 | 8 | 10 |
| 22 | 59.5 | 56.21 | 8 | 10 |
| 23 | 62.0 | 58.75 | 8 | 10 |
| 24 | 64.6 | 61.29 | 8 | 10 |
| 25 | 67.5 | 63.83 | 8 | 10 |
| 26 | 69.5 | 66.37 | 10 | 12 |
| 27 | 72.2 | 68.91 | 10 | 12 |
| 28 | 74.8 | 71.45 | 10 | 12 |
| 29 | 77.3 | 73.99 | 10 | 12 |
| 30 | 79.8 | 76.53 | 10 | 12 |
| 31 | 82.4 | 79.08 | 10 | 12 |
| 32 | 84.9 | 81.61 | 10 | 12 |
| 33 | 87.5 | 84.16 | 10 | 12 |
| 34 | 90.0 | 86.70 | 10 | 12 |
| 35 | 92.5 | 89.24 | 10 | 12 |
| 36 | 95.0 | 91.79 | 10 | 12 |
| 37 | 97.6 | 94.33 | 10 | 12 |
| 38 | 100.2 | 96.88 | 10 | 12 |
| 39 | 102.7 | 99.42 | 10 | 12 |
| 40 | 105.3 | 101.97 | 10 | 12 |
| 41 | 107.8 | 104.51 | 12 | 14 |
| 42 | 110.4 | 107.05 | 12 | 14 |
| 43 | 112.9 | 109.60 | 12 | 14 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex |
|-------|-----------------|-----------------|------------------|------------------|
| | | | Stock Bore D1 | Stock Bore D1 |
| 44 | 115.5 | 112.14 | 12 | 14 |
| 45 | 118.0 | 114.69 | 12 | 14 |
| 46 | 120.6 | 117.23 | 12 | 14 |
| 47 | 123.1 | 119.77 | 12 | 14 |
| 48 | 125.6 | 122.32 | 12 | 14 |
| 49 | 128.2 | 124.89 | 12 | 14 |
| 50 | 130.7 | 127.41 | 12 | 14 |
| 51 | 133.3 | 129.95 | 14 | 16 |
| 52 | 135.8 | 132.49 | 14 | 16 |
| 53 | 138.4 | 135.04 | 14 | 16 |
| 54 | 140.9 | 137.59 | 14 | 16 |
| 55 | 143.5 | 140.13 | 14 | 16 |
| 56 | 146.0 | 142.68 | 14 | 16 |
| 57 | 148.6 | 145.22 | 14 | 16 |
| 58 | 151.0 | 147.77 | 14 | 16 |
| 59 | 153.6 | 150.31 | 14 | 16 |
| 60 | 156.2 | 152.85 | 14 | 16 |
| 62 | 162.0 | 157.95 | 16 | 20 |
| 64 | 167.1 | 163.04 | 16 | 20 |
| 65 | 169.2 | 165.58 | 16 | 20 |
| 66 | 172.2 | 168.13 | 16 | 20 |
| 68 | 177.3 | 173.22 | 16 | 20 |
| 70 | 182.4 | 178.31 | 16 | 20 |
| 72 | 187.5 | 183.41 | 20 | 20 |
| 75 | 195.1 | 191.04 | 20 | 20 |
| 76 | 197.7 | 193.59 | 20 | 20 |
| 78 | 202.8 | 198.68 | - | 20 |
| 80 | 207.9 | 203.77 | 20 | 20 |
| 85 | 220.6 | 216.50 | 20 | 20 |
| 90 | 233.4 | 229.23 | 20 | 20 |
| 95 | 246.1 | 241.96 | 20 | 20 |
| 100 | 258.9 | 254.68 | 20 | - |
| 110 | 284.3 | 280.15 | 20 | - |
| 114 | 294.5 | 290.33 | 20 | 20 |
| 120 | 310.0 | 305.61 | 20 | - |
| 125 | 322.5 | 318.34 | 20 | - |

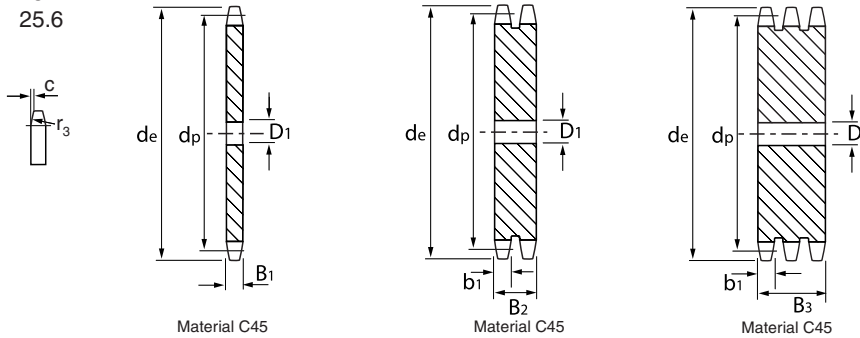
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Plate Wheels

BS Pilot Bore Plate Wheels

06B 3/8" x 7/32"

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|-------|
| | mm | | mm |
| Tooth Radius r_3 | 10.0 | Pitch | 9.525 |
| Chamfer c | 1.0 | Width Between Inner Plates | 5.720 |
| Tooth Width b_1 | 5.2 | Roller Diameter | 6.350 |
| Tooth Width B_1 | 5.3 | | |
| Tooth Width B_2 | 15.4 | | |
| Tooth Width B_3 | 25.6 | | |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|-----------------|-----------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8 | 28.0 | 24.89 | 6 | 8 | 8 |
| 9 | 31.0 | 27.85 | 7 | 8 | 8 |
| 10 | 34.0 | 30.82 | 7 | 8 | 10 |
| 11 | 37.0 | 33.80 | 8 | 10 | 12 |
| 12 | 40.0 | 36.80 | 8 | 10 | 12 |
| 13 | 43.0 | 39.80 | 8 | 10 | 12 |
| 14 | 46.3 | 42.80 | 8 | 10 | 12 |
| 15 | 49.3 | 45.81 | 8 | 10 | 12 |
| 16 | 52.3 | 48.82 | 10 | 12 | 12 |
| 17 | 55.3 | 51.83 | 10 | 12 | 12 |
| 18 | 58.3 | 54.85 | 10 | 12 | 12 |
| 19 | 61.3 | 57.87 | 10 | 12 | 12 |
| 20 | 64.3 | 60.89 | 10 | 12 | 12 |
| 21 | 68.0 | 63.91 | 12 | 12 | 16 |
| 22 | 71.0 | 66.93 | 12 | 12 | 16 |
| 23 | 73.5 | 69.95 | 12 | 12 | 16 |
| 24 | 77.0 | 72.97 | 12 | 12 | 16 |
| 25 | 80.0 | 76.00 | 12 | 12 | 16 |
| 26 | 83.0 | 79.02 | 12 | 16 | 16 |
| 27 | 86.0 | 82.04 | 12 | 16 | 16 |
| 28 | 89.0 | 85.07 | 12 | 16 | 16 |
| 29 | 92.0 | 88.09 | 12 | 16 | 16 |
| 30 | 94.7 | 91.12 | 12 | 16 | 16 |
| 31 | 98.3 | 94.15 | 16 | 16 | 16 |
| 32 | 101.3 | 97.17 | 16 | 16 | 16 |
| 33 | 104.3 | 100.20 | 16 | 16 | 16 |
| 34 | 107.3 | 103.23 | 16 | 16 | 16 |
| 35 | 110.4 | 106.26 | 16 | 16 | 16 |
| 36 | 113.4 | 109.29 | 16 | 16 | 20 |
| 37 | 116.4 | 112.32 | 16 | 16 | 20 |
| 38 | 119.5 | 115.35 | 16 | 16 | 20 |
| 39 | 122.5 | 118.37 | 16 | 16 | 20 |
| 40 | 125.5 | 121.40 | 16 | 16 | 20 |
| 41 | 128.5 | 124.43 | 16 | 20 | 20 |
| 42 | 131.6 | 127.46 | 16 | 20 | 20 |
| 43 | 134.6 | 130.49 | 16 | 20 | 20 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|-----------------|-----------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44 | 137.6 | 133.52 | 16 | 20 | 20 |
| 45 | 140.7 | 136.54 | 16 | 20 | 20 |
| 46 | 143.7 | 139.58 | 20 | 20 | 20 |
| 47 | 146.7 | 142.61 | 20 | 20 | 20 |
| 48 | 149.7 | 145.64 | 20 | 20 | 20 |
| 49 | 152.7 | 148.66 | 20 | 20 | 20 |
| 50 | 155.7 | 151.69 | 20 | 20 | 20 |
| 51 | 158.7 | 154.72 | 20 | 20 | 20 |
| 52 | 161.8 | 157.75 | 20 | 20 | 20 |
| 53 | 164.8 | 160.78 | 20 | 20 | 20 |
| 54 | 167.8 | 163.82 | 20 | 20 | 20 |
| 55 | 170.8 | 166.85 | 20 | 20 | 20 |
| 56 | 173.8 | 169.88 | 20 | 20 | 25 |
| 57 | 176.9 | 172.91 | 20 | 20 | 25 |
| 58 | 179.9 | 175.93 | 20 | 20 | 25 |
| 59 | 183.0 | 178.96 | 20 | 20 | 25 |
| 60 | 186.0 | 181.99 | 20 | 20 | 25 |
| 62 | 192.1 | 188.06 | 20 | 25 | 25 |
| 64 | 198.2 | 194.12 | 20 | 25 | 25 |
| 65 | 201.6 | 197.15 | 20 | 25 | 25 |
| 66 | 204.6 | 200.18 | 20 | 25 | 25 |
| 68 | 210.7 | 206.24 | 20 | 25 | 25 |
| 70 | 216.7 | 212.30 | 20 | 25 | 25 |
| 72 | 222.8 | 218.37 | 20 | 25 | 25 |
| 75 | 231.9 | 227.46 | 20 | 25 | 25 |
| 76 | 234.9 | 230.49 | 20 | 25 | 25 |
| 78 | 241.0 | 236.55 | - | 25 | 25 |
| 80 | 247.1 | 242.61 | 20 | 25 | 25 |
| 85 | 262.2 | 257.77 | 25 | 25 | 25 |
| 90 | 277.4 | 272.93 | 25 | 25 | 25 |
| 95 | 292.5 | 288.08 | 25 | 25 | 25 |
| 100 | 307.7 | 303.25 | 25 | 25 | 25 |
| 110 | 338.0 | 333.55 | 25 | 25 | 25 |
| 114 | 349.5 | 345.68 | 25 | 25 | 25 |
| 120 | 368.3 | 363.86 | 25 | 25 | 25 |
| 125 | 383.5 | 379.02 | 25 | 25 | 25 |

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Plate Wheels

BS Pilot Bore Plate Wheels

| | | | |
|--------------------|-----------|----------------------------|-----------|
| 081 | | 1/2" x 1/8" | |
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r_3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between Inner Plates | 3.300 |
| Tooth Width B_1 | 3.0 | Roller Diameter | 7.750 |

Material C45

| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex Stock Bore D_1 |
|-------|-----------------|-----------------|--------------------------|
| 8 | 37.2 | 33.18 | 8 |
| 9 | 41.5 | 37.13 | 8 |
| 10 | 46.2 | 41.10 | 8 |
| 11 | 49.6 | 45.07 | 8 |
| 12 | 53.9 | 49.07 | 8 |
| 13 | 58.4 | 53.06 | 8 |
| 14 | 62.8 | 57.07 | 8 |
| 15 | 66.8 | 61.09 | 8 |
| 16 | 70.9 | 65.10 | 10 |
| 17 | 74.9 | 69.11 | 10 |
| 18 | 78.9 | 73.14 | 10 |
| 19 | 82.9 | 77.16 | 10 |
| 20 | 86.9 | 81.19 | 10 |
| 21 | 91.0 | 85.22 | 10 |
| 22 | 95.0 | 89.24 | 10 |
| 23 | 99.0 | 93.27 | 10 |
| 24 | 103.0 | 97.29 | 10 |
| 25 | 107.1 | 101.33 | 10 |
| 26 | 111.2 | 105.36 | 12 |
| 27 | 115.4 | 109.40 | 12 |
| 28 | 119.4 | 113.42 | 12 |
| 29 | 123.4 | 117.46 | 12 |
| 30 | 127.5 | 121.50 | 12 |
| 31 | 131.5 | 125.54 | 12 |
| 32 | 135.5 | 129.56 | 12 |
| 33 | 139.6 | 133.60 | 12 |
| 34 | 143.6 | 137.64 | 12 |
| 35 | 147.6 | 141.68 | 12 |
| 36 | 151.7 | 145.72 | 16 |
| 37 | 155.7 | 149.76 | 16 |
| 38 | 159.8 | 153.80 | 16 |
| 39 | 163.8 | 157.83 | 16 |
| 40 | 167.8 | 161.87 | 16 |
| 41 | 171.4 | 165.91 | 16 |
| 42 | 175.4 | 169.95 | 16 |

| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex Stock Bore D_1 |
|-------|-----------------|-----------------|--------------------------|
| 43 | 179.5 | 173.99 | 16 |
| 44 | 183.5 | 178.03 | 16 |
| 45 | 187.5 | 182.07 | 16 |
| 46 | 191.6 | 186.10 | 20 |
| 47 | 195.6 | 190.14 | 20 |
| 48 | 199.7 | 194.18 | 20 |
| 49 | 203.7 | 198.22 | 20 |
| 50 | 207.8 | 202.26 | 20 |
| 51 | 211.8 | 206.30 | 20 |
| 52 | 215.9 | 210.34 | 20 |
| 53 | 219.9 | 214.37 | 20 |
| 54 | 224.0 | 218.43 | 20 |
| 55 | 228.0 | 222.46 | 20 |
| 56 | 232.1 | 226.50 | 20 |
| 57 | 236.1 | 230.54 | 20 |
| 58 | 240.2 | 234.58 | 20 |
| 59 | 244.2 | 238.62 | 20 |
| 60 | 248.2 | 242.66 | 20 |
| 62 | 256.7 | 250.75 | 20 |
| 64 | 264.8 | 258.82 | 20 |
| 65 | 268.8 | 262.86 | 20 |
| 66 | 272.9 | 266.90 | 25 |
| 68 | 280.9 | 274.99 | 25 |
| 70 | 289.0 | 283.07 | 25 |
| 72 | 297.1 | 291.16 | 25 |
| 75 | 309.2 | 303.27 | 25 |
| 76 | 313.3 | 307.33 | 25 |
| 78 | 321.4 | 315.40 | 25 |
| 80 | 329.4 | 323.48 | 25 |
| 85 | 349.7 | 343.70 | 25 |
| 90 | 369.9 | 363.90 | 25 |
| 100 | 410.3 | 404.31 | 25 |
| 114 | 466.9 | 460.90 | 25 |
| 120 | 491.2 | 485.16 | 25 |
| 125 | 511.4 | 505.37 | 25 |

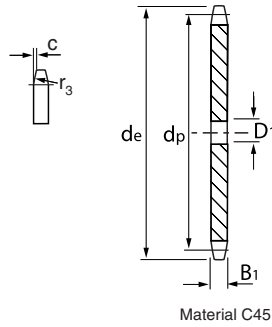
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Plate Wheels

BS Pilot Bore Plate Wheels

083 / 084 1/2" x 3/16"

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between Inner Plates | 4.880 |
| Tooth Width BI | 4.5 | Roller Diameter | 7.750 |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 8 | 38.5 | 33.18 | 8 |
| 9 | 41.5 | 37.18 | 8 |
| 10 | 46.2 | 41.10 | 8 |
| 11 | 49.6 | 45.07 | 8 |
| 12 | 53.9 | 49.07 | 8 |
| 13 | 58.4 | 53.06 | 8 |
| 14 | 62.8 | 57.07 | 8 |
| 15 | 66.8 | 61.09 | 8 |
| 16 | 70.9 | 65.10 | 8 |
| 17 | 74.9 | 69.11 | 8 |
| 18 | 78.9 | 73.14 | 8 |
| 19 | 82.9 | 77.16 | 8 |
| 20 | 86.9 | 81.19 | 8 |
| 21 | 91.0 | 85.22 | 8 |
| 22 | 95.0 | 89.24 | 8 |
| 23 | 99.0 | 93.27 | 8 |
| 24 | 103.0 | 97.29 | 8 |
| 25 | 107.1 | 101.33 | 8 |
| 26 | 111.2 | 105.36 | 8 |
| 27 | 115.4 | 109.40 | 8 |
| 28 | 119.4 | 113.42 | 8 |
| 29 | 123.4 | 117.46 | 8 |
| 30 | 127.5 | 121.50 | 8 |
| 31 | 131.5 | 125.54 | 8 |
| 32 | 135.5 | 129.56 | 8 |
| 33 | 139.6 | 133.60 | 8 |
| 34 | 143.6 | 137.64 | 8 |
| 35 | 147.6 | 141.68 | 8 |
| 36 | 151.7 | 145.72 | 8 |
| 37 | 155.7 | 149.76 | 8 |
| 38 | 159.8 | 153.80 | 8 |
| 39 | 163.8 | 157.83 | 8 |
| 40 | 167.8 | 161.87 | 8 |
| 41 | 171.4 | 165.91 | 8 |
| 42 | 175.4 | 169.95 | 16 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 43 | 179.5 | 173.99 | 16 |
| 44 | 183.5 | 178.03 | 16 |
| 45 | 187.5 | 182.07 | 16 |
| 46 | 191.6 | 186.10 | 16 |
| 47 | 195.6 | 190.14 | 16 |
| 48 | 199.7 | 194.18 | 16 |
| 49 | 203.7 | 198.22 | 16 |
| 50 | 207.8 | 202.26 | 16 |
| 51 | 211.8 | 206.30 | 16 |
| 52 | 215.9 | 210.34 | 16 |
| 53 | 219.9 | 214.37 | 16 |
| 54 | 224.0 | 218.43 | 16 |
| 55 | 228.0 | 222.46 | 16 |
| 56 | 232.1 | 226.50 | 16 |
| 57 | 236.1 | 230.54 | 16 |
| 58 | 240.2 | 234.58 | 16 |
| 59 | 244.2 | 238.62 | 16 |
| 60 | 248.2 | 242.66 | 16 |
| 62 | 256.7 | 250.75 | 16 |
| 64 | 264.8 | 258.82 | 16 |
| 65 | 268.8 | 262.86 | 16 |
| 66 | 272.9 | 266.90 | 16 |
| 68 | 280.9 | 274.99 | 16 |
| 70 | 289.0 | 283.07 | 16 |
| 75 | 309.2 | 303.27 | 16 |
| 72 | 297.1 | 291.16 | 16 |
| 76 | 313.3 | 307.33 | 16 |
| 78 | 321.4 | 315.40 | 16 |
| 80 | 329.4 | 323.48 | 16 |
| 85 | 349.7 | 343.70 | 16 |
| 90 | 369.9 | 363.90 | - |
| 95 | 390.1 | 384.11 | 25 |
| 100 | 410.3 | 404.31 | 25 |
| 110 | 450.7 | 444.74 | 25 |
| 114 | 466.9 | 460.90 | - |
| 120 | 491.2 | 485.16 | 25 |
| 125 | 511.4 | 505.37 | - |

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Plate Wheels

BS Pilot Bore Plate Wheels

| 085 | | 1/2" x 1/4" | |
|-----------------|-----------|----------------------------|-----------|
| SPROCKET | mm | CHAIN | mm |
| Tooth Radius r3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between Inner Plates | 6.400 |
| Tooth Width B1 | 5.9 | Roller Diameter | 7.750 |

Material C45

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 8 | 38.5 | 33.18 | 8 |
| 9 | 41.5 | 37.18 | 8 |
| 10 | 46.2 | 41.10 | 8 |
| 11 | 49.6 | 45.07 | 8 |
| 12 | 53.9 | 49.07 | 8 |
| 13 | 58.4 | 53.06 | 8 |
| 14 | 62.8 | 57.07 | 8 |
| 15 | 66.8 | 61.09 | 8 |
| 16 | 70.9 | 65.10 | 10 |
| 17 | 74.9 | 69.11 | 10 |
| 18 | 78.9 | 73.14 | 10 |
| 19 | 82.9 | 77.16 | 10 |
| 20 | 86.9 | 81.19 | 10 |
| 21 | 91.0 | 85.22 | 10 |
| 22 | 95.0 | 89.24 | 10 |
| 23 | 99.0 | 93.27 | 10 |
| 24 | 103.0 | 97.29 | 10 |
| 25 | 107.1 | 101.33 | 10 |
| 26 | 111.2 | 105.36 | 12 |
| 27 | 115.4 | 109.40 | 12 |
| 28 | 119.4 | 113.42 | 12 |
| 29 | 123.4 | 117.46 | 12 |
| 30 | 127.5 | 121.50 | 12 |
| 31 | 131.5 | 125.54 | 12 |
| 32 | 135.5 | 129.56 | 12 |
| 33 | 139.6 | 133.60 | 12 |
| 34 | 143.6 | 137.64 | 12 |
| 35 | 147.6 | 141.68 | 12 |
| 36 | 151.7 | 145.72 | 16 |
| 37 | 155.7 | 149.76 | 16 |
| 38 | 159.8 | 153.80 | 16 |
| 39 | 163.8 | 157.83 | 16 |
| 40 | 167.8 | 161.87 | 16 |
| 41 | 171.4 | 165.91 | 16 |
| 42 | 175.4 | 169.95 | 16 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 43 | 179.5 | 173.99 | 16 |
| 44 | 183.5 | 178.03 | 16 |
| 45 | 187.5 | 182.07 | 16 |
| 46 | 191.6 | 186.10 | 20 |
| 47 | 195.6 | 190.14 | 20 |
| 48 | 199.7 | 194.18 | 20 |
| 49 | 203.7 | 198.22 | 20 |
| 50 | 207.8 | 202.26 | 20 |
| 51 | 211.8 | 206.30 | 20 |
| 52 | 215.9 | 210.34 | 20 |
| 53 | 219.9 | 214.37 | 20 |
| 54 | 224.0 | 218.43 | 20 |
| 55 | 228.0 | 222.46 | 20 |
| 56 | 232.1 | 226.50 | 20 |
| 57 | 236.1 | 230.54 | 20 |
| 58 | 240.2 | 234.58 | 20 |
| 59 | 244.2 | 238.62 | 20 |
| 60 | 248.2 | 242.66 | 20 |
| 62 | 256.7 | 250.75 | 20 |
| 64 | 264.8 | 258.82 | 20 |
| 65 | 268.8 | 262.86 | 20 |
| 66 | 272.9 | 266.90 | 25 |
| 68 | 280.9 | 274.99 | 25 |
| 70 | 289.0 | 283.07 | 25 |
| 72 | 297.1 | 291.16 | 25 |
| 75 | 309.2 | 303.27 | 25 |
| 76 | 313.3 | 307.33 | 25 |
| 78 | 321.4 | 315.40 | 25 |
| 80 | 329.4 | 323.48 | 25 |

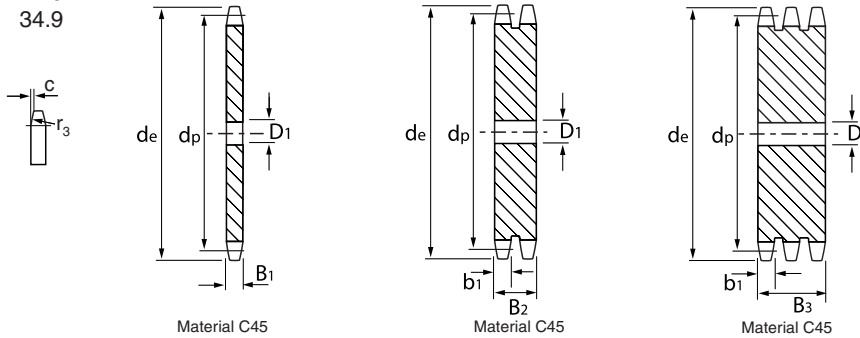
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Plate Wheels

BS Pilot Bore Plate Wheels

08B 1/2" x 5/16"

| SPROCKET | | CHAIN | |
|-----------------|------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r3 | 13.0 | Pitch | 12.700 |
| Chamfer c | 1.3 | Width Between Inner Plates | 7.750 |
| Tooth Width b1 | 7.0 | Roller Diameter | 8.510 |
| Tooth Width B1 | 7.2 | | |
| Tooth Width B2 | 21.0 | | |
| Tooth Width B3 | 34.9 | | |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8 | 37.2 | 33.18 | 8 | 10 | 10 |
| 9 | 41.0 | 37.13 | 8 | 10 | 10 |
| 10 | 45.2 | 41.10 | 8 | 10 | 10 |
| 11 | 48.7 | 45.07 | 10 | 10 | 12 |
| 12 | 53.0 | 49.07 | 10 | 10 | 12 |
| 13 | 57.4 | 53.06 | 10 | 10 | 12 |
| 14 | 61.8 | 57.07 | 10 | 10 | 12 |
| 15 | 65.5 | 61.09 | 10 | 10 | 12 |
| 16 | 69.5 | 65.10 | 10 | 12 | 16 |
| 17 | 73.6 | 69.11 | 10 | 12 | 16 |
| 18 | 77.8 | 73.14 | 10 | 12 | 16 |
| 19 | 81.7 | 77.16 | 10 | 12 | 16 |
| 20 | 85.8 | 81.19 | 10 | 12 | 16 |
| 21 | 89.7 | 85.22 | 12 | 16 | 16 |
| 22 | 93.8 | 89.24 | 12 | 16 | 16 |
| 23 | 98.2 | 93.27 | 12 | 16 | 16 |
| 24 | 101.8 | 97.29 | 12 | 16 | 16 |
| 25 | 105.8 | 101.33 | 12 | 16 | 16 |
| 26 | 110.0 | 105.36 | 16 | 16 | 16 |
| 27 | 114.0 | 109.40 | 16 | 16 | 16 |
| 28 | 118.0 | 113.42 | 16 | 16 | 16 |
| 29 | 122.0 | 117.46 | 16 | 16 | 16 |
| 30 | 126.1 | 121.50 | 16 | 16 | 16 |
| 31 | 130.2 | 125.54 | 16 | 16 | 20 |
| 32 | 134.3 | 129.56 | 16 | 16 | 20 |
| 33 | 138.4 | 133.60 | 16 | 16 | 20 |
| 34 | 142.6 | 137.64 | 16 | 16 | 20 |
| 35 | 146.7 | 141.68 | 16 | 16 | 20 |
| 36 | 151.0 | 145.72 | 16 | 20 | 20 |
| 37 | 154.6 | 149.76 | 16 | 20 | 20 |
| 38 | 158.6 | 153.80 | 16 | 20 | 20 |
| 39 | 162.7 | 157.83 | 16 | 20 | 20 |
| 40 | 166.8 | 161.87 | 16 | 20 | 20 |
| 41 | 171.4 | 165.91 | 20 | 20 | 25 |
| 42 | 175.4 | 169.95 | 20 | 20 | 25 |
| 43 | 179.7 | 173.99 | 20 | 20 | 25 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44 | 183.8 | 178.03 | 20 | 20 | 25 |
| 45 | 188.0 | 182.07 | 20 | 20 | 25 |
| 46 | 192.1 | 186.10 | 20 | 20 | 25 |
| 47 | 196.2 | 190.14 | 20 | 20 | 25 |
| 48 | 200.3 | 194.18 | 20 | 20 | 25 |
| 49 | 204.3 | 198.22 | 20 | 20 | 25 |
| 50 | 208.3 | 202.26 | 20 | 20 | 25 |
| 51 | 212.1 | 206.30 | 20 | 25 | 25 |
| 52 | 216.1 | 210.34 | 20 | 25 | 25 |
| 53 | 220.2 | 214.37 | 20 | 25 | 25 |
| 54 | 224.1 | 218.43 | 20 | 25 | 25 |
| 55 | 228.1 | 222.46 | 20 | 25 | 25 |
| 56 | 232.2 | 226.50 | 20 | 25 | 25 |
| 57 | 236.4 | 230.54 | 20 | 25 | 25 |
| 58 | 240.5 | 234.58 | 20 | 25 | - |
| 59 | 244.5 | 238.62 | 20 | 25 | - |
| 60 | 248.6 | 242.66 | 20 | 25 | 25 |
| 62 | 256.9 | 250.75 | 25 | 25 | 25 |
| 64 | 265.1 | 258.82 | 25 | 25 | 25 |
| 65 | 269.0 | 262.86 | 25 | 25 | 25 |
| 66 | 273.0 | 266.90 | 25 | 25 | 25 |
| 68 | 281.0 | 274.99 | 25 | 25 | 25 |
| 70 | 289.0 | 283.07 | 25 | 25 | 25 |
| 72 | 297.2 | 291.16 | 25 | 25 | 25 |
| 75 | 309.2 | 303.27 | 25 | 25 | 25 |
| 76 | 313.2 | 307.33 | 25 | 25 | 25 |
| 78 | 321.4 | 315.40 | 25 | - | - |
| 80 | 329.4 | 323.48 | 25 | 25 | 25 |
| 85 | 349.0 | 343.69 | 25 | 25 | 25 |
| 90 | 369.9 | 363.90 | 25 | 25 | 25 |
| 95 | 390.1 | 384.11 | 25 | 25 | 25 |
| 100 | 410.3 | 404.31 | 25 | 25 | 25 |
| 110 | 450.7 | 444.74 | 25 | 25 | - |
| 114 | 466.9 | 460.90 | 25 | 25 | 25 |
| 120 | 491.2 | 485.16 | 25 | 25 | 25 |
| 125 | 511.3 | 505.37 | 25 | 25 | 25 |

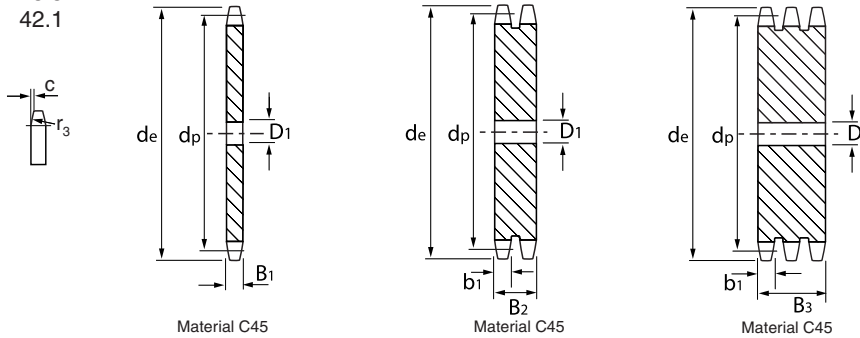
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Plate Wheels

BS Pilot Bore Plate Wheels

10B 5/8" x 3/8"

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r_3 | 16.0 | Pitch | 15.875 |
| Chamfer c | 1.6 | Width Between Inner Plates | 9.650 |
| Tooth Width b_1 | 9.0 | Roller Diameter | 10.160 |
| Tooth Width B_1 | 9.1 | | |
| Tooth Width B_2 | 25.5 | | |
| Tooth Width B_3 | 42.1 | | |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8 | 47.0 | 41.48 | 10 | 10 | 12 |
| 9 | 52.6 | 46.42 | 10 | 10 | 12 |
| 10 | 57.5 | 51.37 | 10 | 10 | 12 |
| 11 | 63.0 | 56.34 | 10 | 12 | 12 |
| 12 | 68.0 | 61.34 | 10 | 12 | 12 |
| 13 | 73.0 | 66.32 | 10 | 12 | 12 |
| 14 | 78.0 | 71.34 | 10 | 12 | 12 |
| 15 | 83.0 | 76.36 | 10 | 12 | 12 |
| 16 | 88.0 | 81.37 | 12 | 12 | 16 |
| 17 | 93.0 | 86.39 | 12 | 12 | 16 |
| 18 | 98.3 | 91.42 | 12 | 12 | 16 |
| 19 | 103.3 | 96.45 | 12 | 12 | 16 |
| 20 | 108.4 | 101.49 | 12 | 12 | 16 |
| 21 | 113.4 | 106.52 | 12 | 16 | 16 |
| 22 | 118.0 | 111.55 | 12 | 16 | 16 |
| 23 | 123.4 | 116.58 | 12 | 16 | 16 |
| 24 | 128.3 | 121.62 | 12 | 16 | 16 |
| 25 | 134.0 | 126.66 | 12 | 16 | 16 |
| 26 | 139.0 | 131.70 | 16 | 16 | 20 |
| 27 | 144.0 | 136.75 | 16 | 16 | 20 |
| 28 | 148.7 | 141.78 | 16 | 16 | 20 |
| 29 | 153.8 | 146.83 | 16 | 16 | 20 |
| 30 | 158.8 | 151.87 | 16 | 16 | 20 |
| 31 | 163.9 | 156.92 | 16 | 20 | 20 |
| 32 | 168.9 | 161.95 | 16 | 20 | 20 |
| 33 | 174.5 | 167.00 | 16 | 20 | 20 |
| 34 | 179.0 | 172.05 | 16 | 20 | 20 |
| 35 | 184.1 | 177.10 | 16 | 20 | 20 |
| 36 | 189.1 | 182.15 | 20 | 20 | 25 |
| 37 | 194.2 | 187.20 | 20 | 20 | 25 |
| 38 | 199.2 | 192.24 | 20 | 20 | 25 |
| 39 | 204.2 | 197.29 | 20 | 20 | 25 |
| 40 | 209.3 | 202.34 | 20 | 20 | 25 |
| 41 | 214.8 | 207.39 | 20 | 20 | 25 |
| 42 | 219.9 | 212.44 | 20 | 20 | 25 |
| 43 | 224.9 | 217.49 | 20 | 20 | 25 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44 | 230.0 | 222.53 | 20 | 20 | 25 |
| 45 | 235.0 | 227.58 | 20 | 20 | 25 |
| 46 | 240.1 | 232.63 | 20 | 25 | 25 |
| 47 | 245.1 | 237.68 | 20 | 25 | 25 |
| 48 | 250.2 | 242.73 | 20 | 25 | 25 |
| 49 | 255.2 | 247.78 | 20 | 25 | 25 |
| 50 | 260.3 | 252.82 | 20 | 25 | 25 |
| 51 | 265.3 | 257.87 | 20 | 25 | - |
| 52 | 270.4 | 262.92 | 20 | 25 | 25 |
| 53 | 275.4 | 267.97 | 20 | 25 | 25 |
| 54 | 280.5 | 273.03 | 20 | 25 | - |
| 55 | 285.5 | 278.08 | 20 | 25 | 25 |
| 56 | 290.6 | 283.13 | 25 | 25 | - |
| 57 | 296.0 | 288.18 | 25 | 25 | 25 |
| 58 | 300.7 | 293.23 | 25 | 25 | - |
| 59 | 305.7 | 298.27 | 25 | 25 | - |
| 60 | 310.8 | 303.32 | 25 | 25 | 25 |
| 62 | 321.4 | 313.43 | 25 | 25 | - |
| 64 | 331.5 | 323.83 | 25 | 25 | 30 |
| 65 | 336.5 | 328.58 | 25 | 25 | 30 |
| 66 | 341.6 | 333.63 | 25 | 25 | - |
| 68 | 351.7 | 343.74 | 25 | 25 | 30 |
| 70 | 361.8 | 353.84 | 25 | 25 | 30 |
| 72 | 371.9 | 363.95 | 25 | 25 | 30 |
| 75 | 387.1 | 379.09 | 25 | 25 | 30 |
| 76 | 392.1 | 384.16 | 25 | 25 | - |
| 78 | 402.2 | 394.25 | 25 | - | 30 |
| 80 | 412.3 | 404.35 | 25 | 25 | 30 |
| 85 | 437.6 | 429.62 | 30 | 30 | 30 |
| 90 | 462.8 | 454.88 | 30 | 30 | 30 |
| 95 | 488.5 | 480.14 | 30 | 30 | 30 |
| 100 | 513.4 | 505.40 | 30 | 30 | 30 |
| 110 | 563.9 | 555.92 | - | 30 | 30 |
| 114 | 584.1 | 576.13 | - | 30 | 30 |
| 120 | 614.8 | 606.44 | - | 30 | - |
| 125 | 639.7 | 631.71 | - | 30 | - |

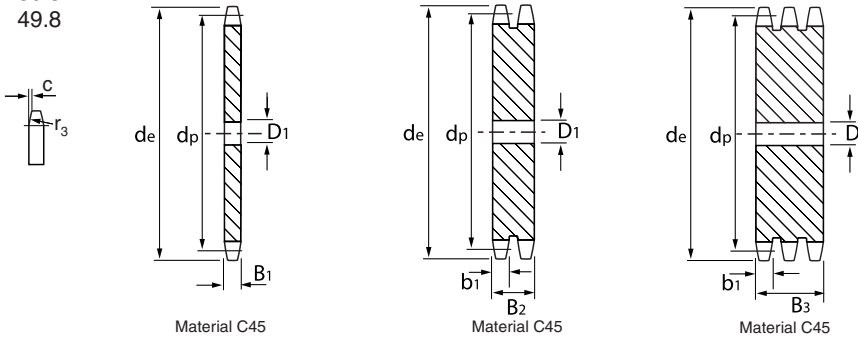
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Plate Wheels

BS Pilot Bore Plate Wheels

12B 3/4" x 7/16"

| SPROCKET | | CHAIN | |
|--------------------|------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r_3 | 19.0 | Pitch | 19.050 |
| Chamfer c | 2.0 | Width Between Inner Plates | 11.680 |
| Tooth Width b_1 | 10.8 | Roller Diameter | 12.070 |
| Tooth Width B_1 | 11.1 | | |
| Tooth Width B_2 | 30.3 | | |
| Tooth Width B_3 | 49.8 | | |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8 | 57.6 | 49.78 | 12 | 12 | 12 |
| 9 | 62.0 | 55.70 | 12 | 12 | 12 |
| 10 | 69.0 | 61.64 | 12 | 12 | 12 |
| 11 | 75.0 | 67.61 | 14 | 14 | 16 |
| 12 | 81.5 | 73.10 | 14 | 14 | 16 |
| 13 | 87.5 | 79.59 | 14 | 14 | 16 |
| 14 | 93.6 | 85.61 | 14 | 14 | 16 |
| 15 | 99.8 | 91.63 | 14 | 14 | 16 |
| 16 | 105.5 | 97.65 | 14 | 16 | 16 |
| 17 | 111.5 | 103.67 | 14 | 16 | 16 |
| 18 | 118.0 | 109.71 | 14 | 16 | 16 |
| 19 | 124.2 | 115.75 | 14 | 16 | 16 |
| 20 | 129.7 | 121.78 | 14 | 16 | 16 |
| 21 | 136.0 | 127.82 | 16 | 16 | 20 |
| 22 | 141.8 | 133.86 | 16 | 16 | 20 |
| 23 | 149.0 | 139.90 | 16 | 16 | 20 |
| 24 | 153.9 | 145.94 | 16 | 16 | 20 |
| 25 | 160.0 | 152.00 | 16 | 16 | 20 |
| 26 | 165.9 | 158.04 | 16 | 20 | 20 |
| 27 | 172.3 | 164.09 | 16 | 20 | 20 |
| 28 | 178.0 | 170.13 | 16 | 20 | 20 |
| 29 | 184.1 | 176.19 | 16 | 20 | 20 |
| 30 | 190.5 | 182.25 | 16 | 20 | 20 |
| 31 | 196.3 | 188.31 | 20 | 20 | 25 |
| 32 | 203.3 | 194.35 | 20 | 20 | 25 |
| 33 | 209.3 | 200.40 | 20 | 20 | 25 |
| 34 | 214.6 | 206.46 | 20 | 20 | 25 |
| 35 | 221.0 | 212.52 | 20 | 20 | 25 |
| 36 | 226.8 | 218.58 | 20 | 25 | 25 |
| 37 | 232.9 | 224.64 | 20 | 25 | 25 |
| 38 | 239.0 | 230.69 | 20 | 25 | 25 |
| 39 | 245.1 | 236.75 | 20 | 25 | 25 |
| 40 | 251.3 | 242.81 | 20 | 25 | 25 |
| 41 | 257.3 | 248.87 | 25 | 25 | 25 |
| 42 | 264.5 | 254.93 | 25 | 25 | 25 |
| 43 | 270.5 | 260.98 | 25 | 25 | 25 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44 | 276.5 | 267.04 | 25 | 25 | 25 |
| 45 | 282.5 | 273.10 | 25 | 25 | 25 |
| 46 | 287.9 | 279.16 | 25 | 25 | 25 |
| 47 | 294.0 | 285.21 | 25 | 25 | 25 |
| 48 | 300.1 | 291.27 | 25 | 25 | 25 |
| 49 | 306.2 | 297.33 | 25 | 25 | 25 |
| 50 | 312.3 | 303.39 | 25 | 25 | 25 |
| 51 | 318.4 | 309.45 | 25 | 25 | - |
| 52 | 324.5 | 315.50 | 25 | 25 | 25 |
| 53 | 330.5 | 321.56 | 25 | 25 | - |
| 54 | 336.6 | 327.64 | 25 | 25 | 25 |
| 55 | 342.7 | 333.70 | 25 | 25 | 25 |
| 56 | 348.7 | 339.75 | 25 | 25 | - |
| 57 | 355.4 | 345.81 | 25 | 25 | 30 |
| 58 | 361.5 | 351.87 | 25 | 25 | 30 |
| 60 | 373.0 | 363.99 | 25 | 25 | 30 |
| 62 | 385.1 | 376.12 | 25 | 30 | - |
| 64 | 397.2 | 388.24 | 25 | 30 | - |
| 65 | 403.2 | 394.29 | 25 | 30 | 30 |
| 66 | 409.2 | 400.35 | - | 30 | 30 |
| 68 | 421.4 | 412.49 | 30 | - | - |
| 70 | 433.6 | 424.60 | 30 | 30 | 30 |
| 72 | 447.0 | 436.74 | 30 | 30 | 30 |
| 75 | 463.9 | 454.91 | 30 | 30 | - |
| 76 | 469.9 | 460.99 | 30 | 30 | 30 |
| 78 | 482.1 | 473.10 | 30 | - | - |
| 80 | 494.2 | 485.22 | 30 | 30 | 30 |
| 85 | 524.5 | 515.55 | 30 | 30 | - |
| 90 | 554.8 | 545.86 | 30 | 30 | - |
| 95 | 585.1 | 576.17 | 30 | 30 | - |
| 100 | 615.4 | 606.47 | - | 30 | - |

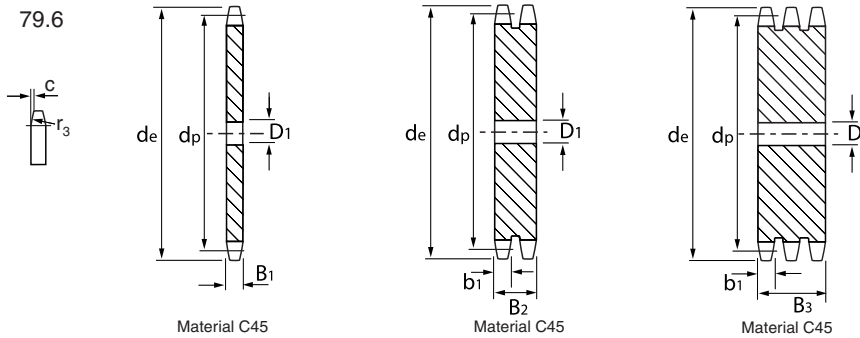
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Plate Wheels

BS Pilot Bore Plate Wheels

16B 1" x 17.02 mm

| SPROCKET | mm | CHAIN | mm |
|--------------------|------|----------------------------|--------|
| Tooth Radius r_3 | 26.0 | Pitch | 25.400 |
| Chamfer c | 2.5 | Width Between Inner Plates | 17.020 |
| Tooth Width b1 | 15.8 | Roller Diameter | 15.880 |
| Tooth Width B1 | 16.2 | | |
| Tooth Width B2 | 47.7 | | |
| Tooth Width B3 | 79.6 | | |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 | Duplex Stock Bore D1 | Triplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|----------------------|-----------------------|
| 8 | 77.0 | 66.37 | 12 | 16 | 20 |
| 9 | 85.0 | 74.27 | 12 | 16 | 20 |
| 10 | 93.0 | 82.19 | 12 | 16 | 20 |
| 11 | 99.5 | 90.14 | 16 | 20 | 20 |
| 12 | 109.0 | 98.14 | 16 | 20 | 20 |
| 13 | 117.0 | 106.12 | 16 | 20 | 20 |
| 14 | 125.0 | 114.15 | 16 | 20 | 20 |
| 15 | 133.0 | 122.17 | 16 | 20 | 20 |
| 16 | 141.0 | 130.20 | 20 | 20 | 30 |
| 17 | 149.0 | 138.22 | 20 | 20 | 30 |
| 18 | 157.0 | 146.28 | 20 | 20 | 30 |
| 19 | 165.2 | 154.33 | 20 | 20 | 30 |
| 20 | 173.2 | 162.38 | 20 | 20 | 30 |
| 21 | 181.2 | 170.43 | 20 | 25 | 30 |
| 22 | 189.3 | 178.48 | 20 | 25 | 30 |
| 23 | 197.5 | 186.53 | 20 | 25 | 30 |
| 24 | 205.5 | 194.59 | 20 | 25 | 30 |
| 25 | 213.5 | 202.66 | 20 | 25 | 30 |
| 26 | 221.6 | 210.72 | 20 | 25 | 30 |
| 27 | 229.6 | 218.79 | 20 | 25 | 30 |
| 28 | 237.7 | 226.85 | 20 | 25 | 30 |
| 29 | 245.8 | 234.92 | 20 | 25 | 30 |
| 30 | 254.0 | 243.00 | 20 | 25 | 30 |
| 31 | 262.0 | 251.08 | 25 | 25 | 30 |
| 32 | 270.0 | 259.13 | 25 | 25 | 30 |
| 33 | 278.5 | 267.21 | 25 | 25 | 30 |
| 34 | 287.0 | 275.28 | 25 | 25 | 30 |
| 35 | 296.2 | 283.36 | 25 | 25 | 30 |
| 36 | 304.6 | 291.44 | 25 | 25 | 30 |
| 37 | 312.6 | 299.51 | 25 | 25 | 30 |
| 38 | 320.7 | 307.59 | 25 | 25 | 30 |
| 39 | 328.8 | 315.67 | 25 | 25 | 30 |
| 40 | 336.9 | 323.75 | 25 | 25 | 30 |
| 41 | 345.0 | 331.82 | 25 | - | - |
| 42 | 353.0 | 339.90 | 25 | 25 | 30 |
| 43 | 361.1 | 347.98 | 25 | 25 | - |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 | Duplex Stock Bore D1 | Triplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|----------------------|-----------------------|
| 44 | 369.1 | 356.06 | 25 | 25 | 30 |
| 45 | 377.1 | 364.13 | 25 | 25 | 30 |
| 46 | 385.2 | 372.21 | 25 | 30 | 30 |
| 47 | 393.2 | 380.29 | 25 | - | - |
| 48 | 401.3 | 388.36 | 25 | 30 | 30 |
| 49 | 409.3 | 396.44 | 25 | - | - |
| 50 | 417.4 | 404.52 | 25 | 30 | 30 |
| 51 | 425.5 | 412.60 | 30 | - | - |
| 52 | 433.6 | 420.67 | 30 | 30 | 40 |
| 53 | 441.7 | 428.75 | 30 | - | - |
| 54 | 448.3 | 436.85 | 30 | - | - |
| 55 | 457.9 | 444.93 | 30 | 30 | 40 |
| 56 | 466.0 | 453.01 | 30 | 40 | - |
| 57 | 474.0 | 461.07 | 30 | 40 | 40 |
| 58 | 482.1 | 469.16 | 30 | - | - |
| 60 | 498.3 | 485.32 | 30 | 40 | - |
| 62 | 514.5 | 501.50 | 30 | - | - |
| 64 | 530.7 | 517.65 | 30 | - | - |
| 65 | 538.8 | 525.73 | 30 | - | - |
| 66 | 546.8 | 533.80 | 30 | - | - |
| 68 | 562.9 | 549.98 | 30 | - | - |
| 70 | 579.2 | 566.14 | 30 | - | - |
| 72 | 595.4 | 582.32 | 30 | - | - |
| 75 | 619.7 | 606.55 | 30 | - | - |
| 76 | 627.0 | 614.65 | 30 | - | - |
| 78 | 643.3 | 630.80 | 30 | - | - |
| 80 | 660.0 | 646.96 | 30 | - | - |
| 85 | 699.9 | 687.40 | 30 | - | - |
| 90 | 740.3 | 727.81 | 30 | - | - |
| 95 | 781.1 | 768.22 | 30 | - | - |

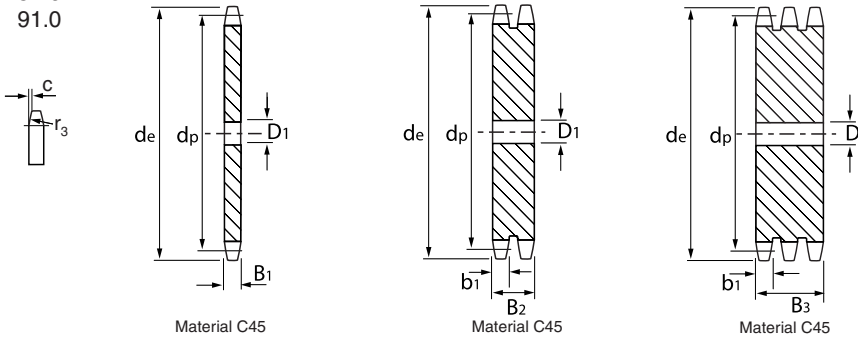
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Plate Wheels

BS Pilot Bore Plate Wheels

20B 1.1/4" x 19.56 mm

| SPROCKET | | CHAIN | |
|-----------------|------|----------------------------|--------|
| | mm | | mm |
| Tooth Radius r3 | 32.0 | Pitch | 31.750 |
| Chamfer c | 3.5 | Width Between Inner Plates | 19.560 |
| Tooth Width b1 | 18.2 | Roller Diameter | 19.050 |
| Tooth Width B1 | 18.5 | | |
| Tooth Width B2 | 54.6 | | |
| Tooth Width B3 | 91.0 | | |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8 | 98.1 | 82.96 | 16 | 20 | 20 |
| 9 | 108.0 | 92.84 | 16 | 20 | 20 |
| 10 | 117.9 | 102.74 | 16 | 20 | 20 |
| 11 | 127.8 | 112.68 | 20 | 20 | 25 |
| 12 | 137.8 | 122.68 | 20 | 20 | 25 |
| 13 | 147.8 | 132.65 | 20 | 20 | 25 |
| 14 | 157.8 | 142.68 | 20 | 20 | 25 |
| 15 | 167.9 | 152.72 | 20 | 20 | 25 |
| 16 | 177.9 | 162.75 | 20 | 30 | 30 |
| 17 | 187.9 | 172.78 | 20 | 30 | 30 |
| 18 | 198.0 | 182.85 | 20 | 30 | 30 |
| 19 | 208.1 | 192.91 | 20 | 30 | 30 |
| 20 | 218.1 | 202.98 | 20 | 30 | 30 |
| 21 | 228.2 | 213.04 | 25 | 30 | 30 |
| 22 | 238.3 | 223.11 | 25 | 30 | 30 |
| 23 | 248.3 | 233.17 | 25 | 30 | 30 |
| 24 | 258.4 | 243.23 | 25 | 30 | 30 |
| 25 | 268.5 | 253.33 | 25 | 30 | 30 |
| 26 | 278.6 | 263.40 | 30 | 30 | 30 |
| 27 | 288.6 | 273.40 | 30 | 30 | 30 |
| 28 | 298.7 | 283.56 | 30 | 30 | 30 |
| 29 | 308.8 | 293.65 | 30 | 30 | - |
| 30 | 318.9 | 303.75 | 30 | 30 | 30 |
| 31 | 329.0 | 313.85 | 30 | 30 | - |
| 32 | 339.1 | 323.91 | 30 | 30 | 30 |
| 33 | 349.2 | 334.01 | 30 | 30 | 30 |
| 34 | 359.3 | 344.10 | 30 | 30 | 30 |
| 35 | 369.4 | 354.20 | 30 | 30 | 30 |
| 36 | 379.5 | 364.30 | 30 | 30 | 30 |
| 37 | 389.5 | 374.39 | 30 | 30 | 30 |
| 38 | 399.6 | 384.49 | 30 | 30 | 30 |
| 39 | 409.7 | 394.59 | 30 | 30 | - |
| 40 | 419.8 | 404.66 | 30 | 30 | 30 |
| 41 | 429.9 | 414.78 | 30 | - | - |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 42 | 440.0 | 424.80 | 30 | 30 | - |
| 43 | 450.1 | 434.97 | 30 | - | - |
| 44 | 460.2 | 445.07 | 30 | - | - |
| 45 | 470.3 | 455.07 | 30 | 30 | - |
| 46 | 480.4 | 465.26 | 30 | 30 | - |
| 48 | 500.6 | 485.46 | 30 | 30 | - |
| 50 | 520.8 | 505.65 | 30 | 30 | - |
| 51 | 530.9 | 515.75 | 30 | - | - |
| 52 | 541.0 | 525.84 | 30 | - | - |
| 53 | 551.1 | 535.94 | - | - | - |
| 54 | 561.2 | 546.07 | 30 | - | - |
| 55 | 571.3 | 556.16 | 30 | - | - |
| 56 | 581.4 | 566.26 | 30 | - | - |
| 57 | 591.5 | 576.36 | 30 | - | - |

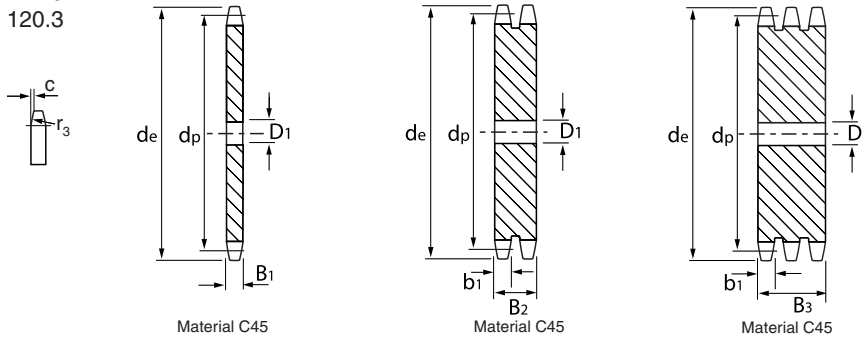
Plate Wheels

BS Pilot Bore Plate Wheels

24B 1.1/2" x 25.4 mm

| SPROCKET | mm |
|--------------------|-------|
| Tooth Radius r_3 | 38.0 |
| Chamfer c | 4.0 |
| Tooth Width b1 | 23.6 |
| Tooth Width B1 | 24.1 |
| Tooth Width B2 | 72.0 |
| Tooth Width B3 | 120.3 |

| CHAIN | mm |
|----------------------------|--------|
| Pitch | 38.100 |
| Width Between Inner Plates | 25.400 |
| Roller Diameter | 25.400 |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 | Duplex Stock Bore D1 | Triplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|----------------------|-----------------------|
| 8 | 115.0 | 99.50 | 20 | 25 | 25 |
| 9 | 126.4 | 111.40 | 20 | 25 | 25 |
| 10 | 138.0 | 123.29 | 20 | 25 | 25 |
| 11 | 150.0 | 135.21 | 25 | 25 | 30 |
| 12 | 162.0 | 147.22 | 25 | 25 | 30 |
| 13 | 174.2 | 159.18 | 25 | 25 | 30 |
| 14 | 186.2 | 171.22 | 25 | 25 | 30 |
| 15 | 198.2 | 183.26 | 25 | 25 | 30 |
| 16 | 210.3 | 195.30 | 25 | 30 | 30 |
| 17 | 222.3 | 207.34 | 25 | 30 | 30 |
| 18 | 234.3 | 219.42 | 25 | 30 | 30 |
| 19 | 246.5 | 231.49 | 25 | 30 | 30 |
| 20 | 258.6 | 243.57 | 25 | 30 | 30 |
| 21 | 270.6 | 255.65 | 30 | 30 | 40 |
| 22 | 282.7 | 267.73 | 30 | 30 | 40 |
| 23 | 294.8 | 279.80 | 30 | 30 | 40 |
| 24 | 306.8 | 291.88 | 30 | 30 | 40 |
| 25 | 319.0 | 304.00 | 30 | 30 | 40 |
| 26 | 331.0 | 316.08 | 30 | 30 | 40 |
| 27 | 343.2 | 328.19 | 30 | 30 | 40 |
| 28 | 355.2 | 340.27 | 30 | 30 | 40 |
| 29 | 367.3 | 352.38 | 30 | 30 | 40 |
| 30 | 379.5 | 364.50 | 30 | 30 | 40 |
| 31 | 391.6 | 376.62 | 30 | 40 | 40 |
| 32 | 403.7 | 388.69 | 30 | 40 | 40 |
| 33 | 415.8 | 400.81 | 30 | 40 | 40 |
| 34 | 427.8 | 412.93 | 30 | 40 | 40 |
| 35 | 440.0 | 425.04 | 30 | 40 | 40 |
| 36 | 452.0 | 437.16 | 30 | 40 | 40 |
| 37 | 464.2 | 449.27 | 30 | 40 | 40 |
| 38 | 476.2 | 461.39 | 30 | 40 | 40 |
| 40 | 500.6 | 485.62 | 30 | - | 40 |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 | Duplex Stock Bore D1 | Triplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|----------------------|-----------------------|
| 41 | 512.6 | 497.74 | 30 | - | - |
| 42 | 524.7 | 509.85 | 30 | - | - |
| 43 | 536.8 | 521.97 | 30 | - | - |
| 44 | 549.0 | 534.08 | 30 | - | - |
| 45 | 561.2 | 546.20 | 30 | - | - |
| 46 | 573.3 | 558.32 | 30 | - | - |
| 48 | 597.4 | 582.55 | 30 | - | - |

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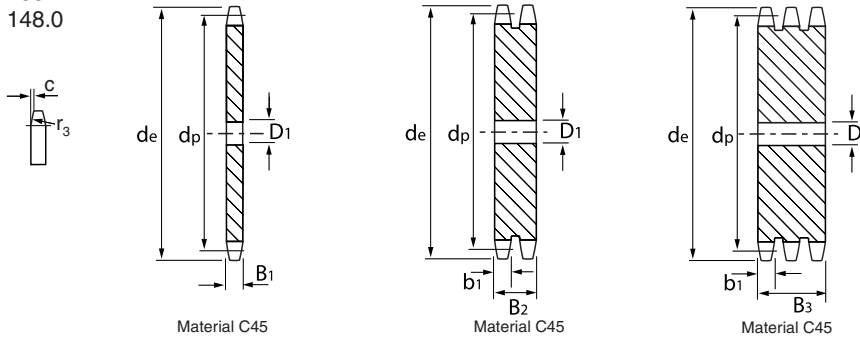
Plate Wheels

BS Pilot Bore Plate Wheels

28B 1.3/4" x 1.1/4"

| SPROCKET | mm |
|--------------------|-------|
| Tooth Radius r_3 | 44.0 |
| Chamfer c | 5.0 |
| Tooth Width B1 | 29.4 |
| Tooth Width b1 | 28.8 |
| Tooth Width B2 | 88.4 |
| Tooth Width B3 | 148.0 |

| CHAIN | mm |
|----------------------------|--------|
| Pitch | 44.450 |
| Width Between Inner Plates | 30.990 |
| Roller Diameter | 27.940 |



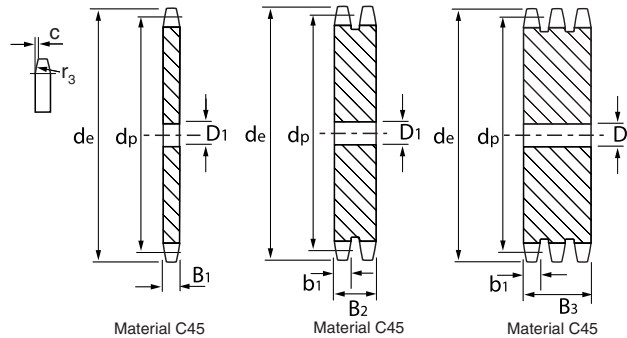
| Teeth | Outer Dia de | Pitch Dia dp | Simplex | Duplex | Triplex |
|-------|--------------|--------------|---------------|---------------|---------------|
| | | | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8 | 132.0 | 116.15 | 25 | 25 | 25 |
| 9 | 148.4 | 129.96 | 25 | 25 | 25 |
| 10 | 162.3 | 143.85 | 25 | 25 | 25 |
| 11 | 176.3 | 157.77 | 25 | 30 | 30 |
| 12 | 189.3 | 171.74 | 25 | 30 | 30 |
| 13 | 204.2 | 185.75 | 25 | 30 | 30 |
| 14 | 218.2 | 199.76 | 25 | 30 | 30 |
| 15 | 232.3 | 213.79 | 25 | 30 | 30 |
| 16 | 246.3 | 227.84 | 30 | 30 | 30 |
| 17 | 260.0 | 241.90 | 30 | 30 | 30 |
| 18 | 274.0 | 255.98 | 30 | 30 | 30 |
| 19 | 289.0 | 270.06 | 30 | 30 | 30 |
| 20 | 303.0 | 284.15 | 30 | 30 | 30 |
| 21 | 317.0 | 298.24 | 30 | 30 | 40 |
| 22 | 331.0 | 312.34 | 30 | 30 | - |
| 23 | 345.0 | 326.44 | 30 | 30 | 40 |
| 24 | 359.0 | 340.55 | 30 | 30 | - |
| 25 | 373.0 | 354.66 | 30 | 30 | - |
| 26 | 387.0 | 368.77 | 30 | 40 | - |
| 27 | 401.0 | 382.88 | 30 | - | - |
| 28 | 416.0 | 397.00 | 30 | 40 | - |
| 30 | 444.0 | 425.24 | 30 | 40 | - |
| 32 | 472.0 | 453.49 | 30 | - | - |
| 34 | 500.0 | 481.75 | 30 | - | - |
| 35 | 514.0 | 495.88 | 30 | - | - |
| 36 | 529.0 | 510.01 | 30 | - | - |
| 38 | 557.0 | 538.27 | 30 | - | - |
| 40 | 585.0 | 566.54 | 30 | - | - |

Plate Wheels

BS Pilot Bore Plate Wheels

32B 2" x 1.1/4"

| SPROCKET | mm | CHAIN | mm |
|--------------------|-------|----------------------------|--------|
| Tooth Radius r_3 | 51.0 | Pitch | 50.800 |
| Chamfer c | 6.0 | Width Between Inner Plates | 30.990 |
| Tooth Width B_1 | 29.4 | Roller Diameter | 29.210 |
| Tooth Width b_1 | 28.8 | | |
| Tooth Width B_2 | 87.4 | | |
| Tooth Width B_3 | 146.0 | | |



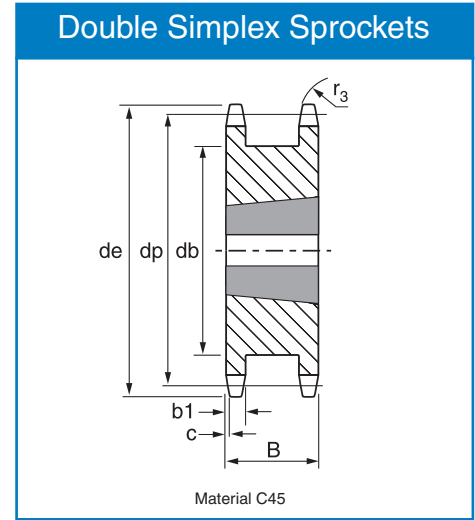
| Teeth | Outer Dia d_e | Pitch Dia d_p | Simplex | Duplex | Triplex |
|-------|-----------------|-----------------|------------------|------------------|------------------|
| | | | Stock Bore D_1 | Stock Bore D_1 | Stock Bore D_1 |
| 8 | 153.2 | 132.74 | 25 | 25 | 25 |
| 9 | 169.0 | 148.54 | 25 | 25 | 25 |
| 10 | 185.0 | 164.39 | 25 | 25 | 25 |
| 11 | 200.8 | 180.31 | 30 | 35 | 35 |
| 12 | 216.8 | 196.29 | 30 | 35 | 35 |
| 13 | 232.8 | 212.29 | 30 | 35 | 35 |
| 14 | 248.8 | 228.29 | 30 | 35 | 35 |
| 15 | 264.8 | 244.30 | 30 | 35 | 35 |
| 16 | 280.9 | 260.40 | 30 | 40 | 40 |
| 17 | 296.9 | 276.46 | 30 | 40 | 40 |
| 18 | 313.0 | 292.55 | 30 | 40 | 40 |
| 19 | 329.1 | 308.66 | 30 | 40 | 40 |
| 20 | 345.2 | 324.71 | 30 | 40 | 40 |
| 21 | 361.3 | 340.82 | 40 | 40 | - |
| 22 | 377.5 | 356.98 | 40 | 40 | - |
| 23 | 393.6 | 373.08 | 40 | 40 | - |
| 24 | 409.7 | 389.18 | 40 | 40 | - |
| 25 | 425.8 | 405.33 | 40 | 40 | - |
| 26 | 441.9 | 421.44 | 40 | 40 | - |
| 27 | 458.1 | 437.58 | 40 | - | - |
| 28 | 474.2 | 453.69 | 40 | - | - |
| 30 | 506.5 | 486.00 | 40 | - | 40 |
| 32 | 538.8 | 518.27 | 40 | - | 40 |
| 35 | 589.5 | 566.71 | 40 | - | 40 |

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Double Simplex Sprockets

Taper Bore Double Simplex Sprockets

| 06B | | 3/8" x 7/32" | | | |
|--------------------|-----------------|-----------------|---------|---------------|------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 10.00 | | | |
| Chamfer c | | 1.00 | | | |
| Tooth Width b1 | | 5.30 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Taper Bush |
| 18 | 58.3 | 54.85 | 23.5 | 43 | 1008 |
| 19 | 61.3 | 57.87 | 23.5 | 46 | 1008 |
| 20 | 64.3 | 60.89 | 23.5 | 48 | 1108 |
| 21 | 68.0 | 63.91 | 23.5 | 52 | 1108 |
| 23 | 73.5 | 69.95 | 23.5 | 58 | 1108 |
| 25 | 80.0 | 76.00 | 23.5 | 64 | 1108 |



| 08B | | 1/2" x 5/16" | | | |
|--------------------|-----------------|-----------------|---------|---------------|------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 13.00 | | | |
| Chamfer c | | 1.30 | | | |
| Tooth Width b1 | | 7.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Taper Bush |
| 15 | 65.5 | 61.09 | 31 | 45 | 1008 |
| 16 | 69.5 | 65.10 | 31 | 49 | 1108 |
| 17 | 73.6 | 69.11 | 31 | 53 | 1108 |
| 18 | 77.8 | 73.14 | 31 | 58 | 1210 |
| 19 | 81.7 | 77.16 | 31 | 62 | 1210 |
| 20 | 85.8 | 81.19 | 31 | 66 | 1210 |
| 21 | 89.7 | 85.22 | 31 | 70 | 1610 |
| 23 | 98.2 | 93.27 | 31 | 78 | 1610 |
| 25 | 105.8 | 101.33 | 31 | 86 | 2012 |

| 10B | | 5/8" x 3/8" | | | |
|--------------------|-----------------|-----------------|---------|---------------|------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 16.00 | | | |
| Chamfer c | | 1.60 | | | |
| Tooth Width b1 | | 9.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Taper Bush |
| 12 | 68.0 | 61.34 | 36.5 | 45 | 1108 |
| 13 | 73.0 | 66.32 | 36.5 | 50 | 1108 |
| 14 | 78.0 | 71.34 | 36.5 | 55 | 1108 |
| 15 | 83.0 | 76.36 | 36.5 | 60 | 1210 |
| 16 | 88.0 | 81.37 | 36.5 | 65 | 1210 |
| 17 | 93.0 | 86.39 | 36.5 | 70 | 1610 |
| 18 | 98.3 | 91.42 | 36.5 | 75 | 1610 |
| 19 | 103.3 | 96.45 | 36.5 | 80 | 1610 |
| 20 | 108.4 | 101.49 | 36.5 | 85 | 1610 |
| 21 | 113.4 | 106.52 | 36.5 | 90 | 2012 |
| 23 | 123.4 | 116.58 | 36.5 | 100 | 2012 |
| 25 | 134.0 | 126.66 | 36.5 | 110 | 2012 |

| 12B | | 3/4" x 7/16" | | | |
|--------------------|-----------------|-----------------|---------|---------------|------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 19.00 | | | |
| Chamfer c | | 2.00 | | | |
| Tooth Width b1 | | 11.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Taper Bush |
| 13 | 87.5 | 79.59 | 45 | 59 | 1210 |
| 14 | 93.6 | 85.61 | 45 | 65 | 1210 |
| 15 | 99.8 | 91.63 | 45 | 71 | 1610 |
| 16 | 105.5 | 97.65 | 45 | 77 | 1610 |
| 17 | 111.5 | 103.67 | 45 | 83 | 1610 |
| 18 | 118.0 | 109.71 | 45 | 89 | 2012 |
| 19 | 124.2 | 115.75 | 45 | 95 | 2012 |
| 20 | 129.7 | 121.78 | 45 | 101 | 2517 |
| 21 | 136.0 | 127.82 | 45 | 107 | 2517 |
| 23 | 149.0 | 139.90 | 45 | 119 | 2517 |
| 25 | 160.0 | 152.00 | 45 | 131 | 2517 |

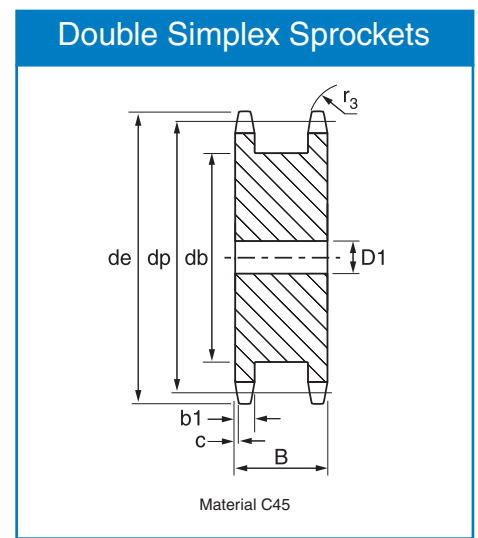
| 16B | | 1" x 17.02 mm | | | |
|--------------------|-----------------|-----------------|---------|---------------|------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 26.00 | | | |
| Chamfer c | | 2.50 | | | |
| Tooth Width b1 | | 16.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Taper Bush |
| 12 | 109.0 | 98.14 | 63.5 | 72 | 1615 |
| 13 | 117.0 | 106.12 | 63.5 | 81 | 1615 |
| 14 | 125.0 | 114.15 | 63.5 | 88 | 2012 |
| 15 | 133.0 | 122.17 | 63.5 | 97 | 2012 |
| 16 | 141.0 | 130.20 | 63.5 | 104 | 2012 |
| 17 | 149.0 | 138.22 | 63.5 | 113 | 2517 |
| 18 | 157.0 | 146.28 | 63.5 | 121 | 2517 |
| 19 | 165.2 | 154.33 | 63.5 | 129 | 2517 |
| 20 | 173.2 | 162.38 | 63.5 | 137 | 3020 |
| 21 | 181.2 | 170.43 | 63.5 | 145 | 3020 |
| 23 | 197.5 | 186.53 | 63.5 | 161 | 3525 |
| 25 | 213.5 | 202.66 | 63.5 | 177 | 3525 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Double Simplex Sprockets

Pilot Bore Double Simplex Sprockets

| 06B | | 3/8" x 7/32" | | | |
|--------------------|--------------------|--------------------|------------|------------------|------------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 10.00 | | | |
| Chamfer c | | 1.00 | | | |
| Tooth Width b1 | | 5.30 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Stock Bore D1 |
| 14 | 46.3 | 42.80 | 23.5 | 31 | 10 |
| 15 | 49.3 | 54.81 | 23.5 | 34 | 10 |
| 16 | 52.3 | 48.82 | 23.5 | 37 | 10 |
| 17 | 55.3 | 51.83 | 23.5 | 40 | 10 |
| 18 | 58.3 | 54.85 | 23.5 | 43 | 10 |
| 19 | 61.3 | 57.87 | 23.5 | 46 | 10 |
| 20 | 64.3 | 60.89 | 23.5 | 48 | 10 |
| 21 | 68.0 | 63.91 | 23.5 | 52 | 10 |



| 08B | | 1/2" x 5/16" | | | |
|--------------------|--------------------|--------------------|------------|------------------|------------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 13.00 | | | |
| Chamfer c | | 1.30 | | | |
| Tooth Width b1 | | 7.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Stock Bore D1 |
| 12 | 53.0 | 49.07 | 31 | 35 | 12 |
| 13 | 57.4 | 53.06 | 31 | 38 | 12 |
| 14 | 61.8 | 57.07 | 31 | 41 | 12 |
| 15 | 65.6 | 61.09 | 31 | 45 | 12 |
| 16 | 69.5 | 65.10 | 31 | 49 | 12 |
| 17 | 73.6 | 69.11 | 31 | 53 | 12 |
| 18 | 77.8 | 73.14 | 31 | 58 | 12 |
| 19 | 81.7 | 77.16 | 31 | 62 | 12 |
| 20 | 85.8 | 81.19 | 31 | 66 | 12 |
| 21 | 89.7 | 85.22 | 31 | 70 | 18 |
| 23 | 98.2 | 93.27 | 31 | 78 | 18 |

| 10B | | 5/8" x 3/8" | | | |
|--------------------|--------------------|--------------------|------------|------------------|------------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 16.00 | | | |
| Chamfer c | | 1.60 | | | |
| Tooth Width b1 | | 9.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Stock Bore D1 |
| 12 | 68.0 | 61.34 | 36.5 | 45 | 19 |
| 13 | 73.0 | 66.32 | 36.5 | 50 | 19 |
| 14 | 78.0 | 71.34 | 36.5 | 55 | 19 |
| 15 | 83.0 | 76.36 | 36.5 | 60 | 19 |
| 16 | 88.0 | 81.37 | 36.5 | 65 | 19 |
| 17 | 93.0 | 86.39 | 36.5 | 70 | 19 |
| 18 | 98.3 | 91.42 | 36.5 | 75 | 19 |
| 19 | 103.3 | 96.45 | 36.5 | 80 | 19 |
| 20 | 108.4 | 101.49 | 36.5 | 85 | 19 |
| 21 | 113.4 | 106.52 | 36.5 | 90 | 19 |
| 23 | 123.4 | 116.58 | 36.5 | 100 | 19 |

| 12B | | 3/4" x 7/16" | | | |
|--------------------|--------------------|--------------------|------------|------------------|------------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 19.00 | | | |
| Chamfer c | | 2.00 | | | |
| Tooth Width b1 | | 11.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Stock Bore D1 |
| 12 | 81.5 | 73.61 | 45 | 53 | 24 |
| 13 | 87.5 | 79.59 | 45 | 59 | 24 |
| 14 | 93.6 | 85.61 | 45 | 65 | 24 |
| 15 | 99.8 | 91.63 | 45 | 71 | 24 |
| 16 | 105.5 | 97.65 | 45 | 77 | 24 |
| 17 | 111.5 | 103.67 | 45 | 83 | 24 |
| 18 | 118.0 | 109.71 | 45 | 89 | 24 |
| 19 | 124.2 | 115.75 | 45 | 95 | 24 |
| 20 | 129.7 | 121.78 | 45 | 101 | 24 |
| 21 | 136.0 | 127.82 | 45 | 107 | 24 |
| 23 | 149.0 | 139.90 | 45 | 119 | 24 |

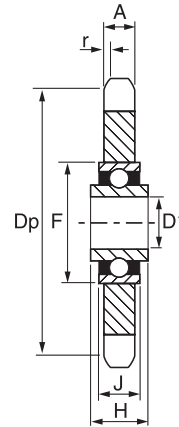
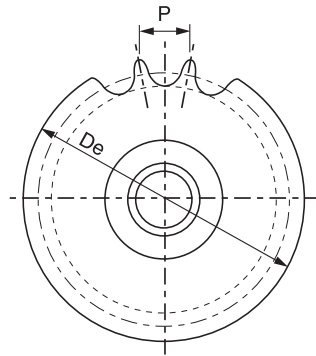
| 16B | | 1" x 17.02 mm | | | |
|--------------------|--------------------|--------------------|------------|------------------|------------------|
| SPROCKET | | mm | | | |
| Tooth Radius r_3 | | 26.00 | | | |
| Chamfer c | | 2.50 | | | |
| Tooth Width b1 | | 16.20 | | | |
| Teeth | Outer Dia d_e | Pitch Dia d_p | Width B | Hub Dia d_b | Stock Bore D1 |
| 12 | 109.0 | 98.14 | 63.5 | 72 | 25 |
| 13 | 117.0 | 106.12 | 63.5 | 81 | 25 |
| 14 | 125.0 | 114.15 | 63.5 | 88 | 25 |
| 15 | 133.0 | 122.17 | 63.5 | 97 | 25 |
| 16 | 141.0 | 130.20 | 63.5 | 104 | 25 |
| 17 | 149.0 | 138.22 | 63.5 | 113 | 25 |
| 18 | 157.0 | 146.28 | 63.5 | 121 | 25 |
| 19 | 165.2 | 154.33 | 63.5 | 129 | 25 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Idler Sprockets

Idler Sprockets

Idler Sprockets



Material C45

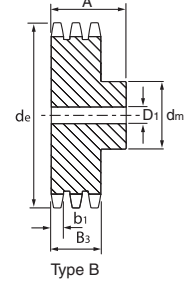
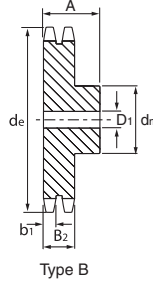
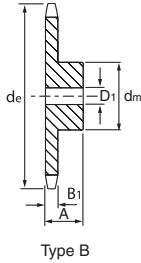
| ISO Chain Size | Chain Pitch x Width Between Inner Plates | Teeth | Outer Dia de | Pitch Dia dp | Tooth Width A | Bearing Bore D1 | Bearing Bore Width H | Bearing Outside Dia F | Bearing Width J |
|----------------|--|-------|--------------|--------------|---------------|-----------------|----------------------|-----------------------|-----------------|
| 05B | 8 mm x 3 mm | 23 | 62.0 | 58.75 | 2.8 | 16.2 | 18.3 | 40 | 12 |
| 06B | 3/8" x 7/32" | 21 | 68.0 | 63.91 | 5.3 | 16.2 | 18.3 | 40 | 12 |
| 081 | 1/2" x 1/8" | 18 | 78.9 | 73.14 | 3.0 | 16.2 | 18.3 | 40 | 12 |
| 083 | 1/2" x 3/16" | 18 | 78.9 | 73.14 | 4.5 | 16.2 | 18.3 | 40 | 12 |
| 084 | 1/2" x 3/16" | 18 | 78.9 | 73.14 | 4.5 | 16.2 | 18.3 | 40 | 12 |
| 08B | 1/2" x 5/16" | 16 | 69.5 | 65.10 | 7.2 | 16.2 | 18.3 | 40 | 12 |
| 08B | 1/2" x 5/16" | 18 | 77.8 | 73.14 | 7.2 | 16.2 | 18.3 | 40 | 12 |
| 10B | 5/8" x 3/8" | 14 | 78.0 | 71.34 | 9.1 | 16.2 | 18.3 | 40 | 12 |
| 10B | 5/8" x 3/8" | 15 | 83.0 | 76.36 | 9.1 | 16.2 | 18.3 | 40 | 12 |
| 10B | 5/8" x 3/8" | 17 | 93.0 | 86.30 | 9.1 | 16.2 | 18.3 | 40 | 12 |
| 12B | 3/4" x 7/16" | 13 | 87.5 | 79.59 | 11.1 | 16.2 | 18.3 | 40 | 12 |
| 12B | 3/4" x 7/16" | 15 | 99.8 | 91.63 | 11.1 | 16.2 | 18.3 | 40 | 12 |
| 16B | 1" x 17.02 mm | 12 | 109.0 | 98.14 | 16.2 | 20.0 | 17.7 | 47 | 14 |
| 20B | 1.1/4" x 3/4" | 13 | 147.8 | 132.65 | 18.5 | 25.0 | 21.0 | 52 | 15 |

| ANSI Chain Size | Chain Pitch x Width Between Inner Plates | Teeth | Outer Dia de | Pitch Dia dp | Tooth Width A | Bearing Bore D1 | Bearing Bore Width H | Bearing Outside Dia F | Bearing Width J |
|-----------------|--|-------|--------------|--------------|---------------|-----------------|----------------------|-----------------------|-----------------|
| 35 | 3/8" x 3/16" | 20 | 65.77 | 60.89 | 4.4 | 16.20 | 18.3 | 40 | 12 |
| 40 | 1/2" x 5/16" | 17 | 75.68 | 69.12 | 7.4 | 16.20 | 18.3 | 40 | 12 |
| 40 | 1/2" x 5/16" | 18 | 79.70 | 73.14 | 7.4 | 16.20 | 18.3 | 40 | 12 |
| 50 | 5/8" x 3/8" | 15 | 83.00 | 76.36 | 9.0 | 16.20 | 18.3 | 40 | 12 |
| 50 | 5/8" x 3/8" | 17 | 93.00 | 86.39 | 9.0 | 16.20 | 18.3 | 40 | 12 |
| 60 | 3/4" x 1/2" | 13 | 89.49 | 79.59 | 12.0 | 16.20 | 18.3 | 40 | 12 |
| 60 | 3/4" x 1/2" | 15 | 101.52 | 91.63 | 12.0 | 16.20 | 18.3 | 40 | 12 |
| 80 | 1" x 5/8" | 12 | 103.28 | 90.14 | 15.0 | 19.05 | 17.7 | 47 | 14 |

ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)

35 3/8" pitch



| Teeth | Outer Dia de | Simplex | | | | | Duplex | | | | | | Triplex | | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|------------|---------------------|-------|-------|---------------|------|------------|---------------------|-------|-------|---------------|------|---|
| | | Hub Dia dm | Length thro' Bore A | B1 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B3 | Stock Bore D1 | Type | |
| 8 | 1.13 | 3/4* | 3/4 | 0.168 | 3/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | 1.26 | 27/32* | 3/4 | 0.168 | 3/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 1.38 | 31/32* | 3/4 | 0.168 | 3/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11 | 1.50 | 1.1/16* | 3/4 | 0.168 | 3/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 12 | 1.63 | 1.7/32* | 3/4 | 0.168 | 1/2 | B | 63/64 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | - | - | - | - | - | - | - |
| 13 | 1.75 | 1.1/4* | 3/4 | 0.168 | 1/2 | B | 1.7/64 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | 1.7/64 | 1.3/4 | 0.162 | 0.960 | 1/2 | B | |
| 14 | 1.87 | 1.1/4 | 3/4 | 0.168 | 1/2 | B | 1.1/4 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | 1.1/4 | 1.3/4 | 0.162 | 0.960 | 1/2 | B | |
| 15 | 1.99 | 1.11/32 | 3/4 | 0.168 | 1/2 | B | 1.13/32 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | 1.13/32 | 1.3/4 | 0.162 | 0.960 | 1/2 | B | |
| 16 | 2.11 | 1.15/32 | 3/4 | 0.168 | 1/2 | B | 1.15/32 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | 1.15/32 | 1.3/4 | 0.162 | 0.960 | 1/2 | B | |
| 17 | 2.23 | 1.19/32 | 3/4 | 0.168 | 1/2 | B | 1.19/32 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | 1.19/32 | 1.3/4 | 0.162 | 0.960 | 1/2 | B | |
| 18 | 2.35 | 1.23/32 | 3/4 | 0.168 | 1/2 | B | 1.23/32 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | 1.23/32 | 1.3/4 | 0.162 | 0.960 | 1/2 | B | |
| 19 | 2.47 | 1.27/32 | 3/4 | 0.168 | 1/2 | B | 1.7/8 | 1.1/4 | 0.162 | 0.561 | 1/2 | B | 1.7/8 | 1.3/4 | 0.162 | 0.960 | 1/2 | B | |
| 20 | 2.59 | 1.15/16 | 3/4 | 0.168 | 1/2 | B | 1.15/16 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 1.15/16 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 21 | 2.71 | 2 | 7/8 | 0.168 | 1/2 | B | 2.1/16 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/16 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 22 | 2.83 | 2 | 7/8 | 0.168 | 1/2 | B | 2.3/16 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.3/16 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 23 | 2.95 | 2 | 7/8 | 0.168 | 1/2 | B | 2.1/4 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/4 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 24 | 3.07 | 2 | 7/8 | 0.168 | 1/2 | B | 2.1/4 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/4 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 25 | 3.19 | 2 | 7/8 | 0.168 | 1/2 | B | 2.1/4 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/4 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 26 | 3.31 | 2 | 7/8 | 0.168 | 1/2 | B | 2.1/2 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 27 | 3.43 | 2 | 7/8 | 0.168 | 1/2 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 28 | 3.55 | 2 | 7/8 | 0.168 | 1/2 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 30 | 3.79 | 2 | 7/8 | 0.168 | 1/2 | B | 2.1/2 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 32 | 4.03 | 2 | 7/8 | 0.168 | 1/2 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 35 | 4.39 | 2.1/4 | 7/8 | 0.168 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 36 | 4.51 | 2.1/4 | 7/8 | 0.168 | 5/8 | B | 2.1/2 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 40 | 4.99 | 2.1/4 | 1 | 0.168 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 42 | 5.23 | 2.1/4 | 1 | 0.168 | 5/8 | B | 2.1/2 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 45 | 5.59 | 2.1/4 | 1 | 0.168 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 48 | 5.95 | 2.1/4 | 1 | 0.168 | 5/8 | B | 2.1/2 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 52 | 6.43 | - | - | - | - | - | 2.1/2 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 54 | 6.66 | 2.1/4 | 1 | 0.168 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 60 | 7.38 | 2.1/4 | 1 | 0.168 | 3/4 | B | 2.1/2 | 1.3/8 | 0.162 | 0.561 | 3/4 | B | 2.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 68 | 8.34 | - | - | - | - | - | 3.1/2 | 1.1/2 | 0.162 | 0.561 | 3/4 | B | 3.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 70 | 8.58 | 2.1/4 | 1 | 0.168 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 72 | 8.81 | 2.1/4 | 1 | 0.168 | 3/4 | B | 3.1/2 | 1.1/2 | 0.162 | 0.561 | 3/4 | B | 3.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 76 | 9.29 | - | - | - | - | - | 3.1/2 | 1.1/2 | 0.162 | 0.561 | 3/4 | B | 3.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 80 | 9.77 | 2.1/4 | 1 | 0.168 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 84 | 10.25 | 2.1/4 | 1 | 0.168 | 3/4 | B | 3.1/2 | 1.1/2 | 0.162 | 0.561 | 3/4 | B | 3.1/2 | 1.7/8 | 0.162 | 0.960 | 3/4 | B | |
| 95 | 11.56 | - | - | - | - | - | 3.1/2 | 1.1/2 | 0.162 | 0.561 | 1 | B | 3.3/4 | 2.1/8 | 0.162 | 0.960 | 1 | B | |
| 96 | 11.68 | 2.1/4 | 1 | 0.168 | 3/4 | B | 3.1/2 | 1.1/2 | 0.162 | 0.561 | 1 | B | 3.3/4 | 2.1/8 | 0.162 | 0.960 | 1 | B | |
| 102 | 12.40 | - | - | - | - | - | 3.1/2 | 1.1/2 | 0.162 | 0.561 | 1 | B | 3.3/4 | 2.1/8 | 0.162 | 0.960 | 1 | B | |
| 112 | 13.59 | 2.1/4 | 1 | 0.168 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |

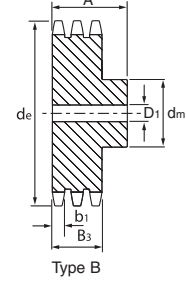
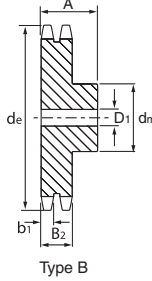
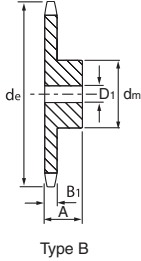
The full range of sprockets are also available with hardened teeth - contact CHALLENGE for further details

* has a recessed groove in the hub for chain clearance

ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)

40 1/2" pitch



| Teeth | Outer Dia de | Simplex | | | | | Duplex | | | | | Triplex | | | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|------------|---------------------|-------|-------|---------------|---------|------------|---------------------|-------|-------|---------------|------|---|
| | | Hub Dia dm | Length thro' Bore A | B1 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B3 | Stock Bore D1 | Type | |
| 8 | 1.51 | 63/64* | 7/8 | 0.284 | 1/2 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | 1.67 | 1.1/16* | 7/8 | 0.284 | 1/2 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 1.84 | 1.1/4* | 7/8 | 0.284 | 1/2 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11 | 2.00 | 1.3/8* | 7/8 | 0.284 | 1/2 | B | 1.7/16* | 1.1/2 | 0.275 | 0.841 | 1/2 | B | 1.7/16* | 2.1/8 | 0.275 | 1.407 | 1/2 | B | B |
| 12 | 2.17 | 1.9/16* | 7/8 | 0.284 | 1/2 | B | 1.9/16* | 1.1/2 | 0.275 | 0.841 | 1/2 | B | 1.9/16* | 2.1/8 | 0.275 | 1.407 | 1/2 | B | B |
| 13 | 2.33 | 1.9/16 | 7/8 | 0.284 | 1/2 | B | 1.1/2 | 1.1/2 | 0.275 | 0.841 | 1/2 | B | 1.1/2 | 2.1/8 | 0.275 | 1.407 | 1/2 | B | B |
| 14 | 2.49 | 1.11/16 | 7/8 | 0.284 | 1/2 | B | 1.11/16 | 1.1/2 | 0.275 | 0.841 | 1/2 | B | 1.11/16 | 2.1/8 | 0.275 | 1.407 | 1/2 | B | B |
| 15 | 2.65 | 1.13/16 | 7/8 | 0.284 | 1/2 | B | 1.13/16 | 1.1/2 | 0.275 | 0.841 | 1/2 | B | 1.13/16 | 2.1/8 | 0.275 | 1.407 | 1/2 | B | B |
| 16 | 2.81 | 2 | 7/8 | 0.284 | 5/8 | B | 2 | 1.1/2 | 0.275 | 0.841 | 5/8 | B | 2 | 2.1/8 | 0.275 | 1.407 | 5/8 | B | B |
| 17 | 2.98 | 2.1/8 | 1 | 0.284 | 5/8 | B | 2.1/8 | 1.1/2 | 0.275 | 0.841 | 5/8 | B | 2.1/8 | 2.1/8 | 0.275 | 1.407 | 5/8 | B | B |
| 18 | 3.14 | 2.5/16 | 1 | 0.284 | 5/8 | B | 2.5/16 | 1.1/2 | 0.275 | 0.841 | 5/8 | B | 2.5/16 | 2.1/8 | 0.275 | 1.407 | 5/8 | B | B |
| 19 | 3.30 | 2.1/2 | 1 | 0.284 | 5/8 | B | 2.1/2 | 1.1/2 | 0.275 | 0.841 | 5/8 | B | 2.1/2 | 2.1/8 | 0.275 | 1.407 | 5/8 | B | B |
| 20 | 3.46 | 2.5/8 | 1 | 0.284 | 5/8 | B | 2.5/8 | 1.5/8 | 0.275 | 0.841 | 5/8 | B | 2.5/8 | 2.1/4 | 0.275 | 1.407 | 5/8 | B | B |
| 21 | 3.62 | 2.3/4 | 1 | 0.284 | 5/8 | B | 2.3/4 | 1.5/8 | 0.275 | 0.841 | 5/8 | B | 2.3/4 | 2.1/4 | 0.275 | 1.407 | 5/8 | B | B |
| 22 | 3.78 | 2.7/8 | 1 | 0.284 | 5/8 | B | 2.7/8 | 1.5/8 | 0.275 | 0.841 | 5/8 | B | 2.7/8 | 2.1/4 | 0.275 | 1.407 | 5/8 | B | B |
| 23 | 3.94 | 3 | 1 | 0.284 | 5/8 | B | 3 | 1.5/8 | 0.275 | 0.841 | 5/8 | B | 3 | 2.1/4 | 0.275 | 1.407 | 5/8 | B | B |
| 24 | 4.10 | 3.1/4 | 1 | 0.284 | 5/8 | B | 3.1/4 | 1.5/8 | 0.275 | 0.841 | 5/8 | B | 3.1/4 | 2.1/4 | 0.275 | 1.407 | 5/8 | B | B |
| 25 | 4.26 | 3.1/4 | 1 | 0.284 | 5/8 | B | 3.1/4 | 1.5/8 | 0.275 | 0.841 | 5/8 | B | 3.1/4 | 2.1/4 | 0.275 | 1.407 | 5/8 | B | B |
| 26 | 4.42 | 3.1/4 | 1 | 0.284 | 5/8 | B | 3.1/4 | 1.5/8 | 0.275 | 0.841 | 5/8 | B | 3.1/4 | 2.1/4 | 0.275 | 1.407 | 5/8 | B | B |
| 27 | 4.58 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 28 | 4.74 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 29 | 4.90 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 30 | 5.06 | 3.1/4 | 1 | 0.284 | 5/8 | B | 3.1/4 | 1.5/8 | 0.275 | 0.841 | 7/8 | B | 3.1/4 | 2.1/4 | 0.275 | 1.407 | 7/8 | B | B |
| 31 | 5.22 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | 5.38 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 33 | 5.54 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 5.70 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 5.86 | 3.1/4 | 1 | 0.284 | 5/8 | B | 3.1/4 | 1.5/8 | 0.275 | 0.841 | 7/8 | B | 3.1/4 | 2.1/4 | 0.275 | 1.407 | 7/8 | B | B |
| 36 | 6.02 | 3.1/4 | 1 | 0.284 | 5/8 | B | 3.3/4 | 1.5/8 | 0.275 | 0.841 | 15/16 | B | 3.3/4 | 2.3/8 | 0.275 | 1.407 | 15/16 | B | B |
| 37 | 6.18 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 6.33 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | 6.49 | 3.1/4 | 1 | 0.284 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 40 | 6.65 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | 3.3/4 | 1.3/4 | 0.275 | 0.841 | 15/16 | B | - | - | - | - | - | - | - |
| 41 | 6.81 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 42 | 6.97 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | 3.3/4 | 1.3/4 | 0.275 | 0.841 | 15/16 | B | 3.3/4 | 2.3/8 | 0.275 | 1.407 | 15/16 | B | B |
| 43 | 7.13 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 44 | 7.29 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 45 | 7.45 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | 3.3/4 | 1.3/4 | 0.275 | 0.841 | 15/16 | B | - | - | - | - | - | - | - |
| 46 | 7.61 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 47 | 7.77 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 48 | 7.93 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | 3.3/4 | 1.3/4 | 0.275 | 0.841 | 15/16 | B | 3.3/4 | 2.3/8 | 0.275 | 1.407 | 15/16 | B | B |
| 49 | 8.09 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 50 | 8.25 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 51 | 8.41 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 52 | 8.57 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | 3.3/4 | 1.3/4 | 0.275 | 0.841 | 15/16 | B | 3.3/4 | 2.3/8 | 0.275 | 1.407 | 15/16 | B | B |
| 53 | 8.73 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 54 | 8.89 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | 3.3/4 | 1.3/4 | 0.275 | 0.841 | 15/16 | B | - | - | - | - | - | - | - |
| 55 | 9.04 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 56 | 9.20 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 57 | 9.36 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 58 | 9.52 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 59 | 9.68 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 60 | 9.84 | 3.1/2 | 1.1/8 | 0.284 | 3/4 | B | 3.3/4 | 1.3/4 | 0.275 | 0.841 | 15/16 | B | 3.3/4 | 2.3/8 | 0.275 | 1.407 | 15/16 | B | B |
| 68 | 11.12 | - | - | 0.284 | - | - | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | 4 | 2.5/8 | 0.275 | 1.407 | 1.3/16 | B | B |
| 70 | 11.43 | 4 | 1.1/4 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 72 | 11.75 | 4 | 1.1/4 | 0.284 | 3/4 | B | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | 4 | 2.5/8 | 0.275 | 1.407 | 1.3/16 | B | B |
| 76 | 12.39 | - | - | - | - | - | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | 4 | 2.5/8 | 0.275 | 1.407 | 1.3/16 | B | B |
| 80 | 13.03 | 4 | 1.1/4 | 0.284 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 84 | 13.66 | 4 | 1.1/4 | 0.284 | 3/4 | B | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | 4.1/4 | 2.3/4 | 0.275 | 1.407 | 1.3/16 | B | B |
| 95 | 15.41 | - | - | - | - | - | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | 4.1/4 | 2.3/4 | 0.275 | 1.407 | 1.3/16 | B | B |
| 96 | 15.57 | 4 | 1.1/4 | 0.284 | 1 | B | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | - | - | - | - | - | - | - |
| 102 | 16.53 | - | - | - | - | - | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | 4.1/4 | 2.3/4 | 0.275 | 1.407 | 1.3/16 | B | B |
| 112 | 18.12 | 4 | 1.1/4 | 0.284 | 1 | B | 4.1/4 | 2.1/8 | 0.275 | 0.841 | 1.3/16 | B | - | - | - | - | - | - | - |

The full range of sprockets are also available with hardened teeth - contact CHALLENGE for further details

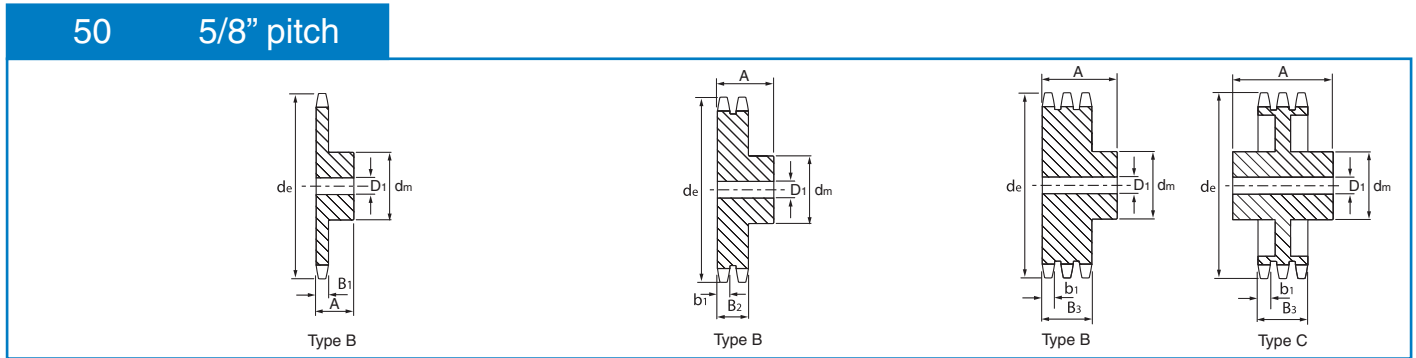
* has a recessed groove in the hub for chain clearance

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

All dimensions in inches unless otherwise stated.

ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)



| Teeth | Outer Dia de | Simplex | | | | | Duplex | | | | | Triplex | | | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|------------|---------------------|-------|-------|---------------|---------|------------|---------------------|-------|-------|---------------|------|---|
| | | Hub Dia dm | Length thro' Bore A | B1 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B3 | Stock Bore D1 | Type | |
| 8 | 1.88 | 1.1/8* | 1 | 0.343 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | 2.09 | 1.3/8* | 1 | 0.343 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 2.30 | 1.9/16* | 1 | 0.343 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11 | 2.50 | 1.3/4* | 1 | 0.343 | 5/8 | B | 1.15/32 | 1.3/4 | 0.332 | 1.045 | 5/8 | B | 1.15/32 | 2.1/2 | 0.332 | 1.758 | 5/8 | B | B |
| 12 | 2.71 | 1.63/64* | 1 | 0.343 | 5/8 | B | 1.11/16 | 1.3/4 | 0.332 | 1.045 | 5/8 | B | 1.11/16 | 2.1/2 | 0.332 | 1.758 | 5/8 | B | B |
| 13 | 2.91 | 1.7/8 | 1 | 0.343 | 5/8 | B | 1.7/8 | 1.3/4 | 0.332 | 1.045 | 5/8 | B | 1.7/8 | 2.1/2 | 0.332 | 1.758 | 5/8 | B | B |
| 14 | 3.11 | 2.1/8 | 1 | 0.343 | 5/8 | B | 2.1/16 | 1.3/4 | 0.332 | 1.045 | 5/8 | B | 2.1/16 | 2.1/2 | 0.332 | 1.758 | 5/8 | B | B |
| 15 | 3.32 | 2.3/8 | 1 | 0.343 | 5/8 | B | 2.5/16 | 1.3/4 | 0.332 | 1.045 | 3/4 | B | 2.5/16 | 2.1/2 | 0.332 | 1.758 | 3/4 | B | B |
| 16 | 3.52 | 2.1/2 | 1 | 0.343 | 5/8 | B | 2.1/2 | 1.3/4 | 0.332 | 1.045 | 3/4 | B | 2.1/2 | 2.1/2 | 0.332 | 1.758 | 3/4 | B | B |
| 17 | 3.72 | 2.11/16 | 1 | 0.343 | 5/8 | B | 2.11/16 | 1.3/4 | 0.332 | 1.045 | 3/4 | B | 2.11/16 | 2.1/2 | 0.332 | 1.758 | 3/4 | B | B |
| 18 | 3.92 | 2.7/8 | 1 | 0.343 | 5/8 | B | 2.15/16 | 1.3/4 | 0.332 | 1.045 | 3/4 | B | 2.15/16 | 2.1/2 | 0.332 | 1.758 | 3/4 | B | B |
| 19 | 4.12 | 3 | 1 | 0.343 | 5/8 | B | 3.1/8 | 1.3/4 | 0.332 | 1.045 | 1 | B | 3.1/8 | 2.1/2 | 0.332 | 1.758 | 1 | B | B |
| 20 | 4.32 | 3 | 1 | 0.343 | 3/4 | B | 3.1/4 | 1.3/4 | 0.332 | 1.045 | 1 | B | 3.1/4 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 21 | 4.52 | 3 | 1 | 0.343 | 3/4 | B | 3.1/2 | 1.3/4 | 0.332 | 1.045 | 1 | B | 3.1/2 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 22 | 4.72 | 3 | 1 | 0.343 | 3/4 | B | 3.9/16 | 1.7/8 | 0.332 | 1.045 | 1 | B | 3.9/16 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 23 | 4.92 | 3 | 1 | 0.343 | 3/4 | B | 3.5/8 | 1.7/8 | 0.332 | 1.045 | 1 | B | 3.5/8 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 24 | 5.12 | 3 | 1.1/4 | 0.343 | 3/4 | B | 3.5/8 | 1.7/8 | 0.332 | 1.045 | 1 | B | 3.5/8 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 25 | 5.32 | 3 | 1.1/4 | 0.343 | 3/4 | B | 3.5/8 | 1.7/8 | 0.332 | 1.045 | 1 | B | 3.5/8 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 26 | 5.52 | 3 | 1.1/4 | 0.343 | 3/4 | B | 3.3/4 | 1.7/8 | 0.332 | 1.045 | 1 | B | 3.3/4 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 27 | 5.72 | 3 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 28 | 5.92 | 3 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 29 | 6.12 | 3 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 30 | 6.32 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | 3.3/4 | 1.7/8 | 0.332 | 1.045 | 1 | B | 3.3/4 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 31 | 6.52 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | 6.72 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | 3.3/4 | 1.7/8 | 0.332 | 1.045 | 1 | B | - | - | - | - | - | - | - |
| 33 | 6.92 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 7.12 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 7.32 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | 3.3/4 | 1.7/8 | 0.332 | 1.045 | 1 | B | 3.3/4 | 2.5/8 | 0.332 | 1.758 | 1 | B | B |
| 36 | 7.52 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | 4 | 2.1/8 | 0.332 | 1.045 | 1.3/16 | B | 4 | 2.3/4 | 0.332 | 1.758 | 1.3/16 | B | B |
| 37 | 7.72 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 7.92 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | 8.12 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 40 | 8.32 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | 4 | 2.1/8 | 0.332 | 1.045 | 1.3/16 | B | - | - | - | - | - | - | - |
| 41 | 8.52 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 42 | 8.72 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | 4 | 2.1/8 | 0.332 | 1.045 | 1.3/16 | B | 4 | 2.3/4 | 0.332 | 1.758 | 1.3/16 | B | B |
| 43 | 8.91 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 44 | 9.11 | 3.1/4 | 1.1/4 | 0.343 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 45 | 9.31 | 3.3/4 | 1.1/4 | 0.343 | 3/4 | B | 4 | 2.1/8 | 0.332 | 1.045 | 1.3/16 | B | - | - | - | - | - | - | - |
| 46 | 9.51 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 47 | 9.71 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 48 | 9.91 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | 4.1/4 | 2.3/8 | 0.332 | 1.045 | 1.3/16 | B | 4 | 3.1/8 | 0.332 | 1.758 | 1.3/16 | B | B |
| 49 | 10.11 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 50 | 10.31 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 51 | 10.51 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 52 | 10.71 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | 4.1/4 | 2.3/8 | 0.332 | 1.045 | 1.3/16 | B | 4 | 3.1/8 | 0.332 | 1.758 | 1.3/16 | B | B |
| 53 | 10.91 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 54 | 11.11 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | 4.1/4 | 2.3/8 | 0.332 | 1.045 | 1.3/16 | B | - | - | - | - | - | - | - |
| 55 | 11.31 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 56 | 11.50 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 57 | 11.70 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 58 | 11.90 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 59 | 12.10 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 60 | 12.30 | 3.3/4 | 1.1/4 | 0.343 | 1 | B | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | 4.1/2 | 3.1/8 | 0.332 | 1.758 | 1.5/16 | B | B |
| 68 | 13.89 | - | - | - | - | - | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | 4.1/2 | 3.1/8 | 0.332 | 1.758 | 1.5/16 | B | B |
| 70 | 14.29 | 3.3/4 | 1.3/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 72 | 14.69 | 3.3/4 | 1.3/4 | 0.343 | 1 | B | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | 4.3/4 | 3.1/2 | 0.332 | 1.758 | 1.5/16 | C | C |
| 76 | 15.49 | 3.3/4 | 1.3/4 | 0.343 | 1 | B | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | 4.3/4 | 3.1/2 | 0.332 | 1.758 | 1.5/16 | C | C |
| 80 | 16.28 | 4.1/4 | 1.3/4 | 0.343 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 84 | 17.08 | 4.1/4 | 1.3/4 | 0.343 | 1 | B | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | 4.3/4 | 3.1/2 | 0.332 | 1.758 | 1.5/16 | C | C |
| 95 | 19.27 | 4.1/4 | 1.3/4 | 0.343 | 1 | B | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | 4.3/4 | 3.3/4 | 0.332 | 1.758 | 1.5/16 | C | C |
| 96 | 19.47 | 4.1/4 | 1.3/4 | 0.343 | 1 | B | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | - | - | - | - | - | - | - |
| 102 | 20.66 | - | - | - | - | - | 4.1/2 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | 4.3/4 | 3.3/4 | 0.332 | 1.758 | 1.5/16 | C | C |
| 112 | 22.65 | 4.1/4 | 1.3/4 | 0.343 | 1 | B | 5.1/4 | 2.3/8 | 0.332 | 1.045 | 1.5/16 | B | - | - | - | - | - | - | - |

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* has a recessed groove in the hub for chain clearance

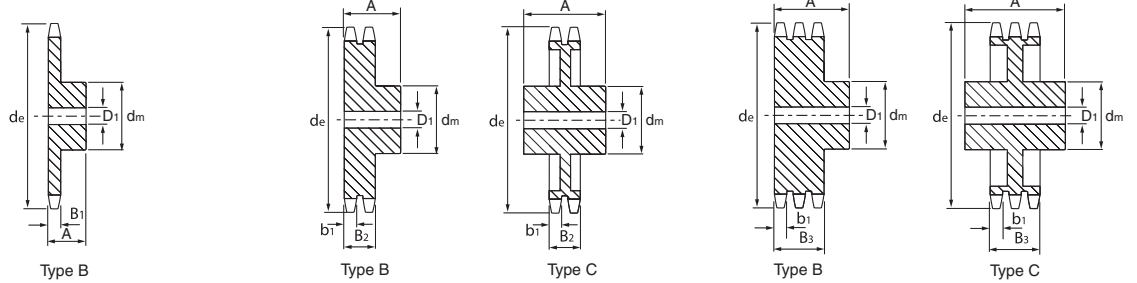
All dimensions in inches unless otherwise stated.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)

60 3/4" pitch

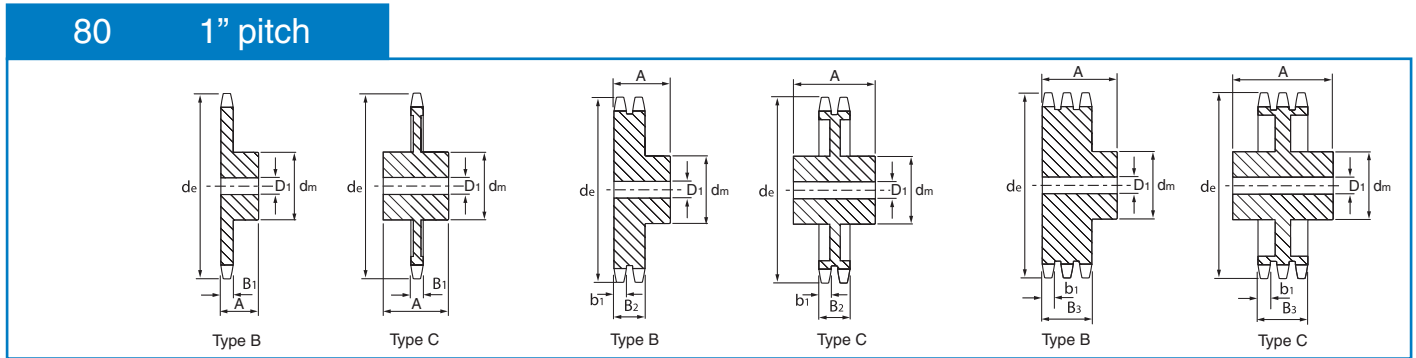


| Teeth | Outer Dia de | Simplex | | | | | Duplex | | | | | Triplex | | | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|------------|---------------------|-------|-------|---------------|---------|------------|---------------------|-------|-------|---------------|------|---|
| | | Hub Dia dm | Length thro' Bore A | B1 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B3 | Stock Bore D1 | Type | |
| 8 | 2.26 | 1.15/32* | 1.1/4 | 0.459 | 5/8 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | 2.51 | 1.9/16* | 1.1/4 | 0.459 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 2.76 | 1.15/16* | 1.1/4 | 0.459 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 11 | 3.00 | 2.1/16* | 1.1/4 | 0.459 | 3/4 | B | 1.13/16 | 2.1/8 | 0.444 | 1.341 | 1 | B | 1.13/16 | 3 | 0.444 | 2.238 | 1 | B | B |
| 12 | 3.25 | 2.3/8* | 1.1/4 | 0.459 | 3/4 | B | 2.1/8 | 2.1/8 | 0.444 | 1.341 | 1 | B | 2.1/8 | 3 | 0.444 | 2.238 | 1 | B | B |
| 13 | 3.49 | 2.11/32 | 1.1/4 | 0.459 | 3/4 | B | 2.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 2.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 14 | 3.74 | 2.9/16 | 1.1/4 | 0.459 | 3/4 | B | 2.1/2 | 2.1/8 | 0.444 | 1.341 | 1 | B | 2.1/2 | 3 | 0.444 | 2.238 | 1 | B | B |
| 15 | 3.98 | 2.7/8 | 1.1/4 | 0.459 | 3/4 | B | 2.13/16 | 2.1/8 | 0.444 | 1.341 | 1 | B | 2.13/16 | 3 | 0.444 | 2.238 | 1 | B | B |
| 16 | 4.22 | 3.1/16 | 1.1/4 | 0.459 | 3/4 | B | 3 | 2.1/8 | 0.444 | 1.341 | 1 | B | 3 | 3 | 0.444 | 2.238 | 1 | B | B |
| 17 | 4.46 | 3.1/4 | 1.1/4 | 0.459 | 3/4 | B | 3.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 3.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 18 | 4.70 | 3.1/2 | 1.1/4 | 0.459 | 3/4 | B | 3.1/2 | 2.1/8 | 0.444 | 1.341 | 1 | B | 3.1/2 | 3 | 0.444 | 2.238 | 1 | B | B |
| 19 | 4.95 | 3.1/2 | 1.1/4 | 0.459 | 3/4 | B | 3.11/16 | 2.1/8 | 0.444 | 1.341 | 1 | B | 3.11/16 | 3 | 0.444 | 2.238 | 1 | B | B |
| 20 | 5.19 | 3.7/8 | 1.1/4 | 0.459 | 3/4 | B | 3.3/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 3.3/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 21 | 5.43 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/8 | 2.1/8 | 0.444 | 1.341 | 1 | B | 4.1/8 | 3 | 0.444 | 2.238 | 1 | B | B |
| 22 | 5.67 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 4.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 23 | 5.91 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 4.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 24 | 6.15 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 4.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 25 | 6.39 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 4.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 26 | 6.63 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 4.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 27 | 6.87 | 4 | 1.1/4 | 0.459 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 28 | 7.11 | 4 | 1.1/4 | 0.459 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 29 | 7.35 | 4 | 1.1/4 | 0.459 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 30 | 7.59 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/4 | 2.1/8 | 0.444 | 1.341 | 1 | B | 4.1/4 | 3 | 0.444 | 2.238 | 1 | B | B |
| 31 | 7.83 | 4 | 1.1/4 | 0.459 | 3/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | 8.07 | 4 | 1.1/4 | 0.459 | 3/4 | B | 4.1/2 | 2.3/8 | 0.444 | 1.341 | 1.1/4 | B | - | - | - | - | - | - | - |
| 33 | 8.30 | 4 | 1.1/4 | 0.459 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 8.54 | 4 | 1.1/4 | 0.459 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 8.78 | 4 | 1.1/4 | 0.459 | 1 | B | 4.1/2 | 2.3/8 | 0.444 | 1.341 | 1.1/4 | B | 4.1/2 | 3.1/4 | 0.444 | 2.238 | 1.1/4 | B | B |
| 36 | 9.02 | 4 | 1.1/4 | 0.459 | 1 | B | 4.1/2 | 2.3/8 | 0.444 | 1.341 | 1.1/4 | B | 4.1/2 | 3.1/4 | 0.444 | 2.238 | 1.1/4 | B | B |
| 37 | 9.26 | 4 | 1.1/4 | 0.459 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 9.50 | 4.1/4 | 1.1/4 | 0.459 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | 9.74 | 4.1/4 | 1.1/4 | 0.459 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 40 | 9.98 | 4.1/4 | 1.1/4 | 0.459 | 1 | B | 4.3/4 | 2.3/4 | 0.444 | 1.341 | 1.1/4 | B | - | - | - | - | - | - | - |
| 41 | 10.22 | 4.1/4 | 1.1/4 | 0.459 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 42 | 10.46 | 4.1/4 | 1.1/4 | 0.459 | 1 | B | 4.3/4 | 2.3/4 | 0.444 | 1.341 | 1.1/4 | B | 4.3/4 | 3.5/8 | 0.444 | 2.238 | 1.1/4 | B | B |
| 43 | 10.70 | 4.1/4 | 1.1/4 | 0.459 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 44 | 10.94 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 45 | 11.18 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | 4.3/4 | 2.3/4 | 0.444 | 1.341 | 1.1/4 | B | 4.3/4 | 3.5/8 | 0.444 | 2.238 | 1.1/4 | B | B |
| 46 | 11.42 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 47 | 11.65 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 48 | 11.89 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 49 | 12.13 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 50 | 12.37 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 51 | 12.61 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 52 | 12.85 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | 4.3/4 | 2.3/4 | 0.444 | 1.341 | 1.1/4 | B | 4.3/4 | 3.1/2 | 0.444 | 2.238 | 1.1/4 | C | C |
| 53 | 13.09 | 4.1/4 | 1.1/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 54 | 13.33 | 4.1/4 | 1.3/4 | 0.459 | 15/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 55 | 13.57 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 56 | 13.81 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 57 | 14.04 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 58 | 14.28 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 59 | 14.52 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 60 | 14.76 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | 4.3/4 | 2.3/4 | 0.444 | 1.341 | 1.1/4 | B | 4.3/4 | 3.1/2 | 0.444 | 2.238 | 1.1/4 | C | C |
| 64 | 15.72 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 65 | 15.96 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 68 | 16.67 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | 5 | 3 | 0.444 | 1.341 | 1.1/4 | C | 5 | 3.1/2 | 0.444 | 2.238 | 1.1/4 | C | C |
| 70 | 17.15 | 4.1/4 | 1.3/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 72 | 17.63 | 4.1/4 | 2 | 0.459 | 1.1/4 | B | 5 | 3 | 0.444 | 1.341 | 1.1/4 | C | 5 | 3.1/2 | 0.444 | 2.238 | 1.1/4 | C | C |
| 76 | 18.58 | 4.1/4 | 2 | 0.459 | 1.1/4 | B | 5 | 3 | 0.444 | 1.341 | 1.1/4 | C | 5.1/2 | 3.1/2 | 0.444 | 2.238 | 1.1/2 | C | C |
| 80 | 19.54 | 4.1/4 | 2 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 84 | 20.49 | 4.3/4 | 2 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 90 | 21.93 | 5 | 2.1/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 95 | 23.12 | - | - | - | - | - | 5.1/2 | 3.1/2 | 0.444 | 1.341 | 1.1/4 | C | 5.1/2 | 4 | 0.444 | 2.238 | 1.1/2 | C | C |
| 96 | 23.36 | 5.1/2 | 2.1/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 112 | 27.18 | 5.1/2 | 2.1/4 | 0.459 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |

The full range of sprockets are also available with hardened teeth - contact CHALLENGE for further details * has a recessed groove in the hub for chain clearance
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ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)



| Teeth | Outer Dia de | Simplex | | | | | Duplex | | | | | Triplex | | | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|------------|---------------------|-------|-------|---------------|---------|------------|---------------------|-------|-------|---------------|------|---|
| | | Hub Dia dm | Length thro' Bore A | B1 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B3 | Stock Bore D1 | Type | |
| 8 | 3.01 | 1.15/16* | 1.5/8 | 0.575 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | 3.35 | 2.1/4* | 1.5/8 | 0.575 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 3.68 | 2.9/16* | 1.5/8 | 0.575 | 1 | B | 2.9/16* | 2.3/4 | 0.557 | 1.710 | 1 | B | 2.1/2 | 3.5/8 | 0.557 | 2.863 | 1 | B | - |
| 11 | 4.01 | 2.13/16* | 1.5/8 | 0.575 | 1 | B | 2.1/2 | 2.1/2 | 0.557 | 1.710 | 1 | B | 2.27/32 | 3.5/8 | 0.557 | 2.863 | 1 | B | - |
| 12 | 4.33 | 3.1/8* | 1.5/8 | 0.575 | 1 | B | 2.27/32 | 2.1/2 | 0.557 | 1.710 | 1 | B | 3.5/32 | 3.5/8 | 0.557 | 2.863 | 1 | B | - |
| 13 | 4.66 | 3 | 1.1/2 | 0.575 | 1 | B | 3.5/32 | 2.1/2 | 0.557 | 1.710 | 1 | B | 3.15/32 | 3.5/8 | 0.557 | 2.863 | 1 | B | - |
| 14 | 4.98 | 3.1/4 | 1.1/2 | 0.575 | 1 | B | 3.15/32 | 2.1/2 | 0.557 | 1.710 | 1 | B | 3.51/64 | 3.5/8 | 0.557 | 2.863 | 1 | B | - |
| 15 | 5.30 | 3.13/16 | 1.1/2 | 0.575 | 1 | B | 3.51/64 | 2.1/2 | 0.557 | 1.710 | 1 | B | 4 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 16 | 5.63 | 4 | 1.1/2 | 0.575 | 1 | B | 4 | 2.3/4 | 0.557 | 1.710 | 1 | B | 4.27/64 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 17 | 5.95 | 4 | 1.1/2 | 0.575 | 1 | B | 4.27/64 | 2.3/4 | 0.557 | 1.710 | 1 | B | 4.47/64 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 18 | 6.27 | 4.1/4 | 1.1/2 | 0.575 | 1 | B | 4.47/64 | 2.3/4 | 0.557 | 1.710 | 1 | B | 5 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 19 | 6.59 | 4.1/4 | 1.1/2 | 0.575 | 1 | B | 5 | 2.3/4 | 0.557 | 1.710 | 1 | B | 5 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 20 | 6.91 | 4.1/4 | 1.1/2 | 0.575 | 1 | B | 5 | 2.3/4 | 0.557 | 1.710 | 1 | B | 5 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 21 | 7.24 | 4.1/4 | 1.3/4 | 0.575 | 1 | B | 5 | 2.3/4 | 0.557 | 1.710 | 1 | B | 5 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 22 | 7.56 | 4.1/4 | 1.3/4 | 0.575 | 1 | B | 5 | 2.3/4 | 0.557 | 1.710 | 1 | B | 5 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 23 | 7.88 | 4.1/4 | 1.3/4 | 0.575 | 1 | B | 5 | 2.3/4 | 0.557 | 1.710 | 1 | B | 5 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 24 | 8.20 | 4.1/4 | 1.3/4 | 0.575 | 1 | B | 5.1/4 | 2.3/4 | 0.557 | 1.710 | 1 | B | 5.1/4 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 25 | 8.52 | 4.1/4 | 1.3/4 | 0.575 | 1 | B | 5.1/4 | 3 | 0.557 | 1.710 | 1 | B | 5.1/4 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 26 | 8.84 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | 5.1/4 | 3 | 0.557 | 1.710 | 1 | B | 5.1/4 | 3.7/8 | 0.557 | 2.863 | 1 | B | - |
| 27 | 9.16 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 28 | 9.48 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 29 | 9.80 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 30 | 10.11 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | 5.3/4 | 3 | 0.557 | 1.710 | 1.1/4 | B | 5.3/4 | 4.1/4 | 0.557 | 2.863 | 1.1/4 | B | - |
| 31 | 10.43 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 32 | 10.75 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | 5.3/4 | 3 | 0.557 | 1.710 | 1.1/4 | B | - | - | - | - | - | - | - |
| 33 | 11.07 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 34 | 11.39 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 35 | 11.71 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | 5.3/4 | 3 | 0.557 | 1.710 | 1.1/4 | B | 5.3/4 | 4.1/4 | 0.557 | 2.863 | 1.1/4 | B | - |
| 36 | 12.03 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | 5.3/4 | 3.1/8 | 0.557 | 1.710 | 1.1/4 | B | 5.3/4 | 4.1/4 | 0.557 | 2.863 | 1.1/4 | B | - |
| 37 | 12.35 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 38 | 12.67 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 39 | 12.99 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 40 | 13.31 | 4.3/4 | 2 | 0.575 | 1.3/16 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 41 | 13.63 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 42 | 13.94 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | 5.3/4 | 3.1/8 | 0.557 | 1.710 | 1.1/4 | B | 6 | 4.1/2 | 0.557 | 2.863 | 1.1/4 | C | - |
| 43 | 14.26 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 44 | 14.58 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 45 | 14.90 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | 5.3/4 | 3.1/8 | 0.557 | 1.710 | 1.1/4 | B | 6 | 4.1/2 | 0.557 | 2.863 | 1.1/4 | C | - |
| 46 | 15.22 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 47 | 15.54 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 48 | 15.86 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 49 | 16.18 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 50 | 16.50 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 51 | 16.81 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 52 | 17.13 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | 5.3/4 | 3.3/4 | 0.557 | 1.710 | 1.1/2 | C | 6 | 4.1/2 | 0.557 | 2.863 | 1.1/2 | C | - |
| 53 | 17.45 | 4.3/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 54 | 17.77 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 55 | 18.09 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 56 | 18.41 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 57 | 18.73 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 58 | 19.04 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 59 | 19.36 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 60 | 19.68 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | 5.3/4 | 3.3/4 | 0.557 | 1.710 | 1.1/2 | C | 6.1/4 | 4.3/4 | 0.557 | 2.863 | 1.1/2 | C | - |
| 65 | 21.27 | 5.1/4 | 2 | 0.575 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 68 | 22.23 | - | - | - | - | - | 6 | 4 | 0.557 | 1.710 | 1.1/2 | C | 6.1/4 | 4.3/4 | 0.557 | 2.863 | 1.1/2 | C | - |
| 70 | 22.87 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 72 | 23.50 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 76 | 24.78 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | 6 | 4 | 0.557 | 1.710 | 1.1/2 | C | 6.1/4 | 4.3/4 | 0.557 | 2.863 | 1.1/2 | C | - |
| 80 | 26.05 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 84 | 27.33 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 90 | 29.24 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 95 | 30.83 | - | - | - | - | - | 6 | 4.1/4 | 0.557 | 1.710 | 1.1/2 | C | 6.3/4 | 5 | 0.557 | 2.863 | 1.1/2 | C | - |
| 96 | 31.15 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 112 | 36.24 | 6.1/4 | 3.1/2 | 0.575 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | - |

The full range of sprockets are also available with hardened teeth - contact CHALLENGE for further details

* has a recessed groove in the hub for chain clearance

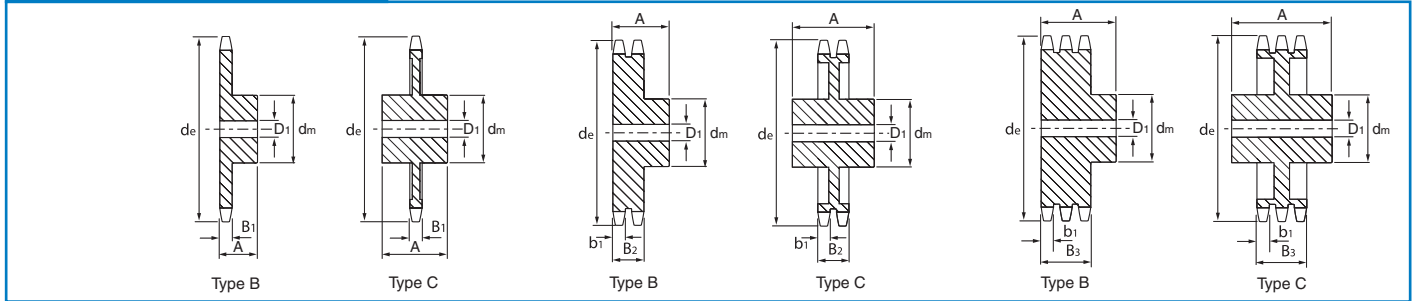
All dimensions in inches unless otherwise stated.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)

100 1.1/4" pitch



| Teeth | Outer Dia de | Simplex | | | | | Duplex | | | | | | Triplex | | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|------------|---------------------|-------|-------|---------------|------|------------|---------------------|-------|-------|---------------|------|---|
| | | Hub Dia dm | Length thro' Bore A | B1 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B3 | Stock Bore D1 | Type | |
| 8 | 3.77 | 2.7/16* | 1.7/8 | 0.692 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9 | 4.18 | 2.13/16* | 1.7/8 | 0.692 | 1 | B | 2.3/8 | 2.7/8 | 0.669 | 2.077 | 1 | B | - | - | - | - | - | - | - |
| 10 | 4.60 | 3.1/4* | 1.7/8 | 0.692 | 1 | B | 2.3/4 | 2.7/8 | 0.669 | 2.077 | 1 | B | - | - | - | - | - | - | - |
| 11 | 5.01 | 3.9/16* | 1.7/8 | 0.692 | 1 | B | 3.1/8 | 2.7/8 | 0.669 | 2.077 | 1 | B | 3.1/8 | 4.1/4 | 0.669 | 3.485 | 1 | B | |
| 12 | 5.42 | 4* | 1.7/8 | 0.692 | 1 | B | 3.3/8 | 2.7/8 | 0.669 | 2.077 | 1.1/8 | B | 3.3/8 | 4.1/4 | 0.669 | 3.485 | 1.1/8 | B | |
| 13 | 5.82 | 3.7/8 | 1.5/8 | 0.692 | 1 | B | 3.13/16 | 2.7/8 | 0.669 | 2.077 | 1.1/8 | B | 3.13/16 | 4.1/4 | 0.669 | 3.485 | 1.1/8 | B | |
| 14 | 6.23 | 4.3/16 | 1.5/8 | 0.692 | 1.1/4 | B | 4.3/16 | 2.7/8 | 0.669 | 2.077 | 1.1/8 | B | 4.3/16 | 4.1/4 | 0.669 | 3.485 | 1.1/8 | B | |
| 15 | 6.63 | 4.1/2 | 1.3/4 | 0.692 | 1.1/4 | B | 4.5/8 | 3.1/8 | 0.669 | 2.077 | 1.1/4 | B | 4.5/8 | 4.1/2 | 0.669 | 3.485 | 1.1/4 | B | |
| 16 | 7.03 | 4.1/2 | 1.3/4 | 0.692 | 1.5/16 | B | 5 | 3.1/8 | 0.669 | 2.077 | 1.1/4 | B | 5 | 4.1/2 | 0.669 | 3.485 | 1.1/4 | B | |
| 17 | 7.44 | 4.1/2 | 1.3/4 | 0.692 | 1.5/16 | B | 5.1/4 | 3.1/8 | 0.669 | 2.077 | 1.1/4 | B | 5.1/4 | 4.1/2 | 0.669 | 3.485 | 1.1/4 | B | |
| 18 | 7.84 | 4.1/2 | 1.3/4 | 0.692 | 1.5/16 | B | 5.1/4 | 3.1/8 | 0.669 | 2.077 | 1.1/4 | B | 5.1/4 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 19 | 8.24 | 4.1/2 | 2 | 0.692 | 1.5/16 | B | 5.1/2 | 3.3/8 | 0.669 | 2.077 | 1.1/4 | B | 5.1/2 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 20 | 8.64 | 4.1/2 | 2 | 0.692 | 1.5/16 | B | 5.1/2 | 3.3/8 | 0.669 | 2.077 | 1.1/4 | B | 5.1/2 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 21 | 9.04 | 4.1/2 | 2 | 0.692 | 1.5/16 | B | 5.1/2 | 3.3/8 | 0.669 | 2.077 | 1.1/4 | B | 5.1/2 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 22 | 9.44 | 4.1/2 | 2 | 0.692 | 1.5/16 | B | 5.1/2 | 3.3/8 | 0.669 | 2.077 | 1.1/4 | B | 5.1/2 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 23 | 9.84 | 4.1/2 | 2 | 0.692 | 1.1/4 | B | 5.1/2 | 3.3/8 | 0.669 | 2.077 | 1.1/4 | B | 5.1/2 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 24 | 10.25 | 4.1/2 | 2 | 0.692 | 1.1/4 | B | 5.3/4 | 3.3/8 | 0.669 | 2.077 | 1.1/4 | B | 5.3/4 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 25 | 10.65 | 4.1/2 | 2 | 0.692 | 1.1/4 | B | 5.3/4 | 3.3/8 | 0.669 | 2.077 | 1.1/4 | B | 5.3/4 | 4.3/4 | 0.669 | 3.485 | 1.1/4 | B | |
| 26 | 11.05 | 5 | 2 | 0.692 | 1.1/4 | B | 5.3/4 | 3.3/8 | 0.669 | 2.077 | 1.1/2 | B | 5.3/4 | 4.3/4 | 0.669 | 3.485 | 1.1/2 | B | |
| 27 | 11.44 | 5 | 2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 28 | 11.84 | 5 | 2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 29 | 12.24 | 5 | 2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 30 | 12.64 | 5 | 2 | 0.692 | 1.1/4 | B | 5.3/4 | 3.3/8 | 0.669 | 2.077 | 1.1/2 | B | 5.3/4 | 4.3/4 | 0.669 | 3.485 | 1.1/2 | B | |
| 32 | 13.44 | 5 | 2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 35 | 14.64 | 5 | 2.1/2 | 0.692 | 1.1/4 | B | 6 | 4.1/4 | 0.669 | 2.077 | 1.1/2 | C | 6 | 5 | 0.669 | 3.485 | 1.1/2 | C | |
| 36 | 15.04 | 5 | 2.1/2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 38 | 15.84 | 5 | 2.1/2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 39 | 16.23 | 5 | 2.1/2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 40 | 16.63 | 5 | 2.1/2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 42 | 17.43 | 5 | 2.1/2 | 0.692 | 1.1/4 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 45 | 18.63 | 5 | 2.1/2 | 0.692 | 1.1/2 | B | 6 | 4.1/2 | 0.669 | 2.077 | 1.1/2 | C | 6 | 5 | 0.669 | 3.485 | 1.1/2 | C | |
| 48 | 19.82 | 6 | 2.1/2 | 0.692 | 1.1/2 | B | - | - | - | - | - | - | - | - | - | - | - | - | |
| 54 | 22.21 | 6 | 3.1/4 | 0.692 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | |
| 60 | 24.60 | 6 | 3.1/4 | 0.692 | 1.1/2 | C | 7.1/2 | 5 | 0.669 | 2.077 | 1.1/2 | C | 7.1/2 | 5 | 0.669 | 3.485 | 1.1/2 | C | |
| 70 | 28.58 | 7 | 3.3/4 | 0.692 | 1.1/2 | C | 7.1/2 | 5 | 0.669 | 2.077 | 1.1/2 | C | 7.1/2 | 5 | 0.669 | 3.485 | 1.1/2 | C | |
| 72 | 29.38 | 7 | 3.3/4 | 0.692 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | |
| 76 | 30.97 | 7 | 3.3/4 | 0.692 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | |
| 80 | 32.57 | 7 | 3.3/4 | 0.692 | 1.1/2 | C | 7.1/2 | 5 | 0.669 | 2.077 | 1.1/2 | C | 7.1/2 | 5 | 0.669 | 3.485 | 1.1/2 | C | |
| 84 | 34.16 | 7 | 3.3/4 | 0.692 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | |
| 90 | 36.55 | 7 | 3.3/4 | 0.692 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | |
| 96 | 38.93 | 7 | 4.1/2 | 0.692 | 1.1/2 | C | - | - | - | - | - | - | - | - | - | - | - | - | |

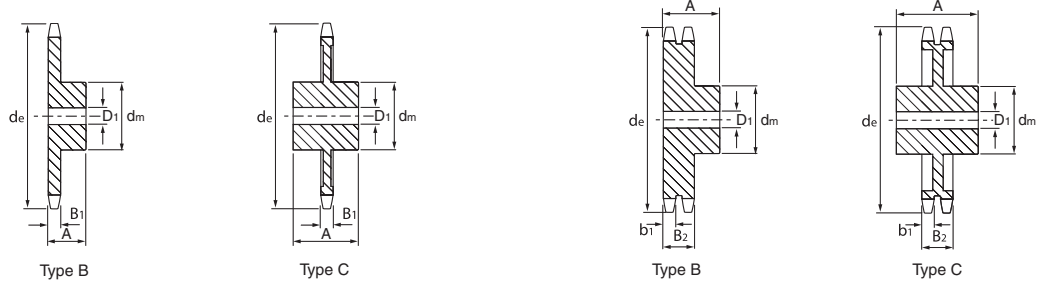
The full range of sprockets are also available with hardened teeth - contact CHALLENGE for further details

* has a recessed groove in the hub for chain clearance

ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)

120 1.1/2" pitch



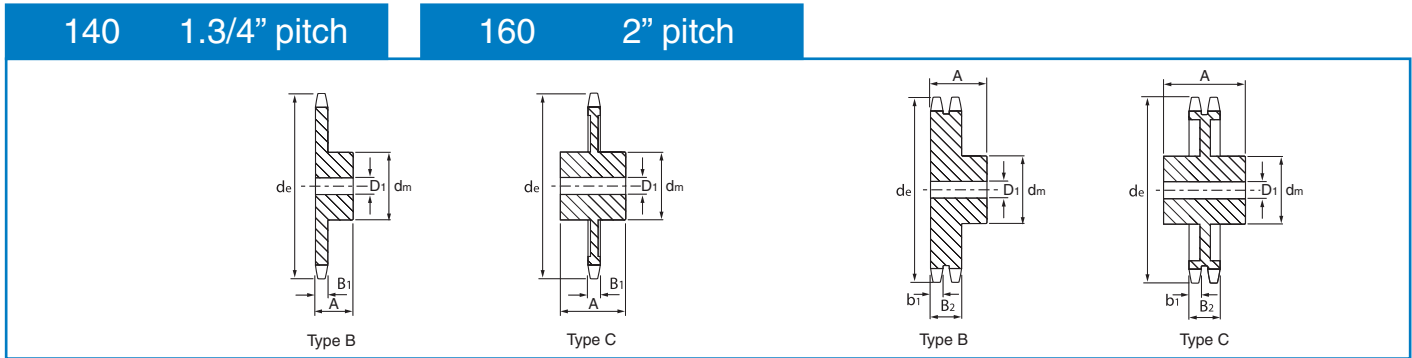
| Teeth | Outer Dia de | Simplex | | | | | Duplex | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|------------|---------------------|-------|-------|---------------|------|
| | | Hub Dia dm | Length thro' Bore A | B1 | Stock Bore D1 | Type | Hub Dia dm | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type |
| 9 | 5.02 | 3.3/8* | 2.1/4 | 0.924 | 1.3/8 | B | - | - | - | - | - | - |
| 10 | 5.52 | 3.3/4* | 2.1/4 | 0.924 | 1.3/8 | B | - | - | - | - | - | - |
| 11 | 6.01 | 3.9/16 | 2.1/8 | 0.924 | 1.3/8 | B | 3.9/16 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 12 | 6.50 | 4.1/8 | 2.1/8 | 0.924 | 1.3/8 | B | 4.1/16 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 13 | 6.99 | 4.9/16 | 2.1/4 | 0.924 | 1.3/8 | B | 4.1/2 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 14 | 7.47 | 4.3/4 | 2.1/4 | 0.924 | 1.3/8 | B | 5 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 15 | 7.96 | 4.3/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.1/4 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 16 | 8.44 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.1/4 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 17 | 8.92 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.1/4 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 18 | 9.41 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.1/4 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 19 | 9.89 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.1/4 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 20 | 10.37 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.1/2 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 21 | 10.85 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.1/2 | 3.3/4 | 0.894 | 2.683 | 1.1/2 | B |
| 22 | 11.33 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 5.3/4 | 4 | 0.894 | 2.683 | 1.1/2 | B |
| 23 | 11.81 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 6.1/2 | 4 | 0.894 | 2.683 | 1.1/2 | B |
| 24 | 12.29 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 6.1/2 | 4 | 0.894 | 2.683 | 1.1/2 | B |
| 25 | 12.77 | 5.1/4 | 2.3/8 | 0.924 | 1.1/4 | B | 6.1/2 | 4 | 0.894 | 2.683 | 1.1/2 | B |
| 26 | 13.25 | 6 | 2.1/2 | 0.924 | 1.1/2 | B | 6.1/2 | 4 | 0.894 | 2.683 | 1.1/2 | B |
| 28 | 14.21 | 6 | 2.1/2 | 0.924 | 1.1/2 | B | - | - | - | - | - | - |
| 30 | 15.17 | 6 | 2.1/2 | 0.924 | 1.1/2 | B | 6.1/2 | 4 | 0.894 | 2.683 | 1.1/2 | B |
| 32 | 16.13 | 6 | 2.1/2 | 0.924 | 1.1/2 | B | - | - | - | - | - | - |
| 35 | 17.57 | 6 | 2.1/2 | 0.924 | 1.1/2 | B | 7.1/2 | 6 | 0.894 | 2.683 | 1.1/2 | C |
| 36 | 18.05 | 6 | 2.1/2 | 0.924 | 1.1/2 | B | - | - | - | - | - | - |
| 40 | 19.96 | 6 | 3.3/4 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 42 | 20.92 | 6 | 3.3/4 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 45 | 22.35 | 6 | 3.3/4 | 0.924 | 1.1/2 | C | 7.1/2 | 6 | 0.894 | 2.683 | 1.1/2 | C |
| 48 | 23.79 | 6 | 4 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 54 | 26.65 | 6 | 4 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 60 | 29.52 | 7 | 4 | 0.924 | 1.1/2 | C | 9.1/2 | 6.1/4 | 0.894 | 2.683 | 1.1/2 | C |
| 70 | 34.30 | 7.1/2 | 4.1/2 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 80 | 39.08 | 7.1/2 | 4.1/2 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |

The full range of sprockets are also available with hardened teeth - contact CHALLENGE for further details

* has a recessed groove in the hub for chain clearance

ANSI Pilot Bore Sprockets

ANSI Pilot Bore Sprockets (all C45 steel construction)



140 1.3/4" pitch

| Teeth | Outer Dia de | Hub Dia dm | Simplex | | | | Duplex | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|---------------------|-------|-------|---------------|-------|---|
| | | | Length thro' Bore A | B1 | Stock Bore D1 | Type | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | |
| 11 | 7.01 | 4.1/4 | 2.1/4 | 0.924 | 1.1/2 | B | - | - | - | - | - | |
| 12 | 7.58 | 4.1/2 | 2.1/4 | 0.924 | 1.1/2 | B | - | - | - | - | - | |
| 13 | 8.15 | 5.5/16 | 2.3/8 | 0.924 | 1.1/2 | B | 5 | 3.3/4 | 0.894 | 2.818 | 1.5/8 | B |
| 14 | 8.72 | 5.1/2 | 2.3/8 | 0.924 | 1.1/2 | B | 5.1/2 | 3.3/4 | 0.894 | 2.818 | 1.5/8 | B |
| 15 | 9.28 | 6.1/4 | 2.3/8 | 0.924 | 1.1/2 | B | 6.1/2 | 3.3/4 | 0.894 | 2.818 | 1.5/8 | B |
| 16 | 9.85 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.5/8 | B |
| 17 | 10.14 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.5/8 | B |
| 18 | 10.98 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 19 | 11.54 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 20 | 12.10 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 21 | 12.66 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 22 | 13.22 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 23 | 13.78 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 24 | 14.34 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 25 | 14.90 | 6.1/4 | 2.1/2 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 26 | 15.46 | 6.1/4 | 3 | 0.924 | 1.1/2 | B | 7 | 4 | 0.894 | 2.818 | 1.3/4 | B |
| 27 | 16.02 | 6.1/4 | 3 | 0.924 | 1.1/2 | B | - | - | - | - | - | - |
| 28 | 16.58 | 6.1/4 | 3 | 0.924 | 1.1/2 | B | - | - | - | - | - | - |
| 30 | 17.70 | 6.1/4 | 3 | 0.924 | 1.1/2 | B | - | - | - | - | - | - |
| 32 | 18.82 | 6.1/4 | 3 | 0.924 | 1.1/2 | B | - | - | - | - | - | - |
| 35 | 20.49 | 7 | 4 | 0.924 | 1.1/2 | C | 7.1/2 | 6 | 0.894 | 2.818 | 1.1/2 | C |
| 40 | 23.29 | 7 | 4 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 45 | 26.08 | 7 | 4 | 0.924 | 1.1/2 | C | 7.1/2 | 6 | 0.894 | 2.818 | 1.1/2 | C |
| 48 | 27.75 | 7 | 4 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 54 | 31.10 | 7 | 4 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 60 | 34.44 | 7 | 5 | 0.924 | 1.1/2 | C | 9.1/2 | 6.1/4 | 0.894 | 2.818 | 1.1/2 | C |
| 70 | 40.02 | 7.1/2 | 5 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |
| 80 | 45.59 | 7.1/2 | 5 | 0.924 | 1.1/2 | C | - | - | - | - | - | - |

160 2" pitch

| Teeth | Outer Dia de | Hub Dia dm | Simplex | | | | Duplex | | | | | |
|-------|--------------|------------|---------------------|-------|---------------|------|---------------------|-------|-------|---------------|-------|---|
| | | | Length thro' Bore A | B1 | Stock Bore D1 | Type | Length thro' Bore A | b1 | B2 | Stock Bore D1 | Type | |
| 8 | 6.03 | 3.1/4 | 2.1/4 | 1.156 | 1.1/2 | B | - | - | - | - | - | |
| 9 | 6.70 | 3.5/8 | 2.1/4 | 1.156 | 1.1/2 | B | - | - | - | - | - | |
| 10 | 7.36 | 4.1/8 | 2.1/4 | 1.156 | 1.1/2 | B | - | - | - | - | - | |
| 11 | 8.01 | 4.3/4 | 2.1/2 | 1.156 | 1.1/2 | B | - | - | - | - | - | |
| 12 | 8.66 | 5.1/2 | 2.1/2 | 1.156 | 1.1/2 | B | - | - | - | - | - | |
| 13 | 9.31 | 6 | 2.3/4 | 1.156 | 1.1/2 | B | 6 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 14 | 9.96 | 6.1/2 | 2.3/4 | 1.156 | 1.1/2 | B | 6.3/4 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 15 | 10.61 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 16 | 11.26 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 17 | 11.90 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 18 | 12.54 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 19 | 13.19 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 20 | 13.83 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 21 | 14.47 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7.1/2 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 22 | 15.11 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7.1/2 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 23 | 15.75 | 7 | 2.3/4 | 1.156 | 1.1/2 | B | 7.1/2 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 24 | 16.39 | 7 | 3 | 1.156 | 1.1/2 | B | 7.1/2 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 25 | 17.03 | 7 | 3 | 1.156 | 1.1/2 | B | 7.1/2 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 26 | 17.67 | 7 | 3 | 1.156 | 1.1/2 | B | 7.1/2 | 4.3/4 | 1.119 | 3.424 | 2 | B |
| 27 | 18.31 | 7 | 3 | 1.156 | 1.1/2 | B | - | - | - | - | - | - |
| 28 | 18.95 | 7 | 3 | 1.156 | 1.1/2 | B | - | - | - | - | - | - |
| 30 | 20.23 | 7 | 3 | 1.156 | 1.1/2 | B | - | - | - | - | - | - |
| 35 | 23.42 | 8 | 4.1/2 | 1.156 | 1.1/2 | C | 9.1/2 | 6.5/8 | 1.119 | 3.424 | 1.1/2 | C |
| 40 | 26.61 | 8 | 4.1/2 | 1.156 | 1.1/2 | C | - | - | - | - | - | - |
| 45 | 29.80 | 8 | 5 | 1.156 | 1.1/2 | C | 10 | 7.1/8 | 1.119 | 3.424 | 1.1/2 | C |
| 54 | 35.54 | 8 | 5 | 1.156 | 1.1/2 | C | - | - | - | - | - | - |
| 60 | 39.36 | 8 | 5 | 1.156 | 1.1/2 | C | 10 | 7.1/8 | 1.119 | 3.424 | 1.1/2 | C |
| 70 | 45.73 | 8 | 5 | 1.156 | 1.1/2 | C | - | - | - | - | - | - |
| 80 | 52.10 | 8 | 6 | 1.156 | 1.1/2 | C | - | - | - | - | - | - |

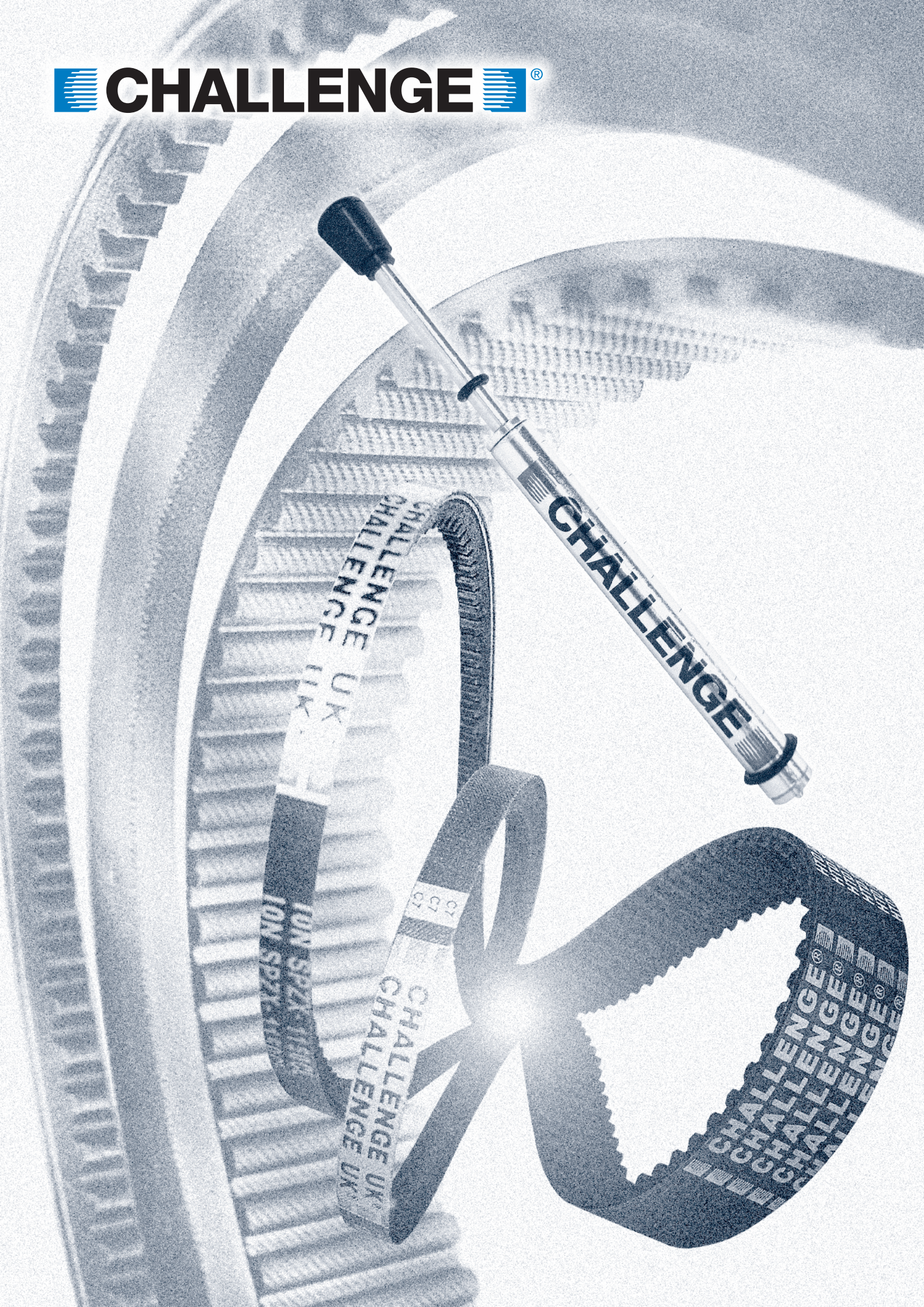
The full range of sprockets are also available with hardened teeth - contact CHALLENGE for further details

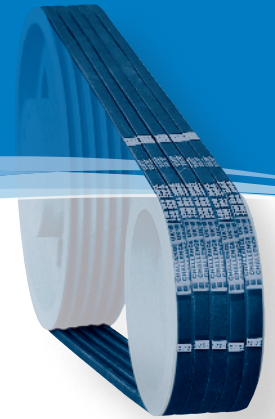
* has a recessed groove in the hub for chain clearance

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

All dimensions in inches unless otherwise stated.

CHALLENGE®





Features

'V' and Wedge Belts (CRE & Envelope Type)

- Belts comply with ISO, BS, DIN and RMA standards
- Factory complies with ISO 9001 standards
- High quality polyester cords used to ensure minimum stretch
- Wide range of international standard lengths
- Excellent anti-static, oil and heat resistant properties complying with ISO 1813
- Comply with American Petroleum Institute standards

Cogged Raw Edge (CRE) Belts

- Available in Wedge sections SPZX, SPAX, SPBX and SPCX
- Available in Classical belt sections 'AX' and 'BX'
- Ideal for small pulleys
- Conform to all major international standards

Envelope Type Belts

- Available in Wedge sections SPZ, SPA, SPB and SPC
- Available in classical 'V' sections Z(M), A, B, C and D
- Treated envelope covering
- Conform to all major international standards

Classical Timing Belts

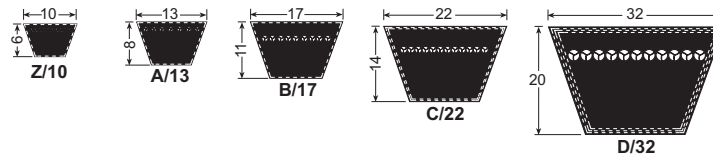
- The original synchronous belt
- Available in XL (1/5"), L (3/8"), H (1/2") and XH (7/8") pitches
- Fully comply with ISO 5296
- Several standard widths available up to 4" (in XH)

Curved Tooth Timing Belts, HTD Profile

- The first metric and biggest selling range of synchronous belts
- Available in sections 3 mm, 5 mm, 8 mm and 14 mm pitch
- Conform to ISO 13050

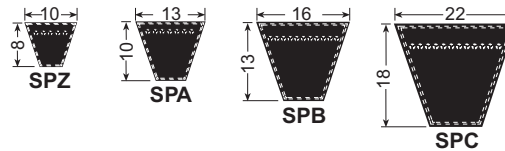
Challenge V and Wedge Belts

Classical 'V' Belts ISO 4184, BS 3790, DIN 2215, RMA IP20



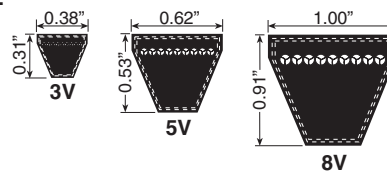
| Section | Z | A | B | C | D |
|---|---------------|---------------|---------------|---------------|----------------|
| Top Width | 10.0 | 13.0 | 17.0 | 22.0 | 32.0 |
| Pitch Width | 8.5 | 11.0 | 14.0 | 19.0 | 27.0 |
| Section Height | 6.0 | 8.0 | 11.0 | 14.0 | 19.0 |
| Inside Length <small>Li = Lp minus α</small> | $\alpha = 22$ | $\alpha = 30$ | $\alpha = 40$ | $\alpha = 58$ | $\alpha = 75$ |
| Outside Length <small>La = Li plus γ</small> | $\gamma = 38$ | $\gamma = 50$ | $\gamma = 69$ | $\gamma = 88$ | $\gamma = 126$ |

Wedge Belts ISO 4184, BS 3790, DIN 7753, RMA IP22



| Section | SPZ | SPA | SPB | SPC |
|---|---------------|---------------|---------------|----------------|
| Top Width | 10.0 | 13.0 | 16.0 | 22.0 |
| Pitch Width | 8.5 | 11.0 | 14.0 | 19.0 |
| Section Height | 8.0 | 10.0 | 13.0 | 18.0 |
| Inside Length <small>Li = Lp minus α</small> | $\alpha = 37$ | $\alpha = 45$ | $\alpha = 60$ | $\alpha = 83$ |
| Outside Length <small>La = Li plus γ</small> | $\gamma = 50$ | $\gamma = 63$ | $\gamma = 82$ | $\gamma = 113$ |

Narrow V Belts RMA IP22



| Section | 3V | 5V | 8V |
|--|-----------------|-----------------|-----------------|
| Top Width <small>Nominal inch</small> | 0.38 | 0.62 | 1.00 |
| Section Height <small>Nominal inch</small> | 0.31 | 0.53 | 0.91 |
| Inside Length <small>Li = Lp minus α inch</small> | $\alpha = 1.95$ | $\alpha = 3.33$ | $\alpha = 3.90$ |

Belt Mass

| | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|
| Section - V kg/m | Z | A | B | C | D |
| | 0.060 | 0.100 | 0.175 | 0.305 | 0.635 |
| Section - Wedge kg/m | SPZ | SPA | SPB | SPC | |
| | 0.072 | 0.115 | 0.190 | 0.360 | |
| Section - Wedge lbs/foot | 3V | 5V | 8V | | |
| | 0.055 | 0.156 | 0.420 | | |

Lp = Pitch Length
Li = Inside Length
La = Outside Length

Challenge belts have excellent heat and oil resistance as well as anti static properties and conform to ISO1813. The Challenge belt factory has ISO 9001 certification.

Working Temperature:

-30°C to +70°C

Classical V-Belts

| Z 10 x 6 | | | | | | A 13 x 8 | | | | | |
|----------------|--------------|--------------|----------------|--------------|--------------|----------------|--------------|--------------|----------------|--------------|--------------|
| Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li |
| Z15 | 10 x 410 | 385 | Z46.5 | 10 x 1210 | 1185 | A18 | 13 x 490 | 460 | A74 | 13 x 1920 | 1890 |
| Z15.5 | 10 x 420 | 395 | Z47 | 10 x 1220 | 1195 | A19 | 13 x 520 | 490 | A75 | 13 x 1940 | 1910 |
| Z15.7 | 10 x 425 | 400 | Z48 | 10 x 1240 | 1215 | A20 | 13 x 540 | 510 | A76 | 13 x 1960 | 1930 |
| Z16.5 | 10 x 445 | 420 | Z49 | 10 x 1270 | 1245 | A21 | 13 x 570 | 540 | A77 | 13 x 1990 | 1960 |
| Z16.7 | 10 x 450 | 425 | Z50 | 10 x 1290 | 1265 | A22 | 13 x 590 | 560 | A78 | 13 x 2020 | 1990 |
| Z17.5 | 10 x 470 | 445 | Z51 | 10 x 1320 | 1295 | A23 | 13 x 620 | 590 | A79 | 13 x 2050 | 2020 |
| Z17.7 | 10 x 475 | 450 | Z52 | 10 x 1340 | 1315 | A24 | 13 x 650 | 620 | A80 | 13 x 2070 | 2040 |
| Z18 | 10 x 480 | 455 | Z53 | 10 x 1370 | 1345 | A25 | 13 x 670 | 640 | A81 | 13 x 2090 | 2060 |
| Z18.5 | 10 x 495 | 470 | Z54 | 10 x 1390 | 1365 | A26 | 13 x 700 | 670 | A82 | 13 x 2120 | 2090 |
| Z19 | 10 x 510 | 485 | Z55 | 10 x 1420 | 1395 | A27 | 13 x 720 | 690 | A83 | 13 x 2140 | 2110 |
| Z19.5 | 10 x 520 | 495 | Z56 | 10 x 1450 | 1425 | A28 | 13 x 750 | 720 | A84 | 13 x 2170 | 2140 |
| Z20 | 10 x 530 | 505 | Z57 | 10 x 1470 | 1445 | A29 | 13 x 770 | 740 | A85 | 13 x 2190 | 2160 |
| Z20.5 | 10 x 545 | 520 | Z58 | 10 x 1500 | 1475 | A30 | 13 x 800 | 770 | A86 | 13 x 2220 | 2190 |
| Z21 | 10 x 560 | 535 | Z59 | 10 x 1520 | 1495 | A31 | 13 x 820 | 790 | A87 | 13 x 2240 | 2210 |
| Z21.7 | 10 x 575 | 550 | Z60 | 10 x 1550 | 1525 | A32 | 13 x 850 | 820 | A88 | 13 x 2270 | 2240 |
| Z22 | 10 x 580 | 555 | Z62 | 10 x 1600 | 1575 | A33 | 13 x 870 | 840 | A89 | 13 x 2300 | 2270 |
| Z22.2 | 10 x 585 | 560 | Z63 | 10 x 1620 | 1595 | A34 | 13 x 900 | 870 | A90 | 13 x 2320 | 2290 |
| Z23 | 10 x 610 | 585 | Z64 | 10 x 1650 | 1625 | A35 | 13 x 920 | 890 | A91 | 13 x 2350 | 2320 |
| Z23.5 | 10 x 620 | 595 | Z68 | 10 x 1750 | 1725 | A36 | 13 x 950 | 920 | A92 | 13 x 2370 | 2340 |
| Z24 | 10 x 630 | 605 | Z75 | 10 x 1920 | 1895 | A37 | 13 x 980 | 950 | A93 | 13 x 2400 | 2370 |
| Z24.7 | 10 x 655 | 630 | Z78 | 10 x 2000 | 1975 | A38 | 13 x 1000 | 970 | A94 | 13 x 2420 | 2390 |
| Z25 | 10 x 660 | 635 | | | | A39 | 13 x 1030 | 1000 | A95 | 13 x 2450 | 2420 |
| Z25.7 | 10 x 675 | 655 | | | | A40 | 13 x 1050 | 1020 | A96 | 13 x 2470 | 2440 |
| Z26 | 10 x 680 | 660 | | | | A41 | 13 x 1080 | 1050 | A97 | 13 x 2500 | 2470 |
| Z26.5 | 10 x 700 | 675 | | | | A42 | 13 x 1100 | 1070 | A98 | 13 x 2530 | 2500 |
| Z27 | 10 x 710 | 685 | | | | A43 | 13 x 1130 | 1100 | A99 | 13 x 2550 | 2520 |
| Z28 | 10 x 730 | 705 | | | | A44 | 13 x 1150 | 1120 | A100 | 13 x 2580 | 2550 |
| Z29 | 10 x 760 | 735 | | | | A45 | 13 x 1180 | 1150 | A102 | 13 x 2630 | 2600 |
| Z29.5 | 10 x 770 | 745 | | | | A46 | 13 x 1200 | 1170 | A103 | 13 x 2650 | 2620 |
| Z30 | 10 x 780 | 755 | | | | A47 | 13 x 1230 | 1200 | A104 | 13 x 2680 | 2650 |
| Z30.7 | 10 x 805 | 780 | | | | A48 | 13 x 1250 | 1220 | A105 | 13 x 2700 | 2670 |
| Z31 | 10 x 810 | 785 | | | | A49 | 13 x 1280 | 1250 | A106 | 13 x 2730 | 2700 |
| Z31.5 | 10 x 820 | 795 | | | | A50 | 13 x 1310 | 1280 | A107 | 13 x 2750 | 2720 |
| Z32 | 10 x 840 | 815 | | | | A51 | 13 x 1330 | 1300 | A108 | 13 x 2780 | 2750 |
| Z33 | 10 x 860 | 835 | | | | A52 | 13 x 1360 | 1330 | A109 | 13 x 2800 | 2770 |
| Z33.7 | 10 x 880 | 855 | | | | A53 | 13 x 1380 | 1350 | A110 | 13 x 2830 | 2800 |
| Z34 | 10 x 890 | 865 | | | | A54 | 13 x 1410 | 1380 | A112 | 13 x 2880 | 2850 |
| Z35 | 10 x 910 | 885 | | | | A55 | 13 x 1430 | 1400 | A113 | 13 x 2910 | 2880 |
| Z35.5 | 10 x 930 | 905 | | | | A56 | 13 x 1460 | 1430 | A115 | 13 x 2960 | 2930 |
| Z36 | 10 x 940 | 915 | | | | A57 | 13 x 1480 | 1450 | A116 | 13 x 2980 | 2950 |
| Z36.5 | 10 x 950 | 925 | | | | A58 | 13 x 1510 | 1480 | A117 | 13 x 3010 | 2980 |
| Z37 | 10 x 960 | 935 | | | | A59 | 13 x 1530 | 1500 | A118 | 13 x 3030 | 3000 |
| Z37.5 | 10 x 980 | 945 | | | | A60 | 13 x 1560 | 1530 | A120 | 13 x 3080 | 3050 |
| Z38 | 10 x 990 | 955 | | | | A61 | 13 x 1580 | 1550 | A124 | 13 x 3190 | 3160 |
| Z39 | 10 x 1010 | 985 | | | | A62 | 13 x 1610 | 1580 | A125 | 13 x 3200 | 3170 |
| Z39.5 | 10 x 1030 | 1005 | | | | A63 | 13 x 1640 | 1610 | A128 | 13 x 3290 | 3260 |
| Z40 | 10 x 1040 | 1015 | | | | A64 | 13 x 1660 | 1630 | A130 | 13 x 3340 | 3310 |
| Z40.5 | 10 x 1050 | 1025 | | | | A65 | 13 x 1690 | 1660 | A132 | 13 x 3390 | 3360 |
| Z41 | 10 x 1060 | 1035 | | | | A66 | 13 x 1710 | 1680 | A134 | 13 x 3440 | 3410 |
| Z42 | 10 x 1090 | 1065 | | | | A67 | 13 x 1740 | 1710 | A136 | 13 x 3490 | 3460 |
| Z42.5 | 10 x 1100 | 1075 | | | | A68 | 13 x 1760 | 1730 | A138 | 13 x 3540 | 3510 |
| Z43 | 10 x 1120 | 1095 | | | | A69 | 13 x 1790 | 1760 | A140 | 13 x 3590 | 3560 |
| Z44 | 10 x 1140 | 1115 | | | | A70 | 13 x 1810 | 1780 | A144 | 13 x 3690 | 3660 |
| Z45 | 10 x 1170 | 1145 | | | | A71 | 13 x 1840 | 1810 | A154 | 13 x 3950 | 3920 |
| Z45.5 | 10 x 1180 | 1155 | | | | A72 | 13 x 1860 | 1830 | A158 | 13 x 4050 | 4020 |
| Z46 | 10 x 1190 | 1165 | | | | A73 | 13 x 1890 | 1860 | A173 | 13 x 4430 | 4400 |

Classical V-Belts

| B | | | | | | | | |
|-------------|-----------|-----------|-------------|-----------|-----------|-------------|-----------|-----------|
| 17 x 11 | | | | | | | | |
| Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li |
| B22 | 17 x 600 | 560 | B79 | 17 x 2050 | 2010 | B148 | 17 x 3800 | 3760 |
| B24 | 17 x 650 | 610 | B80 | 17 x 2080 | 2040 | B150 | 17 x 3850 | 3810 |
| B25 | 17 x 670 | 630 | B81 | 17 x 2100 | 2060 | B152 | 17 x 3900 | 3860 |
| B26 | 17 x 700 | 660 | B82 | 17 x 2130 | 2090 | B154 | 17 x 3950 | 3910 |
| B28 | 17 x 750 | 710 | B83 | 17 x 2150 | 2110 | B155 | 17 x 3980 | 3940 |
| B29 | 17 x 780 | 740 | B84 | 17 x 2180 | 2140 | B158 | 17 x 4060 | 4020 |
| B30 | 17 x 810 | 770 | B85 | 17 x 2200 | 2160 | B160 | 17 x 4110 | 4050 |
| B31 | 17 x 830 | 790 | B86 | 17 x 2230 | 2190 | B162 | 17 x 4160 | 4120 |
| B32 | 17 x 860 | 820 | B87 | 17 x 2250 | 2210 | B164 | 17 x 4210 | 4170 |
| B33 | 17 x 880 | 840 | B88 | 17 x 2280 | 2240 | B166 | 17 x 4260 | 4220 |
| B34 | 17 x 910 | 870 | B89 | 17 x 2300 | 2260 | B168 | 17 x 4310 | 4270 |
| B35 | 17 x 930 | 890 | B90 | 17 x 2330 | 2290 | B173 | 17 x 4440 | 4400 |
| B36 | 17 x 960 | 920 | B91 | 17 x 2350 | 2310 | B180 | 17 x 4620 | 4580 |
| B37 | 17 x 980 | 940 | B92 | 17 x 2380 | 2340 | B184 | 17 x 4720 | 4670 |
| B38 | 17 x 1010 | 970 | B93 | 17 x 2410 | 2370 | B185 | 17 x 4740 | 4700 |
| B39 | 17 x 1030 | 990 | B94 | 17 x 2420 | 2380 | B187 | 17 x 4790 | 4750 |
| B40 | 17 x 1060 | 1020 | B95 | 17 x 2460 | 2420 | B193 | 17 x 4940 | 4900 |
| B41 | 17 x 1080 | 1040 | B96 | 17 x 2480 | 2440 | B194 | 17 x 4970 | 4930 |
| B42 | 17 x 1110 | 1070 | B97 | 17 x 2510 | 2470 | B195 | 17 x 5000 | 4960 |
| B43 | 17 x 1130 | 1090 | B98 | 17 x 2530 | 2490 | B197 | 17 x 5050 | 5010 |
| B44 | 17 x 1160 | 1120 | B99 | 17 x 2560 | 2520 | B204 | 17 x 5220 | 5180 |
| B45 | 17 x 1180 | 1140 | B100 | 17 x 2580 | 2540 | B210 | 17 x 5380 | 5340 |
| B46 | 17 x 1210 | 1170 | B101 | 17 x 2610 | 2570 | B215 | 17 x 5510 | 5470 |
| B47 | 17 x 1240 | 1200 | B102 | 17 x 2630 | 2590 | B220 | 17 x 5630 | 5590 |
| B48 | 17 x 1260 | 1220 | B103 | 17 x 2660 | 2620 | B222 | 17 x 5680 | 5640 |
| B49 | 17 x 1290 | 1250 | B104 | 17 x 2680 | 2640 | B225 | 17 x 5760 | 5720 |
| B50 | 17 x 1310 | 1270 | B105 | 17 x 2710 | 2670 | B238 | 17 x 6090 | 6050 |
| B51 | 17 x 1340 | 1300 | B106 | 17 x 2740 | 2700 | B240 | 17 x 6120 | 6080 |
| B52 | 17 x 1370 | 1330 | B107 | 17 x 2760 | 2720 | B255 | 17 x 6500 | 6460 |
| B53 | 17 x 1390 | 1350 | B108 | 17 x 2790 | 2750 | B256 | 17 x 6550 | 6490 |
| B54 | 17 x 1410 | 1370 | B110 | 17 x 2840 | 2800 | B264 | 17 x 6750 | 6710 |
| B55 | 17 x 1440 | 1400 | B111 | 17 x 2870 | 2830 | B268 | 17 x 6850 | 6810 |
| B56 | 17 x 1470 | 1430 | B112 | 17 x 2890 | 2850 | B298 | 17 x 7610 | 7570 |
| B57 | 17 x 1490 | 1450 | B113 | 17 x 2920 | 2880 | B358 | 17 x 9140 | 9100 |
| B58 | 17 x 1520 | 1480 | B114 | 17 x 2940 | 2900 | | | |
| B59 | 17 x 1540 | 1500 | B115 | 17 x 2960 | 2920 | | | |
| B60 | 17 x 1570 | 1530 | B116 | 17 x 2990 | 2950 | | | |
| B61 | 17 x 1590 | 1550 | B117 | 17 x 3020 | 2980 | | | |
| B62 | 17 x 1620 | 1580 | B118 | 17 x 3040 | 3000 | | | |
| B63 | 17 x 1640 | 1600 | B120 | 17 x 3090 | 3050 | | | |
| B64 | 17 x 1670 | 1630 | B122 | 17 x 3140 | 3100 | | | |
| B65 | 17 x 1690 | 1650 | B124 | 17 x 3190 | 3150 | | | |
| B66 | 17 x 1720 | 1680 | B125 | 17 x 3220 | 3160 | | | |
| B66.5 | 17 x 1730 | 1690 | B126 | 17 x 3240 | 3200 | | | |
| B67 | 17 x 1740 | 1700 | B128 | 17 x 3290 | 3250 | | | |
| B68 | 17 x 1770 | 1730 | B130 | 17 x 3350 | 3310 | | | |
| B69 | 17 x 1800 | 1760 | B131 | 17 x 3380 | 3340 | | | |
| B70 | 17 x 1820 | 1780 | B132 | 17 x 3400 | 3360 | | | |
| B71 | 17 x 1850 | 1810 | B134 | 17 x 3450 | 3410 | | | |
| B72 | 17 x 1870 | 1830 | B135 | 17 x 3480 | 3440 | | | |
| B73 | 17 x 1900 | 1860 | B136 | 17 x 3500 | 3460 | | | |
| B74 | 17 x 1920 | 1880 | B138 | 17 x 3550 | 3510 | | | |
| B75 | 17 x 1950 | 1910 | B140 | 17 x 3600 | 3560 | | | |
| B76 | 17 x 1970 | 1930 | B142 | 17 x 3650 | 3610 | | | |
| B77 | 17 x 2000 | 1960 | B144 | 17 x 3700 | 3660 | | | |
| B78 | 17 x 2020 | 1980 | B146 | 17 x 3750 | 3710 | | | |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Classical V-Belts

C 22 x 14

| Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li |
|-------------|-----------|-----------|-------------|-----------|-----------|-------------|------------|-----------|
| C40 | 22 x 1070 | 1012 | C111 | 22 x 2880 | 2822 | C268 | 22 x 6860 | 6802 |
| C42 | 22 x 1120 | 1062 | C112 | 22 x 2900 | 2842 | C270 | 22 x 6910 | 6852 |
| C43 | 22 x 1150 | 1092 | C114 | 22 x 2950 | 2892 | C285 | 22 x 7290 | 7232 |
| C44 | 22 x 1170 | 1112 | C115 | 22 x 2980 | 2922 | C298 | 22 x 7630 | 7572 |
| C45 | 22 x 1200 | 1142 | C116 | 22 x 3000 | 2942 | C300 | 22 x 7670 | 7612 |
| C46 | 22 x 1220 | 1162 | C118 | 22 x 3050 | 2992 | C314 | 22 x 8030 | 7972 |
| C48 | 22 x 1270 | 1212 | C119 | 22 x 3080 | 3022 | C330 | 22 x 8440 | 8382 |
| C50 | 22 x 1320 | 1262 | C120 | 22 x 3100 | 3042 | C345 | 22 x 8820 | 8762 |
| C51 | 22 x 1350 | 1292 | C122 | 22 x 3160 | 3102 | C360 | 22 x 9200 | 9142 |
| C52 | 22 x 1380 | 1322 | C123 | 22 x 3190 | 3132 | C420 | 22 x 10730 | 10672 |
| C53 | 22 x 1400 | 1342 | C124 | 22 x 3210 | 3152 | | | |
| C54 | 22 x 1430 | 1372 | C125 | 22 x 3240 | 3182 | | | |
| C55 | 22 x 1450 | 1392 | C128 | 22 x 3310 | 3252 | | | |
| C56 | 22 x 1480 | 1422 | C130 | 22 x 3360 | 3302 | | | |
| C57 | 22 x 1510 | 1452 | C131 | 22 x 3390 | 3332 | | | |
| C58 | 22 x 1530 | 1472 | C132 | 22 x 3410 | 3352 | | | |
| C59 | 22 x 1560 | 1502 | C133 | 22 x 3430 | 3372 | | | |
| C60 | 22 x 1580 | 1522 | C134 | 22 x 3460 | 3402 | | | |
| C61 | 22 x 1610 | 1552 | C136 | 22 x 3510 | 3452 | | | |
| C62 | 22 x 1630 | 1572 | C138 | 22 x 3560 | 3502 | | | |
| C63 | 22 x 1660 | 1602 | C140 | 22 x 3610 | 3552 | | | |
| C64 | 22 x 1680 | 1622 | C141 | 22 x 3640 | 3582 | | | |
| C65 | 22 x 1700 | 1642 | C142 | 22 x 3660 | 3602 | | | |
| C67 | 22 x 1760 | 1702 | C143 | 22 x 3690 | 3632 | | | |
| C68 | 22 x 1780 | 1722 | C144 | 22 x 3710 | 3652 | | | |
| C69 | 22 x 1810 | 1752 | C145 | 22 x 3740 | 3682 | | | |
| C70 | 22 x 1830 | 1772 | C146 | 22 x 3760 | 3702 | | | |
| C71 | 22 x 1860 | 1802 | C148 | 22 x 3820 | 3762 | | | |
| C72 | 22 x 1880 | 1822 | C150 | 22 x 3870 | 3812 | | | |
| C73 | 22 x 1910 | 1852 | C152 | 22 x 3920 | 3862 | | | |
| C74 | 22 x 1930 | 1872 | C154 | 22 x 3970 | 3912 | | | |
| C75 | 22 x 1960 | 1902 | C156 | 22 x 4020 | 3962 | | | |
| C76 | 22 x 1980 | 1922 | C158 | 22 x 4070 | 4012 | | | |
| C77 | 22 x 2010 | 1952 | C159 | 22 x 4100 | 4042 | | | |
| C78 | 22 x 2040 | 1982 | C160 | 22 x 4120 | 4062 | | | |
| C79 | 22 x 2060 | 2002 | C162 | 22 x 4170 | 4112 | | | |
| C80 | 22 x 2090 | 2032 | C164 | 22 x 4220 | 4162 | | | |
| C81 | 22 x 2110 | 2052 | C166 | 22 x 4270 | 4212 | | | |
| C82 | 22 x 2140 | 2082 | C167 | 22 x 4300 | 4242 | | | |
| C83 | 22 x 2160 | 2102 | C168 | 22 x 4320 | 4262 | | | |
| C84 | 22 x 2190 | 2132 | C170 | 22 x 4370 | 4312 | | | |
| C85 | 22 x 2210 | 2152 | C173 | 22 x 4450 | 4392 | | | |
| C86 | 22 x 2230 | 2172 | C175 | 22 x 4500 | 4442 | | | |
| C87 | 22 x 2270 | 2212 | C180 | 22 x 4630 | 4572 | | | |
| C88 | 22 x 2290 | 2232 | C182 | 22 x 4680 | 4622 | | | |
| C89 | 22 x 2320 | 2262 | C184 | 22 x 4730 | 4672 | | | |
| C90 | 22 x 2340 | 2282 | C185 | 22 x 4750 | 4692 | | | |
| C91 | 22 x 2370 | 2312 | C190 | 22 x 4880 | 4822 | | | |
| C92 | 22 x 2390 | 2332 | C195 | 22 x 5010 | 4952 | | | |
| C93 | 22 x 2420 | 2362 | C200 | 22 x 5140 | 5082 | | | |
| C94 | 22 x 2440 | 2382 | C204 | 22 x 5240 | 5182 | | | |
| C95 | 22 x 2470 | 2412 | C208 | 22 x 5340 | 5282 | | | |
| C96 | 22 x 2490 | 2432 | C210 | 22 x 5390 | 5332 | | | |
| C97 | 22 x 2520 | 2462 | C214 | 22 x 5480 | 5422 | | | |
| C98 | 22 x 2550 | 2492 | C220 | 22 x 5640 | 5582 | | | |
| C99 | 22 x 2580 | 2522 | C224 | 22 x 5740 | 5682 | | | |
| C100 | 22 x 2600 | 2542 | C225 | 22 x 5770 | 5712 | | | |
| C101 | 22 x 2630 | 2572 | C228 | 22 x 5850 | 5792 | | | |
| C102 | 22 x 2650 | 2592 | C238 | 22 x 6100 | 6042 | | | |
| C104 | 22 x 2700 | 2642 | C240 | 22 x 6150 | 6092 | | | |
| C105 | 22 x 2720 | 2662 | C248 | 22 x 6360 | 6302 | | | |
| C106 | 22 x 2750 | 2692 | C250 | 22 x 6410 | 6352 | | | |
| C108 | 22 x 2800 | 2742 | C255 | 22 x 6540 | 6482 | | | |
| C110 | 22 x 2850 | 2792 | C256 | 22 x 6570 | 6512 | | | |

D 32 x 20

| Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li |
|-------------|-----------|-----------|-------------|------------|-----------|
| D90 | 32 x 2350 | 2275 | D228 | 32 x 5870 | 5795 |
| D97 | 32 x 2530 | 2455 | D230 | 32 x 5920 | 5845 |
| D98 | 32 x 2570 | 2495 | D232 | 32 x 5980 | 5905 |
| D101 | 32 x 2640 | 2565 | D238 | 32 x 6130 | 6055 |
| D102 | 32 x 2660 | 2585 | D240 | 32 x 6180 | 6105 |
| D105 | 32 x 2750 | 2675 | D248 | 32 x 6380 | 6305 |
| D108 | 32 x 2830 | 2755 | D250 | 32 x 6430 | 6355 |
| D109 | 32 x 2850 | 2775 | D255 | 32 x 6560 | 6485 |
| D110 | 32 x 2880 | 2805 | D270 | 32 x 6940 | 6865 |
| D112 | 32 x 2930 | 2855 | D280 | 32 x 7190 | 7115 |
| D113 | 32 x 2960 | 2885 | D285 | 32 x 7320 | 7245 |
| D120 | 32 x 3130 | 3055 | D298 | 32 x 7650 | 7575 |
| D124 | 32 x 3230 | 3155 | D300 | 32 x 7700 | 7625 |
| D128 | 32 x 3330 | 3255 | D314 | 32 x 8060 | 7985 |
| D130 | 32 x 3380 | 3305 | D315 | 32 x 8090 | 8015 |
| D132 | 32 x 3430 | 3355 | D328 | 32 x 8410 | 8335 |
| D136 | 32 x 3540 | 3465 | D330 | 32 x 8460 | 8385 |
| D137 | 32 x 3560 | 3485 | D340 | 32 x 8710 | 8635 |
| D140 | 32 x 3640 | 3565 | D358 | 32 x 9170 | 9095 |
| D144 | 32 x 3740 | 3665 | D360 | 32 x 9220 | 9145 |
| D148 | 32 x 3840 | 3765 | D380 | 32 x 9730 | 9655 |
| D150 | 32 x 3890 | 3815 | D394 | 32 x 10080 | 10005 |
| D152 | 32 x 3940 | 3865 | D418 | 32 x 10700 | 10625 |
| D154 | 32 x 3990 | 3915 | D420 | 32 x 10740 | 10665 |
| D156 | 32 x 4040 | 3965 | D440 | 32 x 11250 | 11175 |
| D158 | 32 x 4090 | 4015 | D441 | 32 x 11270 | 11195 |
| D162 | 32 x 4200 | 4125 | D450 | 32 x 11500 | 11425 |
| D166 | 32 x 4300 | 4225 | D480 | 32 x 12260 | 12185 |
| D170 | 32 x 4400 | 4325 | D525 | 32 x 13410 | 13335 |
| D173 | 32 x 4480 | 4405 | D540 | 32 x 13790 | 13715 |
| D177 | 32 x 4580 | 4505 | D564 | 32 x 14400 | 14325 |
| D180 | 32 x 4650 | 4575 | D600 | 32 x 15310 | 15235 |
| D185 | 32 x 4780 | 4705 | | | |
| D187 | 32 x 4830 | 4755 | | | |
| D191 | 32 x 4930 | 4855 | | | |
| D195 | 32 x 5030 | 4955 | | | |
| D204 | 32 x 5260 | 5185 | | | |
| D210 | 32 x 5420 | 5345 | | | |
| D220 | 32 x 5660 | 5585 | | | |
| D225 | 32 x 5800 | 5725 | | | |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Classical CRE V-Belts

AX 13 x 8

| Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li |
|-------------|-----------|-----------|-------------|-----------|-----------|
| AX16 | 13 x 470 | 440 | AX77 | 13 x 1990 | 1960 |
| AX18 | 13 x 490 | 460 | AX78 | 13 x 2020 | 1990 |
| AX19 | 13 x 520 | 490 | AX79 | 13 x 2050 | 2020 |
| AX20 | 13 x 540 | 510 | AX80 | 13 x 2070 | 2040 |
| AX21 | 13 x 570 | 540 | AX81 | 13 x 2090 | 2060 |
| AX22 | 13 x 590 | 560 | AX82 | 13 x 2120 | 2090 |
| AX23 | 13 x 620 | 590 | AX83 | 13 x 2140 | 2110 |
| AX24 | 13 x 650 | 620 | AX84 | 13 x 2170 | 2140 |
| AX25 | 13 x 670 | 640 | AX85 | 13 x 2190 | 2160 |
| AX26 | 13 x 700 | 670 | AX86 | 13 x 2220 | 2190 |
| AX27 | 13 x 720 | 690 | AX87 | 13 x 2240 | 2210 |
| AX28 | 13 x 750 | 720 | AX88 | 13 x 2270 | 2240 |
| AX29 | 13 x 770 | 740 | AX89 | 13 x 2300 | 2270 |
| AX30 | 13 x 800 | 770 | AX90 | 13 x 2320 | 2290 |
| AX31 | 13 x 820 | 790 | AX91 | 13 x 2350 | 2320 |
| AX32 | 13 x 850 | 820 | AX92 | 13 x 2370 | 2340 |
| AX33 | 13 x 870 | 840 | AX93 | 13 x 2400 | 2370 |
| AX34 | 13 x 900 | 870 | AX94 | 13 x 2420 | 2390 |
| AX35 | 13 x 920 | 890 | AX95 | 13 x 2450 | 2420 |
| AX36 | 13 x 950 | 920 | AX96 | 13 x 2470 | 2440 |
| AX37 | 13 x 980 | 950 | AX97 | 13 x 2500 | 2470 |
| AX38 | 13 x 1000 | 970 | AX98 | 13 x 2530 | 2500 |
| AX39 | 13 x 1030 | 1000 | | | |
| AX40 | 13 x 1050 | 1020 | | | |
| AX41 | 13 x 1080 | 1050 | | | |
| AX42 | 13 x 1100 | 1070 | | | |
| AX43 | 13 x 1130 | 1100 | | | |
| AX44 | 13 x 1150 | 1120 | | | |
| AX45 | 13 x 1180 | 1150 | | | |
| AX46 | 13 x 1200 | 1170 | | | |
| AX47 | 13 x 1230 | 1200 | | | |
| AX48 | 13 x 1250 | 1220 | | | |
| AX49 | 13 x 1280 | 1250 | | | |
| AX50 | 13 x 1310 | 1280 | | | |
| AX51 | 13 x 1330 | 1300 | | | |
| AX52 | 13 x 1360 | 1330 | | | |
| AX53 | 13 x 1380 | 1350 | | | |
| AX54 | 13 x 1410 | 1380 | | | |
| AX55 | 13 x 1430 | 1400 | | | |
| AX56 | 13 x 1460 | 1430 | | | |
| AX57 | 13 x 1480 | 1450 | | | |
| AX58 | 13 x 1510 | 1480 | | | |
| AX59 | 13 x 1530 | 1500 | | | |
| AX60 | 13 x 1560 | 1530 | | | |
| AX61 | 13 x 1580 | 1550 | | | |
| AX62 | 13 x 1610 | 1580 | | | |
| AX63 | 13 x 1640 | 1610 | | | |
| AX64 | 13 x 1660 | 1630 | | | |
| AX65 | 13 x 1690 | 1660 | | | |
| AX66 | 13 x 1710 | 1680 | | | |
| AX67 | 13 x 1740 | 1710 | | | |
| AX68 | 13 x 1760 | 1730 | | | |
| AX69 | 13 x 1790 | 1760 | | | |
| AX70 | 13 x 1810 | 1780 | | | |
| AX71 | 13 x 1840 | 1810 | | | |
| AX72 | 13 x 1860 | 1830 | | | |
| AX73 | 13 x 1890 | 1860 | | | |
| AX74 | 13 x 1920 | 1890 | | | |
| AX75 | 13 x 1940 | 1910 | | | |
| AX76 | 13 x 1960 | 1930 | | | |

BX 17 x 11

| Imperial Li | Metric Lp | Metric Li | Imperial Li | Metric Lp | Metric Li |
|-------------|-----------|-----------|-------------|-----------|-----------|
| BX22 | 17 x 600 | 560 | BX86 | 17 x 2230 | 2190 |
| BX24 | 17 x 650 | 610 | BX87 | 17 x 2250 | 2210 |
| BX26 | 17 x 700 | 660 | BX88 | 17 x 2280 | 2240 |
| BX28 | 17 x 750 | 710 | BX89 | 17 x 2300 | 2260 |
| BX30 | 17 x 810 | 770 | BX90 | 17 x 2330 | 2290 |
| BX31 | 17 x 830 | 790 | BX91 | 17 x 2350 | 2310 |
| BX32 | 17 x 860 | 820 | BX92 | 17 x 2380 | 2340 |
| BX33 | 17 x 880 | 840 | BX93 | 17 x 2410 | 2370 |
| BX34 | 17 x 910 | 870 | BX94 | 17 x 2420 | 2380 |
| BX35 | 17 x 930 | 890 | | | |
| BX36 | 17 x 960 | 920 | | | |
| BX37 | 17 x 980 | 940 | | | |
| BX38 | 17 x 1010 | 970 | | | |
| BX39 | 17 x 1030 | 990 | | | |
| BX40 | 17 x 1060 | 1020 | | | |
| BX41 | 17 x 1080 | 1040 | | | |
| BX42 | 17 x 1110 | 1070 | | | |
| BX43 | 17 x 1130 | 1090 | | | |
| BX44 | 17 x 1160 | 1120 | | | |
| BX45 | 17 x 1180 | 1140 | | | |
| BX46 | 17 x 1210 | 1170 | | | |
| BX47 | 17 x 1240 | 1200 | | | |
| BX48 | 17 x 1260 | 1220 | | | |
| BX49 | 17 x 1290 | 1250 | | | |
| BX50 | 17 x 1310 | 1270 | | | |
| BX51 | 17 x 1340 | 1300 | | | |
| BX52 | 17 x 1370 | 1330 | | | |
| BX53 | 17 x 1390 | 1350 | | | |
| BX54 | 17 x 1410 | 1370 | | | |
| BX55 | 17 x 1440 | 1400 | | | |
| BX56 | 17 x 1470 | 1430 | | | |
| BX57 | 17 x 1490 | 1450 | | | |
| BX58 | 17 x 1520 | 1480 | | | |
| BX59 | 17 x 1540 | 1500 | | | |
| BX60 | 17 x 1570 | 1530 | | | |
| BX61 | 17 x 1590 | 1550 | | | |
| BX62 | 17 x 1620 | 1580 | | | |
| BX63 | 17 x 1640 | 1600 | | | |
| BX64 | 17 x 1670 | 1630 | | | |
| BX65 | 17 x 1690 | 1650 | | | |
| BX66 | 17 x 1720 | 1680 | | | |
| BX67 | 17 x 1740 | 1700 | | | |
| BX68 | 17 x 1770 | 1730 | | | |
| BX69 | 17 x 1800 | 1760 | | | |
| BX70 | 17 x 1820 | 1780 | | | |
| BX71 | 17 x 1850 | 1810 | | | |
| BX72 | 17 x 1870 | 1830 | | | |
| BX73 | 17 x 1900 | 1860 | | | |
| BX74 | 17 x 1920 | 1880 | | | |
| BX75 | 17 x 1950 | 1910 | | | |
| BX76 | 17 x 1970 | 1930 | | | |
| BX77 | 17 x 2000 | 1960 | | | |
| BX78 | 17 x 2020 | 1980 | | | |
| BX79 | 17 x 2050 | 2010 | | | |
| BX80 | 17 x 2080 | 2040 | | | |
| BX81 | 17 x 2100 | 2060 | | | |
| BX82 | 17 x 2130 | 2090 | | | |
| BX83 | 17 x 2150 | 2110 | | | |
| BX84 | 17 x 2180 | 2140 | | | |
| BX85 | 17 x 2200 | 2160 | | | |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Wedge Belts

| SPZ (10N) 10 x 8 | | | SPA (13N) 13 x 10 | | | SPB (16N) 16 x 13 | | SPC 22N 22 x 18 |
|---------------------|-----------|-----------|----------------------|-----------|-----------|----------------------|-----------|--------------------|
| Metric Lp | Metric Lp | Metric Lp | Metric Lp | Metric Lp | Metric Lp | Metric Lp | Metric Lp | Metric Lp |
| 512 | 1140 | 1887 | 632 | 1332 | 2300 | 1250 | 3500 | 2000 |
| 530 | 1162 | 1900 | 657 | 1357 | 2360 | 1260 | 3550 | 2120 |
| 545 | 1180 | 1937 | 682 | 1360 | 2430 | 1320 | 3600 | 2240 |
| 562 | 1187 | 1950 | 707 | 1362 | 2460 | 1340 | 3650 | 2360 |
| 580 | 1200 | 1962 | 732 | 1382 | 2482 | 1360 | 3750 | 2425 |
| 612 | 1212 | 2000 | 750 | 1400 | 2487 | 1400 | 3800 | 2450 |
| 630 | 1222 | 2030 | 757 | 1407 | 2500 | 1410 | 3900 | 2500 |
| 637 | 1237 | 2087 | 782 | 1432 | 2580 | 1450 | 4000 | 2650 |
| 662 | 1250 | 2120 | 800 | 1450 | 2607 | 1500 | 4060 | 2800 |
| 670 | 1262 | 2137 | 807 | 1457 | 2650 | 1550 | 4100 | 3000 |
| 687 | 1270 | 2150 | 825 | 1482 | 2720 | 1590 | 4250 | 3150 |
| 710 | 1287 | 2160 | 832 | 1500 | 2782 | 1600 | 4310 | 3350 |
| 737 | 1300 | 2187 | 850 | 1507 | 2800 | 1650 | 4500 | 3550 |
| 750 | 1312 | 2240 | 857 | 1532 | 2832 | 1700 | 4560 | 3750 |
| 760 | 1320 | 2280 | 875 | 1550 | 2847 | 1750 | 4710 | 4000 |
| 762 | 1337 | 2300 | 882 | 1557 | 2882 | 1800 | 4750 | 4100 |
| 772 | 1340 | 2360 | 900 | 1582 | 2900 | 1850 | 4820 | 4250 |
| 787 | 1347 | 2410 | 907 | 1600 | 2932 | 1900 | 5000 | 4500 |
| 797 | 1362 | 2500 | 925 | 1607 | 2982 | 1950 | 5070 | 4750 |
| 800 | 1387 | 2540 | 932 | 1632 | 3000 | 2000 | 5300 | 5000 |
| 812 | 1400 | 2650 | 950 | 1650 | 3150 | 2020 | 5380 | 5300 |
| 825 | 1412 | 2690 | 957 | 1657 | 3182 | 2060 | 5600 | 5600 |
| 837 | 1420 | 2800 | 975 | 1682 | 3350 | 2120 | 5680 | 6000 |
| 850 | 1437 | 2840 | 982 | 1700 | 3450 | 2150 | 5990 | 6300 |
| 862 | 1462 | 2990 | 1000 | 1707 | 3550 | 2200 | 6000 | 6700 |
| 875 | 1470 | 3000 | 1007 | 1732 | 3750 | 2240 | 6300 | 7000 |
| 887 | 1487 | 3150 | 1032 | 1750 | 4000 | 2280 | 6340 | 7100 |
| 900 | 1500 | 3170 | 1057 | 1757 | 4250 | 2300 | 6700 | 7500 |
| 912 | 1512 | 3350 | 1060 | 1782 | 4500 | 2350 | 7100 | 7750 |
| 925 | 1520 | 3550 | 1082 | 1800 | | 2360 | 7500 | 8000 |
| 937 | 1537 | 3810 | 1090 | 1807 | | 2400 | 8000 | 8500 |
| 940 | 1550 | | 1107 | 1832 | | 2410 | | 9000 |
| 950 | 1560 | | 1120 | 1857 | | 2450 | | 9500 |
| 962 | 1562 | | 1132 | 1882 | | 2500 | | 10000 |
| 975 | 1587 | | 1150 | 1900 | | 2530 | | |
| 987 | 1600 | | 1157 | 1937 | | 2550 | | |
| 1000 | 1612 | | 1180 | 1950 | | 2600 | | |
| 1010 | 1637 | | 1182 | 1957 | | 2650 | | |
| 1012 | 1650 | | 1200 | 1982 | | 2680 | | |
| 1020 | 1662 | | 1207 | 2000 | | 2700 | | |
| 1037 | 1687 | | 1220 | 2032 | | 2800 | | |
| 1060 | 1700 | | 1232 | 2057 | | 2840 | | |
| 1062 | 1737 | | 1250 | 2060 | | 2990 | | |
| 1080 | 1750 | | 1257 | 2120 | | 3000 | | |
| 1087 | 1762 | | 1272 | 2132 | | 3150 | | |
| 1090 | 1787 | | 1280 | 2157 | | 3170 | | |
| 1100 | 1800 | | 1282 | 2182 | | 3270 | | |
| 1112 | 1837 | | 1300 | 2207 | | 3320 | | |
| 1120 | 1850 | | 1307 | 2240 | | 3340 | | |
| 1137 | 1862 | | 1320 | 2282 | | 3350 | | |

Equivalent belt designations are:

- 10N (SPZ) is interchangeable with 3V and 9N
- 16N (SPB) is interchangeable with 5V and 15N
- 25N (8V) is interchangeable with SPP

These do not apply to Banded belts

CRE Wedge Belts

| SPZX 10 x 8 | | SPAX 13 x 10 | | SPBX 16 x 13 | SPCX 22 x 18 |
|----------------|-----------|-----------------|-----------|-----------------|-----------------|
| Metric Lp | Metric Lp | Metric Lp | Metric Lp | Metric Lp | Metric Lp |
| 587 | 1202 | 690 | 1500 | 1000 | 2240 |
| 600 | 1212 | 732 | 1507 | 1060 | 2360 |
| 612 | 1220 | 750 | 1522 | 1120 | 2650 |
| 630 | 1230 | 757 | 1532 | 1180 | 2800 |
| 637 | 1237 | 775 | 1550 | 1250 | |
| 660 | 1250 | 782 | 1557 | 1320 | |
| 662 | 1262 | 800 | 1582 | 1340 | |
| 670 | 1270 | 807 | 1600 | 1400 | |
| 687 | 1280 | 825 | 1607 | 1450 | |
| 690 | 1287 | 832 | 1632 | 1500 | |
| 710 | 1300 | 850 | 1650 | 1600 | |
| 722 | 1312 | 857 | 1682 | 1700 | |
| 730 | 1320 | 875 | 1700 | 1750 | |
| 737 | 1337 | 882 | 1732 | 1800 | |
| 750 | 1340 | 900 | 1750 | 1850 | |
| 760 | 1360 | 907 | 1757 | 1900 | |
| 762 | 1362 | 925 | 1782 | 1950 | |
| 772 | 1387 | 932 | 1800 | 1970 | |
| 775 | 1400 | 950 | 1832 | 2000 | |
| 787 | 1412 | 957 | 1850 | 2020 | |
| 800 | 1420 | 969 | 1900 | 2120 | |
| 812 | 1437 | 975 | 1950 | 2240 | |
| 817 | 1450 | 982 | 1957 | 2280 | |
| 825 | 1462 | 1000 | 1982 | 2360 | |
| 837 | 1470 | 1007 | 2000 | 2400 | |
| 850 | 1487 | 1030 | 2032 | 2410 | |
| 862 | 1500 | 1032 | 2057 | 2500 | |
| 875 | 1512 | 1060 | 2060 | 2650 | |
| 887 | 1520 | 1082 | 2120 | 2800 | |
| 900 | 1537 | 1090 | 2160 | | |
| 912 | 1550 | 1107 | 2180 | | |
| 917 | 1560 | 1120 | 2240 | | |
| 925 | 1562 | 1132 | 2282 | | |
| 937 | 1587 | 1142 | 2300 | | |
| 950 | 1600 | 1150 | 2360 | | |
| 962 | 1612 | 1157 | | | |
| 975 | 1650 | 1172 | | | |
| 987 | 1662 | 1180 | | | |
| 1000 | 1700 | 1207 | | | |
| 1010 | 1750 | 1220 | | | |
| 1012 | 1762 | 1232 | | | |
| 1030 | 1800 | 1250 | | | |
| 1037 | 1850 | 1257 | | | |
| 1040 | 1900 | 1272 | | | |
| 1047 | 1950 | 1280 | | | |
| 1057 | 2000 | 1282 | | | |
| 1060 | 2030 | 1307 | | | |
| 1077 | 2040 | 1320 | | | |
| 1080 | 2080 | 1332 | | | |
| 1087 | 2120 | 1357 | | | |
| 1110 | 2160 | 1360 | | | |
| 1112 | 2200 | 1380 | | | |
| 1120 | 2240 | 1382 | | | |
| 1137 | 2280 | 1400 | | | |
| 1140 | 2360 | 1420 | | | |
| 1150 | | 1432 | | | |
| 1162 | | 1450 | | | |
| 1180 | | 1457 | | | |
| 1187 | | 1462 | | | |
| 1200 | | 1482 | | | |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Narrow V Belts

| 3V (9N) 0.38 x 0.31 | |
|-------------------------------|--------------------------|
| Belt Designation | Effective Outside Length |
| 3V250 | 25.0 |
| 3V265 | 26.5 |
| 3V280 | 28.0 |
| 3V300 | 30.0 |
| 3V315 | 31.5 |
| 3V335 | 33.5 |
| 3V355 | 35.5 |
| 3V375 | 37.5 |
| 3V400 | 40.0 |
| 3V425 | 42.5 |
| 3V450 | 45.0 |
| 3V475 | 47.5 |
| 3V500 | 50.0 |
| 3V530 | 53.0 |
| 3V560 | 56.0 |
| 3V600 | 60.0 |
| 3V630 | 63.0 |
| 3V670 | 67.0 |
| 3V710 | 71.0 |
| 3V750 | 75.0 |
| 3V800 | 80.0 |
| 3V850 | 85.0 |
| 3V900 | 90.0 |
| 3V950 | 95.0 |
| 3V1000 | 100.0 |
| 3V1060 | 106.0 |
| 3V1120 | 112.0 |
| 3V1180 | 118.0 |
| 3V1250 | 125.0 |
| 3V1320 | 132.0 |
| 3V1400 | 140.0 |

| 5V (15N) 0.62 x 0.53 | |
|--------------------------------|--------------------------|
| Belt Designation | Effective Outside Length |
| 5V500 | 50 |
| 5V530 | 53 |
| 5V560 | 56 |
| 5V600 | 60 |
| 5V630 | 63 |
| 5V670 | 67 |
| 5V710 | 71 |
| 5V750 | 75 |
| 5V800 | 80 |
| 5V850 | 85 |
| 5V900 | 90 |
| 5V950 | 95 |
| 5V1000 | 100 |
| 5V1060 | 106 |
| 5V1120 | 112 |
| 5V1180 | 118 |
| 5V1250 | 125 |
| 5V1320 | 132 |
| 5V1400 | 140 |
| 5V1500 | 150 |
| 5V1600 | 160 |
| 5V1700 | 170 |
| 5V1800 | 180 |
| 5V1900 | 190 |
| 5V2000 | 200 |
| 5V2120 | 212 |
| 5V2240 | 224 |
| 5V2360 | 236 |
| 5V2500 | 250 |
| 5V2650 | 265 |
| 5V2800 | 280 |
| 5V3000 | 300 |
| 5V3150 | 315 |
| 5V3350 | 335 |
| 5V3550 | 355 |

| 8V (25N) 1.00 x 0.91 | |
|--------------------------------|--------------------------|
| Belt Designation | Effective Outside Length |
| 8V1000 | 100 |
| 8V1060 | 106 |
| 8V1120 | 112 |
| 8V1180 | 118 |
| 8V1250 | 125 |
| 8V1320 | 132 |
| 8V1400 | 140 |
| 8V1500 | 150 |
| 8V1600 | 160 |
| 8V1700 | 170 |
| 8V1800 | 180 |
| 8V1900 | 190 |
| 8V2000 | 200 |
| 8V2120 | 212 |
| 8V2240 | 224 |
| 8V2360 | 236 |
| 8V2500 | 250 |
| 8V2650 | 265 |
| 8V2800 | 280 |
| 8V3000 | 300 |
| 8V3150 | 315 |
| 8V3350 | 335 |
| 8V3550 | 355 |
| 8V3750 | 375 |
| 8V4000 | 400 |
| 8V4250 | 425 |
| 8V4500 | 450 |
| 8V4750 | 475 |
| 8V5000 | 500 |

Selection Procedure

Wedge belt selection procedure

1) Service factor

Refer to Table 1 on page 164 and select a service factor appropriate to the drive conditions.

2) Design power

Multiply the machine absorbed power (kW) by the service factor to obtain the design power.

If the machine absorbed power is not known, use the prime mover power (kW).

The design power is used as a basis for selecting the drive.

3) Belt section

Refer to Table 2 on page 165.

Note the intersection of the speed of the faster shaft (on the horizontal scale) and the design power (on the vertical scale).

The point of intersection indicates the preferable belt section.

4) Speed ratio

Divide the rotational speed of the high speed shaft by that of the low speed shaft to obtain the speed ratio.

5) Pulley pitch diameters

For the chosen section from step 3), refer to Table 3 Speed ratios on pages 166 and 167, then select two pulleys* that match closely the required speed ratio from step 4).

*Note : the use of small pulleys can overload motor bearings. It is preferable to use larger driving pulleys if possible.

Most applications will allow for a driven speed tolerance of $\pm 2\%$.

6) Belt length

Calculate the required pitch length of belt required from the following formula :-

$$L = 2C + \frac{(D-d)^2}{4C} + 1.57(D+d)$$

Where L = pitch length of belt in mm
C = centre distance required in mm
d = small pulley pitch diameter in mm
D = large pulley pitch diameter in mm

From the list of belts (pages 159, 160), choose a belt nearest to the calculated value.

When a centre distance value is not specified, choose one equal to or exceeding the sum of the pulley diameters.

7) Centre distance

To obtain the approximate actual centre distance, divide the difference between the chosen belt and the belt length required from step 6) by 2.

If the chosen belt is longer, add the value to the required centre distance or if it is shorter, deduct the value from the required centre distance.

Note: This simple method is usually accurate to within 2 millimetres.

If a more accurate centre distance value is required, use the formulae below :-

$$C = A + \sqrt{A^2 - B}$$

$$\text{Where } A = \frac{L}{4} - 0.3935(D+d)$$

$$\text{and } B = \frac{(D-d)^2}{8}$$

8) Power per belt (kW)

Refer to Table 4 power ratings (pages 168, 169) for the section of belt chosen.

Read across the top row to the small pulley pitch diameter chosen. Then read down to the speed of the faster shaft to obtain the power per belt in kW.

If necessary, interpolate for a more accurate value.

9) Power addition for speed ratio

Refer to the same pages as the power ratings.

Read across the top to the column which contains the speed ratio being used.

Then read down to the speed of the faster shaft to obtain the power addition for the speed ratio.

10) Correction factor for belt length

Refer to Table 5 on page 169 and note the correction factor for the length of belt chosen in step 6).

11) Correction factor for angle of contact on the small pulley

Refer to Table 6 on page 169 and calculate the value for $\frac{D-d}{C}$

From the value, choose the nearest correction factor.

12) Corrected power per belt (kW)

Add the power addition for speed ratio (step 9) to the power per belt (step 8).

Multiply the result by the correction factors for belt length (step 10) and angle of contact (step 11) to obtain the corrected power per belt.

13) number of belts required

Divide the design power (step 2) by the corrected power per belt (step 12) to obtain the number of belts required for the drive.

14) Shaft dimensions

From the pulley dimension Tables, (pages 183 to 195), check that the chosen pulleys have a taper bush that will accommodate the required shaft sizes.

Selection Procedure

Wedge Belt Selection Example

Design a Wedge belt drive from a 90kW, 1440 rev/min direct on line start electric motor to a Belt Conveyor which carries copper ore and absorbs 81 kW.

The conveyor has to run at 403 rev/min for 12 hours per day.

The required centre distance is 1200 mm. The motor shaft is 75 mm diameter and the conveyor shaft 105 mm diameter.

1) Service factor

From Table 1 on page 164, the service factor chosen for a non-uniformly loaded belt conveyor running for 12 hours per day and driven by a direct on line electric motor is **1.3**

2) Design power

$$81 \times 1.3 = \mathbf{105.3 \text{ kW}}$$

3) Belt section

From Table 2 on page 165, note the point of intersection of the design power of 105.3 kW (on the horizontal axis) and the speed of the faster shaft of 1440 rev/min (on the vertical axis).

The point of intersection indicates **SPB or SPC** section wedge belts. A point of intersection near the top of a band usually gives the most economical selection, in this case **SPB** is chosen.

4) Speed ratio

$$\frac{1440}{403} = \mathbf{3.57 : 1}$$

5) Pulley pitch diameters

From the SPB speed ratio Table 3 on page 167, pulley pitch diameters of 280 mm and 1000 mm match the speed ratio requirement of 3.57 : 1

The speed ratio of 1000/280 = 3.57 : 1 will give a driven speed of 403 rev/min.

6) Belt length

Using the following formula, calculate the length of belt required :-

$$\begin{aligned} \text{Belt length (L)} &= 2 \times 1200 + \frac{(1000 - 280)^2}{4 \times 1200} + 1.57 \times (1000 + 280) \\ &= 2400 + 108 + 2010 \\ &= \mathbf{4518 \text{ mm}} \end{aligned}$$

from the SPB belt length Tables on page 159, the nearest belt is an SPB4500

7) Centre distance

The **SPB4500** will give a centre distance of :-

$$1200 - \frac{(4518 - 4500)}{2} = \mathbf{1191 \text{ mm}}$$

8) Power per belt (kW)

From the SPB power ratings on Table 4 page 168, the power per belt for a 280mm pulley running at 1440 rev/min is **22.55 kW**

9) Power addition for speed ratio

From the same page as the power ratings, the power addition for the speed ratio of 3.57 : 1 is **1.21 kW**

10) Correction factor for belt length

From Table 5 on page 169, the correction factor for an SPB4500 is **1.05**

11) Correction factor for angle of contact

$$\text{First, calculate } \frac{D-d}{C}$$

and then refer to Table 6 on page 169 to obtain the correction factor.

$$\frac{D-d}{C} = \frac{1000 - 280}{1191} = 0.60$$

the correction factor is **0.96**

12) Corrected power per belt (kW)

$$\begin{aligned} &= (22.55 + 1.21) \times 1.05 \times 0.96 \\ &= \mathbf{23.95 \text{ kW per belt}} \end{aligned}$$

13) Number of belts required

Divide the design power (step 2) by the corrected power/belt (step 12) to obtain the number of belts required.

$$\frac{105.3}{23.95} = 4.4$$

use 5 SPB belts

14) Shaft dimensions

From the SPB pulley dimension Tables (pages 189 to 191), it is confirmed that the pulleys taper bushes can accommodate the required shaft sizes.

