

PRODUCT CATALOGUE



an SKF Group brand

SKF

COOPER®

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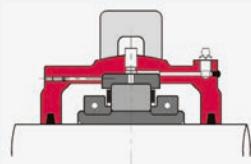
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BEARING TYPES

Cooper bearings are commonly supplied in two forms: the Fixed Type ('GR') and Expansion Type ('EX') as described below. Where conditions are unsuitable for these standard types other configurations are possible.

FIXED TYPE BEARINGS (GR)

The outer race of the fixed (GR) bearing has shoulders integral with the roller track, while the inner race assembly has shoulders formed by hardened lips on the clamping rings or similar integral shoulders.

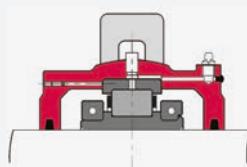


GR BEARING (D TYPE)

01 and 02 Series through 300mm /12" shaft size and 03 Series through 155mm /6" shaft size.
100 Series all shaft sizes.

This type of bearing provides axial location to the rotating portions of machinery and can sustain both radial and axial loading.

The inner race halves are accurately aligned by means of fitted clamping rings.



GR BEARING (C TYPE)

01 and 02 Series over 300mm /12" shaft size and 03 Series over 155mm /6" shaft size.

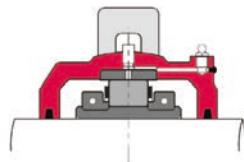
EXPANSION TYPE BEARINGS (EX)

The expansion (EX) bearing has a plain outer race roller track. This bearing takes radial load only.

The inner race is clamped to the shaft, and moves

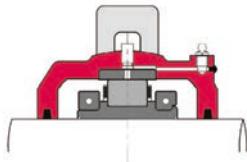
axially with it when expansion or contraction occurs.

The Cooper expansion bearing offers virtually no resistance to axial movement as the rollers spiral through the outer race.



EX BEARING (D TYPE)

01 and 02 Series through 300mm /12" shaft size and 03 Series through 155mm /6" shaft size.
100 Series all shaft sizes.



EX BEARING (C TYPE)

01 and 02 Series over 300mm /12" shaft size and 03 Series over 155mm /6" shaft size.

HOUSING TYPES

Most styles of Cooper housing are available in cast iron, ductile iron or steel. Special types of housing, alternative materials and housings to special dimensions are available on request.

PEDESTALS

Pedestals (also called pillow blocks) are the most common mountings for Cooper bearings. Detail design and number of fixing bolts varies with bearing series and size.



LARGE BORE BASE



TWO BOLT BASE

Cooper offer ranges of pedestals that allow direct replacement of SNC, SD, and SAF pillow block units.

TAKE-UP AND ROD END MOUNTINGS

Take-up units are available as tension type (shown) or push type. Rod-end units are available as shoe type (shown) or tee type.



ROD END UNITS



TAKE-UP UNITS

FLANGEMOUNTINGS



ROUND FLANGE UNITS



SQUARE FLANGE UNITS

HANGERMOUNTINGS



HANGER UNITS



SELECTION FOR RADIAL LOAD

CALCULATING BEARING LIFE

Selection for radial loading is usually based on the radial load rating denoted by "Cr". The radial load ratings listed in this catalogue are based on ISO standards. The system establishes a common basis for calculating load ratings for all anti-friction bearings. It is based on the statistical life expectancy for rolling contact fatigue, and provides a reasonable estimate of service life under conditions of adequate lubrication, freedom from contamination and excessive misalignment. In practice, the service life of the bearing may be determined by factors other than the rolling contact fatigue. Generally, the term 'life' used in the Bearing Selection section of this catalogue refers to the statistical life of the bearing against rolling contact fatigue as calculated using ISO standards.

Selection for radial load is determined independently from the axial load. Determine the radial load, speed and minimum life required. Generally the shaft size has been predetermined. Selection of the bearing can be made using the following formula:

$$Cr \geq P \times fn \times fL \times fd.$$

Where Cr = radial dynamic rating.

P = calculated effective radial load.

fn = speed (rpm) factor.

fL = life (hours) factor.

fd = dynamic or service factor.

$$fn = (\text{rpm} \times 0.03)^{0.3}.$$

$$fL = (L10 \text{ hours}/500)^{0.3}.$$

L10 hours is the expected life in hours of 90% of similar bearings under similar operating conditions.

Note: The product $fn \times fL$ should not be less than 1.0.

Alternatively, bearing life may be calculated by the equation $L10 = [Cr/(P \times fd)]^{10/3}$, where:
L10 = expected life of 90% of similar bearings under similar operating conditions, in millions of revolutions.

When the equivalent radial load equals the Cr rating, multiplied by the service factor, the L10 life will be 1 million revolutions.

If high temperatures (above 100°C) are involved, please refer to notes on page 7.

Refer to the next page for further notes.

BEARING LIFE REQUIREMENTS

Suggested lives and factors for specific operating conditions are shown below.

Operating conditions	Life factor (fL)	Life hours (L10)
8 hour daily working	3.0-4.0	20,000- 50,000
Continuous operation main drives, large electrical machinery, flywheels, mining	4.4-5.0	70,000-100,000
Continuous operation and an exceptionally high degree of reliability	5.0-6.0	100,000-200,000

We recommend that bearings are specified to provide an L10 life of at least 10,000 hours, except for bearings selected on the basis of static rating.

DYNAMIC FACTOR

The appropriate dynamic factor f_d may be taken from the chart below.

Conditions	f_d
Steady load or small fluctuations	1.0 - 1.3
Light shock	1.3 - 2.0
Heavy shock, vibration or reciprocation	2.0 - 3.5

LIFE ADJUSTMENT FACTORS FOR CRITICAL APPLICATIONS

The basic L10 life obtained by using the equations or tables in this catalogue are adequate for normal applications.

Bearings for most normal applications are specified using the L10 life as above. For reliability greater than 90%, replace L10 in the above equations with L_{90} where $L_{90} = a_1 \times L_{10}$ and is given in the table below.

Reliability

%	95	96	97	98	99
a_1	0.62	0.53	0.44	0.33	0.21

MINIMUM RADIAL LOAD

The radial load must exceed a certain value in order to prevent the rollers skidding rather than rolling. Cooper bearings are able to operate at lower loads than other types of rolling element bearings. Minimum radial loads are generally Cr/65 for GR bearings and Cr/120 for EX bearings. Lower loads can be accommodated under certain conditions. Please refer to our technical department.

BASIC STATIC LOAD RATINGS (Cor)

The values of Cor given in this publication have been calculated in accordance with ISO standards. The basic static load rating is defined as that static (radial) load which corresponds to a contact stress of 4,000 MPa (580,000 psi) at the centre of the most heavily loaded roller/raceway contact and produces a permanent deformation of 0.0001 times the roller diameter.

Where rotation is very slow (less than 5 rpm) or intermittent, bearing size can be selected based on the static load carrying capacity. The requisite basic static load rating can be determined from:

$$\text{Cor} = S_o \times P$$

where:

Cor = basic static radial load rating (kN)

P = effective bearing load (kN)

S_o = static safety factor

Bearing Static Safety Factors, S_o

Type of operation	Requirements for smooth running		
	Low	Normal	High
Vibration free	1	1.5	3
Normal	1	2	3.5
High shock loads	2.5	3	4

SELECTION FOR AXIAL LOAD

Selection for axial load is considered independently from the radial load. Determine the axial load applied to the bearing. Knowing the speed and desired shaft size, select a bearing using the following formula:

$$Ca > (fd_a \times fdn \times Pa) / fb$$

Where:

Ca = axial rating | fd_a = dynamic or service factor

Pa = calculated axial load

fdn = Velocity (dn) factor (See scale opposite)

fb = bearing factor (see scale opposite)

The dynamic or service factor fd_a may be 1 for peak overload periods and 1.1 to 1.2 for general running (depending on smoothness), where the load is accurately known. An allowance for any inaccuracies in the calculated loads must be made to ensure that the bearing axial capacity is not exceeded.

Retaining rings or recessed journals are required when $Pa > 0.5Ca$ for 01, 02 and 03 Series, if $Pa > 0.25Ca$ for 01E and 02E Series bearings, and if $Pa > 0.2Ca$ for 100 Series bearings. Refer to our technical department.

If the axial load exceeds 40% of the radial load, please consult our technical department. The axial load capacity is decreased by 50% if the lubricant does not have extreme pressure (EP) additives.

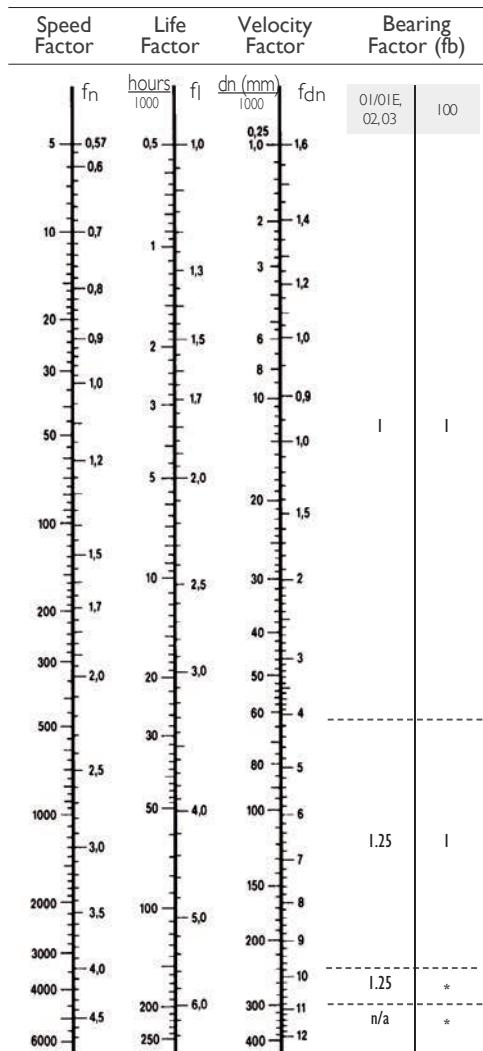
TEMPERATURE AND BEARING CLEARANCE

The normal temperature range for standard bearings is 0°C to 100°C. For temperatures outside this range, our technical department should be consulted as special attention may be required to materials, seals and lubrication.

The standard bearing clearance is usually suitable for temperatures up to 100°C provided that the difference between shaft and housing temperatures is not more than 40°C. For higher temperatures or greater temperature differentials, bearings of C3 or C5 clearance are offered.

Reduced (C2) clearance bearings are offered where appropriate (e.g. for reciprocating or vibratory applications).

Bearing dynamic capacity is decreased by increased clearance or operation over 150°C



Velocity factor fdn applies only to axial loads on GR bearings.

dn (mm) = bearing bore (mm) x shaft speed (rpm)

* refer to technical department



SHAFT TOLERANCE

Journal diameter tolerance is generally h7.

For speeds over 150,000mm dn and all C2 clearance bearings the tolerance is h6.

For light loads and slow speeds wider tolerances up to h9 may be permissible. Please consult our technical department if a wider tolerance is required, or if it is required to mount a bearing on an existing shaft with a different tolerance to those specified above.

The tolerance on roundness and parallelism of the journal is IT6 in all cases.

Where the shaft is stepped so that the diameter of the shaft at the seals is different to the journal diameter, a wider tolerance (h9) is permissible for the shaft diameter at the seals.

The table below shows relevant tolerances for shaft diameters up to 600mm. The maximum surface roughness of the journal should not exceed 3.2µm Ra when diameter tolerance h7 applies, or 1.6µm Ra when tolerance h6 applies. The maximum surface roughness of the portion of the shaft under the seals is specified on pages 10 and 11.

TOLERANCES OF SHAFT DIAMETERS

Diameter (mm)	Over Up to and including	-	50	80	120	180	250	315	400	500
Tolerance in µm										
		+0	+0	+0	+0	+0	+0	+0	+0	+0
	h6	-16	-19	-22	-25	-29	-32	-36	-40	-44
Tolerance band (to BS 4500)	h7	+0	+0	+0	+0	+0	+0	+0	+0	+0
		-25	-30	-35	-40	-46	-52	-57	-63	-70
h9	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
		-62	-74	-87	-100	-115	-130	-140	-155	-175
	IT6	16	19	22	25	29	32	36	40	44

SEALING SOLUTIONS

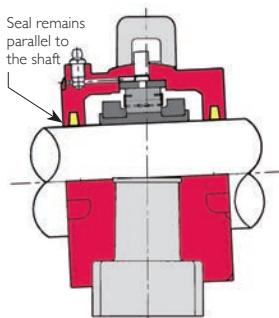
Efficient performance and long life of the roller bearing depend to a large extent upon the exclusion of foreign matter from the internal bearing surfaces. Grease, or oil, serves the dual purpose of lubricating these surfaces and protecting them from corrosion. Thus the seal must prevent dust, grit and moisture from entering the bearing and at the same time prevent grease or oil from escaping.

ALIGNMENT FEATURE

Cooper supplies various mounting options and for all, except the hanger mountings, the bearing is housed in a cartridge supported by the mounting unit. Cartridges have a spherical outer surface that fits into a conforming surface in the mounting unit (such as pedestal or flange) in the manner of a ball and socket joint.

Any shaft misalignment that may exist tends to move the cartridge, seal and bearing together, maintaining the seal on an axis parallel to the shaft. Standard pedestals and flanges are designed to allow up to $2\frac{1}{2}^{\circ}$ misalignment between the shaft and housing, under constant or slowly changing alignment conditions, without compromising sealing.

Compare this with the situation that occurs with a double row spherical bearing in a standard pedestal. If the pedestal is not accurately aligned with the shaft, contact between the seal and the shaft tends to be lost at one side, and the seal presses more heavily against the shaft at the other. In the worst case a gap may open, compromising the sealing, or the seal may bind on the shaft. Although felt seals are shown in the illustration, a similar situation occurs with labyrinth or lip seals.



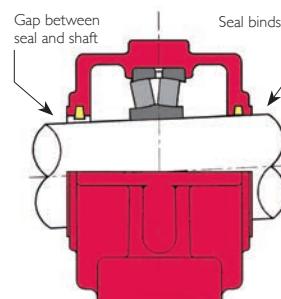
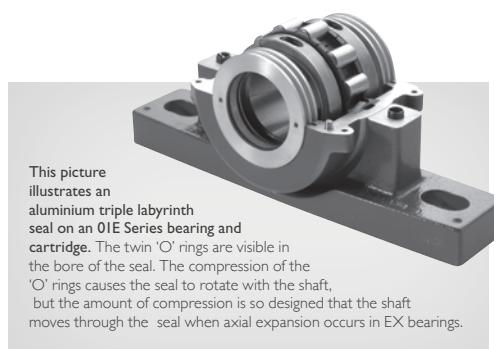
**COOPER
SPLIT ROLLER
BEARING**

SEAL TYPES

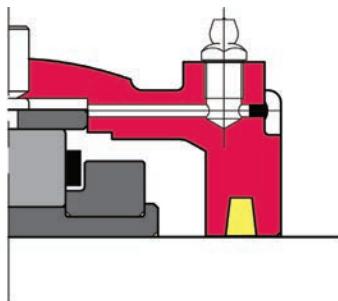
Cartridges for shaft sizes up to 300mm/12" are usually supplied with a general purpose felt seal. The felt groove will also accommodate high temperature packing seals, lipped seals or suitable blanking plates.

Triple labyrinth seals are often supplied as an alternative and are precision non-rubbing seals capable of high speed operation. Due to the aligning feature described above, extremely close tolerances can be maintained between the housing and the shaft. The result is an effective sealing element which is one of the best in the anti-friction bearing industry.

Cartridges for shaft sizes over 300mm/12" are supplied with grease groove seals as standard. Cooper offer a wide range of sealing options, the more common of which are illustrated overleaf. For special applications seals may be made from other materials and alternative special seals can be supplied to suit specific conditions.



**DOUBLE ROW
SPHERICAL
BEARING**



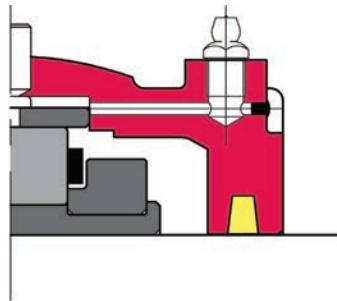
FELT (F)

Standard in UK and Europe

Temperature limits -70°C to 100°C

Maximum speed 150000 dn(mm)

Shaft surface finish 1.6 µm Ra max.



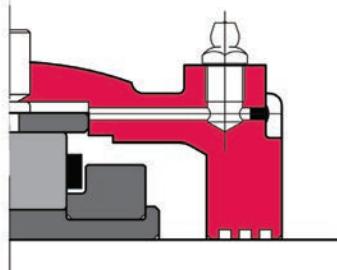
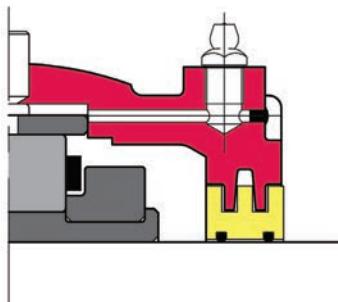
HIGH TEMPERATURE PACKING (HTP)

A direct replacement for felt in high temperature applications.

Temperature limits -70°C to 260°C

Maximum speed 150000 dn(mm)

Shaft surface finish 0.8 µm Ra max.



ALUMINUM TRIPLE LABYRINTH (ATL)

High temperature version (ATL HT)

Low temperature version (ATL LT)

Machined aluminium bodied triple labyrinth seal for high speed and general applications. ATL supplied as standard sealing arrangement in USA and Canada. ATL HT and ATL LT are fitted with O rings of different materials.

Temperature limits ATL -20°C to 100°C

ATL HT -20°C to 175°C

ATL LT -60°C to 100°C

Maximum speed Bearing maximum

Shaft surface finish 3.2 µm Ra max.

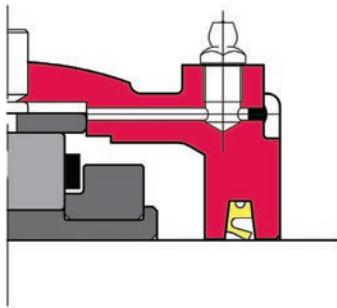
GREASE GROOVE (LAB)

Suitable for high or slow speed operations. Particularly successful on marine applications.

Temperature limits Bearing maximum

Maximum speed Bearing maximum

Shaft surface finish 3.2 µm Ra max.

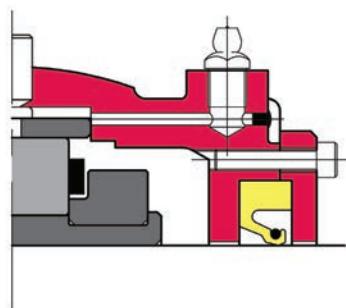


SYNTHETIC RUBBER SINGLE LIP (SRS)

**High temperature version (SRS HT)
Low temperature version (SRS LT)**

Suitable for wet but not submerged conditions. Can be used for improved lubricant retention by mounting lip inwards.

Temperature limits -70°C to 260°C
Maximum speed 150000 dn(mm)
Shaft surface finish 0.8 µm Ra max.



SPRING-LOADED SINGLE LIP WITH RETAINING PLATE (SRSRP)

High pressure version (SRSRP 40M)

Suitable for severe splash or completely submerged conditions. The standard version is suitable for up to 2m of water. the high pressure version is suitable for up to 40m of water.

Temperature limits -20°C to 100°C
Maximum speed 150000 dn(mm)
Shaft surface finish 0.4 µm Ra max.

BULKHEAD SEALING

It is often found economical to combine a bearing and bulkhead seal into one unit. This reduces the number of individual units required, and prevents problems with shaft eccentricity sometimes encountered at the bulkhead seal when it is separated from the bearing.

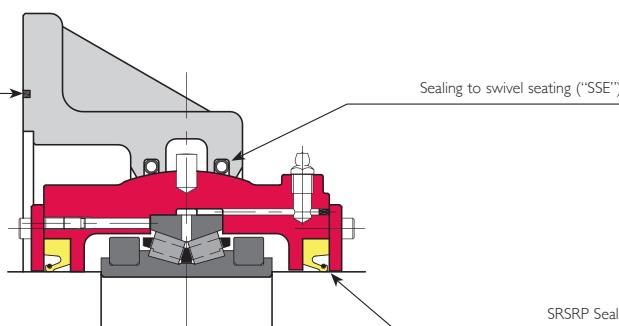
Generally, a specially adapted flange mounting is used and the bearing is fitted with SRSRP seals.

Generally, the flange incorporates additional sealing to the cartridge seating, and may include sealing on the mounting face ('backface').

Where the shaft surface speed is too high for standard SRSRP seals, an alternative high speed version is available, or alternative seal types can be used if a moderate leakage of water is permitted through the bearing in an emergency.

Sealing to flange mounting face ("BFS")

Sealing to swivel seating ("SSE")

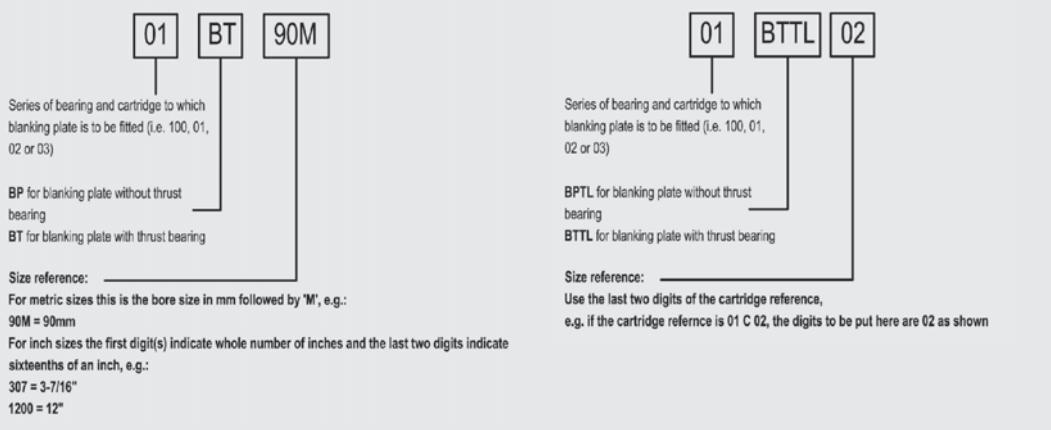


BLANKING PLATES

Where shafts terminate at the bearings, 'blanking plates' may be used to close off the cartridge ends. Blanking plates are available to suit standard single groove and TL cartridges.