Drive Specification

| | |
|-----------------|-------------------------------|
| Motor pulley : | 280 x 5 SPB 3535 / 75 mm |
| Conveyor pulley | 1000 x 5 SPB 4545 / 105 mm |

5 off SPB4500 giving 1191 mm centres

Selection Data

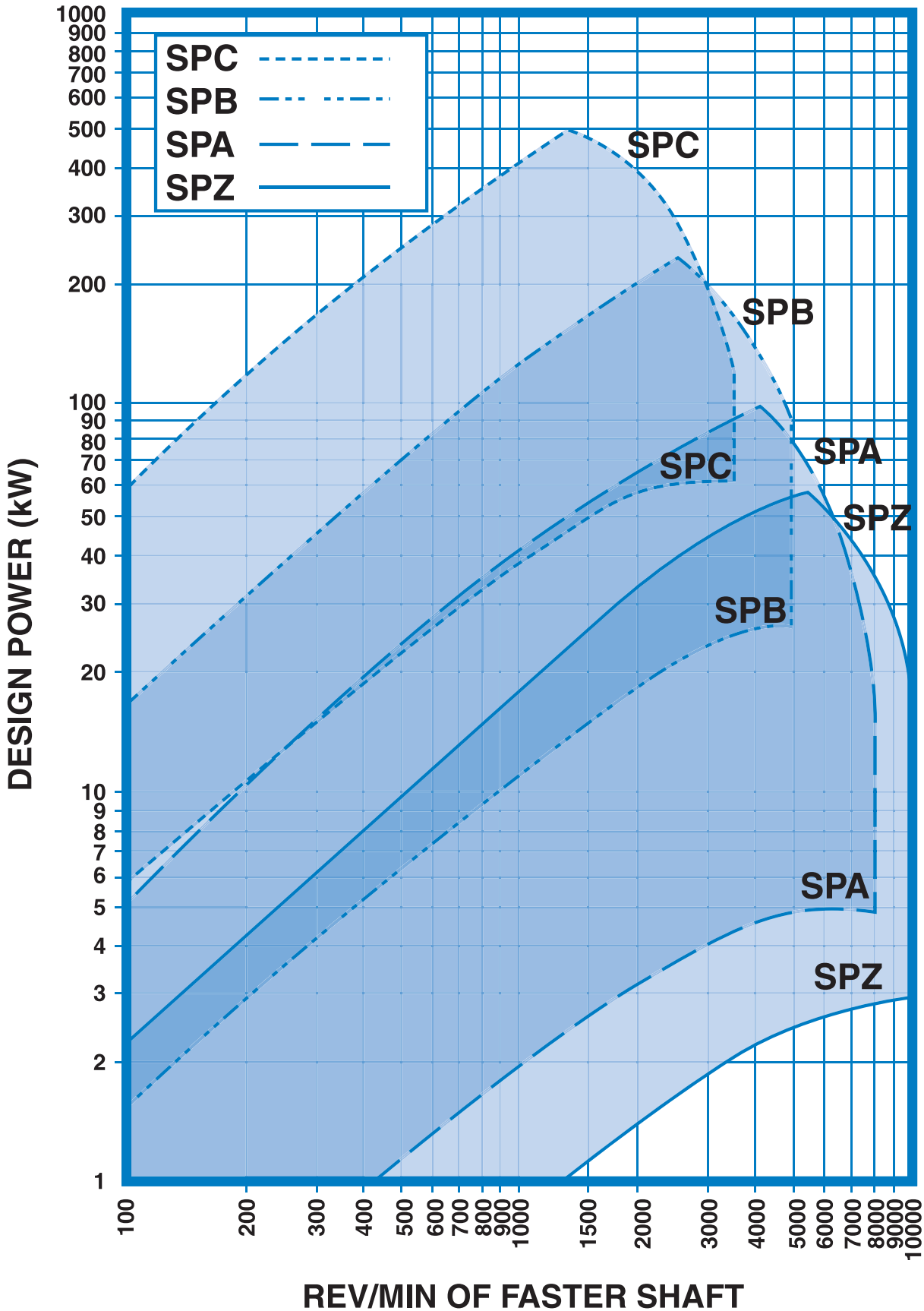
Table 1 - Service Factors

| Type of driven machine | Type of prime mover | | | | | |
|---|--|------------|------------|---|------------|------------|
| | 'Soft' Starts | | | 'Heavy' Starts | | |
| | AC electric motors: star-delta DC motors: shunt wound Engines with 4 or more cylinders All prime movers with mechanical or electronic soft start devices. | | | AC electric motors :- direct – on – line DC motors : series and compound wound Engines with less than 4 cylinders | | |
| | number of hours per day running | | | | | |
| | under 10 | 10 - 16 | over 16 | under 10 | 10 - 16 | over 16 |
| Uniform load: Light duty agitators, belt conveyors for sand etc., fans upto 7.5 kW, centrifugal compressors and pumps, | 1.0 | 1.1 | 1.2 | 1.1 | 1.2 | 1.3 |
| Moderate load: Variable density agitators, belt conveyors (non-uniform loads), fans over 7.5 kW, other rotary compressors and pumps, generators, machine tools, printing machinery, laundry machinery, rotary screens, rotary woodworking machinery | 1.1 | 1.2 | 1.3 | 1.2 | 1.3 | 1.4 |
| Heavy load: Reciprocating compressors and pumps, positive displacement blowers, heavy duty conveyors such as screw, bucket etc., hammer mills, pulverisers, presses, shears, punches, rubber machinery | 1.2 | 1.3 | 1.4 | 1.4 | 1.5 | 1.6 |
| Severe load: Crushers – gyratory, jaw, roll etc., rolling mills, calenders, quarry machinery, vibrating screens | 1.3 | 1.4 | 1.5 | 1.5 | 1.6 | 1.8 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Selection Data

Table 2 - Belt Section



Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Selection Data

Table 3 - Speed ratios SPZ & SPA

| SPZ | 71 | 75 | 80 | 85 | 90 | 95 | 100 | 106 | 112 | 118 | 125 | 132 | 140 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 71 | 1.00 | | | | | | | | | | | | |
| 75 | 1.06 | 1.00 | | | | | | | | | | | |
| 80 | 1.13 | 1.07 | 1.00 | | | | | | | | | | |
| 85 | 1.20 | 1.13 | 1.06 | 1.00 | | | | | | | | | |
| 90 | 1.27 | 1.20 | 1.13 | 1.06 | 1.00 | | | | | | | | |
| 95 | 1.34 | 1.27 | 1.19 | 1.12 | 1.06 | 1.00 | | | | | | | |
| 100 | 1.41 | 1.33 | 1.25 | 1.18 | 1.11 | 1.05 | 1.00 | | | | | | |
| 106 | 1.49 | 1.41 | 1.33 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | |
| 112 | 1.58 | 1.49 | 1.40 | 1.32 | 1.24 | 1.18 | 1.12 | 1.06 | 1.00 | | | | |
| 118 | 1.66 | 1.57 | 1.48 | 1.39 | 1.31 | 1.24 | 1.18 | 1.11 | 1.05 | 1.00 | | | |
| 125 | 1.76 | 1.67 | 1.56 | 1.47 | 1.39 | 1.32 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | | |
| 132 | 1.86 | 1.76 | 1.65 | 1.55 | 1.47 | 1.39 | 1.32 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | |
| 140 | 1.97 | 1.87 | 1.75 | 1.65 | 1.56 | 1.47 | 1.40 | 1.32 | 1.25 | 1.19 | 1.12 | 1.06 | 1.00 |
| 150 | 2.11 | 2.00 | 1.88 | 1.76 | 1.67 | 1.58 | 1.50 | 1.42 | 1.34 | 1.27 | 1.20 | 1.14 | 1.07 |
| 160 | 2.25 | 2.13 | 2.00 | 1.88 | 1.78 | 1.68 | 1.60 | 1.51 | 1.43 | 1.36 | 1.28 | 1.21 | 1.14 |
| 170 | 2.39 | 2.27 | 2.13 | 2.00 | 1.89 | 1.79 | 1.70 | 1.60 | 1.52 | 1.44 | 1.36 | 1.29 | 1.21 |
| 180 | 2.54 | 2.40 | 2.25 | 2.12 | 2.00 | 1.89 | 1.80 | 1.70 | 1.61 | 1.53 | 1.44 | 1.36 | 1.29 |
| 190 | 2.68 | 2.53 | 2.38 | 2.24 | 2.11 | 2.00 | 1.90 | 1.79 | 1.70 | 1.61 | 1.52 | 1.44 | 1.36 |
| 200 | 2.82 | 2.67 | 2.50 | 2.35 | 2.22 | 2.11 | 2.00 | 1.89 | 1.79 | 1.69 | 1.60 | 1.52 | 1.43 |
| 224 | 3.15 | 2.99 | 2.80 | 2.64 | 2.49 | 2.36 | 2.24 | 2.11 | 2.00 | 1.90 | 1.79 | 1.70 | 1.60 |
| 250 | 3.52 | 3.33 | 3.13 | 2.94 | 2.78 | 2.63 | 2.50 | 2.36 | 2.23 | 2.12 | 2.00 | 1.89 | 1.79 |
| 280 | 3.94 | 3.73 | 3.50 | 3.29 | 3.11 | 2.95 | 2.80 | 2.64 | 2.50 | 2.37 | 2.24 | 2.12 | 2.00 |
| 315 | 4.44 | 4.20 | 3.94 | 3.71 | 3.50 | 3.32 | 3.15 | 2.97 | 2.81 | 2.67 | 2.52 | 2.39 | 2.25 |
| 355 | 5.00 | 4.73 | 4.44 | 4.18 | 3.94 | 3.74 | 3.55 | 3.35 | 3.17 | 3.01 | 2.84 | 2.69 | 2.54 |
| 400 | 5.63 | 5.33 | 5.00 | 4.71 | 4.44 | 4.21 | 4.00 | 3.77 | 3.57 | 3.39 | 3.20 | 3.03 | 2.86 |
| 450 | 6.34 | 6.00 | 5.63 | 5.29 | 5.00 | 4.74 | 4.50 | 4.25 | 4.02 | 3.81 | 3.60 | 3.41 | 3.21 |
| 500 | 7.04 | 6.67 | 6.25 | 5.88 | 5.56 | 5.26 | 5.00 | 4.72 | 4.46 | 4.24 | 4.00 | 3.79 | 3.57 |
| 630 | 8.87 | 8.40 | 7.88 | 7.41 | 7.00 | 6.63 | 6.30 | 5.94 | 5.63 | 5.34 | 5.04 | 4.77 | 4.50 |

| SPA | 90 | 95 | 100 | 106 | 112 | 118 | 125 | 132 | 140 | 150 | 160 | 170 | 180 | 190 | 200 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 90 | 1.00 | | | | | | | | | | | | | | |
| 95 | 1.06 | 1.00 | | | | | | | | | | | | | |
| 100 | 1.11 | 1.05 | 1.00 | | | | | | | | | | | | |
| 106 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | | | | | | | |
| 112 | 1.24 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | | | | | | |
| 118 | 1.31 | 1.24 | 1.18 | 1.11 | 1.05 | 1.00 | | | | | | | | | |
| 125 | 1.39 | 1.32 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | | | | |
| 132 | 1.47 | 1.39 | 1.32 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | | | |
| 140 | 1.56 | 1.47 | 1.40 | 1.32 | 1.25 | 1.19 | 1.12 | 1.06 | 1.00 | | | | | | |
| 150 | 1.67 | 1.58 | 1.50 | 1.42 | 1.34 | 1.27 | 1.20 | 1.14 | 1.07 | 1.00 | | | | | |
| 160 | 1.78 | 1.68 | 1.60 | 1.51 | 1.43 | 1.36 | 1.28 | 1.21 | 1.14 | 1.07 | 1.00 | | | | |
| 170 | 1.89 | 1.79 | 1.70 | 1.60 | 1.52 | 1.44 | 1.36 | 1.29 | 1.21 | 1.13 | 1.06 | 1.00 | | | |
| 180 | 2.00 | 1.89 | 1.80 | 1.70 | 1.61 | 1.53 | 1.44 | 1.36 | 1.29 | 1.20 | 1.13 | 1.06 | 1.00 | | |
| 190 | 2.11 | 2.00 | 1.90 | 1.79 | 1.70 | 1.61 | 1.52 | 1.44 | 1.36 | 1.27 | 1.19 | 1.12 | 1.06 | 1.00 | |
| 200 | 2.22 | 2.11 | 2.00 | 1.89 | 1.79 | 1.69 | 1.60 | 1.52 | 1.43 | 1.33 | 1.25 | 1.18 | 1.11 | 1.05 | 1.00 |
| 212 | 2.36 | 2.23 | 2.12 | 2.00 | 1.89 | 1.80 | 1.70 | 1.61 | 1.51 | 1.41 | 1.33 | 1.25 | 1.18 | 1.12 | 1.06 |
| 224 | 2.49 | 2.36 | 2.24 | 2.11 | 2.00 | 1.90 | 1.79 | 1.70 | 1.60 | 1.49 | 1.40 | 1.32 | 1.24 | 1.18 | 1.12 |
| 236 | 2.62 | 2.48 | 2.36 | 2.23 | 2.11 | 2.00 | 1.89 | 1.79 | 1.69 | 1.57 | 1.48 | 1.39 | 1.31 | 1.24 | 1.18 |
| 250 | 2.78 | 2.63 | 2.50 | 2.36 | 2.23 | 2.12 | 2.00 | 1.89 | 1.79 | 1.67 | 1.56 | 1.47 | 1.39 | 1.32 | 1.25 |
| 280 | 3.11 | 2.95 | 2.80 | 2.64 | 2.50 | 2.37 | 2.24 | 2.12 | 2.00 | 1.87 | 1.75 | 1.65 | 1.56 | 1.47 | 1.40 |
| 300 | 3.33 | 3.16 | 3.00 | 2.83 | 2.68 | 2.54 | 2.40 | 2.27 | 2.14 | 2.00 | 1.88 | 1.76 | 1.67 | 1.58 | 1.50 |
| 315 | 3.50 | 3.32 | 3.15 | 2.97 | 2.81 | 2.67 | 2.52 | 2.39 | 2.25 | 2.10 | 1.97 | 1.85 | 1.75 | 1.66 | 1.58 |
| 355 | 3.94 | 3.74 | 3.55 | 3.35 | 3.17 | 3.01 | 2.84 | 2.69 | 2.54 | 2.37 | 2.22 | 2.09 | 1.97 | 1.87 | 1.78 |
| 400 | 4.44 | 4.21 | 4.00 | 3.77 | 3.57 | 3.39 | 3.20 | 3.03 | 2.86 | 2.67 | 2.50 | 2.35 | 2.22 | 2.11 | 2.00 |
| 450 | 5.00 | 4.74 | 4.50 | 4.25 | 4.02 | 3.81 | 3.60 | 3.41 | 3.21 | 3.00 | 2.81 | 2.65 | 2.50 | 2.37 | 2.25 |
| 500 | 5.56 | 5.26 | 5.00 | 4.72 | 4.46 | 4.24 | 4.00 | 3.79 | 3.57 | 3.33 | 3.13 | 2.94 | 2.78 | 2.63 | 2.50 |
| 560 | 6.22 | 5.89 | 5.60 | 5.28 | 5.00 | 4.75 | 4.48 | 4.24 | 4.00 | 3.73 | 3.50 | 3.29 | 3.11 | 2.95 | 2.80 |
| 630 | 7.00 | 6.63 | 6.30 | 5.94 | 5.63 | 5.34 | 5.04 | 4.77 | 4.50 | 4.20 | 3.94 | 3.71 | 3.50 | 3.32 | 3.15 |
| 800 | 8.89 | 8.42 | 8.00 | 7.55 | 7.14 | 6.78 | 6.40 | 6.06 | 5.71 | 5.33 | 5.00 | 4.71 | 4.44 | 4.21 | 4.00 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Selection Data

Table 3 - Speed ratios SPB & SPC

| SPB | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 212 | 224 | 236 | 250 | 280 | 300 | 315 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 140 | 1.00 | | | | | | | | | | | | | |
| 150 | 1.07 | 1.00 | | | | | | | | | | | | |
| 160 | 1.14 | 1.07 | 1.00 | | | | | | | | | | | |
| 170 | 1.21 | 1.13 | 1.06 | 1.00 | | | | | | | | | | |
| 180 | 1.29 | 1.20 | 1.13 | 1.06 | 1.00 | | | | | | | | | |
| 190 | 1.36 | 1.27 | 1.19 | 1.12 | 1.06 | 1.00 | | | | | | | | |
| 200 | 1.43 | 1.33 | 1.25 | 1.18 | 1.11 | 1.05 | 1.00 | | | | | | | |
| 212 | 1.51 | 1.41 | 1.33 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | | |
| 224 | 1.60 | 1.49 | 1.40 | 1.32 | 1.24 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | |
| 236 | 1.69 | 1.57 | 1.48 | 1.39 | 1.31 | 1.24 | 1.18 | 1.11 | 1.05 | 1.00 | | | | |
| 250 | 1.79 | 1.67 | 1.56 | 1.47 | 1.39 | 1.32 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | | | |
| 280 | 2.00 | 1.87 | 1.75 | 1.65 | 1.56 | 1.47 | 1.40 | 1.32 | 1.25 | 1.19 | 1.12 | 1.00 | | |
| 300 | 2.14 | 2.00 | 1.88 | 1.76 | 1.67 | 1.58 | 1.50 | 1.42 | 1.34 | 1.27 | 1.20 | 1.07 | 1.00 | |
| 315 | 2.25 | 2.10 | 1.97 | 1.85 | 1.75 | 1.66 | 1.58 | 1.49 | 1.41 | 1.33 | 1.26 | 1.13 | 1.05 | 1.00 |
| 335 | 2.39 | 2.23 | 2.09 | 1.97 | 1.86 | 1.76 | 1.68 | 1.58 | 1.50 | 1.42 | 1.34 | 1.20 | 1.12 | 1.06 |
| 355 | 2.54 | 2.37 | 2.22 | 2.09 | 1.97 | 1.87 | 1.78 | 1.67 | 1.58 | 1.50 | 1.42 | 1.27 | 1.18 | 1.13 |
| 400 | 2.86 | 2.67 | 2.50 | 2.35 | 2.22 | 2.11 | 2.00 | 1.89 | 1.79 | 1.69 | 1.60 | 1.43 | 1.33 | 1.27 |
| 450 | 3.21 | 3.00 | 2.81 | 2.65 | 2.50 | 2.37 | 2.25 | 2.12 | 2.01 | 1.91 | 1.80 | 1.61 | 1.50 | 1.43 |
| 500 | 3.57 | 3.33 | 3.13 | 2.94 | 2.78 | 2.63 | 2.50 | 2.36 | 2.23 | 2.12 | 2.00 | 1.79 | 1.67 | 1.59 |
| 560 | 4.00 | 3.73 | 3.50 | 3.29 | 3.11 | 2.95 | 2.80 | 2.64 | 2.50 | 2.37 | 2.24 | 2.00 | 1.87 | 1.78 |
| 630 | 4.50 | 4.20 | 3.94 | 3.71 | 3.50 | 3.32 | 3.15 | 2.97 | 2.81 | 2.67 | 2.52 | 2.25 | 2.10 | 2.00 |
| 710 | 5.07 | 4.73 | 4.44 | 4.18 | 3.94 | 3.74 | 3.55 | 3.35 | 3.17 | 3.01 | 2.84 | 2.54 | 2.37 | 2.25 |
| 800 | 5.71 | 5.33 | 5.00 | 4.71 | 4.44 | 4.21 | 4.00 | 3.77 | 3.57 | 3.39 | 3.20 | 2.86 | 2.67 | 2.54 |
| 900 | 6.43 | 6.00 | 5.63 | 5.29 | 5.00 | 4.74 | 4.50 | 4.25 | 4.02 | 3.81 | 3.60 | 3.21 | 3.00 | 2.86 |
| 1000 | 7.14 | 6.67 | 6.25 | 5.88 | 5.56 | 5.26 | 5.00 | 4.72 | 4.46 | 4.24 | 4.00 | 3.57 | 3.33 | 3.17 |
| 1250 | 8.93 | 8.33 | 7.81 | 7.35 | 6.94 | 6.58 | 6.25 | 5.90 | 5.58 | 5.30 | 5.00 | 4.46 | 4.17 | 3.97 |

| SPC | 224 | 236 | 250 | 265 | 280 | 300 | 315 | 335 | 355 | 375 | 400 | 425 | 450 | 475 | 500 | 530 | 560 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 224 | 1.00 | | | | | | | | | | | | | | | | |
| 236 | 1.05 | 1.00 | | | | | | | | | | | | | | | |
| 250 | 1.12 | 1.06 | 1.00 | | | | | | | | | | | | | | |
| 265 | 1.18 | 1.12 | 1.06 | 1.00 | | | | | | | | | | | | | |
| 280 | 1.25 | 1.19 | 1.12 | 1.06 | 1.00 | | | | | | | | | | | | |
| 300 | 1.34 | 1.27 | 1.20 | 1.13 | 1.07 | 1.00 | | | | | | | | | | | |
| 315 | 1.41 | 1.33 | 1.26 | 1.19 | 1.13 | 1.05 | 1.00 | | | | | | | | | | |
| 335 | 1.50 | 1.42 | 1.34 | 1.26 | 1.20 | 1.12 | 1.06 | 1.00 | | | | | | | | | |
| 355 | 1.58 | 1.50 | 1.42 | 1.34 | 1.27 | 1.18 | 1.13 | 1.06 | 1.00 | | | | | | | | |
| 375 | 1.67 | 1.59 | 1.50 | 1.42 | 1.34 | 1.25 | 1.19 | 1.12 | 1.06 | 1.00 | | | | | | | |
| 400 | 1.79 | 1.69 | 1.60 | 1.51 | 1.43 | 1.33 | 1.27 | 1.19 | 1.13 | 1.07 | 1.00 | | | | | | |
| 425 | 1.90 | 1.80 | 1.70 | 1.60 | 1.52 | 1.42 | 1.35 | 1.27 | 1.20 | 1.13 | 1.06 | 1.00 | | | | | |
| 450 | 2.01 | 1.91 | 1.80 | 1.70 | 1.61 | 1.50 | 1.43 | 1.34 | 1.27 | 1.20 | 1.13 | 1.06 | 1.00 | | | | |
| 475 | 2.12 | 2.01 | 1.90 | 1.79 | 1.70 | 1.58 | 1.51 | 1.42 | 1.34 | 1.27 | 1.19 | 1.12 | 1.06 | 1.00 | | | |
| 500 | 2.23 | 2.12 | 2.00 | 1.89 | 1.79 | 1.67 | 1.59 | 1.49 | 1.41 | 1.33 | 1.25 | 1.18 | 1.11 | 1.05 | 1.00 | | |
| 530 | 2.37 | 2.25 | 2.12 | 2.00 | 1.89 | 1.77 | 1.68 | 1.58 | 1.49 | 1.41 | 1.33 | 1.25 | 1.18 | 1.12 | 1.06 | 1.00 | |
| 560 | 2.50 | 2.37 | 2.24 | 2.11 | 2.00 | 1.87 | 1.78 | 1.67 | 1.58 | 1.49 | 1.40 | 1.32 | 1.24 | 1.18 | 1.12 | 1.06 | 1.00 |
| 630 | 2.81 | 2.67 | 2.52 | 2.38 | 2.25 | 2.10 | 2.00 | 1.88 | 1.77 | 1.68 | 1.58 | 1.48 | 1.40 | 1.33 | 1.26 | 1.19 | 1.13 |
| 710 | 3.17 | 3.01 | 2.84 | 2.68 | 2.54 | 2.37 | 2.25 | 2.12 | 2.00 | 1.89 | 1.78 | 1.67 | 1.58 | 1.49 | 1.42 | 1.34 | 1.27 |
| 800 | 3.57 | 3.39 | 3.20 | 3.02 | 2.86 | 2.67 | 2.54 | 2.39 | 2.25 | 2.13 | 2.00 | 1.88 | 1.78 | 1.68 | 1.60 | 1.51 | 1.43 |
| 1000 | 4.46 | 4.24 | 4.00 | 3.77 | 3.57 | 3.33 | 3.17 | 2.99 | 2.82 | 2.67 | 2.50 | 2.35 | 2.22 | 2.11 | 2.00 | 1.89 | 1.79 |
| 1250 | 5.58 | 5.30 | 5.00 | 4.72 | 4.46 | 4.17 | 3.97 | 3.73 | 3.52 | 3.33 | 3.13 | 2.94 | 2.78 | 2.63 | 2.50 | 2.36 | 2.23 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Selection Data

Table 4 - Power ratings

| SPZ Power ratings (kW) | | | | | | | | | Power addition (kW) for speed ratio | | | | |
|------------------------|------|------|------|------|------|------|------|-------|-------------------------------------|-------------|-------------|-------------|-----------|
| rev/min | 71 | 75 | 80 | 90 | 100 | 112 | 125 | 140 | 1.00 - 1.05 | 1.06 - 1.25 | 1.26 - 2.00 | 2.01 - 3.00 | over 3.00 |
| 400 | 0.51 | 0.57 | 0.63 | 0.76 | 0.91 | 1.08 | 1.25 | 1.47 | 0.00 | 0.04 | 0.07 | 0.07 | 0.07 |
| 600 | 0.70 | 0.78 | 0.89 | 1.08 | 1.30 | 1.55 | 1.82 | 2.12 | 0.00 | 0.05 | 0.08 | 0.08 | 0.08 |
| 720 | 0.82 | 0.89 | 1.04 | 1.28 | 1.54 | 1.83 | 2.15 | 2.50 | 0.00 | 0.06 | 0.10 | 0.11 | 0.12 |
| 800 | 0.88 | 0.99 | 1.14 | 1.41 | 1.68 | 2.00 | 2.35 | 2.74 | 0.00 | 0.07 | 0.11 | 0.12 | 0.13 |
| 960 | 1.01 | 1.16 | 1.33 | 1.66 | 1.96 | 2.34 | 2.74 | 3.23 | 0.00 | 0.08 | 0.13 | 0.15 | 0.15 |
| 1200 | 1.23 | 1.40 | 1.60 | 2.01 | 2.38 | 2.87 | 3.37 | 3.93 | 0.00 | 0.10 | 0.17 | 0.17 | 0.19 |
| 1440 | 1.45 | 1.63 | 1.86 | 2.34 | 2.80 | 3.38 | 3.98 | 4.62 | 0.00 | 0.13 | 0.20 | 0.22 | 0.23 |
| 1600 | 1.57 | 1.76 | 2.03 | 2.56 | 3.06 | 3.68 | 4.33 | 5.05 | 0.00 | 0.14 | 0.22 | 0.24 | 0.26 |
| 2000 | 1.87 | 2.10 | 2.43 | 3.08 | 3.70 | 4.42 | 5.20 | 6.09 | 0.00 | 0.17 | 0.28 | 0.30 | 0.32 |
| 2400 | 2.13 | 2.43 | 2.80 | 3.55 | 4.27 | 5.10 | 5.99 | 7.00 | 0.00 | 0.21 | 0.33 | 0.36 | 0.39 |
| 2800 | 2.38 | 2.74 | 3.15 | 4.00 | 4.81 | 5.76 | 6.75 | 7.88 | 0.00 | 0.24 | 0.39 | 0.43 | 0.45 |
| 2880 | 2.43 | 2.80 | 3.22 | 4.09 | 4.92 | 5.89 | 6.90 | 8.05 | 0.00 | 0.25 | 0.40 | 0.44 | 0.45 |
| 3200 | 2.62 | 3.01 | 3.48 | 4.41 | 5.32 | 6.36 | 7.43 | 8.65 | 0.00 | 0.28 | 0.45 | 0.49 | 0.51 |
| 3600 | 2.85 | 3.26 | 3.80 | 4.80 | 5.80 | 6.92 | 8.07 | 9.35 | 0.00 | 0.31 | 0.50 | 0.55 | 0.58 |
| 4000 | 3.03 | 3.47 | 4.06 | 5.14 | 6.20 | 7.38 | 8.58 | 9.86 | 0.00 | 0.35 | 0.56 | 0.61 | 0.64 |
| 4500 | 3.25 | 3.72 | 4.37 | 5.54 | 6.67 | 7.92 | 9.17 | 10.42 | 0.00 | 0.39 | 0.62 | 0.68 | 0.72 |
| 5000 | 3.44 | 3.96 | 4.62 | 5.87 | 7.05 | 8.32 | 9.56 | 10.79 | 0.00 | 0.44 | 0.70 | 0.73 | 0.77 |

| SPA Power ratings (kW) | | | | | | | | | | | Power addition (kW) for speed ratio | | | | |
|------------------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------------------------------------|-------------|-------------|-------------|-----------|
| rev/min | 90 | 100 | 112 | 118 | 125 | 132 | 140 | 160 | 180 | 200 | 1.00 - 1.05 | 1.06 - 1.25 | 1.26 - 2.00 | 2.01 - 3.00 | over 3.00 |
| 400 | 0.87 | 1.11 | 1.43 | 1.56 | 1.73 | 1.90 | 2.09 | 2.59 | 3.06 | 3.55 | 0.00 | 0.07 | 0.14 | 0.16 | 0.16 |
| 600 | 1.20 | 1.55 | 1.99 | 2.19 | 2.44 | 2.69 | 2.97 | 3.66 | 4.35 | 5.02 | 0.00 | 0.13 | 0.21 | 0.23 | 0.25 |
| 720 | 1.40 | 1.81 | 2.32 | 2.57 | 2.86 | 3.15 | 3.48 | 4.30 | 5.11 | 5.88 | 0.00 | 0.16 | 0.26 | 0.28 | 0.30 |
| 800 | 1.50 | 1.97 | 2.54 | 2.81 | 3.13 | 3.44 | 3.81 | 4.72 | 5.61 | 6.47 | 0.00 | 0.18 | 0.29 | 0.31 | 0.33 |
| 960 | 1.72 | 2.28 | 2.96 | 3.30 | 3.66 | 4.04 | 4.47 | 5.55 | 6.59 | 7.62 | 0.00 | 0.21 | 0.34 | 0.37 | 0.40 |
| 1200 | 2.04 | 2.72 | 3.55 | 3.98 | 4.42 | 4.88 | 5.41 | 6.72 | 7.99 | 9.24 | 0.00 | 0.27 | 0.43 | 0.47 | 0.49 |
| 1440 | 2.35 | 3.15 | 4.12 | 4.64 | 5.17 | 5.71 | 6.33 | 7.86 | 9.35 | 10.81 | 0.00 | 0.32 | 0.51 | 0.56 | 0.59 |
| 1600 | 2.53 | 3.41 | 4.47 | 5.02 | 5.60 | 6.19 | 6.87 | 8.54 | 10.14 | 11.72 | 0.00 | 0.36 | 0.57 | 0.62 | 0.66 |
| 2000 | 2.98 | 4.03 | 5.33 | 5.95 | 6.66 | 7.38 | 8.20 | 10.18 | 12.04 | 13.92 | 0.00 | 0.45 | 0.71 | 0.78 | 0.82 |
| 2400 | 3.31 | 4.56 | 6.04 | 6.76 | 7.58 | 8.39 | 9.32 | 11.52 | 13.61 | 15.60 | 0.00 | 0.54 | 0.86 | 0.93 | 0.99 |
| 2800 | 3.66 | 5.11 | 6.78 | 7.61 | 8.54 | 9.45 | 10.48 | 12.91 | 15.21 | 17.29 | 0.00 | 0.63 | 1.00 | 1.09 | 1.15 |
| 2880 | 3.68 | 5.16 | 6.84 | 7.68 | 8.62 | 9.53 | 10.57 | 13.02 | 15.34 | 17.42 | 0.00 | 0.64 | 1.03 | 1.12 | 1.19 |
| 3200 | 3.88 | 5.47 | 7.27 | 8.18 | 9.18 | 10.15 | 11.23 | 13.76 | 16.09 | 18.51 | 0.00 | 0.72 | 1.14 | 1.25 | 1.32 |
| 3600 | 4.11 | 5.83 | 7.77 | 8.76 | 9.83 | 10.85 | 12.00 | 14.60 | 16.91 | 19.71 | 0.00 | 0.81 | 1.29 | 1.40 | 1.48 |

| SPB Power ratings (kW) | | | | | | | | | | Power addition (kW) for speed ratio | | | | | |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------|-------------|-------------|-------------|-----------|------|
| rev/min | 140 | 160 | 180 | 200 | 224 | 236 | 250 | 280 | 315 | 1.00 - 1.05 | 1.06 - 1.25 | 1.26 - 2.00 | 2.01 - 3.00 | over 3.00 | |
| 200 | 1.40 | 1.79 | 2.19 | 2.57 | 3.06 | 3.28 | 3.52 | 4.12 | 4.78 | | 0.00 | 0.09 | 0.15 | 0.16 | 0.17 |
| 400 | 2.52 | 3.29 | 4.02 | 4.78 | 5.66 | 6.10 | 6.61 | 7.70 | 8.92 | | 0.00 | 0.19 | 0.29 | 0.32 | 0.34 |
| 600 | 3.50 | 4.60 | 5.65 | 6.73 | 7.98 | 8.50 | 9.33 | 10.88 | 12.62 | | 0.00 | 0.28 | 0.45 | 0.48 | 0.51 |
| 720 | 4.08 | 5.36 | 6.61 | 7.88 | 9.34 | 9.90 | 10.93 | 12.75 | 14.78 | | 0.00 | 0.33 | 0.54 | 0.59 | 0.62 |
| 800 | 4.45 | 5.87 | 7.23 | 8.63 | 10.24 | 10.94 | 11.98 | 13.97 | 16.18 | | 0.00 | 0.37 | 0.60 | 0.65 | 0.69 |
| 960 | 5.19 | 6.85 | 8.48 | 10.12 | 12.03 | 13.00 | 14.04 | 16.37 | 18.94 | | 0.00 | 0.44 | 0.70 | 0.77 | 0.81 |
| 1200 | 6.17 | 8.20 | 10.18 | 12.15 | 14.45 | 15.61 | 16.84 | 19.53 | 22.53 | | 0.00 | 0.56 | 0.89 | 0.97 | 1.03 |
| 1440 | 7.13 | 9.50 | 11.84 | 14.11 | 16.79 | 18.12 | 19.53 | 22.55 | 25.93 | | 0.00 | 0.66 | 1.06 | 1.15 | 1.21 |
| 1600 | 7.66 | 10.25 | 12.77 | 15.20 | 18.04 | 19.46 | 20.96 | 24.14 | 27.56 | | 0.00 | 0.75 | 1.19 | 1.29 | 1.37 |
| 1800 | 8.31 | 11.16 | 13.89 | 16.52 | 19.56 | 21.07 | 22.67 | 26.01 | 29.47 | | 0.00 | 0.84 | 1.34 | 1.45 | 1.54 |
| 2000 | 8.94 | 12.04 | 14.97 | 17.80 | 21.00 | 22.60 | 24.29 | 27.76 | 31.21 | | 0.00 | 0.93 | 1.48 | 1.62 | 1.71 |
| 2400 | 9.91 | 13.37 | 16.59 | 19.63 | 23.15 | 24.55 | 26.83 | 29.45 | 31.95 | | 0.00 | 1.11 | 1.78 | 1.94 | 2.05 |
| 2880 | 10.95 | 14.78 | 18.29 | 21.51 | 25.29 | 26.39 | 29.29 | - | - | | 0.00 | 1.32 | 2.11 | 2.31 | 2.44 |
| 3000 | 11.11 | 15.01 | 18.56 | 21.75 | 25.45 | 26.53 | 29.42 | - | - | | 0.00 | 1.39 | 2.23 | 2.42 | 2.57 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Selection Data

Table 4 - Power ratings (continued)

| SPC Power ratings (kW) | | | | | | | | | | | | | | Power addition (kW) for speed ratio | | | | |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------|-----------|-----------|-----------|-----------|
| rev/min | 224 | 236 | 250 | 265 | 280 | 300 | 315 | 335 | 355 | 400 | 450 | 500 | 560 | 1.00-1.05 | 1.06-1.25 | 1.26-2.00 | 2.01-3.00 | over 3.00 |
| 200 | 3.99 | 4.47 | 4.95 | 5.27 | 6.04 | 6.71 | 7.30 | 8.09 | 8.73 | 10.34 | 12.06 | 13.81 | 15.87 | 0.00 | 0.29 | 0.46 | 0.50 | 0.53 |
| 400 | 7.16 | 8.04 | 8.98 | 10.02 | 11.05 | 12.28 | 13.40 | 14.78 | 16.15 | 19.09 | 22.40 | 25.59 | 29.40 | 0.00 | 0.57 | 0.92 | 1.00 | 1.06 |
| 600 | 9.86 | 11.04 | 12.43 | 13.99 | 15.35 | 17.14 | 18.71 | 20.63 | 22.52 | 26.65 | 31.17 | 35.57 | 40.66 | 0.00 | 0.86 | 1.37 | 1.50 | 1.59 |
| 720 | 11.41 | 12.77 | 14.43 | 16.29 | 17.84 | 19.95 | 21.79 | 24.03 | 26.20 | 31.02 | 36.21 | 41.27 | 47.04 | 0.00 | 1.03 | 1.65 | 1.80 | 1.90 |
| 800 | 12.41 | 13.84 | 15.71 | 17.66 | 19.46 | 21.74 | 23.75 | 26.18 | 28.54 | 33.76 | 39.32 | 44.33 | 50.77 | 0.00 | 1.15 | 1.83 | 2.00 | 2.11 |
| 960 | 14.34 | 15.93 | 18.20 | 20.33 | 22.59 | 25.23 | 27.56 | 30.36 | 33.08 | 39.06 | 45.29 | 50.11 | 57.80 | 0.00 | 1.37 | 2.20 | 2.40 | 2.54 |
| 1200 | 16.78 | 18.78 | 21.36 | 23.73 | 26.53 | 29.62 | 32.29 | 35.41 | 38.55 | 45.07 | 51.63 | 56.89 | 63.01 | 0.00 | 1.72 | 2.75 | 3.00 | 3.17 |
| 1440 | 19.05 | 21.44 | 24.30 | 26.88 | 30.17 | 33.67 | 36.63 | 40.02 | 43.49 | 50.36 | 56.96 | 62.32 | - | 0.00 | 2.06 | 3.30 | 3.60 | 3.81 |
| 1600 | 20.14 | 22.92 | 25.82 | 28.93 | 29.55 | 35.57 | 38.64 | 42.18 | 45.58 | 52.35 | 58.09 | - | - | 0.00 | 2.29 | 3.67 | 4.00 | 4.23 |
| 1800 | 21.39 | 24.30 | 27.39 | 30.63 | 33.82 | 37.51 | 40.66 | 44.04 | 47.43 | 53.97 | - | - | - | 0.00 | 2.58 | 4.12 | 4.50 | 4.76 |
| 2000 | 22.25 | 25.33 | 28.53 | 31.82 | 35.09 | 38.74 | 41.82 | 45.08 | 48.40 | - | - | - | - | 0.00 | 2.86 | 4.58 | 5.00 | 5.29 |

Table 5 - Correction factors for belt length

| SPZ | | SPA | | SPB | | SPC | |
|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| Belt length (mm) | Correction factor | Belt length (mm) | Correction factor | Belt length (mm) | Correction factor | Belt length (mm) | Correction factor |
| 510 - 710 | 0.80 | 750 - 900 | 0.80 | 1250 - 1340 | 0.80 | 2000 - 2240 | 0.80 |
| 737 - 950 | 0.85 | 925 - 1120 | 0.85 | 1400 - 1600 | 0.85 | 2360 - 2800 | 0.85 |
| 962 - 1250 | 0.90 | 1132 - 1600 | 0.90 | 1650 - 2240 | 0.90 | 3000 - 3350 | 0.90 |
| 1270 - 1500 | 0.95 | 1632 - 2240 | 0.95 | 2280 - 3000 | 0.95 | 3550 - 4500 | 0.95 |
| 1520 - 2120 | 1.00 | 2300 - 2800 | 1.00 | 3150 - 3750 | 1.00 | 4750 - 5600 | 1.00 |
| 2150 - 2840 | 1.05 | 2900 - 3550 | 1.05 | 3800 - 5000 | 1.05 | 6000 - 8000 | 1.05 |
| 2990 - 3810 | 1.10 | 3750 - 4500 | 1.10 | 5070 - 7990 | 1.10 | 8500 - 10000 | 1.10 |

Table 6 - correction factors for angle of contact on small pulley

| $\frac{D-d}{C}$ | Angle of contact | Correction factor | $\frac{D-d}{C}$ | Angle of contact | Correction factor |
|-----------------|------------------|-------------------|-----------------|------------------|-------------------|
| 0.00 | 180° | 1.00 | 0.80 | 133° | 0.94 |
| 0.10 | 174° | 0.99 | 0.90 | 127° | 0.92 |
| 0.20 | 169° | 0.99 | 1.00 | 120° | 0.91 |
| 0.30 | 163° | 0.98 | 1.10 | 113° | 0.89 |
| 0.40 | 157° | 0.98 | 1.20 | 106° | 0.87 |
| 0.50 | 151° | 0.97 | 1.30 | 99° | 0.85 |
| 0.60 | 145° | 0.96 | 1.40 | 91° | 0.82 |
| 0.70 | 139° | 0.95 | 1.45 | 87° | 0.80 |

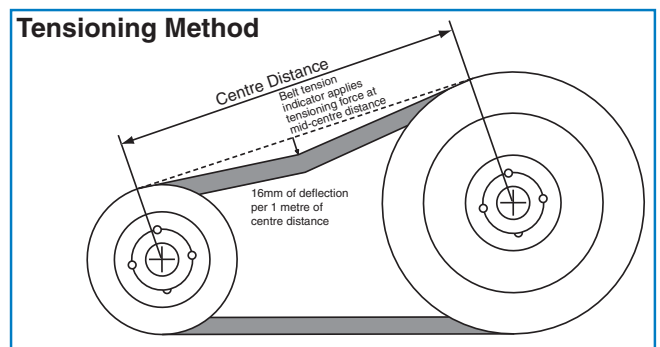
Belt Tensioning

Challenge 'V' and Wedge belts are manufactured to ensure precise length and to stay matched during storage and on the drive for many years. This also ensures that each belt, when correctly tensioned, will take the correct share of the load to be transmitted, thus helping to achieve maximum life for the drive.

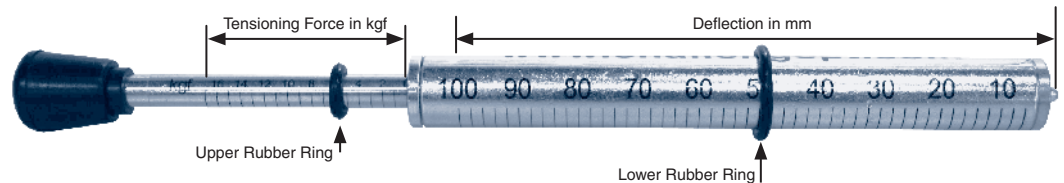
We recommend using the CHALLENGE Belt Tensioning Gauge to obtain the correct tension for the drive thus ensuring optimum life from the belts. This method has been verified by successful drives globally

Method of belt tensioning using the CHALLENGE Belt Tension Gauge

- 1] Install the belts to be a snug fit around the pulleys
 - 2] Rotate the pulleys a few revolutions to allow the belts to sit correctly in the pulley grooves. Be careful not to trap fingers !
 - 3] Calculate the deflection in mm on a basis of 16 mm per metre of centre distance
 - 4] Set the lower black rubber ring on the large tube to the deflection required in mm
 - 5] Set the upper ring (on the metal rod) against the top of the large tube
 - 6] Place the belt tension indicator on top of the belt at the middle of the centre distance and apply a force at right angles to the belt, deflecting it to the point where the lower rubber ring is level with the top of an adjacent belt.
 - 7] Read off the tensioning force value indicated by the bottom edge of the upper rubber ring
 - 8] Compare this force to the value in the table and adjust the tension until the correct value is attained
 - 9] A new drive should be tensioned to the 1.3 x tensioning force to allow for belt tension decay during the initial bedding in period.
- After approximately 30 minutes of running and thereafter, the tension should be set to the basic tensioning value
- 10] For a single belt drive, use a straight edge across the two pulleys to act as a reference point and apply the CHALLENGE Belt Tension Gauge as per point 6.
 - 11] If a CHALLENGE Belt Tension Gauge is not available, using a spring balance and rule is acceptable.



Belt Tension Indicator



Tensioning forces

| Belt section | Tensioning force to deflect belt 16 mm per metre of centre distance | | |
|--------------|---|-------------------------------|-------------------------------|
| | Small pulley diameter (mm) | Basic tensioning forces (kgf) | 1.3 x tensioning forces (kgf) |
| SPZ | 56 – 71 | 1.6 | 2.1 |
| | 75 – 90 | 1.8 | 2.3 |
| | 90 – 125 | 2.0 | 2.6 |
| | 125 + | 2.1 | 2.7 |
| SPA | 63 – 100 | 2.2 | 2.8 |
| | 106 – 140 | 3.0 | 3.9 |
| | 150 – 200 | 3.7 | 4.8 |
| | 200 + | 4.0 | 5.2 |
| SPB | 100 – 160 | 4.0 | 5.2 |
| | 170 – 224 | 5.1 | 6.6 |
| | 236 – 355 | 6.3 | 8.2 |
| | 355 + | 6.6 | 8.6 |
| SPC | 200 – 250 | 7.1 | 9.2 |
| | 265 – 355 | 9.4 | 12.2 |
| | 375 + | 12.0 | 15.6 |
| Z | 56 – 100 | 0.5 – 0.8 | 0.6 – 1.0 |
| A | 80 – 140 | 1.0 – 1.5 | 1.3 – 1.9 |
| B | 125 – 200 | 2.0 – 3.1 | 2.6 – 4.0 |
| C | 200 – 400 | 4.1 – 6.1 | 5.5 – 7.9 |
| D | 355 – 600 | 7.1 – 10.7 | 9.2 – 13.9 |

The tensioning forces in the table above are representative for a correctly designed drive. A precise tensioning force for a particular drive can be calculated from basic principles if desired. Contact Challenge for details

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Technical Information

Design Data Required For Belt Drives

- 1) Type of prime driver
- 2) Starting arrangement: 'Soft' Start
'Heavy' Start
- 3) Speed of prime driver in rev/min
- 4) Power rating of prime driver in kW
- 5) Type of driven machine
- 6) Speed of driven machine in rev/min
- 7) Absorbed power of the driven machine in kW
- 8) Operating hours / day
- 9) Shaft diameters of both driver and driven machines
- 10) Drive centre distance. Is this fixed or does it have adjustment?
- 11) Are there any space constraints
- 12) Are there any environmental issues such as temperature, water, oil etc.

Belt Length Calculation

$$\text{Length (L)} = 2C + \frac{(D-d)^2}{4C} + 1.57 (D+d)$$

where

- L = Pitch length of belt in millimetres.
- C = Centre distance in millimetres.
- D = Pitch diam. of large pulley in millimetres.
- d = Pitch diam. of small pulley in millimetres.

Centre distance, given pulley diameters and belt length:

$$\text{Centre Distance (C)} = A + \sqrt{A^2 - B}$$

where

$$A = \frac{L}{4} - 0.3925 (D + d) \quad \text{and} \quad B = \frac{(D - d)^2}{8}$$

Belt Speed Calculation

$$S = \frac{d \times n}{19100} \quad \text{m/s}$$

- where
- S = belt speed in metres per second (m/s)
 - d = pulley pitch diameter in mm
 - n = rotational speed of the same pulley in rev/min

Installation and Maintenance of 'V' and Wedge Belt Drives

Modern 'V' and Wedge belt drives are highly efficient, but efficiency and reliability are only maintained if belts are correctly installed, tensioned and maintained.

Particular care must be made in maintaining the correct tension. Incorrectly tensioned drives are the overwhelming cause of premature drive failure.

The correct use of a tension indicator will ensure optimum life is achieved from your drive.

Installation

Pulleys

Inspect pulley grooves for wear and ensure there are no ridges, score marks, rust or pitting and that the groove has been machined to the correct International standard.

Alignment

To avoid premature belt wear, correct pulley alignment is essential. Beware of using straight edges that may not be straight! A piece of string stretched tight is more reliable. Pulley misalignment must not be visible.

If a laser alignment device is available, it should be used.

Belt installation

The drive centre distance should be reduced (normally by adjusting the prime mover position) so that the belts can be fitted easily into the pulley grooves. The belts must never be forced into the grooves as this poor practice could rupture the load carrying cords causing early drive failure.

Tensioning

See page 170 for the correct method of tensioning Challenge 'V' and Wedge belts.

Guards

When guards are fitted to drives, it is essential they allow the free movement of air in order to avoid unnecessary heat build up.

Preferably, guards should be of wire mesh design.

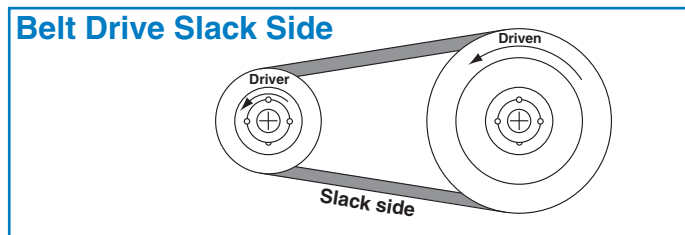
Tensioning pulleys (sometimes called jockey pulleys)

If tensioning pulleys are to be used, follow the basic rules below :-

'V'-Belts – a flat pulley bearing on the outside of the drive is acceptable. The pulley should be fitted to bear on the slack side of the drive near to the small pulley. If a grooved pulley is used on the inside of the drive, it should be positioned near to the large pulley.

Wedge Belts – the tensioning pulley must be grooved and fitted onto the inside of the slack side of the drive near to the large pulley.

The tensioning pulley diameter must be at least the diameter of the small pulley on the drive.



Trouble Shooting

Trouble Shooting

| Problem | Excessive Oil Exposure to Elements | Levered over Pulley | Contact with Obstruction | Insufficient Tension | Stalled Driven | Constant Slippage | Rough Pulley | Sub Standard Pulley | Excessive Tension | Shock Load | Foreign Material | Excessive Dust | Worn Pulleys | High Ambient Temperature | Incorrect design | Damaged Tensile Member | Incorrect Drive Set up | Improper Make-up | Mixed Old & New Belts | Different Materials | Belts/Pulleys Incompatible | Clean Pulleys & Belts | Replace Belts & Belts | Install Protection | Check Belt Length | Tension Obstruction | Replace Pulleys | File Smooth | Align Drive | Provide Ventilation | Check for Proper Belt | Use Only New Belts | Check Fit | | |
|----------------------------------|------------------------------------|---------------------|--------------------------|----------------------|----------------|-------------------|--------------|---------------------|-------------------|------------|------------------|----------------|--------------|--------------------------|------------------|------------------------|------------------------|------------------|-----------------------|---------------------|----------------------------|-----------------------|-----------------------|--------------------|-------------------|---------------------|-----------------|-------------|-------------|---------------------|-----------------------|--------------------|-----------|--|--|
| Loose Cover & Swell | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Weathering or Cracks | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gouges | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spin Burn | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Envelope Wear | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Uneven Envelope Wear | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ply Separation | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Side Split | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Broken Belts | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Belt Turn Over | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardening & Premature Cracking | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Belt Squeal | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Excessive Stretch | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Excessive Vibration | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Belts too Long at Installation | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Belts too Short at Installation | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mismatched Belts at Installation | * | * | * | * | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Question to Ask on “Belt Failures”

- 1) Ask for the above information. Check the design, using this information?
- 2) Were the belts tensioned correctly?
- 3) Has the alignment of the drive been checked?
- 4) Have the pulleys been checked for wear?
- 5) Ensure that the belts were not “levered” onto the pulley.
- 6) Compare the belts visual condition against the under mentioned “Trouble Shooting” table in “problems” and decide on the best probable cause/s.

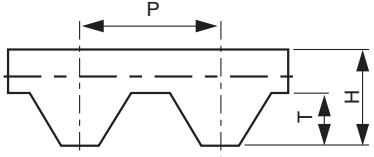
Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Classical Timing Belts

Challenge Classical Timing Belts

Challenge classical synchronous belts are manufactured to ISO 5296 in four pitch sizes.

Belt Dimensions

|  | XL | L | H | XH | |
|---|-----------------|--------------|--------------|---------------|---------------|
| | Extra Light | Light | Heavy | Extra Heavy | |
| | Belt Pitch (P) | 1/5" (5.080) | 3/8" (9.525) | 1/2" (12.700) | 7/8" (22.225) |
| | Tooth Depth (T) | 1.27 | 1.91 | 2.29 | 6.35 |
| Belt Thickness (H) | 2.40 | 3.60 | 4.40 | 11.40 | |

XL (Extra Light Series) 1/5" Pitch (5.08mm)

| Width | | | Pitch Length | Number of Teeth |
|------------------------------|-------------------------------|------------------------------|--------------|-----------------|
| 1/4" (6.5 mm) Part Number | 5/16" (7.9 mm) Part Number | 3/8" (9.5 mm) Part Number | | |
| 60XL025 | 60XL031 | 60XL037 | 152.4 | 30 |
| 70XL025 | 70XL031 | 70XL037 | 177.8 | 35 |
| 80XL025 | 80XL031 | 80XL037 | 203.2 | 40 |
| 90XL025 | 90XL031 | 90XL037 | 228.6 | 45 |
| 98XL025 | 98XL031 | 98XL037 | 248.9 | 49 |
| 100XL025 | 100XL031 | 100XL037 | 254.0 | 50 |
| 102XL025 | 102XL031 | 102XL037 | 259.1 | 51 |
| 104XL025 | 104XL031 | 104XL037 | 264.2 | 52 |
| 106XL025 | 106XL031 | 106XL037 | 269.2 | 53 |
| 110XL025 | 110XL031 | 110XL037 | 279.4 | 55 |
| 120XL025 | 120XL031 | 120XL037 | 304.8 | 60 |
| 130XL025 | 130XL031 | 130XL037 | 330.2 | 65 |
| 140XL025 | 140XL031 | 140XL037 | 355.6 | 70 |
| 146XL025 | 146XL031 | 146XL037 | 370.8 | 73 |
| 150XL025 | 150XL031 | 150XL037 | 381.0 | 75 |
| 156XL025 | 156XL031 | 156XL037 | 396.2 | 78 |
| 160XL025 | 160XL031 | 160XL037 | 406.4 | 80 |
| 170XL025 | 170XL031 | 170XL037 | 431.8 | 85 |
| 176XL025 | 176XL031 | 176XL037 | 447.0 | 88 |
| 180XL025 | 180XL031 | 180XL037 | 457.2 | 90 |
| 182XL025 | 182XL031 | 182XL037 | 462.3 | 91 |
| 188XL025 | 188XL031 | 188XL037 | 477.5 | 94 |
| 190XL025 | 190XL031 | 190XL037 | 482.6 | 95 |
| 198XL025 | 198XL031 | 198XL037 | 502.9 | 99 |
| 200XL025 | 200XL031 | 200XL037 | 508.0 | 100 |
| 202XL025 | 202XL031 | 202XL037 | 513.1 | 101 |
| 210XL025 | 210XL031 | 210XL037 | 533.4 | 105 |
| 212XL025 | 212XL031 | 212XL037 | 538.5 | 106 |
| 214XL025 | 214XL031 | 214XL037 | 543.6 | 107 |
| 220XL025 | 220XL031 | 220XL037 | 558.8 | 110 |
| 228XL025 | 228XL031 | 228XL037 | 579.1 | 114 |
| 230XL025 | 230XL031 | 230XL037 | 584.2 | 115 |
| 234XL025 | 234XL031 | 234XL037 | 594.4 | 117 |
| 240XL025 | 240XL031 | 240XL037 | 609.6 | 120 |
| 250XL025 | 250XL031 | 250XL037 | 635.0 | 125 |
| 260XL025 | 260XL031 | 260XL037 | 660.4 | 130 |

Classical Timing Belts

L (Light Series) 3/8" Pitch (9.525mm)

| Width | | | Pitch Length | Number of Teeth |
|-----------------------------|-----------------------------|---------------------------|--------------|-----------------|
| 1/2" (13 mm) Part Number | 3/4" (19 mm) Part Number | 1" (25 mm) Part Number | | |
| 124L050 | 124L075 | 124L100 | 314.3 | 33 |
| 135L050 | 135L075 | 135L100 | 342.9 | 36 |
| 150L050 | 150L075 | 150L100 | 381.0 | 40 |
| 173L050 | 173L075 | 173L100 | 438.2 | 46 |
| 187L050 | 187L075 | 187L100 | 476.3 | 50 |
| 202L050 | 202L075 | 202L100 | 514.4 | 54 |
| 210L050 | 210L075 | 210L100 | 533.4 | 56 |
| 225L050 | 225L075 | 225L100 | 571.5 | 60 |
| 240L050 | 240L075 | 240L100 | 609.6 | 64 |
| 255L050 | 255L075 | 255L100 | 647.7 | 68 |
| 270L050 | 270L075 | 270L100 | 685.8 | 72 |
| 285L050 | 285L075 | 285L100 | 723.9 | 76 |
| 300L050 | 300L075 | 300L100 | 762.0 | 80 |
| 322L050 | 322L075 | 322L100 | 819.2 | 86 |
| 334L050 | 334L075 | 334L100 | 848.4 | 89 |
| 345L050 | 345L075 | 345L100 | 876.3 | 92 |
| 367L050 | 367L075 | 367L100 | 933.5 | 98 |
| 390L050 | 390L075 | 390L100 | 990.6 | 104 |
| 405L050 | 405L075 | 405L100 | 1028.7 | 108 |
| 412L050 | 412L050 | 412L100 | 1047.8 | 110 |
| 420L050 | 420L075 | 420L100 | 1066.8 | 112 |
| 450L050 | 450L075 | 450L100 | 1143.0 | 120 |
| 480L050 | 480L075 | 480L100 | 1219.2 | 128 |
| 510L050 | 510L075 | 510L100 | 1295.4 | 136 |
| 540L050 | 540L075 | 540L100 | 1371.6 | 144 |
| 600L050 | 600L075 | 600L100 | 1524.0 | 160 |

Classical Timing Belts

H (Heavy Series) 1/2" Pitch (12.7mm)

| Width | | | | | Pitch Length | Number of Teeth |
|-----------------------------|---------------------------|-------------------------------|---------------------------|---------------------------|--------------|-----------------|
| 3/4" (19 mm) Part Number | 1" (25 mm) Part Number | 1.1/2" (38 mm) Part Number | 2" (51 mm) Part Number | 3" (75 mm) Part Number | | |
| 240H075 | 240H100 | 240H150 | 240H200 | 240H300 | 609.6 | 48 |
| 270H075 | 270H100 | 270H150 | 270H200 | 270H300 | 685.8 | 54 |
| 300H075 | 300H100 | 300H150 | 300H200 | 300H300 | 762.0 | 60 |
| 310H075 | 310H100 | 310H150 | 310H200 | 310H300 | 787.4 | 62 |
| 330H075 | 330H100 | 330H150 | 330H200 | 330H300 | 838.2 | 66 |
| 360H075 | 360H100 | 360H150 | 360H200 | 360H300 | 914.4 | 72 |
| 370H075 | 370H100 | 370H150 | 370H200 | 370H300 | 939.8 | 74 |
| 390H075 | 390H100 | 390H150 | 390H200 | 390H300 | 990.6 | 78 |
| 420H075 | 420H100 | 420H150 | 420H200 | 420H300 | 1066.8 | 84 |
| 450H075 | 450H100 | 450H150 | 450H200 | 450H300 | 1143.0 | 90 |
| 480H075 | 480H100 | 480H150 | 480H200 | 480H300 | 1219.2 | 96 |
| 510H075 | 510H100 | 510H150 | 510H200 | 510H300 | 1295.4 | 102 |
| 540H075 | 540H100 | 540H150 | 540H200 | 540H300 | 1371.6 | 108 |
| 570H075 | 570H100 | 570H150 | 570H200 | 570H300 | 1447.8 | 114 |
| 600H075 | 600H100 | 600H150 | 600H200 | 600H300 | 1524.0 | 120 |
| 630H075 | 630H100 | 630H150 | 630H200 | 630H300 | 1600.2 | 126 |
| 660H075 | 660H100 | 660H150 | 660H200 | 660H300 | 1676.4 | 132 |
| 670H075 | 670H100 | 670H150 | 670H200 | 670H300 | 1701.8 | 134 |
| 700H075 | 700H100 | 700H150 | 700H200 | 700H300 | 1778.0 | 140 |
| 725H075 | 725H100 | 725H150 | 725H200 | 725H300 | 1841.5 | 145 |
| 750H075 | 750H100 | 750H150 | 750H200 | 750H300 | 1905.0 | 150 |
| 800H075 | 800H100 | 800H150 | 800H200 | 800H300 | 2032.0 | 160 |
| 850H075 | 850H100 | 850H150 | 850H200 | 850H300 | 2159.0 | 170 |
| 900H075 | 900H100 | 900H150 | 900H200 | 900H300 | 2286.0 | 180 |
| 1000H075 | 1000H100 | 1000H150 | 1000H200 | 1000H300 | 2540.0 | 200 |
| 1100H075 | 1100H100 | 1100H150 | 1100H200 | 1100H300 | 2794.0 | 220 |
| 1120H075 | 1120H100 | 1120H150 | 1120H200 | 1120H300 | 2844.8 | 224 |
| 1140H075 | 1140H100 | 1140H150 | 1140H200 | 1140H300 | 2895.6 | 228 |
| 1150H075 | 1150H100 | 1150H150 | 1150H200 | 1150H300 | 2921.0 | 230 |
| 1250H075 | 1250H100 | 1250H150 | 1250H200 | 1250H300 | 3175.0 | 250 |
| 1400H075 | 1400H100 | 1400H150 | 1400H200 | 1400H300 | 3556.0 | 280 |
| 1645H075 | 1645H100 | 1645H150 | 1645H200 | 1645H300 | 4178.3 | 329 |
| 1700H075 | 1700H100 | 1700H150 | 1700H200 | 1700H300 | 4318.0 | 340 |

XH (Extra Heavy Series) 7/8" Pitch (22.225mm)

| Width | | | Pitch Length | Number of Teeth |
|---------------------------|---------------------------|----------------------------|--------------|-----------------|
| 2" (51 mm) Part Number | 3" (75 mm) Part Number | 4" (102 mm) Part Number | | |
| 507XH200 | 507XH300 | 507XH400 | 1289.1 | 58 |
| 534XH200 | 534XH300 | 534XH400 | 1356.4 | 61 |
| 560XH200 | 560XH300 | 560XH400 | 1422.4 | 64 |
| 630XH200 | 630XH300 | 630XH400 | 1600.2 | 72 |
| 700XH200 | 700XH300 | 700XH400 | 1778.0 | 80 |
| 770XH200 | 770XH300 | 770XH400 | 1955.8 | 88 |
| 840XH200 | 840XH300 | 840XH400 | 2133.6 | 96 |
| 980XH200 | 980XH300 | 980XH400 | 2489.2 | 112 |
| 1120XH200 | 1120XH300 | 1120XH400 | 2844.8 | 128 |
| 1260XH200 | 1260XH300 | 1260XH400 | 3200.4 | 144 |
| 1400XH200 | 1400XH300 | 1400XH400 | 3556.0 | 160 |
| 1540XH200 | 1540XH300 | 1540XH400 | 3911.6 | 176 |
| 1750XH200 | 1750XH300 | 1750XH400 | 4445.0 | 200 |

Curved Tooth Timing Belts HTD Profile

Challenge Curved Tooth Timing Belts HTD Profile

The special curved tooth design provides improved power transmission in a wide range of industrial applications.

The precision formed teeth ensure smooth engagement with pulley grooves ensuring a long trouble free service life.

Challenge Curved Tooth Timing Belts conform to ISO 13050

3M and 5M pitch belts are especially suited for many domestic, office machinery and power tool applications.

8M and 14M pitch belts are widely used in high performance drive applications.

Belt Dimensions

| | 3M | 5M | 8M | 14M |
|--------------------|------|------|------|-------|
| Belt Pitch (P) | 3.00 | 5.00 | 8.00 | 14.00 |
| Tooth Depth (T) | 1.15 | 2.00 | 3.20 | 6.00 |
| Belt Thickness (H) | 2.40 | 3.80 | 5.40 | 9.70 |

Curved Tooth, 3mm Pitch 3M

| Width | | | Number of Teeth |
|-----------------|-----------------|------------------|-----------------|
| 6mm Part Number | 9mm Part Number | 15mm Part Number | |
| 90-3M-6 | 90-3M-9 | 90-3M-15 | 30 |
| 105-3M-6 | 105-3M-9 | 105-3M-15 | 35 |
| 129-3M-6 | 129-3M-9 | 129-3M-15 | 43 |
| 141-3M-6 | 141-3M-9 | 141-3M-15 | 47 |
| 144-3M-6 | 144-3M-9 | 144-3M-15 | 48 |
| 147-3M-6 | 147-3M-9 | 147-3M-15 | 49 |
| 150-3M-6 | 150-3M-9 | 150-3M-15 | 50 |
| 159-3M-6 | 159-3M-9 | 159-3M-15 | 53 |
| 168-3M-6 | 168-3M-9 | 168-3M-15 | 56 |
| 174-3M-6 | 174-3M-9 | 174-3M-15 | 58 |
| 177-3M-6 | 177-3M-9 | 177-3M-15 | 59 |
| 180-3M-6 | 180-3M-9 | 180-3M-15 | 60 |
| 186-3M-6 | 186-3M-9 | 186-3M-15 | 62 |
| 195-3M-6 | 195-3M-9 | 195-3M-15 | 65 |
| 201-3M-6 | 201-3M-9 | 201-3M-15 | 67 |
| 204-3M-6 | 204-3M-9 | 204-3M-15 | 68 |
| 210-3M-6 | 210-3M-9 | 210-3M-15 | 70 |
| 213-3M-6 | 213-3M-9 | 213-3M-15 | 71 |
| 225-3M-6 | 225-3M-9 | 225-3M-15 | 75 |
| 231-3M-6 | 231-3M-9 | 231-3M-15 | 77 |
| 240-3M-6 | 240-3M-9 | 240-3M-15 | 80 |
| 243-3M-6 | 243-3M-9 | 243-3M-15 | 81 |
| 246-3M-6 | 246-3M-9 | 246-3M-15 | 82 |
| 249-3M-6 | 249-3M-9 | 249-3M-15 | 83 |
| 252-3M-6 | 252-3M-9 | 252-3M-15 | 84 |
| 255-3M-6 | 255-3M-9 | 255-3M-15 | 85 |
| 261-3M-6 | 261-3M-9 | 261-3M-15 | 87 |
| 264-3M-6 | 264-3M-9 | 264-3M-15 | 88 |
| 267-3M-6 | 267-3M-9 | 267-3M-15 | 89 |
| 270-3M-6 | 270-3M-9 | 270-3M-15 | 90 |
| 276-3M-6 | 276-3M-9 | 276-3M-15 | 92 |
| 285-3M-6 | 285-3M-9 | 285-3M-15 | 95 |
| 288-3M-6 | 288-3M-9 | 288-3M-15 | 96 |
| 291-3M-6 | 291-3M-9 | 291-3M-15 | 97 |
| 297-3M-6 | 297-3M-9 | 297-3M-15 | 99 |
| 300-3M-6 | 300-3M-9 | 300-3M-15 | 100 |
| 312-3M-6 | 312-3M-9 | 312-3M-15 | 104 |
| 318-3M-6 | 318-3M-9 | 318-3M-15 | 106 |
| 327-3M-6 | 327-3M-9 | 327-3M-15 | 109 |
| 330-3M-6 | 330-3M-9 | 330-3M-15 | 110 |
| 333-3M-6 | 333-3M-9 | 333-3M-15 | 111 |
| 336-3M-6 | 336-3M-9 | 336-3M-15 | 112 |
| 339-3M-6 | 339-3M-9 | 339-3M-15 | 113 |

| Width | | | Number of Teeth |
|-----------------|-----------------|------------------|-----------------|
| 6mm Part Number | 9mm Part Number | 15mm Part Number | |
| 345-3M-6 | 345-3M-9 | 345-3M-15 | 115 |
| 357-3M-6 | 357-3M-9 | 357-3M-15 | 119 |
| 363-3M-6 | 363-3M-9 | 363-3M-15 | 121 |
| 375-3M-6 | 375-3M-9 | 375-3M-15 | 125 |
| 384-3M-6 | 384-3M-9 | 384-3M-15 | 128 |
| 390-3M-6 | 390-3M-9 | 390-3M-15 | 130 |
| 393-3M-6 | 393-3M-9 | 393-3M-15 | 131 |
| 405-3M-6 | 405-3M-9 | 405-3M-15 | 135 |
| 420-3M-6 | 420-3M-9 | 420-3M-15 | 140 |
| 432-3M-6 | 432-3M-9 | 432-3M-15 | 144 |
| 447-3M-6 | 447-3M-9 | 447-3M-15 | 149 |
| 474-3M-6 | 474-3M-9 | 474-3M-15 | 158 |
| 480-3M-6 | 480-3M-9 | 480-3M-15 | 160 |
| 486-3M-6 | 486-3M-9 | 486-3M-15 | 162 |
| 489-3M-6 | 489-3M-9 | 489-3M-15 | 163 |
| 501-3M-6 | 501-3M-9 | 501-3M-15 | 167 |
| 510-3M-6 | 510-3M-9 | 510-3M-15 | 170 |
| 513-3M-6 | 513-3M-9 | 513-3M-15 | 171 |
| 522-3M-6 | 522-3M-9 | 522-3M-15 | 174 |
| 531-3M-6 | 531-3M-9 | 531-3M-15 | 177 |
| 537-3M-6 | 537-3M-9 | 537-3M-15 | 179 |
| 564-3M-6 | 564-3M-9 | 564-3M-15 | 188 |
| 570-3M-6 | 570-3M-9 | 570-3M-15 | 190 |
| 576-3M-6 | 576-3M-9 | 576-3M-15 | 192 |
| 579-3M-6 | 579-3M-9 | 579-3M-15 | 193 |
| 597-3M-6 | 597-3M-9 | 597-3M-15 | 199 |
| 600-3M-6 | 600-3M-9 | 600-3M-15 | 200 |
| 633-3M-6 | 633-3M-9 | 633-3M-15 | 211 |
| 648-3M-6 | 648-3M-9 | 648-3M-15 | 216 |
| 669-3M-6 | 669-3M-9 | 669-3M-15 | 223 |
| 711-3M-6 | 711-3M-9 | 711-3M-15 | 237 |
| 735-3M-6 | 735-3M-9 | 735-3M-15 | 245 |
| 738-3M-6 | 738-3M-9 | 738-3M-15 | 246 |
| 756-3M-6 | 756-3M-9 | 756-3M-15 | 252 |
| 804-3M-6 | 804-3M-9 | 804-3M-15 | 268 |
| 882-3M-6 | 882-3M-9 | 882-3M-15 | 294 |
| 945-3M-6 | 945-3M-9 | 945-3M-15 | 315 |
| 1062-3M-6 | 1062-3M-9 | 1062-3M-15 | 354 |
| 1125-3M-6 | 1125-3M-9 | 1125-3M-15 | 375 |
| 1245-3M-6 | 1245-3M-9 | 1245-3M-15 | 415 |
| 1263-3M-6 | 1263-3M-9 | 1263-3M-15 | 421 |
| 1500-3M-6 | 1500-3M-9 | 1500-3M-15 | 500 |
| 1530-3M-6 | 1530-3M-9 | 1530-3M-15 | 510 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Curved Tooth Timing Belts HTD Profile

Curved Tooth, 5mm Pitch 5M

| Width | | | Number of Teeth |
|-----------------|------------------|------------------|-----------------|
| 9mm Part Number | 15mm Part Number | 25mm Part Number | |
| 305-5M-9 | 305-5M-15 | 305-5M-25 | 61 |
| 325-5M-9 | 325-5M-15 | 325-5M-25 | 65 |
| 345-5M-9 | 345-5M-15 | 345-5M-25 | 69 |
| 350-5M-9 | 350-5M-15 | 350-5M-25 | 70 |
| 375-5M-9 | 375-5M-15 | 375-5M-25 | 75 |
| 400-5M-9 | 400-5M-15 | 400-5M-25 | 80 |
| 420-5M-9 | 420-5M-15 | 420-5M-25 | 84 |
| 425-5M-9 | 425-5M-15 | 425-5M-25 | 85 |
| 450-5M-9 | 450-5M-15 | 450-5M-25 | 90 |
| 455-5M-9 | 455-5M-15 | 455-5M-25 | 91 |
| 460-5M-9 | 460-5M-15 | 460-5M-25 | 92 |
| 465-5M-9 | 465-5M-15 | 465-5M-25 | 93 |
| 475-5M-9 | 475-5M-15 | 475-5M-25 | 95 |
| 500-5M-9 | 500-5M-15 | 500-5M-25 | 100 |
| 525-5M-9 | 525-5M-15 | 525-5M-25 | 105 |
| 535-5M-9 | 535-5M-15 | 535-5M-25 | 107 |
| 565-5M-9 | 565-5M-15 | 565-5M-25 | 113 |
| 575-5M-9 | 575-5M-15 | 575-5M-25 | 115 |
| 580-5M-9 | 580-5M-15 | 580-5M-25 | 116 |
| 600-5M-9 | 600-5M-15 | 600-5M-25 | 120 |
| 610-5M-9 | 610-5M-15 | 610-5M-25 | 122 |
| 615-5M-9 | 615-5M-15 | 615-5M-25 | 123 |
| 635-5M-9 | 635-5M-15 | 635-5M-25 | 127 |
| 640-5M-9 | 640-5M-15 | 640-5M-25 | 128 |
| 670-5M-9 | 670-5M-15 | 670-5M-25 | 134 |
| 675-5M-9 | 675-5M-15 | 675-5M-25 | 135 |
| 700-5M-9 | 700-5M-15 | 700-5M-25 | 140 |
| 705-5M-9 | 705-5M-15 | 705-5M-25 | 141 |
| 710-5M-9 | 710-5M-15 | 710-5M-25 | 142 |
| 725-5M-9 | 725-5M-15 | 725-5M-25 | 145 |
| 740-5M-9 | 740-5M-15 | 740-5M-25 | 148 |

| Width | | | Number of Teeth |
|-----------------|------------------|------------------|-----------------|
| 9mm Part Number | 15mm Part Number | 25mm Part Number | |
| 750-5M-9 | 750-5M-15 | 750-5M-25 | 150 |
| 755-5M-9 | 755-5M-15 | 755-5M-25 | 151 |
| 800-5M-9 | 800-5M-15 | 800-5M-25 | 160 |
| 835-5M-9 | 835-5M-15 | 835-5M-25 | 167 |
| 850-5M-9 | 850-5M-15 | 850-5M-25 | 170 |
| 890-5M-9 | 890-5M-15 | 890-5M-25 | 178 |
| 900-5M-9 | 900-5M-15 | 900-5M-25 | 180 |
| 935-5M-9 | 935-5M-15 | 935-5M-25 | 187 |
| 940-5M-9 | 940-5M-15 | 940-5M-25 | 188 |
| 950-5M-9 | 950-5M-15 | 950-5M-25 | 190 |
| 980-5M-9 | 980-5M-15 | 980-5M-25 | 196 |
| 1000-5M-9 | 1000-5M-15 | 1000-5M-25 | 200 |
| 1025-5M-9 | 1025-5M-15 | 1025-5M-25 | 205 |
| 1050-5M-9 | 1050-5M-15 | 1050-5M-25 | 210 |
| 1100-5M-9 | 1100-5M-15 | 1100-5M-25 | 220 |
| 1125-5M-9 | 1125-5M-15 | 1125-5M-25 | 225 |
| 1135-5M-9 | 1135-5M-15 | 1135-5M-25 | 227 |
| 1195-5M-9 | 1195-5M-15 | 1195-5M-25 | 239 |
| 1200-5M-9 | 1200-5M-15 | 1200-5M-25 | 240 |
| 1240-5M-9 | 1240-5M-15 | 1240-5M-25 | 248 |
| 1270-5M-9 | 1270-5M-15 | 1270-5M-25 | 254 |
| 1420-5M-9 | 1420-5M-15 | 1420-5M-25 | 284 |
| 1595-5M-9 | 1595-5M-15 | 1595-5M-25 | 319 |
| 1690-5M-9 | 1690-5M-15 | 1690-5M-25 | 338 |
| 1790-5M-9 | 1790-5M-15 | 1790-5M-25 | 358 |
| 1800-5M-9 | 1800-5M-15 | 1800-5M-25 | 360 |
| 1870-5M-9 | 1870-5M-15 | 1870-5M-25 | 374 |
| 1895-5M-9 | 1895-5M-15 | 1895-5M-25 | 379 |
| 1945-5M-9 | 1945-5M-15 | 1945-5M-25 | 389 |
| 2000-5M-9 | 2000-5M-15 | 2000-5M-25 | 400 |

Curved Tooth Timing Belts HTD Profile

Curved Tooth, 8mm Pitch 8M

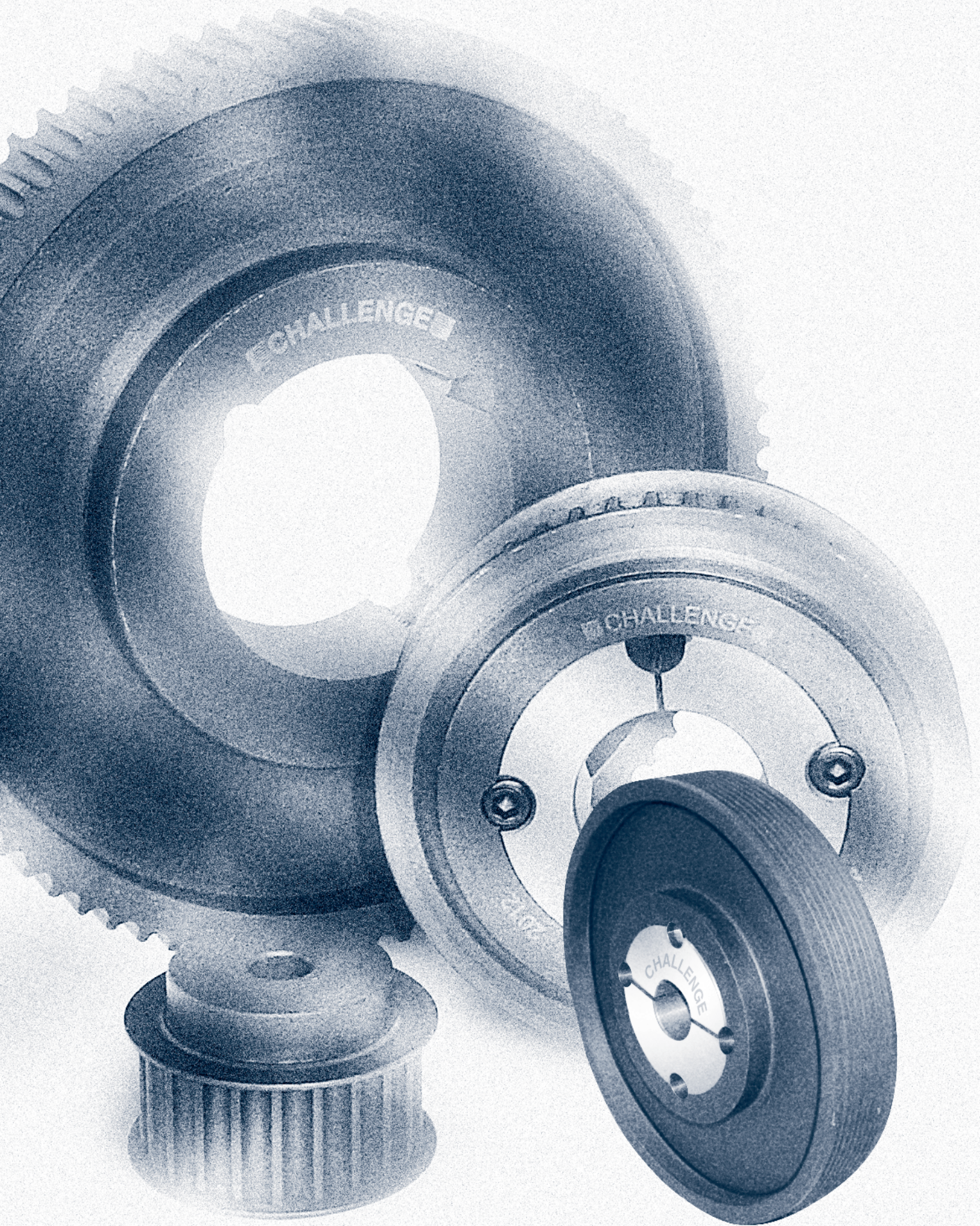
| Width | | | | Number of Teeth |
|---------------------|---------------------|---------------------|---------------------|-----------------|
| 20mm Part Number | 30mm Part Number | 50mm Part Number | 85mm Part Number | |
| 480-8M-20 | 480-8M-30 | 480-8M-50 | 480-8M-85 | 60 |
| 536-8M-20 | 536-8M-30 | 536-8M-50 | 536-8M-85 | 67 |
| 544-8M-20 | 544-8M-30 | 544-8M-50 | 544-8M-85 | 68 |
| 560-8M-20 | 560-8M-30 | 560-8M-50 | 560-8M-85 | 70 |
| 600-8M-20 | 600-8M-30 | 600-8M-50 | 600-8M-85 | 75 |
| 608-8M-20 | 608-8M-30 | 608-8M-50 | 608-8M-85 | 76 |
| 632-8M-20 | 632-8M-30 | 632-8M-50 | 632-8M-85 | 79 |
| 640-8M-20 | 640-8M-30 | 640-8M-50 | 640-8M-85 | 80 |
| 680-8M-20 | 680-8M-30 | 680-8M-50 | 680-8M-85 | 85 |
| 720-8M-20 | 720-8M-30 | 720-8M-50 | 720-8M-85 | 90 |
| 800-8M-20 | 800-8M-30 | 800-8M-50 | 800-8M-85 | 100 |
| 840-8M-20 | 840-8M-30 | 840-8M-50 | 840-8M-85 | 105 |
| 880-8M-20 | 880-8M-30 | 880-8M-50 | 880-8M-85 | 110 |
| 896-8M-20 | 896-8M-30 | 896-8M-50 | 896-8M-85 | 112 |
| 920-8M-20 | 920-8M-30 | 920-8M-50 | 920-8M-85 | 115 |
| 960-8M-20 | 960-8M-30 | 960-8M-50 | 960-8M-85 | 120 |
| 1000-8M-20 | 1000-8M-30 | 1000-8M-50 | 1000-8M-85 | 125 |
| 1040-8M-20 | 1040-8M-30 | 1040-8M-50 | 1040-8M-85 | 130 |
| 1080-8M-20 | 1080-8M-30 | 1080-8M-50 | 1080-8M-85 | 135 |
| 1120-8M-20 | 1120-8M-30 | 1120-8M-50 | 1120-8M-85 | 140 |
| 1200-8M-20 | 1200-8M-30 | 1200-8M-50 | 1200-8M-85 | 150 |
| 1224-8M-20 | 1224-8M-30 | 1224-8M-50 | 1224-8M-85 | 153 |
| 1280-8M-20 | 1280-8M-30 | 1280-8M-50 | 1280-8M-85 | 160 |
| 1352-8M-20 | 1352-8M-30 | 1352-8M-50 | 1352-8M-85 | 169 |
| 1440-8M-20 | 1440-8M-30 | 1440-8M-50 | 1440-8M-85 | 180 |
| 1464-8M-20 | 1464-8M-30 | 1464-8M-50 | 1464-8M-85 | 183 |
| 1600-8M-20 | 1600-8M-30 | 1600-8M-50 | 1600-8M-85 | 200 |
| 1760-8M-20 | 1760-8M-30 | 1760-8M-50 | 1760-8M-85 | 220 |
| 1800-8M-20 | 1800-8M-30 | 1800-8M-50 | 1800-8M-85 | 225 |
| 2000-8M-20 | 2000-8M-30 | 2000-8M-50 | 2000-8M-85 | 250 |
| 2200-8M-20 | 2200-8M-30 | 2200-8M-50 | 2200-8M-85 | 275 |
| 2400-8M-20 | 2400-8M-30 | 2400-8M-50 | 2400-8M-85 | 300 |
| 2520-8M-20 | 2520-8M-30 | 2520-8M-50 | 2520-8M-85 | 315 |
| 2600-8M-20 | 2600-8M-30 | 2600-8M-50 | 2600-8M-85 | 325 |
| 2800-8M-20 | 2800-8M-30 | 2800-8M-50 | 2800-8M-85 | 350 |

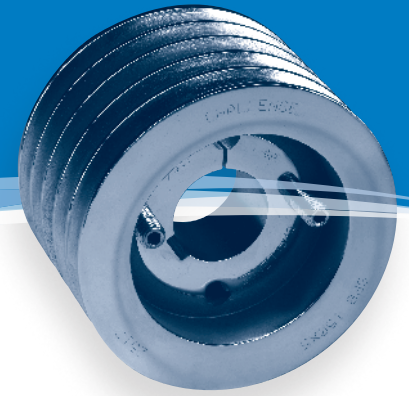
Curved Tooth Timing Belts HTD Profile

Curved Tooth, 14mm Pitch 14M

| Width | | | | | Number of Teeth |
|------------------|------------------|------------------|-------------------|-------------------|-----------------|
| 40mm Part Number | 55mm Part Number | 85mm Part Number | 115mm Part Number | 170mm Part Number | |
| 966-14M-40 | 966-14M-55 | 966-14M-85 | 966-14M-115 | 966-14M-170 | 69 |
| 994-14M-40 | 994-14M-55 | 994-14M-85 | 994-14M-115 | 994-14M-170 | 71 |
| 1092-14M-40 | 1092-14M-55 | 1092-14M-85 | 1092-14M-115 | 1092-14M-170 | 78 |
| 1106-14M-40 | 1106-14M-55 | 1106-14M-85 | 1106-14M-115 | 1106-14M-170 | 79 |
| 1190-14M-40 | 1190-14M-55 | 1190-14M-85 | 1190-14M-115 | 1190-14M-170 | 85 |
| 1260-14M-40 | 1260-14M-55 | 1260-14M-85 | 1260-14M-115 | 1260-14M-170 | 90 |
| 1288-14M-40 | 1288-14M-55 | 1288-14M-85 | 1288-14M-115 | 1288-14M-170 | 92 |
| 1344-14M-40 | 1344-14M-55 | 1344-14M-85 | 1344-14M-115 | 1344-14M-170 | 96 |
| 1400-14M-40 | 1400-14M-55 | 1400-14M-85 | 1400-14M-115 | 1400-14M-170 | 100 |
| 1442-14M-40 | 1442-14M-55 | 1442-14M-85 | 1442-14M-115 | 1442-14M-170 | 103 |
| 1568-14M-40 | 1568-14M-55 | 1568-14M-85 | 1568-14M-115 | 1568-14M-170 | 112 |
| 1610-14M-40 | 1610-14M-55 | 1610-14M-85 | 1610-14M-115 | 1610-14M-170 | 115 |
| 1764-14M-40 | 1764-14M-55 | 1764-14M-85 | 1764-14M-115 | 1764-14M-170 | 126 |
| 1778-14M-40 | 1778-14M-55 | 1778-14M-85 | 1778-14M-115 | 1778-14M-170 | 127 |
| 1848-14M-40 | 1848-14M-55 | 1848-14M-85 | 1848-14M-115 | 1848-14M-170 | 132 |
| 1890-14M-40 | 1890-14M-55 | 1890-14M-85 | 1890-14M-115 | 1890-14M-170 | 135 |
| 1904-14M-40 | 1904-14M-55 | 1904-14M-85 | 1904-14M-115 | 1904-14M-170 | 136 |
| 1960-14M-40 | 1960-14M-55 | 1960-14M-85 | 1960-14M-115 | 1960-14M-170 | 140 |
| 2100-14M-40 | 2100-14M-55 | 2100-14M-85 | 2100-14M-115 | 2100-14M-170 | 150 |
| 2240-14M-40 | 2240-14M-55 | 2240-14M-85 | 2240-14M-115 | 2240-14M-170 | 160 |
| 2310-14M-40 | 2310-14M-55 | 2310-14M-85 | 2310-14M-115 | 2310-14M-170 | 165 |
| 2380-14M-40 | 2380-14M-55 | 2380-14M-85 | 2380-14M-115 | 2380-14M-170 | 170 |
| 2450-14M-40 | 2450-14M-55 | 2450-14M-85 | 2450-14M-115 | 2450-14M-170 | 175 |
| 2590-14M-40 | 2590-14M-55 | 2590-14M-85 | 2590-14M-115 | 2590-14M-170 | 185 |
| 2660-14M-40 | 2660-14M-55 | 2660-14M-85 | 2660-14M-115 | 2660-14M-170 | 190 |
| 2800-14M-40 | 2800-14M-55 | 2800-14M-85 | 2800-14M-115 | 2800-14M-170 | 200 |
| 3150-14M-40 | 3150-14M-55 | 3150-14M-85 | 3150-14M-115 | 3150-14M-170 | 225 |
| 3360-14M-40 | 3360-14M-55 | 3360-14M-85 | 3360-14M-115 | 3360-14M-170 | 240 |
| 3500-14M-40 | 3500-14M-55 | 3500-14M-85 | 3500-14M-115 | 3500-14M-170 | 250 |
| 3850-14M-40 | 3850-14M-55 | 3850-14M-85 | 3850-14M-115 | 3850-14M-170 | 275 |
| 3920-14M-40 | 3920-14M-55 | 3920-14M-85 | 3920-14M-115 | 3920-14M-170 | 280 |
| 4326-14M-40 | 4326-14M-55 | 4326-14M-85 | 4326-14M-115 | 4326-14M-170 | 309 |
| 4578-14M-40 | 4578-14M-55 | 4578-14M-85 | 4578-14M-115 | 4578-14M-170 | 327 |

CHALLENGE®





Features

- All Challenge pulleys are produced from cast iron or steel and have a phosphated finish for protection
- V, Multiple Groove and PV pulleys are balanced to Q6.3 or better allowing them to run at peripheral (rim) speeds up to 40 m/s

V Belt Pulleys

- Can accommodate both wedge and classical belts
- Dual duty design complying with ISO 4183
- Manufactured from GG25 high grade cast iron
- Available in taper bore. Pilot and QD bush bores can be produced on enquiry.
- A wide range of non-standard styles and sizes up to a diameter of 2400 mm can be produced.

Multiple Groove Pulleys

- A simple, effective one or two groove pulley system
- No keyways or grub screws required due to the unique high torque locking system
- Manufactured from GG25 high grade cast iron

PV Pulleys

- Available in sections J, K and L sections
- Manufactured from GG25 high grade cast iron

Classical Timing Belt Pulleys

- Available in taper bore for L (3/8") and H (1/2") sections
- Also available in pilot bore for XL (1/5"), L (3/8") and H (1/2") sections
- Manufactured from either high grade cast iron or steel
- Pulleys suit standard belt widths

HTD Profile Pulleys

- Available in sections 5M, 8M and 14M
- Available in both taper and pilot bore
- Manufactured from either high grade cast iron or steel

Metric Timing Pulleys

- Available in sections T2.5, T5 and T10
- Only available in pilot bore, can be manufactured in taper bore
- Manufactured from either aluminium or cast iron

General Information

Material and Groove Specifications:

Challenge V pulleys are manufactured from fine grain grey cast iron grade GG25 and are phosphated.

Groove dimensions conform to ISO 4183 for both eccentricity of outside diameter to bore and groove side wobble tolerance.

They are suitable for use with all wedge belts according to ISO 4184 and all classical V-belts according to ISO 4184.

Peripheral Speeds:

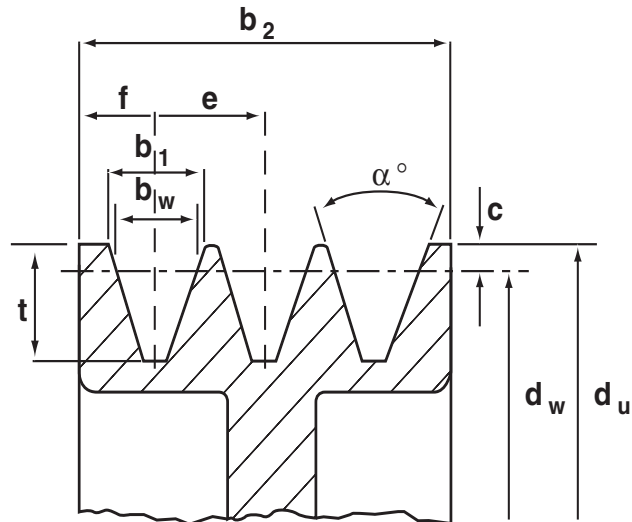
Peripheral (rim) speeds of up to 40 m/s are permissible

Balancing Specifications:

All Challenge pulleys are balanced to grade Q6.3 or better.

- Pulleys with a weight of 100kg and above are dynamically balanced (two planes).
- All pulleys with a weight less than 100kg are statically machine balanced (one plane).

V-belt Pulleys to ISO 4183

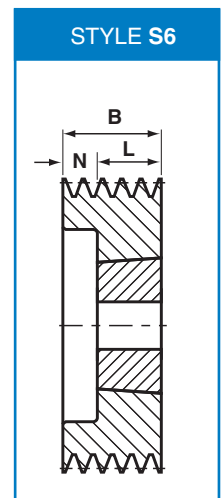
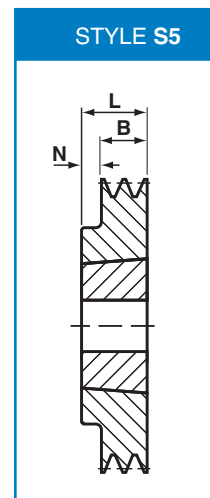
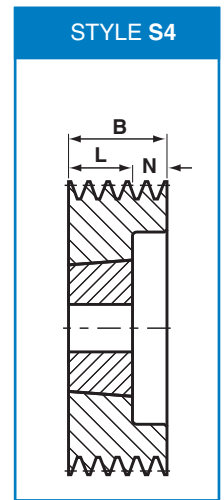
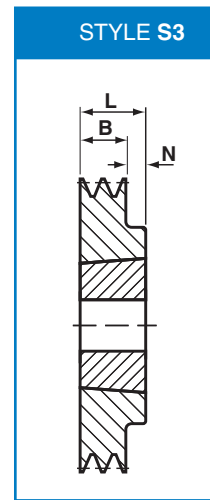
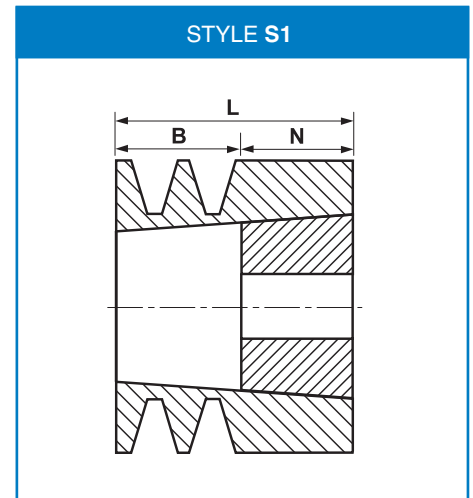


| Profile | dw (mm) | α° | b1 | bw | c | f | e | tmin |
|---------|-----------|----------------|------|------|-----|----------|----------|--------|
| SPZ | Up to 80 | 34 | 9.7 | 8.5 | 2.0 | 8±0.3 | 12±0.3 | 11+0.6 |
| | Over 80 | 38 | | | | | | |
| SPA | Up to 118 | 34 | 12.7 | 11.0 | 2.8 | 10±0.3 | 15±0.3 | 14+0.6 |
| | Over 118 | 38 | | | | | | |
| SPB | Up to 190 | 34 | 16.3 | 14.0 | 3.5 | 12.5±0.4 | 19±0.4 | 18+0.6 |
| | Over 190 | 38 | | | | | | |
| SPC | Up to 315 | 34 | 22.0 | 19.0 | 4.8 | 17±0.5 | 25.5±0.5 | 24+0.6 |
| | Over 315 | 38 | | | | | | |

Face Width of Pulleys, b_2

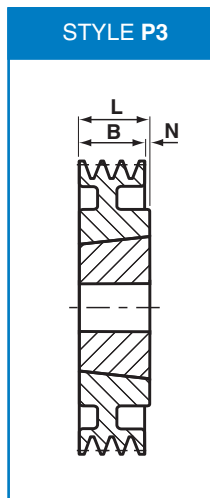
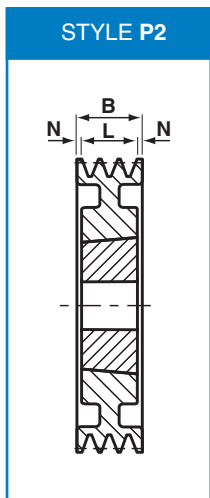
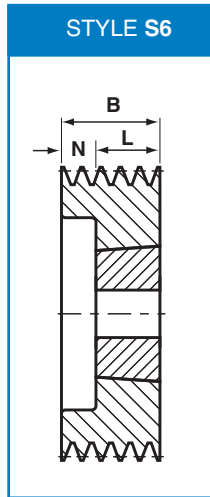
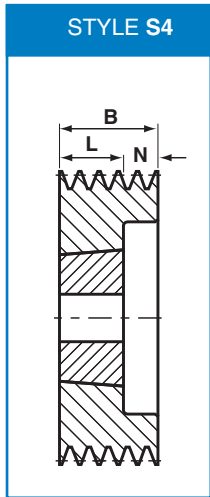
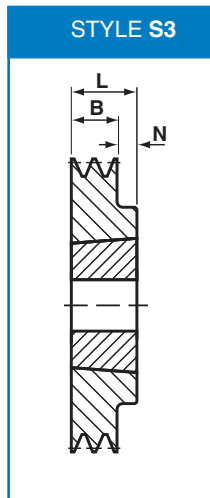
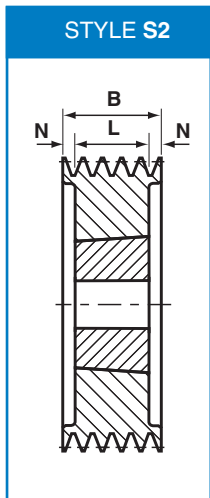
| No. of Grooves | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
|----------------|----|----|----|-------|-----|-------|-------|-------|-------|
| SPZ | 16 | 28 | 40 | 52 | 64 | 76 | 100 | - | - |
| SPA | 20 | 35 | 50 | 65 | 80 | 95 | - | - | - |
| SPB | 25 | 44 | 63 | 82 | 101 | 120 | 158 | 196 | - |
| SPC | - | - | 85 | 110.5 | 136 | 161.5 | 212.5 | 263.5 | 314.5 |

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|----|----|-----------|
| 56 | 60 | 1 | 1008 | 25 | S1 | 15 | 35 | 22 | 0.5 |
| 56 | 60 | 2 | 1108 | 28 | S1 | 27 | 47 | 22 | 0.5 |
| 60 | 64 | 1 | 1008 | 25 | S1 | 15 | 23 | 22 | 0.3 |
| 60 | 64 | 2 | 1108 | 28 | S1 | 27 | 47 | 22 | 0.7 |
| 63 | 67 | 1 | 1108 | 28 | S3 | 16 | 23 | 7 | 0.3 |
| 63 | 67 | 2 | 1108 | 28 | S6 | 28 | 23 | 5 | 0.3 |
| 63 | 67 | 3 | 1108 | 28 | S6 | 40 | 23 | 17 | 0.5 |
| 67 | 71 | 1 | 1108 | 28 | S3 | 16 | 23 | 7 | 0.3 |
| 67 | 71 | 2 | 1108 | 28 | S6 | 28 | 23 | 5 | 0.4 |
| 67 | 71 | 3 | 1108 | 28 | S6 | 40 | 23 | 17 | 0.6 |
| 71 | 75 | 1 | 1108 | 28 | S3 | 16 | 23 | 7 | 0.4 |
| 71 | 75 | 2 | 1108 | 28 | S6 | 28 | 23 | 5 | 0.5 |
| 71 | 75 | 3 | 1108 | 28 | S6 | 40 | 23 | 17 | 0.6 |
| 71 | 75 | 4 | 1108 | 28 | S6 | 52 | 23 | 29 | 0.8 |
| 75 | 79 | 1 | 1108 | 28 | S3 | 16 | 23 | 7 | 0.4 |
| 75 | 79 | 2 | 1210 | 32 | S6 | 28 | 26 | 2 | 0.6 |
| 75 | 79 | 3 | 1210 | 32 | S6 | 40 | 26 | 14 | 0.6 |
| 75 | 79 | 4 | 1210 | 32 | S6 | 52 | 26 | 27 | 0.9 |
| 80 | 84 | 1 | 1210 | 32 | S3 | 16 | 26 | 10 | 0.5 |
| 80 | 84 | 2 | 1210 | 32 | S6 | 28 | 26 | 2 | 0.6 |
| 80 | 84 | 3 | 1210 | 32 | S6 | 40 | 26 | 14 | 0.8 |
| 80 | 84 | 4 | 1210 | 32 | S6 | 52 | 26 | 26 | 0.9 |
| 85 | 89 | 1 | 1210 | 32 | S3 | 16 | 26 | 10 | 0.6 |
| 85 | 89 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 0.7 |
| 85 | 89 | 3 | 1610 | 42 | S6 | 40 | 26 | 14 | 0.8 |
| 85 | 89 | 4 | 1610 | 42 | S6 | 52 | 26 | 26 | 0.9 |
| 85 | 89 | 5 | 1610 | 42 | S6 | 64 | 26 | 38 | 1.3 |
| 90 | 94 | 1 | 1210 | 32 | S3 | 16 | 26 | 10 | 0.7 |
| 90 | 94 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 0.7 |
| 90 | 94 | 3 | 1610 | 42 | S6 | 40 | 26 | 14 | 0.9 |
| 90 | 94 | 4 | 1610 | 42 | S6 | 52 | 26 | 26 | 1.1 |
| 90 | 94 | 5 | 1610 | 42 | S6 | 64 | 26 | 38 | 1.4 |
| 90 | 94 | 6 | 1610 | 42 | S6 | 76 | 26 | 50 | 1.6 |
| 95 | 99 | 1 | 1210 | 32 | S3 | 16 | 26 | 10 | 0.8 |
| 95 | 99 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 0.8 |
| 95 | 99 | 3 | 1610 | 42 | S6 | 40 | 26 | 14 | 1.1 |
| 95 | 99 | 4 | 1610 | 42 | S6 | 52 | 26 | 26 | 1.3 |
| 95 | 99 | 5 | 1610 | 42 | S6 | 64 | 26 | 38 | 1.6 |
| 95 | 99 | 6 | 1610 | 42 | S6 | 76 | 26 | 50 | 1.8 |
| 100 | 104 | 1 | 1210 | 32 | S3 | 16 | 26 | 10 | 0.8 |
| 100 | 104 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 1.0 |
| 100 | 104 | 3 | 1610 | 42 | S6 | 40 | 26 | 14 | 1.2 |
| 100 | 104 | 4 | 1610 | 42 | S6 | 52 | 26 | 26 | 1.4 |
| 100 | 104 | 5 | 2012 | 50 | S6 | 64 | 32 | 32 | 1.6 |
| 100 | 104 | 6 | 2012 | 50 | S6 | 76 | 32 | 44 | 1.9 |
| 106 | 110 | 1 | 1610 | 42 | S3 | 16 | 26 | 10 | 0.9 |
| 106 | 110 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 1.2 |
| 106 | 110 | 3 | 1610 | 42 | S6 | 40 | 26 | 14 | 1.4 |
| 106 | 110 | 4 | 1610 | 42 | S6 | 52 | 26 | 26 | 1.6 |
| 106 | 110 | 5 | 2012 | 50 | S6 | 64 | 32 | 32 | 1.9 |
| 106 | 110 | 6 | 2012 | 50 | S6 | 76 | 32 | 44 | 2.2 |
| 112 | 116 | 1 | 1610 | 42 | S3 | 16 | 26 | 10 | 1.0 |
| 112 | 116 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 1.4 |
| 112 | 116 | 3 | 2012 | 50 | S6 | 40 | 32 | 8 | 1.5 |
| 112 | 116 | 4 | 2012 | 50 | S6 | 52 | 32 | 20 | 1.7 |
| 112 | 116 | 5 | 2012 | 50 | S6 | 64 | 32 | 32 | 2.2 |
| 112 | 116 | 6 | 2012 | 50 | S6 | 76 | 32 | 44 | 2.5 |
| 118 | 122 | 1 | 1610 | 42 | S3 | 16 | 26 | 10 | 1.1 |
| 118 | 122 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 1.6 |
| 118 | 122 | 3 | 2012 | 50 | S6 | 40 | 32 | 8 | 1.7 |
| 118 | 122 | 4 | 2012 | 50 | S4 | 52 | 32 | 20 | 2.0 |
| 118 | 122 | 5 | 2012 | 50 | S6 | 64 | 32 | 32 | 2.3 |
| 118 | 122 | 6 | 2517 | 65 | S6 | 76 | 45 | 31 | 2.5 |



Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

SPZ

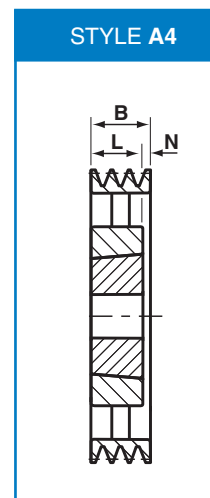
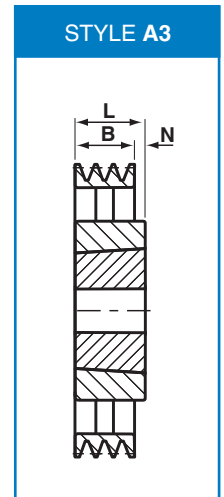
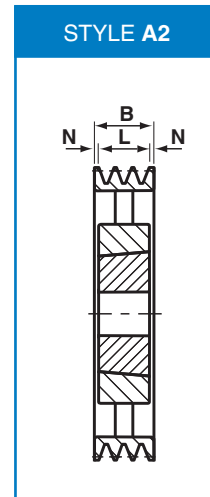
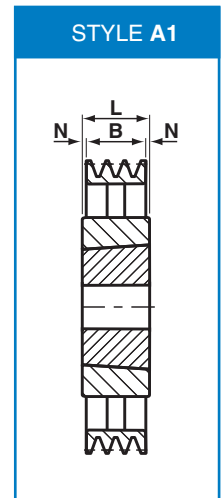
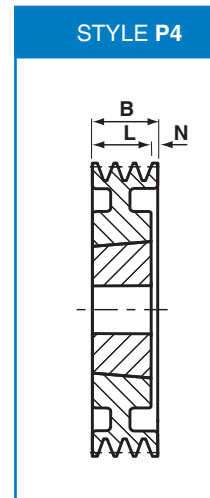


| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|----|------|-----------|
| 125 | 129 | 1 | 1610 | 42 | S3 | 16 | 26 | 10 | 1.2 |
| 125 | 129 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 1.8 |
| 125 | 129 | 3 | 2012 | 50 | S6 | 40 | 32 | 8 | 2.1 |
| 125 | 129 | 4 | 2012 | 50 | S4 | 52 | 32 | 20 | 2.3 |
| 125 | 129 | 5 | 2012 | 50 | S6 | 64 | 32 | 32 | 2.7 |
| 125 | 129 | 6 | 2517 | 65 | S6 | 76 | 45 | 31 | 3.0 |
| 132 | 136 | 1 | 1610 | 42 | S3 | 16 | 26 | 10 | 1.4 |
| 132 | 136 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 2.1 |
| 132 | 136 | 3 | 2012 | 50 | S6 | 40 | 32 | 8 | 2.4 |
| 132 | 136 | 4 | 2012 | 50 | S6 | 52 | 32 | 20 | 2.7 |
| 132 | 136 | 5 | 2517 | 65 | S6 | 64 | 45 | 19 | 3.2 |
| 132 | 136 | 6 | 2517 | 65 | S6 | 76 | 45 | 31 | 3.5 |
| 140 | 144 | 1 | 1610 | 42 | P3 | 16 | 26 | 10 | 1.6 |
| 140 | 144 | 2 | 1610 | 42 | S6 | 28 | 26 | 2 | 2.4 |
| 140 | 144 | 3 | 2012 | 50 | S4 | 40 | 32 | 8 | 2.8 |
| 140 | 144 | 4 | 2012 | 50 | S4 | 52 | 32 | 20 | 3.2 |
| 140 | 144 | 5 | 2517 | 65 | S4 | 64 | 45 | 19 | 3.5 |
| 140 | 144 | 6 | 2517 | 65 | S4 | 76 | 45 | 31 | 3.9 |
| 150 | 154 | 1 | 1610 | 42 | P3 | 16 | 26 | 10 | 1.9 |
| 150 | 154 | 2 | 2012 | 50 | S3 | 28 | 32 | 4 | 2.6 |
| 150 | 154 | 3 | 2012 | 50 | S4 | 40 | 32 | 8 | 3.4 |
| 150 | 154 | 4 | 2517 | 65 | S4 | 52 | 45 | 7 | 3.9 |
| 150 | 154 | 5 | 2517 | 65 | S4 | 64 | 45 | 19 | 4.3 |
| 150 | 154 | 6 | 2517 | 65 | S4 | 76 | 45 | 31 | 4.7 |
| 160 | 164 | 1 | 1610 | 42 | P3 | 16 | 26 | 10 | 2.1 |
| 160 | 164 | 2 | 2012 | 50 | S3 | 28 | 32 | 4 | 3.1 |
| 160 | 164 | 3 | 2012 | 50 | S4 | 40 | 32 | 8 | 3.9 |
| 160 | 164 | 4 | 2517 | 65 | S4 | 52 | 45 | 7 | 4.7 |
| 160 | 164 | 5 | 2517 | 65 | S4 | 64 | 45 | 19 | 5.1 |
| 160 | 164 | 6 | 2517 | 65 | S4 | 76 | 45 | 31 | 5.5 |
| 170 | 174 | 1 | 1610 | 42 | P3 | 16 | 26 | 10 | 1.7 |
| 170 | 174 | 2 | 2012 | 50 | P3 | 28 | 32 | 4 | 3.4 |
| 170 | 174 | 3 | 2012 | 50 | P4 | 40 | 32 | 8 | 4.3 |
| 170 | 174 | 4 | 2517 | 65 | S4 | 52 | 45 | 7 | 5.4 |
| 170 | 174 | 5 | 2517 | 65 | S4 | 64 | 45 | 19 | 6.1 |
| 170 | 174 | 6 | 2517 | 65 | S4 | 76 | 45 | 31 | 6.7 |
| 180 | 184 | 1 | 1610 | 42 | P3 | 16 | 26 | 10 | 1.8 |
| 180 | 184 | 2 | 2012 | 50 | P3 | 28 | 32 | 4 | 2.7 |
| 180 | 184 | 3 | 2012 | 50 | P4 | 40 | 32 | 8 | 3.3 |
| 180 | 184 | 4 | 2517 | 65 | S4 | 52 | 45 | 7 | 6.5 |
| 180 | 184 | 5 | 2517 | 65 | S4 | 64 | 45 | 19 | 6.9 |
| 180 | 184 | 6 | 2517 | 65 | S4 | 76 | 45 | 31 | 7.3 |
| 190 | 194 | 1 | 1610 | 42 | P3 | 16 | 26 | 10 | 2.5 |
| 190 | 194 | 2 | 2012 | 50 | P3 | 28 | 32 | 4 | 3.2 |
| 190 | 194 | 3 | 2012 | 50 | P4 | 40 | 32 | 8 | 5.1 |
| 190 | 194 | 4 | 2517 | 65 | P4 | 52 | 45 | 7 | 5.5 |
| 190 | 194 | 5 | 2517 | 65 | S2 | 64 | 45 | 9.5 | 6.5 |
| 190 | 194 | 6 | 2517 | 65 | S2 | 76 | 45 | 15.5 | 7.2 |
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| 200 | 204 | 1 | 2012 | 50 | P3 | 16 | 32 | 16 | 3.2 |
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| 200 | 204 | 3 | 2012 | 50 | P4 | 40 | 32 | 8 | 3.6 |
| 200 | 204 | 4 | 2517 | 65 | P4 | 52 | 45 | 7 | 5.4 |
| 200 | 204 | 5 | 2517 | 65 | P2 | 64 | 45 | 9.5 | 6.1 |
| 200 | 204 | 6 | 2517 | 65 | P2 | 76 | 45 | 15.5 | 6.6 |
| 200 | 204 | 8 | 2517 | 65 | P2 | 100 | 45 | 27.5 | 9.6 |
| 224 | 228 | 1 | 2012 | 50 | A3 | 16 | 32 | 16 | 2.8 |
| 224 | 228 | 2 | 2012 | 50 | P3 | 28 | 32 | 4 | 3.5 |
| 224 | 228 | 3 | 2012 | 50 | P4 | 40 | 32 | 8 | 4.2 |
| 224 | 228 | 4 | 2517 | 65 | P4 | 52 | 45 | 7 | 6.3 |
| 224 | 228 | 5 | 2517 | 65 | P2 | 64 | 45 | 9.5 | 7.0 |
| 224 | 228 | 6 | 2517 | 65 | P2 | 76 | 45 | 15.5 | 7.6 |
| 224 | 228 | 8 | 2517 | 65 | P2 | 100 | 45 | 27.5 | 12.3 |

Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|----|------|-----------|
| 250 | 254 | 1 | 2012 | 50 | A3 | 16 | 32 | 16.0 | 3.2 |
| 250 | 254 | 2 | 2012 | 50 | A3 | 28 | 32 | 4.0 | 3.9 |
| 250 | 254 | 3 | 2012 | 50 | A4 | 40 | 32 | 8.0 | 4.7 |
| 250 | 254 | 4 | 2517 | 65 | P4# | 52 | 45 | 7.0 | 6.8 |
| 250 | 254 | 5 | 2517 | 65 | P2# | 64 | 45 | 9.5 | 8.1 |
| 250 | 254 | 6 | 2517 | 65 | P2# | 76 | 45 | 15.5 | 8.3 |
| 250 | 254 | 8 | 2517 | 65 | P2# | 100 | 45 | 27.5 | 10.2 |
| 280 | 284 | 1 | 2012 | 50 | A1 | 16 | 32 | 8.0 | 4.6 |
| 280 | 284 | 2 | 2012 | 50 | A3 | 28 | 32 | 4.0 | 5.4 |
| 280 | 284 | 3 | 2517 | 65 | A3 | 40 | 45 | 5.0 | 7.3 |
| 280 | 284 | 4 | 2517 | 65 | A4 | 52 | 45 | 7.0 | 8.1 |
| 280 | 284 | 5 | 2517 | 65 | A2 | 64 | 45 | 9.5 | 9.8 |
| 280 | 284 | 6 | 2517 | 65 | A2 | 76 | 45 | 15.5 | 9.9 |
| 280 | 284 | 8 | 2517 | 65 | A2 | 100 | 45 | 27.5 | 11.2 |
| 315 | 319 | 1 | 2012 | 50 | A1 | 16 | 32 | 8.0 | 5.8 |
| 315 | 319 | 2 | 2012 | 50 | A3 | 28 | 32 | 4.0 | 6.4 |
| 315 | 319 | 3 | 2517 | 65 | A3 | 40 | 45 | 5.0 | 8.3 |
| 315 | 319 | 4 | 2517 | 65 | A4 | 52 | 45 | 7.0 | 9.2 |
| 315 | 319 | 5 | 2517 | 65 | A2 | 64 | 45 | 9.5 | 11.0 |
| 315 | 319 | 6 | 2517 | 65 | A2 | 76 | 45 | 15.5 | 11.5 |
| 315 | 319 | 8 | 2517 | 65 | A2 | 100 | 45 | 27.5 | 13.9 |
| 355 | 359 | 1 | 2012 | 50 | A1 | 16 | 32 | 8.0 | 4.0 |
| 355 | 359 | 2 | 2012 | 50 | A3 | 28 | 32 | 4.0 | 6.5 |
| 355 | 359 | 3 | 2517 | 65 | A3 | 40 | 45 | 5.0 | 8.9 |
| 355 | 359 | 4 | 2517 | 65 | A4 | 52 | 45 | 7.0 | 9.5 |
| 355 | 359 | 5 | 2517 | 65 | A2 | 64 | 45 | 9.5 | 14.8 |
| 355 | 359 | 6 | 2517 | 65 | A2 | 76 | 45 | 15.5 | 14.8 |
| 355 | 359 | 8 | 3030 | 75 | A2 | 100 | 45 | 27.5 | 17.0 |
| 400 | 404 | 1 | 2012 | 50 | A1 | 16 | 32 | 8.0 | 6.0 |
| 400 | 404 | 2 | 2517 | 65 | A3 | 28 | 45 | 17.0 | 8.8 |
| 400 | 404 | 3 | 2517 | 65 | A3 | 40 | 45 | 5.0 | 10.5 |
| 400 | 404 | 4 | 2517 | 65 | A4 | 52 | 45 | 7.0 | 11.5 |
| 400 | 404 | 5 | 3020 | 75 | A2 | 64 | 52 | 6.0 | 13.8 |
| *400 | 404 | 6 | 3030 | 75 | A3 | 76 | 77 | 1.0 | 17.6 |
| *400 | 404 | 8 | 3030 | 75 | A2 | 100 | 77 | 12.0 | 19.0 |
| 450 | 454 | 2 | 2517 | 65 | A1 | 28 | 45 | 8.5 | 11.1 |
| 450 | 454 | 3 | 2517 | 65 | A3 | 40 | 45 | 5.0 | 11.6 |
| 450 | 454 | 4 | 3020 | 75 | A2 | 52 | 52 | - | 11.7 |
| 450 | 454 | 5 | 3020 | 75 | A2 | 64 | 52 | 6.0 | 18.0 |
| 450 | 454 | 6 | 3030 | 75 | A3 | 76 | 77 | 1.0 | 21.6 |
| 450 | 454 | 8 | 3030 | 75 | A2 | 100 | 77 | 12.0 | 22.6 |
| 500 | 504 | 2 | 2517 | 65 | A1 | 28 | 45 | 8.5 | 12.2 |
| 500 | 504 | 3 | 2517 | 65 | A3 | 40 | 45 | 5.0 | 10.1 |
| 500 | 504 | 4 | 3020 | 75 | A2 | 52 | 52 | - | 12.4 |
| 500 | 504 | 5 | 3030 | 75 | A1 | 64 | 77 | 6.5 | 22.3 |
| 500 | 504 | 6 | 3030 | 75 | A3 | 76 | 77 | 1.0 | 24.5 |
| 500 | 504 | 8 | 3030 | 75 | A2 | 100 | 77 | 11.5 | 28.0 |
| 630 | 634 | 3 | 2517 | 65 | A3 | 40 | 45 | 5.0 | 17.4 |
| 630 | 634 | 4 | 3030 | 75 | A1 | 52 | 77 | 12.5 | 24.0 |
| 630 | 634 | 5 | 3030 | 75 | A1 | 64 | 77 | 6.5 | 27.6 |
| 630 | 634 | 6 | 3535 | 90 | A1 | 76 | 89 | 6.5 | 33.0 |
| 630 | 634 | 8 | 3535 | 90 | A2 | 100 | 89 | 5.5 | 40.0 |
| *800 | 804 | 4 | 3030 | 75 | A1 | 52 | 77 | 12.5 | 28.4 |
| *800 | 804 | 5 | 3535 | 90 | A2 | 64 | 89 | 12.5 | 33.1 |
| *800 | 804 | 6 | 3535 | 90 | A2 | 76 | 89 | 6.5 | 40.6 |
| *800 | 804 | 8 | 3535 | 90 | A2 | 100 | 89 | 5.5 | 43.6 |

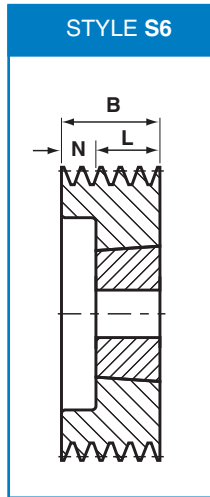
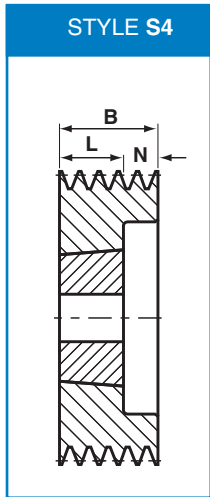
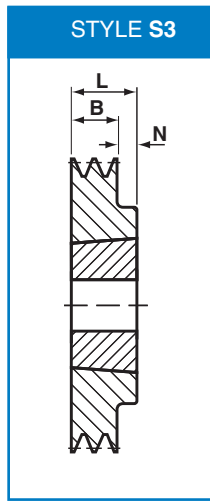
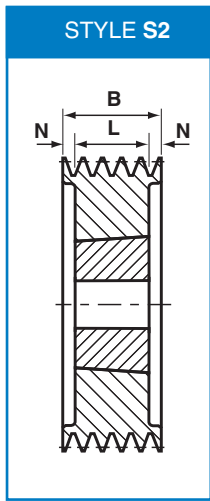


Pulley Configuration: S=Solid, P=Plate, A=Arm.

= lightening holes

* = Not stocked, available to order

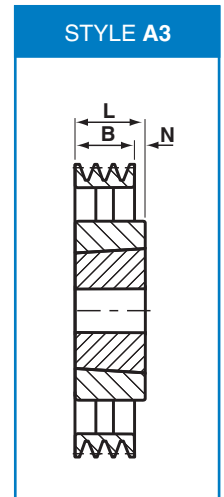
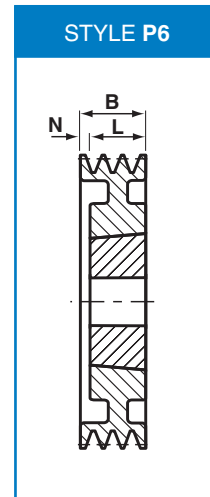
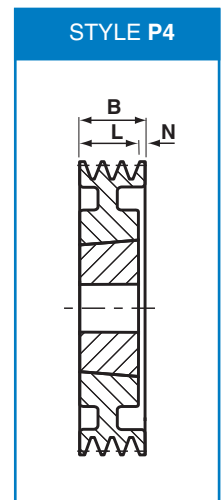
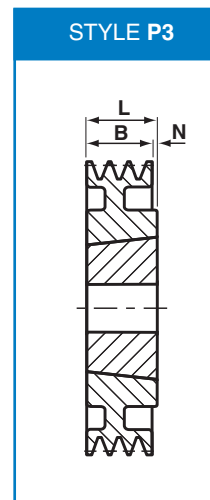
SPA



| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|----|------|-----------|
| 63 | 68.5 | 1 | 1108 | 28 | S3 | 20 | 23 | 21.0 | 0.6 |
| 63 | 68.5 | 2 | 1108 | 28 | S6 | 35 | 23 | 12.0 | 0.8 |
| 67 | 72.5 | 1 | 1108 | 28 | S3 | 20 | 23 | 3.0 | 0.4 |
| 67 | 72.5 | 2 | 1108 | 28 | S6 | 35 | 23 | 12.0 | 0.6 |
| 71 | 76.5 | 1 | 1108 | 28 | S3 | 20 | 23 | 3.0 | 0.4 |
| 71 | 76.5 | 2 | 1108 | 28 | S6 | 35 | 23 | 12.0 | 0.6 |
| 71 | 76.5 | 3 | 1108 | 28 | S6 | 50 | 23 | 27.0 | 0.8 |
| 75 | 80.5 | 1 | 1108 | 28 | S3 | 20 | 23 | 3.0 | 0.5 |
| 75 | 80.5 | 2 | 1108 | 28 | S6 | 35 | 23 | 12.0 | 0.6 |
| 75 | 80.5 | 3 | 1108 | 28 | S6 | 50 | 23 | 27.0 | 0.8 |
| 80 | 85.5 | 1 | 1210 | 32 | S3 | 20 | 26 | 6.0 | 0.6 |
| 80 | 85.5 | 2 | 1210 | 32 | S6 | 35 | 26 | 9.0 | 0.6 |
| 80 | 85.5 | 3 | 1210 | 32 | S6 | 50 | 26 | 24.0 | 0.9 |
| 85 | 90.5 | 1 | 1210 | 32 | S3 | 20 | 26 | 6.0 | 0.6 |
| 85 | 90.5 | 2 | 1210 | 32 | S6 | 35 | 26 | 9.0 | 0.7 |
| 85 | 90.5 | 3 | 1210 | 32 | S6 | 50 | 26 | 24.0 | 1.1 |
| 90 | 95.5 | 1 | 1210 | 32 | S3 | 20 | 26 | 6.0 | 0.8 |
| 90 | 95.5 | 2 | 1610 | 42 | S6 | 35 | 26 | 9.0 | 0.8 |
| 90 | 95.5 | 3 | 1610 | 42 | S6 | 50 | 26 | 24.0 | 1.1 |
| 90 | 95.5 | 4 | 1615 | 42 | S6 | 65 | 38 | 27.0 | 1.4 |
| 90 | 95.5 | 5 | 1615 | 42 | S6 | 80 | 38 | 42.0 | 1.6 |
| 95 | 100.5 | 1 | 1210 | 32 | S3 | 20 | 26 | 6.0 | 0.9 |
| 95 | 100.5 | 2 | 1610 | 42 | S6 | 35 | 26 | 9.0 | 0.9 |
| 95 | 100.5 | 3 | 1610 | 42 | S6 | 50 | 26 | 24.0 | 1.3 |
| 95 | 100.5 | 4 | 1615 | 42 | S6 | 65 | 38 | 27.0 | 1.7 |
| 95 | 100.5 | 5 | 1615 | 42 | S6 | 80 | 38 | 42.0 | 1.9 |
| 100 | 105.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 0.9 |
| 100 | 105.5 | 2 | 1610 | 42 | S6 | 35 | 26 | 9.0 | 1.1 |
| 100 | 105.5 | 3 | 1610 | 42 | S6 | 50 | 26 | 24.0 | 1.4 |
| 100 | 105.5 | 4 | 1615 | 42 | S6 | 65 | 38 | 27.0 | 1.9 |
| 100 | 105.5 | 5 | 1615 | 42 | S6 | 80 | 38 | 42.0 | 2.0 |
| 100 | 105.5 | 6 | 1615 | 42 | S6 | 95 | 38 | 57.0 | 2.4 |
| 106 | 111.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 0.9 |
| 106 | 111.5 | 2 | 1610 | 42 | S6 | 35 | 26 | 9.0 | 1.2 |
| 106 | 111.5 | 3 | 1610 | 42 | S6 | 50 | 26 | 24.0 | 1.6 |
| 106 | 111.5 | 4 | 2012 | 50 | S6 | 65 | 32 | 33.0 | 1.9 |
| 106 | 111.5 | 5 | 2012 | 50 | S6 | 80 | 32 | 48.0 | 2.3 |
| 106 | 111.5 | 6 | 2012 | 50 | S6 | 95 | 32 | 63.0 | 2.6 |
| 112 | 117.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 1.0 |
| 112 | 117.5 | 2 | 1610 | 42 | S6 | 35 | 26 | 9.0 | 1.4 |
| 112 | 117.5 | 3 | 2012 | 50 | S6 | 50 | 32 | 18.0 | 1.8 |
| 112 | 117.5 | 4 | 2012 | 50 | S6 | 65 | 32 | 33.0 | 2.2 |
| 112 | 117.5 | 5 | 2012 | 50 | S6 | 80 | 32 | 48.0 | 2.6 |
| 112 | 117.5 | 6 | 2012 | 50 | S6 | 95 | 32 | 63.0 | 2.7 |
| 118 | 123.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 1.2 |
| 118 | 123.5 | 2 | 1610 | 42 | S6 | 35 | 26 | 9.0 | 1.6 |
| 118 | 123.5 | 3 | 2012 | 50 | S6 | 50 | 32 | 18.0 | 2.1 |
| 118 | 123.5 | 4 | 2012 | 50 | S6 | 65 | 32 | 33.0 | 2.5 |
| 118 | 123.5 | 5 | 2012 | 50 | S4 | 80 | 32 | 48.0 | 2.8 |
| 118 | 123.5 | 6 | 2012 | 50 | S4 | 95 | 32 | 63.0 | 2.9 |
| 125 | 130.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 1.4 |
| 125 | 130.5 | 2 | 1610 | 42 | S4 | 35 | 26 | 10.0 | 1.9 |
| 125 | 130.5 | 3 | 2012 | 50 | S4 | 50 | 32 | 18.0 | 2.3 |
| 125 | 130.5 | 4 | 2012 | 50 | S4 | 65 | 32 | 33.0 | 2.8 |
| 125 | 130.5 | 5 | 2012 | 50 | S2 | 80 | 32 | 24.0 | 3.3 |
| 125 | 130.5 | 6 | 2012 | 50 | S2 | 95 | 32 | 31.5 | 3.8 |
| 132 | 137.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 1.6 |
| 132 | 137.5 | 2 | 2012 | 50 | S4 | 35 | 32 | 3.0 | 2.2 |
| 132 | 137.5 | 3 | 2012 | 50 | S4 | 50 | 32 | 18.0 | 2.7 |
| 132 | 137.5 | 4 | 2517 | 65 | S4 | 65 | 45 | 20.0 | 3.2 |
| 132 | 137.5 | 5 | 2517 | 65 | S2 | 80 | 45 | 17.5 | 3.8 |
| 132 | 137.5 | 6 | 2517 | 65 | S2 | 95 | 45 | 25.0 | 3.8 |

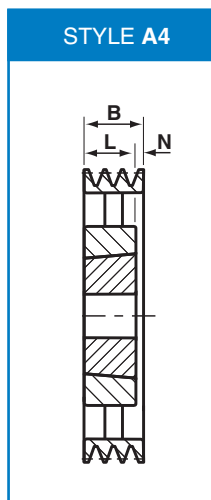
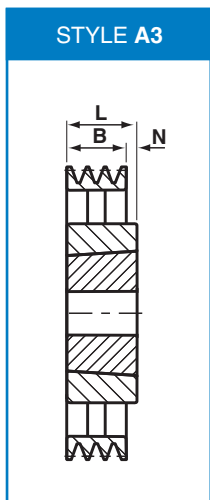
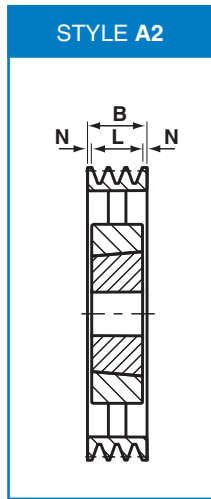
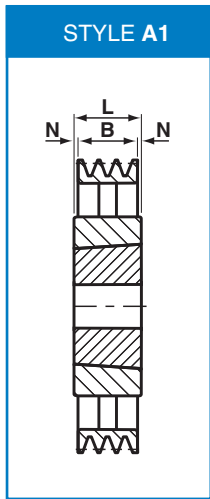
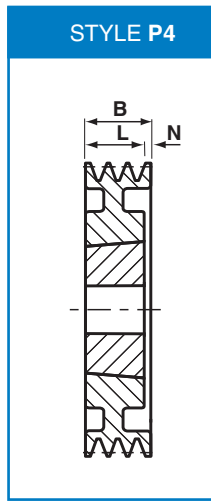
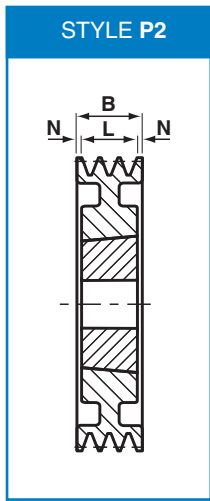
Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|----|------|-----------|
| 140 | 145.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 1.8 |
| 140 | 145.5 | 2 | 2012 | 50 | S6 | 35 | 32 | 3.0 | 2.6 |
| 140 | 145.5 | 3 | 2517 | 65 | S4 | 50 | 45 | 5.0 | 3.0 |
| 140 | 145.5 | 4 | 2517 | 65 | S4 | 65 | 45 | 20.0 | 3.6 |
| 140 | 145.5 | 5 | 2517 | 65 | S2 | 80 | 45 | 17.5 | 4.1 |
| 140 | 145.5 | 6 | 2517 | 65 | S2 | 95 | 45 | 25.0 | 4.1 |
| 150 | 155.5 | 1 | 1610 | 42 | S3 | 20 | 26 | 6.0 | 2.2 |
| 150 | 155.5 | 2 | 2012 | 50 | S6 | 35 | 32 | 3.0 | 3.1 |
| 150 | 155.5 | 3 | 2517 | 65 | S4 | 50 | 45 | 5.0 | 3.7 |
| 150 | 155.5 | 4 | 2517 | 65 | S4 | 65 | 45 | 20.0 | 4.3 |
| 150 | 155.5 | 5 | 2517 | 65 | S2 | 80 | 45 | 17.5 | 4.9 |
| 150 | 155.5 | 6 | 2517 | 65 | S2 | 95 | 45 | 25.0 | 5.7 |
| 160 | 165.5 | 1 | 1610 | 42 | P3 | 20 | 26 | 6.0 | 2.5 |
| 160 | 165.5 | 2 | 2012 | 50 | S6 | 35 | 32 | 3.0 | 3.8 |
| 160 | 165.5 | 3 | 2517 | 65 | S4 | 50 | 45 | 5.0 | 4.5 |
| 160 | 165.5 | 4 | 2517 | 65 | S4 | 65 | 45 | 20.0 | 5.1 |
| 160 | 165.5 | 5 | 2517 | 65 | S2 | 80 | 45 | 17.5 | 5.8 |
| 160 | 165.5 | 6 | 2517 | 65 | S2 | 95 | 45 | 25.0 | 6.4 |
| 170 | 175.5 | 1 | 1610 | 42 | P3 | 20 | 26 | 6.0 | 2.0 |
| 170 | 175.5 | 2 | 2012 | 50 | S6 | 35 | 32 | 3.0 | 3.3 |
| 170 | 175.5 | 3 | 2517 | 65 | S4 | 50 | 45 | 5.0 | 4.5 |
| 170 | 175.5 | 4 | 2517 | 65 | S4 | 65 | 45 | 20.0 | 5.9 |
| 170 | 175.5 | 5 | 2517 | 65 | S2 | 80 | 45 | 17.5 | 6.6 |
| 170 | 175.5 | 6 | 2517 | 65 | S2 | 95 | 45 | 25.0 | 7.3 |
| 180 | 185.5 | 1 | 1610 | 42 | P3 | 20 | 26 | 6.0 | 2.4 |
| 180 | 185.5 | 2 | 2012 | 50 | P6 | 35 | 32 | 3.0 | 4.8 |
| 180 | 185.5 | 3 | 2517 | 65 | S4 | 50 | 45 | 5.0 | 6.2 |
| 180 | 185.5 | 4 | 2517 | 65 | S4 | 65 | 45 | 20.0 | 6.9 |
| 180 | 185.5 | 5 | 3020 | 75 | S4 | 80 | 52 | 28.0 | 7.0 |
| 180 | 185.5 | 6 | 3020 | 75 | S2 | 95 | 52 | 21.5 | 8.5 |
| 190 | 195.5 | 1 | 2012 | 50 | P3 | 20 | 32 | 12.0 | 2.7 |
| 190 | 195.5 | 2 | 2012 | 50 | P4 | 35 | 32 | 3.0 | 4.4 |
| 190 | 195.5 | 3 | 2517 | 65 | P4 | 50 | 45 | 5.0 | 5.5 |
| 190 | 195.5 | 4 | 3020 | 75 | S4 | 65 | 52 | 13.0 | 7.2 |
| 190 | 195.5 | 5 | 3020 | 75 | S4 | 80 | 52 | 28.0 | 7.7 |
| 190 | 195.5 | 6 | 3020 | 75 | S2 | 95 | 52 | 21.5 | 10.0 |
| 200 | 205.5 | 1 | 2012 | 50 | P3 | 20 | 32 | 12.0 | 3.2 |
| 200 | 205.5 | 2 | 2517 | 65 | P3 | 35 | 45 | 10.0 | 5.0 |
| 200 | 205.5 | 3 | 2517 | 65 | P4 | 50 | 45 | 5.0 | 5.8 |
| 200 | 205.5 | 4 | 3020 | 75 | S4 | 65 | 52 | 13.0 | 8.4 |
| 200 | 205.5 | 5 | 3020 | 75 | S4 | 80 | 52 | 28.0 | 9.3 |
| 200 | 205.5 | 6 | 3020 | 75 | S2 | 95 | 52 | 21.5 | 12.0 |
| 212 | 217.5 | 1 | 2012 | 50 | P3 | 20 | 32 | 12.0 | 2.9 |
| 212 | 217.5 | 2 | 2517 | 65 | P3 | 35 | 45 | 10.0 | 4.7 |
| 212 | 217.5 | 3 | 2517 | 65 | P4 | 50 | 45 | 5.0 | 6.0 |
| 212 | 217.5 | 4 | 3020 | 75 | S4 | 65 | 52 | 13.0 | 7.8 |
| 212 | 217.5 | 5 | 3020 | 75 | S2 | 80 | 52 | 14.0 | 9.5 |
| 212 | 217.5 | 6 | 3020 | 75 | S2 | 95 | 52 | 21.5 | 14.0 |
| 224 | 229.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 3.7 |
| 224 | 229.5 | 2 | 2517 | 65 | P3 | 35 | 45 | 10.0 | 5.7 |
| 224 | 229.5 | 3 | 2517 | 65 | P4 | 50 | 45 | 5.0 | 6.7 |
| 224 | 229.5 | 4 | 3020 | 75 | P4 | 65 | 52 | 13.0 | 11.0 |
| 224 | 229.5 | 5 | 3020 | 75 | S4 | 80 | 52 | 28.0 | 12.0 |
| 224 | 229.5 | 6 | 3020 | 75 | S2 | 95 | 52 | 21.5 | 14.8 |
| 236 | 241.5 | 1 | 2012 | 50 | P3# | 20 | 32 | 12.0 | 3.2 |
| 236 | 241.5 | 2 | 2517 | 65 | P3# | 35 | 45 | 10.0 | 5.4 |
| 236 | 241.5 | 3 | 2517 | 65 | P4 | 50 | 45 | 5.0 | 6.6 |
| 236 | 241.5 | 4 | 3020 | 75 | P4 | 65 | 52 | 13.0 | 9.8 |
| 236 | 241.5 | 5 | 3020 | 75 | P4 | 80 | 52 | 28.0 | 12.2 |
| 236 | 241.5 | 6 | 3020 | 75 | S2 | 95 | 52 | 21.5 | 12.5 |



Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

SPA

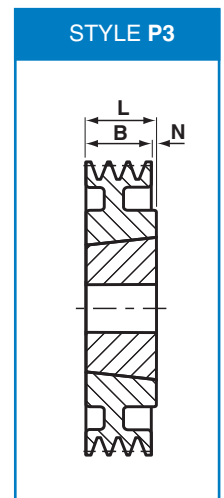
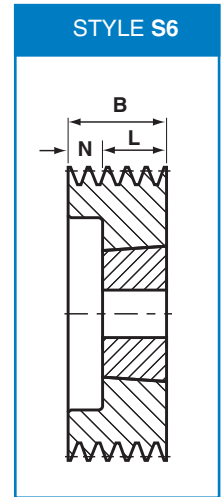
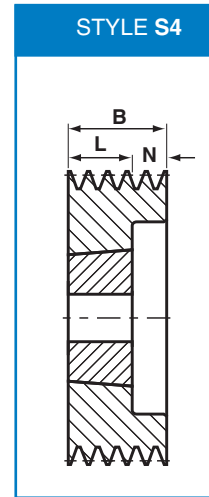
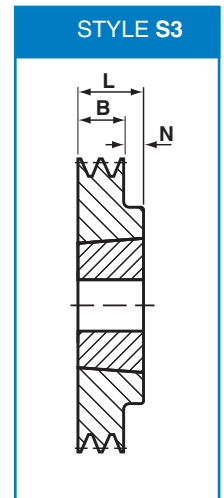
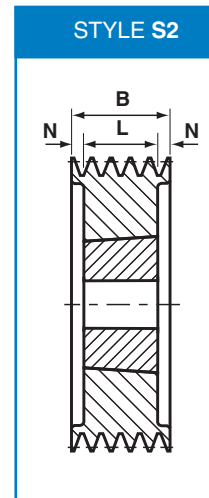


| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|-----|------|-----------|
| 250 | 255.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 4.4 |
| 250 | 255.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 6.4 |
| 250 | 255.5 | 3 | 2517 | 65 | P4# | 50 | 45 | 5.0 | 7.5 |
| 250 | 255.5 | 4 | 3020 | 75 | P4 | 65 | 52 | 13.0 | 9.8 |
| 250 | 255.5 | 5 | 3020 | 75 | P4 | 80 | 52 | 28.0 | 11.0 |
| 250 | 255.5 | 6 | 3020 | 75 | S2 | 95 | 52 | 21.5 | 17.5 |
| 280 | 285.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 5.2 |
| 280 | 285.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 7.3 |
| 280 | 285.5 | 3 | 2517 | 65 | A4 | 50 | 45 | 5.0 | 8.4 |
| 280 | 285.5 | 4 | 3020 | 75 | P2# | 65 | 52 | 6.5 | 11.0 |
| 280 | 285.5 | 5 | 3535 | 90 | P3 | 80 | 89 | 9.0 | 17.0 |
| 280 | 285.5 | 6 | 3535 | 90 | P4 | 95 | 89 | 6.0 | 19.1 |
| 300 | 305.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 4.3 |
| 300 | 305.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 6.2 |
| 300 | 305.5 | 3 | 3020 | 75 | A4 | 50 | 52 | 2.0 | 9.3 |
| 300 | 305.5 | 4 | 3020 | 75 | P2# | 65 | 52 | 6.5 | 12.4 |
| 300 | 305.5 | 5 | 3535 | 90 | P3# | 80 | 89 | 9.0 | 16.5 |
| 300 | 305.5 | 6 | 3535 | 90 | P4 | 95 | 89 | 6.0 | 19.5 |
| 315 | 320.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 6.3 |
| 315 | 320.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 9.2 |
| 315 | 320.5 | 3 | 3020 | 75 | A3 | 50 | 52 | 2.0 | 11.0 |
| 315 | 320.5 | 4 | 3020 | 75 | A2 | 65 | 52 | 6.5 | 13.0 |
| 315 | 320.5 | 5 | 3535 | 90 | P3# | 80 | 89 | 9.0 | 19.0 |
| 315 | 320.5 | 6 | 3535 | 90 | P4# | 95 | 89 | 6.0 | 24.0 |
| 355 | 360.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 5.6 |
| 355 | 360.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 9.0 |
| 355 | 360.5 | 3 | 3020 | 75 | A3 | 50 | 52 | 2.0 | 12.0 |
| 355 | 360.5 | 4 | 3020 | 75 | A2 | 65 | 52 | 6.5 | 13.0 |
| 355 | 360.5 | 5 | 3535 | 90 | A3 | 80 | 89 | 9.0 | 20.0 |
| 355 | 360.5 | 6 | 3535 | 90 | A4 | 95 | 89 | 6.0 | 24.2 |
| 400 | 405.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 6.4 |
| 400 | 405.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 10.0 |
| 400 | 405.5 | 3 | 3020 | 75 | A3 | 50 | 52 | 2.0 | 13.0 |
| 400 | 405.5 | 4 | 3020 | 75 | A2 | 65 | 52 | 6.5 | 14.5 |
| 400 | 405.5 | 5 | 3535 | 90 | A3 | 80 | 89 | 9.0 | 21.5 |
| 400 | 405.5 | 6 | 3535 | 90 | A4 | 95 | 89 | 6.0 | 25.1 |
| 450 | 455.5 | 1 | 2012 | 50 | A3 | 20 | 32 | 12.0 | 6.2 |
| 450 | 455.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 11.5 |
| 450 | 455.5 | 3 | 3020 | 75 | A3 | 50 | 52 | 2.0 | 14.5 |
| 450 | 455.5 | 4 | 3020 | 75 | A2 | 65 | 52 | 6.5 | 16.5 |
| 450 | 455.5 | 5 | 3535 | 90 | A3 | 80 | 89 | 9.0 | 23.0 |
| 450 | 455.5 | 6 | 3535 | 90 | A4 | 95 | 89 | 6.0 | 40.0 |
| 500 | 505.5 | 1 | 2517 | 65 | A3 | 20 | 45 | 25.0 | 6.5 |
| 500 | 505.5 | 2 | 2517 | 65 | A3 | 35 | 45 | 10.0 | 12.5 |
| 500 | 505.5 | 3 | 3020 | 75 | A3 | 50 | 52 | 2.0 | 15.5 |
| 500 | 505.5 | 4 | 3020 | 75 | A2 | 65 | 52 | 6.5 | 18.0 |
| 500 | 505.5 | 5 | 3535 | 90 | A3 | 80 | 89 | 9.0 | 25.0 |
| 500 | 505.5 | 6 | 3535 | 90 | A4 | 95 | 89 | 6.0 | 54.2 |
| 560 | 565.5 | 2 | 3020 | 75 | A3 | 35 | 52 | 17.0 | 18.4 |
| 560 | 565.5 | 3 | 3020 | 75 | A3 | 50 | 52 | 2.0 | 16.0 |
| 560 | 565.5 | 4 | 3535 | 90 | A1 | 65 | 89 | 12.0 | 23.5 |
| 560 | 565.5 | 5 | 3535 | 90 | A3 | 80 | 89 | 9.0 | 27.0 |
| 560 | 565.5 | 6 | 3535 | 90 | A4 | 95 | 89 | 6.0 | 55.1 |
| 630 | 635.5 | 2 | 3020 | 75 | A3 | 35 | 52 | 17.0 | 20.5 |
| 630 | 635.5 | 3 | 3020 | 75 | A3 | 50 | 52 | 2.0 | 20.0 |
| 630 | 635.5 | 4 | 3535 | 90 | A3 | 65 | 89 | 24.0 | 28.0 |
| 630 | 635.5 | 5 | 3535 | 90 | A3 | 80 | 89 | 9.0 | 31.0 |
| 630 | 635.5 | 6 | 4040 | 100 | A3 | 95 | 102 | 7.0 | 56.3 |
| 800 | 805.5 | 3 | 3535 | 90 | A3 | 50 | 89 | 39.0 | 36.0 |
| 800 | 805.5 | 4 | 3535 | 90 | A3 | 65 | 89 | 24.0 | 46.0 |
| 800 | 805.5 | 5 | 4040 | 100 | A1 | 80 | 102 | 11.0 | 55.5 |
| 800 | 805.5 | 6 | 4040 | 100 | A3 | 95 | 102 | 7.0 | 66.0 |

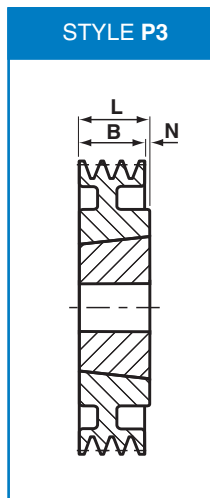
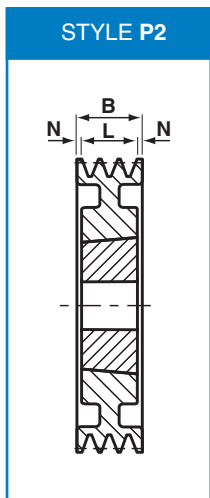
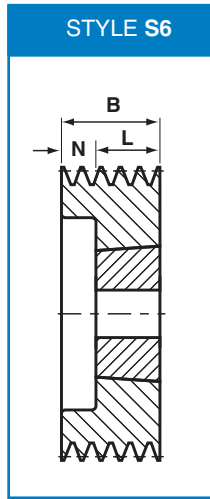
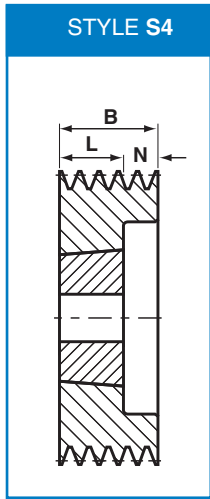
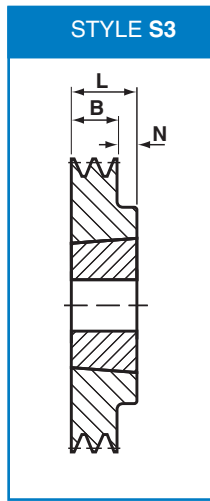
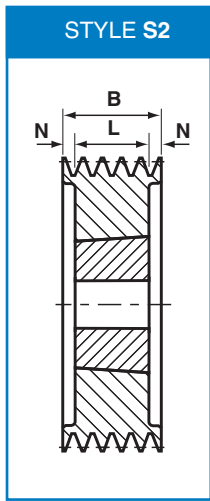
Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|----|------|-----------|
| 100 | 107 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 0.9 |
| 100 | 107 | 2 | 1610 | 42 | S6 | 44 | 26 | 18.0 | 1.4 |
| 100 | 107 | 3 | 1610 | 42 | S6 | 63 | 26 | 37.0 | 1.9 |
| 106 | 113 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 1.0 |
| 106 | 113 | 2 | 1610 | 42 | S6 | 44 | 26 | 18.0 | 1.5 |
| 106 | 113 | 3 | 1610 | 42 | S6 | 63 | 26 | 37.0 | 2.0 |
| 112 | 119 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 1.2 |
| 112 | 119 | 2 | 1610 | 42 | S4 | 44 | 26 | 18.0 | 1.7 |
| 112 | 119 | 3 | 1610 | 42 | S6 | 63 | 26 | 37.0 | 2.3 |
| 118 | 125 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 1.3 |
| 118 | 125 | 2 | 1610 | 42 | S4 | 44 | 26 | 18.0 | 1.9 |
| 118 | 125 | 3 | 1610 | 42 | S6 | 63 | 26 | 37.0 | 2.6 |
| 125 | 132 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 1.5 |
| 125 | 132 | 2 | 2012 | 50 | S4 | 44 | 32 | 12.0 | 2.3 |
| 125 | 132 | 3 | 2012 | 50 | S4 | 63 | 32 | 31.0 | 2.3 |
| 125 | 132 | 4 | 2012 | 50 | S2 | 82 | 32 | 25.0 | 3.7 |
| 125 | 132 | 5 | 2012 | 50 | S6 | 101 | 32 | 69.0 | 4.4 |
| 132 | 139 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 1.8 |
| 132 | 139 | 2 | 2012 | 50 | S4 | 44 | 32 | 12.0 | 2.4 |
| 132 | 139 | 3 | 2012 | 50 | S4 | 63 | 32 | 31.0 | 3.1 |
| 132 | 139 | 4 | 2012 | 50 | S2 | 82 | 32 | 25.0 | 3.8 |
| 132 | 139 | 5 | 2517 | 60 | S6 | 101 | 45 | 56.0 | 4.6 |
| 140 | 147 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 2.1 |
| 140 | 147 | 2 | 2012 | 50 | S4 | 44 | 32 | 12.0 | 2.8 |
| 140 | 147 | 3 | 2012 | 50 | S4 | 63 | 32 | 31.0 | 3.6 |
| 140 | 147 | 4 | 2517 | 65 | S2 | 82 | 45 | 18.5 | 4.5 |
| 140 | 147 | 5 | 2517 | 65 | S2 | 101 | 45 | 28.0 | 5.3 |
| 140 | 147 | 6 | 2517 | 65 | S2 | 120 | 45 | 37.5 | 6.1 |
| 150 | 157 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 2.5 |
| 150 | 157 | 2 | 2012 | 50 | S4 | 44 | 32 | 12.0 | 3.4 |
| 150 | 157 | 3 | 2517 | 65 | S4 | 63 | 45 | 18.0 | 4.1 |
| 150 | 157 | 4 | 2517 | 65 | S2 | 82 | 45 | 18.5 | 4.9 |
| 150 | 157 | 5 | 2517 | 65 | S2 | 101 | 45 | 28.0 | 5.8 |
| 150 | 157 | 6 | 2517 | 65 | S2 | 120 | 45 | 37.5 | 6.6 |
| 160 | 167 | 1 | 1610 | 42 | S3 | 25 | 26 | 1.0 | 2.9 |
| 160 | 167 | 2 | 2012 | 50 | S6 | 44 | 32 | 12.0 | 3.9 |
| 160 | 167 | 3 | 2517 | 65 | S6 | 63 | 45 | 18.0 | 4.9 |
| 160 | 167 | 4 | 2517 | 65 | S2 | 82 | 45 | 18.5 | 5.8 |
| 160 | 167 | 5 | 2517 | 65 | S2 | 101 | 45 | 28.0 | 6.7 |
| 160 | 167 | 6 | 3020 | 75 | S2 | 120 | 52 | 34.0 | 6.5 |
| 160 | 167 | 8 | 3020 | 75 | S2 | 158 | 52 | 53.0 | 8.5 |
| 170 | 177 | 1 | 1610 | 42 | P3 | 25 | 26 | 1.0 | 3.3 |
| 170 | 177 | 2 | 2012 | 50 | S6 | 44 | 32 | 12.0 | 4.5 |
| 170 | 177 | 3 | 2517 | 65 | S6 | 63 | 45 | 18.0 | 5.8 |
| 170 | 177 | 4 | 2517 | 65 | S2 | 82 | 45 | 18.5 | 6.7 |
| 170 | 177 | 5 | 3020 | 75 | S2 | 101 | 52 | 24.5 | 6.8 |
| 170 | 177 | 6 | 3020 | 75 | S2 | 120 | 52 | 34.0 | 7.8 |
| 170 | 177 | 8 | 3030 | 75 | S2 | 158 | 77 | 40.5 | 11.0 |
| 180 | 187 | 1 | 1610 | 42 | P3 | 25 | 26 | 1.0 | 3.8 |
| 180 | 187 | 2 | 2517 | 65 | S3 | 44 | 45 | 1.0 | 5.3 |
| 180 | 187 | 3 | 2517 | 65 | S6 | 63 | 45 | 18.0 | 6.7 |
| 180 | 187 | 4 | 2517 | 65 | S2 | 82 | 45 | 18.5 | 7.7 |
| 180 | 187 | 5 | 3020 | 75 | S2 | 101 | 52 | 24.5 | 8.0 |
| 180 | 187 | 6 | 3020 | 75 | S2 | 120 | 52 | 34.0 | 9.0 |
| 180 | 187 | 8 | 3030 | 75 | S2 | 158 | 77 | 40.5 | 12.0 |

Pulley Configuration: S=Solid, P=Plate, A=Arm.
 # = lightening holes



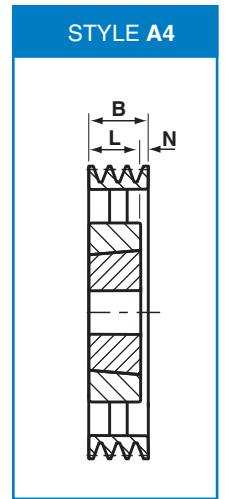
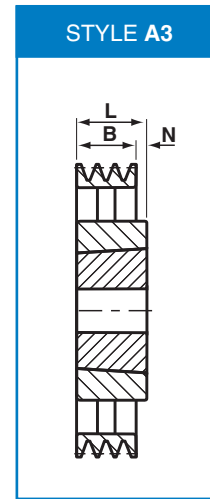
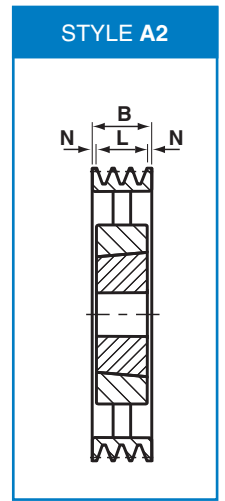
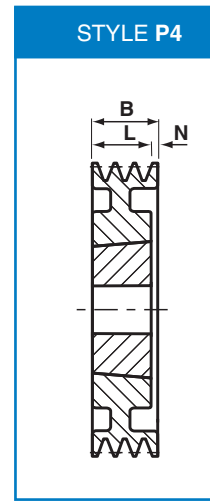
SPB



| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|----|------|-----------|
| 190 | 197 | 1 | 2012 | 50 | P3 | 25 | 32 | 7.0 | 4.4 |
| 190 | 197 | 2 | 2517 | 65 | S3 | 44 | 45 | 1.0 | 6.5 |
| 190 | 197 | 3 | 2517 | 65 | S6 | 63 | 45 | 18.0 | 7.6 |
| 190 | 197 | 4 | 2517 | 65 | S2 | 82 | 45 | 18.5 | 8.7 |
| 190 | 197 | 5 | 3020 | 75 | S2 | 101 | 52 | 24.5 | 9.1 |
| 190 | 197 | 6 | 3020 | 75 | S2 | 120 | 52 | 34.0 | 10.0 |
| 190 | 197 | 8 | 3030 | 75 | S2 | 158 | 77 | 40.5 | 13.0 |
| 200 | 207 | 1 | 2012 | 50 | P3 | 25 | 32 | 7.0 | 4.4 |
| 200 | 207 | 2 | 2517 | 65 | P3 | 44 | 45 | 1.0 | 7.5 |
| 200 | 207 | 3 | 2517 | 65 | P4 | 63 | 45 | 18.0 | 8.8 |
| 200 | 207 | 4 | 3020 | 75 | S4 | 82 | 52 | 30.0 | 9.4 |
| 200 | 207 | 5 | 3020 | 75 | S2 | 101 | 52 | 24.5 | 10.0 |
| 200 | 207 | 6 | 3020 | 75 | S2 | 120 | 52 | 34.0 | 12.0 |
| 200 | 207 | 8 | 3535 | 90 | S2 | 158 | 89 | 34.5 | 15.0 |
| 212 | 219 | 1 | 2012 | 50 | P3 | 25 | 32 | 7.0 | 4.1 |
| 212 | 219 | 2 | 2517 | 65 | P3 | 44 | 45 | 1.0 | 5.9 |
| 212 | 219 | 3 | 2517 | 65 | P4 | 63 | 45 | 18.0 | 7.4 |
| 212 | 219 | 4 | 3020 | 75 | S4 | 82 | 52 | 30.0 | 11.0 |
| 212 | 219 | 5 | 3020 | 75 | S2 | 101 | 52 | 24.5 | 12.0 |
| 212 | 219 | 6 | 3535 | 90 | S2 | 120 | 89 | 15.5 | 15.0 |
| 212 | 219 | 8 | 3535 | 90 | S2 | 158 | 89 | 34.5 | 18.0 |
| 224 | 231 | 1 | 2012 | 50 | P3 | 25 | 32 | 7.0 | 4.5 |
| 224 | 231 | 2 | 2517 | 65 | P3 | 44 | 45 | 1.0 | 6.4 |
| 224 | 231 | 3 | 2517 | 65 | P4 | 63 | 45 | 18.0 | 8.0 |
| 224 | 231 | 4 | 3020 | 75 | S4 | 82 | 52 | 30.0 | 12.0 |
| 224 | 231 | 5 | 3020 | 75 | S2 | 101 | 52 | 24.5 | 14.0 |
| 224 | 231 | 6 | 3535 | 90 | S2 | 120 | 89 | 15.5 | 18.0 |
| 224 | 231 | 8 | 3535 | 90 | S2 | 158 | 89 | 34.5 | 21.0 |
| 224 | 231 | 10 | 3535 | 90 | S2 | 196 | 89 | 53.5 | 23.0 |
| 236 | 243 | 1 | 2012 | 50 | P3# | 25 | 32 | 7.0 | 4.9 |
| 236 | 243 | 2 | 2517 | 65 | P3 | 44 | 45 | 1.0 | 6.9 |
| 236 | 243 | 3 | 2517 | 65 | P4 | 63 | 45 | 18.0 | 8.3 |
| 236 | 243 | 4 | 3020 | 75 | S4 | 82 | 52 | 30.0 | 14.0 |
| 236 | 243 | 5 | 3535 | 90 | S4 | 101 | 89 | 12.0 | 19.0 |
| 236 | 243 | 6 | 3535 | 90 | S2 | 120 | 89 | 15.5 | 21.0 |
| 236 | 243 | 8 | 3535 | 90 | S2 | 158 | 89 | 34.5 | 24.0 |
| 236 | 243 | 10 | 3535 | 90 | S2 | 196 | 89 | 53.5 | 26.0 |
| 250 | 257 | 1 | 2012 | 50 | P3# | 25 | 32 | 7.0 | 5.5 |
| 250 | 257 | 2 | 2517 | 65 | P3# | 44 | 45 | 1.0 | 7.3 |
| 250 | 257 | 3 | 3020 | 75 | P4 | 63 | 52 | 11.0 | 10.0 |
| 250 | 257 | 4 | 3020 | 75 | P4 | 82 | 52 | 30.0 | 12.0 |
| 250 | 257 | 5 | 3535 | 90 | S4 | 101 | 89 | 12.0 | 23.0 |
| 250 | 257 | 6 | 3535 | 90 | S2 | 120 | 89 | 15.5 | 24.0 |
| 250 | 257 | 8 | 3535 | 90 | S2 | 158 | 89 | 34.5 | 27.0 |
| 250 | 257 | 10 | 3535 | 90 | S2 | 196 | 89 | 53.5 | 31.0 |
| 280 | 287 | 1 | 2012 | 50 | A3 | 25 | 32 | 7.0 | 6.5 |
| 280 | 287 | 2 | 2517 | 65 | A3 | 44 | 45 | 1.0 | 9.1 |
| 280 | 287 | 3 | 3020 | 75 | P4# | 63 | 52 | 11.0 | 12.0 |
| 280 | 287 | 4 | 3020 | 75 | P2# | 82 | 52 | 15.0 | 14.0 |
| 280 | 287 | 5 | 3535 | 90 | P2 | 101 | 89 | 6.0 | 20.0 |
| 280 | 287 | 6 | 3535 | 90 | P2 | 120 | 89 | 15.5 | 22.0 |
| 280 | 287 | 8 | 3535 | 90 | P2 | 158 | 89 | 34.5 | 25.0 |
| 280 | 287 | 10 | 3535 | 90 | P2 | 196 | 89 | 53.5 | 29.0 |
| 300 | 307 | 1 | 2012 | 50 | A3 | 25 | 32 | 7.0 | 6.8 |
| 300 | 307 | 2 | 2517 | 65 | A3 | 44 | 45 | 1.0 | 8.6 |
| 300 | 307 | 3 | 3020 | 75 | P4# | 63 | 52 | 11.0 | 9.8 |
| 300 | 307 | 4 | 3535 | 90 | P3 | 82 | 89 | 7.0 | 14.5 |
| 300 | 307 | 5 | 3535 | 90 | P2 | 101 | 89 | 6.0 | 19.5 |
| 300 | 307 | 6 | 3535 | 90 | P2 | 120 | 89 | 15.5 | 22.0 |
| 300 | 307 | 8 | 3535 | 90 | P2 | 158 | 89 | 34.5 | 41.0 |
| 300 | 307 | 10 | 3535 | 90 | P2 | 196 | 89 | 53.5 | 33.0 |

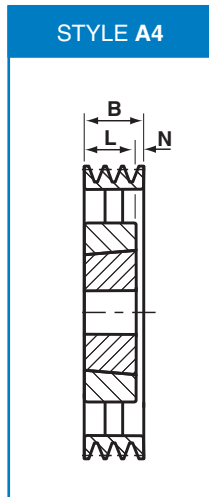
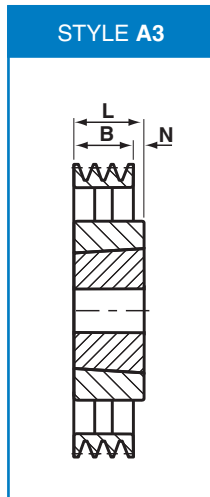
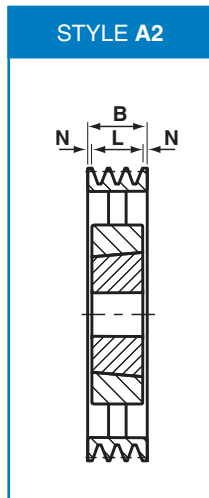
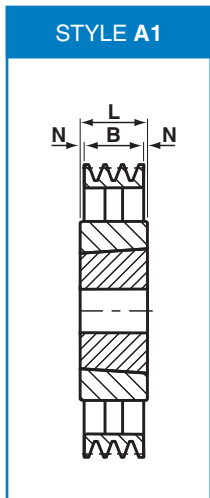
Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|-----|------|-----------|
| 315 | 322 | 1 | 2012 | 50 | A3 | 25 | 32 | 7.0 | 7.9 |
| 315 | 322 | 2 | 2517 | 65 | A3 | 44 | 45 | 1.0 | 11.0 |
| 315 | 322 | 3 | 3020 | 75 | A4 | 63 | 52 | 11.0 | 14.0 |
| 315 | 322 | 4 | 3535 | 90 | P3# | 82 | 89 | 7.0 | 20.0 |
| 315 | 322 | 5 | 3535 | 90 | P2 | 101 | 89 | 6.0 | 23.0 |
| 315 | 322 | 6 | 3535 | 90 | P2# | 120 | 89 | 15.5 | 25.0 |
| 315 | 322 | 8 | 3535 | 90 | P2 | 158 | 89 | 34.5 | 29.0 |
| 315 | 322 | 10 | 3535 | 90 | P2 | 196 | 89 | 53.5 | 33.0 |
| 335 | 342 | 2 | 2517 | 65 | A3 | 44 | 45 | 7.0 | 11.3 |
| 335 | 342 | 3 | 3020 | 75 | A4 | 63 | 52 | 11.0 | 12.0 |
| 335 | 342 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 18.4 |
| 335 | 342 | 5 | 3535 | 90 | A2 | 101 | 89 | 6.0 | 19.6 |
| 335 | 342 | 6 | 3535 | 90 | A2 | 120 | 89 | 15.5 | 22.0 |
| 335 | 342 | 8 | 3535 | 90 | P2# | 158 | 89 | 34.5 | 29.0 |
| 335 | 342 | 10 | 4040 | 100 | P2 | 196 | 102 | 47.0 | 37.0 |
| 355 | 362 | 2 | 3020 | 75 | A3 | 44 | 52 | 8.0 | 14.0 |
| 355 | 362 | 3 | 3020 | 75 | A4 | 63 | 52 | 11.0 | 17.0 |
| 355 | 362 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 24.0 |
| 355 | 362 | 5 | 3535 | 90 | A2 | 101 | 89 | 6.0 | 26.0 |
| 355 | 362 | 6 | 3535 | 90 | A2 | 120 | 89 | 15.5 | 29.0 |
| 355 | 362 | 8 | 3535 | 90 | A2 | 158 | 89 | 34.5 | 34.0 |
| 355 | 362 | 10 | 4040 | 100 | P2# | 196 | 102 | 47.0 | 41.0 |
| 400 | 407 | 2 | 3020 | 75 | A3 | 44 | 52 | 8.0 | 11.4 |
| 400 | 407 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 17.0 |
| 400 | 407 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 22.0 |
| 400 | 407 | 5 | 3535 | 90 | A2 | 101 | 89 | 6.0 | 25.5 |
| 400 | 407 | 6 | 3535 | 90 | A2 | 120 | 89 | 15.5 | 28.5 |
| 400 | 407 | 8 | 4040 | 100 | A2 | 158 | 102 | 28.0 | 41.0 |
| 400 | 407 | 10 | 4040 | 100 | A2 | 196 | 102 | 47.0 | 46.0 |
| 450 | 457 | 2 | 3020 | 75 | A3 | 44 | 52 | 8.0 | 14.0 |
| 450 | 457 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 22.0 |
| 450 | 457 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 25.5 |
| 450 | 457 | 5 | 3535 | 90 | A2 | 101 | 89 | 6.0 | 29.0 |
| 450 | 457 | 6 | 4040 | 100 | A2 | 120 | 102 | 9.0 | 35.0 |
| 450 | 457 | 8 | 4040 | 100 | A2 | 158 | 102 | 28.0 | 52.0 |
| 450 | 457 | 10 | 4545 | 110 | A2 | 196 | 114 | 41.0 | 56.0 |
| 500 | 507 | 2 | 3020 | 75 | A3 | 44 | 52 | 8.0 | 15.5 |
| 500 | 507 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 24.0 |
| 500 | 507 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 28.0 |
| 500 | 507 | 5 | 3535 | 90 | A2 | 101 | 89 | 6.0 | 32.0 |
| 500 | 507 | 6 | 4040 | 100 | A2 | 120 | 102 | 9.0 | 49.0 |
| 500 | 507 | 8 | 4040 | 100 | A2 | 158 | 102 | 28.0 | 58.0 |
| 500 | 507 | 10 | 4545 | 110 | A2 | 196 | 114 | 41.0 | 58.0 |
| 560 | 567 | 2 | 3020 | 75 | A3 | 44 | 52 | 8.0 | 25.0 |
| 560 | 567 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 26.0 |
| 560 | 567 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 31.0 |
| 560 | 567 | 5 | 4040 | 100 | A3 | 101 | 102 | 1.0 | 39.0 |
| 560 | 567 | 6 | 4040 | 100 | A2 | 120 | 102 | 9.0 | 42.5 |
| 560 | 567 | 8 | 4545 | 110 | A2 | 158 | 114 | 22.0 | 59.0 |
| 560 | 567 | 10 | 4545 | 110 | A2 | 196 | 114 | 41.0 | 66.0 |
| 630 | 637 | 2 | 3030 | 75 | A3 | 44 | 77 | 33.0 | 19.3 |
| 630 | 637 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 31.0 |
| 630 | 637 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 36.5 |
| 630 | 637 | 5 | 4040 | 100 | A3 | 101 | 102 | 1.0 | 44.5 |
| 630 | 637 | 6 | 4040 | 100 | A2 | 120 | 102 | 9.0 | 51.0 |
| 630 | 637 | 8 | 4545 | 110 | A2 | 158 | 114 | 22.0 | 66.0 |
| 630 | 637 | 10 | 4545 | 110 | A2 | 196 | 114 | 41.0 | 75.0 |



Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

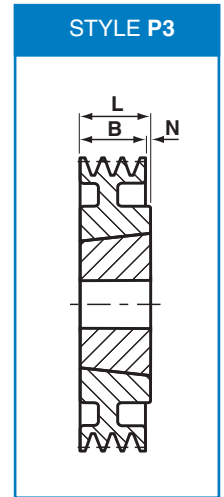
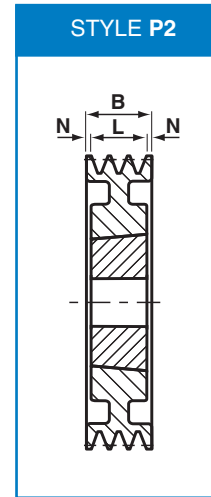
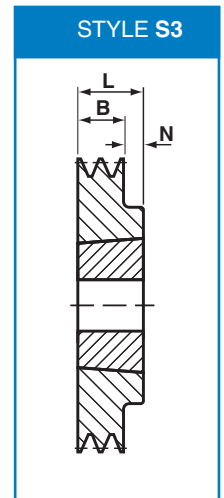
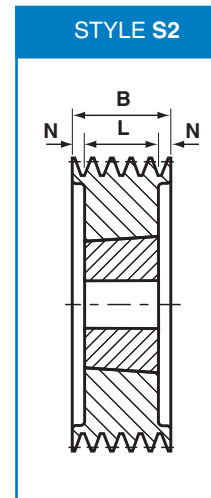
SPB



| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|-----|------|-----------|
| 710 | 717 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 36 |
| 710 | 717 | 4 | 3535 | 90 | A3 | 82 | 89 | 7.0 | 41 |
| 710 | 717 | 5 | 4040 | 100 | A3 | 101 | 102 | 1.0 | 51 |
| 710 | 717 | 6 | 4545 | 110 | A4 | 120 | 114 | 6.0 | 59 |
| 710 | 717 | 8 | 4545 | 110 | A2 | 158 | 114 | 22.0 | 78 |
| 710 | 717 | 10 | 4545 | 110 | A2 | 196 | 114 | 41.0 | 88 |
| 800 | 807 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 38 |
| 800 | 807 | 4 | 4040 | 100 | A3 | 82 | 102 | 20.0 | 48 |
| 800 | 807 | 5 | 4040 | 100 | A3 | 101 | 102 | 1.0 | 56 |
| 800 | 807 | 6 | 4545 | 110 | A4 | 120 | 114 | 6.0 | 66 |
| 800 | 807 | 8 | 4545 | 110 | A2 | 158 | 114 | 22.0 | 100 |
| 800 | 807 | 10 | 4545 | 110 | A2 | 196 | 114 | 41.0 | 110 |
| 900 | 907 | 3 | 3535 | 90 | A3 | 63 | 89 | 26.0 | 50 |
| 900 | 907 | 4 | 4040 | 100 | A3 | 82 | 102 | 20.0 | 88 |
| 900 | 907 | 5 | 4545 | 110 | A1 | 101 | 114 | 6.5 | 114 |
| 900 | 907 | 6 | 4545 | 110 | A4 | 120 | 114 | 6.0 | 120 |
| 900 | 907 | 8 | 4545 | 110 | A2 | 158 | 114 | 22.0 | 132 |
| 900 | 907 | 10 | 5050 | 125 | A2 | 196 | 127 | 34.5 | 140 |
| 1000 | 1007 | 3 | 4040 | 100 | A3 | 63 | 102 | 39.0 | 70 |
| 1000 | 1007 | 4 | 4040 | 100 | A3 | 82 | 102 | 20.0 | 78 |
| 1000 | 1007 | 5 | 4545 | 110 | A1 | 101 | 114 | 6.5 | 93 |
| 1000 | 1007 | 6 | 4545 | 110 | A4 | 120 | 114 | 6.0 | 100 |
| 1000 | 1007 | 8 | 5050 | 125 | A2 | 158 | 127 | 15.5 | 140 |
| 1000 | 1007 | 10 | 5050 | 125 | A2 | 196 | 127 | 34.5 | 150 |
| 1250 | 1257 | 3 | 4040 | 100 | A1 | 63 | 102 | 19.5 | 75 |
| 1250 | 1257 | 4 | 4545 | 110 | A1 | 82 | 114 | 16.0 | 158 |
| 1250 | 1257 | 5 | 4545 | 110 | A1 | 101 | 114 | 6.5 | 179 |
| 1250 | 1257 | 6 | 5050 | 125 | A3 | 120 | 127 | 7.0 | 180 |
| 1250 | 1257 | 8 | 5050 | 125 | A2 | 158 | 127 | 15.5 | 224 |
| 1250 | 1257 | 10 | 5050 | 125 | A2 | 196 | 127 | 35.0 | 320 |

Pulley Configuration: S = Solid, P = Plate, A = Arm.
 # = lightening holes

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|-----|--------|-----------|
| 200 | 209.5 | 3 | 2517 | 65 | S2 | 85.0 | 45 | 20.0 | 10.2 |
| 200 | 209.5 | 4 | 3020 | 75 | S2 | 110.5 | 52 | 29.3 | 11.0 |
| 200 | 209.5 | 5 | 3535 | 90 | S2 | 136.0 | 89 | 23.5 | 12.5 |
| 200 | 209.5 | 6 | 3535 | 90 | S2 | 161.5 | 89 | 36.3 | 17.5 |
| 200 | 209.5 | 8 | 3535 | 90 | S2 | 212.5 | 89 | 61.8 | 18.5 |
| 212 | 221.5 | 3 | 3020 | 75 | S2 | 85.0 | 52 | 16.5 | 11.0 |
| 212 | 221.5 | 4 | 3020 | 75 | S2 | 110.5 | 52 | 29.8 | 13.5 |
| 212 | 221.5 | 5 | 3535 | 90 | S2 | 136.0 | 89 | 23.5 | 14.5 |
| 212 | 221.5 | 6 | 3535 | 90 | S2 | 161.5 | 89 | 36.3 | 19.0 |
| 212 | 221.5 | 8 | 3535 | 90 | S2 | 212.5 | 89 | 61.8 | 22.1 |
| 224 | 233.5 | 3 | 3020 | 75 | S2 | 85.0 | 52 | 16.5 | 12.0 |
| 224 | 233.5 | 4 | 3535 | 90 | S2 | 110.5 | 89 | 10.8 | 16.0 |
| 224 | 233.5 | 5 | 3535 | 90 | S2 | 136.0 | 89 | 23.5 | 18.0 |
| 224 | 233.5 | 6 | 3535 | 90 | S2 | 161.5 | 89 | 36.3 | 20.0 |
| 224 | 233.5 | 8 | 3535 | 90 | S2 | 212.5 | 89 | 61.8 | 25.0 |
| 236 | 245.5 | 3 | 3020 | 75 | S2 | 85.0 | 52 | 16.5 | 14.0 |
| 236 | 245.5 | 4 | 3535 | 90 | S2 | 110.5 | 89 | 10.8 | 19.0 |
| 236 | 245.5 | 5 | 3535 | 90 | S2 | 136.0 | 89 | 23.5 | 21.0 |
| 236 | 245.5 | 6 | 3535 | 90 | S2 | 161.5 | 89 | 36.3 | 23.0 |
| 236 | 245.5 | 8 | 3535 | 90 | S2 | 212.5 | 89 | 61.8 | 28.0 |
| 250 | 259.5 | 3 | 3020 | 75 | P2 | 85.0 | 52 | 16.5 | 13.0 |
| 250 | 259.5 | 4 | 3535 | 90 | S2 | 110.5 | 89 | 10.8 | 22.0 |
| 250 | 259.5 | 5 | 3535 | 90 | S2 | 136.0 | 89 | 23.5 | 25.0 |
| 250 | 259.5 | 6 | 3535 | 90 | S2 | 161.5 | 89 | 36.3 | 27.0 |
| 250 | 259.5 | 8 | 3535 | 90 | S2 | 212.5 | 89 | 61.8 | 32.0 |
| 250 | 259.5 | 10 | 4040 | 100 | S2 | 263.5 | 102 | 80.8 | 35.0 |
| 265 | 274.5 | 3 | 3535 | 90 | S3 | 85.0 | 89 | 4.0 | 24.0 |
| 265 | 274.5 | 4 | 3535 | 90 | S2 | 110.5 | 89 | 10.8 | 26.0 |
| 265 | 274.5 | 5 | 3535 | 90 | S2 | 136.0 | 89 | 23.5 | 29.0 |
| 265 | 274.5 | 6 | 3535 | 90 | S2 | 161.5 | 89 | 36.3 | 31.0 |
| 265 | 274.5 | 8 | 3535 | 90 | S2 | 212.5 | 89 | 61.8 | 36.0 |
| 265 | 274.5 | 10 | 4040 | 100 | S2 | 263.5 | 102 | 80.8 | 60.0 |
| 280 | 289.5 | 3 | 3535 | 90 | P3 | 85.0 | 89 | 4.0 | 19.0 |
| 280 | 289.5 | 4 | 3535 | 90 | P2 | 110.5 | 89 | 10.8 | 21.0 |
| 280 | 289.5 | 5 | 3535 | 90 | P2 | 136.0 | 89 | 23.5 | 24.0 |
| 280 | 289.5 | 6 | 3535 | 90 | P2 | 161.5 | 89 | 36.3 | 36.0 |
| 280 | 289.5 | 8 | 3535 | 90 | S2 | 212.5 | 89 | 61.8 | 41.0 |
| 280 | 289.5 | 10 | 4040 | 100 | S2 | 263.5 | 102 | 80.8 | 46.0 |
| 300 | 309.5 | 3 | 3535 | 90 | P3 | 85.0 | 89 | 4.0 | 21.0 |
| 300 | 309.5 | 4 | 3535 | 90 | P2 | 110.5 | 89 | 10.8 | 24.0 |
| 300 | 309.5 | 5 | 3535 | 90 | P2 | 136.0 | 89 | 23.5 | 24.0 |
| 300 | 309.5 | 6 | 3535 | 90 | P2 | 161.5 | 89 | 36.3 | 29.0 |
| 300 | 309.5 | 8 | 4040 | 100 | S2 | 212.5 | 102 | 55.3 | 48.0 |
| 300 | 309.5 | 10 | 4545 | 110 | S2 | 263.5 | 114 | 74.8 | 54.0 |
| 315 | 324.5 | 3 | 3535 | 90 | P3# | 85.0 | 89 | 4.0 | 21.0 |
| 315 | 324.5 | 4 | 3535 | 90 | P2# | 110.5 | 89 | 10.8 | 24.0 |
| 315 | 324.5 | 5 | 3535 | 90 | P2# | 136.0 | 89 | 23.5 | 28.0 |
| 315 | 324.5 | 6 | 3535 | 90 | P2 | 161.5 | 89 | 36.3 | 31.0 |
| 315 | 324.5 | 8 | 4040 | 100 | P2 | 212.5 | 102 | 55.3 | 54.0 |
| 315 | 324.5 | 10 | 4545 | 110 | S2 | 263.5 | 114 | 74.8 | 60.0 |
| 335 | 344.5 | 3 | 3535 | 90 | P3# | 85.0 | 89 | 4.0 | 24.0 |
| 335 | 344.5 | 4 | 3535 | 90 | P2# | 110.5 | 89 | 10.8 | 27.0 |
| 335 | 344.5 | 5 | 3535 | 90 | P2# | 136.0 | 89 | 23.5 | 31.0 |
| 335 | 344.5 | 6 | 3535 | 90 | P2# | 161.5 | 89 | 36.3 | 34.0 |
| 335 | 344.5 | 8 | 4040 | 100 | P2 | 212.5 | 102 | 55.3 | 45.0 |
| 335 | 344.5 | 10 | 4545 | 110 | S2 | 263.5 | 114 | 74.8 | 85.0 |
| 335 | 344.5 | 12 | 5050 | 125 | S2 | 314.5 | 127 | 50-137 | 111.0 |
| 355 | 364.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 26.0 |
| 355 | 364.5 | 4 | 3535 | 90 | A2 | 110.5 | 89 | 10.8 | 30.0 |
| 355 | 364.5 | 5 | 3535 | 90 | A2 | 136.0 | 89 | 23.5 | 34.0 |
| 355 | 364.5 | 6 | 3535 | 90 | A2 | 161.5 | 89 | 36.3 | 37.0 |
| 355 | 364.5 | 8 | 4040 | 100 | P2 | 212.5 | 102 | 55.3 | 48.0 |
| 355 | 364.5 | 10 | 4545 | 110 | S2 | 263.5 | 114 | 74.8 | 81.0 |
| 355 | 364.5 | 12 | 5050 | 125 | S2 | 314.5 | 127 | 50-137 | 124.0 |

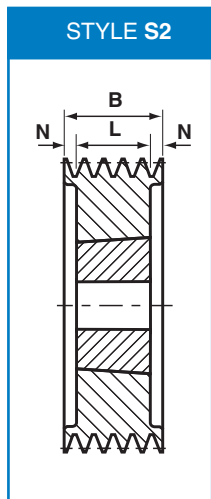
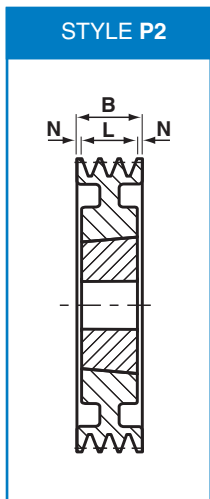
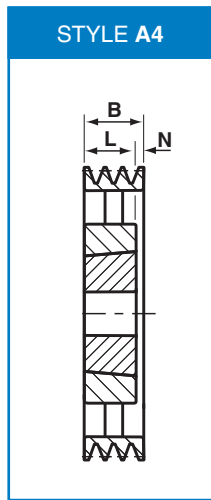
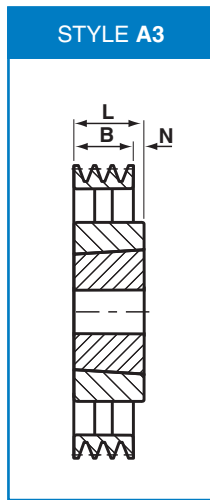
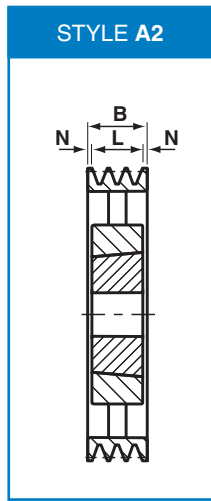
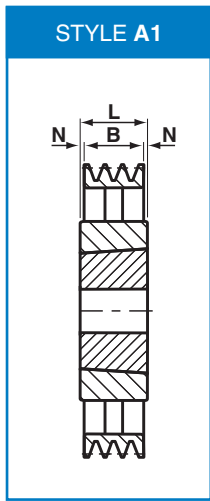


Note
Dimension 'N' on SPC 12 groove pulleys is shown as 50mm - 137mm. The 137mm is the dimension from the edge of the pulley to the taper bush entry end of the hub

Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused All dimensions in millimetres unless otherwise stated.

SPC



Note
Dimension 'N' on SPC 12 groove pulleys is shown as 50mm - 137mm. The 137mm is the dimension from the edge of the pulley to the taper bush entry end of the hub

Pulley Configuration: S=Solid, P=Plate, A=Arm.
= lightening holes

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|-----|--------|-----------|
| 375 | 384.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 29.0 |
| 375 | 384.5 | 4 | 3535 | 90 | A2 | 110.5 | 89 | 10.8 | 33.0 |
| 375 | 384.5 | 5 | 3535 | 90 | A2 | 136.0 | 89 | 23.5 | 36.0 |
| 375 | 384.5 | 6 | 4040 | 100 | A2 | 161.5 | 102 | 29.8 | 44.0 |
| 375 | 384.5 | 8 | 4545 | 110 | P2 | 212.5 | 114 | 49.3 | 57.0 |
| 375 | 384.5 | 10 | 4545 | 110 | S2 | 263.5 | 114 | 74.8 | 92.0 |
| 375 | 384.5 | 12 | 5050 | 125 | S2 | 314.5 | 127 | 50-137 | 138.0 |
| 400 | 409.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 31.0 |
| 400 | 409.5 | 4 | 3535 | 90 | A2 | 110.5 | 89 | 10.8 | 35.0 |
| 400 | 409.5 | 5 | 3535 | 90 | A2 | 136.0 | 89 | 23.5 | 40.0 |
| 400 | 409.5 | 6 | 4040 | 100 | A2 | 161.5 | 102 | 29.8 | 48.0 |
| 400 | 409.5 | 8 | 4545 | 110 | P2 | 212.5 | 114 | 49.3 | 62.0 |
| 400 | 409.5 | 10 | 5050 | 125 | P2 | 263.5 | 127 | 68.3 | 73.0 |
| 400 | 409.5 | 12 | 5050 | 125 | S2 | 314.5 | 127 | 50-137 | 156.0 |
| 425 | 434.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 37.0 |
| 425 | 434.5 | 4 | 3535 | 90 | A2 | 110.5 | 89 | 10.8 | 42.0 |
| 425 | 434.5 | 5 | 3535 | 90 | A2 | 136.0 | 89 | 23.5 | 46.0 |
| 425 | 434.5 | 6 | 4040 | 100 | A2 | 161.5 | 102 | 29.8 | 56.0 |
| 425 | 434.5 | 8 | 4545 | 110 | A2 | 212.5 | 114 | 49.3 | 68.0 |
| 425 | 434.5 | 10 | 5050 | 125 | P2 | 263.5 | 127 | 68.3 | 105.0 |
| 425 | 434.5 | 12 | 5050 | 125 | P2 | 314.5 | 127 | 50-137 | 130.0 |
| 450 | 459.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 34.0 |
| 450 | 459.5 | 4 | 3535 | 90 | A2 | 110.5 | 89 | 10.8 | 39.0 |
| 450 | 459.5 | 5 | 4040 | 100 | A2 | 136.0 | 102 | 17.0 | 49.0 |
| 450 | 459.5 | 6 | 4545 | 110 | A2 | 161.5 | 114 | 23.8 | 67.0 |
| 450 | 459.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 81.0 |
| 450 | 459.5 | 10 | 5050 | 125 | P2# | 263.5 | 127 | 68.3 | 94.0 |
| 450 | 459.5 | 12 | 5050 | 125 | A2 | 314.5 | 127 | 50-137 | 133.0 |
| 475 | 484.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 30.0 |
| 475 | 484.5 | 4 | 3535 | 90 | A2 | 110.5 | 89 | 10.8 | 37.0 |
| 475 | 484.5 | 5 | 4040 | 100 | A2 | 136.0 | 102 | 17.0 | 48.0 |
| 475 | 484.5 | 6 | 4545 | 110 | A2 | 161.5 | 114 | 23.8 | 65.0 |
| 475 | 484.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 100.0 |
| 475 | 484.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 125.0 |
| 475 | 484.5 | 12 | 5050 | 125 | A2 | 314.5 | 127 | 50-137 | 142.0 |
| 500 | 509.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 31.9 |
| 500 | 509.5 | 4 | 3535 | 90 | A2 | 110.5 | 89 | 10.8 | 44.0 |
| 500 | 509.5 | 5 | 4040 | 100 | A2 | 136.0 | 102 | 17.0 | 54.0 |
| 500 | 509.5 | 6 | 4545 | 110 | A2 | 161.5 | 114 | 23.8 | 67.0 |
| 500 | 509.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 91.0 |
| 500 | 509.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 111.0 |
| 500 | 509.5 | 12 | 5050 | 125 | A2 | 314.5 | 127 | 50-137 | 148.0 |
| 530 | 539.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 34.5 |
| 530 | 539.5 | 4 | 4040 | 100 | A4 | 110.5 | 102 | 8.5 | 45.0 |
| 530 | 539.5 | 5 | 4545 | 110 | A2 | 136.0 | 114 | 11.0 | 56.0 |
| 530 | 539.5 | 6 | 5050 | 125 | A2 | 161.5 | 127 | 17.3 | 73.0 |
| 530 | 539.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 105.0 |
| 530 | 539.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 145.0 |
| 530 | 539.5 | 12 | 5050 | 125 | A2 | 314.5 | 127 | 50-137 | 155.0 |
| 560 | 569.5 | 3 | 3535 | 90 | A3 | 85.0 | 89 | 4.0 | 37.0 |
| 560 | 569.5 | 4 | 4040 | 100 | A4 | 110.5 | 102 | 8.5 | 60.0 |
| 560 | 569.5 | 5 | 4545 | 110 | A2 | 136.0 | 114 | 11.0 | 60.0 |
| 560 | 569.5 | 6 | 5050 | 125 | A2 | 161.5 | 127 | 17.3 | 85.0 |
| 560 | 569.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 101.0 |
| 560 | 569.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 121.0 |
| 560 | 569.5 | 12 | 5050 | 125 | A2 | 314.5 | 127 | 50-137 | 164.0 |
| 630 | 639.5 | 3 | 4040 | 100 | A1 | 85.0 | 102 | 8.5 | 49.5 |
| 630 | 639.5 | 4 | 4545 | 110 | A3 | 110.5 | 114 | 3.5 | 114.0 |
| 630 | 639.5 | 5 | 5050 | 125 | A4 | 136.0 | 127 | 9.0 | 91.0 |
| 630 | 639.5 | 6 | 5050 | 125 | A2 | 161.5 | 127 | 17.3 | 97.0 |
| 630 | 639.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 116.0 |
| 630 | 639.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 130.0 |
| 630 | 639.5 | 12 | 5050 | 125 | A2 | 314.5 | 127 | 50-137 | 185.0 |

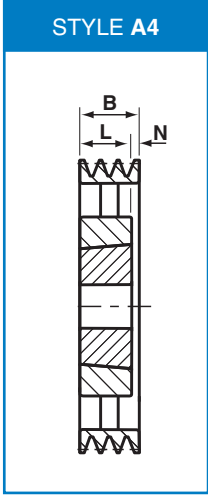
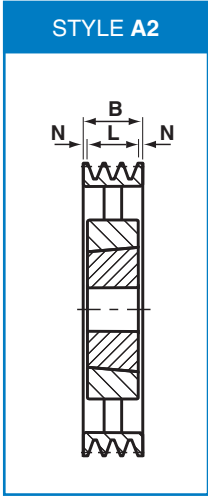
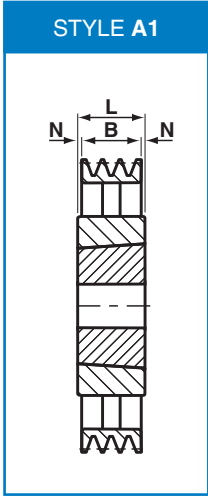
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

| Pitch Dia. dw | Outside Dia. du | Groove No. | Bush Size | Max Bore | Pulley Config. & Style | Rim Width B | L | N | Weight kg |
|---------------|-----------------|------------|-----------|----------|------------------------|-------------|-----|--------|-----------|
| 710 | 719.5 | 3 | 4040 | 100 | A1 | 85.0 | 102 | 8.5 | 57.0 |
| 710 | 719.5 | 4 | 4545 | 110 | A3 | 110.5 | 114 | 3.5 | 70.3 |
| 710 | 719.5 | 5 | 5050 | 125 | A4 | 136.0 | 127 | 9.0 | 92.0 |
| 710 | 719.5 | 6 | 5050 | 125 | A2 | 161.5 | 127 | 17.3 | 100.0 |
| 710 | 719.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 130.0 |
| 710 | 719.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 145.0 |
| 710 | 719.5 | 12 | 6050 | 150 | A2 | 314.5 | 127 | 50-137 | 230.0 |
| 800 | 809.5 | 3 | 4545 | 110 | A1 | 85.0 | 114 | 14.5 | 65.0 |
| 800 | 809.5 | 4 | 5050 | 125 | A1 | 110.5 | 127 | 8.3 | 76.5 |
| 800 | 809.5 | 5 | 5050 | 125 | A4 | 136.0 | 127 | 9.0 | 143.0 |
| 800 | 809.5 | 6 | 5050 | 125 | A2 | 161.5 | 127 | 17.3 | 120.0 |
| 800 | 809.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 150.0 |
| 800 | 809.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 170.0 |
| 800 | 809.5 | 12 | 6050 | 150 | A2 | 314.5 | 127 | 50-137 | 277.0 |
| 1000 | 1009.5 | 3 | 5050 | 125 | A1 | 85.0 | 127 | 21.0 | 116.0 |
| 1000 | 1009.5 | 4 | 5050 | 125 | A1 | 110.5 | 127 | 8.3 | 125.0 |
| 1000 | 1009.5 | 5 | 5050 | 125 | A4 | 136.0 | 127 | 9.0 | 143.0 |
| 1000 | 1009.5 | 6 | 5050 | 125 | A2 | 161.5 | 127 | 17.3 | 155.0 |
| 1000 | 1009.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 205.0 |
| 1000 | 1009.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 230.0 |
| 1000 | 1009.5 | 12 | 6050 | 150 | A2 | 314.5 | 127 | 50-137 | 346.0 |
| 1250 | 1259.5 | 4 | 5050 | 125 | A1 | 110.5 | 127 | 8.3 | 214.0 |
| 1250 | 1259.5 | 5 | 5050 | 125 | A4 | 136.0 | 127 | 9.0 | 187.0 |
| 1250 | 1259.5 | 6 | 5050 | 125 | A2 | 161.5 | 127 | 17.3 | 200.0 |
| 1250 | 1259.5 | 8 | 5050 | 125 | A2 | 212.5 | 127 | 42.8 | 252.0 |
| 1250 | 1259.5 | 10 | 5050 | 125 | A2 | 263.5 | 127 | 68.3 | 300.0 |
| 1250 | 1259.5 | 12 | 6050 | 150 | A2 | 314.5 | 127 | 50-137 | 435.0 |

Pulley Configuration: S=Solid, P=Plate, A=Arm.
 # = lightening holes

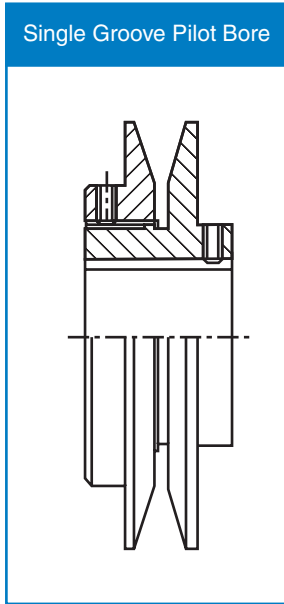
Note
 Dimension 'N' on SPC 12 groove pulleys is shown as 50mm - 137mm. The 137mm is the dimension from the edge of the pulley to the taper bush entry end of the hub

Note 2
 Larger taper bored pulleys utilising taper bush sizes 6050, 7060 and 8065 are also available to order.
 Challenge manufacture pulleys up to a maximum of 2400mm diameter with 20 grooves in pilot or taper bore



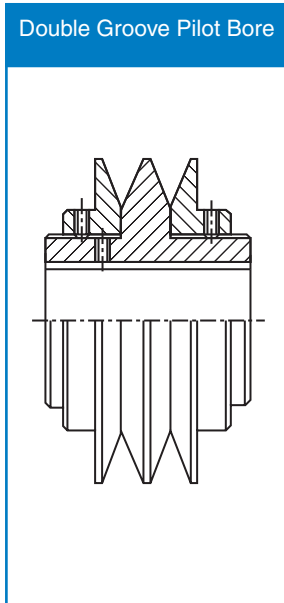
Variable Speed Pulleys

Single Groove Variable Speed Pulley - Pilot Bore



| Type | Belt Section | Max Bore | Mid Pitch Dia | Max/Min Dia | Total Width | Weight kg |
|---------|--------------|----------|---------------|-------------|-------------|-----------|
| 84Z1-P | SPZ | 20 | 71 | 62 - 80 | 35 | 0.7 |
| 95Z1-P | SPZ | 20 | 82 | 73 - 91 | 35 | 0.8 |
| 100Z1-P | SPZ | 20 | 87 | 78 - 96 | 35 | 1.1 |
| 108Z1-P | SPZ | 24 | 97 | 90 - 104 | 40 | 1.7 |
| 108A1-P | SPA | 24 | 89 | 76 - 102 | 40 | 1.8 |
| 120A1-P | SPA | 24 | 101 | 88 - 114 | 40 | 2.0 |
| 129A1-P | SPA | 30 | 110 | 97 - 123 | 45 | 2.1 |
| 139A1-P | SPA | 30 | 121 | 109 - 133 | 45 | 2.2 |
| 146A1-P | SPA | 30 | 128 | 116 - 140 | 45 | 2.4 |
| 156A1-P | SPA | 40 | 138 | 126 - 150 | 45 | 3.3 |
| 164A1-P | SPA | 40 | 146 | 134 - 158 | 45 | 3.6 |
| 177A1-P | SPA | 50 | 160 | 149 - 171 | 65 | 6.2 |
| 187A1-P | SPA | 50 | 170 | 159 - 181 | 65 | 6.5 |
| 178B1-P | SPB | 50 | 155 | 139 - 171 | 65 | 6.0 |
| 187B1-P | SPB | 50 | 164 | 148 - 180 | 65 | 6.5 |
| 200B1-P | SPB | 50 | 178 | 163 - 193 | 60 | 7.1 |
| 215B1-P | SPB | 50 | 198 | 178 - 208 | 60 | 7.4 |
| 226B1-P | SPB | 50 | 204 | 189 - 219 | 60 | 7.6 |
| 244B1-P | SPB | 60 | 224 | 211 - 237 | 70 | 9.7 |
| 256B1-P | SPB | 60 | 236 | 223 - 249 | 70 | 11.8 |

Double Groove Variable Speed Pulley - Pilot Bore

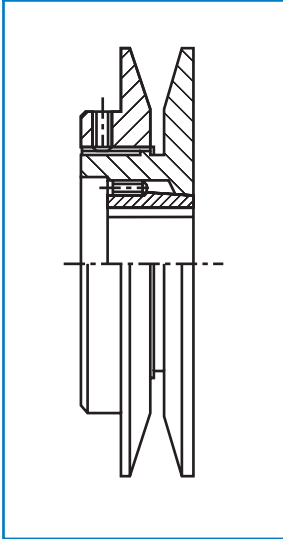


| Type | Belt Section | Max Bore | Mid Pitch Dia | Max/Min Dia | Total Width | Weight kg |
|---------|--------------|----------|---------------|-------------|-------------|-----------|
| 108A2-P | SPA | 28 | 89 | 76 - 102 | 70 | 3.6 |
| 120A2-P | SPA | 30 | 101 | 88 - 114 | 70 | 4.7 |
| 129A2-P | SPA | 30 | 111 | 99 - 123 | 70 | 5.3 |
| 139A2-P | SPA | 40 | 121 | 109 - 133 | 70 | 5.8 |
| 146A2-P | SPA | 40 | 128 | 116 - 140 | 70 | 5.9 |
| 156A2-P | SPA | 40 | 138 | 126 - 150 | 70 | 6.2 |
| 164A2-P | SPA | 40 | 146 | 134 - 158 | 70 | 6.5 |
| 177A2-P | SPA | 50 | 160 | 149 - 171 | 90 | 9.3 |
| 187A2-P | SPA | 50 | 170 | 159 - 181 | 90 | 9.8 |
| 160B2-P | SPB | 42 | 137 | 121 - 153 | 90 | 6.4 |
| 178B2-P | SPB | 50 | 155 | 139 - 171 | 90 | 9.3 |
| 187B2-P | SPB | 50 | 164 | 148 - 180 | 90 | 9.9 |
| 200B2-P | SPB | 50 | 178 | 163 - 193 | 105 | 11.5 |
| 215B2-P | SPB | 50 | 193 | 178 - 208 | 105 | 11.6 |
| 226B2-P | SPB | 50 | 204 | 189 - 219 | 105 | 11.8 |
| 244B2-P | SPB | 60 | 224 | 211 - 237 | 110 | 14.3 |
| 250B-2P | SPB | 60 | 230 | 217 - 243 | 110 | 14.3 |
| 256B2-P | SPB | 60 | 236 | 223 - 249 | 110 | 17.2 |
| 320B-2P | SPB | 60 | 300 | 287 - 313 | 110 | 36.8 |
| 355B2-P | SPB | 60 | 315 | 302 - 328 | 110 | 41.5 |

Variable Speed Pulleys

Single Groove Variable Speed Pulley - Taper Bore

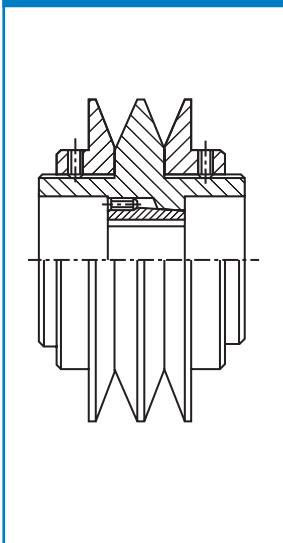
Single Groove Taper Bore



| Type | Belt Section | Taper Bush | Max Bore | Mid Pitch Dia | Max/Min Dia | Total Width | Weight kg |
|---------|--------------|------------|----------|---------------|-------------|-------------|-----------|
| 84Z1-T | SPZ | 1108 | 28 | 71 | 62 - 80 | 28 | 0.65 |
| 95Z1-T | SPZ | 1108 | 28 | 82 | 73 - 91 | 30 | 0.85 |
| 100Z1-T | SPZ | 1108 | 28 | 87 | 78 - 96 | 30 | 1.00 |
| 108Z1-T | SPZ | 1210 | 32 | 97 | 90 - 104 | 35 | 1.30 |
| 108A1-T | SPA | 1210 | 32 | 89 | 76 - 102 | 35 | 1.40 |
| 120A1-T | SPA | 1210 | 32 | 101 | 88 - 114 | 35 | 1.60 |
| 129A1-T | SPA | 1210 | 32 | 110 | 97 - 123 | 35 | 1.90 |
| 139A1-T | SPA | 1610 | 42 | 121 | 109 - 133 | 35 | 2.50 |
| 146A1-T | SPA | 1610 | 42 | 128 | 116 - 140 | 35 | 2.70 |
| 156A1-T | SPA | 1610 | 42 | 138 | 126 - 150 | 35 | 3.10 |
| 164A1-T | SPA | 1610 | 42 | 146 | 134 - 158 | 35 | 3.50 |
| 177A1-T | SPA | 2012 | 50 | 160 | 149 - 171 | 40 | 4.30 |
| 187A1-T | SPA | 2012 | 50 | 170 | 159 - 181 | 40 | 4.70 |
| 178B1-T | SPB | 2012 | 50 | 155 | 139 - 171 | 40 | 4.30 |

Double Groove Variable Speed Pulley - Taper Bore

Double Groove Taper Bore

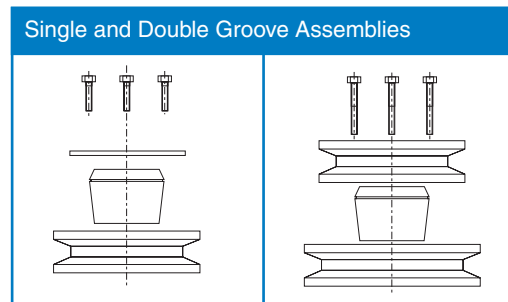
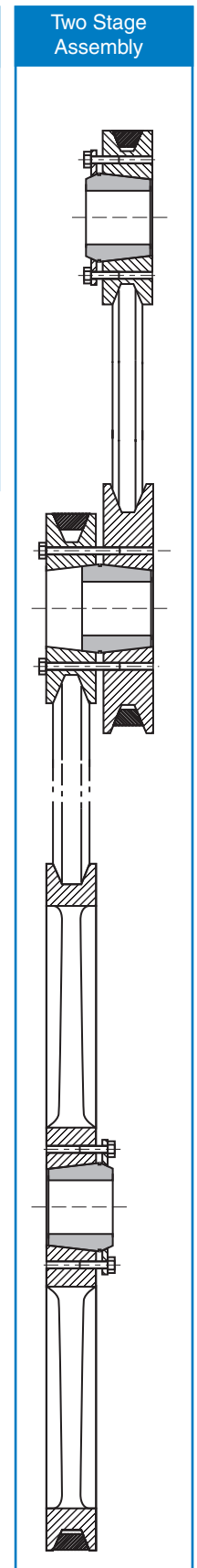
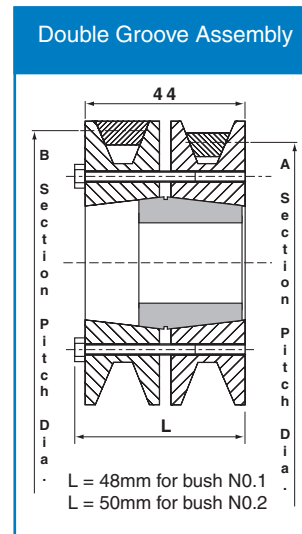
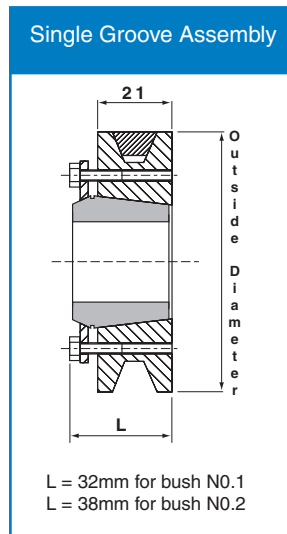


| Type | Belt Section | Taper Bush | Max Bore | Mid Pitch Dia | Max/Min Dia | Total Width | Weight kg |
|---------|--------------|------------|----------|---------------|-------------|-------------|-----------|
| 120A2-T | SPA | 1215 | 32 | 101 | 88 - 114 | 65 | 4.4 |
| 129A2-T | SPA | 1215 | 32 | 110 | 97 - 123 | 65 | 4.6 |
| 139A2-T | SPA | 1615 | 42 | 121 | 109 - 133 | 70 | 4.9 |
| 146A2-T | SPA | 1615 | 42 | 128 | 116 - 140 | 70 | 5.3 |
| 156A2-T | SPA | 1615 | 42 | 138 | 126 - 150 | 70 | 5.7 |
| 164A2-T | SPA | 1615 | 42 | 146 | 134 - 158 | 70 | 6.1 |
| 177A2-T | SPA | 2012 | 50 | 160 | 149 - 171 | 90 | 8.1 |
| 187A2-T | SPA | 2012 | 50 | 170 | 159 - 181 | 90 | 8.7 |
| 178B2-T | SPB | 2012 | 50 | 155 | 139 - 171 | 90 | 8.1 |
| 187B2-T | SPB | 2012 | 50 | 164 | 148 - 180 | 90 | 8.7 |

Multiple Groove Pulleys

Multiple Groove Pulleys

| Pitch Dia. | | Outside Diameter | Weight kg | Multiple Groove Bush |
|------------|-----|------------------|-----------|----------------------|
| A | B | | | |
| 071 | 081 | 88 | 0.42 | 1 |
| 075 | 085 | 92 | 0.47 | 1 |
| 080 | 090 | 97 | 0.53 | 1 |
| 085 | 095 | 102 | 0.62 | 1 |
| 090 | 100 | 107 | 0.72 | 1 |
| 095 | 105 | 111 | 0.80 | 1 |
| 100 | 110 | 117 | 0.91 | 1 |
| 106 | 116 | 123 | 1.02 | 1 |
| 112 | 122 | 129 | 0.98 | 1 |
| 118 | 128 | 135 | 1.05 | 1 |
| 125 | 135 | 142 | 1.17 | 1 |
| 132 | 142 | 149 | 1.28 | 1 |
| 140 | 150 | 157 | 1.49 | 2 |
| 150 | 160 | 167 | 1.61 | 2 |
| 160 | 170 | 177 | 1.75 | 2 |
| 180 | 190 | 197 | 2.03 | 2 |
| 200 | 209 | 216 | 2.38 | 2 |
| 224 | 233 | 240 | 3.34 | 2 |
| 250 | 259 | 266 | 4.22 | 2 |
| 280 | 289 | 296 | 3.77 | 2 |
| 315 | 324 | 331 | 4.45 | 2 |
| 355 | 364 | 371 | 4.94 | 2 |
| 400 | 409 | 416 | 7.51 | 2 |
| 450 | 459 | 466 | 9.05 | 2 |



Note: The same pulley is used for both A and B section belts but is ordered using 'A' pitch diameter.

Multiple Groove Bush Sizes

| Bush Reference | | Bush Shaft Sizes |
|----------------------------|------|--|
| Multiple Groove Bush No. 1 | mm | 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28 |
| | inch | 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1.1/16", 1.1/8" |
| Multiple Groove Bush No. 2 | mm | 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42 |
| | inch | 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1.1/16", 1.1/8", 1.3/16", 1.1/4", 1.5/16", 1.3/8", 1.7/16", 1.1/2", 1.9/16" |

Notes On Ordering Multiple Groove Pulleys and Bushes

| |
|--|
| Use the 'A' column for specifying pulley size* |
| Single Groove Assembly |
| 1 x Pulley |
| 1 x Bush (No.1 or No.2) |
| 1 x Retaining ring set (No.1 or No.2) |
| Double Groove Assembly |
| 2 x Pulleys |
| 1 x Bush (No.1 or No.2) |
| 1 x LR Bolt kit (No.1 or No.2) |

Multiple Groove Ring Sets and LR Ring Kits

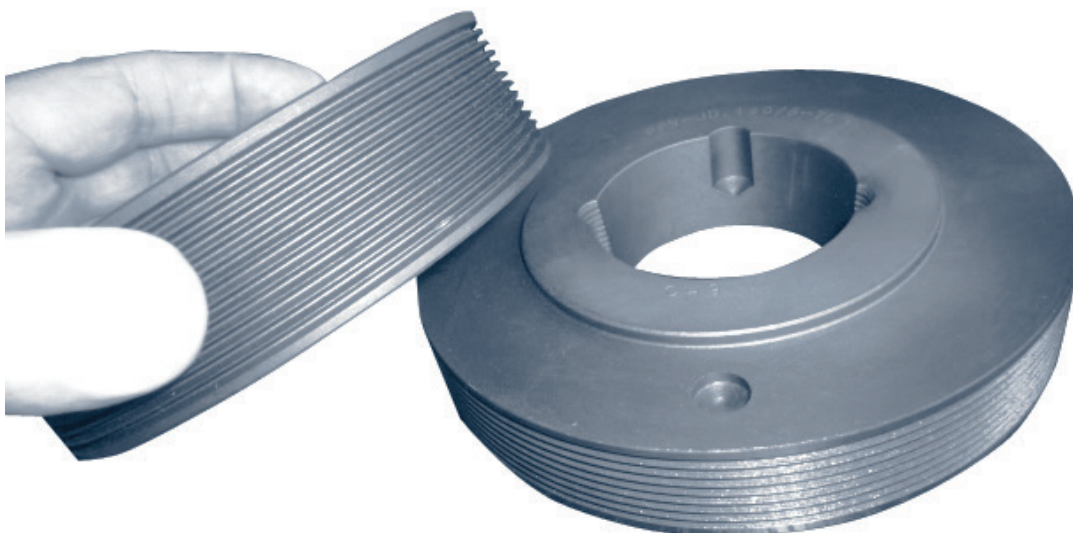
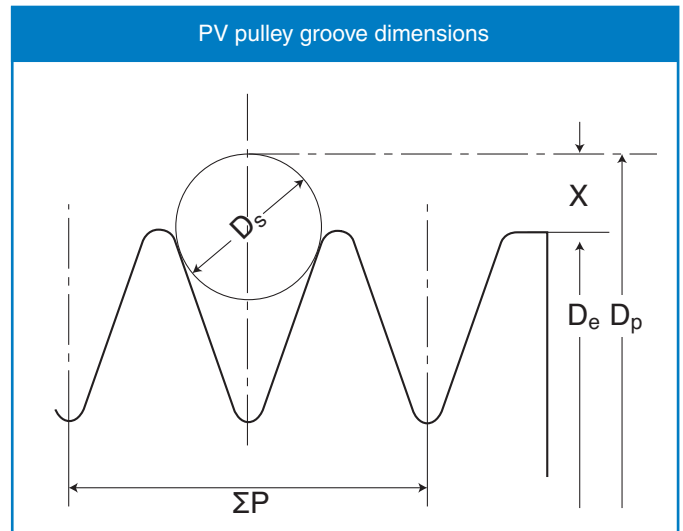
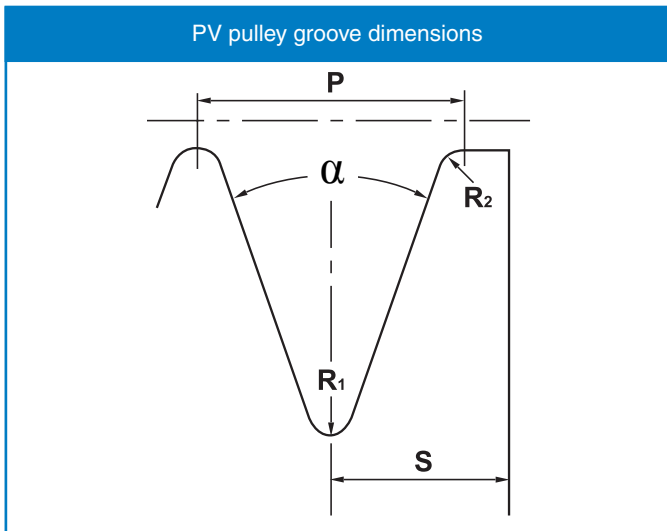
| Retaining Ring Sets No. 1 & No. 2 | LR Bolt Kits (Long reach) |
|-----------------------------------|---------------------------|
| 1 x Retainer | 3 x Long bolts |
| 3 x Short bolts | 3 x Washers |
| 3 x Washers | |

PV Pulleys

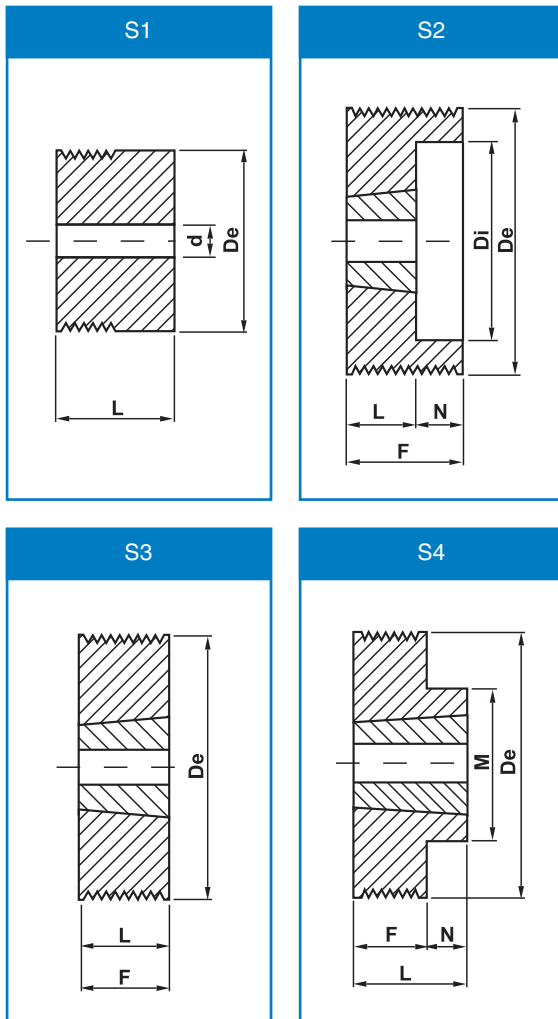
Challenge PV pulleys are manufactured according to ISO 9982 specification (Pulleys and V-ribbed belts for industrial applications). This encompasses product designation, geometry, roughness and pulley run out.