On sizes up to 90mm/3½" blanking plates accommodating thrust bearings can be used for axial location of shafts.

A typical application is on the shafts of belt conveyors.



ORDERING

For blanking plates to suit single groove cartridges, the part code is made up as follows:

For blanking plates to suit TL cartridges, the part code is made up as follows:

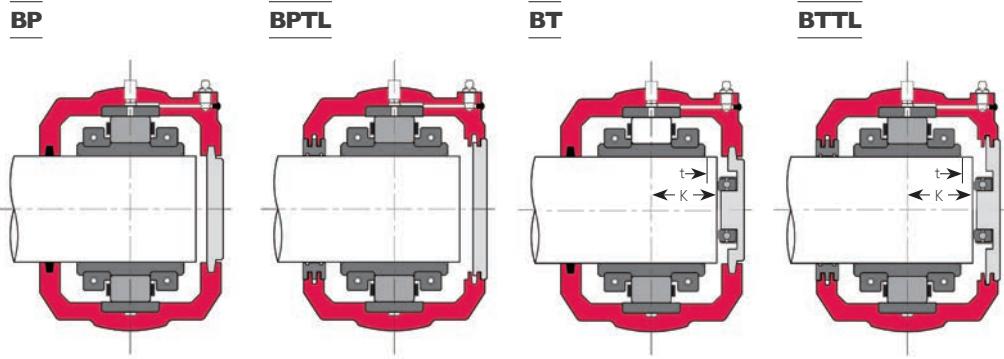
BT and BTTL blanking plates are only regarded as

For blanking plates with thrust bearings, the shaft ends must be machined smooth and square. Upon assembly, there must be slight clearance between the shaft ends and the thrust bearings (i.e. slight end float), without the possibility of preload.

Blanking plates with thrust bearings are limited to a maximum speed of 20,000mm dn (calculated using the shaft size, not the bore of the thrust bearing) and to shaft location only (i.e. only nominal axial loading).

standard items for 01 and 02 series cartridges up to 90mm/3½" bore size.

For all blanking plates, if the cartridge end bore is machined to suit a shaft diameter that is different to the bore of the bearing, refer to Cooper for the relevant part code.



DIMENSIONS

Dimensions for shaft terminations, when using blanking plates with thrust bearings, are shown below:

Shaft diameter d		01 Series	t	02 Series	t
	K			K	
35mm	$1\frac{3}{16}''$ $1\frac{1}{4}''$	27	2	-	-
40mm	$1\frac{7}{16}''$ $1\frac{1}{2}''$				
45mm	$1\frac{11}{16}''$ $1\frac{3}{4}''$	29	1	-	-
50mm	$1\frac{15}{16}''$ 2"	29	1	35	1
55mm		30	2	-	-
60mm	$2\frac{3}{16}''$ $2\frac{1}{4}''$ $2\frac{7}{16}''$	30	2	38	2
65mm	$2\frac{15}{16}''$ 3"				
70mm	$2\frac{11}{16}''$ $2\frac{3}{4}''$	35	4	41	0
75mm	$2\frac{15}{16}''$ 3"				
80mm	$3\frac{3}{16}''$				
85mm	$3\frac{1}{4}''$				
90mm	$3\frac{7}{16}''$ $3\frac{1}{2}''$	40	4	48	3

INSTALLATION AND ASSEMBLY

The following is a typical assembly sequence of a pedestal or flange mounted bearing and is included to allow engineers using this catalogue to understand the assembly process of the Cooper bearing and to allow them to produce relevant documentation for their own machines, which may require this information. A full set of assembly instructions is usually packaged with each standard bearing, for use by the fitters. If non-standard bearings are to be used, and/or a different assembly sequence is required for the application, specific assembly instructions can be supplied on request.

The illustrations use a pedestal mounted unit as an example.

PRELIMINARY NOTES

Bearings must be disassembled before assembling into position.

Unwrap the bearing parts, remove the outer race halves (if supplied assembled around other parts), and separate the halves of the cage (if required). Various cage jointing methods are used depending on size and series of bearing. Undo the clamping ring screws and remove the clamping rings from the inner race.

Remove the preservative from all surfaces of all the parts.

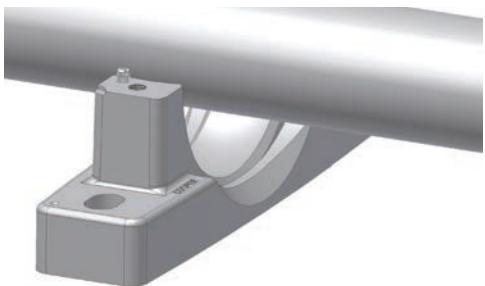
All bearing and housing components (with the exception of pressed steel, die cast and plastic cages) are marked with matching numbers or letters on each half. Ensure that the match marks on the halves are the same and are placed together on each component when the bearing is assembled.

Even though cage halves are not necessarily match-marked, they must not be mixed, as the rollers are graded into sets.

Complete roller bearings are interchangeable between similar Cooper cartridges. Individual parts should not be interchanged. Cartridges are interchangeable between standard outer housings provided that standard clearances are specified.

STEP 1 – HOUSING BASE

Place the pedestal base or flange lower half into position. If the precise location of the housing is predetermined it may be bolted into position. Generally, pedestal bases may require slight movement at a later stage in order to accurately position the shaft.



Note: The pedestal base is not shown in most of the illustrations that follow, for clarity of other details.

STEP 2 – INNER RACE

Lightly oil the shaft with thin machine oil, then remove the excess with a clean wiper. Place the inner race at the correct position on the cleaned shaft. Soft packing on the joint faces, or feeler gauges, should be used to ensure that the joint gaps are approximately equal. Inner races of expansion bearings are usually set centrally with the outer race, but in cases of significant axial expansion there may be a deliberate offset. (This is usually up to a maximum of 10% of the roller length, but may be more in the case of special types of bearing).



STEP 3 – CLAMPING RINGS

Fit the clamping rings with joints at approximately 90° to the inner race joints (45° in the case of large bearings with 4-part clamping rings). Progressively tighten all clamping ring screws.



Tap down each half of the inner race and clamping rings all around the shaft using a soft-faced hammer, or insert a hardwood block between a steel hammer and the bearing parts. Retighten the clamping ring screws. Repeat until screws remain fully tight.



Check that there are approximately equal gaps at both joints of the inner race.

Check that there are approximately equal joints at both (or all 4) joints of each clamping ring.

STEP 4 – CAGE AND ROLLERS

Coat the bore of the cage and roller assembly with grease and lightly cover the inner race assembly (fitted to the shaft) all over with grease for protection.

Assemble the cage (complete with rollers) around the inner race. The two halves of the cage are fixed together by various means depending on size and series of bearing. (Further details are to be found in the assembly leaflets supplied with the bearing, or details of the joint of a particular size and series of cage can be supplied on request).

**STEP 5 – CARTRIDGE AND OUTER RACE SUB-ASSEMBLY**

Place the half outer race with the lubrication hole in the top half of the cartridge and the second half outer race into the lower half of the cartridge. Ensure that the ends of the outer race project from the cartridge joint face by equal amounts. All lipped outer races must be clamped axially. Side screws 'A' are fitted to all GR cartridges. Side rods 'B' are fitted to some sizes only.

Radial screws 'C' and washers are fitted to both EX and GR cartridges of larger sizes only.



EX CARTRIDGES:

Just enter radial screws 'C' (where fitted, complete with washers) into the corresponding outer race holes, but do not tighten. Place the two half cartridges together, complete with half outer races, and fully tighten the joint screws 'D'. Fully tighten the radial screws 'C'.

CARTRIDGES FOR LIPPED OUTER RACES (GR AND SPECIAL TYPES):

Just enter radial screws 'C' (where fitted, complete with washers) into the corresponding outer race holes, but do not tighten. Place the two half cartridges together, complete with outer races, and fully tighten the joint screws 'D'. Enter the side rods 'B' (where fitted) and side screws 'A'. Progressively and fully tighten the side screws 'A' and radial screws 'C' (where fitted).

ALL TYPES:

Inject grease to fill the grease passages. Remove joint screws 'D' and separate cartridge halves, taking care that the outer race halves do not fall out of position in their respective half-cartridges.

STEP 6 – SEALS

If the unit is to be fitted with aluminium triple labyrinth (ATL) seals, fit them onto the shaft as follows:

Separate the ATL seal halves by driving out the two jointing pins. Lubricate the 'O' rings in the bore with grease. Reassemble on the shaft by compressing the 'O' rings of both halves sufficiently to allow the jointing pins to be reinserted, and reinser the pins. Note: ATL seals are able to slide along the shaft once assembled



Felt seals should be soaked in oil before fitting into the cartridge end bores. Most types of seal other than triple labyrinth seals and SRSRP seals are fitted into the cartridge end bores before assembling the cartridge into position.

STEP 7 – LUBRICATION

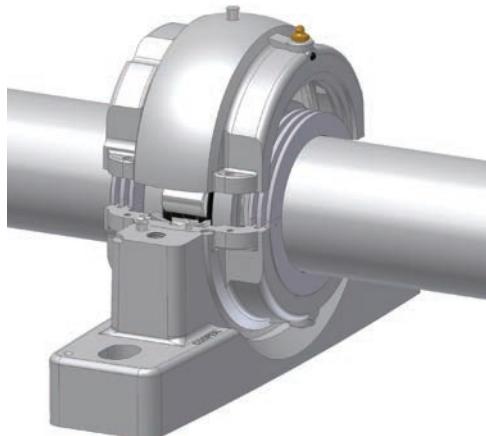
Coat the inside of the cartridge, cage and rollers and all seals with grease (See page 18 for correct quantity). For speeds over 150,000mm dn (shaft diameter in mm multiplied by shaft speed in rpm) approximately 40% of the grease used should be applied to the bearing parts and the remainder applied to the inside of the cartridge. This is to avoid excessive churning of grease when running at high speed.

STEP 8 – CARTRIDGE

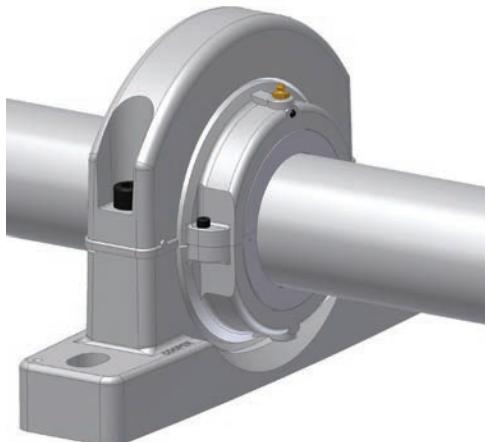
Lubricate the spherical seating of the bottom half of the cartridge with grease.

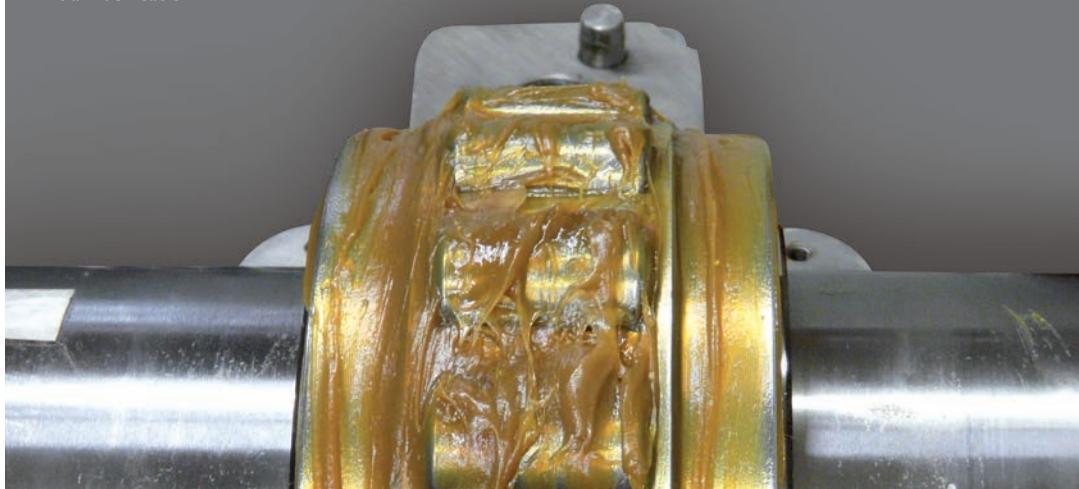
Place the bottom half of the cartridge on top of the bearing and rotate 180° into the pedestal base or half-flange.

Place the top half of the cartridge on top of the bottom half, close the cartridge and fully tighten the joint screws. Lubricate the spherical seating with grease.

**STEP 9 – HOUSING**

If not already done, tighten the bolts fixing the pedestal base or lower flange half into position. Place the pedestal cap or flange top half into position. If it is safe to do so, running the shaft for a time without the outer housing joint screws fully tightened will help the bearing to accurately align. Fully tighten the joint screws.





GREASE QUANTITIES FOR INITIAL LUBRICATION

The quantity of grease required on initial assembly is dependent upon operating speed and temperature.

If the operating temperature is below 80°C the quantity of grease may be determined directly according to bearing reference and operating speed from the following table.

If the operating temperature is above 80°C, a 25% pack of grease should be used regardless of speed (refer to the right hand column of the table). With a 'full pack' of grease the space within the cartridge (i.e. surrounding the bearing components) in the assembled unit is completely filled with grease.

The table assumes normal density grease (about 0.85g/cm³).

100 SERIES

Group Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm) from	to	Grease (75% full pack) (kg)	Speed (rpm) from	to	Grease (50% full pack) (kg)	Speed (rpm) from	to	Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
100 300	656	0.15	656	1312	0.11	1312	1969	0.08	1969	2625	0.05	2625	0.04
100 307	573	0.22	573	1145	0.17	1145	1718	0.11	1718	2291	0.07	2291	0.06
100 400	492	0.36	492	984	0.27	984	1476	0.18	1476	1969	0.12	1969	0.09
100 408	437	0.36	437	875	0.27	875	1312	0.18	1312	1750	0.12	1750	0.09
100 500	394	0.49	394	787	0.37	787	1181	0.25	1181	1575	0.16	1575	0.12
100 508	358	0.64	358	716	0.48	716	1074	0.32	1074	1432	0.21	1432	0.16
100 600	328	1.02	328	656	0.77	656	984	0.51	984	1312	0.34	1312	0.26
100 800	246	0.90	246	492	0.68	492	738	0.45	738	984	0.30	984	0.23
100 808	232	1.35	232	463	1.01	463	695	0.68	695	926	0.45	926	0.34

0I/0IE SERIES

Group Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm) from to	Grease (75% full pack) (kg)	Speed (rpm) from to	Grease (50% full pack) (kg)	Speed (rpm) from to	Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)	
0I 108	1312	0.06	1312	2625	0.05	2625	3937	0.03	3937	5249	0.02
0IE 200	984	0.09	984	1969	0.07	1969	2953	0.05	2953	3937	0.03
0IE 208	787	0.15	787	1575	0.11	1575	2362	0.08	2362	3150	0.05
0IE 300	656	0.18	656	1312	0.14	1312	1969	0.09	1969	2625	0.06
0IE 308	562	0.30	562	1125	0.23	1125	1687	0.15	1687	2250	0.10
0IE 400	492	0.36	492	984	0.27	984	1476	0.18	1476	1969	0.12
0I 408	437	0.51	437	875	0.38	875	1312	0.26	1312	1750	0.17
0I 500	394	0.60	394	787	0.45	787	1181	0.30	1181	1575	0.20
0I 508	358	0.78	358	716	0.59	716	1074	0.39	1074	1432	0.26
0I 600	328	0.90	328	656	0.68	656	984	0.45	984	1312	0.30
0IE 608	303	1.00	303	606	0.75	606	909	0.50	909	1211	0.33
0IE 700	281	1.20	281	562	0.90	562	844	0.60	844	1125	0.40
0IE 800	246	1.40	246	492	1.05	492	738	0.70	738	984	0.46
0IE 900	219	1.40	219	437	1.05	437	656	0.70	656	875	0.46
0IE 1000	197	2.00	197	394	1.50	394	591	1.00	591	787	0.66
0IE 1100	179	2.00	179	358	1.50	358	537	1.00	537	716	0.66
0IE 1200	164	2.00	164	328	1.50	328	492	1.00	492	656	0.66
0I 1300	151	2.76	151	303	2.07	303	454	1.38	454	606	0.91
0I 1400	141	3.00	141	281	2.25	281	422	1.50	422	562	0.99
0I 1500	131	3.00	131	262	2.25	262	394	1.50	394	525	0.99
0I 1600	123	3.60	123	246	2.70	246	369	1.80	369	492	1.19
0I 1700	116	4.20	116	232	3.15	232	347	2.10	347	463	1.39
0I 1800	109	4.20	109	219	3.15	219	328	2.10	328	437	1.39
0I 1900	104	4.80	104	207	3.60	207	311	2.40	311	414	1.58
0I 2000	98	4.80	98	197	3.60	197	295	2.40	295	394	1.58
0I 2100	94	5.40	94	187	4.05	187	281	2.70	281	375	1.78
0I 2200	89	5.40	89	179	4.05	179	268	2.70	268	358	1.78
0I 2300	86	6.00	86	171	4.50	171	257	3.00	257	342	1.98
0I 2400	82	6.00	82	164	4.50	164	246	3.00	246	328	1.98

02/02E SERIES

Group Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm) from to	Grease (75% full pack) (kg)	Speed (rpm) from to	Grease (50% full pack) (kg)	Speed (rpm) from to	Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)
02 200	984	0.15	984 1969	0.11	1969 2953	0.08	2953 3937	0.05	3937	0.04
02 208	787	0.21	787 1575	0.16	1575 2362	0.11	2362 3150	0.07	3150	0.05
02 300	656	0.30	656 1312	0.23	1312 1969	0.15	1969 2625	0.10	2625	0.08
02 308	562	0.45	562 1125	0.34	1125 1687	0.23	1687 2250	0.15	2250	0.11
02 400	492	0.60	492 984	0.45	984 1476	0.30	1476 1969	0.20	1969	0.15
02 408	437	0.90	437 875	0.68	875 1312	0.45	1312 1750	0.30	1750	0.23
02 500	394	1.20	394 787	0.90	787 1181	0.60	1181 1575	0.40	1575	0.30
02 508	358	1.40	358 716	1.05	716 1074	0.70	1074 1432	0.46	1432	0.35
02 600	328	1.40	328 656	1.05	656 984	0.70	984 1312	0.46	1312	0.35
02E 608	303	1.40	303 606	1.05	606 909	0.70	909 1211	0.46	1211	0.35
02E 700	303	2.00	303 606	1.50	606 909	1.00	909 1211	0.66	1211	0.50
02E 800	246	2.70	246 492	2.03	492 738	1.35	738 984	0.89	984	0.68
02E 900	219	3.60	219 437	2.70	437 656	1.80	656 875	1.19	875	0.90
02E 1000	197	4.20	197 394	3.15	394 591	2.10	591 787	1.39	787	1.05
02E 1100	179	4.80	179 358	3.60	358 537	2.40	537 716	1.58	716	1.20
02E 1200	164	5.40	164 328	4.05	328 492	2.70	492 656	1.78	656	1.35
02 1300	151	6.60	151 303	4.95	303 454	3.30	454 606	2.18	606	1.65
02 1400	141	7.20	141 281	5.40	281 422	3.60	422 562	2.38	562	1.80
02 1500	131	7.80	131 262	5.85	262 394	3.90	394 525	2.57	525	1.95
02 1600	123	9.00	123 246	6.75	246 369	4.50	369 492	2.97	492	2.25
02 1700	116	9.60	116 232	7.20	232 347	4.80	347 463	3.17	463	2.40
02 1800	109	9.60	109 219	7.20	219 328	4.80	328 437	3.17	437	2.40
02 1900	104	10.20	104 207	7.65	207 311	5.10	311 414	3.37	414	2.55
02 2000	98	10.80	98 197	8.10	197 295	5.40	295 394	3.56	394	2.70
02 2100	94	11.40	94 187	8.55	187 281	5.70	281 375	3.76	375	2.85
02 2200	89	11.40	89 179	8.55	179 268	5.70	268 358	3.76	358	2.85
02 2300	86	12.60	86 171	9.45	171 257	6.30	257 342	4.16	342	3.15
02 2400	82	12.60	82 164	9.45	164 246	6.30	246 328	4.16	328	3.15

03 SERIES

Group Reference	Speed (rpm) up to	Grease (full pack) (kg)	Speed (rpm) from	Grease (75% full pack) (kg)	Speed (rpm) from	Grease (50% full pack) (kg)	Speed (rpm) from	Grease (33% full pack) (kg)	Speed (rpm) over	Grease (25% full pack) (kg)	
03 400	492	1.20	492	984	0.90	984	1476	0.60	1476	1969	0.40
03 408	437	1.40	437	875	1.05	875	1312	0.70	1312	1750	0.46
03 500	394	1.40	394	787	1.05	787	1181	0.70	1181	1575	0.46
03 508	358	2.00	358	716	1.50	716	1074	1.00	1074	1432	0.66
03 600	328	2.70	328	656	2.03	656	984	1.35	984	1312	0.89
03 608	303	3.60	303	606	2.70	606	909	1.80	909	1211	1.19
03 700	281	4.20	281	562	3.15	562	844	2.10	844	1125	1.39
03 800	246	5.40	246	492	4.05	492	738	2.70	738	984	1.78
03 900	219	6.90	219	437	5.18	437	656	3.45	656	875	2.28
03 1000	197	8.10	197	394	6.08	394	591	4.05	591	787	2.67
03E 1100	179	10.00	179	358	7.50	358	537	5.00	537	716	3.30
03 1200	164	11.00	164	328	8.25	328	492	5.50	492	656	3.63
03 1300	151	12.00	151	303	9.00	303	454	6.00	454	606	3.96
03E 1400	141	15.00	141	281	11.25	281	422	7.50	422	562	4.95
03 1500	131	16.20	131	262	12.15	262	394	8.10	394	525	5.35
03E 1700	116	21.60	116	232	16.20	232	347	10.80	347	463	7.13
03E 1800	109	24.60	109	219	18.45	219	328	12.30	328	437	8.12
03 2000	98	30.00	98	197	22.50	197	295	15.00	295	394	9.90
03E 2200	89	36.00	89	179	27.00	179	268	18.00	268	358	11.88
03E 2300	86	38.40	86	171	28.80	171	257	19.20	257	342	12.67
											9.60