Groove dimensions of PV pulleys according to ISO 9982

| | H | J | Section K | L | M |
|-----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| α | 40 \pm 0.5 | 40 \pm 0.5 | 40 \pm 0.5 | 40 \pm 0.5 | 40 \pm 0.5 |
| P | 1.50 \pm 0.03 | 2.34 \pm 0.03 | 3.56 \pm 0.05 | 4.70 \pm 0.05 | 9.40 \pm 0.08 |
| Tolerance ΣP | \pm 0.30 | \pm 0.30 | \pm 0.30 | \pm 0.30 | \pm 0.30 |
| S min. | 1.30 | 1.80 | 2.50 | 3.30 | 6.40 |
| R ₁ max. | 0.30 | 0.40 | 0.50 | 0.40 | 0.75 |
| R ₂ min. | 0.15 | 0.20 | 0.25 | 0.40 | 0.75 |
| D _s | 1.00 \pm 0.01 | 1.50 \pm 0.01 | 2.50 \pm 0.01 | 3.50 \pm 0.01 | 7.00 \pm 0.01 |
| 2X=D _p -D _e | 0.11 | 0.23 | 0.99 | 2.36 | 4.53 |



PV Section J

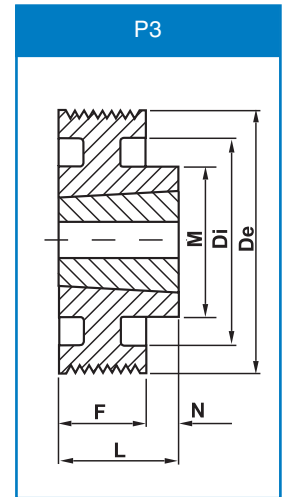
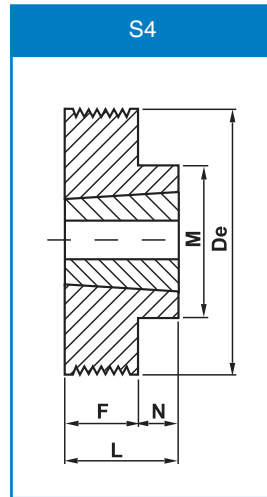
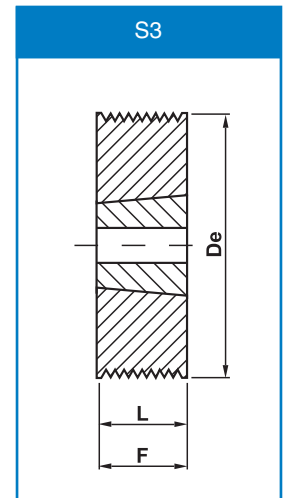
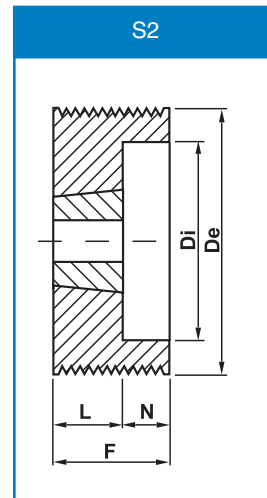


| De | Groove Number | Bush Size | Style | F | L | N | M | Di | d |
|----|---------------|-----------|-------|------|------|-----|----|----|------|
| 20 | 4 | - | S1 | 13.5 | 22.5 | - | - | - | 5.0 |
| | 8 | - | S1 | 23.0 | 32.0 | - | - | - | 5.0 |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 5.0 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 5.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 5.0 |
| 25 | 4 | - | S1 | 13.5 | 22.5 | - | - | - | 5.0 |
| | 8 | - | S1 | 23.0 | 32.0 | - | - | - | 5.0 |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 5.0 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 5.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 5.0 |
| 30 | 4 | - | S1 | 13.5 | 22.5 | - | - | - | 9.5 |
| | 8 | - | S1 | 23.0 | 32.0 | - | - | - | 9.5 |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 9.5 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 9.5 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 9.5 |
| 35 | 4 | - | S1 | 13.5 | 22.5 | - | - | - | 9.5 |
| | 8 | - | S1 | 23.0 | 32.0 | - | - | - | 9.5 |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 9.5 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 9.5 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 9.5 |
| 40 | 4 | - | S1 | 13.5 | 22.5 | - | - | - | 12.0 |
| | 8 | - | S1 | 23.0 | 32.0 | - | - | - | 12.0 |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 12.0 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 12.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 12.0 |
| 45 | 4 | - | S1 | 13.5 | 22.5 | - | - | - | 12.0 |
| | 8 | - | S1 | 23.0 | 32.0 | - | - | - | 12.0 |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 12.0 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 12.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 12.0 |
| 50 | 4 | - | S1 | 13.5 | 22.5 | - | - | - | 12.0 |
| | 8 | - | S1 | 23.0 | 32.0 | - | - | - | 12.0 |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 12.0 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 12.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 12.0 |
| 56 | 4 | 1108 | S4 | 13.5 | 23.0 | 9.5 | 50 | - | - |
| | 8 | 1108 | S3 | 23.0 | 23.0 | - | - | - | - |
| | 12 | - | S1 | 32.5 | 41.5 | - | - | - | 12.0 |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 12.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 12.0 |
| 60 | 4 | 1108 | S4 | 13.5 | 23.0 | 9.5 | 50 | - | - |
| | 8 | 1108 | S3 | 23.0 | 23.0 | - | - | - | - |
| | 12 | 1108 | S2 | 32.5 | 23.0 | 9.5 | - | 45 | - |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 12.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 12.0 |
| 63 | 4 | 1108 | S4 | 13.5 | 23.0 | 9.5 | 50 | - | - |
| | 8 | 1108 | S3 | 23.0 | 23.0 | - | - | - | - |
| | 12 | 1108 | S2 | 32.5 | 23.0 | 9.5 | - | 45 | - |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 12.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 12.0 |
| 67 | 4 | 1108 | S4 | 13.5 | 23.0 | 9.5 | 50 | - | - |
| | 8 | 1108 | S3 | 23.0 | 23.0 | - | - | - | - |
| | 12 | 1108 | S2 | 32.5 | 23.0 | 9.5 | - | 51 | - |
| | 16 | - | S1 | 42.0 | 51.0 | - | - | - | 12.0 |
| | 20 | - | S1 | 52.0 | 61.0 | - | - | - | 12.0 |

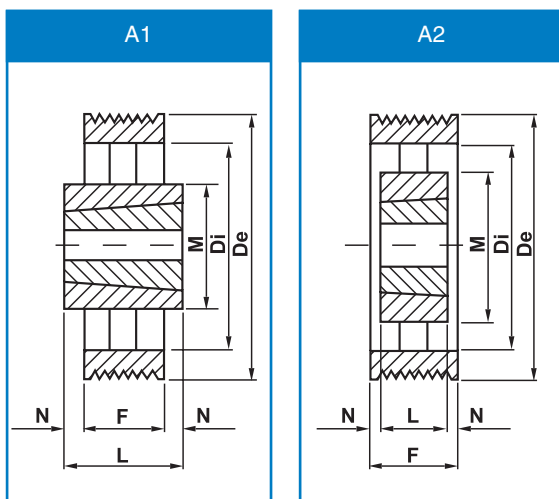
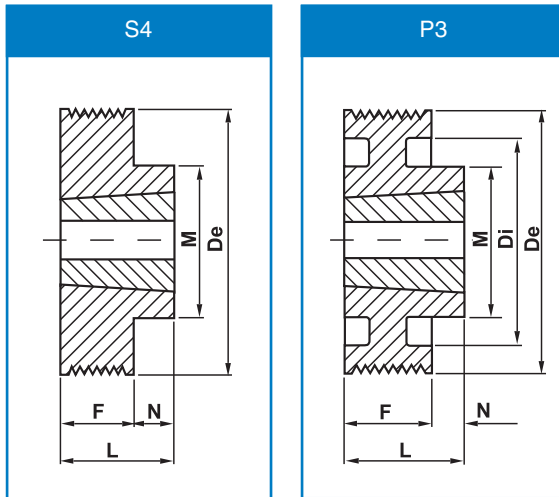
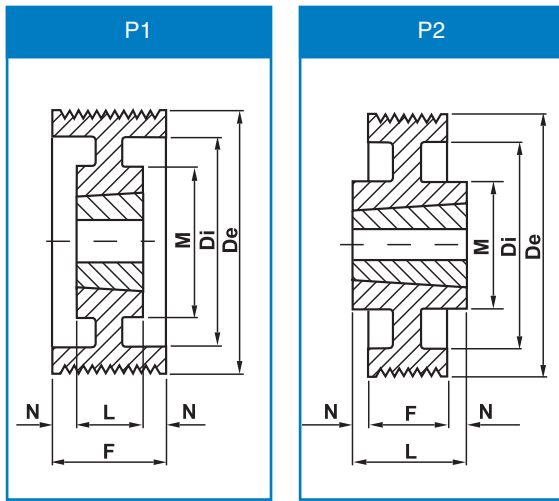
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

PV Section J

| De | Groove Number | Bush Size | Style | F | L | N | M | Di |
|-----|---------------|-----------|-------|------|----|------|----|-----|
| 71 | 4 | 1108 | S4 | 13.5 | 23 | 9.5 | 60 | - |
| | 8 | 1108 | S3 | 23.0 | 23 | - | - | - |
| | 12 | 1108 | S2 | 32.5 | 23 | 9.5 | - | 55 |
| | 16 | 1215 | S3 | 42.0 | 42 | - | - | 55 |
| | 20 | 1215 | S2 | 52.0 | 42 | 10.0 | - | 55 |
| 75 | 4 | 1108 | S4 | 13.5 | 23 | 9.5 | 60 | - |
| | 8 | 1108 | S3 | 23.0 | 23 | - | - | - |
| | 12 | 1210 | S2 | 32.5 | 26 | 6.5 | - | 59 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 59 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 59 |
| 80 | 4 | 1310 | S4 | 13.5 | 26 | 12.5 | 70 | - |
| | 8 | 1310 | S4 | 23.0 | 26 | 3.0 | 70 | - |
| | 12 | 1610 | S2 | 32.5 | 26 | 6.5 | - | 64 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 64 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 64 |
| 85 | 4 | 1310 | S4 | 13.5 | 26 | 12.5 | 70 | - |
| | 8 | 1310 | S4 | 23.0 | 26 | 3.0 | 70 | - |
| | 12 | 1610 | S2 | 32.5 | 26 | 6.5 | - | 69 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 69 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 69 |
| 90 | 4 | 1610 | S4 | 13.5 | 26 | 12.5 | 82 | - |
| | 8 | 1610 | S4 | 23.0 | 26 | 3.0 | 82 | - |
| | 12 | 1610 | S2 | 32.5 | 26 | 6.5 | - | 74 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 74 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 74 |
| 95 | 4 | 1610 | S4 | 13.5 | 26 | 12.5 | 82 | - |
| | 8 | 1610 | S4 | 23.0 | 26 | 3.0 | 82 | - |
| | 12 | 1610 | S2 | 32.5 | 26 | 6.5 | - | 79 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 79 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 79 |
| 100 | 4 | 1610 | S4 | 13.5 | 26 | 12.5 | 82 | - |
| | 8 | 1610 | S4 | 23.0 | 26 | 3.0 | 82 | - |
| | 12 | 1610 | S2 | 32.5 | 26 | 6.5 | - | 82 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 82 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 82 |
| 106 | 4 | 1610 | S4 | 13.5 | 26 | 12.5 | 88 | - |
| | 8 | 1610 | S4 | 23.0 | 26 | 3.0 | 88 | - |
| | 12 | 1610 | S2 | 32.5 | 26 | 6.5 | - | 88 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 88 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 88 |
| 112 | 4 | 1610 | S4 | 13.5 | 26 | 12.5 | 90 | - |
| | 8 | 1610 | S4 | 23.0 | 26 | 3.0 | 90 | - |
| | 12 | 1610 | S2 | 32.5 | 26 | 6.5 | - | 94 |
| | 16 | 1610 | S2 | 42.0 | 26 | 16.0 | - | 94 |
| | 20 | 1615 | S2 | 52.0 | 42 | 10.0 | - | 94 |
| 118 | 4 | 1610 | S4 | 13.5 | 26 | 12.5 | 90 | - |
| | 8 | 1610 | S4 | 23.0 | 26 | 3.0 | 90 | - |
| | 12 | 2012 | S2 | 32.5 | 32 | 0.5 | - | 98 |
| | 16 | 2012 | S2 | 42.0 | 32 | 10.0 | - | 98 |
| | 20 | 2012 | S2 | 52.0 | 32 | 20.0 | - | 98 |
| 125 | 4 | 1610 | P3 | 13.5 | 26 | 12.5 | 90 | 109 |
| | 8 | 1610 | P3 | 23.0 | 26 | 3.0 | 90 | 109 |
| | 12 | 2012 | S2 | 32.5 | 32 | 0.5 | - | 105 |
| | 16 | 2012 | S2 | 42.0 | 32 | 10.0 | - | 105 |
| | 20 | 2517 | S2 | 52.0 | 45 | 7.0 | - | 105 |



PV Section J

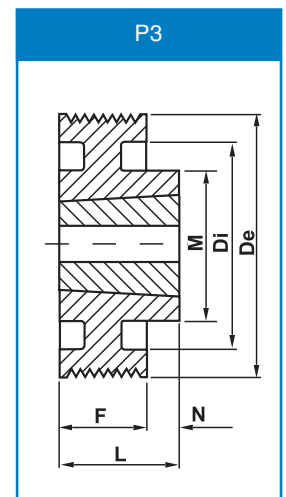
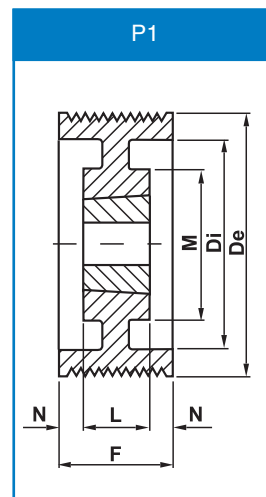
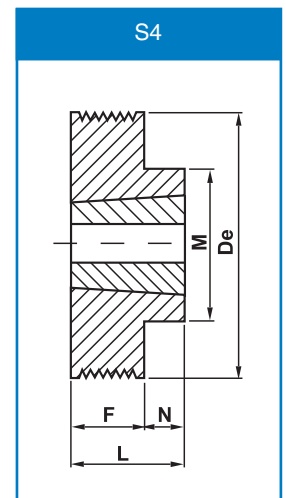
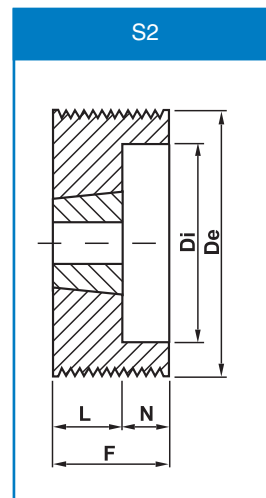


| De | Groove Number | Bush Size | Style | F | L | N | M | Di |
|-----|---------------|-----------|-------|------|----|-------|-----|-----|
| 132 | 4 | 1610 | P3 | 13.5 | 26 | 12.50 | 90 | 116 |
| | 8 | 1610 | P3 | 23.0 | 26 | 3.00 | 90 | 116 |
| | 12 | 2012 | S2 | 32.5 | 32 | 0.50 | - | 112 |
| | 16 | 2012 | S2 | 42.0 | 32 | 10.00 | - | 112 |
| | 20 | 2517 | S2 | 52.0 | 45 | 7.00 | - | 112 |
| 140 | 4 | 1610 | P3 | 13.5 | 26 | 12.50 | 90 | 124 |
| | 8 | 1610 | P3 | 23.0 | 26 | 3.00 | 90 | 124 |
| | 12 | 2517 | S4 | 32.5 | 45 | 12.50 | 120 | - |
| | 16 | 2517 | S4 | 42.0 | 45 | 3.00 | 120 | - |
| | 20 | 2517 | S2 | 52.0 | 45 | 7.00 | - | 124 |
| 160 | 4 | 2012 | P3 | 13.5 | 32 | 18.50 | 110 | 144 |
| | 8 | 2012 | P3 | 23.0 | 32 | 9.00 | 110 | 144 |
| | 12 | 2517 | P3 | 32.5 | 45 | 12.50 | 120 | 140 |
| | 16 | 2517 | P3 | 42.0 | 45 | 3.00 | 120 | 140 |
| | 20 | 2517 | S2 | 52.0 | 45 | 7.00 | - | 140 |
| 180 | 4 | 2012 | P2 | 13.5 | 32 | 9.25 | 110 | 164 |
| | 8 | 2012 | P2 | 23.0 | 32 | 4.50 | 110 | 164 |
| | 12 | 2517 | P2 | 32.5 | 45 | 6.25 | 120 | 160 |
| | 16 | 2517 | P2 | 42.0 | 45 | 1.50 | 120 | 160 |
| | 20 | 2517 | P1 | 52.0 | 45 | 3.50 | 120 | 160 |
| 200 | 4 | 2012 | P2 | 13.5 | 32 | 9.25 | 110 | 185 |
| | 8 | 2012 | P2 | 23.0 | 32 | 4.50 | 110 | 185 |
| | 12 | 2517 | P2 | 32.5 | 45 | 6.25 | 120 | 180 |
| | 16 | 2517 | P2 | 42.0 | 45 | 1.50 | 120 | 180 |
| | 20 | 2517 | P1 | 52.0 | 45 | 3.50 | 120 | 180 |
| 224 | 4 | 2012 | P2 | 13.5 | 32 | 9.25 | 110 | 208 |
| | 8 | 2012 | P2 | 23.0 | 32 | 4.50 | 110 | 208 |
| | 12 | 2517 | P2 | 32.5 | 45 | 6.25 | 120 | 204 |
| | 16 | 2517 | P2 | 42.0 | 45 | 1.50 | 120 | 204 |
| | 20 | 2517 | P1 | 52.0 | 45 | 3.50 | 120 | 204 |
| 250 | 4 | 2012 | A1 | 13.5 | 32 | 9.25 | 110 | 234 |
| | 8 | 2012 | A1 | 23.0 | 32 | 4.50 | 110 | 234 |
| | 12 | 2517 | P2 | 32.5 | 45 | 6.25 | 120 | 230 |
| | 16 | 2517 | P2 | 42.0 | 45 | 1.50 | 120 | 230 |
| | 20 | 2517 | P1 | 52.0 | 45 | 3.50 | 120 | 230 |
| 280 | 4 | 2012 | A1 | 13.5 | 32 | 9.25 | 110 | 264 |
| | 8 | 2012 | A1 | 23.0 | 32 | 4.50 | 110 | 264 |
| | 12 | 2517 | A1 | 32.5 | 45 | 6.25 | 120 | 260 |
| | 16 | 2517 | A1 | 42.0 | 45 | 1.50 | 120 | 260 |
| | 20 | 2517 | A2 | 52.0 | 45 | 3.50 | 120 | 260 |
| 315 | 4 | 2012 | A1 | 13.5 | 32 | 9.25 | 110 | 299 |
| | 8 | 2012 | A1 | 23.0 | 32 | 4.50 | 110 | 299 |
| | 12 | 2517 | A1 | 32.5 | 45 | 6.25 | 120 | 295 |
| | 16 | 2517 | A1 | 42.0 | 45 | 1.50 | 120 | 295 |
| | 20 | 2517 | A2 | 52.0 | 45 | 3.50 | 120 | 295 |
| 355 | 4 | 2517 | A1 | 13.5 | 45 | 15.70 | 120 | 339 |
| | 8 | 2517 | A1 | 23.0 | 45 | 11.00 | 120 | 339 |
| | 12 | 2517 | A1 | 32.5 | 45 | 6.25 | 120 | 335 |
| | 16 | 3020 | A1 | 42.0 | 52 | 5.00 | 146 | 335 |
| | 20 | 3020 | A2 | 52.0 | 52 | - | 146 | 335 |
| 400 | 4 | 2517 | A1 | 13.5 | 45 | 15.75 | 120 | 380 |
| | 8 | 2517 | A1 | 23.0 | 45 | 11.00 | 120 | 380 |
| | 12 | 2517 | A1 | 32.5 | 45 | 6.25 | 120 | 380 |
| | 16 | 3020 | A1 | 42.0 | 52 | 5.00 | 146 | 380 |
| | 20 | 3020 | A2 | 52.0 | 52 | - | 146 | 380 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

PV Section K

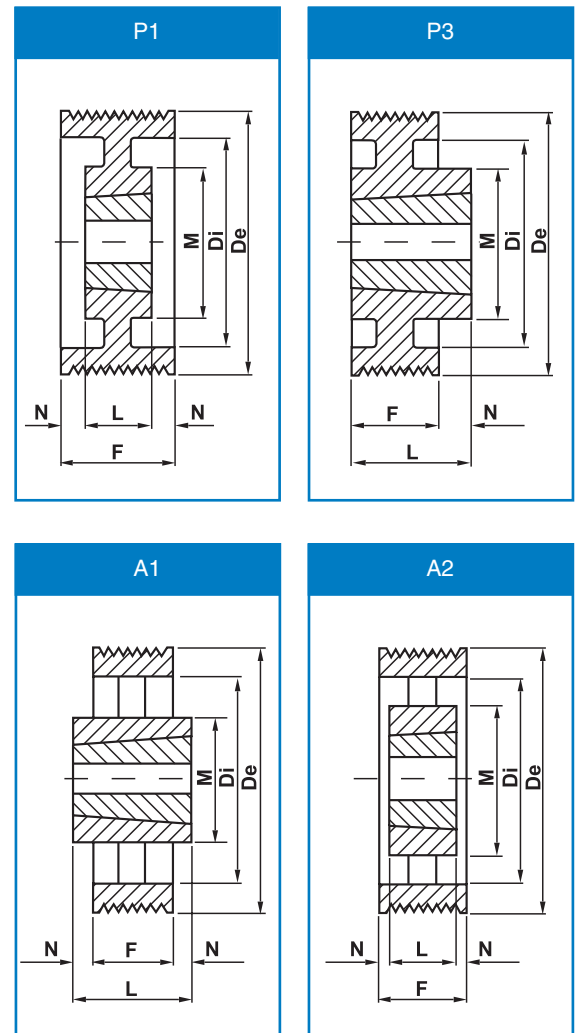
| De | Groove Number | Bush Size | Style | F | L | N | M | Di |
|-----|---------------|-----------|-------|----|----|----|-----|-----|
| 80 | 4 | 1310 | S4 | 22 | 26 | 4 | 78 | - |
| | 8 | 1310 | S2 | 36 | 26 | 10 | - | 60 |
| 85 | 4 | 1310 | S4 | 22 | 26 | 4 | 78 | - |
| | 8 | 1310 | S2 | 36 | 26 | 10 | - | 65 |
| 90 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 1610 | S2 | 36 | 26 | 10 | - | 70 |
| 95 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 1610 | S2 | 36 | 26 | 10 | - | 75 |
| 100 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 1610 | S2 | 36 | 26 | 10 | - | 80 |
| | 12 | 1610 | S2 | 50 | 26 | 24 | - | 80 |
| | 16 | 2012 | S2 | 64 | 32 | 32 | - | 80 |
| 112 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 1610 | S2 | 36 | 26 | 10 | - | 92 |
| | 12 | 1610 | S2 | 50 | 26 | 24 | - | 92 |
| | 16 | 2012 | S2 | 64 | 32 | 32 | - | 92 |
| 118 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 1610 | S2 | 36 | 26 | 10 | - | 98 |
| | 12 | 1610 | S2 | 50 | 26 | 24 | - | 98 |
| | 16 | 2012 | S2 | 64 | 32 | 32 | - | 98 |
| 125 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 1610 | S2 | 36 | 26 | 10 | - | 105 |
| | 12 | 1610 | S2 | 50 | 26 | 24 | - | 105 |
| | 16 | 2012 | S2 | 64 | 32 | 32 | - | 105 |
| 132 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 1610 | S2 | 36 | 26 | 10 | - | 112 |
| | 12 | 2012 | S2 | 50 | 32 | 18 | - | 112 |
| | 16 | 2012 | S2 | 64 | 32 | 32 | - | 112 |
| 140 | 4 | 1610 | S4 | 22 | 26 | 4 | 86 | - |
| | 8 | 2012 | S2 | 36 | 32 | 10 | - | 120 |
| | 12 | 2012 | S2 | 50 | 32 | 18 | - | 120 |
| | 16 | 2012 | S2 | 64 | 32 | 32 | - | 120 |
| 150 | 4 | 2012 | S4 | 22 | 32 | 10 | 104 | - |
| | 8 | 2012 | S2 | 36 | 32 | 4 | - | 130 |
| | 12 | 2012 | S2 | 50 | 32 | 18 | - | 130 |
| | 16 | 2517 | S2 | 64 | 45 | 19 | - | 130 |
| 160 | 4 | 2012 | S4 | 22 | 32 | 10 | 104 | - |
| | 8 | 2012 | S2 | 36 | 32 | 4 | - | 140 |
| | 12 | 2012 | S2 | 50 | 32 | 18 | - | 140 |
| | 16 | 2517 | S2 | 64 | 45 | 19 | - | 140 |
| 170 | 4 | 2012 | P3 | 22 | 32 | 10 | 104 | 150 |
| | 8 | 2012 | S2 | 36 | 32 | 4 | - | 150 |
| | 12 | 2517 | S2 | 50 | 45 | 5 | - | 150 |
| | 16 | 2517 | S2 | 64 | 45 | 19 | - | 150 |
| 180 | 4 | 2012 | P3 | 22 | 32 | 10 | 104 | 160 |
| | 8 | 2517 | P3 | 36 | 45 | 9 | 117 | 160 |
| | 12 | 2517 | P1 | 50 | 45 | 5 | 117 | 160 |
| | 16 | 2517 | P1 | 64 | 45 | 19 | 117 | 160 |
| 190 | 4 | 2012 | P3 | 22 | 32 | 10 | 104 | 170 |
| | 8 | 2517 | P3 | 36 | 45 | 9 | 117 | 170 |
| | 12 | 2517 | P1 | 50 | 45 | 5 | 117 | 170 |
| | 16 | 2517 | P1 | 64 | 45 | 19 | 117 | 170 |
| 200 | 4 | 2012 | P3 | 22 | 32 | 10 | 104 | 180 |
| | 8 | 2517 | P3 | 36 | 45 | 9 | 117 | 180 |
| | 12 | 2517 | P1 | 50 | 45 | 5 | 117 | 180 |
| | 16 | 2517 | P1 | 64 | 45 | 19 | 117 | 180 |



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PV Section K

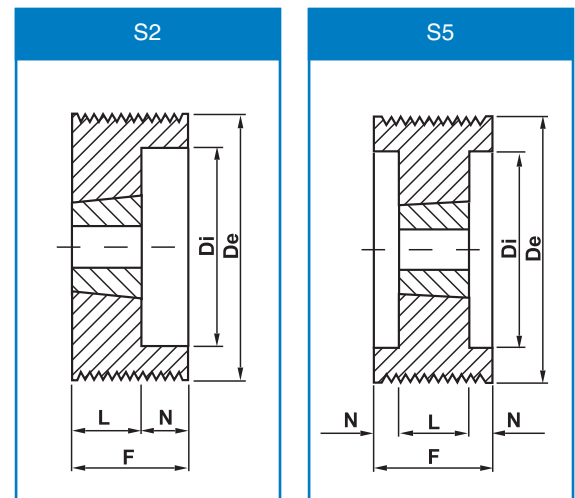
| De | Groove Number | Bush Size | Style | F | L | N | M | Di |
|-----|---------------|-----------|-------|----|----|----|-----|-----|
| 212 | 4 | 2012 | P3 | 22 | 32 | 10 | 104 | 192 |
| | 8 | 2517 | P3 | 36 | 45 | 9 | 117 | 192 |
| | 12 | 2517 | P1 | 50 | 45 | 5 | 117 | 192 |
| | 16 | 2517 | P1 | 64 | 45 | 19 | 117 | 192 |
| 224 | 4 | 2012 | A1 | 22 | 32 | 10 | 104 | 204 |
| | 8 | 2517 | P3 | 36 | 45 | 9 | 117 | 204 |
| | 12 | 2517 | P1 | 50 | 45 | 5 | 117 | 204 |
| | 16 | 2517 | P1 | 64 | 45 | 19 | 117 | 204 |
| 236 | 4 | 2012 | A1 | 22 | 32 | 10 | 104 | 216 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 216 |
| | 12 | 2517 | A2 | 50 | 45 | 5 | 117 | 216 |
| | 16 | 2517 | A2 | 64 | 45 | 19 | 117 | 216 |
| 250 | 4 | 2012 | A1 | 22 | 32 | 10 | 104 | 230 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 230 |
| | 12 | 2517 | A2 | 50 | 45 | 5 | 117 | 230 |
| | 16 | 2517 | A2 | 64 | 45 | 19 | 117 | 230 |
| 265 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 245 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 245 |
| | 12 | 2517 | A2 | 50 | 45 | 5 | 117 | 245 |
| | 16 | 3020 | A2 | 64 | 51 | 13 | 144 | 245 |
| 280 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 260 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 260 |
| | 12 | 2517 | A2 | 50 | 45 | 5 | 117 | 260 |
| | 16 | 3020 | A2 | 64 | 51 | 13 | 144 | 260 |
| 300 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 280 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 280 |
| | 12 | 2517 | A2 | 50 | 45 | 5 | 117 | 280 |
| | 16 | 3020 | A2 | 64 | 51 | 13 | 144 | 280 |
| 315 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 290 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 290 |
| | 12 | 3020 | A1 | 50 | 51 | 1 | 144 | 290 |
| | 16 | 3020 | A2 | 64 | 51 | 13 | 144 | 290 |
| 335 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 310 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 310 |
| | 12 | 3020 | A1 | 50 | 51 | 1 | 144 | 310 |
| | 16 | 3020 | A2 | 64 | 51 | 13 | 144 | 310 |
| 355 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 330 |
| | 8 | 2517 | A1 | 36 | 45 | 9 | 117 | 330 |
| | 12 | 3020 | A1 | 50 | 51 | 1 | 144 | 330 |
| | 16 | 3020 | A2 | 64 | 51 | 13 | 144 | 330 |
| 375 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 350 |
| | 8 | 3020 | A1 | 36 | 51 | 15 | 144 | 350 |
| | 12 | 3020 | A1 | 50 | 51 | 1 | 144 | 350 |
| | 16 | 3020 | A2 | 64 | 51 | 13 | 144 | 350 |
| 400 | 4 | 2517 | A1 | 22 | 45 | 23 | 117 | 375 |
| | 8 | 3020 | A1 | 36 | 51 | 15 | 144 | 375 |
| | 12 | 3020 | A1 | 50 | 51 | 1 | 144 | 375 |
| | 16 | 3535 | A1 | 64 | 89 | 13 | 172 | 375 |
| 425 | 4 | 3020 | A1 | 22 | 51 | 29 | 144 | 400 |
| | 8 | 3020 | A1 | 36 | 51 | 15 | 144 | 400 |
| | 12 | 3020 | A1 | 50 | 51 | 1 | 144 | 400 |
| | 16 | 3535 | A1 | 64 | 89 | 13 | 172 | 400 |
| 450 | 4 | 3020 | A1 | 22 | 51 | 29 | 144 | 425 |
| | 8 | 3020 | A1 | 36 | 51 | 15 | 144 | 425 |
| | 12 | 3020 | A1 | 50 | 51 | 1 | 144 | 425 |
| | 16 | 3535 | A1 | 64 | 89 | 13 | 172 | 425 |



All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

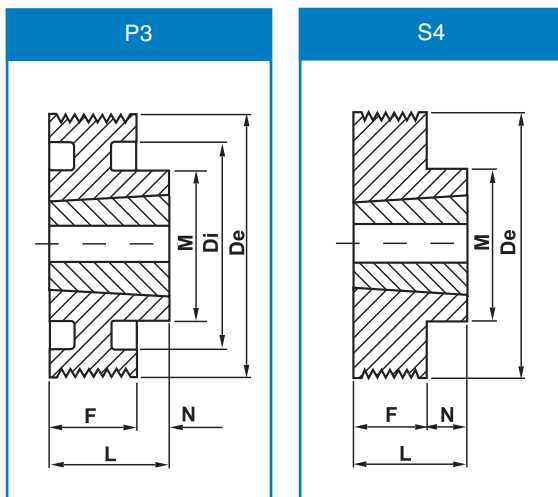
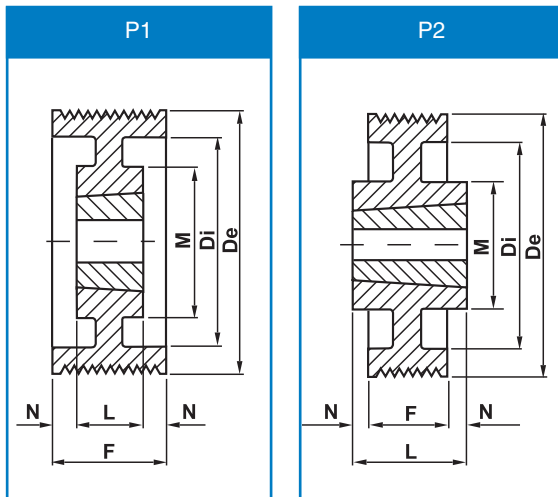
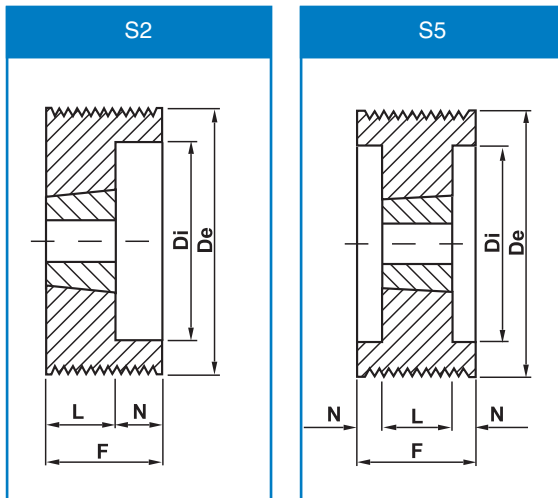
PV Section L

| De | Groove Number | Bush Size | Style | F | L | N | Di |
|-----|---------------|-----------|-------|------|----|------|-----|
| 75 | 6 | 1210 | S2 | 38.5 | 26 | 12.5 | 56 |
| | 8 | 1210 | S2 | 48.0 | 26 | 22.0 | 56 |
| | 10 | 1215 | S2 | 57.0 | 42 | 15.0 | 56 |
| | 12 | 1215 | S2 | 67.0 | 42 | 25.0 | 56 |
| 80 | 6 | 1210 | S2 | 38.5 | 26 | 12.5 | 56 |
| | 8 | 1210 | S2 | 48.0 | 26 | 22.0 | 56 |
| | 10 | 1215 | S2 | 57.0 | 42 | 15.0 | 56 |
| | 12 | 1215 | S2 | 67.0 | 42 | 25.0 | 56 |
| 85 | 6 | 1210 | S2 | 38.5 | 26 | 12.5 | 61 |
| | 8 | 1210 | S2 | 48.0 | 26 | 22.0 | 61 |
| | 10 | 1215 | S2 | 57.0 | 42 | 15.0 | 61 |
| | 12 | 1215 | S2 | 67.0 | 42 | 25.0 | 61 |
| | 16 | 1215 | S5 | 86.0 | 42 | 22.0 | 61 |
| 90 | 6 | 1210 | S2 | 38.5 | 26 | 12.5 | 66 |
| | 8 | 1210 | S2 | 48.0 | 26 | 22.0 | 66 |
| | 10 | 1215 | S2 | 57.0 | 42 | 15.0 | 66 |
| | 12 | 1215 | S2 | 67.0 | 42 | 25.0 | 66 |
| | 16 | 1215 | S5 | 86.0 | 42 | 22.0 | 66 |
| 95 | 6 | 1210 | S2 | 38.5 | 26 | 12.5 | 71 |
| | 8 | 1210 | S2 | 48.0 | 26 | 22.0 | 71 |
| | 10 | 1215 | S2 | 57.0 | 42 | 15.0 | 71 |
| | 12 | 1215 | S2 | 67.0 | 42 | 25.0 | 71 |
| | 16 | 1215 | S5 | 86.0 | 42 | 22.0 | 71 |
| 100 | 6 | 1610 | S2 | 38.5 | 26 | 12.5 | 76 |
| | 8 | 1610 | S2 | 48.0 | 26 | 22.0 | 76 |
| | 10 | 2012 | S2 | 57.0 | 32 | 25.0 | 79 |
| | 12 | 2012 | S2 | 67.0 | 32 | 35.0 | 79 |
| | 16 | 2012 | S5 | 86.0 | 32 | 27.0 | 79 |
| 106 | 6 | 1610 | S2 | 38.5 | 26 | 12.5 | 82 |
| | 8 | 1610 | S2 | 48.0 | 26 | 22.0 | 82 |
| | 10 | 2012 | S2 | 57.0 | 32 | 25.0 | 82 |
| | 12 | 2012 | S2 | 67.0 | 32 | 35.0 | 82 |
| | 16 | 2012 | S5 | 86.0 | 32 | 27.0 | 82 |
| 112 | 6 | 1610 | S2 | 38.5 | 26 | 12.5 | 88 |
| | 8 | 1610 | S2 | 48.0 | 26 | 22.0 | 88 |
| | 10 | 2012 | S2 | 57.0 | 32 | 25.0 | 88 |
| | 12 | 2012 | S2 | 67.0 | 32 | 35.0 | 88 |
| | 16 | 2012 | S5 | 86.0 | 32 | 27.0 | 88 |
| 118 | 6 | 2012 | S2 | 38.5 | 32 | 6.5 | 94 |
| | 8 | 2012 | S2 | 48.0 | 32 | 16.0 | 94 |
| | 10 | 2517 | S5 | 57.0 | 45 | 6.0 | 97 |
| | 12 | 2517 | S5 | 67.0 | 45 | 11.0 | 97 |
| | 16 | 2517 | S5 | 86.0 | 45 | 20.5 | 97 |
| | 20 | 2517 | S5 | 105 | 45 | 30.0 | 97 |
| 125 | 6 | 2012 | S2 | 38.5 | 32 | 6.5 | 101 |
| | 8 | 2012 | S2 | 48.0 | 32 | 16.0 | 101 |
| | 10 | 2517 | S5 | 57.0 | 45 | 6.0 | 101 |
| | 12 | 2517 | S5 | 67.0 | 45 | 11.0 | 101 |
| | 16 | 2517 | S5 | 86.0 | 45 | 20.5 | 101 |
| | 20 | 2517 | S5 | 105 | 45 | 30.0 | 101 |
| 132 | 6 | 2012 | S2 | 38.5 | 32 | 6.5 | 108 |
| | 8 | 2012 | S2 | 48.0 | 32 | 16.0 | 108 |
| | 10 | 2517 | S5 | 57.0 | 45 | 6.0 | 108 |
| | 12 | 2517 | S5 | 67.0 | 45 | 11.0 | 108 |
| | 16 | 2517 | S5 | 86.0 | 45 | 20.5 | 108 |
| | 20 | 2517 | S5 | 105 | 45 | 30.0 | 108 |



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PV Section L

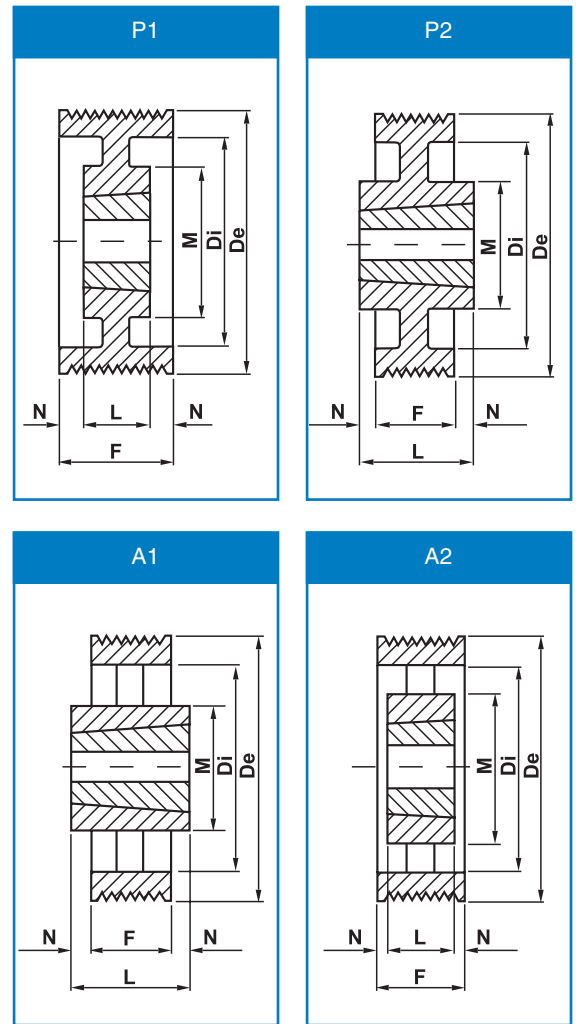


| De | Groove Number | Bush Size | Style | F | L | N | M | Di |
|-----|---------------|-----------|-------|------|----|-------|-----|-----|
| 140 | 6 | 2517 | S4 | 38.5 | 45 | 6.50 | 120 | - |
| | 8 | 2517 | S2 | 48.0 | 45 | 3.00 | - | 116 |
| | 10 | 2517 | S5 | 57.0 | 45 | 6.00 | - | 116 |
| | 12 | 2517 | S5 | 67.0 | 45 | 11.00 | - | 116 |
| | 16 | 2517 | S5 | 86.0 | 45 | 20.50 | - | 116 |
| 150 | 20 | 3020 | S5 | 105 | 52 | 26.50 | - | 116 |
| | 6 | 2517 | S4 | 38.5 | 45 | 6.50 | 120 | - |
| | 8 | 2517 | S2 | 48.0 | 45 | 3.00 | - | 126 |
| | 10 | 2517 | S5 | 57.0 | 45 | 6.00 | - | 126 |
| | 12 | 2517 | S5 | 67.0 | 45 | 11.00 | - | 126 |
| 160 | 16 | 2517 | S5 | 86.0 | 45 | 20.50 | - | 126 |
| | 20 | 3020 | S5 | 105 | 52 | 26.50 | - | 126 |
| | 6 | 2517 | S4 | 38.5 | 45 | 6.50 | 120 | - |
| | 8 | 2517 | S2 | 48.0 | 45 | 3.00 | - | 136 |
| | 10 | 2517 | S5 | 57.0 | 45 | 6.00 | - | 136 |
| 170 | 12 | 2517 | S5 | 67.0 | 45 | 11.00 | - | 136 |
| | 16 | 3020 | S5 | 86.0 | 52 | 17.00 | - | 136 |
| | 20 | 3020 | S5 | 105 | 52 | 26.50 | - | 136 |
| | 6 | 2517 | P3 | 38.5 | 45 | 6.50 | 120 | 146 |
| | 8 | 2517 | S2 | 48.0 | 45 | 3.00 | - | 146 |
| 180 | 10 | 2517 | S5 | 57.0 | 45 | 6.00 | - | 146 |
| | 12 | 2517 | S5 | 67.0 | 45 | 11.00 | - | 146 |
| | 16 | 3020 | S5 | 86.0 | 52 | 17.00 | - | 146 |
| | 20 | 3020 | S5 | 105 | 52 | 26.50 | - | 146 |
| | 6 | 2517 | P2 | 38.5 | 45 | 3.25 | 120 | 156 |
| | 8 | 2517 | P1 | 48.0 | 45 | 1.50 | 120 | 156 |
| 190 | 10 | 2517 | P1 | 57.0 | 45 | 6.00 | 120 | 156 |
| | 12 | 2517 | P1 | 67.0 | 45 | 11.00 | 120 | 156 |
| | 16 | 3020 | S5 | 86.0 | 52 | 17.00 | - | 156 |
| | 20 | 3020 | S5 | 105 | 52 | 26.50 | - | 156 |
| | 6 | 2517 | P2 | 38.5 | 45 | 3.25 | 120 | 166 |
| 200 | 8 | 2517 | P1 | 48.0 | 45 | 1.50 | 120 | 166 |
| | 10 | 2517 | P1 | 57.0 | 45 | 6.00 | 120 | 166 |
| | 12 | 2517 | P1 | 67.0 | 45 | 11.00 | 120 | 166 |
| | 16 | 3020 | P1 | 86.0 | 52 | 17.00 | 146 | 166 |
| | 20 | 3020 | P1 | 105 | 52 | 26.50 | 146 | 166 |
| | 6 | 2517 | P2 | 38.5 | 45 | 3.25 | 120 | 176 |
| 212 | 8 | 2517 | P1 | 48.0 | 45 | 1.50 | 120 | 176 |
| | 10 | 3020 | P1 | 57.0 | 52 | 2.50 | 146 | 176 |
| | 12 | 3020 | P1 | 67.0 | 52 | 7.50 | 146 | 176 |
| | 16 | 3020 | P1 | 86.0 | 52 | 17.00 | 146 | 176 |
| | 20 | 3535 | S5 | 105 | 89 | 8.00 | - | 176 |
| | 6 | 2517 | P2 | 38.5 | 45 | 3.25 | 120 | 188 |
| 224 | 8 | 2517 | P1 | 48.0 | 45 | 1.50 | 120 | 188 |
| | 10 | 3020 | P1 | 57.0 | 52 | 2.50 | 146 | 188 |
| | 12 | 3020 | P1 | 67.0 | 52 | 7.50 | 146 | 188 |
| | 16 | 3020 | P1 | 86.0 | 52 | 17.00 | 146 | 188 |
| | 20 | 3535 | S5 | 105 | 89 | 8.00 | - | 188 |
| | 6 | 2517 | P2 | 38.5 | 45 | 3.25 | 120 | 202 |
| 236 | 8 | 2517 | P1 | 48.0 | 45 | 1.50 | 120 | 202 |
| | 10 | 3020 | P1 | 57.0 | 52 | 2.50 | 146 | 202 |
| | 12 | 3020 | P1 | 67.0 | 52 | 7.50 | 146 | 202 |
| | 16 | 3020 | P1 | 86.0 | 52 | 17.00 | 146 | 202 |
| | 20 | 3535 | P1 | 105 | 89 | 8.00 | 178 | 202 |
| | 6 | 2517 | P2 | 38.5 | 45 | 3.25 | 120 | 214 |
| 236 | 8 | 2517 | P1 | 48.0 | 45 | 1.50 | 120 | 214 |
| | 10 | 3020 | P1 | 57.0 | 52 | 2.50 | 146 | 214 |
| | 12 | 3020 | P1 | 67.0 | 52 | 7.50 | 146 | 214 |
| | 16 | 3020 | P1 | 86.0 | 52 | 17.00 | 146 | 214 |
| | 20 | 3535 | P1 | 105 | 89 | 8.00 | 178 | 214 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

PV Section L

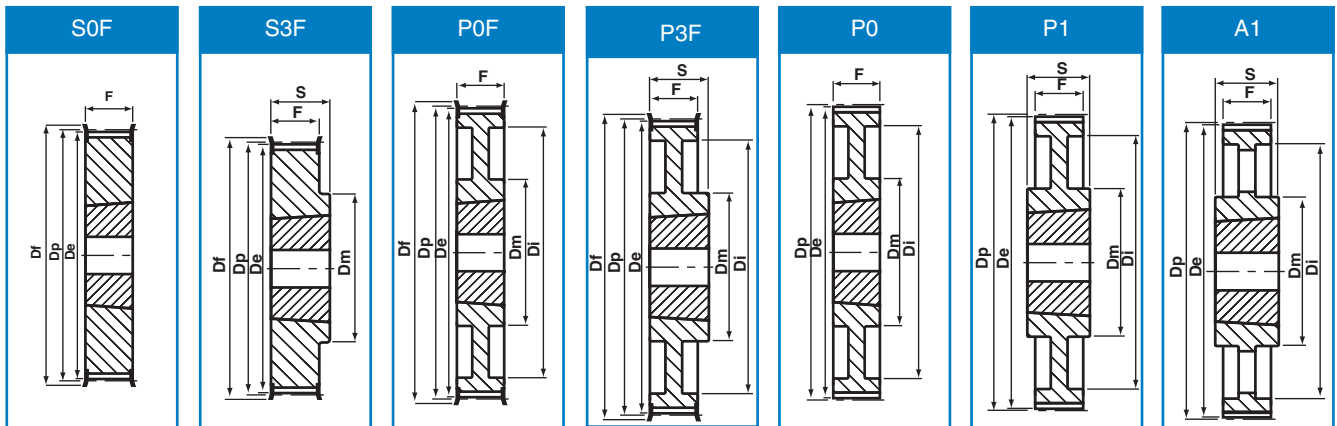
| De | Groove Number | Bush Size | Style | F | L | N | M | Di |
|-----|---------------|-----------|-------|------|-----|-------|-----|-----|
| 250 | 6 | 2517 | A1 | 38.5 | 45 | 3.25 | 120 | 228 |
| | 8 | 2517 | P1 | 48.0 | 45 | 1.50 | 120 | 228 |
| | 10 | 3020 | P1 | 57.0 | 52 | 2.50 | 146 | 228 |
| | 12 | 3020 | P1 | 67.0 | 52 | 7.50 | 146 | 228 |
| | 16 | 3020 | P1 | 86.0 | 52 | 17.00 | 146 | 228 |
| | 20 | 3535 | P1 | 105 | 89 | 8.00 | 178 | 228 |
| 280 | 6 | 2517 | P2 | 38.5 | 45 | 3.25 | 120 | 256 |
| | 8 | 3020 | P2 | 48.0 | 52 | 2.00 | 146 | 256 |
| | 10 | 3020 | P1 | 57.0 | 52 | 2.50 | 146 | 256 |
| | 12 | 3020 | P1 | 67.0 | 52 | 7.50 | 146 | 256 |
| | 16 | 3535 | P2 | 86.0 | 89 | 1.50 | 178 | 256 |
| | 20 | 3535 | P1 | 105 | 89 | 8.00 | 178 | 256 |
| 315 | 6 | 2517 | A1 | 38.5 | 45 | 3.25 | 120 | 285 |
| | 8 | 3020 | A1 | 48.0 | 52 | 2.00 | 146 | 285 |
| | 10 | 3535 | P2 | 57.0 | 89 | 16.00 | 178 | 285 |
| | 12 | 3535 | P2 | 67.0 | 89 | 11.00 | 178 | 285 |
| | 16 | 3535 | P2 | 86.0 | 89 | 1.50 | 178 | 285 |
| | 20 | 4040 | P1 | 105 | 102 | 1.50 | 215 | 285 |
| 355 | 6 | 3020 | A1 | 38.5 | 52 | 6.75 | 146 | 325 |
| | 8 | 3020 | A1 | 48.0 | 52 | 2.00 | 146 | 325 |
| | 10 | 3535 | A1 | 57.0 | 89 | 16.00 | 178 | 325 |
| | 12 | 3535 | A1 | 67.0 | 89 | 11.00 | 178 | 325 |
| | 16 | 3535 | A1 | 86.0 | 89 | 1.50 | 178 | 325 |
| | 20 | 4040 | P1 | 105 | 102 | 1.50 | 215 | 325 |
| 400 | 6 | 3020 | A1 | 38.5 | 52 | 6.75 | 146 | 370 |
| | 8 | 3020 | A1 | 48.0 | 52 | 2.00 | 146 | 370 |
| | 10 | 3535 | A1 | 57.0 | 89 | 16.00 | 178 | 370 |
| | 12 | 3535 | A1 | 67.0 | 89 | 11.00 | 178 | 370 |
| | 16 | 3535 | A1 | 86.0 | 89 | 1.50 | 178 | 370 |
| | 20 | 4040 | A2 | 105 | 102 | 1.50 | 215 | 370 |
| 450 | 6 | 3020 | A1 | 38.5 | 52 | 6.75 | 146 | 420 |
| | 8 | 3020 | A1 | 48.0 | 52 | 2.00 | 146 | 420 |
| | 10 | 3535 | A1 | 57.0 | 89 | 16.00 | 178 | 420 |
| | 12 | 3535 | A1 | 67.0 | 89 | 11.00 | 178 | 420 |
| | 16 | 3535 | A1 | 86.0 | 89 | 1.50 | 178 | 420 |
| | 20 | 4040 | A1 | 105 | 102 | 1.50 | 215 | 420 |
| 500 | 6 | 3020 | A1 | 38.5 | 52 | 6.75 | 146 | 470 |
| | 8 | 3020 | A1 | 48.0 | 52 | 2.00 | 146 | 470 |
| | 10 | 3535 | A1 | 57.0 | 89 | 16.00 | 178 | 470 |
| | 12 | 3535 | A1 | 67.0 | 89 | 11.00 | 178 | 470 |
| | 16 | 3535 | A1 | 86.0 | 89 | 1.50 | 178 | 470 |
| | 20 | 5050 | A1 | 105 | 127 | 11.00 | 267 | 470 |
| 630 | 6 | 3020 | A1 | 38.5 | 52 | 6.75 | 146 | 600 |
| | 8 | 3020 | A1 | 48.0 | 52 | 2.00 | 146 | 600 |
| | 10 | 3535 | A1 | 57.0 | 89 | 16.00 | 178 | 600 |
| | 12 | 3535 | A1 | 67.0 | 89 | 11.00 | 178 | 600 |
| | 16 | 4040 | A1 | 86.0 | 102 | 8.00 | 215 | 600 |
| | 20 | 5050 | A1 | 105 | 127 | 11.00 | 267 | 600 |
| 800 | 6 | 3535 | A1 | 38.5 | 89 | 25.20 | 178 | 770 |
| | 8 | 3535 | A1 | 48.0 | 89 | 20.50 | 178 | 770 |
| | 10 | 4040 | A1 | 57.0 | 102 | 22.50 | 215 | 770 |
| | 12 | 4040 | A1 | 67.0 | 102 | 17.50 | 215 | 770 |
| | 16 | 5050 | A1 | 86.0 | 127 | 20.50 | 267 | 770 |
| | 20 | 5050 | A1 | 105 | 127 | 11.00 | 267 | 770 |



Timing Taper Bore

L - 3/8" (9.525 mm) pitch L050 - 1/2" (13 mm) wide belts

| Product Designation | Number of Teeth | Type | Bush Size | De | Dp | Df | Dm | Di | F | S | Weight kg |
|---------------------|-----------------|------|-----------|-----|--------|-----|-----|-----|----|----|-----------|
| 18-L-050 | 18 | S3F | 1108 | 54 | 54.57 | 60 | 43 | - | 19 | 22 | 0.2 |
| 19-L-050 | 19 | S3F | 1108 | 57 | 57.61 | 63 | 43 | - | 19 | 22 | 0.2 |
| 20-L-050 | 20 | S3F | 1108 | 60 | 60.64 | 67 | 48 | - | 19 | 22 | 0.2 |
| 21-L-050 | 21 | S3F | 1108 | 63 | 63.77 | 70 | 48 | - | 19 | 22 | 0.3 |
| 22-L-050 | 22 | S3F | 1108 | 66 | 66.70 | 75 | 51 | - | 19 | 22 | 0.3 |
| 23-L-050 | 23 | S3F | 1108 | 69 | 69.73 | 79 | 54 | - | 19 | 22 | 0.4 |
| 24-L-050 | 24 | S3F | 1108 | 72 | 72.77 | 79 | 54 | - | 19 | 22 | 0.4 |
| 25-L-050 | 25 | S3F | 1108 | 75 | 75.80 | 87 | 56 | - | 19 | 22 | 0.5 |
| 26-L-050 | 26 | S3F | 1108 | 78 | 78.83 | 87 | 60 | - | 19 | 22 | 0.5 |
| 27-L-050 | 27 | S3F | 1108 | 81 | 81.86 | 91 | 65 | - | 19 | 22 | 0.6 |
| 28-L-050 | 28 | S3F | 1108 | 84 | 84.89 | 91 | 65 | - | 19 | 22 | 0.6 |
| 30-L-050 | 30 | S3F | 1108 | 90 | 90.96 | 97 | 70 | - | 19 | 22 | 0.8 |
| 32-L-050 | 32 | S3F | 1108 | 96 | 97.02 | 102 | 74 | - | 19 | 22 | 0.9 |
| 36-L-050 | 36 | S3F | 1108 | 108 | 109.15 | 120 | 87 | - | 19 | 22 | 1.2 |
| 40-L-050 | 40 | S3F | 1210 | 121 | 121.28 | 128 | 87 | - | 19 | 25 | 1.5 |
| 48-L-050 | 48 | P3F | 1210 | 145 | 145.53 | 150 | 88 | 124 | 19 | 25 | 2.3 |
| 60-L-050 | 60 | P1 | 1610 | 181 | 181.91 | - | 92 | 166 | 19 | 25 | 2.0 |
| 72-L-050 | 72 | A1 | 1610 | 218 | 218.30 | - | 92 | 202 | 19 | 25 | 3.0 |
| 84-L-050 | 84 | A1 | 1610 | 254 | 254.68 | - | 106 | 236 | 19 | 25 | 4.0 |
| 96-L-050 | 96 | A1 | 2012 | 290 | 291.06 | - | 106 | 270 | 19 | 32 | 5.5 |
| 120-L-050 | 120 | A1 | 2012 | 363 | 363.83 | - | 106 | 343 | 19 | 32 | 6.8 |



L - 3/8" (9.525 mm) pitch L075 - 3/4" (19 mm) wide belts

| Product Designation | Number of Teeth | Type | Bush Size | De | Dp | Df | Dm | Di | F | S | Weight kg |
|---------------------|-----------------|------|-----------|-----|--------|-----|-----|-----|------|----|-----------|
| 18-L-075 | 18 | S0F | 1108 | 54 | 54.57 | 60 | - | - | 25.4 | - | 0.2 |
| 19-L-075 | 19 | S0F | 1108 | 57 | 57.61 | 63 | - | - | 25.4 | - | 0.3 |
| 20-L-075 | 20 | S0F | 1108 | 60 | 60.64 | 67 | - | - | 25.4 | - | 0.3 |
| 21-L-075 | 21 | S0F | 1108 | 63 | 63.67 | 70 | - | - | 25.4 | - | 0.4 |
| 22-L-075 | 22 | S0F | 1108 | 66 | 66.70 | 75 | - | - | 25.4 | - | 0.4 |
| 23-L-075 | 23 | S0F | 1108 | 69 | 69.73 | 79 | - | - | 25.4 | - | 0.4 |
| 24-L-075 | 24 | S0F | 1108 | 72 | 72.77 | 79 | - | - | 25.4 | - | 0.5 |
| 25-L-075 | 25 | S0F | 1108 | 75 | 75.80 | 87 | - | - | 25.4 | - | 0.6 |
| 26-L-075 | 26 | S0F | 1108 | 78 | 78.83 | 87 | - | - | 25.4 | - | 0.6 |
| 27-L-075 | 27 | S0F | 1108 | 81 | 81.86 | 91 | - | - | 25.4 | - | 0.7 |
| 28-L-075 | 28 | S0F | 1108 | 84 | 84.89 | 91 | - | - | 25.4 | - | 0.7 |
| 30-L-075 | 30 | S0F | 1108 | 90 | 90.96 | 97 | - | - | 25.4 | - | 0.9 |
| 32-L-075 | 32 | S0F | 1108 | 96 | 97.05 | 102 | - | - | 25.4 | - | 1.0 |
| 36-L-075 | 36 | S0F | 1210 | 108 | 109.15 | 120 | - | - | 25.4 | - | 1.2 |
| 40-L-075 | 40 | S0F | 1210 | 121 | 121.28 | 128 | - | - | 25.4 | - | 1.7 |
| 48-L-075 | 48 | P0F | 1610 | 145 | 145.53 | 150 | 92 | 124 | 25.4 | - | 2.5 |
| 60-L-075 | 60 | P0 | 1610 | 181 | 181.91 | - | 92 | 166 | 25.4 | 25 | 3.0 |
| 72-L-075 | 72 | A0 | 1610 | 218 | 218.30 | - | 92 | 202 | 25.4 | 25 | 4.0 |
| 84-L-075 | 84 | A1 | 2012 | 254 | 254.68 | - | 106 | 236 | 25.4 | 32 | 5.2 |
| 96-L-075 | 96 | A1 | 2012 | 290 | 291.06 | - | 106 | 270 | 25.4 | 32 | 6.5 |
| 120-L-075 | 120 | A1 | 2012 | 363 | 363.83 | - | 106 | 343 | 25.4 | 32 | 7.6 |

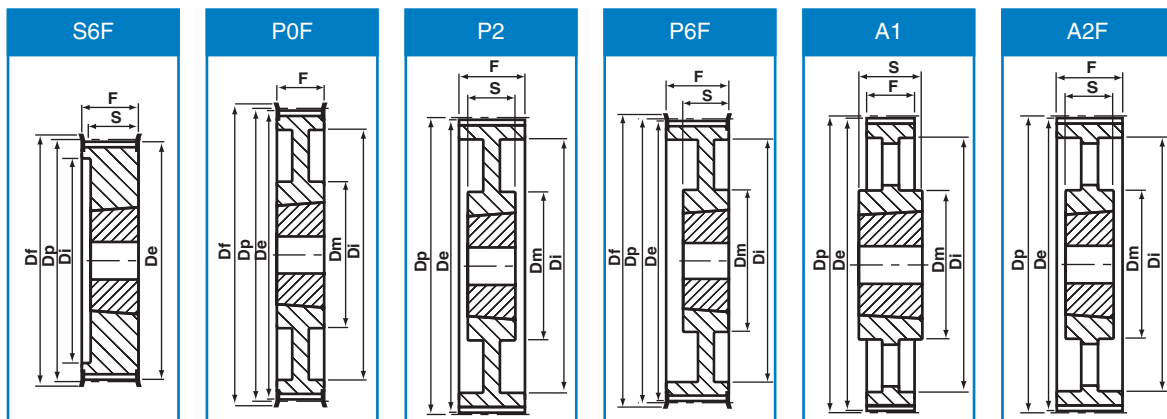
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

Timing Taper Bore

L - 3/8" (9.525 mm) pitch

L100 - 1" (25 mm) wide belts

| Product Designation | Number of Teeth | Type | Bush Size | De | Dp | Df | Dm | Di | F | S | Weight kg |
|---------------------|-----------------|------|-----------|-----|--------|-----|-----|-----|----|----|-----------|
| 18-L-100 | 18 | S6F | 1108 | 54 | 54.57 | 60 | - | 38 | 32 | 22 | 0.2 |
| 19-L-100 | 19 | S6F | 1108 | 57 | 57.61 | 63 | - | 38 | 32 | 22 | 0.3 |
| 20-L-100 | 20 | S6F | 1108 | 60 | 60.64 | 67 | - | 45 | 32 | 22 | 0.4 |
| 21-L-100 | 21 | S6F | 1108 | 63 | 63.67 | 70 | - | 47 | 32 | 22 | 0.4 |
| 22-L-100 | 22 | S6F | 1108 | 66 | 66.70 | 75 | - | 51 | 32 | 22 | 0.4 |
| 23-L-100 | 23 | S6F | 1108 | 69 | 69.73 | 79 | - | 54 | 32 | 22 | 0.5 |
| 24-L-100 | 24 | S6F | 1108 | 72 | 72.77 | 79 | - | 54 | 32 | 22 | 0.6 |
| 25-L-100 | 25 | S6F | 1108 | 75 | 75.80 | 87 | - | 56 | 32 | 22 | 0.6 |
| 26-L-100 | 26 | S6F | 1108 | 78 | 78.83 | 87 | - | 60 | 32 | 22 | 0.7 |
| 27-L-100 | 27 | S6F | 1108 | 81 | 81.86 | 91 | - | 62 | 32 | 22 | 0.8 |
| 28-L-100 | 28 | S6F | 1108 | 84 | 84.89 | 91 | - | 65 | 32 | 22 | 0.8 |
| 30-L-100 | 30 | S6F | 1210 | 90 | 91.96 | 97 | - | 71 | 32 | 25 | 0.9 |
| 32-L-100 | 32 | S6F | 1210 | 96 | 97.02 | 102 | - | 75 | 32 | 25 | 1.0 |
| 36-L-100 | 36 | S6F | 1210 | 108 | 109.15 | 120 | - | 89 | 32 | 25 | 1.4 |
| 40-L-100 | 40 | S6F | 1610 | 121 | 121.28 | 128 | - | 101 | 32 | 25 | 1.7 |
| 48-L-100 | 48 | P6F | 1610 | 145 | 145.53 | 150 | 92 | 124 | 32 | 25 | 2.7 |
| 60-L-100 | 60 | P2 | 1610 | 181 | 181.91 | - | 92 | 166 | 32 | 25 | 2.4 |
| 72-L-100 | 72 | A1 | 2012 | 218 | 218.30 | - | 106 | 202 | 32 | 32 | 4.4 |
| 84-L-100 | 84 | A1 | 2012 | 254 | 254.68 | - | 106 | 236 | 32 | 32 | 6.0 |
| 96-L-100 | 96 | A1 | 2012 | 290 | 291.06 | - | 106 | 270 | 32 | 32 | 7.1 |
| 120-L-100 | 120 | A1 | 2012 | 363 | 363.83 | - | 106 | 343 | 32 | 32 | 8.5 |



H - 1/2" (12.7 mm) pitch

H100 - 1" (25 mm) wide belts

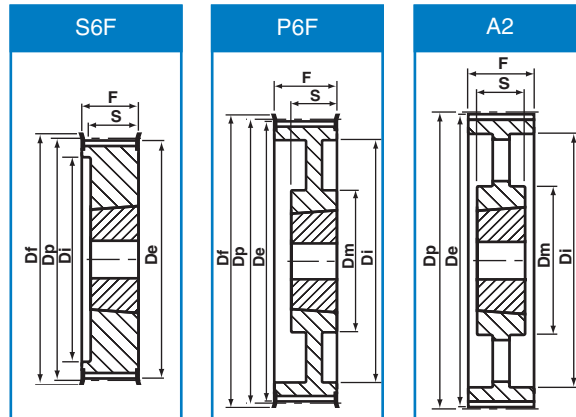
| Product Designation | Number of Teeth | Type | Bush Size | De | Dp | Df | Dm | Di | F | S | Weight kg |
|---------------------|-----------------|------|-----------|-----|--------|-----|-----|-----|----|----|-----------|
| 16-H-100 | 16 | S6F | 1108 | 63 | 64.68 | 71 | - | 45 | 32 | 22 | 0.4 |
| 18-H-100 | 18 | S6F | 1210 | 71 | 72.77 | 79 | - | 52 | 32 | 25 | 0.5 |
| 19-H-100 | 19 | S6F | 1210 | 75 | 76.81 | 83 | - | 56 | 32 | 25 | 0.6 |
| 20-H-100 | 20 | S6F | 1210 | 79 | 80.85 | 87 | - | 60 | 32 | 25 | 0.7 |
| 21-H-100 | 21 | S6F | 1210 | 84 | 84.89 | 91 | - | 63 | 32 | 25 | 0.8 |
| 22-H-100 | 22 | S6F | 1210 | 88 | 88.94 | 94 | - | 67 | 32 | 25 | 0.9 |
| 23-H-100 | 23 | S6F | 1210 | 92 | 92.98 | 102 | - | 70 | 32 | 25 | 0.9 |
| 24-H-100 | 24 | S6F | 1610 | 96 | 97.02 | 102 | - | 75 | 32 | 25 | 1.0 |
| 25-H-100 | 25 | S6F | 1610 | 100 | 101.06 | 112 | - | 79 | 32 | 25 | 1.0 |
| 26-H-100 | 26 | S6F | 1610 | 104 | 105.11 | 112 | - | 83 | 32 | 25 | 1.2 |
| 27-H-100 | 27 | S6F | 1610 | 108 | 109.15 | 120 | - | 87 | 32 | 25 | 1.3 |
| 28-H-100 | 28 | S6F | 1610 | 112 | 113.19 | 120 | - | 91 | 32 | 25 | 1.5 |
| 30-H-100 | 30 | S6F | 1610 | 120 | 121.28 | 128 | - | 99 | 32 | 25 | 1.7 |
| 32-H-100 | 32 | P6F | 1610 | 128 | 129.36 | 135 | 92 | 108 | 32 | 25 | 2.0 |
| 36-H-100 | 36 | P6F | 1610 | 144 | 145.53 | 158 | 92 | 124 | 32 | 25 | 2.7 |
| 40-H-100 | 40 | P6F | 1610 | 160 | 161.70 | 168 | 92 | 140 | 32 | 25 | 3.6 |
| 44-H-100 | 44 | P0F | 2012 | 177 | 177.87 | 184 | 106 | 153 | 32 | 32 | 3.8 |
| 48-H-100 | 48 | P0F | 2012 | 193 | 194.04 | 200 | 106 | 169 | 32 | 32 | 4.2 |
| 60-H-100 | 60 | A1 | 2012 | 241 | 242.55 | - | 106 | 223 | 32 | 32 | 4.8 |
| 72-H-100 | 72 | A1 | 2012 | 290 | 291.06 | - | 106 | 270 | 32 | 32 | 5.7 |
| 84-H-100 | 84 | A1 | 2012 | 338 | 339.57 | - | 106 | 318 | 32 | 32 | 6.8 |
| 96-H-100 | 96 | A1 | 2517 | 387 | 388.08 | - | 119 | 366 | 32 | 45 | 8.2 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Timing Taper Bore

H - 1/2" (12.7 mm) pitch H150 - 1.1/2" (38 mm) wide belts

| Product Designation | Number of Teeth | Type | Bush Size | De | Dp | Df | Dm | Di | F | S | Weight kg |
|---------------------|-----------------|------|-----------|-----|--------|-----|-----|-----|----|----|-----------|
| 18-H-150 | 18 | S6F | 1210 | 71 | 72.77 | 79 | - | 53 | 46 | 25 | 0.6 |
| 19-H-150 | 19 | S6F | 1210 | 75 | 76.81 | 83 | - | 56 | 46 | 25 | 0.7 |
| 20-H-150 | 20 | S6F | 1210 | 79 | 80.85 | 87 | - | 60 | 46 | 25 | 0.8 |
| 21-H-150 | 21 | S6F | 1210 | 84 | 84.89 | 91 | - | 64 | 46 | 25 | 1.0 |
| 22-H-150 | 22 | S6F | 1210 | 88 | 88.94 | 94 | - | 68 | 46 | 25 | 1.2 |
| 23-H-150 | 23 | S6F | 1610 | 92 | 92.98 | 102 | - | 71 | 46 | 25 | 1.3 |
| 24-H-150 | 24 | S6F | 1610 | 96 | 97.02 | 102 | - | 74 | 46 | 25 | 1.0 |
| 25-H-150 | 25 | S6F | 1610 | 100 | 101.06 | 112 | - | 78 | 46 | 25 | 1.2 |
| 26-H-150 | 26 | S6F | 1610 | 104 | 105.11 | 112 | - | 82 | 46 | 25 | 1.4 |
| 27-H-150 | 27 | S6F | 1610 | 108 | 109.15 | 120 | - | 87 | 46 | 25 | 1.6 |
| 28-H-150 | 28 | S6F | 1610 | 112 | 113.19 | 120 | - | 91 | 46 | 25 | 1.8 |
| 30-H-150 | 30 | S6F | 1610 | 112 | 121.28 | 128 | - | 99 | 46 | 25 | 2.3 |
| 32-H-150 | 32 | P6F | 1610 | 128 | 129.36 | 135 | 92 | 108 | 46 | 25 | 2.3 |
| 36-H-150 | 36 | P6F | 1610 | 144 | 145.53 | 158 | 92 | 124 | 46 | 25 | 3.1 |
| 40-H-150 | 40 | P6F | 1610 | 160 | 161.70 | 168 | 92 | 140 | 46 | 25 | 4.0 |
| 44-H-150 | 44 | P6F | 2012 | 177 | 177.87 | 184 | 106 | 153 | 46 | 32 | 4.4 |
| 48-H-150 | 48 | P6F | 2012 | 193 | 194.04 | 200 | 106 | 169 | 46 | 32 | 4.8 |
| 60-H-150 | 60 | A2 | 2012 | 241 | 242.55 | - | 106 | 223 | 46 | 32 | 5.4 |
| 72-H-150 | 72 | A2 | 2012 | 290 | 291.06 | - | 106 | 270 | 46 | 32 | 6.5 |
| 84-H-150 | 84 | A2 | 2012 | 338 | 339.57 | - | 106 | 320 | 46 | 32 | 8.4 |
| 96-H-150 | 96 | A2 | 2517 | 387 | 388.08 | - | 119 | 366 | 46 | 45 | 11.0 |



H - 1/2" (12.7 mm) pitch H200 - 2" (51 mm) wide belts

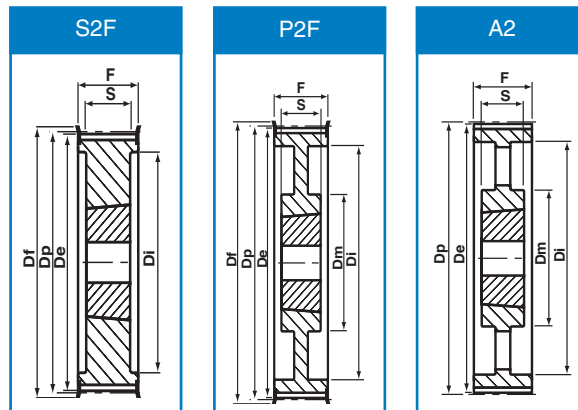
| Product Designation | Number of Teeth | Type | Bush Size | De | Dp | Df | Dm | Di | F | S | Weight kg |
|---------------------|-----------------|------|-----------|-----|--------|-----|-----|-----|----|----|-----------|
| 18-H-200 | 18 | S6F | 1210 | 71 | 72.77 | 79 | - | 52 | 58 | 25 | 0.8 |
| 19-H-200 | 19 | S6F | 1210 | 75 | 76.81 | 83 | - | 56 | 58 | 25 | 0.9 |
| 20-H-200 | 20 | S6F | 1610 | 79 | 80.85 | 87 | - | 60 | 58 | 25 | 1.0 |
| 21-H-200 | 21 | S6F | 1610 | 84 | 84.89 | 91 | - | 64 | 58 | 25 | 1.7 |
| 22-H-200 | 22 | S6F | 1610 | 88 | 88.94 | 94 | - | 68 | 58 | 25 | 1.5 |
| 23-H-200 | 23 | S6F | 1610 | 92 | 92.98 | 102 | - | 71 | 58 | 25 | 1.8 |
| 24-H-200 | 24 | S6F | 1610 | 96 | 97.02 | 102 | - | 74 | 58 | 25 | 1.5 |
| 25-H-200 | 25 | S6F | 1610 | 100 | 101.06 | 112 | - | 78 | 58 | 25 | 1.5 |
| 26-H-200 | 26 | S6F | 1610 | 104 | 105.11 | 112 | - | 82 | 58 | 25 | 1.8 |
| 27-H-200 | 27 | S6F | 1610 | 108 | 109.15 | 120 | - | 87 | 58 | 25 | 1.9 |
| 28-H-200 | 28 | S6F | 1610 | 112 | 113.19 | 120 | - | 91 | 58 | 25 | 2.3 |
| 30-H-200 | 30 | S6F | 1610 | 120 | 121.28 | 128 | - | 99 | 58 | 25 | 3.0 |
| 32-H-200 | 32 | S6F | 2012 | 128 | 129.36 | 135 | - | 107 | 58 | 32 | 3.0 |
| 36-H-200 | 36 | P6F | 2012 | 144 | 145.53 | 158 | 102 | 124 | 58 | 32 | 3.6 |
| 40-H-200 | 40 | P6F | 2012 | 160 | 161.70 | 168 | 106 | 140 | 58 | 32 | 4.0 |
| 44-H-200 | 44 | P6F | 2012 | 177 | 177.87 | 184 | 106 | 153 | 58 | 32 | 4.6 |
| 48-H-200 | 48 | P6F | 2517 | 193 | 194.04 | 200 | 119 | 169 | 58 | 45 | 7.0 |
| 60-H-200 | 60 | A2 | 2517 | 241 | 242.55 | - | 119 | 223 | 58 | 45 | 8.0 |
| 72-H-200 | 72 | A2 | 2517 | 290 | 291.06 | - | 119 | 270 | 58 | 45 | 9.0 |
| 84-H-200 | 84 | A2 | 2517 | 338 | 339.57 | - | 119 | 320 | 58 | 45 | 10.0 |
| 96-H-200 | 96 | A2 | 2517 | 387 | 388.08 | - | 119 | 366 | 58 | 45 | 13.4 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

Timing Taper Bore

H - 1/2" (12.7 mm) pitch H300 - 3" (76 mm) wide belts

| Product Designation | Number of Teeth | Type | Bush Size | De | Dp | Df | Dm | Di | F | S | Weight kg |
|---------------------|-----------------|------|-----------|-----|--------|-----|-----|-----|----|----|-----------|
| 20-H-300 | 20 | S2F | 1615 | 79 | 80.85 | 87 | - | 65 | 86 | 38 | 1.5 |
| 21-H-300 | 21 | S2F | 1615 | 84 | 84.89 | 91 | - | 66 | 86 | 38 | 12.0 |
| 22-H-300 | 22 | S2F | 1615 | 88 | 88.94 | 94 | - | 67 | 86 | 38 | 1.6 |
| 23-H-300 | 23 | S2F | 1615 | 92 | 92.98 | 102 | - | 71 | 86 | 38 | 1.8 |
| 24-H-300 | 24 | S2F | 1615 | 96 | 97.02 | 102 | - | 75 | 86 | 38 | 2.1 |
| 25-H-300 | 25 | S2F | 1615 | 100 | 101.06 | 112 | - | 79 | 86 | 38 | 2.0 |
| 26-H-300 | 26 | S2F | 1615 | 104 | 105.11 | 112 | - | 83 | 86 | 38 | 2.7 |
| 27-H-300 | 27 | S2F | 2012 | 108 | 109.15 | 120 | - | 87 | 86 | 32 | 3.0 |
| 28-H-300 | 28 | S2F | 2012 | 112 | 113.19 | 120 | - | 91 | 86 | 32 | 3.4 |
| 30-H-300 | 30 | S2F | 2012 | 120 | 121.28 | 128 | - | 99 | 86 | 32 | 3.9 |
| 32-H-300 | 32 | S2F | 2517 | 128 | 129.36 | 135 | - | 107 | 86 | 45 | 4.3 |
| 36-H-300 | 36 | S2F | 2517 | 144 | 145.53 | 158 | - | 124 | 86 | 45 | 4.5 |
| 40-H-300 | 40 | S2F | 2517 | 160 | 161.70 | 168 | - | 137 | 86 | 45 | 6.0 |
| 44-H-300 | 44 | P2F | 2517 | 177 | 177.87 | 184 | 119 | 153 | 86 | 45 | 6.5 |
| 48-H-300 | 48 | P2F | 2517 | 193 | 194.04 | 200 | 119 | 169 | 86 | 45 | 7.6 |
| 60-H-300 | 60 | A2 | 2517 | 241 | 242.55 | - | 119 | 223 | 86 | 45 | 8.4 |
| 72-H-300 | 72 | A2 | 2517 | 290 | 291.06 | - | 119 | 270 | 86 | 45 | 10.4 |
| 84-H-300 | 84 | A2 | 2517 | 338 | 339.57 | - | 119 | 320 | 86 | 45 | 12.5 |
| 96-H-300 | 96 | A2 | 3030 | 387 | 338.08 | - | 150 | 362 | 86 | 76 | 14.2 |
| 120-H-300 | 120 | A2 | 3030 | 484 | 485.10 | - | 150 | 460 | 86 | 76 | 18.8 |

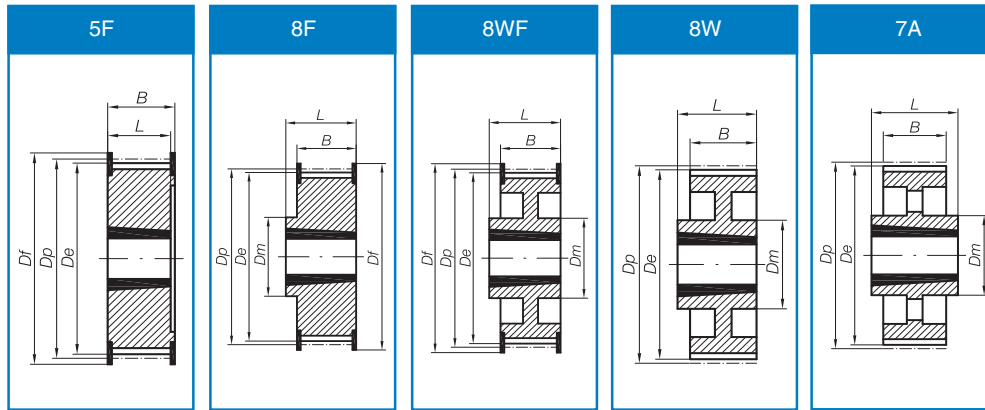


HTD Profile Taper Bore

5mm Pitch 5M-15 (15mm Wide Belt)

(For use with HTD Profile belts only)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|-----------|-------|------|-------|-------|------|-----|----|----|------------|----------|
| 34-5M-15 | 34 | 8F | 54.11 | 53.0 | 57.0 | 43 | 21 | 22 | 1008 | S |
| 36-5M-15 | 36 | 8F | 57.3 | 56.0 | 60 | 44 | 21 | 22 | 1108 | S |
| 38-5M-15 | 38 | 8F | 60.5 | 59.0 | 66 | 48 | 21 | 22 | 1108 | S |
| 40-5M-15 | 40 | 8F | 63.7 | 63.0 | 71 | 52 | 21 | 22 | 1108 | S |
| 44-5M-15 | 44 | 8F | 70.0 | 69.0 | 75 | 54 | 21 | 22 | 1108 | S |
| 48-5M-15 | 48 | 8F | 76.4 | 75.0 | 83 | 64 | 21 | 22 | 1210 | S |
| 56-5M-15 | 56 | 8F | 89.1 | 88.0 | 93 | 70 | 21 | 22 | 1210 | S |
| 64-5M-15 | 64 | 8F | 101.9 | 101.0 | 106 | 78 | 21 | 22 | 1210 | S |
| 72-5M-15 | 72 | 8F | 114.6 | 113.0 | 119 | 90 | 21 | 22 | 1610 | S |
| 80-5M-15 | 80 | 8F | 127.3 | 126.0 | 135 | 92 | 21 | 22 | 1610 | S |
| 90-5M-15 | 90 | 7A | 143.2 | 142.0 | - | 92 | 21 | 22 | 1610 | S |
| 112-5M-15 | 112 | 7A | 178.3 | 177.0 | - | 92 | 21 | 22 | 1610 | S |
| 136-5M-15 | 136 | 7A | 216.5 | 215.0 | - | 106 | 21 | 22 | 2012 | S |
| 150-5M-15 | 150 | 7A | 238.7 | 238.0 | - | 106 | 21 | 22 | 2012 | S |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

8mm Pitch 8M-20 (20mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|--------------|-------|------|--------|--------|-----|-----|----|----|------------|----------|
| 22 - 8M - 20 | 22 | 5F | 56.02 | 54.65 | 60 | - | 28 | 22 | 1008 | S |
| 24 - 8M - 20 | 24 | 5F | 61.12 | 59.75 | 66 | - | 28 | 22 | 1108 | S |
| 26 - 8M - 20 | 26 | 5F | 66.21 | 64.84 | 70 | - | 28 | 22 | 1108 | S |
| 28 - 8M - 20 | 28 | 5F | 71.30 | 70.08 | 75 | - | 28 | 22 | 1108 | S |
| 30 - 8M - 20 | 30 | 5F | 76.39 | 75.13 | 83 | - | 28 | 22 | 1108 | S |
| 32 - 8M - 20 | 32 | 5F | 81.49 | 80.16 | 87 | - | 28 | 25 | 1610 | S |
| 34 - 8M - 20 | 34 | 5F | 86.58 | 85.22 | 91 | - | 28 | 25 | 1610 | S |
| 36 - 8M - 20 | 36 | 5F | 91.67 | 90.30 | 97 | - | 28 | 25 | 1610 | S |
| 38 - 8M - 20 | 38 | 5F | 96.77 | 95.39 | 102 | - | 28 | 25 | 1610 | S |
| 40 - 8M - 20 | 40 | 5F | 101.86 | 100.49 | 106 | - | 28 | 25 | 1610 | S |
| 44 - 8M - 20 | 44 | 8F | 112.05 | 110.67 | 120 | 92 | 28 | 32 | 2012 | S |
| 48 - 8M - 20 | 48 | 8F | 122.23 | 120.86 | 128 | 96 | 28 | 32 | 2012 | S |
| 56 - 8M - 20 | 56 | 8F | 142.60 | 141.23 | 150 | 110 | 28 | 32 | 2012 | S |
| 64 - 8M - 20 | 64 | 8WF | 162.97 | 161.60 | 168 | 110 | 28 | 32 | 2012 | S |
| 72 - 8M - 20 | 72 | 8WF | 183.35 | 181.97 | 192 | 110 | 28 | 32 | 2012 | S |
| 80 - 8M - 20 | 80 | 8W | 203.72 | 202.35 | - | 110 | 28 | 32 | 2012 | CI |
| 90 - 8M - 20 | 90 | 8W | 229.18 | 227.81 | - | 110 | 28 | 32 | 2012 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

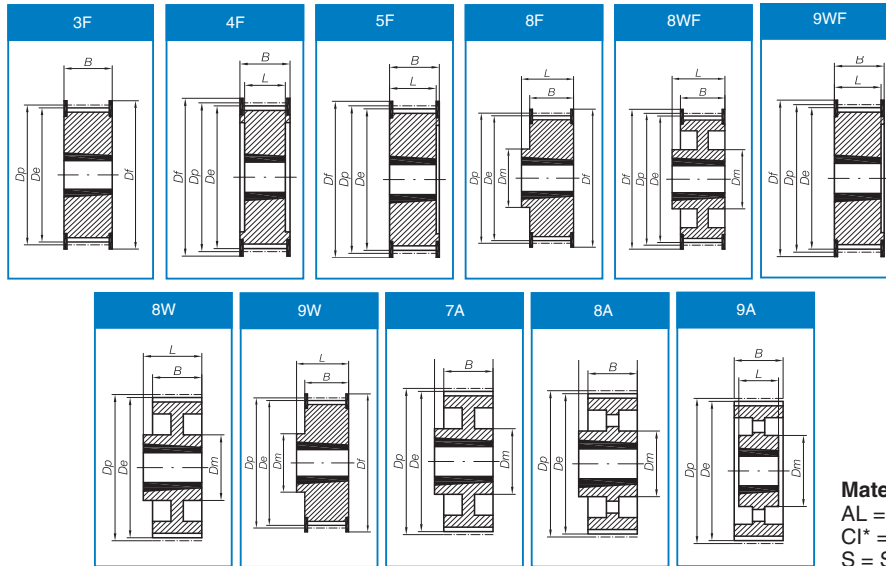
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

HTD Profile Taper Bore

8mm Pitch 8M-30 (30mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|---------------|-------|------|--------|--------|-----|-----|----|----|------------|----------|
| 22 - 8M - 30 | 22 | 5F | 56.02 | 54.65 | 60 | - | 38 | 22 | 1008 | S |
| 24 - 8M - 30 | 24 | 5F | 61.12 | 59.75 | 66 | - | 38 | 22 | 1108 | S |
| 26 - 8M - 30 | 26 | 5F | 66.21 | 64.84 | 70 | - | 28 | 22 | 1108 | S |
| 28 - 8M - 30 | 28 | 5F | 71.30 | 70.08 | 75 | - | 38 | 25 | 1210 | S |
| 30 - 8M - 30 | 30 | 3F | 76.39 | 75.13 | 83 | - | 38 | 38 | 1615 | S |
| 32 - 8M - 30 | 32 | 3F | 81.49 | 80.16 | 87 | - | 38 | 38 | 1615 | S |
| 34 - 8M - 30 | 34 | 3F | 86.58 | 85.22 | 91 | - | 38 | 38 | 1615 | S |
| 36 - 8M - 30 | 36 | 3F | 91.67 | 90.30 | 97 | - | 38 | 38 | 1615 | S |
| 38 - 8M - 30 | 38 | 3F | 96.77 | 95.39 | 102 | - | 38 | 38 | 1615 | S |
| 40 - 8M - 30 | 40 | 3F | 101.86 | 100.49 | 106 | - | 38 | 38 | 1615 | S |
| 44 - 8M - 30 | 44 | 4F | 112.05 | 110.67 | 120 | - | 38 | 32 | 2012 | S |
| 48 - 8M - 30 | 48 | 4F | 122.23 | 120.86 | 128 | - | 38 | 32 | 2012 | S |
| 56 - 8M - 30 | 56 | 4F | 142.60 | 141.23 | 150 | - | 38 | 32 | 2012 | S |
| 64 - 8M - 30 | 64 | 8F | 162.97 | 161.60 | 168 | 125 | 38 | 45 | 2517 | S |
| 72 - 8M - 30 | 72 | 8WF | 183.35 | 181.97 | 192 | 125 | 38 | 45 | 2517 | S |
| 80 - 8M - 30 | 80 | 8W | 203.72 | 202.35 | - | 125 | 38 | 45 | 2517 | CI |
| 90 - 8M - 30 | 90 | 8W | 229.18 | 227.81 | - | 125 | 38 | 45 | 2517 | CI |
| 112 - 8M - 30 | 112 | 8A | 285.21 | 283.83 | - | 125 | 38 | 45 | 2517 | CI |
| 144 - 8M - 30 | 144 | 8A | 366.69 | 365.32 | - | 125 | 38 | 45 | 2517 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

8mm Pitch 8M-50 (50mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|---------------|-------|------|--------|--------|-----|-----|----|----|------------|----------|
| 28 - 8M - 50 | 28 | 4F | 71.30 | 70.08 | 75 | - | 60 | 25 | 1210 | S |
| 30 - 8M - 50 | 30 | 5F | 76.39 | 75.13 | 83 | - | 60 | 38 | 1615 | S |
| 32 - 8M - 50 | 32 | 5F | 81.49 | 80.16 | 87 | - | 60 | 38 | 1615 | S |
| 34 - 8M - 50 | 34 | 5F | 86.58 | 85.22 | 91 | - | 60 | 38 | 1615 | S |
| 36 - 8M - 50 | 36 | 5F | 91.67 | 90.30 | 97 | - | 60 | 38 | 1615 | S |
| 38 - 8M - 50 | 38 | 5F | 96.77 | 95.39 | 102 | - | 60 | 38 | 1615 | S |
| 40 - 8M - 50 | 40 | 4F | 101.86 | 100.49 | 106 | - | 60 | 32 | 2012 | S |
| 44 - 8M - 50 | 44 | 4F | 112.05 | 110.67 | 120 | - | 60 | 32 | 2012 | S |
| 48 - 8M - 50 | 48 | 4F | 122.23 | 120.86 | 128 | - | 60 | 32 | 2012 | S |
| 56 - 8M - 50 | 56 | 4F | 142.60 | 141.23 | 150 | - | 60 | 45 | 2517 | S |
| 64 - 8M - 50 | 64 | 4F | 162.97 | 161.60 | 168 | - | 60 | 45 | 2517 | S |
| 72 - 8M - 50 | 72 | 9WF | 183.35 | 181.97 | 192 | 125 | 60 | 45 | 2517 | S |
| 80 - 8M - 50 | 80 | 9W | 203.72 | 202.35 | - | 150 | 60 | 51 | 3020 | CI |
| 90 - 8M - 50 | 90 | 9W | 229.18 | 227.81 | - | 160 | 60 | 51 | 3020 | CI |
| 112 - 8M - 50 | 112 | 9A | 285.21 | 283.83 | - | 170 | 60 | 51 | 3020 | CI |
| 144 - 8M - 50 | 144 | 9A | 366.69 | 365.32 | - | 170 | 60 | 51 | 3020 | CI |
| 168 - 8M - 50 | 168 | 7A | 427.81 | 426.44 | - | 198 | 60 | 65 | 3525 | CI |
| 192 - 8M - 50 | 192 | 7A | 488.92 | 487.55 | - | 198 | 60 | 65 | 3525 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

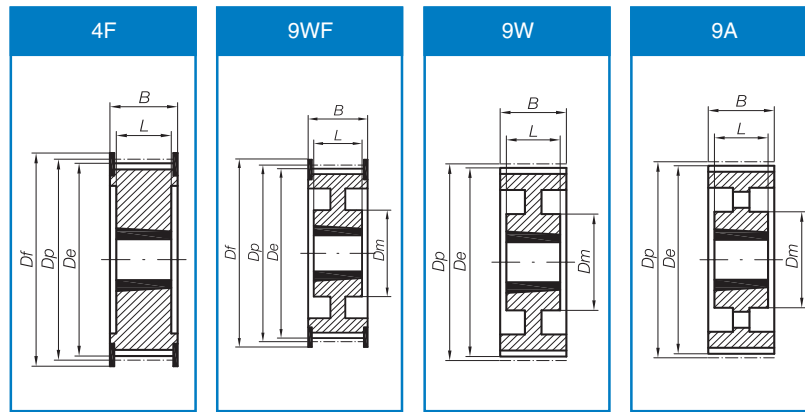
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Taper Bore

8mm Pitch 8M-85 (85mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|---------------|-------|------|--------|--------|-----|-----|----|----|------------|----------|
| 34 - 8M - 85 | 34 | 4F | 86.58 | 85.22 | 91 | - | 95 | 38 | 1615 | S |
| 36 - 8M - 85 | 36 | 4F | 91.67 | 90.30 | 97 | - | 95 | 38 | 1615 | S |
| 38 - 8M - 85 | 38 | 4F | 96.77 | 95.39 | 102 | - | 95 | 38 | 1615 | S |
| 40 - 8M - 85 | 40 | 4F | 101.86 | 100.49 | 106 | - | 95 | 32 | 2012 | S |
| 44 - 8M - 85 | 44 | 4F | 112.05 | 110.67 | 120 | - | 95 | 32 | 2012 | S |
| 48 - 8M - 85 | 48 | 4F | 122.23 | 120.86 | 128 | - | 95 | 45 | 2517 | S |
| 56 - 8M - 85 | 56 | 4F | 142.60 | 141.23 | 150 | - | 95 | 45 | 2517 | S |
| 64 - 8M - 85 | 64 | 4F | 162.97 | 161.60 | 168 | - | 95 | 45 | 2517 | S |
| 72 - 8M - 85 | 72 | 4F | 183.35 | 181.97 | 192 | - | 95 | 51 | 3020 | S |
| 80 - 8M - 85 | 80 | 9W | 203.72 | 202.35 | - | 145 | 95 | 51 | 3020 | CI |
| 90 - 8M - 85 | 90 | 9W | 229.18 | 227.81 | - | 170 | 95 | 51 | 3020 | CI |
| 112 - 8M - 85 | 112 | 9A | 285.21 | 283.83 | - | 170 | 95 | 51 | 3020 | CI |
| 144 - 8M - 85 | 144 | 9A | 366.69 | 365.32 | - | 198 | 95 | 65 | 3525 | CI |
| 168 - 8M - 85 | 168 | 9A | 427.81 | 426.44 | - | 198 | 95 | 65 | 3525 | CI |
| 192 - 8M - 85 | 192 | 9A | 488.92 | 487.55 | - | 198 | 95 | 65 | 3525 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

14mm Pitch 14M-40 (40mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|----------------|-------|------|--------|--------|-----|-----|----|----|------------|----------|
| 28 - 14M - 40 | 28 | 4F | 124.78 | 121.98 | 128 | - | 54 | 32 | 2012 | S |
| 29 - 14M - 40 | 29 | 4F | 129.23 | 126.44 | 138 | - | 54 | 32 | 2012 | S |
| 30 - 14M - 40 | 30 | 4F | 133.69 | 130.90 | 138 | - | 54 | 32 | 2012 | S |
| 32 - 14M - 40 | 32 | 4F | 142.60 | 139.81 | 154 | - | 54 | 32 | 2012 | S |
| 34 - 14M - 40 | 34 | 4F | 151.51 | 148.72 | 160 | - | 54 | 45 | 2517 | S |
| 36 - 14M - 40 | 36 | 4F | 160.43 | 157.68 | 168 | - | 54 | 45 | 2517 | S |
| 38 - 14M - 40 | 38 | 4F | 169.34 | 166.60 | 183 | - | 54 | 45 | 2517 | S |
| 40 - 14M - 40 | 40 | 4F | 178.25 | 175.49 | 188 | - | 54 | 45 | 2517 | S |
| 44 - 14M - 40 | 44 | 4F | 196.08 | 193.28 | 211 | - | 54 | 51 | 3020 | S |
| 48 - 14M - 40 | 48 | 4F | 213.90 | 211.11 | 226 | - | 54 | 51 | 3020 | S |
| 56 - 14M - 40 | 56 | 9WF | 249.55 | 246.76 | 256 | 170 | 54 | 51 | 3020 | S |
| 64 - 14M - 40 | 64 | 9WF | 285.21 | 282.41 | 296 | 170 | 54 | 51 | 3020 | CI |
| 72 - 14M - 40 | 72 | 9A | 320.86 | 318.06 | - | 170 | 54 | 51 | 3020 | CI |
| 80 - 14M - 40 | 80 | 9A | 356.51 | 353.71 | - | 170 | 54 | 51 | 3020 | CI |
| 90 - 14M - 40 | 90 | 9A | 401.07 | 398.28 | - | 170 | 54 | 51 | 3020 | CI |
| 112 - 14M - 40 | 112 | 9A | 499.11 | 496.32 | - | 170 | 54 | 51 | 3020 | CI |
| 144 - 14M - 40 | 144 | 9A | 641.71 | 638.92 | - | 170 | 54 | 51 | 3020 | CI |
| 168 - 14M - 40 | 168 | 9A | 748.66 | 745.87 | - | 170 | 54 | 51 | 3020 | CI |
| 192 - 14M - 40 | 192 | 9A | 855.62 | 852.82 | - | 170 | 54 | 51 | 3020 | CI |
| 216 - 14M - 40 | 216 | 9A | 962.57 | 959.76 | - | 170 | 54 | 51 | 3020 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

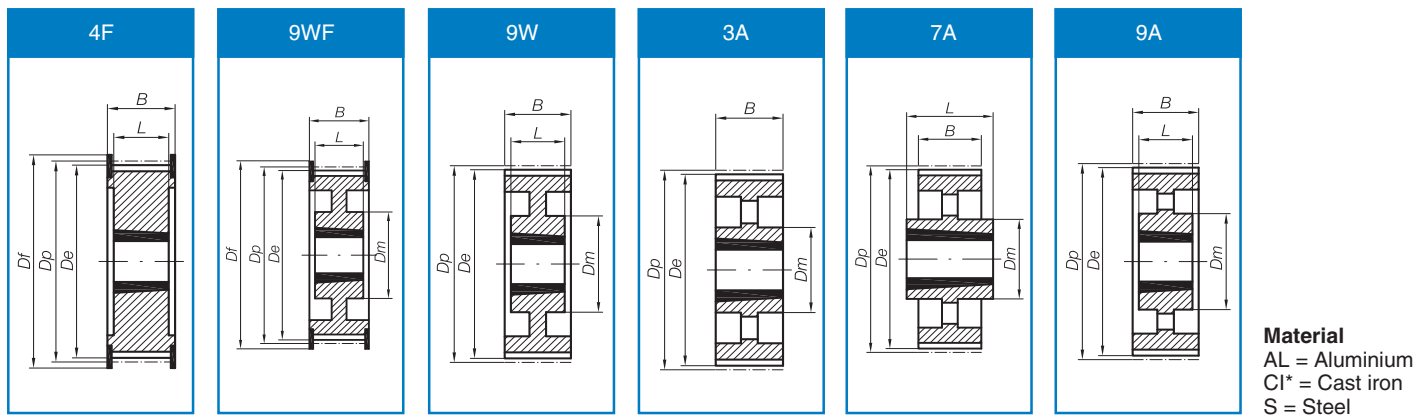
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Taper Bore

14mm Pitch 14M-55 (55mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|----------------|-------|------|--------|--------|-----|-----|----|----|------------|----------|
| 28 - 14M - 55 | 28 | 4F | 124.78 | 121.98 | 128 | - | 70 | 32 | 2012 | S |
| 29 - 14M - 55 | 29 | 4F | 129.23 | 126.44 | 138 | - | 70 | 32 | 2012 | S |
| 30 - 14M - 55 | 30 | 4F | 133.69 | 130.90 | 138 | - | 70 | 45 | 2517 | S |
| 32 - 14M - 55 | 32 | 4F | 142.60 | 139.81 | 154 | - | 70 | 45 | 2517 | S |
| 34 - 14M - 55 | 34 | 4F | 151.51 | 148.72 | 160 | - | 70 | 45 | 2517 | S |
| 36 - 14M - 55 | 36 | 4F | 160.43 | 157.68 | 168 | - | 70 | 45 | 2517 | S |
| 38 - 14M - 55 | 38 | 4F | 169.34 | 166.60 | 183 | - | 70 | 45 | 2517 | S |
| 40 - 14M - 55 | 40 | 4F | 178.25 | 175.49 | 188 | - | 70 | 45 | 2517 | S |
| 44 - 14M - 55 | 44 | 4F | 196.08 | 193.28 | 211 | - | 70 | 51 | 3020 | S |
| 48 - 14M - 55 | 48 | 4F | 213.90 | 211.11 | 226 | - | 70 | 51 | 3020 | S |
| 56 - 14M - 55 | 56 | 9WF | 249.55 | 246.76 | 256 | 170 | 70 | 51 | 3020 | S |
| 64 - 14M - 55 | 64 | 9WF | 285.21 | 282.41 | 296 | 170 | 70 | 51 | 3020 | CI |
| 72 - 14M - 55 | 72 | 9A | 320.86 | 318.06 | - | 170 | 70 | 51 | 3020 | CI |
| 80 - 14M - 55 | 80 | 9A | 356.51 | 353.71 | - | 170 | 70 | 51 | 3020 | CI |
| 90 - 14M - 55 | 90 | 9A | 401.07 | 398.28 | - | 170 | 70 | 51 | 3020 | CI |
| 112 - 14M - 55 | 112 | 9A | 499.11 | 496.32 | - | 170 | 70 | 51 | 3020 | CI |
| 144 - 14M - 55 | 144 | 9A | 641.71 | 638.92 | - | 170 | 70 | 51 | 3020 | CI |
| 168 - 14M - 55 | 168 | 9A | 748.66 | 745.87 | - | 170 | 70 | 51 | 3020 | CI |
| 192 - 14M - 55 | 192 | 9A | 855.62 | 852.82 | - | 170 | 70 | 51 | 3020 | CI |
| 216 - 14M - 55 | 216 | 7A | 962.57 | 959.76 | - | 190 | 70 | 89 | 3535 | CI |



14mm Pitch 14M-85 (85mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|----------------|-------|------|--------|--------|-----|-----|-----|-----|------------|----------|
| 28 - 14M - 85 | 28 | 4F | 124.78 | 121.98 | 128 | - | 102 | 45 | 2517 | S |
| 29 - 14M - 85 | 29 | 4F | 129.23 | 126.44 | 138 | - | 102 | 45 | 2517 | S |
| 30 - 14M - 85 | 30 | 4F | 133.69 | 130.90 | 138 | - | 102 | 45 | 2517 | S |
| 32 - 14M - 85 | 32 | 4F | 142.60 | 139.81 | 154 | - | 102 | 45 | 2517 | S |
| 34 - 14M - 85 | 34 | 4F | 151.51 | 148.72 | 160 | - | 102 | 45 | 2517 | S |
| 36 - 14M - 85 | 36 | 4F | 160.43 | 157.68 | 168 | - | 102 | 51 | 3020 | S |
| 38 - 14M - 85 | 38 | 4F | 169.34 | 166.60 | 183 | - | 102 | 51 | 3020 | S |
| 40 - 14M - 85 | 40 | 4F | 178.25 | 175.49 | 188 | - | 102 | 51 | 3020 | S |
| 44 - 14M - 85 | 44 | 4F | 196.08 | 193.28 | 211 | - | 102 | 51 | 3020 | S |
| 48 - 14M - 85 | 48 | 4F | 213.90 | 211.11 | 226 | - | 102 | 51 | 3020 | S |
| 56 - 14M - 85 | 56 | 4F | 249.55 | 246.76 | 256 | - | 102 | 65 | 3525 | S |
| 64 - 14M - 85 | 64 | 9WF | 285.21 | 282.41 | 296 | 190 | 102 | 65 | 3525 | CI |
| 72 - 14M - 85 | 72 | 9W | 320.86 | 318.06 | - | 190 | 102 | 65 | 3525 | CI |
| 80 - 14M - 85 | 80 | 9A | 356.51 | 353.71 | - | 190 | 102 | 65 | 3525 | CI |
| 90 - 14M - 85 | 90 | 9A | 401.07 | 398.28 | - | 190 | 102 | 65 | 3525 | CI |
| 112 - 14M - 85 | 112 | 9A | 499.11 | 496.32 | - | 190 | 102 | 65 | 3525 | CI |
| 144 - 14M - 85 | 144 | 9A | 641.71 | 638.92 | - | 190 | 102 | 65 | 3525 | CI |
| 168 - 14M - 85 | 168 | 9A | 748.66 | 745.87 | - | 190 | 102 | 65 | 3525 | CI |
| 192 - 14M - 85 | 192 | 3A | 855.62 | 852.82 | - | 230 | 102 | 102 | 4040 | CI |
| 216 - 14M - 85 | 216 | 3A | 962.57 | 959.76 | - | 230 | 102 | 102 | 4040 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

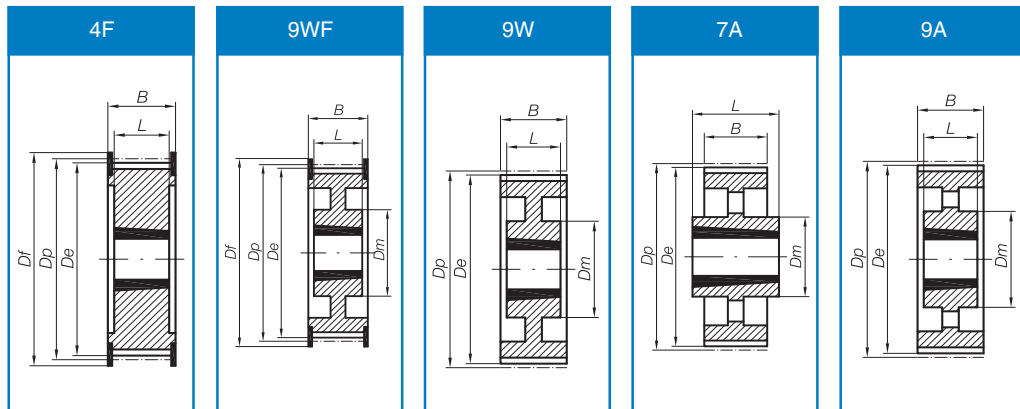
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Taper Bore

14mm Pitch 14M-115 (115mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|-----------------|-------|------|--------|--------|-----|-----|-----|-----|------------|----------|
| 29 - 14M - 115 | 29 | 4F | 129.23 | 126.44 | 138 | - | 133 | 45 | 2517 | S |
| 30 - 14M - 115 | 30 | 4F | 133.69 | 130.90 | 138 | - | 133 | 45 | 2517 | S |
| 32 - 14M - 115 | 32 | 4F | 142.60 | 139.81 | 154 | - | 133 | 45 | 2517 | S |
| 34 - 14M - 115 | 34 | 4F | 151.51 | 148.72 | 160 | - | 133 | 45 | 2517 | S |
| 36 - 14M - 115 | 36 | 4F | 160.43 | 157.68 | 168 | - | 133 | 51 | 3020 | S |
| 38 - 14M - 115 | 38 | 4F | 169.34 | 166.60 | 183 | - | 133 | 51 | 3020 | S |
| 40 - 14M - 115 | 40 | 4F | 178.25 | 175.49 | 188 | - | 133 | 51 | 3020 | S |
| 44 - 14M - 115 | 44 | 4F | 196.08 | 193.28 | 211 | - | 133 | 76 | 3030 | S |
| 48 - 14M - 115 | 48 | 4F | 213.90 | 211.11 | 226 | - | 133 | 76 | 3030 | S |
| 56 - 14M - 115 | 56 | 4F | 249.55 | 246.76 | 256 | - | 133 | 89 | 3535 | S |
| 64 - 14M - 115 | 64 | 9WF | 285.21 | 282.41 | 296 | 190 | 133 | 89 | 3535 | CI |
| 72 - 14M - 115 | 72 | 9W | 320.86 | 318.06 | - | 190 | 133 | 89 | 3535 | CI |
| 80 - 14M - 115 | 80 | 9A | 356.51 | 353.71 | - | 190 | 133 | 89 | 3535 | CI |
| 90 - 14M - 115 | 90 | 9A | 401.07 | 398.28 | - | 190 | 133 | 89 | 3535 | CI |
| 112 - 14M - 115 | 112 | 9A | 499.11 | 496.32 | - | 190 | 133 | 89 | 3535 | CI |
| 144 - 14M - 115 | 144 | 9A | 641.71 | 638.92 | - | 230 | 133 | 102 | 4040 | CI |
| 168 - 14M - 115 | 168 | 9A | 748.66 | 745.87 | - | 230 | 133 | 102 | 4040 | CI |
| 192 - 14M - 115 | 192 | 9A | 855.62 | 852.82 | - | 230 | 133 | 102 | 4040 | CI |
| 216 - 14M - 115 | 216 | 9A | 962.57 | 959.76 | - | 230 | 133 | 102 | 4040 | CI |
| 216 - 14M - 55 | 216 | 7A | 962.57 | 959.76 | - | 190 | 70 | 89 | 3535 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

14mm Pitch 14M-170 (170mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Taper Bush | Material |
|-----------------|-------|------|--------|--------|-----|-----|-----|-----|------------|----------|
| 38 - 14M - 170 | 38 | 4F | 169.34 | 166.60 | 183 | - | 187 | 76 | 3030 | S |
| 40 - 14M - 170 | 40 | 4F | 178.25 | 175.49 | 188 | - | 187 | 76 | 3030 | S |
| 44 - 14M - 170 | 44 | 4F | 196.08 | 193.28 | 211 | - | 187 | 89 | 3535 | S |
| 48 - 14M - 170 | 48 | 4F | 213.90 | 211.11 | 226 | - | 187 | 89 | 3535 | S |
| 56 - 14M - 170 | 56 | 4F | 249.55 | 246.76 | 256 | - | 187 | 89 | 3535 | S |
| 64 - 14M - 170 | 64 | 4F | 285.21 | 282.41 | 296 | - | 187 | 102 | 4040 | CI |
| 72 - 14M - 170 | 72 | 9W | 320.86 | 318.06 | - | 230 | 187 | 102 | 4040 | CI |
| 80 - 14M - 170 | 80 | 9W | 356.51 | 353.71 | - | 230 | 187 | 102 | 4040 | CI |
| 90 - 14M - 170 | 90 | 9A | 401.07 | 398.28 | - | 230 | 187 | 102 | 4040 | CI |
| 112 - 14M - 170 | 112 | 9A | 499.11 | 496.32 | - | 265 | 187 | 127 | 5050 | CI |
| 144 - 14M - 170 | 144 | 9A | 641.71 | 638.92 | - | 265 | 187 | 127 | 5050 | CI |
| 168 - 14M - 170 | 168 | 9A | 748.66 | 745.87 | - | 265 | 187 | 127 | 5050 | CI |
| 192 - 14M - 170 | 192 | 9A | 855.62 | 852.82 | - | 265 | 187 | 127 | 5050 | CI |
| 216 - 14M - 170 | 216 | 9A | 962.57 | 959.76 | - | 265 | 187 | 127 | 5050 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

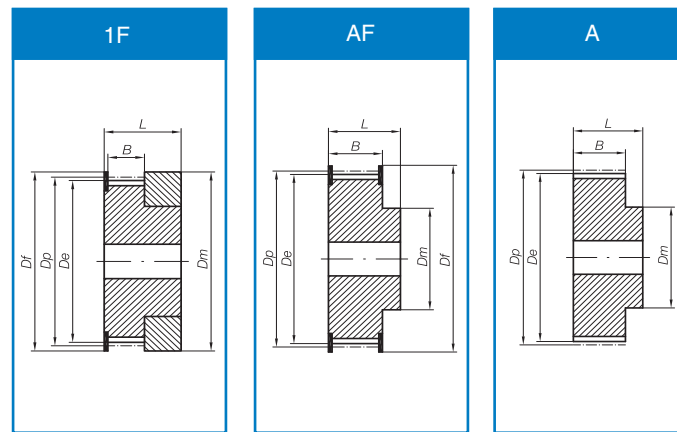
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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Metric Timing Pilot Bore

T2.5 Pitch = 2.5mm Belt Width = 6mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|-------|-------|------|----|----|----|----------|
| 12 - T2.5 - 6 | 12 | 1F | 9.55 | 9.03 | 13.0 | 13 | 9 | 16 | AL |
| 14 - T2.5 - 6 | 14 | 1F | 11.14 | 10.62 | 15.0 | 15 | 9 | 16 | AL |
| 15 - T2.5 - 6 | 15 | 1F | 11.94 | 11.40 | 15.0 | 15 | 9 | 16 | AL |
| 16 - T2.5 - 6 | 16 | 1F | 12.73 | 11.21 | 16.0 | 16 | 9 | 16 | AL |
| 18 - T2.5 - 6 | 18 | AF | 14.32 | 13.80 | 17.5 | 10 | 10 | 16 | AL |
| 19 - T2.5 - 6 | 19 | AF | 15.12 | 14.60 | 20.0 | 10 | 10 | 16 | AL |
| 20 - T2.5 - 6 | 20 | AF | 15.92 | 15.40 | 20.0 | 11 | 10 | 16 | AL |
| 22 - T2.5 - 6 | 22 | AF | 17.51 | 16.99 | 22.0 | 11 | 10 | 16 | AL |
| 24 - T2.5 - 6 | 24 | AF | 19.10 | 18.58 | 22.0 | 12 | 10 | 16 | AL |
| 25 - T2.5 - 6 | 25 | AF | 19.89 | 19.37 | 23.0 | 13 | 10 | 16 | AL |
| 26 - T2.5 - 6 | 26 | AF | 20.69 | 20.17 | 26.0 | 14 | 10 | 16 | AL |
| 28 - T2.5 - 6 | 28 | AF | 22.28 | 21.76 | 26.0 | 14 | 10 | 16 | AL |
| 30 - T2.5 - 6 | 30 | AF | 23.87 | 23.35 | 28.0 | 16 | 10 | 16 | AL |
| 32 - T2.5 - 6 | 32 | AF | 25.46 | 24.95 | 32.0 | 16 | 11 | 16 | AL |
| 36 - T2.5 - 6 | 36 | AF | 28.65 | 28.13 | 36.0 | 20 | 10 | 16 | AL |
| 40 - T2.5 - 6 | 40 | AF | 31.83 | 31.31 | 38.0 | 22 | 10 | 16 | AL |
| 44 - T2.5 - 6 | 44 | A | 35.01 | 34.50 | - | 24 | 10 | 16 | AL |
| 48 - T2.5 - 6 | 48 | A | 38.20 | 37.68 | - | 26 | 10 | 16 | AL |
| 60 - T2.5 - 6 | 60 | A | 47.75 | 47.23 | - | 34 | 10 | 16 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

T5 Pitch = 5mm Belt Width = 10mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|-------|-------|------|----|----|----|----------|
| 10 - T5 - 10 | 10 | AF | 15.92 | 15.09 | 19.5 | 8 | 15 | 21 | AL |
| 12 - T5 - 10 | 12 | AF | 19.10 | 18.27 | 23.0 | 11 | 15 | 21 | AL |
| 14 - T5 - 10 | 14 | AF | 22.28 | 21.45 | 25.0 | 13 | 15 | 21 | AL |
| 15 - T5 - 10 | 15 | AF | 23.87 | 23.04 | 28.0 | 16 | 15 | 21 | AL |
| 16 - T5 - 10 | 16 | AF | 25.46 | 24.64 | 32.0 | 18 | 15 | 21 | AL |
| 18 - T5 - 10 | 18 | AF | 28.65 | 27.82 | 32.0 | 20 | 15 | 21 | AL |
| 19 - T5 - 10 | 19 | AF | 30.24 | 29.41 | 36.0 | 22 | 15 | 21 | AL |
| 20 - T5 - 10 | 20 | AF | 31.83 | 31.00 | 36.0 | 23 | 15 | 21 | AL |
| 22 - T5 - 10 | 22 | AF | 35.01 | 34.19 | 38.0 | 24 | 15 | 21 | AL |
| 24 - T5 - 10 | 24 | AF | 38.20 | 37.37 | 42.0 | 26 | 15 | 21 | AL |
| 25 - T5 - 10 | 25 | AF | 39.79 | 38.96 | 44.0 | 26 | 15 | 21 | AL |
| 26 - T5 - 10 | 26 | AF | 41.38 | 40.55 | 44.0 | 26 | 15 | 21 | AL |
| 27 - T5 - 10 | 27 | AF | 42.97 | 42.14 | 48.0 | 30 | 15 | 21 | AL |
| 28 - T5 - 10 | 28 | AF | 44.56 | 43.73 | 48.0 | 32 | 15 | 21 | AL |
| 30 - T5 - 10 | 30 | AF | 47.75 | 46.92 | 51.0 | 34 | 15 | 21 | AL |
| 32 - T5 - 10 | 32 | AF | 50.93 | 50.10 | 54.0 | 38 | 15 | 21 | AL |
| 36 - T5 - 10 | 36 | AF | 57.30 | 56.47 | 64.0 | 38 | 15 | 21 | AL |
| 40 - T5 - 10 | 40 | AF | 63.66 | 62.83 | 66.5 | 40 | 15 | 21 | AL |
| 42 - T5 - 10 | 42 | AF | 66.85 | 66.02 | 70.0 | 40 | 15 | 21 | AL |
| 44 - T5 - 10 | 44 | A | 70.03 | 69.20 | - | 45 | 15 | 21 | AL |
| 48 - T5 - 10 | 48 | A | 76.39 | 75.57 | - | 50 | 15 | 21 | AL |
| 60 - T5 - 10 | 60 | A | 95.49 | 94.67 | - | 65 | 15 | 21 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

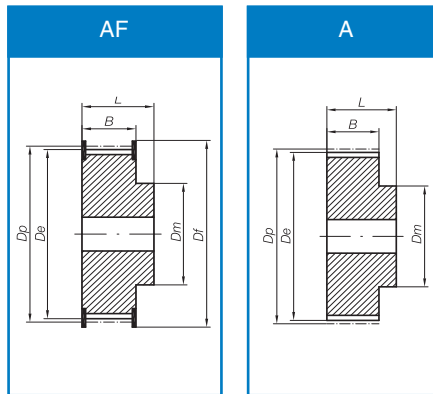
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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Metric Timing Pilot Bore

T5 Pitch = 5mm Belt Width = 16mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|-------|-------|------|----|----|----|----------|
| 10 - T5 - 16 | 10 | AF | 15.92 | 15.09 | 19.5 | 8 | 21 | 27 | AL |
| 12 - T5 - 16 | 12 | AF | 19.10 | 18.27 | 23.0 | 11 | 21 | 27 | AL |
| 14 - T5 - 16 | 14 | AF | 22.28 | 21.45 | 25.0 | 13 | 21 | 27 | AL |
| 15 - T5 - 16 | 15 | AF | 23.87 | 23.04 | 28.0 | 16 | 21 | 27 | AL |
| 16 - T5 - 16 | 16 | AF | 25.46 | 24.64 | 32.0 | 18 | 21 | 27 | AL |
| 18 - T5 - 16 | 18 | AF | 28.65 | 27.82 | 32.0 | 20 | 21 | 27 | AL |
| 19 - T5 - 16 | 19 | AF | 30.24 | 29.41 | 36.0 | 20 | 21 | 27 | AL |
| 20 - T5 - 16 | 20 | AF | 31.83 | 31.00 | 36.0 | 23 | 21 | 27 | AL |
| 22 - T5 - 16 | 22 | AF | 35.01 | 34.19 | 38.0 | 24 | 21 | 27 | AL |
| 24 - T5 - 16 | 24 | AF | 38.20 | 37.37 | 42.0 | 26 | 21 | 27 | AL |
| 25 - T5 - 16 | 25 | AF | 39.79 | 38.96 | 44.0 | 26 | 21 | 27 | AL |
| 26 - T5 - 16 | 26 | AF | 41.38 | 40.55 | 44.0 | 26 | 21 | 27 | AL |
| 27 - T5 - 16 | 27 | AF | 42.97 | 42.14 | 48.0 | 30 | 21 | 27 | AL |
| 28 - T5 - 16 | 28 | AF | 44.56 | 43.73 | 48.0 | 32 | 21 | 27 | AL |
| 30 - T5 - 16 | 30 | AF | 47.75 | 46.92 | 51.0 | 34 | 21 | 27 | AL |
| 32 - T5 - 16 | 32 | AF | 50.93 | 50.10 | 54.0 | 38 | 21 | 27 | AL |
| 36 - T5 - 16 | 36 | AF | 57.30 | 56.47 | 64.0 | 38 | 21 | 27 | AL |
| 40 - T5 - 16 | 40 | AF | 63.66 | 62.83 | 66.5 | 40 | 21 | 27 | AL |
| 42 - T5 - 16 | 42 | AF | 66.85 | 66.02 | 70.0 | 40 | 21 | 27 | AL |
| 44 - T5 - 16 | 44 | A | 70.03 | 69.20 | - | 45 | 21 | 27 | AL |
| 48 - T5 - 16 | 48 | A | 76.39 | 75.57 | - | 50 | 21 | 27 | AL |
| 60 - T5 - 16 | 60 | A | 95.49 | 94.67 | - | 65 | 21 | 27 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

T5 Pitch = 5mm Belt Width = 25mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|-------|-------|------|----|----|----|----------|
| 10 - T5 - 25 | 10 | AF | 15.92 | 15.09 | 19.5 | 8 | 30 | 36 | AL |
| 12 - T5 - 25 | 12 | AF | 19.10 | 18.27 | 23.0 | 11 | 30 | 36 | AL |
| 14 - T5 - 25 | 14 | AF | 22.28 | 21.45 | 25.0 | 13 | 30 | 36 | AL |
| 15 - T5 - 25 | 15 | AF | 23.87 | 23.04 | 28.0 | 16 | 30 | 36 | AL |
| 16 - T5 - 25 | 16 | AF | 25.46 | 24.64 | 32.0 | 18 | 30 | 36 | AL |
| 18 - T5 - 25 | 18 | AF | 28.65 | 27.82 | 32.0 | 20 | 30 | 36 | AL |
| 19 - T5 - 25 | 19 | AF | 30.24 | 29.41 | 36.0 | 22 | 30 | 36 | AL |
| 20 - T5 - 25 | 20 | AF | 31.83 | 31.00 | 36.0 | 23 | 30 | 36 | AL |
| 22 - T5 - 25 | 22 | AF | 35.01 | 34.19 | 38.0 | 24 | 30 | 36 | AL |
| 24 - T5 - 25 | 24 | AF | 38.20 | 37.37 | 42.0 | 26 | 30 | 36 | AL |
| 25 - T5 - 25 | 25 | AF | 39.79 | 38.96 | 44.0 | 26 | 30 | 36 | AL |
| 26 - T5 - 25 | 26 | AF | 41.38 | 40.55 | 44.0 | 26 | 30 | 36 | AL |
| 27 - T5 - 25 | 27 | AF | 42.97 | 42.14 | 48.0 | 30 | 30 | 36 | AL |
| 28 - T5 - 25 | 28 | AF | 44.56 | 43.73 | 48.0 | 32 | 30 | 36 | AL |
| 30 - T5 - 25 | 30 | AF | 47.75 | 46.92 | 51.0 | 34 | 30 | 36 | AL |
| 32 - T5 - 25 | 32 | AF | 50.93 | 50.10 | 54.0 | 38 | 30 | 36 | AL |
| 36 - T5 - 25 | 36 | AF | 57.30 | 56.47 | 64.0 | 38 | 30 | 36 | AL |
| 40 - T5 - 25 | 40 | AF | 63.66 | 62.83 | 66.5 | 40 | 30 | 36 | AL |
| 42 - T5 - 25 | 42 | AF | 66.85 | 66.02 | 70.0 | 40 | 30 | 36 | AL |
| 44 - T5 - 25 | 44 | A | 70.03 | 69.20 | - | 45 | 30 | 36 | AL |
| 48 - T5 - 25 | 48 | A | 76.39 | 75.57 | - | 50 | 30 | 36 | AL |
| 60 - T5 - 25 | 60 | A | 95.49 | 94.67 | - | 65 | 30 | 36 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

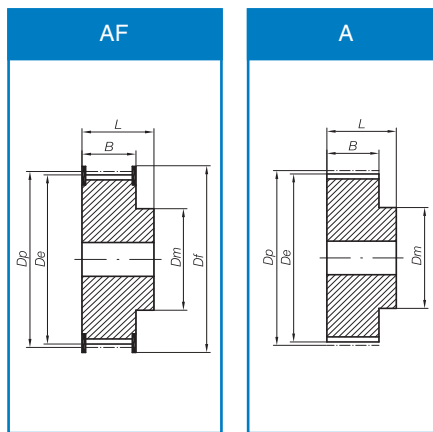
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Metric Timing Pilot Bore

T10 Pitch = 10mm Belt Width = 16mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 12 - T10 - 16 | 12 | AF | 38.20 | 36.35 | 42.0 | 28 | 21 | 31 | AL |
| 14 - T10 - 16 | 14 | AF | 44.56 | 42.71 | 48.0 | 32 | 21 | 31 | AL |
| 15 - T10 - 16 | 15 | AF | 47.75 | 45.90 | 51.0 | 32 | 21 | 31 | AL |
| 16 - T10 - 16 | 16 | AF | 50.93 | 49.08 | 54.0 | 35 | 21 | 31 | AL |
| 18 - T10 - 16 | 18 | AF | 57.30 | 55.45 | 60.0 | 40 | 21 | 31 | AL |
| 19 - T10 - 16 | 19 | AF | 60.48 | 58.63 | 66.0 | 44 | 21 | 31 | AL |
| 20 - T10 - 16 | 20 | AF | 63.66 | 61.81 | 66.0 | 46 | 21 | 31 | AL |
| 22 - T10 - 16 | 22 | AF | 70.03 | 68.18 | 75.0 | 52 | 21 | 31 | AL |
| 24 - T10 - 16 | 24 | AF | 76.39 | 74.55 | 83.0 | 58 | 21 | 31 | AL |
| 25 - T10 - 16 | 25 | AF | 79.58 | 77.73 | 83.0 | 60 | 21 | 31 | AL |
| 26 - T10 - 16 | 26 | AF | 82.76 | 80.91 | 87.0 | 60 | 21 | 31 | AL |
| 27 - T10 - 16 | 27 | AF | 85.94 | 84.10 | 91.0 | 60 | 21 | 31 | AL |
| 28 - T10 - 16 | 28 | AF | 89.13 | 87.28 | 93.0 | 60 | 21 | 31 | AL |
| 30 - T10 - 16 | 30 | AF | 95.49 | 93.65 | 97.0 | 60 | 21 | 31 | AL |
| 32 - T10 - 16 | 32 | AF | 101.86 | 100.01 | 106.0 | 65 | 21 | 31 | AL |
| 36 - T10 - 16 | 36 | AF | 114.59 | 112.74 | 119.0 | 70 | 21 | 31 | AL |
| 40 - T10 - 16 | 40 | AF | 127.32 | 125.48 | 131.0 | 80 | 21 | 31 | AL |
| 44 - T10 - 16 | 44 | A | 140.06 | 138.21 | - | 88 | 21 | 31 | AL |
| 48 - T10 - 16 | 48 | A | 152.79 | 150.94 | - | 95 | 21 | 31 | AL |
| 60 - T10 - 16 | 60 | A | 190.99 | 189.14 | - | 110 | 21 | 31 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

T10 Pitch = 10mm Belt Width = 25mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 12 - T10 - 25 | 12 | AF | 38.20 | 36.35 | 42.0 | 28 | 30 | 40 | AL |
| 14 - T10 - 25 | 14 | AF | 44.56 | 42.71 | 48.0 | 32 | 30 | 40 | AL |
| 15 - T10 - 25 | 15 | AF | 47.75 | 45.90 | 51.0 | 32 | 30 | 40 | AL |
| 16 - T10 - 25 | 16 | AF | 50.93 | 49.08 | 54.0 | 35 | 30 | 40 | AL |
| 18 - T10 - 25 | 18 | AF | 57.30 | 55.45 | 60.0 | 40 | 30 | 40 | AL |
| 19 - T10 - 25 | 19 | AF | 60.48 | 58.63 | 66.0 | 44 | 30 | 40 | AL |
| 20 - T10 - 25 | 20 | AF | 63.66 | 61.81 | 66.0 | 46 | 30 | 40 | AL |
| 22 - T10 - 25 | 22 | AF | 70.03 | 68.18 | 75.0 | 52 | 30 | 40 | AL |
| 24 - T10 - 25 | 24 | AF | 76.39 | 74.55 | 83.0 | 58 | 30 | 40 | AL |
| 25 - T10 - 25 | 25 | AF | 79.58 | 77.73 | 83.0 | 60 | 30 | 40 | AL |
| 26 - T10 - 25 | 26 | AF | 82.76 | 80.91 | 87.0 | 60 | 30 | 40 | AL |
| 27 - T10 - 25 | 27 | AF | 85.94 | 84.10 | 91.0 | 60 | 30 | 40 | AL |
| 28 - T10 - 25 | 28 | AF | 89.13 | 87.28 | 93.0 | 60 | 30 | 40 | AL |
| 30 - T10 - 25 | 30 | AF | 95.49 | 93.65 | 97.0 | 60 | 30 | 40 | AL |
| 32 - T10 - 25 | 32 | AF | 101.86 | 100.01 | 106.0 | 65 | 30 | 40 | AL |
| 36 - T10 - 25 | 36 | AF | 114.59 | 112.74 | 119.0 | 70 | 30 | 40 | AL |
| 40 - T10 - 25 | 40 | AF | 127.32 | 125.48 | 131.0 | 80 | 30 | 40 | AL |
| 44 - T10 - 25 | 44 | A | 140.06 | 138.21 | - | 88 | 30 | 40 | AL |
| 48 - T10 - 25 | 48 | A | 152.79 | 150.94 | - | 95 | 30 | 40 | AL |
| 60 - T10 - 25 | 60 | A | 190.99 | 189.14 | - | 110 | 30 | 40 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

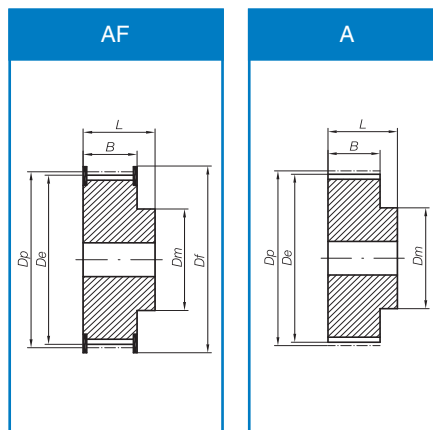
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Metric Timing Pilot Bore

T10 Pitch = 10mm Belt Width = 32mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - T10 - 32 | 18 | AF | 57.30 | 55.45 | 60.0 | 40 | 37 | 47 | AL |
| 19 - T10 - 32 | 19 | AF | 60.48 | 58.63 | 66.0 | 44 | 37 | 47 | AL |
| 20 - T10 - 32 | 20 | AF | 63.66 | 61.81 | 66.0 | 46 | 37 | 47 | AL |
| 22 - T10 - 32 | 22 | AF | 70.03 | 68.18 | 75.0 | 52 | 37 | 47 | AL |
| 24 - T10 - 32 | 24 | AF | 76.39 | 74.55 | 83.0 | 58 | 37 | 47 | AL |
| 25 - T10 - 32 | 25 | AF | 79.58 | 77.73 | 83.0 | 60 | 37 | 47 | AL |
| 26 - T10 - 32 | 26 | AF | 82.76 | 80.91 | 87.0 | 60 | 37 | 47 | AL |
| 27 - T10 - 32 | 27 | AF | 85.94 | 84.10 | 91.0 | 60 | 37 | 47 | AL |
| 28 - T10 - 32 | 28 | AF | 89.13 | 87.28 | 93.0 | 60 | 37 | 47 | AL |
| 30 - T10 - 32 | 30 | AF | 95.49 | 93.65 | 97.0 | 60 | 37 | 47 | AL |
| 32 - T10 - 32 | 32 | AF | 101.86 | 100.01 | 106.0 | 65 | 37 | 47 | AL |
| 36 - T10 - 32 | 36 | AF | 114.59 | 112.74 | 119.0 | 70 | 37 | 47 | AL |
| 40 - T10 - 32 | 40 | AF | 127.32 | 125.48 | 131.0 | 80 | 37 | 47 | AL |
| 44 - T10 - 32 | 44 | A | 140.06 | 138.21 | - | 88 | 37 | 47 | AL |
| 48 - T10 - 32 | 48 | A | 152.79 | 150.94 | - | 95 | 37 | 47 | AL |
| 60 - T10 - 32 | 60 | A | 190.99 | 189.14 | - | 110 | 37 | 47 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

T10 Pitch = 10mm Belt Width = 50mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - T10 - 50 | 18 | AF | 57.30 | 55.45 | 60.0 | 40 | 56 | 66 | AL |
| 19 - T10 - 50 | 19 | AF | 60.48 | 58.63 | 66.0 | 44 | 56 | 66 | AL |
| 20 - T10 - 50 | 20 | AF | 63.66 | 61.81 | 66.0 | 46 | 56 | 66 | AL |
| 22 - T10 - 50 | 22 | AF | 70.03 | 68.18 | 75.0 | 52 | 56 | 66 | AL |
| 24 - T10 - 50 | 24 | AF | 76.39 | 74.55 | 83.0 | 58 | 56 | 66 | AL |
| 25 - T10 - 50 | 25 | AF | 79.58 | 77.73 | 83.0 | 60 | 56 | 66 | AL |
| 26 - T10 - 50 | 26 | AF | 82.76 | 80.91 | 87.0 | 60 | 56 | 66 | AL |
| 27 - T10 - 50 | 27 | AF | 85.94 | 84.10 | 91.0 | 60 | 56 | 66 | AL |
| 28 - T10 - 50 | 28 | AF | 89.13 | 87.28 | 93.0 | 60 | 56 | 66 | AL |
| 30 - T10 - 50 | 30 | AF | 95.49 | 93.65 | 97.0 | 60 | 56 | 66 | AL |
| 32 - T10 - 50 | 32 | AF | 101.86 | 100.01 | 106.0 | 65 | 56 | 66 | AL |
| 36 - T10 - 50 | 36 | AF | 114.59 | 112.74 | 119.0 | 70 | 56 | 66 | AL |
| 40 - T10 - 50 | 40 | AF | 127.32 | 125.48 | 131.0 | 80 | 56 | 66 | AL |
| 44 - T10 - 50 | 44 | A | 140.06 | 138.21 | - | 88 | 56 | 66 | AL |
| 48 - T10 - 50 | 48 | A | 152.79 | 150.94 | - | 95 | 56 | 66 | AL |
| 60 - T10 - 50 | 60 | A | 190.99 | 189.14 | - | 110 | 56 | 66 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

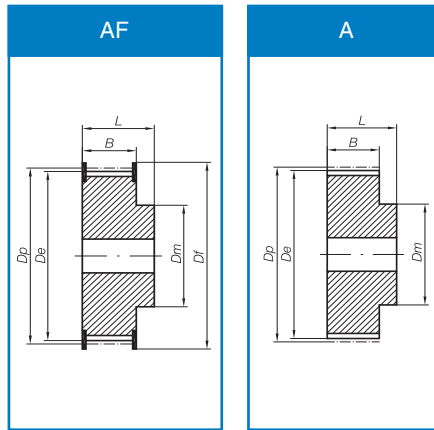
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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Metric Timing Pilot Bore

T20 Pitch = 10mm Belt Width = 32mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - T20 - 32 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 42 | 53 | AL |
| 20 - T20 - 32 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 42 | 53 | AL |
| 22 - T20 - 32 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 42 | 53 | AL |
| 24 - T20 - 32 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 42 | 53 | AL |
| 25 - T20 - 32 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 42 | 53 | AL |
| 30 - T20 - 32 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 42 | 53 | AL |
| 32 - T20 - 32 | 32 | A | 203.72 | 200.86 | - | 110 | 42 | 53 | AL |
| 36 - T20 - 32 | 36 | A | 229.18 | 226.33 | - | 110 | 42 | 53 | AL |
| 40 - T20 - 32 | 40 | A | 254.65 | 251.80 | - | 110 | 42 | 53 | AL |
| 48 - T20 - 32 | 48 | A | 305.58 | 302.73 | - | 130 | 42 | 53 | AL |
| 60 - T20 - 32 | 60 | A | 381.97 | 379.12 | - | 130 | 42 | 53 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

T20 Pitch = 20mm Belt Width = 50mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - T20 - 50 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 60 | 71 | AL |
| 20 - T20 - 50 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 60 | 71 | AL |
| 22 - T20 - 50 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 60 | 71 | AL |
| 24 - T20 - 50 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 60 | 71 | AL |
| 25 - T20 - 50 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 60 | 71 | AL |
| 30 - T20 - 50 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 60 | 71 | AL |
| 32 - T20 - 50 | 32 | A | 203.72 | 200.86 | - | 110 | 60 | 71 | AL |
| 36 - T20 - 50 | 36 | A | 229.18 | 226.33 | - | 110 | 60 | 71 | AL |
| 40 - T20 - 50 | 40 | A | 254.65 | 251.80 | - | 110 | 60 | 71 | AL |
| 48 - T20 - 50 | 48 | A | 305.58 | 302.73 | - | 130 | 60 | 71 | AL |
| 60 - T20 - 50 | 60 | A | 381.97 | 379.12 | - | 130 | 60 | 71 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

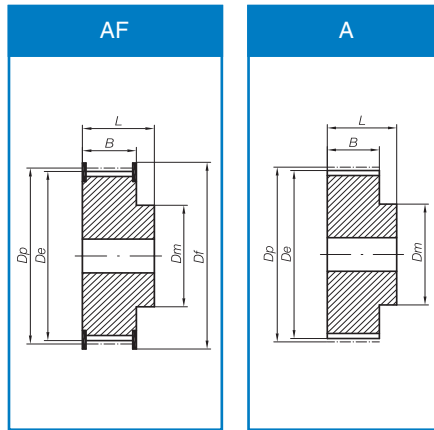
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Metric Timing Pilot Bore

T20 Pitch = 20mm Belt Width = 75mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-------|-----|----|-----|----------|
| 18 - T20 - 75 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 85 | 106 | AL |
| 20 - T20 - 75 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 85 | 106 | AL |
| 22 - T20 - 75 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 85 | 106 | AL |
| 24 - T20 - 75 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 85 | 106 | AL |
| 25 - T20 - 75 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 85 | 106 | AL |
| 30 - T20 - 75 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 85 | 106 | AL |
| 32 - T20 - 75 | 32 | A | 203.72 | 200.86 | - | 110 | 85 | 106 | AL |
| 36 - T20 - 75 | 36 | A | 229.18 | 226.33 | - | 110 | 85 | 106 | AL |
| 40 - T20 - 75 | 40 | A | 254.65 | 251.80 | - | 110 | 85 | 106 | AL |
| 48 - T20 - 75 | 48 | A | 305.58 | 302.73 | - | 130 | 85 | 106 | AL |
| 60 - T20 - 75 | 60 | A | 381.97 | 379.12 | - | 130 | 85 | 106 | AL |



T20 Pitch = 20mm Belt Width = 100mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|-----|-----|----------|
| 18 - T20 - 100 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 110 | 123 | AL |
| 20 - T20 - 100 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 110 | 123 | AL |
| 22 - T20 - 100 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 110 | 123 | AL |
| 24 - T20 - 100 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 110 | 123 | AL |
| 25 - T20 - 100 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 110 | 123 | AL |
| 30 - T20 - 100 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 110 | 123 | AL |
| 32 - T20 - 100 | 32 | A | 203.72 | 200.86 | - | 110 | 110 | 123 | AL |
| 36 - T20 - 100 | 36 | A | 229.18 | 226.33 | - | 110 | 110 | 123 | AL |
| 40 - T20 - 100 | 40 | A | 254.65 | 251.80 | - | 110 | 110 | 123 | AL |
| 48 - T20 - 100 | 48 | A | 305.58 | 302.73 | - | 130 | 110 | 123 | AL |
| 60 - T20 - 100 | 60 | A | 381.97 | 379.12 | - | 130 | 110 | 123 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

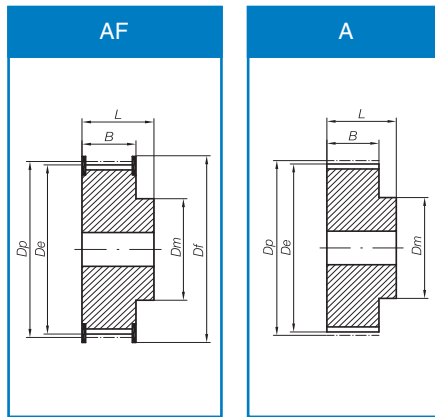
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Metric Timing Pilot Bore

AT5 Pitch = 5mm Belt Width = 10mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|-------|-------|----|----|----|----|----------|
| 12 - AT5 - 10 | 12 | AF | 19.10 | 17.87 | 23 | 11 | 15 | 21 | AL |
| 14 - AT5 - 10 | 14 | AF | 22.28 | 21.05 | 25 | 14 | 15 | 21 | AL |
| 15 - AT5 - 10 | 15 | AF | 23.87 | 22.64 | 28 | 16 | 15 | 21 | AL |
| 16 - AT5 - 10 | 16 | AF | 25.46 | 24.24 | 32 | 18 | 15 | 21 | AL |
| 18 - AT5 - 10 | 18 | AF | 28.65 | 27.42 | 32 | 20 | 15 | 21 | AL |
| 19 - AT5 - 10 | 19 | AF | 30.24 | 29.01 | 36 | 22 | 15 | 21 | AL |
| 20 - AT5 - 10 | 20 | AF | 31.83 | 30.60 | 36 | 23 | 15 | 21 | AL |
| 22 - AT5 - 10 | 22 | AF | 35.01 | 33.79 | 38 | 24 | 15 | 21 | AL |
| 24 - AT5 - 10 | 24 | AF | 38.20 | 36.97 | 42 | 26 | 15 | 21 | AL |
| 25 - AT5 - 10 | 25 | AF | 39.79 | 38.56 | 44 | 26 | 15 | 21 | AL |
| 26 - AT5 - 10 | 26 | AF | 41.38 | 40.15 | 44 | 26 | 15 | 21 | AL |
| 27 - AT5 - 10 | 27 | AF | 42.97 | 41.74 | 48 | 30 | 15 | 21 | AL |
| 28 - AT5 - 10 | 28 | AF | 44.56 | 43.33 | 48 | 32 | 15 | 21 | AL |
| 30 - AT5 - 10 | 30 | AF | 47.75 | 46.52 | 51 | 34 | 15 | 21 | AL |
| 32 - AT5 - 10 | 32 | AF | 50.93 | 49.70 | 54 | 38 | 15 | 21 | AL |
| 36 - AT5 - 10 | 36 | AF | 57.30 | 56.07 | 64 | 38 | 15 | 21 | AL |
| 40 - AT5 - 10 | 40 | AF | 63.66 | 62.43 | 67 | 40 | 15 | 21 | AL |
| 42 - AT5 - 10 | 42 | AF | 66.85 | 65.62 | 70 | 40 | 15 | 21 | AL |
| 44 - AT5 - 10 | 44 | A | 70.03 | 68.80 | - | 45 | 15 | 21 | AL |
| 48 - AT5 - 10 | 48 | A | 76.39 | 75.17 | - | 50 | 15 | 21 | AL |
| 60 - AT5 - 10 | 60 | A | 95.49 | 94.27 | - | 65 | 15 | 21 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

AT5 Pitch = 5mm Belt Width = 16mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|-------|-------|----|----|----|----|----------|
| 12 - AT5 - 16 | 12 | AF | 19.10 | 17.87 | 23 | 11 | 21 | 27 | AL |
| 14 - AT5 - 16 | 14 | AF | 22.28 | 21.05 | 25 | 14 | 21 | 27 | AL |
| 15 - AT5 - 16 | 15 | AF | 23.87 | 22.64 | 28 | 16 | 21 | 27 | AL |
| 16 - AT5 - 16 | 16 | AF | 25.46 | 24.24 | 32 | 18 | 21 | 27 | AL |
| 18 - AT5 - 16 | 18 | AF | 28.65 | 27.42 | 32 | 20 | 21 | 27 | AL |
| 19 - AT5 - 16 | 19 | AF | 30.24 | 29.01 | 36 | 22 | 21 | 27 | AL |
| 20 - AT5 - 16 | 20 | AF | 31.83 | 30.60 | 36 | 23 | 21 | 27 | AL |
| 22 - AT5 - 16 | 22 | AF | 35.01 | 33.79 | 38 | 24 | 21 | 27 | AL |
| 24 - AT5 - 16 | 24 | AF | 38.20 | 36.97 | 42 | 26 | 21 | 27 | AL |
| 25 - AT5 - 16 | 25 | AF | 39.79 | 38.56 | 44 | 26 | 21 | 27 | AL |
| 26 - AT5 - 16 | 26 | AF | 41.38 | 40.15 | 44 | 26 | 21 | 27 | AL |
| 27 - AT5 - 16 | 27 | AF | 42.97 | 41.74 | 48 | 30 | 21 | 27 | AL |
| 28 - AT5 - 16 | 28 | AF | 44.56 | 43.33 | 48 | 32 | 21 | 27 | AL |
| 30 - AT5 - 16 | 30 | AF | 47.75 | 46.52 | 51 | 34 | 21 | 27 | AL |
| 32 - AT5 - 16 | 32 | AF | 50.93 | 49.70 | 54 | 36 | 21 | 27 | AL |
| 36 - AT5 - 16 | 36 | AF | 57.30 | 56.07 | 64 | 38 | 21 | 27 | AL |
| 40 - AT5 - 16 | 40 | AF | 63.66 | 62.43 | 67 | 40 | 21 | 27 | AL |
| 42 - AT5 - 16 | 42 | AF | 66.85 | 65.62 | 70 | 40 | 21 | 27 | AL |
| 44 - AT5 - 16 | 44 | A | 70.03 | 68.80 | - | 45 | 21 | 27 | AL |
| 48 - AT5 - 16 | 48 | A | 76.39 | 75.17 | - | 50 | 21 | 27 | AL |
| 60 - AT5 - 16 | 60 | A | 95.49 | 94.27 | - | 65 | 21 | 27 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

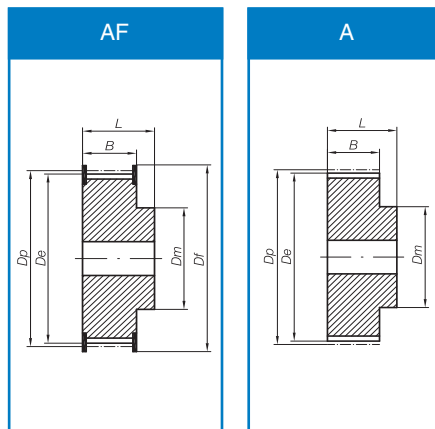
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Metric Timing Pilot Bore

AT5 Pitch = 5mm Belt Width = 25mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|-------|-------|----|----|----|----|----------|
| 12 - AT5 - 25 | 12 | AF | 19.10 | 17.87 | 23 | 11 | 30 | 36 | AL |
| 14 - AT5 - 25 | 14 | AF | 22.28 | 21.05 | 25 | 14 | 30 | 36 | AL |
| 15 - AT5 - 25 | 15 | AF | 23.87 | 22.64 | 28 | 16 | 30 | 36 | AL |
| 16 - AT5 - 25 | 16 | AF | 25.46 | 24.24 | 32 | 18 | 30 | 36 | AL |
| 18 - AT5 - 25 | 18 | AF | 28.65 | 27.42 | 32 | 20 | 30 | 36 | AL |
| 19 - AT5 - 25 | 19 | AF | 30.24 | 29.01 | 36 | 22 | 30 | 36 | AL |
| 20 - AT5 - 25 | 20 | AF | 31.83 | 30.60 | 36 | 23 | 30 | 36 | AL |
| 22 - AT5 - 25 | 22 | AF | 35.01 | 33.79 | 38 | 24 | 30 | 36 | AL |
| 24 - AT5 - 25 | 24 | AF | 38.20 | 36.97 | 42 | 26 | 30 | 36 | AL |
| 25 - AT5 - 25 | 25 | AF | 39.79 | 38.56 | 44 | 26 | 30 | 36 | AL |
| 26 - AT5 - 25 | 26 | AF | 41.38 | 40.15 | 44 | 26 | 30 | 36 | AL |
| 27 - AT5 - 25 | 27 | AF | 42.97 | 41.74 | 48 | 30 | 30 | 36 | AL |
| 28 - AT5 - 25 | 28 | AF | 44.56 | 43.33 | 48 | 32 | 30 | 36 | AL |
| 30 - AT5 - 25 | 30 | AF | 47.75 | 46.52 | 51 | 34 | 30 | 36 | AL |
| 32 - AT5 - 25 | 32 | AF | 50.93 | 49.70 | 54 | 36 | 30 | 36 | AL |
| 36 - AT5 - 25 | 36 | AF | 57.30 | 56.07 | 64 | 38 | 30 | 36 | AL |
| 40 - AT5 - 25 | 40 | AF | 63.66 | 62.43 | 67 | 40 | 30 | 36 | AL |
| 42 - AT5 - 25 | 42 | AF | 66.85 | 65.62 | 70 | 40 | 30 | 36 | AL |
| 44 - AT5 - 25 | 44 | A | 70.03 | 68.80 | - | 45 | 30 | 36 | AL |
| 48 - AT5 - 25 | 48 | A | 76.39 | 75.17 | - | 50 | 30 | 36 | AL |
| 60 - AT5 - 25 | 60 | A | 95.49 | 94.27 | - | 65 | 30 | 36 | AL |



AT10 Pitch = 10mm Belt Width = 16mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 15 - AT10 - 16 | 15 | AF | 47.75 | 45.90 | 51.0 | 32 | 21 | 31 | AL |
| 16 - AT10 - 16 | 16 | AF | 50.93 | 49.08 | 54.0 | 35 | 21 | 31 | AL |
| 18 - AT10 - 16 | 18 | AF | 57.30 | 55.45 | 60.0 | 40 | 21 | 31 | AL |
| 19 - AT10 - 16 | 19 | AF | 60.48 | 58.63 | 66.0 | 44 | 21 | 31 | AL |
| 20 - AT10 - 16 | 20 | AF | 63.66 | 61.81 | 66.0 | 46 | 21 | 31 | AL |
| 22 - AT10 - 16 | 22 | AF | 70.03 | 68.18 | 75.0 | 52 | 21 | 31 | AL |
| 24 - AT10 - 16 | 24 | AF | 76.39 | 74.55 | 83.0 | 58 | 21 | 31 | AL |
| 25 - AT10 - 16 | 25 | AF | 79.58 | 77.73 | 83.0 | 60 | 21 | 31 | AL |
| 26 - AT10 - 16 | 26 | AF | 82.76 | 80.91 | 87.0 | 60 | 21 | 31 | AL |
| 27 - AT10 - 16 | 27 | AF | 85.94 | 84.10 | 91.0 | 60 | 21 | 31 | AL |
| 28 - AT10 - 16 | 28 | AF | 89.13 | 87.28 | 93.0 | 60 | 21 | 31 | AL |
| 30 - AT10 - 16 | 30 | AF | 95.49 | 93.65 | 97.0 | 60 | 21 | 31 | AL |
| 32 - AT10 - 16 | 32 | AF | 101.86 | 100.01 | 106.0 | 65 | 21 | 31 | AL |
| 36 - AT10 - 16 | 36 | AF | 114.59 | 112.74 | 119.0 | 70 | 21 | 31 | AL |
| 40 - AT10 - 16 | 40 | AF | 127.32 | 125.48 | 131.0 | 80 | 21 | 31 | AL |
| 44 - AT10 - 16 | 44 | A | 140.06 | 138.21 | - | 88 | 21 | 31 | AL |
| 48 - AT10 - 16 | 48 | A | 152.79 | 150.94 | - | 95 | 21 | 31 | AL |
| 60 - AT10 - 16 | 60 | A | 190.99 | 189.14 | - | 110 | 21 | 31 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

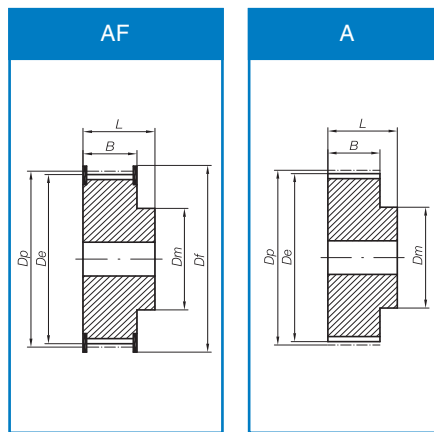
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Metric Timing Pilot Bore

AT10 Pitch = 10mm Belt Width = 25mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 15 - AT10 - 25 | 15 | AF | 47.75 | 45.90 | 45.9 | 31 | 30 | 40 | AL |
| 16 - AT10 - 25 | 16 | AF | 50.93 | 49.08 | 49.1 | 35 | 30 | 40 | AL |
| 18 - AT10 - 25 | 18 | AF | 57.30 | 55.45 | 55.5 | 40 | 30 | 40 | AL |
| 19 - AT10 - 25 | 19 | AF | 60.48 | 58.63 | 58.6 | 44 | 30 | 40 | AL |
| 20 - AT10 - 25 | 20 | AF | 63.66 | 61.81 | 61.8 | 46 | 30 | 40 | AL |
| 22 - AT10 - 25 | 22 | AF | 70.03 | 68.18 | 68.2 | 52 | 30 | 40 | AL |
| 24 - AT10 - 25 | 24 | AF | 76.39 | 74.55 | 74.6 | 58 | 30 | 40 | AL |
| 25 - AT10 - 25 | 25 | AF | 79.58 | 77.73 | 77.7 | 60 | 30 | 40 | AL |
| 26 - AT10 - 25 | 26 | AF | 82.76 | 80.91 | 80.9 | 60 | 30 | 40 | AL |
| 27 - AT10 - 25 | 27 | AF | 85.94 | 84.10 | 84.1 | 60 | 30 | 40 | AL |
| 28 - AT10 - 25 | 28 | AF | 89.13 | 87.28 | 87.3 | 60 | 30 | 40 | AL |
| 30 - AT10 - 25 | 30 | AF | 95.49 | 93.65 | 93.7 | 60 | 30 | 40 | AL |
| 32 - AT10 - 25 | 32 | AF | 101.86 | 100.01 | 100.0 | 65 | 30 | 40 | AL |
| 36 - AT10 - 25 | 36 | AF | 114.59 | 112.74 | 112.7 | 70 | 30 | 40 | AL |
| 40 - AT10 - 25 | 40 | AF | 127.32 | 125.48 | 125.5 | 80 | 30 | 40 | AL |
| 44 - AT10 - 25 | 44 | A | 140.06 | 138.21 | 138.2 | 88 | 30 | 40 | AL |
| 48 - AT10 - 25 | 48 | A | 152.79 | 150.94 | 150.9 | 95 | 30 | 40 | AL |
| 60 - AT10 - 25 | 60 | A | 190.99 | 189.14 | 189.1 | 110 | 30 | 40 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

AT10 Pitch = 10mm Belt Width = 32mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - AT10 - 32 | 18 | AF | 57.30 | 55.45 | 60.0 | 40 | 37 | 47 | AL |
| 19 - AT10 - 32 | 19 | AF | 60.48 | 58.63 | 66.0 | 44 | 37 | 47 | AL |
| 20 - AT10 - 32 | 20 | AF | 63.66 | 61.81 | 66.0 | 46 | 37 | 47 | AL |
| 22 - AT10 - 32 | 22 | AF | 70.03 | 68.18 | 75.0 | 52 | 37 | 47 | AL |
| 24 - AT10 - 32 | 24 | AF | 76.39 | 74.55 | 83.0 | 58 | 37 | 47 | AL |
| 25 - AT10 - 32 | 25 | AF | 79.58 | 77.73 | 83.0 | 60 | 37 | 47 | AL |
| 26 - AT10 - 32 | 26 | AF | 82.76 | 80.91 | 87.0 | 60 | 37 | 47 | AL |
| 27 - AT10 - 32 | 27 | AF | 85.94 | 84.10 | 91.0 | 60 | 37 | 47 | AL |
| 28 - AT10 - 32 | 28 | AF | 89.13 | 87.28 | 93.0 | 60 | 37 | 47 | AL |
| 30 - AT10 - 32 | 30 | AF | 95.49 | 93.65 | 97.0 | 60 | 37 | 47 | AL |
| 32 - AT10 - 32 | 32 | AF | 101.86 | 100.01 | 106.0 | 65 | 37 | 47 | AL |
| 36 - AT10 - 32 | 36 | AF | 114.59 | 112.74 | 119.0 | 70 | 37 | 47 | AL |
| 40 - AT10 - 32 | 40 | AF | 127.32 | 125.48 | 131.0 | 80 | 37 | 47 | AL |
| 44 - AT10 - 32 | 44 | A | 140.06 | 138.21 | - | 88 | 37 | 47 | AL |
| 48 - AT10 - 32 | 48 | A | 152.79 | 150.94 | - | 95 | 37 | 47 | AL |
| 60 - AT10 - 32 | 60 | A | 190.99 | 189.14 | - | 110 | 37 | 47 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

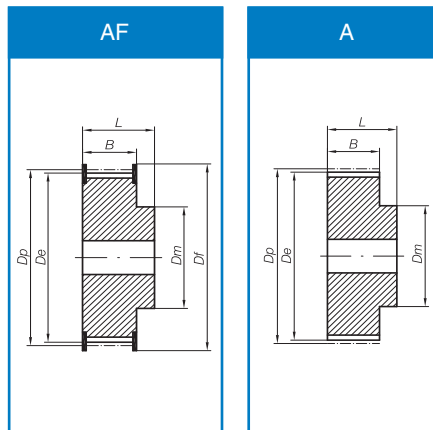
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Metric Timing Pilot Bore

AT10 Pitch = 10mm Belt Width = 50mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - AT10 - 50 | 18 | AF | 57.30 | 55.45 | 60.0 | 40 | 56 | 66 | AL |
| 19 - AT10 - 50 | 19 | AF | 60.48 | 58.63 | 66.0 | 44 | 56 | 66 | AL |
| 20 - AT10 - 50 | 20 | AF | 63.66 | 61.81 | 66.0 | 46 | 56 | 66 | AL |
| 22 - AT10 - 50 | 22 | AF | 70.03 | 68.18 | 75.0 | 52 | 56 | 66 | AL |
| 24 - AT10 - 50 | 24 | AF | 76.39 | 74.55 | 83.0 | 58 | 56 | 66 | AL |
| 25 - AT10 - 50 | 25 | AF | 79.58 | 77.73 | 83.0 | 60 | 56 | 66 | AL |
| 26 - AT10 - 50 | 26 | AF | 82.76 | 80.91 | 87.0 | 60 | 56 | 66 | AL |
| 27 - AT10 - 50 | 27 | AF | 85.94 | 84.10 | 91.0 | 60 | 56 | 66 | AL |
| 28 - AT10 - 50 | 28 | AF | 89.13 | 87.28 | 93.0 | 60 | 56 | 66 | AL |
| 30 - AT10 - 50 | 30 | AF | 95.49 | 93.65 | 97.0 | 60 | 56 | 66 | AL |
| 32 - AT10 - 50 | 32 | AF | 101.86 | 100.01 | 106.0 | 65 | 56 | 66 | AL |
| 36 - AT10 - 50 | 36 | AF | 114.59 | 112.74 | 119.0 | 70 | 56 | 66 | AL |
| 40 - AT10 - 50 | 40 | AF | 127.32 | 125.48 | 131.0 | 80 | 56 | 66 | AL |
| 44 - AT10 - 50 | 44 | A | 140.06 | 138.21 | - | 88 | 56 | 66 | AL |
| 48 - AT10 - 50 | 48 | A | 152.79 | 150.94 | - | 95 | 56 | 66 | AL |
| 60 - AT10 - 50 | 60 | A | 190.99 | 189.14 | - | 110 | 56 | 66 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

AT20 Pitch = 20mm Belt Width = 32mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - AT20 - 32 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 42 | 53 | AL |
| 20 - AT20 - 32 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 42 | 53 | AL |
| 22 - AT20 - 32 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 42 | 53 | AL |
| 24 - AT20 - 32 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 42 | 53 | AL |
| 25 - AT20 - 32 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 42 | 53 | AL |
| 30 - AT20 - 32 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 42 | 53 | AL |
| 32 - AT20 - 32 | 32 | A | 203.72 | 200.86 | - | 110 | 42 | 53 | AL |
| 36 - AT20 - 32 | 36 | A | 229.18 | 226.33 | - | 110 | 42 | 53 | AL |
| 40 - AT20 - 32 | 40 | A | 254.65 | 251.80 | - | 110 | 42 | 53 | AL |
| 48 - AT20 - 32 | 48 | A | 305.58 | 302.73 | - | 130 | 42 | 53 | AL |
| 60 - AT20 - 32 | 60 | A | 381.97 | 379.12 | - | 130 | 42 | 53 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

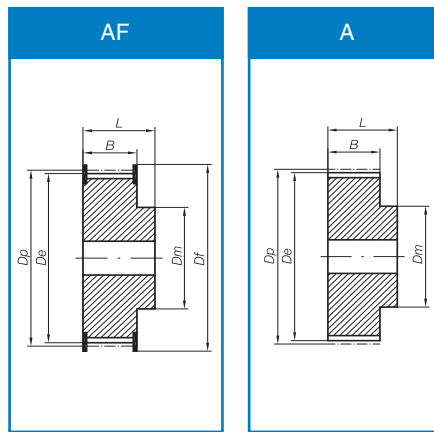
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Metric Timing Pilot Bore

AT20 Pitch = 20mm Belt Width = 50mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 18 - AT20 - 50 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 60 | 71 | AL |
| 20 - AT20 - 50 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 60 | 71 | AL |
| 22 - AT20 - 50 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 60 | 71 | AL |
| 24 - AT20 - 50 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 60 | 71 | AL |
| 25 - AT20 - 50 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 60 | 71 | AL |
| 30 - AT20 - 50 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 60 | 71 | AL |
| 32 - AT20 - 50 | 32 | A | 203.72 | 200.86 | - | 110 | 60 | 71 | AL |
| 36 - AT20 - 50 | 36 | A | 229.18 | 226.33 | - | 110 | 60 | 71 | AL |
| 40 - AT20 - 50 | 40 | A | 254.65 | 251.80 | - | 110 | 60 | 71 | AL |
| 48 - AT20 - 50 | 48 | A | 305.58 | 302.73 | - | 130 | 60 | 71 | AL |
| 60 - AT20 - 50 | 60 | A | 381.97 | 379.12 | - | 130 | 60 | 71 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

AT20 Pitch = 20mm Belt Width = 75mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-------|-----|----|-----|----------|
| 18 - AT20 - 75 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 85 | 106 | AL |
| 20 - AT20 - 75 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 85 | 106 | AL |
| 22 - AT20 - 75 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 85 | 106 | AL |
| 24 - AT20 - 75 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 85 | 106 | AL |
| 25 - AT20 - 75 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 85 | 106 | AL |
| 30 - AT20 - 75 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 85 | 106 | AL |
| 32 - AT20 - 75 | 32 | A | 203.72 | 200.86 | - | 110 | 85 | 106 | AL |
| 36 - AT20 - 75 | 36 | A | 229.18 | 226.33 | - | 110 | 85 | 106 | AL |
| 40 - AT20 - 75 | 40 | A | 254.65 | 251.80 | - | 110 | 85 | 106 | AL |
| 48 - AT20 - 75 | 48 | A | 305.58 | 302.73 | - | 130 | 85 | 106 | AL |
| 60 - AT20 - 75 | 60 | A | 381.97 | 379.12 | - | 130 | 85 | 106 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

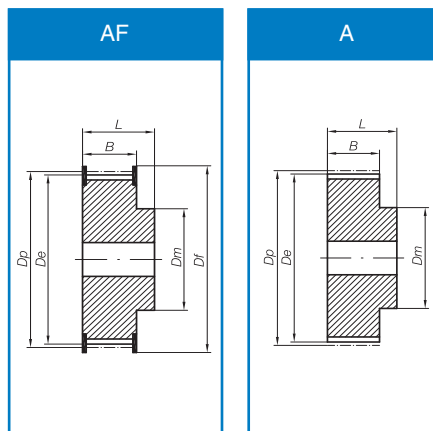
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Metric Timing Pilot Bore

AT20 Pitch = 20mm Belt Width = 100mm

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|-----------------|-------|------|--------|--------|-------|-----|-----|-----|----------|
| 18 - AT20 - 100 | 18 | AF | 114.59 | 111.73 | 119.0 | 80 | 110 | 123 | AL |
| 20 - AT20 - 100 | 20 | AF | 127.32 | 124.47 | 138.0 | 90 | 110 | 123 | AL |
| 22 - AT20 - 100 | 22 | AF | 140.06 | 137.20 | 145.0 | 90 | 110 | 123 | AL |
| 24 - AT20 - 100 | 24 | AF | 152.79 | 149.93 | 162.0 | 95 | 110 | 123 | AL |
| 25 - AT20 - 100 | 25 | AF | 159.15 | 156.30 | 168.0 | 95 | 110 | 123 | AL |
| 30 - AT20 - 100 | 30 | AF | 190.99 | 188.13 | 200.0 | 110 | 110 | 123 | AL |
| 32 - AT20 - 100 | 32 | A | 203.72 | 200.86 | - | 110 | 110 | 123 | AL |
| 36 - AT20 - 100 | 36 | A | 229.18 | 226.33 | - | 110 | 110 | 123 | AL |
| 40 - AT20 - 100 | 40 | A | 254.65 | 251.80 | - | 110 | 110 | 123 | AL |
| 48 - AT20 - 100 | 48 | A | 305.58 | 302.73 | - | 130 | 110 | 123 | AL |
| 60 - AT20 - 100 | 60 | A | 381.97 | 379.12 | - | 130 | 110 | 123 | AL |



Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

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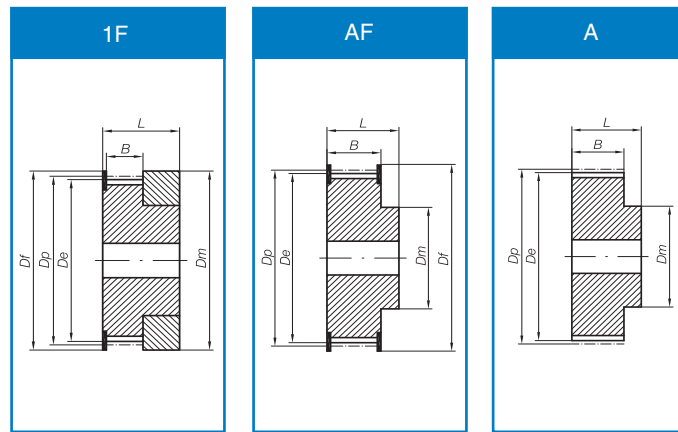
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Timing Pilot Bore

MXL - 0.08" (2.032 mm) pitch

MXL025 - 0.25" (6.35 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|-------|-------|------|----|------|----|----------|
| 16 - MXL - 025 | 16 | 1F | 10.35 | 9.84 | 15.0 | 15 | 8.5 | 16 | AL |
| 18 - MXL - 025 | 18 | 1F | 11.64 | 11.13 | 16.0 | 16 | 8.5 | 16 | AL |
| 20 - MXL - 025 | 20 | 1F | 12.94 | 12.43 | 16.0 | 16 | 8.5 | 16 | AL |
| 22 - MXL - 025 | 22 | AF | 14.23 | 13.72 | 17.5 | 10 | 11.0 | 16 | AL |
| 24 - MXL - 025 | 24 | AF | 15.52 | 15.01 | 20.0 | 10 | 11.0 | 16 | AL |
| 28 - MXL - 025 | 28 | AF | 18.11 | 17.60 | 25.0 | 11 | 11.0 | 16 | AL |
| 30 - MXL - 025 | 30 | AF | 19.40 | 18.89 | 25.0 | 12 | 11.0 | 16 | AL |
| 32 - MXL - 025 | 32 | AF | 20.70 | 20.19 | 26.0 | 14 | 11.0 | 16 | AL |
| 36 - MXL - 025 | 36 | AF | 23.29 | 22.78 | 28.0 | 16 | 11.0 | 16 | AL |
| 40 - MXL - 025 | 40 | AF | 25.87 | 25.36 | 32.0 | 18 | 11.0 | 16 | AL |
| 42 - MXL - 025 | 42 | AF | 27.17 | 26.66 | 32.0 | 18 | 11.0 | 16 | AL |
| 44 - MXL - 025 | 44 | AF | 28.46 | 27.95 | 36.0 | 18 | 11.0 | 16 | AL |
| 48 - MXL - 025 | 48 | A | 31.05 | 30.54 | - | 20 | 11.0 | 16 | AL |
| 60 - MXL - 025 | 60 | A | 38.81 | 38.30 | - | 24 | 11.0 | 16 | AL |
| 72 - MXL - 025 | 72 | A | 46.57 | 46.06 | - | 25 | 11.0 | 16 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

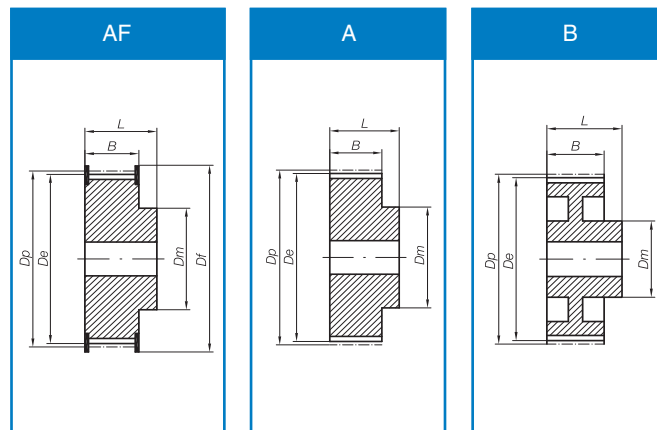
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Timing Pilot Bore

XL - 1/5" (5.08 mm) pitch XL037 - 0.37" (9.53 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|------|-----|------|----|----------|
| 10 - XL - 037 | 10 | AF | 16.17 | 15.66 | 23.0 | 9.5 | 14.3 | 20 | AL |
| 11 - XL - 037 | 11 | AF | 17.79 | 17.28 | 23.0 | 9.5 | 14.3 | 20 | AL |
| 12 - XL - 037 | 12 | AF | 19.40 | 18.89 | 25.0 | 10 | 14.3 | 20 | AL |
| 13 - XL - 037 | 13 | AF | 21.02 | 20.51 | 25.0 | 10 | 14.3 | 20 | AL |
| 14 - XL - 037 | 14 | AF | 22.64 | 22.13 | 28.0 | 15 | 14.3 | 20 | AL |
| 15 - XL - 037 | 15 | AF | 24.26 | 23.75 | 28.0 | 15 | 14.3 | 20 | AL |
| 16 - XL - 037 | 16 | AF | 25.87 | 25.36 | 32.0 | 16 | 14.3 | 20 | AL |
| 17 - XL - 037 | 17 | AF | 27.49 | 26.98 | 32.0 | 20 | 14.3 | 20 | AL |
| 18 - XL - 037 | 18 | AF | 29.11 | 28.60 | 35.0 | 20 | 14.3 | 20 | AL |
| 19 - XL - 037 | 19 | AF | 30.72 | 30.21 | 35.0 | 20 | 14.3 | 22 | AL |
| 20 - XL - 037 | 20 | AF | 32.34 | 31.83 | 38.0 | 24 | 14.3 | 22 | AL |
| 21 - XL - 037 | 21 | AF | 33.96 | 33.45 | 38.0 | 24 | 14.3 | 22 | AL |
| 22 - XL - 037 | 22 | AF | 35.57 | 35.07 | 41.0 | 25 | 14.3 | 22 | AL |
| 24 - XL - 037 | 24 | AF | 38.81 | 38.30 | 44.0 | 30 | 14.3 | 22 | AL |
| 26 - XL - 037 | 26 | AF | 42.04 | 41.53 | 48.0 | 30 | 14.3 | 22 | AL |
| 27 - XL - 037 | 27 | AF | 43.67 | 43.16 | 48.0 | 34 | 14.3 | 22 | AL |
| 28 - XL - 037 | 28 | AF | 45.28 | 44.77 | 51.0 | 34 | 14.3 | 22 | AL |
| 29 - XL - 037 | 29 | AF | 46.89 | 46.38 | 51.0 | 34 | 14.3 | 22 | AL |
| 30 - XL - 037 | 30 | AF | 48.51 | 48.00 | 54.0 | 38 | 14.3 | 22 | AL |
| 32 - XL - 037 | 32 | AF | 51.74 | 51.23 | 57.0 | 38 | 14.3 | 25 | AL |
| 34 - XL - 037 | 34 | A | 54.98 | 54.47 | - | 45 | 14.3 | 25 | AL |
| 35 - XL - 037 | 35 | A | 56.60 | 56.09 | - | 45 | 14.3 | 25 | AL |
| 36 - XL - 037 | 36 | A | 58.21 | 57.70 | - | 45 | 14.3 | 25 | AL |
| 38 - XL - 037 | 38 | A | 61.45 | 60.94 | - | 45 | 14.3 | 25 | AL |
| 39 - XL - 037 | 39 | A | 63.06 | 62.55 | - | 45 | 14.3 | 25 | AL |
| 40 - XL - 037 | 40 | A | 64.68 | 64.17 | - | 45 | 14.3 | 25 | AL |
| 41 - XL - 037 | 41 | A | 66.30 | 65.79 | - | 45 | 14.3 | 25 | AL |
| 42 - XL - 037 | 42 | A | 67.91 | 67.40 | - | 45 | 14.3 | 25 | AL |
| 43 - XL - 037 | 43 | A | 69.53 | 69.02 | - | 45 | 14.3 | 25 | AL |
| 44 - XL - 037 | 44 | A | 71.15 | 70.64 | - | 45 | 14.3 | 25 | AL |
| 45 - XL - 037 | 45 | B | 72.77 | 72.26 | - | 45 | 14.3 | 25 | AL |
| 46 - XL - 037 | 46 | B | 74.38 | 73.87 | - | 45 | 14.3 | 25 | AL |
| 47 - XL - 037 | 47 | B | 76.00 | 75.49 | - | 45 | 14.3 | 25 | AL |
| 48 - XL - 037 | 48 | B | 77.62 | 77.11 | - | 45 | 14.3 | 25 | AL |
| 49 - XL - 037 | 49 | B | 79.23 | 78.72 | - | 45 | 14.3 | 25 | AL |
| 48 - XL - 037 | 52 | B | 84.08 | 83.57 | - | 45 | 14.3 | 25 | AL |
| 56 - XL - 037 | 56 | B | 90.55 | 90.04 | - | 45 | 14.3 | 25 | AL |
| 60 - XL - 037 | 60 | B | 97.02 | 96.51 | - | 45 | 14.3 | 25 | AL |
| 68 - XL - 037 | 68 | B | 109.96 | 109.45 | - | 45 | 14.3 | 25 | AL |
| 70 - XL - 037 | 70 | B | 113.19 | 112.68 | - | 45 | 14.3 | 25 | AL |
| 72 - XL - 037 | 72 | B | 116.43 | 115.92 | - | 45 | 14.3 | 25 | AL |



Material
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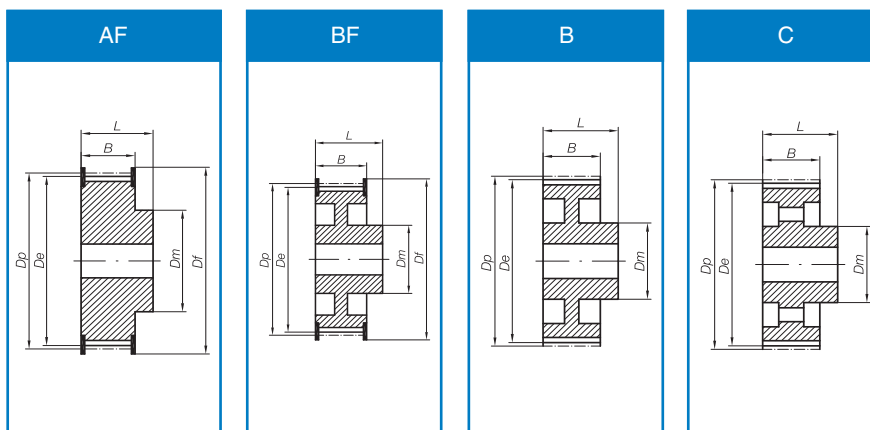
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Timing Pilot Bore

L - 3/8" (9.525 mm) pitch

L050 - 0.50" (12.7 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|----|----|----|----------|
| 10 - L - 050 | 10 | AF | 30.32 | 29.56 | 37.0 | 20 | 19 | 28 | S |
| 11 - L - 050 | 11 | AF | 33.35 | 32.59 | 37.0 | 22 | 19 | 30 | S |
| 12 - L - 050 | 12 | AF | 36.38 | 35.62 | 43.0 | 24 | 19 | 30 | S |
| 13 - L - 050 | 13 | AF | 39.41 | 38.65 | 44.0 | 28 | 19 | 30 | S |
| 14 - L - 050 | 14 | AF | 42.45 | 41.69 | 48.0 | 28 | 19 | 30 | S |
| 15 - L - 050 | 15 | AF | 45.48 | 44.72 | 51.0 | 34 | 19 | 30 | S |
| 16 - L - 050 | 16 | AF | 48.51 | 47.75 | 54.0 | 36 | 19 | 32 | S |
| 17 - L - 050 | 17 | AF | 51.54 | 50.78 | 57.0 | 36 | 19 | 32 | S |
| 18 - L - 050 | 18 | AF | 54.57 | 53.81 | 60.0 | 40 | 19 | 32 | S |
| 19 - L - 050 | 19 | AF | 57.61 | 56.85 | 64.0 | 40 | 19 | 32 | S |
| 20 - L - 050 | 20 | AF | 60.64 | 59.88 | 66.5 | 40 | 19 | 32 | S |
| 21 - L - 050 | 21 | AF | 63.67 | 62.91 | 70.0 | 45 | 19 | 32 | S |
| 22 - L - 050 | 22 | AF | 66.70 | 65.94 | 75.0 | 45 | 19 | 32 | S |
| 23 - L - 050 | 23 | AF | 69.73 | 68.97 | 79.0 | 55 | 19 | 32 | S |
| 24 - L - 050 | 24 | AF | 72.77 | 72.01 | 79.0 | 55 | 19 | 32 | S |
| 25 - L - 050 | 25 | AF | 75.80 | 75.04 | 82.5 | 58 | 19 | 32 | S |
| 26 - L - 050 | 26 | AF | 78.83 | 78.07 | 86.0 | 58 | 19 | 32 | S |
| 27 - L - 050 | 27 | AF | 81.86 | 81.10 | 86.0 | 58 | 19 | 32 | S |
| 28 - L - 050 | 28 | AF | 84.89 | 84.13 | 91.0 | 58 | 19 | 32 | S |
| 29 - L - 050 | 29 | AF | 87.93 | 87.17 | 94.0 | 58 | 19 | 32 | S |
| 30 - L - 050 | 30 | AF | 90.96 | 90.20 | 97.0 | 70 | 19 | 32 | S |
| 32 - L - 050 | 32 | AF | 97.02 | 96.26 | 102.0 | 70 | 19 | 32 | S |
| 33 - L - 050 | 33 | AF | 100.05 | 99.29 | 106.0 | 70 | 19 | 32 | S |
| 34 - L - 050 | 34 | AF | 103.08 | 102.32 | 112.0 | 70 | 19 | 32 | S |
| 35 - L - 050 | 35 | AF | 106.12 | 105.36 | 112.0 | 70 | 19 | 32 | S |
| 36 - L - 050 | 36 | AF | 109.15 | 108.39 | 115.0 | 70 | 19 | 32 | S |
| 40 - L - 050 | 40 | BF | 121.28 | 120.52 | 128.0 | 70 | 19 | 32 | S |
| 41 - L - 050 | 41 | BF | 124.31 | 123.55 | 135.0 | 70 | 19 | 32 | S |
| 42 - L - 050 | 42 | BF | 127.34 | 126.58 | 135.0 | 70 | 19 | 32 | S |
| 44 - L - 050 | 44 | BF | 133.40 | 132.64 | 142.0 | 70 | 19 | 32 | S |
| 45 - L - 050 | 45 | BF | 136.44 | 135.68 | 142.0 | 70 | 19 | 32 | S |
| 47 - L - 050 | 47 | BF | 142.50 | 141.74 | 150.0 | 70 | 19 | 32 | S |
| 48 - L - 050 | 48 | BF | 145.53 | 144.76 | 150.0 | 70 | 19 | 32 | S |
| 50 - L - 050 | 50 | B | 151.60 | 150.84 | - | 70 | 19 | 32 | CI |
| 52 - L - 050 | 52 | B | 157.66 | 156.90 | - | 70 | 19 | 32 | CI |
| 56 - L - 050 | 56 | B | 169.79 | 169.03 | - | 70 | 19 | 32 | CI |
| 57 - L - 050 | 57 | B | 172.82 | 172.06 | - | 70 | 19 | 32 | CI |
| 60 - L - 050 | 60 | B | 181.91 | 181.15 | - | 75 | 19 | 42 | CI |
| 72 - L - 050 | 72 | C | 218.30 | 217.54 | - | 75 | 19 | 42 | CI |
| 84 - L - 050 | 84 | C | 254.68 | 253.92 | - | 75 | 19 | 42 | CI |
| 90 - L - 050 | 90 | C | 272.87 | 272.11 | - | 75 | 19 | 42 | CI |



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 S = Steel

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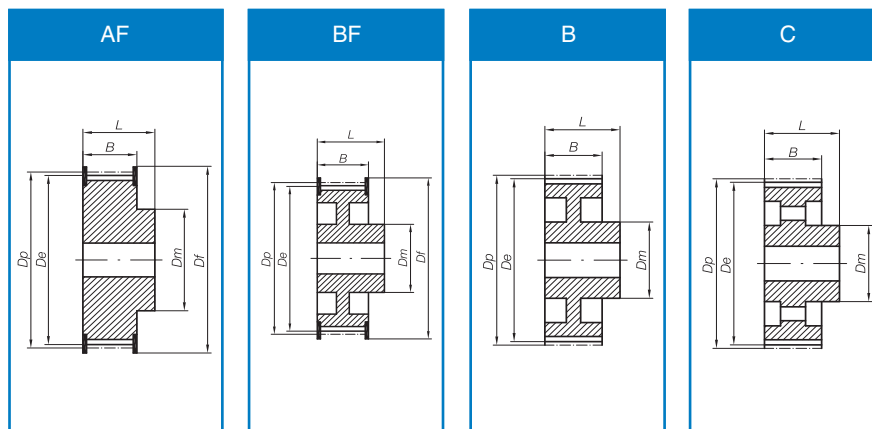
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Timing Pilot Bore

L - 3/8" (9.525 mm) pitch

L075 - 0.75" (19.05 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|----|------|----|----------|
| 10 - L - 075 | 10 | AF | 30.32 | 29.56 | 37.0 | 20 | 25.4 | 38 | S |
| 11 - L - 075 | 11 | AF | 33.35 | 32.59 | 37.0 | 22 | 25.4 | 38 | S |
| 12 - L - 075 | 12 | AF | 36.38 | 35.62 | 43.0 | 24 | 25.4 | 38 | S |
| 13 - L - 075 | 13 | AF | 39.41 | 38.65 | 44.0 | 28 | 25.4 | 38 | S |
| 14 - L - 075 | 14 | AF | 42.45 | 41.69 | 48.0 | 28 | 25.4 | 38 | S |
| 15 - L - 075 | 15 | AF | 45.48 | 44.72 | 51.0 | 34 | 25.4 | 38 | S |
| 16 - L - 075 | 16 | AF | 48.51 | 47.75 | 54.0 | 36 | 25.4 | 38 | S |
| 17 - L - 075 | 17 | AF | 51.54 | 50.78 | 57.0 | 36 | 25.4 | 38 | S |
| 18 - L - 075 | 18 | AF | 54.57 | 53.81 | 60.0 | 40 | 25.4 | 38 | S |
| 19 - L - 075 | 19 | AF | 57.61 | 56.85 | 64.0 | 40 | 25.4 | 38 | S |
| 20 - L - 075 | 20 | AF | 60.64 | 59.88 | 66.5 | 40 | 25.4 | 38 | S |
| 21 - L - 075 | 21 | AF | 63.67 | 62.91 | 70.0 | 45 | 25.4 | 38 | S |
| 22 - L - 075 | 22 | AF | 66.70 | 65.94 | 75.0 | 45 | 25.4 | 38 | S |
| 23 - L - 075 | 23 | AF | 69.73 | 68.97 | 79.0 | 55 | 25.4 | 38 | S |
| 24 - L - 075 | 24 | AF | 72.77 | 72.01 | 79.0 | 55 | 25.4 | 38 | S |
| 25 - L - 075 | 25 | AF | 75.80 | 75.04 | 82.5 | 58 | 25.4 | 38 | S |
| 26 - L - 075 | 26 | AF | 78.83 | 78.07 | 86.0 | 58 | 25.4 | 38 | S |
| 27 - L - 075 | 27 | AF | 81.86 | 81.10 | 86.0 | 58 | 25.4 | 38 | S |
| 28 - L - 075 | 28 | AF | 84.89 | 84.13 | 91.0 | 58 | 25.4 | 38 | S |
| 29 - L - 075 | 29 | AF | 87.93 | 87.17 | 94.0 | 58 | 25.4 | 38 | S |
| 30 - L - 075 | 30 | AF | 90.96 | 90.20 | 97.0 | 70 | 25.4 | 38 | S |
| 32 - L - 075 | 32 | AF | 97.02 | 96.26 | 102.0 | 70 | 25.4 | 38 | S |
| 33 - L - 075 | 33 | AF | 100.05 | 99.29 | 106.0 | 70 | 25.4 | 38 | S |
| 34 - L - 075 | 34 | AF | 103.08 | 102.32 | 112.0 | 70 | 25.4 | 38 | S |
| 35 - L - 075 | 35 | AF | 106.12 | 105.36 | 112.0 | 70 | 25.4 | 38 | S |
| 36 - L - 075 | 36 | AF | 109.15 | 108.39 | 115.0 | 70 | 25.4 | 38 | S |
| 40 - L - 075 | 40 | BF | 121.28 | 120.52 | 128.0 | 70 | 25.4 | 38 | S |
| 41 - L - 075 | 41 | BF | 124.31 | 123.55 | 135.0 | 70 | 25.4 | 38 | S |
| 42 - L - 075 | 42 | BF | 127.34 | 126.58 | 135.0 | 70 | 25.4 | 38 | S |
| 44 - L - 075 | 44 | BF | 133.40 | 132.64 | 142.0 | 70 | 25.4 | 38 | S |
| 45 - L - 075 | 45 | BF | 136.44 | 135.68 | 142.0 | 70 | 25.4 | 38 | S |
| 47 - L - 075 | 47 | BF | 142.50 | 141.74 | 150.0 | 70 | 25.4 | 38 | S |
| 48 - L - 075 | 48 | BF | 145.53 | 144.76 | 150.0 | 70 | 25.4 | 38 | S |
| 50 - L - 075 | 50 | B | 151.60 | 150.84 | - | 70 | 25.4 | 38 | CI |
| 52 - L - 075 | 52 | B | 157.66 | 156.90 | - | 70 | 25.4 | 38 | CI |
| 56 - L - 075 | 56 | B | 169.79 | 169.03 | - | 70 | 25.4 | 38 | CI |
| 57 - L - 075 | 57 | B | 172.82 | 172.06 | - | 70 | 25.4 | 38 | CI |
| 60 - L - 075 | 60 | B | 181.91 | 181.15 | - | 75 | 25.4 | 45 | CI |
| 72 - L - 075 | 72 | C | 218.30 | 217.54 | - | 75 | 25.4 | 45 | CI |
| 84 - L - 075 | 84 | C | 254.68 | 253.92 | - | 75 | 25.4 | 45 | CI |
| 90 - L - 075 | 90 | C | 272.87 | 272.11 | - | 75 | 25.4 | 45 | CI |



Material
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 S = Steel

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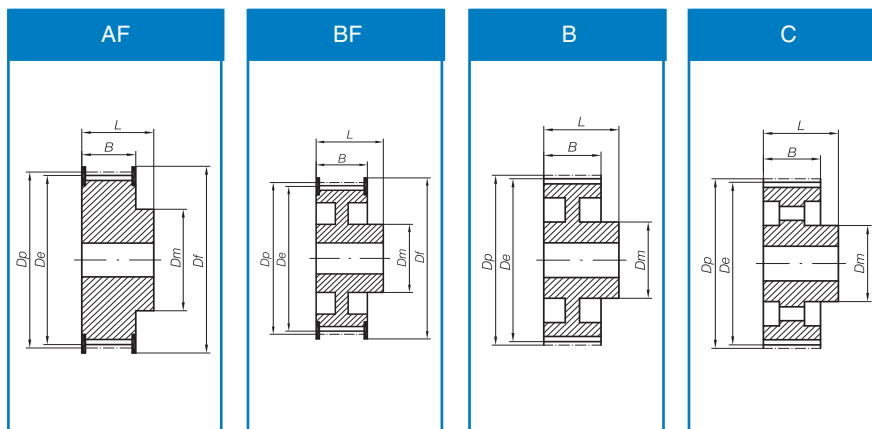
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

Timing Pilot Bore

L - 3/8" (9.525 mm) pitch

L100 - 1.00" (25.4mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|----|------|----|----------|
| 10 - L - 100 | 10 | AF | 30.32 | 29.56 | 37.0 | 20 | 31.8 | 45 | S |
| 11 - L - 100 | 11 | AF | 33.35 | 32.59 | 37.0 | 22 | 31.8 | 45 | S |
| 12 - L - 100 | 12 | AF | 36.38 | 35.62 | 43.0 | 24 | 31.8 | 45 | S |
| 13 - L - 100 | 13 | AF | 39.41 | 38.65 | 44.0 | 28 | 31.8 | 45 | S |
| 14 - L - 100 | 14 | AF | 42.45 | 41.69 | 48.0 | 28 | 31.8 | 45 | S |
| 15 - L - 100 | 15 | AF | 45.48 | 44.72 | 51.0 | 34 | 31.8 | 45 | S |
| 16 - L - 100 | 16 | AF | 48.51 | 47.75 | 54.0 | 36 | 31.8 | 45 | S |
| 17 - L - 100 | 17 | AF | 51.54 | 50.78 | 57.0 | 36 | 31.8 | 45 | S |
| 18 - L - 100 | 18 | AF | 54.57 | 53.81 | 60.0 | 40 | 31.8 | 45 | S |
| 19 - L - 100 | 19 | AF | 57.61 | 56.85 | 64.0 | 40 | 31.8 | 45 | S |
| 20 - L - 100 | 20 | AF | 60.64 | 59.88 | 66.5 | 40 | 31.8 | 45 | S |
| 21 - L - 100 | 21 | AF | 63.67 | 62.91 | 70.0 | 45 | 31.8 | 45 | S |
| 22 - L - 100 | 22 | AF | 66.70 | 65.94 | 75.0 | 45 | 31.8 | 45 | S |
| 23 - L - 100 | 23 | AF | 69.73 | 68.97 | 79.0 | 55 | 31.8 | 45 | S |
| 24 - L - 100 | 24 | AF | 72.77 | 72.01 | 79.0 | 55 | 31.8 | 45 | S |
| 25 - L - 100 | 25 | AF | 75.80 | 75.04 | 82.5 | 58 | 31.8 | 45 | S |
| 26 - L - 100 | 26 | AF | 78.83 | 78.07 | 86.0 | 58 | 31.8 | 45 | S |
| 27 - L - 100 | 27 | AF | 81.86 | 81.10 | 86.0 | 58 | 31.8 | 45 | S |
| 28 - L - 100 | 28 | AF | 84.89 | 84.13 | 91.0 | 58 | 31.8 | 45 | S |
| 29 - L - 100 | 29 | AF | 87.93 | 87.17 | 94.0 | 58 | 31.8 | 45 | S |
| 30 - L - 100 | 30 | AF | 90.96 | 90.20 | 97.0 | 70 | 31.8 | 45 | S |
| 32 - L - 100 | 32 | AF | 97.02 | 96.26 | 102.0 | 70 | 31.8 | 45 | S |
| 33 - L - 100 | 33 | AF | 100.05 | 99.29 | 106.0 | 70 | 31.8 | 45 | S |
| 34 - L - 100 | 34 | AF | 103.08 | 102.32 | 112.0 | 70 | 31.8 | 45 | S |
| 35 - L - 100 | 35 | AF | 106.12 | 105.36 | 112.0 | 70 | 31.8 | 45 | S |
| 36 - L - 100 | 36 | AF | 109.15 | 108.39 | 115.0 | 70 | 31.8 | 45 | S |
| 40 - L - 100 | 40 | BF | 121.28 | 120.52 | 128.0 | 70 | 31.8 | 45 | S |
| 41 - L - 100 | 41 | BF | 124.31 | 123.55 | 135.0 | 70 | 31.8 | 45 | S |
| 42 - L - 100 | 42 | BF | 127.34 | 126.58 | 135.0 | 70 | 31.8 | 45 | S |
| 44 - L - 100 | 44 | BF | 133.40 | 132.64 | 142.0 | 70 | 31.8 | 45 | S |
| 45 - L - 100 | 45 | BF | 136.44 | 135.68 | 142.0 | 70 | 31.8 | 45 | S |
| 47 - L - 100 | 47 | BF | 142.50 | 141.74 | 150.0 | 70 | 31.8 | 45 | S |
| 48 - L - 100 | 48 | BF | 145.53 | 144.76 | 150.0 | 70 | 31.8 | 45 | S |
| 50 - L - 100 | 50 | B | 151.60 | 150.84 | - | 70 | 31.8 | 45 | CI |
| 52 - L - 100 | 52 | B | 157.66 | 156.90 | - | 70 | 31.8 | 45 | CI |
| 56 - L - 100 | 56 | B | 169.79 | 169.03 | - | 70 | 31.8 | 45 | CI |
| 57 - L - 100 | 57 | B | 172.82 | 172.06 | - | 70 | 31.8 | 45 | CI |
| 60 - L - 100 | 60 | B | 181.91 | 181.15 | - | 75 | 31.8 | 50 | CI |
| 72 - L - 100 | 72 | C | 218.30 | 217.54 | - | 75 | 31.8 | 50 | CI |
| 84 - L - 100 | 84 | C | 254.68 | 253.92 | - | 75 | 31.8 | 50 | CI |
| 90 - L - 100 | 90 | C | 272.87 | 272.11 | - | 75 | 31.8 | 50 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

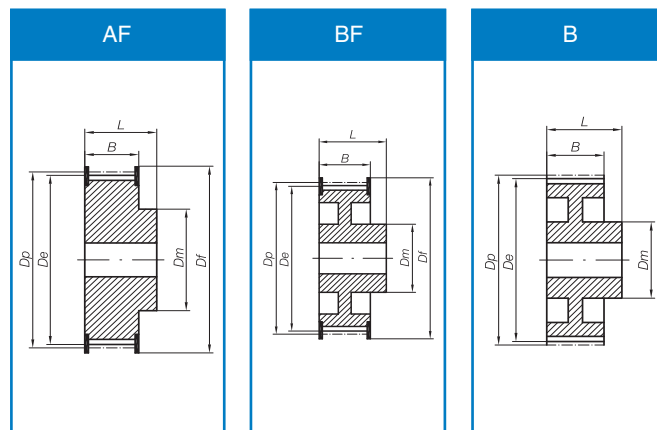
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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Timing Pilot Bore

H - 1/2" (12.7 mm) pitch H075 - 0.75" (19.05 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|----|------|----|----------|
| 14 - H - 075 | 14 | AF | 56.60 | 55.23 | 64.0 | 40 | 26.4 | 40 | S |
| 15 - H - 075 | 15 | AF | 60.64 | 59.27 | 66.5 | 45 | 26.4 | 40 | S |
| 16 - H - 075 | 16 | AF | 64.68 | 63.31 | 70.0 | 45 | 26.4 | 40 | S |
| 17 - H - 075 | 17 | AF | 68.72 | 67.35 | 75.0 | 45 | 26.4 | 40 | S |
| 18 - H - 075 | 18 | AF | 72.77 | 71.40 | 79.0 | 55 | 26.4 | 40 | S |
| 19 - H - 075 | 19 | AF | 76.81 | 75.44 | 82.5 | 60 | 26.4 | 40 | S |
| 20 - H - 075 | 20 | AF | 80.85 | 79.48 | 87.0 | 62 | 26.4 | 40 | S |
| 21 - H - 075 | 21 | AF | 84.89 | 83.52 | 91.0 | 65 | 26.4 | 40 | S |
| 22 - H - 075 | 22 | AF | 88.94 | 87.57 | 94.0 | 68 | 26.4 | 40 | S |
| 23 - H - 075 | 23 | AF | 92.98 | 91.61 | 97.0 | 72 | 26.4 | 40 | S |
| 24 - H - 075 | 24 | AF | 97.02 | 95.65 | 102.0 | 72 | 26.4 | 40 | S |
| 25 - H - 075 | 25 | AF | 101.06 | 99.69 | 106.0 | 72 | 26.4 | 40 | S |
| 26 - H - 075 | 26 | AF | 105.11 | 103.74 | 112.0 | 80 | 26.4 | 40 | S |
| 27 - H - 075 | 27 | AF | 109.15 | 107.78 | 115.0 | 80 | 26.4 | 40 | S |
| 28 - H - 075 | 28 | AF | 113.19 | 111.82 | 120.0 | 80 | 26.4 | 40 | S |
| 29 - H - 075 | 29 | AF | 117.23 | 115.86 | 120.0 | 80 | 26.4 | 40 | S |
| 30 - H - 075 | 30 | AF | 121.28 | 119.91 | 128.0 | 80 | 26.4 | 40 | S |
| 32 - H - 075 | 32 | AF | 129.36 | 127.99 | 135.0 | 80 | 26.4 | 40 | S |
| 33 - H - 075 | 33 | AF | 133.40 | 132.03 | 142.0 | 80 | 26.4 | 40 | S |
| 34 - H - 075 | 34 | AF | 137.45 | 136.08 | 142.0 | 80 | 26.4 | 40 | S |
| 35 - H - 075 | 35 | AF | 141.49 | 140.12 | 150.0 | 80 | 26.4 | 40 | S |
| 36 - H - 075 | 36 | AF | 145.53 | 144.16 | 150.0 | 80 | 26.4 | 40 | S |
| 38 - H - 075 | 38 | AF | 153.62 | 152.25 | 158.0 | 80 | 26.4 | 40 | S |
| 40 - H - 075 | 40 | AF | 161.70 | 160.33 | 168.0 | 80 | 26.4 | 40 | S |
| 44 - H - 075 | 44 | BF | 177.87 | 176.50 | 184.0 | 80 | 26.4 | 40 | CI |
| 45 - H - 075 | 45 | BF | 181.91 | 180.54 | 192.0 | 80 | 26.4 | 40 | CI |
| 48 - H - 075 | 48 | BF | 194.04 | 192.67 | 200.0 | 90 | 26.4 | 45 | CI |
| 50 - H - 075 | 50 | B | 202.13 | 200.76 | - | 90 | 26.4 | 45 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

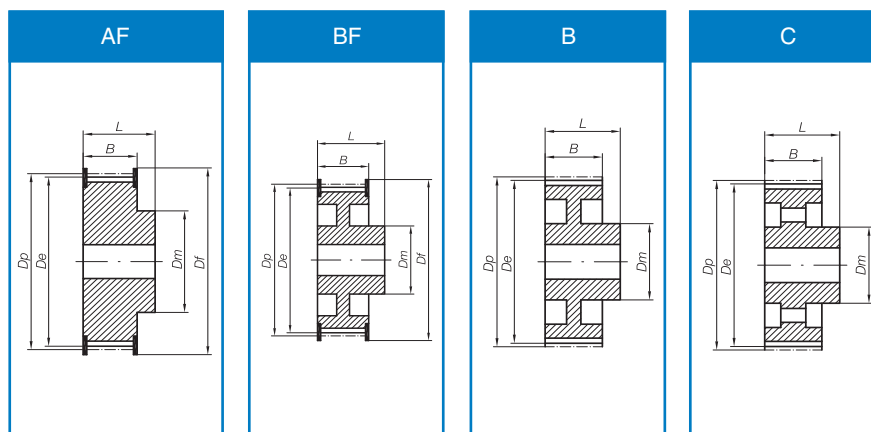
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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Timing Pilot Bore

H - 1/2" (12.7 mm) pitch H100 - 1.00" (25.4 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|-----|------|----|----------|
| 14 - H - 100 | 14 | AF | 56.60 | 55.23 | 64.0 | 40 | 31.8 | 45 | S |
| 15 - H - 100 | 15 | AF | 60.64 | 59.27 | 66.5 | 45 | 31.8 | 45 | S |
| 16 - H - 100 | 16 | AF | 64.68 | 63.31 | 70.0 | 45 | 31.8 | 45 | S |
| 17 - H - 100 | 17 | AF | 68.72 | 67.35 | 75.0 | 45 | 31.8 | 45 | S |
| 18 - H - 100 | 18 | AF | 72.77 | 71.40 | 79.0 | 55 | 31.8 | 45 | S |
| 19 - H - 100 | 19 | AF | 76.81 | 75.44 | 82.5 | 60 | 31.8 | 45 | S |
| 20 - H - 100 | 20 | AF | 80.85 | 79.48 | 87.0 | 62 | 31.8 | 45 | S |
| 21 - H - 100 | 21 | AF | 84.89 | 83.52 | 91.0 | 65 | 31.8 | 45 | S |
| 22 - H - 100 | 22 | AF | 88.94 | 87.57 | 94.0 | 68 | 31.8 | 45 | S |
| 23 - H - 100 | 23 | AF | 92.98 | 91.61 | 97.0 | 72 | 31.8 | 45 | S |
| 24 - H - 100 | 24 | AF | 97.02 | 95.65 | 102.0 | 72 | 31.8 | 45 | S |
| 25 - H - 100 | 25 | AF | 101.06 | 99.69 | 106.0 | 72 | 31.8 | 45 | S |
| 26 - H - 100 | 26 | AF | 105.11 | 103.74 | 112.0 | 80 | 31.8 | 45 | S |
| 27 - H - 100 | 27 | AF | 109.15 | 107.78 | 115.0 | 80 | 31.8 | 45 | S |
| 28 - H - 100 | 28 | AF | 113.19 | 111.82 | 120.0 | 80 | 31.8 | 45 | S |
| 29 - H - 100 | 29 | AF | 117.23 | 115.86 | 120.0 | 80 | 31.8 | 45 | S |
| 30 - H - 100 | 30 | AF | 121.28 | 119.91 | 128.0 | 80 | 31.8 | 45 | S |
| 32 - H - 100 | 32 | AF | 129.36 | 127.99 | 135.0 | 80 | 31.8 | 45 | S |
| 33 - H - 100 | 33 | AF | 133.40 | 132.03 | 142.0 | 80 | 31.8 | 45 | S |
| 34 - H - 100 | 34 | AF | 137.45 | 136.08 | 142.0 | 80 | 31.8 | 45 | S |
| 35 - H - 100 | 35 | AF | 141.49 | 140.12 | 150.0 | 80 | 31.8 | 45 | S |
| 36 - H - 100 | 36 | BF | 145.53 | 144.16 | 150.0 | 80 | 31.8 | 45 | S |
| 38 - H - 100 | 38 | BF | 153.62 | 152.25 | 158.0 | 80 | 31.8 | 45 | S |
| 40 - H - 100 | 40 | BF | 161.70 | 160.33 | 168.0 | 80 | 31.8 | 45 | S |
| 44 - H - 100 | 44 | BF | 177.87 | 176.50 | 184.0 | 80 | 31.8 | 50 | CI |
| 45 - H - 100 | 45 | BF | 181.91 | 180.54 | 192.0 | 80 | 31.8 | 50 | CI |
| 48 - H - 100 | 48 | BF | 194.04 | 192.67 | 200.0 | 90 | 31.8 | 50 | CI |
| 50 - H - 100 | 50 | B | 202.13 | 200.76 | - | 90 | 31.8 | 50 | CI |
| 52 - H - 100 | 52 | B | 210.21 | 208.84 | - | 90 | 31.8 | 50 | CI |
| 58 - H - 100 | 58 | C | 234.47 | 233.10 | - | 90 | 31.8 | 50 | CI |
| 60 - H - 100 | 60 | C | 242.55 | 241.18 | - | 90 | 31.8 | 50 | CI |
| 70 - H - 100 | 70 | C | 282.98 | 281.61 | - | 100 | 31.8 | 55 | CI |
| 72 - H - 100 | 72 | C | 291.06 | 289.69 | - | 100 | 31.8 | 55 | CI |
| 84 - H - 100 | 84 | C | 339.57 | 338.20 | - | 100 | 31.8 | 55 | CI |
| 96 - H - 100 | 96 | C | 388.08 | 386.71 | - | 120 | 31.8 | 60 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

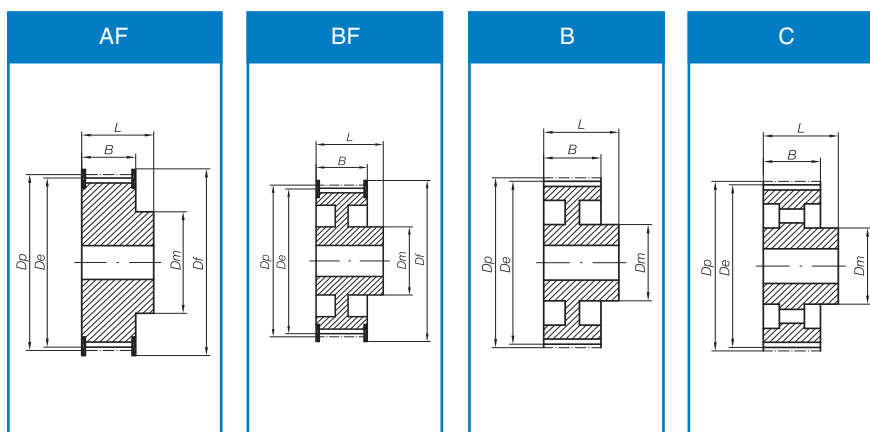
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Timing Pilot Bore

H - 1/2" (12.7 mm) pitch H150 - 1.50" (38.1 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|-----|----|----|----------|
| 14 - H - 150 | 14 | AF | 56.60 | 55.23 | 64.0 | 40 | 46 | 58 | S |
| 15 - H - 150 | 15 | AF | 60.64 | 59.27 | 66.5 | 45 | 46 | 58 | S |
| 16 - H - 150 | 16 | AF | 64.68 | 63.31 | 70.0 | 45 | 46 | 58 | S |
| 17 - H - 150 | 17 | AF | 68.72 | 67.35 | 75.0 | 45 | 46 | 58 | S |
| 18 - H - 150 | 18 | AF | 72.77 | 71.40 | 79.0 | 55 | 46 | 58 | S |
| 19 - H - 150 | 19 | AF | 76.81 | 75.44 | 82.5 | 60 | 46 | 58 | S |
| 20 - H - 150 | 20 | AF | 80.85 | 79.48 | 87.0 | 62 | 46 | 58 | S |
| 21 - H - 150 | 21 | AF | 84.89 | 83.52 | 91.0 | 65 | 46 | 58 | S |
| 22 - H - 150 | 22 | AF | 88.94 | 87.57 | 94.0 | 68 | 46 | 58 | S |
| 23 - H - 150 | 23 | AF | 92.98 | 91.61 | 97.0 | 72 | 46 | 58 | S |
| 24 - H - 150 | 24 | AF | 97.02 | 95.65 | 102.0 | 72 | 46 | 58 | S |
| 25 - H - 150 | 25 | AF | 101.06 | 99.69 | 106.0 | 72 | 46 | 58 | S |
| 26 - H - 150 | 26 | AF | 105.11 | 103.74 | 112.0 | 80 | 46 | 58 | S |
| 27 - H - 150 | 27 | AF | 109.15 | 107.78 | 115.0 | 80 | 46 | 58 | S |
| 28 - H - 150 | 28 | AF | 113.19 | 111.82 | 120.0 | 80 | 46 | 58 | S |
| 29 - H - 150 | 29 | AF | 117.23 | 115.86 | 120.0 | 80 | 46 | 58 | S |
| 30 - H - 150 | 30 | AF | 121.28 | 119.91 | 128.0 | 80 | 46 | 58 | S |
| 32 - H - 150 | 32 | AF | 129.36 | 127.99 | 135.0 | 80 | 46 | 58 | S |
| 33 - H - 150 | 33 | AF | 133.40 | 132.03 | 142.0 | 80 | 46 | 58 | S |
| 34 - H - 150 | 34 | AF | 137.45 | 136.08 | 142.0 | 80 | 46 | 58 | S |
| 35 - H - 150 | 35 | AF | 141.49 | 140.12 | 150.0 | 80 | 46 | 58 | S |
| 36 - H - 150 | 36 | BF | 145.53 | 144.16 | 150.0 | 80 | 46 | 58 | S |
| 38 - H - 150 | 38 | BF | 153.62 | 152.25 | 158.0 | 80 | 46 | 58 | S |
| 40 - H - 150 | 40 | BF | 161.70 | 160.33 | 168.0 | 80 | 46 | 58 | S |
| 44 - H - 150 | 44 | BF | 177.87 | 176.50 | 184.0 | 80 | 46 | 58 | CI |
| 45 - H - 150 | 45 | BF | 181.91 | 180.54 | 192.0 | 80 | 46 | 58 | CI |
| 48 - H - 150 | 48 | BF | 194.04 | 192.67 | 200.0 | 90 | 46 | 65 | CI |
| 50 - H - 150 | 50 | B | 202.13 | 200.76 | - | 90 | 46 | 65 | CI |
| 52 - H - 150 | 52 | B | 210.21 | 208.84 | - | 90 | 46 | 65 | CI |
| 58 - H - 150 | 58 | C | 234.47 | 233.10 | - | 90 | 46 | 65 | CI |
| 60 - H - 150 | 60 | C | 242.55 | 241.18 | - | 90 | 46 | 65 | CI |
| 70 - H - 150 | 70 | C | 282.98 | 281.61 | - | 100 | 46 | 65 | CI |
| 72 - H - 150 | 72 | C | 291.06 | 289.69 | - | 100 | 46 | 65 | CI |
| 84 - H - 150 | 84 | C | 339.57 | 338.20 | - | 100 | 46 | 65 | CI |
| 96 - H - 150 | 96 | C | 388.08 | 386.71 | - | 120 | 46 | 65 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

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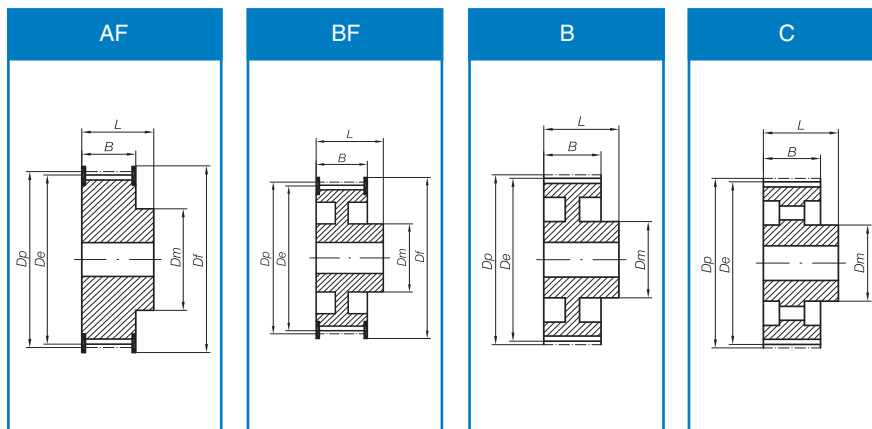
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Timing Pilot Bore

H - 1/2" (12.7 mm) pitch H150 - 1.50" (38.1 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|-----|------|----|----------|
| 14 - H - 200 | 14 | AF | 56.60 | 55.23 | 64.0 | 40 | 58.7 | 70 | S |
| 15 - H - 200 | 15 | AF | 60.64 | 59.27 | 66.5 | 45 | 58.7 | 70 | S |
| 16 - H - 200 | 16 | AF | 64.68 | 63.31 | 70.0 | 45 | 58.7 | 70 | S |
| 17 - H - 200 | 17 | AF | 68.72 | 67.35 | 75.0 | 45 | 58.7 | 70 | S |
| 18 - H - 200 | 18 | AF | 72.77 | 71.40 | 79.0 | 55 | 58.7 | 70 | S |
| 19 - H - 200 | 19 | AF | 76.81 | 75.44 | 82.5 | 60 | 58.7 | 70 | S |
| 20 - H - 200 | 20 | AF | 80.85 | 79.48 | 87.0 | 62 | 58.7 | 70 | S |
| 21 - H - 200 | 21 | AF | 84.89 | 83.52 | 91.0 | 65 | 58.7 | 70 | S |
| 22 - H - 200 | 22 | AF | 88.94 | 87.57 | 94.0 | 68 | 58.7 | 70 | S |
| 23 - H - 200 | 23 | AF | 92.98 | 91.61 | 97.0 | 72 | 58.7 | 70 | S |
| 24 - H - 200 | 24 | AF | 97.02 | 95.65 | 102.0 | 72 | 58.7 | 70 | S |
| 25 - H - 200 | 25 | AF | 101.06 | 99.69 | 106.0 | 72 | 58.7 | 70 | S |
| 26 - H - 200 | 26 | AF | 105.11 | 103.74 | 112.0 | 80 | 58.7 | 70 | S |
| 27 - H - 200 | 27 | AF | 109.15 | 107.78 | 115.0 | 80 | 58.7 | 70 | S |
| 28 - H - 200 | 28 | AF | 113.19 | 111.82 | 120.0 | 80 | 58.7 | 70 | S |
| 29 - H - 200 | 29 | AF | 117.23 | 115.86 | 120.0 | 80 | 58.7 | 70 | S |
| 30 - H - 200 | 30 | AF | 121.28 | 119.91 | 128.0 | 80 | 58.7 | 70 | S |
| 32 - H - 200 | 32 | AF | 129.36 | 127.99 | 135.0 | 80 | 58.7 | 70 | S |
| 33 - H - 200 | 33 | AF | 133.40 | 132.03 | 142.0 | 80 | 58.7 | 70 | S |
| 34 - H - 200 | 34 | AF | 137.45 | 136.08 | 142.0 | 80 | 58.7 | 70 | S |
| 35 - H - 200 | 35 | AF | 141.49 | 140.12 | 150.0 | 80 | 58.7 | 70 | S |
| 36 - H - 200 | 36 | BF | 145.53 | 144.16 | 150.0 | 80 | 58.7 | 70 | S |
| 38 - H - 200 | 38 | BF | 153.62 | 152.25 | 158.0 | 80 | 58.7 | 70 | S |
| 40 - H - 200 | 40 | BF | 161.70 | 160.33 | 168.0 | 80 | 58.7 | 70 | S |
| 44 - H - 200 | 44 | BF | 177.87 | 176.50 | 184.0 | 80 | 58.7 | 70 | CI |
| 45 - H - 200 | 45 | BF | 181.91 | 180.54 | 192.0 | 80 | 58.7 | 70 | CI |
| 48 - H - 200 | 48 | BF | 194.04 | 192.67 | 200.0 | 90 | 58.7 | 75 | CI |
| 50 - H - 200 | 50 | B | 202.13 | 200.76 | - | 90 | 58.7 | 75 | CI |
| 52 - H - 200 | 52 | B | 210.21 | 208.84 | - | 90 | 58.7 | 75 | CI |
| 58 - H - 200 | 58 | C | 234.47 | 233.10 | - | 90 | 58.7 | 75 | CI |
| 60 - H - 200 | 60 | C | 242.55 | 241.18 | - | 90 | 58.7 | 75 | CI |
| 70 - H - 200 | 70 | C | 282.98 | 281.61 | - | 100 | 58.7 | 75 | CI |
| 72 - H - 200 | 72 | C | 291.06 | 289.69 | - | 100 | 58.7 | 75 | CI |
| 84 - H - 200 | 84 | C | 339.57 | 338.20 | - | 100 | 58.7 | 75 | CI |
| 96 - H - 200 | 96 | C | 388.08 | 386.71 | - | 120 | 58.7 | 75 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

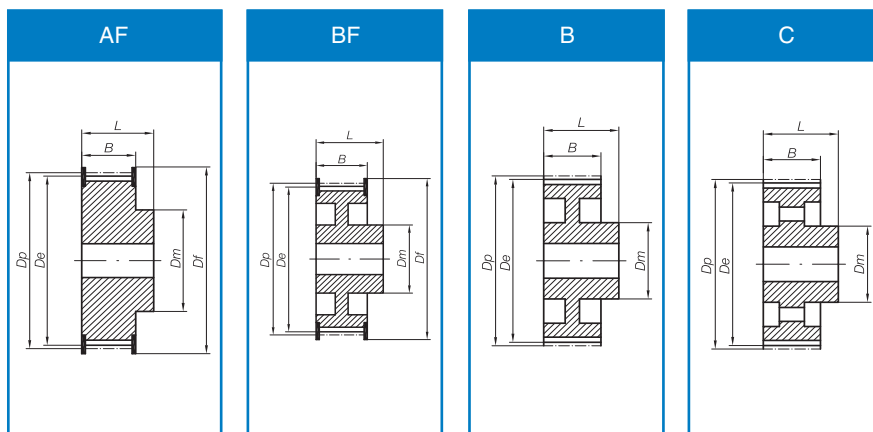
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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Timing Pilot Bore

H - 1/2" (12.7 mm) pitch H300 - 3.00" (76.2 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|-------|-----|------|-----|----------|
| 14 - H - 300 | 14 | AF | 56.60 | 55.23 | 64.0 | 40 | 85.7 | 100 | S |
| 15 - H - 300 | 15 | AF | 60.64 | 59.27 | 66.5 | 45 | 85.7 | 100 | S |
| 16 - H - 300 | 16 | AF | 64.68 | 63.31 | 70.0 | 45 | 85.7 | 100 | S |
| 17 - H - 300 | 17 | AF | 68.72 | 67.35 | 75.0 | 45 | 85.7 | 100 | S |
| 18 - H - 300 | 18 | AF | 72.77 | 71.40 | 79.0 | 55 | 85.7 | 100 | S |
| 19 - H - 300 | 19 | AF | 76.81 | 75.44 | 82.5 | 60 | 85.7 | 100 | S |
| 20 - H - 300 | 20 | AF | 80.85 | 79.48 | 87.0 | 62 | 85.7 | 100 | S |
| 21 - H - 300 | 21 | AF | 84.89 | 83.52 | 91.0 | 65 | 85.7 | 100 | S |
| 22 - H - 300 | 22 | AF | 88.94 | 87.57 | 94.0 | 68 | 85.7 | 100 | S |
| 23 - H - 300 | 23 | AF | 92.98 | 91.61 | 97.0 | 72 | 85.7 | 100 | S |
| 24 - H - 300 | 24 | AF | 97.02 | 95.65 | 102.0 | 72 | 85.7 | 100 | S |
| 25 - H - 300 | 25 | AF | 101.06 | 99.69 | 106.0 | 72 | 85.7 | 100 | S |
| 26 - H - 300 | 26 | AF | 105.11 | 103.74 | 112.0 | 80 | 85.7 | 100 | S |
| 27 - H - 300 | 27 | AF | 109.15 | 107.78 | 115.0 | 80 | 85.7 | 100 | S |
| 28 - H - 300 | 28 | AF | 113.19 | 111.82 | 120.0 | 80 | 85.7 | 100 | S |
| 29 - H - 300 | 29 | AF | 117.23 | 115.86 | 120.0 | 80 | 85.7 | 100 | S |
| 30 - H - 300 | 30 | AF | 121.28 | 119.91 | 128.0 | 80 | 85.7 | 100 | S |
| 32 - H - 300 | 32 | AF | 129.36 | 127.99 | 135.0 | 80 | 85.7 | 100 | S |
| 33 - H - 300 | 33 | AF | 133.40 | 132.03 | 142.0 | 80 | 85.7 | 100 | S |
| 34 - H - 300 | 34 | AF | 137.45 | 136.08 | 142.0 | 80 | 85.7 | 100 | S |
| 35 - H - 300 | 35 | AF | 141.49 | 140.12 | 150.0 | 80 | 85.7 | 100 | S |
| 36 - H - 300 | 36 | BF | 145.53 | 144.16 | 150.0 | 80 | 85.7 | 100 | S |
| 38 - H - 300 | 38 | BF | 153.62 | 152.25 | 158.0 | 80 | 85.7 | 100 | S |
| 40 - H - 300 | 40 | BF | 161.70 | 160.33 | 168.0 | 80 | 85.7 | 100 | S |
| 44 - H - 300 | 44 | BF | 177.87 | 176.50 | 184.0 | 80 | 85.7 | 100 | CI |
| 45 - H - 300 | 45 | BF | 181.91 | 180.54 | 192.0 | 80 | 85.7 | 100 | CI |
| 48 - H - 300 | 48 | BF | 194.04 | 192.67 | 200.0 | 90 | 85.7 | 100 | CI |
| 50 - H - 300 | 50 | B | 202.13 | 200.76 | - | 90 | 85.7 | 100 | CI |
| 52 - H - 300 | 52 | B | 210.21 | 208.84 | - | 90 | 85.7 | 100 | CI |
| 58 - H - 300 | 58 | C | 234.47 | 233.10 | - | 90 | 85.7 | 100 | CI |
| 60 - H - 300 | 60 | C | 242.55 | 241.18 | - | 90 | 85.7 | 100 | CI |
| 70 - H - 300 | 70 | C | 282.98 | 281.61 | - | 100 | 85.7 | 100 | CI |
| 72 - H - 300 | 72 | C | 291.06 | 289.69 | - | 100 | 85.7 | 100 | CI |
| 84 - H - 300 | 84 | C | 339.57 | 338.20 | - | 100 | 85.7 | 100 | CI |
| 96 - H - 300 | 96 | C | 388.08 | 386.71 | - | 120 | 85.7 | 100 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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Timing Pilot Bore

XH - 7/8" (22.225 mm) pitch XH200 - 2.00" (50.8 mm) wide belts

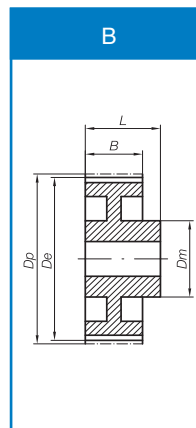
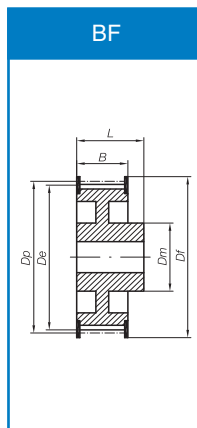
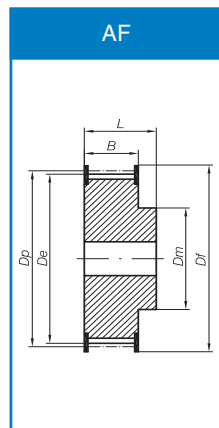
| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-----|-----|----|-----|----------|
| 18 - XH - 200 | 18 | AF | 127.34 | 124.55 | 136 | 100 | 65 | 80 | CI |
| 20 - XH - 200 | 20 | AF | 141.49 | 138.70 | 155 | 100 | 65 | 80 | CI |
| 22 - XH - 200 | 22 | AF | 155.64 | 152.83 | 162 | 110 | 65 | 80 | CI |
| 24 - XH - 200 | 24 | AF | 169.79 | 167.00 | 176 | 120 | 65 | 80 | CI |
| 26 - XH - 200 | 26 | AF | 183.92 | 181.13 | 191 | 150 | 65 | 80 | CI |
| 28 - XH - 200 | 28 | AF | 198.08 | 195.29 | 213 | 150 | 65 | 80 | CI |
| 30 - XH - 200 | 30 | AF | 212.23 | 209.44 | 225 | 150 | 65 | 80 | CI |
| 32 - XH - 200 | 32 | AF | 226.38 | 223.59 | 240 | 150 | 65 | 80 | CI |
| 40 - XH - 200 | 40 | BF | 282.98 | 280.19 | 290 | 150 | 65 | 100 | CI |
| 44 - XH - 200 | 44 | B | 311.28 | 308.48 | - | 150 | 65 | 100 | CI |
| 48 - XH - 200 | 48 | B | 339.57 | 336.78 | - | 150 | 65 | 100 | CI |

XH - 7/8" (22.225 mm) pitch XH300 - 3.00" (76.2 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-----|-----|----|-----|----------|
| 18 - XH - 300 | 18 | AF | 127.34 | 124.55 | 136 | 100 | 92 | 110 | CI |
| 20 - XH - 300 | 20 | AF | 141.49 | 138.70 | 155 | 100 | 92 | 110 | CI |
| 22 - XH - 300 | 22 | AF | 155.64 | 152.83 | 162 | 110 | 92 | 110 | CI |
| 24 - XH - 300 | 24 | AF | 169.79 | 167.00 | 176 | 120 | 92 | 110 | CI |
| 26 - XH - 300 | 26 | AF | 183.92 | 181.13 | 191 | 150 | 92 | 110 | CI |
| 28 - XH - 300 | 28 | AF | 198.08 | 195.29 | 210 | 150 | 92 | 110 | CI |
| 30 - XH - 300 | 30 | AF | 212.23 | 209.44 | 225 | 150 | 92 | 110 | CI |
| 32 - XH - 300 | 32 | AF | 226.38 | 223.59 | 240 | 150 | 92 | 110 | CI |
| 40 - XH - 300 | 40 | BF | 282.98 | 280.19 | 290 | 150 | 92 | 120 | CI |
| 44 - XH - 300 | 44 | B | 311.28 | 308.48 | - | 150 | 92 | 120 | CI |
| 48 - XH - 300 | 48 | B | 339.57 | 336.78 | - | 150 | 92 | 120 | CI |

XH - 7/8" (22.225 mm) pitch XH400 - 4.00" (101.6 mm) wide belts

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-----|-----|-----|-----|----------|
| 18 - XH - 400 | 18 | AF | 127.34 | 124.55 | 136 | 100 | 119 | 132 | CI |
| 20 - XH - 400 | 20 | AF | 141.49 | 138.70 | 155 | 100 | 119 | 132 | CI |
| 22 - XH - 400 | 22 | AF | 155.64 | 152.83 | 162 | 110 | 119 | 132 | CI |
| 24 - XH - 400 | 24 | AF | 169.79 | 167.00 | 176 | 120 | 119 | 132 | CI |
| 26 - XH - 400 | 26 | AF | 183.92 | 181.13 | 191 | 150 | 119 | 132 | CI |
| 28 - XH - 400 | 28 | AF | 198.08 | 195.29 | 210 | 150 | 119 | 132 | CI |
| 30 - XH - 400 | 30 | AF | 212.23 | 209.44 | 225 | 150 | 119 | 132 | CI |
| 32 - XH - 400 | 32 | AF | 226.38 | 223.59 | 240 | 150 | 119 | 132 | CI |
| 40 - XH - 400 | 40 | BF | 282.98 | 280.19 | 290 | 150 | 119 | 132 | CI |
| 44 - XH - 400 | 44 | B | 311.28 | 308.48 | - | 150 | 119 | 132 | CI |
| 48 - XH - 400 | 48 | B | 339.57 | 336.78 | - | 150 | 119 | 132 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

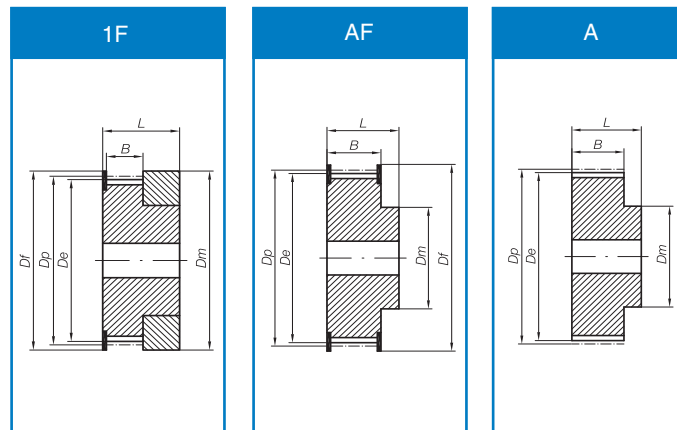
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Pilot Bore

3mm Pitch 3M-06 (6mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|-------|-------|------|------|------|------|----------|
| 10 - 3M - 06 | 10 | 1F | 9.55 | 8.79 | 13.0 | 13.0 | 7.2 | 14.5 | AL |
| 12 - 3M - 06 | 12 | 1F | 11.46 | 10.70 | 15.0 | 15.0 | 7.2 | 14.5 | AL |
| 14 - 3M - 06 | 14 | 1F | 13.37 | 12.61 | 16.0 | 16.0 | 7.2 | 14.5 | AL |
| 15 - 3M - 06 | 15 | 1F | 14.32 | 13.56 | 17.5 | 17.5 | 7.2 | 14.5 | AL |
| 16 - 3M - 06 | 16 | AF | 15.28 | 14.52 | 17.5 | 10.0 | 9.8 | 17.5 | AL |
| 18 - 3M - 06 | 18 | AF | 17.19 | 16.43 | 20.0 | 11.0 | 9.8 | 17.5 | AL |
| 20 - 3M - 06 | 20 | AF | 19.10 | 18.34 | 23.0 | 13.0 | 9.8 | 17.5 | AL |
| 21 - 3M - 06 | 21 | AF | 20.05 | 19.29 | 25.0 | 13.0 | 9.8 | 17.5 | AL |
| 22 - 3M - 06 | 22 | AF | 21.01 | 20.25 | 25.0 | 13.0 | 9.8 | 17.5 | AL |
| 24 - 3M - 06 | 24 | AF | 22.92 | 22.16 | 25.0 | 13.0 | 9.8 | 17.5 | AL |
| 26 - 3M - 06 | 26 | AF | 24.83 | 24.07 | 28.0 | 16.0 | 9.8 | 17.5 | AL |
| 28 - 3M - 06 | 28 | AF | 26.74 | 25.98 | 32.0 | 18.0 | 9.8 | 17.5 | AL |
| 30 - 3M - 06 | 30 | AF | 28.65 | 27.89 | 32.0 | 20.0 | 9.8 | 17.5 | AL |
| 32 - 3M - 06 | 32 | AF | 30.56 | 29.80 | 36.0 | 22.0 | 9.8 | 17.5 | AL |
| 36 - 3M - 06 | 36 | AF | 34.38 | 33.62 | 39.0 | 26.0 | 10.3 | 18.0 | AL |
| 40 - 3M - 06 | 40 | AF | 38.20 | 37.44 | 42.0 | 28.0 | 10.3 | 18.0 | AL |
| 44 - 3M - 06 | 44 | AF | 42.02 | 41.25 | 48.0 | 33.0 | 10.3 | 18.0 | AL |
| 48 - 3M - 06 | 48 | A | 45.84 | 45.07 | - | 33.0 | 10.3 | 18.6 | AL |
| 60 - 3M - 06 | 60 | A | 57.30 | 56.53 | - | 33.0 | 10.3 | 18.6 | AL |
| 72 - 3M - 06 | 72 | A | 68.75 | 67.99 | - | 33.0 | 10.3 | 18.6 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

3mm Pitch 3M-09 (9mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|-------|-------|------|------|------|------|----------|
| 10 - 3M - 09 | 10 | 1F | 9.55 | 8.79 | 13.0 | 13.0 | 10.2 | 17.5 | AL |
| 12 - 3M - 09 | 12 | 1F | 11.46 | 10.70 | 15.0 | 15.0 | 10.2 | 17.5 | AL |
| 14 - 3M - 09 | 14 | 1F | 13.37 | 12.61 | 16.0 | 16.0 | 10.2 | 17.5 | AL |
| 15 - 3M - 09 | 15 | 1F | 14.32 | 13.56 | 17.5 | 17.5 | 10.2 | 17.5 | AL |
| 16 - 3M - 09 | 16 | AF | 15.28 | 14.52 | 17.5 | 10.0 | 12.8 | 20.6 | AL |
| 18 - 3M - 09 | 18 | AF | 17.19 | 16.43 | 20.0 | 11.0 | 12.8 | 20.6 | AL |
| 20 - 3M - 09 | 20 | AF | 19.10 | 18.34 | 23.0 | 13.0 | 12.8 | 20.6 | AL |
| 21 - 3M - 09 | 21 | AF | 20.05 | 19.29 | 25.0 | 13.0 | 12.8 | 20.6 | AL |
| 22 - 3M - 09 | 22 | AF | 21.01 | 20.25 | 25.0 | 13.0 | 12.8 | 20.6 | AL |
| 24 - 3M - 09 | 24 | AF | 22.92 | 22.16 | 25.0 | 13.0 | 12.8 | 20.6 | AL |
| 26 - 3M - 09 | 26 | AF | 24.83 | 24.07 | 28.0 | 16.0 | 12.8 | 20.6 | AL |
| 28 - 3M - 09 | 28 | AF | 26.74 | 25.98 | 32.0 | 18.0 | 12.8 | 20.6 | AL |
| 30 - 3M - 09 | 30 | AF | 28.65 | 27.89 | 32.0 | 20.0 | 12.8 | 20.6 | AL |
| 32 - 3M - 09 | 32 | AF | 30.56 | 29.80 | 36.0 | 22.0 | 12.8 | 20.6 | AL |
| 36 - 3M - 09 | 36 | AF | 34.38 | 33.62 | 39.0 | 26.0 | 13.4 | 22.2 | AL |
| 40 - 3M - 09 | 40 | AF | 38.20 | 37.44 | 42.0 | 28.0 | 13.4 | 22.2 | AL |
| 44 - 3M - 09 | 44 | AF | 42.02 | 41.25 | 48.0 | 33.0 | 13.4 | 22.2 | AL |
| 48 - 3M - 09 | 48 | A | 45.84 | 45.07 | - | 33.0 | 13.4 | 22.2 | AL |
| 60 - 3M - 09 | 60 | A | 57.30 | 56.53 | - | 33.0 | 13.4 | 22.2 | AL |
| 72 - 3M - 09 | 72 | A | 68.75 | 67.99 | - | 33.0 | 13.4 | 22.2 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

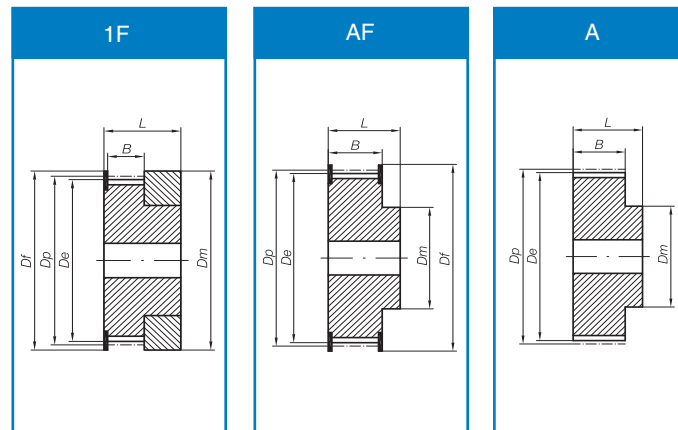
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Pilot Bore

3mm Pitch 3M-15 (15mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|-------|-------|------|------|------|------|----------|
| 10 - 3M - 15 | 10 | 1F | 9.55 | 8.79 | 13.0 | 13.0 | 17.0 | 26.0 | AL |
| 12 - 3M - 15 | 12 | 1F | 11.46 | 10.70 | 15.0 | 15.0 | 17.0 | 26.0 | AL |
| 14 - 3M - 15 | 14 | 1F | 13.37 | 12.61 | 16.0 | 16.0 | 17.0 | 26.0 | AL |
| 15 - 3M - 15 | 15 | 1F | 14.32 | 13.56 | 17.5 | 17.5 | 17.0 | 26.0 | AL |
| 16 - 3M - 15 | 16 | AF | 15.28 | 14.52 | 17.5 | 10.0 | 19.5 | 26.0 | AL |
| 18 - 3M - 15 | 18 | AF | 17.19 | 16.43 | 20.0 | 11.0 | 19.5 | 26.0 | AL |
| 20 - 3M - 15 | 20 | AF | 19.10 | 18.34 | 23.0 | 13.0 | 19.5 | 26.0 | AL |
| 21 - 3M - 15 | 21 | AF | 20.05 | 19.29 | 25.0 | 13.0 | 19.5 | 26.0 | AL |
| 22 - 3M - 15 | 22 | AF | 21.01 | 20.25 | 25.0 | 13.0 | 19.5 | 26.0 | AL |
| 24 - 3M - 15 | 24 | AF | 22.92 | 22.16 | 25.0 | 13.0 | 19.5 | 26.0 | AL |
| 26 - 3M - 15 | 26 | AF | 24.83 | 24.07 | 28.0 | 16.0 | 19.5 | 26.0 | AL |
| 28 - 3M - 15 | 28 | AF | 26.74 | 25.98 | 32.0 | 18.0 | 19.5 | 26.0 | AL |
| 30 - 3M - 15 | 30 | AF | 28.65 | 27.89 | 32.0 | 20.0 | 19.5 | 26.0 | AL |
| 32 - 3M - 15 | 32 | AF | 30.56 | 29.80 | 36.0 | 22.0 | 19.5 | 26.0 | AL |
| 36 - 3M - 15 | 36 | AF | 34.38 | 33.62 | 39.0 | 26.0 | 20.0 | 30.0 | AL |
| 40 - 3M - 15 | 40 | AF | 38.20 | 37.44 | 42.0 | 28.0 | 20.0 | 30.0 | AL |
| 44 - 3M - 15 | 44 | AF | 42.02 | 41.25 | 48.0 | 33.0 | 20.0 | 30.0 | AL |
| 48 - 3M - 15 | 48 | A | 45.84 | 45.07 | - | 33.0 | 20.0 | 30.0 | AL |
| 60 - 3M - 15 | 60 | A | 57.30 | 56.53 | - | 33.0 | 20.0 | 30.0 | AL |
| 72 - 3M - 15 | 72 | A | 68.75 | 67.99 | - | 33.0 | 20.0 | 30.0 | AL |



Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

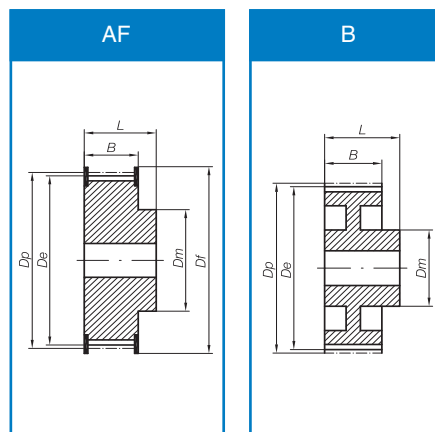
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Pilot Bore

5mm Pitch 5M-09 (9mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|------|------|------|------|----------|
| 12 - 5M - 09 | 12 | AF | 19.09 | 17.95 | 23.0 | 12.0 | 14.5 | 20.0 | S |
| 14 - 5M - 09 | 14 | AF | 22.28 | 21.14 | 25.0 | 13.0 | 14.5 | 20.0 | S |
| 15 - 5M - 09 | 15 | AF | 23.87 | 22.73 | 28.0 | 16.0 | 14.5 | 20.0 | S |
| 16 - 5M - 09 | 16 | AF | 25.46 | 24.32 | 28.0 | 16.2 | 14.5 | 20.0 | S |
| 18 - 5M - 09 | 18 | AF | 28.65 | 27.50 | 32.0 | 20.0 | 14.5 | 20.0 | S |
| 20 - 5M - 09 | 20 | AF | 31.83 | 30.69 | 36.0 | 23.0 | 14.5 | 22.5 | S |
| 21 - 5M - 09 | 21 | AF | 33.42 | 32.28 | 38.0 | 24.0 | 14.5 | 22.5 | S |
| 22 - 5M - 09 | 22 | AF | 35.01 | 33.87 | 39.0 | 25.5 | 14.5 | 22.5 | S |
| 24 - 5M - 09 | 24 | AF | 38.20 | 37.05 | 42.0 | 27.0 | 14.5 | 22.5 | S |
| 26 - 5M - 09 | 26 | AF | 41.38 | 40.24 | 44.0 | 30.0 | 14.5 | 22.5 | S |
| 28 - 5M - 09 | 28 | AF | 44.56 | 43.42 | 48.0 | 30.5 | 14.5 | 22.5 | S |
| 30 - 5M - 09 | 30 | AF | 47.75 | 46.60 | 51.0 | 35.0 | 14.5 | 22.5 | S |
| 32 - 5M - 09 | 32 | AF | 50.93 | 49.79 | 54.0 | 38.0 | 14.5 | 22.5 | S |
| 36 - 5M - 09 | 36 | AF | 57.30 | 56.15 | 60.0 | 38.0 | 14.5 | 22.5 | S |
| 40 - 5M - 09 | 40 | AF | 63.66 | 62.52 | 71.0 | 38.0 | 14.5 | 22.5 | S |
| 44 - 5M - 09 | 44 | B | 70.03 | 68.89 | - | 38.0 | 14.5 | 25.5 | AL |
| 48 - 5M - 09 | 48 | B | 76.39 | 75.25 | - | 45.0 | 14.5 | 25.5 | AL |
| 60 - 5M - 09 | 60 | B | 95.49 | 94.35 | - | 45.0 | 14.5 | 25.5 | AL |
| 72 - 5M - 09 | 72 | B | 114.59 | 113.45 | - | 45.0 | 14.5 | 25.5 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

5mm Pitch 5M-15 (15mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|------|------|------|------|----------|
| 12 - 5M - 15 | 12 | AF | 19.09 | 17.95 | 23.0 | 12.0 | 20.5 | 26.0 | S |
| 14 - 5M - 15 | 14 | AF | 22.28 | 21.14 | 25.0 | 13.0 | 20.5 | 26.0 | S |
| 15 - 5M - 15 | 15 | AF | 23.87 | 22.73 | 28.0 | 16.0 | 20.5 | 26.0 | S |
| 16 - 5M - 15 | 16 | AF | 25.46 | 24.32 | 28.0 | 16.2 | 20.5 | 26.0 | S |
| 18 - 5M - 15 | 18 | AF | 28.65 | 27.50 | 32.0 | 20.0 | 20.5 | 26.0 | S |
| 20 - 5M - 15 | 20 | AF | 31.83 | 30.69 | 36.0 | 23.0 | 20.5 | 26.0 | S |
| 21 - 5M - 15 | 21 | AF | 33.42 | 32.28 | 38.0 | 24.0 | 20.5 | 26.0 | S |
| 22 - 5M - 15 | 22 | AF | 35.01 | 33.87 | 39.0 | 25.5 | 20.5 | 26.0 | S |
| 24 - 5M - 15 | 24 | AF | 38.20 | 37.05 | 42.0 | 27.0 | 20.5 | 28.0 | S |
| 26 - 5M - 15 | 26 | AF | 41.38 | 40.24 | 44.0 | 30.0 | 20.5 | 28.0 | S |
| 28 - 5M - 15 | 28 | AF | 44.56 | 43.42 | 48.0 | 30.5 | 20.5 | 28.0 | S |
| 30 - 5M - 15 | 30 | AF | 47.75 | 46.60 | 51.0 | 35.0 | 20.5 | 28.0 | S |
| 32 - 5M - 15 | 32 | AF | 50.93 | 49.79 | 54.0 | 38.0 | 20.5 | 28.0 | S |
| 36 - 5M - 15 | 36 | AF | 57.30 | 56.15 | 60.0 | 38.0 | 20.5 | 28.0 | S |
| 40 - 5M - 15 | 40 | AF | 63.66 | 62.52 | 71.0 | 38.0 | 20.5 | 28.0 | S |
| 44 - 5M - 15 | 44 | B | 70.03 | 68.89 | - | 38.0 | 20.5 | 30.0 | AL |
| 48 - 5M - 15 | 48 | B | 76.39 | 75.25 | - | 40.0 | 20.5 | 30.0 | AL |
| 60 - 5M - 15 | 60 | B | 95.49 | 94.35 | - | 50.0 | 20.5 | 30.0 | AL |
| 72 - 5M - 15 | 72 | B | 114.59 | 113.45 | - | 50.0 | 20.5 | 30.0 | AL |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

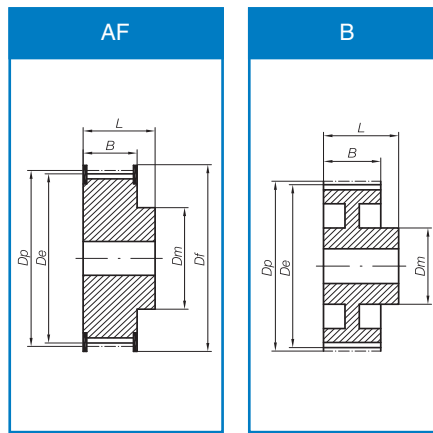
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HTD Profile Pilot Bore

5mm Pitch 5M-25 (25mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|--------------|-------|------|--------|--------|------|------|------|------|----------|
| 12 - 5M - 25 | 12 | AF | 19.09 | 17.95 | 23.0 | 12.0 | 30.5 | 36.0 | S |
| 14 - 5M - 25 | 14 | AF | 22.28 | 21.14 | 25.0 | 13.0 | 30.5 | 36.0 | S |
| 15 - 5M - 25 | 15 | AF | 23.87 | 22.73 | 28.0 | 16.0 | 30.5 | 36.0 | S |
| 16 - 5M - 25 | 16 | AF | 25.46 | 24.32 | 28.0 | 16.2 | 30.5 | 36.0 | S |
| 18 - 5M - 25 | 18 | AF | 28.65 | 27.50 | 32.0 | 20.0 | 30.5 | 36.0 | S |
| 20 - 5M - 25 | 20 | AF | 31.83 | 30.69 | 36.0 | 23.0 | 30.5 | 36.0 | S |
| 21 - 5M - 25 | 21 | AF | 33.42 | 32.28 | 38.0 | 24.0 | 30.5 | 38.0 | S |
| 22 - 5M - 25 | 22 | AF | 35.01 | 33.87 | 39.0 | 25.5 | 30.5 | 38.0 | S |
| 24 - 5M - 25 | 24 | AF | 38.20 | 37.05 | 42.0 | 27.0 | 30.5 | 38.0 | S |
| 26 - 5M - 25 | 26 | AF | 41.38 | 40.24 | 44.0 | 30.0 | 30.5 | 38.0 | S |
| 28 - 5M - 25 | 28 | AF | 44.56 | 43.42 | 48.0 | 30.5 | 30.5 | 38.0 | S |
| 30 - 5M - 25 | 30 | AF | 47.75 | 46.60 | 51.0 | 35.0 | 30.5 | 38.0 | S |
| 32 - 5M - 25 | 32 | AF | 50.93 | 49.79 | 54.0 | 38.0 | 30.5 | 38.0 | S |
| 36 - 5M - 25 | 36 | AF | 57.30 | 56.15 | 60.0 | 38.0 | 30.5 | 38.0 | S |
| 40 - 5M - 25 | 40 | AF | 63.66 | 62.52 | 71.0 | 38.0 | 30.5 | 38.0 | S |
| 44 - 5M - 25 | 44 | B | 70.03 | 68.89 | - | 38.0 | 30.5 | 40.0 | AL |
| 48 - 5M - 25 | 48 | B | 76.39 | 75.25 | - | 40.0 | 30.5 | 40.0 | AL |
| 60 - 5M - 25 | 60 | B | 95.49 | 94.35 | - | 50.0 | 30.5 | 40.0 | AL |
| 72 - 5M - 25 | 72 | B | 114.59 | 113.45 | - | 50.0 | 30.5 | 40.0 | AL |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

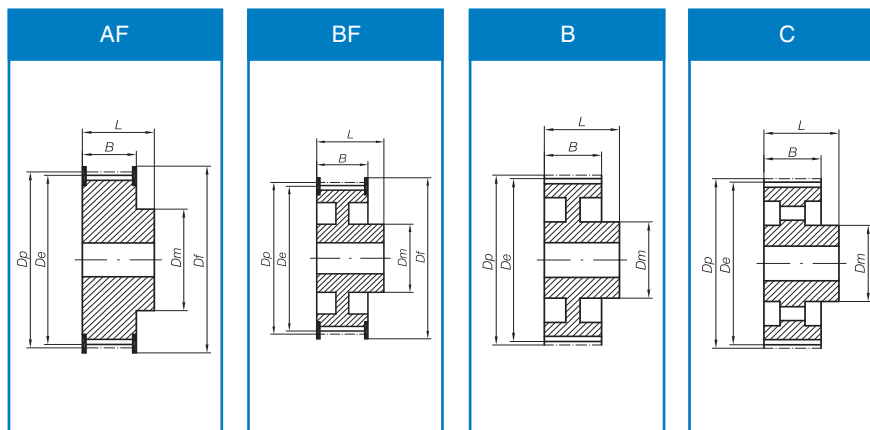
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Pilot Bore

8mm Pitch 8M-20 (20mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-----|-----|----|----|----------|
| 22 - 8M - 20 | 22 | AF | 56.02 | 54.65 | 60 | 43 | 28 | 38 | S |
| 24 - 8M - 20 | 24 | AF | 61.12 | 59.75 | 66 | 45 | 28 | 38 | S |
| 26 - 8M - 20 | 26 | AF | 66.21 | 64.84 | 70 | 48 | 28 | 38 | S |
| 28 - 8M - 20 | 28 | AF | 71.30 | 70.08 | 75 | 50 | 28 | 38 | S |
| 30 - 8M - 20 | 30 | AF | 76.39 | 75.13 | 83 | 55 | 28 | 38 | S |
| 32 - 8M - 20 | 32 | AF | 81.49 | 80.16 | 87 | 60 | 28 | 38 | S |
| 34 - 8M - 20 | 34 | AF | 86.58 | 85.22 | 91 | 70 | 28 | 38 | S |
| 36 - 8M - 20 | 36 | AF | 91.67 | 90.30 | 97 | 70 | 28 | 38 | S |
| 38 - 8M - 20 | 38 | AF | 96.77 | 95.39 | 102 | 75 | 28 | 38 | S |
| 40 - 8M - 20 | 40 | AF | 101.86 | 100.49 | 106 | 75 | 28 | 38 | S |
| 44 - 8M - 20 | 44 | AF | 112.05 | 110.67 | 120 | 75 | 28 | 38 | S |
| 48 - 8M - 20 | 48 | AF | 122.23 | 120.86 | 128 | 75 | 28 | 38 | S |
| 56 - 8M - 20 | 56 | BF | 142.60 | 141.23 | 150 | 80 | 28 | 38 | S |
| 64 - 8M - 20 | 64 | BF | 162.97 | 161.60 | 168 | 80 | 28 | 38 | S |
| 72 - 8M - 20 | 72 | BF | 183.35 | 181.97 | 192 | 80 | 28 | 38 | S |
| 80 - 8M - 20 | 80 | B | 203.72 | 202.35 | - | 90 | 28 | 38 | CI |
| 90 - 8M - 20 | 90 | B | 229.18 | 227.81 | - | 90 | 28 | 38 | CI |
| 112 - 8M - 20 | 112 | C | 285.21 | 283.83 | - | 90 | 28 | 38 | CI |
| 144 - 8M - 20 | 144 | C | 366.69 | 365.32 | - | 90 | 28 | 38 | CI |
| 168 - 8M - 20 | 168 | C | 427.81 | 426.44 | - | 100 | 28 | 38 | CI |
| 192 - 8M - 20 | 192 | C | 488.92 | 487.55 | - | 100 | 28 | 38 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

8mm Pitch 8M-30 (30mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-----|-----|----|----|----------|
| 22 - 8M - 30 | 22 | AF | 56.02 | 54.65 | 60 | 43 | 38 | 48 | S |
| 24 - 8M - 30 | 24 | AF | 61.12 | 59.75 | 66 | 45 | 38 | 48 | S |
| 26 - 8M - 30 | 26 | AF | 66.21 | 64.84 | 70 | 48 | 38 | 48 | S |
| 28 - 8M - 30 | 28 | AF | 71.30 | 70.08 | 75 | 50 | 38 | 48 | S |
| 30 - 8M - 30 | 30 | AF | 76.39 | 75.13 | 83 | 55 | 38 | 48 | S |
| 32 - 8M - 30 | 32 | AF | 81.49 | 80.16 | 87 | 60 | 38 | 48 | S |
| 34 - 8M - 30 | 34 | AF | 86.58 | 85.22 | 91 | 66 | 38 | 48 | S |
| 36 - 8M - 30 | 36 | AF | 91.67 | 90.30 | 97 | 70 | 38 | 48 | S |
| 38 - 8M - 30 | 38 | AF | 96.77 | 95.39 | 102 | 75 | 38 | 48 | S |
| 44 - 8M - 30 | 44 | AF | 112.05 | 110.67 | 120 | 75 | 38 | 48 | S |
| 48 - 8M - 30 | 48 | AF | 122.23 | 120.86 | 128 | 75 | 38 | 48 | S |
| 56 - 8M - 30 | 56 | BF | 142.60 | 141.23 | 150 | 90 | 38 | 48 | S |
| 64 - 8M - 30 | 64 | BF | 162.97 | 161.60 | 168 | 90 | 38 | 48 | S |
| 72 - 8M - 30 | 72 | BF | 183.35 | 181.97 | 192 | 95 | 38 | 48 | S |
| 80 - 8M - 30 | 80 | B | 203.72 | 202.35 | - | 100 | 38 | 48 | CI |
| 90 - 8M - 30 | 90 | B | 229.18 | 227.81 | - | 100 | 38 | 48 | CI |
| 112 - 8M - 30 | 112 | C | 285.21 | 283.83 | - | 100 | 38 | 48 | CI |
| 144 - 8M - 30 | 144 | C | 366.69 | 365.32 | - | 100 | 38 | 48 | CI |
| 168 - 8M - 30 | 168 | C | 427.81 | 426.44 | - | 100 | 38 | 48 | CI |
| 192 - 8M - 30 | 192 | C | 488.92 | 487.55 | - | 100 | 38 | 48 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

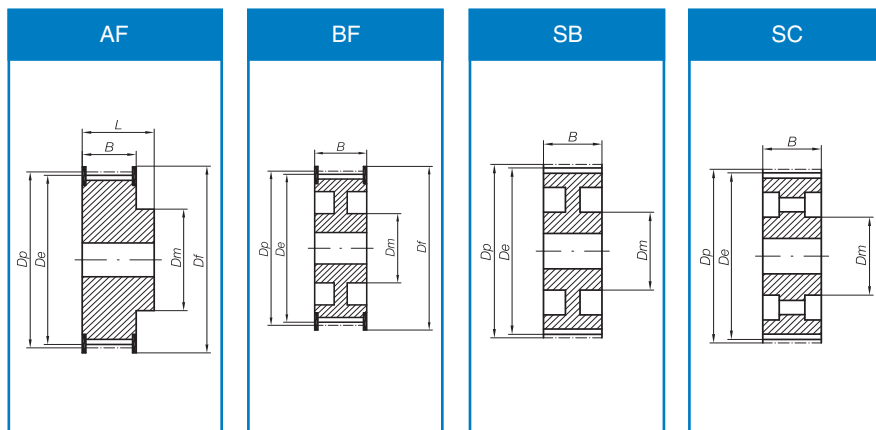
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Pilot Bore

8mm Pitch 8M-50 (50mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-----|-----|----|----|----------|
| 22 - 8M - 50 | 22 | AF | 56.02 | 54.65 | 60 | 43 | 60 | 70 | S |
| 24 - 8M - 50 | 24 | AF | 61.12 | 59.75 | 66 | 45 | 60 | 70 | S |
| 26 - 8M - 50 | 26 | AF | 66.21 | 64.84 | 70 | 48 | 60 | 70 | S |
| 28 - 8M - 50 | 28 | AF | 71.30 | 70.08 | 75 | 50 | 60 | 70 | S |
| 30 - 8M - 50 | 30 | AF | 76.39 | 75.13 | 83 | 55 | 60 | 70 | S |
| 32 - 8M - 50 | 32 | AF | 81.49 | 80.16 | 87 | 60 | 60 | 70 | S |
| 34 - 8M - 50 | 34 | AF | 86.58 | 85.22 | 91 | 66 | 60 | 70 | S |
| 36 - 8M - 50 | 36 | AF | 91.67 | 90.30 | 97 | 70 | 60 | 70 | S |
| 38 - 8M - 50 | 38 | AF | 96.77 | 95.39 | 102 | 75 | 60 | 70 | S |
| 40 - 8M - 50 | 40 | AF | 101.86 | 100.49 | 106 | 75 | 60 | 70 | S |
| 44 - 8M - 50 | 44 | AF | 112.05 | 110.67 | 120 | 75 | 60 | 70 | S |
| 48 - 8M - 50 | 48 | AF | 122.23 | 120.86 | 128 | 80 | 60 | 70 | S |
| 56 - 8M - 50 | 56 | SBF | 142.60 | 141.23 | 150 | 90 | 60 | 60 | S |
| 64 - 8M - 50 | 64 | SBF | 162.97 | 161.60 | 168 | 100 | 60 | 60 | S |
| 72 - 8M - 50 | 72 | SBF | 183.35 | 181.97 | 192 | 100 | 60 | 60 | S |
| 80 - 8M - 50 | 80 | SB | 203.72 | 202.35 | - | 110 | 60 | 60 | CI |
| 90 - 8M - 50 | 90 | SB | 229.18 | 227.81 | - | 110 | 60 | 60 | CI |
| 112 - 8M - 50 | 112 | SC | 285.21 | 283.83 | - | 110 | 60 | 60 | CI |
| 144 - 8M - 50 | 144 | SC | 366.69 | 365.32 | - | 110 | 60 | 60 | CI |
| 168 - 8M - 50 | 168 | SC | 427.81 | 426.44 | - | 120 | 60 | 60 | CI |
| 192 - 8M - 50 | 192 | SC | 488.92 | 487.55 | - | 130 | 60 | 60 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

8mm Pitch 8M-85 (85mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|---------------|-------|------|--------|--------|-----|-----|----|-----|----------|
| 22 - 8M - 85 | 22 | AF | 56.02 | 54.65 | 60 | 43 | 95 | 105 | S |
| 24 - 8M - 85 | 24 | AF | 61.12 | 59.75 | 66 | 45 | 95 | 105 | S |
| 26 - 8M - 85 | 26 | AF | 66.21 | 64.84 | 70 | 48 | 95 | 105 | S |
| 28 - 8M - 85 | 28 | AF | 71.30 | 70.08 | 75 | 50 | 95 | 105 | S |
| 30 - 8M - 85 | 30 | AF | 76.39 | 75.13 | 83 | 55 | 95 | 105 | S |
| 32 - 8M - 85 | 32 | AF | 81.49 | 80.16 | 87 | 60 | 95 | 105 | S |
| 34 - 8M - 85 | 34 | AF | 86.58 | 85.22 | 91 | 66 | 95 | 105 | S |
| 36 - 8M - 85 | 36 | AF | 91.67 | 90.30 | 97 | 70 | 95 | 105 | S |
| 38 - 8M - 85 | 38 | AF | 96.77 | 95.39 | 102 | 75 | 95 | 105 | S |
| 40 - 8M - 85 | 40 | AF | 101.86 | 100.49 | 106 | 75 | 95 | 105 | S |
| 44 - 8M - 85 | 44 | AF | 112.05 | 110.67 | 120 | 75 | 95 | 105 | S |
| 48 - 8M - 85 | 48 | AF | 122.23 | 120.86 | 128 | 80 | 95 | 105 | S |
| 56 - 8M - 85 | 56 | AF | 142.60 | 141.23 | 150 | 90 | 95 | 105 | S |
| 64 - 8M - 85 | 64 | SBF | 162.97 | 161.60 | 168 | 100 | 95 | 95 | S |
| 72 - 8M - 85 | 72 | SBF | 183.35 | 181.97 | 192 | 100 | 95 | 95 | S |
| 80 - 8M - 85 | 80 | SC | 203.72 | 202.35 | - | 110 | 95 | 95 | CI |
| 90 - 8M - 85 | 90 | SC | 229.18 | 227.81 | - | 110 | 95 | 95 | CI |
| 112 - 8M - 85 | 112 | SC | 285.21 | 283.83 | - | 110 | 95 | 95 | CI |
| 144 - 8M - 85 | 144 | SC | 366.69 | 365.32 | - | 110 | 95 | 95 | CI |
| 168 - 8M - 85 | 168 | SC | 427.81 | 426.44 | - | 120 | 95 | 95 | CI |
| 192 - 8M - 85 | 192 | SC | 488.92 | 487.55 | - | 130 | 95 | 95 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

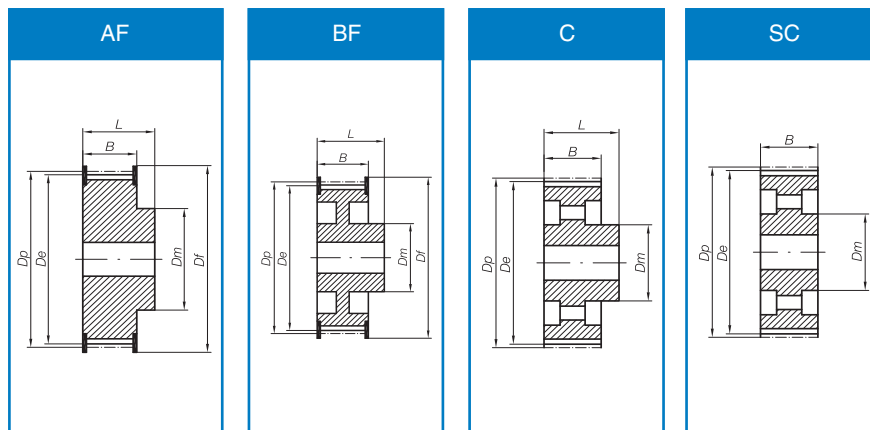
*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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HTD Profile Pilot Bore

14mm Pitch 14M-40 (40mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-----|-----|----|----|----------|
| 28 - 14M - 40 | 28 | AF | 124.78 | 121.98 | 128 | 100 | 54 | 69 | S |
| 29 - 14M - 40 | 29 | AF | 129.23 | 126.44 | 138 | 100 | 54 | 69 | S |
| 30 - 14M - 40 | 30 | AF | 133.69 | 130.90 | 138 | 100 | 54 | 69 | S |
| 32 - 14M - 40 | 32 | AF | 142.60 | 139.81 | 154 | 100 | 54 | 69 | S |
| 34 - 14M - 40 | 34 | AF | 151.51 | 148.72 | 160 | 100 | 54 | 69 | S |
| 36 - 14M - 40 | 36 | AF | 160.43 | 157.68 | 168 | 100 | 54 | 69 | S |
| 38 - 14M - 40 | 38 | AF | 169.34 | 166.60 | 183 | 120 | 54 | 69 | S |
| 40 - 14M - 40 | 40 | AF | 178.25 | 175.49 | 188 | 120 | 54 | 69 | S |
| 44 - 14M - 40 | 44 | AF | 196.08 | 193.28 | 211 | 120 | 54 | 69 | S |
| 48 - 14M - 40 | 48 | BF | 213.90 | 211.11 | 226 | 135 | 54 | 69 | CI |
| 56 - 14M - 40 | 56 | BF | 249.55 | 246.76 | 256 | 135 | 54 | 69 | CI |
| 64 - 14M - 40 | 64 | BF | 285.21 | 282.41 | 296 | 135 | 54 | 69 | CI |
| 72 - 14M - 40 | 72 | C | 320.86 | 318.06 | - | 135 | 54 | 69 | CI |
| 80 - 14M - 40 | 80 | C | 356.51 | 353.71 | - | 135 | 54 | 69 | CI |
| 90 - 14M - 40 | 90 | C | 401.07 | 398.28 | - | 135 | 54 | 69 | CI |
| 112 - 14M - 40 | 112 | C | 499.11 | 496.32 | - | 135 | 54 | 69 | CI |
| 144 - 14M - 40 | 144 | C | 641.71 | 638.92 | - | 135 | 54 | 69 | CI |
| 168 - 14M - 40 | 168 | C | 748.66 | 745.87 | - | 135 | 54 | 69 | CI |
| 192 - 14M - 40 | 192 | C | 855.62 | 852.82 | - | 135 | 54 | 69 | CI |
| 216 - 14M - 40 | 216 | C | 962.57 | 959.76 | - | 150 | 54 | 69 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

14mm Pitch 14M-55 (55mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-----|-----|----|----|----------|
| 28 - 14M - 55 | 28 | AF | 124.78 | 121.98 | 128 | 100 | 70 | 85 | S |
| 29 - 14M - 55 | 29 | AF | 129.23 | 126.44 | 138 | 100 | 70 | 85 | S |
| 30 - 14M - 55 | 30 | AF | 133.69 | 130.90 | 138 | 100 | 70 | 85 | S |
| 32 - 14M - 55 | 32 | AF | 142.60 | 139.81 | 154 | 100 | 70 | 85 | S |
| 34 - 14M - 55 | 34 | AF | 151.51 | 148.72 | 160 | 100 | 70 | 85 | S |
| 36 - 14M - 55 | 36 | AF | 160.43 | 157.68 | 168 | 100 | 70 | 85 | S |
| 38 - 14M - 55 | 38 | AF | 169.34 | 166.60 | 183 | 120 | 70 | 85 | S |
| 40 - 14M - 55 | 40 | AF | 178.25 | 175.49 | 188 | 120 | 70 | 85 | S |
| 44 - 14M - 55 | 44 | AF | 196.08 | 193.28 | 211 | 120 | 70 | 85 | S |
| 48 - 14M - 55 | 48 | SBF | 213.90 | 211.11 | 226 | 135 | 70 | 70 | CI |
| 56 - 14M - 55 | 56 | SBF | 249.55 | 246.76 | 256 | 135 | 70 | 70 | CI |
| 64 - 14M - 55 | 64 | SBF | 285.21 | 282.41 | 296 | 135 | 70 | 70 | CI |
| 72 - 14M - 55 | 72 | SC | 320.86 | 318.06 | - | 135 | 70 | 70 | CI |
| 80 - 14M - 55 | 80 | SC | 356.51 | 353.71 | - | 135 | 70 | 70 | CI |
| 90 - 14M - 55 | 90 | SC | 401.07 | 398.28 | - | 135 | 70 | 70 | CI |
| 112 - 14M - 55 | 112 | SC | 499.11 | 496.32 | - | 135 | 70 | 70 | CI |
| 144 - 14M - 55 | 144 | SC | 641.71 | 638.92 | - | 135 | 70 | 70 | CI |
| 168 - 14M - 55 | 168 | SC | 748.66 | 745.87 | - | 135 | 70 | 70 | CI |
| 192 - 14M - 55 | 192 | SC | 855.62 | 852.82 | - | 135 | 70 | 70 | CI |
| 216 - 14M - 55 | 216 | SC | 962.57 | 959.76 | - | 150 | 70 | 70 | CI |

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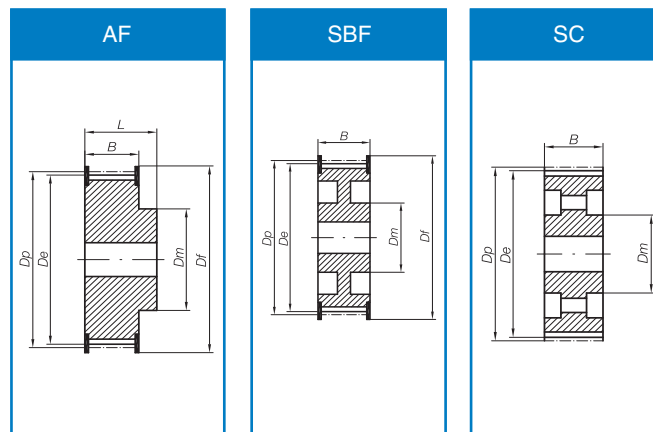
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HTD Profile Pilot Bore

14mm Pitch 14M-85 (85mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|----------------|-------|------|--------|--------|-----|-----|-----|-----|----------|
| 28 - 14M - 85 | 28 | AF | 124.78 | 121.98 | 128 | 100 | 102 | 117 | S |
| 29 - 14M - 85 | 29 | AF | 129.23 | 126.44 | 138 | 100 | 102 | 117 | S |
| 30 - 14M - 85 | 30 | AF | 133.69 | 130.90 | 138 | 100 | 102 | 117 | S |
| 32 - 14M - 85 | 32 | AF | 142.60 | 139.81 | 154 | 100 | 102 | 117 | S |
| 34 - 14M - 85 | 34 | AF | 151.51 | 148.72 | 160 | 100 | 102 | 117 | S |
| 36 - 14M - 85 | 36 | AF | 160.43 | 157.68 | 168 | 100 | 102 | 117 | S |
| 38 - 14M - 85 | 38 | AF | 169.34 | 166.60 | 183 | 120 | 102 | 117 | S |
| 40 - 14M - 85 | 40 | AF | 178.25 | 175.49 | 188 | 135 | 102 | 117 | S |
| 44 - 14M - 85 | 44 | AF | 196.08 | 193.28 | 211 | 135 | 102 | 117 | S |
| 48 - 14M - 85 | 48 | AF | 213.90 | 211.11 | 226 | 150 | 102 | 117 | CI |
| 56 - 14M - 85 | 56 | SBF | 249.55 | 246.76 | 256 | 150 | 102 | 102 | CI |
| 64 - 14M - 85 | 64 | SBF | 285.21 | 282.41 | 296 | 150 | 102 | 102 | CI |
| 72 - 14M - 85 | 72 | SC | 320.86 | 318.06 | - | 150 | 102 | 102 | CI |
| 80 - 14M - 85 | 80 | SC | 356.51 | 353.71 | - | 150 | 102 | 102 | CI |
| 90 - 14M - 85 | 90 | SC | 401.07 | 398.28 | - | 150 | 102 | 102 | CI |
| 112 - 14M - 85 | 112 | SC | 499.11 | 496.32 | - | 150 | 102 | 102 | CI |
| 144 - 14M - 85 | 144 | SC | 641.71 | 638.92 | - | 150 | 102 | 102 | CI |
| 168 - 14M - 85 | 168 | SC | 748.66 | 745.87 | - | 150 | 102 | 102 | CI |
| 192 - 14M - 85 | 192 | SC | 855.62 | 852.82 | - | 165 | 102 | 102 | CI |
| 216 - 14M - 85 | 216 | SC | 962.57 | 959.76 | - | 165 | 102 | 102 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

14mm Pitch 14M-115 (115mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|-----------------|-------|------|--------|--------|-----|-----|-----|-----|----------|
| 28 - 14M - 115 | 28 | AF | 124.78 | 121.98 | 128 | 100 | 133 | 148 | S |
| 29 - 14M - 115 | 29 | AF | 129.23 | 126.44 | 138 | 100 | 133 | 148 | S |
| 30 - 14M - 115 | 30 | AF | 133.69 | 130.90 | 138 | 100 | 133 | 148 | S |
| 32 - 14M - 115 | 32 | AF | 142.60 | 139.81 | 154 | 100 | 133 | 148 | S |
| 34 - 14M - 115 | 34 | AF | 151.51 | 148.72 | 160 | 100 | 133 | 148 | S |
| 36 - 14M - 115 | 36 | AF | 160.43 | 157.68 | 168 | 120 | 133 | 148 | S |
| 38 - 14M - 115 | 38 | AF | 169.34 | 166.60 | 183 | 120 | 133 | 148 | S |
| 40 - 14M - 115 | 40 | AF | 178.25 | 175.49 | 188 | 135 | 133 | 148 | S |
| 44 - 14M - 115 | 44 | AF | 196.08 | 193.28 | 211 | 140 | 133 | 148 | S |
| 48 - 14M - 115 | 48 | AF | 213.90 | 211.11 | 226 | 150 | 133 | 148 | CI |
| 56 - 14M - 115 | 56 | AF | 249.55 | 246.76 | 256 | 150 | 133 | 148 | CI |
| 64 - 14M - 115 | 64 | SBF | 285.21 | 282.41 | 296 | 150 | 133 | 133 | CI |
| 72 - 14M - 115 | 72 | SC | 320.86 | 318.06 | - | 150 | 133 | 133 | CI |
| 80 - 14M - 115 | 80 | SC | 356.51 | 353.71 | - | 150 | 133 | 133 | CI |
| 90 - 14M - 115 | 90 | SC | 401.07 | 398.28 | - | 150 | 133 | 133 | CI |
| 112 - 14M - 115 | 112 | SC | 499.11 | 496.32 | - | 150 | 133 | 133 | CI |
| 144 - 14M - 115 | 144 | SC | 641.71 | 638.92 | - | 165 | 133 | 133 | CI |
| 168 - 14M - 115 | 168 | SC | 748.66 | 745.87 | - | 165 | 133 | 133 | CI |
| 192 - 14M - 115 | 192 | SC | 855.62 | 852.82 | - | 165 | 133 | 133 | CI |
| 216 - 14M - 115 | 216 | SC | 962.57 | 959.76 | - | 165 | 133 | 133 | CI |

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

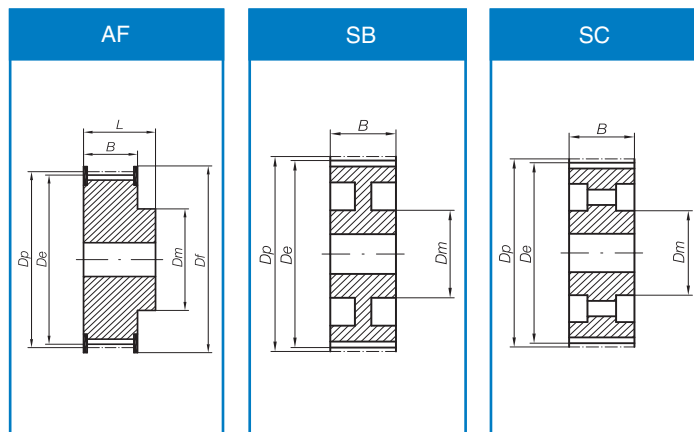
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HTD Profile Pilot Bore

14mm Pitch 14M-170 (170mm Wide Belt)

| Code | Teeth | Type | Dp | De | Df | Dm | B | L | Material |
|-----------------|-------|------|--------|--------|-----|-----|-----|-----|----------|
| 28 - 14M - 170 | 28 | AF | 124.78 | 121.98 | 128 | 100 | 187 | 202 | S |
| 29 - 14M - 170 | 29 | AF | 129.23 | 126.44 | 138 | 100 | 187 | 202 | S |
| 30 - 14M - 170 | 30 | AF | 133.69 | 130.90 | 138 | 100 | 187 | 202 | S |
| 32 - 14M - 170 | 32 | AF | 142.60 | 139.81 | 154 | 100 | 187 | 202 | S |
| 34 - 14M - 170 | 34 | AF | 151.51 | 148.72 | 160 | 100 | 187 | 202 | S |
| 36 - 14M - 170 | 36 | AF | 160.43 | 157.68 | 168 | 120 | 187 | 202 | S |
| 38 - 14M - 170 | 38 | AF | 169.34 | 166.60 | 183 | 135 | 187 | 202 | S |
| 40 - 14M - 170 | 40 | AF | 178.25 | 175.49 | 188 | 140 | 187 | 202 | S |
| 44 - 14M - 170 | 44 | AF | 196.08 | 193.28 | 211 | 160 | 187 | 202 | S |
| 48 - 14M - 170 | 48 | AF | 213.90 | 211.11 | 226 | 160 | 187 | 202 | S |
| 56 - 14M - 170 | 56 | AF | 249.55 | 246.76 | 256 | 160 | 187 | 202 | S |
| 64 - 14M - 170 | 64 | AF | 285.21 | 282.41 | 296 | 180 | 187 | 202 | S |
| 72 - 14M - 170 | 72 | SB | 320.86 | 318.06 | - | 180 | 187 | 187 | CI |
| 80 - 14M - 170 | 80 | SB | 356.51 | 353.71 | - | 180 | 187 | 187 | CI |
| 90 - 14M - 170 | 90 | SC | 401.07 | 398.28 | - | 180 | 187 | 187 | CI |
| 112 - 14M - 170 | 112 | SC | 499.11 | 496.32 | - | 200 | 187 | 187 | CI |
| 144 - 14M - 170 | 144 | SC | 641.71 | 638.92 | - | 220 | 187 | 187 | CI |
| 168 - 14M - 170 | 168 | SC | 748.66 | 745.87 | - | 220 | 187 | 187 | CI |
| 192 - 14M - 170 | 192 | SC | 855.62 | 852.82 | - | 220 | 187 | 187 | CI |
| 216 - 14M - 170 | 216 | SC | 962.57 | 959.76 | - | 220 | 187 | 187 | CI |



Material
 AL = Aluminium
 CI* = Cast iron
 S = Steel

Df and Dm can vary without notice. During manufacturing, the lightening relief may vary slightly.

*Cast Iron items may be manufactured from steel depending upon current production availability. This may cause slight variations to non-critical dimensions. Please inform us at order placement if you are unable to accept this variation.

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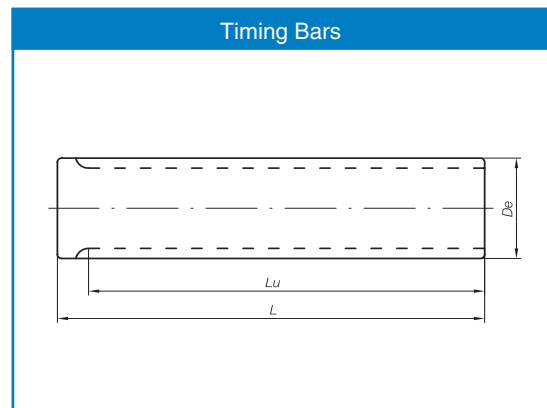
Metric Timing Bars

T2.5 Pitch = 2.5mm

| Code | Teeth | De | Lu | L | Material |
|------------|-------|-------|-----|-----|----------|
| T2.5 - 10 | 10 | 7.44 | 50 | 75 | AL |
| T2.5 - 12 | 12 | 9.03 | 50 | 75 | AL |
| T2.5 - 13 | 13 | 9.83 | 50 | 75 | AL |
| T2.5 - 14 | 14 | 10.62 | 50 | 75 | AL |
| T2.5 - 15 | 15 | 11.42 | 50 | 75 | AL |
| T2.5 - 16 | 16 | 12.21 | 50 | 75 | AL |
| T2.5 - 17 | 17 | 13.01 | 50 | 75 | AL |
| T2.5 - 18 | 18 | 13.80 | 50 | 75 | AL |
| T2.5 - 19 | 19 | 14.60 | 90 | 120 | AL |
| T2.5 - 20 | 20 | 15.40 | 90 | 120 | AL |
| T2.5 - 21 | 21 | 16.19 | 90 | 120 | AL |
| T2.5 - 22 | 22 | 16.99 | 125 | 140 | AL |
| T2.5 - 23 | 23 | 17.78 | 125 | 140 | AL |
| T2.5 - 24 | 24 | 18.58 | 125 | 140 | AL |
| T2.5 - 25 | 25 | 19.37 | 125 | 140 | AL |
| T2.5 - 26 | 26 | 20.17 | 125 | 140 | AL |
| T2.5 - 27 | 27 | 20.97 | 125 | 140 | AL |
| T2.5 - 28 | 28 | 21.76 | 125 | 140 | AL |
| T2.5 - 29 | 29 | 22.56 | 125 | 140 | AL |
| T2.5 - 30 | 30 | 23.35 | 125 | 140 | AL |
| T2.5 - 32 | 32 | 24.95 | 125 | 140 | AL |
| T2.5 - 34 | 34 | 26.54 | 125 | 140 | AL |
| T2.5 - 35 | 35 | 27.33 | 132 | 140 | AL |
| T2.5 - 36 | 36 | 28.13 | 132 | 140 | AL |
| T2.5 - 38 | 38 | 29.72 | 140 | 140 | AL |
| T2.5 - 40 | 40 | 31.31 | 140 | 140 | AL |
| T2.5 - 42 | 42 | 32.90 | 140 | 140 | AL |
| T2.5 - 44 | 44 | 34.50 | 140 | 140 | AL |
| T2.5 - 45 | 45 | 35.29 | 140 | 140 | AL |
| T2.5 - 48 | 48 | 37.68 | 140 | 140 | AL |
| T2.5 - 50 | 50 | 39.27 | 160 | 160 | AL |
| T2.5 - 60 | 60 | 47.23 | 160 | 160 | AL |
| T2.5 - 65 | 65 | 51.21 | 160 | 160 | AL |
| T2.5 - 70 | 70 | 55.19 | 160 | 160 | AL |
| T2.5 - 72 | 72 | 56.78 | 160 | 160 | AL |
| T2.5 - 90 | 90 | 71.10 | 160 | 160 | AL |
| T2.5 - 100 | 100 | 79.06 | 160 | 160 | AL |

T5 Pitch = 5mm

| Code | Teeth | De | Lu | L | Material |
|----------|-------|--------|-----|-----|----------|
| T5 - 10 | 10 | 15.09 | 125 | 140 | AL |
| T5 - 11 | 11 | 16.68 | 125 | 140 | AL |
| T5 - 12 | 12 | 18.27 | 125 | 140 | AL |
| T5 - 13 | 13 | 19.86 | 125 | 140 | AL |
| T5 - 14 | 14 | 21.45 | 140 | 140 | AL |
| T5 - 15 | 15 | 23.04 | 140 | 140 | AL |
| T5 - 16 | 16 | 24.64 | 140 | 140 | AL |
| T5 - 17 | 17 | 26.23 | 140 | 140 | AL |
| T5 - 18 | 18 | 27.82 | 140 | 140 | AL |
| T5 - 19 | 19 | 29.41 | 140 | 140 | AL |
| T5 - 20 | 20 | 31.00 | 160 | 160 | AL |
| T5 - 21 | 21 | 32.59 | 160 | 160 | AL |
| T5 - 22 | 22 | 34.19 | 160 | 160 | AL |
| T5 - 23 | 23 | 35.78 | 160 | 160 | AL |
| T5 - 24 | 24 | 37.37 | 160 | 160 | AL |
| T5 - 25 | 25 | 38.96 | 160 | 160 | AL |
| T5 - 26 | 26 | 40.55 | 160 | 160 | AL |
| T5 - 27 | 27 | 42.14 | 160 | 160 | AL |
| T5 - 28 | 28 | 43.73 | 160 | 160 | AL |
| T5 - 29 | 29 | 45.33 | 160 | 160 | AL |
| T5 - 30 | 30 | 46.92 | 160 | 160 | AL |
| T5 - 32 | 32 | 50.10 | 160 | 160 | AL |
| T5 - 34 | 34 | 53.28 | 160 | 160 | AL |
| T5 - 35 | 35 | 54.88 | 160 | 160 | AL |
| T5 - 36 | 36 | 56.47 | 160 | 160 | AL |
| T5 - 37 | 37 | 58.06 | 160 | 160 | AL |
| T5 - 38 | 38 | 59.65 | 160 | 160 | AL |
| T5 - 40 | 40 | 62.83 | 160 | 160 | AL |
| T5 - 42 | 42 | 66.02 | 160 | 160 | AL |
| T5 - 44 | 44 | 69.20 | 160 | 160 | AL |
| T5 - 45 | 45 | 70.79 | 160 | 160 | AL |
| T5 - 46 | 46 | 72.38 | 160 | 160 | AL |
| T5 - 48 | 48 | 75.57 | 160 | 160 | AL |
| T5 - 50 | 50 | 78.75 | 160 | 160 | AL |
| T5 - 60 | 60 | 94.67 | 160 | 160 | AL |
| T5 - 64 | 64 | 101.03 | 160 | 160 | AL |
| T5 - 72 | 72 | 113.76 | 160 | 160 | AL |
| T5 - 80 | 80 | 126.50 | 160 | 160 | AL |
| T5 - 90 | 90 | 142.41 | 160 | 160 | AL |
| T5 - 100 | 100 | 158.33 | 160 | 160 | AL |

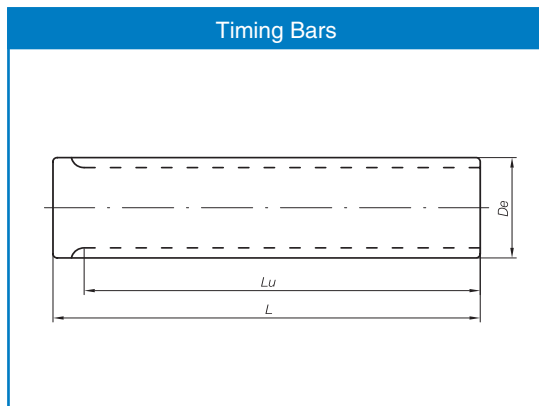


Material
AL = Aluminium

Metric Timing Bars

T10 Pitch = 10mm

| Code | Teeth | De | Lu | L | Material |
|----------|-------|--------|-----|-----|----------|
| T10 - 10 | 10 | 29.98 | 140 | 140 | AL |
| T10 - 11 | 11 | 33.17 | 140 | 140 | AL |
| T10 - 12 | 12 | 36.35 | 140 | 140 | AL |
| T10 - 13 | 13 | 39.53 | 140 | 140 | AL |
| T10 - 14 | 14 | 42.71 | 160 | 160 | AL |
| T10 - 15 | 15 | 45.90 | 160 | 160 | AL |
| T10 - 16 | 16 | 49.08 | 160 | 160 | AL |
| T10 - 17 | 17 | 52.26 | 160 | 160 | AL |
| T10 - 18 | 18 | 55.45 | 160 | 160 | AL |
| T10 - 19 | 19 | 58.63 | 160 | 160 | AL |
| T10 - 20 | 20 | 61.81 | 160 | 160 | AL |
| T10 - 21 | 21 | 65.00 | 160 | 160 | AL |
| T10 - 22 | 22 | 68.18 | 160 | 160 | AL |
| T10 - 23 | 23 | 71.36 | 160 | 160 | AL |
| T10 - 24 | 24 | 74.55 | 160 | 160 | AL |
| T10 - 25 | 25 | 77.73 | 160 | 160 | AL |
| T10 - 26 | 26 | 80.91 | 160 | 160 | AL |
| T10 - 27 | 27 | 84.1 | 160 | 160 | AL |
| T10 - 28 | 28 | 87.28 | 160 | 160 | AL |
| T10 - 30 | 30 | 93.65 | 160 | 160 | AL |
| T10 - 32 | 32 | 100.01 | 160 | 160 | AL |
| T10 - 34 | 34 | 106.38 | 160 | 160 | AL |
| T10 - 36 | 36 | 112.74 | 160 | 160 | AL |
| T10 - 38 | 38 | 119.11 | 160 | 160 | AL |
| T10 - 40 | 40 | 125.48 | 160 | 160 | AL |
| T10 - 45 | 45 | 141.39 | 160 | 160 | AL |
| T10 - 48 | 48 | 150.94 | 160 | 160 | AL |
| T10 - 60 | 60 | 189.14 | 160 | 160 | AL |
| T10 - 72 | 72 | 227.34 | 160 | 160 | AL |



Material
AL = Aluminium

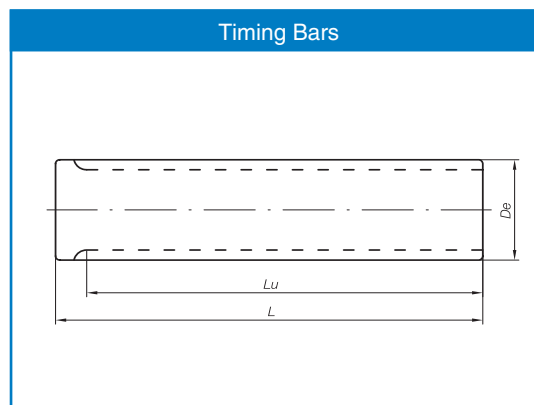
Metric Timing Bars

AT5 Pitch = 5mm

| Code | Teeth | De | Lu | L | Material |
|----------|-------|--------|-----|-----|----------|
| AT5 - 12 | 12 | 17.87 | 140 | 140 | AL |
| AT5 - 13 | 13 | 19.46 | 140 | 140 | AL |
| AT5 - 14 | 14 | 21.05 | 140 | 140 | AL |
| AT5 - 15 | 15 | 22.64 | 140 | 140 | AL |
| AT5 - 16 | 16 | 24.24 | 140 | 140 | AL |
| AT5 - 17 | 17 | 25.83 | 140 | 140 | AL |
| AT5 - 18 | 18 | 27.42 | 140 | 140 | AL |
| AT5 - 19 | 19 | 29.01 | 140 | 140 | AL |
| AT5 - 20 | 20 | 30.60 | 160 | 160 | AL |
| AT5 - 21 | 21 | 32.19 | 160 | 160 | AL |
| AT5 - 22 | 22 | 33.79 | 160 | 160 | AL |
| AT5 - 23 | 23 | 35.38 | 160 | 160 | AL |
| AT5 - 24 | 24 | 36.97 | 160 | 160 | AL |
| AT5 - 25 | 25 | 38.56 | 160 | 160 | AL |
| AT5 - 26 | 26 | 40.15 | 160 | 160 | AL |
| AT5 - 27 | 27 | 41.74 | 160 | 160 | AL |
| AT5 - 28 | 28 | 43.33 | 160 | 160 | AL |
| AT5 - 29 | 29 | 44.93 | 160 | 160 | AL |
| AT5 - 30 | 30 | 46.52 | 160 | 160 | AL |
| AT5 - 31 | 31 | 48.11 | 160 | 160 | AL |
| AT5 - 32 | 32 | 49.70 | 160 | 160 | AL |
| AT5 - 34 | 34 | 52.88 | 160 | 160 | AL |
| AT5 - 35 | 35 | 54.48 | 160 | 160 | AL |
| AT5 - 36 | 36 | 56.07 | 160 | 160 | AL |
| AT5 - 38 | 38 | 59.25 | 160 | 160 | AL |
| AT5 - 40 | 40 | 62.43 | 160 | 160 | AL |
| AT5 - 42 | 42 | 65.62 | 160 | 160 | AL |
| AT5 - 44 | 44 | 68.80 | 160 | 160 | AL |
| AT5 - 45 | 45 | 70.90 | 160 | 160 | AL |
| AT5 - 46 | 46 | 71.98 | 160 | 160 | AL |
| AT5 - 48 | 48 | 75.17 | 160 | 160 | AL |
| AT5 - 50 | 50 | 78.35 | 160 | 160 | AL |
| AT5 - 60 | 60 | 94.27 | 160 | 160 | AL |
| AT5 - 64 | 64 | 100.63 | 160 | 160 | AL |
| AT5 - 72 | 72 | 113.36 | 160 | 160 | AL |

AT10 Pitch = 10mm

| Code | Teeth | De | Lu | L | Material |
|-----------|-------|--------|-----|-----|----------|
| AT10 - 15 | 15 | 45.90 | 160 | 160 | AL |
| AT10 - 16 | 16 | 49.08 | 160 | 160 | AL |
| AT10 - 17 | 17 | 52.26 | 160 | 160 | AL |
| AT10 - 18 | 18 | 55.45 | 160 | 160 | AL |
| AT10 - 19 | 19 | 58.63 | 160 | 160 | AL |
| AT10 - 20 | 20 | 61.81 | 160 | 160 | AL |
| AT10 - 21 | 21 | 65.00 | 160 | 160 | AL |
| AT10 - 22 | 22 | 68.18 | 160 | 160 | AL |
| AT10 - 23 | 23 | 71.36 | 160 | 160 | AL |
| AT10 - 24 | 24 | 74.55 | 160 | 160 | AL |
| AT10 - 25 | 25 | 77.73 | 160 | 160 | AL |
| AT10 - 26 | 26 | 80.91 | 160 | 160 | AL |
| AT10 - 27 | 27 | 84.10 | 160 | 160 | AL |
| AT10 - 28 | 28 | 87.28 | 160 | 160 | AL |
| AT10 - 29 | 29 | 90.46 | 160 | 160 | AL |
| AT10 - 30 | 30 | 93.65 | 160 | 160 | AL |
| AT10 - 32 | 32 | 100.01 | 160 | 160 | AL |
| AT10 - 34 | 34 | 106.38 | 160 | 160 | AL |
| AT10 - 35 | 35 | 109.56 | 160 | 160 | AL |
| AT10 - 36 | 36 | 112.74 | 160 | 160 | AL |
| AT10 - 38 | 38 | 119.11 | 160 | 160 | AL |
| AT10 - 40 | 40 | 125.48 | 160 | 160 | AL |
| AT10 - 42 | 42 | 131.84 | 160 | 160 | AL |
| AT10 - 44 | 44 | 138.21 | 160 | 160 | AL |
| AT10 - 45 | 45 | 141.39 | 160 | 160 | AL |
| AT10 - 48 | 48 | 150.94 | 160 | 160 | AL |
| AT10 - 52 | 52 | 163.68 | 160 | 160 | AL |
| AT10 - 60 | 60 | 189.14 | 160 | 160 | AL |



Material
AL = Aluminium

HTD Profile Timing Bars

3M Pitch = 3mm

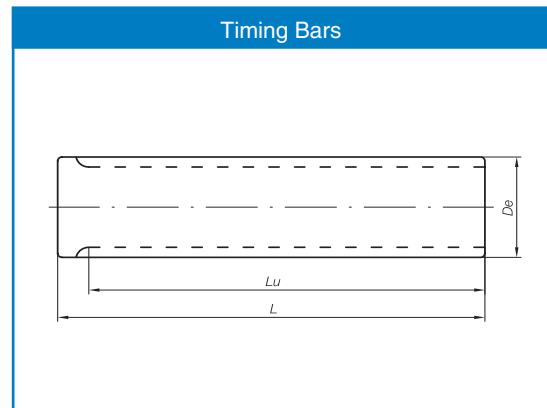
| Code | Teeth | De | Lu | L | Material |
|---------|-------|-------|-----|-----|----------|
| 3M - 10 | 10 | 8.79 | 75 | 100 | AL |
| 3M - 11 | 11 | 9.74 | 75 | 100 | AL |
| 3M - 12 | 12 | 10.70 | 100 | 120 | AL |
| 3M - 13 | 13 | 11.65 | 100 | 120 | AL |
| 3M - 14 | 14 | 12.61 | 100 | 120 | AL |
| 3M - 15 | 15 | 13.56 | 100 | 120 | AL |
| 3M - 16 | 16 | 14.52 | 125 | 160 | AL |
| 3M - 17 | 17 | 15.47 | 125 | 160 | AL |
| 3M - 18 | 18 | 16.43 | 125 | 160 | AL |
| 3M - 19 | 19 | 17.38 | 125 | 160 | AL |
| 3M - 20 | 20 | 18.34 | 150 | 160 | AL |
| 3M - 21 | 21 | 19.29 | 150 | 160 | AL |
| 3M - 22 | 22 | 20.25 | 150 | 160 | AL |
| 3M - 23 | 23 | 21.20 | 150 | 160 | AL |
| 3M - 24 | 24 | 22.16 | 150 | 160 | AL |
| 3M - 25 | 25 | 23.11 | 150 | 160 | AL |
| 3M - 26 | 26 | 24.07 | 150 | 160 | AL |
| 3M - 28 | 28 | 25.98 | 150 | 160 | AL |
| 3M - 30 | 30 | 27.89 | 175 | 200 | AL |
| 3M - 32 | 32 | 29.80 | 175 | 200 | AL |
| 3M - 34 | 34 | 31.71 | 175 | 200 | AL |
| 3M - 36 | 36 | 33.62 | 200 | 200 | AL |
| 3M - 38 | 38 | 35.53 | 200 | 200 | AL |
| 3M - 40 | 40 | 37.44 | 200 | 200 | AL |
| 3M - 42 | 42 | 39.35 | 200 | 200 | AL |
| 3M - 45 | 45 | 42.21 | 200 | 200 | AL |
| 3M - 48 | 48 | 45.08 | 200 | 200 | AL |
| 3M - 60 | 60 | 56.54 | 200 | 200 | AL |
| 3M - 72 | 72 | 68.00 | 200 | 200 | AL |

8M Pitch = 8mm

| Code | Teeth | De | Lu | L | Material |
|---------|-------|--------|-----|-----|----------|
| 8M - 18 | 18 | 44.47 | 200 | 200 | AL |
| 8M - 19 | 19 | 47.01 | 200 | 200 | AL |
| 8M - 20 | 20 | 49.56 | 200 | 200 | AL |
| 8M - 21 | 21 | 52.11 | 200 | 200 | AL |
| 8M - 22 | 22 | 54.65 | 200 | 200 | AL |
| 8M - 23 | 23 | 57.20 | 200 | 200 | AL |
| 8M - 24 | 24 | 59.75 | 200 | 200 | AL |
| 8M - 25 | 25 | 62.29 | 200 | 200 | AL |
| 8M - 26 | 26 | 64.84 | 200 | 200 | AL |
| 8M - 27 | 27 | 67.39 | 200 | 200 | AL |
| 8M - 28 | 28 | 70.08 | 200 | 200 | AL |
| 8M - 29 | 29 | 72.48 | 200 | 200 | AL |
| 8M - 30 | 30 | 75.03 | 200 | 200 | AL |
| 8M - 32 | 32 | 80.12 | 200 | 200 | AL |
| 8M - 34 | 34 | 85.21 | 200 | 200 | AL |
| 8M - 35 | 35 | 87.76 | 200 | 200 | AL |
| 8M - 36 | 36 | 90.31 | 200 | 200 | AL |
| 8M - 38 | 38 | 95.40 | 200 | 200 | AL |
| 8M - 40 | 40 | 100.49 | 200 | 200 | AL |

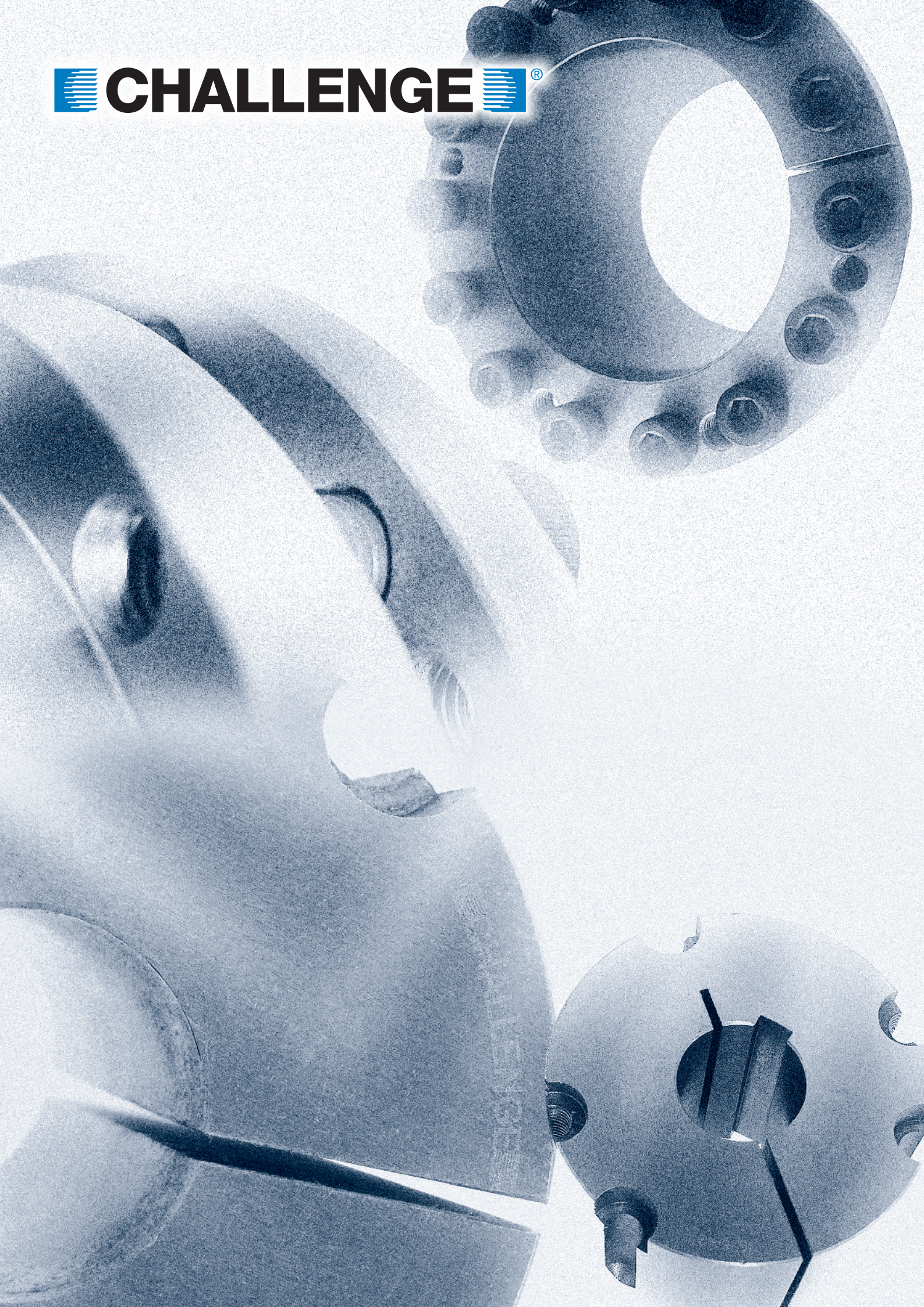
5M Pitch = 5mm

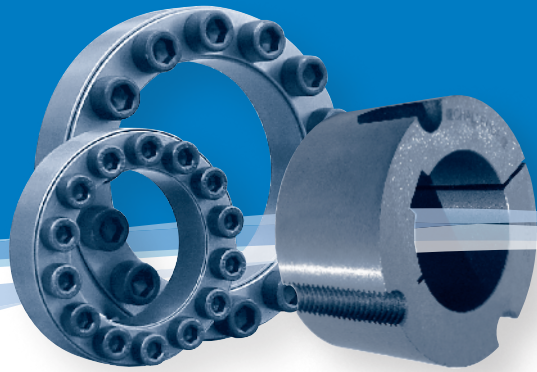
| Code | Teeth | De | Lu | L | Material |
|---------|-------|--------|-----|-----|----------|
| 5M - 12 | 12 | 17.96 | 150 | 160 | AL |
| 5M - 13 | 13 | 19.55 | 150 | 160 | AL |
| 5M - 14 | 14 | 21.14 | 175 | 200 | AL |
| 5M - 15 | 15 | 22.73 | 175 | 200 | AL |
| 5M - 16 | 16 | 24.33 | 175 | 200 | AL |
| 5M - 17 | 17 | 25.92 | 175 | 200 | AL |
| 5M - 18 | 18 | 27.51 | 200 | 200 | AL |
| 5M - 19 | 19 | 29.10 | 200 | 200 | AL |
| 5M - 20 | 20 | 30.69 | 200 | 200 | AL |
| 5M - 21 | 21 | 32.28 | 200 | 200 | AL |
| 5M - 22 | 22 | 33.88 | 200 | 200 | AL |
| 5M - 23 | 23 | 35.47 | 200 | 200 | AL |
| 5M - 24 | 24 | 37.06 | 200 | 200 | AL |
| 5M - 26 | 26 | 40.24 | 200 | 200 | AL |
| 5M - 27 | 27 | 41.83 | 200 | 200 | AL |
| 5M - 28 | 28 | 43.42 | 200 | 200 | AL |
| 5M - 30 | 30 | 46.61 | 200 | 200 | AL |
| 5M - 32 | 32 | 49.79 | 200 | 200 | AL |
| 5M - 34 | 34 | 52.97 | 200 | 200 | AL |
| 5M - 36 | 36 | 56.16 | 200 | 200 | AL |
| 5M - 38 | 38 | 59.34 | 200 | 200 | AL |
| 5M - 40 | 40 | 62.52 | 200 | 200 | AL |
| 5M - 42 | 42 | 65.71 | 200 | 200 | AL |
| 5M - 44 | 44 | 68.89 | 200 | 200 | AL |
| 5M - 45 | 45 | 70.48 | 200 | 200 | AL |
| 5M - 48 | 48 | 75.26 | 200 | 200 | AL |
| 5M - 50 | 50 | 78.44 | 200 | 200 | AL |
| 5M - 60 | 60 | 94.36 | 200 | 200 | AL |
| 5M - 72 | 72 | 113.45 | 200 | 200 | AL |



Material
AL = Aluminium

 **CHALLENGE**  [®]





Features

Taper Bushes

- Easy installation and removal
- No re-boring as a full range of both metric and imperial bores are available
- Totally proven bush system. Millions in use world wide
- Fit standard shafts
- Quality screws used
- Keys not required on light duty applications
- Short length bushes allow increased maximum bores
- Superior packaging complete with fitting instructions

Adaptors

- Allows pilot bore products to be adapted for taper bush use
- Avoids the need to drill, tap and taper bore
- Plain outside diameter or keyed are available
- Conform to all major international standards

Bolt-on-Hubs

- Designed to accept the universally popular taper bush
- A convenient way in which products such as fan rotors, impellers etc can be converted to accept taper bushes without welding

Weld-on-Hubs

- Manufactured from low carbon steel and designed to accept taper bushes
- Provide a convenient means of welding hubs into fan rotors, plate sprockets etc.
- Three different designs available

Cone Clamping Elements

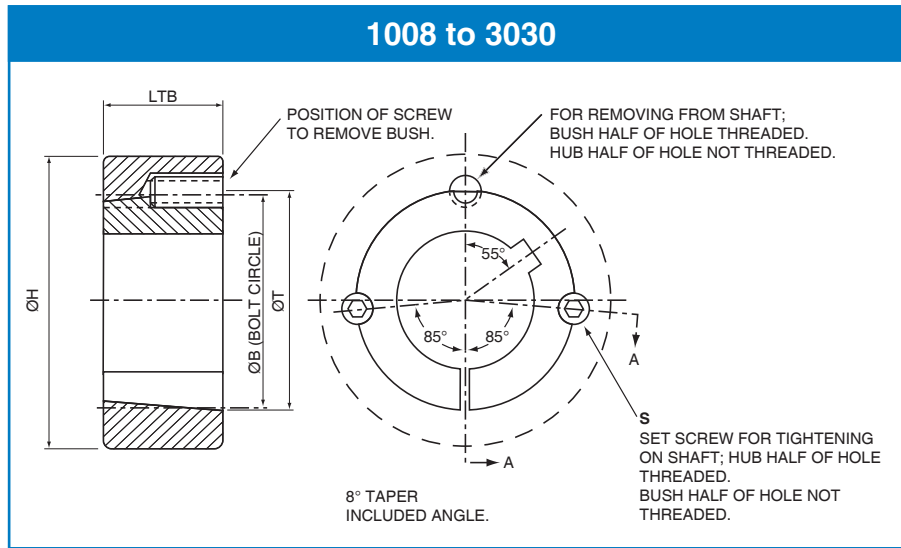
- Premium grade quality with high machining tolerances and surface finishes
- Wide range of sizes and configurations
- Keyless design
- Simple installation and ease of removal
- Zero backlash eliminates fretting corrosion and is unaffected by alternating torques
- Angular and axial misalignment capability

Taper Bushes

Range and Material Specifications:

Challenge Taper Bushes are manufactured to the highest quality standards using GG22 - 25 cast iron depending on size. Thin wall bushes are produced either from C45 steel or GGG close grain cast iron. All surfaces are carefully machined to provide maximum contact area and transmission of torque.

In excess of 700 sizes of Challenge Taper Bushes are manufactured and stocked making this one of the most comprehensive ranges available today.

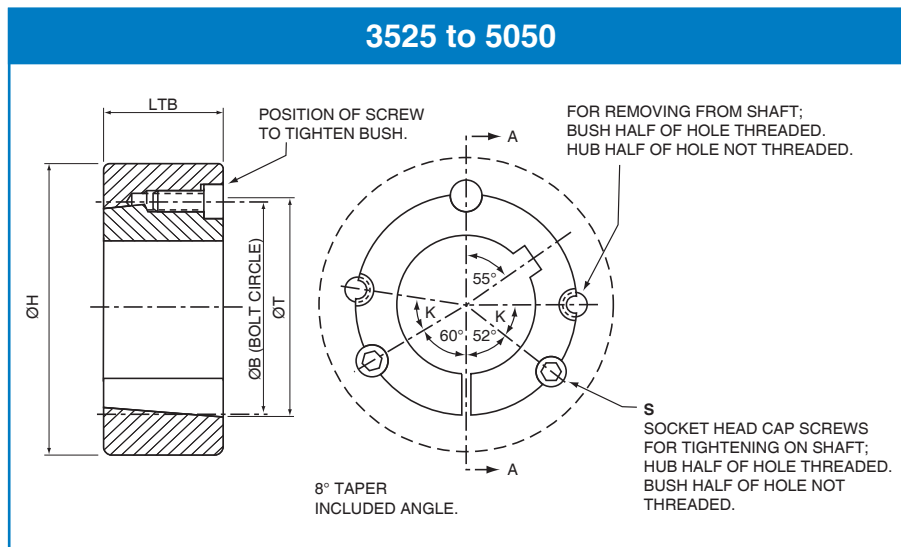


Taper Bush 1008 to 3030

| Bush Size | T | LTB | Minimum hub Dia H | | | B | Set Screws S | |
|-----------|--------|------|-------------------------------|-------------------------------|-----------------------------|--------|--------------|---------------|
| | | | 200 N/mm ² GG Iron | 250 N/mm ² GG Iron | 420 N/mm ² Steel | | Quantity | Size (BSW) |
| 1008 | 35.20 | 22.3 | 59 | 54 | 51 | 33.73 | 2 | 1/4" x 1/2" |
| 1108 | 38.38 | 22.3 | 61 | 57 | 54 | 36.92 | 2 | 1/4" x 1/2" |
| 1210 | 47.62 | 25.4 | 99 | 86 | 78 | 44.44 | 2 | 3/8" x 5/8" |
| 1215 | 47.62 | 38.1 | 79 | 73 | 68 | 44.44 | 2 | 3/8" x 5/8" |
| 1310 | 50.80 | 25.4 | 100 | 88 | 80 | 47.63 | 2 | 3/8" x 5/8" |
| 1610 | 57.15 | 25.4 | 102 | 92 | 85 | 53.97 | 2 | 3/8" x 5/8" |
| 1615 | 57.15 | 38.1 | 86 | 81 | 77 | 53.97 | 2 | 3/8" x 5/8" |
| 2012 | 69.85 | 31.8 | 115 | 106 | 99 | 66.68 | 2 | 7/16" x 7/8" |
| 2517 | 85.73 | 44.5 | 125 | 119 | 113 | 82.55 | 2 | 1/2" x 1" |
| 2525 | 85.73 | 63.5 | 115 | 111 | 108 | 82.56 | 2 | 1/2" x 1" |
| 3020 | 107.96 | 50.8 | 154 | 146 | 140 | 101.60 | 2 | 5/8" x 1.1/4" |
| 3030 | 107.96 | 76.2 | 141 | 136 | 132 | 101.60 | 2 | 5/8" x 1.1/4" |

Severe operating conditions may require the use of a larger diameter hub.

Taper Bushes



Taper Bush 3525 to 5050

| Bush Size | T | LTB | Minimum hub Dia H | | | B | Cap Screws S | | K |
|-----------|--------|-------|-------------------------------|-------------------------------|-----------------------------|--------|--------------|---------------|-----|
| | | | 200 N/mm ² GG Iron | 250 N/mm ² GG Iron | 420 N/mm ² Steel | | Quantity | Size (BSW) | |
| 3525 | 127.00 | 63.5 | 206 | 191 | 178 | 122.68 | 3 | 1/2" x 1.1/2" | 40° |
| 3535 | 127.00 | 89.0 | 185 | 176 | 168 | 122.68 | 3 | 1/2" x 1.1/2" | 40° |
| 4030 | 146.05 | 76.2 | 220 | 207 | 197 | 140.72 | 3 | 5/8" x 1.3/4" | 40° |
| 4040 | 146.05 | 101.5 | 203 | 195 | 188 | 140.72 | 3 | 5/8" x 1.1/4" | 40° |
| 4535 | 161.93 | 89.0 | 221 | 212 | 205 | 155.70 | 3 | 3/4" x 2" | 40° |
| 4545 | 161.93 | 114.3 | 211 | 205 | 200 | 155.70 | 3 | 3/4" x 2" | 40° |
| 5040 | 177.80 | 101.6 | 236 | 229 | 223 | 170.69 | 3 | 7/8" x 2.1/4" | 37° |
| 5050 | 177.80 | 127.0 | 230 | 223 | 219 | 170.69 | 3 | 7/8" x 2.1/4" | 37° |

Severe operating conditions may require the use of a larger diameter hub.

Taper Bushes

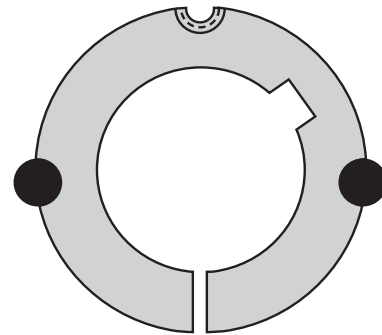
To Install

- 1 Ensure the mating surfaces are clean and free from oil and dirt. Insert the bush into the hub so that the securing holes are aligned
- 2 Lightly oil the thread of the screws and place them loosely into the threaded holes of the hub as shown in the diagram
- 3 Clean the shaft and fit the hub and bush to the shaft as one unit in the desired position. Remember that the bush will nip the shaft first and the hub will then be drawn slightly on to the bush
- 4 Using a hexagon wrench, gradually tighten the screws alternately until tight
- 5 Hammer against the large end of the bush using a block to avoid damaging the bush. The screws can now be tightened more. Repeat this procedure until the correct wrench tightening torque is achieved from the table below
- 6 To achieve the best balance, if a key is not used, position the keyways in the bush and hub diametrically opposite to each other
- 7 If a key is to be fitted, locate it in the shaft keyway before fitting the bush. It is essential that a parallel key with top clearance be fitted. Under no circumstances should taper or top fitting keys be used
- 8 After the drive has been running for a short time, check the tightness of the screws
- 9 Finally, fill all empty holes with grease to exclude dirt and prevent corrosion

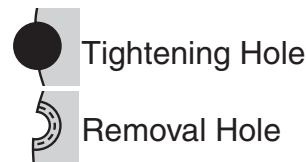
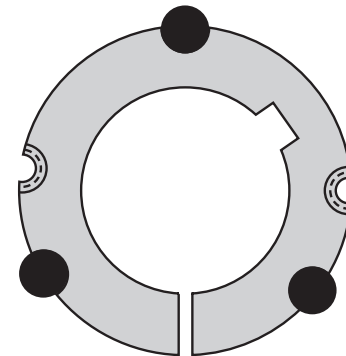
To Remove

- 1 Slacken all screws and remove one or two screws, according to the number of removal holes (see diagrams)
- 2 Lightly oil the screw(s) and insert it or them into the removal hole(s) and tighten down until the assembly loosens. If the bush does not loosen immediately, lightly tap the hub
- 3 Remove the assembly from the shaft

1008 to 3030



3525 to 5050



Recommended Wrench Torque

| Bush Size | Screws | Tightening Torque (Nm) | Bush Size | Screws | Tightening Torque (Nm) | Bush Size | Screws | Tightening Torque (Nm) |
|-----------|-----------------|------------------------|-----------|------------------|------------------------|-----------|-----------------|------------------------|
| 1008 | 1/4" Set Screws | 6 | 2012 | 7/16" Set Screws | 30 | 4030 | 5/8" Cap Screws | 170 |
| 1108 | 1/4" Set Screws | 6 | 2517 | 1/2" Set Screws | 50 | 4040 | 5/8" Cap Screws | 170 |
| 1210 | 3/8" Set Screws | 20 | 2525 | 1/2" Set Screws | 50 | 4535 | 3/4" Cap Screws | 190 |
| 1215 | 3/8" Set Screws | 20 | 3020 | 5/8" Set Screws | 90 | 4545 | 3/4" Cap Screws | 190 |
| 1310 | 3/8" Set Screws | 20 | 3030 | 5/8" Set Screws | 90 | 5040 | 7/8" Cap Screws | 270 |
| 1610 | 3/8" Set Screws | 20 | 3525 | 1/2" Cap Screws | 105 | 5050 | 7/8" Cap Screws | 270 |
| 1615 | 3/8" Set Screws | 20 | 3535 | 1/2" Cap Screws | 105 | | | |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Taper Bushes - Metric

1008

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|---------|
| | | Bush | Shaft |
| 9 | 0.13 | 3 x 1.4 | 3 x 1.8 |
| 10 | 0.13 | 3 x 1.4 | 3 x 1.8 |
| 11 | 0.12 | 4 x 1.8 | 4 x 2.5 |
| 12 | 0.12 | 4 x 1.8 | 4 x 2.5 |
| 14 | 0.11 | 5 x 2.3 | 5 x 3.0 |
| 15 | 0.11 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.10 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.10 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.09 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.09 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.08 | 6 x 2.8 | 6 x 3.5 |
| 24* | 0.07 | 8 x 1.3* | 8 x 4.0 |
| 25* | 0.06 | 8 x 1.3* | 8 x 4.0 |

1108

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|---------|
| | | Bush | Shaft |
| 9 | 0.15 | 3 x 1.4 | 3 x 1.8 |
| 10 | 0.15 | 3 x 1.4 | 3 x 1.8 |
| 11 | 0.15 | 4 x 1.8 | 4 x 2.5 |
| 12 | 0.14 | 4 x 1.8 | 4 x 2.5 |
| 14 | 0.14 | 5 x 2.3 | 5 x 3.0 |
| 15 | 0.13 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.13 | 5 x 2.3 | 5 x 3.0 |
| 17 | 0.12 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.12 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.11 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.11 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.10 | 6 x 2.8 | 6 x 3.5 |
| 24 | 0.09 | 8 x 3.3 | 8 x 4.0 |
| 25 | 0.08 | 8 x 3.3 | 8 x 4.0 |
| 28* | 0.06 | 8 x 1.3* | 8 x 4.0 |

1210

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 11 | 0.26 | 4 x 1.8 | 4 x 2.5 |
| 12 | 0.26 | 4 x 1.8 | 4 x 2.5 |
| 14 | 0.25 | 5 x 2.3 | 5 x 3.0 |
| 15 | 0.25 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.24 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.23 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.23 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.22 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.21 | 6 x 2.8 | 6 x 3.5 |
| 24 | 0.19 | 8 x 3.3 | 8 x 4.0 |
| 25 | 0.19 | 8 x 3.3 | 8 x 4.0 |
| 28 | 0.16 | 8 x 3.3 | 8 x 4.0 |
| 30 | 0.15 | 8 x 3.3 | 8 x 4.0 |
| 32 | 0.14 | 10 x 3.3 | 10 x 5.0 |

1215

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 11 | 0.39 | 4 x 1.8 | 4 x 2.5 |
| 12 | 0.39 | 4 x 1.8 | 4 x 2.5 |
| 14 | 0.37 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.36 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.34 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.34 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.33 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.31 | 6 x 2.8 | 6 x 3.5 |
| 24 | 0.29 | 8 x 3.3 | 8 x 4.0 |
| 25 | 0.28 | 8 x 3.3 | 8 x 4.0 |
| 28 | 0.24 | 8 x 3.3 | 8 x 4.0 |
| 30 | 0.22 | 8 x 3.3 | 8 x 4.0 |
| 32 | 0.20 | 10 x 3.3 | 10 x 5.0 |

1310

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 14 | 0.31 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.30 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.29 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.28 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.28 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.26 | 5 x 2.8 | 6 x 3.5 |
| 24 | 0.25 | 8 x 3.3 | 8 x 4.0 |
| 25 | 0.25 | 8 x 3.3 | 8 x 4.0 |
| 28 | 0.22 | 8 x 3.3 | 8 x 4.0 |
| 30 | 0.20 | 8 x 3.3 | 8 x 4.0 |
| 32 | 0.18 | 10 x 3.3 | 10 x 5.0 |
| 35 | 0.16 | 10 x 3.3 | 10 x 5.0 |

1610

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 14 | 0.38 | 5 x 2.3 | 5 x 3.0 |
| 15 | 0.37 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.37 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.36 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.35 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.35 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.33 | 6 x 2.8 | 6 x 3.5 |
| 24 | 0.32 | 8 x 3.3 | 8 x 4.0 |
| 25 | 0.31 | 8 x 3.3 | 8 x 4.0 |
| 28 | 0.29 | 8 x 3.3 | 8 x 4.0 |
| 30 | 0.27 | 8 x 3.3 | 8 x 4.0 |
| 32 | 0.26 | 10 x 3.3 | 10 x 5.0 |
| 35 | 0.22 | 10 x 3.3 | 10 x 5.0 |
| 38 | 0.19 | 10 x 3.3 | 10 x 5.0 |
| 40 | 0.18 | 12 x 3.3 | 12 x 5.0 |
| 42 | 0.16 | 12 x 3.3 | 12 x 5.0 |

† Net weight including screws.

Keyways are in accordance with BS4235, Part 1, 1972, DIN6885 and conform to ISO recommendations with the exception of those marked* which are shallower.

Depth of key measured at centre.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Taper Bushes - Metric

1615

| Bore | Weight kg † | Keyseat | |
|------|----------------|-----------|----------|
| | | Bush | Shaft |
| 14 | 0.57 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.56 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.54 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.54 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.53 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.51 | 6 x 2.8 | 6 x 3.5 |
| 24 | 0.49 | 8 x 3.3 | 8 x 4.0 |
| 25 | 0.48 | 8 x 3.3 | 8 x 4.0 |
| 28 | 0.44 | 8 x 3.3 | 8 x 4.0 |
| 30 | 0.42 | 8 x 3.3 | 8 x 4.0 |
| 32 | 0.39 | 10 x 3.3 | 10 x 5.0 |
| 35 | 0.34 | 10 x 3.3 | 10 x 5.0 |
| 38 | 0.30 | 10 x 3.3 | 10 x 5.0 |
| 40 | 0.28 | 12 x 3.3 | 12 x 5.0 |
| 42* | 0.24 | 12 x 2.2* | 12 x 5.0 |

2517

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 16 | 1.67 | 5 x 2.3 | 5 x 3.0 |
| 18 | 1.65 | 6 x 2.8 | 6 x 3.5 |
| 19 | 1.64 | 6 x 2.8 | 6 x 3.5 |
| 20 | 1.63 | 6 x 2.8 | 6 x 3.5 |
| 22 | 1.61 | 6 x 2.8 | 6 x 3.5 |
| 24 | 1.59 | 8 x 3.3 | 8 x 4.0 |
| 25 | 1.57 | 8 x 3.3 | 8 x 4.0 |
| 28 | 1.53 | 8 x 3.3 | 8 x 4.0 |
| 30 | 1.50 | 8 x 3.3 | 8 x 4.0 |
| 32 | 1.47 | 10 x 3.3 | 10 x 5.0 |
| 35 | 1.42 | 10 x 3.3 | 10 x 5.0 |
| 38 | 1.36 | 10 x 3.3 | 10 x 5.0 |
| 40 | 1.32 | 12 x 3.3 | 12 x 5.0 |
| 42 | 1.28 | 12 x 3.3 | 12 x 5.0 |
| 45 | 1.21 | 14 x 3.8 | 14 x 5.5 |
| 48 | 1.14 | 14 x 3.8 | 14 x 5.5 |
| 50 | 1.09 | 14 x 3.8 | 14 x 5.5 |
| 55 | 0.96 | 16 x 4.3 | 16 x 6.0 |
| 60 | 0.81 | 18 x 4.4 | 18 x 7.0 |
| 65 | 0.65 | 18 x 4.4 | 18 x 7.0 |

3020

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 20 | 2.93 | 8 x 3.3 | 8 x 4.0 |
| 25 | 2.87 | 8 x 3.3 | 8 x 4.0 |
| 28 | 2.82 | 8 x 3.3 | 8 x 4.0 |
| 30 | 2.79 | 8 x 3.3 | 8 x 4.0 |
| 32 | 2.75 | 10 x 3.3 | 10 x 5.0 |
| 35 | 2.69 | 10 x 3.3 | 10 x 5.0 |
| 38 | 2.63 | 10 x 3.3 | 10 x 5.0 |
| 40 | 2.58 | 12 x 3.3 | 12 x 5.0 |
| 42 | 2.53 | 12 x 3.3 | 12 x 5.0 |
| 45 | 2.46 | 14 x 3.8 | 14 x 5.5 |
| 48 | 2.37 | 14 x 3.8 | 14 x 5.5 |
| 50 | 2.32 | 14 x 3.8 | 14 x 5.5 |
| 55 | 2.16 | 16 x 4.3 | 16 x 6.0 |
| 60 | 1.99 | 18 x 4.4 | 18 x 7.0 |
| 65 | 1.81 | 18 x 4.4 | 18 x 7.0 |
| 70 | 1.61 | 20 x 4.9 | 20 x 7.5 |
| 75 | 1.39 | 20 x 4.9 | 20 x 7.5 |

2012

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 14 | 0.76 | 5 x 2.3 | 5 x 3.0 |
| 16 | 0.75 | 5 x 2.3 | 5 x 3.0 |
| 18 | 0.74 | 6 x 2.8 | 6 x 3.5 |
| 19 | 0.73 | 6 x 2.8 | 6 x 3.5 |
| 20 | 0.73 | 6 x 2.8 | 6 x 3.5 |
| 22 | 0.71 | 6 x 2.8 | 6 x 3.5 |
| 24 | 0.69 | 8 x 3.3 | 8 x 4.0 |
| 25 | 0.69 | 8 x 3.3 | 8 x 4.0 |
| 28 | 0.66 | 8 x 3.3 | 8 x 4.0 |
| 30 | 0.63 | 8 x 3.3 | 8 x 4.0 |
| 32 | 0.61 | 10 x 3.3 | 10 x 5.0 |
| 35 | 0.57 | 10 x 3.3 | 10 x 5.0 |
| 38 | 0.53 | 10 x 3.3 | 10 x 5.0 |
| 40 | 0.51 | 12 x 3.3 | 12 x 5.0 |
| 42 | 0.48 | 12 x 3.3 | 12 x 5.0 |
| 45 | 0.43 | 14 x 3.8 | 14 x 5.5 |
| 48 | 0.38 | 14 x 3.8 | 14 x 5.5 |
| 50 | 0.34 | 14 x 3.8 | 14 x 5.5 |

2525

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 18 | 2.18 | 6 x 2.8 | 6 x 3.5 |
| 19 | 2.17 | 6 x 2.8 | 6 x 3.5 |
| 20 | 2.16 | 6 x 2.8 | 6 x 3.5 |
| 22 | 2.13 | 6 x 2.8 | 6 x 3.5 |
| 24 | 2.09 | 8 x 3.3 | 8 x 4.0 |
| 25 | 2.07 | 8 x 3.3 | 8 x 4.0 |
| 28 | 2.02 | 8 x 3.3 | 8 x 4.0 |
| 30 | 1.97 | 8 x 3.3 | 8 x 4.0 |
| 32 | 1.93 | 10 x 3.3 | 10 x 5.0 |
| 35 | 1.85 | 10 x 3.3 | 10 x 5.0 |
| 38 | 1.77 | 10 x 3.3 | 10 x 5.0 |
| 40 | 1.71 | 12 x 3.3 | 12 x 5.0 |
| 42 | 1.65 | 12 x 3.3 | 12 x 5.0 |
| 45 | 1.56 | 14 x 3.8 | 14 x 5.5 |
| 48 | 1.46 | 14 x 3.8 | 14 x 5.5 |
| 50 | 1.38 | 14 x 3.8 | 14 x 5.5 |
| 55 | 1.19 | 16 x 4.3 | 16 x 6.0 |
| 60 | 0.98 | 18 x 4.4 | 18 x 7.0 |

3030

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 25 | 4.04 | 8 x 3.3 | 8 x 4.0 |
| 35 | 3.77 | 10 x 3.3 | 10 x 5.0 |
| 38 | 3.67 | 10 x 3.3 | 10 x 5.0 |
| 40 | 3.60 | 12 x 3.3 | 12 x 5.0 |
| 42 | 3.53 | 12 x 3.3 | 12 x 5.0 |
| 45 | 3.42 | 14 x 3.8 | 14 x 5.5 |
| 48 | 3.29 | 14 x 3.8 | 14 x 5.5 |
| 50 | 3.21 | 14 x 3.8 | 14 x 5.5 |
| 55 | 2.98 | 16 x 4.3 | 16 x 6.0 |
| 60 | 2.72 | 18 x 4.4 | 18 x 7.0 |
| 65 | 2.44 | 18 x 4.4 | 18 x 7.0 |
| 70 | 2.15 | 20 x 4.9 | 20 x 7.5 |
| 75 | 1.83 | 20 x 4.9 | 20 x 7.5 |
| 80 | 1.20 | 22 x 5.4 | 22 x 9.0 |

† Net weight including screws.

Keyways are in accordance with BS4235, Part 1, 1972, DIN6885 and conform to ISO recommendations with the exception of those marked* which are shallower.

Depth of key measured at centre.

Taper Bushes - Metric

3525

| Bore | Weight kg † | Keyseat | |
|-------------|----------------|-----------|-----------|
| | | Bush | Shaft |
| 35 | 4.91 | 10 x 3.3 | 10 x 5.0 |
| 38 | 4.83 | 10 x 3.3 | 10 x 5.0 |
| 40 | 4.77 | 12 x 3.3 | 12 x 5.0 |
| 42 | 4.71 | 12 x 3.3 | 12 x 5.0 |
| 45 | 4.62 | 14 x 3.8 | 14 x 5.5 |
| 48 | 4.52 | 14 x 3.8 | 14 x 5.5 |
| 50 | 4.44 | 14 x 3.8 | 14 x 5.5 |
| 55 | 4.25 | 16 x 4.3 | 16 x 6.0 |
| 60 | 4.04 | 18 x 4.4 | 18 x 7.0 |
| 65 | 3.81 | 18 x 4.4 | 18 x 7.0 |
| 70 | 3.56 | 20 x 4.9 | 20 x 7.5 |
| 75 | 3.29 | 20 x 4.9 | 20 x 7.5 |
| 80 | 3.01 | 22 x 5.4 | 22 x 9.0 |
| 85 | 2.70 | 22 x 5.4 | 22 x 9.0 |
| 90 | 2.38 | 25 x 5.4 | 25 x 9.0 |
| 95 | 2.17 | 25 x 5.4 | 25 x 9.0 |
| 100* | 1.79 | 28 x 5.4* | 28 x 10.0 |

3535

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|----------|
| | | Bush | Shaft |
| 32 | 6.65 | 10 x 3.3 | 10 x 5.0 |
| 35 | 6.55 | 10 x 3.3 | 10 x 5.0 |
| 38 | 6.43 | 10 x 3.3 | 10 x 5.0 |
| 40 | 6.35 | 12 x 3.3 | 12 x 5.0 |
| 42 | 6.27 | 12 x 3.3 | 12 x 5.0 |
| 45 | 6.13 | 14 x 3.8 | 14 x 5.5 |
| 48 | 5.99 | 14 x 3.8 | 14 x 5.5 |
| 50 | 5.89 | 14 x 3.8 | 14 x 5.5 |
| 55 | 5.62 | 16 x 4.3 | 16 x 6.0 |
| 60 | 5.32 | 18 x 4.4 | 18 x 7.0 |
| 65 | 5.00 | 18 x 4.4 | 18 x 7.0 |
| 70 | 4.65 | 20 x 4.9 | 20 x 7.5 |
| 75 | 4.28 | 20 x 4.9 | 20 x 7.5 |
| 80 | 3.88 | 22 x 5.4 | 22 x 9.0 |
| 85 | 3.45 | 22 x 5.4 | 22 x 9.0 |
| 90 | 3.00 | 25 x 5.4 | 25 x 9.0 |

4030

| Bore | Weight kg † | Keyseat | |
|-------------|----------------|-----------|-----------|
| | | Bush | Shaft |
| 40 | 7.55 | 12 x 3.3 | 12 x 5.0 |
| 42 | 7.48 | 12 x 3.3 | 12 x 5.0 |
| 45 | 7.36 | 14 x 3.8 | 14 x 5.5 |
| 48 | 7.24 | 14 x 3.8 | 14 x 5.5 |
| 50 | 7.15 | 14 x 3.8 | 14 x 5.5 |
| 55 | 6.92 | 16 x 4.3 | 16 x 6.0 |
| 60 | 6.67 | 18 x 4.4 | 18 x 7.0 |
| 65 | 6.39 | 18 x 4.4 | 18 x 7.0 |
| 70 | 6.09 | 20 x 4.9 | 20 x 7.5 |
| 75 | 5.77 | 20 x 4.9 | 20 x 7.5 |
| 80 | 5.43 | 22 x 5.4 | 22 x 9.0 |
| 85 | 5.06 | 22 x 5.4 | 22 x 9.0 |
| 90 | 4.68 | 25 x 5.4 | 25 x 9.0 |
| 95 | 4.27 | 25 x 5.4 | 25 x 9.0 |
| 100 | 3.84 | 28 x 6.4 | 28 x 10.0 |
| 105 | 3.59 | 28 x 6.4 | 28 x 10.0 |
| 110 | 3.09 | 28 x 6.4 | 28 x 10.0 |
| 115* | 2.56 | 32 x 5.4* | 32 x 11.0 |

4040

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|-----------|
| | | Bush | Shaft |
| 40 | 9.83 | 12 x 3.3 | 12 x 5.0 |
| 42 | 9.73 | 12 x 3.3 | 12 x 5.0 |
| 45 | 9.58 | 14 x 3.8 | 14 x 5.5 |
| 48 | 9.41 | 14 x 3.8 | 14 x 5.5 |
| 50 | 9.30 | 14 x 3.8 | 14 x 5.5 |
| 55 | 8.99 | 16 x 4.3 | 16 x 6.0 |
| 60 | 8.65 | 18 x 4.4 | 18 x 7.0 |
| 65 | 8.28 | 18 x 4.4 | 18 x 7.0 |
| 70 | 7.88 | 20 x 4.9 | 20 x 7.5 |
| 75 | 7.46 | 20 x 4.9 | 20 x 7.5 |
| 80 | 7.00 | 22 x 5.4 | 22 x 9.0 |
| 85 | 6.51 | 22 x 5.4 | 22 x 9.0 |
| 90 | 6.00 | 25 x 5.4 | 25 x 9.0 |
| 95 | 5.45 | 25 x 5.4 | 25 x 9.0 |
| 100 | 4.88 | 28 x 6.4 | 28 x 10.0 |

† Net weight including screws.

Bold italic type indicates bushes made of **GGG cast iron**.

Keyways are in accordance with BS4235, Part 1, 1972, DIN6885 and conform to ISO recommendations with the exception of those marked* which are shallower.

Depth of key measured at centre.

Taper Bushes - Metric

4535

| Bore | Weight kg † | Keyseat | |
|------------|----------------|----------|-----------|
| | | Bush | Shaft |
| 55 | 10.33 | 16 x 4.3 | 10 x 6.0 |
| 60 | 10.03 | 18 x 4.4 | 18 x 7.0 |
| 65 | 9.71 | 18 x 4.4 | 18 x 7.0 |
| 70 | 9.36 | 20 x 4.9 | 20 x 7.5 |
| 75 | 8.99 | 20 x 4.9 | 20 x 7.5 |
| 80 | 8.59 | 22 x 5.4 | 22 x 9.0 |
| 85 | 8.16 | 22 x 5.4 | 22 x 9.0 |
| 90 | 7.71 | 25 x 5.4 | 25 x 9.0 |
| 95 | 7.23 | 25 x 5.4 | 25 x 9.0 |
| 100 | 6.73 | 28 x 6.4 | 28 x 10.0 |
| 105 | 6.20 | 28 x 6.4 | 28 x 10.0 |
| 110 | 5.65 | 28 x 6.4 | 28 x 10.0 |
| 115 | 5.38 | 32 x 7.4 | 32 x 11.0 |
| 120 | 4.73 | 32 x 7.4 | 32 x 11.0 |
| 125 | 4.06 | 32 x 7.4 | 32 x 11.0 |

4545

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|-----------|
| | | Bush | Shaft |
| 55 | 13.72 | 16 x 4.3 | 16 x 6.0 |
| 60 | 13.34 | 18 x 4.4 | 18 x 7.0 |
| 65 | 12.93 | 18 x 4.4 | 18 x 7.0 |
| 70 | 12.48 | 20 x 4.9 | 20 x 7.5 |
| 75 | 12.00 | 20 x 4.9 | 20 x 7.5 |
| 80 | 11.49 | 22 x 5.4 | 22 x 9.0 |
| 85 | 10.94 | 22 x 5.4 | 22 x 9.0 |
| 90 | 10.36 | 25 x 5.4 | 25 x 9.0 |
| 95 | 9.75 | 25 x 5.4 | 25 x 9.0 |
| 100 | 9.10 | 28 x 6.4 | 28 x 10.0 |
| 105 | 8.42 | 28 x 6.4 | 28 x 10.0 |
| 110 | 7.71 | 28 x 6.4 | 28 x 10.0 |

5040

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|-----------|
| | | Bush | Shaft |
| 70 | 13.42 | 20 x 4.9 | 20 x 7.5 |
| 75 | 12.99 | 20 x 4.9 | 20 x 7.5 |
| 80 | 12.53 | 22 x 5.4 | 22 x 9.0 |
| 85 | 12.05 | 22 x 5.4 | 22 x 9.0 |
| 90 | 11.53 | 25 x 5.4 | 25 x 9.0 |
| 95 | 10.99 | 25 x 5.4 | 25 x 9.0 |
| 100 | 10.41 | 28 x 6.4 | 28 x 10.0 |
| 105 | 9.81 | 28 x 6.4 | 28 x 10.0 |
| 110 | 9.17 | 28 x 6.4 | 28 x 10.0 |
| 115 | 8.51 | 32 x 7.4 | 32 x 11.0 |
| 120 | 7.82 | 32 x 7.4 | 32 x 11.0 |
| 125 | 7.10 | 32 x 7.4 | 32 x 11.0 |

5050

| Bore | Weight kg † | Keyseat | |
|------|----------------|----------|-----------|
| | | Bush | Shaft |
| 70 | 16.33 | 20 x 4.9 | 20 x 7.5 |
| 75 | 15.80 | 20 x 4.9 | 20 x 7.5 |
| 80 | 15.23 | 22 x 5.4 | 22 x 9.0 |
| 85 | 14.62 | 22 x 5.4 | 22 x 9.0 |
| 90 | 13.97 | 25 x 5.4 | 25 x 9.0 |
| 95 | 13.29 | 25 x 5.4 | 25 x 9.0 |
| 100 | 12.58 | 28 x 6.4 | 28 x 10.0 |
| 105 | 11.82 | 28 x 6.4 | 28 x 10.0 |
| 110 | 11.03 | 28 x 6.4 | 28 x 10.0 |
| 115 | 10.20 | 32 x 7.4 | 32 x 11.0 |
| 120 | 9.33 | 32 x 7.4 | 32 x 11.0 |
| 125 | 8.43 | 32 x 7.4 | 32 x 11.0 |

† Net weight including screws.

Bold italic type indicates bushes made of **GGG cast iron**.

Keyways are in accordance with BS4235, Part 1, 1972, DIN6885 and conform to ISO recommendations with the exception of those marked* which are shallower.

Depth of key measured at centre.

NOTE

CHALLENGE can manufacture larger taper bush sizes including 6050, 7060 and 8065. These are available to order with the following maximum bores:

6050 150 mm or 6"

7060 175 mm or 7"

8065 200 mm or 8"

Pilot bore taper bushes in these sizes are also available.

Taper Bushes - Imperial

1008

| Bore | Weight | | Keyseat | |
|-------|--------|----------------|---------------|--|
| | kg † | Bush | Shaft | |
| 3/8 | 0.13 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 7/16 | 0.12 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 1/2 | 0.12 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 9/16 | 0.11 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 5/8 | 0.11 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 11/16 | 0.10 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.09 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 13/16 | 0.09 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 7/8 | 0.08 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 15/16 | 0.07 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1* | 0.06 | 0.250 x 0.052* | 0.250 x 0.142 | |

1108

| Bore | Weight | | Keyseat | |
|--------|--------|----------------|---------------|--|
| | kg † | Bush | Shaft | |
| 3/8 | 0.15 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 7/16 | 0.14 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 1/2 | 0.14 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 9/16 | 0.13 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 5/8 | 0.13 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 11/16 | 0.12 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.11 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 13/16 | 0.11 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 7/8 | 0.10 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 15/16 | 0.09 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 0.08 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/16 | 0.07 | 0.312 x 0.065* | 0.312 x 0.177 | |
| 1.1/8* | 0.06 | 0.312 x 0.065* | 0.312 x 0.177 | |

1210

| Bore | Weight | | Keyseat | |
|--------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1/2 | 0.25 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 9/16 | 0.24 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 5/8 | 0.24 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 11/16 | 0.23 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.22 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 13/16 | 0.21 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 7/8 | 0.20 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 15/16 | 0.19 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 0.18 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/16 | 0.17 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/8 | 0.15 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.3/16 | 0.14 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 0.13 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.5/16 | 0.12 | 0.375 x 0.112 | 0.375 x 0.213 | |

1215

| Bore | Weight | | Keyseat | |
|--------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 9/16 | 0.38 | 0.188 x 0.088 | 0.188 x 0.101 | |
| 5/8 | 0.36 | 0.188 x 0.088 | 0.188 x 0.101 | |
| 11/16 | 0.34 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.33 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 13/16 | 0.32 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 7/8 | 0.30 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 15/16 | 0.28 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 0.27 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/16 | 0.25 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/8 | 0.23 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.3/16 | 0.21 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 0.20 | 0.312 x 0.112 | 0.312 x 0.177 | |

1310

| Bore | Weight | | Keyseat | |
|-------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1/2 | 0.31 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 5/8 | 0.30 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.28 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 7/8 | 0.26 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 0.24 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/8 | 0.21 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 0.19 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.3/8 | 0.16 | 0.375 x 0.110 | 0.375 x 0.213 | |

1610

| Bore | Weight | | Keyseat | |
|---------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1/2 | 0.38 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 9/16 | 0.37 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 5/8 | 0.37 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 11/16 | 0.36 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.35 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 13/16 | 0.34 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 7/8 | 0.33 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 15/16 | 0.32 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 0.31 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/16 | 0.30 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/8 | 0.28 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.3/16 | 0.27 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 0.26 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.5/16 | 0.24 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.3/8 | 0.22 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.7/16 | 0.21 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.1/2 | 0.19 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.9/16 | 0.17 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.5/8 | 0.16 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.11/16 | 0.15 | 0.438 x 0.134 | 0.438 x 0.248 | |

† Net weight including screws.

Keyways are parallel and in accordance with BS46: Part 1:1958, with the exception of those marked* which are shallower.

Depth of key measured at centre

Taper Bushes - Imperial

1615

| Bore | Weight | | Keyseat | |
|--------|--------|----------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1/2 | 0.58 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 5/8 | 0.56 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.54 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 7/8 | 0.51 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 0.48 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/8 | 0.44 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 0.40 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.5/16 | 0.37 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.3/8 | 0.35 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.7/16 | 0.32 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.1/2 | 0.30 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.5/8* | 0.26 | 0.438 x 0.103* | 0.438 x 0.248 | |

2012

| Bore | Weight | | Keyseat | |
|---------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 7/16 | 0.79 | 0.125 x 0.060 | 0.125 x 0.072 | |
| 9/16 | 0.77 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 5/8 | 0.76 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 11/16 | 0.75 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 3/4 | 0.74 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 13/16 | 0.72 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 7/8 | 0.71 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 15/16 | 0.70 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 0.69 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/16 | 0.67 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/8 | 0.65 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.3/16 | 0.64 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 0.62 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.5/16 | 0.60 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.3/8 | 0.58 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.7/16 | 0.56 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.1/2 | 0.54 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.9/16 | 0.52 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.5/8 | 0.49 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.11/16 | 0.47 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.3/4 | 0.44 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.13/16 | 0.42 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 1.7/8 | 0.39 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 1.15/16 | 0.36 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2 | 0.35 | 0.500 x 0.131 | 0.500 x 0.283 | |

2517

| Bore | Weight | | Keyseat | |
|---------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 3/4 | 1.64 | 0.188 x 0.088 | 0.188 x 0.107 | |
| 13/16 | 1.62 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 7/8 | 1.61 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 15/16 | 1.59 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 1.57 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/16 | 1.55 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/8 | 1.53 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.3/16 | 1.51 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 1.48 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.5/16 | 1.45 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.3/8 | 1.42 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.7/16 | 1.39 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.1/2 | 1.36 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.9/16 | 1.33 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.5/8 | 1.30 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.11/16 | 1.26 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.3/4 | 1.23 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.13/16 | 1.19 | 0.500 x 0.131 | 0.500 x 0.263 | |
| 1.7/8 | 1.15 | 0.500 x 0.131 | 0.500 x 0.263 | |
| 1.15/16 | 1.11 | 0.500 x 0.131 | 0.500 x 0.263 | |
| 2 | 1.07 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2.1/8 | 0.99 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/16 | 0.94 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/4 | 0.90 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/16 | 0.85 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 0.80 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.7/16 | 0.75 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 0.70 | 0.625 x 0.185 | 0.625 x 0.354 | |

2525

| Bore | Weight | | Keyseat | |
|-------|--------|----------------|---------------|--|
| | kg † | Bush | Shaft | |
| 7/8 | 2.12 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1 | 2.07 | 0.250 x 0.115 | 0.250 x 0.142 | |
| 1.1/8 | 2.01 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.1/4 | 1.93 | 0.312 x 0.112 | 0.312 x 0.177 | |
| 1.3/8 | 1.86 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.1/2 | 1.77 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.5/8 | 1.68 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.3/4 | 1.58 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.7/8 | 1.47 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2 | 1.36 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2.1/8 | 1.23 | 0.625 x 0.185 | 0.625 x 0.364 | |
| 2.1/4 | 1.10 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 0.97 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 0.82 | 0.625 x 0.153* | 0.625 x 0.354 | |

† Net weight including screws.

Keyways are parallel and in accordance with BS46: Part 1:1958, with the exception of those marked* which are shallower.

Depth of key measured at centre

Taper Bushes - Imperial

3020

| Bore | Weight | Keyseat | |
|---------|--------|---------------|---------------|
| | kg † | Bush | Shaft |
| 1.1/16 | 2.85 | 0.312 x 0.112 | 0.212 x 0.177 |
| 1.3/16 | 2.80 | 0.312 x 0.112 | 0.212 x 0.177 |
| 1.1/4 | 2.75 | 0.312 x 0.112 | 0.212 x 0.177 |
| 1.5/16 | 2.72 | 0.375 x 0.110 | 0.375 x 0.213 |
| 1.3/8 | 2.69 | 0.375 x 0.110 | 0.375 x 0.213 |
| 1.7/16 | 2.65 | 0.375 x 0.110 | 0.375 x 0.213 |
| 1.1/2 | 2.62 | 0.375 x 0.110 | 0.375 x 0.213 |
| 1.9/16 | 2.59 | 0.438 x 0.134 | 0.438 x 0.248 |
| 1.5/8 | 2.55 | 0.438 x 0.134 | 0.438 x 0.248 |
| 1.11/16 | 2.51 | 0.438 x 0.134 | 0.438 x 0.248 |
| 1.3/4 | 2.47 | 0.438 x 0.134 | 0.438 x 0.248 |
| 1.13/16 | 2.43 | 0.500 x 0.131 | 0.500 x 0.283 |
| 1.7/8 | 2.38 | 0.500 x 0.131 | 0.500 x 0.283 |
| 1.15/16 | 2.33 | 0.500 x 0.131 | 0.500 x 0.283 |
| 2 | 2.29 | 0.500 x 0.131 | 0.500 x 0.283 |
| 2.1/16 | 2.24 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.1/8 | 2.19 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.3/16 | 2.14 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.1/4 | 2.09 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.5/16 | 2.04 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.3/8 | 1.98 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.7/16 | 1.92 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.1/2 | 1.86 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.9/16 | 1.80 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.5/8 | 1.74 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.11/16 | 1.68 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.3/4 | 1.61 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.13/16 | 1.55 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.7/8 | 1.48 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.15/16 | 1.41 | 0.750 x 0.209 | 0.750 x 0.424 |
| 3 | 1.34 | 0.750 x 0.209 | 0.750 x 0.424 |

3030

| Bore | Weight | Keyseat | |
|---------|--------|---------------|---------------|
| | kg † | Bush | Shaft |
| 1.1/4 | 3.87 | 0.312 x 0.112 | 0.312 x 0.177 |
| 1.3/8 | 3.77 | 0.375 x 0.110 | 0.375 x 0.213 |
| 1.1/2 | 3.67 | 0.375 x 0.110 | 0.375 x 0.213 |
| 1.5/8 | 3.56 | 0.438 x 0.134 | 0.438 x 0.248 |
| 1.11/16 | 3.50 | 0.438 x 0.134 | 0.438 x 0.248 |
| 1.3/4 | 3.44 | 0.438 x 0.134 | 0.438 x 0.248 |
| 1.13/16 | 3.38 | 0.500 x 0.131 | 0.500 x 0.283 |
| 1.7/8 | 3.31 | 0.500 x 0.131 | 0.500 x 0.283 |
| 1.15/16 | 3.24 | 0.500 x 0.131 | 0.500 x 0.283 |
| 2 | 3.17 | 0.500 x 0.131 | 0.500 x 0.283 |
| 2.1/16 | 3.09 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.1/8 | 3.02 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.3/16 | 2.95 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.1/4 | 2.87 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.5/16 | 2.77 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.3/8 | 2.70 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.7/16 | 2.61 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.1/2 | 2.53 | 0.625 x 0.185 | 0.625 x 0.354 |
| 2.9/16 | 2.44 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.5/8 | 2.35 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.11/16 | 2.25 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.3/4 | 2.16 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.13/16 | 2.06 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.7/8 | 1.96 | 0.750 x 0.209 | 0.750 x 0.424 |
| 2.15/16 | 1.85 | 0.750 x 0.209 | 0.750 x 0.424 |
| 3 | 1.75 | 0.750 x 0.209 | 0.750 x 0.424 |

† Net weight including screws.

Keyways are parallel and in accordance with BS46: Part 1:1958, with the exception of those marked* which are shallower.

Depth of key measured at centre

Taper Bushes - Imperial

3525

| Bore | Weight | | Keyseat | |
|-----------------|--------|----------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1.1/2 | 4.83 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.5/8 | 4.74 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.9/16 | 4.71 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.11/16 | 4.67 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.3/4 | 4.64 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.13/16 | 4.59 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 1.7/8 | 4.53 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 1.15/16 | 4.48 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2 | 4.41 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2.1/16 | 4.35 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/8 | 4.29 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/16 | 4.23 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/4 | 4.16 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/16 | 4.09 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 4.02 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.7/16 | 3.95 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 3.88 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.9/16 | 3.81 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.5/8 | 3.73 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.11/16 | 3.65 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.3/4 | 3.57 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.13/16 | 3.48 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.7/8 | 3.40 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.15/16 | 3.32 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3 | 3.23 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3.1/16 | 3.14 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/8 | 3.04 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/16 | 2.95 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/4 | 2.85 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.5/16 | 2.76 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/8 | 2.66 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.7/16 | 2.55 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/2 | 2.45 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.9/16 | 2.35 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.11/16 | 2.25 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.3/4* | 2.15 | 1.000 x 0.245* | 1.000 x 0.566 | |
| 3.13/16* | 1.99 | 1.000 x 0.245* | 1.000 x 0.566 | |
| 3.15/16* | 1.82 | 1.000 x 0.155* | 1.000 x 0.566 | |
| 4* | 1.66 | 1.000 x 0.155* | 1.000 x 0.566 | |

3535

| Bore | Weight | | Keyseat | |
|---------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1.1/2 | 6.43 | 0.375 x 0.110 | 0.375 x 0.213 | |
| 1.9/16 | 6.36 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.5/8 | 6.30 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.11/16 | 6.23 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.3/4 | 6.16 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.13/16 | 6.09 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 1.7/8 | 6.01 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 1.15/16 | 5.93 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2 | 5.85 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2.1/16 | 5.77 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/8 | 5.68 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/16 | 5.59 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/4 | 5.49 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/16 | 5.39 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 5.30 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.7/16 | 5.20 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 5.10 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.9/16 | 4.99 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.5/8 | 4.88 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.11/16 | 4.77 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.3/4 | 4.66 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.13/16 | 4.55 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.7/8 | 4.43 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.15/16 | 4.30 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3 | 4.18 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3.1/16 | 4.06 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/8 | 3.93 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/16 | 3.80 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/4 | 3.66 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.5/16 | 3.53 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/8 | 3.39 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.7/16 | 3.24 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/2 | 3.10 | 0.875 x 0.264 | 0.875 x 0.495 | |

4030

| Bore | Weight | | Keyseat | |
|---------------|--------|----------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1.3/4 | 7.38 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.7/8 | 7.25 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2 | 7.12 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2.1/8 | 6.97 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/4 | 6.81 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 6.65 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 6.47 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/8 | 6.29 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.3/4 | 6.10 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.7/8 | 5.90 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3 | 5.69 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3.1/8 | 5.47 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/4 | 5.24 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/8 | 5.01 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/2 | 4.67 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/4 | 4.25 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4 | 3.69 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4.1/4 | 3.30 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 4.1/2* | 2.63 | 1.250 x 0.255* | 1.250 x 0.707 | |

† Net weight including screws.

Bold italic type indicates bushes made of **GGG Cast Iron**.

Keyways are parallel and in accordance with BS46:Part 1:1958, with the exception of those marked* which are shallower.

Depth of key measured at centre.

Taper Bushes - Imperial

4040

| Bore | Weight | | Keyseat | |
|---------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 1.3/4 | 9.61 | 0.438 x 0.134 | 0.438 x 0.248 | |
| 1.7/8 | 9.43 | 0.500 x 0.131 | 0.500 x 0.283 | |
| 2 | 9.25 | 0.500 x 0.131 | 0.500 x 0.238 | |
| 2.1/16 | 9.15 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/8 | 9.05 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/16 | 8.95 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/4 | 8.85 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/16 | 8.74 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 8.63 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.7/16 | 8.51 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 8.39 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.9/16 | 8.27 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.5/8 | 8.15 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.11/16 | 8.03 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.3/4 | 7.90 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.13/16 | 7.77 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.7/8 | 7.63 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.15/16 | 7.49 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3 | 7.35 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3.1/16 | 7.21 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/8 | 7.06 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/16 | 6.91 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/4 | 6.75 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.5/16 | 6.59 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/8 | 6.44 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.7/16 | 6.28 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/2 | 6.11 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.9/16 | 5.72 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.3/4 | 5.42 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.11/16 | 5.24 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.13/16 | 5.06 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.15/16 | 4.88 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4 | 4.69 | 1.000 x 0.318 | 1.000 x 0.566 | |

4535

| Bore | Weight | | Keyseat | |
|--------------|--------|----------------|---------------|--|
| | kg † | Bush | Shaft | |
| 2.1/4 | 10.21 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 10.01 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 9.81 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/8 | 9.60 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.3/4 | 9.37 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.7/8 | 9.14 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3 | 8.90 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3.1/8 | 8.64 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/4 | 8.38 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/8 | 8.10 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/2 | 7.81 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/4 | 7.21 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4 | 6.56 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4.1/4 | 5.88 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 4.1/2 | 5.15 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 4.3/4 | 4.65 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 5* | 3.78 | 1.250 x 0.358* | 1.250 x 0.707 | |

4545

| Bore | Weight | | Keyseat | |
|---------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 2.3/16 | 13.69 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/4 | 13.56 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/16 | 13.44 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.3/8 | 13.32 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.7/16 | 13.19 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.1/2 | 13.06 | 0.625 x 0.185 | 0.625 x 0.354 | |
| 2.5/8 | 12.78 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.3/4 | 12.50 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 2.7/8 | 12.19 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3 | 11.88 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3.1/16 | 11.72 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/8 | 11.55 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/4 | 11.21 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/8 | 10.86 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.7/16 | 10.68 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/2 | 10.49 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.9/16 | 10.11 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.3/4 | 9.72 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 3.13/16 | 9.28 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4 | 8.89 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4.1/4 | 8.00 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 4.5/16 | 7.54 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 4.1/2 | 7.07 | 1.250 x 0.366 | 1.250 x 0.707 | |

5040

| Bore | Weight | | Keyseat | |
|-------|--------|---------------|---------------|--|
| | kg † | Bush | Shaft | |
| 3 | 12.88 | 0.750 x 0.209 | 0.750 x 0.424 | |
| 3.1/8 | 12.59 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/4 | 12.29 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/8 | 11.97 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.1/2 | 11.65 | 0.875 x 0.264 | 0.875 x 0.495 | |
| 3.3/4 | 10.96 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4 | 10.22 | 1.000 x 0.318 | 1.000 x 0.566 | |
| 4.1/4 | 9.44 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 4.1/2 | 8.61 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 4.3/4 | 7.73 | 1.250 x 0.366 | 1.250 x 0.707 | |
| 5 | 6.80 | 1.250 x 0.366 | 1.250 x 0.707 | |

† Net weight including screws.

Bold italic type indicates bushes made of **GGG Cast Iron**.

Keyways are parallel and in accordance with BS46:Part 1:1958, with the exception of those marked* which are shallower.

Depth of key measured at centre.

Taper Bushes - Imperial

5050

| Bore | Weight kg † | Keyseat | |
|--------|----------------|---------------|---------------|
| | | Bush | Shaft |
| 3 | 15.66 | 0.750 x 0.209 | 0.750 x 0.424 |
| 3.1/8 | 15.30 | 0.875 x 0.264 | 0.875 x 0.495 |
| 3.1/4 | 14.92 | 0.875 x 0.264 | 0.875 x 0.495 |
| 3.7/16 | 14.52 | 0.875 x 0.264 | 0.875 x 0.495 |
| 3.1/2 | 14.12 | 0.875 x 0.264 | 0.875 x 0.495 |
| 3.3/4 | 13.26 | 1.000 x 0.318 | 1.000 x 0.566 |
| 4 | 12.34 | 1.000 x 0.318 | 1.000 x 0.566 |
| 4.1/4 | 11.36 | 1.250 x 0.366 | 1.250 x 0.707 |
| 4.7/16 | 10.84 | 1.250 x 0.366 | 1.250 x 0.707 |
| 4.1/2 | 10.32 | 1.250 x 0.366 | 1.250 x 0.707 |
| 4.3/4 | 9.22 | 1.250 x 0.366 | 1.250 x 0.707 |
| 5 | 8.06 | 1.250 x 0.366 | 1.250 x 0.707 |

† Net weight including screws.

Keyways are parallel and in accordance with BS46:Part 1:1958, with the exception of those marked* which are shallower.

Depth of key measured at centre.

NOTE

Challenge can manufacture larger taper bush sizes including 6050, 7060 and 8065. These are available to order with the following maximum bores:

6050 150 mm or 6"

7060 175 mm or 7"

8065 200 mm or 8"

Pilot bore taper bushes in these sizes are also available.

Adaptors

Adaptors

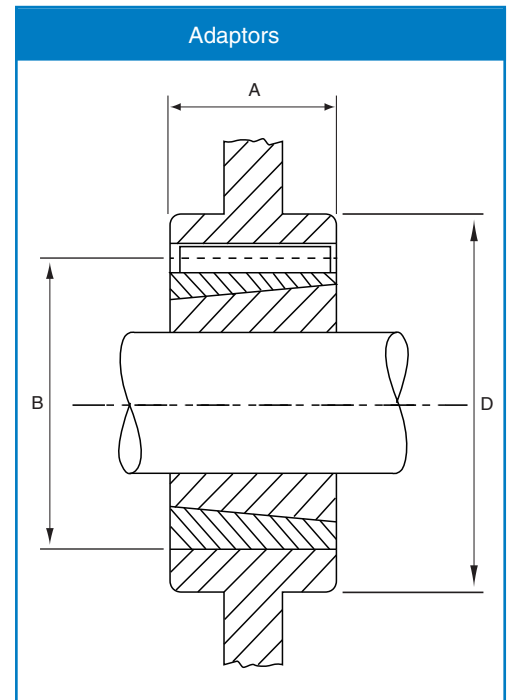
| Hub Type | A | B | Key Section | Hub Diameter D | | |
|----------|-----|-----|-------------|---------------------------|-----|-----------------------------|
| | | | | Cast Iron BS1452 GG | | Steel BS970Pt1 070M20 |
| | | | | 20 | 25 | |
| 1008PM | 22 | 45 | - | 71 | 62 | 56 |
| 1008KM | 22 | 45 | 5 x 5 | 75 | 67 | 60 |
| 1210PM | 25 | 60 | - | 97 | 85 | 76 |
| 1210KM | 25 | 60 | 6 x 6 | 103 | 93 | 85 |
| 1610PM | 25 | 70 | - | 106 | 95 | 86 |
| 1610KM | 25 | 70 | 10 x 8 | 113 | 102 | 92 |
| 2517PM | 45 | 105 | - | 145 | 133 | 121 |
| 2517KM | 45 | 105 | 16 x 10 | 151 | 140 | 127 |
| 3030PM | 76 | 130 | - | 181 | 165 | 156 |
| 3030KM | 76 | 130 | 20 x 12 | 191 | 175 | 159 |
| 3535PM | 90 | 160 | - | 225 | 203 | 191 |
| 3535KM | 90 | 160 | 22 x 12 | 235 | 213 | 200 |
| 4040PM | 102 | 185 | - | 275 | 248 | 229 |
| 4040KM | 102 | 185 | 24 x 12 | 285 | 257 | 238 |

Bore tolerance of B = $\begin{matrix} +0.025 \\ +0.075 \end{matrix}$ is recommended

Adaptors for Pilot Bored components allow them to take standard Taper Bushes. This added convenience removes the need to drill, tap and taper-bore.

PM = Plain outside diameter

KM = Keyway on outside diameter allowing additional torque transmission



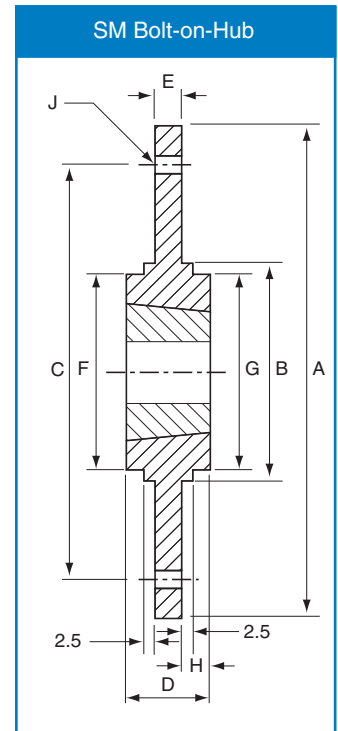
Bolt-on-Hubs

Taper Bore Bolt-on-Hubs are designed for use with the universally accepted Taper Bush. They provide a convenient means of securing fan rotors, impellers, agitators and other devices which must be fastened firmly to shafts.

Challenge Bolt-on-Hubs, type BF and SM, complete the range. They are manufactured from GG22 cast iron and are phosphated for extra rust protection.

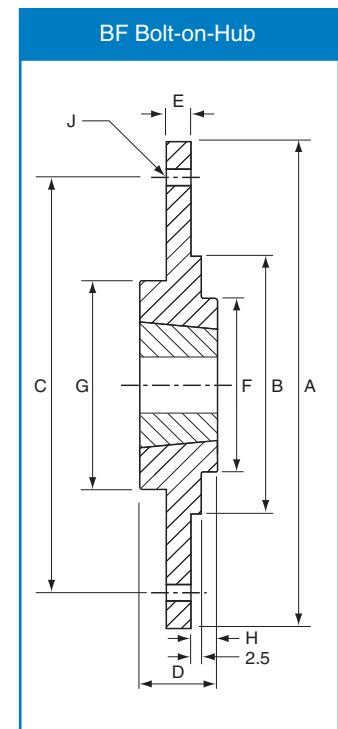
SM Bolt-on-Hubs

| Hub Reference | Bush Number | A | B | C | D | E | F/G | H | J (No. x Diam) |
|---------------|-------------|-----|-----|-----|----|------|-----|-------|-------------------|
| SM 12 | 1210 | 180 | 90 | 135 | 26 | 6.5 | 80 | 9.75 | 6 x 7.5 |
| SM 16-1 | 1610 | 200 | 110 | 150 | 26 | 7.5 | 90 | 9.25 | 6 x 7.5 |
| SM 16-2 | 1615 | 200 | 110 | 150 | 38 | 7.5 | 90 | 15.25 | 6 x 7.5 |
| SM 20 | 2012 | 270 | 140 | 190 | 32 | 8.5 | 100 | 11.75 | 6 x 9.5 |
| SM 25 | 2517 | 340 | 170 | 240 | 45 | 9.5 | 119 | 17.75 | 8 x 11.5 |
| SM 30-1 | 3020 | 430 | 220 | 300 | 51 | 13.5 | 147 | 18.75 | 8 x 13.5 |
| SM 30-2 | 3020 | 485 | 250 | 340 | 51 | 13.5 | 147 | 18.75 | 8 x 13.5 |



BF Bolt-on-Hubs

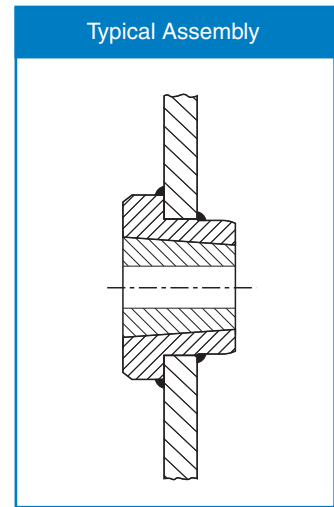
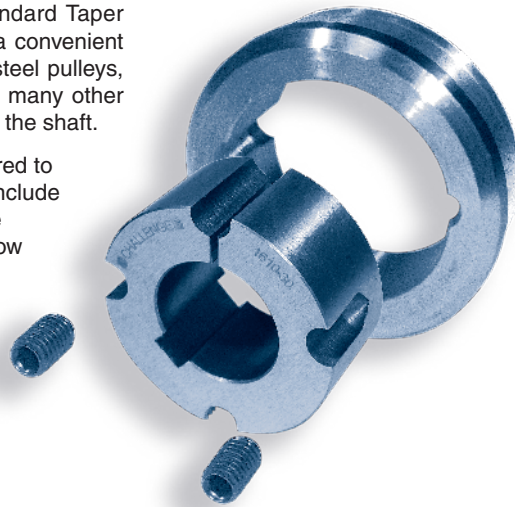
| Hub Reference | Bush Number | A | B | C | D | E | F | G | H | J (No. x Diam) |
|---------------|-------------|-----|-----|-----|----|------|-----|-----|----|-------------------|
| BF12 | 1210 | 120 | 80 | 100 | 25 | 6.5 | 74 | 80 | 10 | 6 x 6.5 |
| BF16 | 1610 | 130 | 90 | 110 | 25 | 6.5 | 84 | 90 | 10 | 6 x 6.5 |
| BF20 | 2012 | 145 | 100 | 125 | 32 | 8.5 | 99 | 100 | 13 | 6 x 8.5 |
| BF25 | 2517 | 185 | 130 | 155 | 44 | 11.5 | 120 | 119 | 20 | 6 x 10.5 |
| BF30 | 3020 | 220 | 165 | 190 | 50 | 11.5 | 146 | 147 | 20 | 6 x 13.0 |



Weld-on-Hubs

Taper Bore Weld-on-Hubs are made out of steel, drilled, tapped and taper bored to receive standard Taper Bushes. The extended flange provides a convenient means of welding hubs into fan rotors, steel pulleys, plate sprockets, impellers, agitators and many other devices which must be firmly fastened to the shaft.

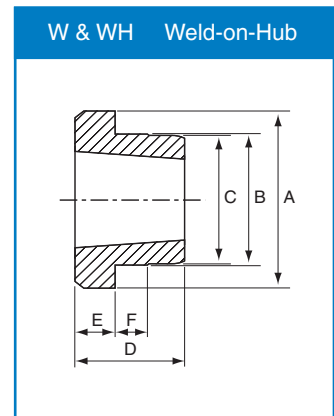
Challenge Weld-on-Hubs are manufactured to complement the Taper Bush range and include W, WH and WM Taper Bore Hubs. All are manufactured to world standards using low carbon steel.



W Weld-on-Hubs

| Hub Reference | Bush Size | A | B | C | D | E | F | F1 | X |
|---------------|-----------|-----|-----|-----|-----|----|----|----|----|
| W12 | 1215 | 73 | 64 | 63 | 38 | 16 | 10 | - | - |
| W16 | 1615 | 83 | 73 | 72 | 38 | 16 | 10 | - | - |
| W25 | 2517 | 127 | 111 | 110 | 44 | 19 | 13 | - | - |
| WG30 | 3030 | 150 | 133 | 133 | 76 | 25 | 19 | 23 | 23 |
| WG35 | 3535 | 184 | 159 | 158 | 89 | 32 | 25 | 30 | 30 |
| WG40 | 4040 | 225 | 197 | 196 | 102 | 32 | 32 | 34 | 34 |
| WG45 | 4545 | 254 | 222 | 221 | 114 | 38 | 38 | 38 | 38 |
| WG50 | 5050 | 276 | 241 | 240 | 127 | 38 | 38 | 42 | 42 |
| WG60 | 6050 | 375 | 343 | 342 | 127 | 38 | 38 | 42 | 42 |
| WG70 | 7060 | 425 | 375 | 374 | 153 | 51 | 51 | 51 | 51 |
| WG80 | 8065 | 445 | 394 | 393 | 165 | 51 | 51 | 55 | 55 |
| WG100 | 10085 | 559 | 495 | 494 | 216 | 51 | 51 | 72 | 72 |

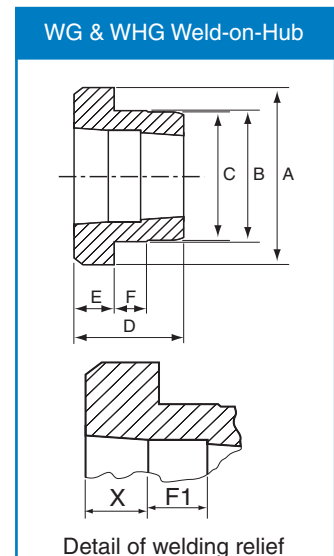
"G" notation represents welding relief.



WH Weld-on-Hubs

| Hub Reference | Bush Size | A | B | C | D | E | F | F1 | X |
|---------------|-----------|-----|-----|-------|-----|----|----|----|----|
| WH12 | 1210 | 70 | 65 | 64.5 | 25 | 9 | 10 | - | - |
| WH16-1 | 1610 | 80 | 75 | 74.5 | 25 | 9 | 10 | - | - |
| WH20 | 2012 | 95 | 90 | 89.5 | 32 | 12 | 12 | - | - |
| WH25 | 2517 | 115 | 110 | 109.5 | 44 | 19 | 15 | - | - |
| WHG30-2 | 3020 | 145 | 140 | 139.5 | 50 | 20 | 15 | 17 | 17 |
| WHG35 | 3525 | 190 | 180 | 179.5 | 65 | 25 | 25 | 22 | 22 |
| WHG40-1 | 4030 | 200 | 190 | 189.0 | 76 | 32 | 30 | 25 | 25 |
| WHG40-2 | 4040 | 200 | 190 | 189.5 | 101 | 32 | 30 | 34 | 34 |
| WHG45-1 | 4535 | 210 | 200 | 199.5 | 89 | 40 | 30 | 30 | 30 |
| WHG45-2 | 4545 | 210 | 200 | 199.5 | 114 | 40 | 30 | 38 | 38 |
| WHG50-1 | 5040 | 230 | 220 | 219.5 | 102 | 40 | 35 | 34 | 34 |
| WHG50-2 | 5050 | 230 | 220 | 219.5 | 127 | 40 | 35 | 42 | 42 |

"G" notation represents welding relief.

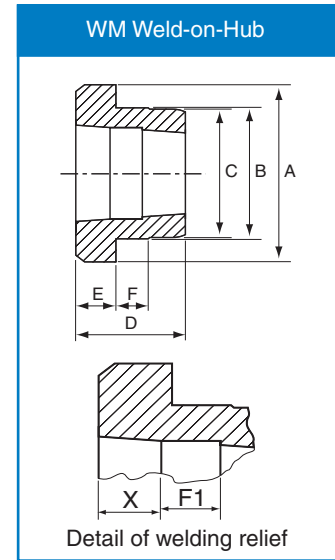


Weld-on-Hubs

WM Weld-on-Hubs

| Hub Reference | Bush Size | A | B | C | D | E | F | F1 | X |
|---------------|-----------|-----|-----|-----|-----|----|----|----|----|
| WMG12 | 1210 | 70 | 60 | 58 | 26 | 9 | 10 | 9 | 9 |
| WMG16-1 | 1610 | 83 | 70 | 68 | 26 | 9 | 10 | 9 | 9 |
| WMG16-2 | 1615 | 83 | 70 | 68 | 38 | 16 | 11 | 13 | 13 |
| WMG20 | 2012 | 95 | 90 | 88 | 32 | 12 | 12 | 11 | 11 |
| WMG25 | 2517 | 127 | 110 | 108 | 44 | 19 | 13 | 15 | 15 |
| WMG30-2 | 3020 | 152 | 130 | 125 | 50 | 20 | 15 | 17 | 17 |
| WMG30-3 | 3030 | 152 | 130 | 125 | 76 | 25 | 19 | 25 | 25 |
| WMG35 | 3535 | 184 | 155 | 151 | 89 | 32 | 25 | 30 | 30 |
| WMG40 | 4040 | 225 | 195 | 187 | 102 | 32 | 32 | 34 | 34 |
| WMG45 | 4545 | 254 | 220 | 213 | 114 | 38 | 38 | 38 | 38 |
| WMG50 | 5050 | 276 | 242 | 228 | 127 | 38 | 38 | 42 | 42 |

“G” notation represents welding relief.



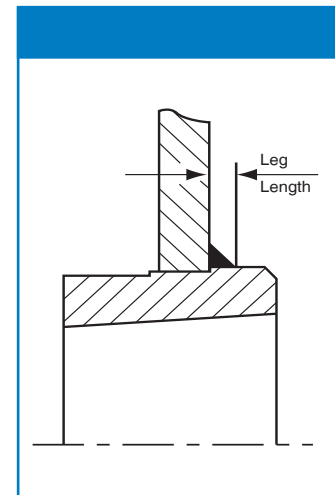
WELD-ON-HUB WELDING INSTRUCTIONS

Challenge Weld-on-Hubs are made from steel, drilled, tapped and taper bored to receive standard Taper Bushes. The external flange provides a convenient means of welding hubs into fan rotors, steel pulleys, plate sprockets, impellers and many other devices which need to be firmly fastened to a shaft.

It is recommended that a continuous 45° mitre weld be used, working on the larger hub diameter section only. To ensure accuracy in the welded assembly it is essential to apply only sufficient weld to achieve sufficient strength. Excess weld should not be necessary for normal use which, due to greater heat input, gives a higher risk of distortion. The [Table A](#) shows the recommended continuous fillet weld requirements for each hub size.

For electric arc welding, low hydrogen electrodes are recommended.

Please note: the “G” reference on Challenge welding-on-hubs represents a welding relief inside the bore to help avoid problems with distortion caused by welding hook.
(see F1)



| Hub Size. | Leg Length mm |
|-----------|---------------|
| WH12 | 4 |
| WH16 | 4 |
| WH20 | 5 |
| WH25 | 5 |
| WH30 | 6 |
| WH35 | 6 |
| WH40 | 8 |
| WH45 | 8 |
| WH50 | 10 |

Table A

Cone Clamping Elements



Cone Clamping Elements

For SHAFTLOCK 01:

To Install

- 1 Ensure the hub and shaft surfaces are clean and degreased.
- 2 Apply a thin coating of light machine oil to screw threads and conical surfaces (do not use any molybdenum disulphide based or E.P. oils).
- 3 Loosely assemble the clamping element into the required position and tighten the clamping screws in diagonal sequence to the requisite torque, Ts.
- 4 If the application is subject to corrosive environmental conditions, apply grease to protect screw heads etc.

To Remove

- 1 Loosen all of the clamping screws in the same diagonal sequence as assembly.
- 2 The clamping element should now self release.
- 3 If necessary, tap the screws lightly with a soft hammer.
- 4 If the clamping element tapers still don't release, remove the lighter coloured screws and replace them with metric screws one size larger.
- 5 Tighten them sequentially to break the clamping ring cone tapers.
- 6 Lubricate all screws with a light machine oil for the future use of the Challenge Cone Clamping Element.

For SHAFTLOCK 02, 04, 07:

To Install

- 1 Ensure the hub and shaft surfaces are clean and degreased.
- 2 Apply a thin coating of light machine oil to screw threads and conical surfaces (do not use any molybdenum disulphide based or E.P. oils).
- 3 Loosely assemble the clamping element into the required position and tighten the clamping screws in diagonal sequence to the requisite torque, Ts.
- 4 If the application is subject to corrosive environmental conditions, apply grease to protect screw heads etc.

To Remove

- 1 Loosen all of the clamping screws in the same diagonal sequence as assembly.
- 2 The clamping element should now self release.
- 3 If necessary, tap the screws lightly with a soft hammer.
- 4 If the clamping element tapers still don't release, remove some of the bolts and insert them into threaded removal holes.
- 5 Tighten them sequentially to break the clamping ring cone tapers.
- 6 Lubricate all screws with a light machine oil for the future use of the Challenge Cone Clamping Element.

For SHAFTLOCK 19:

To Install

- 1 Ensure the hub and shaft surfaces are clean and degreased.
- 2 Apply a thin coating of light machine oil to screw threads and conical surfaces (do not use any molybdenum disulphide based or E.P. oils).
- 3 Align all of the component slots and loosely assemble the clamping element into the required position.
- 4 Tighten the clamping screws in diagonal sequence to the requisite torque, Ts.
- 5 If the application is subject to corrosive environmental conditions, apply grease to protect screw heads etc.

To Remove

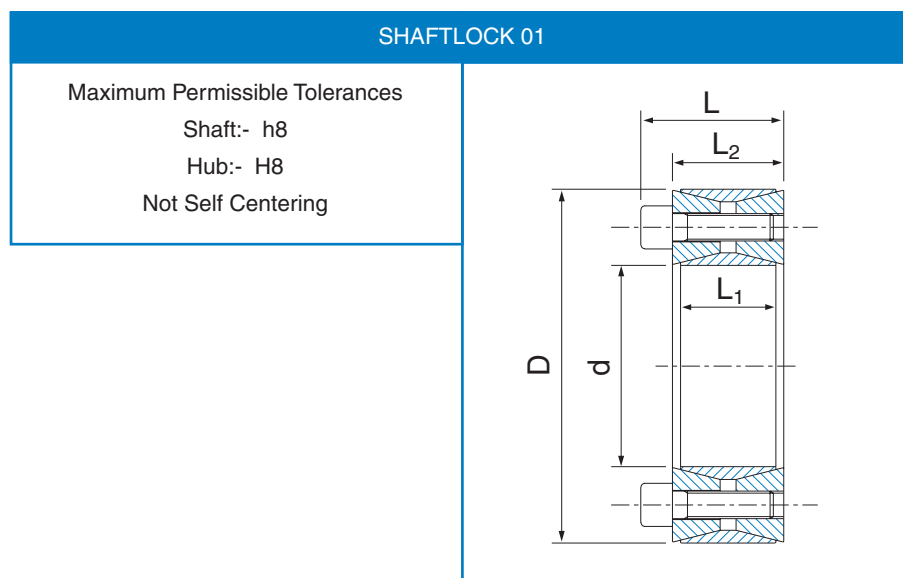
- 1 Loosen all of the clamping screws in the same diagonal sequence as assembly.
- 2 Remove some bolts and insert them into the threaded hole that passes through the front clamping element cone and the centre section plate to reach the surface of the rear cone.
- 3 Tighten the screws sequentially to release the rear cone.
- 4 Remove some bolts and insert them into the threaded hole in the front cone so that they reach the centre section plate.
- 5 Tighten the screws sequentially to release the front cone.
- 6 Lubricate all screws with a light machine oil for the future use of the Challenge Cone Clamping Element.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Cone Clamping Elements

SHAFTLOCK 01 Clamping Element

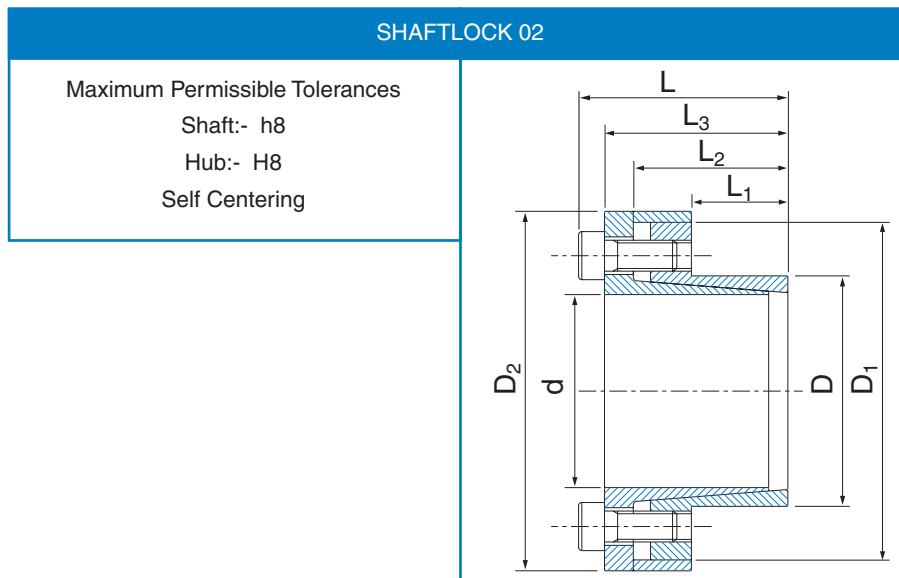
| Dimensions | | | | | Transmission Axial | | Contact Pressure | | Locking Screws (DIN 912-12.9) | | |
|------------|-----|----------------|----------------|----|--------------------|----------|-------------------|--------------------|-------------------------------|--------|----------------------------------|
| d | D | L ₁ | L ₂ | L | Torque Mt | Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Torque T _s |
| mm | mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 19 | 47 | 17 | 20 | 26 | 299 | 26.8 | 220 | 93 | 8 | M6x18 | 17 |
| 20 | 47 | 17 | 20 | 26 | 308 | 26.8 | 210 | 93 | 8 | M6x18 | 17 |
| 22 | 47 | 17 | 20 | 26 | 325 | 26.8 | 207 | 96 | 8 | M6x18 | 17 |
| 24 | 50 | 17 | 20 | 26 | 415 | 30.1 | 206 | 103 | 9 | M6x18 | 17 |
| 25 | 50 | 17 | 20 | 26 | 432 | 30.1 | 206 | 103 | 9 | M6x18 | 17 |
| 28 | 55 | 17 | 20 | 26 | 483 | 33.5 | 204 | 103 | 10 | M6x18 | 17 |
| 30 | 55 | 17 | 20 | 26 | 518 | 33.5 | 190 | 103 | 10 | M6x18 | 17 |
| 32 | 60 | 17 | 20 | 26 | 739 | 40.2 | 214 | 114 | 12 | M6x18 | 17 |
| 35 | 60 | 17 | 20 | 26 | 808 | 40.2 | 196 | 114 | 12 | M6x18 | 17 |
| 38 | 65 | 17 | 20 | 26 | 1025 | 46.9 | 204 | 122 | 14 | M6x18 | 17 |
| 40 | 65 | 17 | 20 | 26 | 1079 | 46.9 | 200 | 122 | 14 | M6x18 | 17 |
| 42 | 75 | 20 | 24 | 32 | 1768 | 73.2 | 228 | 125 | 12 | M8x22 | 38 |
| 45 | 75 | 20 | 24 | 32 | 1894 | 73.2 | 208 | 125 | 12 | M8x22 | 38 |
| 48 | 80 | 20 | 24 | 32 | 2019 | 73.2 | 190 | 110 | 12 | M8x22 | 38 |
| 50 | 80 | 20 | 24 | 32 | 2105 | 73.2 | 189 | 115 | 12 | M8x22 | 38 |
| 55 | 85 | 20 | 24 | 32 | 2700 | 85.4 | 200 | 130 | 14 | M8x22 | 38 |
| 60 | 90 | 20 | 24 | 32 | 2944 | 85.4 | 180 | 122 | 14 | M8x22 | 38 |
| 65 | 95 | 20 | 24 | 32 | 3646 | 97.6 | 191 | 130 | 16 | M8x22 | 38 |
| 70 | 110 | 24 | 28 | 38 | 5405 | 134.4 | 211 | 132 | 14 | M10x25 | 75 |
| 75 | 115 | 24 | 28 | 38 | 5750 | 134.4 | 194 | 128 | 14 | M10x25 | 75 |
| 80 | 120 | 24 | 28 | 38 | 6095 | 134.4 | 182 | 124 | 14 | M10x25 | 75 |
| 85 | 125 | 24 | 28 | 38 | 7475 | 153.6 | 196 | 133 | 16 | M10x25 | 75 |
| 90 | 130 | 24 | 28 | 38 | 7935 | 153.6 | 181 | 128 | 16 | M10x25 | 75 |
| 95 | 135 | 24 | 28 | 38 | 9430 | 172.8 | 196 | 139 | 18 | M10x25 | 75 |
| 100 | 145 | 26 | 33 | 45 | 11351 | 197.4 | 198 | 139 | 14 | M12x30 | 130 |
| 110 | 155 | 26 | 33 | 45 | 12420 | 187.4 | 181 | 128 | 14 | M12x30 | 130 |
| 120 | 165 | 26 | 33 | 45 | 15525 | 225.6 | 187 | 139 | 16 | M12x30 | 130 |
| 130 | 180 | 34 | 38 | 50 | 21045 | 282.0 | 168 | 119 | 20 | M12x35 | 130 |
| 140 | 190 | 34 | 38 | 50 | 24955 | 310.1 | 168 | 128 | 22 | M12x35 | 130 |
| 150 | 200 | 34 | 38 | 50 | 29095 | 338.4 | 170 | 128 | 24 | M12x35 | 130 |
| 160 | 210 | 34 | 38 | 50 | 33695 | 366.6 | 171 | 132 | 26 | M12x35 | 130 |
| 170 | 225 | 38 | 44 | 58 | 37950 | 389.0 | 162 | 123 | 22 | M14x40 | 207 |
| 180 | 235 | 38 | 44 | 58 | 43700 | 424.0 | 168 | 128 | 24 | M14x40 | 207 |
| 190 | 250 | 46 | 52 | 66 | 54050 | 495.0 | 154 | 114 | 28 | M14x45 | 207 |
| 200 | 260 | 46 | 52 | 66 | 60950 | 531.0 | 157 | 118 | 30 | M14x45 | 207 |
| 220 | 285 | 50 | 56 | 72 | 79810 | 631.0 | 152 | 117 | 26 | M16X50 | 290 |



Cone Clamping Elements

SHAFTLOCK 02 Clamping Element

| Dimensions | | | | | | | | Transmission | | Contact Pressure | | Lock Screws (DIN912-129) | | |
|------------|-----|----------------|----------------|----------------|-----|----------------|----------------|--------------|----------------|-------------------|--------------------|--------------------------|--------|----------------------|
| d | D | L ₁ | L ₂ | L ₃ | L | D ₂ | D ₁ | Torque Mt | Axial Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Torque Ts |
| mm | mm | mm | mm | mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 8 | 15 | 12 | 21 | 24 | 28 | 28 | 25 | 35 | 7.2 | 190.0 | 105.0 | 4 | M4x10 | 5.2 |
| 9 | 16 | 14 | 23 | 27 | 31 | 32 | 28 | 37 | 7.2 | 150.0 | 92.0 | 4 | M4x12 | 5.2 |
| 10 | 16 | 14 | 23 | 27 | 31 | 32 | 28 | 46 | 9.0 | 140.0 | 90.0 | 4 | M4x12 | 5.2 |
| 11 | 18 | 14 | 23 | 27 | 31 | 34 | 30 | 58 | 9.0 | 174.8 | 106.8 | 4 | M4x12 | 5.2 |
| 12 | 18 | 14 | 23 | 27 | 31 | 34 | 30 | 63 | 9.0 | 160.8 | 106.8 | 4 | M4x12 | 5.2 |
| 14 | 23 | 14 | 23 | 27 | 31 | 39 | 35 | 74 | 9.0 | 137.4 | 83.6 | 4 | M4x12 | 5.2 |
| 15 | 24 | 16 | 29 | 36 | 42 | 45 | 40 | 114 | 13.0 | 161.8 | 101.2 | 3 | M6x18 | 17.0 |
| 16 | 24 | 16 | 29 | 36 | 42 | 45 | 40 | 121 | 13.0 | 151.7 | 101.2 | 3 | M6x18 | 17.0 |
| 18 | 26 | 18 | 31 | 38 | 44 | 47 | 42 | 182 | 18.0 | 159.8 | 110.7 | 4 | M6x18 | 17.0 |
| 19 | 27 | 18 | 31 | 38 | 44 | 48 | 43 | 192 | 18.0 | 151.4 | 106.6 | 4 | M6x18 | 17.0 |
| 20 | 28 | 18 | 31 | 38 | 44 | 49 | 44 | 202 | 21.0 | 143.9 | 102.8 | 4 | M6x18 | 17.0 |
| 22 | 32 | 25 | 38 | 45 | 51 | 54 | 48 | 267 | 21.0 | 112.8 | 77.6 | 4 | M6x18 | 17.0 |
| 24 | 34 | 25 | 38 | 45 | 51 | 56 | 50 | 291 | 21.0 | 103.4 | 73.0 | 4 | M6x18 | 17.0 |
| 25 | 34 | 25 | 38 | 45 | 51 | 56 | 50 | 302 | 21.0 | 99.3 | 73.0 | 4 | M6x18 | 17.0 |
| 28 | 39 | 25 | 38 | 45 | 51 | 61 | 55 | 423 | 31.0 | 110.8 | 79.6 | 5 | M6x18 | 17.0 |
| 30 | 41 | 25 | 38 | 45 | 51 | 63 | 57 | 545 | 31.0 | 124.1 | 90.8 | 6 | M6x18 | 17.0 |
| 32 | 43 | 30 | 43 | 50 | 56 | 65 | 59 | 581 | 31.0 | 97.0 | 72.2 | 6 | M6x18 | 17.0 |
| 35 | 47 | 30 | 43 | 50 | 56 | 69 | 63 | 848 | 42.0 | 118.9 | 88.0 | 8 | M6x18 | 17.0 |
| 38 | 50 | 30 | 43 | 50 | 56 | 72 | 66 | 920 | 42.0 | 108.9 | 82.8 | 8 | M6x18 | 17.0 |
| 40 | 53 | 32 | 45 | 52 | 58 | 75 | 69 | 1089 | 53.0 | 109.1 | 82.3 | 9 | M6x18 | 17.0 |
| 42 | 55 | 32 | 45 | 52 | 58 | 77 | 71 | 1143 | 53.0 | 103.9 | 79.3 | 9 | M6x18 | 17.0 |
| 45 | 59 | 40 | 56 | 64 | 72 | 85 | 79 | 2013 | 78.0 | 127.4 | 97.2 | 8 | M8x22 | 42.0 |
| 48 | 62 | 40 | 56 | 64 | 72 | 88 | 82 | 2147 | 78.0 | 119.5 | 92.5 | 8 | M8x22 | 42.0 |
| 50 | 65 | 50 | 66 | 74 | 82 | 92 | 85 | 2796 | 97.0 | 114.7 | 98.2 | 10 | M8x22 | 42.0 |
| 55 | 71 | 50 | 66 | 74 | 82 | 98 | 91 | 3075 | 97.0 | 104.3 | 80.8 | 10 | M8x22 | 42.0 |
| 60 | 77 | 50 | 66 | 74 | 82 | 104 | 97 | 3355 | 97.0 | 95.6 | 74.5 | 10 | M8x22 | 42.0 |
| 65 | 84 | 50 | 66 | 74 | 82 | 111 | 104 | 3634 | 97.0 | 88.2 | 68.8 | 10 | M8x22 | 42.0 |
| 70 | 90 | 60 | 80 | 91 | 101 | 122 | 115 | 4970 | 123.0 | 86.7 | 67.4 | 8 | M10x25 | 84.0 |
| 75 | 95 | 60 | 80 | 91 | 101 | 126 | 119 | 6259 | 197.0 | 93.0 | 74.0 | 9 | M10x25 | 84.0 |
| 80 | 100 | 65 | 85 | 96 | 106 | 131 | 124 | 8780 | 237.0 | 97.0 | 77.0 | 12 | M10x25 | 84.0 |
| 85 | 106 | 65 | 85 | 96 | 106 | 137 | 130 | 9307 | 237.0 | 91.0 | 73.0 | 12 | M10x25 | 84.0 |
| 90 | 112 | 65 | 85 | 96 | 106 | 143 | 136 | 11473 | 276.0 | 100.0 | 51.0 | 14 | M10x25 | 84.0 |
| 95 | 120 | 65 | 85 | 96 | 106 | 153 | 144 | 12293 | 276.0 | 95.0 | 75.0 | 14 | M10x25 | 84.0 |
| 100 | 125 | 65 | 89 | 102 | 114 | 162 | 153 | 15788 | 348.0 | 114.0 | 91.0 | 12 | M12x30 | 145.0 |
| 110 | 140 | 70 | 94 | 107 | 119 | 177 | 168 | 17683 | 348.0 | 96.0 | 75.0 | 12 | M12x30 | 145.0 |
| 120 | 155 | 90 | 114 | 127 | 139 | 195 | 185 | 26098 | 465.0 | 91.0 | 71.0 | 16 | M12x30 | 145.0 |
| 130 | 165 | 90 | 114 | 127 | 139 | 205 | 195 | 27781 | 465.0 | 84.0 | 66.0 | 16 | M12x30 | 145.0 |
| 140 | 175 | 90 | 114 | 127 | 139 | 215 | 205 | 29465 | 465.0 | 78.0 | 63.0 | 16 | M12x30 | 145.0 |
| 150 | 185 | 90 | 114 | 127 | 139 | 225 | 215 | 31149 | 465.0 | 73.0 | 59.0 | 16 | M12x30 | 145.0 |



All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Cone Clamping Elements

SHAFTLOCK 03 Clamping Element

| Dimensions | | | | Transmission Axial Force | | | Contact Pressure | |
|------------|-----|------|----------------|--------------------------------|----------------------|----------------------|---------------------------------|--|
| d | D | L | L ₁ | Torque M _t Nm | F _a kN | F _t kN | Shaft P N/mm ² | Hub P ₁ N/mm ² |
| mm | mm | mm | mm | | | | | |
| 8 | 11 | 4.5 | 3.7 | 0.97 | 4.3 | 2.9 | 98 | 73 |
| 10 | 13 | 4.5 | 3.7 | 1.37 | 12.1 | 6.9 | 98 | 75 |
| 12 | 15 | 4.5 | 3.7 | 1.64 | 12.4 | 9.8 | 98 | 78 |
| 13 | 16 | 4.5 | 3.7 | 1.80 | 12.7 | 12.0 | 98 | 79 |
| 14 | 18 | 6.3 | 5.3 | 2.74 | 20.4 | 19.2 | 98 | 76 |
| 15 | 19 | 6.3 | 5.3 | 2.94 | 23.5 | 22.1 | 98 | 77 |
| 16 | 20 | 6.3 | 5.3 | 3.14 | 23.9 | 25.1 | 98 | 78 |
| 17 | 21 | 6.3 | 5.3 | 3.33 | 24.2 | 28.3 | 98 | 79 |
| 18 | 22 | 6.3 | 5.3 | 3.53 | 24.8 | 31.8 | 98 | 80 |
| 19 | 24 | 6.3 | 5.3 | 3.72 | 29.1 | 35.3 | 98 | 77 |
| 20 | 25 | 6.3 | 5.3 | 3.92 | 29.5 | 39.2 | 98 | 78 |
| 22 | 26 | 6.3 | 5.3 | 4.31 | 28.3 | 47.0 | 98 | 83 |
| 24 | 28 | 6.3 | 5.3 | 4.70 | 29.4 | 56.8 | 98 | 84 |
| 25 | 30 | 6.3 | 5.3 | 4.90 | 31.8 | 60.8 | 98 | 81 |
| 28 | 32 | 6.3 | 5.3 | 5.49 | 31.9 | 76.4 | 98 | 86 |
| 30 | 35 | 6.3 | 5.3 | 5.88 | 34.8 | 88.2 | 98 | 84 |
| 32 | 36 | 6.3 | 5.3 | 6.27 | 35.9 | 100.0 | 98 | 87 |
| 35 | 40 | 7.0 | 6.0 | 7.74 | 44.8 | 136.0 | 98 | 86 |
| 36 | 42 | 7.0 | 6.0 | 7.94 | 47.3 | 144.0 | 98 | 84 |
| 38 | 44 | 7.0 | 6.0 | 8.43 | 48.8 | 160.0 | 98 | 84 |
| 40 | 45 | 8.0 | 6.6 | 9.75 | 57.6 | 195.0 | 98 | 87 |
| 42 | 48 | 8.0 | 6.6 | 10.30 | 61.4 | 216.0 | 98 | 86 |
| 45 | 52 | 10.0 | 8.6 | 14.30 | 90.3 | 321.0 | 98 | 85 |
| 48 | 55 | 10.0 | 8.6 | 15.30 | 92.7 | 367.0 | 98 | 85 |
| 50 | 57 | 10.0 | 8.6 | 15.90 | 94.7 | 397.0 | 98 | 86 |
| 55 | 62 | 10.0 | 8.6 | 17.40 | 99.7 | 480.0 | 98 | 87 |
| 56 | 64 | 12.0 | 10.4 | 21.60 | 125.6 | 603.0 | 98 | 86 |
| 60 | 68 | 12.0 | 10.4 | 23.00 | 130.9 | 692.0 | 98 | 86 |
| 63 | 71 | 12.0 | 10.4 | 24.20 | 134.6 | 764.0 | 98 | 87 |
| 65 | 73 | 12.0 | 10.4 | 25.00 | 134.9 | 813.0 | 98 | 87 |
| 70 | 79 | 14.0 | 12.2 | 31.60 | 172.4 | 1110.0 | 98 | 87 |
| 71 | 80 | 14.0 | 12.2 | 32.00 | 174.0 | 1140.0 | 98 | 87 |
| 75 | 84 | 14.0 | 12.2 | 33.80 | 185.7 | 1260.0 | 98 | 87 |
| 80 | 91 | 17.0 | 15.0 | 44.10 | 247.1 | 1770.0 | 98 | 86 |
| 90 | 101 | 17.0 | 15.0 | 50.00 | 266.2 | 2240.0 | 98 | 87 |
| 100 | 114 | 21.0 | 18.7 | 69.60 | 370.8 | 3450.0 | 98 | 86 |
| 110 | 124 | 21.0 | 18.7 | 76.40 | 406.1 | 4170.0 | 98 | 87 |
| 120 | 134 | 21.0 | 18.7 | 83.30 | 432.0 | 4950.0 | 98 | 88 |
| 130 | 148 | 28.0 | 25.3 | 122.00 | 640.8 | 7840.0 | 98 | 86 |
| 140 | 158 | 28.0 | 25.3 | 131.00 | 676.5 | 9110.0 | 98 | 87 |
| 150 | 168 | 28.0 | 25.3 | 140.00 | 713.0 | 10500.0 | 98 | 87 |

SHAFTLOCK 03

Maximum Permissible Tolerances

Up to 38mm
Shaft:- h6
Hub:- H7

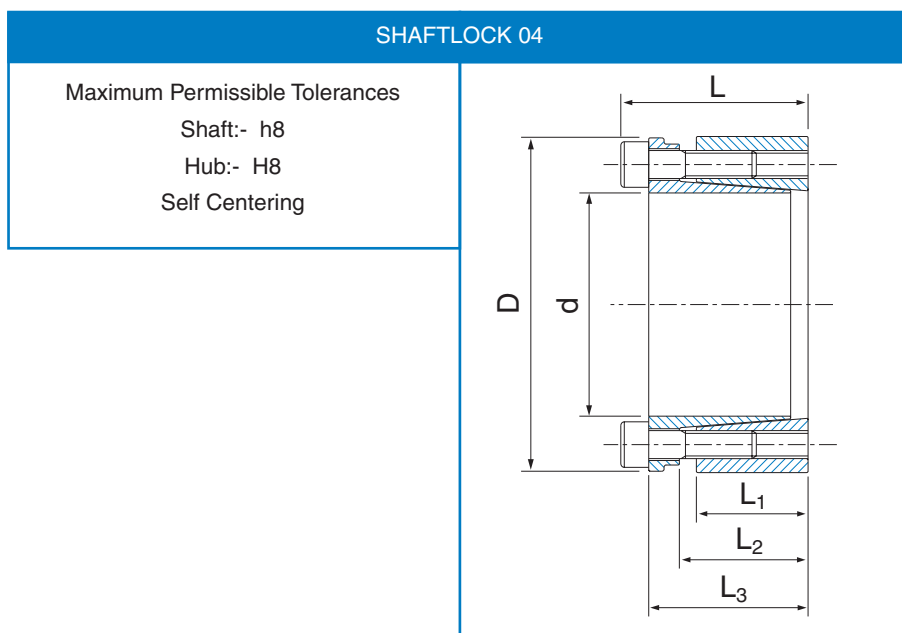
Over 40mm
Shaft:- h8
Hub:- H8

Not Self Centering

Cone Clamping Elements

SHAFTLOCK 04 Clamping Element

| Dimensions | | | | | | Transmission Axial | | Contact Pressure | | Lock Screws (DIN 912-12.9) | | |
|------------|-----|----------------|----------------|----------------|----|--------------------|----------|-------------------|--------------------|----------------------------|--------|----------------------|
| d | D | L ₁ | L ₂ | L ₃ | L | Torque Mt | Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Torque Ts |
| mm | mm | mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 19 | 47 | 26 | 31 | 39 | 45 | 332 | 32 | 193 | 78 | 4 | M6x25 | 17 |
| 20 | 47 | 26 | 31 | 39 | 45 | 349 | 32 | 183 | 78 | 4 | M6x25 | 17 |
| 22 | 47 | 26 | 31 | 39 | 45 | 383 | 32 | 166 | 78 | 4 | M6x25 | 17 |
| 24 | 50 | 26 | 31 | 39 | 45 | 629 | 48 | 229 | 110 | 6 | M6x25 | 17 |
| 25 | 50 | 26 | 31 | 39 | 45 | 654 | 48 | 220 | 110 | 6 | M6x25 | 17 |
| 28 | 55 | 26 | 31 | 39 | 45 | 733 | 48 | 196 | 100 | 6 | M6x25 | 17 |
| 30 | 55 | 26 | 31 | 39 | 45 | 785 | 48 | 183 | 100 | 6 | M6x25 | 17 |
| 32 | 60 | 26 | 31 | 39 | 45 | 1116 | 65 | 229 | 122 | 8 | M6x25 | 17 |
| 35 | 60 | 26 | 31 | 39 | 45 | 1220 | 65 | 209 | 122 | 8 | M6x25 | 17 |
| 38 | 65 | 26 | 31 | 39 | 45 | 1325 | 65 | 193 | 113 | 8 | M6x25 | 17 |
| 40 | 65 | 26 | 31 | 39 | 45 | 1395 | 65 | 183 | 113 | 8 | M6x25 | 17 |
| 42 | 75 | 30 | 36 | 47 | 55 | 1982 | 87 | 204 | 115 | 6 | M8x30 | 41 |
| 45 | 75 | 30 | 36 | 47 | 55 | 2123 | 87 | 191 | 115 | 6 | M8x30 | 41 |
| 48 | 80 | 30 | 36 | 47 | 55 | 2265 | 87 | 179 | 107 | 6 | M8x30 | 41 |
| 50 | 80 | 30 | 36 | 47 | 55 | 2359 | 87 | 172 | 107 | 6 | M8x30 | 41 |
| 55 | 85 | 30 | 36 | 47 | 55 | 3458 | 116 | 208 | 135 | 8 | M8x30 | 41 |
| 60 | 90 | 30 | 36 | 47 | 55 | 3772 | 116 | 191 | 127 | 8 | M8x30 | 41 |
| 65 | 95 | 30 | 36 | 47 | 55 | 4087 | 116 | 176 | 120 | 8 | M8x30 | 41 |
| 70 | 110 | 40 | 46 | 57 | 67 | 7136 | 189 | 199 | 127 | 8 | M10x35 | 83 |
| 75 | 115 | 40 | 46 | 62 | 72 | 7645 | 189 | 186 | 121 | 8 | M10x35 | 83 |
| 80 | 120 | 40 | 46 | 62 | 72 | 8155 | 189 | 174 | 116 | 8 | M10x35 | 83 |
| 85 | 125 | 40 | 46 | 62 | 72 | 10831 | 236 | 205 | 139 | 10 | M10x35 | 83 |
| 90 | 130 | 40 | 46 | 62 | 72 | 11469 | 236 | 193 | 134 | 10 | M10x35 | 83 |
| 95 | 135 | 40 | 46 | 62 | 72 | 12106 | 236 | 183 | 129 | 10 | M10x35 | 83 |
| 100 | 145 | 46 | 52 | 77 | 89 | 14837 | 275 | 176 | 121 | 8 | M12x45 | 145 |
| 110 | 155 | 46 | 52 | 77 | 89 | 16320 | 275 | 160 | 114 | 8 | M12x45 | 145 |
| 120 | 165 | 46 | 52 | 77 | 89 | 22254 | 343 | 183 | 133 | 10 | M12x45 | 145 |
| 130 | 180 | 46 | 52 | 77 | 89 | 28931 | 412 | 203 | 147 | 12 | M12x45 | 145 |
| 140 | 190 | 51 | 59 | 84 | 98 | 28233 | 373 | 154 | 114 | 8 | M14x45 | 230 |
| 150 | 200 | 51 | 59 | 84 | 98 | 37817 | 467 | 180 | 135 | 10 | M14x45 | 230 |
| 160 | 210 | 51 | 59 | 84 | 98 | 40339 | 467 | 169 | 129 | 10 | M14x45 | 230 |
| 170 | 225 | 51 | 59 | 84 | 98 | 51426 | 560 | 191 | 144 | 12 | M14x45 | 230 |
| 180 | 235 | 51 | 59 | 84 | 98 | 54451 | 560 | 180 | 138 | 12 | M14x45 | 230 |

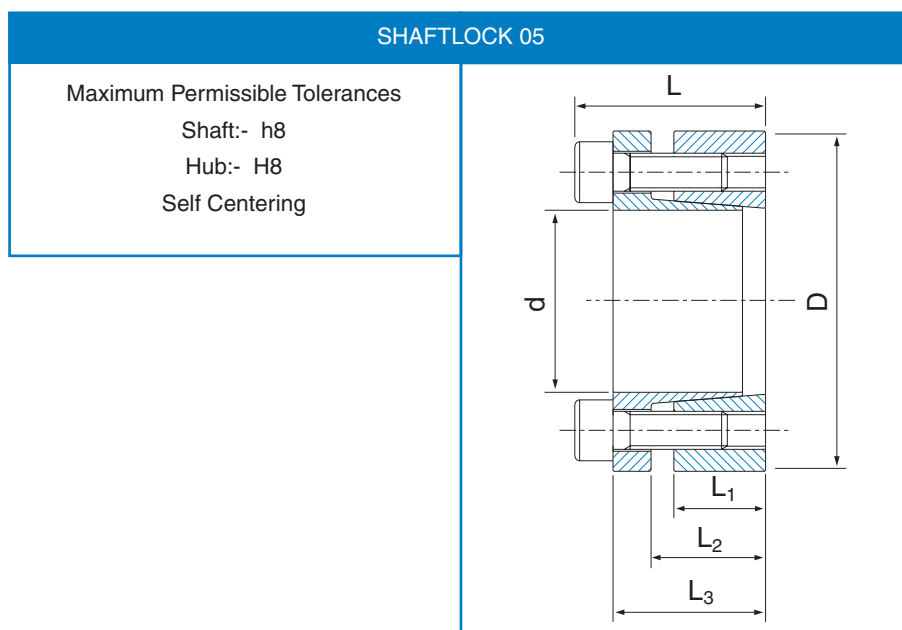


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Cone Clamping Elements

SHAFTLOCK 05 Clamping Element

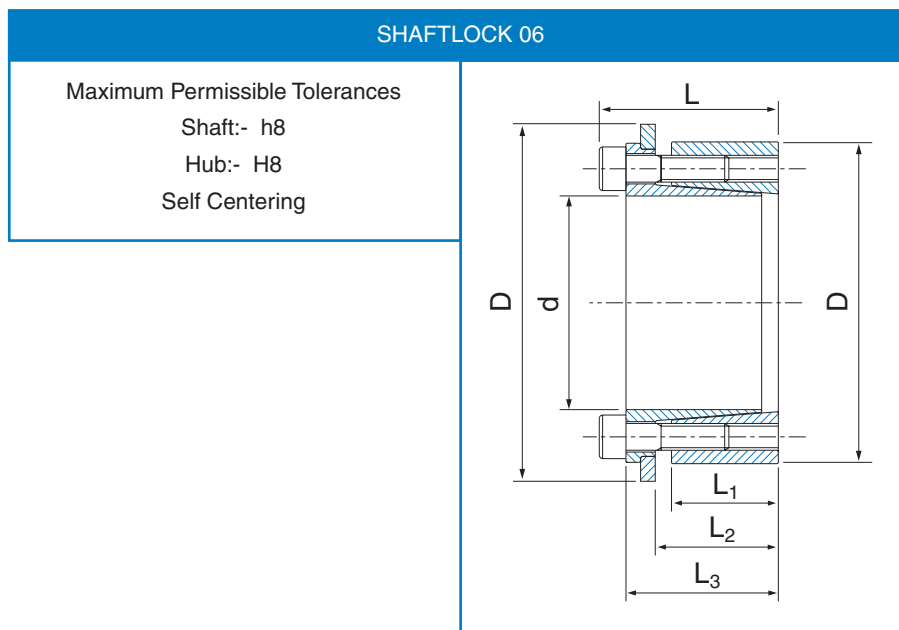
| Dimensions | | | | | | Transmission Axial | | Contact Pressure | | Lock Screws (DIN 912-12.9) | | |
|------------|-----|----------------|----------------|----------------|----|--------------------|----------|-------------------|--------------------|----------------------------|--------|---------------|
| d | D | L ₁ | L ₂ | L ₃ | L | Torque Mt | Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Ts |
| mm | mm | mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 19 | 47 | 17 | 22 | 28 | 34 | 295 | 29 | 262 | 106 | 5 | M6x20 | 13 |
| 20 | 47 | 17 | 22 | 28 | 34 | 310 | 29 | 249 | 106 | 5 | M6x20 | 13 |
| 22 | 47 | 17 | 22 | 28 | 34 | 341 | 29 | 227 | 106 | 5 | M6x20 | 13 |
| 24 | 50 | 17 | 22 | 28 | 34 | 446 | 34 | 249 | 120 | 6 | M6x20 | 13 |
| 25 | 50 | 17 | 22 | 28 | 34 | 465 | 34 | 239 | 120 | 6 | M6x20 | 13 |
| 28 | 55 | 17 | 22 | 28 | 34 | 521 | 34 | 213 | 109 | 6 | M6x20 | 13 |
| 30 | 55 | 17 | 22 | 28 | 34 | 558 | 34 | 199 | 109 | 6 | M6x20 | 13 |
| 32 | 60 | 17 | 22 | 28 | 34 | 793 | 46 | 249 | 133 | 8 | M6x20 | 13 |
| 35 | 60 | 17 | 22 | 28 | 34 | 867 | 46 | 227 | 133 | 8 | M6x20 | 13 |
| 38 | 65 | 17 | 22 | 28 | 34 | 942 | 46 | 210 | 122 | 8 | M6x20 | 13 |
| 40 | 65 | 17 | 22 | 28 | 34 | 991 | 46 | 199 | 122 | 8 | M6x20 | 13 |
| 42 | 75 | 20 | 25 | 33 | 41 | 1688 | 74 | 261 | 146 | 7 | M8x25 | 32 |
| 45 | 75 | 20 | 25 | 33 | 41 | 1808 | 74 | 244 | 146 | 7 | M8x25 | 32 |
| 50 | 80 | 20 | 25 | 33 | 41 | 2009 | 74 | 219 | 137 | 7 | M8x25 | 32 |
| 55 | 85 | 20 | 25 | 33 | 41 | 2527 | 85 | 228 | 148 | 8 | M8x25 | 32 |
| 60 | 90 | 20 | 25 | 33 | 41 | 2757 | 85 | 209 | 139 | 8 | M8x25 | 32 |
| 65 | 95 | 20 | 25 | 33 | 41 | 3359 | 96 | 217 | 149 | 9 | M8x25 | 32 |
| 70 | 110 | 24 | 30 | 40 | 50 | 5225 | 138 | 243 | 154 | 8 | M10x30 | 65 |
| 75 | 115 | 24 | 30 | 40 | 50 | 5599 | 138 | 226 | 148 | 8 | M10x30 | 65 |
| 80 | 120 | 24 | 30 | 40 | 50 | 5972 | 138 | 212 | 142 | 8 | M10x30 | 65 |
| 85 | 125 | 24 | 30 | 40 | 50 | 7139 | 156 | 225 | 153 | 9 | M10x30 | 65 |
| 90 | 130 | 24 | 30 | 40 | 50 | 7558 | 156 | 212 | 147 | 9 | M10x30 | 65 |
| 95 | 135 | 24 | 30 | 40 | 50 | 8865 | 173 | 223 | 157 | 10 | M10x30 | 65 |
| 100 | 145 | 26 | 32 | 44 | 56 | 10521 | 195 | 221 | 152 | 8 | M12x35 | 110 |
| 110 | 155 | 26 | 32 | 44 | 56 | 11573 | 195 | 201 | 143 | 8 | M12x35 | 110 |
| 120 | 165 | 26 | 32 | 44 | 56 | 14206 | 219 | 207 | 151 | 9 | M12x35 | 110 |
| 130 | 180 | 34 | 40 | 52 | 64 | 20516 | 292 | 195 | 141 | 12 | M12x35 | 110 |
| 140 | 190 | 34 | 40 | 54 | 68 | 21963 | 291 | 180 | 133 | 9 | M14x40 | 170 |
| 150 | 200 | 34 | 40 | 54 | 68 | 26148 | 323 | 187 | 140 | 10 | M14x40 | 170 |
| 160 | 210 | 34 | 40 | 54 | 68 | 30681 | 355 | 192 | 147 | 11 | M14x40 | 170 |
| 170 | 225 | 44 | 50 | 64 | 78 | 35563 | 387 | 153 | 115 | 12 | M14x40 | 170 |
| 180 | 235 | 44 | 50 | 64 | 78 | 37655 | 387 | 144 | 110 | 12 | M14x40 | 170 |



Cone Clamping Elements

SHAFTLOCK 06 Clamping Element

| Dimensions | | | | | | | Transmission Axial | | Contact Pressure | | Lock Screws (DIN 912-12.9) | | |
|------------|-----|----------------|----------------|----------------|----------------|----|--------------------|----------|-------------------|--------------------|----------------------------|--------|----------------------------------|
| d | D | D ₁ | L ₁ | L ₂ | L ₃ | L | Torque Mt | Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Torque T _s |
| mm | mm | mm | mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 19 | 47 | 53 | 26 | 31 | 39 | 45 | 203 | 20 | 118 | 48 | 4 | M6x20 | 17 |
| 20 | 47 | 53 | 26 | 31 | 39 | 45 | 214 | 20 | 112 | 48 | 4 | M6x20 | 17 |
| 22 | 47 | 53 | 26 | 31 | 39 | 45 | 234 | 20 | 102 | 48 | 4 | M6x20 | 17 |
| 24 | 50 | 56 | 26 | 31 | 39 | 45 | 384 | 30 | 140 | 67 | 6 | M6x20 | 17 |
| 25 | 50 | 56 | 26 | 31 | 39 | 45 | 401 | 30 | 135 | 67 | 6 | M6x20 | 17 |
| 28 | 55 | 61 | 26 | 31 | 39 | 45 | 449 | 30 | 120 | 61 | 6 | M6x20 | 17 |
| 30 | 55 | 61 | 26 | 31 | 39 | 45 | 482 | 30 | 112 | 61 | 6 | M6x20 | 17 |
| 32 | 60 | 66 | 26 | 31 | 39 | 45 | 685 | 40 | 140 | 75 | 8 | M6x20 | 17 |
| 35 | 60 | 66 | 26 | 31 | 39 | 45 | 750 | 40 | 128 | 75 | 8 | M6x20 | 17 |
| 38 | 65 | 71 | 26 | 31 | 39 | 45 | 813 | 40 | 118 | 69 | 8 | M6x20 | 17 |
| 40 | 65 | 71 | 26 | 31 | 39 | 45 | 856 | 40 | 112 | 69 | 8 | M6x20 | 17 |
| 42 | 75 | 81 | 30 | 36 | 47 | 55 | 1215 | 54 | 125 | 70 | 6 | M8x30 | 41 |
| 45 | 75 | 81 | 30 | 36 | 47 | 55 | 1301 | 54 | 117 | 70 | 6 | M8x30 | 41 |
| 48 | 80 | 86 | 30 | 36 | 47 | 55 | 1389 | 54 | 110 | 66 | 6 | M8x30 | 41 |
| 50 | 80 | 86 | 30 | 36 | 47 | 55 | 1446 | 54 | 105 | 66 | 6 | M8x30 | 41 |
| 55 | 85 | 91 | 30 | 36 | 47 | 55 | 2120 | 71 | 128 | 83 | 8 | M8x30 | 41 |
| 60 | 90 | 96 | 30 | 36 | 47 | 55 | 2313 | 71 | 117 | 78 | 8 | M8x30 | 41 |
| 65 | 95 | 101 | 30 | 36 | 47 | 55 | 2506 | 71 | 108 | 74 | 8 | M8x30 | 41 |
| 70 | 110 | 116 | 40 | 46 | 57 | 67 | 4372 | 116 | 122 | 78 | 8 | M10x35 | 83 |
| 75 | 115 | 121 | 40 | 46 | 62 | 72 | 4685 | 116 | 114 | 74 | 8 | M10x35 | 83 |
| 80 | 120 | 126 | 40 | 46 | 62 | 72 | 4997 | 116 | 107 | 71 | 8 | M10x35 | 83 |
| 85 | 125 | 131 | 40 | 46 | 62 | 72 | 6638 | 145 | 125 | 85 | 10 | M10x35 | 83 |
| 90 | 130 | 136 | 40 | 46 | 62 | 72 | 7029 | 145 | 118 | 82 | 10 | M10x35 | 83 |
| 95 | 135 | 141 | 40 | 46 | 62 | 72 | 7419 | 145 | 112 | 79 | 10 | M10x35 | 83 |
| 100 | 145 | 151 | 46 | 52 | 77 | 89 | 9093 | 168 | 108 | 74 | 8 | M12x45 | 145 |
| 110 | 155 | 161 | 46 | 52 | 77 | 89 | 10001 | 168 | 98 | 70 | 8 | M12x45 | 145 |
| 120 | 165 | 171 | 46 | 52 | 77 | 89 | 13640 | 210 | 112 | 82 | 10 | M12x45 | 145 |
| 130 | 180 | 186 | 46 | 52 | 77 | 89 | 17734 | 253 | 125 | 90 | 12 | M12x45 | 145 |
| 140 | 190 | 196 | 51 | 59 | 84 | 98 | 17302 | 229 | 95 | 70 | 8 | M14x45 | 230 |
| 150 | 200 | 206 | 51 | 59 | 84 | 98 | 23174 | 286 | 110 | 83 | 10 | M14x45 | 230 |
| 160 | 210 | 216 | 51 | 59 | 84 | 98 | 24718 | 286 | 103 | 79 | 10 | M14x45 | 230 |
| 170 | 225 | 231 | 51 | 59 | 84 | 98 | 31518 | 343 | 117 | 88 | 12 | M14x45 | 230 |
| 180 | 235 | 241 | 51 | 59 | 84 | 98 | 33372 | 343 | 110 | 84 | 12 | M14x45 | 230 |

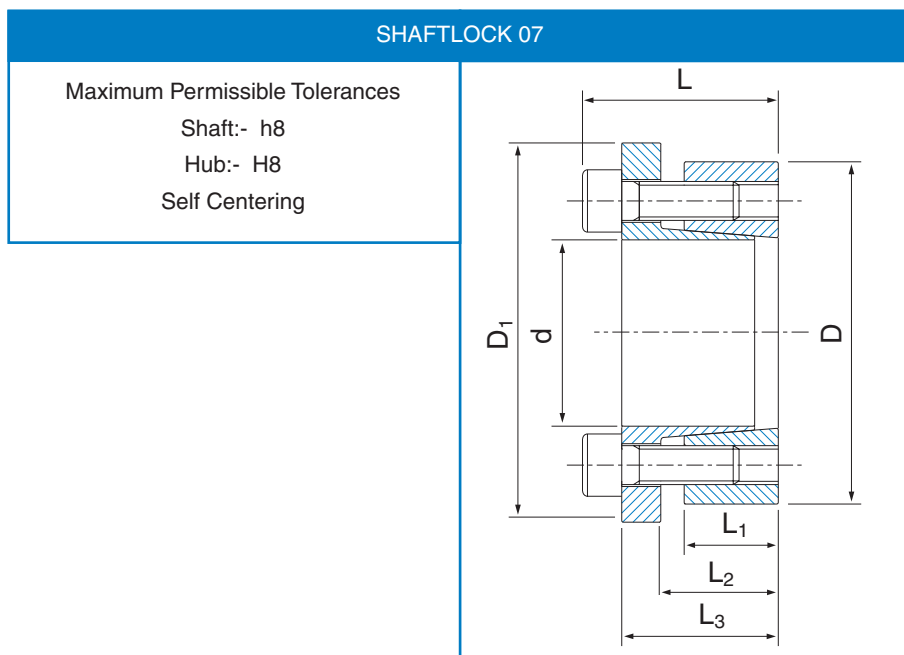


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Cone Clamping Elements

SHAFTLOCK 07 Clamping Element

| Dimensions | | | | | | | Transmission Axial | | Contact Pressure | | Lock Screws (DIN 912-12.9) | | |
|------------|-----|----------------|----------------|----------------|----------------|----|--------------------|----------|-------------------|--------------------|----------------------------|--------|----------------------|
| d | D | D ₁ | L ₁ | L ₂ | L ₃ | L | Torque Mt | Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Torque Ts |
| mm | mm | mm | mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 19 | 47 | 56 | 17 | 22 | 28 | 34 | 244 | 24 | 217 | 88 | 5 | M6x20 | 17 |
| 20 | 47 | 56 | 17 | 22 | 28 | 34 | 257 | 24 | 206 | 88 | 5 | M6x20 | 17 |
| 22 | 47 | 56 | 17 | 22 | 28 | 34 | 282 | 24 | 187 | 88 | 5 | M6x20 | 17 |
| 24 | 50 | 59 | 17 | 22 | 28 | 34 | 369 | 29 | 206 | 99 | 6 | M6x20 | 17 |
| 25 | 50 | 59 | 17 | 22 | 28 | 34 | 384 | 29 | 198 | 99 | 6 | M6x20 | 17 |
| 28 | 55 | 64 | 17 | 22 | 28 | 34 | 431 | 29 | 177 | 90 | 6 | M6x20 | 17 |
| 30 | 55 | 64 | 17 | 22 | 28 | 34 | 462 | 29 | 165 | 90 | 6 | M6x20 | 17 |
| 32 | 60 | 69 | 17 | 22 | 28 | 34 | 657 | 38 | 206 | 110 | 8 | M6x20 | 17 |
| 35 | 60 | 69 | 17 | 22 | 28 | 34 | 718 | 38 | 188 | 110 | 8 | M6x20 | 17 |
| 38 | 65 | 74 | 17 | 22 | 28 | 34 | 780 | 38 | 174 | 101 | 8 | M6x20 | 17 |
| 40 | 65 | 74 | 17 | 22 | 28 | 34 | 821 | 38 | 165 | 101 | 8 | M6x20 | 17 |
| 42 | 75 | 84 | 20 | 25 | 33 | 41 | 1360 | 60 | 210 | 118 | 7 | M8x25 | 41 |
| 45 | 75 | 84 | 20 | 25 | 33 | 41 | 1457 | 60 | 196 | 118 | 7 | M8x25 | 41 |
| 50 | 80 | 89 | 20 | 25 | 33 | 41 | 1619 | 60 | 177 | 110 | 7 | M8x25 | 41 |
| 55 | 85 | 94 | 20 | 25 | 33 | 41 | 2034 | 68 | 184 | 119 | 8 | M8x25 | 41 |
| 60 | 90 | 99 | 20 | 25 | 33 | 41 | 2218 | 68 | 168 | 112 | 8 | M8x25 | 41 |
| 65 | 95 | 104 | 20 | 25 | 33 | 41 | 2703 | 77 | 175 | 120 | 9 | M8x25 | 41 |
| 70 | 110 | 119 | 24 | 30 | 40 | 50 | 4197 | 111 | 195 | 124 | 8 | M10x30 | 83 |
| 75 | 115 | 124 | 24 | 30 | 40 | 50 | 4496 | 111 | 182 | 119 | 8 | M10x30 | 83 |
| 80 | 120 | 129 | 24 | 30 | 40 | 50 | 4796 | 111 | 171 | 114 | 8 | M10x30 | 83 |
| 85 | 125 | 134 | 24 | 30 | 40 | 50 | 5730 | 125 | 180 | 123 | 9 | M10x30 | 83 |
| 90 | 130 | 139 | 24 | 30 | 40 | 50 | 6067 | 125 | 170 | 118 | 9 | M10x30 | 83 |
| 95 | 135 | 144 | 24 | 30 | 40 | 50 | 7114 | 139 | 179 | 126 | 10 | M10x30 | 83 |
| 100 | 145 | 154 | 26 | 32 | 44 | 56 | 8724 | 162 | 183 | 126 | 8 | M12x35 | 145 |
| 110 | 155 | 164 | 26 | 32 | 44 | 56 | 9597 | 162 | 167 | 118 | 8 | M12x35 | 145 |
| 120 | 165 | 174 | 26 | 32 | 44 | 56 | 11771 | 182 | 172 | 125 | 9 | M12x35 | 145 |
| 130 | 180 | 189 | 34 | 40 | 52 | 64 | 17006 | 242 | 162 | 117 | 12 | M12x35 | 145 |
| 140 | 190 | 199 | 34 | 40 | 54 | 68 | 18673 | 247 | 153 | 113 | 9 | M14x40 | 230 |
| 150 | 200 | 209 | 34 | 40 | 54 | 68 | 22229 | 274 | 159 | 119 | 10 | M14x40 | 230 |
| 160 | 210 | 219 | 34 | 40 | 54 | 68 | 26081 | 302 | 164 | 125 | 11 | M14x40 | 230 |
| 170 | 225 | 234 | 44 | 50 | 64 | 78 | 30229 | 329 | 130 | 98 | 12 | M14x40 | 230 |
| 180 | 235 | 244 | 44 | 50 | 64 | 78 | 32007 | 329 | 123 | 94 | 12 | M14x40 | 230 |



Cone Clamping Elements

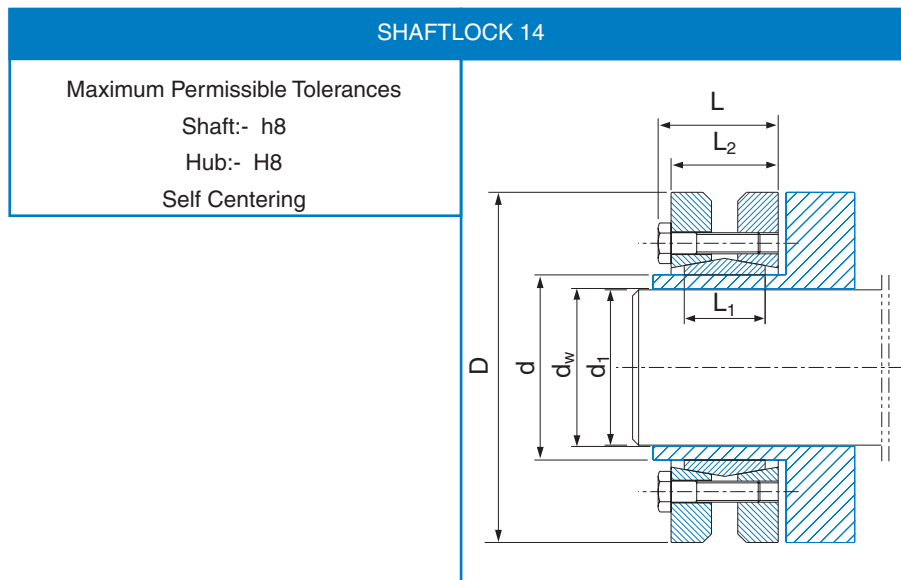
SHAFTLOCK 14 Clamping Element

| Dimensions | | | | | | | Transmission | | Contact Press Shaft P N/mm ² | Lock Screws (DIN 912-12.9) Tightening | | |
|------------|---------|----------|----------------------|----------------------|---------|----------------------------|--------------------|-------------------------|--|--|--------|--------------------|
| d mm | D mm | dw mm | L ₁ mm | L ₂ mm | L mm | C _(dw-d1) mm | Torque Mt Nm | Axial Force Ft kN | | Qty. | Size | Torque Ts Nm |
| 24 | 50 | 19 | 14 | 19.5 | 23.0 | 0.017 | 162 | 15.0 | 272 | 6 | M5x18 | 4.9 |
| | | 20 | | | | | 200 | 18.5 | | | | |
| | | 21 | | | | | 238 | 21.0 | | | | |
| 30 | 60 | 24 | 16 | 21.5 | 25.0 | 0.017 | 285 | 15.7 | 221 | 7 | M5x18 | 4.9 |
| | | 25 | | | | | 323 | 23.7 | | | | |
| | | 26 | | | | | 361 | 26.7 | | | | |
| 36 | 72 | 28 | 18 | 23.5 | 27.5 | 0.032 | 418 | 27.0 | 292 | 5 | M6x20 | 11.8 |
| | | 30 | | | | | 542 | 38.0 | | | | |
| | | 31 | | | | | 599 | 43.0 | | | | |
| 44 | 80 | 32 | 20 | 25.5 | 29.5 | 0.032 | 589 | 44.0 | 301 | 7 | M6x20 | 11.8 |
| | | 35 | | | | | 741 | 49.0 | | | | |
| | | 36 | | | | | 817 | 54.0 | | | | |
| 50 | 90 | 38 | 22 | 27.5 | 31.5 | 0.032 | 893 | 48.8 | 275 | 8 | M6x25 | 11.8 |
| | | 40 | | | | | 1102 | 58.8 | | | | |
| | | 42 | | | | | 1311 | 69.0 | | | | |
| 55 | 100 | 42 | 23 | 30.5 | 34.5 | 0.032 | 1102 | 48.0 | 239 | 8 | M6x25 | 11.8 |
| | | 45 | | | | | 1444 | 61.7 | | | | |
| | | 48 | | | | | 1786 | 77.0 | | | | |
| 62 | 110 | 48 | 23 | 30.5 | 34.5 | 0.048 | 1758 | 69.0 | 265 | 10 | M6x25 | 11.8 |
| | | 50 | | | | | 2090 | 80.9 | | | | |
| | | 52 | | | | | 2280 | 90.0 | | | | |
| 68 | 115 | 50 | 23 | 30.5 | 34.5 | 0.048 | 1900 | 71.2 | 242 | 10 | M6x25 | 11.8 |
| | | 55 | | | | | 2375 | 80.9 | | | | |
| | | 60 | | | | | 2993 | 95.7 | | | | |
| 75 | 138 | 55 | 25 | 32.5 | 37.8 | 0.048 | 2375 | 94.4 | 259 | 7 | M8x30 | 29.4 |
| | | 60 | | | | | 3040 | 111.0 | | | | |
| | | 65 | | | | | 3753 | 126.0 | | | | |
| 80 | 145 | 60 | 25 | 32.5 | 37.8 | 0.048 | 3040 | 99.3 | 243 | 7 | M8x30 | 29.4 |
| | | 65 | | | | | 3705 | 115.0 | | | | |
| | | 70 | | | | | 4370 | 130.0 | | | | |
| 90 | 155 | 65 | 30 | 39.0 | 44.3 | 0.048 | 4513 | 141.0 | 257 | 10 | M8x35 | 29.4 |
| | | 70 | | | | | 5700 | 160.0 | | | | |
| | | 75 | | | | | 6888 | 178.0 | | | | |
| 100 | 170 | 70 | 34 | 44.0 | 49.3 | 0.048 | 6555 | 163.0 | 245 | 12 | M8x35 | 29.4 |
| | | 75 | | | | | 7125 | 182.0 | | | | |
| | | 80 | | | | | 8550 | 202.0 | | | | |
| 110 | 185 | 75 | 39 | 50.0 | 56.4 | 0.048 | 6840 | 185.0 | 232 | 9 | M10x40 | 57.8 |
| | | 80 | | | | | 8550 | 207.0 | | | | |
| | | 85 | | | | | 10260 | 221.0 | | | | |
| 125 | 215 | 85 | 42 | 54.0 | 60.4 | 0.069 | 10450 | 240.0 | 253 | 12 | M10x40 | 57.8 |
| | | 90 | | | | | 12350 | 262.0 | | | | |
| | | 95 | | | | | 14250 | 285.0 | | | | |

Cone Clamping Elements

SHAFTLOCK 14 Clamping Element

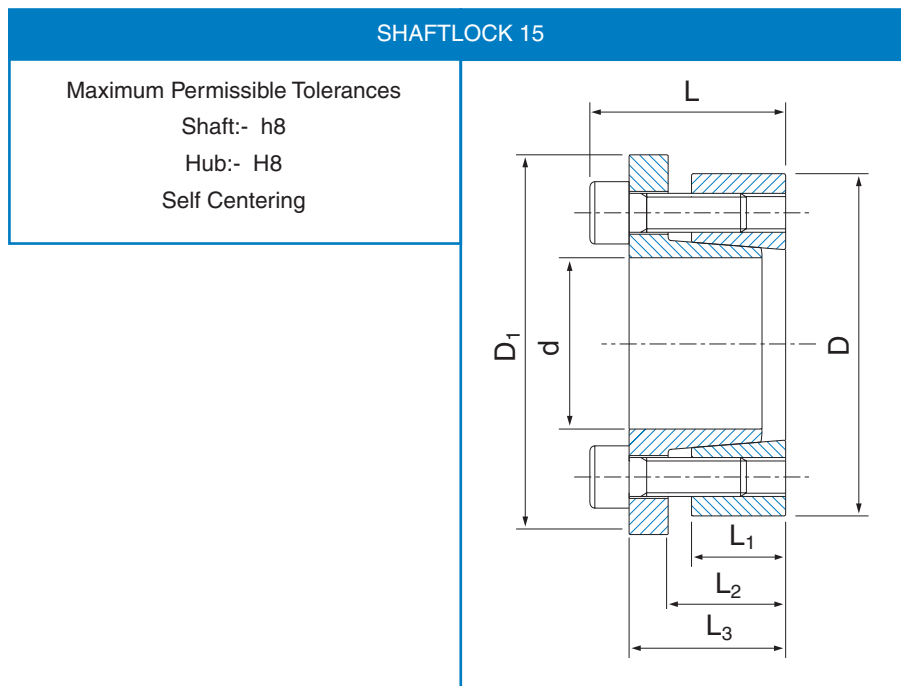
| Dimensions | | | | | | | Transmission Torque Mt Nm | Axial Force Ft kN | Contact Press Shaft P N/mm ² | Lock Screws (DIN 912-12.9) Tightening | | |
|------------|---------|----------|----------------------|----------------------|---------|----------------------------|---------------------------------|-------------------------|---|--|--------|--------------------|
| d mm | D mm | dw mm | L ₁ mm | L ₂ mm | L mm | C _(dw-d1) mm | | | | Qty. | Size | Torque Ts Nm |
| 140 | 230 | 95 | 46 | 60.5 | 68.0 | 0.069 | 14345 | 308.0 | 251 | 10 | M12x45 | 98.0 |
| | | 100 | | | | | 16720 | 331.0 | | | | |
| | | 105 | | | | | 19095 | 357.0 | | | | |
| 155 | 265 | 105 | 50 | 64.5 | 72.0 | 0.069 | 20900 | 366.0 | 250 | 12 | M12x50 | 98.0 |
| | | 110 | | | | | 23750 | 392.0 | | | | |
| | | 115 | | | | | 26600 | 417.0 | | | | |
| 165 | 290 | 115 | 56 | 71.0 | 81.0 | 0.069 | 29450 | 513.0 | 263 | 8 | M16x55 | 245.0 |
| | | 120 | | | | | 33250 | 544.0 | | | | |
| | | 125 | | | | | 37050 | 564.0 | | | | |
| 175 | 300 | 125 | 56 | 71.0 | 81.0 | 0.079 | 34200 | 576.0 | 248 | 8 | M16x55 | 250.0 |
| | | 130 | | | | | 38950 | 630.0 | | | | |
| | | 135 | | | | | 45000 | 666.0 | | | | |



Cone Clamping Elements

SHAFTLOCK 15 Clamping Element

| Dimensions | | | | | | | Transmission Axial | | Contact Pressure | | Lock Screws (DIN 912-12.9) | | |
|------------|----|----------------|----------------|----------------|----------------|----|--------------------|----------|-------------------|--------------------|----------------------------|-------|----------------------------------|
| d | D | D ₁ | L ₁ | L ₂ | L ₃ | L | Torque Mt | Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Torque T _s |
| mm | mm | mm | mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 14 | 55 | 62 | 17 | 22 | 31 | 39 | 233 | 31 | 383 | 97 | 4 | M8x25 | 37 |
| 16 | 55 | 62 | 17 | 22 | 31 | 39 | 267 | 31 | 335 | 97 | 4 | M8x25 | 37 |
| 18 | 55 | 62 | 17 | 22 | 31 | 39 | 333 | 34 | 330 | 108 | 4 | M8x25 | 41 |
| 19 | 55 | 62 | 17 | 22 | 31 | 39 | 351 | 34 | 313 | 108 | 4 | M8x25 | 41 |
| 20 | 55 | 62 | 17 | 22 | 31 | 39 | 369 | 34 | 297 | 108 | 4 | M8x25 | 41 |
| 22 | 55 | 62 | 17 | 22 | 31 | 39 | 407 | 34 | 270 | 108 | 4 | M8x25 | 41 |
| 24 | 55 | 62 | 17 | 22 | 31 | 39 | 444 | 34 | 247 | 108 | 4 | M8x25 | 41 |
| 25 | 55 | 62 | 17 | 22 | 31 | 39 | 462 | 34 | 238 | 108 | 4 | M8x25 | 41 |
| 28 | 55 | 62 | 17 | 22 | 31 | 39 | 517 | 34 | 212 | 108 | 4 | M8x25 | 41 |
| 30 | 55 | 62 | 17 | 22 | 31 | 39 | 555 | 34 | 198 | 108 | 4 | M8x25 | 41 |
| 24 | 65 | 72 | 17 | 22 | 31 | 39 | 554 | 43 | 309 | 114 | 5 | M8x25 | 41 |
| 25 | 65 | 72 | 17 | 22 | 31 | 39 | 578 | 43 | 297 | 114 | 5 | M8x25 | 41 |
| 28 | 65 | 72 | 17 | 22 | 31 | 39 | 647 | 43 | 265 | 114 | 5 | M8x25 | 41 |
| 30 | 65 | 72 | 17 | 22 | 31 | 39 | 693 | 43 | 247 | 114 | 5 | M8x25 | 41 |
| 32 | 65 | 72 | 17 | 22 | 31 | 39 | 739 | 43 | 232 | 114 | 5 | M8x25 | 41 |
| 35 | 65 | 72 | 17 | 22 | 31 | 39 | 808 | 43 | 212 | 114 | 5 | M8x25 | 41 |
| 38 | 65 | 72 | 17 | 22 | 31 | 39 | 878 | 43 | 195 | 114 | 5 | M8x25 | 41 |
| 40 | 65 | 72 | 17 | 22 | 31 | 39 | 923 | 43 | 185 | 114 | 5 | M8x25 | 41 |
| 30 | 80 | 87 | 20 | 25 | 33 | 41 | 971 | 60 | 295 | 110 | 7 | M8x25 | 41 |
| 32 | 80 | 87 | 20 | 25 | 33 | 41 | 1036 | 60 | 276 | 110 | 7 | M8x25 | 41 |
| 35 | 80 | 87 | 20 | 25 | 33 | 41 | 1133 | 60 | 253 | 110 | 7 | M8x25 | 41 |
| 38 | 80 | 87 | 20 | 25 | 33 | 41 | 1230 | 60 | 233 | 110 | 7 | M8x25 | 41 |
| 40 | 80 | 87 | 20 | 25 | 33 | 41 | 1295 | 60 | 221 | 110 | 7 | M8x25 | 41 |
| 42 | 80 | 87 | 20 | 25 | 33 | 41 | 1360 | 60 | 210 | 110 | 7 | M8x25 | 41 |
| 45 | 80 | 87 | 20 | 25 | 33 | 41 | 1457 | 60 | 196 | 110 | 7 | M8x25 | 41 |
| 48 | 80 | 87 | 20 | 25 | 33 | 41 | 1554 | 60 | 184 | 110 | 7 | M8x25 | 41 |
| 50 | 80 | 87 | 20 | 25 | 33 | 41 | 1619 | 60 | 177 | 110 | 7 | M8x25 | 41 |

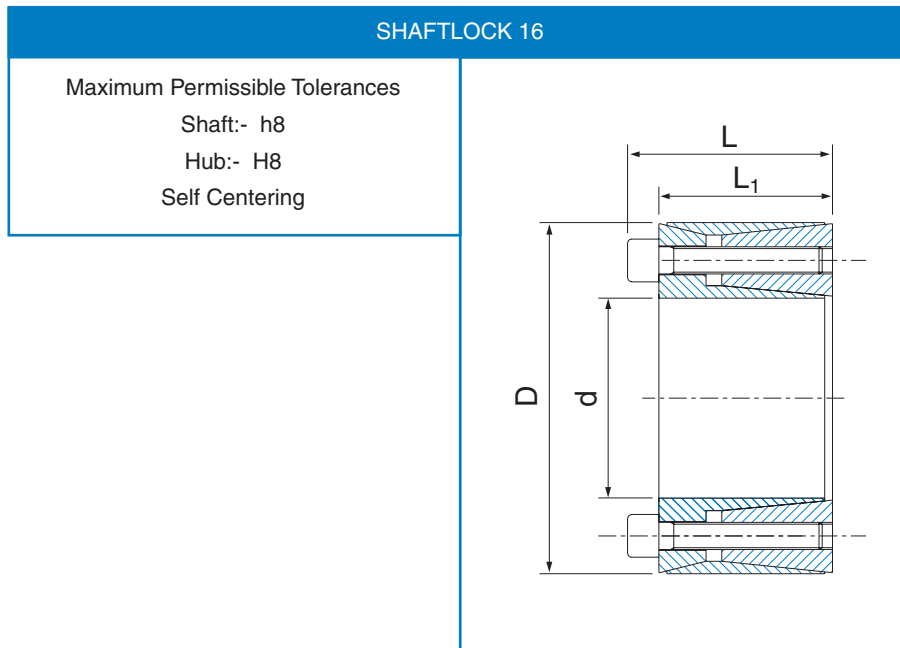


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Cone Clamping Elements

SHAFTLOCK 16 Clamping Element

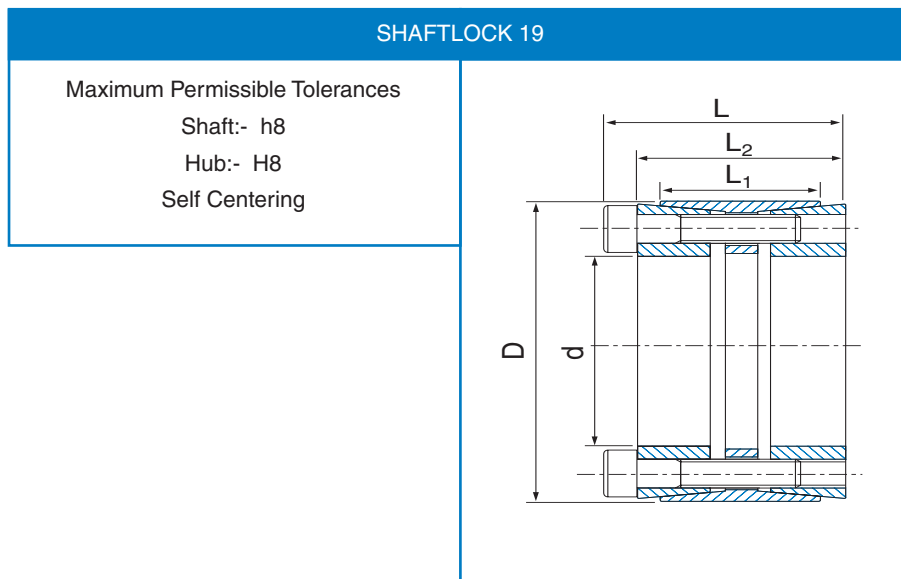
| Dimensions | | | | Transmission Axial | | Contact Pressure | | Lock Screws (DIN 912-12.9) | | |
|------------|-----|----|----------------|--------------------|----------|-------------------|--------------------|----------------------------|--------|----------------------|
| d | D | L | L ₁ | Torque Mt | Force Ft | Shaft P | Hub P ₁ | Qty. | Size | Tightening Torque Ts |
| mm | mm | mm | mm | Nm | kN | N/mm ² | N/mm ² | | | Nm |
| 16 | 32 | 24 | 18.0 | 79 | 9 | 83 | 41 | 4 | M4x16 | 5 |
| 16 | 40 | 24 | 18.0 | 231 | 23 | 83 | 74 | 4 | M6x16 | 17 |
| 19 | 41 | 24 | 18.0 | 244 | 23 | 155 | 72 | 4 | M6x16 | 17 |
| 20 | 42 | 24 | 18.0 | 256 | 23 | 147 | 70 | 4 | M6x16 | 17 |
| 22 | 44 | 24 | 18.0 | 283 | 23 | 134 | 67 | 4 | M6x16 | 17 |
| 24 | 46 | 24 | 18.0 | 462 | 35 | 184 | 96 | 6 | M6x16 | 17 |
| 25 | 47 | 24 | 18.0 | 482 | 35 | 177 | 94 | 6 | M6x16 | 17 |
| 28 | 50 | 24 | 18.0 | 539 | 35 | 158 | 88 | 6 | M6x16 | 17 |
| 30 | 52 | 24 | 18.0 | 578 | 35 | 147 | 85 | 6 | M6x16 | 17 |
| 32 | 54 | 24 | 18.0 | 616 | 35 | 138 | 82 | 6 | M6x16 | 17 |
| 35 | 57 | 28 | 21.5 | 671 | 26 | 135 | 80 | 6 | M6x18 | 17 |
| 36 | 58 | 28 | 21.5 | 693 | 35 | 103 | 64 | 8 | M6x18 | 17 |
| 38 | 60 | 28 | 21.5 | 732 | 35 | 97 | 62 | 8 | M6x18 | 17 |
| 40 | 62 | 28 | 21.5 | 770 | 35 | 93 | 60 | 8 | M6x18 | 17 |
| 42 | 70 | 36 | 28.0 | 1903 | 82 | 159 | 96 | 8 | M8x25 | 40 |
| 45 | 73 | 36 | 28.0 | 2038 | 82 | 149 | 92 | 8 | M8x25 | 40 |
| 48 | 76 | 36 | 28.0 | 2175 | 82 | 139 | 88 | 8 | M8x25 | 40 |
| 50 | 78 | 36 | 28.0 | 2265 | 82 | 134 | 86 | 8 | M8x25 | 40 |
| 55 | 83 | 36 | 28.0 | 2848 | 94 | 139 | 92 | 8 | M8x25 | 40 |
| 60 | 88 | 36 | 28.0 | 3106 | 94 | 127 | 87 | 8 | M8x25 | 40 |
| 65 | 93 | 45 | 35.0 | 3366 | 94 | 94 | 66 | 8 | M8x25 | 40 |
| 70 | 105 | 45 | 35.0 | 5138 | 133 | 124 | 83 | 8 | M10x30 | 81 |
| 75 | 110 | 45 | 35.0 | 5504 | 133 | 116 | 79 | 8 | M10x30 | 81 |
| 80 | 115 | 45 | 35.0 | 6606 | 150 | 122 | 85 | 8 | M10x30 | 81 |
| 85 | 120 | 45 | 35.0 | 7798 | 167 | 127 | 90 | 10 | M10x30 | 81 |
| 90 | 125 | 45 | 35.0 | 8257 | 167 | 120 | 87 | 10 | M10x30 | 81 |
| 100 | 138 | 45 | 35.0 | 9174 | 167 | 108 | 79 | 10 | M10x30 | 81 |



Cone Clamping Elements

SHAFTLOCK 19 Clamping Element

| Dimensions | | | | | Transmission | | Contact Pressure | | Locking Screws (DIN 912-12.9) | | |
|------------|-----|-----|----------------|----------------|--------------|-------------|---------------------|----------------------------------|-------------------------------|---------|-------------------|
| d | D | L | L ₂ | L ₁ | Torque | Axial Force | Shaft | Hub | Qty. | Size | Tightening Torque |
| mm | mm | mm | mm | mm | Mt Nm | Ft kN | P N/mm ² | P ₁ N/mm ² | | | T _s Nm |
| 25 | 55 | 46 | 40 | 32 | 802 | 59 | 292 | 100 | 6 | M6X35 | 17 |
| 28 | 55 | 46 | 40 | 32 | 899 | 59 | 261 | 100 | 6 | M6X35 | 17 |
| 30 | 55 | 46 | 40 | 32 | 962 | 59 | 243 | 100 | 6 | M6X35 | 17 |
| 35 | 60 | 60 | 54 | 44 | 1308 | 69 | 172 | 77 | 7 | M6X45 | 17 |
| 38 | 75 | 62 | 54 | 44 | 2562 | 125 | 285 | 112 | 7 | M8X50 | 41 |
| 40 | 75 | 62 | 54 | 44 | 2697 | 125 | 271 | 112 | 7 | M8X50 | 41 |
| 42 | 75 | 62 | 54 | 44 | 2832 | 125 | 258 | 112 | 7 | M8X50 | 41 |
| 45 | 75 | 62 | 54 | 44 | 3034 | 125 | 241 | 112 | 7 | M8X50 | 41 |
| 48 | 80 | 72 | 64 | 56 | 3701 | 143 | 199 | 94 | 8 | M8X55 | 41 |
| 50 | 80 | 72 | 64 | 56 | 3855 | 143 | 191 | 94 | 8 | M8X55 | 41 |
| 55 | 85 | 72 | 64 | 56 | 4769 | 161 | 196 | 99 | 9 | M8X55 | 41 |
| 60 | 90 | 72 | 64 | 56 | 5780 | 178 | 199 | 104 | 10 | M8X55 | 41 |
| 65 | 95 | 72 | 64 | 56 | 6263 | 178 | 184 | 99 | 10 | M8X55 | 41 |
| 70 | 110 | 88 | 78 | 70 | 10933 | 289 | 218 | 111 | 10 | M10X60 | 83 |
| 75 | 115 | 88 | 78 | 70 | 11714 | 289 | 203 | 106 | 10 | M10X60 | 83 |
| 80 | 120 | 88 | 78 | 70 | 13745 | 318 | 209 | 112 | 11 | M10X60 | 83 |
| 85 | 125 | 88 | 78 | 70 | 15932 | 347 | 215 | 117 | 12 | M10X60 | 83 |
| 90 | 130 | 88 | 78 | 70 | 16870 | 347 | 203 | 112 | 12 | M10X60 | 83 |
| 95 | 135 | 88 | 78 | 70 | 17807 | 347 | 192 | 108 | 12 | M10X60 | 83 |
| 100 | 145 | 112 | 100 | 90 | 25002 | 463 | 195 | 105 | 11 | M12X80 | 145 |
| 110 | 155 | 112 | 100 | 90 | 30003 | 505 | 193 | 107 | 12 | M12X80 | 145 |
| 120 | 165 | 112 | 100 | 90 | 38190 | 589 | 207 | 117 | 14 | M12X80 | 145 |
| 130 | 180 | 130 | 116 | 104 | 48204 | 687 | 185 | 108 | 12 | M14X90 | 230 |
| 140 | 190 | 130 | 116 | 104 | 60559 | 801 | 201 | 120 | 14 | M14X90 | 230 |
| 150 | 200 | 130 | 116 | 104 | 69521 | 858 | 201 | 122 | 15 | M14X90 | 230 |
| 160 | 210 | 130 | 116 | 104 | 79100 | 916 | 201 | 124 | 16 | M14X90 | 230 |
| 170 | 225 | 164 | 148 | 134 | 100770 | 1098 | 190 | 107 | 14 | M16X110 | 360 |
| 180 | 235 | 164 | 148 | 134 | 114319 | 1176 | 193 | 110 | 15 | M16X110 | 360 |
| 190 | 250 | 164 | 148 | 134 | 128714 | 1255 | 195 | 110 | 16 | M16X110 | 360 |
| 200 | 260 | 164 | 148 | 134 | 135489 | 1255 | 185 | 106 | 16 | M16X110 | 360 |
| 220 | 285 | 164 | 148 | 134 | 167668 | 1411 | 189 | 109 | 18 | M16X110 | 360 |

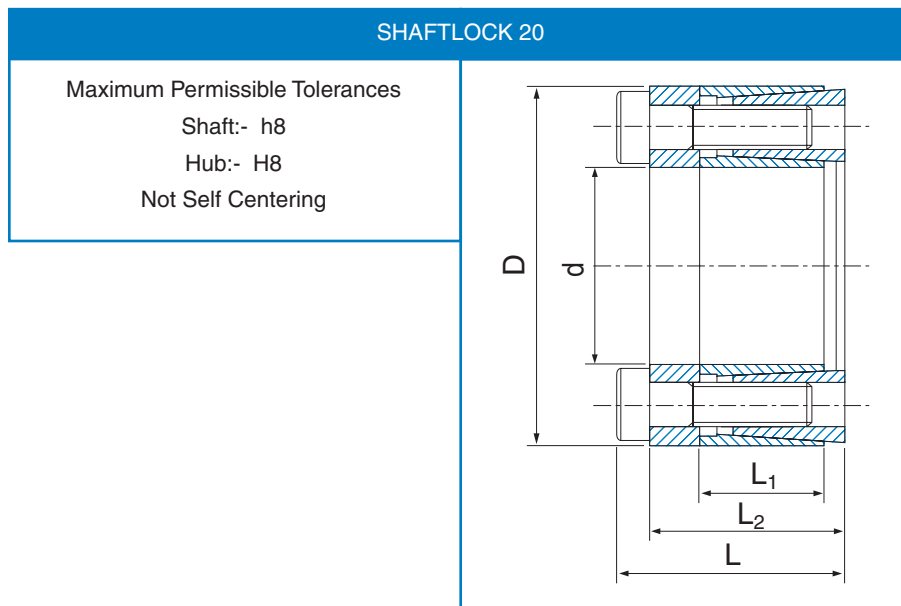


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Cone Clamping Elements

SHAFTLOCK 20 Clamping Element

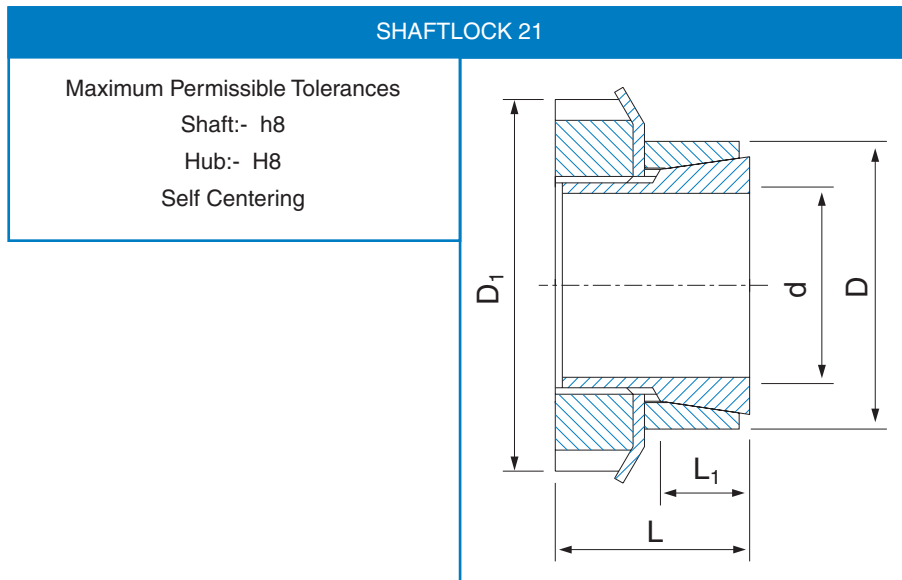
| Dimensions | | | | | Transmission | | Contact Pressure | | Locking Screws (DIN 912-12.9) | | |
|------------|-----|------|----------------|----------------|--------------|-----|-------------------|-------------------|-------------------------------|--------|-------------------|
| d | D | L | L ₂ | L ₁ | Mt | Ft | Shaft | Hub | Qty. | Size | Tightening Torque |
| mm | mm | mm | mm | mm | Nm | kN | P | P ₁ | | | T _s |
| | | | | | | | N/mm ² | N/mm ² | | | Nm |
| 18 | 40 | 24.5 | 18.5 | 12 | 184 | 19 | 167 | 75 | 6 | M6X15 | 17 |
| 19 | 41 | 24.5 | 18.5 | 12 | 194 | 19 | 159 | 73 | 6 | M6X15 | 17 |
| 20 | 42 | 24.5 | 18.5 | 12 | 204 | 19 | 151 | 72 | 6 | M6X15 | 17 |
| 24 | 46 | 24.5 | 18.5 | 12 | 245 | 19 | 126 | 65 | 6 | M6X15 | 17 |
| 25 | 47 | 24.5 | 18.5 | 12 | 341 | 25 | 161 | 86 | 8 | M6X15 | 17 |
| 28 | 50 | 24.5 | 18.5 | 12 | 382 | 25 | 144 | 81 | 8 | M6X15 | 17 |
| 30 | 52 | 24.5 | 18.5 | 12 | 409 | 25 | 134 | 77 | 8 | M6X15 | 17 |
| 35 | 57 | 28.0 | 22.0 | 15 | 716 | 38 | 145 | 89 | 12 | M6X15 | 17 |
| 38 | 60 | 28.0 | 22.0 | 15 | 778 | 38 | 134 | 85 | 12 | M6X15 | 17 |
| 40 | 62 | 28.0 | 22.0 | 15 | 819 | 38 | 127 | 82 | 12 | M6X15 | 17 |
| 42 | 70 | 36.0 | 28.0 | 18 | 1551 | 68 | 171 | 103 | 12 | M8X22 | 41 |
| 45 | 73 | 36.0 | 28.0 | 18 | 1661 | 68 | 160 | 99 | 12 | M8X22 | 41 |
| 48 | 76 | 36.0 | 28.0 | 18 | 1772 | 68 | 150 | 95 | 12 | M8X22 | 41 |
| 50 | 78 | 36.0 | 28.0 | 18 | 1846 | 68 | 144 | 92 | 12 | M8X22 | 41 |
| 55 | 83 | 36.0 | 28.0 | 18 | 2708 | 91 | 175 | 116 | 16 | M8X22 | 41 |
| 60 | 88 | 36.0 | 28.0 | 18 | 2954 | 91 | 160 | 109 | 16 | M8X22 | 41 |
| 70 | 105 | 45.0 | 35.0 | 22 | 4037 | 107 | 129 | 86 | 12 | M10X25 | 80 |
| 80 | 115 | 45.0 | 35.0 | 22 | 6150 | 142 | 150 | 104 | 16 | M10X25 | 80 |



Cone Clamping Elements

SHAFTLOCK 21 Clamping Element

| Dimensions | | | | | Transmission Torque Mt Nm | Axial Force Ft kN | Contact Pressure | | Locking Screws (DIN 912-12.9) | | |
|------------|---------|----------------------|---------|----------------------|---------------------------------|-------------------------|---------------------------------|--|-------------------------------|---------|-------------------------------|
| d mm | D mm | D ₁ mm | L mm | L ₁ mm | | | Shaft P N/mm ² | Hub P ₁ N/mm ² | Qty. | Size | Tightening Torque Ts Nm |
| 15 | 25 | 32 | 31 | 20 | 83 | 9 | 91 | 55 | 1 | M20x1.0 | 95 |
| 18 | 30 | 38 | 33 | 21 | 135 | 13 | 98 | 59 | 1 | M25x1.5 | 160 |
| 19 | 30 | 38 | 33 | 21 | 143 | 13 | 93 | 59 | 1 | M25x1.5 | 160 |
| 20 | 30 | 38 | 33 | 21 | 150 | 13 | 88 | 59 | 1 | M25x1.5 | 160 |
| 24 | 35 | 45 | 38 | 25 | 218 | 15 | 74 | 51 | 1 | M30x1.5 | 220 |
| 25 | 35 | 45 | 38 | 25 | 227 | 15 | 71 | 51 | 1 | M30x1.5 | 220 |
| 28 | 40 | 52 | 44 | 28 | 337 | 20 | 76 | 53 | 1 | M35x1.5 | 340 |
| 30 | 40 | 52 | 44 | 28 | 362 | 20 | 71 | 53 | 1 | M35x1.5 | 340 |
| 35 | 45 | 58 | 45 | 28 | 522 | 25 | 75 | 58 | 1 | M40x1.5 | 480 |
| 40 | 50 | 65 | 46 | 28 | 752 | 31 | 82 | 66 | 1 | M45x1.5 | 680 |
| 45 | 55 | 70 | 47 | 28 | 974 | 36 | 84 | 69 | 1 | M50x1.5 | 870 |
| 50 | 60 | 75 | 47 | 28 | 1095 | 37 | 77 | 64 | 1 | M55x2.0 | 970 |
| 55 | 65 | 80 | 48 | 28 | 1251 | 38 | 73 | 61 | 1 | M60x2.0 | 1100 |
| 60 | 70 | 85 | 50 | 28 | 1489 | 41 | 73 | 62 | 1 | M65x2.0 | 1300 |

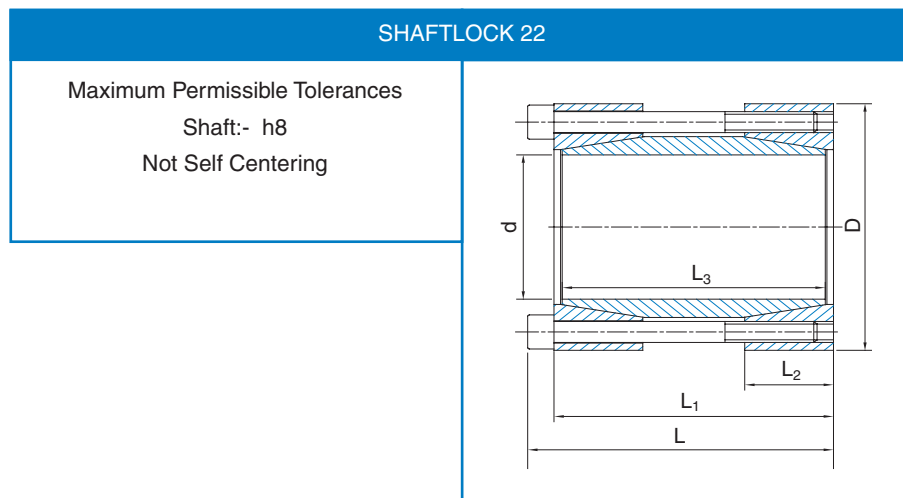


All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

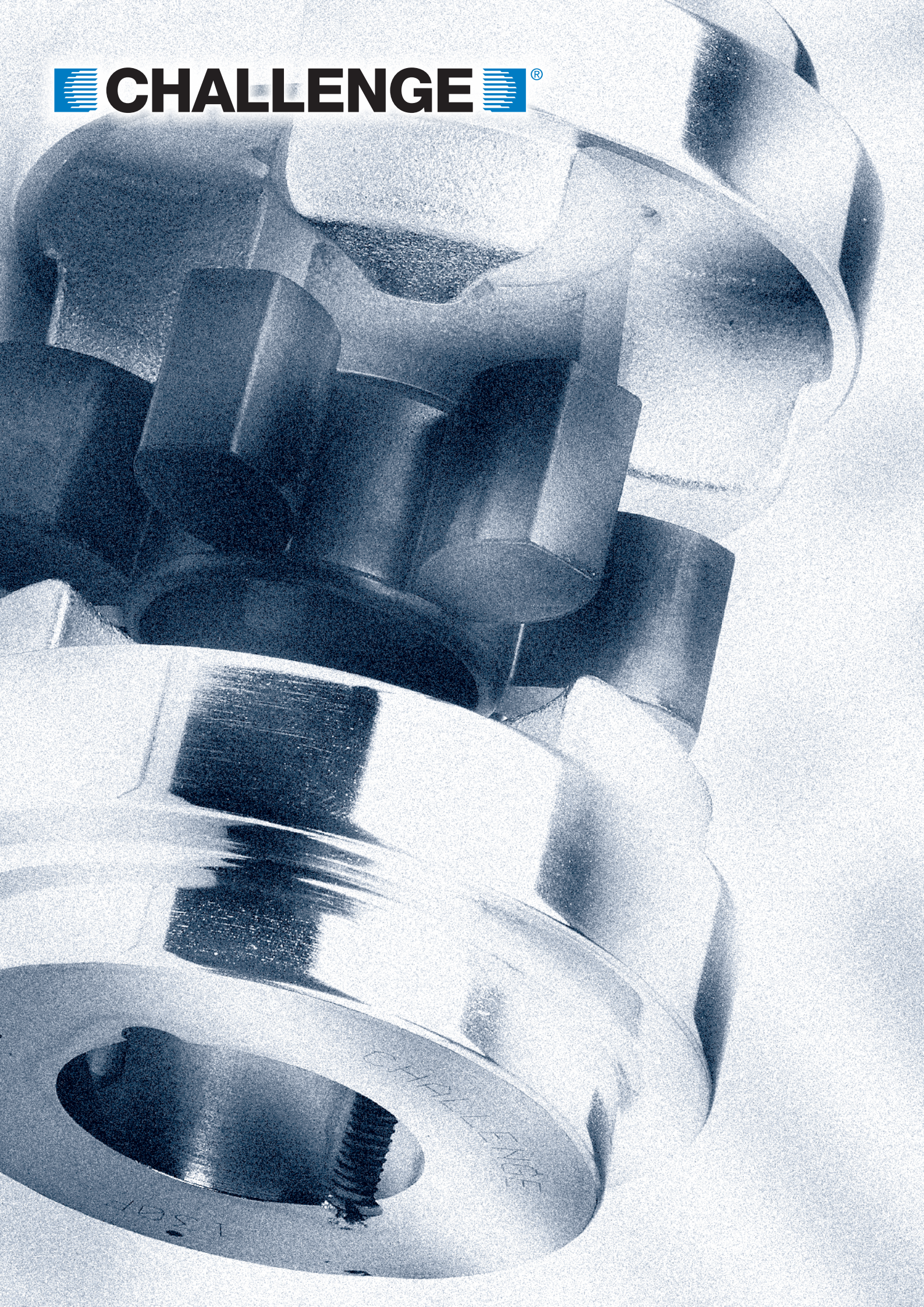
Cone Clamping Elements

SHAFTLOCK 22 Clamping Element

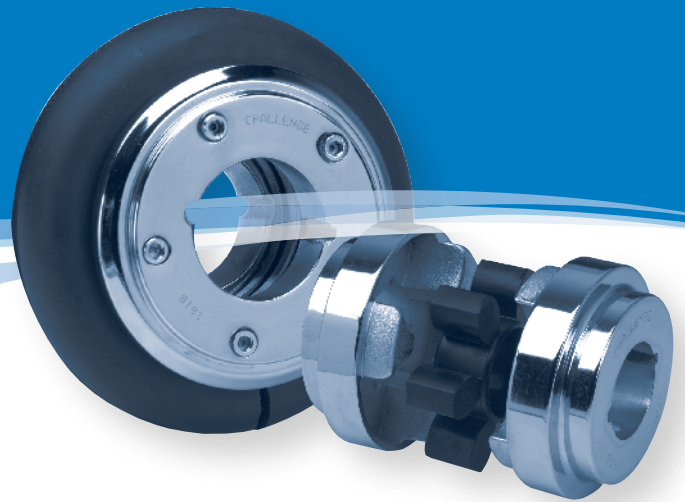
| Dimensions | | | | | | Transmission Torque Force Mt Nm | Axial Force Ft kN | Contact Pressure Shaft P N/mm ² | Locking Screws (DIN 912-12.9) | | |
|------------|---------|----------------------|----------------------|----------------------|---------|---------------------------------------|-------------------------|--|-------------------------------|--------|-------------------------------|
| d mm | D mm | L ₁ mm | L ₂ mm | L ₃ mm | L mm | | | | Qty. | Size | Tightening Torque Ts Nm |
| 17 | 50 | 50 | 16.0 | 44 | 56 | 179 | 20 | 154 | 4 | M6X45 | 17 |
| 18 | 50 | 50 | 16.0 | 44 | 56 | 190 | 20 | 146 | 4 | M6X45 | 17 |
| 19 | 50 | 50 | 16.0 | 44 | 56 | 201 | 20 | 138 | 4 | M6X45 | 17 |
| 20 | 50 | 50 | 16.0 | 44 | 56 | 211 | 20 | 131 | 4 | M6X45 | 17 |
| 24 | 55 | 60 | 18.5 | 54 | 66 | 379 | 29 | 133 | 6 | M6X55 | 17 |
| 25 | 55 | 60 | 18.5 | 54 | 66 | 395 | 29 | 128 | 6 | M6X55 | 17 |
| 28 | 60 | 60 | 18.5 | 54 | 66 | 443 | 29 | 114 | 6 | M6X55 | 17 |
| 30 | 60 | 60 | 18.5 | 54 | 66 | 474 | 29 | 107 | 6 | M6X55 | 17 |
| 32 | 63 | 60 | 18.5 | 54 | 66 | 505 | 29 | 100 | 6 | M6X55 | 17 |
| 35 | 75 | 75 | 22.0 | 67 | 83 | 684 | 36 | 91 | 4 | M8X70 | 42 |
| 38 | 75 | 75 | 22.0 | 67 | 83 | 742 | 36 | 84 | 4 | M8X70 | 42 |
| 40 | 75 | 75 | 22.0 | 67 | 83 | 782 | 36 | 80 | 4 | M8X70 | 42 |
| 42 | 78 | 75 | 22.0 | 67 | 83 | 821 | 36 | 76 | 4 | M8X70 | 42 |
| 45 | 85 | 85 | 24.5 | 76 | 93 | 1318 | 54 | 93 | 6 | M8X80 | 42 |
| 48 | 90 | 85 | 24.5 | 76 | 93 | 1405 | 54 | 88 | 6 | M8X80 | 42 |
| 50 | 90 | 85 | 24.5 | 76 | 93 | 1463 | 54 | 84 | 6 | M8X80 | 42 |
| 55 | 94 | 85 | 24.5 | 76 | 93 | 2146 | 72 | 102 | 8 | M8X80 | 42 |
| 60 | 100 | 85 | 24.5 | 76 | 93 | 2341 | 72 | 93 | 8 | M8X80 | 42 |
| 65 | 105 | 85 | 24.5 | 76 | 93 | 2536 | 72 | 86 | 8 | M8X80 | 42 |
| 70 | 115 | 100 | 29.0 | 90 | 110 | 4364 | 115 | 108 | 8 | M10X95 | 84 |



 **CHALLENGE**  [®]



Shaft Couplings



Features

FFX

- Up to 14675 Nm torque on 6 pole motors
- Up to 4° angular misalignment
- Up to 12° 'wind up' shock absorption
- Can accommodate simultaneous maximum misalignment in all planes
- Tyre can be changed without moving prime mover or driven machine
- Visual inspection of tyre to detect wear
- Zero backlash makes the FFX ideal for reversing duties as the load carrying cords are wound in both directions. Reversing drives are not a problem
- Steel clamping rings used throughout the range for superior tyre/clamping ring grip
- Fire resistant and anti static (FRAS) tyres available
- No lubrication required
- Taper bush and pilot bore flanges available

HRC

- Designed specifically for use with IEC motors
- Torques up to 3150 Nm
- Up to 1° angular misalignment
- Good shock absorption properties
- Quick and easy assembly
- Taper bush and Pilot bore flanges available
- High grade cast iron hubs
- Fail safe operation

NPX

- Designed to industry standard
- Available with three part flanges, thus allowing the segments to be changed without disturbing either the driving or driven shaft
- High levels of torsional flexibility
- High speed capability
- Suit IEC electric motor applications
- Taper bore and pilot bore flanges

RPX

- Fully machined with curved jaw design. This reduces vibration and allows for increased shock loading
- Designed to industry standard
- High torque for size
- Taper bore and pilot bore flanges
- 92 shore (yellow) and 98 shore (red) elements available

JAW

- International design
- Low cost wide range of sizes from 16 mm to 127 mm diameter

CHAIN

- High torque capacity
- Bores from 12 mm to 150 mm diameter
- Fully sealed casing with 'O' rings

FFX Tyre Coupling Selection

Tyre Coupling selection procedure

- 1] **Service Factor.**
From Table 1 on page 293, select the service factor that is appropriate for the application
- 2] **Design Power.**
Multiply the absorbed power of the driven machine, in kW, by the service factor, from step 1) to obtain the design power. If the absorbed power is not known, use the prime mover power.
- 3] **Tyre coupling size selection.**
Refer to Table 2 on page 293.
Read down the left hand vertical column to the required speed
Read horizontally across on the speed line until a power equal to or in excess of the design power, from step 2), is reached.
Read vertically to the top of the column to obtain the correct size of tyre coupling.
- 4] **Bore dimensions.**
From the dimensions Table on page 294, check that the selected coupling will fit the shafts.