SCREW TIGHTENING TORQUES

Screw size	Tightening torques (Nm)				Key size A/F	
	Clamping ring screw (1)	Pedestal or cartridge joint screw	Cartridge radial screw	Side screw	Socket head cap screw (2)	Side screw
M3	2.0	-	-	-	2.5	-
M4	4.5	3.5	-	2.0	3	2
M5	8.5	6.5	-	-	4	-
M6	15	11	-	7.8	5	3
M8	35	26.0	-	-	6	-
M10	70.0	52.5	35.0	30.0	8	5
M12	120	90	60.0	-	10	-
M16	300	225	150	125	14	8
M20	560	420	-	-	17	-
M24	950	712	-	-	19	-

1) For vertical shaft or high thrust applications this may be increased by up to 20%

2) All screws except side screw

01/01E SERIES

Group Reference	Clamping ring screw	Cartridge joint screw	Cartridge radial screw	Side screw	Pedestal joint screw	Flange joint screw
01 108	M4	M4	-	M4	M8	M8
01E 200	M4	M4	-	M4	M8	M8
01E 208	M4	M4	-	M4	M10	M10
01E 300	M4	M4	-	M4	M12	M12
01E 308	M5	M5	-	M4	M16	M12
01E 400	M6	M6	-	M4	M16	M16
01 408	M6	M6	-	M6	M20	M16
01 500	M6	M6	-	M6	M20	M20
01 508	M8	M8	-	M6	M20	M20
01 600	M8	M8	-	M6	M20	M20
01E 608	M8	M8	-	M6	M16	M20
01E 700	M8	M8	-	M6	M16	M20
01E 800	M8	M8	M10	M6	M16	M24
01E 900	M10	M10	M10	M6	M16	M24
01E 1000	M10	M10	M10	M6	M20	M24
01E 1100	M10	M10	M10	M10	M20	M24
01E 1200	M10	M10	M10	M10	M20	M24
01 1300	M12	M12	M10	M10	M20	M24
01 1400	M12	M12	M10	M10	M20	M24
01 1500	M12	M12	M10	M10	M20	M24
01 1600	M12	M12	M10	M10	M20	M24
01 1700	M12	M12	M12	M10	M20	-
01 1800	M12	M12	M12	M10	M20	-
01 1900	M12	M12	M12	M10	M20	-
01 2000	M16	M16	M12	M10	M20	-
01 2100	M16	M16	M12	M10	M20	-
01 2200	M16	M16	M12	M10	M20	-
01 2300	M16	M16	M12	M10	M20	-
01 2400	M16	M16	M12	M10	M20	-

02/02E SERIES

Group Reference	Clamping ring screw	Cartridge joint screw	Cartridge radial screw	Side screw	Pedestal joint screw	Flange joint screw
02 200	M5	M5	-	M4	M10	M10
02 208	M5	M5	-	M4	M12	M12
02 300	M6	M6	-	M4	M16	M12
02 308	M6	M6	-	M4	M16	M16
02 400	M6	M6	-	M4	M20	M16
02 408	M8	M8	-	M6	M20	M20
02 500	M8	M8	-	M6	M20	M20
02 508	M8	M8	-	M6	M20	M24
02 600	M8	M8	-	M6	M20	M24
02E 608	M10	M10	-	M6	M20	M24
02E 700	M10	M10	M10	M6	M20	M24
02E 800	M12	M12	M10	M6	M20	M24
02E 900	M12	M12	M10	M6	M20	M24
02E 1000	M12	M12	M10	M10	M20	M24
02E 1100	M16	M16	M10	M10	M20	M24
02E 1200	M16	M16	M10	M10	M20	M24
02 I300	M16	M16	M10	M10	M20	M24
02 I400	M16	M16	M12	M10	M20	-
02 I500	M16	M16	M12	M10	M20	-
02 I600	M16	M16	M12	M10	M20	-
02 I700	M16	M16	M12	M10	M20	-
02 I800	M16	M16	M12	M10	M20	-
02 I900	M20	M20	M12	M10	M24	-
02 2000	M20	M20	M12	M10	M24	-
02 2100	M20	M20	M12	M10	M24	-
02 2200	M20	M20	M12	M10	M24	-
02 2300	M20	M20	M12	M10	M24	-
02 2400	M20	M20	M12	M10	M24	-

03 SERIES

Group Reference	Clamping ring screw	Cartridge joint screw	Cartridge radial screw	Side screw	Pedestal joint screw
03 400	M10	M10	-	M6	M16
03 408	M10	M10	M10	M6	M16
03 500	M10	M10	M10	M6	M16
03 508	M10	M10	M10	M10	M20
03 600	M10	M10	M10	M10	M20
03 608	M12	M12	M12	M10	M20
03 700	M12	M12	M12	M10	M20
03 800	M12	M12	M12	M10	M24
03 900	M16	M16	M12	M10	M20
03 1000	M16	M16	M12	M10	M20
03E 1100	M20	M20	M12	M10	M20
03 1200	M20	M20	M12	M10	M20
03 1300	M20	M20	M12	M10	M24
03E 1400	M24	M20	M12	M16	M24
03 1500	M24	M20	M12	M10	M24
03E 1700	M24	M20	M12	M16	M24
03E 1800	M24	M20	M12	M16	M24
03 2000	M24	M20	M16	M10	M24
03 2100	M24	M20	M16	M10	M24
03E 2200	M24	M20	M12	M16	M24
03E 2300	M24	M20	M12	M16	M24

100 SERIES

Group Reference	Part	Frequencies (per shaft rev.)				Roller details		
		Cage	Roller	Outer	Inner	PCD (mm)	No.	Diameter (mm)
100 300	0.448	4.723	8.953	11.047	95.50	20	10.00	
100 307	0.446	4.592	8.924	11.076	111.50	20	12.00	
100 400	0.446	4.553	8.915	11.085	129.00	20	14.00	
100 408	0.442	4.251	8.840	11.160	146.50	20	17.00	
100 500	0.447	4.627	8.932	11.068	163.46	20	17.46	
100 508	0.447	4.654	8.938	11.062	179.33	20	19.05	
100 600	0.443	4.300	8.852	11.148	193.68	20	22.23	
100 800	0.462	6.541	12.936	15.064	250.00	28	19.00	
100 808	0.451	5.086	9.929	12.071	267.00	22	26.00	

01/01E SERIES

Group Reference	Part	Frequencies (per shaft rev.)				Roller details		
		Cage	Roller	Outer	Inner	PCD (mm)	No.	Diameter (mm)
01 108	0.405	2.538	4.051	5.949	62.71	10	11.91	
01E 200	0.415	2.857	4.980	7.020	76.50	12	13.00	
01E 208	0.417	2.934	5.840	8.160	90.50	14	15.00	
01E 300	0.420	3.053	5.883	8.117	106.50	14	17.00	
01E 308	0.423	3.187	6.774	9.226	124.00	16	19.00	
01E 400	0.422	3.138	6.756	9.244	141.50	16	22.00	
01 408	0.430	3.501	6.880	9.120	158.75	16	22.23	
01 500	0.432	3.599	6.909	9.091	174.63	16	23.81	
01 508	0.433	3.683	6.933	9.067	190.50	16	25.40	
01 600	0.438	3.938	7.875	10.125	203.20	18	25.40	
01E 608	0.432	3.632	7.784	10.216	222.00	18	30.00	
01E 700	0.440	4.092	8.796	11.204	232.50	20	28.00	
01E 800	0.442	4.246	9.722	12.278	258.25	22	30.00	
01E 900	0.448	4.727	10.745	13.255	286.75	24	30.00	
01E 1000	0.450	4.911	11.690	14.310	317.50	26	32.00	
01E 1100	0.449	4.856	11.675	14.325	343.50	26	35.00	
01E 1200	0.453	5.246	12.677	15.323	370.50	28	35.00	
01 1300	0.458	5.910	11.908	14.092	396.88	26	33.34	
01 1400	0.461	6.294	12.895	15.105	422.28	28	33.34	
01 1500	0.461	6.416	12.915	15.085	450.85	28	34.93	
01 1600	0.463	6.782	13.900	16.100	476.25	30	34.93	
01 1700	0.465	7.147	14.886	17.114	501.65	32	34.93	
01 1800	0.467	7.512	15.873	18.127	527.05	34	34.93	
01 1900	0.467	7.576	14.949	17.051	555.63	32	36.51	
01 2000	0.469	7.925	15.932	18.068	581.03	34	36.51	
01 2100	0.470	8.362	16.927	19.073	612.78	36	36.51	
01 2200	0.471	8.711	17.913	20.087	638.18	38	36.51	
01 2300	0.471	8.721	17.914	20.086	666.75	38	38.10	
01 2400	0.472	9.056	18.899	21.101	692.15	40	38.10	

02/02E SERIES

Group Reference	Part Frequencies (per shaft rev.)				Roller details		
	Cage	Roller	Outer	Inner	PCD (mm)	No.	Diameter (mm)
02 200	0.402	2.452	4.020	5.980	80.96	10	15.88
02 208	0.411	2.730	4.936	7.064	98.43	12	17.46
02 300	0.411	2.719	4.932	7.068	115.89	12	20.64
02 308	0.417	2.917	5.833	8.167	133.35	14	22.23
02 400	0.417	2.917	5.833	8.167	152.40	14	25.40
02 408	0.417	2.917	5.833	8.167	171.45	14	28.58
02 500	0.417	2.917	5.833	8.167	190.50	14	31.75
02 508	0.419	3.014	5.869	8.131	206.38	14	33.34
02 600	0.421	3.103	6.743	9.257	222.25	16	34.93
02E 608	0.421	3.092	6.739	9.261	241.00	16	38.00
02E 700	0.423	3.173	6.769	9.231	260.00	16	40.00
02E 800	0.421	3.082	6.735	9.265	284.50	16	45.00
02E 900	0.428	3.423	7.712	10.288	314.50	18	45.00
02E 1000	0.427	3.367	6.837	9.163	344.00	16	50.00
02E 1100	0.433	3.668	7.795	10.205	373.50	18	50.00
02E 1200	0.438	3.953	8.755	11.245	401.50	20	50.00
02 1300	0.443	4.297	8.852	11.148	428.63	20	49.21
02 1400	0.443	4.337	8.862	11.138	460.38	20	52.39
02 1500	0.446	4.552	9.806	12.194	482.60	22	52.39
02 1600	0.447	4.682	9.839	12.161	511.18	22	53.98
02 1700	0.449	4.806	9.868	12.132	539.75	22	55.56
02 1800	0.451	5.008	10.814	13.186	561.98	24	55.56
02 1900	0.453	5.267	11.777	14.223	590.55	26	55.56
02 2000	0.455	5.469	12.731	15.269	612.78	28	55.56
02 2100	0.453	5.322	11.789	14.211	647.70	26	60.33
02 2200	0.455	5.561	12.751	15.249	676.28	28	60.33
02 2300	0.461	6.432	13.841	16.159	698.50	30	53.98
02 2400	0.458	5.958	13.750	16.250	723.90	30	60.33