Tyre Coupling selection example

Select a Challenge tyre coupling to drive a reciprocating pump from a 980 rev/min, 30 kW electric motor. The pump absorbs 24 kW and runs for 16 hours/day. The motor shaft is 60 mm diameter and the pump shaft 55 mm diameter. Taper bush flanges are required for both shafts.

- 1] **Service factor.**
From Table 1 on page 293, the service factor for this application is 1.9
- 2] **Design power.**
Using the absorbed power of the pump, the design power is $24 \times 1.9 = 45.6$ kW
- 3] **Tyre coupling size selection.**
Refer to Table 2 on page 293
By reading down and interpolating for the required speed of 980 rev/min, it is seen that an FFX 090 will transmit 50.45 kW which is in excess of the 45.6 kW required from step 2)
- 4] **Bore dimensions.**
From the dimensions Table on page 294, it is seen that both 'F' and 'H' flanges on an FFX 090 take a 2517 taper bush which are available with bores to suit the shaft requirements of the application.



FFX Tyre Coupling Selection

Table 1, Service Factors

| Special cases For applications where shock, vibration and torque fluctuations occur – consult Challenge | Type of prime mover | | | | | |
|--|---|-------------------|------------|-----------------------------|-------------------|------------|
| | 'Soft' Starts | | | 'Heavy' Starts | | |
| | Electric motors and other smooth running prime movers | | | Internal Combustion Engines | | |
| | Number of hours per day running | | | | | |
| Type of driven machine | 10 and under | over 10 - 16 incl | over 16 | 10 and under | over 10 - 16 incl | over 16 |
| Uniform load Light duty agitators, belt conveyors for sand etc., fans upto 7.5 kW, centrifugal compressors and pumps, | 0.8 | 0.9 | 1.0 | 1.3 | 1.4 | 1.5 |
| Moderate load Variable density agitators, belt conveyors (non-uniform loads), fans over 7.5 kW, other rotary compressors and pumps, generators, machine tools, printing machinery, laundry machinery, rotary screens, rotary woodworking machinery | 1.3 | 1.4 | 1.5 | 1.8 | 1.9 | 2.0 |
| Heavy load Reciprocating compressors and pumps, positive displacement blowers, heavy duty conveyors such as screw, bucket etc., hammer mills, pulverisers, presses, shears, punches, rubber machinery | 1.8 | 1.9 | 2.0 | 2.3 | 2.4 | 2.5 |
| Severe load Crushers – gyratory, jaw, roll etc., rolling mills, calenders, quarry machinery, vibrating screens | 2.3 | 2.4 | 2.5 | 2.8 | 2.9 | 3.0 |

Table 2, Power Ratings (kW)

| Rotational speed in rev/min | FFX 40 | FFX 50 | FFX 60 | FFX 70 | FFX 80 | FFX 90 | FFX 100 | FFX 110 | FFX 120 | FFX 140 | FFX 160 | FFX 180 | FFX 200 | FFX 220 | FFX 250 |
|-----------------------------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 100 | 0.28 | 0.87 | 1.58 | 2.59 | 4.06 | 5.16 | 6.83 | 9.09 | 14.2 | 26.7 | 41.8 | 65.4 | 96.8 | 120 | 154 |
| 150 | 0.42 | 13.1 | 2.37 | 3.89 | 6.09 | 7.74 | 10.2 | 13.6 | 21.3 | 40.1 | 62.7 | 98.1 | 145 | 180 | 231 |
| 200 | 0.56 | 1.74 | 3.16 | 5.18 | 8.12 | 10.3 | 13.7 | 18.2 | 28.5 | 53.4 | 83.6 | 131 | 194 | 240 | 308 |
| 300 | 0.84 | 2.61 | 4.74 | 7.77 | 12.2 | 15.5 | 20.5 | 27.3 | 42.6 | 80.1 | 125 | 196 | 290 | 360 | 462 |
| 400 | 1.12 | 3.48 | 6.32 | 10.4 | 16.2 | 20.6 | 27.3 | 36.4 | 56.8 | 107 | 167 | 262 | 387 | 480 | 616 |
| 500 | 1.41 | 4.36 | 7.88 | 12.9 | 20.2 | 25.7 | 34.1 | 45.4 | 71.4 | 134 | 209 | 327 | 484 | 601 | 767 |
| 600 | 1.68 | 5.22 | 9.48 | 15.5 | 24.4 | 31.0 | 41.0 | 54.5 | 85.2 | 160 | 251 | 392 | 581 | 720 | 924 |
| 700 | 1.97 | 6.10 | 11.0 | 18.1 | 28.4 | 36.0 | 47.7 | 63.6 | 99.8 | 187 | 292 | 458 | 678 | 842 | 1074 |
| 720 | 2.02 | 6.26 | 11.3 | 18.6 | 29.2 | 37.1 | 49.1 | 65.4 | 103 | 192 | 301 | 471 | 697 | 866 | 1104 |
| 800 | 2.25 | 6.97 | 12.5 | 20.7 | 32.4 | 41.2 | 54.5 | 72.3 | 114 | 214 | 334 | 523 | 775 | 962 | 1227 |
| 900 | 2.53 | 7.84 | 14.1 | 23.3 | 36.5 | 46.3 | 61.4 | 81.8 | 128 | 241 | 376 | 589 | 872 | 1082 | 1380 |
| 960 | 2.69 | 8.36 | 15.1 | 24.8 | 38.9 | 49.4 | 65.5 | 87.3 | 137 | 257 | 401 | 628 | 929 | 1154 | 1472 |
| 1000 | 2.81 | 8.71 | 15.7 | 25.9 | 40.6 | 51.5 | 68.2 | 90.9 | 143 | 267 | 419 | 655 | 968 | 1203 | 1534 |
| 1200 | 3.37 | 10.4 | 18.9 | 31.0 | 48.6 | 61.8 | 81.8 | 109 | 171 | 321 | 502 | 785 | 1162 | - | - |
| 1400 | 3.93 | 12.2 | 22.0 | 36.2 | 56.8 | 72.1 | 95.5 | 127 | 200 | 375 | 585 | 916 | - | - | - |
| 1440 | 4.04 | 12.5 | 22.6 | 37.2 | 58.4 | 74.2 | 98.3 | 131 | 206 | 385 | 602 | 942 | - | - | - |
| 1500 | 4.21 | 13.0 | 23.6 | 38.8 | 60.9 | 77.3 | 102 | 136 | 214 | 401 | 627 | 982 | - | - | - |
| 1800 | 5.05 | 15.6 | 28.3 | 46.5 | 73.0 | 92.7 | 123 | 164 | 257 | 481 | - | - | - | - | - |
| 2000 | 5.62 | 17.4 | 31.5 | 51.8 | 81.1 | 103 | 136 | 182 | 286 | - | - | - | - | - | - |
| 2500 | 7.02 | 21.7 | 39.3 | 64.7 | 102 | 129 | 145 | - | - | - | - | - | - | - | - |
| 2880 | 8.08 | 25.0 | 45.3 | 74.5 | 117 | 149 | - | - | - | - | - | - | - | - | - |
| 3000 | 8.42 | 26.1 | 47.2 | 77.6 | 122 | 155 | - | - | - | - | - | - | - | - | - |
| 3500 | 9.82 | 30.4 | 55.1 | 90.6 | - | - | - | - | - | - | - | - | - | - | - |
| 4000 | 11.2 | 34.8 | 63.0 | - | - | - | - | - | - | - | - | - | - | - | - |
| 4500 | 12.6 | 39.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |

All power ratings are constant torque, interpolate for speeds not listed

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

FFX Tyre Couplings

FFX Tyre Coupling Data

| Coupling Size | Bush Size | Max Bore | | Pilot Bore | A | B | C | M * | Types F & H | | Type B | | Weight# kg |
|---------------|-----------|----------|--------|------------|-----|-----|-------|------|-------------|------|--------|------|------------|
| | | Metric | Inch | | | | | | F | D | F | D | |
| 040B | - | 32 | - | 12 | 104 | - | 82 | 11.0 | - | - | 33 | 22 | 0.84 |
| 040F | 1008 | 25 | 1" | - | 104 | - | 82 | 11.0 | 33.0 | 22 | - | - | 0.84 |
| 040H | 1008 | 25 | 1" | - | 104 | - | 82 | 11.0 | 33.0 | 22 | - | - | 0.84 |
| 050B | - | 38 | - | 15 | 133 | 79 | 100 | 12.5 | - | - | 45 | 32.5 | 1.26 |
| 050F | 1210 | 32 | 1.1/4" | - | 133 | 79 | 100 | 12.5 | 37.5 | 25 | - | - | 1.26 |
| 050H | 1210 | 32 | 1.1/4" | - | 133 | 79 | 100 | 12.5 | 37.5 | 25 | - | - | 1.26 |
| 060B | - | 45 | - | 18 | 165 | 103 | 124.5 | 16.5 | - | - | 55 | 38.5 | 2.10 |
| 060F | 1610 | 42 | 1.5/8" | - | 165 | 103 | 124.5 | 16.5 | 41.5 | 25 | - | - | 2.10 |
| 060H | 1610 | 42 | 1.5/8" | - | 165 | 103 | 124.5 | 16.5 | 41.5 | 25 | - | - | 2.10 |
| 070B | - | 50 | - | 22 | 187 | 80 | 142 | 11.5 | - | - | 46.5 | 35 | 3.26 |
| 070F | 2012 | 50 | 2" | - | 187 | 80 | 142 | 11.5 | 44.5 | 33 | - | - | 3.26 |
| 070H | 1610 | 42 | 1.5/8" | - | 187 | 80 | 142 | 11.5 | 42.5 | 31 | - | - | 3.15 |
| 080B | - | 60 | - | 25 | 211 | 98 | 165 | 12.5 | - | - | 55 | 42.5 | 5.15 |
| 080F | 2517 | 65 | 2.1/2" | - | 211 | 98 | 165 | 12.5 | 58.5 | 46 | - | - | 5.15 |
| 080H | 2012 | 50 | 2" | - | 211 | 98 | 165 | 12.5 | 45.5 | 33 | - | - | 4.83 |
| 090B | - | 70 | - | 28 | 235 | 108 | 187 | 13.5 | - | - | 63.5 | 50 | 7.46 |
| 090F | 2517 | 65 | 2.1/2" | - | 235 | 108 | 187 | 13.5 | 59.5 | 46 | - | - | 7.35 |
| 090H | 2517 | 65 | 2.1/2" | - | 235 | 108 | 187 | 13.5 | 59.5 | 46 | - | - | 7.35 |
| 100B | - | 80 | - | 32 | 254 | 120 | 214 | 13.5 | - | - | 70.5 | 57 | 10.4 |
| 100F | 3020 | 75 | 3" | - | 254 | 120 | 214 | 13.5 | 65.5 | 52 | - | - | 10.4 |
| 100H | 2517 | 65 | 2.1/2" | - | 254 | 120 | 214 | 13.5 | 59.5 | 46 | - | - | 9.87 |
| 110B | - | 90 | - | 30 | 279 | 134 | 232 | 12.5 | - | - | 70.5 | 58 | 13.1 |
| 110F | 3020 | 75 | 3" | - | 279 | 134 | 232 | 12.5 | 64.5 | 52 | - | - | 12.3 |
| 110H | 3020 | 75 | 3" | - | 279 | 134 | 232 | 12.5 | 64.5 | 52 | - | - | 12.3 |
| 120B | - | 100 | - | 38 | 314 | 143 | 262 | 14.5 | - | - | 84.5 | 70 | 17.7 |
| 120F | 3525 | 100 | 4" | - | 314 | 140 | 262 | 14.5 | 80.5 | 66 | - | - | 17.3 |
| 120H | 3020 | 75 | 3" | - | 314 | 140 | 262 | 14.5 | 66.5 | 52 | - | - | 16.7 |
| 140B | - | 130 | - | 75 | 359 | 178 | 313 | 16.0 | - | - | 110 | 94 | 23.3 |
| 140F | 3525 | 100 | 4" | - | 359 | 178 | 313 | 16.0 | 82.0 | 66 | - | - | 23.4 |
| 140H | 3525 | 100 | 4" | - | 359 | 178 | 313 | 16.0 | 82.0 | 66 | - | - | 23.4 |
| 160B | - | 140 | - | 75 | 402 | 197 | 347 | 15.0 | - | - | 117 | 102 | 37.6 |
| 160F | 4030 | 115 | 4.1/2" | - | 402 | 197 | 347 | 15.0 | 92.4 | 77.4 | - | - | 34.1 |
| 160H | 4030 | 115 | 4.1/2" | - | 402 | 197 | 347 | 15.0 | 92.4 | 77.4 | - | - | 34.1 |
| 180B | - | 150 | - | 75 | 470 | 205 | 396 | 23.0 | - | - | 137 | 114 | 51.6 |
| 180F | 4535 | 125 | 5" | - | 470 | 205 | 396 | 23.0 | 112.0 | 89 | - | - | 44.3 |
| 180H | 4535 | 125 | 5" | - | 470 | 205 | 396 | 23.0 | 112.0 | 89 | - | - | 44.3 |
| 200B | - | 150 | - | 85 | 508 | 206 | 433 | 24.0 | - | - | 138 | 114 | 61.1 |
| 200F | 4535 | 125 | 5" | - | 508 | 206 | 433 | 24.0 | 113.0 | 89 | - | - | 56.3 |
| 200H | 4535 | 125 | 5" | - | 508 | 206 | 433 | 24.0 | 113.0 | 89 | - | - | 56.3 |
| 220B | - | 160 | - | 85 | 562 | 224 | 472 | 27.5 | - | - | 154.5 | 127 | 83.6 |
| 220F | 5040 | 125 | 5" | - | 562 | 224 | 472 | 27.5 | 129.5 | 102 | - | - | 75.6 |
| 220H | 5040 | 125 | 5" | - | 562 | 224 | 472 | 27.5 | 129.5 | 102 | - | - | 75.6 |
| 250B | - | 190 | - | 88 | 628 | 254 | 532 | 28.5 | - | - | 160.5 | 132 | 109.0 |
| 250F | 5040 | 125 | 5" | - | 628 | 254 | 532 | 28.5 | 155.5 | 127 | - | - | 106.0 |
| 250H | 5040 | 125 | 5" | - | 628 | 254 | 532 | 28.5 | 155.5 | 127 | - | - | 106.0 |

Notes

= Is the weight for a half coupling.

* = M is half the distance between flange faces

NB. All flexible tyres have an angular misalignment capacity up to 4°

Fire resistant and anti static (FRAS) tyres are available

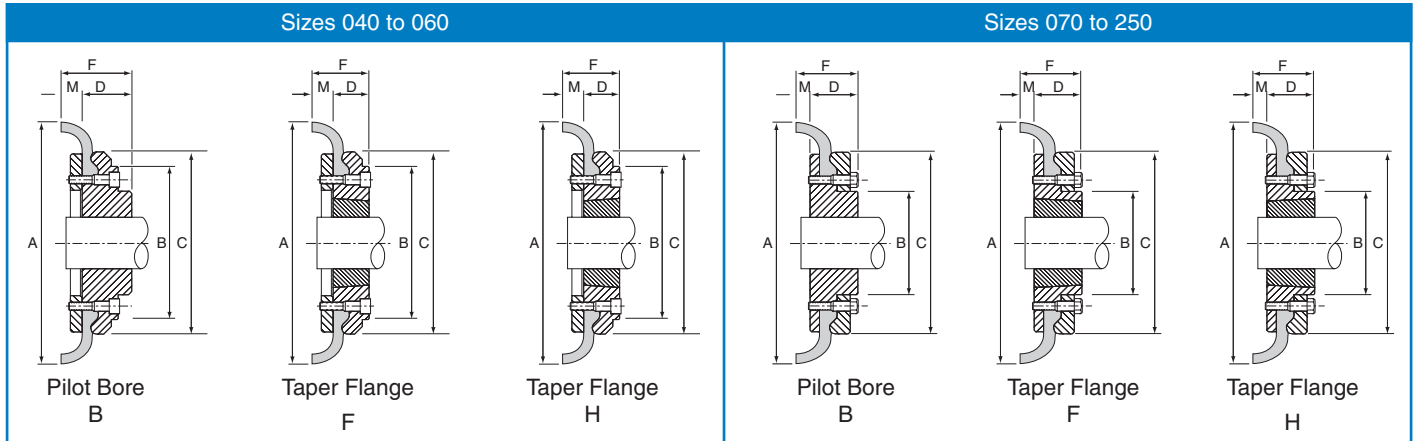
Challenge standard tyres are manufactured from natural rubber with an operating temperature span between -50°C and +50°C.

Challenge FRAS tyres are manufactured from chloroprene rubber and have an operating temperature span between -15°C and +70°C

All Challenge FFX Flanges up to size 180 are produced from forged C45 steel. From size 200 upwards are produced from GGG.

FFX Tyre Couplings

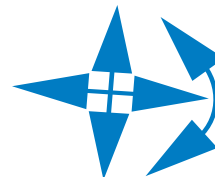
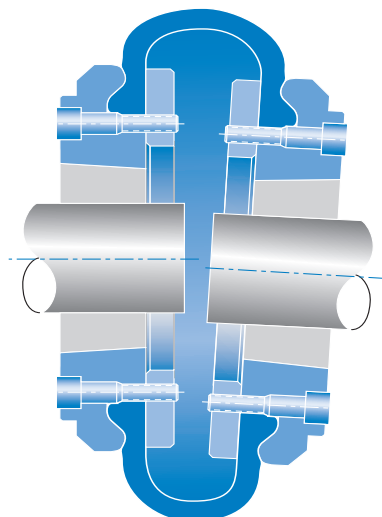
FFX Tyre Coupling Data



FFX Coupling Installation and Operational Data

| Coupling Size | Flange Face Spacing mm | Gap Between Tyre Ends mm | Nominal Torque Nm | Max Speed rev/min | Max Parallel Misalignment mm | Max End Float* mm | Clamping Screw | |
|---------------|------------------------|--------------------------|-------------------|-------------------|------------------------------|-------------------|----------------|-----------|
| | | | | | | | Size | Torque Nm |
| 40 | 22 | 2 | 24 | 4500 | 1.1 | 1.3 | M6 | 15 |
| 50 | 25 | 2 | 66 | 4500 | 1.3 | 1.7 | M6 | 15 |
| 60 | 33 | 2 | 127 | 4000 | 1.6 | 2.0 | M6 | 15 |
| 70 | 23 | 3 | 250 | 3600 | 1.9 | 2.3 | M8 | 24 |
| 80 | 25 | 3 | 375 | 3100 | 2.1 | 2.6 | M8 | 24 |
| 90 | 27 | 3 | 500 | 3000 | 2.4 | 3.0 | M10 | 40 |
| 100 | 27 | 3 | 675 | 2600 | 2.6 | 3.3 | M10 | 40 |
| 110 | 25 | 3 | 875 | 2300 | 2.9 | 3.7 | M10 | 40 |
| 120 | 29 | 3 | 1330 | 2050 | 3.2 | 4.0 | M12 | 50 |
| 140 | 32 | 5 | 2325 | 1800 | 3.7 | 4.6 | M12 | 55 |
| 160 | 30 | 5 | 3770 | 1600 | 4.2 | 5.3 | M16 | 80 |
| 180 | 46 | 6 | 6270 | 1500 | 4.8 | 6.0 | M16 | 105 |
| 200 | 48 | 6 | 9325 | 1300 | 5.3 | 6.6 | M16 | 120 |
| 220 | 55 | 6 | 11600 | 1100 | 5.8 | 7.3 | M20 | 165 |
| 250 | 59 | 6 | 14675 | 1000 | 6.6 | 8.2 | M20 | 165 |

* End Float, alternatively called axial misalignment



Accommodate simultaneous maximum misalignment in all planes.

FFX Tyre Coupling Installation

Installation Instructions

- 1] Clean all parts
- 2] Assemble the flanges onto the shafts after connecting the clamping rings loosely to them
- 3] Move the flanges along the shafts until dimension '2M' is obtained (see Table 3). Ensure there is sufficient gap between the shaft ends to allow for any axial movement
- 4] Check the alignment in both parallel and angular planes to ensure the shafts are aligned as accurately as possible – the more accurate the alignment, the less the tyre wear. See Table 3 for misalignment values
- 5] Fit the tyre into the gap between the flange and clamping ring, ensuring the tyre bead is correctly located. When correctly seated, the tyre gap should match the value in Table 4
- 6] Tighten the clamping ring screws alternately, and gradually, until the correct torque is achieved (see Table 3)

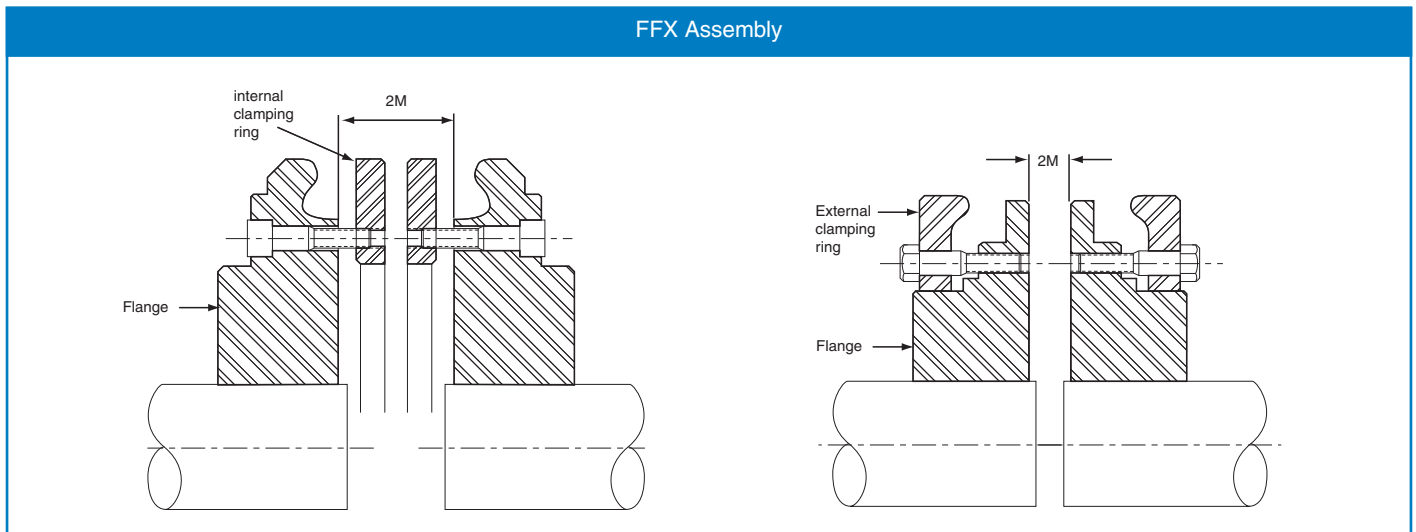


Table 3

| FFX Coupling size | 040 | 050 | 060 | 070 | 080 | 090 | 100 | 110 | 120 | 140 | 160 | 180 | 200 | 220 | 250 |
|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Parallel misalignment | 1.0 | 1.3 | 1.6 | 1.9 | 2.1 | 2.4 | 2.6 | 2.9 | 3.2 | 3.7 | 4.2 | 4.8 | 5.3 | 5.8 | 6.6 |
| Axial (end float) misalignment | 1.3 | 1.7 | 2.0 | 2.3 | 2.6 | 3.0 | 3.3 | 3.7 | 4.0 | 4.6 | 5.3 | 6.0 | 6.6 | 7.3 | 8.2 |
| Angular misalignment | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° | 4° |
| '2M' dimension | 22 | 25 | 33 | 23 | 25 | 27 | 27 | 25 | 29 | 32 | 30 | 46 | 48 | 55 | 59 |
| Clamping ring screw torque - Nm | 15 | 15 | 15 | 24 | 24 | 40 | 40 | 40 | 50 | 55 | 80 | 105 | 120 | 165 | 165 |

Table 4

| FFX Coupling Size | 040 to 060 | 070 to 120 | 140 to 160 | 180 to 250 |
|-----------------------|------------|------------|------------|------------|
| Gap between tyre ends | 2 | 3 | 5 | 6 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

HRC Couplings

HRC Coupling selection procedure

- 1] **Service Factor**
from Table 1 on page 298, select the service factor that is appropriate for the application
- 2] **Design Power**
Multiply the absorbed power of the driven machine, in kW, by the service factor, from step 1) to obtain the design power. If the absorbed power is not known, use the prime mover power.
- 3] **HRC coupling size selection**
Refer to Table 2 on page 298.
Read down the left hand vertical column to the required speed. Interpolate if the exact speed is not listed
Read horizontally across on the speed line until a power equal to or in excess of the design power, from step 2), is reached
Read vertically to the top of the column to obtain the correct size of HRC coupling.
- 4] **Bore dimensions**
From the dimension Tables on page 299, check that the selected coupling will fit the shafts.



HRC Coupling selection example

Select a Challenge HRC coupling to couple an 11 kW, 970 rev/min motor to a machine tool which has to run for 17 hours/day. The motor shaft is 42 mm diameter and the machine tool shaft 38 mm diameter
Taper bush flanges are required for both shafts.

- 1] **Service factor**
From Table 1 on page 298, the service factor for this application is 2.00
- 2] **Design power**
As the machine tool absorbed power is not known, the motor power is used as a basis for selecting the coupling.
The design power is $11 \times 2.00 = 22.0 \text{ kW}$
- 3] **HRC coupling size selection**
Refer to Table 2 on page 298.
By reading down and interpolating for the required speed of 970 rev/min, it is seen that an HRC 130 will transmit 32.0 kW which is in excess of the 22.0 kW required from step 2)
- 4] **Bore dimensions**
From the dimension Table on page 299, the flanges on an HRC 130 take 1610 taper bushes which are available with bores to suit the shaft requirements of the application.



HRC Coupling Selection

Table 1, Service Factors

| Special cases For applications where shock, vibration and torque fluctuations occur – consult Challenge | Type of prime mover | | | | | |
|--|---|-------------------|-------------|-----------------------------|-------------------|-------------|
| | ‘Soft’ Starts | | | ‘Heavy’ Starts | | |
| | Electric motors and other smooth running prime movers | | | Internal Combustion Engines | | |
| | Number of hours per day running | | | | | |
| Type of driven machine | 10 and under | over 10 - 16 incl | over 16 | 10 and under | over 10 - 16 incl | over 16 |
| Uniform load Light duty agitators, belt conveyors for sand etc., fans up to 7.5 kW, centrifugal compressors and pumps | 1.0 | 1.12 | 1.25 | 1.25 | 1.40 | 1.60 |
| Moderate load Variable density agitators, belt conveyors (non-uniform loads), fans over 7.5 kW, other rotary compressors and pumps, machine tools, printing machinery, laundry machinery, rotary screens, rotary woodworking machinery | 1.5 | 1.75 | 2.00 | 2.00 | 2.25 | 2.50 |
| Heavy load Reciprocating compressors and pumps, positive displacement blowers, heavy duty conveyors such as screw, bucket etc., hammer mills, pulverisers, presses, shears, punches, rubber machinery, crushers, metal mills | 2.50 | 2.75 | 3.00 | 3.00 | 3.50 | 4.00 |

Table 2, Power Ratings (kW)

| Rotational speed in rev/min | 70 | 90 | 110 | 130 | 150 | 180 | 230 | 280 |
|-----------------------------|------|------|------|------|------|------|------|------|
| 100 | 0.33 | 0.84 | 1.68 | 3.30 | 6.28 | 9.95 | 20.9 | 33.0 |
| 150 | 0.50 | 1.26 | 2.52 | 4.95 | 9.42 | 14.9 | 31.4 | 49.5 |
| 200 | 0.66 | 1.68 | 3.36 | 6.60 | 12.6 | 19.9 | 41.8 | 66.0 |
| 300 | 0.99 | 2.52 | 5.04 | 9.90 | 18.8 | 29.9 | 62.7 | 99.0 |
| 400 | 1.32 | 3.36 | 6.72 | 13.2 | 25.1 | 39.8 | 83.6 | 132 |
| 500 | 1.65 | 4.20 | 8.40 | 16.5 | 31.4 | 49.8 | 105 | 165 |
| 600 | 1.98 | 5.04 | 10.1 | 19.8 | 37.7 | 59.7 | 125 | 198 |
| 700 | 2.31 | 5.88 | 11.8 | 23.1 | 44.0 | 69.7 | 146 | 231 |
| 720 | 2.37 | 6.05 | 12.1 | 23.8 | 45.2 | 71.6 | 150 | 238 |
| 800 | 2.64 | 6.72 | 13.4 | 26.4 | 50.3 | 79.6 | 167 | 264 |
| 900 | 2.97 | 7.56 | 15.1 | 29.7 | 56.5 | 89.6 | 188 | 297 |
| 960 | 3.17 | 8.06 | 16.1 | 31.7 | 60.3 | 95.5 | 201 | 317 |
| 1000 | 3.33 | 8.40 | 16.8 | 33.0 | 62.8 | 99.5 | 209 | 330 |
| 1200 | 3.96 | 10.1 | 20.2 | 39.6 | 75.4 | 119 | 251 | 396 |
| 1400 | 4.62 | 11.8 | 23.5 | 46.2 | 87.9 | 139 | 293 | 462 |
| 1440 | 4.75 | 12.1 | 24.2 | 47.5 | 90.4 | 143 | 301 | 475 |
| 1500 | 4.95 | 12.6 | 25.2 | 49.5 | 94.2 | 149 | 314 | 495 |
| 1800 | 5.94 | 15.1 | 30.2 | 59.4 | 113 | 179 | 376 | 594 |
| 2000 | 6.60 | 16.8 | 33.6 | 66.0 | 126 | 199 | 418 | 660 |
| 2500 | 8.25 | 21.0 | 42.0 | 82.5 | 157 | 249 | 523 | - |
| 2880 | 9.50 | 24.2 | 48.4 | 95.0 | 181 | 287 | - | - |
| 3000 | 9.90 | 25.2 | 50.4 | 99.0 | 188 | 299 | - | - |
| 3500 | 11.6 | 29.4 | 58.8 | 116 | 220 | 348 | - | - |
| 4000 | 13.2 | 33.6 | 67.2 | 132 | 251 | - | - | - |
| 4500 | 14.9 | 37.8 | 75.6 | 149 | 283 | - | - | - |
| 5000 | 16.5 | 42.0 | 84.0 | - | - | - | - | - |

All power ratings are constant torque
Interpolate for speeds not listed

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

HRC Couplings

HRC Common Data

| Coupling Size | Nominal Torque Nm | Overall Diameter A | Hub Diameter B | Assembled Length F | Element | | Parallel Misalignment | Weight kg | Assembled Length (L) | | |
|---------------|-------------------|--------------------|----------------|--------------------|------------|--------------|-----------------------|-----------|----------------------|-------|-------|
| | | | | | Ring Dia E | Ring Width G | | | FF, FH, HH | FB,HB | BB |
| 70 | 31 | 69 | 60 | 25.5 | 31 | 18.5 | 0.3 | 1.00 | 65.5 | 65.5 | 65.5 |
| 90 | 80 | 85 | 70 | 30.5 | 32 | 22.5 | 0.3 | 1.17 | 69.5 | 76.5 | 82.5 |
| 110 | 160 | 112 | 100 | 45.5 | 45 | 29.5 | 0.3 | 5.00 | 82.5 | 100.5 | 119.5 |
| 130 | 315 | 130 | 105 | 53.5 | 50 | 36.5 | 0.4 | 5.46 | 89.5 | 110.5 | 131.5 |
| 150 | 600 | 150 | 115 | 60.5 | 62 | 40.5 | 0.4 | 7.11 | 107.5 | 129.5 | 152.5 |
| 180 | 950 | 180 | 125 | 73.5 | 77 | 49.5 | 0.4 | 16.65 | 142.5 | 165.5 | 189.5 |
| 230 | 2000 | 225 | 155 | 85.5 | 99 | 59.5 | 0.5 | 26.05 | 164.5 | 202.5 | 239.5 |
| 280 | 3150 | 275 | 206 | 105.5 | 119 | 74.5 | 0.5 | 50.05 | 207.5 | 246.5 | 285.5 |

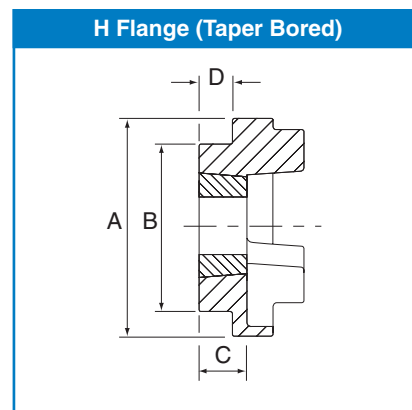
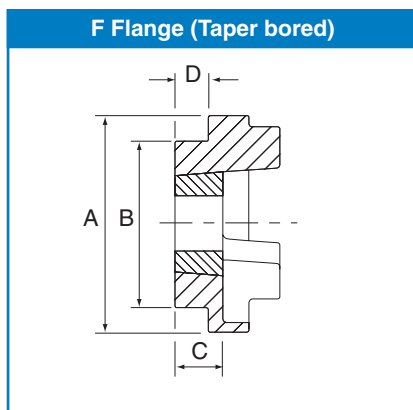
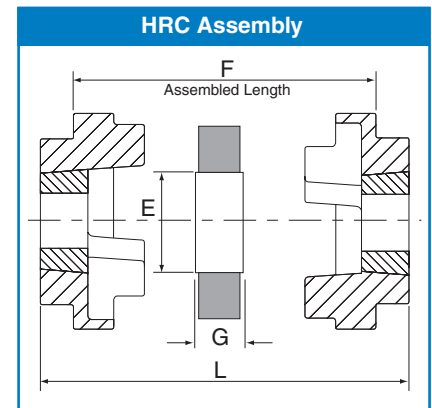
Angular misalignment capacity up to 1 deg

Weight is for an FF, FH or HH coupling with mid range Taper Bushes
F refers to combinations of flanges: FF, FH, HH, FB, HB, BB.

The elastomeric element in Challenge HRC couplings is manufactured from nitrile rubber with an operating temperature span between -40°C and +100°C.

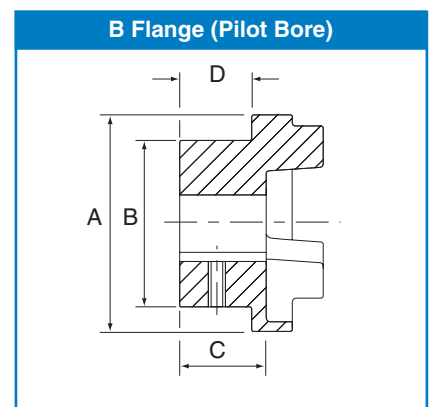
HRC Type F & H

| Coupling No | Bush size | Max. Bore | | Shoulder Width D | Hub Width C |
|-------------|-----------|-----------|--------|------------------|-------------|
| | | mm | inch | | |
| 70 | 1008 | 25 | 1" | 20.0 | 23.5 |
| 90 | 1108 | 28 | 1.1/8" | 19.5 | 23.5 |
| 110 | 1610 | 42 | 1.5/8" | 18.5 | 26.5 |
| 130 | 1610 | 42 | 1.5/8" | 18.0 | 26.5 |
| 150 | 2012 | 50 | 2" | 23.5 | 33.5 |
| 180 | 2517 | 65 | 2.1/2" | 34.5 | 46.5 |
| 230 | 3020 | 75 | 3" | 39.5 | 52.5 |
| 280 | 3525 | 100 | 4" | 51.0 | 66.5 |



HRC Type B (Pilot Bore)

| Coupling No | Max. Bore | Pilot Bore | Keyway Screw Size | Shoulder Width D | Hub Width C |
|-------------|-----------|------------|-------------------|------------------|-------------|
| 70 | 32 | 8 | M 6 | 20 | 23.5 |
| 90 | 42 | 10 | M 6 | 26 | 30.5 |
| 110 | 55 | 10 | M10 | 37 | 45.5 |
| 130 | 60 | 15 | M10 | 39 | 47.5 |
| 150 | 70 | 20 | M10 | 46 | 56.5 |
| 180 | 80 | 25 | M10 | 58 | 70.5 |
| 230 | 100 | 25 | M12 | 77 | 90.5 |
| 280 | 115 | 30 | M16 | 90 | 105.5 |



NPX Couplings

NPX Coupling selection procedure

Based on Power and Speed

1] Service Factor

From Table 1 on page 301, select the service factor that is appropriate for the application

2] Design Power

Multiply the absorbed power, kW, of the driven machine by the service factor, from step 1) to obtain the design power.
If the absorbed power is not known, use the prime mover power.

3] NPX coupling size selection

Refer to Table 2 on page 301.

Read down the left hand vertical column to the required speed.
Interpolate if the exact speed is not listed
Read horizontally across on the speed line until a power equal to or in excess of the design power, from step 2), is reached.
Read vertically to the top of the column to obtain the correct size of NPX coupling.

4] Bore dimensions

From the dimension Tables on pages 303 and 304, check that the selected coupling will fit the shafts.

Based on IEC Electric Motors (page 302)

1] Note the frame size of the motor, power, speed (or number of poles)

2] Read across to the column headed by the motor speed (or number of poles)

3] The next column to the motor power gives the size of NPX coupling required
Pilot bore flange sizes are in normal type face. Taper bore flanges are in italic

NPX coupling selection example

Select a Challenge NPX coupling to couple a 15.0 kW, 1460 rev/min motor to a pulveriser which absorbs 13.2 kW.

Both shaft diameters are 42 mm and Taper bush flanges are required for both shafts.

1] Service factor

from Table 1 on page 301, the service factor for this application is 1.75

2] Design power

using the absorbed power of the pulveriser, the design power is $13.2 \times 1.75 = 23.1$ kW

3] NPX coupling size selection

Refer to Table 2 on page 301

By reading down and interpolating for the required speed of 1460 rev/min, it is seen that an NPX size 110 will transmit 24.5 kW which is in excess of the 23.1 kW required from step 2)

4] Bore dimensions

from the dimension Table on page 304, the flanges on an NPX 110 take a 1610 taper bush which are available with bores to suit the shaft requirements of the application



NPX Coupling Selection

Table 1, Service Factors

| Special cases For applications where shock, vibration and torque fluctuations occur – consult Challenge | Type of prime mover | | |
|--|--|--|--|
| | Electric motors and other smooth running devices | Internal combustion engines with 4 or more cylinders | Internal combustion engines with less than 4 cylinders |
| Type of driven machine | | | |
| Uniform load Light duty agitators, belt conveyors for sand etc., fans upto 7.5 kW, centrifugal compressors and pumps, generators | 1.00 | 1.25 | 1.50 |
| Moderate load Variable density agitators, belt conveyors (non-uniform loads), fans over 7.5 kW, other rotary compressors and pumps, machine tools, printing machinery, laundry machinery, rotary screens, rotary woodworking machinery | 1.25 | 1.50 | 2.00 |
| Heavy load Reciprocating compressors and pumps, positive displacement blowers, heavy duty conveyors such as screw, bucket etc., hammer mills, pulverisers, presses, shears, punches, rubber machinery, crushers, metal mills | 1.75 | 2.00 | 2.50 |

The above Service Factors are based on 24 hours/day duty

Table 2, Power Ratings (kW)

| Rotational speed in rev/min | 58 | 68 | 80 | 95 | 110 | 125 | 140 | 160 | 180 | 200 | 225 | 250 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 100 | 0.20 | 0.36 | 0.63 | 1.05 | 1.68 | 2.51 | 3.77 | 5.86 | 9.22 | 14.0 | 20.9 | 29.3 |
| 150 | 0.30 | 0.54 | 0.95 | 1.58 | 2.52 | 3.77 | 5.66 | 8.79 | 13.8 | 21.0 | 31.4 | 44.0 |
| 200 | 0.40 | 0.72 | 1.26 | 2.10 | 3.36 | 5.02 | 7.54 | 11.7 | 18.4 | 28.0 | 41.8 | 58.6 |
| 300 | 0.60 | 1.08 | 1.89 | 3.15 | 5.04 | 7.53 | 11.3 | 17.6 | 27.7 | 42.0 | 62.7 | 87.9 |
| 400 | 0.80 | 1.44 | 2.52 | 4.20 | 6.72 | 10.0 | 15.1 | 23.4 | 36.9 | 56.0 | 83.6 | 117 |
| 500 | 1.00 | 1.80 | 3.15 | 5.25 | 8.40 | 12.6 | 18.9 | 29.3 | 46.1 | 70.2 | 105 | 147 |
| 600 | 1.20 | 2.16 | 3.78 | 6.30 | 10.1 | 15.1 | 22.6 | 35.2 | 55.3 | 84.0 | 125 | 176 |
| 700 | 1.40 | 2.52 | 4.41 | 7.35 | 11.8 | 17.6 | 26.4 | 41.0 | 64.5 | 98.2 | 147 | 205 |
| 720 | 1.44 | 2.59 | 4.54 | 7.56 | 12.1 | 18.1 | 27.1 | 42.2 | 66.4 | 101 | 151 | 211 |
| 800 | 1.60 | 2.88 | 5.04 | 8.40 | 13.4 | 20.1 | 30.2 | 46.9 | 73.8 | 112 | 168 | 235 |
| 900 | 1.80 | 3.24 | 5.67 | 9.45 | 15.1 | 22.6 | 33.9 | 52.7 | 83.0 | 126 | 188 | 264 |
| 960 | 1.92 | 3.46 | 6.05 | 10.1 | 16.1 | 24.1 | 36.2 | 56.3 | 88.5 | 135 | 201 | 281 |
| 1000 | 2.00 | 3.60 | 6.30 | 10.5 | 16.8 | 25.1 | 37.7 | 58.6 | 92.2 | 140 | 209 | 293 |
| 1200 | 2.40 | 4.32 | 7.56 | 12.6 | 20.2 | 30.1 | 45.2 | 70.3 | 111 | 168 | 251 | 352 |
| 1400 | 2.80 | 5.04 | 8.82 | 14.7 | 23.5 | 35.1 | 52.8 | 82.0 | 129 | 196 | 293 | 410 |
| 1440 | 2.88 | 5.18 | 9.07 | 15.1 | 24.2 | 36.1 | 54.3 | 84.4 | 133 | 202 | 302 | 422 |
| 1500 | 3.00 | 5.40 | 9.45 | 15.8 | 25.2 | 37.7 | 56.6 | 87.9 | 138 | 210 | 314 | 440 |
| 1800 | 3.60 | 6.48 | 11.3 | 18.9 | 30.2 | 45.2 | 67.9 | 105 | 166 | 253 | 377 | 528 |
| 2000 | 4.00 | 7.20 | 12.6 | 21.0 | 33.6 | 50.2 | 75.4 | 117 | 184 | 281 | 419 | 586 |
| 2500 | 5.00 | 9.00 | 15.8 | 26.3 | 42.0 | 62.8 | 94.3 | 147 | 231 | 351 | 524 | 733 |
| 2880 | 5.76 | 10.4 | 18.1 | 30.2 | 48.4 | 72.3 | 109 | 169 | 266 | 404 | 603 | - |
| 3000 | 6.00 | 10.8 | 18.9 | 31.5 | 50.4 | 75.3 | 113 | 176 | 277 | 421 | 628 | - |
| 3500 | 7.00 | 12.6 | 22.1 | 36.8 | 58.8 | 87.9 | 132 | 205 | 323 | - | - | - |
| 4000 | 8.00 | 14.4 | 25.2 | 42.0 | 67.2 | 100 | 151 | 234 | - | - | - | - |
| 4500 | 9.00 | 16.2 | 28.4 | 47.3 | 75.6 | 113 | 170 | - | - | - | - | - |
| 5000 | 10.0 | 18.0 | 31.5 | 52.5 | 84.0 | 126 | - | - | - | - | - | - |

All power ratings are constant torque
Interpolate for speeds not listed

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

NPX Coupling Selection

IEC motor selection Table (50Hz)

| Frame size, shaft diameter and length | | | Motor power (kW) 2-pole 3000 rev/min | NPX size * | Motor power (kW) 4-pole 1500 rev/min | NPX size * | Motor power (kW) 6-pole 1000 rev/min | NPX size * | Motor power (kW) 8-pole 750 rev/min | NPX size * |
|---------------------------------------|----------|--------------|--|------------------|--|------------------|--|------------------|---|------------------|
| | 2 pole | 4, 6, 8 pole | | | | | | | | |
| 80 | 19 x 40 | | 0.75 | 58 / 80 | 0.55 | 58 / 80 | 0.37 | 58 / 80 | 0.18 | |
| | | | 1.1 | 58 / 80 | 0.75 | 58 / 80 | 0.55 | 58 / 80 | 0.25 | |
| 90S | 24 x 50 | | 1.5 | 68 / 80 | 1.1 | 68 / 80 | 0.75 | 68 / 80 | 0.37 | |
| 90L | | | 2.2 | 68 / 80 | 1.5 | 68 / 80 | 1.1 | 68 / 80 | 0.55 | |
| 100L | 28 x 60 | | 3.0 | 80 / 80 | 2.2 | 80 / 80 | 1.5 | 80 / 80 | 0.75 | 80 / 80 |
| | | | | | 3.0 | | | | 1.1 | 80 / 80 |
| 112M | | | 4.0 | 80 / 80 | 4.0 | 80 / 80 | 2.2 | 80 / 80 | 1.5 | 80 / 80 |
| 132S | 38 x 80 | | 5.5 | 95 / 110 | 5.5 | 95 / 110 | 3.0 | 95 / 110 | 2.2 | 95 / 110 |
| | | | | | 7.5 | 95 / 110 | | 95 / 110 | | |
| 132M | | | | | 7.5 | | 4.0 | 95 / 110 | 3.0 | 95 / 110 |
| | | | | | | | 5.5 | 95 / 110 | | |
| 160M | 42 x 110 | | 11 | 95 / 110 | 11 | 95 / 110 | 7.5 | 95 / 110 | 4.0 | 95 / 110 |
| | | | | | 15 | 95 / 110 | | | | 5.5 |
| 160L | | | 18.5 | 95 / 110 | 15 | 110 / 110 | 11 | 110 / 110 | 7.5 | 110 / 110 |
| 180M | 48 x 110 | | 22 | 110 / 125 | 18.5 | 110 / 125 | | | | |
| 180L | | | | | 22 | 125 / 125 | 15 | 125 / 125 | 11 | 125 / 125 |
| 200L | 55 x 110 | | 30 | 125 / 160 | 30 | 125 / 160 | 18.5 | 125 / 160 | 15 | 125 / 160 |
| | | | | | 37 | 125 / 160 | | | 22 | 140 / 160 |
| 225S | 55 x 110 | 60 x 140 | | 125 / 160 | 37 | 140 / 160 | | | 18.5 | 140 / 160 |
| 225M | | | 45 | 125 / 160 | 45 | 140 / 160 | 30 | 140 / 160 | 22 | 140 / 160 |
| 250M | 60 x 140 | 65 x 140 | 55 | 140 / 160 | 55 | 160 / 160 | 37 | 160 / 160 | 30 | 160 / 160 |
| 280S | 75 x 140 | | 75 | 160 / 160 | 75 | <i>200</i> | 45 | <i>200</i> | 37 | <i>250</i> |
| 280M | | | 90 | 160 / 160 | 90 | <i>200</i> | 55 | <i>200</i> | 45 | <i>250</i> |
| 315S | 80 x 170 | | 110 | 160 / 160 | 110 | <i>250</i> | 75 | <i>250</i> | 55 | <i>250</i> |
| 315M | | | 132 | 160 / 160 | 132 | | 90 | <i>250</i> | 75 | <i>250</i> |
| 315L | 65 x 140 | | 160 | 160 / 160 | 160 | | 110 | <i>250</i> | 90 | <i>250</i> |
| | | | | | 200 | | 132 | <i>250</i> | 110 | <i>250</i> |
| 315 | 85 x 170 | | | | | | 160 | <i>250</i> | 132 | <i>250</i> |
| | | | | | 250 | | 200 | | | |

The above selection procedure is based on the following parameters:-

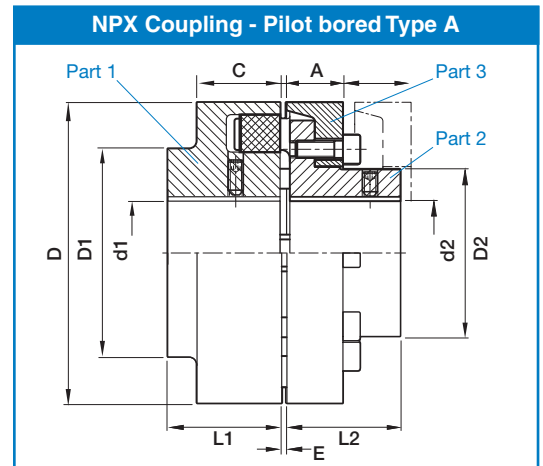
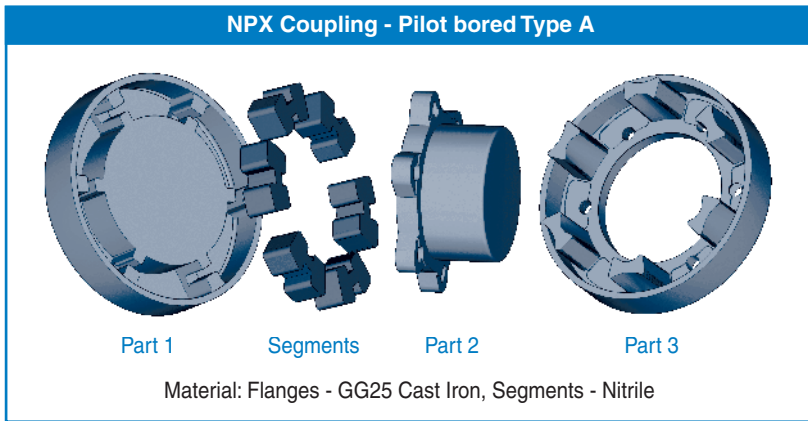
- Service factor of 1.25
- No more than 25 starts per hour

If the parameters differ from the above, the selection should be based on power and speed

* Pilot bore flanges are in **bold normal** type face

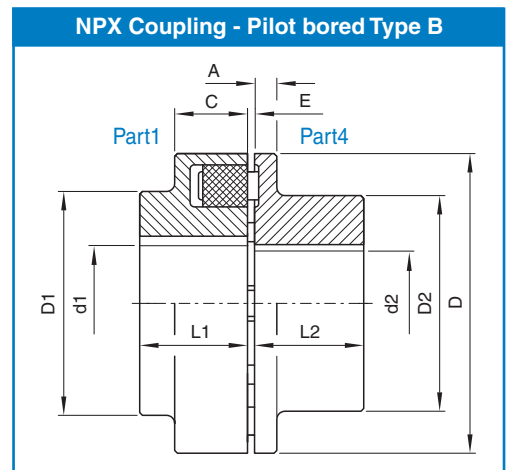
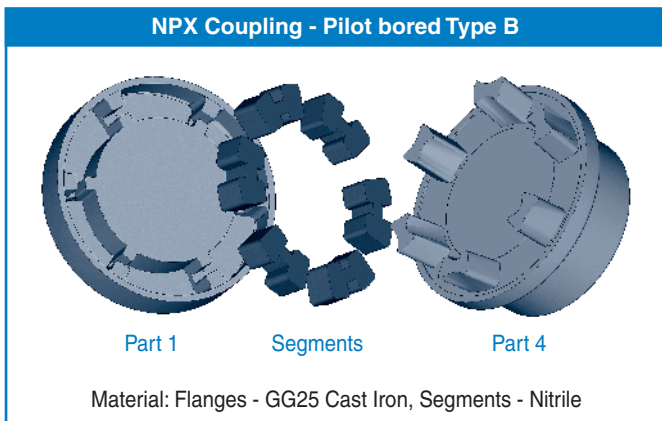
* Taper bore flanges are in *light italic* type face

NPX Couplings



Pilot bored Type A

| Size | Power at 100 rev/min kW | Torque | | Max Speed rev/min | Minimum bore | | Maximum bore | | D parts 1 and 3 | L1 part 1 | L2 part 2 | D1 part 1 | D2 part 2 | A part 3 | C part 1 | E | Weight of flange kg | | |
|------|-------------------------|----------|--------|-------------------|--------------|-----------|--------------|-----------|-----------------|-----------|-----------|-----------|-----------|----------|----------|-------|---------------------|---------------|---------------|
| | | Rated Nm | Max Nm | | d1 part 1 | d2 part 2 | d1 part 1 | d2 part 2 | | | | | | | | | flange part 1 | flange part 2 | flange part 3 |
| 110 | 1.68 | 160 | 480 | 5000 | 17 | 12 | 48 | 38 | 111 | 40 | 40 | 86 | 62 | 20.0 | 34 | 2 - 4 | 1.95 | 1.38 | 1.97 |
| 125 | 2.51 | 240 | 720 | 5000 | 18 | 15 | 55 | 45 | 126 | 50 | 50 | 100 | 75 | 23.5 | 36 | 2 - 4 | 3.05 | 2.42 | 1.97 |
| 140 | 3.77 | 360 | 1080 | 4900 | 20 | 17 | 60 | 50 | 141 | 55 | 55 | 100 | 82 | 28.0 | 34 | 2 - 4 | 3.65 | 3.04 | 2.50 |
| 160 | 5.86 | 560 | 1680 | 4250 | 25 | 20 | 65 | 58 | 161 | 60 | 60 | 108 | 95 | 28.0 | 40 | 2 - 6 | 5.05 | 4.19 | 3.49 |
| 180 | 9.22 | 880 | 2640 | 3800 | 25 | 20 | 75 | 65 | 180 | 70 | 70 | 125 | 108 | 30.0 | 42 | 2 - 6 | 7.80 | 5.94 | 4.41 |
| 200 | 14.03 | 1340 | 4020 | 3400 | 30 | 25 | 85 | 75 | 200 | 80 | 80 | 140 | 122 | 32.5 | 47 | 2 - 6 | 11.0 | 8.61 | 6.02 |
| 225 | 20.94 | 2000 | 6000 | 3000 | 35 | 30 | 90 | 85 | 225 | 90 | 90 | 150 | 138 | 38.0 | 52 | 2 - 6 | 15.0 | 12.06 | 8.93 |
| 250 | 29.32 | 2800 | 8400 | 2750 | 45 | 45 | 100 | 95 | 250 | 100 | 100 | 165 | 155 | 42.0 | 60 | 3 - 8 | 19.5 | 17.41 | 11.70 |



Pilot bored Type B

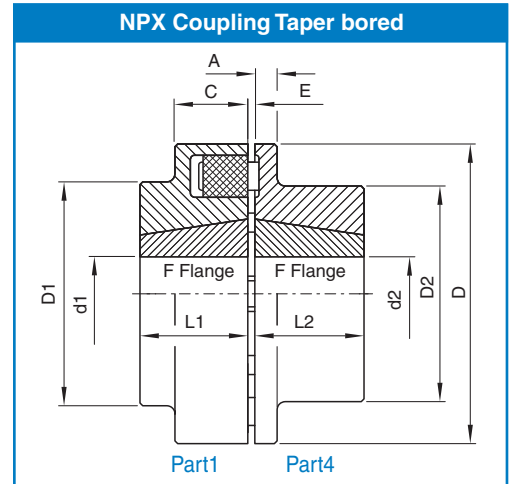
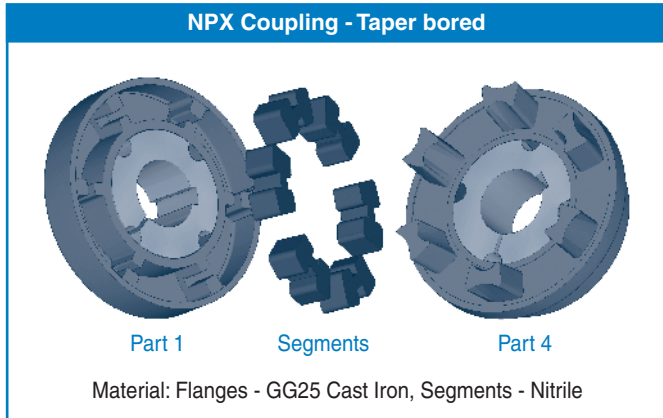
| Size | Power at 100 rev/min kW | Torque | | Max Speed rev/min | Minimum bore | | Maximum bore | | D parts 1 and 4 | L1 part 1 | L2 part 4 | D1 part 1 | A part 4 | C part 1 | E | Weight of flange kg | |
|------|-------------------------|----------|--------|-------------------|--------------|-----------|--------------|-----------|-----------------|-----------|-----------|-----------|----------|----------|-------|---------------------|--------|
| | | Rated Nm | Max Nm | | d1 part 1 | d2 part 4 | d1 part 1 | d2 part 4 | | | | | | | | part 1 | part 4 |
| 58 | 0.20 | 19 | 57 | 5000 | - | - | 19 | 19 | 59 | 20 | 20 | - | 8 | 20 | 2 - 4 | 0.24 | 0.28 |
| 68 | 0.36 | 34 | 102 | 5000 | - | - | 24 | 24 | 69 | 20 | 20 | - | 8 | 20 | 2 - 4 | 0.32 | 0.45 |
| 80 | 0.63 | 60 | 180 | 5000 | 12 | 12 | 30 | 30 | 81 | 30 | 30 | - | 10 | 30 | 2 - 4 | 0.75 | 0.94 |
| 95 | 1.05 | 100 | 300 | 5000 | 12 | 12 | 42 | 42 | 96 | 35 | 36 | 76 | 13 | 30 | 2 - 4 | 1.30 | 1.55 |
| 110 | 1.68 | 160 | 480 | 5000 | 17 | 17 | 48 | 48 | 111 | 40 | 40 | 86 | 14 | 34 | 2 - 4 | 1.95 | 2.25 |
| 125 | 2.51 | 240 | 720 | 5000 | 18 | 18 | 55 | 55 | 126 | 50 | 50 | 100 | 18 | 36 | 2 - 4 | 3.05 | 3.60 |
| 140 | 3.77 | 360 | 1080 | 4900 | 20 | 20 | 60 | 60 | 141 | 55 | 55 | 100 | 20 | 34 | 2 - 4 | 3.65 | 4.50 |
| 160 | 5.86 | 560 | 1680 | 4250 | 25 | 25 | 65 | 65 | 161 | 60 | 60 | 108 | 20 | 40 | 2 - 6 | 5.05 | 5.95 |
| 180 | 9.22 | 880 | 2640 | 3800 | 25 | 25 | 75 | 75 | 180 | 70 | 70 | 125 | 20 | 42 | 2 - 6 | 7.80 | 8.50 |
| 200 | 14.03 | 1340 | 4020 | 3400 | 30 | 30 | 85 | 85 | 200 | 80 | 80 | 140 | 24 | 47 | 2 - 6 | 11.0 | 12.4 |
| 225 | 20.94 | 2000 | 6000 | 3000 | 35 | 35 | 90 | 90 | 225 | 90 | 90 | 150 | 18 | 52 | 2 - 6 | 15.0 | 15.5 |
| 250 | 29.32 | 2800 | 8400 | 2750 | 45 | 45 | 100 | 100 | 250 | 100 | 100 | 165 | 18 | 60 | 3 - 8 | 19.5 | 19.5 |

Weight and inertia figures are for a mid range bore.

Temperature range -30°C to 75°C

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

NPX Couplings



Taper bored

| Size | Power at 100 rev/min kW | Torque | | Max speed rev/min | Bush for F flange | Max bore d1/d2 parts 1 and 4 | D parts 1 and 4 | L1 part 1 | L2 part 4 | D1 part 1 | D2 part 4 | A part 4 | C part 1 | E | Weight of flange kg | |
|------------|-------------------------|----------|--------|-------------------|-------------------|------------------------------|-----------------|-----------|-----------|-----------|-----------|----------|----------|-------|---------------------|---------------|
| | | rated Nm | max Nm | | | | | | | | | | | | flange part 1 | flange part 4 |
| 80 | 0.63 | 60 | 180 | 5000 | 1108 | 28 | 80 | 22.5 | 22.5 | 0 | 0 | 22.5 | 22.5 | 2 - 4 | 0.75 | 0.94 |
| 95 | 1.05 | 100 | 300 | 5000 | 1210 | 32 | 95 | 26.5 | 26.5 | 0 | 76 | 13.0 | 26.5 | 2 - 4 | 1.30 | 1.55 |
| 110 | 1.68 | 160 | 480 | 5000 | 1615 | 42 | 110 | 38.5 | 38.5 | 86 | 86 | 14.0 | 34.0 | 2 - 4 | 1.95 | 2.25 |
| 125 | 2.51 | 240 | 720 | 5000 | 2012 | 50 | 125 | 32.5 | 32.5 | 0 | 100 | 18.0 | 32.5 | 2 - 4 | 3.05 | 3.60 |
| 140 | 3.77 | 360 | 1080 | 4900 | 2012 | 50 | 140 | 32.5 | 32.5 | 0 | 100 | 20.0 | 32.5 | 2 - 4 | 3.65 | 4.50 |
| 160 | 5.86 | 560 | 1680 | 4250 | 2517 | 65 | 160 | 46.0 | 46.0 | 108 | 108 | 20.0 | 40.0 | 2 - 6 | 5.05 | 5.95 |
| 180 | 9.22 | 880 | 2640 | 3800 | 2517 | 65 | 180 | 46.0 | 46.0 | 125 | 125 | 20.0 | 42.0 | 2 - 6 | 7.80 | 8.50 |
| 200 | 14.03 | 1340 | 4020 | 3400 | 3020 | 75 | 200 | 52.0 | 52.0 | 140 | 140 | 24.0 | 47.0 | 2 - 6 | 11.0 | 12.4 |
| 225 | 20.94 | 2000 | 6000 | 3000 | 3020 | 75 | 225 | 52.0 | 52.0 | 150 | 150 | 18.0 | 52.0 | 2 - 6 | 15.0 | 15.5 |
| 250 | 29.32 | 2800 | 8400 | 2750 | 3535 | 90 | 250 | 90.0 | 90.0 | 165 | 165 | 18.0 | 60.0 | 3 - 8 | 19.5 | 19.5 |

Weight and inertia figures are for a mid range bore.

Temperature range -30°C to 75°C

RPX Couplings

RPX Coupling selection procedure Based on Power and Speed

- 1] **Service Factor**
From Table 1 on page 306, select the service factor that is appropriate for the application
- 2] **Design Power**
Multiply the absorbed power, kW, of the driven machine by the service factor, from step 1) to obtain the design power. If the absorbed power is not known, use the prime mover power.
- 3] **RPX coupling size selection**
Refer to Table 2 on page 307 and select either the standard 92 shore spider or the higher torque 98 shore spider. Read down the left hand vertical column to the required speed. (Interpolate if the exact speed is not listed). Read horizontally across on the speed line until a power equal to or in excess of the design power, from step 2), is reached. Read vertically to the top of the column to obtain the correct size of RPX coupling.
- 4] **Bore dimensions**
From the dimension Tables on page 309, check that the selected coupling will fit the shafts.

Based on IEC Electric Motors, see page 308

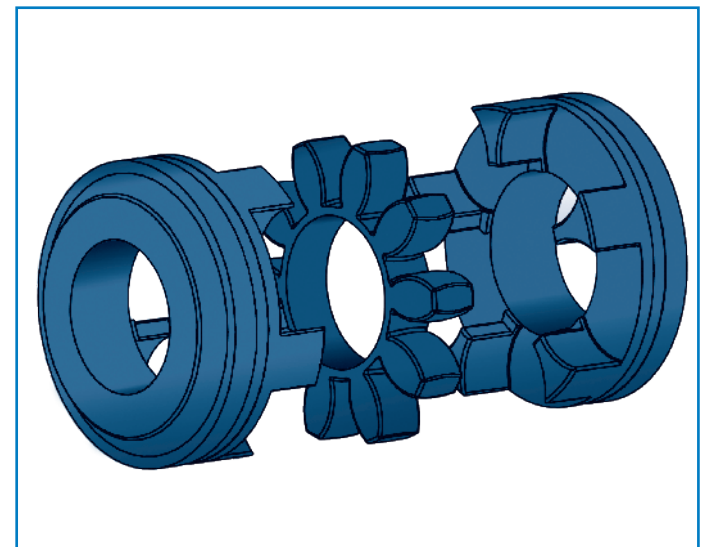
- 1] Note the frame size of the motor, power, speed (or number of poles)
- 2] Read across to the column headed by the motor speed (or number of poles)
- 3] The next column to the motor power gives the size of RPX coupling required

RPX Coupling selection example

Select a Challenge RPX coupling to couple an 11.0 kW, 1450 rev/min motor to a hammer mill which absorbs 9.6 kW running for 12 hours per day with no more than 30 stops/starts per hour. A good shock absorbing spider is required for this heavy duty application.

The ambient temperature is + 38°C. The motor shaft is 42mm diameter and the kiln shaft 38mm.

- 1] **Service factor**
From Table 1 on page 306, the service factor for this application is: $1.75 \times 1.2 \times 1.0 = 2.1$
- 2] **Design power**
The design power is $9.6 \times 2.1 = 20.2$ kW



- 3] **RPX coupling size selection**
Because of its shock absorbing characteristics, the 92 shore spider is chosen: Refer to Table 2 on page 307

By reading down and interpolating for the required speed of 1450 rev/min, it is seen that an RPX size 38 will transmit 28.9 kW which is in excess of the 20.2 kW required from step 2)
- 4] **Bore dimensions**
From the dimension Tables on page 309, the flanges on an RPX 38 take an 1108 taper bush with a maximum bore of 28mm. Therefore, pilot bore flanges will be required as follows: Flange Type 1 bored 38mm and flange Type 1a bored 42mm

If taper bore flanges are required then a RPX size 42 will have to be used. The RPX size 42 utilises a 1610 taper bush with a maximum bore of 42mm.

RPX Coupling Selection

Table 1, Service Factors

| Special cases For applications where shock, vibration and torque fluctuations occur – consult Challenge | Type of prime mover | | |
|--|-------------------------------|--|--|
| | Type of driven machine | Electric motors and other smooth running devices | Internal combustion engines with 4 or more cylinders |
| Uniform load Light duty agitators, belt conveyors for sand etc., fans up to 7.5 kW, centrifugal compressors and pumps, | 1.0 | 1.25 | 1.50 |
| Moderate load Variable density agitators, belt conveyors (non-uniform loads), fans over 7.5 kW, other rotary compressors and pumps, machine tools, printing machinery, laundry machinery, rotary screens, rotary woodworking machinery | 1.25 | 1.50 | 2.00 |
| Heavy load Reciprocating compressors and pumps, positive displacement blowers, heavy duty conveyors such as screw, bucket etc., hammer mills, pulverisers, presses, shears, punches, rubber machinery, crushers, metal mills | 1.75 | 2.00 | 2.50 |

The above Service Factors are based on 24 hours/day duty

Additional service factor multiplier for temperature : -30°C to +30° = 1.00, +40°C = 1.2, +60°C = 1.4, +80°C = 1.8

Additional frequent start multiplier : up to 100 starts/hour = 1.0 100-200 = 1.2 200-400= 1.4 400-800=1.6

Challenge elements are manufactured from polyurethane with an operating temperature span between -40°C to +100°C.

They can also accommodate transient temperatures up to +120°C

RPX Coupling Selection

Table 2, Power Ratings (kW) for 92 shore elements (Yellow)

| Rotational speed in rev/min | 19 | 24 | 28 | 38 | 42 | 48 | 55 | 65 | 75 | 90 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|
| 100 | 0.10 | 0.37 | 1.00 | 1.99 | 2.78 | 3.25 | 4.29 | 6.55 | 13.4 | 25.1 |
| 150 | 0.15 | 0.56 | 1.50 | 2.99 | 4.17 | 4.88 | 6.44 | 9.83 | 20.1 | 37.7 |
| 200 | 0.20 | 0.74 | 2.00 | 3.98 | 5.56 | 6.50 | 8.58 | 13.1 | 26.8 | 50.2 |
| 300 | 0.30 | 1.11 | 3.00 | 5.97 | 8.34 | 9.75 | 12.9 | 19.7 | 40.2 | 75.3 |
| 400 | 0.40 | 1.48 | 4.00 | 7.96 | 11.1 | 13.0 | 17.2 | 26.2 | 53.6 | 100 |
| 500 | 0.52 | 1.83 | 4.98 | 9.95 | 13.9 | 16.2 | 21.5 | 32.7 | 67.0 | 126 |
| 600 | 0.60 | 2.22 | 6.00 | 11.9 | 16.7 | 19.5 | 25.7 | 39.3 | 80.4 | 151 |
| 700 | 0.73 | 2.56 | 6.97 | 13.9 | 19.4 | 22.7 | 30.1 | 45.8 | 93.8 | 176 |
| 720 | 0.75 | 2.64 | 7.16 | 14.3 | 20.0 | 23.4 | 30.9 | 47.1 | 96.5 | 181 |
| 800 | 0.84 | 2.93 | 7.96 | 15.9 | 22.2 | 26.0 | 34.3 | 52.4 | 107 | 201 |
| 900 | 0.94 | 3.29 | 8.96 | 17.9 | 25.0 | 29.2 | 38.6 | 58.9 | 121 | 226 |
| 960 | 1.01 | 3.51 | 9.55 | 19.1 | 26.6 | 31.2 | 41.2 | 62.8 | 129 | 241 |
| 1000 | 1.05 | 3.66 | 9.95 | 19.9 | 27.8 | 32.5 | 42.9 | 65.5 | 134 | 251 |
| 1200 | 1.26 | 4.39 | 11.9 | 23.9 | 33.3 | 39.0 | 51.5 | 78.5 | 161 | 302 |
| 1400 | 1.47 | 5.12 | 13.9 | 27.9 | 38.9 | 45.4 | 60.1 | 91.6 | 188 | 352 |
| 1440 | 1.51 | 5.27 | 14.3 | 28.7 | 40.0 | 46.7 | 61.8 | 94.2 | 193 | 362 |
| 1500 | 1.57 | 5.49 | 14.9 | 29.9 | 41.6 | 48.7 | 64.4 | 98.2 | 201 | 377 |
| 1800 | 1.88 | 6.59 | 17.9 | 35.8 | 50.0 | 58.4 | 77.3 | 118 | 241 | 452 |
| 2000 | 2.09 | 7.32 | 19.9 | 39.8 | 55.5 | 64.9 | 85.9 | 131 | 268 | 503 |
| 2500 | 2.62 | 9.15 | 24.9 | 49.8 | 69.4 | 81.2 | 107 | 164 | 335 | 628 |
| 2880 | 3.02 | 10.5 | 28.7 | 57.3 | 79.9 | 93.5 | 124 | 188 | 386 | 724 |
| 3000 | 3.14 | 11.0 | 29.9 | 59.7 | 83.3 | 97.4 | 129 | 196 | 402 | 754 |
| 3500 | 3.66 | 12.8 | 34.8 | 69.7 | 97.1 | 114 | 150 | 229 | 469 | 880 |
| 4000 | 4.19 | 14.6 | 39.8 | 79.6 | 111 | 130 | 172 | 262 | 536 | - |
| 4500 | 4.71 | 16.5 | 44.8 | 89.6 | 125 | 146 | 193 | 295 | 603 | - |
| 5000 | 5.24 | 18.3 | 49.8 | 99.5 | 139 | 162 | 215 | 327 | - | - |

Table 2, Power Ratings (kW) for 98 shore elements (Red)

| Rotational speed in rev/min | 19 | 24 | 28 | 38 | 42 | 48 | 55 | 65 | 75 | 90 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|
| 100 | 0.18 | 0.63 | 1.68 | 3.40 | 4.71 | 5.50 | 7.17 | 9.84 | 20.1 | 37.7 |
| 150 | 0.27 | 0.95 | 2.52 | 5.10 | 7.07 | 8.25 | 10.8 | 14.8 | 30.2 | 56.6 |
| 200 | 0.36 | 1.26 | 3.36 | 6.80 | 9.42 | 11.0 | 14.3 | 19.7 | 40.2 | 75.4 |
| 300 | 0.54 | 1.89 | 5.04 | 10.2 | 14.1 | 16.5 | 21.5 | 29.5 | 60.3 | 113 |
| 400 | 0.72 | 2.52 | 6.72 | 13.6 | 19.0 | 22.0 | 28.7 | 39.4 | 80.4 | 151 |
| 500 | 0.89 | 3.14 | 8.38 | 17.0 | 23.6 | 27.5 | 35.9 | 49.2 | 101 | 189 |
| 600 | 1.08 | 3.78 | 10.1 | 20.4 | 28.3 | 33.0 | 43.0 | 59.0 | 121 | 226 |
| 700 | 1.25 | 4.40 | 11.7 | 23.8 | 33.0 | 38.5 | 50.2 | 68.9 | 141 | 264 |
| 720 | 1.28 | 4.52 | 12.1 | 24.5 | 33.9 | 39.6 | 51.6 | 70.9 | 145 | 271 |
| 800 | 1.42 | 5.02 | 13.4 | 27.2 | 37.7 | 44.0 | 57.4 | 78.7 | 161 | 302 |
| 900 | 1.60 | 5.65 | 15.1 | 30.6 | 42.4 | 49.5 | 64.6 | 88.6 | 181 | 339 |
| 960 | 1.71 | 6.03 | 16.1 | 32.7 | 45.2 | 52.8 | 68.9 | 94.5 | 193 | 362 |
| 1000 | 1.78 | 6.28 | 16.8 | 34.0 | 47.1 | 55.0 | 71.7 | 98.4 | 201 | 377 |
| 1200 | 2.14 | 7.54 | 20.1 | 40.8 | 56.5 | 66.0 | 86.1 | 118 | 241 | 452 |
| 1400 | 2.49 | 8.79 | 23.5 | 47.6 | 66.0 | 77.0 | 100 | 138 | 281 | 528 |
| 1440 | 2.56 | 9.04 | 24.1 | 49.0 | 67.9 | 79.2 | 103 | 142 | 290 | 543 |
| 1500 | 2.67 | 9.42 | 25.1 | 51.0 | 70.7 | 82.5 | 108 | 148 | 302 | 566 |
| 1800 | 3.20 | 11.3 | 30.2 | 61.3 | 84.8 | 98.9 | 129 | 177 | 362 | 679 |
| 2000 | 3.56 | 12.6 | 33.5 | 68.1 | 94.2 | 110 | 143 | 197 | 402 | 754 |
| 2500 | 4.45 | 15.7 | 41.9 | 85.1 | 118 | 137 | 179 | 246 | 503 | 943 |
| 2880 | 5.13 | 18.1 | 48.2 | 98.0 | 136 | 158 | 207 | 283 | 579 | 1086 |
| 3000 | 5.34 | 18.8 | 50.3 | 102 | 141 | 165 | 215 | 295 | 603 | 1131 |
| 3500 | 6.23 | 22.0 | 58.6 | 119 | 165 | 192 | 251 | 345 | 704 | 1320 |
| 4000 | 7.12 | 25.1 | 67.0 | 136 | 188 | 220 | 287 | 394 | 804 | - |
| 4500 | 8.01 | 28.3 | 75.4 | 153 | 212 | 247 | 323 | 443 | 905 | - |
| 5000 | 8.90 | 31.4 | 83.8 | 170 | 236 | 275 | 359 | 492 | - | - |

All power ratings are constant torque
Interpolate for speeds not listed

92 shore (yellow) are the standard elements and 98 shore (red) elements can be used for higher torques.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

RPX Coupling Selection

IEC Motor Selection Table (50Hz)

| Frame size shaft diameter and length | | Motor power (kW) 2-pole 3000 rev/min | RPX size * | Motor power (kW) 4-pole 1500 rev/min | RPX size * | Motor power (kW) 6-pole 1000 rev/min | RPX size * | Motor power (kW) 8-pole 750 rev/min | RPX size * |
|--------------------------------------|-------------|--|----------------|--|----------------|--|----------------|---|----------------|
| | 2 pole | 4, 6, 8 pole | | | | | | | |
| 80 | 19 x 40 | 0.75 | 19 / 24 | 0.55 | 19 / 24 | 0.37 | 19 / 24 | 0.18 | 19 / 24 |
| | | 1.1 | 19 / 24 | 0.75 | 19 / 24 | 0.55 | 19 / 24 | 0.25 | 19 / 24 |
| 90S | 24 x 50 | 1.5 | 19 / 24 | 1.1 | 19 / 24 | 0.75 | 19 / 24 | 0.37 | 19 / 24 |
| 90L | | 2.2 | 19 / 24 | 1.5 | 19 / 24 | 1.1 | 19 / 24 | 0.55 | 19 / 24 |
| 100L | 28 x 60 | 3.0 | 24 / 28 | 2.2 | 24 / 28 | 1.5 | 24 / 28 | 0.75 | 24 / 28 |
| | | | | 3.0 | 24 / 28 | | | 1.1 | 24 / 28 |
| 112M | 38 x 80 | 4.0 | 24 / 28 | 4.0 | 24 / 28 | 2.2 | 24 / 28 | 1.5 | 24 / 28 |
| 132S | | 5.5 | 28 / 42 | 5.5 | 28 / 42 | 3.0 | 28 / 42 | 2.2 | 28 / 42 |
| | 132M | 7.5 | 28 / 42 | | | | | | |
| | | | | 7.5 | 28 / 42 | 4.0 | 28 / 42 | 3.0 | 28 / 42 |
| | | | | | 5.5 | 28 / 42 | | | |
| 160M | 42 x 110 | 11 | 38 / 42 | 11 | 38 / 42 | 7.5 | 38 / 42 | 4.0 | 38 / 42 |
| | | 15 | 38 / 42 | | | | | 5.5 | 38 / 42 |
| 160L | 48 x 110 | 18.5 | 38 / 42 | 15 | 38 / 42 | 11 | 38 / 42 | 7.5 | 38 / 42 |
| 180M | | 22 | 38 / 42 | 18.5 | 42 / 55 | | | | |
| 180L | 55 x 110 | | | 22 | 42 / 55 | 15 | 42 / 55 | 11 | 42 / 55 |
| 200L | | 30 | 42 / 65 | 30 | 42 / 65 | 18.5 | 42 / 65 | 15 | 42 / 65 |
| | | 37 | 42 / 65 | | | 22 | 42 / 65 | | |
| 225S | 55 x 110 | 60 x 140 | | 37 | 48 / 65 | | | 18.5 | 48 / 65 |
| 225M | | | 45 | 42 / 65 | 45 | 55 / 65 | 30 | 55 / 65 | 22 |
| 250M | 60 x 140 | 65 x 140 | 55 | 48 / 65 | 55 | 55 / 65 | 37 | 65 / 65 | 30 |
| 280S | | 75 x 140 | 75 | 48 / 65 | 75 | 65 / 75 | 45 | 65 / 75 | 37 |
| 280M | | | 90 | 48 / 65 | 90 | 75 / 75 | 55 | 75 / 75 | 45 |
| 315S | | 80 x 170 | 110 | 65 / 65 | 110 | 75 / 90 | 75 | 75 / 90 | 55 |
| 315M | 65 x 140 | | 132 | 65 / 65 | 132 | 75 / 90 | 90 | 75 / 90 | 75 |
| | | | 160 | 65 / 65 | 160 | 90 / 90 | 110 | 90 / 90 | 90 |
| 315L | | | 200 | 75 / 75 | 200 | 90 / 90 | 132 | 90 / 90 | 110 |
| | | | | | | 160 | 90 / 90 | 132 | 90 / 90 |
| 315 | | 85 x 170 | 250 | 75 / 75 | 250 | 90 / 90 | 200 | 90 / 90 | |

The above selection procedure is based on the following parameters:-

- Service factor of 2.0
- 30° C maximum temperature
- 92 Shore insert
- 100 starts per hour maximum

If the parameters differ from the above, selection should be based on power and speed

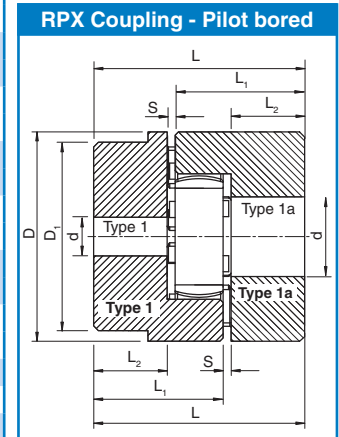
* Pilot bore flanges are in **bold normal** type face

* Taper bore flanges are in *light italic* type face

RPX Coupling Selection

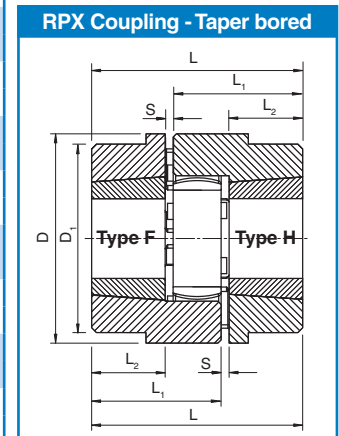
RPX Coupling Data - Pilot bored

| TYPE | Max Speed rev/min | Rated Torque | | D | D ₁ | d-min | d-max | S | L ₁ | L ₂ | L | Material | Weight kg/hub |
|------|----------------------|----------------|----------------|-----|----------------|-------|-------|-----|----------------|----------------|-----|----------|------------------|
| | | 92 shore Nm | 98 shore Nm | | | | | | | | | | |
| 19 1 | 19000 | 10 | 17 | 40 | 32 | 6 | 19 | 1.0 | 39.0 | 25 | 65 | Al | 0.19 |
| 1a | | | | 40 | - | 19 | 24 | 1.0 | 39.0 | 25 | 65 | Al | - |
| 24 1 | 14000 | 35 | 60 | 56 | 40 | 9 | 24 | 1.0 | 46.0 | 30 | 77 | Al | 0.38 |
| 1a | | | | 56 | - | 22 | 28 | 1.0 | 46.0 | 30 | 77 | Al | - |
| 28 1 | 11800 | 95 | 160 | 65 | 48 | 10 | 28 | 1.5 | 52.5 | 35 | 89 | Al | 0.62 |
| 1a | | | | 65 | - | 28 | 38 | 1.5 | 52.5 | 35 | 89 | Al | - |
| 38 1 | 9500 | 190 | 325 | 80 | 66 | 12 | 38 | 1.0 | 66.0 | 45 | 112 | CI | 1.36 |
| 1a | | | | 80 | - | 38 | 45 | 1.0 | 66.0 | 45 | 112 | CI | - |
| 42 1 | 8000 | 265 | 450 | 95 | 75 | 14 | 42 | 1.0 | 73.0 | 50 | 124 | CI | 2.03 |
| 1a | | | | 95 | - | 42 | 55 | 1.0 | 73.0 | 50 | 124 | CI | - |
| 48 1 | 7100 | 310 | 525 | 105 | 85 | 15 | 48 | 1.5 | 80.5 | 56 | 138 | CI | 2.85 |
| 1a | | | | 105 | - | 48 | 60 | 1.5 | 80.5 | 56 | 138 | CI | - |
| 55 1 | 6300 | 410 | 685 | 120 | 98 | 20 | 55 | 2.0 | 91.0 | 65 | 158 | CI | 4.32 |
| 1a | | | | 120 | - | 55 | 70 | 2.0 | 91.0 | 65 | 158 | CI | - |
| 65 1 | 5600 | 625 | 940 | 135 | 115 | 20 | 65 | 1.5 | 105.5 | 75 | 182 | CI | 6.66 |
| 75 1 | 4750 | 1280 | 1920 | 160 | 135 | 30 | 75 | 1.0 | 120.0 | 85 | 206 | CI | 10.48 |
| 90 1 | 3750 | 2400 | 3600 | 200 | 160 | 40 | 90 | 1.5 | 139.5 | 100 | 241 | CI | 17.89 |



RPX Coupling Data - Taper bored

| TYPE | Max Speed rev/min | Rated Torque | | Bush Size | Max Bore | D | D ₁ | S | L ₁ | L ₂ | L | Material | Weight kg/hub |
|------|----------------------|----------------|----------------|-----------|----------|-----|----------------|-----|----------------|----------------|-----|----------|------------------|
| | | 92 shore Nm | 98 shore Nm | | | | | | | | | | |
| 24 F | 14000 | 35 | 60 | 1008 | 25 | 56 | - | 1.0 | 39.0 | 23 | 63 | CI | 0.31 |
| H | | | | 1008 | 25 | 56 | - | 1.0 | 39.0 | 23 | 63 | CI | 0.31 |
| 28 F | 11800 | 95 | 160 | 1108 | 28 | 65 | - | 1.5 | 40.5 | 23 | 65 | CI | 0.46 |
| H | | | | 1108 | 28 | 65 | - | 1.5 | 40.5 | 23 | 65 | CI | 0.46 |
| 38 F | 9500 | 190 | 325 | 1108 | 28 | 80 | 78 | 1.0 | 44.0 | 23 | 68 | CI | 0.79 |
| H | | | | 1108 | 28 | 80 | 78 | 1.0 | 44.0 | 23 | 68 | CI | 0.79 |
| 42 F | 8000 | 265 | 450 | 1610 | 42 | 95 | 94 | 1.0 | 49.0 | 26 | 76 | CI | 1.10 |
| H | | | | 1610 | 42 | 95 | 94 | 1.0 | 49.0 | 26 | 76 | CI | 1.10 |
| 48 F | 7100 | 310 | 525 | 1615 | 42 | 105 | 104 | 1.5 | 63.5 | 39 | 104 | CI | 2.07 |
| H | | | | 1615 | 42 | 105 | 104 | 1.5 | 63.5 | 39 | 104 | CI | 2.07 |
| 55 F | 6300 | 410 | 685 | 2012 | 50 | 120 | 118 | 2.0 | 59.0 | 33 | 94 | CI | 2.22 |
| H | | | | 2012 | 50 | 120 | 118 | 2.0 | 59.0 | 33 | 94 | CI | 2.22 |
| 65 F | 5600 | 625 | 940 | 2012 | 50 | 135 | 133 | 1.5 | 63.5 | 33 | 98 | CI | 3.14 |
| H | | | | 2517 | 65 | 135 | 133 | 1.5 | 75.5 | 45 | 122 | CI | 4.03 |
| 75 F | 4750 | 1280 | 1920 | 2517 | 65 | 160 | 135 | 1.0 | 81.0 | 46 | 128 | CI | 4.69 |
| H | | | | 3020 | 75 | 160 | 135 | 1.0 | 87.0 | 52 | 140 | CI | 4.99 |
| 90 F | 3750 | 2400 | 3600 | 3020 | 75 | 200 | 160 | 1.5 | 91.5 | 52 | 145 | CI | 7.74 |
| H | | | | 3525 | 100 | 200 | 160 | 1.5 | 103.5 | 64 | 169 | CI | 8.74 |



RPX Elements are manufactured from polyurethane and are available in Shore 92 (yellow) and Shore 98 (red) hardness

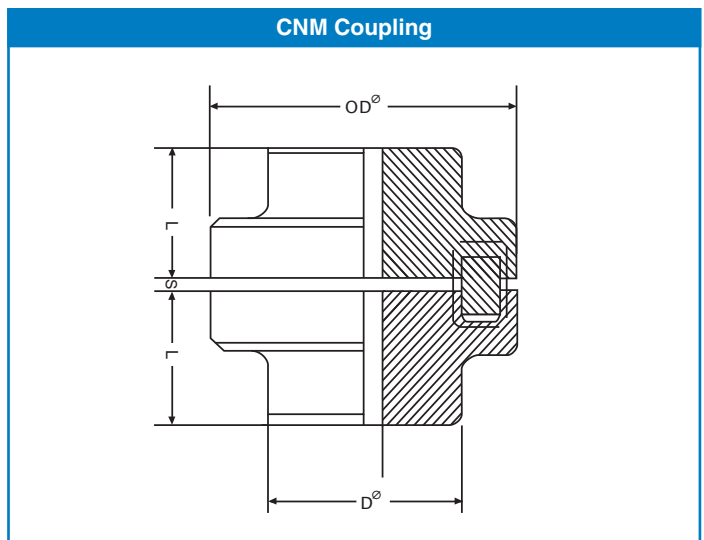
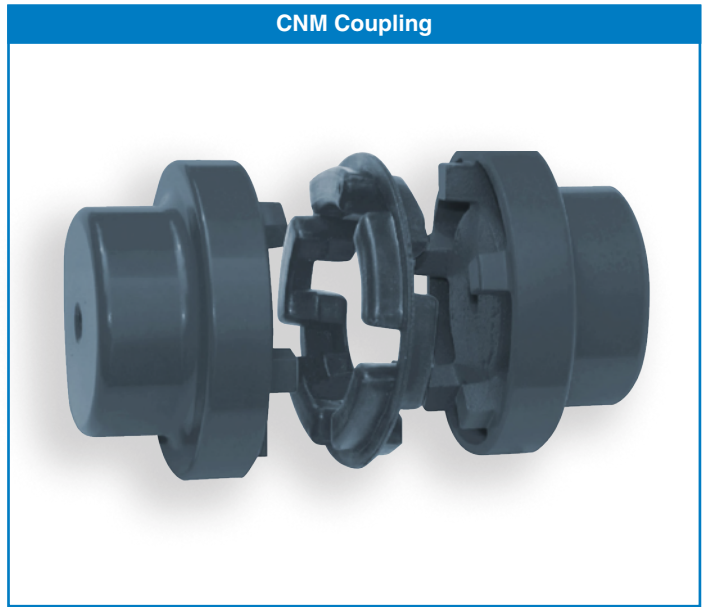
Material: Al = Aluminium CI = GG25 Cast Iron

CNM Couplings

CNM Coupling selection

The Challenge NM coupling compliments our range of over 6 other types of coupling by offering dampening protection, impact mitigation, electrical isolation and mis-alignment accommodation in multiple directions with less clearance requirements than the FFX tyre coupling.

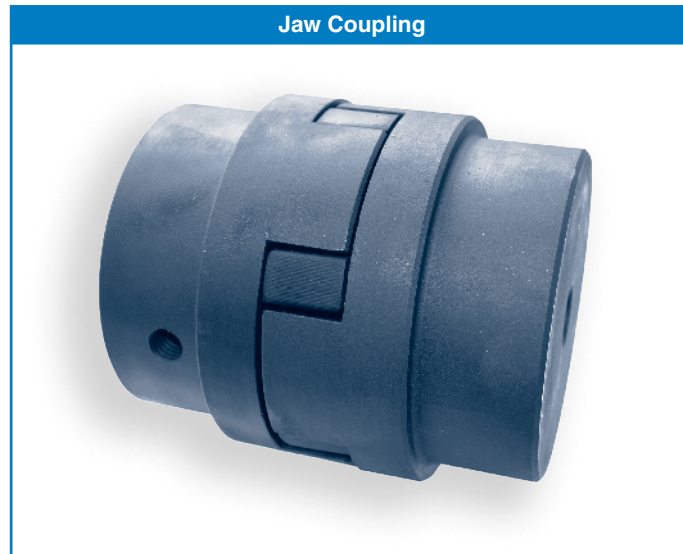
- 1] Accommodates mis-alignment in the radial and axial direction
- 2] Synthetic rubber intermediate ring
- 3] Reduces shock, vibration and noise between the drive and driven system
- 4] Protects against drive resonance and shock loads
- 5] Available for shaft diameters from 7mm up to 95mm
- 6] 13Nm of torque transmission up to 1600Nm
- 7] Maximum 12500rpm through to 3000rpm
- 8] Available in Solid Hub or Finished Bore



| Model | Boss Diameter (D) mm | Outside Diameter (OD) mm | Length (L) mm | Join Spacing (S) mm | Torque | | Bore Diameter | | Max Speed rpm | Approx. Weight (Complete) kgs |
|----------------|----------------------|--------------------------|---------------|---------------------|--------|------|---------------|-----|---------------|-------------------------------|
| | | | | | Normal | Max | Min | Max | | |
| | | | | | Nm | Nm | mm | Nm | | |
| CNM 50 | 33 | 50 | 25 | 2.0±0.5 | 13 | 23 | 7 | 19 | 12500 | 0.48 |
| CNM 67 | 46 | 67 | 30 | 2.5±0.5 | 22 | 39 | 8 | 28 | 10000 | 1.02 |
| CNM 82 | 53 | 82 | 40 | 3.0±1.0 | 49 | 88 | 10 | 32 | 8000 | 1.88 |
| CNM 97 | 69 | 97 | 50 | 3.0±1.0 | 103 | 186 | 10 | 42 | 7000 | 3.54 |
| CNM 112 | 79 | 112 | 60 | 3.5±1.0 | 164 | 294 | 14 | 48 | 6000 | 5.40 |
| CNM 128 | 90 | 128 | 70 | 3.5±1.0 | 262 | 471 | 18 | 55 | 5000 | 8.10 |
| CNM 148 | 107 | 148 | 80 | 3.5±1.0 | 409 | 736 | 22 | 65 | 4500 | 13.50 |
| CNM 168 | 124 | 168 | 88 | 3.5±1.5 | 682 | 1226 | 28 | 75 | 4000 | 19.30 |
| CNM 194 | 140 | 198 | 100 | 3.5±1.5 | 1098 | 1961 | 32 | 85 | 3500 | 26.30 |
| CNM 214 | 158 | 218 | 112 | 4.0±2.0 | 1638 | 2942 | 40 | 95 | 3000 | 35.70 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Jaw Couplings

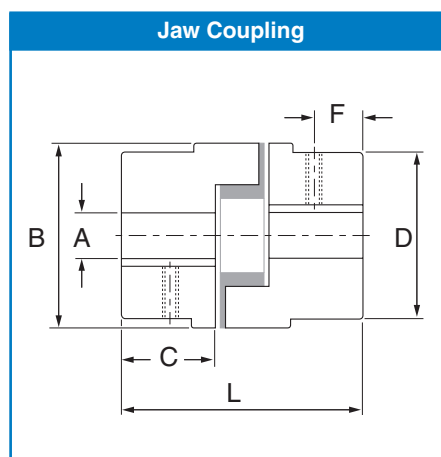


Jaw Coupling Data

| Coupling Size | Nominal Torque Nm | Maximum Speed rev/min | Pilot Bore A | Maximum Bore A | Overall Diameter B | Assembled Length L | Hub Width C | Hub Diameter D | Set Screw Position F | Set Screw Size | Complete Weight kg |
|---------------|-------------------|-----------------------|--------------|----------------|--------------------|--------------------|-------------|----------------|----------------------|----------------|--------------------|
| 035 | 0.50 | 31000 | 4.8 | 8 | 16.0 | 20 | 7 | 16.0 | 3.0 | M3 | 0.06 |
| 050 | 3.51 | 18000 | 6 | 14 | 27.5 | 44 | 16 | 27.5 | 6.5 | M6 | 0.10 |
| 070 | 5.77 | 14000 | 9 | 19 | 35.0 | 51 | 19 | 35.0 | 9.5 | M6 | 0.25 |
| 075 | 11.9 | 11000 | 9 | 24 | 44.5 | 54 | 21 | 44.5 | 8.0 | M6 | 0.45 |
| 090 | 19.2 | 9000 | 9 | 24 | 54.0 | 54 | 21 | 54.0 | 8.7 | M6 | 0.55 |
| 095 | 25.8 | 9000 | 9 | 28 | 54.0 | 64 | 25 | 54.0 | 11.5 | M8 | 0.65 |
| 100 | 55.4 | 7000 | 12 | 35 | 65.0 | 89 | 35 | 65.0 | 12.5 | M8 | 1.60 |
| 110 | 105 | 5000 | 15 | 42 | 84.0 | 108 | 43 | 84.0 | 20.5 | M10 | 3.00 |
| 150 | 150 | 4000 | 15 | 48 | 96.0 | 115 | 45 | 96.0 | 22.5 | M10 | 4.90 |
| 190 | 200 | 3600 | 19 | 55 | 115.0 | 133 | 54 | 102.0 | 22.5 | M12 | 7.00 |
| 225 | 280 | 3600 | 19 | 60 | 127.0 | 153 | 64 | 108.0 | 25.5 | M12 | 9.00 |

Angular misalignment capacity up to 1°
 Parallel misalignment capacity up to 0.38mm

Weight is for a complete coupling with a pilot bore
 Nitrile insert temperature range -40 °C to 100 °C



Chain Couplings

Chain Coupling Data

| Coupling Size | Chain Size | Bore | | Casing O.D. A | Casing Width B | Assembled Width C | Hub Length D | Hub Diameter E | Bolt Centres F | Torque Ratings Nm | Complete Weight kg |
|---------------|------------|------|-----|---------------|----------------|-------------------|--------------|----------------|----------------|-------------------|--------------------|
| | | Min | Max | | | | | | | | |
| 3012 | 35-2 | 12 | 15 | 70 | 62 | 65 | 28 | 25 | 57 | 150 | 0.5 |
| 4012 | 40-2 | 12 | 20 | 78 | 72 | 78 | 36 | 31 | 61 | 210 | 1.0 |
| 4014 | 40-2 | 12 | 25 | 85 | 75 | 80 | 36 | 43 | 72 | 300 | 1.4 |
| 4016 | 40-2 | 14 | 30 | 92 | 75 | 80 | 36 | 50 | 77 | 380 | 1.8 |
| 5014 | 50-2 | 14 | 35 | 101 | 84 | 100 | 45 | 53 | 82 | 550 | 2.5 |
| 5016 | 50-2 | 16 | 40 | 111 | 85 | 100 | 45 | 60 | 92 | 725 | 3.2 |
| 5018 | 50-2 | 16 | 45 | 123 | 85 | 100 | 45 | 70 | 106 | 925 | 4.0 |
| 6018 | 60-2 | 20 | 55 | 144 | 106 | 122 | 54 | 85 | 122 | 1750 | 7.2 |
| 6020 | 60-2 | 20 | 70 | 160 | 108 | 123 | 54 | 98 | 132 | 2050 | 9.5 |
| 6022 | 60-2 | 25 | 75 | 168 | 116 | 123 | 54 | 110 | 145 | 2400 | 11.3 |
| 8018 | 80-2 | 30 | 75 | 190 | 128 | 140 | 67 | 110 | 160 | 3800 | 14.7 |
| 8020 | 80-2 | 30 | 85 | 211 | 138 | 144 | 67 | 120 | 184 | 4700 | 18.2 |
| 8022 | 80-2 | 35 | 95 | 226 | 138 | 155 | 67 | 140 | 196 | 5500 | 23.3 |
| 10020 | 100-2 | 40 | 110 | 280 | 155 | 176 | 79 | 160 | 250 | 8700 | 36.0 |
| 12018 | 120-2 | 40 | 120 | 305 | 180 | 198 | 89 | 170 | 280 | 13250 | 49.0 |
| 12022 | 120-2 | 40 | 150 | 355 | 180 | 218 | 99 | 210 | 335 | 17800 | 77.0 |

Chain Coupling Selection

In general, the torque capacity of the coupling exceeds the normal torque transmitted by the largest shaft size that the coupling can accommodate.

Therefore, select the smallest coupling which accommodates both shaft diameters.

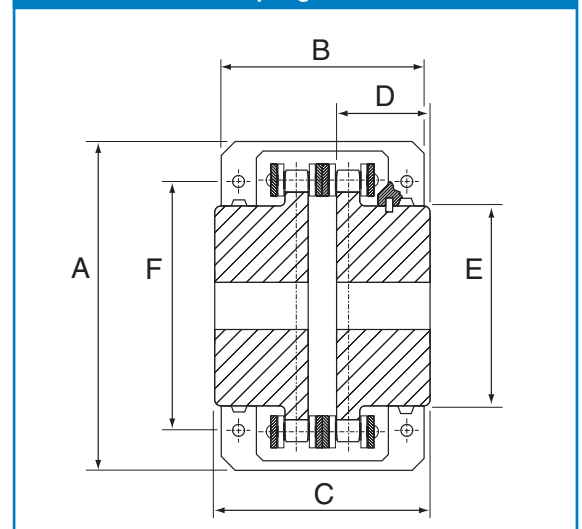
Where there is reverse operation, shock loads, or any other severe operating condition, it is recommended that the next coupling size up is selected.

Operation

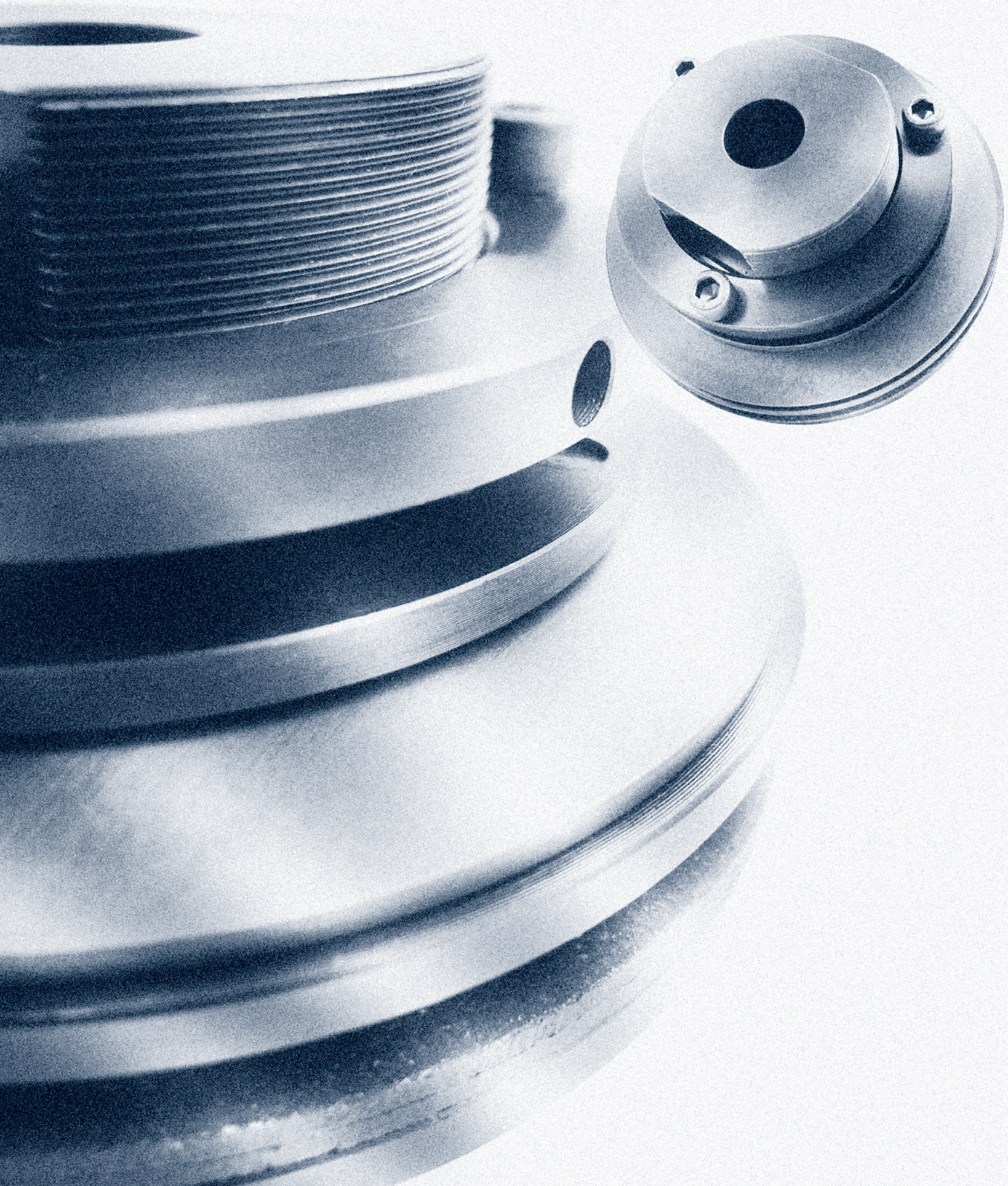
In order to ensure that the maximum service life of the coupling is achieved, the cover together with the supplied 'O' rings should always be used. This is even more important when the drive is operating at high speeds or in a moist environment. The space between the cover and chain, should be filled with a soft to medium consistency grease.



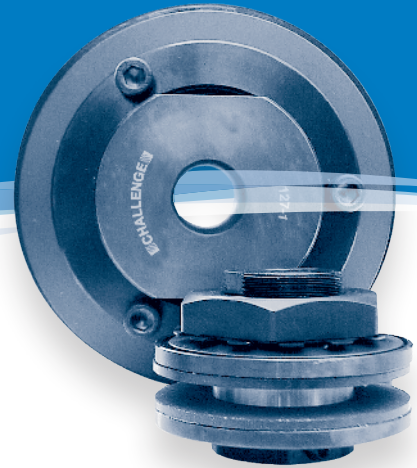
Chain Coupling Dimensions



CHALLENGE®



Torque Limiters



Features

- Prevent machine damage
- Eliminates costly down time
- No expensive electronics
- Simple installation
- No manual resetting required
- For use with CHALLENGE sprockets, gears, pulleys, couplings etc

Torque Limiters

Challenge Torque Limiter

The Challenge Torque limiter is a mechanical protective device that limits the transmitted torque in a drive system by slipping when the torque demand exceeds a preset value. This excessive torque is normally a result of shock loads, overloads, or machine jams. The torque limiter automatically re-engages when the overload is removed. No manual re-setting is required. Challenge Torque Limiters prevent machine damage, thus eliminating costly downtime.

Challenge Torque Limiters utilize spring loaded friction discs for their operation and slip torque is preset by adjustment of the spring force using the adjustment nut or bolts.

Challenge Torque Limiters can be used with platewheel sprockets, gears, pulleys, or flange plates as the centre member. This centre member is clamped between two friction discs.

Because the Challenge Torque Limiter ratings are realistic and consistent with optimum spring loads, they permit longer slip time, maintain re-engagement at preset torque and provide long lasting machine protection. This is an important advantage over the shear-pin mechanism which only serves as a one-shot remedy.



Sizes 50-1 and 50-2

- Single Nut Adjustment
- Lock Washer to prevent the nut from loosening



Sizes 65-1 and 65-2 Sizes 89-1 and 89-2

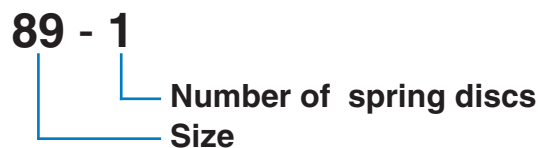
- Single Nut Adjustment
- Lock Washer to prevent the nut from loosening



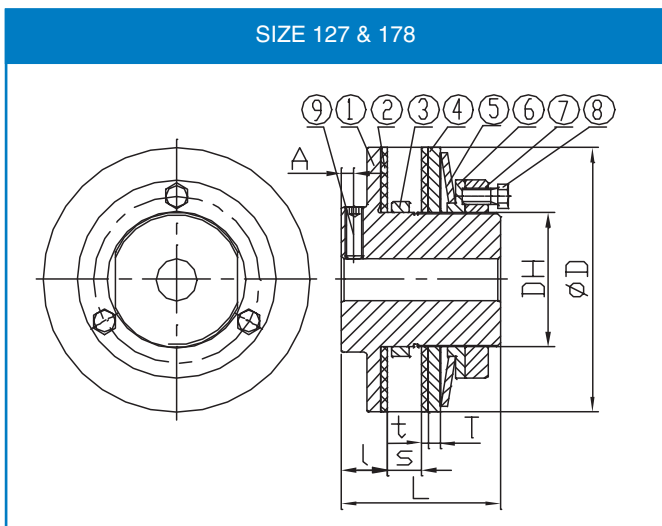
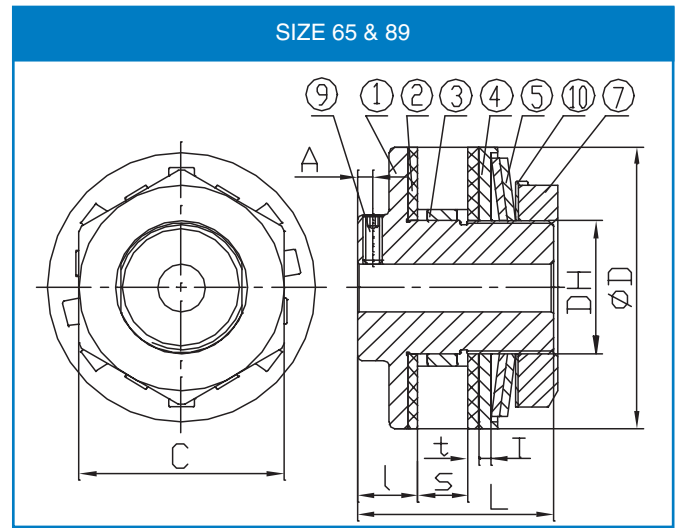
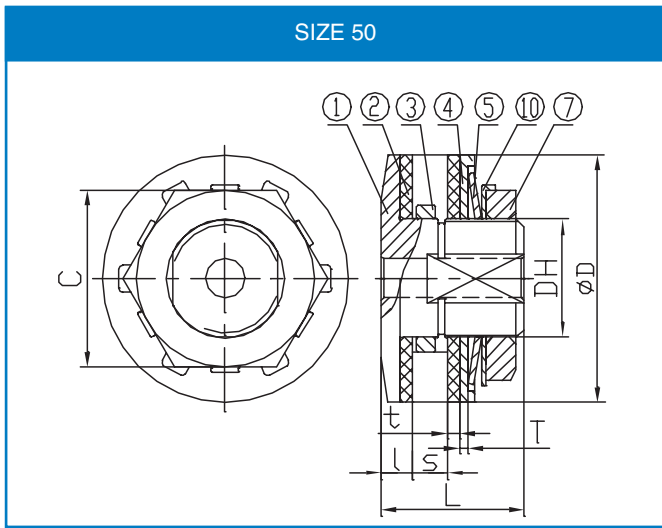
Sizes 127-1 and 127-2 Sizes 178-1 and 178-2

- Three Bolts Adjustment
- Torque preset by the three bolts (an adjustment nut to fix a pilot plate in place)

Designation



Torque Limiters



- Description of parts**
- ① Hub
 - ② Friction Disc
 - ③ Bush
 - ④ Pressure Plate
 - ⑤ Disc Spring
 - ⑥ Pilot Plate
 - ⑦ Adjustment Nut
 - ⑧ Adjustment Bolt
 - ⑨ Set Screw
 - ⑩ Lock Washer

Dimensions and Capacity for Sizes 50 to 178

| Size | Torque Range kg.m | Plain Bore | Max. Bore | Bush Length | O.D. of Bush | Bore for Centre Member | D | DH | L | I | T | t | S | A | C | Adjust. Nut | Adjust. Bolt | Set Screw | Weight kg |
|-------|-------------------|------------|-----------|-------------|--------------|------------------------|-----|----|----|------|-----|-----|----|-----|----|-------------|--------------|-----------|-----------|
| 50-1 | 0.3 ~ 1.0 | 8 | 14 | 3.8 | 30 -0.020 | 30 +0.033 | 50 | 24 | 29 | 6.5 | 1.6 | 2.5 | 7 | - | 36 | M24 | - | - | 0.248 |
| 50-2 | 0.7 ~ 2.0 | | | 6.0 | 30 -0.041 | 30 +0 | | | | | | | | | | P1.0 | - | - | 0.256 |
| 65-1 | 0.7 ~ 2.8 | 10 | 22 | 6.0 | 41 -0.025 | 41 +0.039 | 65 | 35 | 48 | 16.0 | 4.0 | 3.2 | 9 | 4.0 | 50 | M35 | - | M5 | 0.721 |
| 65-2 | 1.4 ~ 5.5 | | | 8.0 | 41 -0.050 | 41 +0 | | | | | | | | | | P1.5 | - | M5 | 0.739 |
| 89-1 | 2.0 ~ 7.6 | 17 | 25 | 6.0 | 49 -0.025 | 49 +0.039 | 89 | 42 | 62 | 19.0 | 4.0 | 3.2 | 16 | 5.0 | 65 | M42 | - | M6 | 2.417 |
| 89-2 | 3.5 ~ 15.2 | | | 8.0 | | | | | | | | | | | | 49 -0.050 | 49 +0 | P1.5 | - |
| 127-1 | 4.8 ~ 21.4 | 20 | 42 | 6.0 | 74 -0.030 | 74 +0.046 | 127 | 65 | 76 | 22.0 | 6.0 | 3.2 | 16 | 6.0 | - | M65 | M8 | M8 | 3.692 |
| 127-2 | 9.0 ~ 42.9 | | | 8.0 | | | | | | | | | | | | 74 -0.060 | 74 +0 | P1.5 | P1.0 |
| | | | | 9.5 | | | | | | | | | | | | | | | |
| 178-1 | 11.8 ~ 58.1 | 30 | 64 | 8.0 | 105 -0.036 | 105 +0.054 | 178 | 95 | 98 | 24.0 | 7.0 | 3.2 | 29 | 6.5 | - | M95 | M10 | M10 | 9.033 |
| 178-2 | 22.8 ~ 111 | | | 9.5 | | | | | | | | | | | | 105 -0.071 | 105 +0 | P1.5 | P1.25 |
| | | | | 14.5 | | | | | | | | | | | | | | | |
| | | | | 17.0 | | | | | | | | | | | | | | | |
| | | | | 22.0 | | | | | | | | | | | | | | | |

1 kg.m = 9.81 Nm

Torque Limiters

SELECTION PROCEDURE

1. Determine the required slip torque required for the machine. If the slip torque is not known then set the torque limiter to 1.5 ~ 2 times the torque that the motor produces on the shaft where the torque limiter is to be mounted.
2. From the Torque Range column, select a torque limiter that has sufficient torque. Also ensure that the chosen size can accommodate the required bore.
3. Based on the thickness of the centre member to be inserted between the friction discs, determine the required bush length. Always choose a bush, which will not exceed the width of the centre member. The maximum width of the centre member that can be accommodated is shown as "S max." in the dimension table.

Note: All Challenge Torque limiters are stocked with the longest bush length.

Therefore it may be necessary to machine the bush to suit the required centre member

Bore Sizes, Minimum Recommended number of Sprocket Teeth and Bush Lengths

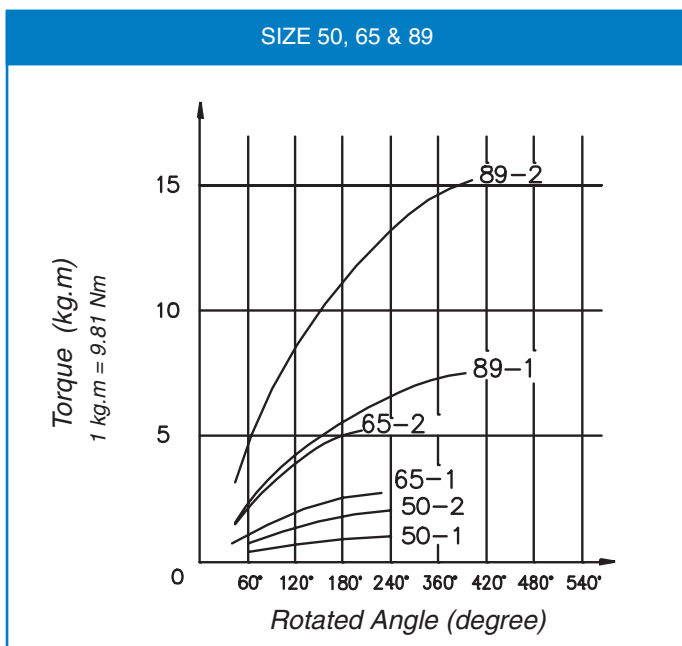
| Size | Bore of Centre Member (mm) | Sprocket Pitch and Number of Teeth | | | | | | | | | | | | | |
|------|----------------------------|------------------------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| | | 9.525 – (06B) | | 12.7 – (08B) | | 15.875 – (10B) | | 19.05 – (12B) | | 25.4 – (16B) | | 31.75 – (20B) | | 38.1 – (24B) | |
| | | Sprocket Min Teeth | Bush Length (mm) | Sprocket Min Teeth | Bush Length (mm) | Sprocket Min Teeth | Bush Length (mm) | Sprocket Min Teeth | Bush Length (mm) | Sprocket Min Teeth | Bush Length (mm) | Sprocket Min Teeth | Bush Length (mm) | Sprocket Min Teeth | Bush Length (mm) |
| 50 | 30 | 20 | 3.8 | 16 | 6 | | | | | | | | | | |
| 65 | 41 | | | 20 | 6 | 17 | 8 | | | | | | | | |
| 89 | 49 | | | 26 | 6 | 21 | 8 | 18 | 9.5 | 15 | 14.5 | | | | |
| 127 | 74 | | | 35 | 6 | 29 | 8 | 25 | 9.5 | 19 | 14.5 | | | | |
| 178 | 105 | | | | | 39 | 8 | 33 | 9.5 | 26 | 14.5 | 21 | 17 | 18 | 22 |

SETTING THE TORQUE

Setting the torque on the limiter is achieved by tightening or loosening the adjustment nut and/or the adjustment bolts. An adjustment nut is provided for torque adjustment on the size 50 through to size 89. On the sizes 127 and 178, the adjustment is accomplished by adjusting the provided bolts.

If the torque limiter slips under normal loading conditions, tighten the nut (for size 50 ~ size 89) or the bolts (for size 127 ~ size 178) gradually until the torque limiter stops slipping.

Always tighten (or loosen) the bolts or nut evenly. Try this adjustment several times, so as to find the proper torque setting for the machine.



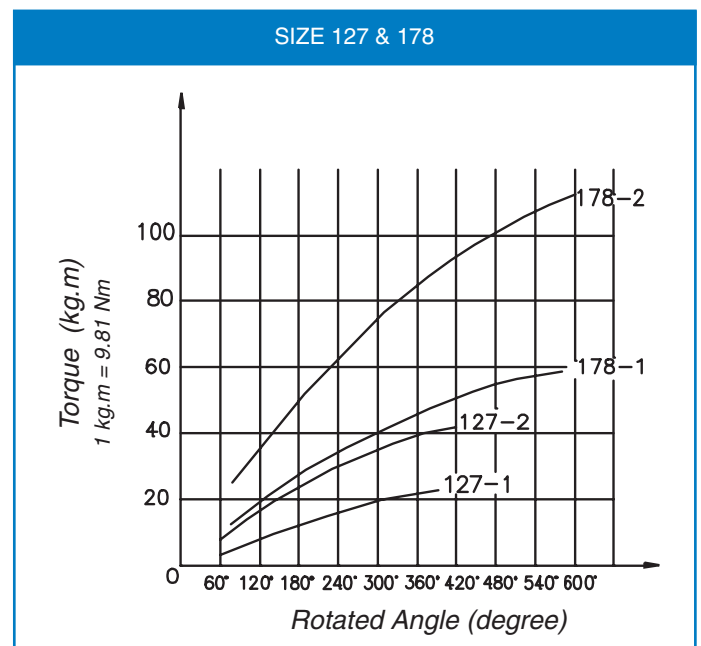
CENTRE MEMBER INFORMATION

1. So as to obtain the rated torque release and re-engagement, Challenge recommend that the centre member should be machined on its rubbing surfaces. The recommended surface finish is Ra1.6. It should also be flat, parallel, square with the bore and free from rust, scale, and oil. If these recommendations are not adhered to, the slip torque could be erratic.
2. The recommended bore that the centre member should be machined to, is shown in the table below. Also, provided is the minimum number of sprocket teeth to be used, together with the suggested bush length.

ROTATED ANGLE AND SETTING TORQUE

The chart below shows the relation between the effective rotated angle and preset torque and can be used as guidance. As an example, size 127-2 at 30kg.m (294Nm) needs a rotated angle of +260 degrees of adjustment on the bolts.

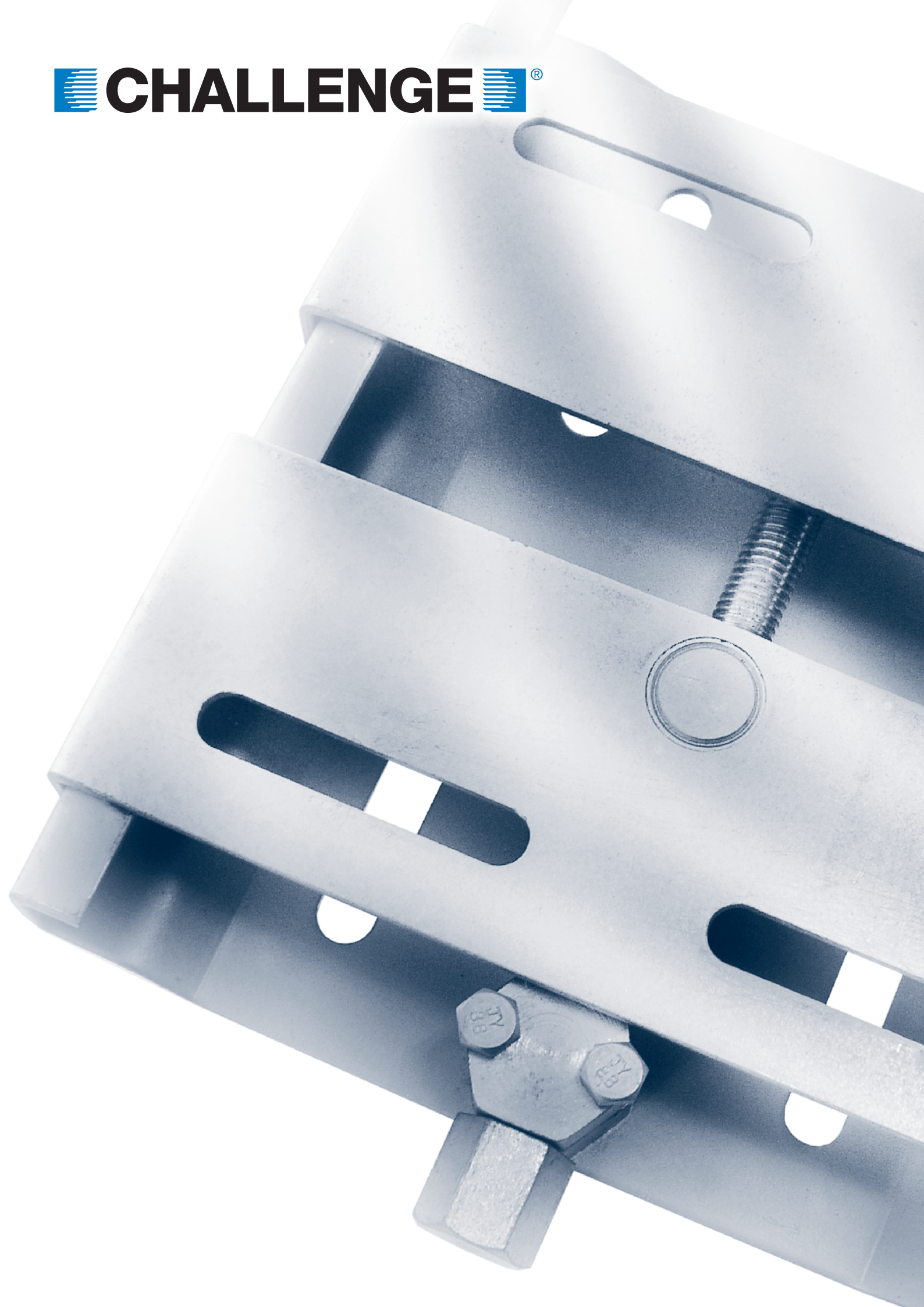
To get the precise torque setting, Challenge recommends the run-in of the torque limiter.



All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Notes

 **CHALLENGE**  [®]



Motor Mounts



Features

Rapid Fit

- Available in five sizes covering motor frames 63 to 180
- Manufactured from cold rolled steel plate making them extremely durable
- Galvanised to protect against the elements
- Easily adjustable to accommodate more than one motor size and also adjust the belt tension
- No drilling necessary

Standard Motor Mounts

- Available in three sizes covering motor frames 63 to 225
- Manufactured from cold rolled steel plate making them extremely durable
- Stove enamelled finish with zinc plated adjustment screws to protect against the elements
- Requires drilling to accommodate various motor sizes

Slide Rails

- Available in seven sizes covering motor frames 63 to 255
- Manufactured from steel
- Galvanised to protect against the elements
- Easily adjustable

Rapid Fit Motor Mounts

Specification

The fastest and most economical method of securing motors to machine beds. The five sizes are manufactured from cold rolled steel and then galvanised. They can accommodate motor frame sizes 63 to 180 and have four slotted holes for fastening the base to the foundation.

Alignment

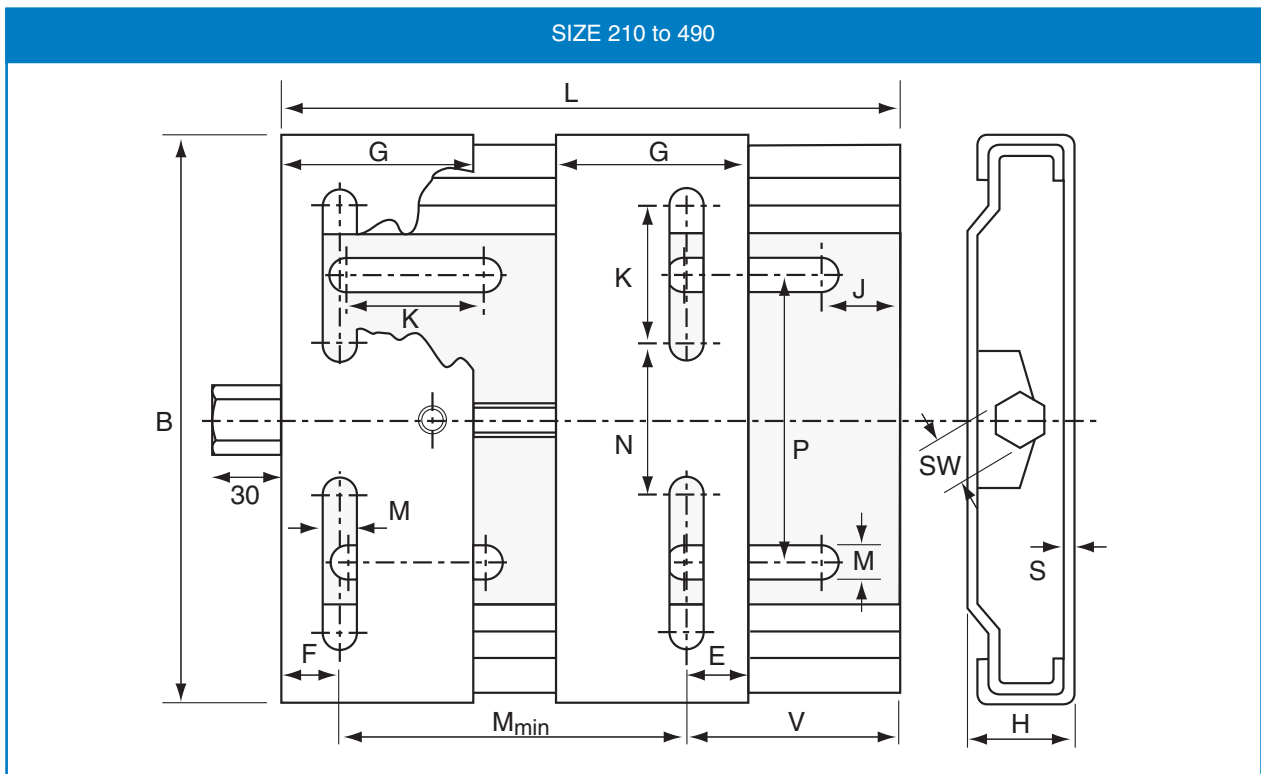
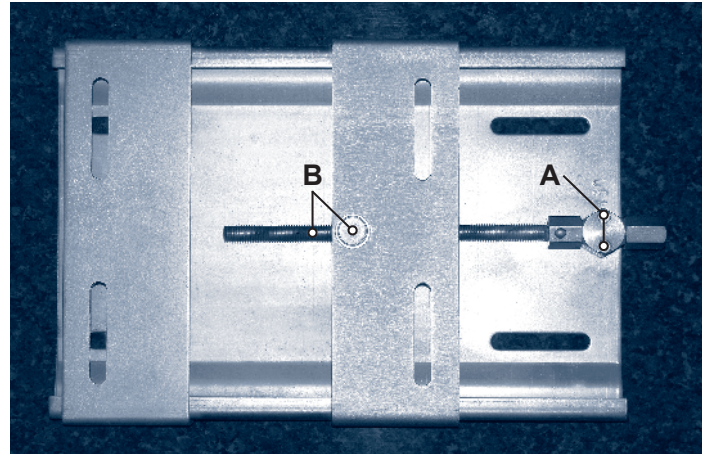
The pressed top plate is designed to slide over the base plate preventing vibration and noise whilst ensuring continuous belt alignment. Belts are tensioned by adjusting a single screw.

Motor Mounting

The motor is bolted to the two piece top plate which accommodates a wide range of motors. Centre distance adjustments can be made without the need to loosen the motor bolts.

Rapid Fit Motor Mount Fitting Instructions

1. Slightly loosen the two bolts holding the Cap (A), just in front of the hex adjustment nut
2. Lightly oil the shaft under this cap
3. Lightly oil the shaft thread where it enters the adjustment plate (B)
4. Adjust the base to accommodate the required motor
5. Tighten the two bolts (A) again, thus locking the Motor Mount in position



Dimensions for Sizes 210 to 490 Rapid Fit Motor Mount

| Type | Frame Size | L | B | H | Mmin | G | E | J | K | M | N | P | SW | S | Weight kg |
|------|------------|-----|-----|----|------|----|----|----|----|------|-----|-----|----|---|-----------|
| 210 | 63 - 80 | 210 | 195 | 34 | 100 | 70 | 20 | 25 | 50 | 10.5 | 43 | 98 | 19 | 3 | 2.4 |
| 270 | 63 - 112 | 270 | 195 | 33 | 100 | 70 | 20 | 25 | 50 | 10.5 | 43 | 98 | 19 | 3 | 2.8 |
| 340 | 90 - 132 | 340 | 280 | 40 | 135 | 95 | 27 | 30 | 62 | 12.5 | 90 | 165 | 22 | 4 | 7.4 |
| 430 | 90 - 160 | 430 | 282 | 40 | 132 | 95 | 27 | 29 | 62 | 12.5 | 90 | 165 | 22 | 4 | 8.0 |
| 490 | 160 - 180 | 490 | 410 | 40 | 114 | 95 | 40 | 30 | 60 | 15.0 | 193 | 284 | 22 | 4 | 12.0 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Standard Motor Mounts

Specification

Produced in three sizes for motors from frame size 63 to 225 and manufactured from pressed steel fabrications with four slotted holes for fastening the base to the foundation.

Alignment

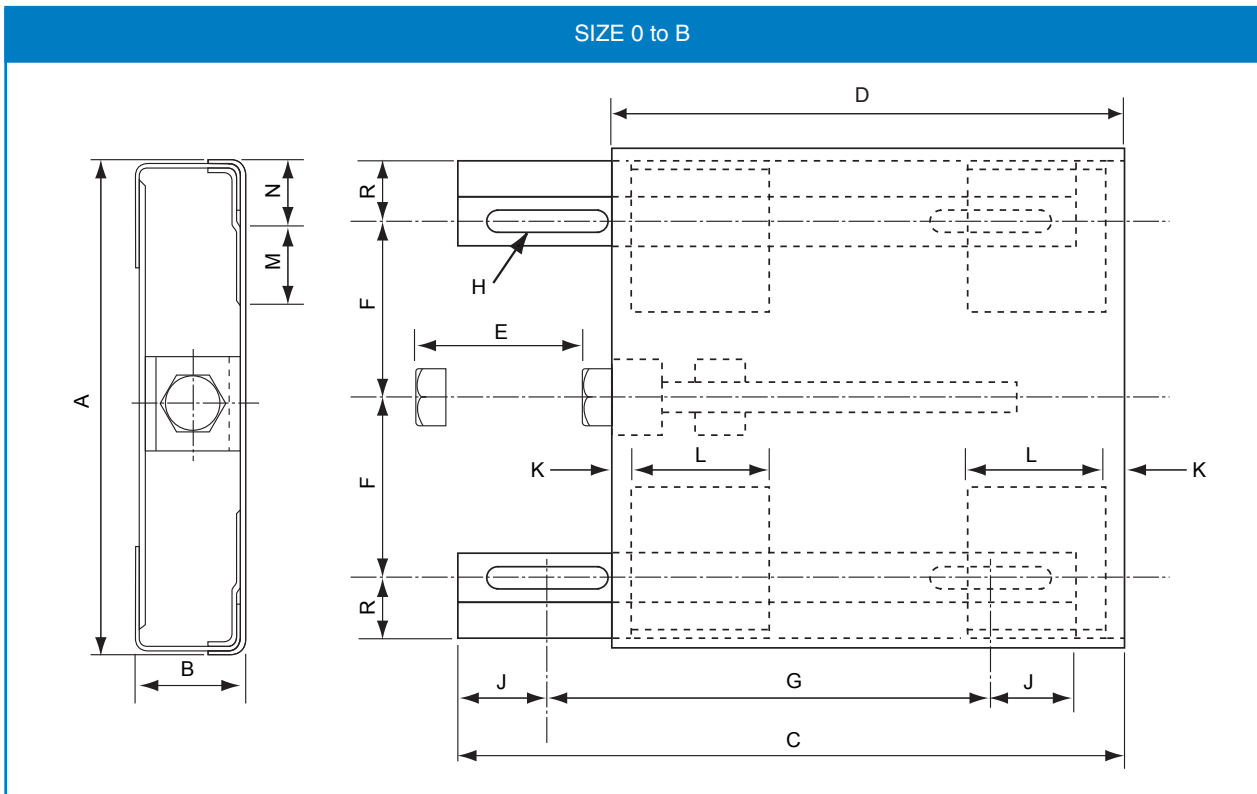
The pressed top plate is designed to slide exactly over the mounting rails preventing vibration and noise whilst ensuring continuous belt alignment. Belts are tensioned by adjusting a single screw which is possible whilst the motor is running.

Surface Finish

Stove enamelled finish with zinc plated adjustment screws to prevent corrosion.

Motor Mounting

The top plate requires drilling to accommodate the required motor mounting bolts. Centre distance adjustments can be made without the need to loosen the motor bolts.



Dimensions for Sizes 0 to B Motor Mounts

| Base Ref | Motor Frame Ref | Motor Bolt Holes | Movement | | | | | | | | | | | | | | Weight kg | |
|----------|--------------------------------------|------------------|----------|----|-----|-----|-----|-------|-----|----------|----|----|-----|----|----|------|-----------|------|
| | | | A | B | C | D | E | F | G | H | J | K | I | M | N | R | | SW |
| 0 | 63 71 | 7 | 146 | 29 | 225 | 170 | 80 | 55.0 | 148 | 9.5 x 25 | 27 | 60 | 50 | 32 | 18 | 15.0 | 17 | 1.4 |
| A | 80 90S 90L | 10 | 240 | 55 | 325 | 258 | 100 | 89.0 | 215 | 13 x 51 | 45 | 10 | 70 | 51 | 32 | 28.5 | 24 | 5.3 |
| | 100S 100L 112S 112M 132S | 12 | | | | | | | | | | | | | | | | |
| | 132M | 12 | | | | | | | | | | | | | | | | |
| | 160M 160L 180M 180L | 15 | | | | | | | | | | | | | | | | |
| | 200M 200L 225S 225M | 19 | | | | | | | | | | | | | | | | |
| B | | | 428 | 60 | 578 | 450 | 180 | 172.5 | 370 | 17 x 50 | 51 | 28 | 100 | 98 | 42 | 36.0 | 24 | 19.0 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Slide Rails

Specification

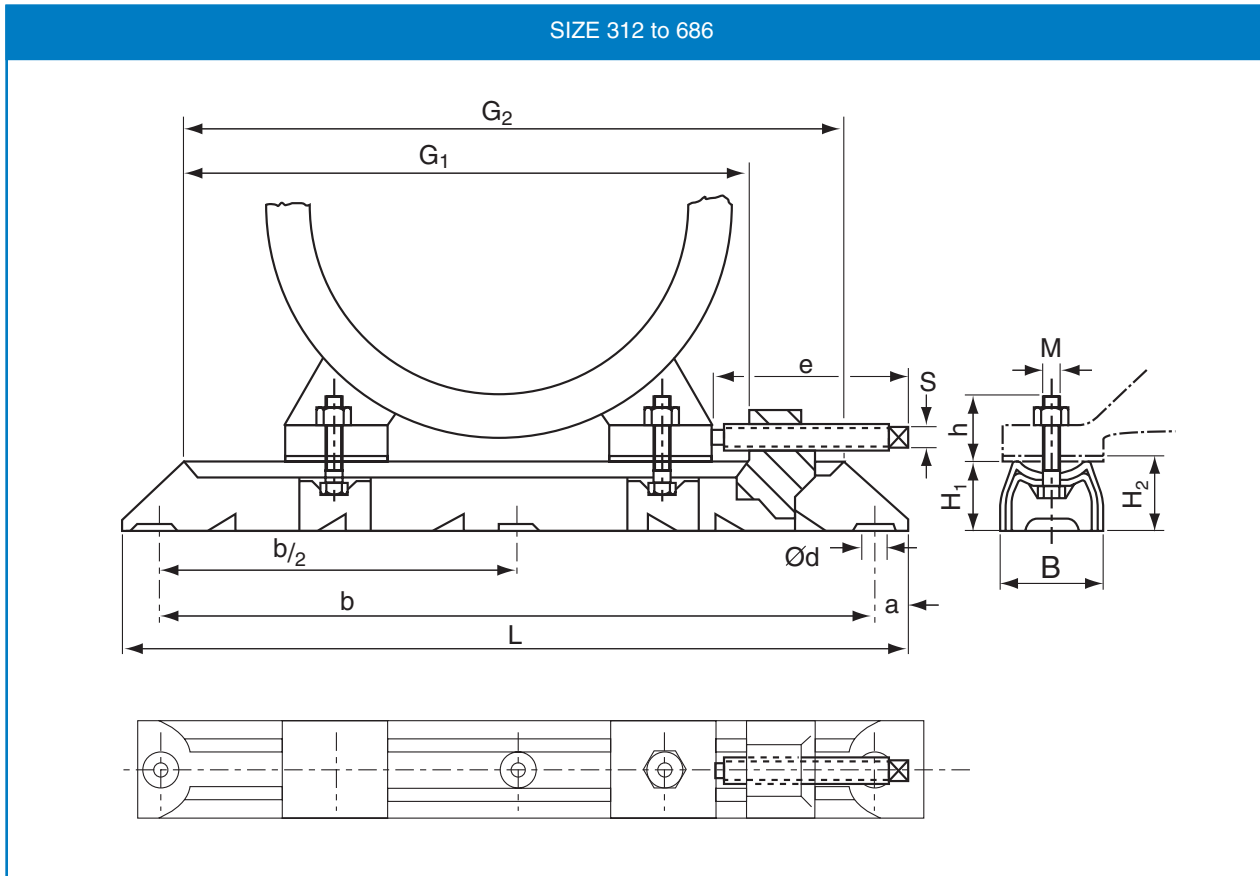
Covering frame sizes 63 to 225, Challenge slide rails are manufactured in galvanised steel with movable positioning blocks for rapid accurate drive alignment.

Alignment

The pressed steel rails are solidly fixed by three securing bolts while the motor is bolted to the rails eradicating vibration and noise whilst ensuring rigid positioning.

Motor Mounting

The motor is bolted to the slide rails and positioned with the aid of adjustment screws. The motor must be stopped and the motor bolts loosened before repositioning.



Dimensions for Sizes 312 to 686 Slide Rails

| Base Ref | Overall Length L | Slide Length G ₁ | Motor Frame Ref | M x h | I x S | G ₂ | a | b | b/2 | Ø d | B | H ₁ | H ₂ | Weight kg |
|----------|------------------|-----------------------------|-----------------|----------|----------|----------------|----|-----|-----|-----|----|----------------|----------------|-----------|
| 312/6 | 312 | 240 | 63/71 | M6 x 19 | 75 x 6 | 262 | 16 | 280 | - | 12 | 40 | 28 | 30 | 1.4 |
| 312/8 | 312 | 240 | 80/90 | M8 x 27 | 75 x 6 | 262 | 16 | 280 | - | 12 | 40 | 28 | 30 | 1.5 |
| 375/6 | 375 | 305 | 63/71 | M6 x 19 | 75 x 6 | 325 | 16 | 343 | - | 12 | 40 | 26 | 30 | 1.5 |
| 375/8 | 375 | 305 | 80/90 | M8 x 27 | 75 x 6 | 325 | 16 | 343 | - | 12 | 40 | 28 | 30 | 1.6 |
| 375/10 | 375 | 305 | 100/112 | M10 x 32 | 75 x 6 | 325 | 16 | 343 | - | 12 | 40 | 28 | 30 | 1.6 |
| 395/8 | 395 | 302 | 80/90 | M8 x 28 | 97 x 8 | 325 | 20 | 355 | - | 12 | 50 | 40 | 43 | 3.4 |
| 395/10 | 395 | 302 | 100/112 | M10 x 35 | 97 x 8 | 325 | 20 | 355 | - | 12 | 50 | 40 | 43 | 3.4 |
| 495/8 | 495 | 405 | 80/90 | M8 x 29 | 97 x 8 | 425 | 20 | 455 | - | 12 | 50 | 40 | 43 | 4.0 |
| 495/10 | 495 | 405 | 100/112/132 | M10 x 35 | 97 x 8 | 425 | 20 | 455 | - | 12 | 50 | 40 | 43 | 4.0 |
| 495/12 | 495 | 405 | 160 | M12 x 49 | 97 x 8 | 425 | 20 | 455 | - | 12 | 50 | 40 | 43 | 4.0 |
| 530/10 | 530 | 413 | 132 | M10 x 37 | 119 x 9 | 442 | 25 | 480 | - | 14 | 60 | 50 | 54 | 6.4 |
| 530/12 | 530 | 413 | 160 | M12 x 49 | 119 x 9 | 442 | 25 | 480 | - | 14 | 60 | 50 | 54 | 6.4 |
| 630/10 | 630 | 515 | 132 | M10 x 37 | 119 x 9 | 542 | 25 | 580 | - | 14 | 60 | 50 | 54 | 8.2 |
| 630/12 | 630 | 515 | 160/180 | M12 x 45 | 119 x 9 | 542 | 25 | 580 | - | 14 | 60 | 50 | 54 | 8.2 |
| 686/12 | 686 | 538 | 160/180 | M12 x 43 | 154 x 12 | 575 | 28 | 630 | 315 | 18 | 75 | 60 | 64 | 12.8 |
| 686/16 | 686 | 538 | 200/225 | M16 x 62 | 154 x 12 | 575 | 28 | 630 | 315 | 18 | 75 | 60 | 64 | 12.8 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Notes

CHALLENGE®

CHALLENGE

CE IEC60034-1

TYPE

Duty.

V

CLASS

kW

Hz

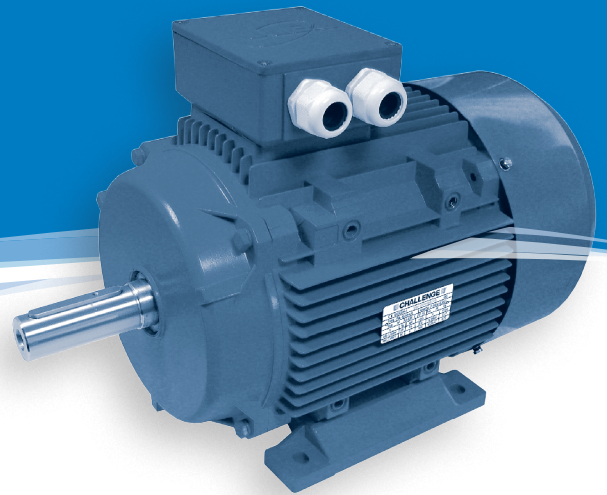
Serial No

IP

rpm

W

e/f2



Features

Three phase motors

- 2, 4, 6 and 8 pole up to 315kW available complying to IEC 60034,
- IEC 60034 specifies energy-efficiency classes for single-speed, three-phase, cage-induction motors with 2, 4 or 6 poles. It classifies three classes: IE1 (standard), IE2 (high) and IE3 (premium). For each class the efficiency is defined for a rated output range from 0.75 to 375 kW. In the European Community the IE2 class is mandatory for all new motors since 16 June 2011. The IE3 class became mandatory from 1 January 2015
- Premium efficiency - complying with IE3 efficiency levels according to IEC60034-30
- From frame size 56 to 355
- Manufactured from high grade cast aluminium alloy or GG25 Cast Iron with engineered grade plastic terminal boxes
- Multi-mount detachable feet as standard
- Full range of mounting positions available
- Voltage ratings of 380v / 400v / 415v
- 50 Hz or 60 Hz rated frequencies

Single phase motors

- Manufactured from high grade cast aluminium alloy with engineered grade plastic terminal boxes
- Fully comply with IEC 60034
- Frames sizes 56 - 100
- Voltage ratings of 110v / 220v / 230v / 240v
- 50 Hz and 60 Hz rated frequencies
- Available with permanent capacitors or as capacitor start – capacitor run

General Information

CHALLENGE series three phase asynchronous AC electric motors, Are totally enclosed fan cooled (**IC-411**) squirrel caged type, With **IP55** enclosure protection, Class **F** insulation and **SI** continuous Duty/Rating.

The motors are manufactured from high grade die cast aluminium alloy and come with multi-mount detachable feet as standard, which allows for various mounting positions to be achieved.

The temperature ratings are **-15° C to +40° degrees C to a maximum altitude of 1000 metres above sea level.**

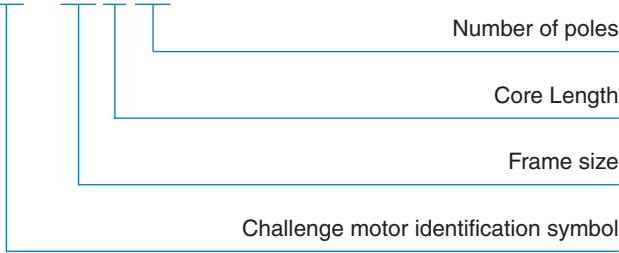
CHALLENGE motors have voltage ratings of 380v / 400v / 415v.

They have a rated frequency of 50Hz and 60Hz. Connection is **STAR** up to and including 3kW and from 4kW and above the connection is **DELTA**, allowing for **STAR/DELTA** starting.

Designation

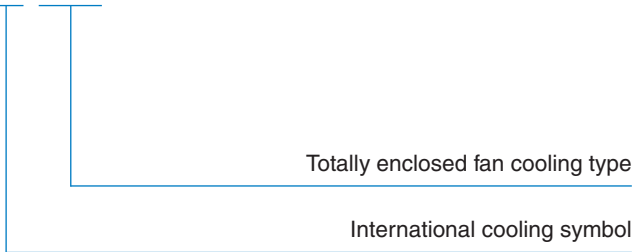
Motor Identification Symbol

CML-801-2



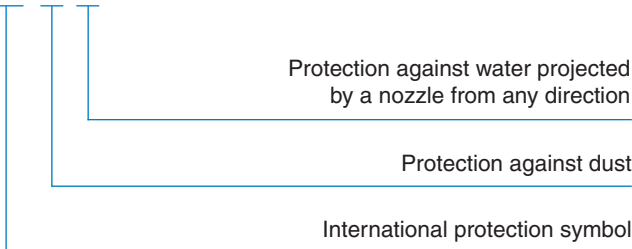
Cooling Method

IC-411



Protection Class

IP-5-5



Standards and Regulations




CE Marking

Our three phase induction motors comply with the requirements of the following international standard:

IEC 60034

Together with the Low Voltage Directive 73/23 (1973), modified by the Directive 93/68 (1993) and the EMC-Directive 89/336.

They comply with the requirements of the EC Directive Machines 89/392. In accordance with this Directive induction motors are components intended solely for integration into other machines. Commissioning is forbidden until conformity of the end product with this Directive is proved!

The  symbol was applied for the first time in 1995.



Mechanical Design

Degrees of protection

Degrees of protection for mechanical machines are designated in accordance with IEC 60034-5 by the letters **IP** and two characteristic numerals.

| First numeral: | |
|--|---|
| Protection against contact and ingress of foreign bodies | |
| IP | Description |
| 0 | No special protection |
| 1 | Protection against solid foreign bodies larger than 50 mm (Example: inadvertent contact with a hand) |
| 2 | Protection against solid foreign bodies larger than 12 mm (Example: inadvertent contact with fingers) |
| 3 | Protection against solid foreign bodies larger than 2.5 mm (Example: Wires, tools) |
| 4 | Protection against solid foreign bodies larger than 1 mm (Example: Wires, bands) |
| 5 | Protection against dust (harmful deposits of dust) |
| 6 | Complete protection against dust. Is not described for electrical machines to IEC 34-5. |

| Second numeral: | |
|-------------------------------------|--|
| Protection against ingress of water | |
| IP | Description |
| 0 | No special protection |
| 1 | Protection against vertically falling water drops (condensation) |
| 2 | Protection against dropping water when inclined by up to 15° |
| 3 | Protection against waterspray at up to 60° from vertical |
| 4 | Protection against water splashed from any direction |
| 5 | Protection against water projected by a nozzle from any direction |
| 6 | Protection against heavy seas or water projected in powerful jets |
| 7 | Protection when submerged between 0.15 m and 1 m |
| 8 | Protection when continuously submerged in water at conditions agreed between the manufacturer and the user |

Challenge motors conform to protection IP 55 / IEC 60034-5.

The standard design for horizontal mounting is suitable for indoor and protected outdoor installation, climate group temperature ratings -15° C to +40° C.

For unprotected outdoor installations, including all installations in severe climatic conditions such as high humidity, large storms, extremely dusty or aggressive industrial environments etc, as well as all vertical mountings, require special protective measures as recommended below:

- Protective cowl (for vertical *shaft-down* motors)
- For vertical *shaft-up* motors additional bearing seal and flange drainage
- Special paint finish
- Treatment of winding with protective moisture-proof varnish
- Anti-condensation heating
- Condensation drain holes

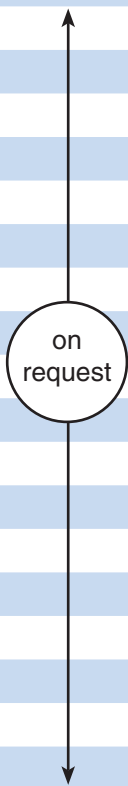
The special measures to be applied have to be agreed with the factory once the conditions of installation have been settled.

The corresponding conditions of installation have to be clearly indicated in the order.

Conditions of Installation

Challenge motors are designed for operation at altitudes ≤ 1000 m above sea level and at ambient temperatures of up to 40° C. Exceptions are indicated on the rating plate.

Permissible temperature rises to various standards

| Standard/Regulation | Temperature of coolant | Permissible temperature rise in K (measured by resistance method) | | |
|--|------------------------|---|------------------|--|
| | | Temperature class | | |
| | °C | B | F | H |
| VDE 0530 part 1 | 40 | 80 | 105 | 125 |
| International IEC 34-1 | 40 | 80 | 105 | 125 |
| Britain BS 2613 | 40 | 80 | 105 |  |
| Canada CSA | 40 | 80 | 105 | |
| USA NEMA and ANSI | 40 | 80 | 105 | |
| Italy CEI | 40 | 80 | 105 | |
| Sweden SEN | 40 | 80 | 105 | |
| Norway NEK | 40 | 80 | 105 | |
| Belgium NBN | 40 | 80 | 105 | |
| France NF | 40 | 80 | 105 | |
| Switzerland SEV | 40 | 80 | 105 | |
| India IS | 40 | 80 | - | |
| Germanischer Lloyd ¹⁾ | 45 | 75 | 90 | |
| American Bureau of Shipping ¹⁾ | 50 | 70 | 95 | |
| Bureau Veritas ¹⁾ | 45 | 70 | 100 | |
| Norske Veritas ¹⁾ | 45 | 70 | 90 ²⁾ | |
| Lloyds Register ¹⁾ | 45 | 70 | 90 | |
| Registro Italiano Navale ¹⁾ | 45 | 70 | 90 | |
| Korean Register ¹⁾ | 50 | 70 | 90 | |
| China Classification Society ¹⁾ | 45 | 75 | 95 | |

¹⁾ Classification societies for marine motors

²⁾ Only with special approval

Standards and Regulations

The motors comply with the relevant Standards and Regulations

| Title Electrical | IEC | EU CENELEC | D DIN/VDE | I CEI/UNEL | GB BS | F NFC | E UNE |
|---|----------|---------------|----------------|-----------------|-------------------|------------------|-----------------|
| General stipulations for electrical machines | 60034-1 | EN 60034-1 | DIN EN 60034-1 | CEI EN 60034-1 | 4999-1 4999-69 | 51-200 51-111 | UNE EN 60034-1 |
| Rotating electrical machines: methods for determining losses and efficiency using tests | 60034-2 | HD 53 2 | DIN EN 60034-2 | CEI EN 60034-2 | 4999-34 | 51-112 | UNE EN 60034-2 |
| Terminal markings and direction of rotation of rotating electrical machines | 60034-8 | HD 53 8 S4 | DIN VDE 0530-8 | CEI 2-8 | 4999-3 | 51-118 | 20113-8-96 |
| Starting performance | 60034-12 | EN 60034-12 | DIN EN 6034-12 | CEI EN 60034-12 | 4999-112 | | UNE EN 60034-12 |
| Standard voltages | 60038 | HD 472 S1 | DIN IEC 60038 | CEI 8-6 | | | |
| Insulating materials | 60085 | | DIN IEC 60085 | CEI 15-26 | | | |

| Mechanical | | | | | | | |
|---|------------|-------------|-------------------|-------------------|------------------|------------------|--------------------|
| Dimensions and output ratings | 60072 | | DIN EN 50347 | UNEL 13113 | | | |
| Mounting dimensions and relationship frame sizes-output ratings, IM B3 | 60072 | HD 231 | DIN 42673-1 | UNEL 13113 | 499-10 51-110 | 51-105 51-104 | 20106-1/26 1980 |
| Mounting dimensions and relationship frame sizes-output ratings, IM B5 | 60072 | HD 231 | DIN 42677-1 | UNEL 13117 | | 20106-2-74 | |
| Mounting dimensions and relationship frame sizes-output ratings, IM B14 | 60072 | HD 231 | DIN 42677-1 | UNEL 13118 | 499-10 51-110 | 51-105 51-104 | 20106-2-IC-80 |
| Cylindrical shaft ends for electric motors | 60072 | HD 231 | DIN 748-3 | UNEL 13502 | 4999-10 | 51-111 | |
| Degrees of protection | 60034-5 | EN 60034-5 | DIN IE60034-5 | CEI IE60034-5 | 4999-20 | EN 60034-5 | 20111-5 |
| Methods of cooling | 60034-6 | EN 60034-6 | DIN EN60034-6 | CEI EN60034-6 | 4999-21 | | EN 60034-6 |
| Mounting arrangements | 60034-7 | EN 60034-7 | DIN EN60034-7 | CEI EN60034-7 | 4999-22 | 51-117 | EN 60034-7 |
| Noise limits | 60034-9 | EN 60034-9 | DIN EN60034-9 | CEI EN60034-9 | 4999-51 | 51-119 | EN 60034-9 |
| Mechanical vibration | 60034-14 | EN 60034-14 | DIN EN60034-14 | CEI EN60034-14 | 4999-50 | 51-111 | EN 60034-14 |
| Mounting flanges | | | DIN 42948 | UNEL 13501 | | | |
| Tolerances of mounting and shaft extensions | | | DIN 42955 | UNEL 13501/ 13502 | | | |
| Classification of environmental conditions | 600721-2-1 | | DIN IEC 60721-2-1 | CEI 75-1 | | | |
| Mechanical vibration; balancing | 21940 | | ISO 21940-32:2012 | | | | |

Starting Options

Connection

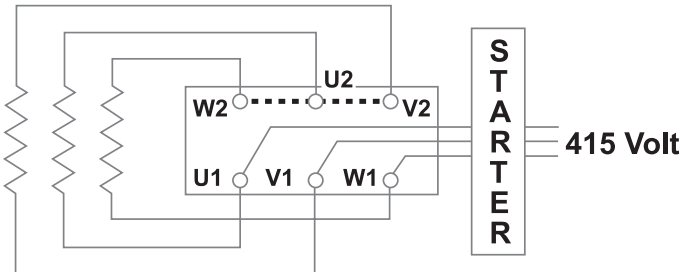
A motor's rated voltage must agree with the power supply line-to-line voltage. Care must therefore be taken to ensure the correct connection to the motor terminals.

Internal connections, Voltages and VF drive selection.

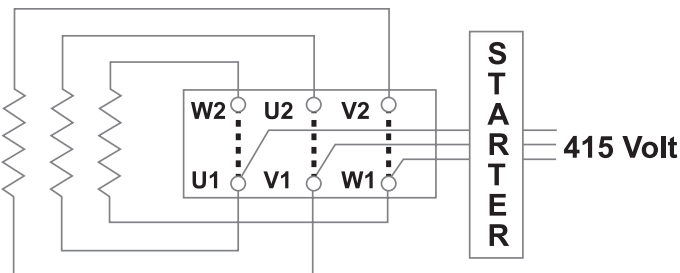
Standard terminal connections for motors 3.0 kW and below is 230 volt delta / 400 volt star. These motors are designed for 400 volt Direct On Line (D.O.L.) starting, when connected in the star configuration. They are also suitable for operation with 230 volt three phase variable frequency drives, when connected in the delta configuration.

Standard terminal connections for motors 4.0 kW and above is 400 volt delta / 690 volt star. These motors are designed for 400 volt Direct On Line (D.O.L.) starting, when connected in the delta configuration. They are also suitable for operation with 400 volt three phase variable frequency drives. Alternatively they can be operated D.O.L. in the star configuration from a 690 volt supply or with a 690 volt variable frequency drive. In this case the drive must be supplied with an output reactor to protect the winding insulation. These motors are also suitable for 400 volt star-delta starting as described below.

Motor connected for D.O.L. starting with bridges in place for star connection (3.0.kW and below)



Motor connected for D.O.L. starting with bridges in place for delta connection (4.0.kW and above)



D.O.L. Starters

When an electric motor is started by direct connection to the power supply (D.O.L.), it draws a high current, called the 'starting current', which is approximately equal in magnitude to the locked rotor current I_S . As listed in the performance data locked rotor current can be up to 8 times the rated current I_N of the motor. In circumstances where the motor starts under no load or where high starting torque is not required, it is preferable to reduce the starting current by one of the following means.

Star - Delta starting

Motors 4.0 kW and above are suitable for the star-delta starting method. Through the use of a star-delta starter, the motor terminals are connected in the star configuration during starting, and reconnected to the delta configuration when running. The benefits of this starting method are a significantly lower starting current, to a value about $\frac{1}{3}$ of the D.O.L. starting current, and a corresponding starting torque also reduced to about $\frac{1}{3}$ of its D.O.L. value. It should be noted that a second current surge occurs on changeover to the delta connection. The level of this surge will depend on the speed the motor has reached at the moment of changeover.

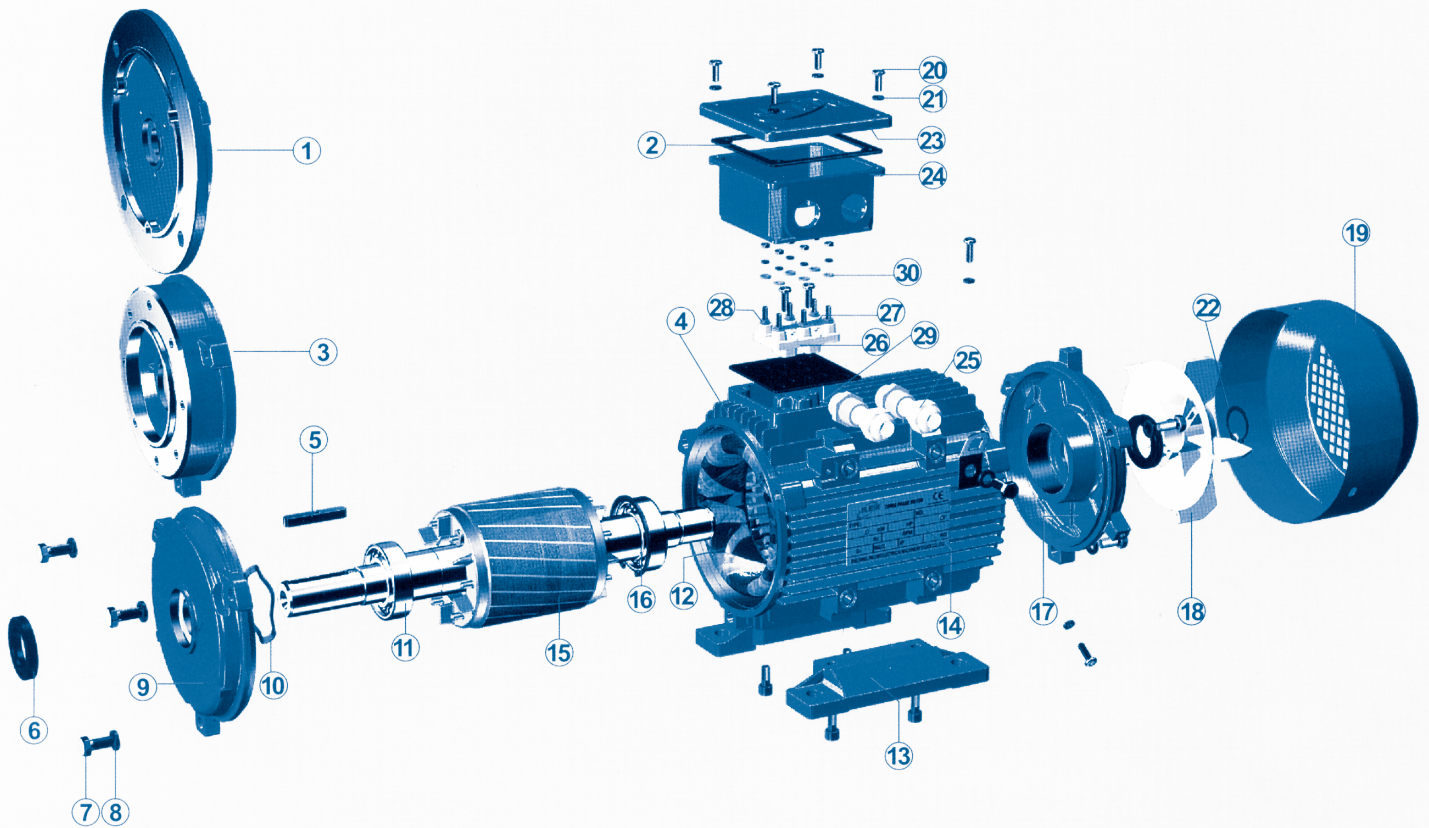
Electronic soft starters

Through the use of an electronic soft starter, which controls such parameters as current and voltage, the starting sequence can be totally controlled. The starter can be programmed to limit the amount of starting current and by limiting the rate of the current increase the startup time is extended. Where large heavy loads are to be started it is especially important to extend the startup time.

Variable frequency drives

Variable frequency drives are primarily recognized for their ability to manipulate power from a constant 3 phase 50 Hz power supply converting it to variable frequency power. This enables the speed of motor to be matched to its load in a flexible and energy efficient manner. The only way of producing starting torque equal to full load torque with full load current is by using VF drives. The functionally flexible VF drive is also commonly used to reduce energy consumption on fans, pumps and compressors and offer a simple and repeatable method of changing speeds or flow rates.

Components



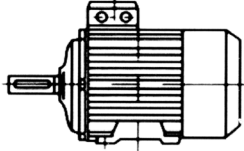
- | | | |
|---------------------------|----------------------------|------------------------------|
| 1. B5 Flange | 11. Bearing | 21. Washer |
| 2. Gasket | 12. Stator | 22. Fan clamp |
| 3. B14 Flange | 13. Multimount Feet | 23. Terminal box lid |
| 4. Housing | 14. Name plate | 24. Terminal box base |
| 5. Key | 15. Rotor | 25. Cable gland |
| 6. Oil Seal | 16. Circlip | 26. Terminal board |
| 7. Bolt | 17. Rear end shield | 27. Brass lug |
| 8. Spring washer | 18. Fan | 28. Brass nut |
| 9. Front endshield | 19. Fan cowl | 29. Earth mark |
| 10. Wave washer | 20. Screw | 30. Brass washer |

Mounting Arrangements

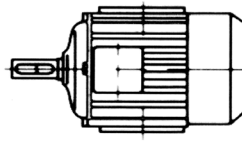
Mounting arrangements to IEC 60034-7

IM B3 = Foot mounted

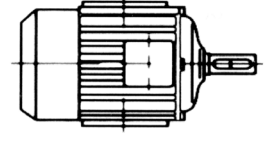
IM B3



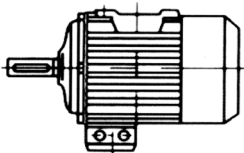
IM B6



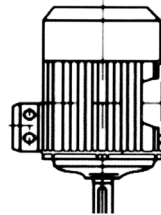
IM B7



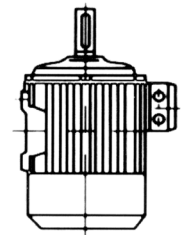
IM B8



IM V5

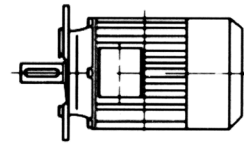


IM V6

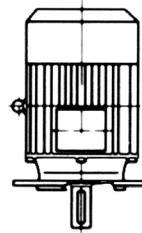


IM B5 = Flange mounted

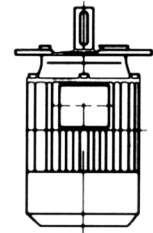
IM B5



IM V1

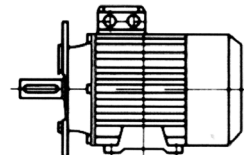


IM V3

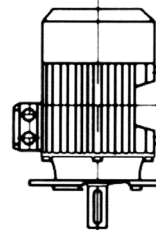


IM B35 = Foot & flange mounted

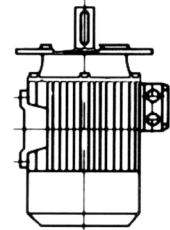
IM B35



IM V15

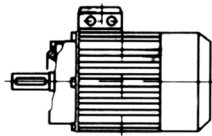


IM V36

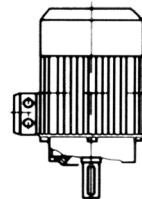


IM B14 = Reduced flange mounted

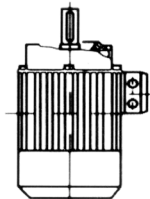
IM B14



IM V18

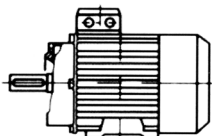


IM V19

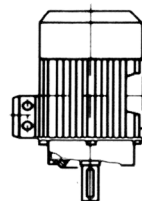


IM B34 = Foot & reduced flange mounted

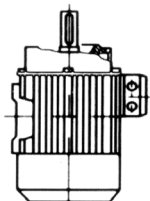
IM B34



IM V58



IM V69



Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Technical Data IE3

3000/3600rpm, 2-pole, 50/60Hz, IP55

| Type | Nominal Output 50Hz | | Speed 50Hz Rpm | Rated current 50Hz In A | | | Power Factor 50Hz Cosφ 10% | Class | Efficiency at 50Hz | | | Rated torque 50Hz Nm | Starting current | Starting torque |
|-------------|---------------------|------|----------------|-------------------------|------|------|----------------------------|-------|--------------------|------|------|----------------------|------------------|-----------------|
| | Frame Size | kW | | 380V | 400V | 415V | | | Load | | | | | |
| | | | | | | | | | 100% | 75% | 50% | | | |
| ALUMINIUM | | | | | | | | | | | | | | |
| EML 80M1-2 | 80M | 0.75 | 2882 | 1.68 | 1.59 | 1.54 | 0.83 | IE3 | 81.4 | 81.4 | 78.2 | 2.47 | 7 | 3.1 |
| EML 80M2-2 | 80M | 1.1 | 2883 | 2.43 | 2.31 | 2.23 | 0.83 | IE3 | 83 | 83 | 80.4 | 3.7 | 7.6 | 3.5 |
| EML 90S -2 | 90S | 1.5 | 2901 | 3.2 | 3.04 | 2.93 | 0.84 | IE3 | 84.8 | 84.8 | 82.7 | 4.91 | 7.8 | 3.5 |
| EML 90L-2 | 90L | 2.2 | 2901 | 4.56 | 4.33 | 4.17 | 0.85 | IE3 | 86.2 | 86.2 | 85.1 | 7.36 | 8.4 | 3.6 |
| EML 100L-2 | 100L | 3 | 2906 | 6.04 | 5.73 | 5.53 | 0.87 | IE3 | 87.2 | 87.2 | 85.9 | 9.8 | 8.4 | 3.6 |
| EML 112M-2 | 112M | 4 | 2918 | 7.65 | 7.27 | 7 | 0.9 | IE3 | 88.1 | 88.1 | 87.9 | 13.4 | 8.4 | 2.5 |
| EML 132S2 | 132S | 5.5 | 2941 | 10.7 | 10.2 | 9.83 | 0.87 | IE3 | 89.2 | 89.2 | 87.9 | 18.2 | 8.1 | 2.4 |
| EML 132S2-2 | 132S | 7.5 | 2938 | 14.2 | 13.5 | 13 | 0.89 | IE3 | 90.1 | 90.1 | 89.6 | 24.2 | 8.2 | 2.5 |
| EML 160M1-2 | 160M | 11 | 2930 | 20.6 | 19.6 | 18.9 | 0.89 | IE3 | 91.2 | 91.2 | 91.2 | 36.5 | 7.7 | 2.5 |
| EML 160M2-2 | 160M | 15 | 2955 | 27.8 | 26.4 | 25.5 | 0.89 | IE3 | 91.9 | 91.9 | 91.5 | 48.2 | 8.2 | 2.4 |
| EML 160L-2 | 160L | 18.5 | 2954 | 33.7 | 32 | 30.8 | 0.9 | IE3 | 92.4 | 92.4 | 92.3 | 60.3 | 8.2 | 2.4 |
| CAST IRON | | | | | | | | | | | | | | |
| EML 180M-2 | 180M | 22 | 2954 | 39.9 | 37.9 | 36.6 | 0.9 | IE3 | 92.7 | 92.7 | 92.7 | 72.3 | 8.2 | 2.4 |
| EML 200L1-2 | 200L | 30 | 2958 | 54.1 | 51.4 | 49.5 | 0.9 | IE3 | 93.3 | 93.3 | 92.7 | 96.3 | 7.1 | 1.9 |
| EML 200L2-2 | 200L | 37 | 2973 | 69 | 65.5 | 63.1 | 0.87 | IE3 | 93.7 | 93.7 | 92.7 | 120 | 7.4 | 2.1 |
| EML 225M-2 | 225M | 45 | 2972 | 83.3 | 79.1 | 76.3 | 0.87 | IE3 | 94 | 94 | 93.3 | 144 | 7.3 | 2.2 |
| EML 250M-2 | 250M | 55 | 2975 | 99.2 | 94.3 | 90.9 | 0.89 | IE3 | 94.3 | 94.3 | 93.7 | 179 | 7.2 | 1.8 |
| EML 280S-2 | 280S | 75 | 2981 | 134 | 128 | 123 | 0.9 | IE3 | 94.8 | 94.8 | 94 | 239 | 8.2 | 2.1 |
| EML 280M-2 | 280M | 90 | 2981 | 159 | 151 | 145 | 0.91 | IE3 | 95 | 95 | 94.3 | 287 | 7.3 | 1.8 |
| EML 315S-2 | 315S | 110 | 2983 | 235 | 224 | 216 | 0.89 | IE3 | 95.5 | 95.5 | 94.4 | 418 | 7.1 | 1.8 |
| EML 315M-2 | 315M | 132 | 2983 | 284 | 270 | 260 | 0.89 | IE3 | 95.7 | 95.7 | 94.4 | 513 | 7.1 | 1.8 |
| EML 315L1-2 | 315L | 160 | 2984 | 356 | 339 | 326 | 0.89 | IE3 | 95.8 | 95.8 | 94.9 | 644 | 7.1 | 1.9 |
| EML 315L2-2 | 315L | 200 | 2983 | 443 | 420 | 405 | 0.9 | IE3 | 95.8 | 95.8 | 94.7 | 800 | 6.8 | 1.7 |
| EML 355M-2 | 355M | 250 | 2983 | 554 | 526 | 507 | 0.9 | IE3 | 95.8 | 95.8 | 94.8 | 1014 | 6.9 | 1.8 |
| EML 355L-2 | 355L | 315 | 2986 | 626 | 595 | 573 | 0.9 | IE3 | 95.8 | 95.8 | 95 | 1133 | 7.9 | 2.2 |

From frame sizes 180 to 200 the motor can be supplied in a cast iron construction (ref CMC).