03 SERIES

Group Reference	Part Frequencies (per shaft rev.)				Roller details		
	Cage	Roller	Outer	Inner	PCD (mm)	No.	Diameter (mm)
03 400	0.384	2.038	3.839	6.161	177.80	10	41.28
03 408	0.392	2.199	3.917	6.083	190.50	10	41.28
03 500	0.398	2.360	4.781	7.219	203.20	12	41.28
03 508	0.393	2.226	4.714	7.286	222.25	12	47.63
03 600	0.395	2.270	4.737	7.263	241.30	12	50.80
03 608	0.409	2.642	5.720	8.280	260.35	14	47.63
03 700	0.411	2.717	5.753	8.247	276.23	14	49.21
03 800	0.413	2.796	5.786	8.214	311.15	14	53.98
03 900	0.414	2.808	4.964	7.036	349.25	12	60.33
03E 1100	0.425	3.240	6.794	9.206	400.05	16	60.33
03 I200	0.426	3.326	6.824	9.176	431.80	16	63.50
03 I300	0.423	3.184	5.927	8.073	476.20	14	73.03
03E I400	0.428	3.405	6.850	9.150	485.78	16	69.85
03 I500	0.429	3.429	6.857	9.143	533.40	16	76.20
03E I700	0.435	3.759	8.693	11.307	566.00	20	74.00
03E I800	0.433	3.683	7.800	10.200	600.00	18	80.00
03 I900	0.432	3.598	6.909	9.091	628.65	16	85.73
03 2000	0.437	3.900	7.864	10.136	679.45	18	85.73
03E 2200	0.440	4.107	8.800	11.200	714.38	20	85.73
03E 2300	0.442	4.244	9.722	12.278	740.00	22	86.00

Bearing Capacities

100 SERIES

Group Reference	Shaft Diameter d	Cr (kN)	Cor (kN)	Ca (kN)	Max. Speed (rpm)	
100 300	75mm	2 15/16" 3"	91	128	7.0	4125
100 307	85mm	3 7/16"	142	209	12.3	3600
100 400	100mm	3 15/16" 4"	191	288	18.3	3090
100 408	110mm 115mm	4 7/16" 4 1/2"	279	426	22.2	2750
100 500	120mm 125mm 130mm	4 15/16" 5"	280	433	23.8	2480
100 508	140mm	5 7/16" 5 1/2"	331	520	30.5	2250
100 600	150mm	5 15/16" 6"	397	606	31.4	2060
100 800	200mm	7 15/16" 8"	325	571	48	1070
100 808	220mm	-	515	814	50	930

01/01E SERIES

Group Reference	Shaft Diameter d	Cr (kN)	Cor (kN)	Ca (kN)	Max. Speed (rpm)	
01 500	120mm 125mm 130mm	4 15/16" 5"	355	484	22.2	1740
01 508	135mm 140mm	5 3/16" 5 7/16" 5 1/2"	394	542	25.8	1570
01 600	150mm 160mm	5 15/16" 6"	428	616	29.4	1450
01E 608	160mm 170mm	6 7/16" 6 1/2"	594	863	56.5	1320
01E 700	170mm 175mm 180mm	6 15/16" 7"	557	845	52.2	1220
01E 800	190mm 200mm	7 15/16" 8"	679	1078	72.5	1070
01E 900	220mm 230mm	9"	715	1191	79.8	930
01E 1000	240mm 250mm 260mm	10"	804	1367	96.6	820
01E 1100	260mm 270mm 275mm 280mm	11"	917	1560	127	730
01E 1200	290mm 300mm	12"	1041	1885	139	650
01I 300	320mm 330mm 340mm	13"	894	1638	89.0	590
01I 400	340mm 350mm 360mm	14"	935	1774	99.6	540
01I 500	360mm 380mm	15"	1005	1925	110	500
01I 600	390mm 400mm	16"	1048	2071	116	460
01I 700	420mm	17"	1089	2218	121	430
01I 800	440mm 460mm	18"	1129	2366	127	410
01I 900	480mm	19"	1169	2433	133	380
01I 2000	500mm	20"	1213	2593	138	360
01I 2100	530mm	21"	1253	2755	141	340
01I 2200	560mm	22"	1294	2916	142	330
01I 2300	580mm	23"	1387	3138	144	310
01I 2400	600mm	24"	1431	3311	147	300

02/02E SERIES

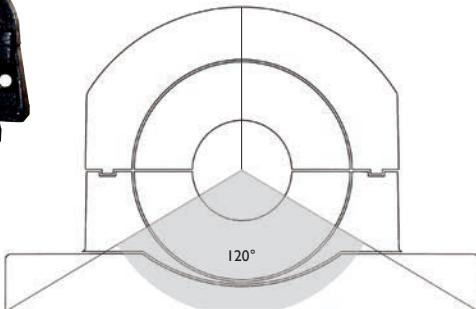
Group Reference	Shaft Diameter d	Bearing Ratings				
		Cr (kN)	Cor (kN)	Ca (kN)	Max. Speed (rpm)	
02 200	50mm	1 15/16" 2"	119	125	6.2	4350
02 208	60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	168	193	8.8	3680
02 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	229	268	10.6	3080
02 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	280	345	17.8	2520
02 400	100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	362	456	25.0	2130
02 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	454	583	31.2	1820
02 500	120mm 125mm 130mm	4 15/16" 5"	547	713	38.2	1600
02 508	140mm 145mm	5 3/16" 5 7/16" 5 1/2"	608	808	45.4	1450
02 600	150mm 155mm 160mm	5 15/16" 6"	724	1005	52.4	1320
02E 608	160mm 170mm	6 7/16" 6 1/2"	887	1262	71.2	1200
02E 700	175mm 180mm	6 15/16" 7"	936	1334	82.8	1120

02/02E SERIES

Group Reference	Shaft Diameter d	Bearing Ratings				
		Cr (kN)	Cor (kN)	Ca (kN)	Max. Speed (rpm)	
02E 800	190mm 200mm	7 15/16" 8"	1137	1627	122	960
02E 900	220mm 230mm	9"	1233	1863	138	850
02E 1000	240mm 250mm 260mm	10"	1346	1986	167	750
02E 1100	280mm	11"	1545	2435	190	670
02E 1200	300mm	12"	1660	2735	214	610
02E 1300	320mm 330mm	13"	1570	2622	144	550
02E 1400	340mm 350mm 360mm	14"	1744	2940	159	500
02E 1500	380mm	15"	1862	3254	174	460
02E 1600	400mm	16"	1948	3438	188	430
02E 1700	420mm	17"	2069	3702	202	400
02E 1800	440mm 460mm	18"	2195	4057	216	380
02E 1900	480mm	19"	2313	4419	230	360
02E 2000	500mm	20"	2430	4776	244	340
02E 2100	530mm	21"	2658	5137	258	330
02E 2200	560mm	22"	2790	5556	272	310
02E 2300	580mm	23"	2336	4836	227	300
02E 2400	600mm	24"	2905	5992	300	290

03E SERIES

Group Reference	Shaft Diameter d	Bearing Ratings				Max. Speed (rpm)
		Cr (kN)	Cor (kN)	Ca (kN)		
03 400	100mm	3 15/16" 4"	610	684	31.2	1820
03 408	110mm 120mm	4 7/16" 4 1/2"	614	698	39.2	1640
03 500	130mm	4 15/16" 5"	706	852	49.0	1500
03 508	140mm	5 7/16" 5 1/2"	886	1069	58.8	1340
03 600	150mm	5 15/16" 6"	994	1213	69.4	1220
03 608	160mm 170mm	6 7/16" 6 1/2"	1156	1564	79.2	1110
03 700	180mm	6 15/16" 7"	1242	1704	89.0	1030
03 800	190mm 200mm	7 15/16" 8"	1451	2022	99.6	880
03 900	220mm	9"	1586	2163	1094	760
03 I1000	240mm 250mm 260mm	10"	1778	2551	131	700
03E I100	280mm	11"	2105	3233	153	620
03 I200	290mm 300mm	12"	2156	3312	174	560
03 I300	320mm	13"	2529	3795	199	500
03E I400	340mm 360mm	14"	2750	4392	214	460
03 I500	380mm 400mm	15"	3019	4800	251	420
03E I700	420mm 440mm	17"	3474	6006	276	360
03E I800	460mm	18"	3650	6156	302	340
03 2000	500mm 530mm	20"	4087	7042	347	310
03E 2200	560mm	22"	4669	8511	383	280
03E 2300	600mm	23"	4887	9130	400	270



PEDESTALS

Pedestals (also known as Pillow Blocks) are the most common method of mounting Cooper split roller bearings (in cartridges as explained above).

Cooper standard pedestals are shown on the following pages. Pedestals with height-to-centre and bolt hole configurations to match industry standard SN, SD and SAF pillow blocks are listed separately in this catalogue.

Pedestals are common between expansion (EX) and fixed (GR) units.

LOADS AND MOUNTING

The maximum safe radial load for a pedestal is based on the static rating (Cor) of the corresponding size of roller bearing. The full static rating can be applied if the angle of the load falls within the shaded area of the sketch, except for the SNC 500 range for which the maximum load is reduced to 50% Cor.

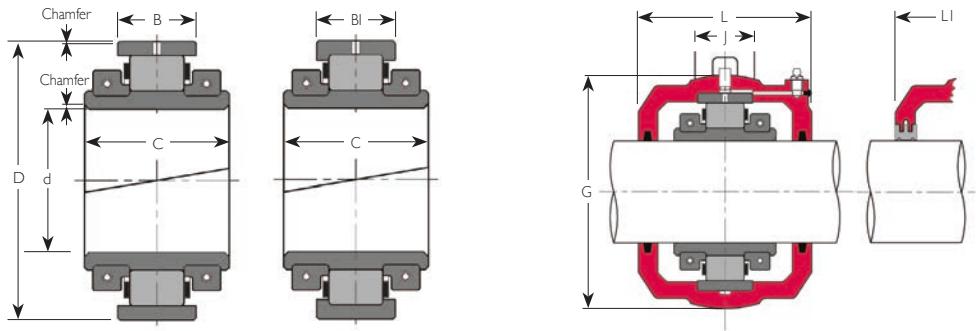
If the radial load falls outside the shaded area, if the radial load exceeds Cor, or if the axial loads exceed 50% of the axial rating (Ca) of the corresponding roller bearing please consult our technical department. For 100 Series bearings, the maximum axial load is reduced to 35% Ca and for O1E and O2E series to 26% Ca due to their higher axial load ratings.