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Technical Data IE3

1500/1800rpm, 4-pole, 50/60Hz, IP55

| Type | Nominal Output 50Hz | | Speed 50Hz Rpm | Rated current 50Hz In A | | | Power Factor 50Hz Cosφ 10% | Efficiency at 50Hz | | | Rated torque 50Hz Nm | Starting current | Starting torque | |
|-------------|---------------------|------|----------------|-------------------------|------|------|----------------------------|--------------------|------|------|----------------------|------------------|-----------------|-----|
| | Frame Size | Kw | | 380V | 400V | 415V | | Class | Load | | | | | |
| | | | | | | | | | 100% | 75% | | | | 50% |
| ALUMINIUM | | | | | | | | | | | | | | |
| EML 80M1-4 | 80M | 0.75 | 1441 | 1.79 | 1.7 | 1.64 | 0.77 | IE3 | 82.9 | 82.9 | 80.1 | 4.94 | 6.3 | 2.8 |
| EML 90S1-4 | 90S | 1.1 | 1450 | 2.55 | 2.42 | 2.33 | 0.78 | IE3 | 84.5 | 84.5 | 81.6 | 7.36 | 7.2 | 3 |
| EML 90S2-4 | 90L | 1.5 | 1449 | 3.4 | 3.23 | 3.11 | 0.78 | IE3 | 85.6 | 85.6 | 83.2 | 9.83 | 7.4 | 3.2 |
| EML 100L1-4 | 100L | 2.2 | 1462 | 4.75 | 4.51 | 4.35 | 0.81 | IE3 | 86.9 | 86.9 | 85.8 | 14.6 | 8 | 2.7 |
| EML 100L2-4 | 100L | 3 | 1460 | 6.28 | 5.97 | 5.75 | 0.83 | IE3 | 87.8 | 87.8 | 87.3 | 19.5 | 8.1 | 2.9 |
| EML 112M-4 | 112M | 4 | 1459 | 8.36 | 7.94 | 7.65 | 0.82 | IE3 | 88.7 | 88.7 | 88.2 | 26.9 | 8 | 2.7 |
| EML 132S-4 | 132S | 5.5 | 1470 | 11.4 | 10.8 | 10.4 | 0.82 | IE3 | 89.6 | 89.6 | 89.6 | 36.4 | 6.9 | 2.2 |
| EML 132M-4 | 132M | 7.5 | 1467 | 15.2 | 14.4 | 13.9 | 0.83 | IE3 | 90.4 | 90.4 | 90.4 | 48.6 | 6.8 | 2.3 |
| EML 160M-4 | 160M | 11 | 1476 | 21.7 | 20.7 | 19.9 | 0.84 | IE3 | 91.4 | 91.4 | 91.4 | 72.4 | 7.3 | 2.4 |
| EML 160L-4 | 160L | 15 | 1476 | 29.2 | 27.8 | 26.8 | 0.85 | IE3 | 92.1 | 92.1 | 92.1 | 96.5 | 7.5 | 2.5 |
| CAST IRON | | | | | | | | | | | | | | |
| EML 180M1-4 | 180M | 18.5 | 1477 | 36.8 | 35 | 33.7 | 0.83 | IE3 | 92.6 | 92.6 | 92.3 | 121 | 7.1 | 2.2 |
| EML 180L1-4 | 180L | 22 | 1478 | 43.8 | 41.6 | 40.1 | 0.82 | IE3 | 93 | 93 | 92.7 | 145 | 7.5 | 2.4 |
| EML 200L1-4 | 200L | 30 | 1482 | 57.1 | 54.2 | 52.3 | 0.85 | IE3 | 93.6 | 93.6 | 93.5 | 192 | 8 | 2.6 |
| EML 225S-4 | 225S | 37 | 1483 | 70.8 | 67.2 | 64.8 | 0.85 | IE3 | 93.9 | 93.9 | 93.8 | 240 | 7.1 | 2.2 |
| EML 225M-4 | 225M | 45 | 1484 | 85 | 80.7 | 77.8 | 0.85 | IE3 | 94.2 | 94.2 | 94.2 | 288 | 7.5 | 2.4 |
| EML 250M-4 | 250M | 55 | 1488 | 103 | 97.7 | 94.2 | 0.86 | IE3 | 94.6 | 94.6 | 94.2 | 359 | 7.1 | 2 |
| EML 280S-4 | 280S | 75 | 1489 | 137 | 130 | 126 | 0.87 | IE3 | 95 | 95 | 94.2 | 478 | 6.3 | 2.1 |
| EML 280M-4 | 280M | 90 | 1489 | 163 | 155 | 149 | 0.88 | IE3 | 95.2 | 95.2 | 94.8 | 574 | 6.1 | 2 |
| EML 315S-4 | 315S | 110 | 1489 | 204 | 194 | 187 | 0.86 | IE3 | 95.5 | 95.5 | 94.7 | 717 | 7.1 | 2 |
| EML 315M-4 | 315M | 132 | 1489 | 243 | 231 | 223 | 0.86 | IE3 | 95.6 | 95.6 | 95 | 837 | 7.3 | 2.1 |
| EML 315L1-4 | 315L | 160 | 1489 | 290 | 275 | 265 | 0.88 | IE3 | 95.9 | 95.9 | 95.4 | 1028 | 7.3 | 2.2 |
| EML 315L2-4 | 315L | 200 | 1489 | 363 | 345 | 332 | 0.87 | IE3 | 96 | 96 | 95.5 | 1291 | 7.2 | 2.2 |
| EML 355M-4 | 355M | 250 | 1491 | 446 | 424 | 408 | 0.89 | IE3 | 96 | 96 | 96 | 1600 | 7.1 | 1.9 |
| EML 355L1-4 | 355L | 315 | 1491 | 557 | 529 | 510 | 0.9 | IE3 | 96 | 96 | 96 | 2030 | 7.1 | 1.9 |
| EML 355L2-4 | 355L | 355 | 1491 | 629 | 598 | 576 | 0.89 | IE3 | 96 | 96 | 96 | 2268 | 7.2 | 2 |
| EML 355L3-4 | 355L | 375 | 1491 | 663 | 630 | 607 | 0.9 | IE3 | 96 | 96 | 96 | 2403 | 6.8 | 1.9 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Technical Data IE3

1000/1200rpm, 6-pole, 50/60Hz, IP55

| Type | Nominal Output 50Hz | | Speed 50Hz Rpm | Rated current 50Hz In A | | | Power Factor 50Hz Cosφ 10% | Class | Efficiency at 50Hz | | | Rated torque 50Hz Nm | Starting current | Starting torque |
|-------------|---------------------|------|----------------|-------------------------|------|------|----------------------------|-------|--------------------|------|------|----------------------|------------------|-----------------|
| | Frame Size | Kw | | 380V | 400V | 415V | | | Load | | | | | |
| | | | | | | | | | 100% | 75% | 50% | | | |
| EML 90S-6 | 90S | 0.75 | 953 | 2.1 | 2 | 1.92 | 0.69 | IE3 | 78.9 | 78.9 | 76.2 | 7.47 | 5.6 | 3.2 |
| EML 90L-6 | 90L | 1.1 | 947 | 2.99 | 2.84 | 2.74 | 0.69 | IE3 | 81 | 81 | 77.3 | 11.3 | 5.4 | 3.2 |
| EML 100L-6 | 100L | 1.5 | 972 | 3.82 | 3.62 | 3.49 | 0.72 | IE3 | 82.5 | 82.5 | 78.8 | 14.7 | 6.6 | 2.6 |
| EML 112M-6 | 112M | 2.2 | 963 | 5.31 | 5.04 | 4.86 | 0.75 | IE3 | 84.3 | 84.3 | 83.7 | 22.2 | 6.5 | 2.7 |
| EML 132S-6 | 132S | 3 | 973 | 6.95 | 6.6 | 6.37 | 0.77 | IE3 | 85.6 | 85.6 | 85.6 | 29.3 | 5.6 | 1.9 |
| EML 132M1-6 | 132M | 4 | 975 | 9.14 | 8.68 | 8.37 | 0.77 | IE3 | 86.8 | 86.8 | 86.8 | 40.2 | 6 | 2.1 |
| EML 132M2-6 | 132M | 5.5 | 975 | 12.4 | 11.8 | 11.4 | 0.77 | IE3 | 88 | 88 | 88 | 54.9 | 6.2 | 2.2 |
| EML 160M-6 | 160M | 7.5 | 978 | 15.7 | 14.9 | 14.4 | 0.82 | IE3 | 89.1 | 89.1 | 89.1 | 72.8 | 5.6 | 1.8 |
| EML 160L-6 | 160L | 11 | 980 | 23 | 21.9 | 21.1 | 0.8 | IE3 | 90.3 | 90.3 | 89.9 | 109 | 6.1 | 2.1 |
| EML 180L1-6 | 180L | 15 | 984 | 31.9 | 30.3 | 29.2 | 0.78 | IE3 | 91.2 | 91.2 | 90.6 | 145 | 6.9 | 2.4 |
| EML 200L1-6 | 200L | 18.5 | 986 | 38.6 | 36.6 | 35.3 | 0.8 | IE3 | 91.7 | 91.7 | 91.7 | 181 | 6.3 | 2.1 |
| EML 200L2-6 | 200L | 22 | 985 | 45.3 | 43 | 41.4 | 0.8 | IE3 | 92.2 | 92.2 | 92.2 | 217 | 6.1 | 2.1 |
| EML 225M1-6 | 225M | 30 | 987 | 58.8 | 55.9 | 53.9 | 0.83 | IE3 | 92.9 | 92.9 | 92.4 | 289 | 6.8 | 2.1 |
| EML 250M1-6 | 250M | 37 | 987 | 72 | 68.4 | 65.9 | 0.84 | IE3 | 93.3 | 93.3 | 93.2 | 361 | 6.6 | 2.2 |
| EML 280S-6 | 280S | 45 | 989 | 88.6 | 84.1 | 81.1 | 0.82 | IE3 | 93.7 | 93.7 | 92.8 | 432 | 6 | 1.7 |
| EML 280M1-6 | 280M | 55 | 989 | 106 | 101 | 97.3 | 0.84 | IE3 | 94.1 | 94.1 | 93.5 | 533 | 6 | 1.8 |
| EML 315S-6 | 315S | 75 | 991 | 147 | 139 | 135 | 0.82 | IE3 | 94.6 | 94.6 | 94.4 | 720 | 6 | 1.8 |
| EML 315M-6 | 315M | 90 | 992 | 176 | 168 | 161 | 0.82 | IE3 | 95 | 95 | 94.7 | 864 | 6.1 | 1.9 |
| EML 315L1-6 | 315L | 110 | 992 | 214 | 203 | 196 | 0.82 | IE3 | 95.3 | 95.3 | 94.8 | 1080 | 6.4 | 2 |
| EML 315L2-6 | 315L | 132 | 992 | 257 | 244 | 235 | 0.82 | IE3 | 95.5 | 95.5 | 95.1 | 1258 | 6.5 | 2.1 |
| EML 355M1-6 | 355M | 160 | 992 | 302 | 287 | 277 | 0.84 | IE3 | 95.8 | 95.8 | 95.4 | 1543 | 6.6 | 2 |
| EML 355L-6 | 355L | 200 | 992 | 378 | 359 | 346 | 0.84 | IE3 | 95.8 | 95.8 | 95.6 | 1938 | 6.8 | 2.1 |
| EML 355L2-6 | 355L | 250 | 992 | 470 | 446 | 430 | 0.84 | IE3 | 95.8 | 95.8 | 95.7 | 2404 | 6.9 | 2.2 |

Technical Data IE3

750/900rpm, 8-pole, 50/60Hz, IP55

| Type | Nominal Output 50Hz | | Speed 50Hz Rpm | Rated current 50Hz In A | | | Power Factor 50Hz Cosφ 10% | Class | Efficiency at 50Hz | | | Rated torque 50Hz Nm | Starting current | Starting torque |
|-------------|---------------------|------|----------------|-------------------------|------|------|----------------------------|-------|--------------------|------|------|----------------------|------------------|-----------------|
| | Frame Size | Kw | | 380V | 400V | 415V | | | Load | | | | | |
| | | | | | | | | | 100% | 75% | 50% | | | |
| EML 100L-8 | 100L | 0.75 | 721 | 2.17 | 2.06 | 1.99 | 0.7 | IE3 | 75 | 75 | 73.8 | 9.88 | 5.1 | 1.9 |
| EML 100L-8 | 100L | 1.1 | 719 | 3.03 | 2.88 | 2.77 | 0.71 | IE3 | 77.7 | 77.7 | 74.8 | 14.9 | 5 | 1.9 |
| EML 112M-8 | 112M | 1.5 | 710 | 3.93 | 3.74 | 3.6 | 0.73 | IE3 | 79.7 | 79.7 | 79.1 | 20.1 | 5 | 1.8 |
| EML 132S-8 | 132S | 2.2 | 725 | 5.67 | 5.38 | 5.19 | 0.72 | IE3 | 81.9 | 81.9 | 81.9 | 29.5 | 5 | 1.8 |
| EML 132M-8 | 132M | 3 | 725 | 7.57 | 7.19 | 6.93 | 0.72 | IE3 | 83.6 | 83.6 | 83.6 | 39.4 | 5 | 1.8 |
| EML 160M1-8 | 160M | 4 | 730 | 9.94 | 9.45 | 9.11 | 0.72 | IE3 | 85 | 85 | 85 | 53.8 | 5.3 | 1.7 |
| EML 160M2-8 | 160M | 5.5 | 730 | 13.2 | 12.6 | 12.1 | 0.73 | IE3 | 86.5 | 86.5 | 86.5 | 73.4 | 5.3 | 1.7 |
| EML 160L-8 | 160L | 7.5 | 728 | 17.5 | 16.7 | 16.1 | 0.74 | IE3 | 87.8 | 87.8 | 87.7 | 98 | 5.4 | 1.8 |
| EML 180L-8 | 180L | 11 | 730 | 25 | 23.7 | 22.9 | 0.75 | IE3 | 89.3 | 89.3 | 89.1 | 147 | 6.4 | 1.7 |
| EML 200L-8 | 200L | 15 | 739 | 34.7 | 32.9 | 31.8 | 0.73 | IE3 | 90.4 | 90.4 | 88.7 | 193 | 5.5 | 1.9 |
| EML 225S-8 | 225S | 18.5 | 738 | 39.1 | 37.1 | 35.8 | 0.79 | IE3 | 91.1 | 91.1 | 90.5 | 241 | 5.2 | 1.7 |
| EML 225M-8 | 225M | 22 | 738 | 45.7 | 43.4 | 41.9 | 0.8 | IE3 | 91.5 | 91.5 | 91.1 | 290 | 5.2 | 1.7 |
| EML 250M-8 | 250M | 30 | 739 | 61.1 | 58 | 55.9 | 0.81 | IE3 | 92.4 | 92.4 | 92.2 | 386 | 5.3 | 1.8 |
| EML 280S-8 | 280S | 37 | 742 | 75.7 | 71.9 | 69.3 | 0.8 | IE3 | 92.9 | 92.9 | 92 | 480 | 5.8 | 1.8 |
| EML 280M-8 | 280M | 45 | 742 | 92 | 87.4 | 84.2 | 0.8 | IE3 | 93.5 | 93.5 | 92.6 | 576 | 5.6 | 1.8 |
| EML 315S-8 | 315S | 55 | 742 | 121 | 115 | 111 | 0.75 | IE3 | 92.5 | 92.5 | 91.4 | 720 | 5.2 | 1.7 |
| EML 315M-8 | 315M | 75 | 743 | 163 | 154 | 149 | 0.75 | IE3 | 93.1 | 93.1 | 92.1 | 960 | 5.3 | 1.8 |
| EML 315L1-8 | 315L | 90 | 743 | 194 | 184 | 177 | 0.76 | IE3 | 93.4 | 93.4 | 92.6 | 1151 | 5.4 | 1.9 |
| EML 315L2-8 | 315L | 110 | 742 | 230 | 219 | 211 | 0.78 | IE3 | 93.7 | 93.7 | 93.3 | 1440 | 5.3 | 1.8 |
| EML 355M1-8 | 355M | 132 | 742 | 254 | 242 | 233 | 0.84 | IE3 | 94 | 94 | 93.5 | 1679 | 5.9 | 1.4 |
| EML 355M2-8 | 355M | 160 | 742 | 308 | 292 | 282 | 0.84 | IE3 | 94.3 | 94.3 | 93.7 | 2444 | 6.2 | 1.5 |
| EML 355L1-8 | 355L | 185 | 742 | 352 | 335 | 323 | 0.84 | IE3 | 94.5 | 94.5 | 94 | 2399 | 6.1 | 1.5 |
| EML 355L2-8 | 355L | 200 | 742 | 380 | 361 | 348 | 0.85 | IE3 | 94.6 | 94.6 | 94 | 2591 | 6.3 | 1.6 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Cable Entry and Bearing Sizes

Cable Entry

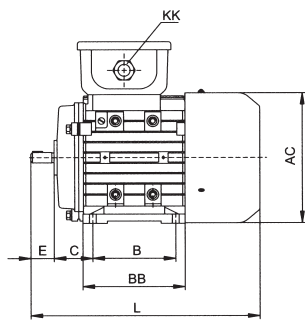
| Classified number | Frame size | Max .fl.amps | Entry size |
|-------------------|------------|--------------|--------------|
| 1 | 63-80 | 2.6 | 1 x M20x1.5 |
| 2 | 90 | 6.8 | 1 x M25x1.5 |
| 3 | 100-132 | 15.4 | 2 x M32x1 .5 |
| 4 | 160-180 | 42.5 | 2 x M40x1.5 |
| 5 | 200 | 84.2 | 2 x M50x1.5 |

Bearing Size

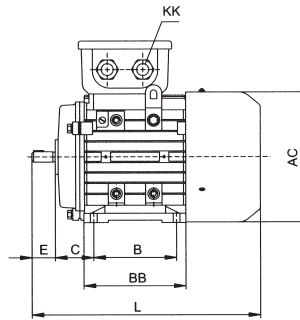
| Frame size | Poles | Drive End | Non-Drive End |
|------------|--------|--------------------------|--------------------------|
| 56 | 2 to 4 | 6201 2RS-C3 (6201 ZZ-C3) | 6201 2RS-C3 (6201 ZZ-C3) |
| 63 | 2 to 6 | 6201 2RS-C3 (6201 ZZ-C3) | 6201 2RS-C3 (6201 ZZ-C3) |
| 71 | 2 to 8 | 6202 2RS-C3 (6202 ZZ-C3) | 6202 2RS-C3 (6202 ZZ-C3) |
| 80 | 2 to 8 | 6204 2RS-C3 (6204 ZZ-C3) | 6204 2RS-C3 (6204 ZZ-C3) |
| 90 | 2 to 8 | 6205 2RS-C3 (6205 ZZ-C3) | 6205 2RS-C3 (6205 ZZ-C3) |
| 100 | 2 to 8 | 6206 2RS-C3 (6206 ZZ-C3) | 6206 2RS-C3 (6206 ZZ-C3) |
| 112 | 2 to 8 | 6206 2RS-C3 (6206 ZZ-C3) | 6206 2RS-C3 (6206 ZZ-C3) |
| 132 | 2 to 8 | 6208 2RS-C3 (6208 ZZ-C3) | 6208 2RS-C3 (6208 ZZ-C3) |
| 160 | 2 to 8 | 6309 2RS-C3 (6309 ZZ-C3) | 6309 2RS-C3 (6309 ZZ-C3) |
| 180 | 2 to 8 | 6311 ZZ-C3 | 6311 ZZC3 |
| 200 | 2 to 8 | 6312 ZZ-C3 | 6312 ZZC3 |

Mounting and Overall Dimensions

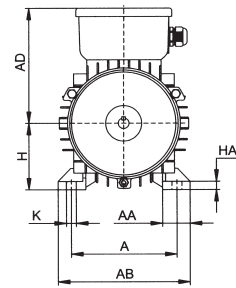
IM B3 Foot mounted frame size 56 to 200



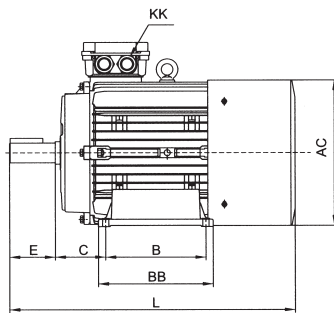
56-90



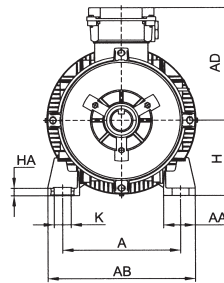
100-160



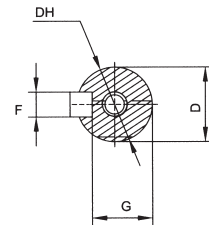
56-160



180-200



180-200

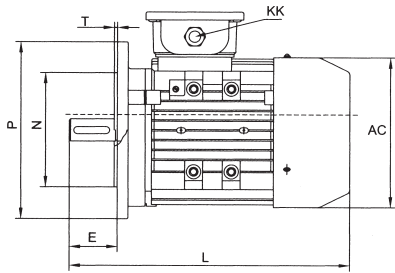


| Frame Size | Mounting Dimensions | | | | | | | | | | | | | | | | | | Overall Dimensions L |
|------------|---------------------|-----|-----|-----|----|-----|-----|-----|-----|----|--------|-----|----|------|-----|------|-----------|--------|-------------------------|
| | A | AA | AB | BB | HA | AC | AD | B | C | D | DH | E | F | G | H | K | KK | | |
| | Metric | | PG | | | | | | | | | | | | | | | | |
| 56 | 90 | 23 | 115 | 88 | 7 | 110 | 100 | 71 | 36 | 9 | M4x12 | 20 | 3 | 7.2 | 56 | 5.8 | 1-M20X1.5 | 1-PG11 | 199 |
| 63 | 100 | 24 | 135 | 100 | 7 | 130 | 111 | 80 | 40 | 11 | M4x12 | 23 | 4 | 8.5 | 63 | 7.0 | 1-M20X1.5 | 1-PG11 | 217 |
| 71 | 112 | 26 | 150 | 110 | 8 | 145 | 118 | 90 | 45 | 14 | M5x12 | 30 | 5 | 11 | 71 | 7.0 | 1-M20X1.5 | 1-PG11 | 245 |
| 80 | 125 | 35 | 165 | 125 | 9 | 175 | 134 | 100 | 50 | 19 | M6x16 | 40 | 6 | 15.5 | 80 | 10.0 | 1-M25X1.5 | 1-PG16 | 287 |
| 90S | 140 | 37 | 180 | 125 | 10 | 195 | 140 | 100 | 56 | 24 | M8x19 | 50 | 8 | 20.0 | 90 | 10.0 | 1-M25X1.5 | 1-PG16 | 315 |
| 90L | 140 | 37 | 180 | 150 | 10 | 195 | 140 | 125 | 56 | 24 | M8x19 | 50 | 8 | 20.0 | 90 | 10.0 | 1-M25X1.5 | 1-PG16 | 340 |
| 100L | 160 | 40 | 205 | 172 | 11 | 215 | 160 | 140 | 63 | 28 | M10x22 | 60 | 8 | 24.0 | 100 | 12.0 | 1-M32X1.5 | 1-PG21 | 385 |
| 112M | 190 | 41 | 230 | 181 | 12 | 240 | 178 | 140 | 70 | 28 | M10x22 | 60 | 8 | 24.0 | 112 | 12.0 | 2-M32X1.5 | 2-PG21 | 400 |
| 132S | 216 | 51 | 270 | 186 | 15 | 275 | 206 | 140 | 89 | 38 | M12x28 | 80 | 10 | 33.0 | 132 | 12.0 | 2-M32X1.5 | 2-PG21 | 483 |
| 132M | 216 | 51 | 270 | 224 | 15 | 275 | 206 | 178 | 89 | 38 | M12x28 | 80 | 10 | 33.0 | 132 | 12.0 | 2-M32X1.5 | 2-PG21 | 510 |
| 160M | 254 | 55 | 320 | 260 | 18 | 330 | 255 | 210 | 108 | 42 | M16x36 | 110 | 12 | 37.0 | 160 | 15.0 | 2-M40X1.5 | 2-PG29 | 615 |
| 160L | 254 | 55 | 320 | 304 | 18 | 330 | 255 | 254 | 108 | 42 | M16x36 | 110 | 12 | 37.0 | 160 | 16.0 | 2-M40X1.5 | 2-PG29 | 670 |
| 180M | 279 | 75 | 350 | 315 | 18 | 355 | 272 | 241 | 121 | 48 | M16x36 | 110 | 14 | 42.5 | 180 | 15 | 2-M32x1.5 | 2-PG29 | 765 |
| 180L | 279 | 75 | 350 | 315 | 18 | 355 | 272 | 279 | 121 | 48 | M16x36 | 110 | 14 | 42.5 | 180 | 15 | 2-M32x1.5 | 2-PG29 | 765 |
| 200L | 318 | 100 | 398 | 355 | 24 | 355 | 272 | 305 | 133 | 55 | M20x42 | 110 | 16 | 49 | 200 | 19 | 2-M32x1.5 | 2-PG36 | 790 |

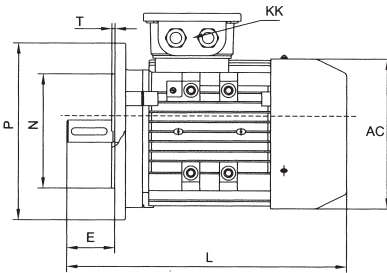
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Mounting and Overall Dimensions

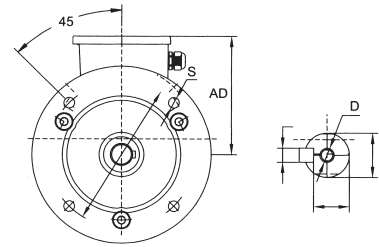
IM B5 Flange mounted frame size 56 to 200



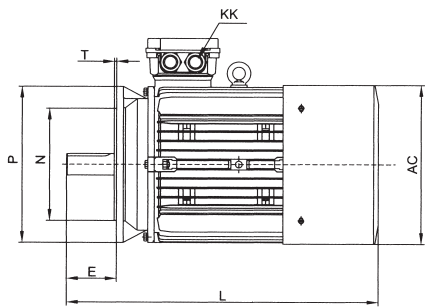
56-90



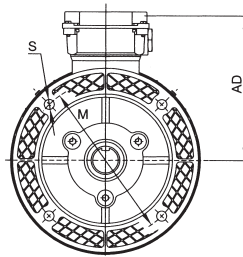
100-160



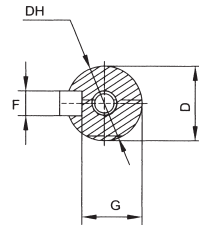
56-160



180-200



180-200

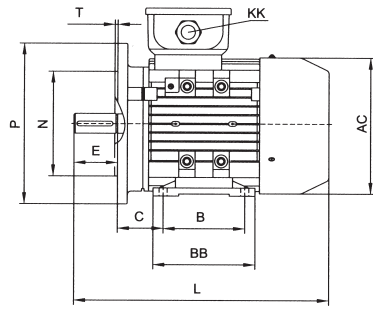


| Frame Size | Mounting Dimensions | | | | | | | | | | | | | Overall Dimensions | | | | | | |
|------------|---------------------|-----|-----|-----|-----|----|---------|-----|----|------|-----|------|-----------|--------------------|-----|-----|-----|-----|----|-----|
| | HA | AC | AD | B | C | D | DH | E | F | G | H | K | KK | | L | M | N | P | S | T |
| | | | | | | | | | | | | | Metric | PG | | | | | | |
| 56 | 7 | 110 | 100 | 71 | 36 | 9 | M4x12 | 20 | 3 | 7.2 | 56 | 5.8 | 1-M20x1.5 | 1-PG11 | 199 | 100 | 80 | 120 | 7 | 3.0 |
| 63 | 7 | 130 | 111 | 80 | 40 | 11 | M4x12 | 23 | 4 | 8.5 | 63 | 7.0 | 1-M20x1.5 | 1-PG11 | 217 | 115 | 95 | 140 | 10 | 3.0 |
| 71 | 8 | 145 | 118 | 90 | 45 | 14 | M5x12 | 30 | 5 | 11 | 71 | 7.0 | 1-M20x1.5 | 1-PG11 | 245 | 130 | 110 | 160 | 12 | 3.5 |
| 80 | 9 | 175 | 134 | 100 | 50 | 19 | M6x16 | 40 | 6 | 15.5 | 80 | 10.0 | 1-M25x1.5 | 1-PG16 | 287 | 165 | 130 | 200 | 12 | 3.5 |
| 90S | 10 | 195 | 140 | 100 | 56 | 24 | M8x19 | 50 | 8 | 20.0 | 90 | 10.0 | 1-M25x1.5 | 1-PG16 | 315 | 165 | 130 | 200 | 12 | 3.5 |
| 90L | 10 | 195 | 140 | 125 | 56 | 24 | M8x19 | 50 | 8 | 20.0 | 90 | 10.0 | 1-M25x1.5 | 1-PG16 | 340 | 165 | 130 | 200 | 12 | 3.5 |
| 100L | 11 | 215 | 160 | 140 | 63 | 28 | M10x22 | 60 | 8 | 24.0 | 100 | 12.0 | 1-M32x1.5 | 1-PG21 | 385 | 215 | 180 | 250 | 15 | 4.0 |
| 112M | 12 | 240 | 178 | 140 | 70 | 28 | M10x22 | 60 | 8 | 24.0 | 112 | 12.0 | 2-M32x1.5 | 2-PG21 | 400 | 215 | 180 | 250 | 15 | 4.0 |
| 132S | 15 | 275 | 206 | 140 | 89 | 38 | M12x28 | 80 | 10 | 33.0 | 132 | 12.0 | 2-M32x1.5 | 2-PG21 | 483 | 265 | 230 | 300 | 15 | 4.0 |
| 132M | 15 | 275 | 206 | 178 | 89 | 38 | M12x28 | 80 | 10 | 33.0 | 132 | 12.0 | 2-M32x1.5 | 2-PG21 | 510 | 265 | 230 | 300 | 15 | 4.0 |
| 160M | 18 | 330 | 255 | 210 | 108 | 42 | M16x36 | 110 | 12 | 37.0 | 160 | 15.0 | 2-M40x1.5 | 2-PG29 | 615 | 300 | 250 | 350 | 19 | 5.0 |
| 160L | 18 | 330 | 255 | 254 | 108 | 42 | M16x36 | 110 | 12 | 37.0 | 160 | 16.0 | 2-M40x1.5 | 2-PG29 | 670 | 300 | 250 | 350 | 19 | 5.0 |
| 180M | 18 | 355 | 272 | 241 | 121 | 48 | M 16x36 | 110 | 14 | 42.5 | 180 | 15 | 2-M32x1.5 | 2-PG29 | 765 | 300 | 250 | 350 | 19 | 5.0 |
| 180L | 18 | 355 | 272 | 279 | 121 | 48 | M16x36 | 110 | 14 | 42.5 | 180 | 15 | 2-M32x1.5 | 2-PG29 | 765 | 300 | 250 | 350 | 19 | 5.0 |
| 200L | 24 | 355 | 272 | 305 | 133 | 55 | M20x42 | 110 | 16 | 49 | 200 | 19 | 2-M32x1.5 | 2-PG36 | 790 | 350 | 300 | 400 | 19 | 5.0 |

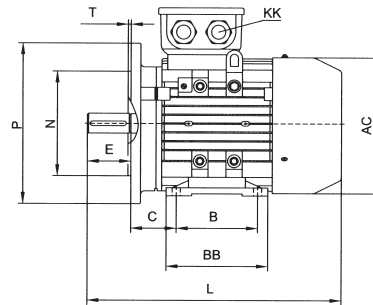
Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Mounting and Overall Dimensions

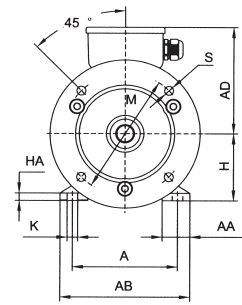
IM B35 Foot and flange mounted frame size 56 to 200



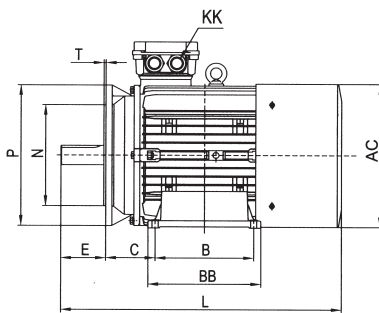
56-90



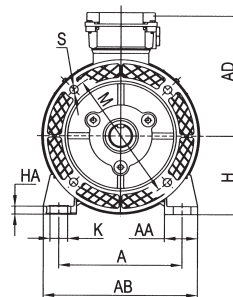
100-160



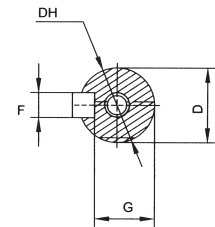
56-160



180-200



180-200

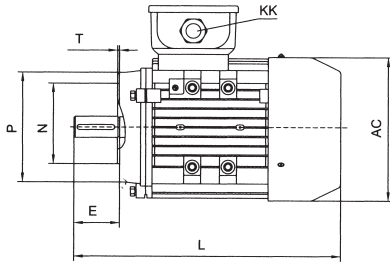


| Frame Size | Mounting Dimensions | | | | | | | | | | | | | | | | Overall Dimensions | | | | | | | |
|------------|---------------------|-----|-----|-----|----|-----|-----|-----|-----|----|--------|-----|----|------|-----|------|--------------------|--------|-----|-----|-----|-----|----|-----|
| | A | AA | AB | BB | HA | AC | AD | B | C | D | DH | E | F | G | H | K | KK | | L | M | N | P | S | T |
| | | | | | | | | | | | | | | | | | Metric | PG | | | | | | |
| 56 | 90 | 23 | 115 | 88 | 7 | 110 | 100 | 71 | 36 | 9 | M4X12 | 20 | 3 | 7.2 | 56 | 5.8 | 1-M20X1.5 | 1-PG11 | 199 | 100 | 80 | 120 | 7 | 3.0 |
| 63 | 100 | 24 | 135 | 100 | 7 | 130 | 111 | 80 | 40 | 11 | M4X12 | 23 | 4 | 8.5 | 63 | 7.0 | 1-M20X1.5 | 1-PG11 | 217 | 115 | 95 | 140 | 10 | 3.0 |
| 71 | 112 | 26 | 150 | 110 | 8 | 145 | 118 | 90 | 45 | 14 | M5X12 | 30 | 5 | 11 | 71 | 7.0 | 1-M20X1.5 | 1-PG11 | 245 | 130 | 110 | 160 | 12 | 3.5 |
| 80 | 125 | 35 | 165 | 125 | 9 | 175 | 134 | 100 | 50 | 19 | M6X16 | 40 | 6 | 15.5 | 80 | 10.0 | 1-M25X1.5 | 1-PG16 | 287 | 165 | 130 | 200 | 12 | 3.5 |
| 90S | 140 | 37 | 180 | 125 | 10 | 195 | 140 | 100 | 56 | 24 | M8X19 | 50 | 8 | 20.0 | 90 | 10.0 | 1-M25X1.5 | 1-PG16 | 315 | 165 | 130 | 200 | 12 | 3.5 |
| 90L | 140 | 37 | 180 | 150 | 10 | 195 | 140 | 125 | 56 | 24 | M8X19 | 50 | 8 | 20.0 | 90 | 10.0 | 1-M25X1.5 | 1-PG16 | 340 | 165 | 130 | 200 | 12 | 3.5 |
| 100L | 160 | 40 | 205 | 172 | 11 | 215 | 160 | 140 | 63 | 28 | M10X22 | 60 | 8 | 24.0 | 100 | 12.0 | 1-M32X1.5 | 1-PG21 | 385 | 215 | 180 | 250 | 15 | 4.0 |
| 112M | 190 | 41 | 230 | 181 | 12 | 240 | 178 | 140 | 70 | 28 | M10X22 | 60 | 8 | 24.0 | 112 | 12.0 | 2-M32X1.5 | 2-PG21 | 400 | 215 | 180 | 250 | 15 | 4.0 |
| 132S | 216 | 51 | 270 | 186 | 15 | 275 | 206 | 140 | 89 | 38 | M12X28 | 80 | 10 | 33.0 | 132 | 12.0 | 2-M32X1.5 | 2-PG21 | 483 | 265 | 230 | 300 | 15 | 4.0 |
| 132M | 216 | 51 | 270 | 224 | 15 | 275 | 206 | 178 | 89 | 38 | M12X28 | 80 | 10 | 33.0 | 132 | 12.0 | 2-M32X1.5 | 2-PG21 | 510 | 265 | 230 | 300 | 15 | 4.0 |
| 160M | 254 | 55 | 320 | 260 | 18 | 330 | 255 | 210 | 108 | 42 | M16X36 | 110 | 12 | 37.0 | 160 | 15.0 | 2-M40X1.5 | 2-PG29 | 615 | 300 | 250 | 350 | 19 | 5.0 |
| 160L | 254 | 55 | 320 | 304 | 18 | 330 | 255 | 254 | 108 | 42 | M16X36 | 110 | 12 | 37.0 | 160 | 16.0 | 2-M40X1.5 | 2-PG29 | 670 | 300 | 250 | 350 | 19 | 5.0 |
| 180M | 279 | 75 | 350 | 315 | 18 | 355 | 272 | 241 | 121 | 48 | M16X36 | 110 | 14 | 42.5 | 180 | 15 | 2-M32x1.5 | 2-PG29 | 765 | 300 | 250 | 350 | 19 | 5.0 |
| 180L | 279 | 75 | 350 | 315 | 18 | 355 | 272 | 279 | 121 | 48 | M16X36 | 110 | 14 | 42.5 | 180 | 15 | 2-M32x1.5 | 2-PG29 | 765 | 300 | 250 | 350 | 19 | 5.0 |
| 200L | 318 | 100 | 398 | 355 | 24 | 355 | 272 | 305 | 133 | 55 | M20X42 | 110 | 16 | 49 | 200 | 19 | 2-M32X1.5 | 2-PG36 | 790 | 350 | 300 | 400 | 19 | 5.0 |

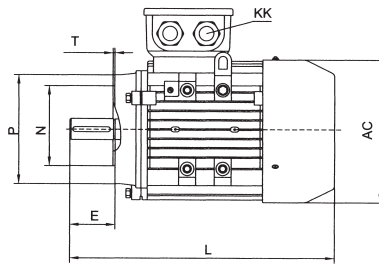
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Mounting and Overall Dimensions

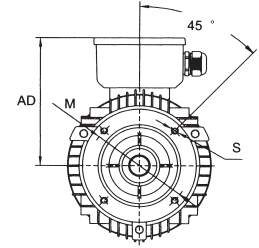
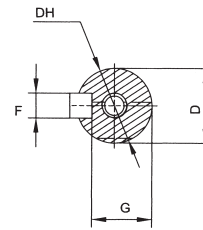
IM B14A Reduced flange mounted frame size 56 to 160



56-90



100-160

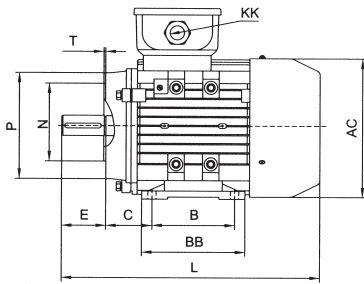


56-160

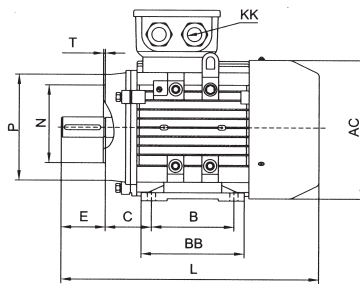
| Frame Size | Mounting Dimensions | | | | | | | | | Overall Dimensions | | | | | |
|------------|---------------------|-----|----|--------|-----|----|------|-----------|--------|--------------------|-----|-----|-----|-----|-----|
| | AC | AD | D | DH | E | F | G | KK | | L | M | N | P | S | T |
| | | | | | | | | Metric | PG | | | | | | |
| 56 | 110 | 100 | 9 | M4x12 | 20 | 3 | 7.2 | 1-M20x1.5 | 1-PG11 | 199 | 65 | 50 | 80 | M5 | 2.5 |
| 63 | 130 | 111 | 11 | M4x12 | 23 | 4 | 8.5 | 1-M20x1.5 | 1-PG11 | 217 | 75 | 60 | 90 | M5 | 2.5 |
| 71 | 145 | 118 | 14 | M5x12 | 30 | 5 | 11.0 | 1-M20x1.5 | 1-PG11 | 245 | 85 | 70 | 105 | M6 | 2.5 |
| 80 | 175 | 134 | 19 | M6x16 | 40 | 6 | 15.5 | 1-M25x1.5 | 1-PG16 | 297 | 100 | 80 | 120 | M6 | 3.0 |
| 90S | 195 | 140 | 24 | M8x19 | 50 | 8 | 20.0 | 1-M25x1.5 | 1-PG16 | 315 | 115 | 95 | 140 | M8 | 3.0 |
| 90L | 195 | 140 | 24 | M8x19 | 50 | 8 | 20.0 | 1-M25x1.5 | 1-PG16 | 340 | 115 | 95 | 140 | M8 | 3.0 |
| 100L | 215 | 160 | 28 | M10x22 | 60 | 8 | 24.0 | 1-M32x1.5 | 1-PG21 | 385 | 130 | 110 | 160 | M8 | 3.5 |
| 112M | 240 | 178 | 28 | M10x22 | 60 | 8 | 24.0 | 2-M32x1.5 | 2-PG21 | 400 | 130 | 110 | 160 | M8 | 3.5 |
| 132S | 275 | 206 | 38 | M12x28 | 80 | 10 | 33.0 | 2-M32x1.5 | 2-PG21 | 483 | 165 | 130 | 200 | M10 | 3.5 |
| 132M | 275 | 206 | 38 | M12x28 | 80 | 10 | 33.0 | 2-M32x1.5 | 2-PG21 | 510 | 165 | 130 | 200 | M10 | 3.5 |
| 160M | 330 | 255 | 42 | M16x36 | 110 | 12 | 37.0 | 2-M40x1.5 | 2-PG29 | 615 | 215 | 180 | 250 | M12 | 4.0 |
| 160L | 330 | 255 | 42 | M16x36 | 110 | 12 | 37.0 | 2-M40x1.5 | 2-PG29 | 670 | 215 | 180 | 250 | M12 | 4.0 |

Mounting and Overall Dimensions

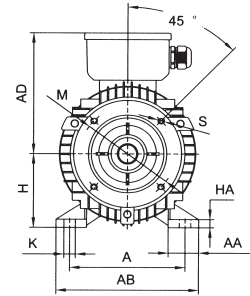
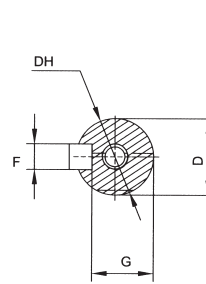
IM B3 B14A Reduced flange and foot mounted frame size 56 to 160



56-90



90-160



56-160

| Frame Size | Mounting Dimensions | | | | | | | | | Overall Dimensions | | | | | |
|------------|---------------------|-----|----|--------|-----|----|------|-----------|--------|--------------------|-----|-----|-----|-----|-----|
| | AC | AD | D | DH | E | F | G | KK | | L | M | N | P | S | T |
| | | | | | | | | Metric | PG | | | | | | |
| 56 | 110 | 100 | 9 | M4x12 | 20 | 3 | 7.2 | 1-M20x1.5 | 1-PG11 | 199 | 65 | 50 | 80 | M5 | 2.5 |
| 63 | 130 | 111 | 11 | M4x12 | 23 | 4 | 8.5 | 1-M20x1.5 | 1-PG11 | 217 | 75 | 60 | 90 | M5 | 2.5 |
| 71 | 145 | 118 | 14 | M5x12 | 30 | 5 | 11.0 | 1-M20x1.5 | 1-PG11 | 245 | 85 | 70 | 105 | M6 | 2.5 |
| 80 | 175 | 134 | 19 | M6x16 | 40 | 6 | 15.5 | 1-M25x1.5 | 1-PG16 | 297 | 100 | 80 | 120 | M6 | 3.0 |
| 90S | 195 | 140 | 24 | M8x19 | 50 | 8 | 20.0 | 1-M25x1.5 | 1-PG16 | 315 | 115 | 95 | 140 | M8 | 3.0 |
| 90L | 195 | 140 | 24 | M8x19 | 50 | 8 | 20.0 | 1-M25x1.5 | 1-PG16 | 340 | 115 | 95 | 140 | M8 | 3.0 |
| 100L | 215 | 160 | 28 | M10x22 | 60 | 8 | 24.0 | 1-M32x1.5 | 1-PG21 | 385 | 130 | 110 | 160 | M8 | 3.5 |
| 112M | 240 | 178 | 28 | M10x22 | 60 | 8 | 24.0 | 2-M32x1.5 | 2-PG21 | 400 | 130 | 110 | 160 | M8 | 3.5 |
| 132S | 275 | 206 | 38 | M12x28 | 80 | 10 | 33.0 | 2-M32x1.5 | 2-PG21 | 483 | 165 | 130 | 200 | M10 | 3.5 |
| 132M | 275 | 206 | 38 | M12x28 | 80 | 10 | 33.0 | 2-M32x1.5 | 2-PG21 | 510 | 165 | 130 | 200 | M10 | 3.5 |
| 160M | 330 | 255 | 42 | M16x36 | 110 | 12 | 37.0 | 2-M40x1.5 | 2-PG29 | 615 | 215 | 180 | 250 | M12 | 4.0 |
| 160L | 330 | 255 | 42 | M16x36 | 110 | 12 | 37.0 | 2-M40x1.5 | 2-PG29 | 670 | 215 | 180 | 250 | M12 | 4.0 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Single Phase General Information

CHALLENGE series single phase AC electric motors, Are totally enclosed fan cooled (**IC-411**) squirrel caged type, With **IP55** enclosure protection, Class **F** insulation and **S1** continuous Duty/ Rating.

The motors are manufactured from high grade die cast aluminium alloy with a terminal box constructed of engineering grade plastic and come with multi-mount detachable feet as standard, which allows for various mounting positions to be achieved.

The temperature ratings are -15° C to +40° degrees C to a maximum altitude of 1000 metres above sea level.

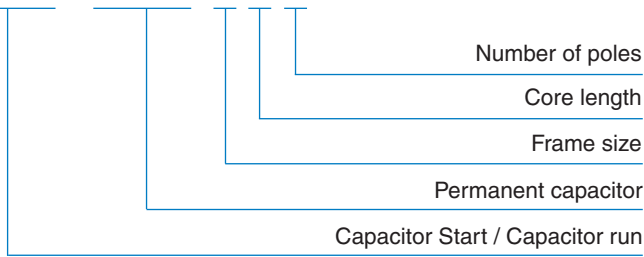
CHALLENGE motors have voltage ratings of:
110v / 220v / 230v / 240v.

They have a rated frequency of 50Hz and 60Hz.

Designation

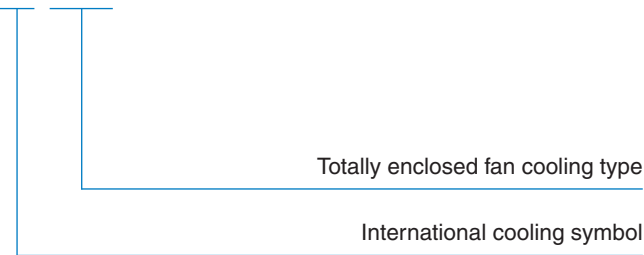
Motor Identification Symbol

CMLL CMLY 801-2



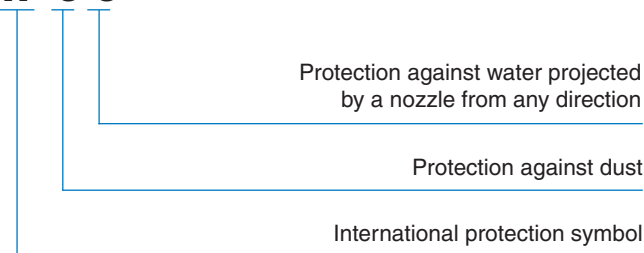
Cooling Method

IC-411



Protection Class

IP-5-5



Standards and Regulations




CE Marking

Our single phase induction motors comply with the requirements of the following international standard:

IEC 60034

Together with the Low Voltage Directive 73/23 (1973), modified by the Directive 93/68 (1993) and the EMC-Directive 89/336.

They comply with the requirements of the EC Directive Machines 89/392. In accordance with this Directive induction motors are components intended solely for integration into other machines. Commissioning is forbidden until conformity of the end product with this Directive is proved!

The  symbol was applied for the first time in 1995.

Technical Data Single Phase

CMLY Single phase motors with permanent capacitors

| Type | Output | | Current (A) | Speed rev/min | Efficiency n% 100% | Power Factor Cos 10% | Ts Tn | Tmax Tn | Is In | Capacity (UF) | Moment (J) kgm ² | Weight kg |
|-------------|--------|------|-------------|---------------|--------------------|----------------------|-------|---------|-------|---------------|-----------------------------|-----------|
| | kW | hp | | | | | | | | | | |
| CMLY561-2 | 0.09 | 0.12 | 0.7 | 2720 | 55 | 0.90 | 0.60 | 1.7 | 3.6 | 10 | 0.00010 | 3.4 |
| CMLY562-2 | 0.12 | 0.18 | 1.0 | 2720 | 55 | 0.90 | 0.60 | 1.7 | 3.6 | 14 | 0.00012 | 3.7 |
| CMLY631-2 | 0.18 | 0.25 | 1.47 | 2760 | 60 | 0.92 | 0.66 | 1.7 | 3.7 | 10 | 0.000150 | 4.1 |
| CMLY632-2 | 0.25 | 0.37 | 1.91 | 2760 | 60 | 0.92 | 0.66 | 1.7 | 3.7 | 10 | 0.000163 | 4.5 |
| CMLY711-2 | 0.37 | 0.5 | 3.12 | 2800 | 65 | 0.92 | 0.71 | 1.7 | 3.7 | 16 | 0.000350 | 6.4 |
| CMLY712-2 | 0.55 | 0.75 | 3.63 | 2800 | 65 | 0.92 | 0.74 | 1.7 | 3.9 | 20 | 0.000460 | 6.6 |
| CMLY801-2 | 0.75 | 1 | 5.50 | 2810 | 67 | 0.92 | 0.75 | 1.7 | 3.9 | 25 | 0.000970 | 8.3 |
| CMLY802-2 | 1.1 | 1.5 | 7.52 | 2820 | 67 | 0.95 | 0.77 | 1.7 | 4.3 | 30 | 0.001090 | 9.1 |
| CMLY90S-2 | 1.5 | 2 | 10.75 | 2840 | 72 | 0.95 | 0.78 | 1.7 | 4.8 | 40 | 0.002690 | 13.5 |
| CMLY90L-2 | 2.2 | 3 | 13.10 | 2840 | 73 | 0.95 | 0.80 | 1.7 | 4.8 | 50 | 0.003080 | 15.6 |
| CMLY100L-2 | 3 | 4 | 16.8 | 2800 | 79 | 0.99 | 0.80 | 1.9 | 4.8 | 60 | 0.01260 | 20.0 |
| CMLY561-4 | 0.06 | 0.08 | 0.65 | 1360 | 55 | 0.90 | 0.61 | 1.7 | 3.1 | 5 | 0.00030 | 3.4 |
| CMLY562-4 | 0.09 | 0.12 | 0.85 | 1360 | 55 | 0.90 | 0.61 | 1.7 | 3.1 | 6.3 | 0.00040 | 3.6 |
| CMLY63M | 0.12 | 0.18 | 1.40 | 1340 | 60 | 0.9 | 0.68 | 1.7 | 3.2 | 8 | 0.000170 | 4.1 |
| CMLY632-4 | 0.18 | 0.25 | 1.52 | 1340 | 60 | 0.9 | 0.68 | 1.7 | 3.3 | 10 | 0.000230 | 4.6 |
| CMLY711-4 | 0.25 | 0.37 | 2.2 | 1370 | 62 | 0.92 | 0.73 | 1.7 | 3.4 | 12.5 | 0.000400 | 6.3 |
| CMLY712-4 | 0.37 | 0.5 | 2.80 | 1370 | 62 | 0.92 | 0.75 | 1.7 | 3.4 | 12.5 | 0.000570 | 7.3 |
| CMLY801-4 | 0.55 | 0.75 | 4.51 | 1400 | 63 | 0.92 | 0.78 | 1.7 | 3.5 | 20 | 0.001400 | 9.8 |
| CMLY802-4 | 0.75 | 1 | 5.2 | 1400 | 65 | 0.92 | 0.78 | 1.7 | 3.7 | 25 | 0.001600 | 10.5 |
| CMLY90S-4 | 1.1 | 1.5 | 8.85 | 1410 | 70 | 0.95 | 0.80 | 1.7 | 4 | 30 | 0.002830 | 13.6 |
| CMLY90L-4 | 1.5 | 2 | 9.51 | 1410 | 71 | 0.95 | 0.80 | 1.7 | 4.6 | 40 | 0.003590 | 16.8 |
| CMLY100L1-4 | 2.2 | 3 | 14.0 | 1420 | 79 | 0.85 | 0.82 | 1.9 | 4.8 | 50 | 0.00540 | 20.0 |
| CMLY100L2-4 | 3 | 4 | 16.7 | 1420 | 79 | 0.98 | 0.83 | 1.9 | 4.8 | 60 | 0.00670 | 21.5 |

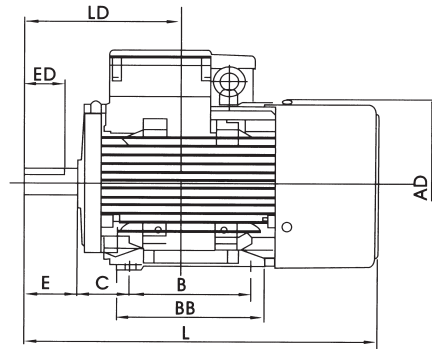
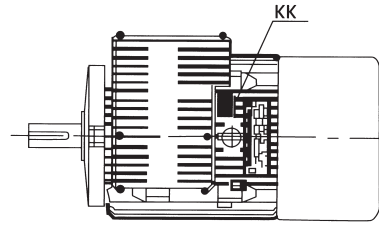
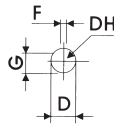
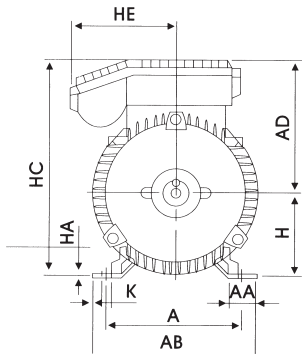
CMLL Single phase motors with capacitor start - capacitor run

| Type | Output | | Current (A) | Speed rev/min | Efficiency n% 100% | Power Factor Cos 10% | Ts Tn | Tmax Tn | Is In | Moment (J) kgm ² | Weight kg |
|-------------|--------|------|-------------|---------------|--------------------|----------------------|-------|---------|-------|-----------------------------|-----------|
| | kW | hp | | | | | | | | | |
| CMLL711-2 | 0.37 | 0.50 | 2.73 | 2760 | 69 | 0.92 | 1.8 | 1.8 | 5.8 | 0.000610 | 6.5 |
| CMLL712-2 | 0.55 | 0.75 | 3.88 | 2780 | 72 | 0.92 | 1.8 | 1.8 | 5.4 | 0.000720 | 7.2 |
| CMLL801-2 | 0.75 | 1 | 5.15 | 2800 | 75 | 0.92 | 1.8 | 1.7 | 5.7 | 0.000970 | 8.5 |
| CMLL802-2 | 1.1 | 1.5 | 7.02 | 2800 | 78 | 0.95 | 1.8 | 1.7 | 5.6 | 0.001100 | 9.5 |
| CMLL90S-2 | 1.5 | 2 | 9.40 | 2800 | 78 | 0.95 | 1.7 | 1.7 | 6.0 | 0.002960 | 13.2 |
| CMLL90L-2 | 2.2 | 3 | 13.70 | 2800 | 82 | 0.95 | 1.7 | 1.7 | 6.2 | 0.003240 | 14.5 |
| CMLL100L1-2 | 3.0 | 4 | 18.40 | 2820 | 83 | 0.95 | 1.7 | 1.7 | 6.4 | 0.003930 | 21.0 |
| CMLL711-4 | 0.25 | 0.37 | 1.99 | 1360 | 65 | 0.92 | 1.8 | 1.8 | 6.0 | 0.000910 | 6.7 |
| CMLL712-4 | 0.37 | 0.55 | 2.81 | 1370 | 67 | 0.92 | 1.8 | 1.8 | 5.7 | 0.000100 | 7.4 |
| CMLL801-4 | 0.55 | 0.75 | 4.00 | 1400 | 70 | 0.92 | 1.8 | 1.7 | 5.4 | 0.001700 | 8.8 |
| CMLL802-4 | 0.75 | 1.0 | 5.30 | 1400 | 71 | 0.92 | 1.8 | 1.7 | 5.5 | 0.001960 | 10.0 |
| CMLL90S-4 | 1.1 | 1.5 | 7.20 | 1400 | 76 | 0.95 | 1.7 | 1.7 | 5.7 | 0.003050 | 13.5 |
| CMLL90L-4 | 1.5 | 2 | 9.57 | 1400 | 78 | 0.95 | 1.7 | 1.7 | 6.0 | 0.003890 | 16.6 |
| CMLL100L1-4 | 2.2 | 3 | 13.85 | 1410 | 80 | 0.95 | 1.7 | 1.7 | 6.1 | 0.005100 | 24.0 |
| CMLL100L1-4 | 3 | 4 | 18.17 | 1420 | 83 | 0.95 | 1.7 | 1.7 | 6.4 | 0.006300 | 28.2 |

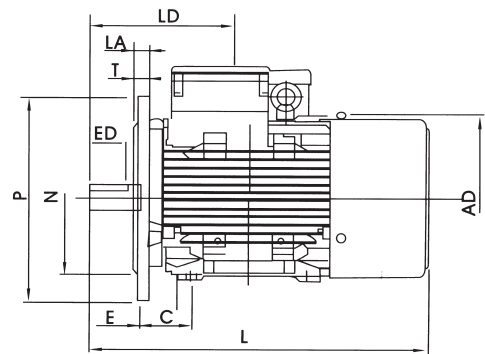
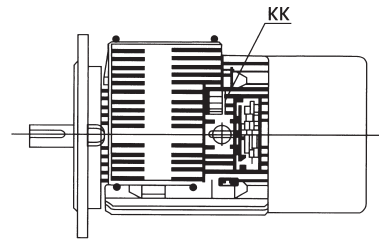
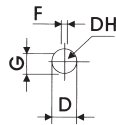
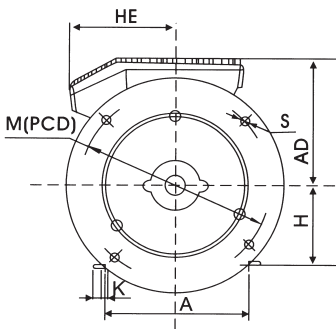
Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Mounting and Overall Dimensions

IM B3 frame size 56 to 100



IM B5/V1 frame size 56 to 100



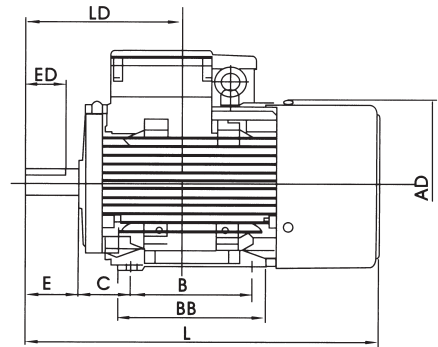
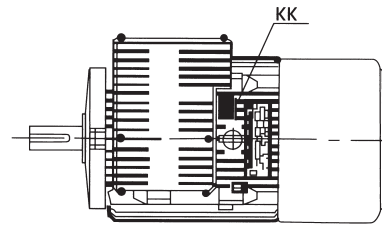
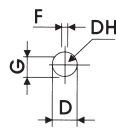
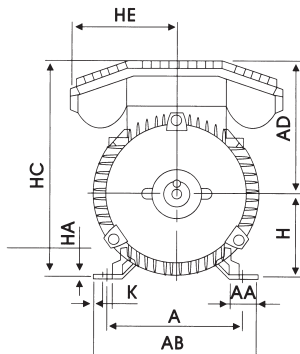
CMLY Single phase motors with permanent capacitors

| Frame | A | AA | AB | AC | AD | B | BB | C | D | DH | E | F | G | H | K | KK | L | M | N | P | S | T |
|----------|-----|----|-----|-----|-----|-----|-----|----|----|----------|----|---|------|-----|----|-------------|-----|-----|-----|-----|----|-----|
| 56 63 | 100 | 24 | 135 | 130 | 115 | 80 | 115 | 40 | 11 | M4 X 12 | 23 | 4 | 8.5 | 63 | 7 | 1-M20 X 1.5 | 217 | 115 | 95 | 140 | 10 | 3.0 |
| 71 | 112 | 26 | 150 | 145 | 120 | 90 | 125 | 45 | 14 | M5 X 12 | 30 | 5 | 11.0 | 71 | 7 | 1-M20 X 1.5 | 245 | 130 | 130 | 160 | 10 | 3.5 |
| 80 | 125 | 35 | 165 | 175 | 145 | 100 | 135 | 50 | 19 | M6 X 16 | 40 | 6 | 15.5 | 80 | 10 | 1-M25 X 1.5 | 300 | 165 | 165 | 200 | 12 | 3.5 |
| 90S | 140 | 37 | 180 | 195 | 155 | 100 | 140 | 56 | 24 | M8 X 19 | 50 | 8 | 20.0 | 90 | 10 | 1-M25 X 1.5 | 320 | 165 | 165 | 200 | 12 | 3.5 |
| 90L | 140 | 37 | 180 | 195 | 155 | 125 | 165 | 56 | 24 | M8 X 19 | 50 | 8 | 20.0 | 90 | 10 | 1-M25 X 1.5 | 350 | 165 | 165 | 200 | 12 | 3.5 |
| 100L | 160 | 40 | 205 | 215 | 180 | 140 | 185 | 63 | 28 | M10 X 22 | 60 | 8 | 24.0 | 100 | 12 | 1-M25 X 1.5 | 385 | 215 | 215 | 250 | 15 | 4.0 |

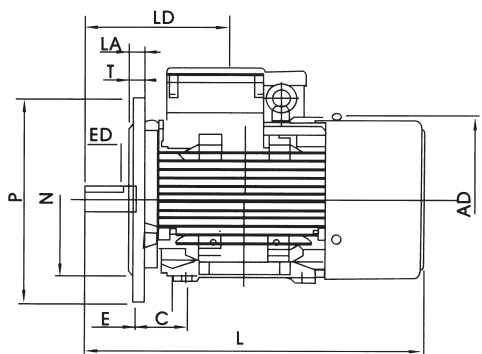
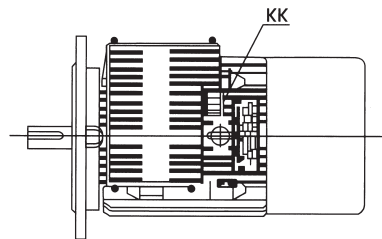
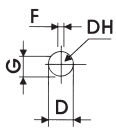
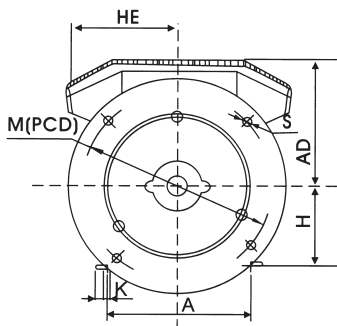
Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Mounting and Overall Dimensions

IM B3 frame size 71 to 100



IM B5/V1 frame size 71 to 100



CMLL Single phase motors with capacitor start - capacitor run

| Frame | A | AA | AB | AC | AD | B | BB | C | D | DH | E | F | G | H | K | KK | L | M | N | P | S | T |
|-------|-----|----|-----|-----|-----|-----|-----|----|----|----------|----|---|------|-----|----|-------------|-----|-----|-----|-----|----|-----|
| 71 | 112 | 26 | 150 | 145 | 120 | 90 | 125 | 45 | 14 | M5 X 12 | 30 | 5 | 11.0 | 71 | 7 | 1-M20 X 1.5 | 245 | 130 | 110 | 160 | 10 | 3.5 |
| 80 | 125 | 35 | 165 | 175 | 145 | 100 | 135 | 50 | 19 | M6 X 16 | 40 | 6 | 15.5 | 80 | 10 | 1-M25 X 1.5 | 300 | 165 | 130 | 200 | 12 | 3.5 |
| 90S | 140 | 37 | 180 | 195 | 155 | 100 | 140 | 56 | 24 | M8 X 19 | 50 | 8 | 20.0 | 90 | 10 | 1-M25 X 1.5 | 320 | 165 | 130 | 200 | 12 | 3.5 |
| 90L | 140 | 37 | 180 | 195 | 155 | 125 | 165 | 56 | 24 | M8 X 19 | 50 | 8 | 20.0 | 90 | 10 | 1-M25 X 1.5 | 350 | 165 | 130 | 200 | 12 | 3.5 |
| 100 | 160 | 40 | 205 | 215 | 180 | 140 | 185 | 63 | 28 | M10 X 22 | 60 | 8 | 24.0 | 100 | 12 | 1-M25 X 1.5 | 385 | 215 | 180 | 250 | 15 | 4.0 |

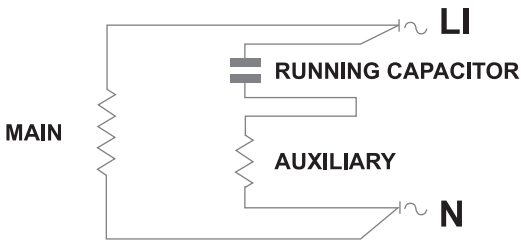
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Single Phase Connections

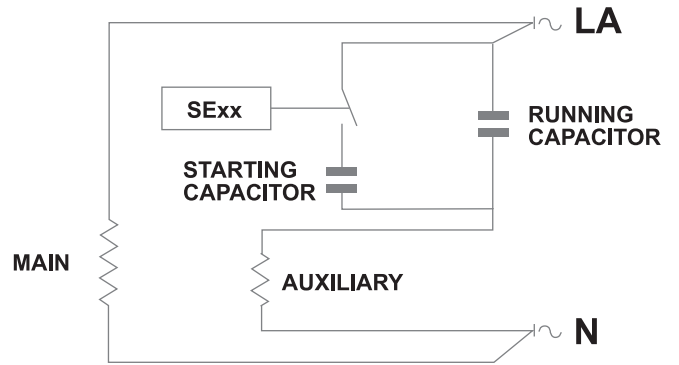
Connection

A motor's rated voltage must agree with the power supply line-to-line voltage. Care must therefore be taken to ensure the correct connection to the motor terminals.

CMLY Series



CMLL Series

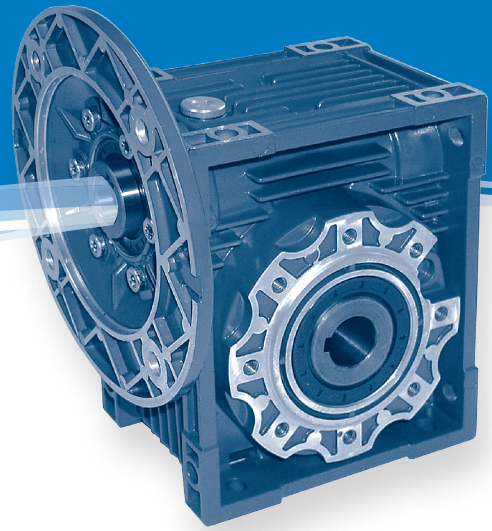


SExx: electronic device for connection of starting capacitor

 **CHALLENGE**  [®]



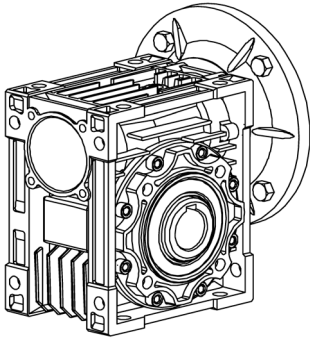
Worm Gear Units



Features

- A versatile range of modular aluminium bodied Worm Gear Drives with a large range of mounting positions
- Meet industry standard for sizes and performance
- Offered with hollow shafts, output shafts, motors, double reduction units, shaft mounting, torque arms
- Combinations of worm and helical gears offer great flexibility and very large speed reductions upto 5000 : 1
- Gears are manufactured from case hardened tempered steel (20MnCr5) and are accurately ground on the involute

Versions



CMRV 025-150

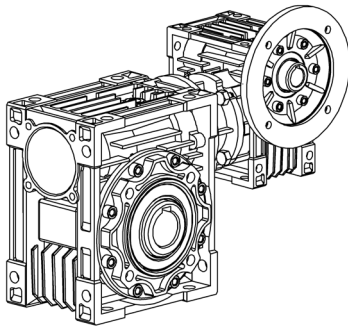
The service factor (f.s.) depends on the operating conditions the reduction unit is subjected to.
The parameters that need to be taken into consideration to select the most adequate service factor correctly comprise:

- Type of load of the operated machine : A - B - C
- Length of daily operating time: hours/day (Δ)
- Start-up frequency: starts/hour (*)

| | | |
|---------------|---------------------|---------------|
| TYPE OF LOAD: | A - uniform | $fa \leq 0.3$ |
| | B - moderate shocks | $fa \leq 3$ |
| | C - heavy shocks | $fa \leq 10$ |

fa = Je/Jm

- Je (kgm²) moment of reduced external inertia at the drive-shaft
- Jm (kgm²) moment of inertia of motor If $fa > 10$ call our Technical Service.

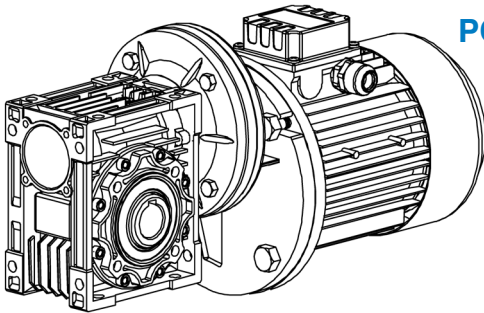


CMRV-CMRV...

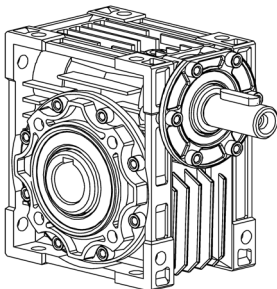
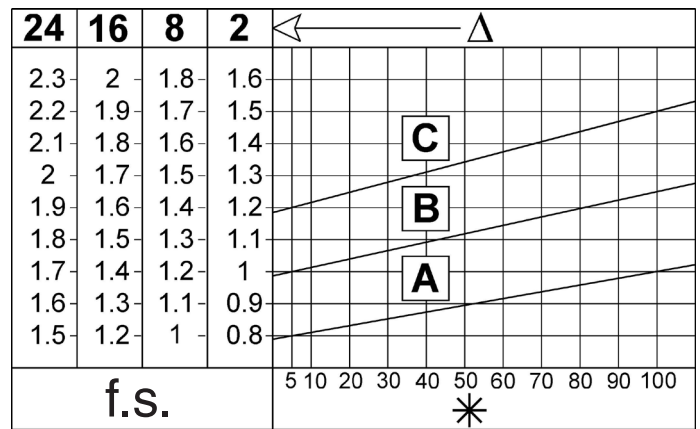
A - Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

B - Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

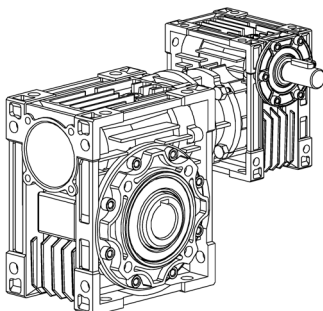
C - Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.



PC-CMRV...

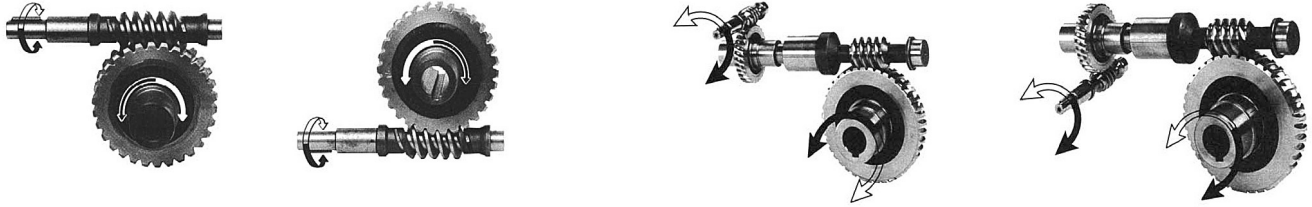


CRV 030-150



CRV-CMRV...

Direction of Rotation



The helix is right-handed

Critical Applications

The performance given in the catalogue correspond to mounting position B3 or similar, ie. when the first stage is not entirely immersed in oil. For other mounting positions and/or particular input speeds, refer to the Tables that highlight different critical situations for each size of reduction unit.

It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service:

- As a speed increasing.
- Use in services that could be hazardous for people if the reduction unit fails.
- Applications with especially high inertia.
- Use as a lifting winch.
- Applications with high dynamic strain on the case of the reduction unit.
- In places with T° under -5°C or over 40°C.
- Use in chemically aggressive environments.

- Use in a salty environment.
- Mounting positions not envisaged in the catalogue.
- Use in radioactive environments.
- Use in environments pressures other than atmospheric pressure.

Avoid applications where even partial immersion of the reduction unit is required.

The maximum torque (*) that the gear reducer can support must not exceed two times the nominal torque (f.s.=1) stated in the performance tables.

(*) intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

| CRMV | 025 | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 | 150 |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| V5: 1500 < n1 < 3000 | - | - | - | - | - | B | B | B | B | B |
| n1 > 3000 | B | B | B | B | B | A | A | A | A | A |
| V6 | B | B | B | B | B | B | B | B | B | B |

A = Application not recommended

B = Check the application or call technical department

Installation and Lubrication

When installing the reduction unit it is necessary to note the following recommendations:

- The mounting on the machine must be stable to avoid any vibration.
- Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
- In the case of particularly lengthy periods of storage (4/6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
- Whenever possible, protect the reduction unit against solar radiation and bad weather.
- Ensure the motor cools correctly by assuring good passage of air from the fan side.
- In the case of ambient temperatures < -5°C or > +40°C call the Technical Service.
- The various parts (pulleys, gear wheels, couplings, shafts, etc.) must be mounted on the solid or hollow shafts using special threaded holes or other systems that anyhow ensure correct operation without risking damage to the bearings or external parts of the units. Lubricate the surfaces in contact to avoid seizure or oxidation.
- Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
- For units equipped with oil plugs, replace the closed plug used for shipping with the special breather plug.

- Check the correct level of the lubricant through the indicator, if there is one.
- Starting must take place gradually, without immediately applying the maximum load.
- When there are parts, objects or materials under the motor drive that can be damaged by even limited spillage of oil, special protection should be fitted.
- The reduction units size 025-030-040-050-063-075-090 are supplied complete with synthetic oil (lubricated for life) and can therefore be mounted in any position envisaged in the catalogue. The only exceptions are CMRV090- and CRV075-090- in position. V5/V6 for which you should call our Technical Service to assess the conditions of use.
- The reduction units size 110, 130 and 150 are supplied complete with lubricant, mineral oil.
- For sizes 110, 130 and 150 it is necessary to specify the position, otherwise the reduction units are supplied with the quantity of oil relating to position B3, (breather supplied).
- Only reduction units 110, 130 and 150 are fitted with breather, level and oil drainage plugs. It is necessary, after installation, to replace the closed plug used for transportation with the breather plug supplied with the unit.
- The pre-stage helical modules are supplied complete with life-long lubricant, synthetic oil and can therefore be mounted in all the positions. Lubrication is separated from that of the worm reduction unit.

Lubrication

In cases of ambient temperatures not envisaged in the table, call our Technical Service.

In the case of temperatures under -30°C or over 60°C it is necessary to use oil seals with special properties.

For operating ranges with temperatures under 0°C it is necessary to consider the following:

- 1- The motors need to be suitable for operation at the envisaged ambient temperature.

- 2- The power of the electric motor needs to be adequate for exceeding the higher starting torques required.
- 3- In the case of reduction units with a cast-iron case, pay attention to impact loads since cast iron may have problems of fragility at temperatures under -15°C.
- 4- During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.

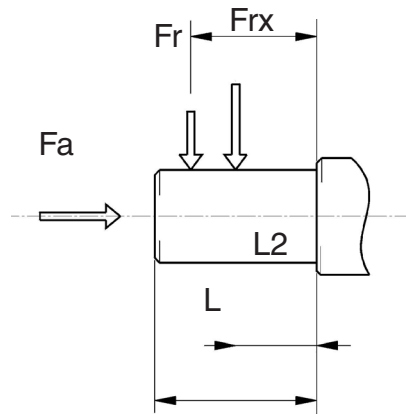
The oil needs to be changed after approximately 10,000 hours. This period depends on the type of service and the environment where the reduction unit is working.

| | T°C - ISO... | AGIP | SHELL | ESSO | MOBIL | CASTROL | BP |
|---|----------------------------|------------------|--------------------|------------------|------------------|------------------|---------------------|
| CMRV025-090 PC063-090 (synthetic oil) | (-25) - (+50) ISO VG320 | Telium VSF320 | Tivela oil S320 | S220 | Glygoyle 30 | Alphasyn PG32 | Energol SG-XP320 |
| CMRV110-150 (mineral oil) | (-5) - (+40) ISO VG460 | Blasia 460 | Omala oil 460 | Spartan EP460 | Mobilgear 634 | Alphamax 460 | Energol GR-XP460 |
| | (-15) - (+25) ISO VG220 | Blasia 220 | Omala oil 220 | Spartan EP220 | Mobilgear 630 | Alphamax 220 | Energol GR-XP220 |

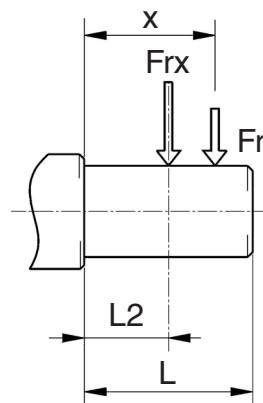
| CMRV | 025 | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 | 150 | PC | 063 | 071 | 080 | 090 |
|-------|------|------|------|------|-----|------|-----|-----|-----|-----|----|------|------|------|------|
| B3 | | | | | | | | 3 | 4.5 | 7 | | | | | |
| B8 | | | | | | | | 2.2 | 3.3 | 5.1 | | | | | |
| B6-B7 | 0.02 | 0.04 | 0.08 | 0.15 | 0.3 | 0.55 | 1 | 2.5 | 3.5 | 5.4 | | 0.05 | 0.07 | 0.15 | 0.16 |
| V5 | | | | | | | | 3 | 4.5 | 7 | | | | | |
| V6 | | | | | | | | 2.2 | 3.3 | 5.1 | | | | | |

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Radial Loads



| CRMV | 025 | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 | 150 |
|---------|------|------|------|------|------|------|------|-------|-------|-------|
| a | 50 | 65 | 84 | 101 | 120 | 131 | 162 | 176 | 188 | 215 |
| b | 38 | 50 | 64 | 76 | 95 | 101 | 122 | 136 | 148 | 174 |
| Fr2 max | 1350 | 1830 | 3490 | 4840 | 6270 | 7380 | 8180 | 12000 | 13500 | 18000 |



| CRMV | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 | 150 |
|---------|-----|------|-----|-----|-----|------|------|------|------|
| a | 86 | 106 | 129 | 159 | 192 | 227 | 266 | 314 | 350 |
| b | 76 | 94,5 | 114 | 139 | 176 | 202 | 236 | 274 | 310 |
| Fr2 max | 210 | 350 | 490 | 700 | 980 | 1270 | 1700 | 2100 | 2800 |

The radial load on the shaft is calculated with the following formula:

- Fr (N) Resulting radial load
- M (Nm) Torque on the shaft
- D (mm) Diameter of the transmission member mounted on the shaft
- Fr (N) Value of the maximum permitted radial load (see relative tables)

- fz = 1.1 gear pinion
- 1.4 chain wheel
- 1.7 v-pulley
- 2.5 flat pulley

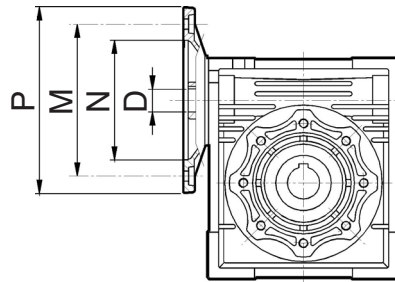
When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:

a , b , x = (see relative tables)

$$Fr_e = \frac{2000 \times M \times fz}{D} \leq Fr_1 \text{ to } Fr_2$$

$$Fr_e \leq \frac{Fr \times a}{(b + x)} \leq Fr_{1max} \text{ to } Fr_{2max}$$

Possible Motor Flanges



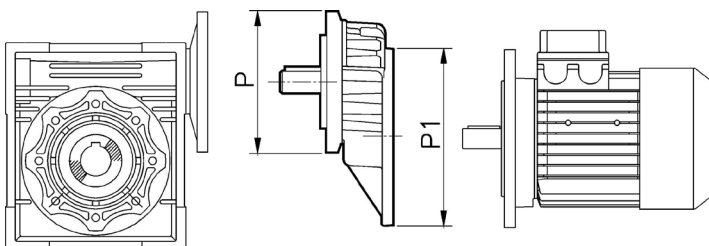
| CMRV | PAM IEC | N | M | P | D | | | | | | | | | | | |
|------|------------|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| | | | | | 5 | 7,5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 |
| 025 | 56B14 | 50 | 65 | 80 | 9 | 9 | 9 | 9 | 9 | - | 9 | 9 | 9 | 9 | - | - |
| | 63B5 | 95 | 115 | 140 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | - | - | - |
| 030 | 63B14 | 60 | 75 | 90 | | | | | | | | | | | | |
| | 56B5 | 80 | 100 | 120 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | - |
| 040 | 56B14 | 50 | 65 | 80 | | | | | | | | | | | | |
| | 71B5 | 110 | 130 | 160 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | - | - | - | - |
| | 71B14 | 70 | 85 | 105 | | | | | | | | | | | | |
| | 63B5 | 95 | 115 | 140 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 050 | 63B14 | 60 | 75 | 90 | | | | | | | | | | | | |
| | 56B5 | 80 | 100 | 120 | - | - | - | - | - | - | - | - | 9 | 9 | 9 | 9 |
| | 80B5 | 130 | 165 | 200 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | - | - | - | - | - |
| | 80B14 | 80 | 100 | 120 | | | | | | | | | | | | |
| 063 | 71B5 | 110 | 130 | 160 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | - |
| | 71B14 | 70 | 85 | 105 | | | | | | | | | | | | |
| | 63B5 | 95 | 115 | 140 | - | - | - | - | - | - | - | 11 | 11 | 11 | 11 | 11 |
| | 90B5 | 130 | 165 | 200 | - | 24 | 24 | 24 | 24 | 24 | 24 | - | - | - | - | - |
| 075 | 90B14 | 95 | 115 | 140 | | | | | | | | | | | | |
| | 80B5 | 130 | 165 | 200 | - | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | - | - |
| | 80B14 | 80 | 100 | 120 | | | | | | | | | | | | |
| | 71B5 | 110 | 130 | 160 | - | - | - | - | - | - | - | - | 14 | 14 | 14 | 14 |
| 090 | 71B14 | 70 | 85 | 105 | | | | | | | | | | | | |
| | 100/112B5 | 180 | 215 | 250 | - | 28 | 28 | 28 | - | - | - | - | - | - | - | - |
| | 100/112B14 | 110 | 130 | 160 | | | | | | | | | | | | |
| | 90B5 | 130 | 165 | 200 | - | 24 | 24 | 24 | 24 | 24 | 24 | 24 | - | - | - | - |
| 110 | 90B14 | 95 | 115 | 140 | | | | | | | | | | | | |
| | 80B5 | 130 | 165 | 200 | - | - | - | - | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| | 80B14 | 80 | 100 | 120 | | | | | | | | | | | | |
| | 71B5 | 110 | 130 | 160 | - | - | - | - | - | - | - | - | 14 | 14 | 14 | 14 |
| 130 | 100/112B5 | 180 | 215 | 250 | - | 28 | 28 | 28 | 28 | 28 | 28 | - | - | - | - | - |
| | 100/112B14 | 110 | 130 | 160 | | | | | | | | | | | | |
| | 90B5 | 130 | 165 | 200 | - | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | - | - |
| | 90B14 | 95 | 115 | 140 | | | | | | | | | | | | |
| 150 | 80B5 | 130 | 165 | 200 | - | - | - | - | - | - | - | 19 | 19 | 19 | 19 | 19 |
| | 80B14 | 80 | 100 | 120 | | | | | | | | | | | | |
| | 132B5 | 230 | 265 | 300 | - | 38* | 38* | 38* | 38* | - | - | - | - | - | - | - |
| | 100/112B5 | 180 | 215 | 250 | - | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | - |
| 130 | 90B5 | 130 | 165 | 200 | - | - | - | - | - | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| | 80B5 | 130 | 165 | 200 | - | - | - | - | - | - | - | - | - | - | 19 | 19 |
| | 132B5 | 230 | 265 | 300 | - | 38* | 38* | 38* | 38* | 38* | 38* | 38* | - | - | - | - |
| | 100/112B5 | 180 | 215 | 250 | - | - | - | - | - | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| 150 | 90B5 | 130 | 165 | 200 | - | - | - | - | - | - | - | - | - | - | 24 | 24 |
| | 160B5 | 250 | 300 | 350 | - | 42 | 42 | 42 | 42 | 42 | - | - | - | - | - | - |
| | 132B5 | 230 | 265 | 300 | - | - | - | - | 38 | 38 | 38 | 38 | 38 | 38 | - | - |
| | 100/112B5 | 180 | 215 | 250 | - | - | - | - | - | - | - | - | 28 | 28 | 28 | 28 |

* Low profile key supplied by Challenge

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

PC & CMRV Combinations

| CMRV | i | PC 063 | | PC 071 | | PC 080 | | | PC 090 | | |
|------|-----|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------|----------------------|----------------------|
| | | 105 / 11 i = 3 | 105 / 14 i = 3 | 120 / 14 i = 3 | 120 / 19 i = 3 | 160 / 19 i = 3 | 160 / 24 i = 3 | 160 / 28 i = 3 | 160 / 19 i = 2,42 | 160 / 24 i = 2,42 | 160 / 28 i = 2,42 |
| 040 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| 050 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| 063 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| 075 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| 090 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| 110 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |
| 130 | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 60 | | | | | | | | | | |
| | 80 | | | | | | | | | | |
| | 100 | | | | | | | | | | |



| | P1 | P | (P) |
|---------------|--------------|----------|---------------------------|
| PC 063 | 63B5-140 /11 | | |
| PC 071 | 71B5-160 /14 | 120 / 14 | (120 / 19) |
| PC 080 | 80B5-200 /19 | 160 / 14 | (160 / 24) (160 / 28) |
| PC 090 | 90B5-200 /24 | 160 / 24 | (160 / 19) (160 / 128) |

(P) Only on request

Efficiency

Efficiency

Efficiency is a parameter which has a major influence on the sizing of certain applications, and basically depends on gear pair design elements.

The mesh data table on page 359 shows dynamic efficiency ($n_1=1400$ rev/min) and static efficiency values.

Note: These values are only achieved after the unit has been run in.

Dynamic Irreversibility

Dynamic irreversibility is achieved when the output shaft stops instantly and the drive is no longer transmitted through the worm shaft. This condition requires a dynamic efficiency of $\eta_d < 0.5$.

Static Irreversibility

Static irreversibility is achieved when, with the gear reducer at a standstill, the application of a load to the output shaft does not set the worm shaft in motion. This condition requires a static efficiency of $\eta_s < 0.5$.

The Table below shows approximate irreversibility classes.

Vibrations and shocks can affect a gear reducer's irreversibility. For the irreversibility conditions of a combined geared unit, one must consider that the efficiency of the group is given by the product of the efficiencies of each single reducer, i.e.: $\eta_{tot} = \eta_1 \times \eta_2$

| η_d | DYNAMIC IRREVERSIBILITY |
|------------|------------------------------|
| > 0.6 | Dynamic reversibility |
| 0.5 to 0.6 | Low dynamic reversibility |
| 0.4 to 0.5 | Good dynamic irreversibility |
| < 0.4 | Dynamic irreversibility |

| η_s | STATIC IRREVERSIBILITY |
|-------------|--------------------------|
| > 0.55 | Static reversibility |
| 0.5 to 0.55 | Low static reversibility |
| < 0.5 | Static irreversibility |

Mesh Data

| RV | i=ratio | 7.5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 |
|-----|----------------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| 05 | Z1 | 4 | 3 | 2 | 2 | | 1 | 1 | 1 | 1 | | |
| | γ | 25°03' | 19°19' | 13°09' | 10°41' | | 6°40' | 5°23' | 4°31' | 3°53' | | |
| | Mx | 1,3 | 1,3 | 1,3 | 0,995 | | 1,3 | 0,995 | 0,8 | 0,67 | | |
| | $\eta_d(1400)$ | 0,85 | 0,83 | 0,79 | 0,75 | | 0,67 | 0,62 | 0,58 | 0,55 | | |
| | η_s | 0,71 | 0,68 | 0,61 | 0,56 | | 0,46 | 0,41 | 0,36 | 0,34 | | |
| 030 | Z1 | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | γ | 18°49' | 14°20' | 9°40' | 7°42' | 5°35' | 4°52' | 3°52' | 3°12' | 2°45' | 2°07' | |
| | Mx | 1,44 | 1,44 | 1,44 | 1,09 | 1,7 | 1,44 | 1,09 | 0,89 | 0,74 | 0,56 | |
| | $\eta_d(1400)$ | 0,85 | 0,82 | 0,77 | 0,73 | 0,68 | 0,65 | 0,59 | 0,55 | 0,51 | 0,44 | |
| | η_s | 0,67 | 0,63 | 0,55 | 0,5 | 0,43 | 0,39 | 0,35 | 0,31 | 0,27 | 0,23 | |
| 040 | Z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | γ | 24°28' | 18°51' | 12°49' | 10°23' | 8°43' | 6°29' | 5°14' | 4°23' | 3°47' | 2°57' | 2°25' |
| | Mx | 2,06 | 2,06 | 2,06 | 1,57 | 1,27 | 2,06 | 1,57 | 1,27 | 1,06 | 0,81 | 0,65 |
| | $\eta_d(1400)$ | 0,87 | 0,85 | 0,82 | 0,78 | 0,75 | 0,7 | 0,65 | 0,62 | 0,58 | 0,52 | 0,47 |
| | η_s | 0,71 | 0,67 | 0,6 | 0,55 | 0,51 | 0,45 | 0,4 | 0,36 | 0,32 | 0,28 | 0,24 |
| 050 | Z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | γ | 23°54' | 18°23' | 12°30' | 10°06' | 8°29' | 6°19' | 5°06' | 4°16' | 3°40' | 2°52' | 2°21' |
| | Mx | 2,56 | 2,56 | 2,56 | 1,95 | 1,58 | 2,56 | 1,95 | 1,58 | 1,32 | 1 | 0,8 |
| | $\eta_d(1400)$ | 0,88 | 0,86 | 0,82 | 0,79 | 0,76 | 0,72 | 0,67 | 0,63 | 0,59 | 0,53 | 0,49 |
| | η_s | 0,7 | 0,66 | 0,59 | 0,55 | 0,51 | 0,44 | 0,39 | 0,35 | 0,32 | 0,27 | 0,23 |
| 063 | Z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | γ | 24°31' | 18°53' | 12°51' | 10°25' | 8°45' | 6°30' | 5°15' | 4°24' | 3°47' | 2°58' | 2°26' |
| | Mx | 3,25 | 3,25 | 3,25 | 2,48 | 2 | 3,25 | 2,48 | 2 | 1,68 | 1,27 | 1,02 |
| | $\eta_d(1400)$ | 0,88 | 0,87 | 0,83 | 0,81 | 0,78 | 0,74 | 0,7 | 0,66 | 0,62 | 0,57 | 0,51 |
| | η_s | 0,71 | 0,67 | 0,6 | 0,55 | 0,51 | 0,45 | 0,4 | 0,36 | 0,33 | 0,28 | 0,24 |
| 075 | Z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | γ | 26°17' | 20°20' | 13°52' | 11°18' | 9°32' | 7°02' | 5°42' | 4°48' | 4°08' | 3°14' | 2°40' |
| | Mx | 3,94 | 3,94 | 3,94 | 3 | 2,42 | 3,94 | 3 | 2,42 | 2,03 | 1,54 | 1,24 |
| | $\eta_d(1400)$ | 0,89 | 0,88 | 0,85 | 0,82 | 0,80 | 0,76 | 0,72 | 0,69 | 0,65 | 0,60 | 0,55 |
| | η_s | 0,71 | 0,68 | 0,61 | 0,57 | 0,53 | 0,46 | 0,42 | 0,38 | 0,35 | 0,29 | 0,26 |
| 090 | Z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | γ | 29°11' | 22°44' | 15°36' | 12°50' | 10°54' | 7°57' | 6°30' | 5°30' | 4°46' | 3°45' | 3°06' |
| | Mx | 4,84 | 4,84 | 4,84 | 3,69 | 2,98 | 4,84 | 3,69 | 2,98 | 2,5 | 1,89 | 1,52 |
| | $\eta_d(1400)$ | 0,9 | 0,89 | 0,86 | 0,84 | 0,82 | 0,78 | 0,75 | 0,72 | 0,69 | 0,63 | 0,59 |
| | η_s | 0,73 | 0,7 | 0,64 | 0,6 | 0,56 | 0,49 | 0,45 | 0,41 | 0,38 | 0,32 | 0,28 |
| 110 | Z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | γ | 28°15' | 21°57' | 15°02' | 14°41' | 12°34' | 7°39' | 7°28' | 6°22' | 5°32' | 4°24' | 3°39' |
| | Mx | 5,875 | 5,875 | 5,875 | 4,62 | 3,73 | 5,875 | 4,62 | 3,73 | 3,13 | 2,37 | 1,91 |
| | $\eta_d(1400)$ | 0,9 | 0,89 | 0,86 | 0,85 | 0,84 | 0,79 | 0,78 | 0,75 | 0,72 | 0,67 | 0,63 |
| | η_s | 0,72 | 0,69 | 0,63 | 0,62 | 0,59 | 0,48 | 0,48 | 0,44 | 0,41 | 0,36 | 0,32 |
| 130 | Z1 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | γ | 28°41' | 22°19' | 15°18' | 13°52' | 11°49' | 7°47' | 7°02' | 5°58' | 5°11' | 4°07' | 3°24' |
| | Mx | 6,97 | 6,97 | 6,97 | 5,4 | 4,37 | 6,97 | 5,4 | 4,37 | 3,67 | 2,77 | 2,23 |
| | $\eta_d(1400)$ | 0,91 | 0,89 | 0,87 | 0,86 | 0,84 | 0,8 | 0,78 | 0,75 | 0,72 | 0,68 | 0,64 |
| | η_s | 0,72 | 0,69 | 0,63 | 0,61 | 0,58 | 0,49 | 0,46 | 0,43 | 0,39 | 0,34 | 0,3 |
| 150 | Z1 | 6 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| | γ | 32°09' | 24°35' | 17°27' | 12°53' | 11°19' | 9°50' | 6°32' | 5°43' | 4°57' | 3°55' | 3°14' |
| | Mx | 5,5 | 6,155 | 5,5 | 6,155 | 5 | 4,193 | 6,155 | 5 | 4,193 | 3,17 | 2,55 |
| | $\eta_d(1400)$ | 0,91 | 0,9 | 0,88 | 0,86 | 0,84 | 0,83 | 0,78 | 0,76 | 0,73 | 0,68 | 0,64 |
| | η_s | 0,73 | 0,71 | 0,66 | 0,6 | 0,57 | 0,54 | 0,45 | 0,42 | 0,39 | 0,33 | 0,29 |

Materials and Design Features (PC)

The **PC** construction is modular and therefore it can be supplied as a separate unit to be mounted on any type of fitted geared motor (PAM). In this connection, the various possibilities of flange/output shafts.

Fitting the pre-stage helical module on the main reduction unit is easily done as for any motor of Type B14.

The pre-stage unit cannot be used by itself, but only coupled with another reduction unit.

Materials

Case in aluminium alloy.

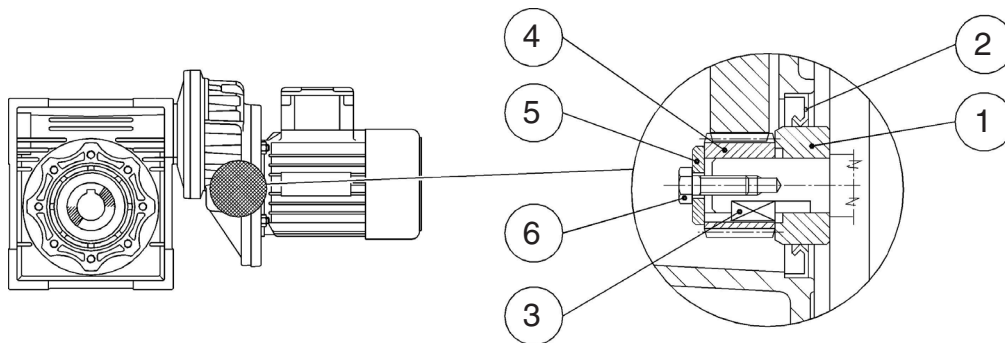
Gears in case hardened tempered steel
20MnCr5 (UNI7846) accurately ground on the involute.

Coupling to electric motor

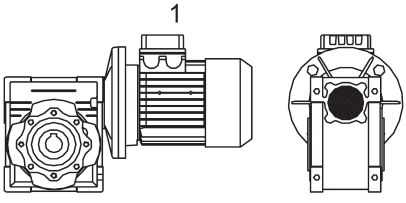
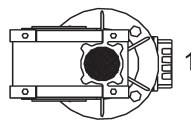
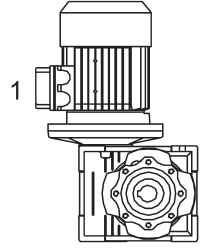
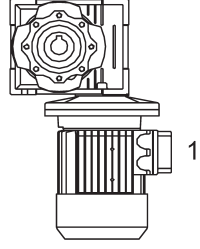
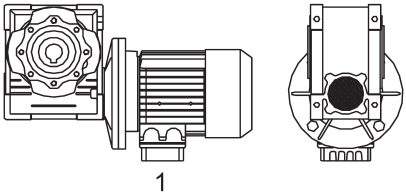
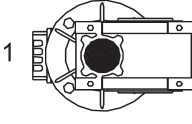
Correctly fitting the pinion on the electric motor shaft requires you keep to the following instructions:

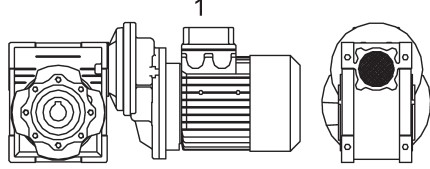
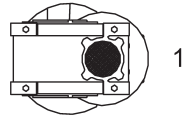
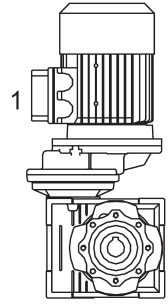
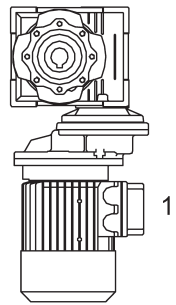
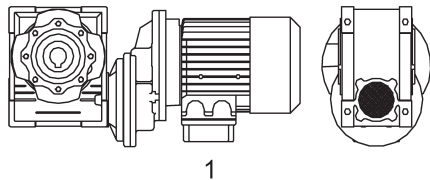
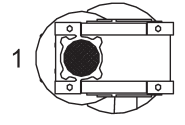
- a) Thoroughly clean the electric motor shaft.
- b) Remove the motor key from its seat.
- c) Fit the bush (1) to the drive shaft as shown in the diagram. To make this easier, you can heat the bush to approximately 70/80°C.
- d) Fit the new key (3) provided in place of the one removed beforehand.
- e) Fit the pinion (4) taking the same precautions as described in point (c).
- f) Fit the washer (5) and tighten with the screw (6).
- g) Remove the rubber cap mounted on the seat of the oil seal, taking care since the pre-stage unit is already complete with lubricant.
- h) Fit the oil seal (2) and then the motor assembly, taking care not to damage the lip of the oil seal.

Note: For correct operation, with no vibration or noise, it is recommended to use good quality motors.



Mounting Positions

| CMRV - CRV | | | |
|---|---|--|---|
| CMRV...U - B3 | B6 | V5 | V6 |
|  |  |  |  |
| B8 | B7 | | |
|  |  | | |

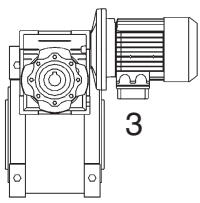
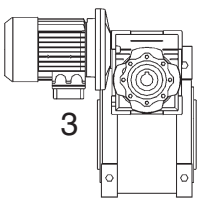
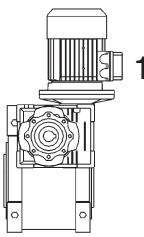
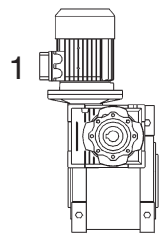
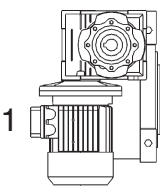
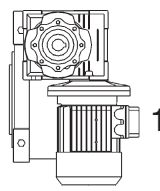
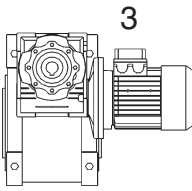
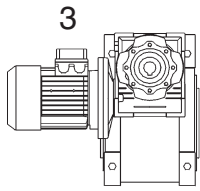
| PC - CCRMV | | | |
|---|---|--|---|
| CMRV...U - B3 | B6 | V5 | V6 |
|  |  |  |  |
| B8 | B7 | | |
|  |  | | |

“U” version is related to sizes from CCRMV 025-075 and CRV 030-063. For these sizes it is not necessary to specify mounting position.

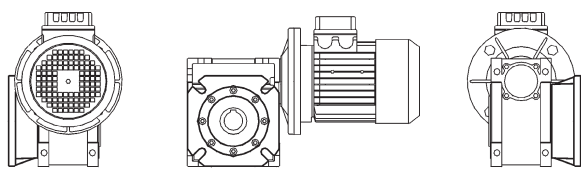
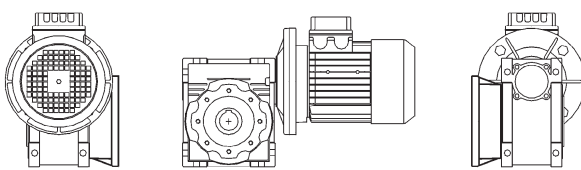
Unless specified otherwise, the standard positions are B3.

For positions not envisaged, it is necessary to contact our Technical department.

Execution of Double Reduction

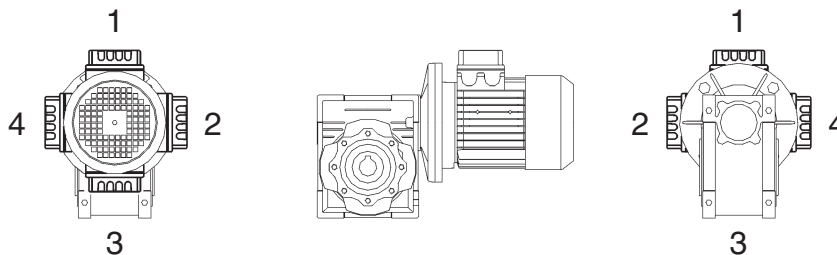
| CMRV-CMRV / CRV-CMRV | | | |
|---|---|--|---|
| AS1 | AS2 | VS1 | VS2 |
|  |  |  |  |
| PS1 | PS2 | BS1 | BS2 |
|  |  |  |  |

The position of the 1st reducer with respect to the 2nd gear reducer depend on the version. Unless otherwise specified at the time of order, combination groups are supplied in version BS2. The specified mounting position refers to the 2nd gear reducer.

| Flange F | |
|---|--|
| D | S |
|  |  |

Unless specified otherwise, the reduction unit is supplied with the flange in pos. D referred to position B3.

In the case of specific requirements, when ordering, specify the position of the terminal box as shown in the diagram.



CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | Gear Units | | | |
|----------------------------|------------------------|---------------|------------|----------------|------------|------|------------|------------|------------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Size | M2 (Nm) | Fr1 (N) | Fr2 (N) |
| 7.5 | 186.7 | CMRV025 | 0.09 | 56B4 | 3.9 | 2.8 | CRV025 | 10 | 118 | 503 |
| 10 | 140.0 | | 0.09 | 56B4 | 5.1 | 2.4 | | 10 | 118 | 553 |
| 15 | 93.3 | | 0.09 | 56B4 | 7.3 | 1.6 | | 11 | 118 | 633 |
| 20 | 70.0 | | 0.09 | 56B4 | 9.0 | 1.3 | | 11 | 118 | 697 |
| 30 | 46.7 | | 0.09 | 56B4 | 12 | 1.1 | | 12 | 118 | 798 |
| 40 | 35.0 | | 0.09 | 56B4 | 15 | 0.9 | | 12 | 118 | 878 |
| 50 | 28.0 | | 0.06 | 56A4 | 12 | 0.9 | | 10 | 118 | 946 |
| 60 | 23.3 | | 0.06 | 56A4 | 14 | 0.7 | | 10 | 118 | 1006 |
| 7.5 | 186.7 | CMRV030 | 0.22 | 63C4 | 10 | 1.9 | CRV030 | 18 | 150 | 683 |
| 10 | 140.0 | | 0.22 | 63C4 | 12 | 1.5 | | 18 | 169 | 752 |
| 15 | 93.3 | | 0.22 | 63C4 | 17 | 1.0 | | 18 | 169 | 861 |
| 20 | 70.0 | | 0.22 | 63C4 | 22 | 0.8 | | 18 | 190 | 948 |
| 25 | 56.0 | | 0.18 | 63B4 | 21 | 1.0 | | 21 | 210 | 1021 |
| 30 | 46.7 | | 0.18 | 63B4 | 24 | 0.8 | | 20 | 210 | 1085 |
| 40 | 35.0 | | 0.12 | 63A4 | 19 | 0.9 | | 18 | 210 | 1194 |
| 50 | 28.0 | | 0.12 | 63A4 | 23 | 0.8 | | 17 | 210 | 1286 |
| 60 | 23.3 | | 0.09 | 56B4 | 19 | 0.9 | | 16 | 210 | 1367 |
| 80 | 17.5 | | 0.06 | 56A4 | 14 | 0.9 | | 13 | 210 | 1504 |
| 7.5 | 186.7 | CMRV040 | 0.55 | 71C4 | 24 | 1.6 | CRV040 | 40 | 294 | 1315 |
| 10 | 140.0 | | 0.55 | 71C4 | 32 | 1.3 | | 40 | 331 | 1447 |
| 15 | 93.3 | | 0.55 | 71C4 | 46 | 0.9 | | 40 | 331 | 1657 |
| 20 | 70.0 | | 0.37 | 71B4 | 39 | 1.0 | | 39 | 350 | 1824 |
| 25 | 56.0 | | 0.37 | 71B4 | 47 | 0.8 | | 38 | 350 | 1964 |
| 30 | 46.7 | | 0.37 | 71B4 | 53 | 0.8 | | 45 | 350 | 2087 |
| 40 | 35.0 | | 0.25 | 71A4 | 44 | 0.9 | | 41 | 350 | 2298 |
| 50 | 28.0 | | 0.22 | 63C4 | 47 | 0.8 | | 39 | 350 | 2475 |
| 60 | 23.3 | | 0.18 | 63B4 | 43 | 0.8 | | 36 | 350 | 2630 |
| 80 | 17.5 | | 0.12 | 63A4 | 34 | 1.0 | | 33 | 350 | 2895 |
| 100 | 14.0 | 0.12 | 63A4 | 38 | 0.8 | 29 | 350 | 3118 | | |
| 7.5 | 186.7 | CMRV050 | 0.92 | 80C4 | 41 | 1.7 | CRV050 | 71 | 401 | 1805 |
| 10 | 140.0 | | 0.92 | 80C4 | 54 | 1.3 | | 72 | 490 | 1987 |
| 15 | 93.3 | | 0.92 | 80C4 | 77 | 1.0 | | 74 | 490 | 2274 |
| 20 | 70.0 | | 0.75 | 80B4 | 81 | 0.9 | | 73 | 490 | 2503 |
| 25 | 56.0 | | 0.55 | 80A4 | 71 | 1.0 | | 70 | 490 | 2696 |
| 30 | 46.7 | | 0.55 | 80A4 | 81 | 1.0 | | 84 | 490 | 2865 |
| 40 | 35.0 | | 0.37 | 71B4 | 68 | 1.1 | | 76 | 490 | 3153 |
| 50 | 28.0 | | 0.37 | 71B4 | 80 | 0.9 | | 73 | 490 | 3397 |
| 60 | 23.3 | | 0.37 | 71B4 | 89 | 0.8 | | 68 | 490 | 3610 |
| 80 | 17.5 | | 0.25 | 71A4 | 72 | 0.9 | | 65 | 490 | 3973 |
| 100 | 14.0 | 0.18 | 63B4 | 60 | 0.9 | 55 | 490 | 4280 | | |

CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | Gear Units | | | |
|----------------------------|------------------------|----------------|------------|----------------|------------|------|---------------|------------|------------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Size | M2 (Nm) | Fr1 (N) | Fr2 (N) |
| 7.5 | 186.7 | CMRV063 | 1.84 | 90LL4 | 83 | 1.5 | CRV063 | 128 | 500 | 2359 |
| 10 | 140.0 | | 1.84 | 90LL4 | 109 | 1.2 | | 130 | 571 | 2597 |
| 15 | 93.3 | | 1.84 | 90LL4 | 156 | 0.9 | | 140 | 615 | 2973 |
| 20 | 70.0 | | 1.5 | 90LL4 | 166 | 0.8 | | 135 | 667 | 3272 |
| 25 | 56.0 | | 1.1 | 90S4 | 146 | 0.9 | | 130 | 700 | 3524 |
| 30 | 46.7 | | 1.1 | 90S4 | 167 | 1.0 | | 160 | 700 | 3745 |
| 40 | 35.0 | | 0.92 | 80C4 | 176 | 0.8 | | 145 | 700 | 4122 |
| 50 | 28.0 | | 0.55 | 80A4 | 124 | 1.1 | | 135 | 700 | 4440 |
| 60 | 23.3 | | 0.55 | 80A4 | 140 | 0.9 | | 130 | 700 | 4719 |
| 80 | 17.5 | | 0.37 | 71B4 | 115 | 1.1 | | 122 | 700 | 5193 |
| 100 | 14.0 | | 0.37 | 71B4 | 129 | 0.9 | | 118 | 700 | 5595 |
| 7.5 | 186.7 | CMRV075 | 4 | 112M4 | 182 | 1.0 | CRV075 | 185 | 700 | 2785 |
| 10 | 140.0 | | 4 | 112M4 | 240 | 0.8 | | 195 | 830 | 3065 |
| 15 | 93.3 | | 3 | 100L4 | 261 | 0.8 | | 200 | 851 | 3509 |
| 20 | 70.0 | | 1.84 | 90LL4 | 206 | 1.0 | | 210 | 980 | 3862 |
| 25 | 56.0 | | 1.84 | 90LL4 | 251 | 0.8 | | 200 | 980 | 4160 |
| 30 | 46.7 | | 1.84 | 90LL4 | 286 | 0.8 | | 230 | 980 | 4421 |
| 40 | 35.0 | | 1.1 | 90S4 | 216 | 1.0 | | 220 | 980 | 4865 |
| 50 | 28.0 | | 0.92 | 80C4 | 217 | 1.0 | | 210 | 980 | 5241 |
| 60 | 23.3 | | 0.92 | 80C4 | 245 | 0.8 | | 200 | 980 | 5569 |
| 80 | 17.5 | | 0.55 | 80A4 | 180 | 1.1 | | 190 | 980 | 6130 |
| 100 | 14.0 | | 0.55 | 80A4 | 206 | 0.9 | | 180 | 980 | 6603 |
| 7.5 | 186.7 | CMRV090 | 4.8 | 112MS4 | 221 | 1.3 | CRV090 | 290 | 900 | 3081 |
| 10 | 140.0 | | 4.8 | 112MS4 | 291 | 1.1 | | 310 | 1082 | 3391 |
| 15 | 93.3 | | 4.8 | 112MS4 | 422 | 0.9 | | 360 | 1257 | 3882 |
| 20 | 70.0 | | 4 | 112M4 | 458 | 0.8 | | 355 | 1270 | 4273 |
| 25 | 56.0 | | 3 | 100LB4 | 420 | 0.8 | | 340 | 1270 | 4603 |
| 30 | 46.7 | | 3 | 100LB4 | 479 | 0.9 | | 410 | 1270 | 4891 |
| 40 | 35.0 | | 1.84 | 90LL4 | 377 | 1.0 | | 360 | 1270 | 5383 |
| 50 | 28.0 | | 1.84 | 90LL4 | 452 | 0.8 | | 340 | 1270 | 5799 |
| 60 | 23.3 | | 1.5 | 90LL4 | 424 | 0.8 | | 320 | 1270 | 6163 |
| 80 | 17.5 | | 0.92 | 80C4 | 316 | 0.9 | | 285 | 1270 | 6783 |
| 100 | 14.0 | | 0.75 | 80B4 | 302 | 0.9 | | 270 | 1270 | 7306 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | Gear Units | | | |
|----------------------------|------------------------|----------------|---------------|----------------|------------|------|---------------|------------|------------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Size | M2 (Nm) | Fr1 (N) | Fr2 (N) |
| 7.5 | 186.7 | CMRV110 | 9.2 | 132M4 | 424 | 1.3 | CRV110 | 552 | 1200 | 3893 |
| 10 | 140.0 | | 7.5 | 132L4 | 455 | 1.3 | | 598 | 1463 | 4285 |
| 15 | 93.3 | | 7.5 | 132L4 | 660 | 1.0 | | 656 | 1604 | 4905 |
| 20 | 70.0 | | 5.5 | 132S4 | 638 | 1.0 | | 644 | 1700 | 5399 |
| 25 | 56.0 | | 4.8 | 112MS4 | 688 | 1.0 | | 679 | 1700 | 5816 |
| 30 | 46.7 | | 4 | 112M4 | 647 | 1.1 | | 725 | 1700 | 6181 |
| 40 | 35.0 | | 3 | 100LB4 | 638 | 1.1 | | 702 | 1700 | 6803 |
| 50 | 28.0 | | 3 | 100LB4 | 767 | 0.9 | | 660 | 1700 | 7328 |
| 60 | 23.3 | | 2.2 | 100LA4 | 648 | 1.0 | | 616 | 1700 | 7787 |
| 80 | 17.5 | | 1.5 | 90L4 | 548 | 0.9 | | 515 | 1700 | 8571 |
| 100 | 14.0 | 1.1 | 90S4 | 473 | 1.0 | 483 | 1700 | 9232 | | |
| 7.5 | 186.7 | CMRV130 | 9.2 | 132M4 | 428 | 1.8 | CRV130 | 750 | 1500 | 5092 |
| 10 | 140.0 | | 9.2 | 132M4 | 559 | 1.5 | | 820 | 1845 | 5605 |
| 15 | 93.3 | | 9.2 | 132M4 | 819 | 1.1 | | 920 | 2070 | 6416 |
| 20 | 70.0 | | 9.2 | 132M4 | 1079 | 0.8 | | 910 | 2100 | 7062 |
| 25 | 56.0 | | 9.2 | 132M4 | 1318 | 0.7 | | 930 | 2100 | 7607 |
| 30 | 46.7 | | 7.5 | 132L4 | 1228 | 0.8 | | 1040 | 2100 | 8084 |
| 40 | 35.0 | | 7.5 | 132L4 | 1596 | 0.7 | | 1050 | 2100 | 8897 |
| 50 | 28.0 | | 4.8 | 112MS4 | 1228 | 0.8 | | 980 | 2100 | 9584 |
| 60 | 23.3 | | 4 | 112M4 | 1179 | 0.8 | | 900 | 2100 | 10185 |
| 80 | 17.5 | | 3 | 100LB4 | 1113 | 0.8 | | 840 | 2100 | 11210 |
| 100 | 14.0 | 1.84 | 90LL4 | 803 | 0.9 | 740 | 2100 | 12076 | | |
| 7.5 | 186.7 | CMRV150 | 15 | 160L4 | 698 | 1.7 | CRV150 | 1200 | 1950 | 6962 |
| 10 | 140.0 | | 15 | 160L4 | 921 | 1.3 | | 1240 | 2267 | 7663 |
| 15 | 93.3 | | 15 | 160L4 | 1351 | 0.9 | | 1250 | 2285 | 8771 |
| 20 | 70.0 | | 15 | 160L4 | 1760 | 0.7 | | 1300 | 2674 | 9654 |
| 25 | 56.0 | | 11 | 160M4 | 1576 | 0.8 | | 1200 | 2800 | 10400 |
| 30 | 46.7 | | 9.2 | 132M4 | 1563 | 0.8 | | 1200 | 2800 | 11051 |
| 40 | 35.0 | | 9.2 | 132M4 | 1958 | 0.8 | | 1550 | 2800 | 12163 |
| 50 | 28.0 | | 5.5 | 132S4 | 1426 | 1.0 | | 1400 | 2800 | 13103 |
| 60 | 23.3 | | 5.5 | 132S4 | 1643 | 0.8 | | 1260 | 2800 | 13924 |
| 80 | 17.5 | | 4 | 112M4 | 1484 | 0.8 | | 1150 | 2800 | 15325 |
| 100 | 14.0 | 3 | 100LB4 | 1310 | 0.8 | 1000 | 2800 | 16508 | | |

PC-CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | |
|----------------------------|------------------------|---------------|------------|----------------|------------|------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Fr2 (N) |
| 75 | 18.7 | PC063+CMRV040 | 0.18 | 63B4 | 64 | 0.8 | 2833 |
| 90 | 15.6 | | 0.18 | 63B4 | 70 | 0.8 | 3011 |
| 120 | 11.7 | | 0.18 | 63B4 | 85 | 0.6 | 3314 |
| 150 | 9.3 | | 0.12 | 63A4 | 66 | 0.7 | 3490 |
| 180 | 7.8 | | 0.12 | 63A4 | 74 | 0.6 | 3490 |
| 240 | 5.8 | | 0.12 | 63A4 | 86 | 0.5 | 3490 |
| 75 | 18.7 | PC063+CMRV050 | 0.22 | 63C4 | 78 | 1.2 | 3889 |
| 90 | 15.6 | | 0.22 | 63C4 | 86 | 1.2 | 4132 |
| 120 | 11.7 | | 0.22 | 63C4 | 106 | 0.9 | 4548 |
| 150 | 9.3 | | 0.18 | 63B4 | 101 | 0.9 | 4840 |
| 180 | 7.8 | | 0.18 | 63B4 | 113 | 0.7 | 4840 |
| 240 | 5.8 | | 0.18 | 63B4 | 133 | 0.6 | 4840 |
| 300 | 4.7 | PC063+CMRV063 | 0.12 | 63A4 | 98 | 0.7 | 4840 |
| 120 | 11.7 | | 0.22 | 63C4 | 110 | 1.7 | 5945 |
| 150 | 9.3 | | 0.22 | 63C4 | 126 | 1.4 | 6270 |
| 180 | 7.8 | | 0.22 | 63C4 | 143 | 1.1 | 6270 |
| 240 | 5.8 | | 0.18 | 63B4 | 139 | 1.0 | 6270 |
| 300 | 4.7 | | 0.18 | 63B4 | 155 | 0.8 | 6270 |
| 75 | 18.7 | PC071+CMRV050 | 0.25 | 71A4 | 88 | 1.0 | 3889 |
| 90 | 15.6 | | 0.25 | 71A4 | 98 | 1.1 | 4132 |
| 120 | 11.7 | | 0.25 | 71A4 | 121 | 0.8 | 4548 |
| 150 | 9.3 | | 0.25 | 71A4 | 141 | 0.6 | 4840 |
| 75 | 18.7 | PC071+CMRV063 | 0.25 | 71A4 | 91 | 1.8 | 5083 |
| 90 | 15.6 | | 0.55 | 71C4 | 219 | 0.9 | 5401 |
| 120 | 11.7 | | 0.37 | 71B4 | 185 | 1.0 | 5945 |
| 150 | 9.3 | | 0.37 | 71B4 | 212 | 0.8 | 6270 |
| 180 | 7.8 | | 0.25 | 71A4 | 163 | 1.0 | 6270 |
| 240 | 5.8 | | 0.25 | 71A4 | 192 | 0.7 | 6270 |
| 300 | 4.7 | PC071+CMRV075 | 0.25 | 71A4 | 215 | 0.6 | 6270 |
| 75 | 18.7 | | 0.55 | 71C4 | 205 | 1.2 | 6000 |
| 90 | 15.6 | | 0.55 | 71C4 | 230 | 1.3 | 6375 |
| 120 | 11.7 | | 0.55 | 71C4 | 284 | 1.0 | 7017 |
| 150 | 9.3 | | 0.37 | 71B4 | 223 | 1.1 | 7380 |
| 180 | 7.8 | | 0.37 | 71B4 | 254 | 0.9 | 7380 |
| 240 | 5.8 | PC071+CMRV090 | 0.25 | 71A4 | 201 | 1.1 | 7380 |
| 300 | 4.7 | | 0.25 | 71A4 | 230 | 0.9 | 7380 |
| 120 | 11.7 | | 0.55 | 71C4 | 297 | 1.6 | 7764 |
| 150 | 9.3 | | 0.55 | 71C4 | 355 | 1.3 | 8180 |
| 180 | 7.8 | | 0.55 | 71C4 | 398 | 1.0 | 8180 |
| 240 | 5.8 | | 0.37 | 71B4 | 321 | 1.1 | 8180 |
| 300 | 4.7 | PC071+CMRV090 | 0.37 | 71B4 | 371 | 0.9 | 8180 |

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PC-CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | |
|----------------------------|------------------------|---------------|---------------|----------------|------------|------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Fr2 (N) |
| 75 | 18.7 | PC080+CMRV075 | 0.92 | 80C4 | 344 | 0.7 | 6000 |
| 90 | 15.6 | | 0.92 | 80C4 | 384 | 0.8 | 6375 |
| 120 | 11.7 | | 0.55 | 80A4 | 284 | 1.0 | 7017 |
| 150 | 9.3 | | 0.55 | 80A4 | 332 | 0.8 | 7380 |
| 180 | 7.8 | | 0.55 | 80A4 | 378 | 0.6 | 7380 |
| 75 | 18.7 | PC080+CMRV090 | 0.92 | 80C4 | 353 | 1.2 | 6638 |
| 90 | 15.6 | | 0.92 | 80C4 | 401 | 1.4 | 7054 |
| 120 | 11.7 | | 0.92 | 80C4 | 497 | 1.0 | 7764 |
| 150 | 9.3 | | 0.92 | 80C4 | 593 | 0.8 | 8180 |
| 180 | 7.8 | | 0.75 | 80B4 | 543 | 0.7 | 8180 |
| 75 | 18.7 | PC080+CMRV110 | 0.92 | 80C4 | 367 | 2.5 | 8388 |
| 120 | 11.7 | | 0.92 | 80C4 | 527 | 1.8 | 9811 |
| 150 | 9.3 | | 0.92 | 80C4 | 621 | 1.4 | 10320 |
| 180 | 7.8 | | 0.92 | 80C4 | 712 | 1.1 | 10320 |
| 240 | 5.8 | | 0.75 | 80B4 | 700 | 0.9 | 10320 |
| 300 | 4.7 | | 0.55 | 80A4 | 597 | 1.0 | 10320 |
| 75 | 18.7 | | PC080+CMRV130 | 0.92 | 80C4 | 367 | 3.3 |
| 90 | 15.6 | 0.92 | | 80C4 | 412 | 3.4 | 11659 |
| 120 | 11.7 | 0.92 | | 80C4 | 527 | 2.5 | 12832 |
| 150 | 9.3 | 0.92 | | 80C4 | 631 | 1.9 | 13500 |
| 180 | 7.8 | 0.92 | | 80C4 | 712 | 1.5 | 13500 |
| 240 | 5.8 | 0.92 | | 80C4 | 874 | 1.1 | 13500 |
| 300 | 4.7 | 0.92 | | 80C4 | 998 | 0.9 | 13500 |
| 60.5 | 23.1 | PC090+CMRV110 | | 1.84 | 90LL4 | 592 | 1.5 |
| 72.6 | 19.3 | | 1.84 | 90LL4 | 656 | 1.5 | 8298 |
| 97 | 14.5 | | 1.84 | 90LL4 | 850 | 1.1 | 9133 |
| 121.0 | 11.6 | | 1.84 | 90LL4 | 1002 | 0.9 | 9838 |
| 145 | 9.6 | | 1.5 | 90L4 | 936 | 0.8 | 10320 |
| 193.6 | 7.2 | | 1.1 | 90S4 | 828 | 0.8 | 10320 |
| 242.0 | 5.8 | | 1.1 | 90S4 | 962 | 0.6 | 10320 |
| 60.5 | 23.1 | PC090+CMRV130 | 1.84 | 90LL4 | 592 | 2.0 | 10213 |
| 72.6 | 19.3 | | 1.84 | 90LL4 | 665 | 2.1 | 10853 |
| 97 | 14.5 | | 1.84 | 90LL4 | 850 | 1.5 | 11945 |
| 121.0 | 11.6 | | 1.84 | 90LL4 | 1018 | 1.2 | 12868 |
| 145.2 | 9.6 | | 1.84 | 90LL4 | 1148 | 0.9 | 13500 |
| 193.6 | 7.2 | | 1.5 | 90L4 | 1149 | 0.8 | 13500 |
| 242 | 5.8 | | 1.1 | 90S4 | 962 | 0.9 | 13500 |

CMRV-CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | Gear Units | | | | | | | |
|----------------------------|------------------------|---------------|-------------|----------------|------------|------|------------|------------|------------|------------|------------|----|-----|------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Size | M2 (Nm) | Fr1 (N) | Fr2 (N) | | | | |
| 100 | 14.0 | CMRV025/030 | 0.09 | 56B4 | 38 | 0.8 | | | | 1620 | | | | |
| 150 | 9.3 | | 0.09 | 56B4 | 49 | 0.6 | | | | 1830 | | | | |
| 200 | 7.0 | | 0.09 | 56B4 | 62 | 0.5 | | | | 1830 | | | | |
| 250 | 5.6 | | 0.09 | 56B4 | 66 | 0.5 | | | | 1830 | | | | |
| 300 | 4.7 | | 0.09 | 56B4 | 75 | 0.4 | | | | 1830 | | | | |
| 400 | 3.5 | | 0.09 | 56B4 | 107 | 0.3 | | | | 1830 | | | | |
| 500 | 2.8 | | 0.09 | 56B4 | 115 | 0.3 | | | | 1830 | | | | |
| 600 | 2.3 | | 0.09 | 56B4 | 135 | 0.2 | | | | 1830 | | | | |
| 750 | 1.9 | | 0.09 | 56B4 | 151 | 0.2 | | | | 1830 | | | | |
| 900 | 1.6 | | 0.09 | 56B4 | 178 | 0.2 | | | | 1830 | | | | |
| 1200 | 1.2 | | 0.09 | 56B4 | 212 | 0.1 | | | | 1830 | | | | |
| 1500 | 0.9 | | 0.09 | 56B4 | 247 | 0.1 | | | | 1830 | | | | |
| 1800 | 0.78 | | 0.09 | 56B4 | 304 | 0.1 | | | | 1830 | | | | |
| 2400 | 0.58 | | 0.09 | 56B4 | 340 | 0.1 | | | | 1830 | | | | |
| 3000 | 0.47 | | 0.09 | 56B4 | 405 | 0.1 | | | | 1830 | | | | |
| 300 | 4.7 | CMRV025/040 | 0.06 | 56A4 | 59 | 1.2 | | | | 3490 | | | | |
| 400 | 3.5 | | 0.06 | 56A4 | 71 | 0.9 | | | | 3490 | | | | |
| 500 | 2.8 | | 0.06 | 56A4 | 82 | 0.7 | | | | 3490 | | | | |
| 600 | 2.3 | | 0.06 | 56A4 | 101 | 0.6 | | | | 3490 | | | | |
| 750 | 1.9 | | 0.06 | 56A4 | 116 | 0.5 | | | | 3490 | | | | |
| 900 | 1.6 | | 0.06 | 56A4 | 143 | 0.5 | | | | 3490 | | | | |
| 1200 | 1.2 | | 0.06 | 56A4 | 171 | 0.4 | | | | 3490 | | | | |
| 1500 | 0.9 | | 0.06 | 56A4 | 197 | 0.3 | | | | 3490 | | | | |
| 1800 | 0.8 | | 0.06 | 56A4 | 217 | 0.3 | | | | 3490 | | | | |
| 2400 | 0.6 | | 0.06 | 56A4 | 268 | 0.2 | | | | 3490 | | | | |
| 3000 | 0.5 | | 0.06 | 56A4 | 324 | 0.2 | | | | 3490 | | | | |
| 4000 | 0.4 | | 0.06 | 56A4 | 294 | 0.1 | | | | 3490 | | | | |
| 5000 | 0.3 | | 0.06 | 56A4 | 356 | 0.1 | | | | 3490 | | | | |
| 300 | 4.7 | | CMRV030/040 | 0.09 | 56B4 | 88 | | | | 0.8 | CRV030/040 | 73 | 210 | 3490 |
| 400 | 3.5 | | | 0.06 | 56A4 | 70 | | | | 0.9 | | 65 | 210 | 3490 |
| 500 | 2.8 | 0.06 | | 56A4 | 96 | 0.6 | 61 | 210 | 3490 | | | | | |
| 600 | 2.3 | 0.06 | | 56A4 | 104 | 0.7 | 73 | 210 | 3490 | | | | | |
| 750 | 1.9 | 0.06 | | 56A4 | 121 | 0.6 | 73 | 210 | 3490 | | | | | |
| 900 | 1.6 | 0.06 | | 56A4 | 139 | 0.5 | 73 | 210 | 3490 | | | | | |
| 1200 | 1.2 | 0.06 | | 56A4 | 166 | 0.4 | 65 | 210 | 3490 | | | | | |
| 1500 | 0.9 | 0.06 | | 56A4 | 196 | 0.4 | 73 | 210 | 3490 | | | | | |
| 1800 | 0.8 | 0.06 | | 56A4 | 218 | 0.3 | 73 | 210 | 3490 | | | | | |
| 2400 | 0.58 | 0.06 | | 56A4 | 261 | 0.2 | 65 | 210 | 3490 | | | | | |
| 3200 | 0.4 | 0.06 | | 56A4 | 300 | 0.2 | 65 | 210 | 3490 | | | | | |
| 4000 | 0.4 | 0.06 | | 56A4 | 279 | 0.1 | 33 | 210 | 3490 | | | | | |
| 5000 | 0.28 | 0.06 | | 56A4 | 338 | 0.1 | 29 | 210 | 3490 | | | | | |

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CMRV-CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | Gear Units | | | |
|----------------------------|------------------------|---------------|-------------|----------------|-------------|------|------------|------------|------------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Size | M2 (Nm) | Fr1 (N) | Fr2 (N) |
| 300 | 4.7 | CMRV030/050 | 0.12 | 63A4 | 119 | 1.2 | CRV030/050 | 145 | 210 | 4840 |
| 400 | 3.5 | | 0.12 | 63A4 | 142 | 0.9 | | 124 | 210 | 4840 |
| 500 | 2.8 | | 0.12 | 63A4 | 164 | 0.7 | | 120 | 210 | 4840 |
| 600 | 2.3 | | 0.09 | 56B4 | 159 | 0.9 | | 145 | 210 | 4840 |
| 750 | 1.9 | | 0.09 | 56B4 | 185 | 0.8 | | 145 | 210 | 4840 |
| 900 | 1.6 | | 0.09 | 56B4 | 212 | 0.7 | | 145 | 210 | 4840 |
| 1200 | 1.2 | | 0.06 | 56A4 | 169 | 0.7 | | 124 | 210 | 4840 |
| 1500 | 0.93 | | 0.06 | 56A4 | 199 | 0.7 | | 145 | 210 | 4840 |
| 1800 | 0.78 | | 0.06 | 56A4 | 222 | 0.7 | | 145 | 210 | 4840 |
| 2400 | 0.6 | | 0.06 | 56A4 | 266 | 0.5 | | 124 | 210 | 4840 |
| 3000 | 0.5 | | 0.06 | 56A4 | 307 | 0.4 | | 120 | 210 | 4840 |
| 4000 | 0.35 | | 0.06 | 56A4 | 288 | 0.3 | | 82 | 210 | 4840 |
| 4800 | 0.29 | | 0.06 | 56A4 | 311 | 0.3 | | 82 | 210 | 4840 |
| 300 | 4.7 | | CMRV030/063 | 0.22 | 63C4 | 210 | | 1.1 | CRV030/063 | 230 |
| 400 | 3.5 | 0.22 | | 63C4 | 271 | 0.8 | 230 | 210 | | 6270 |
| 500 | 2.8 | 0.18 | | 63B4 | 257 | 0.8 | 216 | 210 | | 6270 |
| 600 | 2.3 | 0.12 | | 63A4 | 208 | 1.1 | 230 | 210 | | 6270 |
| 750 | 1.9 | 0.12 | | 63A4 | 241 | 0.9 | 216 | 210 | | 6270 |
| 900 | 1.6 | 0.09 | | 56B4 | 200 | 1.0 | 198 | 210 | | 6270 |
| 1200 | 1.2 | 0.09 | | 56B4 | 263 | 0.9 | 230 | 210 | | 6270 |
| 1500 | 0.93 | 0.09 | | 56B4 | 305 | 0.7 | 216 | 210 | | 6270 |
| 1800 | 0.78 | 0.06 | | 56A4 | 225 | 0.9 | 198 | 210 | | 6270 |
| 2400 | 0.58 | 0.06 | | 56A4 | 276 | 0.8 | 230 | 210 | | 6270 |
| 3000 | 0.47 | 0.06 | | 56A4 | 319 | 0.7 | 216 | 210 | | 6270 |
| 4000 | 0.35 | 0.06 | | 56A4 | 306 | 0.6 | 172 | 210 | | 6270 |
| 5000 | 0.28 | 0.06 | | 56A4 | 360 | 0.4 | 150 | 210 | | 6270 |
| 300 | 4.7 | CMRV040/075 | | 0.37 | 71B4 | 405 | 1.0 | CRV040/075 | | 390 |
| 400 | 3.5 | | 0.37 | 71B4 | 498 | 0.7 | 360 | | 350 | 7380 |
| 500 | 2.8 | | 0.25 | 71A4 | 384 | 0.8 | 320 | | 350 | 7380 |
| 600 | 2.3 | | 0.18 | 63B4 | 362 | 1.1 | 390 | | 350 | 7380 |
| 750 | 1.9 | | 0.18 | 63B4 | 435 | 0.9 | 390 | | 350 | 7380 |
| 900 | 1.6 | | 0.18 | 63B4 | 487 | 0.8 | 390 | | 350 | 7380 |
| 1200 | 1.2 | | 0.12 | 63A4 | 399 | 0.9 | 360 | | 350 | 7380 |
| 1500 | 0.93 | | 0.09 | 56B4 | 360 | 1.1 | 390 | | 350 | 7380 |
| 1800 | 0.78 | | 0.09 | 56B4 | 404 | 1.0 | 390 | | 350 | 7380 |
| 2400 | 0.58 | | 0.09 | 56B4 | 496 | 0.7 | 360 | | 350 | 7380 |
| 3000 | 0.47 | | 0.06 | 56A4 | 377 | 0.8 | 320 | | 350 | 7380 |
| 4000 | 0.35 | | 0.06 | 56A4 | 355 | 0.7 | 250 | | 350 | 7380 |
| 5000 | 0.28 | | 0.06 | 56A4 | 419 | 0.5 | 230 | | 350 | 7380 |

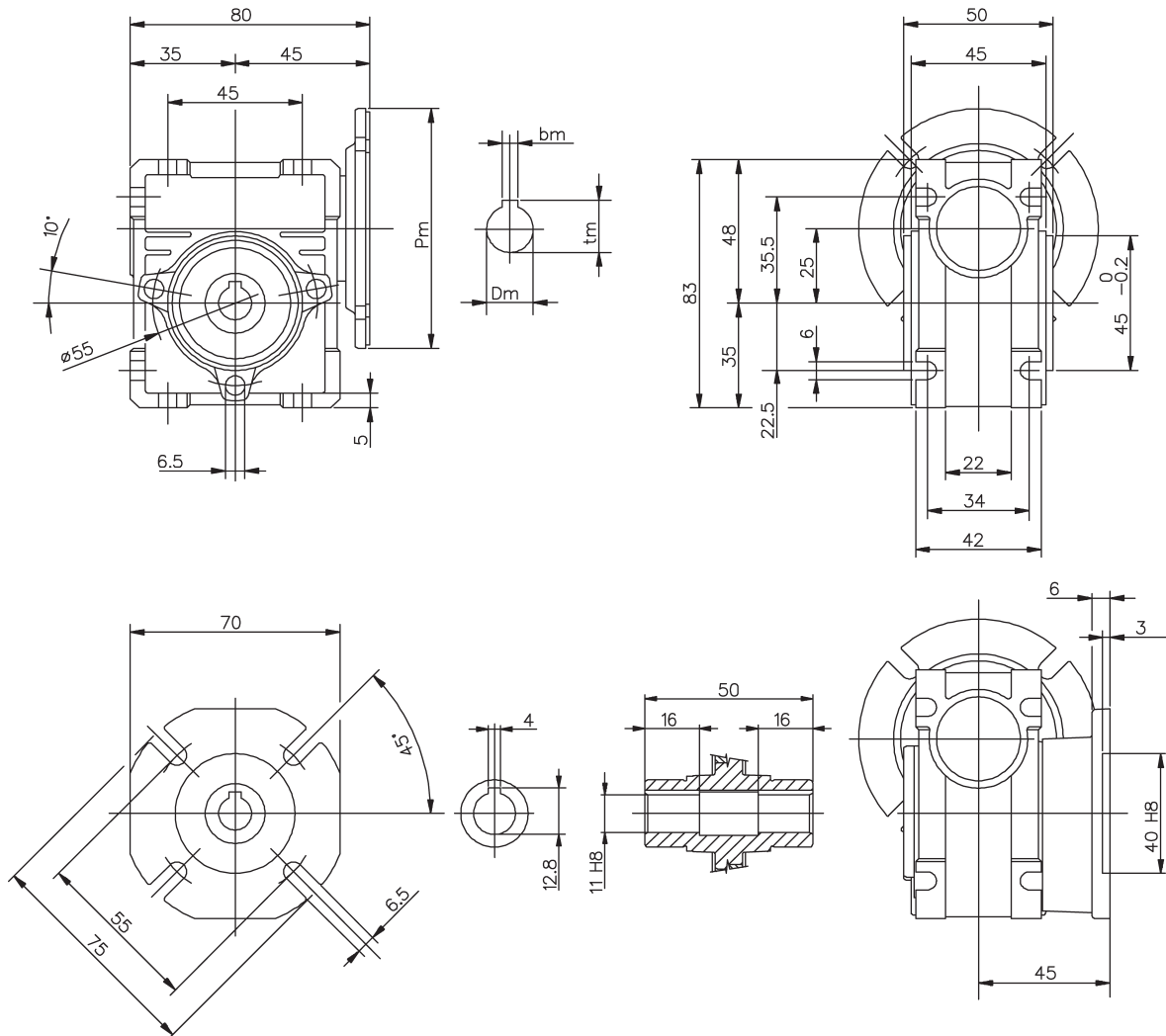
CMRV-CMRV Performance

| input n1 = 1400 rev/min | | Geared Motors | | | | | Gear Units | | | |
|----------------------------|------------------------|---------------|-------------|----------------|------------|------|------------|------------|------------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Size | M2 (Nm) | Fr1 (N) | Fr2 (N) |
| 300 | 4.7 | CMRV040/090 | 0.37 | 71B4 | 402 | 1.5 | CRV040/090 | 610 | 350 | 8180 |
| 400 | 3.5 | | 0.37 | 71B4 | 523 | 1.2 | | 610 | 350 | 8180 |
| 500 | 2.8 | | 0.37 | 71B4 | 611 | 0.9 | | 560 | 350 | 8180 |
| 600 | 2.3 | | 0.37 | 71B4 | 757 | 0.8 | | 610 | 350 | 8180 |
| 750 | 1.9 | | 0.25 | 71A4 | 598 | 0.9 | | 560 | 350 | 8180 |
| 900 | 1.6 | | 0.25 | 71A4 | 667 | 0.8 | | 505 | 350 | 8180 |
| 1200 | 1.2 | | 0.18 | 63B4 | 629 | 1.0 | | 610 | 350 | 8180 |
| 1500 | 0.93 | | 0.18 | 63B4 | 735 | 0.8 | | 560 | 350 | 8180 |
| 1800 | 0.78 | | 0.12 | 63A4 | 547 | 0.9 | | 505 | 350 | 8180 |
| 2400 | 0.58 | | 0.12 | 63A4 | 695 | 0.9 | | 610 | 350 | 8180 |
| 3000 | 0.47 | | 0.09 | 56B4 | 609 | 0.9 | | 560 | 350 | 8180 |
| 4000 | 0.35 | | 0.09 | 56B4 | 548 | 0.8 | | 460 | 350 | 8180 |
| 5000 | 0.28 | | 0.06 | 56A4 | 431 | 1.0 | | 410 | 350 | 8180 |
| 300 | 4.7 | | CMRV050/110 | 0.92 | 80C4 | 1069 | | 1.2 | CRV050/110 | 1265 |
| 400 | 3.5 | 0.92 | | 80C4 | 1382 | 0.9 | 1185 | 490 | | 10320 |
| 500 | 2.8 | 0.55 | | 80A4 | 984 | 1.1 | 1100 | 490 | | 10320 |
| 600 | 2.3 | 0.55 | | 80A4 | 1181 | 1.0 | 1185 | 490 | | 10320 |
| 750 | 1.9 | 0.55 | | 80A4 | 1411 | 0.9 | 1265 | 490 | | 10320 |
| 900 | 1.6 | 0.37 | | 71B4 | 1079 | 1.2 | 1265 | 490 | | 10320 |
| 1200 | 1.2 | 0.37 | | 71B4 | 1396 | 0.8 | 1185 | 490 | | 10320 |
| 1500 | 0.93 | 0.25 | | 71A4 | 1064 | 1.2 | 1265 | 490 | | 10320 |
| 1800 | 0.78 | 0.25 | | 71A4 | 1195 | 1.1 | 1265 | 490 | | 10320 |
| 2400 | 0.58 | 0.18 | | 63B4 | 1113 | 1.1 | 1185 | 490 | | 10320 |
| 3000 | 0.47 | 0.12 | | 63A4 | 884 | 1.2 | 1100 | 490 | | 10320 |
| 4000 | 0.35 | 0.12 | | 63A4 | 784 | 1.0 | 819 | 490 | | 10320 |
| 5000 | 0.28 | 0.12 | | 63A4 | 928 | 0.80 | 746 | 490 | | 10320 |
| 300 | 4.7 | CMRV063/130 | | 1.5 | 90L4 | 1789 | 1.0 | CRV063/130 | | 1760 |
| 400 | 3.5 | | 1.5 | 90L4 | 2279 | 0.7 | 1650 | | 700 | 13500 |
| 500 | 2.8 | | 1.1 | 90S4 | 1991 | 0.8 | 1550 | | 700 | 13500 |
| 600 | 2.3 | | 0.75 | 80B4 | 1631 | 1.0 | 1650 | | 700 | 13500 |
| 750 | 1.9 | | 0.75 | 80B4 | 2005 | 0.9 | 1760 | | 700 | 13500 |
| 900 | 1.6 | | 0.75 | 80B4 | 2283 | 0.8 | 1760 | | 700 | 13500 |
| 1200 | 1.2 | | 0.55 | 80A4 | 2132 | 0.8 | 1650 | | 700 | 13500 |
| 1500 | 0.93 | | 0.37 | 71B4 | 1674 | 1.1 | 1760 | | 700 | 13500 |
| 1800 | 0.78 | | 0.37 | 71B4 | 1887 | 0.9 | 1760 | | 700 | 13500 |
| 2400 | 0.58 | | 0.25 | 71A4 | 1624 | 1.0 | 1650 | | 700 | 13500 |
| 3000 | 0.47 | | 0.25 | 71A4 | 1935 | 0.8 | 1550 | | 700 | 13500 |
| 4000 | 0.35 | | 0.25 | 71A4 | 2046 | 0.6 | 1220 | | 700 | 13500 |
| 5000 | 0.28 | | 0.25 | 71A4 | 2430 | 0.5 | 1100 | | 700 | 13500 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

CMRV-CMRV Performance

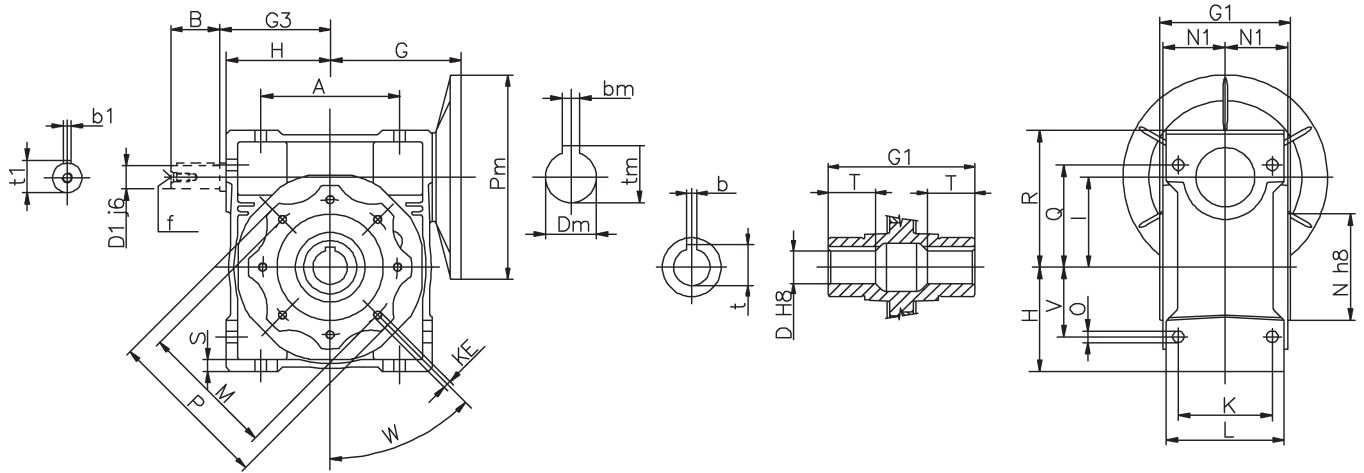
| input n1 = 1400 rev/min | | Geared Motors | | | | | Gear Units | | | |
|----------------------------|------------------------|---------------|------------|----------------|------------|------|------------|------------|------------|------------|
| i | output n2 = rev/min | Size | P1 (kW) | Motor Frame | M2 (Nm) | f.s. | Size | M2 (Nm) | Fr1 (N) | Fr2 (N) |
| 150 | 9.3 | CRV063/150 | 1.84 | 90LL4 | 1259 | 1.9 | CRV063/150 | 2340 | 700 | 18000 |
| 200 | 7.0 | | 1.84 | 90LL4 | 1616 | 1.4 | | 2340 | 700 | 18000 |
| 250 | 5.6 | | 1.84 | 90LL4 | 1966 | 1.0 | | 2050 | 700 | 18000 |
| 300 | 4.7 | | 1.84 | 90LL4 | 2281 | 1.0 | | 2340 | 700 | 18000 |
| 400 | 3.5 | | 1.84 | 90LL4 | 2708 | 1.0 | | 2670 | 700 | 18000 |
| 500 | 2.8 | | 1.84 | 90LL4 | 3167 | 0.7 | | 2330 | 700 | 18000 |
| 600 | 2.3 | | 1.5 | 90L4 | 3057 | 0.9 | | 2670 | 700 | 18000 |
| 750 | 1.9 | | 1.1 | 90S4 | 2616 | 0.9 | | 2330 | 700 | 18000 |
| 900 | 1.6 | | 0.92 | 80C4 | 2717 | 0.8 | | 2100 | 700 | 18000 |
| 1200 | 1.2 | | 0.92 | 80C4 | 3288 | 0.8 | | 2670 | 700 | 18000 |
| 1800 | 0.8 | | 0.55 | 80A4 | 2638 | 0.8 | | 2100 | 700 | 18000 |
| 2400 | 0.6 | | 0.55 | 80A4 | 3182 | 0.8 | | 2670 | 700 | 18000 |
| 3000 | 0.5 | | 0.37 | 71B4 | 2535 | 0.9 | | 2330 | 700 | 18000 |
| 4000 | 0.4 | | 0.25 | 71A4 | 2026 | 0.9 | | 1880 | 700 | 18000 |
| 5000 | 0.3 | | 0.25 | 71A4 | 2251 | 0.7 | | 1650 | 700 | 18000 |



For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the Table shown at page 378.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Dimensions



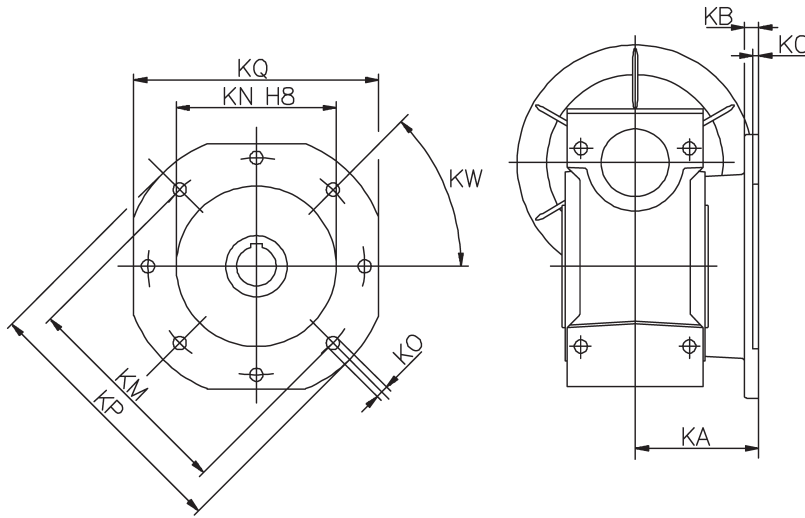
| | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 | 150 |
|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-----------|-----------|-----------|
| A | 54 | 70 | 80 | 100 | 120 | 140 | 170 | 200 | 240 |
| B | 20 | 23 | 30 | 40 | 50 | 50 | 60 | 80 | 80 |
| D | 14 | 18 | 25 | 25 | 28 | 35 | 42 | 45 | 50 |
| D1 | 9 | 11 | 14 | 19 | 24 | 24 | 28 | 30 | 35 |
| G | 55 | 70 | 80 | 95 | 112.5 | 129.5 | 160 | 180 | 210 |
| G1 | 63 | 78 | 92 | 112 | 120 | 140 | 155 | 170 | 200 |
| G3 | 45 | 53 | 64 | 75 | 90 | 108 | 135 | 155 | 175 |
| H | 40 | 50 | 60 | 72 | 86 | 103 | 127.5 | 147.5 | 170 |
| I | 30 | 40 | 50 | 63 | 75 | 90 | 110 | 130 | 150 |
| K | 44 | 60 | 70 | 85 | 90 | 100 | 115 | 120 | 145 |
| KE | M6*11 (4) | M6*10 (4) | M8*10 (4) | M8*14(8) | M8*14(8) | M10*18(8) | M10*18(8) | M12*21(8) | M12*21(8) |
| L | 56 | 71 | 85 | 103 | 112 | 130 | 144 | 155 | 185 |
| M | 65 | 75 | 85 | 95 | 115 | 130 | 165 | 215 | 215 |
| N | 55 | 60 | 70 | 80 | 95 | 110 | 130 | 180 | 180 |
| N1 | 29 | 36.5 | 43.5 | 53 | 57 | 67 | 74 | 81 | 96 |
| O | 6.5 | 6.5 | 8.5 | 8.5 | 11.5 | 13 | 14 | 16 | 18 |
| P | 75 | 87 | 100 | 110 | 140 | 160 | 200 | 250 | 250 |
| Q | 44 | 55 | 64 | 80 | 93 | 102 | 125 | 140 | 180 |
| R | 57 | 71.5 | 84 | 102 | 119 | 135 | 167.5 | 187.5 | 230 |
| S | 5.5 | 6.5 | 7 | 8 | 10 | 11 | 14.5 | 15.5 | 18 |
| T | 21 | 26 | 30 | 36 | 40 | 45 | 50 | 60 | 72.5 |
| V | 27 | 35 | 40 | 50 | 60 | 70 | 85 | 100 | 120 |
| W | 45° | 45° | 45° | 45° | 45° | 45° | 45° | 45° | 45° |
| b | 5 | 6 | 8 | 8 | 8 (10) | 10 | 12 | 14 | 14 |
| t | 16.3 | 20.8 (21.8) | 28.3 (27.3) | 28.3 (31.3) | 31.3 (38.3) | 38.3 (41.3) | 45.3 | 48.8 | 53.8 |
| b1 | 3 | 4 | 5 | 6 | 8 | 8 | 8 | 8 | 10 |
| t1 | 10.2 | 12.5 | 16 | 21.5 | 27 | 27 | 31 | 33 | 38 |
| f | - | - | M6 | M6 | M8 | M8 | M10 | M10 | M12 |
| kg | 1.2 | 2.3 | 3.5 | 6.2 | 9 | 13 | 35 | 48 | 84 |

kg = Weight without motor

For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the Table shown at page 378.

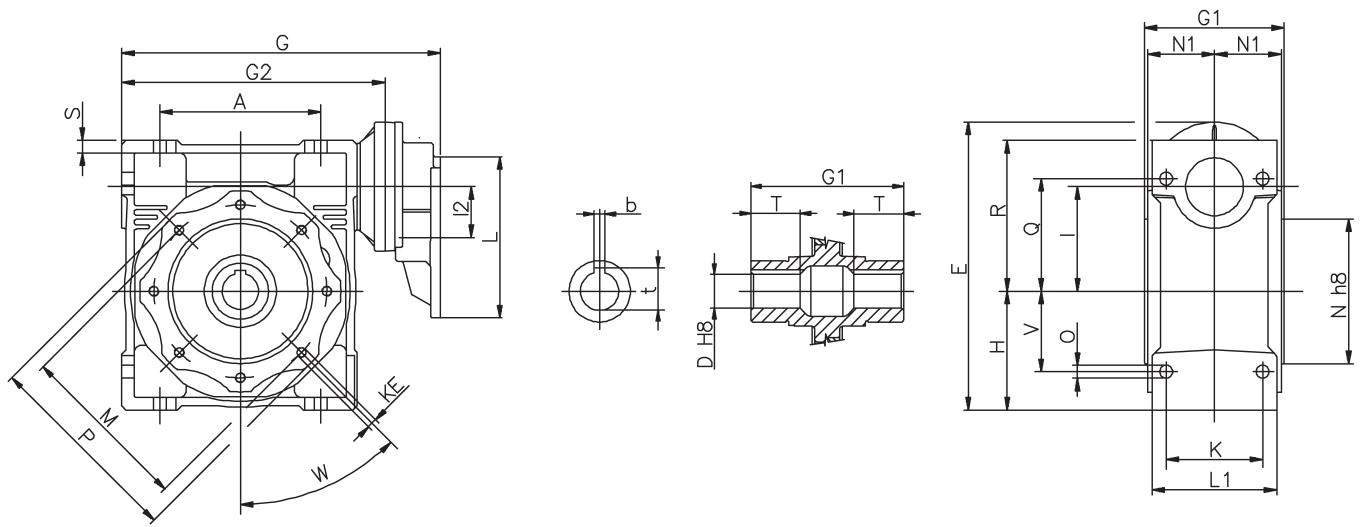
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Dimensions of Output Flanges



| Flange | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 | 150 | |
|--------|-----|---------|---------|---------|--------|--------|--------|--------|--------|--------|
| F | KA | 54.5 | 67 | 90 | 82 | 111 | 111 | 131 | 140 | 155 |
| | KB | 6 | 7 | 9 | 10 | 13 | 13 | 15 | 15 | 15 |
| | KC | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| | KN | 50 | 60 | 70 | 115 | 130 | 152 | 170 | 180 | 180 |
| | KM | 68 | 80 min | 90 min | 150 | 165 | 175 | 230 | 255 | 255 |
| | KO | 6.5 x 4 | 9 x 4 | 11 x 4 | 11 x 4 | 14 x 4 | 14 x 4 | 14 x 8 | 16 x 8 | 16 x 8 |
| | KP | 80 | 110 | 125 | 180 | 200 | 210 | 280 | 320 | 320 |
| | KQ | 70 | 95 | 110 | 142 | 170 | 200 | 260 | 290 | 290 |
| | KW | 45° | 45° | 45° | 45° | 45° | 45° | 45° | 22.5° | 22.5° |
| FL | KA | - | 97 | 120 | 112 | 90 | 122 | 180 | - | - |
| | KB | - | 7 | 9 | 10 | 13 | 18 | 15 | - | - |
| | KC | - | 4 | 5 | 6 | 6 | 6 | 6 | - | - |
| | KN | - | 60 | 70 | 115 | 110 | 180 | 170 | - | - |
| | KM | - | 80 min | 90 min | 150 | 130 | 215 | 230 | - | - |
| | KO | - | 9 x 4 | 11 x 4 | 11 x 4 | 14 x 4 | 14 x 4 | 14 x 8 | - | - |
| | KP | - | 110 | 125 | 180 | 160 | 250 | 280 | - | - |
| | KQ | - | 95 | 110 | 142 | - | - | 260 | - | - |
| | KW | - | 45° | 45° | 45° | 45° | 45° | 45° | - | - |
| FB | KA | - | 80 | 89 | 98 | - | 110 | - | - | - |
| | KB | - | 9 | 10 | 10 | - | 17 | - | - | - |
| | KC | - | 5 | 5 | 5 | - | 6 | - | - | - |
| | KN | - | 95 | 110 | 130 | - | 130 | - | - | - |
| | KM | - | 115 | 130 | 165 | - | 165 | - | - | - |
| | KO | - | 9.5 x 4 | 9.5 x 4 | 11 x 4 | - | 11 x 4 | - | - | - |
| | KP | - | 140 | 160 | 200 | - | 200 | - | - | - |
| | KW | - | 45° | 45° | 45° | - | 45° | - | - | - |

PC & CMRV Dimensions



| | PC063+CMRV | | | PC071+CMRV | | | | PC80 / PC090+CMRV | | | |
|-----------|------------|----------|----------|------------|----------|----------|-----------|-------------------|-----------|-----------|-----------|
| | 040 | 050 | 063 | 050 | 063 | 075 | 090 | 075 | 090 | 110 | 130 |
| A | 70 | 80 | 100 | 80 | 100 | 120 | 140 | 120 | 140 | 170 | 200 |
| E | 147 | 167 | 192 | 177.5 | 202.5 | 228.5 | 260.5 | 241 | 273 | 317.5 | 357.5 |
| G | 165 | 185 | 212 | 193 | 220 | 251.5 | 285.5 | 267.5 | 301.5 | 356.5 | 396.5 |
| G1 | 78 | 92 | 112 | 92 | 112 | 120 | 140 | 120 | 140 | 155 | 170 |
| G2 | 120 | 140 | 167 | 140 | 167 | 198.5 | 232.5 | 198.5 | 232.5 | 287.5 | 327.5 |
| H | 50 | 60 | 72 | 60 | 72 | 86 | 103 | 86 | 103 | 127.5 | 147.5 |
| I | 40 | 50 | 63 | 50 | 63 | 75 | 90 | 75 | 90 | 110 | 130 |
| I2 | 40 | 40 | 40 | 50 | 50 | 50 | 50 | 63 | 63 | 63 | 63 |
| L | 140 | 140 | 140 | 160 | 160 | 160 | 160 | 200 | 200 | 200 | 200 |
| L1 | 71 | 85 | 103 | 85 | 103 | 112 | 130 | 112 | 130 | 144 | 155 |
| K | 60 | 70 | 85 | 70 | 85 | 90 | 100 | 90 | 100 | 115 | 120 |
| KE | M6*10(4) | M8*10(4) | M8*14(8) | M8*10(4) | M8*14(8) | M8*14(8) | M10*18(8) | M8*14(8) | M10*18(8) | M10*18(8) | M12*21(8) |
| M | 75 | 85 | 95 | 85 | 95 | 115 | 130 | 115 | 130 | 165 | 215 |
| N | 60 | 70 | 80 | 70 | 80 | 95 | 110 | 95 | 110 | 130 | 180 |
| N1 | 36.5 | 43.5 | 53 | 43.5 | 53 | 57 | 67 | 57 | 67 | 74 | 81 |
| O | 6.5 | 8.5 | 8.5 | 8.5 | 8.5 | 11.5 | 13 | 11.5 | 13 | 14 | 16 |
| P | 87 | 100 | 110 | 100 | 110 | 140 | 160 | 140 | 160 | 200 | 250 |
| Q | 55 | 64 | 80 | 64 | 80 | 93 | 102 | 93 | 102 | 125 | 140 |
| R | 71.5 | 84 | 102 | 84 | 102 | 119 | 135 | 119 | 135 | 167.5 | 187.5 |
| S | 6.5 | 7 | 8 | 7 | 8 | 10 | 11 | 10 | 11 | 14.5 | 15.5 |
| T | 26 | 30 | 36 | 30 | 36 | 40 | 45 | 40 | 45 | 50 | 60 |
| V | 35 | 40 | 50 | 40 | 50 | 60 | 70 | 60 | 70 | 85 | 100 |
| W | 45° | 45° | 45° | 45° | 45° | 45° | 45° | 45° | 45° | 45° | 45° |
| D | 18 | 25 | 25 | 25 | 25 | 28 | 35 | 28 | 35 | 42 | 45 |
| b | 6 | 8 | 8 | 8 | 8 | 8 | 10 | 8 | 10 | 12 | 14 |
| t | 20.8 | 28.3 | 28.3 | 28.3 | 28.3 | 31.3 | 38.3 | 31.3 | 38.3 | 45.3 | 48.8 |
| kg | 3.4 | 4.6 | 7.3 | 5.1 | 7.8 | 10.6 | 14.6 | 12.4 | 16.4 | 38.4 | 51.4 |

kg = Weight without motor

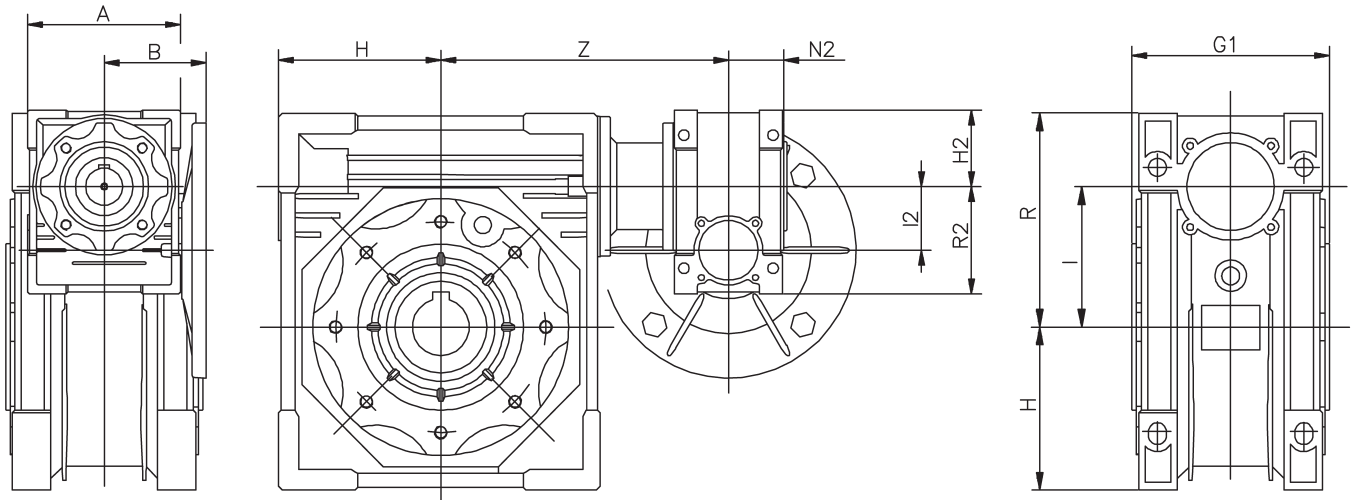
For the dimensions of the output flanges, please consider the drawing of relevant CMRV size.

For the dimensions of the hollow shafts in option, please consider the drawing of relevant CMRV size.

For the dimensions of the double extension worm shafts, please consider the drawing of relevant CMRV size.

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

CMRV & CMRV Dimensions

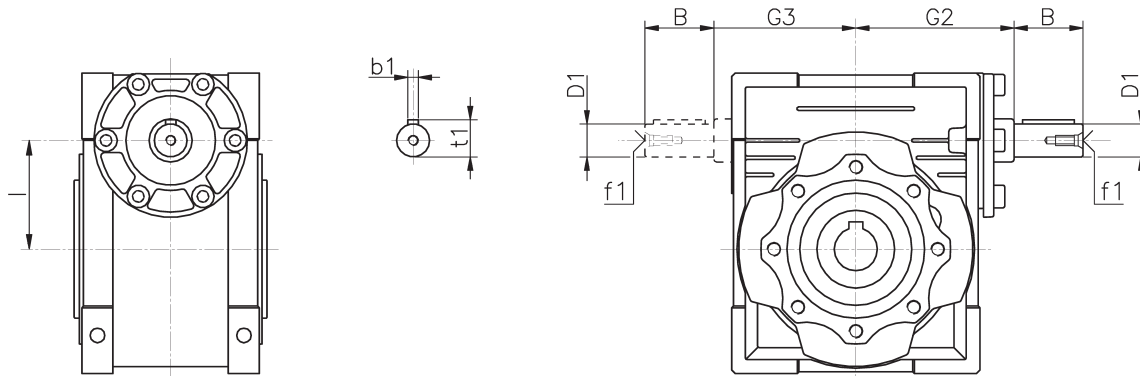


| | CMRV-CMRV | | | | | | | | | |
|-----------|-----------|---------|---------|---------|---------|---------|--------|---------|---------|---------|
| | 025-030 | 025-040 | 030-040 | 030-050 | 030-063 | 040-075 | 040-09 | 050-110 | 063-130 | 063-150 |
| A | 70 | 70 | 80 | 80 | 80 | 100 | 100 | 120 | 144 | 144 |
| B | 45 | 45 | 55 | 55 | 55 | 70 | 70 | 80 | 95 | 95 |
| G1 | 63 | 78 | 78 | 92 | 112 | 120 | 140 | 155 | 170 | 200 |
| H | 40 | 50 | 50 | 60 | 72 | 86 | 103 | 127.5 | 147.5 | 170 |
| I | 30 | 40 | 40 | 50 | 63 | 75 | 90 | 110 | 130 | 150 |
| R | 57 | 71.5 | 71.5 | 84 | 102 | 119 | 135 | 167.5 | 187.5 | 230 |
| H2 | 35 | 35 | 40 | 40 | 40 | 50 | 50 | 60 | 72 | 72 |
| I2 | 25 | 25 | 30 | 30 | 30 | 40 | 40 | 50 | 63 | 63 |
| N2 | 22.5 | 22.5 | 29 | 29 | 29 | 36.5 | 36.5 | 43.5 | 53 | 53 |
| R2 | 48 | 48 | 57 | 57 | 57 | 71.5 | 71.5 | 84 | 102 | 102 |
| Z | 100 | 115 | 122 | 132 | 145 | 167.5 | 184.5 | 226 | 245 | 275 |
| kg | 1.9 | 3 | 3.5 | 4.7 | 7.4 | 11.3 | 15.3 | 38.5 | 54.2 | 90.2 |

kg = Weight without motor

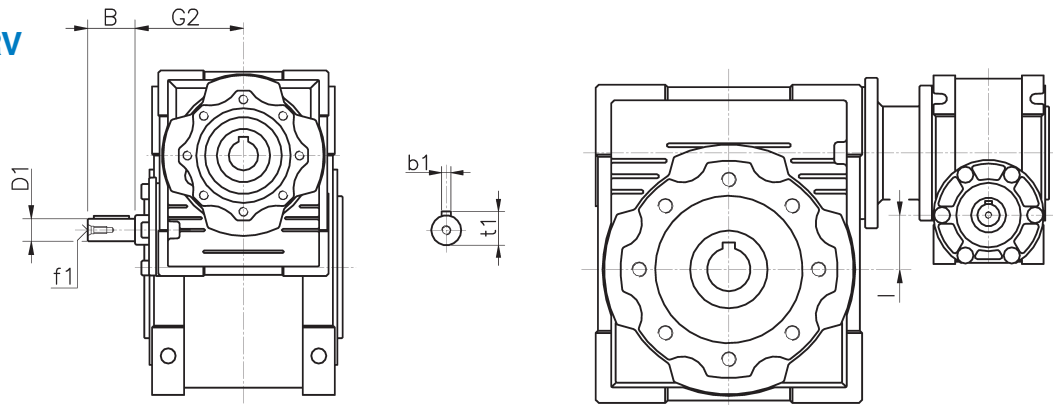
CRV & CRV-CMRV Dimensions

CRV



| CRV | 030 | 040 | 050 | 063 | 075 | 090 | 110 | 130 | 150 |
|-----------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| B | 20 | 23 | 30 | 40 | 50 | 50 | 60 | 80 | 80 |
| D1 | 9 j6 | 11 j6 | 14 j6 | 19 j6 | 24 j6 | 24 j6 | 28 j6 | 30 j6 | 35 j6 |
| G2 | 51 | 60 | 74 | 90 | 105 | 125 | 142 | 162 | 195 |
| G3 | 45 | 53 | 64 | 75 | 90 | 108 | 135 | 155 | 175 |
| l | 30 | 40 | 50 | 63 | 75 | 90 | 110 | 130 | 150 |
| b1 | 3 | 4 | 5 | 6 | 8 | 8 | 8 | 8 | 10 |
| f1 | - | - | M6 | M6 | M8 | M8 | M10 | M10 | M12 |
| t1 | 10,2 | 12,5 | 16 | 21,5 | 27 | 27 | 31 | 33 | 38 |

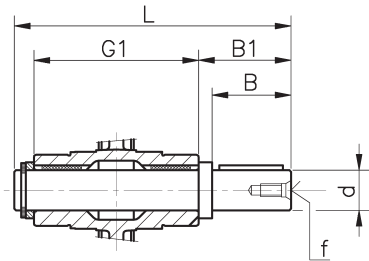
CRV-CMRV



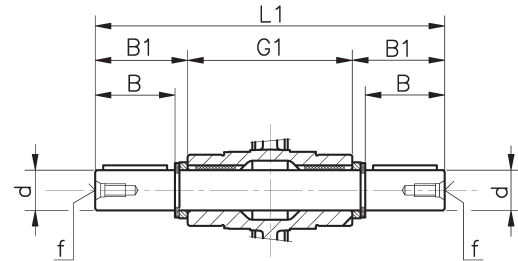
| CRV-CMRV | 030-040 | 030-050 | 030-063 | 040-075 | 040-090 | 050-110 | 063-130 | 063-150 |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| B | 20 | 20 | 20 | 23 | 23 | 30 | 40 | 40 |
| D1 | 9 j6 | 9 j6 | 9 j6 | 11 j6 | 11 j6 | 14 j6 | 19 j6 | 19 j6 |
| G2 | 51 | 51 | 51 | 60 | 60 | 74 | 90 | 90 |
| l | 10 | 20 | 33 | 35 | 50 | 60 | 67 | 87 |
| b1 | 3 | 3 | 3 | 4 | 4 | 5 | 6 | 6 |
| f1 | - | - | - | - | - | M6 | M6 | M6 |
| t1 | 10,2 | 10,2 | 10,2 | 12,5 | 12,5 | 16 | 21,5 | 21,5 |

For the missing dimensions, please consult the CMRV size drawing.

Output Shafts & CTA Torque Arms



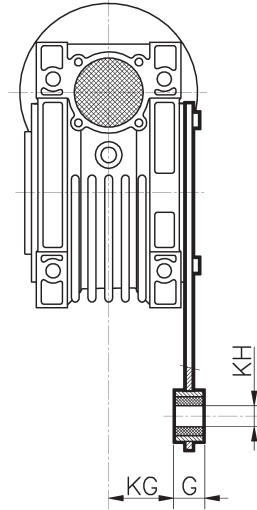
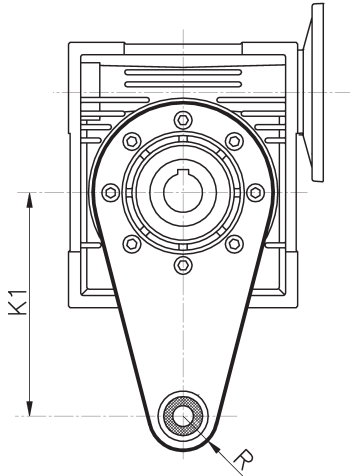
COS-S Single



COS-D Double

| Size | d | B | B1 | G1 | L | L1 | f | b1 | t1 |
|------|-------------|------------|--------------|-----|--------------|-----|-----|----------|----------------|
| 025 | 11g6 (9) | 23 (25) | 25,5 (30) | 50 | 81 (85,5) | 101 | - | 4 (3) | 12,5 (10,2) |
| 030 | 14 h6 | 30 | 32,5 | 63 | 102 | 128 | M6 | 5 | 16 |
| 040 | 18 h6 | 40 | 43 | 78 | 128 | 164 | M6 | 6 | 20,5 |
| 050 | 25 h6 | 50 | 53,5 | 92 | 153 | 199 | M10 | 8 | 28 |
| 063 | 25 h6 | 50 | 53,5 | 112 | 173 | 219 | M10 | 8 | 28 |
| 075 | 28 h6 | 60 | 63,5 | 120 | 192 | 247 | M10 | 8 | 31 |
| 090 | 35 h6 | 80 | 84,5 | 140 | 234 | 309 | M12 | 10 | 38 |
| 110 | 42 h6 | 80 | 84,5 | 155 | 249 | 324 | M16 | 12 | 45 |
| 130 | 45 h6 | 80 | 85 | 170 | 265 | 340 | M16 | 14 | 48,5 |
| 150 | 50 h6 | 82 | 87 | 200 | 297 | 374 | M16 | 14 | 53,5 |

CTA Torque arms

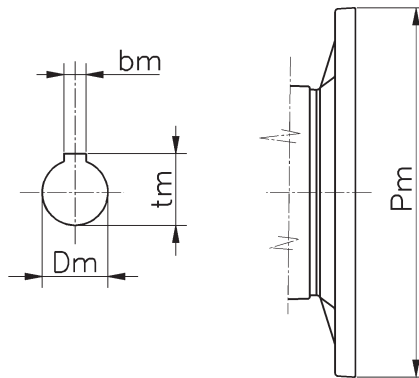


| Size | K1 | G | KG | KH | R |
|------|-----|----|------|----|----|
| 025 | 70 | 14 | 17,5 | 8 | 15 |
| 030 | 85 | 14 | 24 | 8 | 15 |
| 040 | 100 | 14 | 31,5 | 10 | 18 |
| 050 | 100 | 14 | 38,5 | 10 | 18 |
| 063 | 150 | 14 | 49 | 10 | 18 |
| 075 | 200 | 25 | 47,5 | 20 | 30 |
| 090 | 200 | 25 | 57,5 | 20 | 30 |
| 110 | 250 | 30 | 62 | 25 | 35 |
| 130 | 250 | 30 | 69 | 25 | 35 |
| 150 | 250 | 30 | 84 | 25 | 35 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Motor Input Flanges PAM B5 & PAM B14

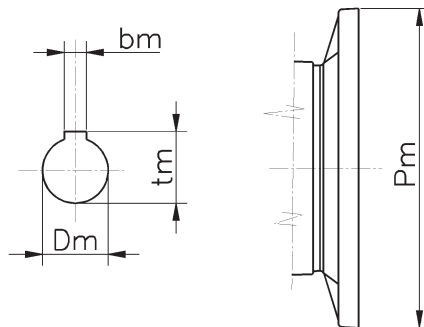
PAM B5



Dimensions

| B5 | IEC | | | | | | | | | | |
|-----------|------|------|------|------|------|------|------|------|------|------|------|
| | 056 | 063 | 071 | 080 | 090 | 100 | 112 | 132 | 160 | 180 | 200 |
| Pm | 120 | 140 | 160 | 200 | 200 | 250 | 250 | 300 | 350 | 350 | 400 |
| Dm | 9 | 11 | 14 | 19 | 24 | 28 | 28 | 38 | 42 | 48 | 55 |
| bm | 3 | 4 | 5 | 6 | 8 | 8 | 8 | 10 | 12 | 14 | 16 |
| tm | 10,4 | 12,8 | 16,3 | 21,8 | 27,3 | 31,3 | 31,3 | 41,3 | 45,3 | 51,8 | 59,3 |

PAM B14

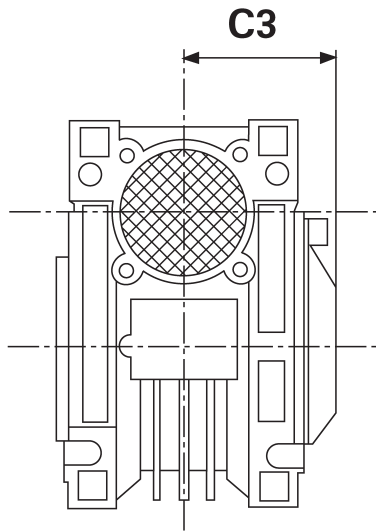


Dimensions

| B14 | IEC | | | | | | | |
|-----------|------|------|------|------|------|------|------|------|
| | 056 | 063 | 071 | 080 | 090 | 100 | 112 | 132 |
| Pm | 80 | 90 | 105 | 120 | 140 | 160 | 160 | 200 |
| Dm | 9 | 11 | 14 | 19 | 24 | 28 | 28 | 38 |
| bm | 3 | 4 | 5 | 6 | 8 | 8 | 8 | 10 |
| tm | 10,4 | 12,8 | 16,3 | 21,8 | 27,3 | 31,3 | 31,3 | 41,3 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

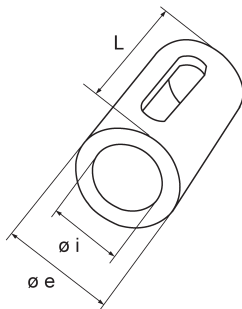
Cover & Shaft Sleeves



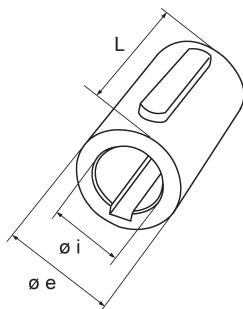
Cover

| TYPE | C3 |
|------|-----|
| 030 | 43 |
| 040 | 50 |
| 050 | 59 |
| 063 | 70 |
| 075 | 75 |
| 090 | 87 |
| 110 | 95 |
| 130 | 103 |

CMS Reduction bushing kit



| SINGLE SIZE SHAFT SLEEVES | | | | |
|---------------------------|-------|-----|------------------------------|------------|
| TYPE | øi/øe | L | KEY | Weight kgf |
| CMS | 9/11 | 20 | 4/3 x 4 x 11 | 0.006 |
| CMS | 11/14 | 30 | 5/4 x 6 x 10 | 0.015 |
| CMS | 14/19 | 40 | 6 x 5 x 30 | 0.045 |
| CMS | 19/24 | 50 | 6 x 5.5 x 20 8 x 5.5 x 40 | 0.07 |
| CMS | 24/28 | 60 | 8 x 9 x 40 | 0.08 |
| CMS | 28/38 | 80 | 10 x 7 x 60 | 0.33 |
| CMS | 38/42 | 110 | 12/10 x 10 x 48 | 0.22 |



| DOUBLE SIZE SHAFT SLEEVES | | | | |
|---------------------------|-------|----|-------------|------------|
| TYPE | øi/øe | L | KEY | Weight kgf |
| CMS | 9/11 | 40 | 6 x 6 x 30 | 0.06 |
| CMS | 11/24 | 50 | 8 x 7 x 40 | 0.12 |
| CMS | 19/28 | 60 | 8 x 7 x 50 | 0.6 |
| CMS | 24/38 | 80 | 10 x 8 x 60 | 0.44 |

Drive Design

Drive design

Example:

To design a drive a few simple questions need to be asked, then calculated first.

For example, a belt conveyor needs to be driven by a shaft mounted worm gear unit.

Belt speed required: say for example 55 feet per minute

Diameter of drive roller/drum: say for example 1 foot

Calculation for the output speed the gear unit needs to run at, or the drum speed needs to be, is as follows:

Diameter of drum in feet, multiplied by 3.142 (pi) multiplied by the speed in rev/min, gives you the feet per min / Belt speed,

So, $1 \times 3.142 \times 17.5 \text{ rev/min} = 54.985 \text{ ft per min}$ say 55 feet per min.

Our gear unit output speed needs to be **17.5 rev/min**

If we assume our motor input speed is 1400 rev/min divided by 17.5 rev/min, gives you 80, so the ratio of the gear unit is 80:1.

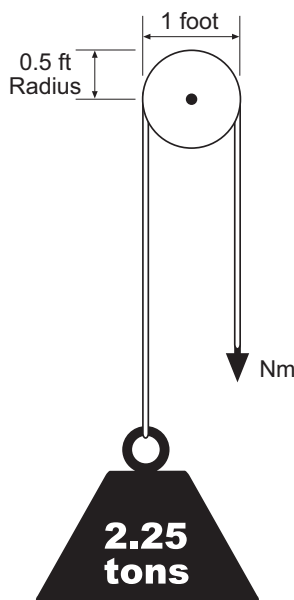
Now we need to calculate the power required:

To do this we need to calculate the torque in Newton metres (Nm), the calculation is as follows:

Load in lbs multiplied by the radius of the roller/drum gives you the torque required to lift the load vertically.

By exerting a pull around a drum or pulley see Fig 1

Fig 1



The load including the belt is 2.25 tons.

So, $2240 \text{ lbf} = 1 \text{ ton} \times 2.25 = 5040 \text{ lbf}$ / $2.25 \text{ tons} \times 0.5 \text{ ft}$ radius of roller/drum = 2520 lbf.ft torque to convert to Nm $\times 1.3558 = 3416 \text{ Nm}$

Now we have to apply a coefficient of friction or rolling friction, Effectively we will lay the lifting torque in Fig 1 flat, as if rotating the illustration 90 degrees clockwise.

So the lifting torque is $3416 \text{ Nm} \times 0.05 = 170.8 \text{ Nm}$ coefficient of friction or rolling friction for this type of application.

We now have a required torque of **170.8Nm**. What we need to do now is apply a service factor.

Service factors can vary considerably depending on the application.

Example:

Conveyors running 16 hours per day with up to 10 stops and starts per hour would be a service factor of 1.3, therefore we take the required torque of **170.8Nm multiplied by the 1.3 service factor = 221.39 Nm say 222Nm** this is called the design power.

We can now look in the catalogue and find a gear unit with a rated torque of 222Nm or slightly larger with a service factor (f/s) of 1 or more.

The unit we require is a CMRV090 80:1 the catalogue shows this unit rated at .92kW At 316Nm torque.

Now we take .92kW divided by 316Nm and multiply by 222Nm = 0.646kW.

0.92kW and 0.646kW motors are none standard so we need to choose a **0.75kW 4 pole 1400rev/min motor in a 80B5 output flange and a CMRV090 80:1 B5 80 input flange.**

the actual torque we will get from our selection is 257Nm which will now give a service factor of 1.5.

Useful formulae:

Feet per minute = diameter of drum/roller x 3.142 ft x rev/min

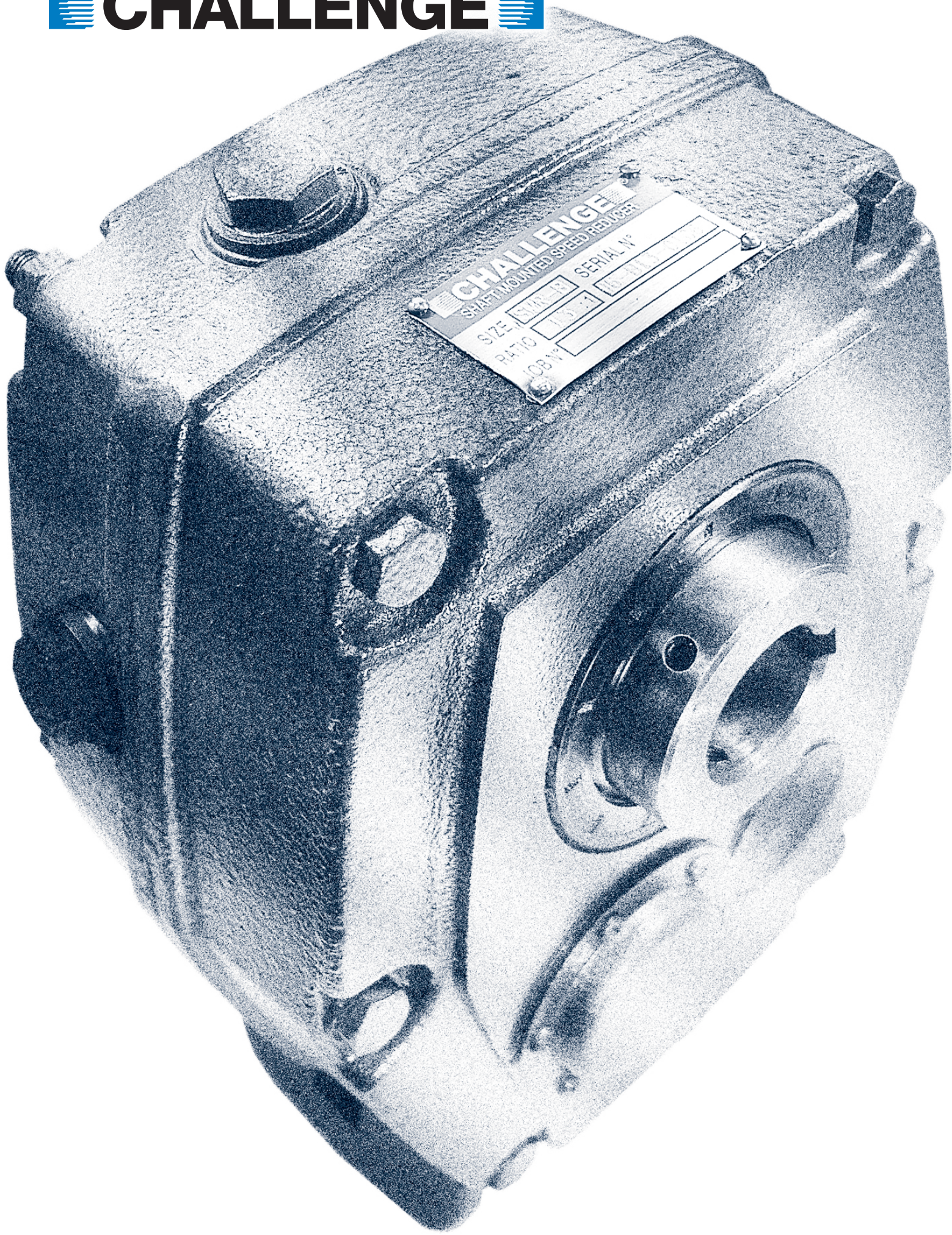
kW to torque Nm = $\frac{\text{kW} \times 9550}{\text{rev/min}}$

Coefficient of friction:

Coefficient of friction varies from application to application, but a general rule for anti friction bearings is 0.01 to 0.05, for example, a chain conveyor on a 5° Incline would use a coefficient of friction equal to 0.05, inclines over 45° should be treated as a straight lift.

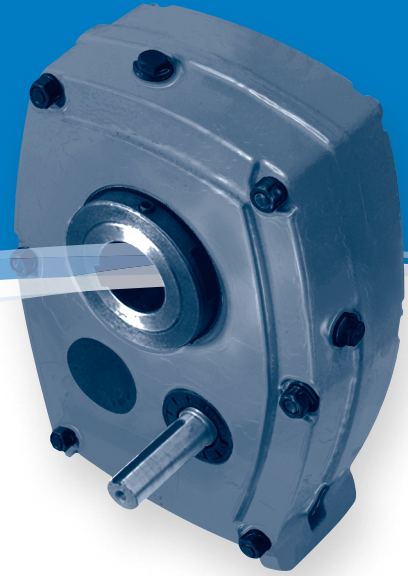
Notes

CHALLENGE®



Shaft Mounted Speed Reducers

Metric Range



Features

The Challenge SMSR stands tall amongst the crowd. Packed full of attention to detail, the Challenge SMSR delivers performance in the harshest of applications.

Shaft mounted drives remove the need for couplings, mounting plinths and have infinitely variable ratios due to the belt drive. They are also incredibly simple to fit and can be mounted in any position as no motor base is required.

- Grip-Loc hubs now available for simple installation and removal
- Includes complete torque arm assembly
- Interchangeable with most other manufacturers
- Production line manufacturing guarantees tolerances and consistent quality.
- Gears produced on German manufactured hobbing centres to achieve the highest quality helical gear components.
 - Pinions; 8620 steel
 - Gears; 20MnCr5 steel
- All gears are ground
- Final heat treatment includes gas carburising to a depth of 1mm, then grinding to DIN class 6.
- Castings crack tested
- All units test run prior to final quality control checks
- Full traceability guaranteed with unique Challenge serial number.
- Backstops also available to prevent reversing
- Drive ratios exceed 150:1 with a belt drive
- Double lipped oil seals used throughout
- Standard ball and cylindrical roller bearings used - in stock around the world

Shaft Mounted Speed Reducer

Shaft Mounted Speed Reducer selection procedure

- 1] **Service Factor.**
From Table 1 on page 385, select the service factor that is appropriate for the application
- 2] **Design Power.**
Multiply the absorbed power of the driven machine by the service factor, from step 1) to obtain the design power.
If the absorbed power is not known, use the motor power
- 3] **SMSR gear unit size selection.**
Refer to the power rating Tables on pages 385 and 386 then read down the left hand vertical column to the required output speed. (interpolate if the exact speed is not listed).
Read horizontally across on the speed line until a power equal to or in excess of the design power, from step 2), is reached.
Read vertically to the top of the column to obtain the correct size of SMSR unit.
The ratio of the chosen unit is determined by the required output speed.
Go to page 398 or 399 in order to check the chosen SMSR will fit the driven machine shaft.

Wedge belt drive selection procedure.

Two methods are used for the belt drive selection. One for 1440 rev/min electric motors and secondly for all other speeds.

1440 rev/min electric motor speed.

- a] **Output speed.**
Refer to the Wedge belt drive selection pages (pages 387 to 395) for the chosen gear unit size. Read down the left hand column headed 'output speed' until a speed equal to or near to that required is found.
- b] **Pulley pitch diameters.**
Read across from the chosen output speed to obtain the pulley diameters for the motor shaft and SMSR input shaft
On smaller size gear units, it may well be that single belt drives are recommended. If, on such drives, two belts are preferred, special attention must be made to belt tensioning.
If in any doubt, please contact CHALLENGE.
- c] **Centre distance.**
Refer to page 162 in order to calculate the correct belt length for the required centre distance

Other prime mover speeds

- a] **SMSR unit input shaft speed.**
Multiply the chosen SMSR gear unit output speed by its exact speed ratio to obtain the SMSR gear unit input shaft speed.
The exact gear ratio of the chosen SMSR can be found at the bottom of the SMSR dimension Table on page 397 column 2 .
- b] **Selection of Wedge belt drive.**
The correct Wedge belt can be designed by referring to the selection procedure on page 162.

Shaft Mounted Speed Reducer selection example

Select a CHALLENGE Shaft Mounted Speed Reducer to drive a rotary kiln which absorbs 0.95 kW when running at 20 rev/min for upto 8 hours/day.
The prime mover is a 1.1 kW, 1440 rev/min electric motor with a star-delta starter and a 24 mm shaft.
The kiln has a 50 mm shaft and 450 mm drive centres are required.

- 1] **Service Factor.**
From Table 1 on page 385, the chosen service factor is 1.25.
- 2] **Design Power.**
Using the kiln absorbed power of 0.95 kW, the design power is :-
 $0.95 \times 1.25 = 1.19 \text{ kW}$
- 3] **SMSR gear unit size selection.**
From the SMSR power rating Table on page 386, a size D13 or D20 will transmit 1.58 kW at 20 rev/min which is excess of the required 1.19 kW from step 2).
A size D20 rather than a D13 is chosen as it will utilize a more economically priced Wedge belt drive.
On checking the hub sizes on page 398, it is seen that the D20 has a 50 mm standard hub bore which matches the kiln shaft of 50 mm.

Wedge belt drive selection procedure.

As the motor speed is 1440 rev/min, the following selection method is used :-

- 1440 rev/min electric motor speed.
- a] **Output speed.**
Refer to the drive selection page 389 for SMSR size 'D' units. Read down the left hand column to required output speed of 20 rev/min.
- b] **Pulley pitch diameters.**
Read across from the chosen output speed to obtain the prime mover and SMSR input shaft pulley diameters. The electric motor to be fitted with a 71 x 1 SPZ pulley and the SMSR input shaft with a 250 x 1 SPZ
- c] **Centre distance.**
Refer to page 162 and by using the appropriate formulae, an SPZ1420 will give a centre distance of 449 mm.

Drive Specification.

- SMSR size:** D20 with a standard hub bore of 50 mm
 - Motor pulley:** 71 x 1 SPZ with taper bush size 1108 bored 24 mm
 - SMSR input shaft pulley:** 250 x 1 SPZ with taper bush 2012 bored 25 mm
- An SPZ1420 Wedge belt gives a centre distance of 449 mm.

Shaft Mounted Speed Reducer

Table 1, Service Factors

| Type of driven machine | Number of hours per day running | | |
|---|---------------------------------|-------------|-------------|
| | under 10 | 10 - 16 | over 16 |
| Uniformly loaded applications Agitators and mixers - uniform density, centrifugal blowers, belt conveyors and elevators, non-reversing laundry machines, line shafts, centrifugal and rotary pumps, wire drawing machines | 1.00 | 1.12 | 1.25 |
| Moderate shock load applications Agitators and mixers – variable density, conveyors – medium duty, cranes, feeders – pulsating loads, hoists, kiln, other laundry machinery, lifts, piston pumps with 3 or more cylinders, paper making machinery, rubber mixers and calenders, rotary screens, textile machinery | 1.25 | 1.40 | 1.60 |
| Heavy duty machinery Brick making machinery, heavy duty conveyors, crushers, reciprocating feeders, hammer mills, piston pumps with 1 or 2 cylinders, rubber masticators, vibrating machines | 1.60 | 1.80 | 2.00 |

SMSR Power Rating Table kW (Ratio 5:1) Single Reduction

| Output rev/min | SMSR Size | | | | | | | |
|------------------------------|-----------|------|-------|-------|-------|-------|-------|--------|
| | B5 | C5 | D5 | E5 | F5 | G5 | H5 | J5 |
| 100 | 2.02 | 3.14 | 5.20 | 8.03 | 11.44 | 19.03 | 27.50 | 58.52 |
| 110 | 2.15 | 3.32 | 5.50 | 8.44 | 12.06 | 20.06 | 29.00 | 61.89 |
| 120 | 2.27 | 3.51 | 5.80 | 8.85 | 12.67 | 21.10 | 30.49 | 65.25 |
| 130 | 2.40 | 3.70 | 6.09 | 9.26 | 13.29 | 22.13 | 31.99 | 68.62 |
| 140 | 2.53 | 3.88 | 6.39 | 9.68 | 13.90 | 23.17 | 33.48 | 71.98 |
| 150 | 2.65 | 4.07 | 6.69 | 10.09 | 14.52 | 24.20 | 34.98 | 75.35 |
| 160 | 2.78 | 4.23 | 6.95 | 10.45 | 15.03 | 25.21 | 36.37 | 78.32 |
| 170 | 2.91 | 4.38 | 7.21 | 10.80 | 15.53 | 26.22 | 37.75 | 81.29 |
| 180 | 3.03 | 4.54 | 7.47 | 11.16 | 16.04 | 27.24 | 39.14 | 84.26 |
| 190 | 3.16 | 4.69 | 7.73 | 11.52 | 16.54 | 28.25 | 40.52 | 87.23 |
| 200 | 3.29 | 4.85 | 7.99 | 11.88 | 17.05 | 29.26 | 41.91 | 90.20 |
| 210 | 3.42 | 4.99 | 8.20 | 12.19 | 17.47 | 27.24 | 43.14 | 92.84 |
| 220 | 3.55 | 5.12 | 8.42 | 12.50 | 17.89 | 25.21 | 44.37 | 95.48 |
| 230 | 3.68 | 5.25 | 8.63 | 12.80 | 18.30 | 23.19 | 45.61 | 98.12 |
| 240 | 3.81 | 5.39 | 8.85 | 13.11 | 18.72 | 21.16 | 46.84 | 100.76 |
| 250 | 3.94 | 5.52 | 9.06 | 13.42 | 19.14 | 19.14 | 48.07 | 103.40 |
| 260 | 4.07 | 5.64 | 9.25 | 13.71 | 19.47 | 22.95 | 49.13 | 105.82 |
| 270 | 4.20 | 5.76 | 9.43 | 13.99 | 19.80 | 26.75 | 50.18 | 108.24 |
| 280 | 4.33 | 5.87 | 9.61 | 14.28 | 20.13 | 30.56 | 51.24 | 110.66 |
| 290 | 4.46 | 5.99 | 9.79 | 14.56 | 20.46 | 34.36 | 52.29 | 113.08 |
| 300 | 4.59 | 6.11 | 9.98 | 14.85 | 20.79 | 38.17 | 53.35 | 115.50 |
| 310 | 4.71 | 6.21 | 10.15 | 15.11 | 21.05 | 38.92 | 54.19 | 117.92 |
| 320 | 4.84 | 6.32 | 10.33 | 15.38 | 21.32 | 39.67 | 55.02 | 120.34 |
| 330 | 4.96 | 6.43 | 10.51 | 15.64 | 21.58 | 40.41 | 55.86 | 122.76 |
| 340 | 5.09 | 6.54 | 10.68 | 15.91 | 21.85 | 41.16 | 56.69 | 125.18 |
| 350 | 5.21 | 6.64 | 10.86 | 16.17 | 22.11 | 41.91 | 57.53 | 126.00 |
| 360 | 5.34 | 6.75 | 11.04 | 16.43 | 22.33 | 42.50 | 58.12 | 128.10 |
| 370 | 5.46 | 6.85 | 11.22 | 16.70 | 22.55 | 43.10 | 58.72 | 129.20 |
| 380 | 5.58 | 6.95 | 11.40 | 16.96 | 22.77 | 43.69 | 59.31 | 130.20 |
| 390 | 5.71 | 7.05 | 11.59 | 17.23 | 22.99 | 44.29 | 59.91 | 131.30 |
| 400 | 5.83 | 7.15 | 11.77 | 17.49 | 23.21 | 44.88 | 60.50 | 134.00 |
| Torque (Nm) @ 100 rev/min | 193 | 299 | 497 | 767 | 1093 | 1817 | 2626 | 5589 |

Note: Challenge do not recommend the use of backstops on 5:1 units as this affects the units power ratings. Should this be necessary please contact the Challenge Technical Department.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

SMSR Power Rating Table kW (Ratio 13:1 & 20:1)

Double Reduction

| Output rev/min | SMSR Size | | | | | | | | | | |
|-----------------------------|-----------|---------|---------|---------|---------|---------|---------|---------|-------|-------|-------|
| | B13/B20 | C13/C20 | D13/D20 | E13/E20 | F13/F20 | G13/G20 | H13/H20 | J13/J20 | S 20 | K 20 | L 20 |
| 10 | 0.29 | 0.49 | 0.82 | 1.25 | 1.97 | 3.11 | 4.90 | 7.80 | 11.0 | 14.6 | 23.0 |
| 12 | 0.36 | 0.58 | 0.96 | 1.48 | 2.45 | 3.71 | 5.90 | 9.20 | 13.1 | 17.3 | 27.3 |
| 14 | 0.42 | 0.67 | 1.11 | 1.73 | 2.71 | 4.30 | 6.80 | 10.70 | 15.2 | 20.0 | 31.6 |
| 16 | 0.47 | 0.77 | 1.27 | 1.97 | 3.09 | 4.89 | 7.70 | 12.10 | 17.3 | 22.6 | 35.9 |
| 18 | 0.53 | 0.86 | 1.41 | 2.20 | 3.44 | 5.48 | 8.70 | 13.60 | 19.3 | 25.1 | 40.1 |
| 20 | 0.59 | 0.96 | 1.58 | 2.43 | 3.82 | 6.08 | 9.50 | 15.10 | 21.4 | 27.6 | 44.3 |
| 22 | 0.63 | 1.04 | 1.73 | 2.67 | 4.18 | 6.63 | 10.40 | 16.40 | 23.4 | 30.1 | 48.4 |
| 24 | 0.69 | 1.13 | 1.86 | 2.89 | 4.55 | 7.22 | 11.30 | 17.90 | 25.4 | 32.6 | 52.5 |
| 26 | 0.75 | 1.22 | 2.02 | 3.13 | 4.91 | 7.79 | 12.10 | 19.30 | 27.3 | 35.1 | 56.6 |
| 28 | 0.81 | 1.32 | 2.18 | 3.36 | 5.27 | 8.35 | 13.10 | 20.60 | 29.3 | 37.5 | 60.6 |
| 30 | 0.86 | 1.41 | 2.32 | 3.58 | 5.63 | 8.92 | 13.90 | 22.50 | 31.2 | 39.8 | 64.7 |
| 32 | 0.92 | 1.50 | 2.47 | 3.81 | 5.98 | 9.49 | 14.80 | 23.60 | 33.2 | 42.2 | 68.6 |
| 34 | 0.98 | 1.60 | 2.63 | 4.04 | 6.34 | 10.04 | 15.70 | 25.10 | 35.1 | 44.5 | 72.6 |
| 38 | 1.10 | 1.79 | 2.91 | 4.48 | 7.05 | 11.12 | 17.40 | 27.60 | 39.0 | 49.0 | 80.4 |
| 40 | 1.16 | 1.87 | 3.07 | 4.71 | 7.41 | 11.87 | 18.20 | 29.00 | 40.8 | 51.2 | 84.2 |
| 42 | 1.20 | 1.96 | 3.19 | 4.92 | 7.75 | 12.39 | 19.30 | 30.10 | 42.6 | 53.2 | 87.9 |
| 46 | 1.30 | 2.13 | 3.48 | 5.37 | 8.28 | 13.65 | 21.10 | 32.60 | 46.4 | 57.1 | 95.1 |
| 50 | 1.42 | 2.30 | 3.78 | 5.81 | 9.07 | 14.60 | 22.80 | 35.00 | 50.1 | 60.8 | 102.2 |
| 52 | 1.47 | 2.37 | 4.00 | 6.03 | 9.14 | 15.23 | 23.40 | 35.60 | 51.6 | 62.7 | 105.0 |
| 54 | 1.52 | 2.47 | 4.14 | 6.23 | 9.42 | 15.86 | 24.40 | 36.30 | 52.8 | 64.5 | 109.2 |
| 58 | 1.64 | 2.61 | 4.43 | 6.66 | 10.02 | 16.80 | 25.80 | 38.00 | 55.7 | 68.0 | 115.5 |
| 62 | 1.76 | 2.77 | 4.71 | 7.23 | 10.61 | 17.96 | 27.50 | 40.20 | 57.8 | 71.5 | 121.8 |
| 66 | 1.86 | 2.94 | 5.01 | 7.68 | 11.24 | 19.01 | 29.70 | 42.50 | 60.4 | 75.0 | 128.1 |
| 70 | 1.96 | 3.07 | 5.13 | 8.11 | 11.76 | 20.16 | 30.60 | 44.70 | | | |
| 74 | 2.06 | 3.18 | 5.42 | 8.54 | 12.39 | 21.11 | 32.00 | 47.00 | | | |
| 78 | 2.15 | 3.32 | 5.70 | 8.97 | 12.92 | 22.26 | 33.60 | 49.20 | | | |
| 80 | 2.23 | 3.39 | 5.81 | 9.19 | 13.23 | 22.47 | 34.30 | 50.20 | | | |
| 85 | 2.34 | 3.58 | 6.14 | 9.71 | 13.97 | 23.31 | 36.20 | 52.80 | | | |
| 90 | 2.48 | 3.79 | 6.49 | 10.24 | 14.60 | 24.57 | 37.90 | 55.30 | | | |
| 95 | 2.61 | 4.00 | 6.81 | 10.50 | 15.44 | 25.83 | 39.00 | 58.00 | | | |
| 100 | 2.73 | 4.19 | 7.15 | 11.03 | 16.17 | 27.09 | 40.70 | 60.50 | | | |
| 105 | 2.85 | 4.41 | 7.48 | 11.55 | 17.01 | | | | | | |
| 110 | 2.98 | 4.62 | 7.81 | | | | | | | | |
| 115 | 3.11 | | | | | | | | | | |
| Torque (Nm) @ 10 rev/min | 277 | 468 | 783 | 1194 | 1881 | 2970 | 4680 | 7449 | 10505 | 13943 | 21965 |

Note: The wavy line ~~~~~ indicates maximum output speed for 20:1 ratio units, for speeds above this limit use 13:1 or 5:1 ratio units.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

B 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 51 | 5.63 | 71 | 400 | 1SPZ* |
| 57 | 5.00 | 80 | 400 | 1SPZ* |
| 64 | 4.44 | 90 | 400 | 1SPZ* |
| 71 | 4.00 | 100 | 400 | 1SPZ* |
| 80 | 3.57 | 112 | 400 | 1SPZ* |
| 86 | 3.32 | 95 | 315 | 1SPZ* |
| 91 | 3.15 | 100 | 315 | 1SPZ* |
| 97 | 2.94 | 85 | 250 | 2SPZ |
| 101 | 2.82 | 71 | 200 | 2SPZ |
| 107 | 2.67 | 75 | 200 | 2SPZ |
| 113 | 2.54 | 71 | 180 | 2SPZ |
| 119 | 2.40 | 75 | 180 | 2SPZ |
| 128 | 2.23 | 112 | 250 | 1SPZ* |
| 134 | 2.13 | 75 | 160 | 2SPZ |
| 137 | 2.09 | 67 | 140 | 3SPZ |
| 145 | 1.97 | 71 | 140 | 3SPZ |
| 151 | 1.89 | 106 | 200 | 1SPA* |
| 160 | 1.79 | 112 | 200 | 1SPA* |
| 168 | 1.70 | 106 | 180 | 1SPA* |
| 171 | 1.67 | 67 | 112 | 3SPZ |
| 177 | 1.61 | 112 | 180 | 2SPZ |
| 181 | 1.58 | 71 | 112 | 3SPZ |
| 187 | 1.53 | 118 | 180 | 1SPA* |
| 190 | 1.50 | 100 | 150 | 2SPA |
| 200 | 1.43 | 112 | 160 | 1SPA* |
| 205 | 1.39 | 90 | 125 | 2SPZ |
| 210 | 1.36 | 118 | 160 | 1SPA* |
| 216 | 1.32 | 106 | 140 | 2SPA |
| 222 | 1.29 | 140 | 180 | 1SPZ* |
| 228 | 1.25 | 112 | 140 | 1SPA* |
| 235 | 1.21 | 132 | 160 | 1SPA* |
| 242 | 1.18 | 95 | 112 | 2SPZ |
| 250 | 1.14 | 140 | 160 | 1SPA* |
| 256 | 1.12 | 112 | 125 | 1SPA* |
| 266 | 1.07 | 140 | 150 | 1SPA* |
| 270 | 1.06 | 90 | 95 | 3SPZ |
| 285 | 1.00 | 100 | 100 | 2SPZ |
| 302 | 1.06 | 90 | 85 | 3SPZ |
| 306 | 1.07 | 150 | 140 | 1SPA* |
| 319 | 1.12 | 140 | 125 | 1SPA* |
| 324 | 1.14 | 150 | 132 | 1SPA* |
| 336 | 1.18 | 100 | 85 | 3SPZ |
| 342 | 1.20 | 180 | 150 | 1SPA* |
| 355 | 1.24 | 112 | 90 | 3SPZ |
| 362 | 1.27 | 150 | 118 | 1SPZ* |
| 365 | 1.28 | 160 | 125 | 2SPZ |
| 376 | 1.32 | 112 | 85 | 3SPZ |
| 380 | 1.33 | 200 | 150 | 1SPA* |
| 387 | 1.36 | 160 | 118 | 2SPA |
| 396 | 1.39 | 125 | 90 | 3SPZ |

B 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 17 | 5.97 | 67 | 400 | 1SPZ* |
| 22 | 4.70 | 67 | 315 | 1SPZ* |
| 24 | 4.20 | 75 | 315 | 1SPZ* |
| 28 | 3.73 | 67 | 250 | 1SPZ* |
| 31 | 3.33 | 75 | 250 | 1SPZ* |
| 34 | 2.99 | 67 | 200 | 1SPZ* |
| 36 | 2.82 | 71 | 200 | 1SPZ* |
| 38 | 2.69 | 67 | 180 | 1SPZ* |
| 41 | 2.54 | 71 | 180 | 1SPZ* |
| 43 | 2.39 | 67 | 160 | 1SPZ* |
| 46 | 2.25 | 71 | 160 | 1SPZ* |
| 48 | 2.13 | 75 | 160 | 1SPZ* |
| 51 | 2.00 | 80 | 160 | 1SPZ* |
| 55 | 1.88 | 85 | 160 | 1SPZ* |
| 59 | 1.75 | 80 | 140 | 1SPZ* |
| 62 | 1.65 | 85 | 140 | 1SPZ* |
| 64 | 1.60 | 100 | 160 | 1SPZ* |
| 66 | 1.56 | 90 | 140 | 1SPZ* |
| 70 | 1.47 | 85 | 125 | 1SPZ* |
| 74 | 1.39 | 90 | 125 | 1SPZ* |
| 78 | 1.32 | 95 | 125 | 1SPZ* |
| 82 | 1.25 | 100 | 125 | 1SPZ* |
| 86 | 1.20 | 71 | 85 | 2SPZ |
| 91 | 1.13 | 71 | 80 | 2SPZ |
| 97 | 1.06 | 100 | 106 | 1SPA* |
| 103 | 1.00 | 106 | 106 | 1SPA* |
| 109 | 1.06 | 112 | 106 | 1SPA* |
| 115 | 1.12 | 125 | 112 | 1SPZ* |
| 117 | 1.13 | 85 | 75 | 2SPZ |
| 121 | 1.18 | 125 | 106 | 1SPA* |
| 123 | 1.20 | 90 | 75 | 2SPZ |
| 125 | 1.21 | 160 | 132 | 1SPA* |
| 129 | 1.25 | 140 | 112 | 1SPZ* |
| 130 | 1.27 | 95 | 75 | 2SPZ |
| 132 | 1.29 | 180 | 140 | 1SPA* |
| 136 | 1.32 | 140 | 106 | 1SPA* |
| 140 | 1.36 | 180 | 132 | 1SPA* |
| 143 | 1.39 | 125 | 90 | 2SPZ |
| 146 | 1.42 | 150 | 106 | 1SPA* |
| 148 | 1.44 | 180 | 125 | 1SPA* |
| 151 | 1.47 | 125 | 85 | 2SPZ |
| 154 | 1.49 | 112 | 75 | 2SPZ |
| 155 | 1.51 | 160 | 106 | 1SPA* |
| 157 | 1.53 | 180 | 118 | 1SPA* |
| 161 | 1.56 | 125 | 80 | 2SPZ |
| 165 | 1.61 | 180 | 112 | 1SPA* |
| 170 | 1.65 | 140 | 85 | 2SPZ |
| 172 | 1.67 | 125 | 75 | 2SPZ |
| 175 | 1.70 | 180 | 106 | 1SPA* |
| 180 | 1.75 | 140 | 80 | 2SPZ |

B 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 10 | 6.67 | 75 | 500 | 2SPZ |
| 11 | 6.25 | 80 | 500 | 2SPZ |
| 12 | 5.97 | 67 | 400 | 1SPZ* |
| 13 | 5.26 | 95 | 500 | 2SPZ |
| 14 | 5.00 | 80 | 400 | 1SPZ* |
| 15 | 4.70 | 67 | 315 | 1SPZ* |
| 16 | 4.20 | 75 | 315 | 1SPZ* |
| 17 | 3.94 | 80 | 315 | 1SPZ* |
| 18 | 3.73 | 67 | 250 | 1SPZ* |
| 19 | 3.57 | 112 | 400 | 1SPZ* |
| 20 | 3.52 | 71 | 250 | 1SPZ* |
| 21 | 3.33 | 75 | 250 | 1SPZ* |
| 22 | 3.12 | 80 | 250 | 1SPZ* |
| 23 | 2.99 | 67 | 200 | 1SPZ* |
| 24 | 2.82 | 71 | 200 | 1SPZ* |
| 25 | 2.78 | 90 | 250 | 1SPZ* |
| 26 | 2.69 | 67 | 180 | 1SPZ* |
| 27 | 2.54 | 71 | 180 | 1SPZ* |
| 29 | 2.39 | 67 | 160 | 1SPZ* |
| 30 | 2.25 | 71 | 160 | 1SPZ* |
| 32 | 2.13 | 75 | 160 | 1SPZ* |
| 33 | 2.09 | 67 | 140 | 1SPZ* |
| 34 | 2.00 | 80 | 160 | 1SPZ* |
| 35 | 1.97 | 71 | 140 | 1SPZ* |
| 37 | 1.87 | 67 | 125 | 1SPZ* |
| 39 | 1.76 | 71 | 125 | 1SPZ* |
| 40 | 1.70 | 106 | 180 | 1SPA |
| 41 | 1.67 | 67 | 112 | 1SPZ* |
| 43 | 1.58 | 71 | 112 | 1SPZ* |
| 44 | 1.56 | 90 | 140 | 1SPZ* |
| 45 | 1.53 | 118 | 180 | 1SPA |
| 46 | 1.49 | 67 | 100 | 1SPZ* |
| 47 | 1.47 | 85 | 125 | 1SPZ* |
| 48 | 1.42 | 67 | 95 | 1SPZ* |
| 49 | 1.39 | 90 | 125 | 1SPZ* |
| 50 | 1.36 | 132 | 180 | 1SPA |
| 51 | 1.34 | 71 | 95 | 1SPZ* |
| 52 | 1.32 | 85 | 112 | 1SPZ* |
| 54 | 1.27 | 71 | 90 | 1SPZ* |
| 55 | 1.24 | 90 | 112 | 1SPZ* |
| 57 | 1.20 | 75 | 90 | 1SPZ* |
| 58 | 1.18 | 85 | 100 | 1SPZ* |
| 61 | 1.13 | 75 | 85 | 1SPZ* |
| 62 | 1.11 | 90 | 100 | 1SPZ* |
| 64 | 1.07 | 140 | 150 | 1SPA |
| 65 | 1.06 | 80 | 85 | 1SPZ* |
| 69 | 1.00 | 80 | 80 | 1SPZ* |
| 72 | 1.05 | 100 | 95 | 1SPZ* |
| 73 | 1.07 | 80 | 75 | 2SPZ |
| 76 | 1.11 | 100 | 90 | 1SPZ* |

* Single belt drives can be used, however, two belts can also be used without overloading the SMSR input shaft bearings.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

C 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 51 | 5.63 | 71 | 400 | 2SPZ |
| 61 | 4.70 | 67 | 315 | 2SPZ |
| 64 | 4.44 | 71 | 315 | 2SPZ |
| 71 | 4.00 | 100 | 400 | 1SPA* |
| 76 | 3.77 | 106 | 400 | 1SPA* |
| 80 | 3.57 | 112 | 400 | 1SPZ* |
| 86 | 3.33 | 75 | 250 | 3SPZ |
| 89 | 3.20 | 125 | 400 | 1SPZ* |
| 94 | 3.03 | 132 | 400 | 1SPA* |
| 100 | 2.86 | 140 | 400 | 1SPZ* |
| 107 | 2.67 | 118 | 315 | 1SPA* |
| 113 | 2.52 | 125 | 315 | 1SPA* |
| 120 | 2.39 | 132 | 315 | 1SPA* |
| 127 | 2.25 | 80 | 180 | 3SPZ |
| 134 | 2.13 | 75 | 160 | 3SPZ |
| 143 | 2.00 | 100 | 200 | 2SPZ |
| 151 | 1.89 | 132 | 250 | 1SPA* |
| 160 | 1.79 | 140 | 250 | 1SPA* |
| 168 | 1.70 | 106 | 180 | 2SPA |
| 171 | 1.67 | 150 | 250 | 1SPA* |
| 177 | 1.61 | 112 | 180 | 2SPZ |
| 178 | 1.60 | 125 | 200 | 1SPA |
| 187 | 1.53 | 118 | 180 | 2SPA |
| 190 | 1.50 | 100 | 150 | 2SPA |
| 200 | 1.43 | 140 | 200 | 1SPA* |
| 205 | 1.39 | 90 | 125 | 3SPZ |
| 209 | 1.36 | 132 | 180 | 2SPA |
| 214 | 1.33 | 150 | 200 | 1SPA* |
| 222 | 1.29 | 140 | 180 | 2SPZ |
| 223 | 1.28 | 125 | 160 | 1SPA |
| 235 | 1.21 | 132 | 160 | 2SPA |
| 242 | 1.18 | 106 | 125 | 2SPA |
| 250 | 1.14 | 140 | 160 | 2SPZ |
| 254 | 1.12 | 80 | 90 | 4SPZ |
| 257 | 1.11 | 180 | 200 | 1SPA* |
| 269 | 1.06 | 118 | 125 | 2SPA |
| 285 | 1.00 | 100 | 100 | 3SPZ |
| 300 | 1.05 | 118 | 112 | 2SPA |
| 306 | 1.07 | 150 | 140 | 2SPA |
| 317 | 1.11 | 200 | 180 | 1SPA* |
| 326 | 1.14 | 160 | 140 | 2SPZ |
| 336 | 1.18 | 100 | 85 | 4SPZ |
| 338 | 1.19 | 140 | 118 | 2SPA |
| 342 | 1.20 | 150 | 125 | 2SPA |
| 355 | 1.24 | 112 | 90 | 4SPZ |
| 363 | 1.27 | 150 | 118 | 2SPA |
| 367 | 1.29 | 180 | 140 | 2SPZ |
| 375 | 1.32 | 125 | 95 | 3SPZ |
| 387 | 1.36 | 160 | 118 | 2SPA |
| 396 | 1.39 | 250 | 180 | 1SPA* |

C 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 18 | 5.97 | 67 | 400 | 1SPZ* |
| 21 | 5.00 | 80 | 400 | 1SPZ* |
| 25 | 4.20 | 75 | 315 | 1SPZ* |
| 27 | 3.94 | 80 | 315 | 1SPZ* |
| 30 | 3.52 | 71 | 250 | 1SPZ* |
| 34 | 3.12 | 80 | 250 | 1SPZ* |
| 36 | 2.94 | 85 | 250 | 1SPZ* |
| 38 | 2.78 | 90 | 250 | 1SPZ* |
| 40 | 2.63 | 95 | 250 | 1SPZ* |
| 42 | 2.50 | 100 | 250 | 1SPZ* |
| 44 | 2.39 | 67 | 160 | 2SPZ |
| 48 | 2.22 | 90 | 200 | 1SPZ* |
| 50 | 2.11 | 95 | 200 | 1SPZ* |
| 53 | 2.00 | 100 | 200 | 1SPZ* |
| 57 | 1.87 | 75 | 140 | 2SPZ |
| 59 | 1.79 | 112 | 200 | 1SPZ* |
| 63 | 1.67 | 75 | 125 | 2SPZ |
| 66 | 1.61 | 112 | 180 | 1SPZ* |
| 70 | 1.51 | 106 | 160 | 1SPA* |
| 73 | 1.44 | 125 | 180 | 1SPZ* |
| 76 | 1.40 | 80 | 112 | 2SPZ |
| 80 | 1.32 | 85 | 112 | 2SPZ |
| 83 | 1.27 | 118 | 150 | 1SPA* |
| 85 | 1.24 | 90 | 112 | 2SPZ |
| 87 | 1.21 | 132 | 160 | 1SPA* |
| 89 | 1.19 | 118 | 140 | 1SPA* |
| 93 | 1.14 | 132 | 150 | 1SPA* |
| 95 | 1.11 | 90 | 100 | 2SPZ |
| 100 | 1.06 | 125 | 132 | 1SPA* |
| 106 | 1.00 | 95 | 95 | 2SPZ |
| 112 | 1.06 | 132 | 125 | 1SPA* |
| 119 | 1.12 | 140 | 125 | 1SPA* |
| 125 | 1.18 | 112 | 95 | 2SPZ |
| 127 | 1.20 | 90 | 75 | 3SPZ |
| 132 | 1.24 | 112 | 90 | 2SPZ |
| 134 | 1.27 | 95 | 75 | 3SPZ |
| 136 | 1.29 | 180 | 140 | 1SPA* |
| 139 | 1.32 | 125 | 95 | 2SPZ |
| 141 | 1.33 | 100 | 75 | 3SPZ |
| 144 | 1.36 | 180 | 132 | 1SPA* |
| 147 | 1.39 | 125 | 90 | 2SPZ |
| 152 | 1.44 | 180 | 125 | 1SPA* |
| 156 | 1.47 | 140 | 95 | 2SPZ |
| 158 | 1.49 | 112 | 75 | 3SPZ |
| 161 | 1.53 | 180 | 118 | 1SPA* |
| 165 | 1.56 | 140 | 90 | 2SPZ |
| 169 | 1.60 | 200 | 125 | 1SPA* |
| 174 | 1.65 | 140 | 85 | 3SPZ |
| 176 | 1.67 | 125 | 75 | 3SPZ |
| 179 | 1.69 | 200 | 118 | 1SPA* |

C 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 10 | 7.04 | 71 | 500 | 2SPZ |
| 11 | 6.25 | 80 | 500 | 2SPZ |
| 12 | 5.97 | 67 | 400 | 1SPZ* |
| 13 | 5.63 | 71 | 400 | 1SPZ* |
| 15 | 4.70 | 67 | 315 | 1SPZ* |
| 16 | 4.44 | 71 | 315 | 1SPZ* |
| 17 | 4.20 | 75 | 315 | 1SPZ* |
| 18 | 3.94 | 80 | 315 | 1SPZ* |
| 19 | 3.73 | 67 | 250 | 1SPZ* |
| 20 | 3.52 | 71 | 250 | 1SPZ* |
| 21 | 3.33 | 75 | 250 | 1SPZ* |
| 22 | 3.20 | 125 | 400 | 1SPZ* |
| 23 | 3.12 | 80 | 250 | 1SPZ* |
| 24 | 2.99 | 67 | 200 | 1SPZ* |
| 25 | 2.82 | 71 | 200 | 1SPZ* |
| 26 | 2.69 | 67 | 180 | 1SPZ* |
| 28 | 2.54 | 71 | 180 | 1SPZ* |
| 30 | 2.39 | 67 | 160 | 1SPZ* |
| 31 | 2.25 | 71 | 160 | 1SPZ* |
| 33 | 2.13 | 75 | 160 | 1SPZ* |
| 34 | 2.09 | 67 | 140 | 2SPZ |
| 36 | 1.97 | 71 | 140 | 1SPZ* |
| 37 | 1.89 | 95 | 180 | 1SPZ* |
| 38 | 1.87 | 75 | 140 | 1SPZ* |
| 40 | 1.75 | 80 | 140 | 1SPZ* |
| 41 | 1.70 | 106 | 180 | 1SPA |
| 42 | 1.68 | 95 | 160 | 1SPZ* |
| 43 | 1.65 | 85 | 140 | 1SPZ* |
| 44 | 1.60 | 100 | 160 | 1SPZ* |
| 45 | 1.56 | 80 | 125 | 1SPZ* |
| 46 | 1.53 | 118 | 180 | 1SPA |
| 47 | 1.50 | 100 | 150 | 1SPA |
| 48 | 1.47 | 85 | 125 | 1SPZ* |
| 49 | 1.44 | 125 | 180 | 1SPZ* |
| 50 | 1.42 | 67 | 95 | 2SPZ |
| 51 | 1.39 | 90 | 125 | 1SPZ* |
| 52 | 1.34 | 67 | 90 | 2SPZ |
| 53 | 1.33 | 75 | 100 | 2SPZ |
| 54 | 1.32 | 95 | 125 | 1SPZ* |
| 55 | 1.28 | 125 | 160 | 1SPZ* |
| 56 | 1.27 | 67 | 85 | 2SPZ |
| 57 | 1.24 | 90 | 112 | 1SPZ* |
| 59 | 1.19 | 67 | 80 | 2SPZ |
| 60 | 1.18 | 95 | 112 | 1SPZ* |
| 62 | 1.14 | 140 | 160 | 1SPZ |
| 63 | 1.12 | 67 | 75 | 2SPZ |
| 66 | 1.07 | 75 | 80 | 2SPZ |
| 67 | 1.06 | 71 | 75 | 2SPZ |
| 70 | 1.00 | 100 | 100 | 1SPA |
| 74 | 1.05 | 100 | 95 | 2SPZ |

* Single belt drives can be used, however, two belts can also be used without overloading the SMSR input shaft bearings.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

D 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|--------------|------------------|-----------------|
| 51 | 5.62 | 112 | 630 | 1SPA* |
| 54 | 5.26 | 95 | 500 | 2SPZ |
| 60 | 4.77 | 132 | 630 | 1SPA* |
| 64 | 4.46 | 112 | 500 | 1SPA* |
| 67 | 4.24 | 118 | 500 | 1SPA* |
| 75 | 3.79 | 132 | 500 | 1SPA* |
| 82 | 3.50 | 90 | 315 | 3SPZ |
| 86 | 3.32 | 95 | 315 | 3SPZ |
| 91 | 3.15 | 100 | 315 | 2SPA |
| 101 | 2.81 | 112 | 315 | 2SPZ |
| 107 | 2.67 | 150 | 400 | 1SPA* |
| 113 | 2.52 | 125 | 315 | 2SPZ |
| 120 | 2.39 | 132 | 315 | 2SPA |
| 128 | 2.23 | 112 | 250 | 2SPA |
| 135 | 2.12 | 118 | 250 | 2SPA |
| 143 | 2.00 | 100 | 200 | 3SPZ |
| 151 | 1.89 | 106 | 200 | 3SPA |
| 159 | 1.80 | 100 | 180 | 3SPZ |
| 163 | 1.75 | 180 | 315 | 1SPA* |
| 171 | 1.67 | 150 | 250 | 2SPA |
| 178 | 1.61 | 112 | 180 | 3SPZ |
| 181 | 1.57 | 200 | 315 | 1SPA* |
| 187 | 1.53 | 118 | 180 | 2SPA |
| 190 | 1.50 | 100 | 150 | 3SPA |
| 200 | 1.43 | 112 | 160 | 3SPZ |
| 204 | 1.40 | 100 | 140 | 3SPA |
| 209 | 1.36 | 132 | 180 | 2SPA |
| 216 | 1.32 | 106 | 140 | 3SPA |
| 222 | 1.29 | 140 | 180 | 2SPA |
| 228 | 1.25 | 112 | 140 | 3SPZ |
| 235 | 1.21 | 132 | 160 | 2SPA |
| 242 | 1.18 | 106 | 125 | 3SPA |
| 250 | 1.14 | 140 | 160 | 2SPA |
| 255 | 1.12 | 100 | 112 | 4SPZ |
| 266 | 1.07 | 140 | 150 | 2SPA |
| 269 | 1.06 | 118 | 125 | 3SPA |
| 285 | 1.00 | 140 | 140 | 2SPA |
| 301 | 1.05 | 118 | 112 | 3SPA |
| 306 | 1.07 | 150 | 140 | 2SPA |
| 317 | 1.11 | 100 | 90 | 5SPZ |
| 324 | 1.14 | 150 | 132 | 3SPA |
| 337 | 1.18 | 200 | 170 | 2SPB |
| 342 | 1.20 | 180 | 150 | 2SPA |
| 346 | 1.21 | 160 | 132 | 3SPA |
| 356 | 1.25 | 250 | 200 | 1SPA* |
| 365 | 1.28 | 160 | 125 | 3SPZ |
| 375 | 1.32 | 125 | 95 | 5SPZ |
| 380 | 1.33 | 200 | 150 | 2SPA |
| 387 | 1.36 | 160 | 118 | 3SPA |
| 396 | 1.39 | 125 | 90 | 5SPZ |

D 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|--------------|------------------|-----------------|
| 11 | 9.40 | 67 | 630 | 3SPZ |
| 14 | 7.46 | 67 | 500 | 2SPZ |
| 18 | 5.97 | 67 | 400 | 2SPZ |
| 19 | 5.63 | 71 | 400 | 1SPZ* |
| 21 | 5.00 | 80 | 400 | 1SPZ* |
| 22 | 4.71 | 85 | 400 | 1SPZ* |
| 25 | 4.21 | 95 | 400 | 1SPZ* |
| 26 | 4.00 | 100 | 400 | 1SPZ* |
| 28 | 3.73 | 67 | 250 | 2SPZ |
| 30 | 3.50 | 90 | 315 | 1SPZ* |
| 34 | 3.15 | 100 | 315 | 1SPZ* |
| 36 | 2.97 | 106 | 315 | 1SPA* |
| 38 | 2.82 | 71 | 200 | 2SPZ |
| 40 | 2.67 | 75 | 200 | 2SPZ |
| 42 | 2.50 | 100 | 250 | 1SPA* |
| 44 | 2.40 | 75 | 180 | 2SPZ |
| 47 | 2.25 | 80 | 180 | 2SPZ |
| 50 | 2.12 | 85 | 180 | 2SPZ |
| 53 | 2.00 | 90 | 180 | 2SPZ |
| 56 | 1.89 | 95 | 180 | 2SPZ |
| 60 | 1.78 | 90 | 160 | 2SPZ |
| 63 | 1.68 | 95 | 160 | 2SPZ |
| 64 | 1.65 | 85 | 140 | 3SPZ |
| 66 | 1.60 | 125 | 200 | 1SPA* |
| 70 | 1.52 | 132 | 200 | 1SPA* |
| 71 | 1.50 | 100 | 150 | 2SPA |
| 72 | 1.47 | 85 | 125 | 3SPZ |
| 74 | 1.43 | 140 | 200 | 1SPA* |
| 76 | 1.39 | 90 | 125 | 3SPZ |
| 79 | 1.33 | 150 | 200 | 1SPA* |
| 80 | 1.32 | 85 | 112 | 3SPZ |
| 82 | 1.29 | 140 | 180 | 1SPA* |
| 85 | 1.25 | 112 | 140 | 2SPZ |
| 88 | 1.20 | 150 | 180 | 1SPA* |
| 90 | 1.18 | 85 | 100 | 4SPZ |
| 92 | 1.14 | 140 | 160 | 2SPZ |
| 94 | 1.12 | 160 | 180 | 1SPA* |
| 100 | 1.06 | 100 | 106 | 3SPA |
| 101 | 1.05 | 112 | 118 | 2SPA |
| 106 | 1.00 | 100 | 100 | 3SPZ |
| 112 | 1.05 | 118 | 112 | 2SPA |
| 118 | 1.11 | 200 | 180 | 1SPA* |
| 120 | 1.14 | 150 | 132 | 2SPA |
| 125 | 1.18 | 132 | 112 | 2SPA |
| 127 | 1.20 | 150 | 125 | 2SPA |
| 128 | 1.21 | 160 | 132 | 2SPA |
| 132 | 1.25 | 200 | 160 | 1SPA* |
| 135 | 1.27 | 150 | 118 | 2SPA |
| 136 | 1.29 | 180 | 140 | 2SPA |
| 139 | 1.32 | 125 | 95 | 3SPZ |

D 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|--------------|------------------|-----------------|
| 10 | 7.04 | 71 | 500 | 2SPZ |
| 11 | 6.25 | 80 | 500 | 2SPZ |
| 12 | 5.97 | 67 | 400 | 1SPZ* |
| 13 | 5.63 | 71 | 400 | 1SPZ* |
| 14 | 5.00 | 80 | 400 | 1SPZ* |
| 15 | 4.70 | 67 | 315 | 1SPZ* |
| 16 | 4.44 | 71 | 315 | 1SPZ* |
| 17 | 4.20 | 75 | 315 | 1SPZ* |
| 18 | 3.94 | 80 | 315 | 1SPZ* |
| 19 | 3.73 | 67 | 250 | 1SPZ* |
| 20 | 3.52 | 71 | 250 | 1SPZ* |
| 21 | 3.33 | 75 | 250 | 1SPZ* |
| 22 | 3.20 | 125 | 400 | 1SPZ* |
| 23 | 3.12 | 80 | 250 | 1SPZ* |
| 24 | 2.94 | 85 | 250 | 1SPZ* |
| 25 | 2.78 | 90 | 250 | 1SPZ* |
| 26 | 2.69 | 67 | 180 | 2SPZ |
| 27 | 2.63 | 95 | 250 | 1SPZ* |
| 28 | 2.50 | 100 | 250 | 1SPZ* |
| 30 | 2.35 | 85 | 200 | 1SPZ* |
| 32 | 2.22 | 90 | 200 | 1SPZ* |
| 33 | 2.13 | 75 | 160 | 2SPZ |
| 34 | 2.09 | 67 | 140 | 2SPZ |
| 35 | 2.00 | 100 | 200 | 1SPZ* |
| 37 | 1.89 | 95 | 180 | 1SPZ* |
| 38 | 1.87 | 67 | 125 | 2SPZ |
| 39 | 1.80 | 100 | 180 | 1SPZ* |
| 40 | 1.75 | 80 | 140 | 2SPZ |
| 41 | 1.70 | 106 | 180 | 1SPA* |
| 42 | 1.67 | 75 | 125 | 2SPZ |
| 44 | 1.61 | 112 | 180 | 1SPZ* |
| 45 | 1.58 | 71 | 112 | 2SPZ |
| 46 | 1.53 | 118 | 180 | 1SPA* |
| 47 | 1.49 | 75 | 112 | 2SPZ |
| 49 | 1.44 | 125 | 180 | 1SPZ* |
| 50 | 1.40 | 80 | 112 | 2SPZ |
| 51 | 1.39 | 90 | 125 | 2SPZ |
| 52 | 1.34 | 67 | 90 | 3SPZ |
| 53 | 1.32 | 106 | 140 | 1SPA* |
| 55 | 1.28 | 125 | 160 | 1SPZ* |
| 56 | 1.27 | 67 | 85 | 3SPZ |
| 58 | 1.21 | 132 | 160 | 1SPA* |
| 59 | 1.20 | 125 | 150 | 1SPA* |
| 60 | 1.18 | 85 | 100 | 2SPZ |
| 62 | 1.14 | 140 | 160 | 1SPZ* |
| 63 | 1.11 | 90 | 100 | 2SPZ |
| 66 | 1.07 | 140 | 150 | 1SPA |
| 67 | 1.06 | 90 | 95 | 2SPZ |
| 70 | 1.00 | 125 | 125 | 1SPA |
| 74 | 1.06 | 132 | 125 | 1SPA |

* Single belt drives can be used, however, two belts can also be used without overloading the SMSR input shaft bearings.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

E 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 51 | 5.56 | 90 | 500 | 3SPZ |
| 54 | 5.26 | 95 | 500 | 3SPZ |
| 60 | 4.77 | 132 | 630 | 2SPA |
| 63 | 4.50 | 140 | 630 | 1SPA* |
| 68 | 4.20 | 150 | 630 | 1SPA* |
| 73 | 3.94 | 160 | 630 | 1SPA* |
| 80 | 3.57 | 112 | 400 | 2SPA |
| 84 | 3.39 | 118 | 400 | 2SPA |
| 89 | 3.20 | 125 | 400 | 2SPA |
| 96 | 2.97 | 106 | 315 | 3SPA |
| 101 | 2.81 | 112 | 315 | 3SPZ |
| 107 | 2.67 | 150 | 400 | 2SPA |
| 113 | 2.52 | 125 | 315 | 3SPZ |
| 120 | 2.39 | 132 | 315 | 2SPA |
| 127 | 2.25 | 140 | 315 | 2SPA |
| 136 | 2.11 | 95 | 200 | 5SPZ |
| 143 | 2.00 | 100 | 200 | 4SPA |
| 151 | 1.89 | 95 | 180 | 5SPZ |
| 160 | 1.79 | 112 | 200 | 4SPZ |
| 168 | 1.70 | 106 | 180 | 4SPA |
| 173 | 1.65 | 170 | 280 | 2SPB |
| 178 | 1.60 | 125 | 200 | 3SPA |
| 183 | 1.56 | 160 | 250 | 2SPA |
| 189 | 1.51 | 106 | 160 | 4SPA |
| 198 | 1.44 | 125 | 180 | 4SPZ |
| 204 | 1.40 | 160 | 224 | 2SPB |
| 209 | 1.36 | 132 | 180 | 3SPA |
| 214 | 1.33 | 150 | 200 | 3SPA |
| 223 | 1.28 | 125 | 160 | 3SPA |
| 228 | 1.25 | 200 | 250 | 2SPA |
| 235 | 1.21 | 132 | 160 | 3SPA |
| 240 | 1.19 | 118 | 140 | 4SPA |
| 250 | 1.14 | 140 | 160 | 4SPZ |
| 254 | 1.12 | 160 | 180 | 2SPB |
| 257 | 1.11 | 180 | 200 | 2SPA |
| 266 | 1.07 | 140 | 150 | 3SPA |
| 270 | 1.06 | 125 | 132 | 4SPA |
| 285 | 1.00 | 125 | 125 | 5SPZ |
| 301 | 1.05 | 118 | 112 | 5SPA |
| 304 | 1.07 | 160 | 150 | 3SPA |
| 317 | 1.11 | 200 | 180 | 2SPA |
| 324 | 1.14 | 150 | 132 | 4SPA |
| 336 | 1.18 | 200 | 170 | 2SPB |
| 342 | 1.20 | 180 | 150 | 2SPA |
| 356 | 1.25 | 212 | 170 | 2SPB |
| 365 | 1.28 | 160 | 125 | 5SPZ |
| 376 | 1.32 | 224 | 170 | 2SPB |
| 380 | 1.33 | 200 | 150 | 3SPA |
| 387 | 1.36 | 160 | 118 | 4SPA |
| 396 | 1.39 | 250 | 180 | 2SPA |

E 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 11 | 9.40 | 67 | 630 | 3SPZ |
| 13 | 8.40 | 75 | 630 | 3SPZ |
| 14 | 7.46 | 67 | 500 | 2SPZ |
| 16 | 6.67 | 75 | 500 | 2SPZ |
| 18 | 5.97 | 67 | 400 | 2SPZ |
| 19 | 5.63 | 71 | 400 | 2SPZ |
| 21 | 5.00 | 100 | 500 | 1SPA* |
| 24 | 4.44 | 71 | 315 | 2SPZ |
| 25 | 4.20 | 75 | 315 | 2SPZ |
| 26 | 4.00 | 100 | 400 | 1SPA* |
| 28 | 3.77 | 106 | 400 | 1SPA* |
| 31 | 3.39 | 118 | 400 | 1SPA* |
| 33 | 3.20 | 125 | 400 | 1SPA* |
| 35 | 3.03 | 132 | 400 | 1SPA* |
| 36 | 2.94 | 85 | 250 | 2SPZ |
| 38 | 2.78 | 90 | 250 | 2SPZ |
| 40 | 2.63 | 95 | 250 | 2SPZ |
| 42 | 2.52 | 125 | 315 | 1SPA* |
| 44 | 2.39 | 132 | 315 | 1SPA* |
| 45 | 2.35 | 85 | 200 | 3SPZ |
| 47 | 2.25 | 80 | 180 | 3SPZ |
| 50 | 2.12 | 85 | 180 | 3SPZ |
| 53 | 2.00 | 100 | 200 | 2SPA |
| 55 | 1.89 | 95 | 180 | 3SPZ |
| 56 | 1.89 | 106 | 200 | 2SPA |
| 59 | 1.79 | 112 | 200 | 2SPA |
| 60 | 1.75 | 180 | 315 | 1SPA* |
| 62 | 1.70 | 106 | 180 | 2SPA |
| 65 | 1.61 | 112 | 180 | 2SPA |
| 66 | 1.60 | 100 | 160 | 3SPZ |
| 69 | 1.53 | 118 | 180 | 2SPA |
| 71 | 1.50 | 100 | 150 | 3SPA |
| 73 | 1.44 | 125 | 180 | 2SPA |
| 74 | 1.43 | 140 | 200 | 2SPZ |
| 76 | 1.39 | 180 | 250 | 1SPA* |
| 78 | 1.36 | 132 | 180 | 2SPA |
| 79 | 1.34 | 112 | 150 | 3SPA |
| 80 | 1.32 | 100 | 132 | 3SPA |
| 82 | 1.29 | 140 | 180 | 2SPA |
| 83 | 1.28 | 125 | 160 | 2SPA |
| 85 | 1.25 | 200 | 250 | 1SPA* |
| 87 | 1.21 | 132 | 160 | 2SPA |
| 89 | 1.18 | 112 | 132 | 3SPA |
| 90 | 1.18 | 170 | 200 | 2SPB |
| 93 | 1.14 | 140 | 160 | 2SPA |
| 95 | 1.12 | 125 | 140 | 3SPZ |
| 99 | 1.07 | 140 | 150 | 2SPA |
| 100 | 1.06 | 100 | 106 | 4SPA |
| 101 | 1.05 | 95 | 100 | 5SPZ |
| 106 | 1.00 | 112 | 112 | 4SPZ |

E 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 10 | 7.04 | 71 | 500 | 2SPZ |
| 11 | 6.25 | 80 | 500 | 2SPZ |
| 12 | 5.97 | 67 | 400 | 1SPZ* |
| 13 | 5.63 | 71 | 400 | 1SPZ* |
| 14 | 5.00 | 80 | 400 | 1SPZ* |
| 15 | 4.71 | 85 | 400 | 1SPZ* |
| 16 | 4.44 | 90 | 400 | 1SPZ* |
| 17 | 4.21 | 95 | 400 | 1SPZ* |
| 18 | 4.00 | 100 | 400 | 1SPZ* |
| 19 | 3.71 | 85 | 315 | 1SPZ* |
| 20 | 3.52 | 71 | 250 | 2SPZ |
| 21 | 3.32 | 95 | 315 | 1SPZ* |
| 22 | 3.15 | 100 | 315 | 1SPZ* |
| 23 | 3.12 | 80 | 250 | 2SPZ |
| 24 | 2.99 | 67 | 200 | 2SPZ |
| 25 | 2.82 | 71 | 200 | 2SPZ |
| 26 | 2.67 | 75 | 200 | 2SPZ |
| 28 | 2.54 | 71 | 180 | 2SPZ |
| 29 | 2.40 | 75 | 180 | 2SPZ |
| 30 | 2.35 | 85 | 200 | 2SPZ |
| 31 | 2.25 | 80 | 180 | 2SPZ |
| 33 | 2.13 | 75 | 160 | 3SPZ |
| 34 | 2.09 | 67 | 140 | 3SPZ |
| 35 | 2.00 | 80 | 160 | 2SPZ |
| 37 | 1.88 | 85 | 160 | 2SPZ |
| 38 | 1.87 | 67 | 125 | 3SPZ |
| 39 | 1.79 | 112 | 200 | 1SPA* |
| 40 | 1.75 | 180 | 315 | 1SPA* |
| 42 | 1.69 | 118 | 200 | 1SPA* |
| 43 | 1.65 | 85 | 140 | 3SPZ |
| 44 | 1.60 | 125 | 200 | 1SPA* |
| 45 | 1.56 | 160 | 250 | 1SPA* |
| 46 | 1.53 | 118 | 180 | 2SPA |
| 47 | 1.52 | 132 | 200 | 1SPA* |
| 48 | 1.47 | 95 | 140 | 2SPZ |
| 49 | 1.44 | 125 | 180 | 1SPA* |
| 50 | 1.40 | 100 | 140 | 2SPZ |
| 52 | 1.36 | 132 | 180 | 1SPA* |
| 53 | 1.33 | 150 | 200 | 1SPA* |
| 54 | 1.32 | 95 | 125 | 3SPZ |
| 55 | 1.27 | 118 | 150 | 2SPA |
| 56 | 1.25 | 100 | 125 | 2SPA |
| 58 | 1.21 | 132 | 160 | 2SPA |
| 59 | 1.20 | 150 | 180 | 1SPA* |
| 60 | 1.18 | 106 | 125 | 2SPA |
| 62 | 1.14 | 140 | 160 | 2SPZ |
| 63 | 1.11 | 90 | 100 | 3SPZ |
| 66 | 1.07 | 140 | 150 | 2SPA |
| 67 | 1.06 | 106 | 112 | 2SPA |
| 70 | 1.00 | 160 | 160 | 1SPA* |

* Single belt drives can be used, however, two belts can also be used without overloading the SMSR input shaft bearings.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

F 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|--------------|------------------|-----------------|
| 50 | 5.71 | 140 | 800 | 3SPZ |
| 57 | 5.00 | 100 | 500 | 3SPA |
| 61 | 4.72 | 106 | 500 | 3SPA |
| 68 | 4.21 | 95 | 400 | 5SPZ |
| 73 | 3.94 | 160 | 630 | 2SPA |
| 77 | 3.71 | 170 | 630 | 2SPB |
| 82 | 3.50 | 180 | 630 | 2SPB |
| 86 | 3.32 | 95 | 315 | 6SPZ |
| 91 | 3.15 | 100 | 315 | 5SPZ |
| 97 | 2.94 | 170 | 500 | 2SPB |
| 103 | 2.78 | 180 | 500 | 2SPA |
| 108 | 2.63 | 190 | 500 | 2SPB |
| 113 | 2.52 | 125 | 315 | 4SPZ |
| 121 | 2.35 | 170 | 400 | 2SPB |
| 127 | 2.25 | 140 | 315 | 4SPZ |
| 135 | 2.12 | 118 | 250 | 4SPA |
| 143 | 2.00 | 125 | 250 | 5SPZ |
| 151 | 1.89 | 132 | 250 | 4SPA |
| 160 | 1.79 | 140 | 250 | 5SPZ |
| 168 | 1.69 | 118 | 200 | 5SPA |
| 173 | 1.65 | 170 | 280 | 2SPB |
| 178 | 1.60 | 125 | 200 | 4SPA |
| 181 | 1.56 | 160 | 250 | 2SPB |
| 187 | 1.53 | 118 | 180 | 5SPA |
| 192 | 1.49 | 212 | 315 | 2SPB |
| 200 | 1.43 | 140 | 200 | 5SPZ |
| 205 | 1.39 | 180 | 250 | 2SPB |
| 215 | 1.32 | 160 | 212 | 3SPB |
| 222 | 1.29 | 140 | 180 | 4SPA |
| 226 | 1.26 | 250 | 315 | 2SPB |
| 235 | 1.21 | 132 | 160 | 5SPA |
| 242 | 1.18 | 190 | 224 | 2SPB |
| 250 | 1.14 | 140 | 160 | 6SPZ |
| 255 | 1.12 | 200 | 224 | 2SPB |
| 267 | 1.07 | 150 | 160 | 4SPA |
| 271 | 1.05 | 224 | 236 | 2SPB |
| 285 | 1.00 | 224 | 224 | 2SPB |
| 301 | 1.06 | 224 | 212 | 2SPB |
| 304 | 1.07 | 160 | 150 | 4SPA |
| 317 | 1.11 | 200 | 180 | 3SPA |
| 324 | 1.14 | 150 | 132 | 5SPA |
| 336 | 1.18 | 200 | 170 | 3SPB |
| 342 | 1.20 | 180 | 150 | 4SPA |
| 356 | 1.25 | 212 | 170 | 3SPB |
| 360 | 1.26 | 315 | 250 | 2SPB |
| 365 | 1.28 | 160 | 125 | 6SPA |
| 376 | 1.32 | 224 | 170 | 3SPB |
| 380 | 1.33 | 200 | 150 | 4SPA |
| 387 | 1.36 | 160 | 118 | 6SPA |
| 396 | 1.39 | 250 | 180 | 3SPA |

F 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|--------------|------------------|-----------------|
| 10 | 10.67 | 75 | 800 | 3SPZ |
| 11 | 9.40 | 67 | 630 | 3SPZ |
| 13 | 8.40 | 75 | 630 | 3SPZ |
| 14 | 7.46 | 67 | 500 | 2SPZ |
| 15 | 7.04 | 71 | 500 | 2SPZ |
| 17 | 6.30 | 100 | 630 | 1SPA* |
| 19 | 5.62 | 112 | 630 | 1SPA* |
| 21 | 5.04 | 125 | 630 | 1SPA* |
| 24 | 4.44 | 90 | 400 | 2SPZ |
| 25 | 4.24 | 118 | 500 | 1SPA* |
| 26 | 4.00 | 125 | 500 | 1SPA* |
| 28 | 3.79 | 132 | 500 | 1SPA* |
| 30 | 3.57 | 140 | 500 | 1SPA* |
| 32 | 3.33 | 150 | 500 | 1SPA* |
| 34 | 3.15 | 100 | 315 | 2SPA |
| 36 | 2.97 | 106 | 315 | 2SPA |
| 38 | 2.81 | 112 | 315 | 2SPA |
| 39 | 2.67 | 118 | 315 | 2SPA |
| 40 | 2.63 | 190 | 500 | 2SPB |
| 42 | 2.50 | 100 | 250 | 3SPZ |
| 45 | 2.36 | 106 | 250 | 3SPA |
| 47 | 2.25 | 140 | 315 | 2SPZ |
| 48 | 2.22 | 180 | 400 | 1SPA* |
| 50 | 2.12 | 118 | 250 | 2SPA |
| 53 | 2.00 | 100 | 200 | 3SPA |
| 55 | 1.89 | 132 | 250 | 2SPA |
| 56 | 1.89 | 106 | 200 | 3SPA |
| 58 | 1.80 | 100 | 180 | 4SPZ |
| 60 | 1.75 | 180 | 315 | 2SPA |
| 63 | 1.68 | 95 | 160 | 5SPZ |
| 66 | 1.61 | 112 | 180 | 3SPA |
| 68 | 1.56 | 160 | 250 | 2SPA |
| 69 | 1.53 | 118 | 180 | 3SPA |
| 71 | 1.50 | 100 | 150 | 4SPA |
| 74 | 1.44 | 125 | 180 | 4SPZ |
| 76 | 1.40 | 100 | 140 | 5SPZ |
| 78 | 1.36 | 132 | 180 | 3SPA |
| 80 | 1.32 | 160 | 212 | 2SPB |
| 81 | 1.32 | 170 | 224 | 2SPB |
| 83 | 1.28 | 125 | 160 | 3SPA |
| 85 | 1.25 | 160 | 200 | 2SPA |
| 88 | 1.21 | 132 | 160 | 3SPA |
| 89 | 1.19 | 118 | 140 | 4SPA |
| 90 | 1.18 | 170 | 200 | 2SPB |
| 93 | 1.14 | 132 | 150 | 3SPA |
| 95 | 1.12 | 118 | 132 | 4SPA |
| 99 | 1.06 | 160 | 170 | 2SPB |
| 100 | 1.06 | 118 | 125 | 4SPA |
| 106 | 1.00 | 140 | 140 | 4SPZ |
| 112 | 1.06 | 170 | 160 | 2SPB |

F 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|--------------|------------------|-----------------|
| 10 | 7.04 | 71 | 500 | 2SPZ |
| 11 | 6.67 | 75 | 500 | 2SPZ |
| 12 | 5.97 | 67 | 400 | 2SPZ |
| 13 | 5.63 | 71 | 400 | 2SPZ |
| 14 | 5.00 | 80 | 400 | 2SPZ |
| 15 | 4.70 | 67 | 315 | 2SPZ |
| 16 | 4.44 | 71 | 315 | 2SPZ |
| 17 | 4.20 | 75 | 315 | 2SPZ |
| 18 | 4.00 | 100 | 400 | 1SPA* |
| 19 | 3.77 | 106 | 400 | 1SPA* |
| 20 | 3.57 | 112 | 400 | 1SPA* |
| 21 | 3.39 | 118 | 400 | 1SPA* |
| 22 | 3.20 | 125 | 400 | 1SPZ* |
| 23 | 3.03 | 132 | 400 | 1SPA* |
| 24 | 2.94 | 85 | 250 | 2SPZ |
| 25 | 2.86 | 140 | 400 | 1SPZ* |
| 26 | 2.67 | 118 | 315 | 1SPA* |
| 27 | 2.63" | 95 | 250 | 2SPZ |
| 28 | 2.50 | 80 | 200 | 3SPZ |
| 29 | 2.40 | 75 | 180 | 3SPZ |
| 30 | 2.39 | 132 | 315 | 1SPA* |
| 31 | 2.25 | 80 | 180 | 3SPZ |
| 33 | 2.17 | 85 | 180 | 3SPZ |
| 35 | 2.00 | 100 | 200 | 2SPA |
| 36 | 1.97 | 160 | 315 | 1SPA* |
| 37 | 1.88 | 85 | 160 | 3SPZ |
| 39 | 1.79 | 112 | 200 | 2SPZ |
| 40 | 1.75 | 80 | 140 | 4SPZ |
| 42 | 1.70 | 106 | 180 | 2SPA |
| 43 | 1.65 | 85 | 140 | 4SPZ |
| 44 | 1.60 | 125 | 200 | 2SPZ |
| 45 | 1.56 | 160 | 250 | 1SPA* |
| 46 | 1.53 | 118 | 180 | 2SPA |
| 47 | 1.50 | 100 | 150 | 3SPA |
| 48 | 1.48 | 160 | 236 | 2SPB |
| 49 | 1.43 | 112 | 160 | 2SPA |
| 50 | 1.40 | 100 | 140 | 3SPZ |
| 51 | 1.39 | 180 | 250 | 1SPA* |
| 52 | 1.36 | 118 | 160 | 2SPA |
| 53 | 1.32 | 100 | 132 | 3SPA |
| 55 | 1.29 | 140 | 180 | 2SPZ |
| 56 | 1.25 | 100 | 125 | 3SPA |
| 58 | 1.21 | 132 | 160 | 2SPA |
| 59 | 1.20 | 125 | 150 | 2SPA |
| 60 | 1.18 | 106 | 125 | 3SPA |
| 62 | 1.14 | 132 | 150 | 2SPA |
| 63 | 1.11 | 106 | 118 | 3SPA |
| 66 | 1.06 | 132 | 140 | 2SPA |
| 67 | 1.05 | 112 | 118 | 3SPA |
| 70 | 1.00 | 200 | 200 | 2SPA |

* Single belt drives can be used, however, two belts can also be used without overloading the SMSR input shaft bearings.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

G 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 51 | 5.62 | 112 | 630 | 3SPA |
| 54 | 5.26 | 95 | 500 | 5SPZ |
| 60 | 4.77 | 132 | 630 | 3SPA |
| 63 | 4.50 | 140 | 630 | 4SPZ |
| 67 | 4.24 | 118 | 500 | 4SPA |
| 71 | 4.00 | 125 | 500 | 5SPZ |
| 77 | 3.71 | 170 | 630 | 2SPB |
| 84 | 3.39 | 118 | 400 | 5SPA |
| 89 | 3.20 | 125 | 400 | 6SPZ |
| 94 | 3.03 | 132 | 400 | 4SPA |
| 101 | 2.81 | 224 | 630 | 2SPB |
| 107 | 2.67 | 150 | 400 | 4SPA |
| 114 | 2.50 | 160 | 400 | 2SPB |
| 121 | 2.36 | 212 | 500 | 2SPB |
| 127 | 2.25 | 140 | 315 | 5SPA |
| 136 | 2.10 | 150 | 315 | 5SPA |
| 143 | 2.00 | 200 | 400 | 3SPA |
| 151 | 1.89 | 212 | 400 | 3SPB |
| 160 | 1.79 | 140 | 250 | 6SPA |
| 163 | 1.75 | 180 | 315 | 3SPB |
| 168 | 1.69 | 236 | 400 | 2SPB |
| 172 | 1.66 | 190 | 315 | 3SPB |
| 178 | 1.60 | 250 | 400 | 2SPB |
| 183 | 1.56 | 180 | 280 | 3SPB |
| 190 | 1.50 | 236 | 355 | 3SPB |
| 192 | 1.49 | 212 | 315 | 3SPB |
| 200 | 1.43 | 140 | 200 | 6SPA |
| 206 | 1.39 | 170 | 236 | 4SPB |
| 214 | 1.33 | 150 | 200 | 6SPA |
| 225 | 1.27 | 280 | 355 | 2SPB |
| 228 | 1.25 | 200 | 250 | 3SPB |
| 238 | 1.20 | 250 | 300 | 3SPC |
| 242 | 1.18 | 200 | 236 | 3SPB |
| 252 | 1.13 | 265 | 300 | 3SPC |
| 256 | 1.11 | 212 | 236 | 3SPB |
| 266 | 1.07 | 280 | 300 | 3SPC |
| 270 | 1.06 | 212 | 224 | 3SPB |
| 285 | 1.00 | 224 | 224 | 3SPB |
| 301 | 1.05 | 236 | 224 | 3SPB |
| 306 | 1.07 | 300 | 280 | 3SPC |
| 317 | 1.11 | 200 | 180 | 4SPB |
| 322 | 1.13 | 355 | 315 | 2SPB |
| 336 | 1.18 | 200 | 170 | 5SPB |
| 341 | 1.20 | 335 | 280 | 3SPC |
| 355 | 1.24 | 224 | 180 | 4SPB |
| 359 | 1.26 | 315 | 250 | 2SPB |
| 374 | 1.31 | 236 | 180 | 4SPB |
| 381 | 1.33 | 315 | 236 | 3SPB |
| 396 | 1.39 | 250 | 180 | 5SPA |
| 399 | 1.40 | 224 | 160 | 5SPB |

G 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 11 | 9.40 | 67 | 630 | 3SPZ |
| 12 | 8.87 | 71 | 630 | 3SPZ |
| 13 | 8.40 | 75 | 630 | 3SPZ |
| 14 | 7.41 | 85 | 630 | 3SPZ |
| 15 | 7.04 | 71 | 500 | 3SPZ |
| 16 | 6.63 | 95 | 630 | 3SPZ |
| 17 | 6.30 | 100 | 630 | 2SPA |
| 18 | 5.88 | 85 | 500 | 3SPZ |
| 19 | 5.62 | 112 | 630 | 3SPZ |
| 20 | 5.26 | 95 | 500 | 3SPZ |
| 21 | 5.00 | 80 | 400 | 3SPZ |
| 22 | 4.77 | 132 | 630 | 2SPA |
| 23 | 4.72 | 106 | 500 | 2SPA |
| 24 | 4.46 | 112 | 500 | 2SPZ |
| 25 | 4.21 | 95 | 400 | 3SPZ |
| 27 | 4.00 | 125 | 500 | 2SPZ |
| 28 | 3.77 | 106 | 400 | 2SPA |
| 30 | 3.57 | 140 | 500 | 2SPZ |
| 31 | 3.39 | 118 | 400 | 2SPA |
| 33 | 3.20 | 125 | 400 | 2SPA |
| 34 | 3.15 | 100 | 315 | 3SPA |
| 36 | 2.97 | 106 | 315 | 3SPA |
| 38 | 2.81 | 112 | 315 | 3SPZ |
| 40 | 2.63 | 95 | 250 | 5SPZ |
| 42 | 2.50 | 100 | 250 | 4SPZ |
| 44 | 2.39 | 132 | 315 | 2SPA |
| 45 | 2.36 | 106 | 250 | 3SPA |
| 47 | 2.25 | 140 | 315 | 2SPA |
| 50 | 2.11 | 95 | 200 | 5SPZ |
| 53 | 2.00 | 100 | 200 | 4SPA |
| 56 | 1.89 | 132 | 250 | 3SPA |
| 57 | 1.85 | 170 | 315 | 2SPB |
| 59 | 1.79 | 140 | 250 | 4SPZ |
| 61 | 1.75 | 180 | 315 | 2SPA |
| 63 | 1.69 | 118 | 200 | 4SPA |
| 64 | 1.65 | 170 | 280 | 2SPB |
| 66 | 1.60 | 125 | 200 | 5SPZ |
| 70 | 1.53 | 118 | 180 | 4SPA |
| 72 | 1.48 | 160 | 236 | 2SPB |
| 74 | 1.43 | 140 | 200 | 3SPA |
| 76 | 1.39 | 170 | 236 | 2SPB |
| 80 | 1.33 | 150 | 200 | 3SPA |
| 83 | 1.27 | 118 | 150 | 5SPA |
| 85 | 1.24 | 180 | 224 | 2SPB |
| 87 | 1.21 | 132 | 160 | 4SPA |
| 90 | 1.18 | 180 | 212 | 2SPB |
| 93 | 1.14 | 140 | 160 | 4SPA |
| 95 | 1.11 | 180 | 200 | 3SPA |
| 100 | 1.06 | 212 | 224 | 2SPB |

G 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 10 | 7.04 | 71 | 500 | 2SPZ |
| 11 | 6.25 | 80 | 500 | 2SPZ |
| 12 | 5.97 | 67 | 400 | 3SPZ |
| 13 | 5.33 | 75 | 400 | 3SPZ |
| 14 | 5.00 | 80 | 400 | 2SPZ |
| 15 | 4.71 | 85 | 400 | 2SPZ |
| 16 | 4.44 | 90 | 400 | 2SPZ |
| 17 | 4.21 | 95 | 400 | 2SPZ |
| 18 | 4.00 | 100 | 400 | 2SPZ |
| 19 | 3.71 | 85 | 315 | 3SPZ |
| 20 | 3.57 | 112 | 400 | 2SPZ |
| 21 | 3.33 | 150 | 500 | 2SPA |
| 22 | 3.20 | 125 | 400 | 2SPZ |
| 23 | 3.03 | 132 | 400 | 2SPA |
| 24 | 2.94 | 85 | 250 | 3SPZ |
| 25 | 2.78 | 90 | 250 | 3SPZ |
| 26 | 2.67 | 150 | 400 | 1SPA* |
| 27 | 2.63 | 95 | 250 | 3SPZ |
| 28 | 2.52 | 125 | 315 | 2SPZ |
| 30 | 2.36 | 106 | 250 | 3SPA |
| 31 | 2.25 | 140 | 315 | 2SPZ |
| 32 | 2.23 | 112 | 250 | 2SPA |
| 33 | 2.12 | 118 | 250 | 2SPA |
| 34 | 2.10 | 150 | 315 | 2SPA |
| 35 | 2.00 | 100 | 200 | 3SPA |
| 36 | 1.97 | 160 | 315 | 2SPA |
| 37 | 1.89 | 95 | 180 | 4SPZ |
| 39 | 1.80 | 100 | 180 | 4SPZ |
| 40 | 1.75 | 180 | 315 | 2SPA |
| 41 | 1.70 | 106 | 180 | 3SPA |
| 42 | 1.67 | 150 | 250 | 2SPA |
| 44 | 1.60 | 125 | 200 | 3SPZ |
| 45 | 1.56 | 160 | 250 | 2SPA |
| 47 | 1.50 | 100 | 150 | 4SPA |
| 48 | 1.47 | 95 | 140 | 5SPZ |
| 49 | 1.43 | 112 | 160 | 4SPZ |
| 50 | 1.40 | 100 | 140 | 4SPA |
| 51 | 1.39 | 180 | 250 | 2SPA |
| 52 | 1.36 | 118 | 160 | 3SPA |
| 53 | 1.33 | 150 | 200 | 2SPA |
| 55 | 1.28 | 125 | 160 | 3SPA |
| 56 | 1.25 | 160 | 200 | 2SPA |
| 58 | 1.21 | 132 | 160 | 3SPA |
| 59 | 1.20 | 125 | 150 | 3SPA |
| 60 | 1.18 | 170 | 200 | 2SPB |
| 62 | 1.14 | 132 | 150 | 3SPA |
| 63 | 1.11 | 180 | 200 | 2SPA |
| 66 | 1.07 | 140 | 150 | 3SPA |
| 67 | 1.05 | 190 | 200 | 2SPB |
| 70 | 1.00 | 180 | 180 | 2SPB |

* Single belt drives can be used, however, two belts can also be used without overloading the SMSR input shaft bearings.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

H 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 50 | 5.71 | 140 | 800 | 5SPZ |
| 54 | 5.26 | 190 | 1000 | 3SPB |
| 60 | 4.77 | 132 | 630 | 5SPA |
| 63 | 4.50 | 140 | 630 | 4SPA |
| 71 | 4.00 | 200 | 800 | 3SPA |
| 82 | 3.50 | 180 | 630 | 3SPA |
| 86 | 3.32 | 190 | 630 | 3SPB |
| 91 | 3.15 | 200 | 630 | 3SPA |
| 96 | 2.97 | 212 | 630 | 3SPB |
| 101 | 2.81 | 224 | 630 | 3SPB |
| 107 | 2.67 | 150 | 400 | 6SPA |
| 113 | 2.52 | 250 | 630 | 2SPB |
| 121 | 2.35 | 170 | 400 | 4SPB |
| 127 | 2.25 | 280 | 630 | 2SPB |
| 136 | 2.11 | 190 | 400 | 4SPB |
| 142 | 2.01 | 236 | 475 | 3SPC |
| 145 | 1.97 | 160 | 315 | 6SPA |
| 150 | 1.91 | 236 | 450 | 3SPC |
| 160 | 1.79 | 224 | 400 | 3SPB |
| 163 | 1.75 | 180 | 315 | 4SPB |
| 168 | 1.69 | 236 | 400 | 3SPB |
| 172 | 1.66 | 190 | 315 | 4SPB |
| 178 | 1.60 | 265 | 425 | 3SPC |
| 181 | 1.57 | 200 | 315 | 5SPA |
| 188 | 1.52 | 280 | 425 | 3SPC |
| 192 | 1.49 | 212 | 315 | 4SPB |
| 200 | 1.43 | 280 | 400 | 3SPB |
| 211 | 1.35 | 315 | 425 | 3SPC |
| 216 | 1.32 | 212 | 280 | 4SPB |
| 225 | 1.27 | 315 | 400 | 2SPB |
| 228 | 1.25 | 224 | 280 | 3SPC |
| 238 | 1.20 | 250 | 300 | 3SPC |
| 242 | 1.18 | 212 | 250 | 4SPB |
| 252 | 1.13 | 265 | 300 | 3SPC |
| 256 | 1.11 | 212 | 236 | 5SPB |
| 266 | 1.07 | 280 | 300 | 3SPC |
| 271 | 1.05 | 224 | 236 | 4SPB |
| 285 | 1.00 | 200 | 200 | 5SPB |
| 300 | 1.05 | 315 | 300 | 3SPC |
| 306 | 1.07 | 300 | 280 | 3SPC |
| 317 | 1.11 | 200 | 180 | 6SPB |
| 323 | 1.13 | 300 | 265 | 3SPC |
| 336 | 1.18 | 212 | 180 | 6SPB |
| 341 | 1.20 | 335 | 280 | 3SPC |
| 357 | 1.25 | 250 | 200 | 6SPA |
| 362 | 1.27 | 355 | 280 | 3SPB |
| 375 | 1.32 | 250 | 190 | 5SPB |
| 381 | 1.33 | 315 | 236 | 3SPC |
| 396 | 1.39 | 250 | 180 | 6SPB |
| 399 | 1.40 | 280 | 200 | 5SPB |

H 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 10 | 10.67 | 75 | 800 | 3SPZ |
| 11 | 9.41 | 85 | 800 | 3SPZ |
| 12 | 8.89 | 90 | 800 | 3SPZ |
| 13 | 8.42 | 95 | 800 | 3SPZ |
| 14 | 7.87 | 80 | 630 | 3SPZ |
| 16 | 6.63 | 95 | 630 | 3SPZ |
| 18 | 5.94 | 106 | 630 | 2SPA |
| 19 | 5.62 | 112 | 630 | 2SPA |
| 21 | 5.00 | 100 | 500 | 3SPA |
| 23 | 4.72 | 106 | 500 | 3SPA |
| 25 | 4.21 | 95 | 400 | 5SPZ |
| 27 | 4.00 | 100 | 400 | 4SPZ |
| 28 | 3.77 | 106 | 400 | 4SPA |
| 30 | 3.57 | 140 | 500 | 2SPA |
| 32 | 3.33 | 150 | 500 | 2SPA |
| 34 | 3.15 | 100 | 315 | 5SPZ |
| 35 | 3.03 | 132 | 400 | 3SPA |
| 37 | 2.86 | 140 | 400 | 4SPZ |
| 38 | 2.78 | 180 | 500 | 2SPA |
| 40 | 2.67 | 118 | 315 | 4SPA |
| 42 | 2.50 | 160 | 400 | 2SPB |
| 44 | 2.39 | 132 | 315 | 4SPA |
| 45 | 2.35 | 170 | 400 | 2SPB |
| 47 | 2.25 | 140 | 315 | 5SPZ |
| 48 | 2.22 | 180 | 400 | 2SPB |
| 50 | 2.10 | 150 | 315 | 3SPA |
| 51 | 2.09 | 170 | 355 | 2SPB |
| 54 | 1.97 | 160 | 315 | 2SPB |
| 56 | 1.89 | 132 | 250 | 4SPA |
| 57 | 1.87 | 190 | 355 | 2SPB |
| 59 | 1.79 | 140 | 250 | 4SPA |
| 61 | 1.75 | 180 | 315 | 2SPB |
| 64 | 1.66 | 190 | 315 | 2SPB |
| 66 | 1.60 | 250 | 400 | 2SPB |
| 68 | 1.56 | 160 | 250 | 3SPB |
| 72 | 1.48 | 160 | 236 | 3SPB |
| 74 | 1.43 | 140 | 200 | 5SPA |
| 76 | 1.39 | 180 | 250 | 3SPB |
| 79 | 1.33 | 236 | 315 | 2SPB |
| 80 | 1.33 | 150 | 200 | 5SPA |
| 82 | 1.29 | 140 | 180 | 5SPA |
| 85 | 1.25 | 224 | 280 | 2SPB |
| 90 | 1.18 | 180 | 212 | 3SPB |
| 95 | 1.11 | 180 | 200 | 4SPA |
| 100 | 1.06 | 212 | 224 | 3SPB |

H 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 10 | 7.04 | 71 | 500 | 3SPZ |
| 11 | 6.63 | 95 | 630 | 3SPZ |
| 12 | 5.88 | 85 | 500 | 3SPZ |
| 13 | 5.56 | 90 | 500 | 3SPZ |
| 14 | 5.04 | 125 | 630 | 2SPA |
| 15 | 4.71 | 85 | 400 | 3SPZ |
| 16 | 4.44 | 90 | 400 | 3SPZ |
| 17 | 4.24 | 118 | 500 | 2SPA |
| 18 | 4.00 | 125 | 500 | 2SPZ |
| 19 | 3.77 | 106 | 400 | 3SPA |
| 20 | 3.57 | 112 | 400 | 2SPA |
| 21 | 3.39 | 118 | 400 | 2SPA |
| 22 | 3.20 | 125 | 400 | 2SPA |
| 23 | 3.03 | 132 | 400 | 2SPA |
| 24 | 2.97 | 106 | 315 | 3SPA |
| 25 | 2.86 | 140 | 400 | 2SPA |
| 26 | 2.67 | 150 | 400 | 2SPA |
| 27 | 2.63 | 95 | 250 | 5SPZ |
| 28 | 2.52 | 125 | 315 | 4SPZ |
| 30 | 2.36 | 106 | 250 | 4SPA |
| 31 | 2.25 | 140 | 315 | 3SPZ |
| 32 | 2.23 | 112 | 250 | 4SPZ |
| 33 | 2.12 | 118 | 250 | 3SPA |
| 34 | 2.10 | 150 | 315 | 2SPA |
| 35 | 2.00 | 125 | 250 | 3SPA |
| 36 | 1.97 | 160 | 315 | 2SPA |
| 37 | 1.89 | 132 | 250 | 3SPA |
| 38 | 1.85 | 170 | 315 | 2SPB |
| 39 | 1.79 | 140 | 250 | 4SPZ |
| 40 | 1.75 | 180 | 315 | 2SPA |
| 41 | 1.70 | 106 | 180 | 5SPA |
| 42 | 1.69 | 118 | 200 | 4SPA |
| 44 | 1.60 | 125 | 200 | 5SPZ |
| 45 | 1.57 | 200 | 315 | 2SPA |
| 47 | 1.52 | 132 | 200 | 4SPA |
| 48 | 1.47 | 170 | 250 | 2SPB |
| 49 | 1.44 | 125 | 180 | 4SPA |
| 51 | 1.39 | 170 | 236 | 2SPB |
| 52 | 1.36 | 132 | 180 | 4SPA |
| 53 | 1.33 | 150 | 200 | 3SPA |
| 54 | 1.31 | 180 | 236 | 2SPB |
| 55 | 1.27 | 118 | 150 | 5SPA |
| 57 | 1.24 | 180 | 224 | 2SPB |
| 59 | 1.20 | 125 | 150 | 5SPA |
| 60 | 1.18 | 190 | 224 | 2SPB |

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

J 5:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 51 | 5.56 | 180 | 1000 | 3SPB |
| 54 | 5.26 | 190 | 1000 | 3SPB |
| 57 | 5.00 | 160 | 800 | 4SPB |
| 61 | 4.71 | 170 | 800 | 4SPB |
| 63 | 4.50 | 140 | 630 | 6SPA |
| 68 | 4.21 | 190 | 800 | 4SPB |
| 71 | 4.00 | 200 | 800 | 5SPA |
| 76 | 3.77 | 212 | 800 | 4SPB |
| 80 | 3.57 | 224 | 800 | 3SPB |
| 84 | 3.39 | 236 | 800 | 3SPB |
| 89 | 3.20 | 250 | 800 | 3SPB |
| 96 | 2.97 | 212 | 630 | 4SPB |
| 100 | 2.86 | 280 | 800 | 3SPB |
| 107 | 2.67 | 236 | 630 | 4SPB |
| 112 | 2.54 | 315 | 800 | 3SPB |
| 120 | 2.38 | 265 | 630 | 3SPC |
| 127 | 2.24 | 250 | 560 | 3SPC |
| 134 | 2.13 | 375 | 800 | 3SPC |
| 143 | 2.00 | 250 | 500 | 4SPB |
| 150 | 1.90 | 250 | 475 | 3SPC |
| 159 | 1.79 | 265 | 475 | 3SPC |
| 168 | 1.70 | 280 | 475 | 3SPC |
| 171 | 1.67 | 300 | 500 | 3SPC |
| 178 | 1.60 | 265 | 425 | 3SPC |
| 181 | 1.57 | 400 | 630 | 3SPC |
| 189 | 1.51 | 315 | 475 | 3SPC |
| 201 | 1.42 | 250 | 355 | 4SPC |
| 203 | 1.41 | 355 | 500 | 3SPC |
| 211 | 1.35 | 315 | 425 | 3SPC |
| 215 | 1.32 | 400 | 530 | 3SPC |
| 225 | 1.27 | 315 | 400 | 4SPB |
| 228 | 1.25 | 300 | 375 | 3SPC |
| 238 | 1.20 | 375 | 450 | 3SPC |
| 241 | 1.18 | 300 | 355 | 3SPC |
| 252 | 1.13 | 265 | 300 | 4SPC |
| 255 | 1.12 | 335 | 375 | 3SPC |
| 266 | 1.07 | 280 | 300 | 4SPC |
| 269 | 1.06 | 335 | 355 | 3SPC |
| 285 | 1.00 | 280 | 280 | 4SPC |
| 300 | 1.05 | 315 | 300 | 4SPC |
| 302 | 1.06 | 355 | 335 | 3SPC |
| 306 | 1.07 | 300 | 280 | 4SPC |
| 319 | 1.12 | 375 | 335 | 3SPC |
| 338 | 1.18 | 355 | 300 | 4SPC |
| 341 | 1.19 | 400 | 335 | 3SPC |
| 357 | 1.25 | 375 | 300 | 4SPC |
| 360 | 1.26 | 315 | 250 | 5SPC |
| 362 | 1.27 | 400 | 315 | 3SPC |
| 381 | 1.33 | 315 | 236 | 5SPC |
| 382 | 1.34 | 355 | 265 | 4SPC |

J 13:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 11 | 10.00 | 100 | 1000 | 3SPA |
| 12 | 8.89 | 90 | 800 | 4SPZ |
| 13 | 8.00 | 100 | 800 | 3SPA |
| 14 | 7.55 | 106 | 800 | 3SPA |
| 15 | 7.14 | 112 | 800 | 3SPA |
| 16 | 6.63 | 95 | 630 | 5SPZ |
| 17 | 6.40 | 125 | 800 | 3SPZ |
| 18 | 5.94 | 106 | 630 | 4SPA |
| 19 | 5.62 | 112 | 630 | 3SPA |
| 21 | 5.04 | 125 | 630 | 4SPZ |
| 22 | 4.77 | 132 | 630 | 3SPA |
| 23 | 4.72 | 106 | 500 | 4SPA |
| 24 | 4.50 | 140 | 630 | 4SPZ |
| 25 | 4.24 | 118 | 500 | 4SPA |
| 27 | 3.94 | 160 | 630 | 2SPB |
| 29 | 3.71 | 170 | 630 | 2SPB |
| 30 | 3.57 | 140 | 150 | 4SPA |
| 32 | 3.33 | 150 | 500 | 3SPA |
| 34 | 3.12 | 160 | 500 | 3SPA |
| 35 | 3.03 | 132 | 400 | 4SPA |
| 37 | 2.86 | 140 | 400 | 4SPA |
| 38 | 2.78 | 180 | 500 | 3SPA |
| 40 | 2.63 | 190 | 500 | 2SPB |
| 42 | 2.50 | 160 | 400 | 3SPB |
| 44 | 2.39 | 132 | 315 | 5SPA |
| 45 | 2.36 | 212 | 500 | 2SPB |
| 47 | 2.25 | 355 | 800 | 3SPB |
| 48 | 2.22 | 180 | 400 | 3SPB |
| 50 | 2.12 | 224 | 475 | 3SPC |
| 51 | 2.09 | 170 | 355 | 3SPB |
| 53 | 2.00 | 200 | 400 | 3SPA |
| 54 | 1.97 | 160 | 315 | 4SPB |
| 56 | 1.90 | 224 | 425 | 3SPC |
| 57 | 1.87 | 190 | 355 | 3SPB |
| 59 | 1.79 | 140 | 250 | 6SPA |
| 61 | 1.75 | 180 | 315 | 4SPA |
| 64 | 1.66 | 190 | 315 | 3SPB |
| 67 | 1.57 | 200 | 315 | 4SPA |
| 68 | 1.56 | 180 | 280 | 4SPB |
| 71 | 1.49 | 212 | 315 | 3SPB |
| 72 | 1.47 | 170 | 250 | 5SPB |
| 74 | 1.43 | 280 | 400 | 2SPB |
| 76 | 1.39 | 180 | 250 | 5SPA |
| 79 | 1.33 | 236 | 315 | 3SPB |
| 81 | 1.32 | 190 | 250 | 4SPB |
| 83 | 1.27 | 315 | 400 | 2SPB |
| 85 | 1.24 | 190 | 236 | 4SPB |
| 89 | 1.19 | 236 | 280 | 3SPB |
| 95 | 1.12 | 250 | 280 | 3SPB |
| 100 | 1.06 | 212 | 224 | 4SPB |

J 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|---------|-----------------|
| 10 | 7.00 | 90 | 630 | 3SPZ |
| 11 | 6.30 | 100 | 630 | 3SPZ |
| 12 | 5.94 | 106 | 630 | 3SPA |
| 13 | 5.62 | 112 | 630 | 3SPZ |
| 14 | 5.00 | 100 | 500 | 3SPA |
| 15 | 4.72 | 106 | 500 | 3SPA |
| 16 | 4.50 | 140 | 630 | 2SPA |
| 17 | 4.21 | 95 | 400 | 5SPZ |
| 18 | 4.00 | 100 | 400 | 4SPA |
| 19 | 3.77 | 106 | 400 | 4SPA |
| 20 | 3.57 | 140 | 500 | 3SPZ |
| 21 | 3.39 | 118 | 400 | 3SPA |
| 22 | 3.20 | 125 | 400 | 3SPA |
| 23 | 3.03 | 132 | 400 | 3SPA |
| 24 | 2.94 | 170 | 500 | 2SPB |
| 25 | 2.78 | 180 | 500 | 2SPA |
| 26 | 2.67 | 118 | 315 | 4SPA |
| 27 | 2.63 | 190 | 500 | 2SPB |
| 28 | 2.52 | 125 | 315 | 5SPZ |
| 30 | 2.35 | 170 | 400 | 2SPB |
| 31 | 2.25 | 140 | 315 | 5SPZ |
| 32 | 2.22 | 180 | 400 | 2SPB |
| 33 | 2.12 | 118 | 250 | 5SPA |
| 34 | 2.09 | 170 | 355 | 3SPB |
| 35 | 2.01 | 236 | 475 | 3SPC |
| 36 | 1.97 | 160 | 315 | 3SPA |
| 37 | 1.91 | 236 | 450 | 3SPC |
| 38 | 1.87 | 190 | 355 | 2SPB |
| 39 | 1.79 | 140 | 250 | 4SPA |
| 40 | 1.75 | 180 | 315 | 3SPA |
| 41 | 1.70 | 250 | 425 | 3SPC |
| 42 | 1.67 | 150 | 250 | 4SPA |
| 43 | 1.65 | 170 | 280 | 3SPB |
| 44 | 1.60 | 125 | 200 | 6SPA |
| 45 | 1.57 | 200 | 315 | 3SPA |
| 47 | 1.49 | 212 | 315 | 2SPB |
| 48 | 1.47 | 190 | 280 | 3SPB |
| 49 | 1.43 | 140 | 200 | 5SPA |
| 51 | 1.39 | 170 | 236 | 3SPB |
| 53 | 1.33 | 150 | 200 | 5SPA |
| 54 | 1.31 | 180 | 236 | 3SPB |
| 55 | 1.29 | 140 | 180 | 6SPA |
| 56 | 1.25 | 200 | 250 | 4SPA |
| 57 | 1.24 | 190 | 236 | 3SPB |
| 59 | 1.19 | 160 | 190 | 4SPB |
| 60 | 1.18 | 200 | 236 | 3SPB |
| 63 | 1.12 | 160 | 180 | 5SPA |
| 66 | 1.06 | 236 | 250 | 3SPB |
| 67 | 1.06 | 170 | 180 | 4SPB |
| 70 | 1.00 | 280 | 280 | 2SPB |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

Wedge Belt Drives for 1440 rev/min Electric Motors

S 20:1

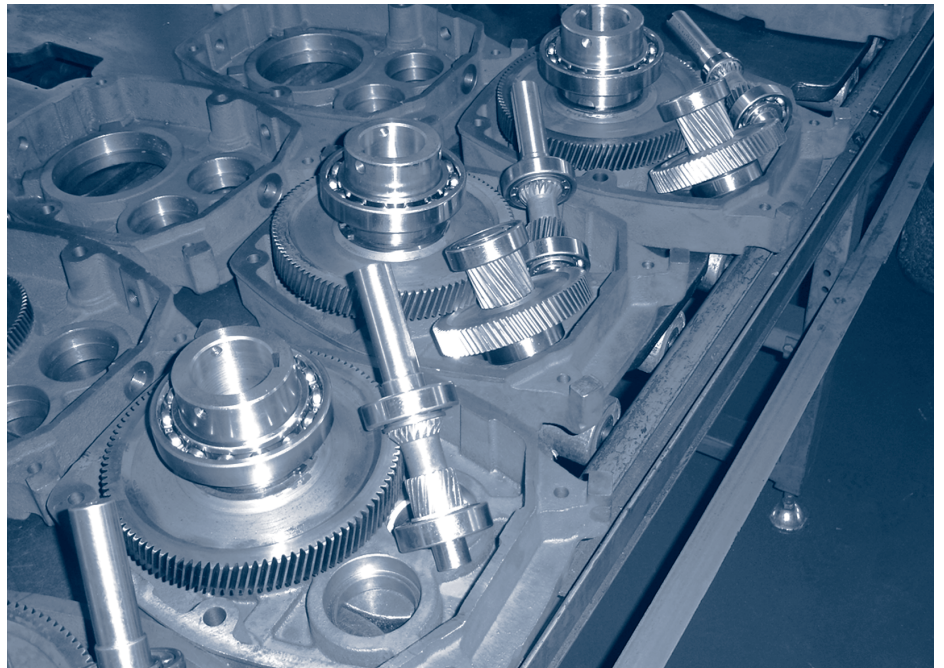
| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|------------------|-----------------|
| 10 | 7.14 | 112 | 800 | 3SPA |
| 12 | 5.94 | 106 | 630 | 4SPA |
| 14 | 5.04 | 125 | 630 | 4SPA |
| 16 | 4.46 | 112 | 500 | 4SPA |
| 18 | 3.94 | 160 | 630 | 3SPA |
| 22 | 3.20 | 125 | 400 | 5SPA |
| 24 | 2.94 | 170 | 500 | 3SPB |
| 26 | 2.67 | 150 | 400 | 4SPA |
| 28 | 2.50 | 160 | 400 | 4SPB |
| 30 | 2.37 | 150 | 355 | 4SPB |
| 32 | 2.22 | 180 | 400 | 4SPA |
| 34 | 1.97 | 160 | 315 | 4SPB |
| 38 | 1.87 | 190 | 355 | 4SPB |
| 40 | 1.75 | 180 | 315 | 4SPB |
| 42 | 1.66 | 190 | 315 | 4SPB |
| 46 | 1.50 | 236 | 355 | 3SPB |
| 50 | 1.40 | 200 | 280 | 4SPB |
| 52 | 1.33 | 236 | 315 | 3SPC |
| 54 | 1.31 | 180 | 236 | 5SPB |
| 58 | 1.20 | 250 | 300 | 3SPC |
| 62 | 1.13 | 265 | 300 | 3SPC |
| 66 | 1.07 | 280 | 300 | 3SPC |

K 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|------------------|-----------------|
| 10 | 7.14 | 140 | 1000 | 3SPB |
| 12 | 6.06 | 132 | 800 | 4SPA |
| 14 | 5.00 | 160 | 800 | 3SPB |
| 16 | 4.44 | 180 | 800 | 3SPB |
| 18 | 3.94 | 160 | 630 | 4SPB |
| 22 | 3.29 | 170 | 560 | 4SPB |
| 24 | 2.97 | 212 | 630 | 3SPB |
| 26 | 2.81 | 224 | 630 | 3SPB |
| 28 | 2.52 | 250 | 630 | 3SPB |
| 30 | 2.36 | 212 | 500 | 3SPB |
| 32 | 2.23 | 224 | 500 | 3SPB |
| 34 | 2.00 | 200 | 400 | 4SPB |
| 38 | 1.89 | 212 | 400 | 4SPB |
| 40 | 1.80 | 236 | 425 | 3SPC |
| 42 | 1.70 | 250 | 425 | 3SPC |
| 46 | 1.59 | 236 | 375 | 3SPC |
| 50 | 1.42 | 250 | 355 | 3SPC |
| 52 | 1.41 | 224 | 315 | 4SPC |
| 54 | 1.34 | 250 | 335 | 3SPC |
| 58 | 1.25 | 300 | 375 | 3SPC |
| 62 | 1.18 | 300 | 355 | 3SPC |
| 66 | 1.12 | 335 | 375 | 3SPC |

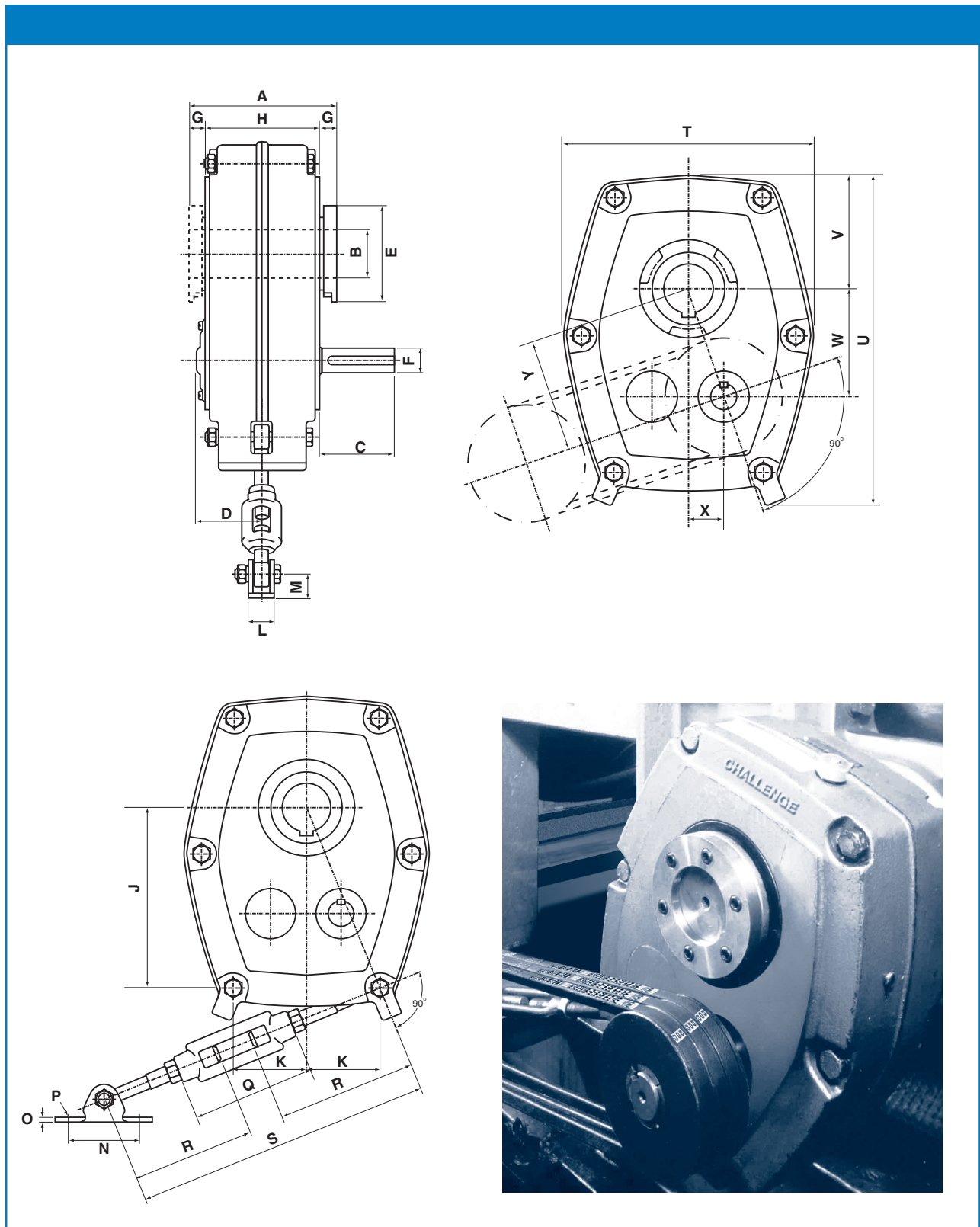
L 20:1

| Nominal Output Speed | Pulley Ratio | Pulley Motor Dia (mm) | Dia (mm) Gearbox | Number of Belts |
|----------------------|--------------|-----------------------|------------------|-----------------|
| 10 | 7.14 | 140 | 1000 | 4SPB |
| 12 | 6.25 | 160 | 1000 | 3SPB |
| 14 | 5.26 | 190 | 1000 | 3SPB |
| 16 | 4.46 | 224 | 1000 | 3SPB |
| 18 | 4.00 | 200 | 800 | 3SPB |
| 22 | 3.34 | 190 | 630 | 4SPB |
| 24 | 3.02 | 265 | 800 | 3SPC |
| 26 | 2.81 | 224 | 630 | 3SPC |
| 28 | 2.64 | 212 | 560 | 5SPB |
| 30 | 2.50 | 224 | 560 | 5SPB |
| 32 | 2.25 | 280 | 630 | 4SPB |
| 34 | 2.12 | 236 | 500 | 5SPB |
| 38 | 1.91 | 236 | 450 | 5SPC |
| 40 | 1.87 | 300 | 560 | 4SPC |
| 42 | 1.77 | 300 | 530 | 4SPC |
| 46 | 1.60 | 250 | 400 | 4SPC |
| 50 | 1.48 | 425 | 630 | 3SPC |
| 52 | 1.40 | 400 | 560 | 3SPC |
| 54 | 1.35 | 315 | 425 | 4SPC |
| 58 | 1.27 | 315 | 400 | 4SPC |
| 62 | 1.19 | 315 | 375 | 4SPC |
| 66 | 1.12 | 335 | 375 | 4SPC |



Shaft Mounted Speed Reducer

SMSR Dimensions



Note: for flange mounting positions-consult CHALLENGE

Shaft Mounted Speed Reducer

SMSR Dimensions Table

| | | SMSR Dimensions | | | | | | | | | | |
|--------------------|------------------|-----------------|----------|--------|---------|---------|---------|-----------|----------|----------|----------|----------|
| | | B | C | D | E | F | G | H | J | S | K | L |
| A | | 134 | 142 | 152 | 170 | 189 | 212 | 242 | 257 | 290 | 310 | 356 |
| B | | 30 | 40 | 50 | 55 | 65 | 75 | 85 | 100 | 120 | 125 | 150 |
| Output hub key | | 8 x 7 | 12 x 8 | 14 x 9 | 16 x 10 | 18 x 11 | 20 x 12 | 22 x 14 | 28 x 16 | 32 x 18 | 32 x 18 | 36 x 20 |
| C | | 63 | 72 | 77 | 85 | 90 | 105 | 116 | 135 | 145 | 186 | 216 |
| D | | 59 | 65 | 68 | 76 | 87 | 110 | 115 | 119 | 123 | 196 | 203 |
| E | | 80 | 90 | 100 | 115 | 130 | 145 | 170 | 200 | 186 | 218 | 238 |
| F | | 19 | 22 | 25 | 28 | 32 | 42 | 48 | 55 | 55 | 60 | 65 |
| Input shaft keyway | | 6x3.5x50 | 6x3.5x59 | 8x4x63 | 8x4x70 | 10x5x70 | 12x5x90 | 14x5.5x95 | 16x6x100 | 16x6x100 | 18x7x110 | 18x7x110 |
| G | | 15 | 17 | 17 | 20 | 20 | 20 | 26 | 30 | 35 | 44 | 44 |
| H | | 104 | 108 | 118 | 130 | 149 | 172 | 190 | 197 | 220 | 222 | 268 |
| J | | 131 | 156 | 88 | 222 | 242 | 277 | 330 | 424 | 456 | 513 | 590 |
| K | | 55 | 59 | 76 | 90 | 98 | 110 | 88 | 102 | 157 | 102 | 160 |
| L | | 24 | 24 | 28 | 28 | 34 | 34 | 70 | 70 | 70 | 70 | 110 |
| M | | 20 | 20 | 24 | 24 | 30 | 30 | 50 | 50 | 50 | 51 | 76 |
| N | | 65 | 65 | 75 | 75 | 100 | 100 | 120 | 120 | 120 | 120 | 180 |
| O | | 5 | 5 | 5 | 5 | 6 | 6 | 18 | 18 | 18 | 18 | 26 |
| P | | 10 | 10 | 12 | 12 | 16 | 16 | 16 | 16 | 16 | M16 | M24 |
| Q | | 200 | 200 | 216 | 216 | 216 | 216 | 222 | 222 | 222 | 222 | 265 |
| R | | 300 | 300 | 350 | 350 | 375 | 375 | 375 | 375 | 375 | 375 | 400 |
| S | Min | 600 | 600 | 700 | 700 | 750 | 750 | 750 | 750 | 750 | 750 | 775 |
| | Max | 750 | 750 | 850 | 850 | 900 | 900 | 900 | 900 | 900 | 900 | 925 |
| T | | 186 | 218 | 258 | 278 | 317 | 365 | 434 | 542 | 542 | 643 | 770 |
| U | | 241 | 282 | 338 | 386 | 419 | 475 | 550 | 700 | 734 | 841 | 1000 |
| V | | 81 | 96 | 117 | 129 | 143 | 162 | 195 | 254 | 254 | 298 | 370 |
| W | | 75 | 90 | 110 | 125 | 141 | 156 | 189 | 255 | 255 | 280 | 324 |
| X | | 25 | 31 | 37 | 43 | 50 | 56 | 62 | 75 | 75 | 100 | 119 |
| Y | | 79 | 95 | 116 | 133 | 150 | 166 | 200 | 266 | 266 | 297 | 345 |
| Weight-kgf | single reduction | 19 | 25 | 34 | 45 | 59 | 88 | 139 | 202 | - | - | - |
| | double reduction | 20 | 26 | 36 | 50 | 64 | 98 | 150 | 216 | 380 | 411 | 714 |
| Exact Gear Ratios | | | | | | | | | | | | |
| Nominal | 5:1 | 5.050 | 5.050 | 5.047 | 5.047 | 5.047 | 5.047 | 5.047 | 5.047 | - | - | - |
| Ratios | 13:1 | 13.984 | 13.596 | 13.589 | 13.589 | 13.589 | 13.589 | 13.589 | 13.589 | - | - | - |
| | 20:1 | 20.456 | 20.456 | 20.456 | 20.456 | 20.456 | 20.456 | 20.456 | 20.456 | 20.455 | 19.970 | 19.580 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Shaft Mounted Speed Reducer

Standard Hub Bores

| SMSR | Bore in Standard Hub | Additional Bores using Reducing Bushes |
|------|----------------------|--|
| B | 30 | 25 |
| C | 40 | 35, 32, 30 |
| D | 50 | 45, 42, 40, 38 |
| E | 55 | 50, 45, 42 |
| F | 65 | 60, 55, 50 |
| G | 75 | 70, 65, 60 |
| H | 85 | 80, 75, 70 |
| J | 100 | 95, 90 |
| S | 120 | 110, 100, 90 |
| K | 125 | 110, 100, 90 |
| L | 150 | 130, 125, 100 |

Alternative Hub Bores (Maximum)

| SMSR | Bore in Alternative Hub | Additional Bores using Reducing Bushes |
|------|-------------------------|--|
| B | 40 | 35 |
| C | 50 | 45 |
| D | 55 | - |
| E | 65 | 60 |
| F | 75 | 70 |
| G | 85 | 80 |
| H | 100 | 95, 90 |
| J | 120 | 110, 115 |

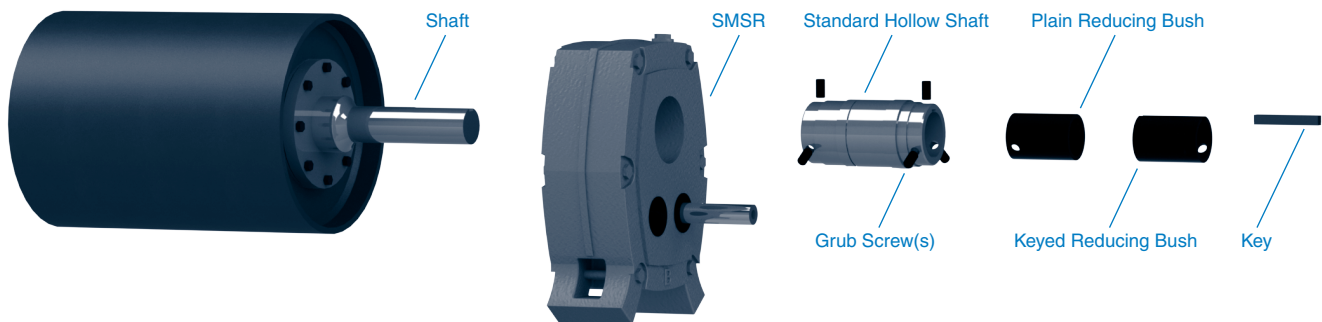
Standard hub bores are machined to F7 limits and a h7 tolerance is recommended for the shaft.

Keyways for standard output hubs and reducing bushes are machined to BS 4235. The shaft keyway should be machined in accordance with the Table below.

| Shaft ϕ | Key | Shaft ϕ | Key | Shaft ϕ | Key | Shaft ϕ | Key |
|--------------|--------|--------------|---------|--------------|---------|--------------|---------|
| 30 | 8 x 7 | 45 | 14 x 9 | 75 | 20 x 12 | 110 | 28 x 16 |
| 32 | 10 x 8 | 50 | 14 x 9 | 80 | 22 x 14 | 120 | 32 x 18 |
| 35 | 10 x 8 | 55 | 16 x 10 | 85 | 22 x 14 | 125 | 32 x 18 |
| 38 | 10 x 8 | 60 | 18 x 11 | 90 | 25 x 14 | 130 | 32 x 18 |
| 40 | 12 x 8 | 65 | 18 x 11 | 95 | 25 x 14 | 140 | 36 x 20 |
| 42 | 12 x 8 | 70 | 20 x 12 | 100 | 28 x 16 | 150 | 36 x 20 |

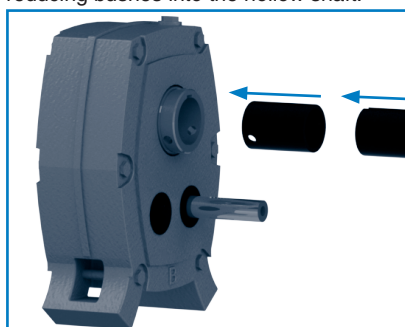
Challenge Reducing Bush Locking System

Keys are supplied when reduction bushes are used. Usually two keys are supplied, but for thin walled bushes, a single stepped key will be supplied.

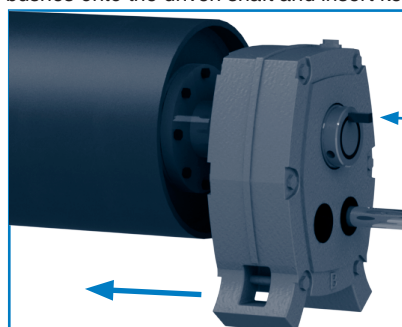


Procedure for Assembly

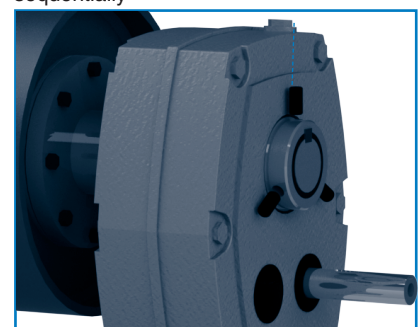
Step 1: Insert the keyed and plain reducing bushes into the hollow shaft.



Step 2: Mount gearbox with reducing bushes onto the driven shaft and insert key.



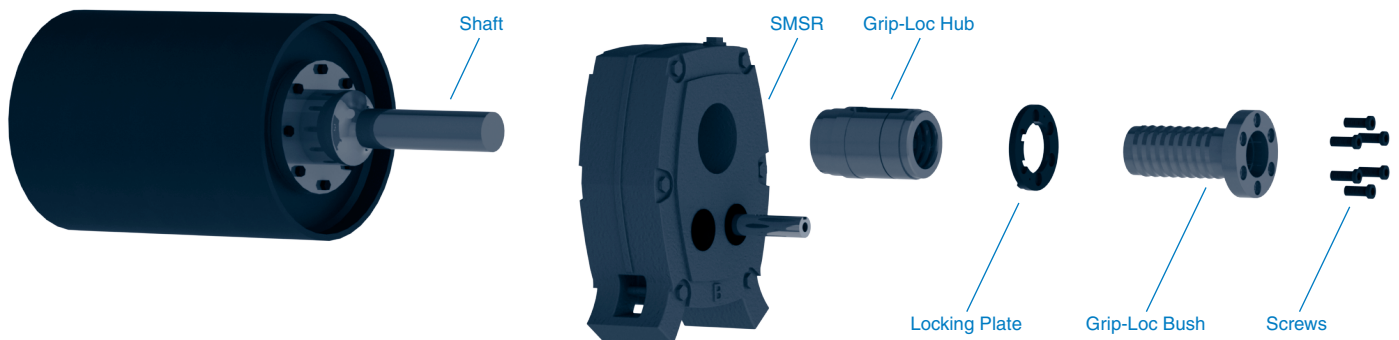
Step 3: Tighten grub screws on collar sequentially



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Shaft Mounted Speed Reducer

Challenge Grip-Loc Locking System



Advantages

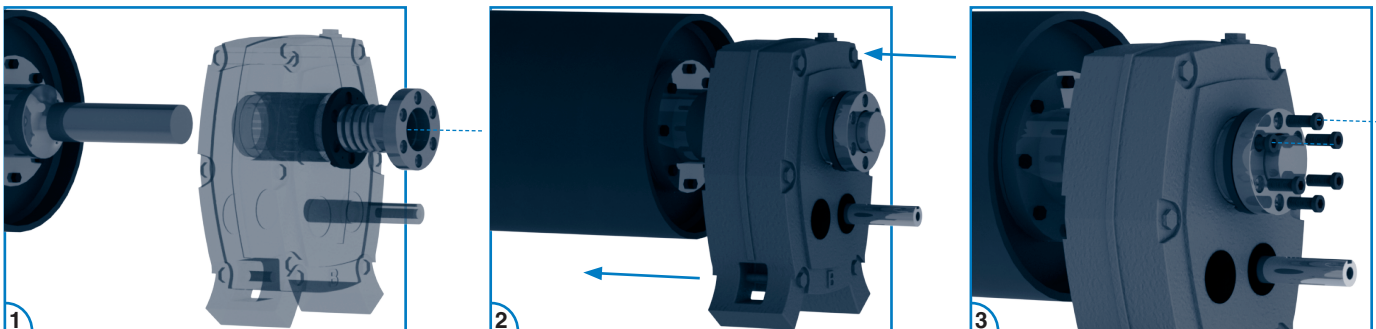
- Has sufficient torque transmitting ability to avoid the need for conventional shaft keys
- Reversible assembly
- Obviates problems caused by the usual operating environment and atmospheric conditions
- By virtue of the design, Grip-Loc prevents the onset of fretting corrosion, which often causes problems with more conventional mounting systems
- Much more simple to install and remove than keyed assemblies
- Fits standard shafts with h11 tolerances

Grip-Loc Bush Bores

| SMSR | Available Bores |
|------|-----------------|
| B | 20,25,30 |
| C | 30,35,40 |
| D | 40,45,50 |
| E | 45,50,55 |
| F | 55,60,65 |
| G | 65,70,75 |
| H | 75,80,85 |
| J | 90,95,100 |
| S | 120 |
| K | 125 |
| L | 150 |

Procedure for Assembly

- 1) Screw Grip-Loc Bush (clockwise) into Grip-Loc Hub.
- 2) Mount on driven shaft to the required position.
- 3) Tighten cap head screws sequentially (which draws the bush against its opposing taper and locks solid against the shaft).



Procedure for Removal

This is a much simpler operation compared to the “hollow shaft” speed reducers that utilise parallel keys.

Many Shaft Mounted Speed Reducer applications are subject to poor operating conditions, such as in quarries etc. When the time comes to remove the SMSR from the shaft, a build up of corrosion can become a major problem and make the disassembly difficult.

As the Grip-Loc hub and shaft are of dissimilar metals, fretting corrosion is not a problem. Therefore, when the Grip-Loc screws are loosened and the tapers part, sufficient clearance is created for the Grip-Loc bush and speed reducer to be easily removed from the shaft.

Safety

Once a Grip-Loc hub has been correctly installed, there is no possibility for the taper to “break” and thus allow the speed reducer to move on the shaft.

The installation and removal screws play no part in holding the taper grip and even their removal would not adversely affect the performance of Grip-Loc.

Shaft Mounted Speed Reducer

SMSR Output Hub Options

| SIZE | GEARBOXES WITH STANDARD OUTPUT HUBS | | | GEARBOXES WITH ALTERNATE OUTPUT HUBS | | | GEARBOXES WITH GRIP-LOC OUTPUT HUBS | | |
|----------|--|--------------------------------------|--|--|--------------------------------------|---|-------------------------------------|--------------------------------------|-------------------------------|
| | Boxes with Standard Output Hubs (bore in mm) | Reducing bushes available from stock | Reducing bushes - outer diameter reduce to inner diameter | Boxes with Standard Output Hubs (bore in mm) | Reducing bushes available from stock | Reducing bushes - outer diameter reduce to inner diameter | Boxes with Grip-Loc Output Hubs | Grip-Loc Bushes available from stock | Grip-Loc Bushes - bore size |
| B | B5 (30) | 1 | 30mm to 25mm | B13AB (40) | 1 | 40mm to 35mm | B5GL | 3 | 30mm 25mm 20mm |
| | B13 (30) | | | B20AB (40) | | | B13GL | | |
| | B20 (30) | | | | | | B20GL | | |
| C | C5 (40) | 3 | 40mm to 35mm 40mm to 32mm 40mm to 30mm | C5AB (50) | 1 | 50mm to 45mm | C5GL | 3 | 40mm 35mm 30mm |
| | C13 (40) | | | C13AB (50) | | | C13GL | | |
| | C20 (40) | | | C20AB (50) | | | C20GL | | |
| D | D5 (50) | 4 | 50mm to 45mm 50mm to 42mm 50mm to 40mm 50mm to 38mm | D5AB (55) | 0 | | D5GL | 3 | 50mm 45mm 40mm |
| | D13 (50) | | | D13AB (55) | | | D13GL | | |
| | D20 (50) | | | D20AB (55) | | | D20GL | | |
| E | E5 (55) | 3 | 55mm to 50mm 55mm to 45mm 55mm to 42mm | E5AB (65) | 1 | 65mm to 60mm | E5GL | 3 | 55mm 50mm 45mm |
| | E13 (55) | | | E13AB (65) | | | E13GL | | |
| | E20 (55) | | | E20AB (65) | | | E20GL | | |
| F | F5 (65) | 3 | 65mm to 60mm 65mm to 55mm 65mm to 50mm | F5AB (75) | 1 | 75mm to 70mm | F5GL | 3 | 65mm 60mm 55mm |
| | F13 (65) | | | F13AB (75) | | | F13GL | | |
| | F20 (65) | | | F20AB (75) | | | F20GL | | |
| G | G5 (75) | 3 | 75mm to 70mm 75mm to 65mm 75mm to 60mm | G5AB (85) | 1 | 85mm to 80mm | G5GL | 3 | 75mm 70mm 65mm |
| | G13 (75) | | | G13AB (85) | | | G13GL | | |
| | G20 (75) | | | G20AB (85) | | | G20GL | | |
| H | H5 (85) | 3 | 85mm to 80mm 85mm to 75mm 85mm to 70mm | H5AB (100) | 2 | 100mm to 95mm 100mm to 90mm | H5GL | 3 | 85mm 80mm 75mm |
| | H13 (85) | | | H13AB (100) | | | H13GL | | |
| | H20 (85) | | | H20AB (100) | | | H20GL | | |
| J | J5 (100) | 2 | 100mm to 95mm 100mm to 90mm | J5AB (120) | 2 | 120mm to 115mm 120mm to 110mm | J5GL | 4 | 100mm 95mm 90mm 85mm |
| | J13 (100) | | | J13AB (120) | | | J13GL | | |
| | J20 (100) | | | J20AB (120) | | | J20GL | | |

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Shaft Mounted Speed Reducer

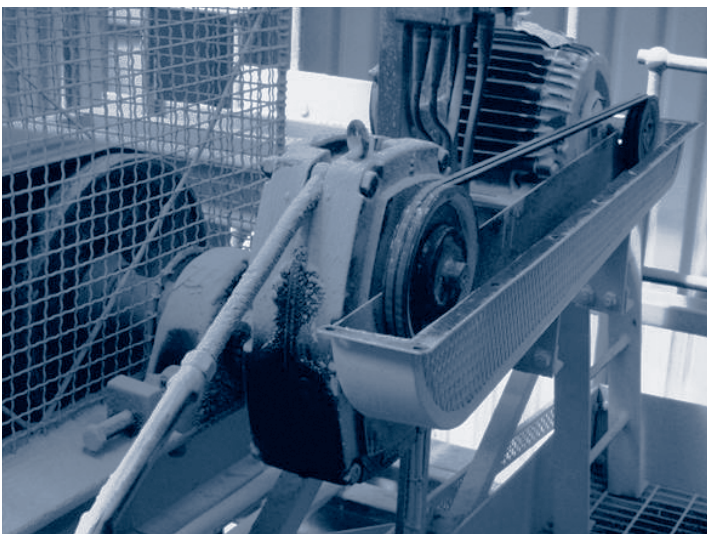
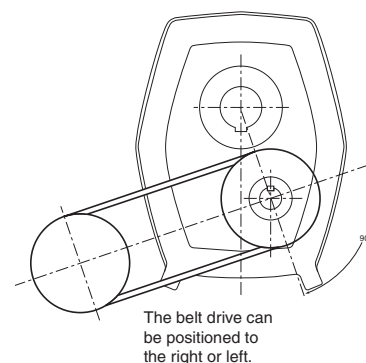
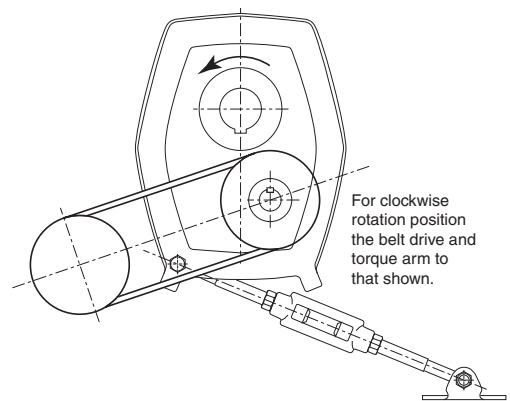
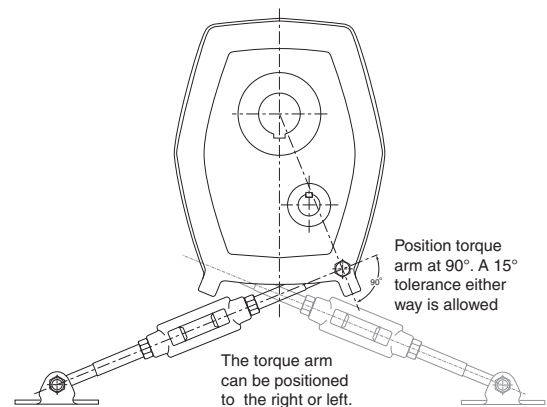
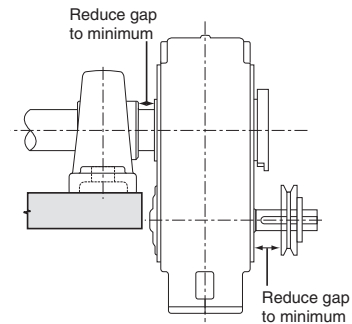
SMSR Installation

Satisfactory performance depends on correct installation, lubrication and maintenance. Therefore it is important that the instructions in the installation leaflet are followed carefully.

1. Prepare driven shaft by removing key and ensuring surface is clean, smooth and free from burrs. Coat shaft with "Anti Seize Compound".
2. Align reducer hub and shaft keyway then gently slide the reducer on to the driven shaft. Mount the reducer as close to driven shaft bearing as possible to reduce the overhung load. If possible the end of the driven shaft should be level with the outer edge of reducer output hub.
3. Fit the drive key to protrude at least one third way into length of hub keyway and flush with outer edge of reducer hub.
4. The hub clamp can now be tightened.

The Challenge SMSR creates little, if any, axial load on the shaft necessitating only light clamping to locate the unit on to the driven shaft.

5. Install pulley on gearbox input shaft as close to the reducer as possible. Failure to do this will cause excessive loads in the input shaft bearings and could cause their premature failure.
6. Install motor and belt drive with the belt pull at approximately 90° to the centre line between driven and input shafts. This will permit tensioning of the belt drive with the torque arm. The torque arm itself should work in tension. If output hub runs anti-clockwise, the torque arm should be positioned to the right.
7. Install torque-arm fulcrum on a rigid support so that the torque arm will be at approximately right angles to the centre line through the driven shaft and the torque-arm case bolt.
8. Make sure there is sufficient take up in the turn-buckle for belt tension adjustment.



Shaft Mounted Speed Reducer

Lubrication

Units are supplied without oil and should be filled before running with a recommended lubricant to the correct level dependant on the mounting position.

Remove the taper plugs from the filler/breather and level positions as shown in the diagram.

Fill until the lubricant overflows the oil level aperture. Replace the level taper plug.

For output speeds below 10 rev/min, consult Challenge.

Fit the filler/breather plug (supplied loose).

Synthetic Lubricants

Certain approved synthetic lubricants are suitable for use in gear units - consult your lubricant supplier

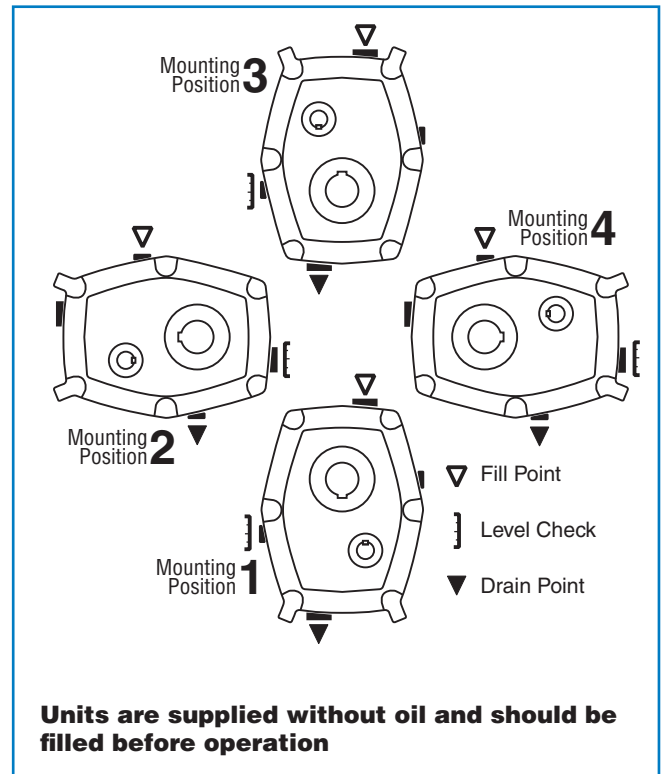
Recommended oil change periods

The first change should be after 2500 hours and thereafter every 8000 hours of running or two years.

If the temperature exceeds 70°C, then oil changes should be every 6 months.

If the application is subject to frequent stops/starts, oil changes should be more frequent.

It is also recommended that the breather plug should be changed with every oil change.



Lubricant Capacity

| SMSR Size | Capacity (Litres) | | | | | | | |
|-----------|-------------------|------|------|------|-------------------|------|------|------|
| | 5:1 | | | | 13:1 & 20:1 | | | |
| | Mounting Position | | | | Mounting Position | | | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| B | 0.4 | 0.4 | 0.4 | 0.5 | 0.3 | 0.5 | 0.4 | 0.5 |
| C | 0.6 | 0.7 | 0.6 | 0.8 | 0.8 | 1.5 | 1.2 | 1.3 |
| D | 1.0 | 1.4 | 1.2 | 1.5 | 0.8 | 1.5 | 1.2 | 1.3 |
| E | 1.9 | 2.0 | 1.8 | 1.9 | 1.7 | 2.0 | 1.8 | 1.6 |
| F | 2.6 | 2.5 | 2.5 | 2.6 | 2.3 | 2.5 | 2.5 | 2.5 |
| G | 3.3 | 4.1 | 3.3 | 4.6 | 3.0 | 4.3 | 3.4 | 3.9 |
| H | 4.8 | 7.1 | 5.0 | 7.1 | 4.5 | 7.0 | 5.0 | 6.9 |
| J | 9.3 | 16.0 | 12.0 | 16.0 | 7.5 | 14.0 | 11.0 | 13.0 |
| S | - | - | - | - | 9.1 | 16.4 | 12.6 | 15.4 |
| K | - | - | - | - | 12.5 | 13.5 | 24.0 | 11.5 |
| L | - | - | - | - | 22.5 | 34.0 | 52.0 | 27.0 |

Mineral Oil ISO Viscosity Grade

| Unit Ratio | 5:1 | | | | 13:1 & 20:1 | | | | | | |
|-------------|----------------|---------|-----------|-----------|-------------|---------|----------|--------|---------|-----|-----|
| | Output rev/min | 0 - 100 | 101 - 200 | 201 - 400 | 0 - 20 | 21 - 50 | 51 - 120 | 0 - 50 | 51 - 80 | | |
| SMSR Size | BCDE | BCDE | BC | DEFGHJ | BCDEF | BCD | EFGHJS | BCD | EFGHJS | K L | K L |
| Amb Temp °C | FGHJ | FGHJ | BC | DEFGHJ | GHJS | BCD | EFGHJS | BCD | EFGHJS | K L | K L |
| -10 to +5 | 100 | 100 | 100 | 68 | 150 | 150 | 150 | 100 | 100 | 100 | 100 |
| +6 to +25 | 460 | 320 | 320 | 220 | 680 | 680 | 460 | 460 | 320 | 320 | 220 |
| +26 to +40 | 800 | 680 | 380 | 460 | 800 | 800 | 800 | 680 | 460 | 460 | 320 |

Note: Do not use Extreme Pressure (E.P.) mineral oils when using a backstop.

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Shaft Mounted Speed Reducer

Backstops

Please Note: The following instructions for backstop installation relate to the 13:1 and 20:1 ratio only. Do not use a backstop on a 5:1 ratio speed reducer.

IMPORTANT – These fitting instructions are for an output shaft freely rotating CLOCKWISE when viewed from Input Shaft side of the speed reducer (Side B)

Installation

If the reducer is filled with oil, drain off the oil before proceeding.

WARNING: The backstop housing area is accessed from Side A on the rear side of the input shaft. Therefore, when looking at the reducer from SIDE A (opposite side to the input shaft), the direction of both the input and output shafts free rotation is opposite to the direction if looking at the reducer from SIDE B (input shaft side).

Step 1: Remove the backstop cover and gasket from the reducer body located on Side A.

Step 2: Prior to assembly, ensure that the fit between the key/s and the keyway/s is not overly tight. Too much force on the key during assembly can cause damage to the backstop and make it very difficult to remove without causing damage to the backstop and possibly other components.

CAUTION: When fitting the backstop into the housing, do NOT use a hammer. The backstop may be tapped in gently if necessary, with a soft mallet.

Step 3: From the name plate on your speed reducer or packaging from your backstop, determine the model letter for the speed reducer that is being fitted with a backstop. Please follow steps 4-8 for your model.

For SMSR Models; B, C, D, E, F

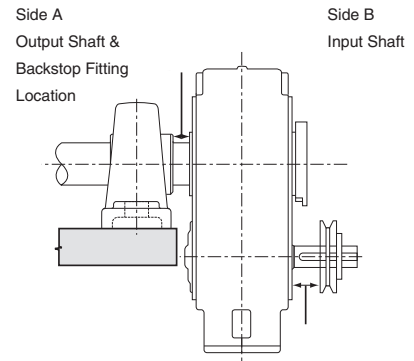
Step 4: Insert the backstop into the housing. The face with the printed arrow on the backstop must be pointing towards you and will therefore be clearly visible once the backstop has been inserted into the speed reducers main body. The arrow will be pointing in the clockwise direction, as per the image to the right.

Step 5: Fit the key into the backstop outer race and reducer housing keyway slot.

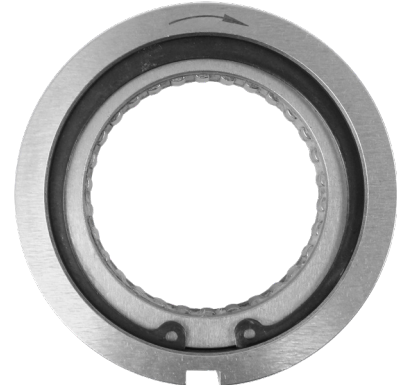
Step 6: If a circlip is supplied it needs to be installed on the shaft to hold the backstop in position.

Step 7: Re-fit the backstop cover, using a new gasket or sealer.

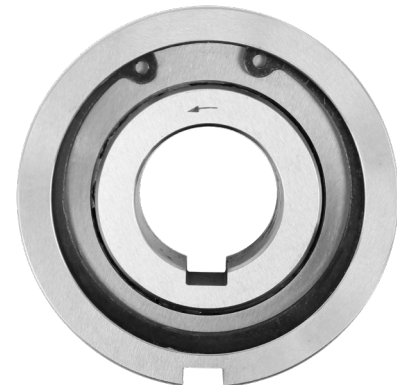
Step 8: Fill the reducer with the correct quantity and grade of oil.



**Backstop for SMSR models:
B, C, D, E, F**



**Backstop for SMSR models:
S, K, L**



**Backstop for SMSR models:
G, H, J**

Shaft Mounted Speed Reducer

For SMSR Models; S, K, L

Step 4: Insert the backstop into the housing. The face with the printed arrow on the backstop must be pointing away from you and will therefore not be visible once the backstop has been inserted into the speed reducers main body.

Step 5: Fit the key into the backstop outer race and reducer housing keyway slot.

Step 6: If a circlip is supplied it needs to be installed on the shaft to hold the backstop in position.

Step 7: Re-fit the backstop cover, using a new gasket or sealer.

Step 8: Fill the reducer with the correct quantity and grade of oil.

For SMSR Models; G, H, J

Step 4: Insert the backstop into the housing. Note that there is an arrow marked on both sides of the inner race. A face with the printed arrow on the backstop inner race will be pointing towards you and will therefore be visible once the backstop has been inserted into the speed reducers main body. This arrow must be pointing in the anti-clockwise direction, as per the image to the right.

Step 5: Fit the key into the backstop outer race and reducer housing keyway slot and fit another key into the backstop's inner race and the shaft keyway.

Step 6: If a circlip is supplied it needs to be installed on the shaft to hold the backstop in position.

Step 7: Re-fit the backstop cover, using a new gasket or sealer.

Step 8: Fill the reducer with the correct quantity and grade of oil.

Output shaft free rotation in the ANTI-CLOCKWISE direction

If your output shaft runs in the anti-clockwise direction when viewed from the input shaft side of the speed reducer (Side B), then the backstop should be flipped 180 degrees;

For SMSR Models; B, C, D, E, F the backstop will be fitted with the printed arrow face pointing away from you, so that no arrow is visible once the backstop is inserted into the speed reducers main body

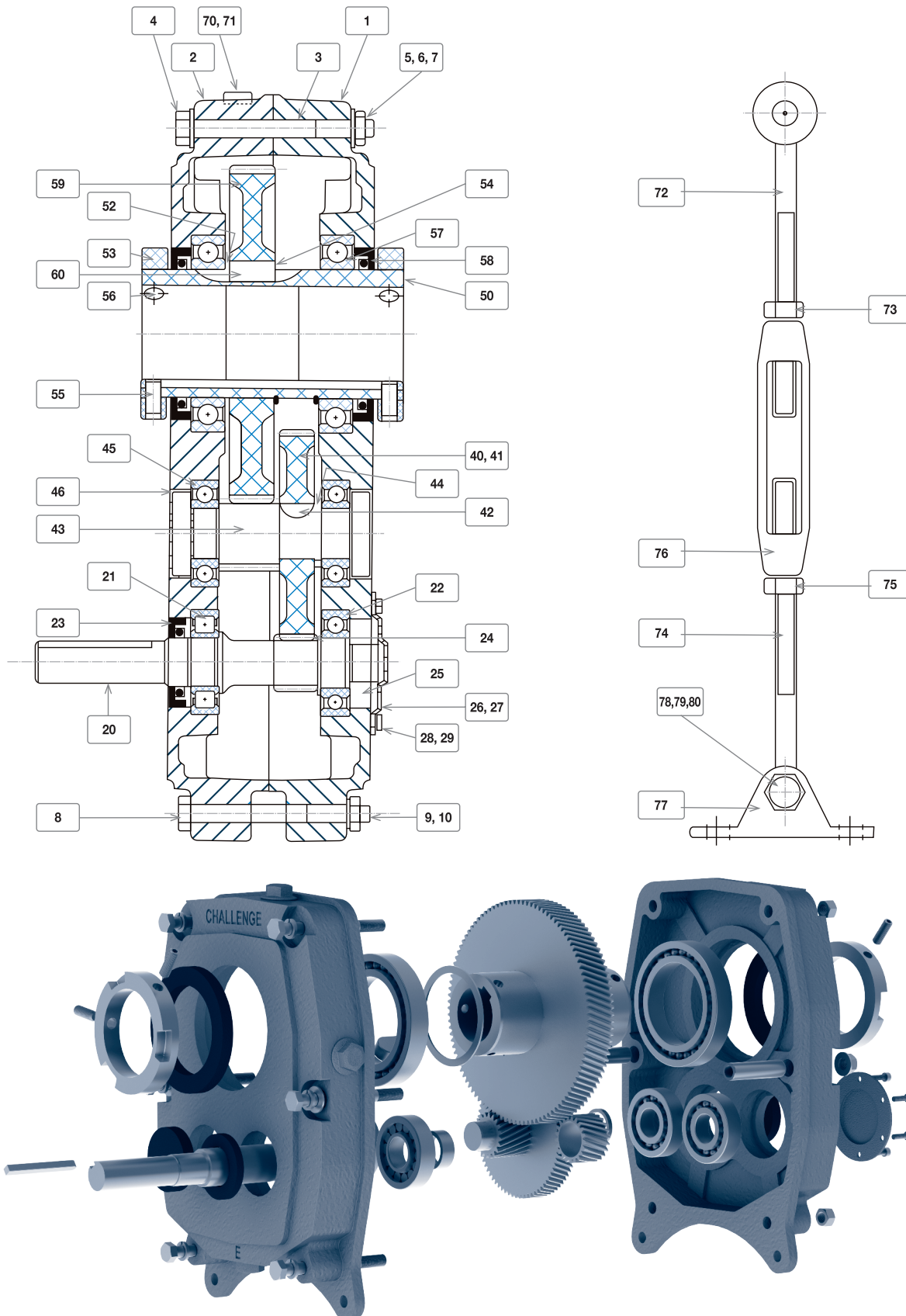
For SMSR Models; S, K, L the backstop will be fitted with the printed arrow face pointing towards you, so that the arrow is clearly visible once the backstop is inserted into the speed reducers main body

For SMSR Models; G, H, J A face with the printed arrow on the backstop inner race will be pointing towards you and will therefore be visible once the backstop has been inserted into the speed reducers main body. This arrow must be pointing in the clockwise direction.

Care should be taken to ensure that the backstop is fitted correctly for the required shaft rotation. Incorrect installation will cause damage to the backstop and possibly the internal gears when power from the motor is applied.

Shaft Mounted Speed Reducer

Maintenance Parts Product Codes



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Shaft Mounted Speed Reducer

Maintenance Parts Product Codes

| drawing number | description | number required | B | C | D | E | F | G | H | J | S | K | L |
|----------------|---|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 | Case (right hand) | 1 | B6002 | C6002 | D6002 | E6002 | F6002 | G6002 | H6002 | J6002 | S6002 | K6002 | L6002 |
| 2 | Case (left hand) | 1 | B6003 | C6003 | D6003 | E6003 | F6003 | G6003 | H6003 | J6003 | S6003 | K6003 | L6003 |
| 3 | Hollow dowel | 2 | B7004 | C7004 | D7004 | E7004 | F7004 | G7004 | H7004 | J7004 | S7004 | K7004 | L7004 |
| 4 | Case bolt | 6 | B943702 | C943830 | D943831 | E943840 | F943850 | G943851 | H943841 | J943842 | S943842 | K943842 | L943842 |
| 5 | Case nut | 6 | B943810 | C943811-1 | D943811 | E943812-1 | F943813-1 | G943813-1 | H943812 | J943812 | S943812 | K943812 | L943812 |
| 6 | Case plain washer | 4 | B913820 | C943821 | D943821 | E943822 | F943823 | G843823 | H943822 | J943822 | S943822 | K943822 | L943822 |
| 7 | Case lock washer | 6 | B943870 | C943871 | D943871 | E943872 | F943973 | G943873 | H943872 | J943872 | S943872 | K943872 | L943872 |
| 8 | Torque arm case bolt | 2 | - | - | - | - | - | - | H943852 | J943852 | S943852 | K943852 | L943852 |
| 9 | Torque arm case bolt nut | 2 | - | - | - | - | - | - | H943813-1 | J943813-1 | S943813-1 | K943813-1 | L943813-1 |
| 10 | Torque arm case bolt lock washer | 2 | - | - | - | - | - | - | H943864 | J943864 | S943864 | K943864 | L943864 |
| 20 | Input shaft and pinion (5:1) * | 1 | B6128 | C6120 | D6120 | E6128 | F6120 | G6120 | H6120 | J6120 | S6120 | K6120 | L6120 |
| 20 | Input shaft and pinion (13:1) | 1 | B6108 | C6100 | D6100 | E6109 | F6100 | G6100 | H6100 | J6100 | S6100 | K6100 | L6100 |
| 20 | Input shaft and pinion (20:1) | 1 | B6118 | C6110 | D6110 | E6119 | F6110 | G6110 | H6110 | J6110 | S6110 | K6110 | L6110 |
| 21 | Input shaft bearing-shaft side | 1 | BNJ204EC | CNJ205EC | DNJ206EC | ENJ308EC | FNJ307EC | GNJ309EC | HNJ310EC | JNJ312EC | SNJ312EC | KNJ312EC | LNJ312EC |
| 22 | Input shaft bearing-backtop side | 1 | B6303 | C6205 | D6206 | E6306 | F6307 | G6309 | H6310 | J6312 | S6312 | K6312 | L6312 |
| 23 | Input shaft oil seal | 1 | B946043 | C946301 | D946302 | E946443 | F946303 | G946304 | H946305 | J946022 | S946022 | K946022 | L946022 |
| 24 | Input shaft spacer | 1 | B6050 | C6050 | D6050 | E6050 | F6050 | G6050 | H6050 | J6050 | S6050 | K6050 | L6050 |
| 25 | Backstop | 1† | B-B.Stop | C-B.Stop | D-B.Stop | E-B.Stop | F-B.Stop | G-B.Stop | H-B.Stop | J-B.Stop | S-B.Stop | K-B.Stop | L-B.Stop |
| 26 | Backstop cover | 1 | B7012 | C7012 | D7012 | E7012 | F6012 | G6012 | H6012 | J6012 | S6012 | K6012 | L6012 |
| 27 | Backstop cover gasket | 1 | B7013 | C7013 | D7013 | E7013 | F7013 | G7013 | H7013 | J7013 | S7013 | K7013 | L7013 |
| 28 | Backstop cover screw | 6 | B943480 | C943480 | D943490 | E943490 | F943490 | G943690 | H943690 | J943690 | S943690 | K943690 | L943690 |
| 29 | Backstop cover lockwasher | 6 | B943686 | C943686 | D943687 | E943687 | F943687 | G943680 | H943680 | J943680 | S943680 | K943680 | L943680 |
| 40 | 1st reduction gear (13:1) | 1 | B6101 | C6101 | D6101 | E6101 | F6101 | G6101 | H6101 | J6101 | S6101 | K6101 | L6101 |
| 41 | 1st reduction gear (20:1) | 1 | B6111 | C6111 | D6111 | E6111 | F6111 | G6111 | H6111 | J6111 | S6111 | K6111 | L6111 |
| 42 | 1st reduction gear key | 1 | B7021 | C7021 | D7021 | E7021 | F7021 | G7021 | H7021 | J7021 | S7021 | K7021 | L7021 |
| 43 | Intermediate pinion (13:1 & 20:1) | 1 | B6022 | C6022 | D6022 | E6022 | F6022 | G6022-1 | H6022 | J6022 | S6022 | K6022 | L6022 |
| 44 | Intermediate pinion distance piece | 1 | B6023 | C6023 | D6023 | E6023 | F6023 | G6023 | H6023 | J6023 | S6023 | K6023 | L6023 |
| 45 | Intermediate bearing (13:1, 20:1) | 2 | B6303 | C6205 | D6206 | E6306 | F6307 | G6309 | H6310 | J6312 | S6312 | K6312 | L6312 |
| 46 | Intermediate cover | 2 | B7025 | C7025 | D7025 | E7025 | F7025 | G7025 | H7025 | J7025 | S7025 | K7025 | L7025 |
| 50 | Output hub (standard hub bore) | 1 | B6105 | C6105 | D6105 | E6105 | F6105 | G6105 | H6105 | J6105 | S6105 | K6105 | L6105 |
| 50 | Output hub (alternative hub bore-upper) | 1 | B6106 | C6106 | D6106 | E6106 | F6106 | G6106 | H6106 | J6106 | S6106 | K6106 | L6106 |
| 52 | Output hub spacer | 1 | B6030 | C6030 | D6030 | E6030 | F6030 | G6030 | H6030 | J6030-1 | S6030-1 | K6030-1 | L6030-1 |
| 53 | Output hub collar | 2 | B6031 | C6031 | D6031 | E6031 | F6031 | G6031 | H6031 | J6031 | S6031 | K6031 | L6031 |
| 54 | Output hub circlip | 2 | B944187 | C944188 | D944189 | E944190 | F944191 | G944192 | - | - | - | - | - |
| 55 | Collar screw (standard hub) over key | 1 | B942614-1 | C942700-1 | D942700-1 | E942711-1 | F942711 | G942711-1 | H942721-1 | J942722-1 | S942722-1 | K942722-1 | L942722-1 |
| 56 | Collar screw (standard hub) over shaft | 1 | B942615 | C942701 | D942701-1 | E942712 | F942713 | G942713 | H942724 | J942724 | S942724 | K942724 | L942724 |
| 55 | Collar screw (alternative hub-upper) over key | 1 | B942614-2 | C942700-2 | D942700-2 | E942710 | F942710 | G942711-2 | H942721-2 | J942721 | S942721 | K942721 | L942721 |
| 56 | Collar screw (alternative hub-upper) over shaft | 1 | B942614-3 | C942700-3 | D942701-2 | E942711-2 | F942712 | G942712 | H942722 | J942722-2 | S942722-2 | K942722-2 | L942722-2 |
| 57 | Output hub bearing | 2 | B6011 | C6013 | D6015 | E6017 | F6020 | G6022 | H6026 | J6030 | S6030 | K6030 | L6030 |
| 58 | Output hub oilseal | 2 | B946306 | C946307 | D946308 | E946309 | F946310 | G946311 | H946312 | J946313 | S946313 | K946313 | L946313 |
| 59 | Output hub reduction gear | 1 | B6026 | C6026 | D6026 | E6026 | F6026 | G6026 | H6026-1 | J6026 | S6026 | K6026 | L6026 |
| 60 | Output hub reduction gear key | 1 | B6027 | C6027 | D6027 | E6027 | F6027 | G6027 | H6027 | J6027 | S6027 | K6027 | L6027 |
| 70 | Pipe plug | 4# | B942395 | C942395 | D942395 | E942395 | F942395 | G942396 | H942396 | J942396 | S942396 | K942396 | L942396 |
| 71 | Breather plug | 1# | B946097 | C946097 | D946097 | E946097 | F946097 | G946098 | H946098 | J946098 | S946098 | K946098 | L946098 |
| 72 | Torque arm rod end | 1 | B7041 | C7041 | D7041 | E7041 | F7041 | G7041 | H7041 | J7041 | S7041 | K7041 | L7041 |
| 73 | Torque arm rod end locknut | 1 | B943812 | C943812 | D943813 | E943813 | F943815 | G943815 | H943816 | J943816 | S943816 | K943816 | L943816 |
| 74 | Torque arm extension | 1 | B7043 | C7043 | D7043 | E7043 | F7043 | G7043 | H7043 | J7043 | S7043 | K7043 | L7043 |
| 75 | Torque arm extension locknut | 1 | B943790 | C943790 | D943791 | E943791 | F943792 | G943792 | H943793 | J943793 | S943793 | K943793 | L943793 |
| 76 | Turnbuckle | 1 | B7045 | C7045 | D7045 | E7045 | F7045 | G7045 | H7045 | J7045 | S7045 | K7045 | L7045 |
| 77 | Fulcrum | 1 | B6046 | C6046 | D6046 | E6046 | F6046 | G6046 | H6046 | J6046 | S6046 | K6046 | L6046 |
| 78 | Torque arm fulcrum bolt | 1 | B943832 | C943832 | D943843 | E943843 | F943854 | G943854 | H943855 | J943855 | S943855 | K943855 | L943855 |
| 79 | Torque arm fulcrum bolt nut | 1 | B943811 | C943811-2 | D943812 | E943812-2 | F943813-2 | G943813-2 | H943813-2 | J943813-2 | S943813-2 | K943813-2 | L943813-2 |
| 80 | Torque arm fulcrum bolt lockwasher | 1 | B943682 | C943682 | D943683 | E943683 | F943684 | G943684 | H943684 | J943684 | S943684 | K943684 | L943684 |

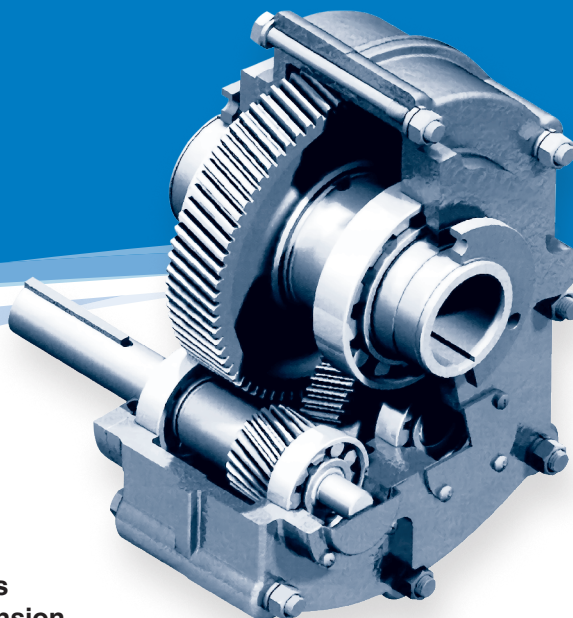
Note: Challenge do not recommend the use of backstops on 5:1 units as this effects the units power ratings. Should this be necessary please contact the Challenge Technical Department.

† if required

can be positioned to suit

Shaft Mounted Speed Reducers

TXT Range



Features

Challenge TXT range of Shaft Mounted Speed Reducers are inch in design for America and other imperial dimension countries.

Challenge TXT gear units are manufactured in eight gear case sizes, from size 2 to size 9, maximum power up to 150hp, nominal gear ratios are 15:1 and 25:1. A wide choice of final driven speeds can be determined by the use of an appropriate input belt drive. The units will normally be oil lubricated, but they are equally suitable for long life synthetic lubricants.

1. Twin Tapered Output Hub

A tapered bore in both sides of the reducer's output hub snugs up against a matching taper on the outer surface of the bushing. Bushing mounting screws pass through the bushing flange into a mounting collar on the hub. As the screws are tightened, the bushing moves inward, gripping the driven machine's input shaft tightly and evenly around every point on its circumference. It is easy-on, easy-off. All of the output bushing bores accord to ANSI standards. Also available are ISO standard straight bore output hubs.

2. Precision High Quality Gearing

Computer designed helical gears, strong alloy materials for high load capacity, case carburized for long life, ground profile, crown tooth profile, in conformance with ISO 1328-1997. 98% efficiency per stage, smooth quiet operation with several teeth in mesh.

3. Power Ratings

All TXT SMSR's have power ratings to ISO standards.

4. Maximum Capacity Housing Design

Close grain cast iron construction. Excellent vibration dampening and shock resistance features. Precision bored and dowelled to ensure accurate in-line assembly.

5. Strong Alloy Steel Shafts

Strong alloy steel, hardened, ground on journals, gear seatings and extensions, for maximum load and maximum torsional loads. Generous size shaft keys for shock loading.

6. Using an adapter for mounting the torque arm increases the strength of the gear case. The torque arm is easy-on and easy-off for reliability and controls the position of the standard torque arm mounting within recommended limits.

7. BackStops

As an optional part, anti-run back devices are available.

8. Bearing and Oilseals

Bearings are all tapered roller (except TXT2), having long life service time. Oilseals are double lipped garter spring type, ensuring effective oil sealing.

9. Torque Arm Assembly

For easy adjustment of the belt.

Shaft Mounted Speed Reducer

TXT Speed Reducer Selection Procedure

The selection tables for Challenge TXT Shaft Mounted Reducers are for electric motor selections up to 150hp with output speeds up to 400rpm using AGMA recommended application class numbers. For extreme shock or high energy loads which must be absorbed, as when stalling; for power source other than an electric motor; or for extreme ambient temperatures, or oversized equipment, consult Challenge.

Step 1: Determine Class of Service - See table 1, page 409 to 411, to determine the Load Classification for applications under normal conditions. Find the type application and duty cycle that most closely matches your specific application.

Class I Steady loads not exceeding motor hp rating and light shock loads operating up to 10 hours a day. Moderate shock loads are allowable if the operation is intermittent.

For Class I applications, the maximum value of starting and momentary peak loads should not exceed 2 x motor hp rating. If it exceeds this amount it should be divided by 2 and the result used in the selection table instead of the motor hp rating.

Class II Steady load not exceeding motor hp rating for over 10 hours a day. Moderate shock loads are allowable for up to 10 hours a day.

For Class II applications, the maximum value of starting and momentary peak loads should not exceed 2.8 x motor hp rating. If it exceeds this amount it should be divided by 2.8 and the result used in the selection table instead of the motor hp rating.

Class III Moderate shock loads for over 10 hours a day. Heavy shock loads are allowable up to 10 hours a day.

For Class III applications, the maximum value of starting and momentary peak loads should not exceed 4 x motor hp rating. If it exceeds this amount it should be divided by 4 and the result used in the selection table instead of the motor hp rating.

Step 2: Determine Reducer Size - See the selection tables, pages 412 through 414. From selection tables class I, II or III read the reducer size for the application horsepower and output speed. Note: For applications where fan cooling is unacceptable, use the selection tables with an increased class number. Where more than one reducer selection is listed, the most economical ratio is generally listed first. See table 11, page 428 for maximum input and output speeds.

Step 3: Compare Hollow Shaft Bore of the TXT425 with the size of the driven shaft. All Challenge taper bushed Shaft Mount Reducers require bushings. Refer to reducer page 424 table 7 for available bushings. If the driven shaft is larger than the bore of the selected reducer, the shaft must

be machined to the proper size, or select a larger reducer. Check driven shaft and key for strength.

Step 4: Check Dimensions - See table 5, page 423 for reducer dimensions, table 11, page 428 for reducer weights and actual ratio. See page 425 for reducer mounting positions.

Step 5: Select a Belt Drive Arrangement - From the Belt Drives tables, page 415 to 422, select the required sheave ratio for the belt drive. Be careful to select the belt drive so that the sheave mounted on the reducer shaft is not smaller than the minimum sheave diameter with table 14 page 428. Note: Mount the sheave as close as possible to the reducer to minimize the effect of the overhung load on the reducer.

Note: For different bore diameters, bushings must be ordered separately, Backstops also need to be ordered separately. Torque arm and adapter are standard parts for the reducer. Each reducer unit is dispatched with them.

Selection Example

A 10 hp 1750rpm motor is used to drive an uniformly loaded belt conveyor moving sand, operating 16 hours a day. Head pulley shaft diameter is 2.7/16" and rotates at 70rpm. The driven conveyor cannot be allowed to move backwards.

Step 1: Determine Class of Service - From page 409 table 1, locate "belt conveyors, uniformly loaded or fed" for over 10 hours per day. This load is classified as a Class II application.

Step 2: Determine Reducer Size - From table 3 - Class II Application, page 413, find the column for 10 hp and read down to 70 rpm. A TXT 425 reducer is the correct selection.

Step 3: Compare Hollow Shaft Bore of TXT 425 with the application driven shaft diameter, page 424, 2.7/16" is the maximum bore available for this size reducer, so it will work on this application. Be sure to check the driven shaft and key strength.

Step 4: Check Dimensions and Weights - See page 423, for reducer dimensions, table 11, page 428 for reducer weights and actual ratio, etc. See page 425 for information on mounting positions.

Step 5: Select a Belt Drive Arrangement - From the Belt Drive table page 417, read down for 70rpm, find the V-Belt drive ratio of 1.03. Sheave diameter of driver is 6.20", the driven is 6.40", belt size is B, belt number is 3. From table 14, page 428, the TXT 425's minimum sheave diameter is 4.60", so the selection is correct.

Step 6: The reducer cannot be allowed to move backwards, so the backstop assembly must be ordered.

Note: when you need to assembly the backstop on the reducer, please specify the output rotation direction when you order. For example, from the input side, the output hub rotates clockwise.

Shaft Mounted Speed Reducer

Application Classification

Table 1 Application Classification and Class Numbers

| Application | Class Numbers | | Application | Class Numbers | |
|---|---------------------|---------------------|------------------------------|---------------------|---------------------|
| | 3 to 10 Hrs per Day | Over 10 Hrs per Day | | 3 to 10 Hrs per Day | Over 10 Hrs per Day |
| Agitators (Mixers) | | | Stackers | II | II |
| Pure Liquids | I | II | Winches | II | II |
| Liquids and Solids | II | II | Elevators | | |
| Liquids-Variable Density | II | II | Bucket | II | II |
| Blowers | | | Centrifugal Discharge | I | II |
| Centrifugal | I | II | Escalators | I | II |
| Lobe | II | II | Freight | II | II |
| Vane | II | II | Gravity Discharge | I | II |
| Brewing and Distilling | | | Extruders | | |
| Bottling Machinery | I | II | General | II | II |
| Brew Kettles-Continuous Duty | II | II | Plastics | | |
| Cookers-Continuous Duty | II | II | Variable Speed Drive | III | III |
| Mash Tubs-Continuous Duty | II | II | Fixed Speed Drive | III | III |
| Scale Hopper-Frequent Starts | II | II | Rubber | | |
| Can Filling Machines | I | II | Continous Screw Operation | III | III |
| Car Dumpers | III | III | Intermittent Screw Operation | III | III |
| Car Pullers | II | II | Fans | | |
| Clarifiers | I | II | Centrifugal | I | II |
| Classifiers | II | II | Forced Draft | II | II |
| Clay Working Machinery | | | Induced Draft | II | II |
| Brick Press | III | III | Industrial & Mine | II | II |
| Briquette Machine | III | III | Feeders | | |
| Pug Mill | II | II | Apron | II | II |
| Compactors | III+ | III+ | Belt | II | II |
| Compressors | | | Disc | I | II |
| Centrifugal | I | II | Reciprocating | III | III |
| Lobe | II | II | Screw | II | II |
| Reciprocating, Multi-Cylinder | II | III | Food Industry | | |
| Reciprocating, Single-Cylinder | III | III | Cereal Cooker | I | II |
| Conveyors | | | Dough Mixer | II | II |
| (Includes Apron, Assembly, Belt, Bucket, Chain, Flight, Oven and Screw) | | | Meat Grinder | II | II |
| Uniformly Loaded or Fed | I | II | Slicers | II | II |
| Heavy Duty-Not Uniformly Fed | II | II | Generators and Exciters | II | II |
| Severe Duty-Reciprocating or Shaker | III | III | Hammer Mills | II | II |
| Cranes | III+ | III+ | Hoists | III+ | III+ |
| Crusher | | | Laundry Tumblers | II | II |
| Stone or Ore | III | III | Laundry Washers | II | II |
| Dredges | | | Lumber Industry | | |
| Cable Reels | II | II | Bakers | | |
| Conveyors | II | II | Spindle Feed | II | II |
| Cutter Head Drives | III | III | Main Drive | III | III |
| Pumps | III | III | Conveyors | | |
| Screen Drives | III | III | | | |

III+ Large service factor needed, consult Challenge for more information on class number.

Shaft Mounted Speed Reducer

Application Classification

Table 1 Application Classification and Class Numbers (continued)

| Application | Class Numbers | | Application | Class Numbers | |
|---|---------------------|---------------------|--|---------------------|---------------------|
| | 3 to 10 Hrs per Day | Over 10 Hrs per Day | | 3 to 10 Hrs per Day | Over 10 Hrs per Day |
| Burner | II | II | Coilers & Uncoilers | I | II |
| Main or Heavy Duty | II | II | Edge Trimmers | II | II |
| Main Log | III | III | Flatteners | II | II |
| Re-saw, Merry-Go-Round | II | II | Loopers (Accumulators) | I | I |
| Slab | III | III | Pinch Rolls | II | II |
| Transfer | II | II | Scrap Choppers | II | II |
| Chains | | | Shears | III | III |
| Floor | II | II | Slitters | II | II |
| Green | II | III | Mills. Rotary Type | | |
| Cut-Off Saws | | | Ball & Rod | | |
| Chain | II | III | Spur Ring Gear | III | III |
| Drag | II | III | Helical Ring Gear | II | II |
| Debarking Drums | III | III | Direct Connected | III | III |
| Feeds | | | Cement Kilns | II | II |
| Edger | II | II | Dryers & Coolers | II | II |
| Gang | III | III | Mixers Cement | II | II |
| Trimmer | II | II | Paper Mills | | |
| Log Deck | III | III | Agitators (Mixers) | II | II |
| Log Hauls-Incline-Well Type | III | III | Agitators for Pure Liquors | II | II |
| Log Tuning Devices | III | III | Barking Drums | III | III |
| Planer Feed | II | II | Barkers-Mechanical | III | III |
| Planer Tilting Hoists | II | II | Beater | II | II |
| Rolls-Live-off brg.-Roll Cases | III | III | Breaker Stack | II | II |
| Sorting Table | II | II | Chipper | III | III |
| Triple Hoist | II | II | Chip Feeder | II | II |
| Transfers | | | Coating Rolls | II | II |
| Chain | II | III | Conveyors | | |
| Craneway | II | III | Chip, Bark, Chemical | II | II |
| Tray Drives | II | II | Log (including Slab) | III | III |
| Veneer Lathe Drives | II | II | Couch Rolls | II | II |
| Metal Mills | | | Cutter | III | III |
| Draw bench Carriage and Main Drive | II | II | Cylinder Molds | II | II |
| Runout Table | | | Embosser | II | II |
| Non-Reversing-Group Drives | II | II | Extruder | II | II |
| Non-Reversing-Individual Drives | III | III | Fourdrinier Rolls (includes Lump breaker, dandy roll, wire tuning, and return rolls) | II | II |
| Reversing Drives | III | III | Jordan | II | II |
| Slab Pushers | II | II | Kiln Drive | II | II |
| Shears | III | III | Mt. Hope Roll | II | II |
| Wire Drawing | II | II | Paper Rolls | II | II |
| Wire Winding Machine | II | II | Platter | II | II |
| Metal Strip Processing Machinery | | | Presses-Felt & Suction | II | II |
| Bridles | II | II | | | |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

Application Classification

Table 1 Application Classification and Class Numbers (continued)

| Application | Class Numbers | | Application | Class Numbers | |
|---|---------------------|---------------------|--|---------------------|---------------------|
| | 3 to 10 Hrs per Day | Over 10 Hrs per Day | | 3 to 10 Hrs per Day | Over 10 Hrs per Day |
| Pulper | III | III | Cracker Warmer - 2 roll, 1 corrugated roll | III | III |
| Pump-Vacuum | II | II | Cracker - 2 corrugated rolls | III | III |
| Reel (Surface Type) | II | II | Holding, Feed & Blend Mill-2 rolls | II | II |
| Screens | | | Refiners-2 rolls | II | II |
| Chip | II | II | Calenders | II | II |
| Rotary | II | II | Sand Muller | II | II |
| Vibrating | III | III | Sewage Disposal Equipment | | |
| Size Press | II | II | Bar Screens | II | II |
| Thickener (AC Motor) | II | II | Chemical Feeders | II | II |
| Thickener (DC Motor) | II | II | Dewatering Screens | II | II |
| Washer (AC Motor) | II | II | Scum Breakers | II | II |
| Washer (DC Motor) | II | II | Slow or Rapid Mixers | II | II |
| Wind and Unwind Stand | I | I | Sludge Collectors | II | II |
| Winders (Surface Type) | II | II | Thickener | II | II |
| Plastics Industry-Secondary Processing | | | Vacuum Filters | II | II |
| Blow Molders | II | II | Screens | | |
| Coating | II | II | Air Washing | I | II |
| Film | II | II | Rotary-Stone or Gravel | II | II |
| Pipe | II | II | Traveling Water Intake | I | I |
| Pre-Plasticizers | II | II | Screw Conveyors | | |
| Rods | II | II | Uniformly Loaded or Fed | I | II |
| Sheet | II | II | Heavy Duty | II | II |
| Tubing | II | II | Sugar Industry | | |
| Pullers-Barge Haul | II | II | Beet Slicer | III | III |
| Pumps | | | Cane Knives | II | II |
| Centrifugal | I | II | Crushers | II | II |
| Proportioning | II | II | Mills (low speed end) | III | III |
| Reciprocating | | | Textile Industry | | |
| Single Acting, 3 or more cylinders | II | II | Batches | II | II |
| Double Acting, 2 or more cylinders | II | II | Calenders | II | II |
| Rotary | | | Cards | II | II |
| Gear Type | I | II | Dry Cans | II | II |
| Lobe | I | II | Dyeing Machinery | II | II |
| Vane | I | II | Looms | II | II |
| Rubber and Plastics Industry | | | Mangles | II | II |
| Intensive Internal Mixers | | | Nappers | II | II |
| Batch Mixers | III | III | Pads | II | II |
| Continous Mixers | II | II | Stashers | II | II |
| Mixing Mill | | | Soapers | II | II |
| 2 smooth rolls | II | II | Spinners | II | II |
| 2 corrugated rolls | III | III | Tenter Frames | II | II |
| Batch Drop Mill-2 smooth rolls | II | II | Washers | II | II |
| | | | Winders | II | II |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

TXT Power Ratings

Table 2 Class I Selection Table for TXT SMSR's

| Rating HP | Output rpm | Reducer Selection | Rating HP | Output rpm | Reducer Selection |
|-----------|------------|-------------------|-----------|------------|-------------------|
| 1/2 | 4~6 | 225 | 15 | 57~70 | 425 415 |
| 3/4 | 4~5 | 325 | | 70~85 | 415 425 |
| | 6~10 | 225 | | 86~93 | 415 |
| 1 | 4~5 | 425 | | 94~140 | 315 |
| | 6~7 | 325 | 9~12 | 926 | |
| | 8~15 | 225 | 13~18 | 825 | |
| 1-1/2 | 4 | 525 | 19~26 | 725 715 | |
| | 5~7 | 425 | 27~45 | 625 615 | |
| | 8~12 | 325 | 46~70 | 525 515 | |
| | 13~23 | 225 | 71~78 | 515 525 | |
| 2 | 4~6 | 525 | 79~85 | 415 425 | |
| | 7~10 | 425 | 86~115 | 415 | |
| | 11~17 | 325 | 116~140 | 415* | |
| | 18~32 | 225 215 | 11~15 | 926 | |
| 3 | 4~5 | 625 | 16~23 | 825 | |
| | 6~10 | 525 | 24~33 | 725 715 | |
| | 11~15 | 425 | 34~59 | 625 615 | |
| | 16~26 | 325 | 60~70 | 525* 515* | |
| | 27~51 | 225 215 | 71~80 | 515* 525* | |
| 5 | 5~6 | 725 | 81~101 | 515* | |
| | 7~9 | 625 | 102~140 | 415* | |
| | 10~17 | 525 | 14~19 | 926 | |
| | 18~26 | 425 415 | 20~28 | 825 815 | |
| | 27~46 | 325 315 | 29~41 | 725 715 | |
| | 47~70 | 225 215 | 42~70 | 625 615 | |
| 7-1/2 | 71~85 | 215 225 | 71~75 | 615 625 | |
| | 86~92 | 215 | 76~125 | 515* | |
| | 4~6 | 825 | 19~25 | 926 915 | |
| | 7~9 | 725 | 26~38 | 825 815 | |
| | 10~15 | 625 | 39~57 | 725 715 | |
| | 16~26 | 525 | 58~70 | 625 615 | |
| | 27~40 | 425 415 | 71~81 | 615* 625* | |
| | 41~70 | 325 315 | 812~114 | 615* | |
| | 71~74 | 315 325 | 115~125 | 515* | |
| | 75~85 | 215 225 | 23~32 | 926 915 | |
| 86~140 | 215 | 33~49 | 825 815 | | |
| 10 | 5 | 926 | 50~70 | 725 715 | |
| | 6~8 | 825 | 71~74 | 715 725 | |
| | 9~12 | 725 | 75~125 | 615* | |
| | 13~20 | 625 | 28~39 | 926 915 | |
| | 21~36 | 525 515 | 40~60 | 825 815 | |
| | 37~56 | 425 415 | 61~70 | 725* 715* | |
| | 57~70 | 325 315 | 71~120 | 715* | |
| | 71~85 | 315 325 | 35~50 | 926 915 | |
| | 86~103 | 315 | 51~70 | 825 815 | |
| | 104~140 | 215 | 71~78 | 815* | |
| 15 | 7~8 | 926 | 79~120 | 715* | |
| | 9~13 | 825 | 47~69 | 926* 915* | |
| | 14~19 | 725 | 70~120 | 815* | |
| | 20~32 | 625 615 | 60~70 | 915* 926* | |
| | 33~56 | 525 515 | 71~90 | 915* | |
| 20 | | | 91~123 | 815* | |
| | | | 81~120 | 915 | |
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* Fan cooling required.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

TXT Power Ratings

Table 3 Class II Selection Table for TXT SMSR's

| Rating HP | Output rpm | Reducer Selection | Rating HP | Output rpm | Reducer Selection |
|-----------|------------|-------------------|-----------|------------|-------------------|
| 1/3 | 4~6 | 225 | 15 | 10~12 | 926 |
| 1/2 | 4~5 | 325 | | 13~19 | 825 |
| | 6~9 | 225 | | 20~27 | 725 |
| 3/4 | 4~5 | 425 | | 28~47 | 625 615 |
| | 6~8 | 325 | | 48~70 | 525 515 |
| 1 | 9~16 | 225 | 71~82 | 515 525 | |
| | 5~7 | 425 | 83~140 | 415 | |
| | 8~11 | 325 | 20 | 13~17 | 926 |
| 12~22 | 225 | 18~26 | | 825 | |
| 1-1/2 | 5~6 | 525 | | 27~38 | 725 715 |
| | 7~11 | 425 | | 39~68 | 625 615 |
| 2 | 12~18 | 325 | | 69~80 | 515 525 |
| | 19~34 | 225 215 | 81~89 | 515 | |
| | 4~5 | 625 | 90~117 | 515* | |
| | 6~9 | 525 | 118~125 | 415* | |
| 3 | 10~14 | 425 | 25 | 16~22 | 926 |
| | 15~24 | 325 315 | | 23~33 | 825 815 |
| | 25~47 | 225 215 | | 34~49 | 725 715 |
| | 4~5 | 725 | | 50~80 | 615 625 |
| 5 | 6~8 | 625 | | 81~94 | 615 |
| | 9~14 | 525 | 95~125 | 515* | |
| | 15~22 | 425 415 | 30 | 20~27 | 926 915 |
| | 23~38 | 325 315 | | 28~41 | 825 815 |
| | 39~70 | 225 215 | | 42~60 | 725 715 |
| 71~75 | 215 225 | 61~76 | | 625 615 | |
| 4~6 | 825 | 77~89 | | 615 | |
| 7-1/2 | 7~8 | 725 | 90~125 | 615* | |
| | 9~14 | 625 | 40 | 26~36 | 926 915 |
| | 15~24 | 525 | | 37~56 | 825 815 |
| | 25~37 | 425 415 | | 57~75 | 725 715 |
| | 38~69 | 325 315 | | 76~88 | 715 |
| 70~85 | 215 225 | 89~120 | | 615* | |
| 10 | 86~136 | 215 | 50 | 33~46 | 926 915 |
| | 5 | 926 | | 47~70 | 825 815 |
| | 6~9 | 825 | | 71~72 | 815 825 |
| | 10~13 | 725 | | 73~120 | 715* |
| | 14~21 | 625 | | 60 | 40~56 |
| | 22~38 | 525 515 | 57~70 | | 825 815 |
| | 39~59 | 425 415 | 71~75 | | 815 825 |
| | 60~70 | 325 315 | 76~89 | 815 | |
| 71~85 | 325 315 | 90~120 | 715* | | |
| 86~110 | 315 | 75 | 50~73 | 926 915 | |
| 111~140 | 215 | | 74~75 | 815 825 | |
| 6~7 | 926 | | 76~120 | 815* | |
| 15 | 8~12 | 825 | 100 | 68~75 | 915* 926* |
| | 13~18 | 725 | | 76~103 | 915* |
| | 19~29 | 625 615 | | 104~120 | 815* |
| | 30~52 | 525 515 | 125 | 86~120 | 915* |
| | 53~70 | 425 415 | | | |
| | 71~84 | 415 425 | | | |
| 85~140 | 315 | | | | |

* Fan cooling required.

Shaft Mounted Speed Reducer

TXT Power Ratings

Table 4 Class III Selection Table for TXT SMSR's

| Rating HP | Output rpm | Reducer Selection | Rating HP | Output rpm | Reducer Selection |
|-----------|------------|-------------------|-----------|------------|-------------------|
| 1/4 | 4~6 | 225 | 7-1/2 | 57~70 | 425 415 |
| 1/3 | 5~9 | 225 | | 71~85 | 415 425 |
| 1/2 | 4~5 | 425 | | 86~93 | 415 |
| | 6~7 | 325 | | 94~140 | 315 |
| 3/4 | 8~15 | 225 | 10 | 9~12 | 926 |
| | 4 | 525 | | 13~18 | 825 |
| | 5~7 | 425 | | 19~26 | 725 715 |
| | 8~12 | 325 | | 27~45 | 625 615 |
| 13~23 | 225 | 46~70 | | 525 515 | |
| 1 | 4~6 | 525 | 71~78 | 515 525 | |
| | 7~10 | 425 | 79~141 | 415 | |
| | 11~17 | 325 | 15 | 14~19 | 926 |
| | 18~32 | 225 | | 20~28 | 825 815 |
| 1-1/2 | 4~5 | 625 | | 29~41 | 725 715 |
| | 6~10 | 525 | | 42~70 | 625 615 |
| | 11~15 | 425 | | 71~75 | 615 625 |
| 2 | 16~26 | 325 | 76~125 | 515 | |
| | 27~51 | 225 215 | 20 | 19~25 | 926 915 |
| | 5~7 | 625 | | 26~38 | 825 815 |
| | 8~13 | 525 | | 39~57 | 725 715 |
| | 14~21 | 425 | | 58~70 | 625 615 |
| 22~36 | 325 315 | 71~114 | | 615 | |
| 3 | 37~71 | 225 215 | 115~125 | 515* | |
| | 4~5 | 825 | 25 | 23~32 | 926 915 |
| | 6~7 | 725 | | 33~49 | 825 815 |
| | 8~12 | 625 | | 50~70 | 725 715 |
| | 13~20 | 525 | | 71~74 | 715 725 |
| | 21~32 | 425 415 | | 75~104 | 615 |
| | 33~57 | 325 315 | 105~125 | 615* | |
| | 58~70 | 225 215 | 30 | 28~39 | 926 915 |
| 71~85 | 215 225 | 40~60 | | 825 815 | |
| 86~113 | 215 | 61~70 | | 725 715 | |
| 5 | 5 | 926 | | 71~98 | 715 |
| | 6~8 | 825 | | 99~125 | 615 |
| | 9~12 | 725 | 40 | 38~53 | 926 915 |
| | 13~20 | 625 | | 54~70 | 825 815 |
| | 21~36 | 525 515 | | 71~84 | 815 |
| 37~56 | 425 415 | 85~89 | | 715 | |
| 57~70 | 325 315 | 90~120 | | 715* | |
| 71~85 | 315 325 | 50 | 47~69 | 926 915 | |
| 86~103 | 315 | | 70~75 | 815 825 | |
| 104~140 | 215 | | 76~110 | 815 | |
| 7-1/2 | 7~8 | | 926 | 111~120 | 715* |
| | 9~13 | | 825 | 60 | 57~75 |
| | 14~19 | 725 | 76~85 | | 915 |
| | 20~32 | 625 615 | 86~115 | | 815 |
| | 33~56 | 525 515 | 75 | | 73~75 |
| | | 76~120 | | | 915* |

* Fan cooling required.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 215 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 17 | 7.17 | 2.65 | 19.00 | 2-3V | 76 | 1.63 | 3.80 | 6.20 | 4-A |
| 20 | 6.33 | 3.00 | 19.00 | 2-3V | 77 | 1.62 | 6.80 | 11.00 | 2-B |
| 21 | 6.00 | 3.00 | 18.00 | 3-A | 78 | 1.60 | 5.00 | 8.00 | 3-3V |
| 22 | 5.67 | 3.35 | 19.00 | 2-3V | 79 | 1.57 | 6.00 | 9.40 | 2-B |
| 22 | 5.63 | 3.20 | 18.00 | 2-A | 81 | 1.53 | 4.50 | 6.90 | 3-3V |
| 24 | 5.29 | 3.40 | 18.00 | 2-A | 81 | 1.53 | 3.80 | 5.80 | 4-A |
| 24 | 5.28 | 2.65 | 14.00 | 3-3V | 83 | 1.50 | 3.60 | 5.40 | 4-A |
| 25 | 5.00 | 3.60 | 18.00 | 2-A | 84 | 1.49 | 3.35 | 5.00 | 4-3V |
| 27 | 4.69 | 3.20 | 15.00 | 2-A | 85 | 1.47 | 3.40 | 5.00 | 4-A |
| 27 | 4.67 | 3.00 | 14.00 | 2-3V | 85 | 1.47 | 6.40 | 9.40 | 2-B |
| 29 | 4.29 | 4.20 | 18.00 | 2-A | 85 | 1.46 | 4.12 | 6.00 | 3-3V |
| 30 | 4.22 | 4.50 | 19.00 | 2-3V | 87 | 1.43 | 6.00 | 8.60 | 2-B |
| 30 | 4.09 | 4.40 | 18.00 | 2-A | 88 | 1.42 | 3.35 | 4.75 | 4-3V |
| 31 | 4.00 | 2.65 | 10.60 | 3-3V | 88 | 1.41 | 3.40 | 4.80 | 4-A |
| 31 | 4.00 | 3.00 | 12.00 | 3-A | 90 | 1.39 | 4.60 | 6.40 | 3-A |
| 33 | 3.75 | 3.20 | 12.00 | 3-A | 90 | 1.39 | 6.20 | 8.60 | 2-B |
| 35 | 3.60 | 5.00 | 18.00 | 2-A | 91 | 1.37 | 4.75 | 6.50 | 3-3V |
| 35 | 3.58 | 5.30 | 19.00 | 2-3V | 93 | 1.34 | 3.35 | 4.50 | 4-3V |
| 35 | 3.53 | 3.00 | 10.60 | 3-3V | 93 | 1.34 | 6.40 | 8.60 | 2-B |
| 35 | 3.53 | 3.00 | 10.60 | 3-A | 94 | 1.33 | 4.50 | 6.00 | 3-3V |
| 38 | 3.31 | 3.20 | 10.60 | 3-A | 94 | 1.33 | 3.60 | 4.80 | 4-A |
| 38 | 3.26 | 4.60 | 15.00 | 2-A | 94 | 1.33 | 8.00 | 10.60 | 2-3V |
| 39 | 3.21 | 4.80 | 15.40 | 2-B | 94 | 1.32 | 3.80 | 5.00 | 4-A |
| 39 | 3.16 | 3.35 | 10.60 | 3-3V | 97 | 1.29 | 4.12 | 5.30 | 3-3V |
| 40 | 3.12 | 3.40 | 10.60 | 3-A | 97 | 1.29 | 4.80 | 6.20 | 3-A |
| 40 | 3.11 | 4.50 | 14.00 | 2-3V | 97 | 1.28 | 3.60 | 4.60 | 4-A |
| 41 | 3.02 | 2.65 | 8.00 | 3-3V | 100 | 1.25 | 4.80 | 6.00 | 3-A |
| 42 | 3.00 | 4.00 | 12.00 | 2-A | 101 | 1.23 | 6.50 | 8.00 | 2-3V |
| 44 | 2.86 | 2.80 | 8.00 | 3-3V | 101 | 1.23 | 6.00 | 7.40 | 2-B |
| 44 | 2.86 | 4.20 | 12.00 | 2-A | 102 | 1.22 | 4.60 | 5.60 | 3-A |
| 45 | 2.75 | 6.90 | 19.00 | 2-3V | 103 | 1.21 | 4.12 | 5.00 | 3-3V |
| 46 | 2.73 | 3.00 | 8.20 | 3-A | 103 | 1.21 | 3.80 | 4.60 | 3-A |
| 46 | 2.73 | 4.40 | 12.00 | 2-A | 104 | 1.20 | 5.00 | 6.00 | 3-3V |
| 47 | 2.67 | 3.00 | 8.00 | 3-3V | 105 | 1.19 | 5.20 | 6.20 | 3-B |
| 48 | 2.58 | 4.80 | 12.40 | 2-B | 105 | 1.19 | 5.40 | 6.40 | 3-B |
| 49 | 2.54 | 3.15 | 8.00 | 4-3V | 106 | 1.18 | 4.50 | 5.30 | 4-3V |
| 50 | 2.48 | 5.00 | 12.40 | 2-B | 107 | 1.17 | 4.80 | 5.60 | 3-B |
| 52 | 2.42 | 6.20 | 15.00 | 2-A | 107 | 1.16 | 5.60 | 6.50 | 3-3V |
| 52 | 2.39 | 3.35 | 8.00 | 3-3V | 107 | 1.16 | 7.40 | 8.60 | 2-B |
| 52 | 2.38 | 5.20 | 12.40 | 2-B | 109 | 1.14 | 4.20 | 4.80 | 4-A |
| 53 | 2.33 | 3.00 | 7.00 | 4-A | 111 | 1.12 | 5.00 | 5.60 | 3-3V |
| 54 | 2.30 | 3.00 | 6.90 | 4-3V | 111 | 1.12 | 5.00 | 5.60 | 3-B |
| 54 | 2.29 | 4.80 | 11.00 | 2-B | 113 | 1.10 | 4.20 | 4.60 | 4-A |
| 57 | 2.20 | 5.00 | 11.00 | 2-B | 115 | 1.08 | 6.00 | 6.50 | 3-3V |
| 57 | 2.19 | 3.65 | 8.00 | 3-3V | 115 | 1.08 | 4.80 | 5.20 | 3-B |
| 58 | 2.16 | 3.80 | 8.20 | 3-A | 118 | 1.06 | 5.00 | 5.30 | 3-3V |
| 59 | 2.12 | 5.00 | 10.60 | 2-3V | 118 | 1.06 | 6.20 | 6.60 | 3-B |
| 59 | 2.12 | 5.20 | 11.00 | 2-B | 120 | 1.04 | 5.00 | 5.20 | 3-B |
| 61 | 2.04 | 5.40 | 11.00 | 2-B | 121 | 1.03 | 6.60 | 6.80 | 3-B |
| 61 | 2.03 | 6.90 | 14.00 | 2-3V | 125 | 1.00 | 4.12 | 4.12 | 4-3V |
| 64 | 1.96 | 4.80 | 9.40 | 2-B | 125 | 1.00 | 8.60 | 8.60 | 2-B |
| 66 | 1.90 | 5.80 | 11.00 | 2-B | 128 | 0.97 | 6.00 | 5.80 | 3-A |
| 66 | 1.89 | 3.65 | 6.90 | 3-3V | 130 | 0.96 | 5.00 | 4.80 | 3-B |
| 66 | 1.88 | 5.00 | 9.40 | 2-B | 131 | 0.95 | 5.60 | 5.30 | 3-3V |
| 67 | 1.87 | 3.00 | 5.60 | 4-3V | 131 | 0.95 | 3.80 | 3.60 | 5-A |
| 67 | 1.87 | 3.00 | 5.60 | 4-A | 134 | 0.93 | 6.00 | 5.60 | 3-3V |
| 68 | 1.83 | 5.80 | 10.60 | 2-A | 134 | 0.93 | 5.80 | 5.40 | 3-B |
| 70 | 1.79 | 3.35 | 6.00 | 3-3V | 134 | 0.93 | 5.40 | 5.00 | 3-B |
| 70 | 1.79 | 4.80 | 8.60 | 2-B | 135 | 0.92 | 6.50 | 6.00 | 3-3V |
| 71 | 1.75 | 8.00 | 14.00 | 2-3V | 135 | 0.92 | 5.20 | 4.80 | 3-B |
| 72 | 1.74 | 5.40 | 9.40 | 2-B | 135 | 0.92 | 4.50 | 4.12 | 4-3V |
| 72 | 1.72 | 5.00 | 8.60 | 2-B | 137 | 0.91 | 9.40 | 8.60 | 2-B |
| 74 | 1.68 | 5.60 | 9.40 | 2-B | 137 | 0.91 | 4.40 | 4.00 | 4-A |
| 75 | 1.67 | 3.35 | 5.60 | 3-3V | 138 | 0.90 | 5.30 | 4.75 | 3-3V |
| 76 | 1.63 | 6.50 | 10.60 | 2-3V | 140 | 0.89 | 5.60 | 5.00 | 3-B |

| TXT 225 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 7.17 | 2.65 | 19.00 | 2-3V | 49 | 1.54 | 5.60 | 8.60 | 2-B |
| 12 | 6.33 | 3.00 | 19.00 | 2-3V | 49 | 1.53 | 3.65 | 5.60 | 3-3V |
| 12 | 6.00 | 3.00 | 18.00 | 2-A | 50 | 1.51 | 5.30 | 8.00 | 2-3V |
| 14 | 5.29 | 3.40 | 18.00 | 2-A | 50 | 1.49 | 3.35 | 5.00 | 3-3V |
| 14 | 5.28 | 2.65 | 14.00 | 2-3V | 51 | 1.48 | 5.00 | 7.40 | 2-B |
| 15 | 5.00 | 2.80 | 14.00 | 2-3V | 51 | 1.46 | 5.60 | 8.20 | 2-A |
| 15 | 5.00 | 3.00 | 15.00 | 2-A | 52 | 1.45 | 3.65 | 5.30 | 3-3V |
| 16 | 4.69 | 3.20 | 15.00 | 2-A | 53 | 1.42 | 5.20 | 7.40 | 2-B |
| 16 | 4.67 | 3.00 | 14.00 | 2-3V | 53 | 1.42 | 4.80 | 6.80 | 2-B |
| 17 | 4.44 | 3.15 | 14.00 | 2-3V | 53 | 1.42 | 3.35 | 4.75 | 3-3V |
| 17 | 4.41 | 3.40 | 15.00 | 2-A | 54 | 1.38 | 5.00 | 6.90 | 2-3V |
| 18 | 4.18 | 3.35 | 14.00 | 2-3V | 54 | 1.38 | 4.80 | 6.60 | 2-B |
| 18 | 4.17 | 3.60 | 15.00 | 2-A | 56 | 1.33 | 6.00 | 8.00 | 2-3V |
| 19 | 3.95 | 3.80 | 15.00 | 2-A | 56 | 1.33 | 4.80 | 6.40 | 2-B |
| 20 | 3.84 | 3.65 | 14.00 | 2-3V | 57 | 1.32 | 5.00 | 6.60 | 2-B |
| 20 | 3.75 | 3.20 | 12.00 | 2-A | 58 | 1.30 | 5.00 | 6.50 | 2-3V |
| 22 | 3.37 | 3.15 | 10.60 | 2-3V | 58 | 1.29 | 4.80 | 6.20 | 2-B |
| 22 | 3.33 | 3.60 | 12.00 | 2-A | 58 | 1.29 | 4.12 | 5.30 | 3-3V |
| 23 | 3.31 | 3.20 | 10.60 | 2-A | 59 | 1.27 | 5.20 | 6.60 | 2-B |
| 24 | 3.16 | 3.35 | 10.60 | 2-3V | 59 | 1.26 | 4.75 | 6.00 | 3-3V |
| 24 | 3.12 | 3.40 | 10.60 | 2-A | 60 | 1.25 | 4.80 | 6.00 | 2-B |
| 25 | 3.02 | 2.65 | 8.00 | 3-3V | 61 | 1.23 | 5.60 | 6.90 | 2-3V |
| 25 | 2.94 | 3.60 | 10.60 | 2-A | 61 | 1.23 | 5.30 | 6.50 | 2-3V |
| 26 | 2.90 | 3.65 | 10.60 | 2-3V | 61 | 1.23 | 5.20 | 6.40 | 2-B |
| 26 | 2.86 | 4.20 | 12.00 | 2-A | 62 | 1.20 | 5.00 | 6.00 | 2-3V |
| 26 | 2.86 | 2.80 | 8.00 | 3-3V | 62 | 1.21 | 4.80 | 5.80 | 2-B |
| 27 | 2.75 | 6.90 | 19.00 | 2-3V | 64 | 1.17 | 4.80 | 5.60 | 2-B |
| 27 | 2.73 | 4.40 | 12.00 | 2-A | 65 | 1.16 | 5.60 | 6.50 | 2-3V |
| 28 | 2.65 | 4.00 | 10.60 | 2-A | 65 | 1.15 | 6.00 | 6.90 | 2-3V |
| 29 | 2.61 | 4.60 | 12.00 | 2-A | 65 | 1.15 | 5.20 | 6.00 | 2-B |
| 29 | 2.60 | 2.65 | 6.90 | 3-3V | 66 | 1.13 | 5.30 | 6.00 | 2-3V |
| 29 | 2.54 | 3.15 | 8.00 | 3-3V | 66 | 1.13 | 4.80 | 5.40 | 2-B |
| 30 | 2.52 | 4.20 | 10.60 | 2-A | 67 | 1.12 | 5.00 | 5.60 | 2-3V |
| 31 | 2.45 | 2.65 | 6.50 | 3-3V | 67 | 1.12 | 5.00 | 5.60 | 2-B |
| 31 | 2.41 | 4.40 | 10.60 | 2-A | 68 | 1.10 | 5.80 | 6.40 | 2-B |
| 31 | 2.39 | 3.35 | 8.00 | 3-3V | 69 | 1.09 | 4.12 | 4.50 | 3-3V |
| 33 | 2.26 | 2.65 | 6.00 | 3-3V | 69 | 1.08 | 6.00 | 6.50 | 2-3V |
| 33 | 2.25 | 4.00 | 9.00 | 2-A | 69 | 1.08 | 4.80 | 5.20 | 2-B |
| 34 | 2.21 | 4.80 | 10.60 | 2-A | 70 | 1.07 | 5.60 | 6.00 | 2-B |
| 34 | 2.19 | 3.65 | 8.00 | 2-3V | 71 | 1.06 | 5.00 | 5.30 | 2-3V |
| 35 | 2.14 | 4.20 | 9.00 | 2-A | 71 | 1.06 | 5.30 | 5.60 | 2-3V |
| 35 | 2.11 | 2.65 | 5.60 | 3-3V | 71 | 1.06 | 3.60 | 3.80 | 3-A |
| 36 | 2.06 | 3.15 | 6.50 | 3-3V | 72 | 1.04 | 5.00 | 5.20 | 2-B |
| 37 | 2.05 | 4.00 | 8.20 | 2-A | 75 | 1.00 | 6.20 | 6.20 | 2-B |
| 37 | 2.04 | 4.60 | 9.40 | 2-B | 75 | 1.00 | 4.50 | 4.50 | 3-3V |
| 37 | 2.00 | 2.65 | 5.30 | 3-3V | 77 | 0.97 | 6.40 | 6.20 | 2-B |
| 38 | 1.95 | 4.20 | 8.20 | 2-A | 80 | 0.94 | 6.90 | 6.50 | 2-3V |
| 39 | 1.94 | 4.12 | 8.00 | 2-3V | 80 | 0.94 | 6.60 | 6.20 | 2-B |
| 39 | 1.93 | 3.00 | 5.80 | 3-A | 80 | 0.94 | 6.40 | 6.00 | 2-B |
| 40 | 1.89 | 3.65 | 6.90 | 2-3V | 81 | 0.92 | 7.40 | 6.80 | 2-B |
| 40 | 1.87 | 3.00 | 5.60 | 3-3V | 81 | 0.93 | 6.00 | 5.60 | 3-3V |
| 40 | 1.86 | 4.40 | 8.20 | 2-A | 81 | 0.92 | 4.50 | 4.12 | 3-3V |
| 42 | 1.80 | 5.00 | 9.00 | 2-A | 81 | 0.92 | 3.65 | 3.35 | 4-3V |
| 42 | 1.78 | 3.65 | 6.50 | 2-3V | 82 | 0.91 | 6.60 | 6.00 | 2-B |
| 42 | 1.79 | 2.65 | 4.75 | 3-3V | 83 | 0.90 | 5.00 | 4.50 | 3-3V |
| 42 | 1.78 | 4.60 | 8.20 | 2-A | 84 | 0.89 | 7.40 | 6.60 | 2-B |
| 44 | 1.71 | 4.80 | 8.20 | 2-A | 84 | 0.89 | 4.12 | 3.65 | 4-3V |
| 45 | 1.67 | 4.12 | 6.90 | 2-3V | 84 | 0.89 | 3.80 | 3.40 | 4-A |
| 45 | 1.67 | 4.20 | 7.00 | 2-A | 85 | 0.88 | 6.60 | 5.80 | 2-B |
| 46 | 1.64 | 3.65 | 6.00 | 2-3V | 85 | 0.88 | 6.00 | 5.30 | 3-3V |
| 47 | 1.61 | 4.60 | 7.40 | 2-B | | | | | |
| 47 | 1.61 | 2.80 | 4.50 | 3-3V | | | | | |
| 47 | 1.59 | 5.40 | 8.60 | 2-B | | | | | |
| 47 | 1.58 | 3.35 | 5.30 | 3-3V | | | | | |
| 49 | 1.54 | 4.80 | 7.40 | 2-B | | | | | |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

All dimensions in inches unless otherwise stated.

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 315 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 12 | 9.43 | 2.65 | 25.00 | 3-3V | 72 | 1.64 | 3.65 | 6.00 | 4-3V |
| 16 | 7.17 | 2.65 | 19.00 | 3-3V | 73 | 1.62 | 5.80 | 9.40 | 3-B |
| 19 | 6.33 | 3.00 | 19.00 | 2-3V | 74 | 1.60 | 5.00 | 8.00 | 3-3V |
| 20 | 6.03 | 3.15 | 19.00 | 3-3V | 75 | 1.57 | 6.00 | 9.40 | 3-B |
| 20 | 6.00 | 3.00 | 18.00 | 3-A | 76 | 1.54 | 4.80 | 7.40 | 3-B |
| 21 | 5.67 | 3.35 | 19.00 | 3-3V | 77 | 1.53 | 4.50 | 6.90 | 4-3V |
| 21 | 5.63 | 3.20 | 18.00 | 3-A | 77 | 1.52 | 4.20 | 6.40 | 4-A |
| 22 | 5.29 | 3.40 | 18.00 | 3-A | 79 | 1.49 | 7.40 | 11.00 | 2-B |
| 22 | 5.28 | 2.65 | 14.00 | 3-3V | 81 | 1.45 | 4.40 | 6.40 | 4-A |
| 24 | 5.00 | 2.80 | 14.00 | 3-3V | 82 | 1.44 | 4.50 | 6.50 | 4-3V |
| 24 | 5.00 | 3.00 | 15.00 | 3-A | 83 | 1.42 | 4.80 | 6.80 | 3-B |
| 25 | 4.69 | 3.20 | 15.00 | 3-A | 85 | 1.38 | 5.00 | 6.90 | 3-3V |
| 25 | 4.67 | 3.00 | 14.00 | 3-3V | 85 | 1.38 | 4.20 | 5.80 | 4-A |
| 27 | 4.29 | 4.20 | 18.00 | 2-A | 87 | 1.36 | 14.00 | 19.00 | 2-3V |
| 28 | 4.22 | 4.50 | 19.00 | 2-3V | 87 | 1.35 | 4.60 | 6.20 | 4-A |
| 28 | 4.17 | 3.60 | 15.00 | 3-A | 88 | 1.33 | 8.00 | 10.60 | 2-3V |
| 29 | 4.00 | 2.65 | 10.60 | 3-3V | 89 | 1.32 | 5.00 | 6.60 | 3-B |
| 29 | 4.00 | 3.00 | 12.00 | 3-A | 91 | 1.29 | 4.12 | 5.30 | 4-3V |
| 31 | 3.79 | 2.80 | 10.60 | 3-3V | 91 | 1.29 | 4.80 | 6.20 | 3-B |
| 31 | 3.75 | 3.20 | 12.00 | 3-A | 92 | 1.28 | 5.00 | 6.40 | 3-B |
| 32 | 3.68 | 5.00 | 18.40 | 2-B | 94 | 1.25 | 4.80 | 6.00 | 3-B |
| 35 | 3.41 | 4.40 | 15.00 | 3-A | 95 | 1.24 | 4.50 | 5.60 | 4-3V |
| 35 | 3.40 | 4.12 | 14.00 | 3-3V | 96 | 1.23 | 5.30 | 6.50 | 3-3V |
| 36 | 3.31 | 3.20 | 10.60 | 4-A | 96 | 1.23 | 5.20 | 6.40 | 3-B |
| 37 | 3.16 | 3.35 | 10.60 | 3-3V | 98 | 1.20 | 5.00 | 6.00 | 3-3V |
| 37 | 3.16 | 3.80 | 12.00 | 3-A | 98 | 1.20 | 5.00 | 6.00 | 3-B |
| 38 | 3.11 | 4.50 | 14.00 | 3-3V | 99 | 1.19 | 5.20 | 6.20 | 3-B |
| 38 | 3.08 | 5.00 | 15.40 | 2-B | 101 | 1.16 | 5.60 | 6.50 | 3-3V |
| 40 | 2.94 | 3.60 | 10.60 | 3-A | 101 | 1.16 | 7.40 | 8.60 | 2-B |
| 41 | 2.90 | 3.65 | 10.60 | 3-3V | 103 | 1.14 | 4.20 | 4.80 | 4-A |
| 41 | 2.85 | 5.40 | 15.40 | 2-B | 104 | 1.13 | 5.30 | 6.00 | 3-3V |
| 42 | 2.80 | 5.00 | 14.00 | 2-3V | 104 | 1.13 | 4.60 | 5.20 | 4-A |
| 42 | 2.79 | 3.80 | 10.60 | 3-A | 104 | 1.13 | 4.80 | 5.40 | 3-B |
| 44 | 2.67 | 3.00 | 8.00 | 4-3V | 105 | 1.12 | 5.00 | 5.60 | 3-3V |
| 44 | 2.65 | 4.00 | 10.60 | 3-A | 107 | 1.10 | 4.20 | 4.60 | 4-A |
| 45 | 2.61 | 4.60 | 12.00 | 3-A | 108 | 1.09 | 4.12 | 4.50 | 4-3V |
| 46 | 2.57 | 4.12 | 10.60 | 3-3V | 108 | 1.09 | 8.60 | 9.40 | 2-B |
| 47 | 2.50 | 5.60 | 14.00 | 2-3V | 109 | 1.08 | 4.80 | 5.20 | 3-B |
| 47 | 2.48 | 5.00 | 12.40 | 2-B | 111 | 1.06 | 5.00 | 5.30 | 3-3V |
| 50 | 2.37 | 3.80 | 9.00 | 3-A | 111 | 1.06 | 6.40 | 6.80 | 3-B |
| 51 | 2.33 | 6.00 | 14.00 | 2-3V | 113 | 1.04 | 5.00 | 5.20 | 3-B |
| 52 | 2.28 | 3.60 | 8.20 | 4-A | 118 | 1.00 | 4.12 | 4.12 | 4-3V |
| 53 | 2.23 | 4.75 | 10.60 | 3-3V | 118 | 1.00 | 8.60 | 8.60 | 2-B |
| 54 | 2.19 | 3.20 | 7.00 | 5-A | 121 | 0.97 | 6.40 | 6.20 | 3-A |
| 54 | 2.17 | 3.00 | 6.50 | 5-3V | 123 | 0.96 | 5.20 | 5.00 | 3-B |
| 56 | 2.12 | 5.20 | 11.00 | 3-B | 124 | 0.95 | 5.60 | 5.30 | 3-3V |
| 57 | 2.06 | 3.35 | 6.90 | 4-3V | 124 | 0.95 | 3.80 | 3.60 | 5-A |
| 57 | 2.05 | 4.00 | 8.20 | 4-A | 127 | 0.93 | 6.00 | 5.60 | 3-3V |
| 59 | 2.00 | 5.30 | 10.60 | 3-3V | 127 | 0.93 | 5.80 | 5.40 | 3-B |
| 59 | 2.00 | 6.20 | 12.40 | 2-B | 128 | 0.92 | 4.80 | 4.40 | 4-A |
| 61 | 1.94 | 6.40 | 12.40 | 2-B | 128 | 0.92 | 4.50 | 4.12 | 4-3V |
| 62 | 1.90 | 3.15 | 6.00 | 5-3V | 129 | 0.91 | 9.40 | 8.60 | 2-B |
| 63 | 1.88 | 6.60 | 12.40 | 2-B | 131 | 0.90 | 6.20 | 5.60 | 3-A |
| 63 | 1.87 | 3.00 | 5.60 | 5-3V | 131 | 0.90 | 5.30 | 4.75 | 3-3V |
| 65 | 1.82 | 6.80 | 12.40 | 2-B | 131 | 0.90 | 5.80 | 5.20 | 3-B |
| 65 | 1.80 | 5.00 | 9.00 | 3-A | 134 | 0.88 | 6.00 | 5.30 | 3-3V |
| 66 | 1.79 | 3.35 | 6.00 | 4-3V | 134 | 0.88 | 5.20 | 4.60 | 3-B |
| 66 | 1.78 | 4.50 | 8.00 | 3-3V | 134 | 0.88 | 4.80 | 4.20 | 4-A |
| 66 | 1.77 | 6.20 | 11.00 | 2-B | 135 | 0.87 | 4.75 | 4.12 | 4-3V |
| 68 | 1.72 | 6.40 | 11.00 | 2-B | 137 | 0.86 | 5.80 | 5.00 | 3-B |
| 69 | 1.71 | 4.80 | 8.20 | 3-A | 137 | 0.86 | 6.50 | 5.60 | 3-3V |
| 70 | 1.68 | 3.15 | 5.30 | 5-3V | 137 | 0.86 | 8.60 | 7.40 | 2-B |
| 70 | 1.67 | 4.12 | 6.90 | 3-3V | 138 | 0.85 | 5.40 | 4.60 | 3-B |
| 70 | 1.67 | 6.60 | 11.00 | 2-B | 138 | 0.85 | 5.60 | 4.75 | 3-3V |
| 70 | 1.68 | 3.80 | 6.40 | 4-A | 140 | 0.84 | 6.40 | 5.40 | 3-A |

| TXT 325 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 7.17 | 2.65 | 19.00 | 2-3V | 48 | 1.48 | 5.00 | 7.40 | 2-B |
| 11 | 6.33 | 3.00 | 19.00 | 2-3V | 48 | 1.46 | 4.12 | 6.00 | 3-3V |
| 12 | 6.03 | 3.15 | 19.00 | 2-3V | 49 | 1.43 | 5.60 | 8.00 | 2-3V |
| 12 | 6.00 | 3.00 | 18.00 | 3-A | 49 | 1.43 | 6.00 | 8.60 | 2-B |
| 13 | 5.63 | 3.20 | 18.00 | 2-A | 50 | 1.42 | 3.35 | 4.75 | 3-3V |
| 13 | 5.28 | 2.65 | 14.00 | 3-3V | 50 | 1.42 | 4.80 | 6.80 | 2-B |
| 14 | 5.00 | 2.80 | 14.00 | 3-3V | 51 | 1.39 | 3.60 | 5.00 | 3-A |
| 14 | 5.00 | 3.60 | 18.00 | 2-A | 51 | 1.38 | 5.00 | 6.90 | 2-3V |
| 15 | 4.69 | 3.20 | 15.00 | 2-A | 51 | 1.38 | 4.80 | 6.60 | 2-B |
| 15 | 4.67 | 3.00 | 14.00 | 2-3V | 52 | 1.37 | 3.65 | 5.00 | 3-3V |
| 16 | 4.44 | 3.15 | 14.00 | 2-3V | 53 | 1.34 | 3.35 | 4.50 | 3-3V |
| 16 | 4.41 | 3.40 | 15.00 | 2-A | 53 | 1.33 | 4.80 | 6.40 | 2-B |
| 17 | 4.18 | 3.35 | 14.00 | 2-3V | 54 | 1.30 | 5.00 | 6.50 | 2-3V |
| 17 | 4.17 | 3.60 | 15.00 | 2-A | 54 | 1.32 | 5.00 | 6.60 | 2-B |
| 18 | 3.95 | 3.80 | 15.00 | 2-A | 56 | 1.27 | 5.20 | 6.60 | 2-B |
| 18 | 3.84 | 3.65 | 14.00 | 2-3V | 56 | 1.26 | 4.75 | 6.00 | 3-3V |
| 19 | 3.80 | 5.00 | 19.00 | 2-3V | 57 | 1.25 | 4.80 | 6.00 | 2-B |
| 19 | 3.75 | 3.20 | 12.00 | 3-A | 57 | 1.23 | 5.60 | 6.90 | 2-3V |
| 20 | 3.53 | 3.00 | 10.60 | 3-3V | 57 | 1.23 | 5.30 | 6.50 | 2-3V |
| 20 | 3.53 | 3.00 | 10.60 | 3-A | 57 | 1.23 | 5.20 | 6.40 | 2-B |
| 21 | 3.40 | 4.12 | 14.00 | 2-3V | 58 | 1.21 | 4.80 | 5.80 | 2-B |
| 21 | 3.31 | 3.20 | 10.60 | 3-A | 59 | 1.20 | 5.00 | 6.00 | 2-3V |
| 22 | 3.26 | 4.60 | 15.00 | 2-A | 59 | 1.19 | 5.40 | 6.40 | 2-B |
| 22 | 3.16 | 3.35 | 10.60 | 3-3V | 60 | 1.18 | 4.50 | 5.30 | 3-3V |
| 23 | 3.12 | 3.40 | 10.60 | 3-A | 60 | 1.17 | 4.80 | 5.60 | 2-B |
| 23 | 3.02 | 2.65 | 8.00 | 3-3V | 61 | 1.16 | 5.60 | 6.50 | 2-3V |
| 25 | 2.86 | 2.80 | 8.00 | 3-3V | 61 | 1.15 | 6.00 | 6.90 | 2-3V |
| 25 | 2.86 | 4.20 | 12.00 | 2-A | 61 | 1.15 | 5.40 | 6.20 | 2-B |
| 26 | 2.73 | 4.40 | 12.00 | 2-A | 63 | 1.13 | 4.80 | 5.40 | 2-B |
| 26 | 2.67 | 3.00 | 8.00 | 3-3V | 63 | 1.12 | 5.00 | 5.60 | 2-3V |
| 27 | 2.65 | 4.00 | 10.60 | 2-A | 63 | 1.12 | 5.20 | 5.80 | 2-B |
| 27 | 2.60 | 2.65 | 6.90 | 3-3V | 64 | 1.11 | 4.50 | 5.00 | 3-3V |
| 29 | 2.45 | 2.65 | 6.50 | 3-3V | 65 | 1.08 | 6.00 | 6.50 | 2-3V |
| 29 | 2.41 | 4.40 | 10.60 | 2-A | 65 | 1.08 | 4.80 | 5.20 | 2-B |
| 30 | 2.39 | 4.60 | 11.00 | 2-B | 65 | 1.08 | 5.00 | 5.40 | 2-B |
| 30 | 2.32 | 2.80 | 6.50 | 3-3V | 66 | 1.07 | 5.60 | 6.00 | 2-3V |
| 31 | 2.26 | 2.65 | 6.00 | 3-3V | 68 | 1.04 | 5.00 | 5.20 | 2-B |
| 31 | 2.25 | 4.00 | 9.00 | 2-A | 69 | 1.03 | 6.00 | 6.20 | 2-B |
| 32 | 2.21 | 4.80 | 10.60 | 2-A | 71 | 1.00 | 5.00 | 5.00 | 2-3V |
| 32 | 2.19 | 3.65 | 8.00 | 2-3V | 71 | 1.00 | 5.00 | 5.00 | 2-B |
| 33 | 2.12 | 5.00 | 10.60 | 2-3V | 74 | 0.96 | 5.60 | 5.40 | 2-B |
| 33 | 2.12 | 5.20 | 11.00 | 2-B | 74 | 0.95 | 3.15 | 3.00 | 4-3V |
| 34 | 2.07 | 5.80 | 12.00 | 2-A | 74 | 0.96 | 5.00 | 4.80 | 2-B |
| 34 | 2.06 | 3.35 | 6.90 | 3-3V | 74 | 0.95 | 3.80 | 3.60 | 3-A |
| 35 | 2.04 | 5.40 | 11.00 | 2-B | 75 | 0.94 | 5.30 | 5.00 | 2-3V |
| 35 | 2.00 | 3.00 | 6.00 | 4-3V | 76 | 0.93 | 6.00 | 5.60 | 2-3V |
| 36 | 1.96 | 4.80 | 9.40 | 2-B | 76 | 0.93 | 5.60 | 5.20 | 2-B |
| 36 | 1.94 | 3.35 | 6.50 | 3-3V | 79 | 0.90 | 6.20 | 5.60 | 2-B |
| 37 | 1.90 | 5.80 | 11.00 | 2-B | 79 | 0.90 | 5.30 | 4.75 | 2-3V |
| 37 | 1.89 | 3.65 | 6.90 | 3-3V | 79 | 0.89 | 5.60 | 5.00 | 2-B |
| 39 | 1.81 | 5.20 | 9.40 | 2-B | 80 | 0.88 | 6.00 | 5.30 | 2-3V |
| 40 | 1.79 | 4.80 | 8.60 | 2-B | 80 | 0.88 | 5.20 | 4.60 | 2-B |
| 40 | 1.79 | 3.35 | 6.00 | 3-3V | 81 | 0.87 | 6.20 | 5.40 | 2-B |
| 40 | 1.78 | 3.65 | 6.50 | 3-3V | 82 | 0.86 | 6.50 | 5.60 | 2-3V |
| 41 | 1.72 | 5.00 | 8.60 | 2-B | 82 | 0.86 | 5.80 | 5.00 | 2-B |
| 43 | 1.65 | 5.20 | 8.60 | 2-B | 83 | 0.85 | 5.40 | 4.60 | 2-B |
| 43 | 1.64 | 3.65 | 6.00 | 3-3V | 85 | 0.83 | 6.00 | 5.00 | 2-3V |
| 44 | 1.60 | 5.00 | 8.00 | 2-3V | 85 | 0.83 | 6.00 | 5.00 | 2-B |
| 44 | 1.59 | 5.40 | 8.60 | 2-B | | | | | |
| 45 | 1.58 | 3.35 | 5.30 | 3-3V | | | | | |
| 45 | 1.57 | 6.00 | 9.40 | 2-B | | | | | |
| 46 | 1.54 | 4.80 | 7.40 | 2-B | | | | | |
| 46 | 1.53 | 3.65 | 5.60 | 3-3V | | | | | |
| 47 | 1.50 | 6.00 | 9.00 | 2-A | | | | | |
| 47 | 1.49 | 3.35 | 5.00 | 3-3V | | | | | |

All dimensions in inches unless otherwise stated.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 415 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 12 | 9.43 | 2.65 | 25.00 | 3-3V | 76 | 1.53 | 4.50 | 6.90 | 5-3V |
| 13 | 8.93 | 2.80 | 25.00 | 3-3V | 77 | 1.50 | 6.00 | 9.00 | 4-A |
| 16 | 7.46 | 3.35 | 25.00 | 3-3V | 79 | 1.47 | 6.40 | 9.40 | 3-B |
| 16 | 7.17 | 2.65 | 19.00 | 3-3V | 80 | 1.45 | 4.75 | 6.90 | 5-3V |
| 18 | 6.33 | 3.00 | 19.00 | 3-3V | 81 | 1.43 | 5.60 | 8.00 | 4-3V |
| 19 | 6.03 | 3.15 | 19.00 | 3-3V | 81 | 1.43 | 6.00 | 8.60 | 3-B |
| 19 | 6.00 | 3.00 | 18.00 | 3-A | 84 | 1.38 | 5.00 | 6.90 | 4-3V |
| 21 | 5.63 | 3.20 | 18.00 | 4-A | 84 | 1.38 | 4.80 | 6.60 | 4-B |
| 21 | 5.56 | 4.50 | 25.00 | 3-3V | 86 | 1.34 | 6.40 | 8.60 | 3-B |
| 23 | 5.00 | 3.00 | 15.00 | 4-A | 87 | 1.33 | 4.50 | 6.00 | 5-3V |
| 24 | 4.74 | 3.80 | 18.00 | 3-A | 87 | 1.33 | 4.80 | 6.40 | 4-B |
| 25 | 4.67 | 3.00 | 14.00 | 4-3V | 88 | 1.32 | 5.00 | 6.60 | 4-B |
| 26 | 4.44 | 3.15 | 14.00 | 4-3V | 89 | 1.30 | 7.10 | 9.25 | 3-5V |
| 26 | 4.41 | 3.40 | 15.00 | 4-A | 90 | 1.29 | 4.80 | 6.20 | 4-B |
| 28 | 4.17 | 3.60 | 15.00 | 4-A | 92 | 1.26 | 4.75 | 6.00 | 5-3V |
| 29 | 4.00 | 4.75 | 19.00 | 2-3V | 92 | 1.26 | 6.80 | 8.60 | 3-B |
| 29 | 3.95 | 3.80 | 15.00 | 3-A | 92 | 1.26 | 5.40 | 6.80 | 4-B |
| 31 | 3.75 | 4.00 | 15.00 | 4-A | 93 | 1.25 | 4.80 | 6.00 | 5-B |
| 32 | 3.57 | 4.20 | 15.00 | 4-A | 94 | 1.23 | 5.30 | 6.50 | 5-3V |
| 33 | 3.53 | 3.00 | 10.60 | 5-3V | 94 | 1.23 | 6.00 | 7.40 | 4-B |
| 34 | 3.41 | 4.40 | 15.00 | 4-A | 96 | 1.21 | 4.80 | 5.80 | 5-B |
| 34 | 3.37 | 3.15 | 10.60 | 5-3V | 96 | 1.20 | 5.00 | 6.00 | 5-3V |
| 35 | 3.33 | 3.60 | 12.00 | 4-A | 97 | 1.19 | 6.20 | 7.40 | 4-B |
| 37 | 3.16 | 3.80 | 12.00 | 4-A | 98 | 1.18 | 4.75 | 5.60 | 6-3V |
| 37 | 3.11 | 4.50 | 14.00 | 3-3V | 98 | 1.18 | 5.60 | 6.60 | 4-B |
| 38 | 3.08 | 5.00 | 15.40 | 3-B | 99 | 1.17 | 5.80 | 6.80 | 4-B |
| 39 | 2.94 | 3.60 | 10.60 | 4-A | 101 | 1.15 | 8.50 | 9.75 | 3-5V |
| 40 | 2.90 | 3.65 | 10.60 | 4-3V | 101 | 1.14 | 5.60 | 6.40 | 4-B |
| 41 | 2.85 | 5.40 | 15.40 | 3-B | 102 | 1.13 | 4.80 | 5.40 | 5-B |
| 41 | 2.80 | 5.00 | 14.00 | 3-3V | 103 | 1.12 | 5.00 | 5.60 | 5-3V |
| 43 | 2.70 | 4.60 | 12.40 | 4-B | 103 | 1.12 | 4.75 | 5.30 | 6-3V |
| 44 | 2.64 | 5.30 | 14.00 | 3-3V | 104 | 1.11 | 5.60 | 6.20 | 4-B |
| 44 | 2.61 | 4.60 | 12.00 | 4-A | 105 | 1.10 | 5.80 | 6.40 | 4-B |
| 46 | 2.50 | 5.60 | 14.00 | 3-3V | 106 | 1.09 | 8.50 | 9.25 | 3-5V |
| 46 | 2.50 | 4.80 | 12.00 | 4-A | 106 | 1.09 | 8.60 | 9.40 | 3-B |
| 48 | 2.41 | 4.40 | 10.60 | 4-A | 108 | 1.07 | 5.60 | 6.00 | 5-3V |
| 49 | 2.38 | 5.20 | 12.40 | 3-B | 108 | 1.07 | 5.80 | 6.20 | 4-B |
| 49 | 2.36 | 4.50 | 10.60 | 4-3V | 109 | 1.06 | 9.00 | 9.50 | 3-C |
| 51 | 2.25 | 4.00 | 9.00 | 5-A | 110 | 1.05 | 4.75 | 5.00 | 6-3V |
| 52 | 2.23 | 4.75 | 10.60 | 4-3V | 111 | 1.04 | 5.00 | 5.20 | 5-B |
| 52 | 2.21 | 5.60 | 12.40 | 3-B | 116 | 1.00 | 5.00 | 5.00 | 5-3V |
| 54 | 2.14 | 4.20 | 9.00 | 4-A | 116 | 1.00 | 5.80 | 5.80 | 4-B |
| 55 | 2.12 | 5.00 | 10.60 | 3-3V | 119 | 0.97 | 6.40 | 6.20 | 4-B |
| 55 | 2.12 | 5.20 | 11.00 | 3-B | 119 | 0.97 | 5.80 | 5.60 | 5-B |
| 56 | 2.07 | 5.80 | 12.00 | 3-A | 122 | 0.95 | 5.60 | 5.30 | 6-3V |
| 57 | 2.04 | 5.40 | 11.00 | 3-B | 123 | 0.94 | 9.00 | 8.50 | 3-C |
| 57 | 2.03 | 6.90 | 14.00 | 3-3V | 123 | 0.94 | 5.30 | 5.00 | 6-3V |
| 59 | 1.96 | 4.80 | 9.40 | 3-B | 123 | 0.94 | 6.80 | 6.40 | 4-B |
| 60 | 1.94 | 4.12 | 8.00 | 4-3V | 124 | 0.93 | 5.40 | 5.00 | 6-B |
| 61 | 1.90 | 5.80 | 11.00 | 3-B | 126 | 0.92 | 6.50 | 6.00 | 5-3V |
| 61 | 1.89 | 5.60 | 10.60 | 3-3V | 127 | 0.91 | 6.60 | 6.00 | 5-B |
| 62 | 1.88 | 5.00 | 9.40 | 3-B | 129 | 0.90 | 6.20 | 5.60 | 5-B |
| 64 | 1.81 | 5.20 | 9.40 | 3-B | 129 | 0.90 | 5.30 | 4.75 | 6-3V |
| 65 | 1.79 | 10.60 | 19.00 | 2-3V | 129 | 0.90 | 5.80 | 5.20 | 5-B |
| 66 | 1.75 | 8.00 | 14.00 | 2-3V | 131 | 0.88 | 6.00 | 5.30 | 6-3V |
| 66 | 1.74 | 5.40 | 9.40 | 3-B | 131 | 0.88 | 5.20 | 4.60 | 6-B |
| 67 | 1.72 | 6.40 | 11.00 | 3-B | 133 | 0.87 | 6.90 | 6.00 | 5-3V |
| 69 | 1.67 | 6.60 | 11.00 | 3-B | 133 | 0.87 | 6.00 | 5.20 | 5-B |
| 70 | 1.66 | 7.10 | 11.80 | 3-5V | 136 | 0.85 | 11.00 | 9.40 | 3-B |
| 70 | 1.65 | 5.20 | 8.60 | 4-B | 136 | 0.85 | 6.60 | 5.60 | 5-B |
| 71 | 1.62 | 6.80 | 11.00 | 3-B | 136 | 0.85 | 5.60 | 4.75 | 6-3V |
| 72 | 1.60 | 5.00 | 8.00 | 4-3V | 138 | 0.84 | 6.40 | 5.40 | 5-B |
| 73 | 1.59 | 5.40 | 8.60 | 4-B | 138 | 0.84 | 7.40 | 6.20 | 4-B |
| 74 | 1.57 | 6.00 | 9.40 | 3-B | 139 | 0.83 | 6.00 | 5.00 | 6-3V |
| 75 | 1.54 | 4.80 | 7.40 | 4-B | 139 | 0.83 | 6.00 | 5.00 | 6-B |

| TXT 425 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 11 | 6.79 | 2.80 | 19.00 | 2-3V | 48 | 1.49 | 7.40 | 11.00 | 2-B |
| 11 | 6.79 | 2.80 | 19.00 | 2-3V | 49 | 1.48 | 5.00 | 7.40 | 3-B |
| 11 | 6.33 | 3.00 | 19.00 | 3-3V | 49 | 1.46 | 4.12 | 6.00 | 4-3V |
| 12 | 6.03 | 3.15 | 19.00 | 3-3V | 50 | 1.43 | 5.60 | 8.00 | 3-3V |
| 12 | 6.00 | 3.00 | 18.00 | 3-A | 50 | 1.43 | 4.20 | 6.00 | 4-A |
| 14 | 5.00 | 2.80 | 14.00 | 3-3V | 51 | 1.42 | 4.80 | 6.80 | 3-B |
| 14 | 5.00 | 3.00 | 15.00 | 3-A | 52 | 1.38 | 5.00 | 6.90 | 3-3V |
| 15 | 4.69 | 3.20 | 15.00 | 3-A | 52 | 1.38 | 4.80 | 6.60 | 3-B |
| 15 | 4.67 | 3.00 | 14.00 | 3-3V | 53 | 1.36 | 4.12 | 5.60 | 4-3V |
| 16 | 4.44 | 3.15 | 14.00 | 3-3V | 53 | 1.36 | 5.00 | 6.80 | 3-B |
| 16 | 4.41 | 3.40 | 15.00 | 3-A | 55 | 1.31 | 5.20 | 6.80 | 3-B |
| 17 | 4.29 | 4.20 | 18.00 | 2-A | 55 | 1.30 | 5.00 | 6.50 | 3-3V |
| 17 | 4.22 | 4.50 | 19.00 | 2-3V | 56 | 1.29 | 4.12 | 5.30 | 4-3V |
| 18 | 4.00 | 2.65 | 10.60 | 3-3V | 56 | 1.29 | 4.80 | 6.20 | 3-B |
| 18 | 4.00 | 3.00 | 12.00 | 3-A | 57 | 1.27 | 7.40 | 9.40 | 2-B |
| 19 | 3.84 | 3.65 | 14.00 | 2-3V | 57 | 1.26 | 4.75 | 6.00 | 4-3V |
| 19 | 3.75 | 3.20 | 12.00 | 3-A | 58 | 1.24 | 5.00 | 6.20 | 3-B |
| 20 | 3.53 | 3.00 | 10.60 | 4-3V | 58 | 1.23 | 5.30 | 6.50 | 3-3V |
| 20 | 3.53 | 3.00 | 10.60 | 4-A | 59 | 1.21 | 4.12 | 5.00 | 4-3V |
| 21 | 3.41 | 5.40 | 18.40 | 2-B | 59 | 1.21 | 4.80 | 5.80 | 3-B |
| 21 | 3.37 | 3.15 | 10.60 | 4-3V | 60 | 1.20 | 5.00 | 6.00 | 3-3V |
| 23 | 3.17 | 6.00 | 19.00 | 2-3V | 60 | 1.20 | 5.00 | 6.00 | 3-B |
| 23 | 3.08 | 5.00 | 15.40 | 2-B | 60 | 1.19 | 5.40 | 6.40 | 3-B |
| 24 | 2.94 | 3.60 | 10.60 | 3-A | 61 | 1.18 | 4.50 | 5.30 | 4-3V |
| 25 | 2.90 | 3.65 | 10.60 | 3-3V | 62 | 1.16 | 7.40 | 8.60 | 2-B |
| 25 | 2.85 | 5.40 | 15.40 | 2-B | 62 | 1.15 | 4.12 | 4.75 | 4-3V |
| 26 | 2.80 | 5.00 | 14.00 | 2-3V | 64 | 1.13 | 4.80 | 5.40 | 3-B |
| 26 | 2.79 | 3.80 | 10.60 | 3-A | 64 | 1.12 | 5.00 | 5.60 | 3-3V |
| 26 | 2.75 | 6.90 | 19.00 | 2-3V | 65 | 1.11 | 4.50 | 5.00 | 4-3V |
| 27 | 2.67 | 3.00 | 8.00 | 4-3V | 65 | 1.11 | 5.40 | 6.00 | 3-B |
| 27 | 2.65 | 4.00 | 10.60 | 3-A | 66 | 1.09 | 4.12 | 4.50 | 4-3V |
| 28 | 2.58 | 4.80 | 12.40 | 2-B | 66 | 1.08 | 4.80 | 5.20 | 3-B |
| 28 | 2.54 | 3.15 | 8.00 | 4-3V | 67 | 1.07 | 5.60 | 6.00 | 4-3V |
| 29 | 2.50 | 5.60 | 14.00 | 2-3V | 68 | 1.06 | 6.20 | 6.60 | 3-B |
| 29 | 2.48 | 5.00 | 12.40 | 2-B | 68 | 1.06 | 5.00 | 5.30 | 4-3V |
| 30 | 2.39 | 3.35 | 8.00 | 3-3V | 68 | 1.06 | 6.40 | 6.80 | 3-B |
| 30 | 2.38 | 5.20 | 12.40 | 2-B | 69 | 1.04 | 5.00 | 5.20 | 4-B |
| 31 | 2.28 | 3.60 | 8.20 | 4-A | 70 | 1.03 | 6.20 | 6.40 | 3-B |
| 32 | 2.23 | 4.75 | 10.60 | 3-3V | 72 | 1.00 | 5.00 | 5.00 | 4-3V |
| 32 | 2.21 | 4.80 | 10.60 | 3-A | 72 | 1.00 | 6.20 | 6.20 | 3-B |
| 33 | 2.19 | 3.65 | 8.00 | 4-3V | 74 | 0.97 | 6.40 | 6.20 | 3-B |
| 34 | 2.12 | 5.00 | 10.60 | 3-3V | 75 | 0.96 | 5.00 | 4.80 | 4-B |
| 34 | 2.12 | 5.00 | 10.60 | 3-A | 76 | 0.94 | 6.40 | 6.00 | 3-B |
| 35 | 2.06 | 3.35 | 6.90 | 4-3V | 77 | 0.93 | 6.00 | 5.60 | 4-3V |
| 35 | 2.04 | 4.60 | 9.40 | 3-B | 78 | 0.92 | 4.50 | 4.12 | 5-3V |
| 36 | 2.00 | 3.00 | 6.00 | 5-3V | 78 | 0.92 | 5.20 | 4.80 | 4-B |
| 36 | 2.00 | 6.20 | 12.40 | 2-B | 79 | 0.91 | 6.60 | 6.00 | 3-B |
| 37 | 1.94 | 4.12 | 8.00 | 3-3V | 80 | 0.90 | 5.30 | 4.75 | 4-3V |
| 37 | 1.94 | 6.40 | 12.40 | 2-B | 81 | 0.89 | 5.60 | 5.00 | 4-B |
| 38 | 1.88 | 6.60 | 12.40 | 2-B | 82 | 0.88 | 6.00 | 5.30 | 4-3V |
| 38 | 1.87 | 3.00 | 5.60 | 5-3V | 82 | 0.88 | 5.20 | 4.60 | 4-B |
| 39 | 1.82 | 6.80 | 12.40 | 2-B | 82 | 0.88 | 6.60 | 5.80 | 3-B |
| 40 | 1.78 | 4.50 | 8.00 | 3-3V | 83 | 0.87 | 6.90 | 6.00 | 3-3V |
| 41 | 1.77 | 6.20 | 11.00 | 2-B | 83 | 0.86 | 5.80 | 5.00 | 4-B |
| 41 | 1.75 | 8.00 | 14.00 | 2-3V | 84 | 0.85 | 6.80 | 5.80 | 3-B |
| 41 | 1.74 | 5.40 | 9.40 | 3-B | 84 | 0.85 | 5.60 | 4.75 | 4-3V |
| 43 | 1.67 | 4.12 | 6.90 | 4-3V | 85 | 0.84 | 6.40 | 5.40 | 4-A |
| 43 | 1.68 | 7.40 | 12.40 | 2-B | 86 | 0.83 | 6.00 | 5.00 | 4-3V |
| 44 | 1.63 | 6.50 | 10.60 | 3-3V | | | | | |
| 44 | 1.62 | 5.80 | 9.40 | 3-B | | | | | |
| 45 | 1.60 | 5.00 | 8.00 | 3-3V | | | | | |
| 45 | 1.59 | 5.40 | 8.60 | 3-B | | | | | |
| 46 | 1.55 | 5.80 | 9.00 | 3-A | | | | | |
| 47 | 1.54 | 4.80 | 7.40 | 3-B | | | | | |
| 48 | 1.51 | 5.30 | 8.00 | 3-3V | | | | | |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

All dimensions in inches unless otherwise stated.

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 515 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 14 | 8.33 | 3.00 | 25.00 | 4-3V | 66 | 1.71 | 4.80 | 8.20 | 6-A |
| 14 | 8.26 | 4.60 | 38.00 | 3-B | 68 | 1.68 | 4.75 | 8.00 | 6-3V |
| 14 | 7.94 | 3.15 | 25.00 | 3-3V | 68 | 1.68 | 7.40 | 12.40 | 3-B |
| 15 | 7.46 | 3.35 | 25.00 | 3-3V | 68 | 1.66 | 7.10 | 11.80 | 3-5V |
| 17 | 6.85 | 3.65 | 25.00 | 3-3V | 70 | 1.62 | 5.80 | 9.40 | 4-B |
| 17 | 6.52 | 4.60 | 30.00 | 3-B | 71 | 1.60 | 5.00 | 8.00 | 5-3V |
| 19 | 6.03 | 3.15 | 19.00 | 3-3V | 71 | 1.59 | 5.40 | 8.60 | 5-B |
| 19 | 6.00 | 3.00 | 18.00 | 4-A | 72 | 1.57 | 6.00 | 9.40 | 4-B |
| 20 | 5.67 | 3.35 | 19.00 | 4-3V | 74 | 1.54 | 6.90 | 10.60 | 4-3V |
| 20 | 5.63 | 3.20 | 18.00 | 5-A | 74 | 1.54 | 5.60 | 8.60 | 4-B |
| 21 | 5.29 | 3.40 | 18.00 | 5-A | 76 | 1.49 | 7.40 | 11.00 | 4-B |
| 22 | 5.26 | 4.75 | 25.00 | 3-3V | 77 | 1.48 | 8.00 | 11.80 | 3-5V |
| 22 | 5.21 | 3.65 | 19.00 | 4-3V | 77 | 1.47 | 6.40 | 9.40 | 4-B |
| 22 | 5.21 | 4.80 | 25.00 | 3-B | 78 | 1.46 | 5.60 | 8.20 | 6-A |
| 24 | 4.74 | 3.80 | 18.00 | 4-A | 78 | 1.45 | 4.75 | 6.90 | 8-3V |
| 25 | 4.61 | 4.12 | 19.00 | 3-3V | 80 | 1.42 | 6.60 | 9.40 | 4-B |
| 25 | 4.50 | 4.00 | 18.00 | 4-A | 81 | 1.40 | 11.00 | 15.40 | 3-B |
| 26 | 4.44 | 3.15 | 14.00 | 5-3V | 82 | 1.38 | 5.00 | 6.90 | 6-3V |
| 26 | 4.31 | 5.80 | 25.00 | 3-B | 82 | 1.38 | 6.80 | 9.40 | 4-B |
| 26 | 4.29 | 4.20 | 18.00 | 5-A | 84 | 1.36 | 5.00 | 6.80 | 6-B |
| 27 | 4.22 | 4.50 | 19.00 | 4-3V | 84 | 1.35 | 9.25 | 12.50 | 3-5V |
| 28 | 4.00 | 4.75 | 19.00 | 3-3V | 85 | 1.34 | 6.40 | 8.60 | 4-B |
| 28 | 4.09 | 4.40 | 18.00 | 4-A | 85 | 1.33 | 6.00 | 8.00 | 5-3V |
| 30 | 3.80 | 5.00 | 19.00 | 3-3V | 85 | 1.33 | 8.00 | 10.60 | 4-3V |
| 30 | 3.75 | 4.80 | 18.00 | 4-A | 86 | 1.32 | 9.40 | 12.40 | 3-B |
| 31 | 3.68 | 5.00 | 18.40 | 3-B | 88 | 1.29 | 8.00 | 10.30 | 3-5V |
| 32 | 3.58 | 5.30 | 19.00 | 3-3V | 88 | 1.29 | 7.00 | 9.00 | 5-A |
| 32 | 3.54 | 5.20 | 18.40 | 3-B | 89 | 1.27 | 7.10 | 9.00 | 3-5V |
| 34 | 3.35 | 4.60 | 15.40 | 4-B | 89 | 1.27 | 7.40 | 9.40 | 4-B |
| 35 | 3.26 | 4.60 | 15.00 | 4-A | 90 | 1.26 | 4.75 | 6.00 | 8-3V |
| 36 | 3.13 | 4.80 | 15.00 | 4-A | 90 | 1.26 | 6.80 | 8.60 | 5-B |
| 37 | 3.11 | 4.50 | 14.00 | 4-3V | 91 | 1.25 | 5.60 | 7.00 | 6-A |
| 37 | 3.08 | 5.00 | 15.40 | 3-B | 92 | 1.23 | 5.30 | 6.50 | 6-3V |
| 39 | 2.92 | 6.50 | 19.00 | 3-3V | 93 | 1.22 | 5.40 | 6.60 | 5-B |
| 39 | 2.88 | 5.20 | 15.00 | 4-A | 94 | 1.21 | 8.50 | 10.30 | 3-5V |
| 40 | 2.85 | 5.40 | 15.40 | 4-B | 94 | 1.21 | 5.60 | 6.80 | 6-B |
| 41 | 2.80 | 5.00 | 14.00 | 4-3V | 95 | 1.20 | 7.50 | 9.00 | 3-5V |
| 42 | 2.70 | 4.60 | 12.40 | 5-B | 95 | 1.19 | 6.20 | 7.40 | 5-B |
| 43 | 2.64 | 5.30 | 14.00 | 4-3V | 97 | 1.17 | 9.40 | 11.00 | 4-B |
| 43 | 2.66 | 5.80 | 15.40 | 4-B | 99 | 1.15 | 6.00 | 6.90 | 6-3V |
| 44 | 2.58 | 4.80 | 12.40 | 4-B | 100 | 1.14 | 5.60 | 6.40 | 6-B |
| 46 | 2.48 | 6.20 | 15.40 | 3-B | 101 | 1.13 | 5.30 | 6.00 | 8-3V |
| 47 | 2.41 | 6.40 | 15.40 | 3-B | 101 | 1.13 | 6.00 | 6.80 | 6-B |
| 48 | 2.38 | 5.20 | 12.40 | 4-B | 102 | 1.11 | 9.25 | 10.30 | 3-5V |
| 48 | 2.36 | 4.50 | 10.60 | 5-3V | 102 | 1.11 | 5.40 | 6.00 | 6-B |
| 49 | 2.33 | 6.60 | 15.40 | 3-B | 102 | 1.11 | 9.50 | 10.50 | 3-C |
| 51 | 2.23 | 4.75 | 10.60 | 5-3V | 103 | 1.10 | 6.20 | 6.80 | 5-B |
| 51 | 2.21 | 5.60 | 12.40 | 4-B | 104 | 1.09 | 8.50 | 9.25 | 3-5V |
| 52 | 2.20 | 5.00 | 11.00 | 4-B | 105 | 1.08 | 6.00 | 6.50 | 6-3V |
| 53 | 2.14 | 5.80 | 12.40 | 4-B | 105 | 1.08 | 12.00 | 13.00 | 3-C |
| 54 | 2.12 | 5.00 | 10.60 | 4-3V | 107 | 1.06 | 6.50 | 6.90 | 5-3V |
| 54 | 2.12 | 5.20 | 11.00 | 4-B | 107 | 1.06 | 6.20 | 6.60 | 5-B |
| 55 | 2.07 | 5.80 | 12.00 | 4-A | 110 | 1.03 | 6.20 | 6.40 | 5-B |
| 57 | 2.00 | 5.30 | 10.60 | 4-3V | 110 | 1.03 | 9.00 | 9.25 | 3-5V |
| 57 | 2.00 | 6.20 | 12.40 | 3-B | 117 | 0.97 | 9.25 | 9.00 | 3-5V |
| 58 | 1.96 | 5.60 | 11.00 | 4-B | 117 | 0.97 | 6.40 | 6.20 | 5-B |
| 59 | 1.94 | 6.40 | 12.40 | 4-B | 120 | 0.95 | 10.50 | 10.00 | 3-C |
| 60 | 1.90 | 5.80 | 11.00 | 4-B | 121 | 0.94 | 9.00 | 8.50 | 3-5V |
| 60 | 1.89 | 5.60 | 10.60 | 5-3V | 121 | 0.94 | 9.00 | 8.50 | 3-C |
| 62 | 1.83 | 6.00 | 11.00 | 4-B | 122 | 0.93 | 6.00 | 5.60 | 6-3V |
| 63 | 1.79 | 10.60 | 19.00 | 3-3V | 122 | 0.93 | 6.00 | 5.60 | 6-B |
| 63 | 1.79 | 4.80 | 8.60 | 5-B | 124 | 0.92 | 6.50 | 6.00 | 6-3V |
| 65 | 1.75 | 8.00 | 14.00 | 3-3V | 124 | 0.92 | 13.00 | 12.00 | 3-C |
| 65 | 1.74 | 5.40 | 9.40 | 5-B | 124 | 0.92 | 9.25 | 8.50 | 3-5V |
| 66 | 1.72 | 6.40 | 11.00 | 4-B | 125 | 0.91 | 9.40 | 8.60 | 4-B |

| TXT 525 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 6.79 | 2.80 | 19.00 | 3-3V | 48 | 1.43 | 6.00 | 8.60 | 3-B |
| 11 | 6.33 | 3.00 | 19.00 | 3-3V | 49 | 1.39 | 6.20 | 8.60 | 3-B |
| 11 | 6.00 | 3.00 | 18.00 | 3-A | 50 | 1.38 | 5.00 | 6.90 | 4-3V |
| 12 | 5.67 | 3.35 | 19.00 | 3-3V | 50 | 1.38 | 4.80 | 6.60 | 4-B |
| 12 | 5.63 | 3.20 | 18.00 | 4-A | 50 | 1.37 | 4.75 | 6.50 | 5-3V |
| 13 | 5.29 | 3.40 | 18.00 | 4-A | 51 | 1.33 | 4.50 | 6.00 | 5-3V |
| 13 | 5.21 | 3.65 | 19.00 | 3-3V | 51 | 1.33 | 4.80 | 6.40 | 4-B |
| 14 | 5.00 | 3.00 | 15.00 | 4-A | 52 | 1.32 | 5.00 | 6.60 | 4-B |
| 15 | 4.69 | 3.20 | 15.00 | 4-A | 53 | 1.30 | 5.30 | 6.90 | 4-3V |
| 15 | 4.67 | 3.00 | 14.00 | 4-3V | 53 | 1.30 | 5.00 | 6.50 | 4-3V |
| 15 | 4.44 | 3.15 | 14.00 | 4-3V | 53 | 1.29 | 4.80 | 6.20 | 4-B |
| 16 | 4.41 | 3.40 | 15.00 | 4-A | 54 | 1.26 | 4.75 | 6.00 | 5-3V |
| 16 | 4.18 | 3.35 | 14.00 | 3-3V | 54 | 1.26 | 6.80 | 8.60 | 3-B |
| 17 | 4.00 | 4.75 | 19.00 | 2-3V | 55 | 1.25 | 4.80 | 6.00 | 4-B |
| 17 | 3.95 | 3.80 | 15.00 | 3-A | 56 | 1.23 | 5.60 | 6.90 | 4-3V |
| 19 | 3.53 | 3.00 | 10.60 | 4-3V | 57 | 1.21 | 4.80 | 5.80 | 4-B |
| 19 | 3.53 | 3.00 | 10.60 | 4-A | 57 | 1.20 | 5.00 | 6.00 | 4-3V |
| 20 | 3.37 | 3.15 | 10.60 | 5-3V | 58 | 1.19 | 5.40 | 6.40 | 4-B |
| 20 | 3.35 | 4.60 | 15.40 | 3-B | 59 | 1.16 | 7.40 | 8.60 | 3-B |
| 21 | 3.33 | 3.60 | 12.00 | 4-A | 60 | 1.15 | 6.00 | 6.90 | 4-3V |
| 22 | 3.16 | 3.35 | 10.60 | 4-3V | 60 | 1.14 | 5.60 | 6.40 | 4-B |
| 22 | 3.16 | 3.80 | 12.00 | 4-A | 61 | 1.13 | 5.30 | 6.00 | 5-3V |
| 22 | 3.11 | 4.50 | 14.00 | 3-3V | 61 | 1.13 | 7.10 | 8.00 | 3-5V |
| 23 | 2.94 | 3.60 | 10.60 | 4-A | 61 | 1.13 | 4.80 | 5.40 | 5-B |
| 24 | 2.90 | 3.65 | 10.60 | 4-3V | 62 | 1.11 | 5.60 | 6.20 | 4-B |
| 24 | 2.88 | 6.40 | 18.40 | 2-B | 63 | 1.09 | 8.60 | 9.40 | 3-B |
| 24 | 2.80 | 5.00 | 14.00 | 3-3V | 63 | 1.08 | 6.00 | 6.50 | 4-3V |
| 25 | 2.70 | 4.60 | 12.40 | 3-B | 64 | 1.07 | 5.80 | 6.20 | 4-B |
| 26 | 2.67 | 3.00 | 8.00 | 5-3V | 65 | 1.06 | 6.50 | 6.90 | 4-3V |
| 26 | 2.65 | 4.00 | 10.60 | 4-A | 65 | 1.06 | 7.10 | 7.50 | 3-5V |
| 27 | 2.57 | 4.12 | 10.60 | 3-3V | 65 | 1.06 | 8.50 | 9.00 | 3-C |
| 27 | 2.50 | 5.60 | 14.00 | 3-3V | 66 | 1.03 | 5.80 | 6.00 | 4-B |
| 27 | 2.50 | 4.80 | 12.00 | 4-A | 68 | 1.00 | 6.50 | 6.50 | 4-3V |
| 28 | 2.48 | 5.00 | 12.40 | 3-B | 68 | 1.00 | 5.80 | 5.80 | 4-B |
| 29 | 2.38 | 5.20 | 12.40 | 3-B | 71 | 0.97 | 6.00 | 5.80 | 4-B |
| 29 | 2.36 | 4.50 | 10.60 | 4-3V | 72 | 0.95 | 7.50 | 7.10 | 3-5V |
| 31 | 2.20 | 5.00 | 11.00 | 3-B | 73 | 0.94 | 9.00 | 8.50 | 3-C |
| 32 | 2.12 | 5.00 | 10.60 | 3-3V | 74 | 0.93 | 5.80 | 5.40 | 5-B |
| 32 | 2.12 | 5.20 | 11.00 | 3-B | 74 | 0.92 | 6.50 | 6.00 | 4-3V |
| 33 | 2.07 | 5.80 | 12.00 | 3-A | 75 | 0.91 | 6.60 | 6.00 | 4-B |
| 34 | 2.04 | 5.40 | 11.00 | 3-B | 76 | 0.90 | 6.00 | 5.40 | 4-B |
| 34 | 2.00 | 5.30 | 10.60 | 3-3V | 77 | 0.89 | 8.00 | 7.10 | 3-5V |
| 35 | 1.96 | 4.80 | 9.40 | 3-B | 77 | 0.89 | 7.40 | 6.60 | 4-B |
| 35 | 1.94 | 4.12 | 8.00 | 4-3V | 78 | 0.88 | 6.40 | 5.60 | 5-B |
| 36 | 1.89 | 5.60 | 10.60 | 3-3V | 79 | 0.87 | 8.60 | 7.50 | 3-5V |
| 36 | 1.88 | 5.00 | 9.40 | 3-B | 80 | 0.86 | 8.00 | 6.90 | 4-3V |
| 37 | 1.83 | 5.80 | 10.60 | 3-A | 80 | 0.86 | 7.40 | 6.40 | 4-B |
| 38 | 1.79 | 4.80 | 8.60 | 3-B | 81 | 0.85 | 11.00 | 9.40 | 3-B |
| 38 | 1.78 | 4.50 | 8.00 | 4-3V | | | | | |
| 39 | 1.75 | 8.00 | 14.00 | 2-3V | | | | | |
| 39 | 1.74 | 5.40 | 9.40 | 3-B | | | | | |
| 40 | 1.72 | 5.00 | 8.60 | 3-B | | | | | |
| 41 | 1.68 | 4.75 | 8.00 | 4-3V | | | | | |
| 41 | 1.68 | 7.40 | 12.40 | 2-B | | | | | |
| 41 | 1.67 | 4.12 | 6.90 | 4-3V | | | | | |
| 42 | 1.63 | 6.50 | 10.60 | 3-3V | | | | | |
| 42 | 1.62 | 6.80 | 11.00 | 3-B | | | | | |
| 44 | 1.57 | 6.00 | 9.40 | 3-B | | | | | |
| 45 | 1.53 | 4.50 | 6.90 | 5-3V | | | | | |
| 45 | 1.52 | 6.20 | 9.40 | 3-B | | | | | |
| 45 | 1.51 | 5.30 | 8.00 | 4-3V | | | | | |
| 46 | 1.48 | 5.00 | 7.40 | 4-B | | | | | |
| 47 | 1.47 | 6.40 | 9.40 | 3-B | | | | | |
| 48 | 1.44 | 4.50 | 6.50 | 5-3V | | | | | |
| 48 | 1.43 | 5.60 | 8.00 | 4-3V | | | | | |

All dimensions in inches unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 615 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 11.17 | 3.00 | 33.50 | 4-3V | 67 | 1.71 | 7.00 | 12.00 | 6-A |
| 11 | 10.63 | 3.15 | 33.50 | 4-3V | 68 | 1.67 | 7.50 | 12.50 | 3-5V |
| 12 | 9.18 | 3.65 | 33.50 | 4-3V | 68 | 1.67 | 6.60 | 11.00 | 5-B |
| 14 | 8.33 | 3.00 | 25.00 | 5-3V | 69 | 1.66 | 6.40 | 10.60 | 8-A |
| 15 | 7.60 | 5.00 | 38.00 | 3-B | 69 | 1.65 | 8.00 | 13.20 | 3-5V |
| 15 | 7.46 | 3.35 | 25.00 | 4-3V | 70 | 1.62 | 6.80 | 11.00 | 5-B |
| 16 | 7.31 | 5.20 | 38.00 | 3-B | 72 | 1.59 | 5.40 | 8.60 | 6-B |
| 17 | 6.79 | 5.60 | 38.00 | 3-B | 73 | 1.57 | 7.50 | 11.80 | 3-5V |
| 18 | 6.25 | 4.80 | 30.00 | 4-B | 73 | 1.57 | 6.00 | 9.40 | 5-B |
| 20 | 5.77 | 5.20 | 30.00 | 3-B | 73 | 1.56 | 8.00 | 12.50 | 3-5V |
| 21 | 5.56 | 4.50 | 25.00 | 4-3V | 74 | 1.54 | 6.90 | 10.60 | 5-3V |
| 21 | 5.43 | 4.60 | 25.00 | 4-B | 74 | 1.54 | 5.60 | 8.60 | 6-B |
| 22 | 5.21 | 4.80 | 25.00 | 4-B | 75 | 1.52 | 6.20 | 9.40 | 5-B |
| 23 | 5.00 | 5.00 | 25.00 | 3-3V | 76 | 1.51 | 5.30 | 8.00 | 8-3V |
| 23 | 5.00 | 5.00 | 25.00 | 3-B | 76 | 1.50 | 12.00 | 18.00 | 4-A |
| 24 | 4.74 | 3.80 | 18.00 | 5-A | 77 | 1.49 | 7.40 | 11.00 | 4-B |
| 24 | 4.72 | 5.30 | 25.00 | 3-3V | 77 | 1.48 | 8.00 | 11.80 | 3-5V |
| 25 | 4.63 | 5.40 | 25.00 | 4-B | 79 | 1.44 | 9.75 | 14.00 | 3-5V |
| 26 | 4.46 | 5.60 | 25.00 | 4-3V | 79 | 1.44 | 8.60 | 12.40 | 4-B |
| 26 | 4.35 | 4.60 | 20.00 | 5-B | 80 | 1.43 | 5.60 | 8.00 | 6-3V |
| 27 | 4.22 | 4.50 | 19.00 | 5-3V | 80 | 1.43 | 6.00 | 8.60 | 5-B |
| 27 | 4.17 | 4.80 | 20.00 | 5-B | 80 | 1.42 | 10.60 | 15.00 | 6-A |
| 29 | 4.00 | 4.60 | 18.40 | 5-B | 81 | 1.40 | 11.00 | 15.40 | 4-B |
| 30 | 3.80 | 5.00 | 19.00 | 4-3V | 82 | 1.39 | 8.50 | 11.80 | 3-5V |
| 30 | 3.75 | 4.80 | 18.00 | 5-A | 83 | 1.38 | 6.80 | 9.40 | 6-B |
| 31 | 3.68 | 5.00 | 18.40 | 4-B | 83 | 1.37 | 7.10 | 9.75 | 4-5V |
| 32 | 3.62 | 6.90 | 25.00 | 3-3V | 85 | 1.34 | 6.40 | 8.60 | 6-B |
| 32 | 3.58 | 5.30 | 19.00 | 4-3V | 86 | 1.33 | 6.00 | 8.00 | 8-3V |
| 32 | 3.54 | 5.20 | 18.40 | 4-B | 86 | 1.33 | 8.00 | 10.60 | 5-3V |
| 33 | 3.41 | 5.40 | 18.40 | 4-B | 86 | 1.33 | 9.00 | 12.00 | 6-A |
| 34 | 3.39 | 5.60 | 19.00 | 4-3V | 86 | 1.32 | 9.40 | 12.40 | 5-B |
| 34 | 3.35 | 4.60 | 15.40 | 5-B | 87 | 1.31 | 9.00 | 11.80 | 3-5V |
| 35 | 3.29 | 5.60 | 18.40 | 4-B | 88 | 1.30 | 7.50 | 9.75 | 4-5V |
| 37 | 3.07 | 6.00 | 18.40 | 4-B | 88 | 1.30 | 10.00 | 13.00 | 3-C |
| 38 | 2.97 | 6.20 | 18.40 | 4-B | 89 | 1.28 | 9.25 | 11.80 | 3-5V |
| 39 | 2.96 | 5.20 | 15.40 | 5-B | 89 | 1.28 | 8.60 | 11.00 | 5-B |
| 39 | 2.95 | 4.75 | 14.00 | 6-3V | 91 | 1.25 | 12.00 | 15.00 | 5-A |
| 39 | 2.92 | 6.50 | 19.00 | 4-3V | 92 | 1.24 | 12.40 | 15.40 | 4-B |
| 40 | 2.88 | 6.40 | 18.40 | 4-B | 93 | 1.23 | 7.50 | 9.25 | 4-5V |
| 41 | 2.80 | 5.00 | 14.00 | 5-3V | 93 | 1.23 | 6.50 | 8.00 | 8-3V |
| 41 | 2.79 | 6.60 | 18.40 | 4-B | 93 | 1.23 | 6.00 | 7.40 | 8-B |
| 41 | 2.75 | 6.90 | 19.00 | 4-3V | 94 | 1.21 | 9.00 | 10.90 | 3-5V |
| 42 | 2.71 | 6.80 | 18.40 | 4-B | 94 | 1.21 | 7.00 | 8.50 | 5-C |
| 44 | 2.57 | 6.00 | 15.40 | 4-B | 95 | 1.20 | 7.10 | 8.50 | 4-5V |
| 45 | 2.53 | 9.50 | 24.00 | 3-C | 95 | 1.20 | 10.00 | 12.00 | 3-C |
| 46 | 2.50 | 5.60 | 14.00 | 5-3V | 96 | 1.19 | 11.80 | 14.00 | 3-5V |
| 46 | 2.49 | 7.40 | 18.40 | 4-B | 96 | 1.19 | 8.00 | 9.50 | 4-C |
| 47 | 2.41 | 6.40 | 15.40 | 5-B | 98 | 1.16 | 6.90 | 8.00 | 6-3V |
| 48 | 2.38 | 8.00 | 19.00 | 4-3V | 98 | 1.16 | 7.40 | 8.60 | 5-B |
| 48 | 2.38 | 5.20 | 12.40 | 6-B | 98 | 1.16 | 6.40 | 7.40 | 6-B |
| 49 | 2.33 | 6.00 | 14.00 | 5-3V | 99 | 1.15 | 6.00 | 6.90 | 8-3V |
| 49 | 2.33 | 6.60 | 15.40 | 4-B | 100 | 1.14 | 9.00 | 10.30 | 3-5V |
| 51 | 2.25 | 8.00 | 18.00 | 3-C | 100 | 1.14 | 10.50 | 12.00 | 3-C |
| 51 | 2.23 | 4.75 | 10.60 | 8-3V | 101 | 1.13 | 7.10 | 8.00 | 4-5V |
| 52 | 2.21 | 5.60 | 12.40 | 5-B | 101 | 1.13 | 11.00 | 12.40 | 4-B |
| 53 | 2.15 | 6.50 | 14.00 | 5-3V | 103 | 1.11 | 9.00 | 10.00 | 4-C |
| 53 | 2.14 | 5.80 | 12.40 | 5-B | 105 | 1.09 | 8.60 | 9.40 | 5-B |
| 54 | 2.12 | 5.00 | 10.60 | 6-3V | 105 | 1.09 | 11.00 | 12.00 | 4-C |
| 54 | 2.12 | 5.20 | 11.00 | 6-B | 106 | 1.08 | 10.90 | 11.80 | 3-5V |
| 55 | 2.07 | 6.00 | 12.40 | 5-B | 106 | 1.08 | 13.00 | 14.00 | 3-C |
| 56 | 2.04 | 5.40 | 11.00 | 5-B | 107 | 1.07 | 14.00 | 15.00 | 3-5V |
| 56 | 2.03 | 6.90 | 14.00 | 4-3V | 107 | 1.07 | 7.50 | 8.00 | 5-C |
| 58 | 1.96 | 5.60 | 11.00 | 6-B | 108 | 1.06 | 8.00 | 8.50 | 4-5V |
| 59 | 1.94 | 10.90 | 21.20 | 3-5V | 109 | 1.05 | 10.00 | 10.50 | 4-C |
| 59 | 1.94 | 6.40 | 12.40 | 5-B | 111 | 1.03 | 9.00 | 9.25 | 4-5V |
| 60 | 1.89 | 5.60 | 10.60 | 6-3V | 114 | 1.00 | 10.60 | 10.60 | 5-3V |
| 60 | 1.89 | 9.50 | 18.00 | 3-C | 114 | 1.00 | 9.40 | 9.40 | 5-B |
| 61 | 1.88 | 6.60 | 12.40 | 5-B | 118 | 0.97 | 9.25 | 9.00 | 4-5V |
| 61 | 1.87 | 7.50 | 14.00 | 3-5V | 121 | 0.94 | 10.90 | 10.30 | 3-5V |
| 62 | 1.83 | 6.00 | 11.00 | 6-B | 121 | 0.94 | 6.80 | 6.40 | 8-B |
| 63 | 1.82 | 6.80 | 12.40 | 5-B | 121 | 0.94 | 8.00 | 7.50 | 5-5V |
| 64 | 1.77 | 6.00 | 10.60 | 6-3V | 121 | 0.94 | 8.00 | 7.50 | 5-C |
| 64 | 1.77 | 6.20 | 11.00 | 5-B | 123 | 0.93 | 14.00 | 13.00 | 3-C |
| 66 | 1.73 | 9.25 | 16.00 | 3-5V | 124 | 0.92 | 11.80 | 10.90 | 3-5V |
| 66 | 1.72 | 6.40 | 11.00 | 5-B | 124 | 0.92 | 7.40 | 6.80 | 8-B |

| TXT 625 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 6.85 | 3.65 | 25.00 | 3-3V | 57 | 1.23 | 5.30 | 6.50 | 6-3V |
| 11 | 6.52 | 4.60 | 30.00 | 3-B | 57 | 1.22 | 5.40 | 6.60 | 5-V |
| 12 | 6.03 | 3.15 | 19.00 | 3-3V | 58 | 1.20 | 7.50 | 9.00 | 3-5V |
| 12 | 5.67 | 3.35 | 19.00 | 4-3V | 58 | 1.19 | 6.20 | 7.40 | 5-B |
| 12 | 5.63 | 3.20 | 18.00 | 5-A | 60 | 1.16 | 5.60 | 6.50 | 6-3V |
| 14 | 5.00 | 5.00 | 25.00 | 3-3V | 60 | 1.16 | 7.40 | 8.60 | 4-B |
| 14 | 5.00 | 3.60 | 18.00 | 5-A | 61 | 1.14 | 5.60 | 6.40 | 6-B |
| 15 | 4.74 | 3.80 | 18.00 | 4-A | 62 | 1.13 | 7.50 | 8.50 | 3-5V |
| 15 | 4.61 | 4.12 | 19.00 | 3-3V | 62 | 1.13 | 8.00 | 9.00 | 3-5V |
| 16 | 4.29 | 4.20 | 18.00 | 4-A | 62 | 1.13 | 11.00 | 12.40 | 3-B |
| 17 | 4.18 | 3.35 | 14.00 | 4-3V | 63 | 1.10 | 6.20 | 6.80 | 5-B |
| 17 | 4.09 | 4.40 | 18.00 | 4-A | 64 | 1.09 | 8.60 | 9.40 | 4-B |
| 17 | 4.00 | 4.75 | 19.00 | 3-3V | 64 | 1.08 | 6.00 | 6.50 | 6-3V |
| 18 | 3.91 | 4.60 | 18.00 | 4-A | 65 | 1.07 | 7.50 | 8.00 | 3-5V |
| 18 | 3.80 | 5.00 | 19.00 | 3-3V | 66 | 1.06 | 6.20 | 6.60 | 5-B |
| 19 | 3.68 | 5.00 | 18.40 | 3-B | 66 | 1.06 | 6.50 | 6.90 | 5-3V |
| 19 | 3.58 | 5.30 | 19.00 | 3-3V | 68 | 1.03 | 6.20 | 6.40 | 5-B |
| 21 | 3.26 | 4.60 | 15.00 | 4-A | 68 | 1.03 | 9.00 | 9.25 | 3-5V |
| 22 | 3.13 | 4.80 | 15.00 | 4-A | 68 | 1.03 | 6.40 | 6.60 | 5-B |
| 22 | 3.11 | 4.50 | 14.00 | 4-3V | 70 | 1.00 | 6.00 | 6.00 | 6-3V |
| 23 | 3.08 | 5.00 | 15.40 | 3-B | 70 | 1.00 | 11.00 | 11.00 | 3-B |
| 24 | 2.96 | 5.20 | 15.40 | 3-B | 72 | 0.97 | 9.25 | 9.00 | 3-5V |
| 24 | 2.95 | 4.75 | 14.00 | 4-3V | 72 | 0.97 | 6.40 | 6.20 | 5-B |
| 24 | 2.92 | 6.50 | 19.00 | 3-3V | 73 | 0.95 | 9.75 | 9.25 | 3-5V |
| 25 | 2.80 | 5.00 | 14.00 | 3-3V | 73 | 0.95 | 10.00 | 9.50 | 3-C |
| 25 | 2.75 | 5.60 | 15.40 | 3-B | 74 | 0.94 | 6.90 | 6.50 | 5-3V |
| 26 | 2.66 | 5.80 | 15.40 | 4-B | 74 | 0.94 | 6.40 | 6.00 | 5-B |
| 26 | 2.64 | 5.30 | 14.00 | 4-3V | 76 | 0.92 | 6.50 | 6.00 | 6-3V |
| 27 | 2.58 | 4.80 | 12.40 | 4-B | 76 | 0.92 | 9.25 | 8.50 | 3-5V |
| 28 | 2.50 | 5.60 | 14.00 | 4-3V | 76 | 0.91 | 6.80 | 6.20 | 5-B |
| 28 | 2.48 | 6.20 | 15.40 | 3-B | 76 | 0.91 | 6.60 | 6.00 | 5-B |
| 30 | 2.33 | 6.00 | 14.00 | 4-3V | 78 | 0.89 | 9.00 | 8.00 | 3-5V |
| 30 | 2.29 | 4.80 | 11.00 | 4-B | 78 | 0.89 | 7.40 | 6.60 | 5-B |
| 31 | 2.26 | 6.80 | 15.40 | 3-B | 78 | 0.89 | 8.00 | 7.10 | 3-5V |
| 31 | 2.23 | 4.75 | 11.00 | 5-3V | 79 | 0.88 | 6.80 | 6.00 | 5-B |
| 32 | 2.20 | 5.00 | 11.00 | 4-B | 79 | 0.88 | 8.00 | 7.00 | 4-C |
| 32 | 2.15 | 6.50 | 14.00 | 3-3V | 80 | 0.87 | 6.90 | 6.00 | 5-3V |
| 33 | 2.12 | 5.00 | 10.60 | 4-3V | | | | | |
| 33 | 2.12 | 5.20 | 11.00 | 4-B | | | | | |
| 34 | 2.04 | 5.40 | 11.00 | 4-B | | | | | |
| 34 | 2.03 | 6.90 | 14.00 | 3-3V | | | | | |
| 36 | 1.96 | 4.80 | 9.40 | 5-B | | | | | |
| 37 | 1.90 | 5.80 | 11.00 | 4-B | | | | | |
| 37 | 1.89 | 5.60 | 10.60 | 5-3V | | | | | |
| 38 | 1.83 | 6.00 | 11.00 | 4-B | | | | | |
| 39 | 1.77 | 6.00 | 10.60 | 4-3V | | | | | |
| 39 | 1.77 | 6.20 | 11.00 | 4-B | | | | | |
| 40 | 1.75 | 8.00 | 14.00 | 3-3V | | | | | |
| 40 | 1.72 | 5.00 | 8.60 | 5-B | | | | | |
| 41 | 1.68 | 7.40 | 12.40 | 3-B | | | | | |
| 42 | 1.66 | 7.10 | 11.80 | 3-5V | | | | | |
| 43 | 1.62 | 5.80 | 9.40 | 4-B | | | | | |
| 44 | 1.60 | 5.00 | 8.00 | 5-3V | | | | | |
| 44 | 1.57 | 7.50 | 11.80 | 3-5V | | | | | |
| 44 | 1.57 | 6.00 | 9.40 | 4-B | | | | | |
| 45 | 1.54 | 6.90 | 10.60 | 4-3V | | | | | |
| 45 | 1.54 | 5.60 | 8.60 | 4-B | | | | | |
| 46 | 1.52 | 6.20 | 9.40 | 5-B | | | | | |
| 46 | 1.51 | 5.30 | 8.00 | 6-3V | | | | | |
| 48 | 1.45 | 4.75 | 6.90 | 8-3V | | | | | |
| 48 | 1.44 | 8.60 | | | | | | | |

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 715 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 11.17 | 3.00 | 33.50 | 5-3V | 63 | 1.82 | 6.80 | 12.40 | 6-B |
| 10 | 11.17 | 3.00 | 33.50 | 5-3V | 65 | 1.78 | 9.00 | 16.00 | 4-C |
| 14 | 8.26 | 4.60 | 38.00 | 4-B | 66 | 1.75 | 8.00 | 14.00 | 6-3V |
| 14 | 8.13 | 4.12 | 33.50 | 4-3V | 67 | 1.71 | 7.00 | 12.00 | 6-C |
| 16 | 7.31 | 5.20 | 38.00 | 3-B | 68 | 1.70 | 12.50 | 21.20 | 3-5V |
| 17 | 6.79 | 5.60 | 38.00 | 4-3V | 68 | 1.68 | 9.50 | 16.00 | 4-C |
| 17 | 6.79 | 5.60 | 38.00 | 4-B | 69 | 1.67 | 11.00 | 18.40 | 5-B |
| 18 | 6.32 | 5.30 | 33.50 | 4-3V | 70 | 1.65 | 8.00 | 13.20 | 4-5V |
| 18 | 6.25 | 4.80 | 30.00 | 5-B | 70 | 1.64 | 9.75 | 16.00 | 3-5V |
| 20 | 5.77 | 5.20 | 30.00 | 4-B | 70 | 1.64 | 9.40 | 15.40 | 5-B |
| 21 | 5.56 | 4.50 | 25.00 | 5-3V | 72 | 1.60 | 7.50 | 12.00 | 5-C |
| 21 | 5.43 | 4.60 | 25.00 | 5-B | 73 | 1.57 | 7.00 | 11.00 | 6-C |
| 22 | 5.26 | 4.75 | 25.00 | 5-3V | 74 | 1.56 | 8.00 | 12.50 | 4-5V |
| 22 | 5.17 | 5.80 | 30.00 | 5-B | 75 | 1.54 | 6.90 | 10.60 | 8-3V |
| 23 | 5.00 | 5.00 | 25.00 | 5-3V | 75 | 1.54 | 13.00 | 20.00 | 3-C |
| 23 | 5.00 | 5.00 | 25.00 | 5-B | 76 | 1.51 | 9.25 | 14.00 | 4-5V |
| 25 | 4.63 | 5.40 | 25.00 | 5-B | 77 | 1.49 | 7.40 | 11.00 | 6-B |
| 26 | 4.46 | 5.60 | 25.00 | 5-3V | 78 | 1.48 | 8.00 | 11.80 | 4-5V |
| 26 | 4.46 | 5.60 | 25.00 | 5-B | 78 | 1.47 | 7.50 | 11.00 | 5-C |
| 27 | 4.31 | 5.80 | 25.00 | 5-B | 79 | 1.46 | 10.30 | 15.00 | 3-5V |
| 28 | 4.17 | 6.00 | 25.00 | 4-3V | 79 | 1.45 | 11.00 | 16.00 | 4-C |
| 29 | 4.00 | 5.00 | 20.00 | 5-B | 80 | 1.44 | 8.60 | 12.40 | 6-B |
| 29 | 3.94 | 7.10 | 28.00 | 3-5V | 80 | 1.43 | 9.25 | 13.20 | 4-5V |
| 30 | 3.85 | 5.20 | 20.00 | 6-B | 81 | 1.41 | 8.50 | 12.00 | 5-C |
| 30 | 3.80 | 5.00 | 19.00 | 6-3V | 82 | 1.40 | 11.00 | 15.40 | 5-B |
| 31 | 3.68 | 5.00 | 18.40 | 6-B | 83 | 1.39 | 8.50 | 11.80 | 4-5V |
| 33 | 3.50 | 8.00 | 28.00 | 3-5V | 84 | 1.37 | 9.50 | 13.00 | 5-C |
| 33 | 3.45 | 5.80 | 20.00 | 5-B | 84 | 1.36 | 8.00 | 10.90 | 5-5V |
| 34 | 3.41 | 5.40 | 18.40 | 8-B | 84 | 1.36 | 11.80 | 16.00 | 3-5V |
| 34 | 3.39 | 5.60 | 19.00 | 6-3V | 86 | 1.33 | 7.50 | 10.00 | 6-C |
| 35 | 3.29 | 8.50 | 28.00 | 3-5V | 88 | 1.31 | 8.00 | 10.50 | 5-C |
| 35 | 3.29 | 5.60 | 18.40 | 6-B | 88 | 1.30 | 7.50 | 9.75 | 5-5V |
| 36 | 3.19 | 9.40 | 30.00 | 4-B | 89 | 1.29 | 8.50 | 11.00 | 5-C |
| 36 | 3.17 | 6.00 | 19.00 | 6-3V | 90 | 1.28 | 9.75 | 12.50 | 4-5V |
| 38 | 3.03 | 6.60 | 20.00 | 5-B | 90 | 1.27 | 7.50 | 9.50 | 6-C |
| 38 | 2.99 | 7.10 | 21.20 | 4-5V | 93 | 1.24 | 12.40 | 15.40 | 5-B |
| 39 | 2.94 | 6.80 | 20.00 | 5-B | 93 | 1.24 | 8.50 | 10.50 | 5-C |
| 39 | 2.92 | 6.50 | 19.00 | 5-3V | 93 | 1.23 | 7.50 | 9.25 | 5-5V |
| 41 | 2.79 | 6.60 | 18.40 | 5-B | 94 | 1.22 | 8.00 | 9.75 | 5-5V |
| 42 | 2.75 | 6.90 | 19.00 | 5-3V | 94 | 1.22 | 9.00 | 11.00 | 5-C |
| 42 | 2.71 | 6.80 | 18.40 | 5-B | 95 | 1.21 | 9.00 | 10.90 | 4-5V |
| 43 | 2.70 | 7.40 | 20.00 | 5-B | 96 | 1.20 | 7.50 | 9.00 | 5-5V |
| 44 | 2.64 | 5.30 | 14.00 | 8-3V | 96 | 1.20 | 10.00 | 12.00 | 4-C |
| 46 | 2.50 | 5.60 | 14.00 | 6-3V | 97 | 1.18 | 9.25 | 10.90 | 4-5V |
| 46 | 2.48 | 6.20 | 15.40 | 5-B | 97 | 1.18 | 11.00 | 13.00 | 4-C |
| 47 | 2.42 | 12.40 | 30.00 | 3-B | 98 | 1.17 | 9.40 | 11.00 | 6-B |
| 48 | 2.41 | 6.40 | 15.40 | 5-B | 101 | 1.14 | 9.00 | 10.30 | 4-5V |
| 48 | 2.38 | 8.00 | 19.00 | 4-3V | 101 | 1.14 | 10.50 | 12.00 | 4-C |
| 50 | 2.29 | 9.25 | 21.20 | 3-5V | 102 | 1.13 | 7.50 | 8.50 | 5-5V |
| 50 | 2.29 | 10.50 | 24.00 | 3-C | 102 | 1.13 | 11.00 | 12.40 | 5-B |
| 51 | 2.26 | 6.80 | 15.40 | 6-B | 103 | 1.12 | 12.50 | 14.00 | 3-5V |
| 51 | 2.25 | 7.10 | 16.00 | 4-5V | 103 | 1.12 | 11.80 | 13.20 | 3-5V |
| 52 | 2.20 | 8.20 | 18.00 | 8-A | 103 | 1.12 | 8.50 | 9.50 | 5-C |
| 53 | 2.18 | 11.00 | 24.00 | 3-C | 104 | 1.11 | 9.50 | 10.50 | 5-C |
| 53 | 2.15 | 6.50 | 14.00 | 8-3V | 105 | 1.09 | 11.00 | 12.00 | 5-C |
| 55 | 2.08 | 7.40 | 15.40 | 6-B | 106 | 1.08 | 13.00 | 14.00 | 4-C |
| 56 | 2.07 | 6.00 | 12.40 | 8-B | 107 | 1.07 | 14.00 | 15.00 | 3-5V |
| 57 | 2.03 | 6.90 | 14.00 | 6-3V | 108 | 1.06 | 10.30 | 10.90 | 4-5V |
| 58 | 1.97 | 7.10 | 14.00 | 4-5V | 109 | 1.05 | 9.25 | 9.75 | 5-5V |
| 59 | 1.94 | 10.90 | 21.20 | 3-5V | 109 | 1.05 | 10.00 | 10.50 | 5-C |
| 59 | 1.94 | 6.40 | 12.40 | 6-B | 109 | 1.05 | 10.50 | 11.00 | 5-C |
| 60 | 1.90 | 10.50 | 20.00 | 3-C | 112 | 1.03 | 9.00 | 9.25 | 5-5V |
| 61 | 1.88 | 8.50 | 16.00 | 3-5V | 115 | 1.00 | 10.30 | 10.30 | 4-5V |
| 61 | 1.88 | 8.50 | 16.00 | 4-C | 115 | 1.00 | 11.00 | 11.00 | 6-B |
| 62 | 1.86 | 7.00 | 13.00 | 5-C | 118 | 0.97 | 9.25 | 9.00 | 5-5V |

| TXT 725 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 7.31 | 5.20 | 38.00 | 3-B | 49 | 1.45 | 7.50 | 10.90 | 3-5V |
| 10 | 6.85 | 3.65 | 25.00 | 4-3V | 49 | 1.44 | 8.60 | 12.40 | 4-B |
| 11 | 6.52 | 4.60 | 30.00 | 4-B | 49 | 1.43 | 9.25 | 13.20 | 3-5V |
| 12 | 6.07 | 4.12 | 25.00 | 4-3V | 49 | 1.43 | 6.00 | 8.60 | 8-B |
| 12 | 6.00 | 5.00 | 30.00 | 3-B | 50 | 1.40 | 11.00 | 15.40 | 4-B |
| 13 | 5.43 | 4.60 | 25.00 | 4-B | 51 | 1.39 | 8.50 | 11.80 | 3-5V |
| 13 | 5.26 | 4.75 | 25.00 | 3-3V | 51 | 1.37 | 7.10 | 9.75 | 4-5V |
| 14 | 5.00 | 5.00 | 25.00 | 3-3V | 52 | 1.36 | 7.00 | 9.50 | 5-C |
| 14 | 5.00 | 5.00 | 25.00 | 3-B | 53 | 1.34 | 6.40 | 8.60 | 6-B |
| 15 | 4.74 | 3.80 | 18.00 | 5-A | 53 | 1.33 | 6.00 | 8.00 | 8-3V |
| 15 | 4.61 | 4.12 | 19.00 | 4-3V | 53 | 1.33 | 8.00 | 10.60 | 5-3V |
| 16 | 4.50 | 4.00 | 18.00 | 5-A | 53 | 1.32 | 9.40 | 12.40 | 5-B |
| 16 | 4.46 | 5.60 | 25.00 | 3-3V | 55 | 1.28 | 9.25 | 11.80 | 3-5V |
| 17 | 4.22 | 4.50 | 19.00 | 5-3V | 55 | 1.27 | 7.40 | 9.40 | 5-B |
| 17 | 4.17 | 4.80 | 20.00 | 5-B | 57 | 1.24 | 12.40 | 15.40 | 4-B |
| 18 | 4.00 | 4.75 | 19.00 | 4-3V | 57 | 1.23 | 6.50 | 8.00 | 8-3V |
| 18 | 4.00 | 4.60 | 18.40 | 5-B | 57 | 1.23 | 6.00 | 7.40 | 8-B |
| 20 | 3.58 | 5.30 | 19.00 | 4-3V | 58 | 1.21 | 9.00 | 10.90 | 3-5V |
| 20 | 3.54 | 5.20 | 18.40 | 4-B | 59 | 1.20 | 10.00 | 12.00 | 3-C |
| 21 | 3.41 | 5.40 | 18.40 | 4-B | 60 | 1.18 | 9.25 | 10.90 | 3-5V |
| 21 | 3.39 | 5.60 | 19.00 | 4-3V | 60 | 1.18 | 9.00 | 10.60 | 6-A |
| 21 | 3.29 | 5.60 | 18.40 | 4-B | 61 | 1.16 | 6.90 | 8.00 | 6-3V |
| 22 | 3.17 | 6.00 | 19.00 | 4-3V | 61 | 1.16 | 7.40 | 8.60 | 5-B |
| 23 | 3.13 | 8.00 | 25.00 | 3-3V | 61 | 1.16 | 6.40 | 7.40 | 6-B |
| 23 | 3.07 | 6.00 | 18.40 | 4-B | 61 | 1.15 | 6.00 | 6.90 | 8-3V |
| 24 | 2.97 | 6.20 | 18.40 | 4-B | 62 | 1.13 | 7.10 | 8.00 | 4-5V |
| 24 | 2.92 | 6.50 | 19.00 | 4-3V | 62 | 1.13 | 11.00 | 12.40 | 4-B |
| 24 | 2.88 | 6.40 | 18.40 | 4-B | 63 | 1.12 | 8.50 | 9.50 | 4-C |
| 25 | 2.80 | 5.00 | 14.00 | 5-3V | 63 | 1.11 | 9.25 | 10.30 | 3-5V |
| 25 | 2.79 | 6.60 | 18.40 | 4-B | 65 | 1.09 | 8.50 | 9.25 | 4-5V |
| 26 | 2.75 | 6.90 | 19.00 | 4-3V | 65 | 1.09 | 8.60 | 9.40 | 6-B |
| 26 | 2.66 | 5.80 | 15.40 | 4-B | 66 | 1.07 | 7.50 | 8.00 | 5-C |
| 27 | 2.64 | 5.30 | 14.00 | 5-3V | 66 | 1.06 | 10.30 | 10.90 | 3-5V |
| 30 | 2.33 | 6.00 | 14.00 | 5-3V | 67 | 1.05 | 9.50 | 10.00 | 4-C |
| 30 | 2.33 | 6.60 | 15.40 | 4-B | 68 | 1.03 | 9.00 | 9.25 | 4-5V |
| 31 | 2.26 | 6.80 | 15.40 | 4-B | 70 | 1.00 | 10.60 | 10.60 | 5-3V |
| 31 | 2.25 | 7.10 | 16.00 | 3-5V | 70 | 1.00 | 9.40 | 9.40 | 5-B |
| 32 | 2.23 | 4.75 | 10.60 | 8-3V | 73 | 0.97 | 9.25 | 9.00 | 4-5V |
| 32 | 2.21 | 5.60 | 12.40 | 5-B | 74 | 0.95 | 9.50 | 9.00 | 4-C |
| 33 | 2.14 | 5.80 | 12.40 | 5-B | 75 | 0.94 | 10.90 | 10.30 | 3-5V |
| 33 | 2.12 | 5.00 | 10.60 | 6-3V | 75 | 0.94 | 8.50 | 8.00 | 4-5V |
| 34 | 2.07 | 6.00 | 12.40 | 5-B | | | | | |
| 35 | 2.03 | 6.90 | 14.00 | 4-3V | | | | | |
| 35 | 2.04 | 5.40 | 11.00 | 5-B | | | | | |
| 35 | 2.00 | 6.20 | 12.40 | 5-B | | | | | |
| 36 | 1.97 | 7.10 | 14.00 | 3-5V | | | | | |
| 37 | 1.88 | 6.60 | 12.40 | 5-B | | | | | |
| 38 | 1.87 | 7.50 | 14.00 | 3-5V | | | | | |
| 39 | 1.82 | 6.80 | 12.40 | 5-B | | | | | |
| 40 | 1.77 | 6.00 | 10.60 | 6-3V | | | | | |
| 40 | 1.77 | 6.20 | 11.00 | 5-B | | | | | |
| 40 | 1.75 | 8.00 | 14.00 | 4-3V | | | | | |
| 41 | 1.72 | 6.40 | 11.00 | 5-B | | | | | |
| 42 | 1.68 | 7.40 | 12.40 | 5-B | | | | | |
| 42 | 1.67 | 7.50 | 12.50 | 3-5V | | | | | |
| 42 | 1.67 | 6.60 | 11.00 | 5-B | | | | | |
| 43 | 1.65 | 8.00 | 13.20 | 3-5V | | | | | |
| 43 | 1.63 | 6.50 | 10.60 | 5-3V | | | | | |
| 43 | 1.62 | 6.80 | 11.00 | 5-B | | | | | |
| 45 | 1.57 | 7.50 | 11.80 | 3-5V | | | | | |
| 45 | 1.57 | 6.00 | 9.40 | 5-B | | | | | |
| 46 | 1.52 | 6.20 | 9.40 | 5-B | | | | | |
| 47 | 1.51 | 5.30 | 8.00 | 8-3V | | | | | |
| 47 | 1.49 | 7.40 | 11.00 | 4-B | | | | | |
| 48 | 1.48 | 8.00 | 11.80 | 3-5V | | | | | |

All dimensions in inches unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 815 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 14 | 8.26 | 4.60 | 38.00 | 5-B | 62 | 1.88 | 8.50 | 16.00 | 4-5V |
| 15 | 7.60 | 5.00 | 38.00 | 4-B | 63 | 1.85 | 13.00 | 24.00 | 4-C |
| 16 | 7.44 | 4.50 | 33.50 | 4-3V | 64 | 1.80 | 11.80 | 21.20 | 3-5V |
| 16 | 7.31 | 5.20 | 38.00 | 4-B | 64 | 1.80 | 10.00 | 18.00 | 4-C |
| 16 | 7.05 | 4.75 | 33.50 | 4-3V | 65 | 1.79 | 10.60 | 19.00 | 6-3V |
| 18 | 6.33 | 6.00 | 38.00 | 4-B | 65 | 1.79 | 8.60 | 15.40 | 8-B |
| 18 | 6.32 | 5.30 | 33.50 | 5-3V | 66 | 1.75 | 8.00 | 14.00 | 8-3V |
| 19 | 6.00 | 5.00 | 30.00 | 5-B | 66 | 1.75 | 8.00 | 14.00 | 6-C |
| 19 | 5.98 | 5.60 | 33.50 | 4-3V | 68 | 1.71 | 10.50 | 18.00 | 5-C |
| 20 | 5.77 | 5.20 | 30.00 | 5-B | 68 | 1.70 | 12.50 | 21.20 | 4-5V |
| 21 | 5.58 | 6.00 | 33.50 | 5-3V | 69 | 1.67 | 9.00 | 15.00 | 5-5V |
| 21 | 5.56 | 5.40 | 30.00 | 6-B | 69 | 1.67 | 11.00 | 18.40 | 6-B |
| 22 | 5.26 | 4.75 | 25.00 | 6-3V | 69 | 1.67 | 12.00 | 20.00 | 4-C |
| 22 | 5.17 | 5.80 | 30.00 | 5-B | 71 | 1.64 | 9.75 | 16.00 | 4-5V |
| 24 | 4.81 | 5.20 | 25.00 | 6-B | 71 | 1.64 | 9.40 | 15.40 | 8-B |
| 25 | 4.72 | 5.30 | 25.00 | 6-3V | 72 | 1.62 | 9.25 | 15.00 | 5-5V |
| 25 | 4.63 | 5.40 | 25.00 | 6-B | 73 | 1.60 | 10.00 | 16.00 | 5-C |
| 26 | 4.46 | 5.60 | 25.00 | 6-3V | 75 | 1.55 | 10.30 | 16.00 | 4-5V |
| 26 | 4.46 | 5.60 | 25.00 | 6-B | 75 | 1.54 | 9.75 | 15.00 | 5-5V |
| 27 | 4.29 | 7.00 | 30.00 | 4-C | 75 | 1.54 | 13.00 | 20.00 | 4-C |
| 29 | 4.05 | 7.40 | 30.00 | 5-B | 76 | 1.52 | 10.50 | 16.00 | 5-C |
| 29 | 3.94 | 7.10 | 28.00 | 3-5V | 77 | 1.51 | 9.25 | 14.00 | 5-5V |
| 30 | 3.91 | 6.40 | 25.00 | 5-B | 77 | 1.50 | 12.00 | 18.00 | 4-C |
| 30 | 3.85 | 6.50 | 25.00 | 5-3V | 78 | 1.48 | 12.40 | 18.40 | 6-B |
| 31 | 3.79 | 6.60 | 25.00 | 5-B | 80 | 1.45 | 11.00 | 16.00 | 5-C |
| 31 | 3.73 | 7.50 | 28.00 | 3-5V | 81 | 1.44 | 9.75 | 14.00 | 4-5V |
| 32 | 3.58 | 5.30 | 19.00 | 8-3V | 81 | 1.43 | 14.00 | 20.00 | 4-C |
| 33 | 3.57 | 5.60 | 20.00 | 6-B | 83 | 1.40 | 11.00 | 15.40 | 6-B |
| 34 | 3.38 | 7.40 | 25.00 | 6-B | 83 | 1.39 | 9.00 | 12.50 | 5-5V |
| 35 | 3.33 | 6.00 | 20.00 | 8-B | 84 | 1.38 | 10.90 | 15.00 | 4-5V |
| 35 | 3.29 | 8.50 | 28.00 | 3-5V | 84 | 1.38 | 13.00 | 18.00 | 4-C |
| 36 | 3.19 | 9.40 | 30.00 | 5-B | 86 | 1.35 | 9.25 | 12.50 | 5-5V |
| 37 | 3.17 | 6.00 | 19.00 | 8-3V | 87 | 1.33 | 12.00 | 16.00 | 4-C |
| 37 | 3.13 | 8.00 | 25.00 | 5-3V | 88 | 1.32 | 10.60 | 14.00 | 8-3V |
| 37 | 3.13 | 6.40 | 20.00 | 8-B | 88 | 1.32 | 9.40 | 12.40 | 8-B |
| 38 | 3.07 | 6.00 | 18.40 | 8-B | 89 | 1.30 | 10.00 | 13.00 | 5-C |
| 39 | 2.99 | 7.10 | 21.20 | 4-5V | 90 | 1.29 | 14.00 | 18.00 | 4-C |
| 40 | 2.88 | 6.40 | 18.40 | 8-B | 91 | 1.28 | 10.30 | 13.20 | 4-5V |
| 40 | 2.87 | 9.75 | 28.00 | 3-5V | 92 | 1.26 | 9.50 | 12.00 | 5-C |
| 41 | 2.86 | 7.00 | 20.00 | 5-C | 94 | 1.24 | 12.40 | 15.40 | 6-B |
| 41 | 2.83 | 7.50 | 21.20 | 4-5V | 94 | 1.24 | 10.50 | 13.00 | 5-C |
| 42 | 2.75 | 6.90 | 19.00 | 6-3V | 96 | 1.21 | 10.30 | 12.50 | 5-5V |
| 43 | 2.70 | 7.40 | 20.00 | 8-B | 96 | 1.21 | 9.00 | 10.90 | 6-5V |
| 43 | 2.67 | 7.50 | 20.00 | 5-C | 96 | 1.21 | 12.00 | 14.50 | 5-D |
| 44 | 2.65 | 8.00 | 21.20 | 4-5V | 97 | 1.20 | 12.50 | 15.00 | 4-5V |
| 46 | 2.50 | 8.00 | 20.00 | 5-C | 98 | 1.19 | 13.00 | 15.50 | 5-D |
| 47 | 2.49 | 8.50 | 21.20 | 4-5V | 99 | 1.17 | 12.00 | 14.00 | 5-C |
| 47 | 2.49 | 7.40 | 18.40 | 8-B | 101 | 1.15 | 10.30 | 11.80 | 5-5V |
| 48 | 2.40 | 7.50 | 18.00 | 5-C | 101 | 1.15 | 13.00 | 15.00 | 5-D |
| 49 | 2.38 | 8.00 | 19.00 | 6-3V | 102 | 1.14 | 13.20 | 15.00 | 4-5V |
| 49 | 2.35 | 8.50 | 20.00 | 5-C | 102 | 1.14 | 10.50 | 12.00 | 6-C |
| 51 | 2.27 | 11.00 | 25.00 | 5-B | 103 | 1.13 | 11.00 | 12.40 | 10-B |
| 52 | 2.25 | 7.10 | 16.00 | 5-5V | 106 | 1.09 | 11.00 | 12.00 | 6-C |
| 52 | 2.24 | 12.50 | 28.00 | 3-5V | 107 | 1.08 | 10.90 | 11.80 | 5-5V |
| 52 | 2.22 | 9.00 | 20.00 | 4-C | 107 | 1.08 | 12.00 | 13.00 | 6-C |
| 53 | 2.18 | 11.00 | 24.00 | 4-C | 107 | 1.08 | 13.00 | 14.00 | 5-C |
| 53 | 2.17 | 9.75 | 21.20 | 4-5V | 108 | 1.07 | 14.00 | 15.00 | 4-5V |
| 54 | 2.14 | 8.60 | 18.40 | 8-B | 109 | 1.06 | 13.20 | 14.00 | 4-5V |
| 54 | 2.13 | 7.50 | 16.00 | 5-5V | 109 | 1.06 | 12.50 | 13.20 | 4-5V |
| 54 | 2.13 | 9.40 | 20.00 | 6-B | 111 | 1.05 | 10.50 | 11.00 | 6-C |
| 57 | 2.02 | 12.40 | 25.00 | 5-B | 112 | 1.04 | 13.00 | 13.50 | 5-D |
| 58 | 2.00 | 7.50 | 15.00 | 5-5V | 113 | 1.03 | 9.00 | 9.25 | 6-5V |
| 59 | 1.96 | 9.40 | 18.40 | 6-B | 116 | 1.00 | 14.00 | 14.00 | 8-3V |
| 60 | 1.94 | 10.90 | 21.20 | 4-5V | 116 | 1.00 | 10.50 | 10.50 | 6-C |
| 61 | 1.90 | 10.50 | 20.00 | 4-C | 120 | 0.97 | 9.25 | 9.00 | 6-5V |

| TXT 825 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 7.31 | 5.20 | 38.00 | 3-B | 48 | 1.49 | 7.40 | 11.00 | 6-B |
| 11 | 6.52 | 4.60 | 30.00 | 4-B | 48 | 1.48 | 8.00 | 11.80 | 4-5V |
| 12 | 6.07 | 4.12 | 25.00 | 4-3V | 49 | 1.44 | 9.75 | 14.00 | 3-5V |
| 12 | 6.00 | 5.00 | 30.00 | 3-B | 49 | 1.44 | 8.60 | 12.40 | 6-B |
| 13 | 5.43 | 4.60 | 25.00 | 5-B | 50 | 1.43 | 9.25 | 13.20 | 4-5V |
| 14 | 5.26 | 4.75 | 25.00 | 4-3V | 50 | 1.41 | 8.50 | 12.00 | 4-C |
| 14 | 5.00 | 5.00 | 25.00 | 4-3V | 51 | 1.40 | 11.00 | 15.40 | 5-B |
| 14 | 5.00 | 5.00 | 25.00 | 4-B | 51 | 1.39 | 8.50 | 11.80 | 4-5V |
| 16 | 4.46 | 5.60 | 25.00 | 4-3V | 52 | 1.36 | 8.00 | 10.90 | 4-5V |
| 16 | 4.35 | 4.60 | 20.00 | 5-B | 52 | 1.36 | 7.00 | 9.50 | 6-C |
| 17 | 4.17 | 6.00 | 25.00 | 4-3V | 53 | 1.33 | 7.50 | 10.00 | 6-C |
| 17 | 4.17 | 6.00 | 25.00 | 4-B | 53 | 1.33 | 8.00 | 10.60 | 8-3V |
| 18 | 4.00 | 4.75 | 19.00 | 5-3V | 54 | 1.32 | 9.40 | 12.40 | 6-B |
| 18 | 4.00 | 5.00 | 20.00 | 5-B | 55 | 1.30 | 10.00 | 13.00 | 4-C |
| 19 | 3.80 | 5.00 | 19.00 | 4-3V | 56 | 1.28 | 12.50 | 16.00 | 3-5V |
| 19 | 3.68 | 5.00 | 18.40 | 5-B | 56 | 1.28 | 9.25 | 11.80 | 4-5V |
| 20 | 3.58 | 5.30 | 19.00 | 5-3V | 56 | 1.28 | 8.60 | 11.00 | 6-B |
| 20 | 3.54 | 5.20 | 18.40 | 5-B | 57 | 1.24 | 12.40 | 15.40 | 5-B |
| 21 | 3.41 | 5.40 | 18.40 | 6-B | 57 | 1.24 | 8.50 | 10.50 | 5-C |
| 21 | 3.39 | 5.60 | 19.00 | 5-3V | 58 | 1.23 | 7.50 | 9.25 | 5-5V |
| 22 | 3.29 | 5.60 | 18.40 | 5-B | 58 | 1.22 | 8.00 | 9.75 | 5-5V |
| 22 | 3.17 | 6.00 | 19.00 | 5-3V | 59 | 1.21 | 9.00 | 10.90 | 4-5V |
| 23 | 3.13 | 8.00 | 25.00 | 4-3V | 59 | 1.20 | 10.00 | 12.00 | 4-C |
| 23 | 3.07 | 6.00 | 18.40 | 5-B | 60 | 1.18 | 9.25 | 10.90 | 4-5V |
| 24 | 2.97 | 6.20 | 18.40 | 5-B | 60 | 1.18 | 8.50 | 10.00 | 5-C |
| 24 | 2.92 | 6.50 | 19.00 | 5-3V | 62 | 1.14 | 9.00 | 10.30 | 4-5V |
| 25 | 2.88 | 6.40 | 18.40 | 5-B | 62 | 1.14 | 10.50 | 12.00 | 4-C |
| 25 | 2.80 | 5.00 | 14.00 | 6-3V | 63 | 1.13 | 11.00 | 12.40 | 5-B |
| 26 | 2.75 | 6.90 | 19.00 | 5-3V | 63 | 1.12 | 11.80 | 13.20 | 3-5V |
| 26 | 2.71 | 6.80 | 18.40 | 5-B | 63 | 1.12 | 8.50 | 9.50 | 5-C |
| 27 | 2.66 | 9.40 | 25.00 | 4-B | 64 | 1.11 | 9.25 | 10.30 | 4-5V |
| 27 | 2.64 | 5.30 | 14.00 | 8-3V | 65 | 1.09 | 8.50 | 9.25 | 5-5V |
| 28 | 2.57 | 6.00 | 15.40 | 6-B | 65 | 1.09 | 8.60 | 9.40 | 8-B |
| 28 | 2.50 | 5.60 | 14.00 | 6-3V | 66 | 1.08 | 9.00 | 9.75 | 4-5V |
| 29 | 2.48 | 6.20 | 15.40 | 5-B | 66 | 1.08 | 12.00 | 13.00 | 4-C |
| 29 | 2.41 | 6.40 | 15.40 | 5-B | 67 | 1.06 | 11.80 | 12.50 | 3-5V |
| 30 | 2.38 | 8.00 | 19.00 | 4-3V | 67 | 1.06 | 8.50 | 9.00 | 5-C |
| 32 | 2.21 | 5.60 | 12.40 | 6-B | 68 | 1.05 | 10.00 | 10.50 | 5-C |
| 33 | 2.15 | 6.50 | 14.00 | 5-3V | 69 | 1.03 | 9.00 | 9.25 | 5-5V |
| 33 | 2.14 | 8.60 | 18.40 | 4-B | 71 | 1.00 | 10.30 | 10.30 | 4-5V |
| 34 | 2.08 | 7.40 | 15.40 | 6-B | 71 | 1.00 | 11.00 | 11.00 | 6-B |
| 35 | 2.06 | 10.30 | 21.20 | 3-5V | 73 | 0.97 | 9.25 | 9.00 | 5-5V |
| 35 | 2.03 | 6.90 | 14.00 | 6-3V | 75 | 0.95 | 11.00 | 10.50 | 5-C |
| 35 | 2.02 | 12.40 | 25.00 | 4-B | 75 | 0.95 | 10.00 | 9.50 | 5-C |
| 36 | 1.97 | 7.10 | 14.00 | 4-5V | 76 | 0.94 | 10.90 | 10.30 | 4-5V |
| 36 | 1.96 | 9.40 | 18.40 | 5-B | | | | | |
| 37 | 1.94 | 6.40 | 12.40 | 5-B | | | | | |
| 38 | 1.88 | 8.50 | 16.00 | 3-5V | | | | | |
| 38 | 1.86 | 7.00 | 13.00 | 5-C | | | | | |
| 39 | 1.82 | 6.80 | 12.40 | 6-B | | | | | |
| 39 | 1.80 | 11.80 | 21.20 | 3-5V | | | | | |
| 40 | 1.79 | 8.60 | 15.40 | 5-B | | | | | |
| 40 | 1.77 | 6.00 | 10.60 | 8-3V | | | | | |
| 41 | 1.75 | 8.00 | 14.00 | 5-3V | | | | | |
| 41 | 1.72 | 6.40 | 11.00 | 6-B | | | | | |
| 43 | 1.67 | 9.00 | 15.00 | 3-5V | | | | | |
| 43 | 1.67 | 11.00 | 18.40 | 4-B | | | | | |
| 43 | 1.64 | 9.75 | 16.00 | 3-5V | | | | | |
| 43 | 1.64 | 9.40 | 15.40 | 5-B | | | | | |
| 44 | 1.62 | 9.25 | 15.00 | 4-5V | | | | | |
| 44 | 1.60 | 7.50 | 12.00 | 5-C | | | | | |
| 45 | 1.57 | 7.00 | 11.00 | 6-C | | | | | |
| 46 | 1.56 | 8.00 | 12.50 | 4-5V | | | | | |
| 47 | 1.51 | 9.25 | 14.00 | 4-5V | | | | | |
| 47 | 1.50 | 12.00 | 18.00 | 6-A | | | | | |

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All dimensions in inches unless otherwise stated.

Shaft Mounted Speed Reducer

Belt Drives for 1750 rpm motors

| TXT 915 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 16 | 7.04 | 5.40 | 38.00 | 8-B | 65 | 1.78 | 9.00 | 16.00 | 6-5V |
| 17 | 6.79 | 5.60 | 38.00 | 6-B | 67 | 1.73 | 9.25 | 16.00 | 6-5V |
| 18 | 6.33 | 6.00 | 38.00 | 6-B | 68 | 1.71 | 10.50 | 18.00 | 6-C |
| 18 | 6.32 | 5.30 | 33.50 | 6-3V | 68 | 1.70 | 12.50 | 21.20 | 4-5V |
| 19 | 5.98 | 5.60 | 33.50 | 6-3V | 69 | 1.67 | 9.00 | 15.00 | 6-5V |
| 19 | 5.94 | 6.40 | 38.00 | 5-B | 69 | 1.67 | 12.00 | 20.00 | 5-C |
| 20 | 5.76 | 6.60 | 38.00 | 5-B | 71 | 1.64 | 9.75 | 16.00 | 5-5V |
| 21 | 5.59 | 6.80 | 38.00 | 6-B | 71 | 1.64 | 11.00 | 15.00 | 6-C |
| 21 | 5.58 | 6.00 | 33.50 | 8-3V | 71 | 1.62 | 9.25 | 15.00 | 6-5V |
| 22 | 5.15 | 6.50 | 33.50 | 6-3V | 72 | 1.61 | 13.20 | 21.20 | 4-5V |
| 23 | 5.00 | 7.50 | 37.50 | 4-5V | 72 | 1.61 | 12.40 | 20.00 | 10-B |
| 23 | 5.00 | 6.00 | 30.00 | 8-B | 75 | 1.55 | 10.30 | 16.00 | 5-5V |
| 24 | 4.86 | 6.90 | 33.50 | 6-3V | 75 | 1.54 | 9.75 | 15.00 | 6-5V |
| 24 | 4.80 | 7.50 | 36.00 | 5-C | 75 | 1.54 | 13.00 | 20.00 | 5-C |
| 25 | 4.69 | 6.40 | 30.00 | 8-B | 77 | 1.51 | 14.00 | 21.20 | 5-5V |
| 26 | 4.41 | 6.80 | 30.00 | 6-B | 77 | 1.50 | 12.00 | 18.00 | 6-C |
| 27 | 4.29 | 7.00 | 30.00 | 6-C | 78 | 1.48 | 12.40 | 18.40 | 10-B |
| 28 | 4.19 | 8.00 | 33.50 | 6-3C | 79 | 1.47 | 10.90 | 16.00 | 6-5V |
| 29 | 4.05 | 7.40 | 30.00 | 8-B | 81 | 1.43 | 14.00 | 20.00 | 6-C |
| 29 | 3.94 | 7.10 | 28.00 | 5-5V | 84 | 1.38 | 10.90 | 15.00 | 6-5V |
| 31 | 3.75 | 8.00 | 30.00 | 5-C | 84 | 1.38 | 13.00 | 18.00 | 6-C |
| 31 | 3.73 | 7.50 | 28.00 | 4-5V | 85 | 1.36 | 11.80 | 16.00 | 5-5V |
| 32 | 3.62 | 6.90 | 25.00 | 3-5V | 87 | 1.33 | 12.00 | 16.00 | 6-C |
| 32 | 3.60 | 10.00 | 36.00 | 4-C | 90 | 1.29 | 14.00 | 18.00 | 6-C |
| 33 | 3.53 | 8.50 | 30.00 | 5-C | 90 | 1.28 | 12.50 | 16.00 | 5-5V |
| 33 | 3.50 | 8.00 | 28.00 | 5-5V | 91 | 1.27 | 11.80 | 15.00 | 5-5V |
| 34 | 3.43 | 10.50 | 36.00 | 4-C | 96 | 1.21 | 10.90 | 13.20 | 6-5V |
| 35 | 3.33 | 9.00 | 30.00 | 5-C | 96 | 1.20 | 12.50 | 15.00 | 6-5V |
| 35 | 3.29 | 8.50 | 28.00 | 4-5V | 97 | 1.19 | 11.80 | 14.00 | 6-5V |
| 36 | 3.19 | 9.40 | 30.00 | 6-B | 102 | 1.14 | 14.00 | 16.00 | 5-5V |
| 37 | 3.16 | 9.50 | 30.00 | 5-C | 102 | 1.14 | 13.20 | 15.00 | 6-5V |
| 37 | 3.13 | 8.00 | 25.00 | 3-5V | 103 | 1.12 | 11.80 | 13.20 | 6-5V |
| 38 | 3.06 | 12.40 | 38.00 | 5-B | 107 | 1.08 | 10.90 | 11.80 | 6-5V |
| 38 | 3.03 | 9.25 | 28.00 | 4-5V | 108 | 1.07 | 14.00 | 15.00 | 5-5V |
| 39 | 3.00 | 8.00 | 24.00 | 6-C | 109 | 1.06 | 11.80 | 12.50 | 6-5V |
| 40 | 2.91 | 8.60 | 25.00 | 6-B | 109 | 1.06 | 12.50 | 13.20 | 6-5V |
| 40 | 2.87 | 9.75 | 28.00 | 4-5V | 116 | 1.00 | 11.80 | 11.80 | 6-5V |
| 40 | 2.86 | 10.50 | 30.00 | 5-C | | | | | |
| 41 | 2.84 | 13.20 | 37.50 | 4-5V | | | | | |
| 42 | 2.73 | 11.00 | 30.00 | 6-B | | | | | |
| 43 | 2.72 | 10.30 | 28.00 | 4-5V | | | | | |
| 44 | 2.66 | 9.40 | 25.00 | 10-B | | | | | |
| 45 | 2.57 | 10.90 | 28.00 | 4-5V | | | | | |
| 45 | 2.57 | 14.00 | 36.00 | 4-C | | | | | |
| 46 | 2.53 | 9.50 | 24.00 | 6-C | | | | | |
| 48 | 2.40 | 10.00 | 24.00 | 5-C | | | | | |
| 49 | 2.36 | 10.60 | 25.00 | 3-5V | | | | | |
| 50 | 2.31 | 13.00 | 30.00 | 4-C | | | | | |
| 51 | 2.29 | 9.25 | 21.20 | 5-5V | | | | | |
| 51 | 2.29 | 10.50 | 24.00 | 5-C | | | | | |
| 52 | 2.24 | 12.50 | 28.00 | 4-5V | | | | | |
| 53 | 2.18 | 11.00 | 24.00 | 5-C | | | | | |
| 53 | 2.17 | 9.75 | 21.20 | 4-5V | | | | | |
| 54 | 2.13 | 9.40 | 20.00 | 6-B | | | | | |
| 55 | 2.12 | 13.20 | 28.00 | 4-5V | | | | | |
| 55 | 2.11 | 9.50 | 20.00 | 5-C | | | | | |
| 56 | 2.06 | 10.30 | 21.20 | 4-5V | | | | | |
| 57 | 2.02 | 12.40 | 25.00 | 6-B | | | | | |
| 58 | 2.00 | 14.00 | 28.00 | 3-5V | | | | | |
| 58 | 2.00 | 10.00 | 20.00 | 5-C | | | | | |
| 60 | 1.94 | 10.90 | 21.20 | 5-5V | | | | | |
| 61 | 1.90 | 10.50 | 20.00 | 6-C | | | | | |
| 63 | 1.85 | 13.00 | 24.00 | 5-C | | | | | |
| 64 | 1.82 | 11.00 | 20.00 | 6-C | | | | | |
| 65 | 1.79 | 10.60 | 19.00 | 4-5V | | | | | |

| TXT 926 Driven by 1750 rpm Motors | | | | | | | | | |
|-----------------------------------|--------------------|------------------|---------|------------------|-------------|--------------------|------------------|---------|------------------|
| Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size | Out-put rpm | V-belt Drive Ratio | Sheave Diameters | | Qty. & Belt Size |
| | | Motor | Reducer | | | | Motor | Reducer | |
| 10 | 7.05 | 4.75 | 33.50 | 5-3V | 45 | 1.51 | 9.25 | 14.00 | 5-5V |
| 10 | 7.04 | 5.40 | 38.00 | 5-B | 45 | 1.50 | 12.00 | 18.00 | 4-C |
| 11 | 6.00 | 5.00 | 30.00 | 5-B | 46 | 1.48 | 12.40 | 18.40 | 6-B |
| 11 | 5.98 | 5.60 | 33.50 | 4-3V | 46 | 1.47 | 10.90 | 16.00 | 4-5V |
| 12 | 5.77 | 5.20 | 30.00 | 6-B | 47 | 1.45 | 11.00 | 16.00 | 5-C |
| 12 | 5.58 | 6.00 | 33.50 | 5-3V | 47 | 1.44 | 9.75 | 14.00 | 4-5V |
| 13 | 5.26 | 4.75 | 25.00 | 6-3V | 48 | 1.43 | 9.25 | 13.20 | 5-5V |
| 13 | 5.17 | 5.80 | 30.00 | 5-B | 48 | 1.43 | 14.00 | 20.00 | 4-C |
| 14 | 5.00 | 5.00 | 25.00 | 6-3V | 49 | 1.40 | 11.00 | 15.40 | 6-B |
| 14 | 4.81 | 5.20 | 25.00 | 6-B | 49 | 1.38 | 14.00 | 19.00 | 5-3V |
| 15 | 4.46 | 5.60 | 25.00 | 6-3V | 50 | 1.37 | 9.50 | 13.00 | 5-C |
| 15 | 4.46 | 5.60 | 25.00 | 6-B | 50 | 1.36 | 14.00 | 19.00 | 5-3V |
| 16 | 4.17 | 6.00 | 25.00 | 6-3V | 51 | 1.33 | 12.00 | 16.00 | 4-C |
| 16 | 4.17 | 6.00 | 25.00 | 6-B | 52 | 1.32 | 10.60 | 14.00 | 6-3V |
| 17 | 3.94 | 7.10 | 28.00 | 3-5V | 52 | 1.32 | 9.40 | 12.40 | 8-B |
| 17 | 3.91 | 6.40 | 25.00 | 5-B | 53 | 1.29 | 14.00 | 18.00 | 4-C |
| 18 | 3.85 | 6.50 | 25.00 | 5-3V | 53 | 1.28 | 10.30 | 13.20 | 4-5V |
| 18 | 3.79 | 6.60 | 25.00 | 5-B | 54 | 1.27 | 11.80 | 15.00 | 4-5V |
| 19 | 3.58 | 5.30 | 19.00 | 6-3V | 54 | 1.26 | 9.50 | 12.00 | 5-C |
| 19 | 3.57 | 5.60 | 20.00 | 6-B | 55 | 1.24 | 12.40 | 15.40 | 6-B |
| 20 | 3.41 | 5.40 | 18.40 | 6-B | 56 | 1.21 | 10.30 | 12.50 | 4-5V |
| 20 | 3.39 | 5.60 | 19.00 | 6-3V | 57 | 1.20 | 10.00 | 12.00 | 5-C |
| 21 | 3.19 | 9.40 | 30.00 | 5-B | 57 | 1.19 | 11.80 | 14.00 | 4-5V |
| 22 | 3.13 | 8.00 | 25.00 | 5-3V | 58 | 1.18 | 9.25 | 10.90 | 5-5V |
| 22 | 3.07 | 6.00 | 18.40 | 6-B | 58 | 1.17 | 9.40 | 11.00 | 6-B |
| 23 | 2.94 | 6.80 | 20.00 | 6-B | 59 | 1.15 | 10.30 | 11.80 | 5-5V |
| 23 | 2.92 | 6.50 | 19.00 | 6-3V | 59 | 1.15 | 13.00 | 15.00 | 5-D |
| 24 | 2.88 | 6.40 | 18.40 | 6-B | 60 | 1.14 | 9.00 | 10.30 | 6-5V |
| 24 | 2.83 | 7.50 | 21.20 | 4-5V | 60 | 1.14 | 10.50 | 12.00 | 6-C |
| 25 | 2.75 | 6.90 | 19.00 | 6-3V | 60 | 1.13 | 11.00 | 12.40 | 8-B |
| 25 | 2.71 | 6.80 | 18.40 | 6-B | 61 | 1.12 | 12.50 | 14.00 | 4-5V |
| 26 | 2.66 | 9.40 | 25.00 | 5-B | 63 | 1.08 | 10.90 | 11.80 | 5-5V |
| 26 | 2.65 | 8.00 | 21.20 | 4-5V | 63 | 1.08 | 13.00 | 14.00 | 5-C |
| 27 | 2.49 | 8.50 | 21.20 | 4-5V | 64 | 1.07 | 13.50 | 14.50 | 5-D |
| 27 | 2.49 | 7.40 | 18.40 | 6-B | 64 | 1.06 | 10.30 | 10.90 | 5-5V |
| 28 | 2.40 | 7.50 | 18.00 | 5-C | 64 | 1.06 | 12.50 | 13.20 | 4-5V |
| 29 | 2.38 | 8.00 | 19.00 | 6-3V | 65 | 1.05 | 10.50 | 11.00 | 6-C |
| 29 | 2.33 | 8.60 | 20.00 | 6-B | 66 | 1.04 | 13.00 | 13.50 | 5-D |
| 30 | 2.27 | 11.00 | 25.00 | 5-B | 66 | 1.03 | 9.00 | 9.25 | 6-5V |
| 30 | 2.25 | 7.10 | 16.00 | 5-5V | 68 | 1.00 | 14.00 | 14.00 | 6-5V |
| 31 | 2.22 | 9.00 | 20.00 | 4-C | 68 | 1.00 | 10.50 | 10.50 | 6-C |
| 31 | 2.17 | 9.75 | 21.20 | 3-5V | 70 | 0.97 | 9.25 | 9.00 | 6-5V |
| 32 | 2.14 | 8.60 | 18.40 | 6-B | 72 | 0.95 | 11.00 | 10.50 | 6-C |
| 32 | 2.13 | 7.50 | 16.00 | 4-5V | 72 | 0.95 | 13.20 | 12.50 | 4-5V |
| 33 | 2.08 | 7.40 | 15.40 | 3-B | 72 | 0.95 | 10.50 | 10.00 | 6-C |
| 33 | 2.06 | 10.30 | 21.20 | 4-5V | 73 | 0.93 | 14.00 | 13.00 | 5-C |
| 34 | 2.02 | 12.40 | 25.00 | 5-B | 74 | 0.92 | 9.25 | 8.50 | 6-5V |
| 34 | 2.00 | 7.50 | 15.00 | 5-5V | 74 | 0.92 | 13.00 | 12.00 | 5-C |
| 35 | 1.96 | 9.40 | 18.40 | 6-B | 75 | 0.91 | 11.00 | 10.00 | 6-C |
| 35 | 1.94 | 10.90 | 21.20 | 4-5V | | | | | |
| 36 | 1.90 | 10.50 | 20.00 | 4-C | | | | | |
| 36 | 1.88 | 8.50 | 16.00 | 4-5V | | | | | |
| 38 | 1.79 | 10.60 | 19.00 | 6-3V | | | | | |
| 38 | 1.79 | 8.60 | 15.40 | 6-B | | | | | |
| 39 | 1.75 | 8.00 | 14.00 | 6-3V | | | | | |
| 39 | 1.73 | 7.50 | 13.00 | 6-C | | | | | |
| 40 | 1.71 | 10.50 | 18.00 | 4-C | | | | | |
| 40 | 1.70 | 12.50 | 21.20 | 3-5V | | | | | |
| 41 | 1.67 | 11.00 | 18.40 | 6-B | | | | | |
| 42 | 1.64 | 9.75 | 16.00 | 4-5V | | | | | |
| 42 | 1.64 | 9.40 | 15.40 | 6-B | | | | | |
| 42 | 1.62 | 9.25 | 15.00 | 5-5V | | | | | |
| 43 | 1.60 | 10.00 | 16.00 | 5-C | | | | | |
| 44 | 1.55 | 10.30 | 16.00 | 4-5V | | | | | |
| 44 | 1.54 | 13.00 | 20.00 | 4-C | | | | | |

All dimensions in inches unless otherwise stated.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

TXT SMSR Dimensions

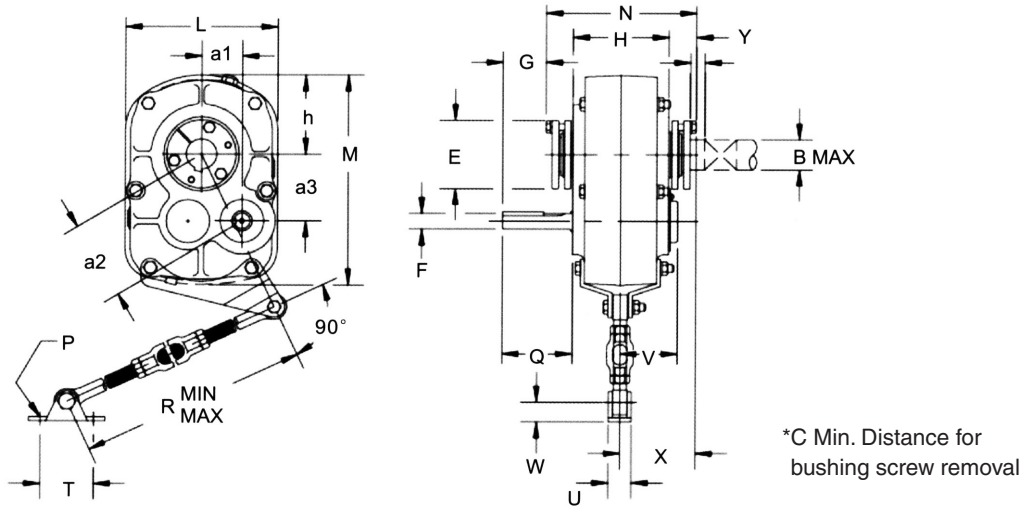


Table 5 TXT Reducer Dimensions

| Size | Bmax | AGMA Size | L M | N | F Input shaft keyway | C | E G | W U | X V | Q Y | H | a1 a2 | a3 h | R ^{min} R ^{max} | P T |
|-------|----------|-----------|----------------|-------|----------------------------|------|--------------|--------------|--------------|--------------|------|---------------|----------------|--------------------------------------|--------------|
| TXT 2 | 1.15/16" | 115 | 8.38 11.41 | 7.32 | 1.13 0.25 x 0.13 x 2.50 | 1.25 | 4.06 2.22 | 1.06 1.25 | 3.68 2.89 | 3.59 1.40 | 4.56 | 2.14 4.32 | 3.75 4.09 | 26.94 32.94 | 0.44 3.00 |
| TXT 3 | 2.3/16" | 203 | 9.25 12.88 | 9.22 | 1.25 0.25 x 0.13 x 2.88 | 1.50 | 4.38 2.34 | 1.06 1.25 | 4.52 3.30 | 4.34 1.59 | 5.63 | 2.33 4.78 | 4.17 4.84 | 26.94 32.94 | 0.44 3.00 |
| TXT 4 | 2.7/16" | 207 | 10.38 15.13 | 9.98 | 1.44 0.38 x 0.19 x 4.06 | 1.75 | 4.81 3.44 | 1.75 1.44 | 4.79 3.41 | 5.57 1.72 | 6.13 | 2.76 5.53 | 4.79 5.50 | 29.19 35.19 | 0.50 4.00 |
| TXT 5 | 2.15/16" | 215 | 13.13 18.31 | 10.52 | 1.94 0.5 x 0.25 x 4.50 | 1.81 | 5.63 3.44 | 1.75 1.44 | 5.05 4.45 | 5.74 1.91 | 6.31 | 3.04 6.43 | 5.67 6.56 | 29.19 35.19 | 0.50 4.00 |
| TXT 6 | 3.7/16" | 307 | 15.13 21.31 | 11.53 | 2.19 0.5 x 0.25 x 4.50 | 1.81 | 6.13 3.73 | 2.00 2.75 | 5.73 4.57 | 6.08 2.30 | 6.88 | 4.09 7.88 | 6.73 7.56 | 29.19 35.19 | 0.63 4.75 |
| TXT 7 | 3.15/16" | 315 | 18.75 25.94 | 12.85 | 2.44 0.63 x 0.31 x 4.75 | 2.06 | 7.25 3.75 | 2.00 2.75 | 6.38 4.69 | 6.35 2.50 | 7.75 | 5.11 9.74 | 8.30 9.38 | 29.44 35.44 | 0.63 4.75 |
| TXT 8 | 4.7/16" | 407 | 20.25 28.25 | 14.03 | 2.44 0.63 x 0.31 x 5.38 | 2.06 | 7.75 4.31 | 3.13 4.00 | 7.04 5.85 | 7.11 2.86 | 8.37 | 6.03 11.25 | 9.50 10.13 | 30.00 36.00 | 0.75 7.00 |
| TXT 9 | 4.15/16" | 415 | 22.63 31.69 | 14.12 | 2.44 0.63 x 0.31 x 7.75 | 2.44 | 8.75 6.63 | 3.13 4.00 | 7.04 5.66 | 9.65 2.98 | 8.12 | 6.59 12.66 | 10.81 11.31 | 30.00 36.00 | 0.75 7.00 |

TXT Shaft Mounted Reducers can be provided for metric input shafts and output straight bore hubs according to ISO standards.

Table 6 Metric input Shaft and Output Straight Bore Hub (mm)

| Size | TXT 2 | TXT 3 | TXT 4 | TXT 5 | TXT 6 | TXT 7 | TXT 8 | TXT 9 |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Input Shaft F(h6) | 28 | 30 | 35 | 48 | 55 | 60 | 60 | 60 |
| Output Bore Hub B(F7) | 45 | 55 | 60 | 75 | 85 | 100 | 110 | 125 |

Shaft Mounted Speed Reducer

Table 7 TXT Output Hub Bushings

Note, taper bushed reducers require bushing for all bore sizes.

| Size | Bore Size | Shaft Keyseat Required | Weight (lb.) | Size | Bore Size | Shaft Keyseat Required | Weight (lb.) | |
|------------------|------------------|------------------------|----------------------|------------------|------------------|------------------------|------------------------|-----------------------|
| TXT 215 & 225 | 1-1/8 | 1/4 x 1/8 x 6-11/16 | 3.8 | TXT 515 & 525 | 2 | 1/2 x 1/4 x 9-3/8 | 10.2 | |
| | 1-3/16 | 1/4 x 1/8 x 6-11/16 | 3.6 | | 2-3/16 | 1/2 x 1/4 x 9-3/8 | 10 | |
| | 1-1/4 | 1/4 x 1/8 x 6-11/16 | 3.6 | | 2-1/4 | 1/2 x 1/4 x 9-3/8 | 9.2 | |
| | 1-5/16 | 5/16 x 5/32 x 6-11/16 | 3.6 | | 2-7/16 | 5/8 x 5/16 x 9-3/8 | 8.5 | |
| | 1-3/8 | 5/16 x 5/32 x 6-11/16 | 3.6 | | 2-1/2 | 5/8 x 5/16 x 9-3/8 | 8.5 | |
| | 1-7/16 | 3/8 x 3/16 x 6-11/16 | 4 | | 2-11/16 | 5/8 x 5/16 x 9-3/8 | 7.9 | |
| | 1-1/2 | 3/8 x 3/16 x 6-11/16 | 3.8 | | 2-15/16 | 3/4 x 3/8 x 9-3/8 | 7.8 | |
| | 1-5/8 | 3/8 x 3/16 x 6-11/16 | 3.2 | | TXT 615 & 625 | 2-3/16 | 1/2 x 1/4 x 10-11/16 | 15.3 |
| | 1-1/16 | 3/8 x 3/16 x 6-11/16 | 3.4 | | | 2-1/4 | 1/2 x 1/4 x 10-11/16 | 14.9 |
| | 1-3/4 | 3/8 x 3/16 x 6-11/16 | 3.3 | | | 2-7/16 | 5/8 x 5/16 x 10-11/16 | 14.4 |
| | 1-15/16 | 1/2 x 1/4 x 6-11/16 | 2.9 | | | 2-1/2 | 5/8 x 5/16 x 10-11/16 | 14 |
| | TXT 315 & 325 | 1-5/16 | 5/16 x 5/32 x 8-1/16 | | | 5.8 | 2-11/16 | 5/8 x 5/16 x 10-11/16 |
| 1-3/8 | | 5/16 x 5/32 x 8-1/16 | 5.8 | 2-7/8 | | 3/4 x 3/8 x 10-11/16 | 12.2 | |
| 1-7/16 | | 3/8 x 3/16 x 8-1/16 | 5.6 | 2-15/16 | | 3/4 x 3/8 x 10-11/16 | 11.6 | |
| 1-1/2 | | 3/8 x 3/16 x 8-1/16 | 5.4 | 3 | | 3/4 x 3/8 x 10-11/16 | 11.3 | |
| 1-5/8 | | 3/8 x 3/16 x 8-1/16 | 4.8 | 3-7/16 | | 7/8 x 7/16 x 10-11/16 | 9 | |
| 1-11/16 | | 3/8 x 3/16 x 8-1/16 | 4.8 | TXT 715 & 725 | | 2-7/16 | 5/8 x 5/16 x 11-27/32 | 24.2 |
| 1-3/4 | | 3/8 x 3/16 x 8-1/16 | 4.8 | | | 2-1/2 | 5/8 x 5/16 x 11-27/32 | 23.3 |
| 1-7/8 | | 1/2 x 1/4 x 8-1/16 | 4.3 | | | 2-11/16 | 5/8 x 5/16 x 11-27/32 | 23 |
| 1-15/16 | | 1/2 x 1/4 x 8-1/16 | 4.4 | | 2-13/16 | 3/4 x 3/8 x 11-27/32 | 22.8 | |
| 2 | | 1/2 x 1/4 x 8-1/16 | 4.1 | | 2-7/8 | 3/4 x 3/8 x 11-27/32 | 21.5 | |
| 2-3/16 | | 1/2 x 1/4 x 8-1/16 | 3.7 | | 2-15/16 | 3/4 x 3/8 x 11-27/32 | 21.3 | |
| TXT 415 & 425 | | 1-7/16 | 3/8 x 3/16 x 9-1/32 | | 8.8 | 3 | 3/4 x 3/8 x 11-27/32 | 20.1 |
| | 1-1/2 | 3/8 x 3/16 x 9-1/32 | 8.3 | | 3-3/16 | 3/4 x 3/8 x 11-27/32 | 19.2 | |
| | 1-5/8 | 3/8 x 3/16 x 9-1/32 | 8.3 | | 3-7/16 | 7/8 x 7/16 x 11-27/32 | 16.9 | |
| | 1-11/16 | 3/8 x 3/16 x 9-1/32 | 8.3 | | 3-15/16 | 1 x 1/2 x 11-27/32 | 13.8 | |
| | 1-3/4 | 3/8 x 3/16 x 9-1/32 | 8 | | TXT 815 & 825 | 2-15/16 | 3/4 x 3/8 x 13-1/16 | 29 |
| | 1-7/8 | 1/2 x 1/4 x 9-1/32 | 8 | | | 3-3/16 | 3/4 x 3/8 x 13-1/16 | 25.8 |
| | 1-15/16 | 1/2 x 1/4 x 9-1/32 | 7.4 | 3-7/16 | | 7/8 x 7/16 x 13-1/16 | 25 | |
| | 2 | 1/2 x 1/4 x 9-1/32 | 7.1 | 3-15/16 | | 1 x 1/2 x 13-1/16 | 20 | |
| | 2-1/8 | 1/2 x 1/4 x 9-1/32 | 7 | 4-3/16 | | 1 x 1/2 x 13-1/16 | 17 | |
| | 2-3/16 | 1/2 x 1/4 x 9-1/32 | 6.7 | 4-7/16 | | 1 x 1/2 x 13-1/16 | 15 | |
| | 2-1/4 | 1/2 x 1/4 x 9-1/32 | 6.3 | TXT 915 & 926 | | 3-7/16 | 7/8 x 7/16 x 12-15/16 | 36 |
| | 2-7/16 | 5/8 x 5/16 x 9-1/32 | 5.8 | | | 3-15/16 | 1 x 1/2 x 12-15/16 | 32.4 |
| TXT 515 & 525 | 1-7/8 | 1/2 x 1/4 x 9-3/8 | 10.3 | | | 4-7/16 | 1 x 1/2 x 12-15/16 | 27 |
| | 1-15/16 | 1/2 x 1/4 x 9-3/8 | 10.3 | | | 4-15/16 | 1-1/4 x 5/8 x 12-15/16 | 22 |

Note: All the above bushings are standard. When ordering the reducer, please determine the output bushing's bore diameter. The shaft key is also supplied. Check the driven shaft and key for strength.

Shaft Mounted Speed Reducer

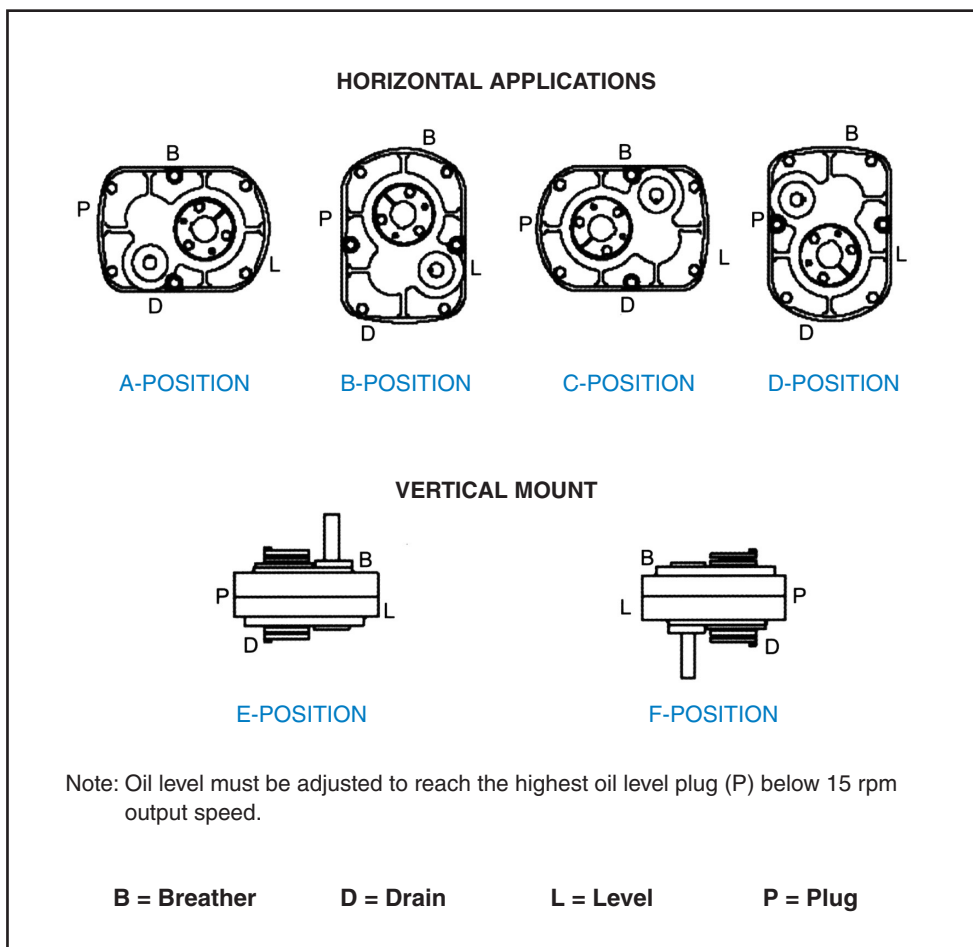
TXT SMSR Installation

Satisfactory performance depends on correct installation, lubrication and maintenance. Therefore it is important that the instructions in this manual are followed carefully.

1. Use eyebolts or lifting lugs to lift reducer.
2. Determine the running positions of the reducer. (See Fig. 1) Note that the reducer supplied with 4 plugs around the sides. These plugs must be arranged relative to the running positions as follows: the bottom one is drain plug, please replace this plug with a magnetic plug. Throw away the tape that covers the filter plug in shipment and install it in topmost hole. For the 2 remaining plugs on the sides of the reducer, the lowest one is the minimum oil level plug.

The running position of the reducer is not limited to the four positions shown in Fig. 1. However, if the running position is over 20° in position “B” & “D” or 5° in position “A” or “C”, either way from sketches, the oil level plug cannot be used safely to check the oil level, unless during the checking, the torque arm is disconnected and the reducer is swung to within 20° for position “A” & “C” or 5° for position “B” & “D” of the positions shown in Fig. 1. Because of the many possible positions of the reducer, it may be necessary or desirable to make special adaptations using the lubrication filling holes furnished along with other standard pipe fittings, stand pipes and oil level gauges as required.

Fig. 1 - Mounting Positions



Shaft Mounted Speed Reducer

TXT SMSR Installation (continued)

3. Mount reducer on driven shaft as follows:

To ensure that the drive is not unexpectedly started, turn off lock out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

- (1) Install sheave on gearbox input shaft as close to the reducer as possible, and mount reducer on driven shaft as close to the bearing as is practical (keep minimum distance sufficient for removal of bushing screws, see Fig.2). Failure to do this will cause excess loads in the input shaft bearings and output bearings and could cause their premature failure.
- (2) Install motor and belt drive with the belt pull at approximately 90° to the center line between driven and input shafts (see Fig.3). This will permit tensioning of the belt drive with the torque arm which should preferably be in tension. If the output hub runs anti-clockwise, the torque arm should be positioned to the right (see Fig.4).
- (3) Install torque-arm fulcrum on a rigid support so that the torque arm will be at approximately right angles to the center line through the driven shaft and the torque arm case bolt (see Fig.5). Make sure there is sufficient take up in the turnbuckle for belt tension adjustment.

Fig. 2

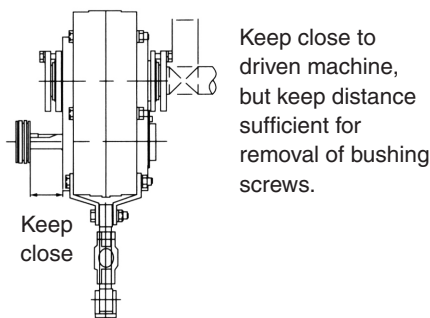


Fig. 3

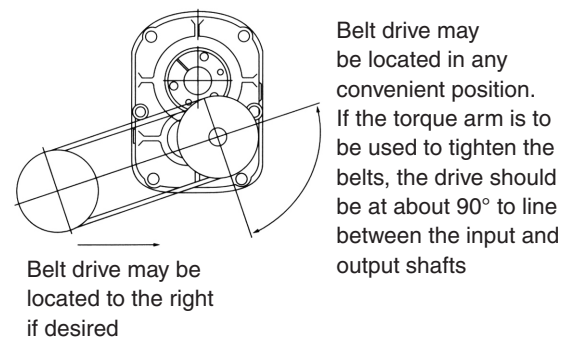


Fig. 4

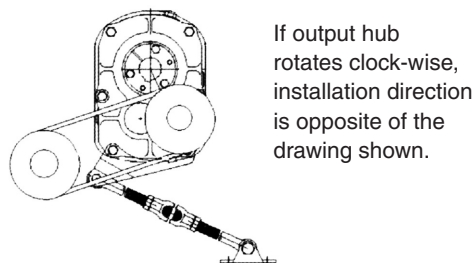
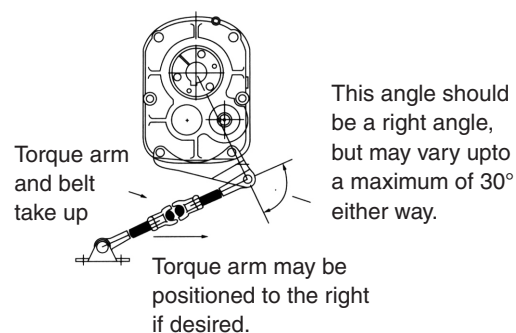


Fig. 5



Shaft Mounted Speed Reducer

Lubrication

IMPORTANT: Because Shaft Mounted Reducers are dispatched without oil. It is necessary to fill the gearbox with the correct amount of oil before running. Use a high-grade petroleum base rust and oxidation inhibited (R&O) gear oil. Follow instructions on reducer warning tags, and in the installation manual.

After the first 100 hours running, drain reducer and flush with kerosene, clean the drain plug and refill to proper level with new lubricant. Under average industrial operating conditions, the lubricant should be changed every 2500 hours of operating or every 6 months.

CAUTION: Extreme pressure (EP) lubricants are not recommended for average operating conditions. Failure to observe this precaution could result in bodily injury.

CAUTION: Too much oil will cause overheating and too little will result in gear failure. Check oil level regularly. Failure to observe this precaution could result in bodily injury.

Under extreme operating conditions, such as rapid rise and fall of temperature, dust, dirt, chemical particles, chemical fumes, or oil sump temperature above 200°F, the oil should be changed every 1 to 3 months, depending on severity of conditions.

CAUTION: Do not use EP oils containing slippery additives such as graphite or molybdenum disulfide in the reducer when backstop is used. These additives will destroy sprag action.

Table 8 Oil Quantities (Approximate Capacity in Quarts)

| Mounting Position | Size | | | | | | | |
|-------------------|-------|-------|-------|-------|-------|--------|--------|--------|
| | TXT 2 | TXT 3 | TXT 4 | TXT 5 | TXT 6 | TXT 7 | TXT 8 | TXT 9 |
| A | 0.875 | 1.5 | 1.875 | 3.25 | 4.25 | 6.5 | 8.5 | 13 |
| B | 1 | 1.5 | 2.25 | 4 | 5 | 8 | 11 | 13 |
| C | 0.625 | 0.75 | 1.25 | 3.25 | 4.25 | 7.25 | 10.5 | 12.5 |
| D | 1 | 2.25 | 1.75 | 4 | 5 | 9.25 | 8.5 | 14.25 |
| E | 1.625 | 2.625 | 3.375 | 7 | 8.625 | 15.375 | 19.125 | 25.375 |
| F | 1.75 | 3 | 4.25 | 8.625 | 9.125 | 16.375 | 19.125 | 25.375 |

Note: Mounting position refer to Figure 1 on page 425.

If reducer position is to vary from those show in Figure 1, either more or less oil may be required, consult Challenge.

If output is less than 15rpm, the oil level must be adjusted to reach the highest oil level plug (P).

If the mounting position is "B" or "D" and backstop is used, consult Challenge for the correct oil level.

Table 9 Mineral oil (TXT2 to TXT9)

| | Environment Temperature | | 15:1 and 25:1 Ratio Gearboxes | | |
|---------------------|-------------------------|---------------|-------------------------------|-----------|------------|
| | °C | °F | 0-20 rpm | 21-50 rpm | 51-120 rpm |
| ISO Viscosity Grade | -10°C to +5°C | 14°F to 40°F | 150 | 150 | 100 |
| | 6°C to 25°C | 43°F to 77°F | 680 | 460 | 320 |
| | 26°C to 40°C | 79°F to 104°F | 800 | 800 | 460 |

Table 10 Manufactures and Types

| | | | | | | |
|--------------------------|------------------------------|---------------------------|----------------|-------------------|----------------------|--|
| B.P. ENERGOL GR-XP | CASTROL ALPHA ZN OR SP | MOBIL MOBILGEAR OIL | SHELL OMALA | TEXACO MERO PA | DARMEX 9140 NMNND | Suitable for all ambient temperatures and all input speeds |
|--------------------------|------------------------------|---------------------------|----------------|-------------------|----------------------|--|

Note: Do not use E.P. mineral oils other than those recommended when using a backstop.

Shaft Mounted Speed Reducer

Table 11 Maximum input speeds, driven speeds, actual ratio and weights for TXT reducers.

| Size | Nominal Ratio 15:1 | | | Nominal Ratio 25:1 | | | Weight lbs |
|-------|--------------------|-------------------|--------------------|--------------------|-------------------|--------------------|------------|
| | Actual Ratio | Maximum Input rpm | Maximum Output rpm | Actual Ratio | Maximum Input rpm | Maximum Output rpm | |
| TXT 2 | 14.04 | 1974 | 140 | 23.37 | 1994 | 85 | 58 |
| TXT 3 | 14.87 | 2083 | 140 | 24.75 | 2100 | 85 | 98 |
| TXT 4 | 15.13 | 2118 | 140 | 24.38 | 2072 | 85 | 139 |
| TXT 5 | 15.40 | 1925 | 125 | 25.56 | 2044 | 80 | 207 |
| TXT 6 | 15.34 | 1916 | 125 | 25.14 | 2010 | 80 | 285 |
| TXT 7 | 15.23 | 1827 | 120 | 24.84 | 1863 | 75 | 462 |
| TXT 8 | 15.08 | 1809 | 120 | 24.62 | 1847 | 75 | 633 |
| TXT 9 | 15.12 | 1814 | 120 | 25.66 | 1925 | 75 | 760 |

Table 12 TXT reducer's output shaft overhung load ratings

| Size | Shaft Size | Overhung Load (lbs) at Various RPM's | | | | | | | | | | |
|-------|------------|--------------------------------------|------|------|------|------|------|------|------|------|------|------|
| | | 10 | 20 | 30 | 50 | 80 | 100 | 120 | 140 | 160 | 180 | 200 |
| TXT 2 | 1-7/16 | 2000 | 1510 | 1270 | 1010 | 840 | 820 | 720 | 720 | 710 | 710 | 700 |
| | 1-15/16 | 1750 | 1320 | 1110 | 890 | 730 | 710 | 630 | 630 | 620 | 620 | 610 |
| TXT 3 | 1-15/16 | 5400 | 4250 | 3680 | 3050 | 2620 | 2440 | 2310 | 2210 | 2110 | 2040 | 1980 |
| | 2-3/16 | 5240 | 5120 | 3570 | 2960 | 2540 | 2370 | 2240 | 2140 | 2050 | 1980 | 1920 |
| TXT 4 | 2-3/16 | 6520 | 5180 | 4510 | 3800 | 3230 | 3000 | 2830 | 2710 | 2600 | 2510 | 2430 |
| | 2-7/16 | 6360 | 5060 | 4410 | 3710 | 3160 | 2930 | 2770 | 2640 | 2530 | 2450 | 2370 |
| TXT 5 | 2-7/16 | 7460 | 5860 | 5080 | 4280 | 3690 | 3450 | 3270 | 3110 | 2980 | 2880 | 2790 |
| | 2-15/16 | 7060 | 5540 | 4800 | 4040 | 3490 | 3260 | 3090 | 2940 | 2820 | 2720 | 2640 |
| TXT 6 | 2-15/16 | 9100 | 7100 | 6100 | 5000 | 4100 | 4050 | 3700 | 3550 | 3400 | 3300 | 3200 |
| | 3-7/16 | 8200 | 6400 | 5500 | 4500 | 3700 | 3650 | 3400 | 3300 | 3250 | 3200 | 3150 |
| TXT 7 | 3-7/16 | 11400 | 9500 | 7300 | 5950 | 4750 | 5050 | 4500 | 4300 | 4250 | 4200 | 4150 |

Table 13 NEMA Motor Information (1750rpm)

| Horse Power | NEMA Motor Frame | Shaft Diameter | Minimum Sheave Diameter |
|-------------|------------------|----------------|-------------------------|
| 1 | 143T | 7/8 | 2.2 |
| 1-1/2 | 145T | 7/8 | 2.4 |
| 2 | 145T | 7/8 | 2.4 |
| 3 | 182T | 1-1/8 | 2.4 |
| 5 | 184T | 1-1/8 | 3.0 |
| 7-1/2 | 213T | 1-3/8 | 3.0 |
| 10 | 215T | 1-3/8 | 3.8 |
| 15 | 254T | 1-5/8 | 4.4 |
| 20 | 256T | 1-5/8 | 4.4 |
| 25 | 284T | 1-7/8 | 4.4 |
| 30 | 286T | 1-7/8 | 5.2 |
| 40 | 324T | 2-1/8 | 6.0 |
| 50 | 326T | 2-1/8 | 6.8 |
| 60 | 364T | 2-3/8 | 7.4 |
| 75 | 365T | 2-3/8 | 8.6 |
| 100 | 405T | 2-7/8 | 8.6 |
| 125 | 444T | 3-3/8 | 10.5 |
| 150 | 445T | 3-3/8 | 10.5 |
| 200 | 447T | 3-3/8 | 13.2 |

Table 14 Minimum Sheave Diameters for TXT Reducers

| Reducer Size | Shaft Diameter | Minimum Sheave Diameter |
|--------------|----------------|-------------------------|
| TXT 2 | 1-1/8 | 3.0 |
| TXT 3 | 1-1/4 | 4.0 |
| TXT 4 | 1-7/16 | 4.6 |
| TXT 5 | 1-15/16 | 5.4 |
| TXT 6 | 2-3/16 | 6.2 |
| TXT 7 | 2-7/16 | 6.2 |
| TXT 8 | 2-7/16 | 6.2 |
| TXT 9 | 2-7/16 | 8.0 |

All dimensions in inches unless otherwise stated.

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Shaft Mounted Speed Reducer

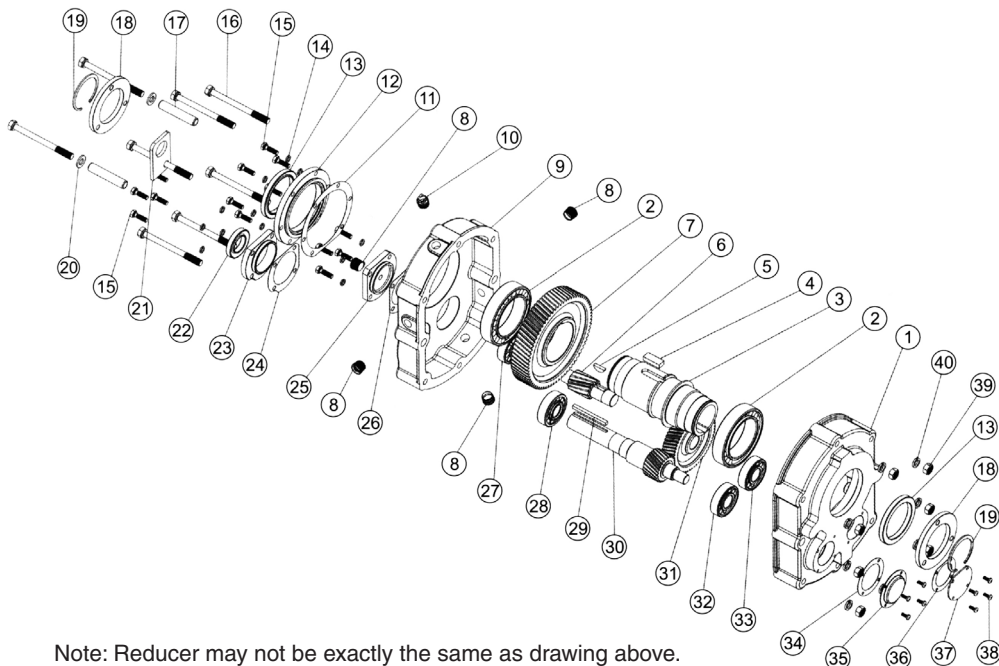
Exploded view of a TXT reducer

When ordering parts for reducer, please specify

- | | |
|--------------------------|----------------------|
| 1. Reducer Size Number | 4. Part Name |
| 2. Reducer Ratio | 5. Code Number |
| 3. Reducer Serial Number | 6. Quantity Required |

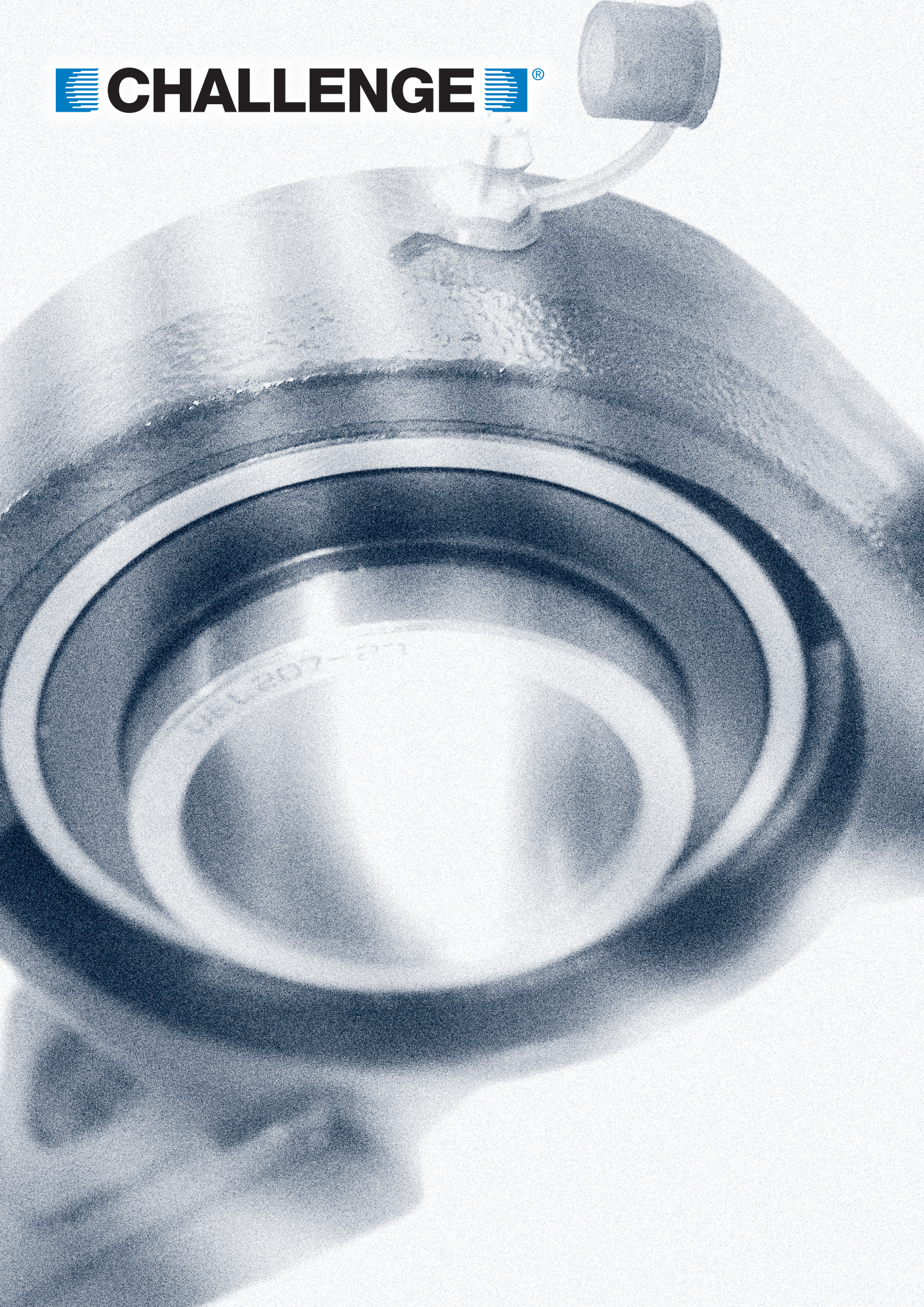
| No. | Part Name |
|-----|---------------------------------|
| 1 | Right hand gear case |
| 2 | Output hub bearing |
| 3 | Output hub |
| 4 | 2nd reduction gear key |
| 5 | 1st reduction gear key |
| 6 | Intermediate pinion |
| 7 | 2nd reduction gear |
| 8 | Oil pipe plug |
| 9 | Left hand gear case |
| 10 | Breather plug |
| 11 | Output hub bearing cover gasket |
| 12 | Output hub bearing cover |
| 13 | Output hub oilseal |
| 14 | Cover lock washer |
| 15 | Cover bolt |
| 16 | Case bolt |
| 17 | Hollow dowel |
| 18 | Output hub collar |
| 19 | Output hub circlip |
| 20 | Case plain washer |
| 21 | Lifting eye |

| No. | Part Name |
|-----|---|
| 22 | Input shaft oilseal |
| 23 | Input shaft bearing cover |
| 24 | Bearing cover gasket |
| 25 | Intermediate bearing cover |
| 26 | Bearing cover gasket |
| 27 | Intermediate pinion bearing (input side) |
| 28 | Input shaft bearing (input side) |
| 29 | Input shaft square key |
| 30 | Input shaft & pinion |
| 31 | 1st reduction gear |
| 32 | Input shaft bearing (output side) |
| 33 | Intermediate pinion bearing (output side) |
| 34 | Backstop cover gasket |
| 35 | Backstop cover |
| 36 | Intermediate cover gasket |
| 37 | Intermediate pinion cover |
| 38 | Cross recessed screw |
| 39 | Case nut |
| 40 | Case lock washer |
| 41 | Adaptor for torque arm (not shown) |
| 42 | Torque arm (not shown) |

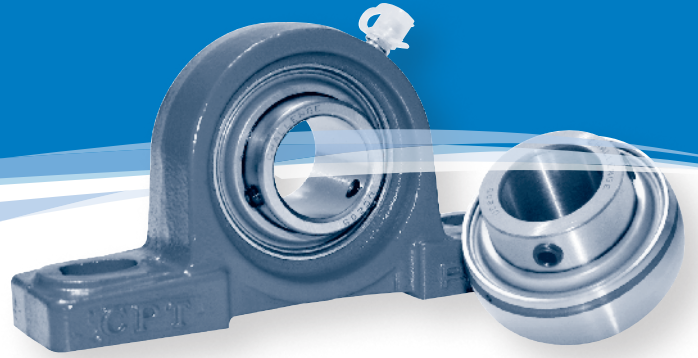


Note: Reducer may not be exactly the same as drawing above.
Spare parts may vary for each reducer.

 **CHALLENGE**  [®]



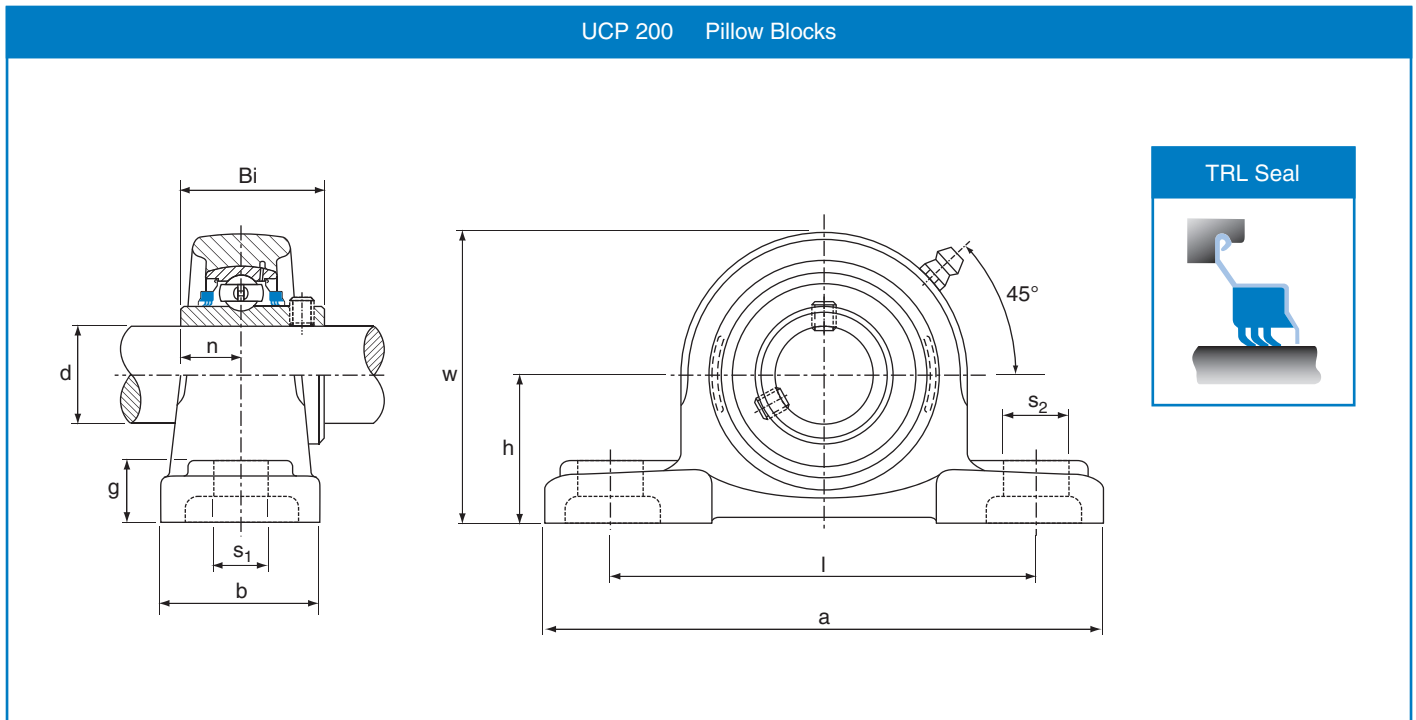
Bearing Units



Features

- Triple lipped seals with shields as standard
- Sealed units for longer life
- Supplied with a grease nipple
- Pillow blocks (UCP)
- 2 bolt flange units (UCFL)
- 4 bolt flange units (UCF)
- Take-Up units (UCT)
- Bearing inserts also available (UC)
- Self aligning
- Fully interchangeable with other makes

Pillow Blocks

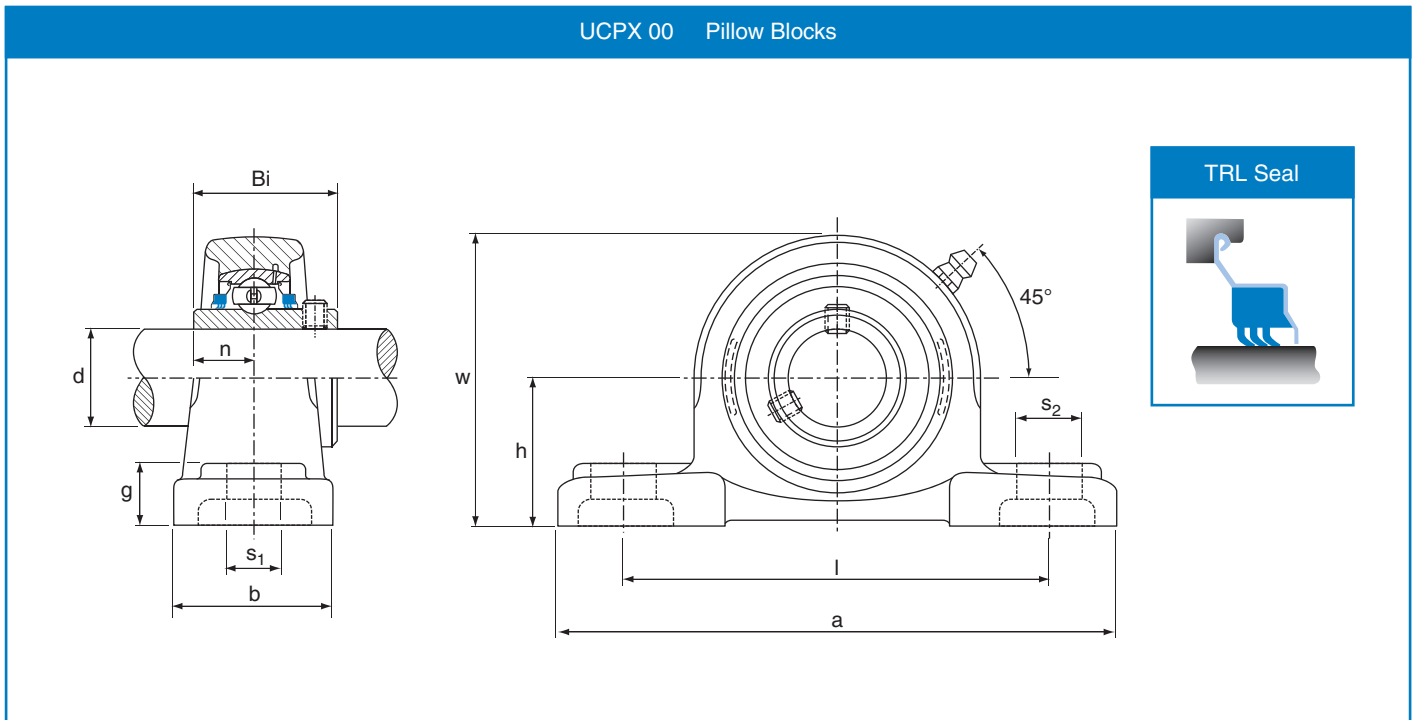


UCP 200 Pillow Blocks (Normal Duty)

| Bearing Unit | Shaft Dia. | | h | a | l | b | s ₂ | s ₁ | g | w | Bi | n | Bolt Size | | Insert No. | Housing No. | Weight kg |
|-------------------------------------|------------------|------|------|-----|-----|----|----------------|----------------|----|-----|------|------|-----------|-----|----------------------------------|-------------|-----------|
| | d inch | d mm | | | | | | | | | | | inch | mm | | | |
| UCP 204 UCP 204-12 | 3/4" | 20 | 33.3 | 127 | 95 | 38 | 19 | 13 | 14 | 65 | 31.0 | 12.7 | 3/8 | M10 | UC 204 UC 204-12 | P204 | 0.65 |
| UCP 205 UCP 205-16 | 1" | 25 | 36.5 | 140 | 105 | 38 | 19 | 13 | 15 | 71 | 34.1 | 14.3 | 3/8 | M10 | UC 205 UC 205-16 | P205 | 0.79 |
| UCP 206 UCP 206-18 | 1.1/8" | 30 | 42.9 | 165 | 121 | 48 | 20 | 17 | 17 | 84 | 38.1 | 15.9 | 1/2 | M14 | UC 206 UC 206-18 | P206 | 0.79 |
| UCP 207 UCP 207-20 UCP 207-22 | 1.1/4" 1.3/8" | 35 | 47.6 | 167 | 127 | 48 | 20 | 17 | 18 | 93 | 42.9 | 17.5 | 1/2 | M14 | UC 207 UC 207-20 UC 207-22 | P207 | 1.60 |
| UCP 208 UCP 208-24 | 1.1/2" | 40 | 49.2 | 184 | 137 | 54 | 20 | 17 | 18 | 100 | 49.2 | 19.0 | 1/2 | M14 | UC 208 UC 208-24 | P208 | 2.00 |
| UCP 209 UCP 209-28 | 1.3/4" | 45 | 54.0 | 190 | 146 | 54 | 20 | 17 | 20 | 106 | 49.2 | 19.0 | 1/2 | M14 | UC 209 UC 209-28 | P209 | 2.20 |
| UCP 210 UCP 210-32 | 2" | 50 | 57.2 | 206 | 159 | 60 | 23 | 20 | 21 | 113 | 51.6 | 19.0 | 5/8 | M16 | UC 210 UC 210-32 | P210 | 2.80 |
| UCP 211 UCP 211-32 | 2" | 55 | 63.5 | 219 | 171 | 60 | 23 | 20 | 23 | 125 | 55.6 | 22.2 | 5/8 | M16 | UC 211 UC 211-32 | P211 | 3.40 |
| UCP 212 UCP 212-36 | 2.1/4" | 60 | 69.8 | 241 | 184 | 70 | 23 | 20 | 25 | 138 | 65.1 | 25.4 | 5/8 | M16 | UC 212 UC 212-36 | P212 | 4.80 |
| UCP 213 UCP 213-40 | 2.1/2" | 65 | 76.2 | 265 | 203 | 70 | 28 | 25 | 27 | 150 | 65.1 | 25.4 | 3/4 | M20 | UC 213 UC 213-40 | P213 | 5.70 |
| UCP 214 UCP 214-44 | 2.3/4" | 70 | 79.4 | 266 | 210 | 72 | 28 | 25 | 27 | 156 | 74.6 | 30.2 | 3/4 | M20 | UC 214 UC 214-44 | P214 | 7.00 |
| UCP 215 UCP 215-48 | 3" | 75 | 82.6 | 275 | 217 | 74 | 28 | 25 | 28 | 162 | 77.8 | 33.3 | 3/4 | M20 | UC 215 UC 215-48 | P215 | 7.60 |
| UCP 216 | | 80 | 88.9 | 292 | 232 | 78 | 28 | 25 | 30 | 174 | 82.6 | 33.3 | | M20 | UC 216 | P216 | 9.00 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Pillow Blocks

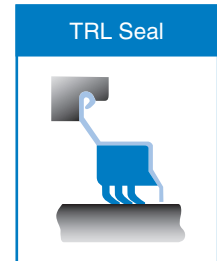
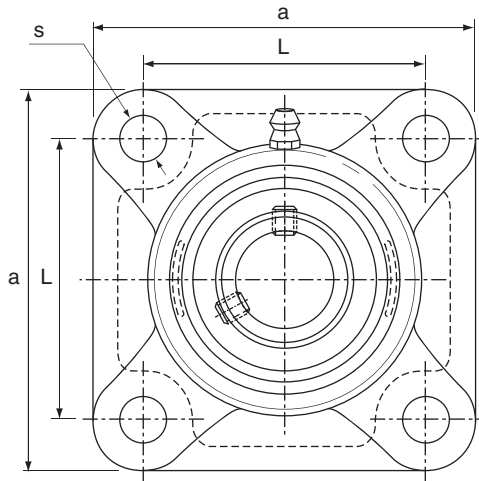
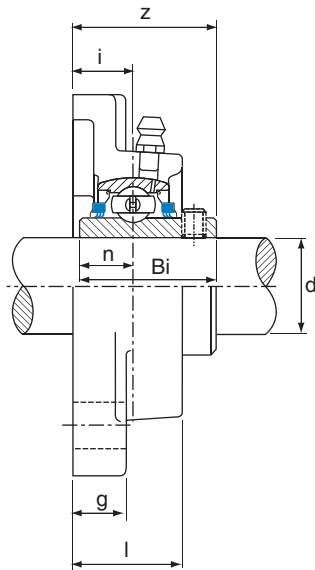


UCPX 00 Pillow Block (Medium Duty)

| Bearing Unit | Shaft Dia. | | h | a | l | b | s ₂ | s ₁ | g | w | Bi | n | Bolt Size | | Insert No. | Housing No. | Weight kg |
|-------------------------------------|------------------|------|-------|-----|-----|-----|----------------|----------------|----|-----|------|------|-----------|-----|----------------------------------|-------------|-----------|
| | d inch | d mm | | | | | | | | | | | inch | mm | | | |
| UCPX 05 UCPX 05-16 | 1" | 25 | 44.4 | 159 | 119 | 51 | 25 | 17 | 18 | 85 | 38.1 | 15.9 | 1/2" | M14 | UCX 05 UCX 05-16 | PX 05 | 1.50 |
| UCPX 06 UCPX 06-20 | 1.1/4" | 30 | 47.6 | 175 | 127 | 57 | 25 | 17 | 20 | 94 | 42.9 | 17.5 | 1/2" | M14 | UCX 06 UCX 06-20 | PX 06 | 2.00 |
| UCPX 07 UCPX 07-20 UCPX 07-22 | 1.1/4" 1.3/8" | 35 | 54.0 | 203 | 144 | 57 | 30 | 17 | 22 | 105 | 49.2 | 19.0 | 1/2" | M14 | UCX 07 UCX 07-20 UCX 07-22 | PX 07 | 2.70 |
| UCPX 08 UCPX 08-24 | 1.1/2" | 40 | 58.7 | 222 | 156 | 67 | 32 | 20 | 26 | 113 | 49.2 | 19.0 | 5/8" | M16 | UCX 08 UCX 08-24 | PX 08 | 3.50 |
| UCPX 09 UCPX 09-28 | 1.3/4" | 45 | 58.7 | 222 | 156 | 67 | 33 | 20 | 26 | 116 | 51.6 | 19.0 | 5/8" | M16 | UCX 09 UCX 09-28 | PX 09 | 3.60 |
| UCPX 10 UCPX 10-32 | 2" | 50 | 63.5 | 241 | 171 | 73 | 36 | 20 | 27 | 126 | 55.6 | 22.2 | 5/8" | M16 | UCX 10 UCX 10-32 | PX 10 | 4.40 |
| UCPX 11 UCPX 11-36 | 2.1/4" | 55 | 69.8 | 260 | 184 | 79 | 36 | 25 | 30 | 139 | 65.1 | 25.4 | 3/4" | M20 | UCX 11 UCX 11-36 | PX 11 | 6.30 |
| UCPX 12 UCPX 12-36 | 2.1/4" | 60 | 76.2 | 286 | 203 | 83 | 41 | 25 | 32 | 152 | 65.1 | 25.4 | 3/4" | M20 | UCX 12 UCX 12-36 | PX 12 | 7.40 |
| UCPX 13 UCPX 13-40 | 2.1/2" | 65 | 76.2 | 286 | 203 | 83 | 41 | 25 | 32 | 154 | 74.6 | 30.2 | 3/4" | M20 | UCX 13 UCX 13-40 | PX 13 | 7.70 |
| UCPX 14 UCPX 14-44 | 2.3/4" | 70 | 88.9 | 330 | 229 | 89 | 50 | 27 | 35 | 171 | 77.8 | 33.3 | 7/8" | M22 | UCX 14 UCX 14-44 | PX 14 | 10.60 |
| UCPX 15 UCPX 15-48 | 3" | 75 | 88.9 | 330 | 229 | 89 | 50 | 27 | 35 | 175 | 82.6 | 33.3 | 7/8" | M22 | UCX 15 UCX 15-48 | PX 15 | 11.10 |
| UCPX 16 | | 80 | 101.6 | 381 | 283 | 102 | 54 | 27 | 42 | 196 | 85.7 | 34.1 | | M22 | UCX 16 | PX 16 | 16.20 |

Flange Units

UCF 200 4 Hole Flange Units



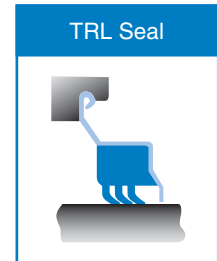
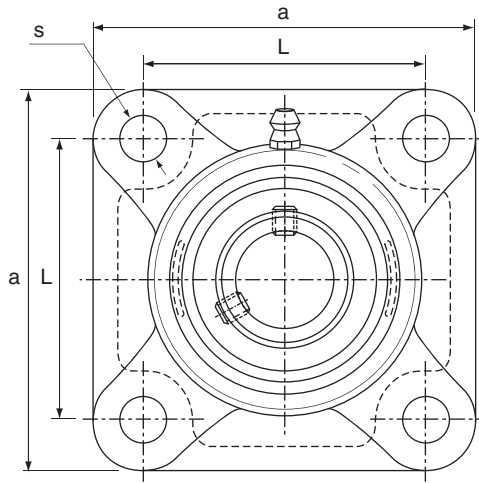
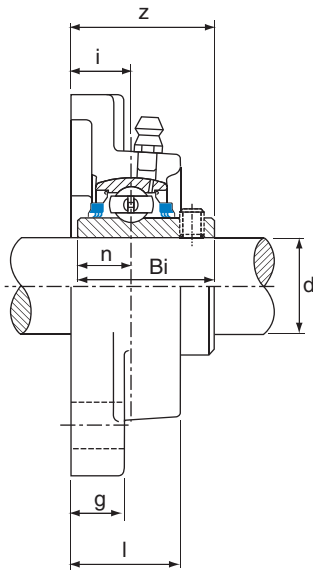
UCF 200 4 Hole Flange Units (Normal Duty)

| Bearing Unit | Shaft Dia. | | a | L | i | g | l | s | z | Bi | n | Bolt Size | | Insert No. | Housing No. | Weight kg |
|--------------|------------|--------|-----|-----|----|----|------|----|------|------|------|-----------|------|------------|-------------|-----------|
| | d inch | d mm | | | | | | | | | | inch | mm | | | |
| UCF 204 | 3/4" | 20 | 86 | 64 | 15 | 12 | 25.5 | 12 | 33.3 | 31.0 | 12.7 | 3/8" | M10 | UC 204 | F 204 | 0.6 |
| UCF 204-12 | | 20 | 86 | 64 | 15 | 12 | 25.5 | 12 | 33.3 | 31.0 | 12.7 | | M10 | UC 204-12 | | |
| UCF 205 | 1" | 25 | 95 | 70 | 16 | 14 | 27 | 12 | 35.8 | 34.1 | 14.3 | 3/8" | M10 | UC 205 | F 205 | 0.8 |
| UCF 205-16 | | 25 | 95 | 70 | 16 | 14 | 27 | 12 | 35.8 | 34.1 | 14.3 | | M10 | UC 205-16 | | |
| UCF 206 | 1.1/8" | 30 | 108 | 83 | 18 | 14 | 31 | 12 | 40.2 | 38.1 | 15.9 | 3/8" | M10 | UC 206 | F 206 | 1.1 |
| UCF 206-18 | | 30 | 108 | 83 | 18 | 14 | 31 | 12 | 40.2 | 38.1 | 15.9 | | M10 | UC 206-18 | | |
| UCF 207 | 1.1/4" | 35 | 117 | 92 | 19 | 16 | 34 | 14 | 44.4 | 42.9 | 17.5 | 7/16" | M12 | UC 207 | F 207 | 1.5 |
| UCF 207-20 | | 35 | 117 | 92 | 19 | 16 | 34 | 14 | 44.4 | 42.9 | 17.5 | | M12 | UC 207-20 | | |
| UCF 207-22 | | 1.3/8" | 35 | 117 | 92 | 19 | 16 | 34 | 14 | 44.4 | 42.9 | | 17.5 | M12 | | |
| UCF 208 | 1.1/2" | 40 | 130 | 102 | 21 | 16 | 36 | 16 | 51.2 | 49.2 | 19.0 | 1/2" | M14 | UC 208 | F 208 | 1.9 |
| UCF 208-24 | | 40 | 130 | 102 | 21 | 16 | 36 | 16 | 51.2 | 49.2 | 19.0 | | M14 | UC 208-24 | | |
| UCF 209 | 1.3/4" | 45 | 137 | 105 | 22 | 18 | 38 | 16 | 52.2 | 49.2 | 19.0 | 1/2" | M14 | UC 209 | F 209 | 2.3 |
| UCF 209-28 | | 45 | 137 | 105 | 22 | 18 | 38 | 16 | 52.2 | 49.2 | 19.0 | | M14 | UC 209-28 | | |
| UCF 210 | 2" | 50 | 143 | 111 | 22 | 18 | 40 | 16 | 54.6 | 51.6 | 19.0 | 1/2" | M14 | UC 210 | F 210 | 2.5 |
| UCF 210-32 | | 50 | 143 | 111 | 22 | 18 | 40 | 16 | 54.6 | 51.6 | 19.0 | | M14 | UC 210-32 | | |
| UCF 211 | 2" | 55 | 162 | 130 | 25 | 20 | 43 | 19 | 58.4 | 55.6 | 22.2 | 5/8" | M16 | UC 211 | F 211 | 3.4 |
| UCF 211-32 | | 55 | 162 | 130 | 25 | 20 | 43 | 19 | 58.4 | 55.6 | 22.2 | | M16 | UC 211-32 | | |
| UCF 212 | 2.1/4" | 60 | 175 | 143 | 29 | 20 | 48 | 19 | 68.7 | 65.1 | 25.4 | 5/8" | M16 | UC 212 | F 212 | 4.4 |
| UCF 212-36 | | 60 | 175 | 143 | 29 | 20 | 48 | 19 | 68.7 | 65.1 | 25.4 | | M16 | UC 212-36 | | |
| UCF 213 | 2.1/2" | 65 | 187 | 149 | 30 | 22 | 50 | 19 | 69.7 | 65.1 | 25.4 | 5/8" | M16 | UC 213 | F 213 | 5.3 |
| UCF 213-40 | | 65 | 187 | 149 | 30 | 22 | 50 | 19 | 69.7 | 65.1 | 25.4 | | M16 | UC 213-40 | | |
| UCF 214 | 2.3/4" | 70 | 193 | 152 | 31 | 22 | 54 | 19 | 75.4 | 74.6 | 30.2 | 5/8" | M16 | UC 214 | F 214 | 6.0 |
| UCF 214-44 | | 70 | 193 | 152 | 31 | 22 | 54 | 19 | 75.4 | 74.6 | 30.2 | | M16 | UC 214-44 | | |
| UCF 215 | 3" | 75 | 200 | 159 | 34 | 22 | 56 | 19 | 78.5 | 77.8 | 33.3 | 5/8" | M16 | UC 215 | F 215 | 6.6 |
| UCF 215-48 | | 75 | 200 | 159 | 34 | 22 | 56 | 19 | 78.5 | 77.8 | 33.3 | | M16 | UC 215-48 | | |
| UCF 216 | | 80 | 208 | 165 | 34 | 22 | 58 | 23 | 83.3 | 82.6 | 33.3 | | M20 | UC 216 | F 216 | 7.5 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Flange Units

UCFX 00 4 Hole Flange Units



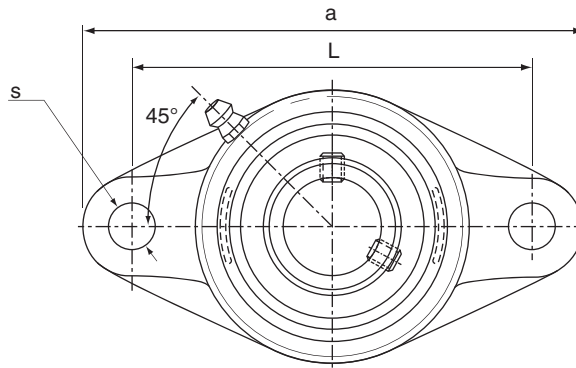
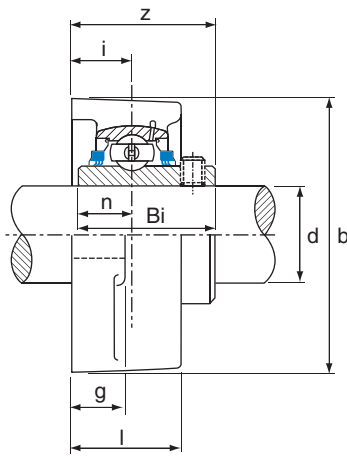
UCFX 00 4 Hole Flange Units (Medium Duty)

| Bearing Unit | Shaft Dia. | | a | L | i | g | l | s | z | Bi | n | Bolt Size | | Insert No. | Housing No. | Weight kg | | |
|--------------|------------|------|-----|-----|----|----|----|----|------|------|------|-----------|--------|------------|-------------|-----------|--------|--|
| | d inch | d mm | | | | | | | | | | inch | mm | | | | | |
| UCFX 05 | 1" | 25 | 108 | 83 | 18 | 13 | 30 | 12 | 40.2 | 38.1 | 15.9 | 3/8" | M10 | UCX 05 | FX 05 | 1.1 | | |
| UCFX 05-16 | | | | | | | | | | | | | | | | | | |
| UCFX 06 | 1.1/4" | 30 | 117 | 92 | 19 | 14 | 34 | 16 | 44.4 | 42.9 | 17.5 | 1/2" | M14 | UCX 06 | FX 06 | 1.4 | | |
| UCFX 06-20 | | | | | | | | | | | | | | | | | | |
| UCFX 07 | 1.1/4" | 35 | 130 | 102 | 21 | 14 | 38 | 16 | 51.2 | 49.2 | 19.0 | 1/2" | M14 | UCX 07 | FX 07 | 1.9 | | |
| UCFX 07-20 | | | | | | | | | | | | | | | | | | |
| UCFX 07-22 | | | | | | | | | | | | | | | | | 1.3/8" | |
| UCFX 08 | 1.1/2" | 40 | 137 | 105 | 22 | 14 | 40 | 19 | 52.2 | 49.2 | 19.0 | 5/8" | M16 | UCX 08 | FX 08 | 2.1 | | |
| UCFX 08-24 | | | | | | | | | | | | | | | | | | |
| UCFX 09 | 1.3/4" | 45 | 143 | 111 | 23 | 14 | 40 | 19 | 55.6 | 51.6 | 19.0 | 5/8" | M16 | UCX 09 | FX 09 | 2.5 | | |
| UCFX 09-28 | | | | | | | | | | | | | | | | | | |
| UCFX 10 | 2" | 50 | 162 | 130 | 26 | 20 | 44 | 19 | 59.4 | 55.6 | 22.2 | 5/8" | M16 | UCX 10 | FX 10 | 3.6 | | |
| UCFX 10-32 | | | | | | | | | | | | | | | | | | |
| UCFX 11 | 2.1/4" | 55 | 175 | 143 | 29 | 20 | 49 | 19 | 68.7 | 65.1 | 25.4 | 5/8" | M16 | UCX 11 | FX 11 | 4.7 | | |
| UCFX 11-36 | | | | | | | | | | | | | | | | | | |
| UCFX 12 | 2.1/4" | 60 | 187 | 149 | 34 | 21 | 59 | 19 | 73.7 | 65.1 | 25.4 | 5/8" | M16 | UCX 12 | FX 12 | 5.5 | | |
| UCFX 12-36 | | | | | | | | | | | | | | | | | | |
| UCFX 13 | 2.1/2" | 65 | 187 | 149 | 34 | 21 | 59 | 19 | 78.4 | 74.6 | 30.2 | 5/8" | M16 | UCX 13 | FX 13 | 5.9 | | |
| UCFX 13-40 | | | | | | | | | | | | | | | | | | |
| UCFX 14 | 2.3/4" | 70 | 197 | 152 | 37 | 24 | 60 | 23 | 81.5 | 77.8 | 33.3 | 3/4" | M20 | UCX 14 | FX 14 | 7.3 | | |
| UCFX 14-44 | | | | | | | | | | | | | | | | | | |
| UCFX 15 | 3" | 75 | 197 | 152 | 40 | 24 | 68 | 23 | 89.3 | 82.6 | 33.3 | 3/4" | M20 | UCX 15 | FX 15 | 8.0 | | |
| UCFX 15-48 | | | | | | | | | | | | | | | | | | |
| UCFX 16 | | 80 | 214 | 171 | 40 | 24 | 70 | 23 | 91.6 | 85.7 | 34.1 | M20 | UCX 16 | FX 16 | 9.8 | | | |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

Flange Units

UCFL 200 2 Hole Flange Units

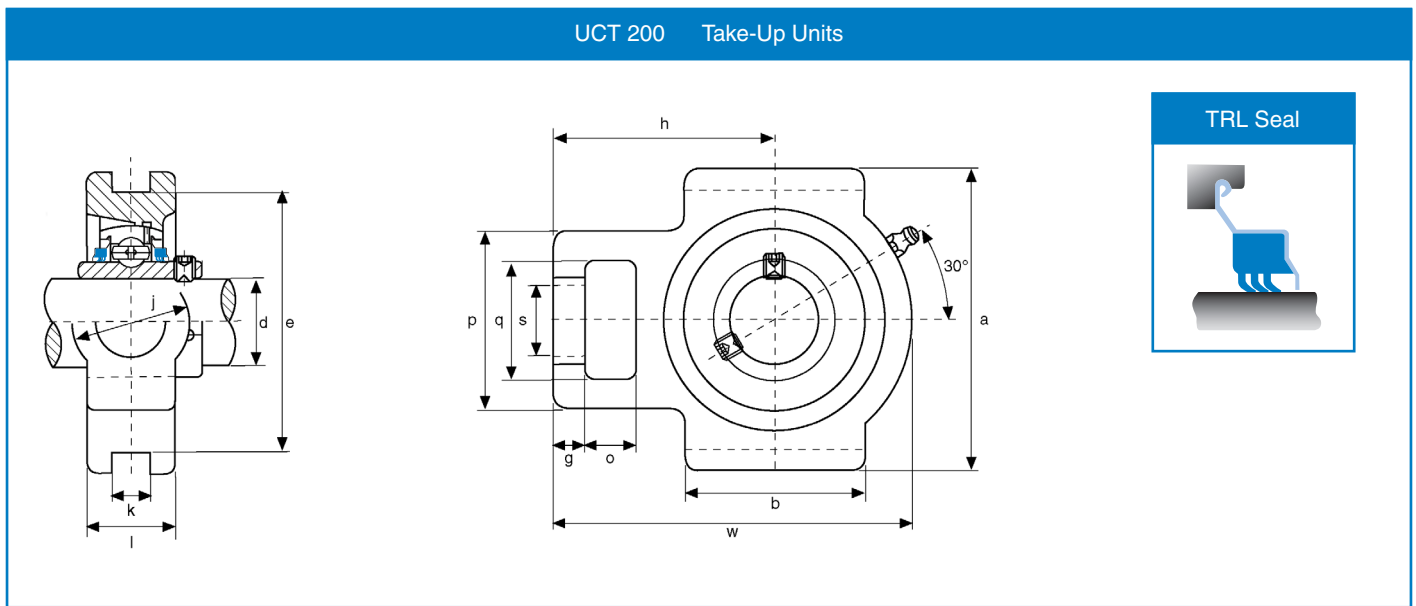


UCFL 200 2 Hole Flange Units (Normal Duty)

| Bearing Unit | Shaft Dia. | | a | L | i | g | l | s | b | z | Bi | n | Bolt Size | | Insert No. | Housing No. | Weight kg |
|--------------|------------|------|-----|-----|----|----|------|----|-----|------|------|------|-----------|-----|------------|-------------|-----------|
| | d inch | d mm | | | | | | | | | | | inch | mm | | | |
| UCFL 204 | 3/4" | 20 | 113 | 90 | 15 | 11 | 25.5 | 12 | 60 | 33.3 | 31.0 | 12.7 | 3/8" | M10 | UC 204 | FL 204 | 0.5 |
| UCFL 204-12 | | | | | | | | | | | | | | | | | |
| UCFL 205 | 1" | 25 | 130 | 99 | 16 | 13 | 27 | 16 | 68 | 35.8 | 34.1 | 14.3 | 1/2" | M14 | UC 205 | FL 205 | 0.6 |
| UCFL 205-16 | | | | | | | | | | | | | | | | | |
| UCFL 206 | 1.1/4" | 30 | 148 | 117 | 18 | 13 | 31 | 16 | 80 | 40.2 | 38.1 | 15.9 | 1/2" | M14 | UC 206 | FL 206 | 0.9 |
| UCFL 206-20 | | | | | | | | | | | | | | | | | |
| UCFL 207 | 1.1/4" | 35 | 161 | 130 | 19 | 14 | 34 | 16 | 90 | 44.4 | 42.9 | 17.5 | 1/2" | M14 | UC 207 | FL 207 | 1.2 |
| UCFL 207-20 | | | | | | | | | | | | | | | | | |
| UCFL 207-22 | | | | | | | | | | | | | 1.3/8" | | | | |
| UCFL 208 | 1.1/2" | 40 | 175 | 144 | 21 | 14 | 36 | 16 | 100 | 51.2 | 49.2 | 19.0 | 1/2" | M14 | UC 208 | FL 208 | 1.6 |
| UCFL 208-24 | | | | | | | | | | | | | | | | | |
| UCFL 209 | 1.3/4" | 45 | 188 | 148 | 22 | 15 | 38 | 19 | 108 | 52.2 | 49.2 | 19.0 | 5/8" | M16 | UC 209 | FL 209 | 1.9 |
| UCFL 209-28 | | | | | | | | | | | | | | | | | |
| UCFL 210 | 2" | 50 | 197 | 157 | 22 | 15 | 40 | 19 | 115 | 54.6 | 51.6 | 19.0 | 5/8" | M16 | UC 210 | FL 210 | 2.2 |
| UCFL 210-32 | | | | | | | | | | | | | | | | | |
| UCFL 211 | 2" | 55 | 224 | 184 | 25 | 18 | 43 | 19 | 130 | 58.4 | 55.6 | 22.2 | 5/8" | M16 | UC 211 | FL 211 | 3.2 |
| UCFL 211-32 | | | | | | | | | | | | | | | | | |
| UCFL 212 | 2.1/4" | 60 | 250 | 202 | 29 | 18 | 48 | 23 | 140 | 68.7 | 65.1 | 25.4 | 3/4" | M20 | UC 212 | FL 212 | 4.1 |
| UCFL 212-36 | | | | | | | | | | | | | | | | | |
| UCFL 213 | 2.1/2" | 65 | 258 | 210 | 30 | 22 | 50 | 23 | 155 | 69.7 | 65.1 | 25.4 | 3/4" | M20 | UC 213 | FL 213 | 5.1 |
| UCFL 213-40 | | | | | | | | | | | | | | | | | |
| UCFL 214 | 2.3/4" | 70 | 265 | 216 | 31 | 22 | 54 | 23 | 160 | 75.4 | 74.6 | 30.2 | 3/4" | M20 | UC 214 | FL 214 | 5.9 |
| UCFL 214-44 | | | | | | | | | | | | | | | | | |
| UCFL 215 | 3" | 75 | 275 | 225 | 34 | 22 | 56 | 23 | 165 | 78.5 | 77.8 | 33.3 | 3/4" | M20 | UC 215 | FL 215 | 6.4 |
| UCFL 215-48 | | | | | | | | | | | | | | | | | |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Take-Up Units

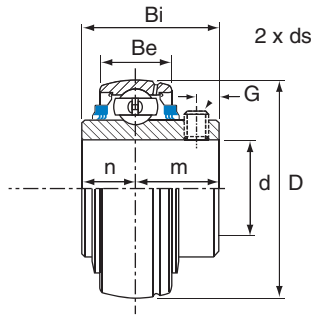


UCT 200 Take-Up Units (Normal Duty)

| Bearing Unit | Shaft Dia. | | o | g | p | q | s | b | k | e | a | w | j | l | h | Insert No. | Housing No. | Weight kg |
|----------------------------------|------------------|----|----|----|-----|----|----|-----|----|-----|-----|-----|----|----|-----|----------------------------------|-------------|-----------|
| | d inch | d | | | | | | | | | | | | | | | | |
| UCT204 UCT204-12 | 3/4" | 20 | 16 | 10 | 51 | 32 | 19 | 51 | 12 | 76 | 89 | 94 | 32 | 24 | 61 | UC 204 UC 204-12 | T204 | 0.74 |
| UCT205 UCT205-16 | 1" | 25 | 16 | 10 | 51 | 32 | 19 | 51 | 12 | 76 | 89 | 97 | 32 | 24 | 62 | UC205 UC 205-16 | T205 | 0.80 |
| UCT206 UCT206-20 | 1.1/4" | 30 | 16 | 10 | 56 | 37 | 22 | 57 | 12 | 89 | 102 | 113 | 37 | 28 | 70 | UC 206 UC 206-20 | T206 | 1.16 |
| UCT207 UCT207-20 UCT207-22 | 1.1/4" 1.3/8" | 35 | 16 | 13 | 64 | 37 | 22 | 64 | 12 | 89 | 102 | 129 | 37 | 30 | 78 | UC 207 UC 207-20 UC 207-22 | T207 | 1.56 |
| UCT208 UCT208-24 | 1.1/2" | 40 | 19 | 16 | 83 | 49 | 29 | 83 | 16 | 102 | 114 | 144 | 49 | 33 | 89 | UC 208 UC 208-24 | T208 | 2.32 |
| UCT209 UCT209-28 | 1.3/4" | 45 | 19 | 16 | 83 | 49 | 29 | 83 | 16 | 102 | 117 | 144 | 49 | 35 | 87 | UC 209 UC 209-28 | T209 | 2.28 |
| UCT210 UCT210-32 | 2" | 50 | 19 | 16 | 83 | 49 | 29 | 86 | 16 | 102 | 117 | 149 | 49 | 35 | 90 | UC 210 UC 210-32 | T210 | 2.44 |
| UCT211 UCT211-32 UCT211-34 | 2" 2.1/8" | 55 | 25 | 19 | 102 | 64 | 35 | 95 | 22 | 130 | 146 | 171 | 64 | 41 | 106 | UC 211 UC 211-32 UC 211-34 | T211 | 3.78 |
| UCT212 UCT212-36 | 2.1/4" | 60 | 32 | 19 | 102 | 64 | 35 | 102 | 22 | 130 | 146 | 194 | 64 | 46 | 119 | UC 212 UC 212-36 | T212 | 4.72 |

Inserts

UC 200 Inserts



UC 200 Inserts with Set Screws (Normal Duty)

| Bearing Unit | Shaft Dia. | | D | Bi | Be | n | m | G | ds | | Load Rating (kg) | | Weight kg | | |
|--------------|------------|------|-----|------|----|------|------|------|---------------|-----------|------------------|--------|-----------|--------|------|
| | d inch | d mm | | | | | | | inch | mm | Dynamic | Static | | | |
| UC 204 | 3/4" | 20 | 47 | 31.0 | 17 | 12.7 | 18.3 | 5 | 1/4" - 28UNF | M6 x 0.75 | 1000 | 630 | 0.16 | | |
| UC 204-12 | | 25 | | | | | | | | | | | | 0.16 | |
| UC 205 | 1" | 25 | 52 | 34.1 | 17 | 14.3 | 19.8 | 5 | 1/4" - 28UNF | M6 x 0.75 | 1100 | 710 | 0.20 | | |
| UC 205-16 | | 30 | | | | | | | | | | | | 0.20 | |
| UC 206 | 1.1/4" | 30 | 62 | 38.1 | 19 | 15.9 | 22.2 | 5 | 1/4" - 28UNF | M6 x 0.75 | 1520 | 1020 | 0.32 | | |
| UC 206-20 | | 35 | | | | | | | | | | | | 0.32 | |
| UC 207 | 1.1/4" | 35 | 72 | 42.9 | 20 | 17.5 | 25.4 | 7 | 5/16" - 24UNF | M8 x 1.0 | 2010 | 1390 | 0.48 | | |
| UC 207-20 | | | | | | | | | | | | | | 77 | 0.54 |
| UC 207-22 | | | | | | | | | | | | | | 1.3/8" | 72 |
| UC 208 | 1.1/2" | 40 | 80 | 49.2 | 22 | 19.0 | 30.2 | 8.0 | 5/16" - 24UNF | M8 x 1.0 | 2560 | 1810 | 0.64 | | |
| UC 208-24 | | 45 | | | | | | | | | | | | 0.68 | |
| UC 209 | 1.3/4" | 45 | 85 | 49.2 | 22 | 19.0 | 30.2 | 8.0 | 5/16" - 24UNF | M8 x 1.0 | 2560 | 1810 | 0.68 | | |
| UC 209-28 | | 50 | | | | | | | | | | | | 0.70 | |
| UC 210 | 2" | 50 | 90 | 51.6 | 24 | 19.0 | 32.6 | 10.0 | 3/8" - 24UNF | M10x1.25 | 2750 | 2020 | 0.82 | | |
| UC 210-32 | | 55 | | | | | | | | | | | | 0.80 | |
| UC 211 | 2" | 55 | 100 | 55.6 | 25 | 22.2 | 33.4 | 10.0 | 3/8" - 24UNF | M10x1.25 | 3400 | 2550 | 1.11 | | |
| UC 211-32 | | 60 | | | | | | | | | | | | 1.26 | |
| UC 212 | 2.1/4" | 60 | 110 | 65.1 | 27 | 25.4 | 39.7 | 10.0 | 3/8" - 24UNF | M10x1.25 | 4100 | 3150 | 1.54 | | |
| UC 212-36 | | 65 | | | | | | | | | | | | 1.67 | |
| UC 213 | 2.1/2" | 65 | 120 | 65.1 | 30 | 25.4 | 39.7 | 10.0 | 3/8" - 24UNF | M10x1.25 | 4480 | 3470 | 1.86 | | |
| UC 213-40 | | 70 | | | | | | | | | | | | 1.94 | |
| UC 214 | 2.3/4" | 70 | 125 | 74.6 | 30 | 30.2 | 44.4 | 12.0 | 7/16" - 20UNF | M12x1.50 | 4870 | 3810 | 2.05 | | |
| UC 214-44 | | 75 | | | | | | | | | | | | 2.06 | |
| UC 215 | 3" | 75 | 130 | 77.8 | 32 | 33.3 | 44.5 | 12.0 | 7/16" - 20UNF | M12x1.50 | 5190 | 4190 | 2.12 | | |
| UC 215-48 | | 80 | | | | | | | | | | | | 2.21 | |
| UC 216 | 3.1/2" | 80 | 140 | 82.6 | 33 | 33.3 | 49.3 | 12 | 1/2" - 20UNF | M12x1.50 | 5700 | 4550 | 2.79 | | |
| UC 218-56 | | 160 | | | | | | | | | | | | 4.46 | |

Bearing Speeds

The maximum rotational speed of a grease lubricated ball bearing is related to the fit between shaft and bearing.

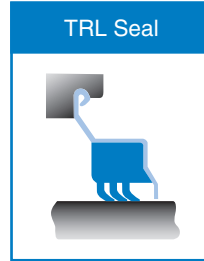
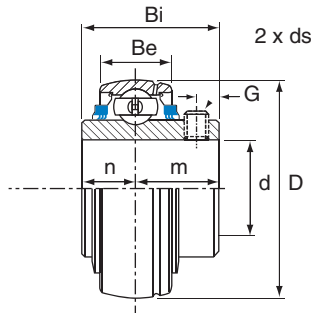
Under normal operating conditions the fit between the bearing and shaft should be h7. The maximum permissible bearing speeds are shown on the right.

A looser fit, allowing lower speeds is recommended for lighter loads and a tighter fit allowing higher speeds is recommended for heavier loads

| Bearing No. | Max Speed rev/min | Bearing No. | Max Speed rev/min |
|-------------|-------------------|-------------|-------------------|
| 201 | 4500 | 210 | 1800 |
| 202 | 4500 | 211 | 1600 |
| 203 | 4500 | 212 | 1500 |
| 204 | 4000 | 213 | 1400 |
| 205 | 3400 | 214 | 1300 |
| 206 | 2800 | 215 | 1200 |
| 207 | 2400 | 216 | 1100 |
| 208 | 2200 | 217 | 1000 |
| 209 | 1900 | 218 | 950 |

- Working temperatures -30°C to +120°C
- Grease nipple thread sizes:
201 - 209 = M6
210 - 215 = M8
216 - 218 = M10

UCX 00 Inserts



UCX 00 Inserts with Set Screws (Medium Duty)

| Bearing Unit | Shaft Dia. | | D | B_i | B_e | n | m | G | ds | | Load Rating (kg) | | Weight kg |
|--------------|------------|------|-----|-------|-------|------|------|------|---------------|-----------|------------------|--------|-----------|
| | d inch | d mm | | | | | | | inch | mm | Dynamic | Static | |
| UCX05 | 1" | 25 | 62 | 38.1 | 19 | 15.9 | 22.2 | 5 | 1/4" - 28UNF | M6 x 0.75 | 1520 | 1020 | 0.39 |
| UCX05-16 | | 0.38 | | | | | | | | | | | |
| UCX06 | 1.1/4" | 30 | 72 | 42.9 | 20 | 17.5 | 25.4 | 6.5 | 1/4" - 28UNF | M6 x 0.75 | 2010 | 1390 | 0.58 |
| UCX06-20 | | 0.55 | | | | | | | | | | | |
| UCX07 | 1.1/4" | 35 | 80 | 49.2 | 22 | 19.0 | 30.2 | 8.0 | 5/16" - 24UNF | M8 x 1.0 | 2560 | 1810 | 0.72 |
| UCX07-20 | | | | | | | | | | | | | 0.75 |
| UCX07-22 | 1.3/8" | | | | | | | | 5/16" - 24UNF | | | | 0.72 |
| UCX08 | 1.1/2" | 40 | 85 | 49.2 | 22 | 19.0 | 30.2 | 8.0 | 5/16" - 24UNF | M8 x 1.0 | 2650 | 1910 | 0.83 |
| UCX08-24 | | 0.87 | | | | | | | | | | | |
| UCX09 | 1.3/4" | 45 | 90 | 51.6 | 24 | 19.0 | 32.6 | 10.0 | 5/16" - 24UNF | M8 x 1.0 | 2750 | 2020 | 0.95 |
| UCX09-28 | | 0.97 | | | | | | | | | | | |
| UCX10 | 2" | 50 | 100 | 55.6 | 25 | 22.2 | 33.4 | 10.0 | 3/8" - 24UNF | M10x1.25 | 3400 | 2550 | 1.29 |
| UCX10-32 | | 1.26 | | | | | | | | | | | |
| UCX11 | 2.1/4" | 55 | 110 | 65.1 | 27 | 25.4 | 39.7 | 10.0 | 3/8" - 24UNF | M10x1.25 | 4100 | 3150 | 1.80 |
| UCX11-36 | | 1.70 | | | | | | | | | | | |
| UCX12 | 2.3/8" | 60 | 120 | 65.1 | 30 | 25.4 | 39.7 | 10.0 | 3/8" - 24UNF | M10x1.25 | 4480 | 3470 | 2.05 |
| UCX12-38 | | 2.03 | | | | | | | | | | | |
| UCX13 | 2.1/2" | 65 | 125 | 74.6 | 30 | 30.2 | 44.4 | 12.0 | 3/8" - 24UNF | M10x1.25 | 4870 | 3810 | 2.52 |
| UCX13-40 | | 2.61 | | | | | | | | | | | |
| UCX14 | 2.3/4" | 70 | 130 | 77.8 | 32 | 33.3 | 44.5 | 12.0 | 7/16" - 20UNF | M12x1.50 | 5190 | 4190 | 2.74 |
| UCX14-44 | | 2.75 | | | | | | | | | | | |
| UCX15 | 3" | 75 | 140 | 82.6 | 33 | 33.3 | 49.3 | 12.0 | 7/16" - 20UNF | M12x1.50 | 5700 | 4550 | 3.41 |
| UCX15-48 | | 3.32 | | | | | | | | | | | |

Bearing Speeds

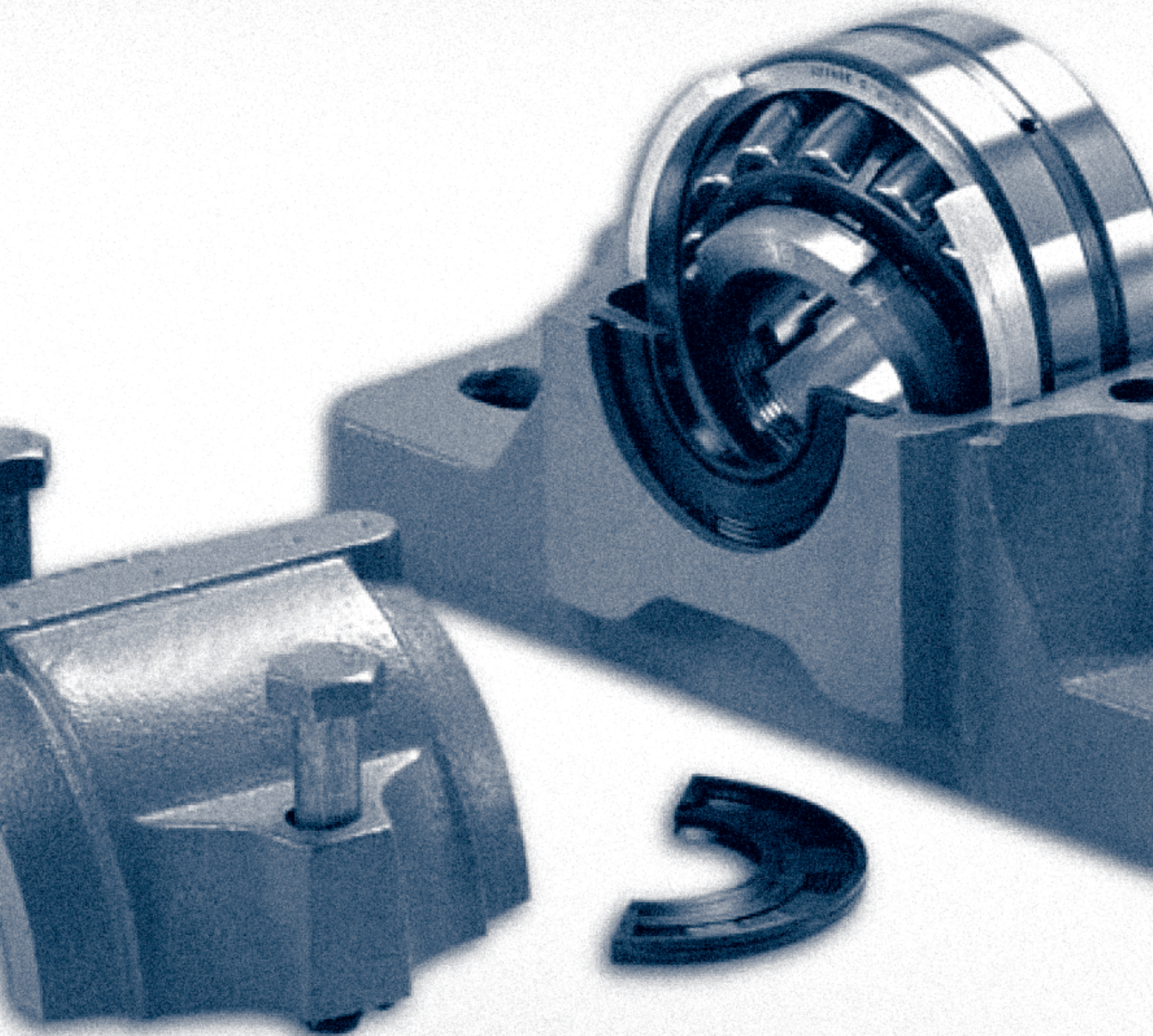
The maximum rotational speed of a grease lubricated ball bearing is related to the fit between shaft and bearing.

Under normal operating conditions the fit between the bearing and shaft should be h7. The maximum permissible bearing speeds are shown on the right.

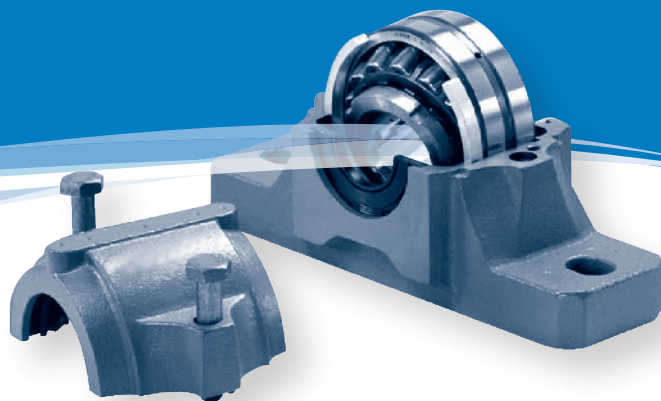
A looser fit, allowing lower speeds is recommended for lighter loads and a tighter fit allowing higher speeds is recommended for heavier loads

| Bearing No. | Max Speed rev/min | Bearing No. | Max Speed rev/min |
|-------------|-------------------|-------------|-------------------|
| 201 | 4500 | 210 | 1800 |
| 202 | 4500 | 211 | 1600 |
| 203 | 4500 | 212 | 1500 |
| 204 | 4000 | 213 | 1400 |
| 205 | 3400 | 214 | 1300 |
| 206 | 2800 | 215 | 1200 |
| 207 | 2400 | 216 | 1100 |
| 208 | 2200 | 217 | 1000 |
| 209 | 1900 | 218 | 950 |

 **CHALLENGE** ®



Plummer Blocks



Features

- Produced from high grade GG 20 cast iron
- Conform to ISO standards
- Available with:
 - Taper bore ball bearings (single and double)
 - Spherical roller bearings
- Robust design giving high strength and rigidity
- High load carrying capacity
- Nitrile rubber (NBR) seals:
 - V Ring Seal
 - Double Lip Seal
- Simple installation
- Sealed end covers available
- Supplied with grease nipple

General Information

Applications

CHALLENGE Plummer blocks can be used in a wide variety of applications including :-

- belt drives
- fans of all varieties
- fluid machinery
- hammer and impact mills
- material handling
- metal working
- mining and construction
- mining ventilator
- paper and pulp machinery
- power supply generators
- power transmission applications

Materials

Housing

Produced from GG20 high grade cast iron

Seals

Nitrile (NBR) seals: - V Ring Seal
- Double Lip Seal

Locating ring

Aluminium

End cover

NBR seal with a mild steel plate

Bearings

All CHALLENGE Plummer Blocks will accept taper bored self aligning ball bearings and spherical roller bearings.

General Information

Seals

CHALLENGE Plummer Blocks use V Ring or Double Lip Seals made from acrylonitrile Butadiene Rubber, commonly called NBR or Nitrile.

The complete seal is made up of two equal halves and can be easily inserted into the annular groove of the housing.

The seal has two lips making close contact with the shaft surface.

During lubrication, grease should be added into the void between the two lips.

Care must be taken not to damage the seal lips when installing or seal leakage will occur.

Lubrication

CHALLENGE Plummer Blocks are preferably grease lubricated. CHALLENGE recommend a lithium based grease.

In larger housings, it is possible to oil lubricate. Consult CHALLENGE for further information.

Prior to installation, lubrication should be added and checked during routine maintenance.

After installation, lubrication should fill approximately 33% of the inner body of the housing base.

After six months of running, it is advisable to purge the old lubricant and refill with new.

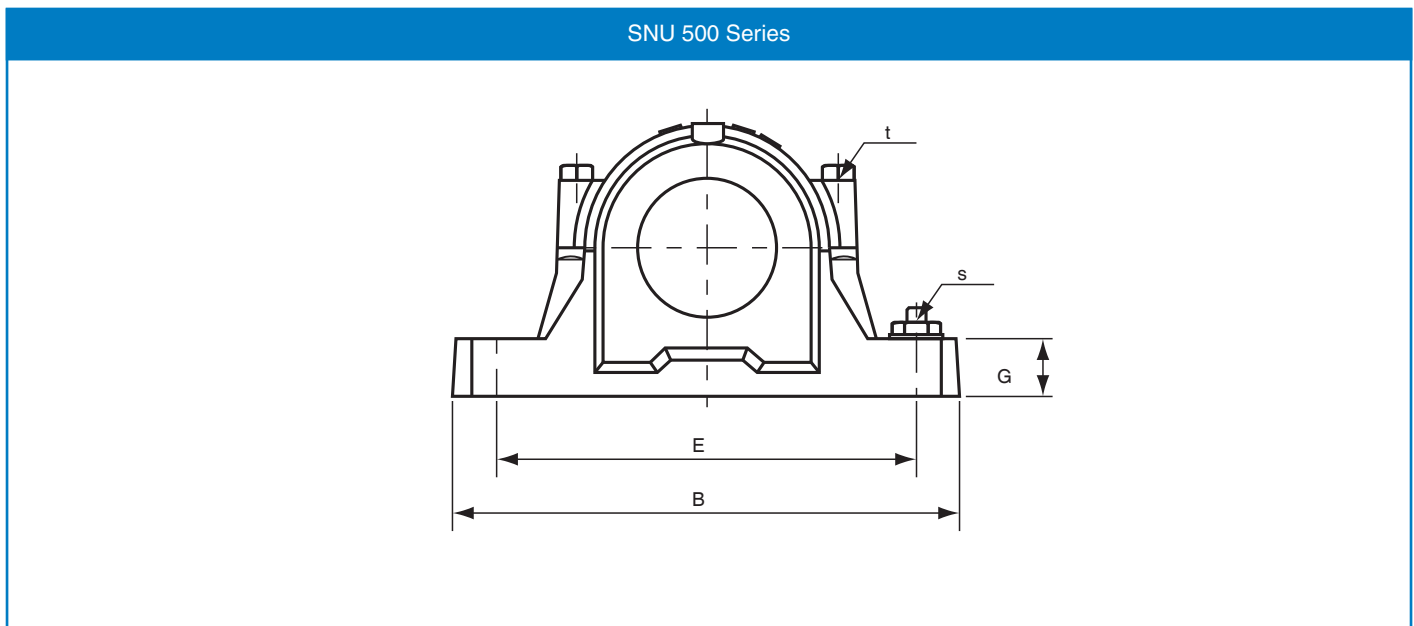
If the application is a combination of high temperature with high speed and heavy loads then the lubricant should be changed more frequently.

When choosing a suitable grease, a normal temperature range would be -30°C to +120°C.

End Covers

The Plummer Block end covers are made from Nitrile (NBR) rubber with a mild steel plate.

SNU 500 Series

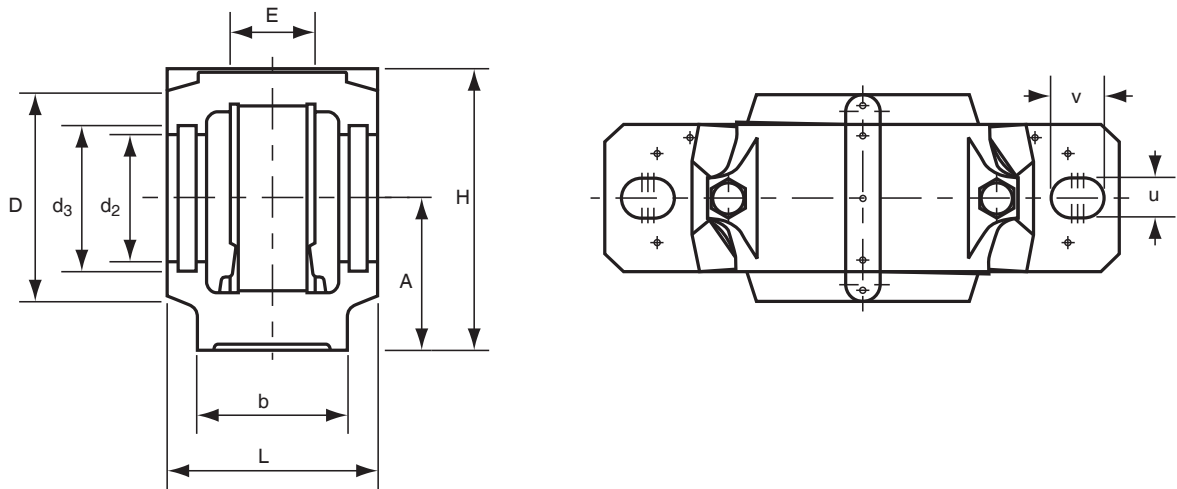


| Housing Size | Shaft Diameter d | Plummer Block Housing Dimensions | | | | | | | | | | | | |
|--------------|---------------------|----------------------------------|-----|-----|----|---------|---------|-----|-------|-----|----------|----------|---|----|
| | | D (H8) | B | b | G | F (H13) | A (h13) | L | H | E | d2 (H12) | d3 (H13) | f | u |
| SNU 507 | 30 | 72 | 185 | 52 | 22 | 34 | 50 | 82 | 92 | 150 | 46.5 | 54.5 | 5 | 15 |
| SNU 508 | 35 | 80 | 205 | 60 | 25 | 39 | 60 | 85 | 106 | 170 | 51.5 | 59.5 | 5 | 15 |
| SNU 509 | 40 | 85 | 205 | 60 | 25 | 30 | 60 | 85 | 108 | 170 | 56.5 | 64.5 | 5 | 15 |
| SNU 510 | 45 | 90 | 205 | 60 | 25 | 41 | 60 | 90 | 112 | 170 | 62.0 | 70.5 | 5 | 15 |
| SNU 511 | 50 | 100 | 255 | 70 | 28 | 44 | 70 | 95 | 126 | 210 | 67.0 | 75.5 | 5 | 18 |
| SNU 512 | 55 | 110 | 255 | 70 | 30 | 48 | 70 | 105 | 132 | 210 | 72.0 | 80.5 | 5 | 18 |
| SNU 513 | 60 | 120 | 275 | 80 | 30 | 51 | 80 | 110 | 147 | 230 | 77.0 | 85.5 | 5 | 18 |
| SNU 515 | 65 | 130 | 280 | 80 | 30 | 56 | 80 | 115 | 153 | 230 | 87.0 | 95.5 | 5 | 18 |
| SNU 516 | 70 | 140 | 315 | 90 | 32 | 58 | 95 | 120 | 174 | 260 | 92.5 | 101.0 | 5 | 22 |
| SNU 517 | 75 | 150 | 320 | 90 | 32 | 61 | 95 | 125 | 180 | 260 | 97.5 | 106.0 | 5 | 22 |
| SNU 518 | 80 | 160 | 345 | 100 | 35 | 65 | 100 | 140 | 190 | 290 | 105.0 | 111.0 | 5 | 22 |
| SNU 519 | 85 | 170 | 345 | 100 | 35 | 68 | 112 | 145 | 208.5 | 290 | 131.0 | 141.0 | 6 | 22 |
| SNU 520 | 90 | 180 | 380 | 110 | 40 | 70 | 112 | 160 | 214.5 | 320 | 137.5 | 147.5 | 6 | 26 |
| SNU 522 | 100 | 200 | 410 | 120 | 45 | 80 | 125 | 175 | 238.5 | 350 | 147.5 | 157.5 | 6 | 26 |
| SNU 524 | 110 | 215 | 410 | 120 | 45 | 86 | 140 | 185 | 271 | 350 | 157.5 | 167.5 | 6 | 26 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

SNU 500 Series

SNU 500 Series



| Plummer Block Housing Dimensions | | | | Options | | | | | | | | Housing Size |
|----------------------------------|------|------|-----------|----------------|------------------|--------------------------|---|-------------|-------------|-----------------|-----------------|--------------|
| v | s | t | Weight kg | Bearing Number | | Adapter Sleeve | Locating Ring Number Qty | | V Ring Seal | Double Lip Seal | End Cover | |
| 20 | M 12 | M 10 | 2.0 | 1207K 2207K | 22207K | H 207 H 307 | SR 72 x 8.5 SR 72 x 5.5 | 2 2 | U 507 | TSNG 507 | 507 UA | SNU 507 |
| 20 | M 12 | M 10 | 2.7 | 1208K 2208K | 22208K | H 208 H 308 | SR 80 x 10.5 SR 80 x 8 | 2 2 | U 508 | TSNG 508 | 508 UA | SNU 508 |
| 20 | M 12 | M 10 | 2.8 | 1209K 2209K | 22209K | H 209 H 309 | SR 85 x 5.5 SR 85 x 7 | 2 1 | U 509 | TSNG 509 | 509 UA | SNU 509 |
| 20 | M 12 | M 10 | 2.9 | 1210K 2210K | 22210K | H 210 H 310 | SR 90 x 10.5 SR 90 x 9 | 2 2 | U 510 | TSNG 510 | 511 NA - 510 UA | SNU 510 |
| 24 | M 16 | M 12 | 4.5 | 1211K 2211K | 22211K | H 211 H 311 | SR 100 x 11.5 SR 100 x 9.5 | 2 2 | U 511 | TSNG 511 | 512 NA - 511 UA | SNU 511 |
| 24 | M 16 | M 12 | 5.0 | 1212K 2212K | 22212K | H 212 H 312 | SR 110 x 13 SR 110 x 10 | 2 2 | U 512 | TSNG 512 | 513 NA - 512 UA | SNU 512 |
| 24 | M 16 | M 12 | 6.3 | 1213K 2213K | 22213K | H 213 H 313 | SR 120 x 14 SR 120 x 10 | 2 2 | U 513 | TSNG 513 | 515 NA - 513 UA | SNU 513 |
| 24 | M 16 | M 12 | 6.6 | 1215K 2215K | 22215K | H 215 H 315 | SR 130 x 15.5 SR 130 x 12.5 | 2 2 | U 515 | TSNG 515 | 517 NA - 515 UA | SNU 515 |
| 28 | M 20 | M 16 | 9.4 | 1216K 2216K | 22216K | H 216 H 316 | SR 140 x 16 SR 140 x 12.5 | 2 2 | U 516 | TSNG 516 | 518 NA - 516 UA | SNU 516 |
| 28 | M 20 | M 16 | 9.8 | 1217K 2217K | 22217K | H 217 H 317 | SR 150 x 16.5 SR 150 x 12.5 | 2 2 | U 517 | TSNG 517 | 519 NA - 517 UA | SNU 517 |
| 28 | M 20 | M 16 | 12.3 | 1218K 2218K | 22218K 23218K | H 218 H 318 H 2318 | SR 160 x 17.5 SR 160 x 12.5 SR 160 x 12.5 | 2 2 1 | U 518 | TSNG 518 | 520 NA - 518 UA | SNU 518 |
| 28 | M 20 | M 16 | 13.5 | 1219K 2219K | 22219K | H 219 H 319 | SR 170 x 18 SR 170 x 12.5 | 2 2 | U 519 | TSNG 519 | 526 NA - 519 UA | SNU 519 |
| 32 | M 24 | M 20 | 16.6 | 1220K 2220K | 22220K 23220K | H 220 H 320 H 2320 | SR 180 x 18 SR 180 x 12 SR 180 x 9.7 | 2 2 1 | U 520 | TSNG 520 | 520 UA | SNU 520 |
| 32 | M 24 | M 20 | 20.4 | 1222K 2222K | 22222K 23222K | H 222 H 322 H 2322 | SR 200 x 21 SR 200 x 13.5 SR 200 x 10.2 | 2 2 1 | U 522 | TSNG 522 | 528 NA - 522 UA | SNU 522 |
| 32 | M 24 | M 20 | 25.0 | | 22224K 23224K | H 3124 H 2324 | SR 215 x 14 SR 215 x 10 | 2 1 | U 524 | TSNG 524 | 530 NA - 524 UA | SNU 524 |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

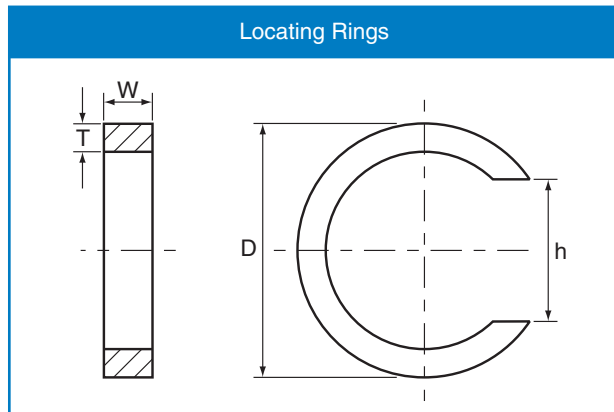
Technical Information

Grease nipple hole dimensions

| Plummer block housing number | Grease nipple hole size |
|------------------------------|-------------------------|
| SNU 507 – SNU 510 | M 6 |
| SNU 511 – SNU 520 | 1/8" – 27 NTP |
| SNU 522 – SNU 524 | 1/4" – 18 NTP |

Locating Rings

When location rings are installed, use a ring on both sides of the bearings. If only one locating ring is used, it should be fitted on the sleeve nut side of the bearing.



| Plummer block housing number | D | T | W | h |
|------------------------------|-----|-----|---------------------------------------|-----|
| SNU 507 | 72 | 4 | 5.5 7.0* 7.5* 8.5 | 47 |
| SNU 508 | 80 | 5 | 8.0 9.0* 10.5 | 52 |
| SNU 509 | 85 | 5 | 5.5 7.0 | 57 |
| SNU 510 | 90 | 5 | 8.0* 9.0 10.5 | 62 |
| SNU 511 | 100 | 5 | 8.0* 9.5 11.5 | 68 |
| SNU 512 | 110 | 5 | 8.0* 10.0 10.5* 13.0 | 73 |
| SNU 513 | 120 | 5 | 8.0* 10.0 11.0* 14.0 | 78 |
| SNU 515 | 130 | 5 | 10.0* 12.5 15.5 | 88 |
| SNU 516 | 140 | 7.5 | 10.0* 12.5 16.0 | 93 |
| SNU 517 | 150 | 7.5 | 12.5 16.5 | 98 |
| SNU 518 | 160 | 7.5 | 10.0* 12.5 14.0* 17.5 | 105 |
| SNU 519 | 170 | 7.5 | 10.0* 12.5 14.5* 18.0 | 112 |
| SNU 520 | 180 | 7.5 | 9.7 10.0* 12.0 14.5* 18.0 | 120 |
| SNU 522 | 200 | 10 | 10.2 13.0* 13.5 21.0 | 130 |
| SNU 524 | 215 | 10 | 10.0 13.0* 14.0 | 140 |

* special

Technical Information

Permitted Loading Capacity

The permitted loading capacity for CHALLENGE SNU series Plummer Block Housings is dependent upon a number of factors relating to the loading sustained and the strength capacity of the securing cap headed bolts.

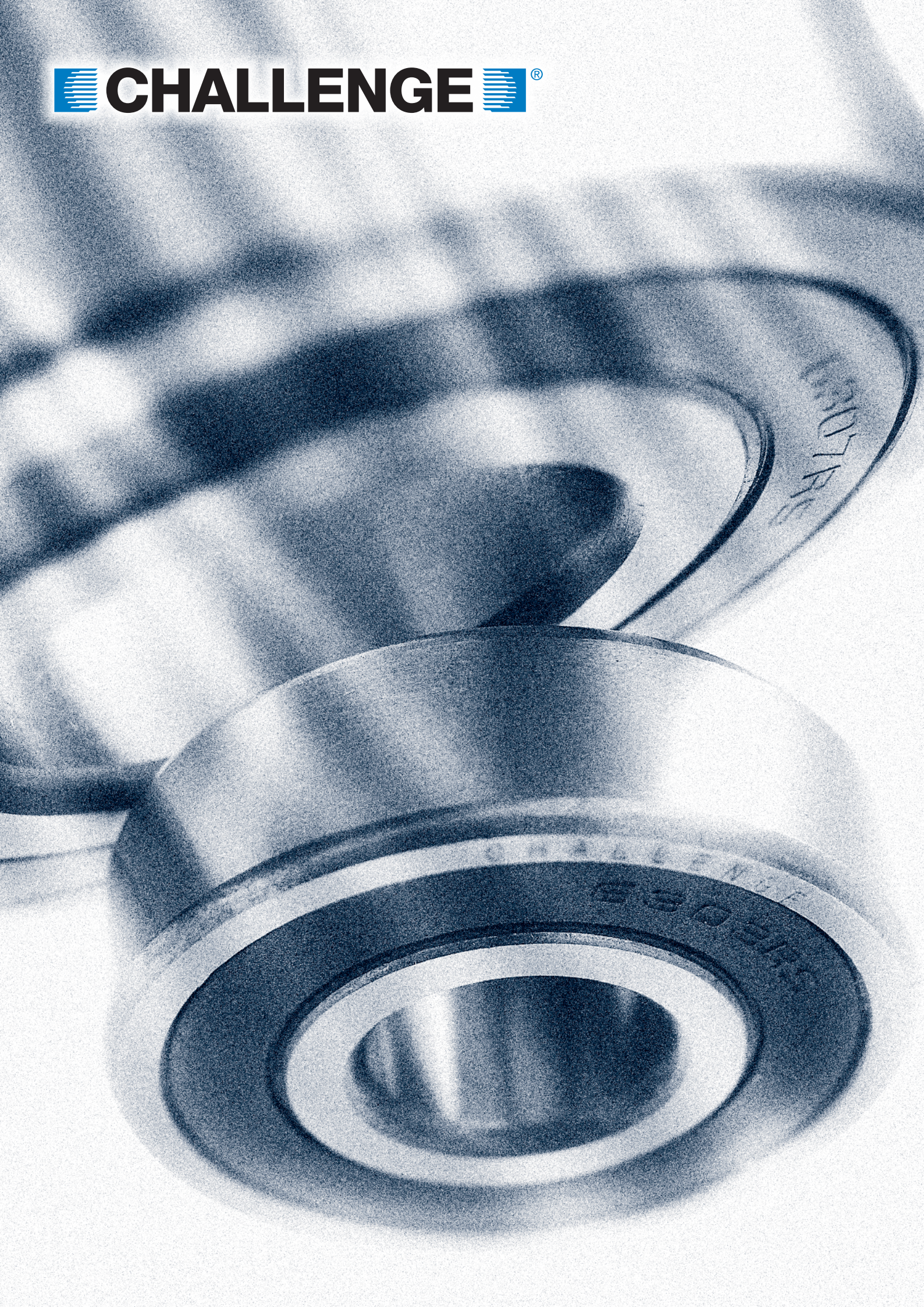
For most circumstances, the Plummer Block Housing is subjected to axial loads. When the loads are from other directions, a check should be carried out to ascertain that the capacity of the cap headed bolts is sufficient for the subjected loads.

Under good engineering practice a breaking safety factor of 3 is used on bolts. Whereas CHALLENGE use a breaking safety factor of 6 on the Plummer Block Housing.

See the table Permitted Loading Capacity for the housing breaking load capacity in different directions and the maximum load capacity of the bolts.

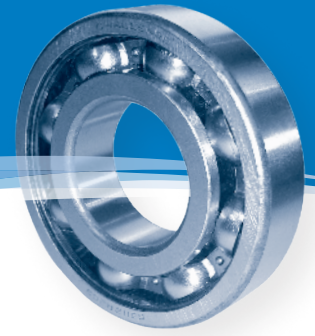
| Permitted Loading Capacity | | | | | | | | | | | |
|----------------------------|-------------------------------------|-------|-------|--------|--------|--------|---|--------|--------|------------|----------------------------------|
| Housing size | Breaking load for load direction kN | | | | | | Maximum load of 2 bolts for load direction kN | | | Bolt size | Recommended tightening torque Nm |
| | Pa | P55 ° | P90 ° | P120 ° | P150 ° | P180 ° | P120 ° | P150 ° | P180 ° | | |
| SNU 507 | 60 | 180 | 110 | 80 | 75 | 90 | 60 | 35 | 30 | M 10 x 50 | 40 |
| SNU 508 | 67 | 200 | 120 | 90 | 80 | 100 | 60 | 35 | 30 | M 10 x 50 | 40 |
| SNU 509 | 70 | 210 | 130 | 95 | 85 | 105 | 60 | 35 | 30 | M 10 x 50 | 40 |
| SNU 510 | 80 | 240 | 145 | 110 | 95 | 120 | 60 | 35 | 30 | M 10 x 50 | 40 |
| SNU 511 | 87 | 260 | 155 | 120 | 105 | 130 | 90 | 52 | 45 | M 12 x 60 | 80 |
| SNU 512 | 93 | 280 | 170 | 125 | 110 | 140 | 90 | 52 | 45 | M 12 x 60 | 80 |
| SNU 513 | 103 | 310 | 185 | 140 | 125 | 155 | 90 | 52 | 45 | M 12 x 65 | 80 |
| SNU 515 | 123 | 370 | 220 | 165 | 150 | 185 | 90 | 52 | 45 | M 12 x 65 | 80 |
| SNU 516 | 130 | 390 | 235 | 175 | 155 | 195 | 90 | 52 | 45 | M 12 x 70 | 80 |
| SNU 517 | 147 | 440 | 270 | 200 | 175 | 220 | 90 | 52 | 45 | M 12 x 80 | 80 |
| SNU 518 | 173 | 520 | 310 | 235 | 210 | 260 | 170 | 98 | 85 | M 16 x 90 | 160 |
| SNU 519 | 180 | 540 | 330 | 245 | 215 | 270 | 170 | 98 | 85 | M 16 x 90 | 160 |
| SNU 520 | 190 | 570 | 340 | 255 | 230 | 285 | 260 | 150 | 130 | M 20 x 100 | 200 |
| SNU 522 | 207 | 620 | 370 | 280 | 250 | 310 | 260 | 150 | 130 | M 20 x 100 | 200 |
| SNU 524 | 243 | 730 | 440 | 330 | 295 | 365 | 260 | 150 | 130 | M 20 x 100 | 200 |

 **CHALLENGE**  [®]



1207R

CHALLENGE
E30315



Features

Metric sizes

1600, 6000, 6200, 6300, 6800 and 6900 series

Imperial (inch) sizes

Popular R series are held in stock

Tapered roller

Available in both metric and imperial (inch) sizes

- Gcr15 high carbon chromium bearing steel is the standard material for bearing rings and balls
- Stainless steel shields are available
- Seals are Buna Nitrile and fluorocarbon, silicon and Teflon seals are available for special applications
- Retainers for corrosive environment, misalignment or high speed applications are available in stainless steel, nylon or phenolic resins

General Information

Lubrication

Challenge bearings are supplied with a low noise bearing grease thickened by lithium and calcium 12 - hydroxystearate, made from deeply refined mineral oil with rust inhibitors and anti oxidants.

This grease has excellent noise reducing ability, mechanical stability and does not contain any heavy metal or nitrate that will harm health or pollute the environment.

Temperature range -20 to +120 degrees centigrade.

Upon request ball bearings can be lubricated with other greases or oil, Contact: technicalsupport@challengeproduction.com for specific applications.

Materials

Rings & Balls

Gcr15 high carbon chromium bearing steel is the standard material for precision bearing rings and balls.

Retainers

The retainer is normally made of H62 copper sheet or 08F cold rolled steel belt, however, in cases of corrosive environment, misalignment, or high speed operation, stainless steel, nylon, or phenolic resins can be used upon request.

Shields & Seals

Shields are made of steel as standard, and the optional AISI-300 stainless is available, when required.

Buna Nitril is the standard material used for the seals. Fluorocarbon, silicone, and Teflon seals are available for high temperature applications, upon request.

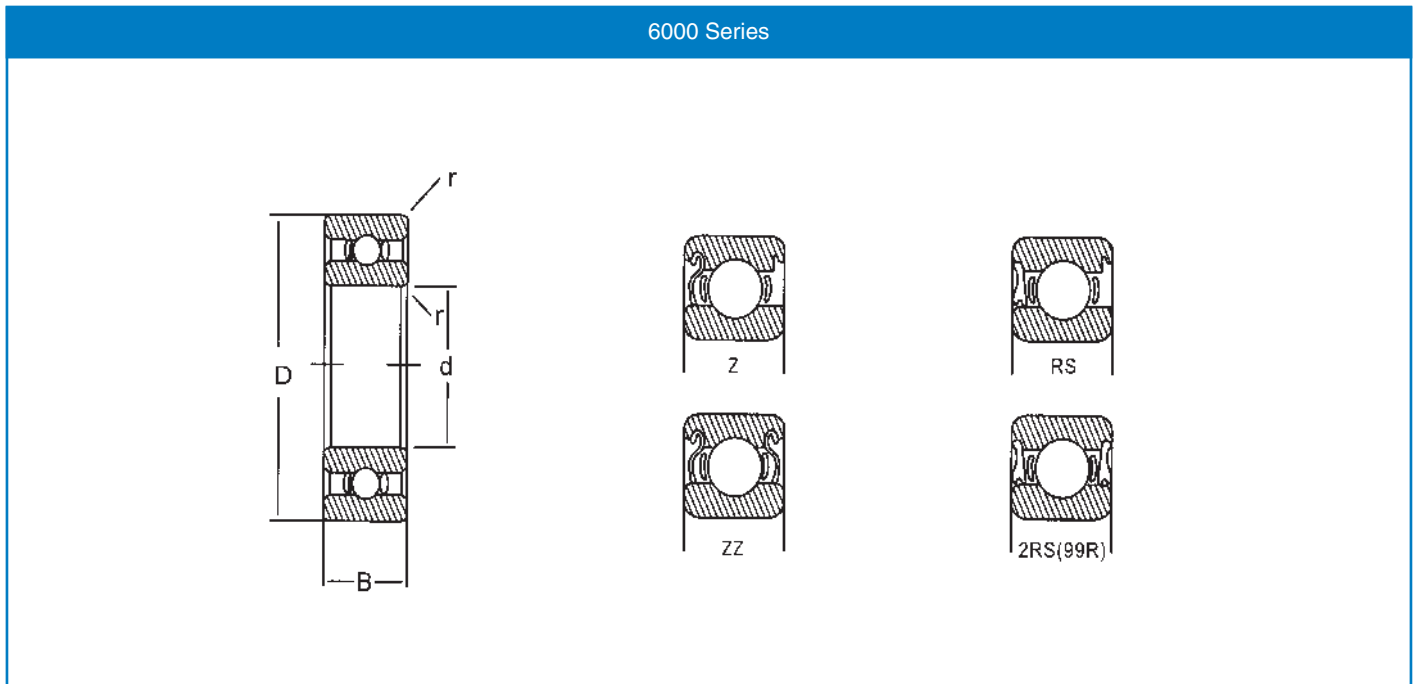
Rust Resistance

Under normal operating conditions, the rust resisting period is six months. After this period, the product should be checked and rust protected again if necessary, so as to prevent rust from occurring.

Packing

Generally the bearings are packed into plastic pipes or small boxes and then packed into a carton. If required, special packaging can be accommodated and must be specified prior to order.

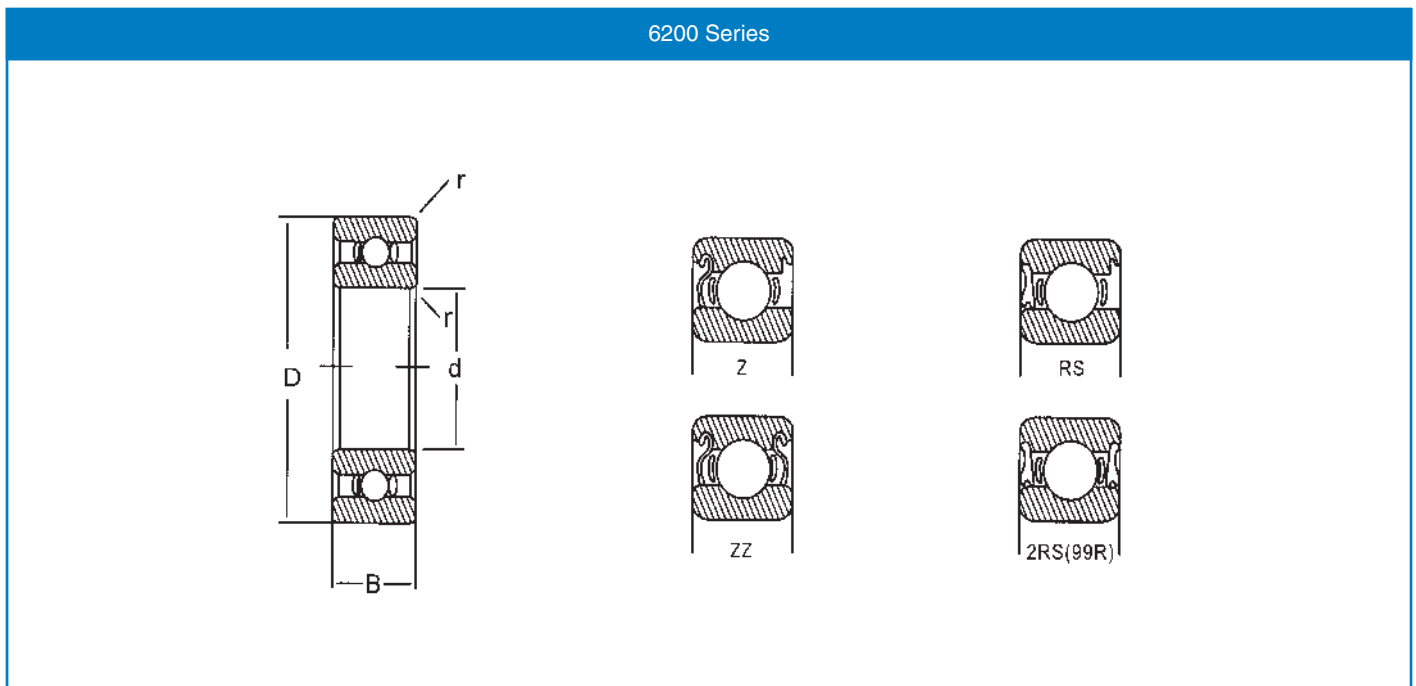
6000 Series



6000 Series

| Bearing Number | Dimensions | | | | Basic Load Rating kN | | Max Runout Speed rev/min | | Weight each kg |
|--------------------|------------|----------------|---------|---------------|----------------------|------------|--------------------------|-------|----------------|
| | Bore d | Outside Dia. D | Width B | Chamfer r min | Dynamic Cr | Static Cor | Grease | Oil | |
| 6000 Series | | | | | | | | | |
| 605 | 5 | 14 | 5 | 0.2 | 1.05 | 0.50 | 32000 | 40000 | 0.0045 |
| 606 | 6 | 17 | 6 | 0.3 | 1.95 | 0.72 | 30000 | 38000 | 0.0057 |
| 607 | 7 | 19 | 6 | 0.3 | 2.88 | 1.08 | 28000 | 36000 | 0.0071 |
| 608 | 8 | 22 | 7 | 0.3 | 3.32 | 1.38 | 26000 | 34000 | 0.011 |
| 609 | 9 | 24 | 7 | 0.3 | 3.35 | 1.40 | 22000 | 30000 | 0.014 |
| 6000 | 10 | 26 | 8 | 0.3 | 4.58 | 1.98 | 20000 | 28000 | 0.018 |
| 6001 | 12 | 28 | 8 | 0.3 | 5.10 | 2.38 | 19000 | 26000 | 0.021 |
| 6002 | 15 | 32 | 9 | 0.3 | 5.58 | 2.85 | 18000 | 24000 | 0.026 |
| 6003 | 17 | 35 | 10 | 0.3 | 6.00 | 3.25 | 17000 | 22000 | 0.036 |
| 6004 | 20 | 42 | 12 | 0.6 | 9.38 | 5.02 | 15000 | 19000 | 0.069 |
| 6005 | 25 | 47 | 12 | 0.6 | 10.10 | 5.85 | 13000 | 17000 | 0.075 |
| 6006 | 30 | 55 | 13 | 1.0 | 10.18 | 6.91 | 10000 | 14000 | 0.116 |
| 6007 | 35 | 62 | 14 | 1.0 | 12.46 | 8.65 | 9000 | 12000 | 0.155 |
| 6008 | 40 | 68 | 15 | 1.0 | 13.09 | 9.44 | 8500 | 11000 | 0.185 |
| 6009 | 45 | 75 | 16 | 1.0 | 21.00 | 15.10 | 7200 | 9000 | 0.231 |
| 6010 | 50 | 80 | 16 | 1.0 | 21.80 | 16.60 | 6400 | 7800 | 0.250 |
| 6011 | 55 | 90 | 18 | 1.1 | 28.30 | 21.20 | 5700 | 7000 | 0.362 |
| 6012 | 60 | 95 | 18 | 1.1 | 29.50 | 23.20 | 5000 | 6300 | 0.385 |
| 6013 | 65 | 100 | 18 | 1.1 | 30.50 | 25.20 | 5300 | 6300 | 0.421 |
| 6014 | 70 | 110 | 20 | 1.1 | 38.10 | 30.90 | 5000 | 5900 | 0.604 |
| 6015 | 75 | 115 | 20 | 1.1 | 39.70 | 33.50 | 4700 | 5600 | 0.649 |

6200 Series



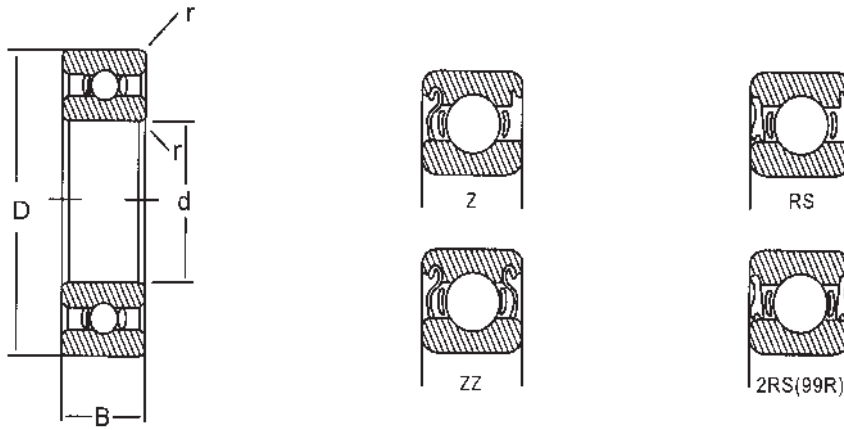
6200 Series

| Bearing Number | Dimensions | | | | Basic Load Rating kN | | Max Runout Speed rev/min | | Weight each kg |
|--------------------|------------|----------------|---------|---------------|----------------------|------------|--------------------------|-------|----------------|
| | Bore d | Outside Dia. D | Width B | Chamfer r min | Dynamic Cr | Static Cor | Grease | Oil | |
| 6200 series | | | | | | | | | |
| 623 | 3 | 10 | 4 | 0.15 | 0.50 | 0.22 | 38000 | 48000 | 0.0015 |
| 624 | 4 | 13 | 5 | 0.2 | 1.15 | 0.45 | 36000 | 45000 | 0.0032 |
| 625 | 5 | 16 | 5 | 0.3 | 1.88 | 0.68 | 32000 | 40000 | 0.0048 |
| 626 | 6 | 19 | 6 | 0.3 | 2.80 | 1.05 | 28000 | 36000 | 0.0075 |
| 627 | 7 | 22 | 7 | 0.3 | 3.28 | 1.35 | 26000 | 34000 | 0.012 |
| 628 | 8 | 24 | 8 | 0.3 | 3.35 | 1.40 | 24000 | 32000 | 0.017 |
| 629 | 9 | 26 | 8 | 0.3 | 4.45 | 1.95 | 22000 | 30000 | 0.019 |
| 6200 | 10 | 30 | 9 | 0.6 | 5.10 | 2.38 | 19000 | 26000 | 0.028 |
| 6201 | 12 | 32 | 10 | 0.6 | 6.82 | 3.05 | 18000 | 24000 | 0.034 |
| 6202 | 15 | 35 | 11 | 0.6 | 7.65 | 3.72 | 17000 | 22000 | 0.043 |
| 6203 | 17 | 40 | 12 | 0.6 | 9.58 | 4.47 | 16000 | 20000 | 0.062 |
| 6204 | 20 | 47 | 14 | 1.0 | 9.87 | 6.18 | 14000 | 18000 | 0.102 |
| 6205 | 25 | 52 | 15 | 1.0 | 10.75 | 10.02 | 12000 | 16000 | 0.120 |
| 6206 | 30 | 62 | 16 | 1.0 | 14.96 | 13.65 | 9500 | 13000 | 0.190 |
| 6207 | 35 | 72 | 17 | 1.1 | 19.74 | 15.92 | 8500 | 11000 | 0.270 |
| 6208 | 40 | 80 | 18 | 1.1 | 22.70 | 17.70 | 8000 | 10000 | 0.370 |
| 6209 | 45 | 85 | 19 | 1.1 | 32.50 | 20.40 | 7800 | 9200 | 0.416 |
| 6210 | 50 | 90 | 20 | 1.1 | 35.00 | 23.20 | 7100 | 8300 | 0.462 |
| 6211 | 55 | 100 | 21 | 1.5 | 43.50 | 29.20 | 6400 | 7600 | 0.602 |
| 6212 | 60 | 110 | 22 | 1.5 | 52.50 | 36.00 | 6000 | 7000 | 0.789 |
| 6213 | 65 | 120 | 23 | 1.5 | 57.20 | 40.00 | 4400 | 5300 | 0.990 |
| 6214 | 60 | 125 | 24 | 1.5 | 62.20 | 44.10 | 4200 | 5000 | 1.070 |
| 6215 | 75 | 130 | 25 | 1.5 | 67.40 | 49.30 | 4000 | 4600 | 1.180 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

6300 & 6800 Series

6300 & 6800 Series

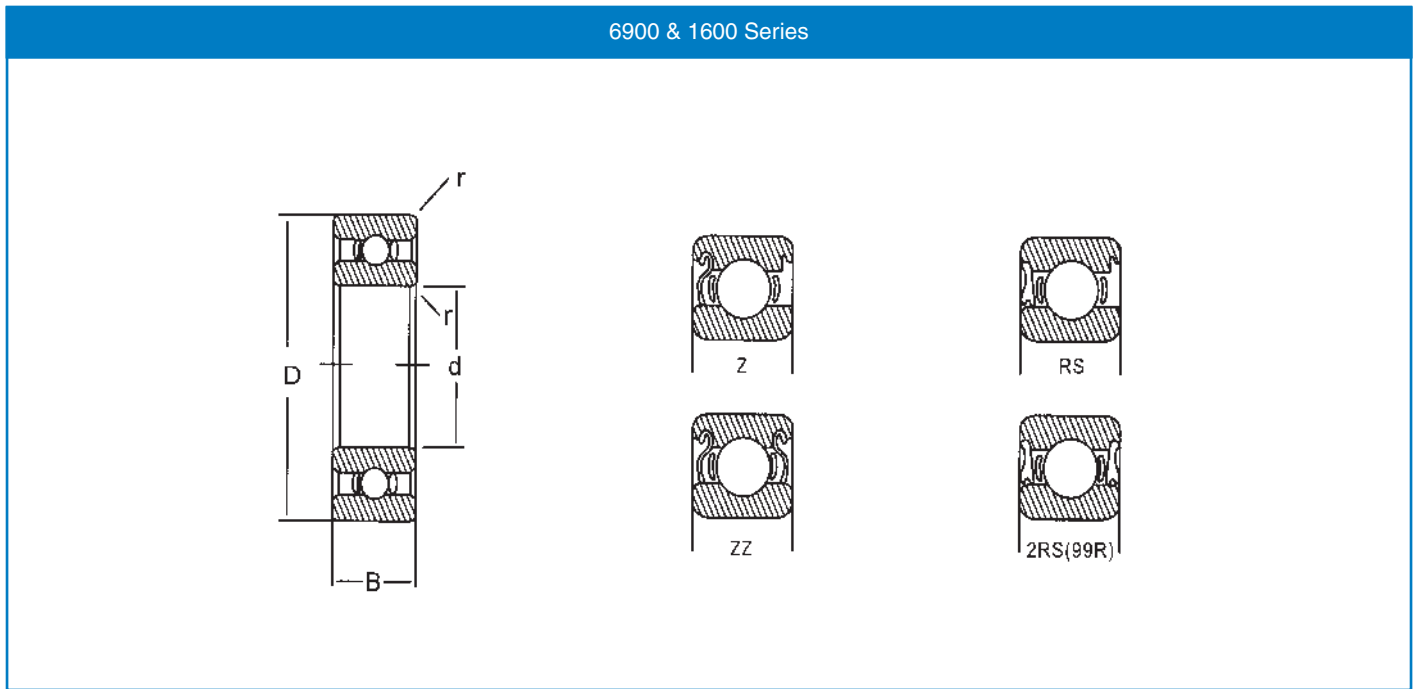


6300 & 6800 Series

| Bearing Number | Dimensions | | | | Basic Load Rating kN | | Max Runout Speed rev/min | | Weight each kg |
|--------------------|------------|----------------|---------|---------------|----------------------|------------|--------------------------|-------|----------------|
| | Bore d | Outside Dia. D | Width B | Chamfer r min | Dynamic Cr | Static Cor | Grease | Oil | |
| 6300 Series | | | | | | | | | |
| 6300 | 10 | 35 | 11 | 0.6 | 7.65 | 3.48 | 20000 | 26000 | 0.054 |
| 6301 | 12 | 37 | 12 | 1.0 | 9.72 | 5.08 | 17000 | 22000 | 0.058 |
| 6302 | 15 | 42 | 13 | 1.0 | 11.50 | 5.42 | 16000 | 20000 | 0.082 |
| 6303 | 17 | 47 | 14 | 1.0 | 10.68 | 6.66 | 15000 | 19000 | 0.110 |
| 6304 | 20 | 52 | 15 | 1.1 | 12.25 | 7.79 | 13000 | 17000 | 0.140 |
| 6305 | 25 | 62 | 17 | 1.1 | 17.25 | 11.37 | 10000 | 14000 | 0.220 |
| 6306 | 30 | 72 | 19 | 1.1 | 21.66 | 14.80 | 9000 | 12000 | 0.330 |
| 6307 | 35 | 80 | 21 | 1.5 | 25.68 | 17.54 | 8000 | 10000 | 0.410 |
| 6308 | 40 | 90 | 23 | 1.5 | 31.36 | 22.25 | 7000 | 9000 | 0.600 |
| 6309 | 45 | 100 | 25 | 1.5 | 52.80 | 31.70 | 5600 | 6700 | 0.814 |
| 6310 | 50 | 110 | 27 | 2.0 | 61.80 | 37.90 | 5000 | 5800 | 1.070 |
| 6311 | 55 | 120 | 29 | 2.0 | 71.50 | 44.60 | 4400 | 5300 | 1.370 |
| 6312 | 60 | 130 | 31 | 2.1 | 81.80 | 51.90 | 4200 | 5000 | 1.730 |
| 6313 | 65 | 140 | 33 | 2.1 | 92.70 | 59.70 | 4000 | 4600 | 2.080 |
| 6800 Series | | | | | | | | | |
| 685 | 5 | 11 | 3 | 0.15 | 0.55 | 0.25 | 35000 | 45000 | 0.0011 |
| 686 | 6 | 13 | 3.5 | 0.15 | 0.33 | 0.40 | 33000 | 42000 | 0.0019 |
| 687 | 7 | 14 | 3.5 | 0.15 | 0.90 | 0.46 | 31000 | 40000 | 0.0021 |
| 688 | 8 | 16 | 4 | 0.2 | 1.38 | 0.71 | 29000 | 38000 | 0.0031 |
| 689 | 9 | 17 | 4 | 0.2 | 1.38 | 0.71 | 28000 | 36000 | 0.0032 |
| 6800 | 10 | 19 | 5 | 0.3 | 1.40 | 0.75 | 26000 | 34000 | 0.005 |
| 6801 | 12 | 21 | 5 | 0.3 | 1.40 | 0.90 | 22000 | 30000 | 0.007 |
| 6802 | 15 | 24 | 5 | 0.3 | 1.92 | 1.18 | 20000 | 28000 | 0.008 |
| 6803 | 17 | 26 | 5 | 0.3 | 2.18 | 1.28 | 19000 | 26000 | 0.019 |
| 6804 | 20 | 32 | 7 | 0.3 | 3.45 | 2.25 | 17000 | 22000 | 0.042 |
| 6805 | 25 | 37 | 7 | 0.3 | 3.70 | 2.65 | 15000 | 19000 | 0.048 |

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6900 & 1600 Series

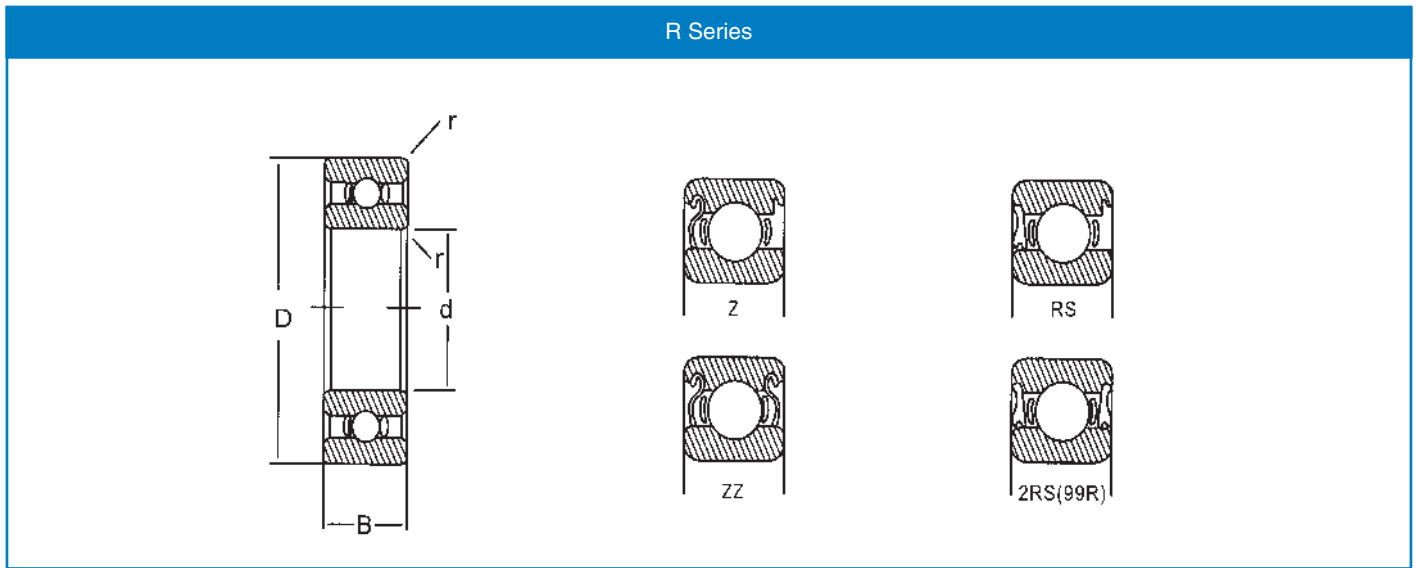


6900 & 1600 Series

| Bearing Number | Dimensions | | | | Basic Load Rating kN | | Max Runout Speed rev/min | | Weight each kg |
|--------------------|------------|----------------|---------|---------------|----------------------|------------|--------------------------|-------|----------------|
| | Bore d | Outside Dia. D | Width B | Chamfer r min | Dynamic Cr | Static Cor | Grease | Oil | |
| 6900 Series | | | | | | | | | |
| 695 | 5 | 13 | 4 | 0.2 | 1.08 | 0.42 | 34000 | 43000 | 0.0024 |
| 696 | 6 | 15 | 5 | 0.2 | 1.48 | 0.60 | 32000 | 40000 | 0.0038 |
| 697 | 7 | 17 | 5 | 0.3 | 2.02 | 0.80 | 30000 | 38000 | 0.0052 |
| 698 | 8 | 19 | 6 | 0.3 | 2.25 | 0.92 | 28000 | 36000 | 0.0073 |
| 699 | 9 | 20 | 6 | 0.3 | 3.30 | 1.40 | 25000 | 34000 | 0.0082 |
| 6900 | 10 | 22 | 6 | 0.3 | 3.30 | 1.40 | 25000 | 32000 | 0.009 |
| 6901 | 12 | 24 | 6 | 0.3 | 3.38 | 1.48 | 20000 | 28000 | 0.011 |
| 6902 | 15 | 28 | 7 | 0 | 4.00 | 2.02 | 19000 | 26000 | 0.016 |
| 6903 | 17 | 30 | 7 | 3 | 4.30 | 2.32 | 18000 | 24000 | 0.018 |
| 6904 | 20 | 37 | 9 | 0.3 | 6.55 | 3.60 | 17000 | 22000 | 0.036 |
| 6905 | 25 | 42 | 9 | 0.3 | 7.05 | 4.55 | 14000 | 18000 | 0.042 |
| 6906 | 30 | 47 | 9 | 0.3 | 7.25 | 5.00 | 12000 | 16000 | 0.048 |
| 1600 Series | | | | | | | | | |
| 16001 | 12 | 28 | 7 | 0.3 | 5.08 | 2.38 | 28000 | 32000 | 0.019 |
| 16002 | 15 | 32 | 8 | 0.3 | 5.60 | 2.55 | 24000 | 28000 | 1.025 |
| 16003 | 17 | 35 | 8 | 0.3 | 6.82 | 3.38 | 22000 | 26000 | 0.027 |
| 16004 | 20 | 42 | 8 | 0.3 | 7.90 | 4.45 | 18000 | 20000 | 0.050 |
| 16005 | 25 | 47 | 8 | 0.3 | 8.42 | 5.15 | 15000 | 18000 | 0.060 |
| 16006 | 30 | 55 | 9 | 0.3 | 11.20 | 6.25 | 13000 | 15000 | 0.085 |
| 16007 | 35 | 62 | 9 | 0.3 | 11.50 | 8.80 | 11000 | 13000 | 0.100 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

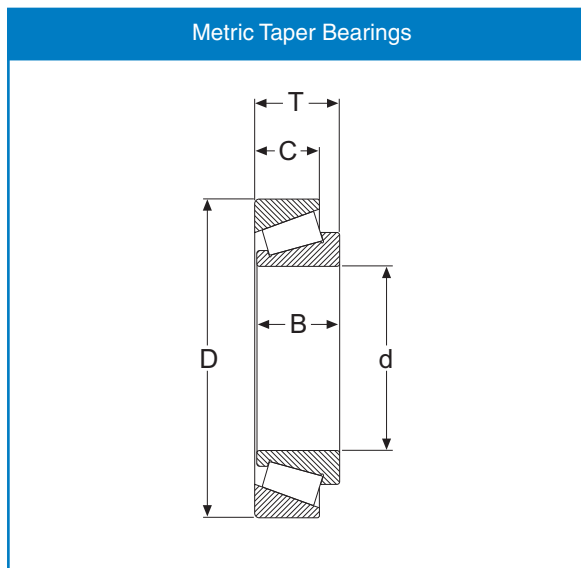
R Series



R Series

| Bearing Number | Dimensions | | | | Basic Load Rating kN | | Max Runout Speed rev/min | | Weight each kg |
|-----------------|------------|-------------------|------------|------------------|-------------------------|---------------|-----------------------------|------|-------------------|
| | Bore d | Outside Dia. D | Width B | Chamfer r min | Dynamic Cr | Static Cor | Grease | Oil | |
| R Series | | | | | | | | | |
| R3 | 4.763 | 12.70 | 3.967 | 0.3 | 0.89 | 0.42 | - | - | 0.0015 |
| R168 | 6.35 | 9.525 | 3.175 | 0.1 | 0.27 | 0.14 | 268 | 136 | 0.0032 |
| R188 | 6.35 | 12.70 | 3.175 | 0.15 | 0.83 | 0.37 | 830 | 370 | 0.0048 |
| R4 | 6.35 | 15.875 | 4.978 | 0.30 | 1.14 | 0.56 | 1136 | 558 | 0.0075 |
| R4A | 6.35 | 19.05 | 5.556 | 0.40 | 2.18 | 1.16 | 2175 | 1163 | 0.012 |
| R6 | 9.525 | 22.225 | 5.556 | 0.40 | 2.56 | 1.35 | 2560 | 1350 | 0.017 |
| R6ZZ | 9.525 | 22.225 | 7.142 | 0.40 | 2.56 | 1.35 | 2560 | 1350 | 0.019 |
| R8 | 12.70 | 28.575 | 6.350 | 0.40 | 3.93 | 2.23 | 3930 | 2230 | 0.028 |
| R8ZZ | 12.70 | 28.575 | 9.535 | 0.40 | 3.93 | 2.23 | 3930 | 2230 | 0.034 |
| R10 | 15.875 | 34.925 | 7.142 | 0.60 | 4.62 | 2.79 | 4620 | 2790 | 0.043 |
| R12 | 19.05 | 41.275 | 7.938 | 0.60 | 7.24 | 4.46 | 7240 | 4463 | 0.062 |
| R14 | 22.225 | 47.625 | 9.525 | 0.60 | 7.74 | 4.96 | 7740 | 4960 | 0.102 |
| R16 | 25.4 | 50.80 | 9.525 | 0.60 | 7.74 | 5.16 | 7740 | 5160 | 0.120 |
| R18 | 28.575 | 53.975 | 12.7 | 0.7874 | 8.24 | 5.18 | - | - | 0.190 |
| R20 | 31.75 | 57.15 | 12.7 | 0.7874 | 8.61 | 6.47 | - | - | 0.270 |
| R22 | 34.925 | 63.5 | 14.2875 | 0.7874 | - | - | - | - | 0.370 |
| R24 | 38.1 | 66.675 | 14.2900 | 0.7874 | - | - | - | - | 0.416 |

Metric Taper Bearings

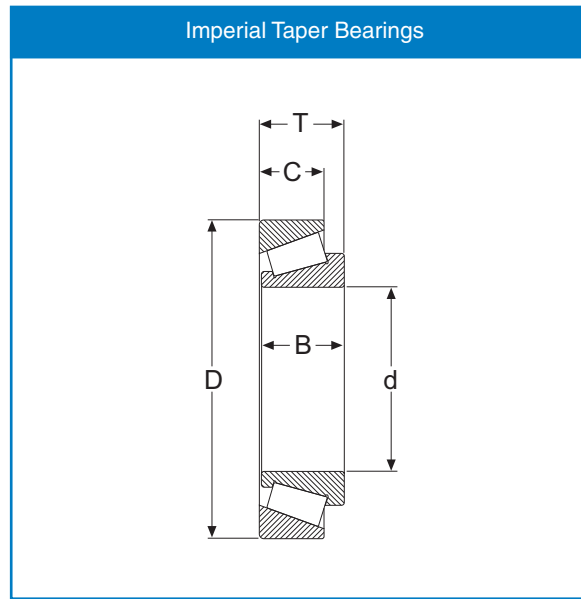


| Bearing Number | Bore d | Outside Dia. D | Complete Width T | Cone Width B | Cup Width C | Weight kg |
|----------------|-----------|----------------------|------------------------|--------------------|-------------------|--------------|
| 30203 | 17 | 40 | 13.25 | 12 | 11 | 0.08 |
| 32203 | 17 | 40 | 17.25 | 16 | 14 | 0.10 |
| 30303 | 17 | 47 | 15.25 | 14 | 12 | 0.13 |
| 32004 | 20 | 42 | 15.00 | 15 | 12 | 0.11 |
| 30204 | 20 | 47 | 15.25 | 14 | 12 | 0.13 |
| 30304 | 20 | 52 | 16.25 | 15 | 13 | 0.18 |
| 32204 | 20 | 47 | 19.25 | 18 | 15 | 0.17 |
| 32304 | 20 | 52 | 22.25 | 21 | 18 | 0.25 |
| 32005 | 25 | 47 | 15.00 | 15 | 11.5 | 0.12 |
| 30205 | 25 | 52 | 16.25 | 15 | 13 | 0.16 |
| 30305 | 25 | 62 | 18.25 | 17 | 15 | 0.27 |
| 32205 | 25 | 52 | 19.25 | 18 | 16 | 0.18 |
| 32305 | 25 | 62 | 25.25 | 24 | 20 | 0.38 |
| 32006 | 30 | 55 | 17.00 | 17 | 13 | 0.17 |
| 30206 | 30 | 62 | 17.25 | 16 | 14 | 0.22 |
| 30306 | 30 | 72 | 20.75 | 19 | 16 | 0.45 |
| 32206 | 30 | 62 | 21.27 | 20 | 17 | 0.28 |
| 32306 | 30 | 72 | 28.75 | 27 | 23 | 0.59 |
| 33206 | 30 | 62 | 25.00 | 25 | 19.5 | 0.35 |
| 32007 | 35 | 62 | 18.00 | 18 | 14 | 0.23 |
| 30207 | 35 | 72 | 18.25 | 17 | 15 | 0.32 |
| 30307 | 35 | 80 | 22.75 | 21 | 18 | 0.53 |
| 32207 | 35 | 72 | 24.25 | 23 | 19 | 0.43 |
| 32307 | 35 | 80 | 32.75 | 31 | 25 | 0.83 |
| 33207 | 35 | 72 | 28.00 | 28 | 22 | 0.59 |
| 32008 | 40 | 68 | 19.00 | 19 | 14.5 | 0.29 |
| 30208 | 40 | 80 | 19.75 | 18 | 16 | 0.43 |
| 30308 | 40 | 90 | 25.25 | 23 | 20 | 0.77 |
| 32208 | 40 | 80 | 24.75 | 23 | 19 | 0.56 |
| 32308 | 40 | 90 | 35.25 | 33 | 27 | 1.2 |
| 33208 | 40 | 80 | 32.00 | 32 | 25 | 0.74 |

| Bearing Number | Bore d | Outside Dia. D | Complete Width T | Cone Width B | Cup Width C | Weight kg |
|----------------|-----------|----------------------|------------------------|--------------------|-------------------|--------------|
| 32009 | 45 | 75 | 20.00 | 20 | 15.5 | 0.33 |
| 30209 | 45 | 85 | 20.75 | 19 | 16 | 0.5 |
| 30309 | 45 | 100 | 27.25 | 25 | 22 | 0.96 |
| 32209 | 45 | 85 | 24.75 | 23 | 19 | 0.57 |
| 32309 | 45 | 100 | 38.25 | 36 | 30 | 1.5 |
| 33209 | 45 | 85 | 32.00 | 32 | 25 | 0.79 |
| 32010 | 50 | 80 | 20.00 | 20 | 15.5 | 0.42 |
| 30210 | 50 | 90 | 21.75 | 20 | 17 | 0.54 |
| 30310 | 50 | 110 | 29.25 | 27 | 23 | 1.3 |
| 32210 | 50 | 90 | 24.75 | 23 | 19 | 0.6 |
| 32310 | 50 | 110 | 42.25 | 40 | 33 | 1.9 |
| 33210 | 50 | 90 | 32.00 | 32 | 24.5 | 0.85 |
| 32011 | 55 | 90 | 23.00 | 23 | 17.5 | 0.58 |
| 30211 | 55 | 100 | 22.75 | 21 | 18 | 0.7 |
| 30311 | 55 | 120 | 31.50 | 29 | 25 | 1.8 |
| 32211 | 55 | 100 | 26.75 | 25 | 21 | 1.21 |
| 32311 | 55 | 120 | 45.50 | 43 | 35 | 2.55 |
| 32012 | 60 | 95 | 23.00 | 23 | 17.5 | 0.63 |
| 30212 | 60 | 110 | 23.75 | 22 | 19 | 0.92 |
| 30312 | 60 | 130 | 33.50 | 31 | 26 | 2.1 |
| 32212 | 60 | 110 | 29.75 | 28 | 24 | 1.14 |
| 32312 | 60 | 130 | 48.50 | 46 | 37 | 3.15 |
| 32013 | 65 | 100 | 23.00 | 23 | 17.5 | 0.62 |
| 33113 | 65 | 110 | 34.00 | 34 | 26.5 | 0.62 |
| 30213 | 65 | 120 | 24.75 | 23 | 20 | 1.1 |
| 32213 | 65 | 120 | 32.75 | 31 | 27 | 1.59 |
| 32313 | 65 | 140 | 51.00 | 48 | 39 | 3.82 |
| 32014 | 70 | 110 | 25.00 | 25 | 19 | 0.97 |
| 32214 | 70 | 125 | 33.25 | 31 | 27 | 1.7 |
| 32215 | 75 | 130 | 33.25 | 21 | 27 | 1.93 |
| 32216 | 80 | 140 | 35.25 | 33 | 28 | 2.18 |

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused.

Imperial Taper Bearings



| Bearing Number | Bore d | Outside Dia. D | Complete Width T | Cone Width B | Cup Width C | Weight kg |
|----------------|-----------|-------------------|---------------------|-----------------|----------------|--------------|
| 11749/11710 | 17.46 | 39.88 | 13.84 | 14.61 | 10.67 | 0.083 |
| 09067/09195 | 19.05 | 45.24 | 16.64 | 15.49 | 12.07 | 0.180 |
| 11949/11910 | 19.05 | 45.24 | 15.49 | 16.64 | 12.07 | 0.125 |
| 12649/12610 | 21.43 | 50.01 | 17.53 | 18.23 | 13.97 | 0.172 |
| 44643/44610 | 25.40 | 50.29 | 14.22 | 14.73 | 10.67 | 0.118 |
| 84548/84510 | 25.40 | 57.15 | 19.43 | 19.43 | 14.73 | 0.254 |
| 44649/44610 | 26.99 | 50.29 | 14.22 | 14.73 | 10.67 | 0.108 |
| 45449/45410 | 29.00 | 50.29 | 14.73 | 14.22 | 10.67 | 0.104 |
| 86649/86610 | 30.16 | 64.29 | 21.43 | 21.43 | 16.67 | 0.339 |
| 15123/15245 | 31.75 | 62.00 | 18.16 | 19.05 | 14.29 | 0.237 |
| 2580/2523 | 31.75 | 69.85 | 25.36 | 23.81 | 19.05 | 0.451 |
| 67048/67010 | 31.75 | 59.93 | 15.88 | 11.81 | 16.76 | 0.186 |
| 48548/48510 | 34.93 | 65.09 | 18.03 | 18.29 | 13.97 | 0.259 |
| 88649/88610 | 34.93 | 72.23 | 25.40 | 25.40 | 19.84 | 0.483 |
| 68149/68110 | 35.00 | 59.13 | 15.88 | 16.76 | 11.94 | 0.173 |
| 68149/68111 | 35.00 | 59.98 | 15.88 | 16.76 | 11.94 | 0.174 |
| 29748/29710 | 38.10 | 65.09 | 18.03 | 18.29 | 13.97 | 0.233 |
| 29749/29710 | 38.10 | 65.09 | 18.03 | 18.29 | 13.97 | 0.236 |
| 18590/18520 | 41.28 | 73.03 | 16.67 | 17.46 | 12.70 | 0.288 |
| 501349/501310 | 41.28 | 73.43 | 19.56 | 19.81 | 14.73 | 0.337 |
| 25580/25520 | 44.45 | 82.93 | 23.81 | 25.40 | 19.05 | 0.558 |
| 25580/25522 | 44.45 | 83.06 | 23.81 | 25.40 | 19.05 | 0.553 |
| 102949/102910 | 45.24 | 73.43 | 19.56 | 19.81 | 15.75 | 0.316 |
| 25590/25520 | 45.62 | 82.93 | 23.81 | 25.40 | 19.05 | 0.538 |
| 104948/104910 | 50.00 | 82.00 | 21.50 | 21.50 | 17.00 | 0.419 |
| 3780/3720 | 50.80 | 93.26 | 30.16 | 30.30 | 23.81 | 0.854 |
| 506849/506810 | 55.00 | 90.00 | 23.00 | 23.00 | 18.50 | 0.558 |

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Notes

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Challenge Group Companies

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Email: au-ptsales@ammega.com

IRELAND

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Email: ireland@challengept.com

CHINA

Megadyne Asia Pacific Transmission Systems Ltd
Bao Zhan Avenue, Xiao Bai Village,
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China
Tel: +86 574 8833 4378 Fax: +86 574 8833 4379
Email: ningbo.sales@challengeproduction.com

SOUTH AFRICA

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Tel: +27 11 3975115 Fax: + 27 11 3978494
Email: sasales@challengept.com

UNITED KINGDOM

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WV10 9TJ
United Kingdom
Tel: +44 1902 866116 Fax: +44 1902 866117
Email: uksales@challengept.com

CHALLENGE GROUP OF COMPANIES TERMS OF SALE

These Terms do not apply if you deal as a Consumer Your statutory rights are not affected by these conditions

1. DEFINITIONS

In these Terms of Sale the following meanings shall apply:

| | | |
|---------------------|-------|--|
| "We" and "Us" | means | Ammega Group B.V. and its subsidiaries |
| "You" | means | the person seeking to purchase Goods from Us. |
| "the Goods" | means | the goods or where the context permits the services to be supplied by Us. |
| "Company Signatory" | means | a person authorised by Us. |
| "the Terms" | means | the terms set out in this document and special terms agreed in writing between a Company Signatory and You or on Buyer's order. |
| "the Contract" | means | the contract for the supply of Goods incorporating these Terms. |
| "Consumer" | means | any natural person acting for purposes outside their trade, business or profession. |
| "the Defect" | means | the condition and/or any attribute of the Goods and/or any other circumstances which but for the effect of these Terms would have entitled You to damages. |

2. THE CONTRACT

- All orders are accepted by Us only under these Terms and they may not be altered other than with the written agreement of a Company Signatory. Any contrary or additional terms unless so agreed are excluded.
- Quotations are invitations to treat only.
- Orders may be cancelled only with the written agreement of a Company Signatory and You will indemnify Us against all costs claims losses or expenses incurred as a result of that cancellation.
- You shall be responsible to Us for ensuring the accuracy of the terms of any order including any applicable design drawing or specification provided to Us by You and for giving Us any necessary information relating to the Goods within a sufficient time to enable Us to perform the Contract in accordance with its Terms.
- .1 It is Your responsibility to be fully conversant with the nature and performance of the Goods, including any harmful effects their use may have.
- .2 Without prejudice to Clause 2.5.4 of these Terms while We take every precaution in the preparation of our catalogues technical circulars price lists and other literature these documents are for your general guidance only and statements included in these documents (in the absence of fraud on our part) shall not constitute representations by Us and We shall not be bound by them.
- .3 We undertake to comply with the Safety Legislation including, but not limited to the provision of any available information relating to the safety of the Goods to secure so far as reasonable practicable the health and safety of the users of the Goods.
- .4 You will comply with the Safety Legislation and agrees to indemnify and keep indemnified Us against Your failure to comply with the Safety Legislation. In particular, you shall indemnify Us against any and all claims or proceedings resulting from any injury, loss or damage caused by a failure to use the Goods in accordance with Our instructions whether such failure is on the part of the Your employees, contractors or agents or a third party to whom You have supplied the Goods.
- .5 We shall not be liable in respect of any misrepresentation made by Us or our employees or agents to You our employees or agents as to the condition of the Goods their fitness for any purpose or as to quantity or measurements unless the representation is:
 - made or confirmed in writing by a Company Signatory; and/or
 - fraudulent
- .6 For the avoidance of doubt our liability for damages for misrepresentation (other than fraudulent) is excluded or limited by Clause 8 of these Terms.

3. PRICE

- The price of the Goods shall be as published in our price list current at the date of delivery of the Goods. The price is exclusive of VAT which shall be due at the rate ruling on the date of a VAT invoice.
- Prices listed or quoted are based on costs prevailing at the time when they are given or agreed. We shall be entitled to adjust the price of the Goods as at the time of delivery by such amount as may be necessary to cover any increase sustained by Us after the date of acceptance of your order and any direct or indirect costs of making obtaining handling or supplying the Goods.
- Prices listed or quoted are applicable to the quantity specified and on the information provided by You at the time of order. In the event of orders being placed for lesser quantities or if there is any change in specifications, delivery dates, or delay is caused by our instructions or lack of instructions we shall be entitled to adjust the price of the Goods as ordered to take account of the variations.
- We shall have the option of supplying any Goods ordered by You in imperial measurements in the nearest equivalent metric measurements and the Goods may be charged in metric measure allowing for conversions.

4. PAYMENT

- Unless other credit terms have been agreed in writing with a Company Signatory all accounts are due for payment on the last day of the month following the month in which the Goods are delivered.
- Late payments will incur interest at the rate of 5% per annum above the base rate of Barclays Bank Plc in force from time to time from the due date until the date of payment after as well as before judgement.
- Credit facilities may be withdrawn or reduced at any time in our sole discretion.
- Even if We have previously agreed to give You credit we reserve the right to refuse to execute any order or contract if the arrangements for payment or your credit rating is not satisfactory to Us. In our discretion We may require security satisfactory to Us or payment for each consignment when it is available and before it is despatched in which case delivery will not be effected until We are in receipt of security or cleared funds as requested by Us.
- In the case of short delivery You will remain liable to pay the full invoice price of all goods delivered or available for delivery.
- You may not withhold payment of any invoice or other amount due to Us by reason of any right of set off or counterclaim which You may have or allege to have for any reason whatever.
- We shall be entitled at all times to set off any debt or claim of whatever nature which We may have against You against any sums due from Us to You.

5. DELIVERY

- Delivery will be effected when the Goods leave our premises whether carried by Us or an independent carrier or the premises of our suppliers when the Goods are delivered direct from suppliers.
- Delivery dates are given in good faith but are estimates only.
- Time for delivery shall not be of the essence of the Contract.
- For the avoidance of doubt and without detracting from any other provisions of these Terms We shall not be liable for any damages whatsoever whether direct or indirect (including for the avoidance or doubt any liability to any third party) resulting from any delay in delivery of the Goods or failure to deliver the Goods in a reasonable time whether such delay or failure is caused by our negligence or otherwise howsoever.
- We reserve the right to make delivery by instalments and tender a separate invoice in respect of each instalment. Our failure to deliver any one or more instalments or any claim by You in respect of any one or more instalments shall not entitle You to treat the Contract as a whole as repudiated.
- The price agreed includes our normal delivery charges but We may make an additional charge if We incur further costs or expense such as (but not limited to) those caused by delivery of less than a full load; complying with your request for delivery outside our normal delivery pattern or trading hours or by instalments; orders of small value which are not economical for us to deliver free.
- You must provide the necessary labour for unloading the Goods and unloading is to be completed with reasonable speed. If our delivery vehicle is kept waiting for an unreasonable time or is obliged to return without completing delivery or if We provide additional staff to unload Goods an additional charge will be made.
- You may collect Goods from Us during our trading hours. If they are not collected within 14 days from when We notify You that they are available a storage charge will be payable before the Goods are released.
- If you fail to take delivery accept or collect the Goods within the agreed time in our discretion We may make an additional charge, invoice You for the Goods or treat the contract as repudiated and in any case recover our losses from You.
- If you collect Goods from Us you are solely responsible for the size weight and positioning of the load on the vehicle and shall indemnify Us in respect of all costs claims losses or expenses We may incur as a result of your collecting the Goods including any resulting from our negligence.

6. INSPECTION

- You shall inspect the Goods at the place and time of unloading or collection but nothing in these Terms shall require You to break packaging and/or unpack Goods which are intended to be stored before use.
 - You must advise Us by telephone immediately and give Us written notice within three working days of unloading of any claim for short delivery.
 - If you do not give Us that notice within that time the Goods will be deemed to have been delivered in the quantities shown in the delivery documents.
 - You shall not be entitled and irrevocably and unconditionally waive any right to reject the Goods or claim any damages whatsoever for short delivery howsoever caused.
 - Our liability for short delivery is limited to make good the shortage.
 - Where it is or would have been apparent on a reasonable inspection that the goods are not in conformity with the Contract or (where the Contract is a contract for sale by sample) that the bulk does not compare with the sample You must advise Us by telephone immediately and give us written notice within three working days of inspection.
 - If you fail to give Us that notice within that time the Goods will be deemed to have been accepted and You shall not be entitled and irrevocably and unconditionally waive any right to reject the Goods.
 - If you fail to give Us that notice within that time Clause 8 shall have effect.

7. TITLE AND RISK

- Risk in the Goods shall pass to You when the Goods are delivered.
 - The property in the Goods shall remain with Us until You pay all sums due to Us whether in respect of this Contract or otherwise.
 - Until title passes:-
 - You shall hold the Goods as our fiduciary agent and bailee.
 - The Goods shall be stored separately from any other goods and You shall not interfere with any identification marks labels batch numbers or serial numbers on the Goods.
 - We agree that You may use or agree to sell the Goods as principal and not as our agents in the ordinary course of your business subject to the express condition that at our direction the entire proceeds of any sale or insurance proceeds received in respect of the goods are held in trust for Us and not mixed with any other monies or paid into an overdraft bank account and shall at all times be identifiable as our money.
 - We shall be entitled at any time to recover any or all of the Goods in your possession to which We have title and for that purpose We our employees or agents may with such transport as is necessary enter upon any premises occupied by You or to which You have access and where the Goods may be or are believed to be situated.
- ### 8. LIABILITIES
- Nothing in these Terms shall exclude or restrict our liability for death or personal injury resulting from our negligence or our liability for fraudulent misrepresentation.
 - Subject to Clause 8.1 these Terms We shall not be liable by reason of any misrepresentation (unless fraudulent) or any breach of warranty condition or other term express or implied or any breach of duty (common law statutory) or negligence for any damages whatsoever. Instead of liability in damages We undertake liability under Clause 8.3 below.
 - Where but for the effect of Clause 8.2 of these Terms You would have been entitled to damages against Us We shall not be liable to pay damages but subject to the conditions set out in Clause 8.4 below shall in our sole discretion either repair the Goods at our own expense or supply replacement Goods free of charge or refund all (or where appropriate part) of the price paid for the relevant Goods.
 - We will not be liable under Clause 8.3:
 - If the Defect arises from fair wear and tear.
 - If the Defect arises from wilful damage negligence abnormal working conditions mis-use alteration or repair of the Goods failure to follow British Standard or industry instructions relevant to the

Goods or storage of the Goods in unsuitable conditions (but this sub-clause shall not apply to any act or omission on our part)

- Unless after discovery of the Defect we are given a reasonable opportunity to inspect the Goods before they are used or in any way interfered with. For the avoidance of doubt We acknowledge that the costs of suspending works are relevant to the determination of what is a reasonable opportunity and this sub-clause shall not apply to any works affecting the Goods which it may be reasonably necessary to carry out in the interests of safety and/or as emergency measures.
- If the Defect would have been apparent on a reasonable inspection under Clause 6.1 of these Terms at the time of unloading unless You advise Us by telephone immediately and written notice of any claim is given to Us within three working days of the time of unloading; or in any other case.
- The Defect is discovered within four months from the date of delivery and We are given written notice of the Defect within three working days of it being discovered.
- If the Goods are manufactured processed or milled by Us to the design quantity measure or specification of You or your agents then:
 - Subject to Clause 8.1 of these Terms We shall not be under any liability for damages whatsoever under Clause 8.3 of these Terms as the case may be except in the event of:
 - Fraudulent misrepresentation.
 - Misrepresentation where the representation was made or confirmed in writing by a Company Signatory.
 - Non-compliance with such design quantity measurement or specification.
 - 4.Breach of a written warranty signed by a Company Signatory that the Goods are fit for that purpose; or
 - 5A claim maintainable against Us pursuant to Clause 8.1 of these Terms.
 - You will unconditionally fully and effectively indemnify Us against all loss damages costs on an indemnity basis and expenses awarded against or incurred by Us in connection with or paid or agreed to be paid by Us in settlement of any claim for infringement of any patents copyright design trademark or any other industrial or intellectual property rights of any other person.
 - You will further unconditionally fully and effectively indemnify Us against all loss damages costs on an indemnity basis and expenses awarded against or incurred by Us in connection with or paid or agreed to be paid by Us in settlement of any other claim arising from any such manufacturing processing or milling including but not limited to any Defect in the Goods. This indemnity will be reduced in proportion to the extent that such loss damage costs and expenses are due to our negligence.
 - You will unconditionally fully and effectively indemnify Us against all loss damages costs on an indemnity basis and expenses awarded against or incurred by Us in connection with or paid or agreed to be paid by Us in settlement of any claim by any third party arising from the supply or use of the Goods. This indemnity will be reduced in proportion to the extent that such loss damage costs and expenses are due to our negligence.
- Without prejudice to any other provisions in these Terms in any event our total liability for any one claim or for the total of all claims arising from any one act of default on our part (whether arising from our negligence or otherwise) shall not exceed the purpose price of the goods the subject matter of any claim.

9. NON PAYMENT/INSOLVENCY

- "Insolvent" means You becoming unable to pay your debts within the meaning of Section 123 of the Insolvency Act 1986; the levying or the threat of execution or distress on any of your property; the appointment of a receiver or administrative receiver over all or any part of your property; a proposal for a voluntary arrangement or compromise between You and your creditors whether pursuant to the Insolvency Act 1986 or otherwise; the passing of a resolution for voluntary winding-up or summoning a meeting to pass such a resolution otherwise than for the purposes of a bona fide amalgamation or reconstruction; the presentation of a petition for your winding-up or for an administration order in relation to You; if You suffer any analogous step or proceedings under foreign law or You ceasing or threatening to cease to carry on your business.
- If you fail to pay the price for any Goods on the due date or fail to pay any sum due to Us under any contract on the due date or You become insolvent or if You are a Limited Company or partnership and there is a material change in your constitution or You commit a material breach of this Contract and fail to remedy that breach all sums outstanding between You and Us shall become immediately payable and We shall be entitled to do any one or more of the following (without prejudice to any other right or remedy We may have)
 - Require payment in cleared funds in advance of further deliveries.
 - Cancel or suspend any further deliveries to You under any contract without liability on our part.
 - Without prejudice to the generality of Clause 7 of these Terms exercise any of our rights pursuant to that clause.
 - If we reasonably incur third party costs such as tracing or debt collection agency costs or seek legal advice or take legal proceedings to enforce our rights as a result of your breach of this Contract including but not limited to recovery of any sums due, you will reimburse us such reasonable agency costs or legal costs incurred on an indemnity basis.

10. GENERAL

- This Contract shall be governed and interpreted according to the law of England and Wales and You agree to submit to the non-exclusive jurisdiction of the English Courts.
- We shall not be liable for any delay or failure to perform any of our obligations in relation to the Goods due to any cause beyond our reasonable control including industrial action.
- The waiver by Us of any breach or default of these Terms shall not be construed as a continued waiver of that breach nor as a waiver of any subsequent breach of the same or any other provision.
- If any clause or sub-clause of these Terms is held by a competent authority to be invalid or unenforceable the validity of the other clauses and sub-clauses of these Terms shall not be affected and they shall remain in full force and effect.
- We may assign novate or sub-contract all or part of this Contract and You shall be deemed to consent to any novation. This Contract is personal to You and it may not be assigned.
- Nothing in this Contract is intended to or will grant any right to any third party to enforce any terms of this contract whether express or implied.



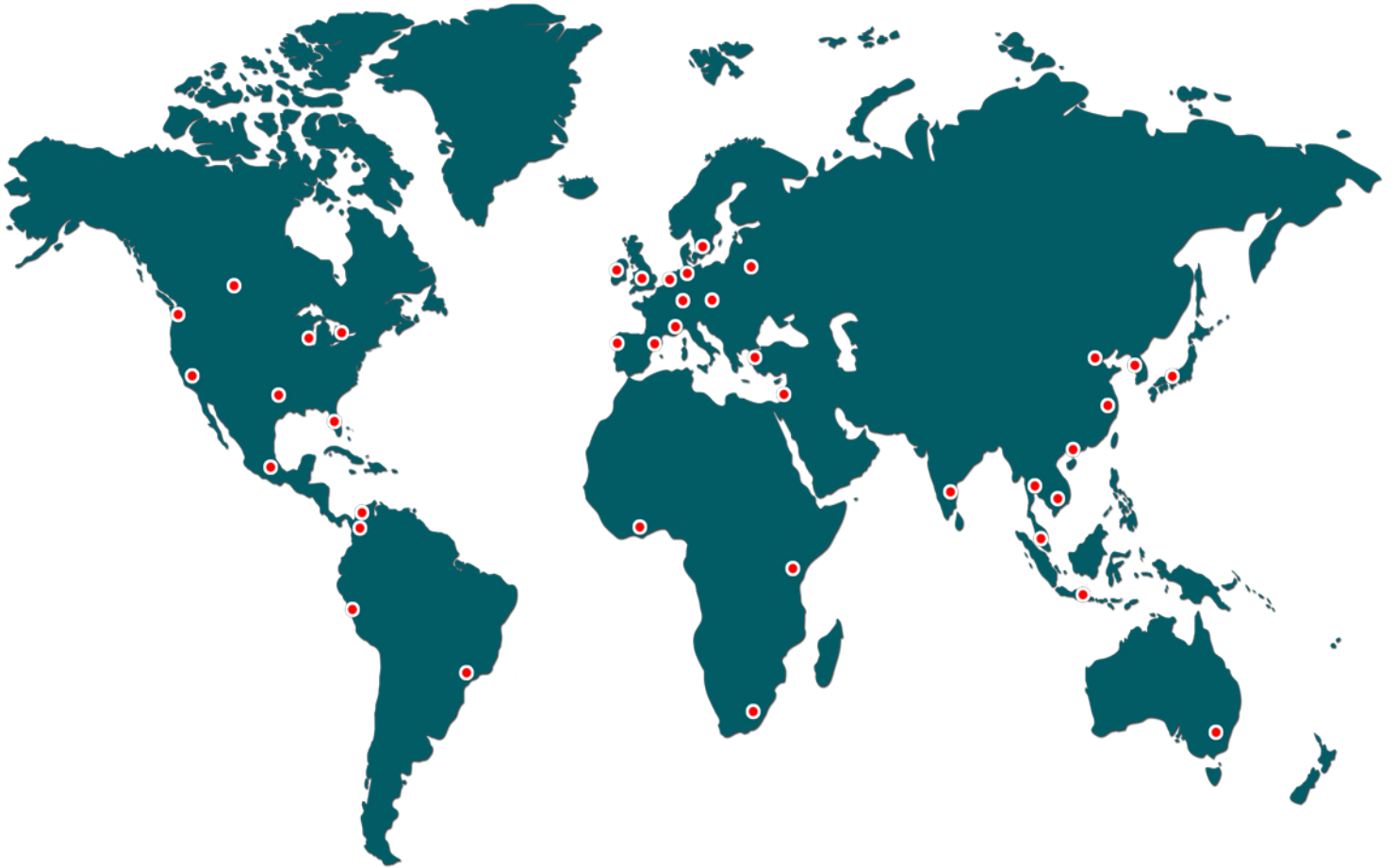
Never a problem, always a...

 **CHALLENGE**  [®]





25 production plants
More than 150 sales offices
Over 5000 people



The Ammega global network. We make your business move.

Never a problem always a ...



Member of Ammega Group
ammega.com

[Online Catalogue
en.challengept.com](http://en.challengept.com)