Pedestals should be fully supported on a flat, rigid surface to avoid distortion of the pedestal or deflection under load. The flatness of the supporting surface should be to tolerance IT7 according to ISO 1101 and the surface roughness not more than 12.5 μm Ra.

For loads within 45° of horizontal, the base should be chocked or dowelled.

Standard Cooper pedestals are manufactured from grade EN-GJL-250 grey iron to BS EN 1561 : 1997. Ductile iron and steel pedestals are also available and should be considered for shock or pulsating loads. Particulars of pedestals in alternative materials are available from our technical department.

Pedestal Units 100 Series

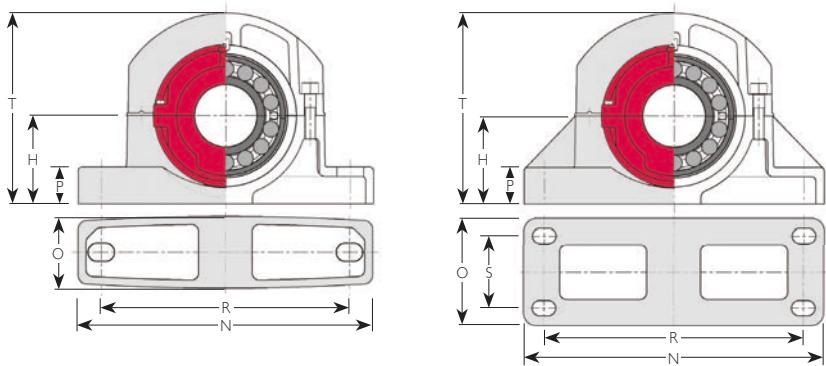


		BEARING DATA					CARTRIDGE DATA							
Group Reference	Shaft Diameter d	Reference (I)		D (mm)	C (mm)	B BI (mm)	Axial Float (2) (mm)	Mass (kg)	Cartridge References (I) for felt seals		G (mm)	J (mm)	L LI (mm)	Mass (kg)
100 300	75mm 2 15/16" 3"	100 B 75M	100 B 215 100 B 300	114.30	48.0	270 27.0	3.5	1.2	100 C 75M	100 C 215 100 C 300	100 C 03	134.94	32	104 104 3.6
100 307	85mm 3 7/16"	100 B 85M	100 B 307	133.35	60.0	31.8 31.8	5	2.1	100 C 85M	100 C 307	100 C 04	157.16	38	114 114 5.4
100 400	100mm 3 15/16" 4"	100 B 100M	100 B 315 100 B 400	152.4	65.0	38.9 38.9	6	2.8	100 C 100M	100 C 315 100 C 400	100 C 05	177.80	50	136 136 7.4
100 408	110mm 4 7/16" 115mm 4 1/2"	100 B 110M 100 B 115M	100 B 407 100 B 408	174.62	80.0	45.3 45.3	7	4.6	100 C 110M 100 C 115M	100 C 407 100 C 408	100 C 06	203.20	50	134 134 7.9
100 500	120mm 4 15/16" 125mm 5" 130mm	100 B 120M 100 B 125M 100 B 130M	100 B 415 100 B 500	203.20	85.0	46.9 46.9	7	7.4	100 C 120M 100 C 125M 100 C 130M	100 C 415 100 C 500	100 C 07	231.78	64	142 142 11
100 508	140mm 5 7/16" 5 1/2"	100 B 140M	100 B 507 100 B 508	222.25	90.0	54.0 54.0	7	9.3	100 C 140M	100 C 507 100 C 508	100 C 08	266.70	76	156 156 18.4
100 600	150mm 5 15/16" 6"	100 B 150M	100 B 515 100 B 600	241.30	90.0	55.6 55.6	8	10.4	100 C 150M	100 C 515 100 C 600	100 C 09	279.40	76	168 168 19.4
100 800	200mm 7 15/16" 8"	100 B 200M	100 B 715 100 B 800	285.75	109.0	55.5 55.5	6	18	100 C 200M	100 C 715 100 C 800	(3)	323.85	70	172 (3) 24
100 808	220mm -	100 B 220M	-	311.15	109.0	60.3 60.3	8	29	100 C 220M	-	(3)	358.78	86	172 (3) 35

1) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g: Bearing: 100 B 75M EX or 100 B 215 EX Cartridge: 100 C 75M EX or 100 C 03 EX

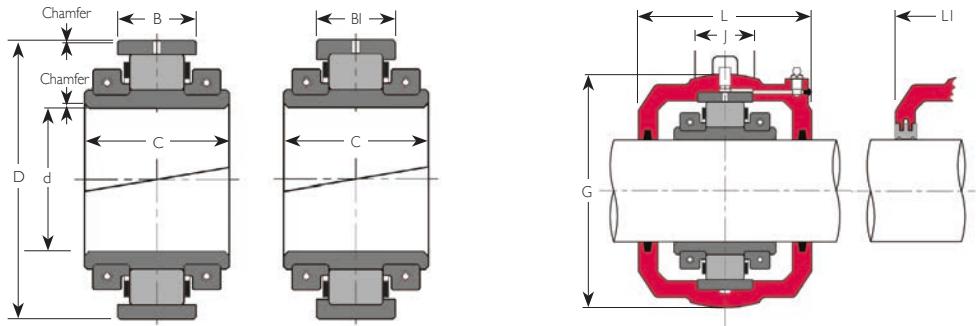
2) Total movement tabulated. Maximum offset from centreline half this amount.

2) Refer to Cooper



PEDESTAL DATA

Reference	H (mm)	Min. (mm)	R Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter <i>d</i>	Group Reference	
P03	80	226	242	-	-	2-off M16 or 5/8"	280	70	32	180	4.9	75mm	2 15/16" 3"	100 300
P04	95	260	280	-	-	2-off M20 or 3/4"	330	76	38	208	6.9	85mm	3 7/16"	100 307
P05	112	312	328	-	-	2-off M24 or 7/8"	380	90	44	252	13.3	100mm	3 15/16" 4"	100 400
P06	125	342	366	-	-	2-off M24 or 7/8"	420	102	52	272	14.7	110mm 115mm	4 7/16" 4 1/2"	100 408
P07	143	374	410	-	-	2-off M24 or 7/8"	466	120	60	314	20.6	120mm 125mm 130mm	4 15/16" 5"	100 500
P08	162	438	462	-	120	4-off M24 or 7/8"	508	178	38	372	43.3	140mm	5 7/16" 5 1/2"	100 508
P09	181	470	494	-	120	4-off M24 or 7/8"	558	178	41	405	52	150mm	5 15/16" 6"	100 600
P12	235	376	400	-	128	4-off M24 or 1"	534	190	35	470	63	100 800	200mm	7-15/16" 8"
P13	248	410	434	-	140	4-off M24 or 1"	572	204	38	495	83	100 808	220mm	-



BEARING DATA

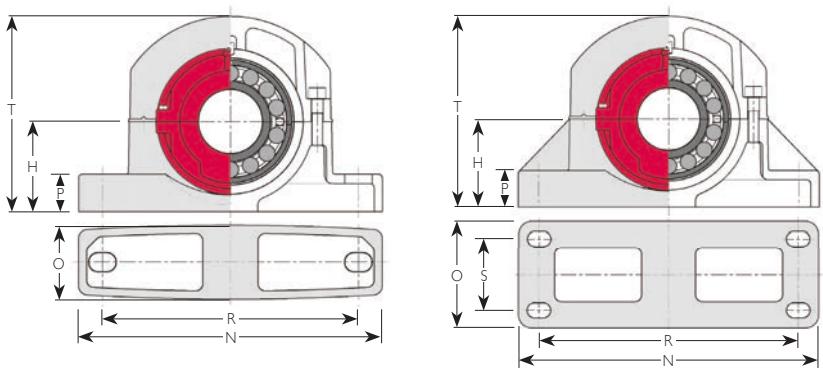
Group Reference	Shaft Diameter d	Reference (I)	D (mm)	C (mm)	B/B1 (mm)	Axial Float (2) (mm)	Mass (kg)
01 108	35	01 B 103					
	40	01 B 104	84.14	50.1	23.8	3.5	1.2
		01 B 40M	01 B 107	84.14	50.1	23.8	
			01 B 108				
01E 200	45	01 E B 111					
	50	01 E B 112	98.42	55.7	25.4	4	1.5
		01 E B 50M	01 E B 115	98.42	55.7	25.4	
			01 E B 200				
01E 208	55	01 E B 203					
	60	01 E B 204	114.30	55.7	27.0	4.5	1.8
		01 E B 55M	01 E B 207	114.30	55.7	27.0	
	65		01 E B 208				
01E 300	70	01 E B 211					
	75	01 E B 212	133.35	61.2	31.8	5	2.5
		01 E B 70M	01 E B 215	133.35	61.2	31.8	
			01 E B 300				
01E 308	80	01 E B 303					
	85	01 E B 304	152.40	70.7	38.9	6	4.0
		01 E B 85M	01 E B 307	152.40	70.7	38.9	
	90		01 E B 308				
01E 400	95	01 E B 311					
	100	01 E B 312	174.62	81.0	45.3	7	6.0
		01 E B 100M	01 E B 315	174.62	81.0	45.3	
	105		01 E B 400				
01 408	110	01 B 403					
	115	01 B 407	203.20	84.9	46.9	7	10.2
			01 B 408				
01 500	120	01 B 120M					
	125	01 B 125M	01 B 415	222.25	89.7	54.0	7
	130	01 B 130M	01 B 500		54.0	7	12.8
01 508	135	01 B 503					
	140	01 B 135M	01 B 507	241.30	98.4	55.6	8
			01 B 508				
01 600	150	01 B 515	254.00	98.4	55.6	8	15.0
	160	01 B 600-160M	01 B 600		55.6	8	16.6

CARTRIDGE DATA

Cartridge References (I) for felt seals	Cartridge References (I) for ATL seals	G (mm)	J (mm)	L/L1 (mm)	Mass (kg)
01 C 103					
01 C 35M	01 C 104	01 C 01	100.00	25	86
01 C 40M	01 C 107				86
	01 C 108				2
01 C 111					
01 C 45M	01 C 112	01 C 02	117.48	25	98
01 C 50M	01 C 115				98
	01 C 200				2.5
01 C 203					
01 C 55M	01 C 204	01 C 03	134.94	32	104
01 C 60M	01 C 207				104
01 C 65M	01 C 208				3.2
01 C 211					
01 C 70M	01 C 212	01 C 04	157.16	38	114
01 C 75M	01 C 215				114
	01 C 300				5.5
01 C 303					
01 C 80M	01 C 304	01 C 05	177.80	50	136
01 C 85M	01 C 307				136
01 C 90M	01 C 308				7
01 C 311					
01 C 95M	01 C 312	01 C 06	203.20	50	134
01 C 100M	01 C 315				134
01 C 105M	01 C 400				8
01 C 403					
01 C 110M	01 C 407	01 C 07	231.78	64	142
01 C 115M	01 C 408				142
01 C 120M					
01 C 125M	01 C 415	01 C 08	266.70	76	156
01 C 130M	01 C 500				195
01 C 503					
01 C 135M	01 C 507	01 C 09	279.40	76	168
01 C 140M	01 C 508				20.8
01 C 150M	01 C 515	01 C 10*	295.28	82	174
	01 C 600				24.4

I) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g. Bearing: 01 B 35M EX or 01 B 103 EX
Cartridge: 01 C 35M EX or 01 C 01 EX

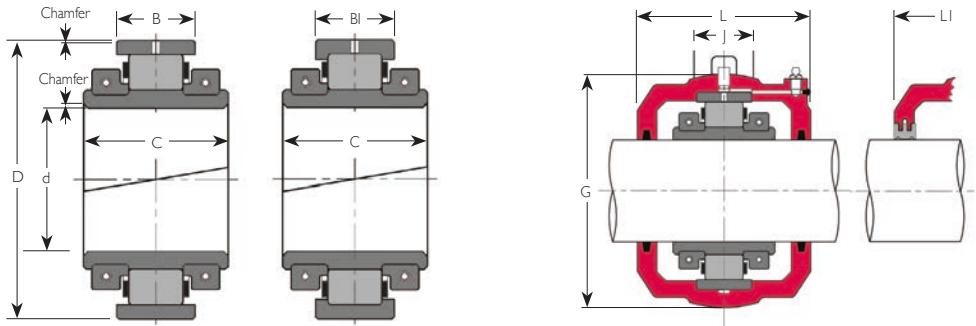
2) Total movement tabulated. Maximum offset from centreline half this amount



PEDESTAL DATA

Reference	H (mm)	R Min. (mm)	Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d mm inches	Group Reference	
P01	60	172	192	-	-	2-off M12 or 1/2"	228	60	22	138	2.5	35 40	1 11/16" 1 1/4" 1 7/16" 1 1/2"	01 108
P02	70	203	227	-	-	2-off M16 or 5/8"	270	60	25	158	3.2	45 50	1 11/16" 1 3/4" 1 15/16" 2"	01E 200
P03	80	226	242	-	-	2-off M16 or 5/8"	280	70	32	180	4.9	55 60 65	2 3/16" 2 1/4" 2 7/16" 2 1/2"	01E 208
P04	95	260	280	-	-	2-off M20 or 3/4"	330	76	38	208	6.9	70 75	2 11/16" 2 3/4" 2 15/16" 3"	01E 300
P05	112	312	328	-	-	2-off M24 or 7/8"	380	90	44	252	13.3	80 85 90	3 3/16" 3 1/4" 3 7/16" 3 1/2"	01E 308
P06	125	342	366	-	-	2-off M24 or 7/8"	420	102	52	272	14.7	95 100 105	3 11/16" 3 3/4" 3 15/16" 4"	01E 400
P07	143	374	410	-	-	2-off M24 or 7/8"	466	120	60	314	20.6	110 115	4 3/16" 4 7/16" 4 1/2"	01 408
P08	162	438	462	-	120	4-off M24 or 7/8"	508	178	38	372	43.3	120 125 130	4 15/16" 5"	01 500
P09	181	470	494	-	120	4-off M24 or 7/8"	558	178	41	405	52	135 140	5 3/16" 5 7/16" 5 1/2"	01 508
P10	181	484	508	-	120	4-off M24 or 7/8"	558	178	41	415	54	150 160	5 15/16" 6"	01 600

* Add 'OTL' to reference for cartridge for ATL seals if the cartridge for felt seals with the same bore size is also marked®, eg 01 C 10 OTL

**BEARING DATA**

Group Reference	Shaft Diameter d	Reference (I)			Axial Float (2) (mm)	Mass (kg)
		D (mm)	C (mm)	B BI		
01E 608	160mm 6 7/16" 170mm 6 1/2"	01EB 160M 01EB 608-170M	01EB 607 01EB 608	273.05 109.0	60.3 60.3	8 21.0
01E 700	170mm 6 15/16" 175mm 7" 180mm	01EB 170M 01EB 175M 01EB 180M	01EB 615 01EB 700	285.75 109.0	55.5 55.5	8 23.0
01E 800	190mm 7 15/16" 200mm 8"	01EB 190M 01EB 200M	01EB 715 01EB 800	311.15 109.0	60.3 60.3	8 25.0
01E 900	220mm 9" 230mm	01EB 220M 01EB 230M	01EB 900	342.90	63.5 63.5	8 32
01E 1000	240mm 250mm 10" 260mm	01EB 240M 01EB 250M 01EB 1000-260M	01EB 1000	374.65	66.7 66.7	9 40
01E 1100	260mm 270mm 11" 275mm 280mm	01EB 260M 01EB 270M 01EB 275M 01EB 280M	01EB 1100	406.40	69.0 69.0	10 50
01E 1200	290mm 12" 300mm	01EB 290M 01EB 300M	01EB 1200	438.15	74.6 74.6	10 60

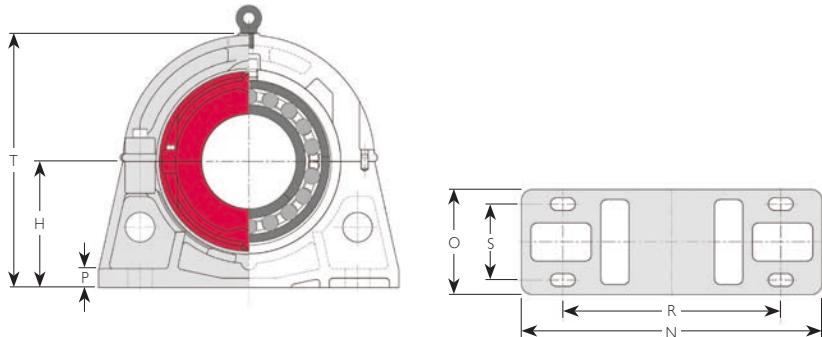
CARTRIDGE DATA

Cartridge References (I) for felt seals	Cartridge References (I) for ATL seals	G (mm)	J (mm)	L/LI (mm)	Mass (kg)
01C 160M 01C 608-170M*	01C 607 01C 608	01C 11*	311.15	76	172 192 30
01C 170M 01C 175M 01C 180M	01C 615 01C 700	01C 12	323.85	70	172 200 31
01C 190M 01C 200M	01C 715 01C 800	01C 13	358.78	86	172 200 41
01C 220M 01C 230M	01C 900	01C 14	387.35	82	178 216 46
01C 240M 01C 250M 01C 1000-260M*	01C 1000 01C 15*	419.10	90	188 222 58	
01C 260M 01C 270M 01C 275M 01C 280M	01C 1100	01C 16	454.00	95	204 232 70
01C 290M 01C 300M	01C 1200	01C 17	489.00	98	216 248 86

1) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g. **Bearing:** 01B 160M EX or 01B 607 EX
Cartridge: 01C 160M EX or 01C 11 EX

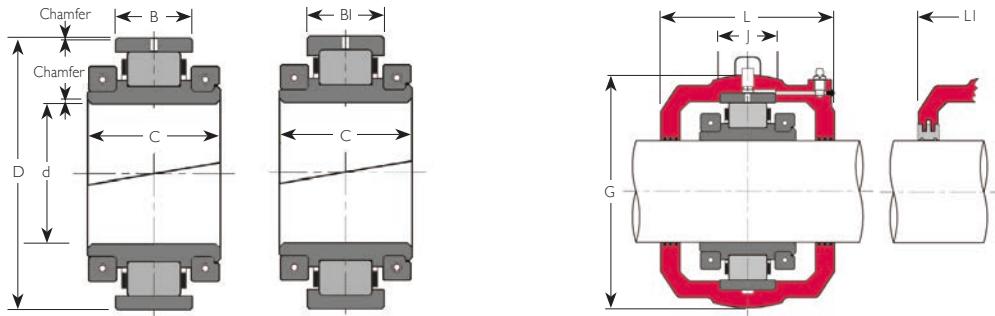
2) Total movement tabulated. Maximum offset from centreline half this amount

* Add 'OTL' to reference for cartridge for ATL seals if the cartridge for felt seals with the same bore size is also marked*, eg 01C 11 OTL



PEDESTAL DATA

Reference		R	H (mm)	Min. (mm)	Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d	Group Reference
PI1	213	356	380	-	114	4-off M24 or 1"	508	178	32	430	53			160mm 170mm	6 7/16" 6 1/2" 01E 608
PI2	235	376	400	-	128	4-off M24 or 1"	534	190	35	470	63			170mm 175mm 180mm	6 15/16" 7" 01E 700
PI3	248	410	434	-	140	4-off M24 or 1"	572	204	38	495	83			190mm 200mm	7 15/16" 8" 01E 800
PI4	270	440	480	-	140	4-off M30 or 1 1/4"	636	216	40	540	90			220mm 230mm	9" 01E 900
PI5	292	482	522	-	140	4-off M30 or 1 1/4"	686	228	44	585	114			240mm 250mm 260mm	10" 01E 1000
PI6	311	514	554	-	140	4-off M30 or 1 1/4"	724	228	48	620	142			260mm 270mm 275mm 280mm	11" 01E 1100
PI7	343	564	604	-	178	4-off M30 or 1 1/4"	762	254	50	685	169			290mm 300mm	12" 01E 1200

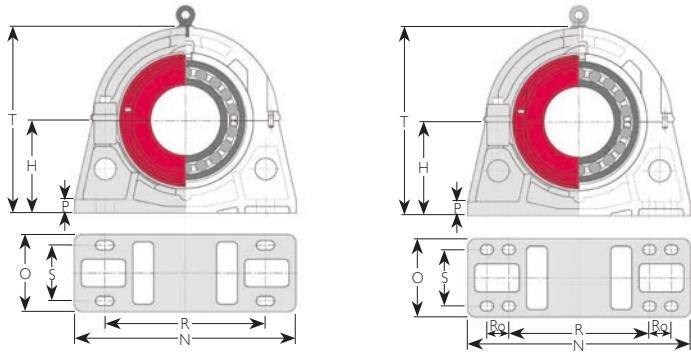


BEARING DATA

Group Reference	Shaft Diameter d	Reference (I)			Axial			Cartridge References (I)					
		D (mm)	C (mm)	B BI	Float (2) mm	Mass (kg)	for felt seals	for ATL seals	G (mm)	J (mm)	L/LI (mm)	Mass (kg)	
01 I300	320mm 330mm 340mm 13"	01 B 320M 01 B 330M 01 B 340M	01 B 1300	463.55	136.0	74.6 74.6	10	72	01 C 320M 01 C 330M 01 C 340M	01 C 1300	01 C 18	520.70 272	95 106
01 I400	340mm 350mm 360mm 14"	01 B 340M 01 B 350M 01 B 360M	01 B 1400	488.95	136.0	74.6 74.6	10	78	01 C 340M 01 C 350M 01 C 360M	01 C 1400	01 C 19	546.10 272	98 117
01 I500	360mm 380mm 15"	01 B 360M 01 B 380M	01 B 1500	520.70	140.0	76.2 76.2	10	86	01 C 360M 01 C 380M	01 C 1500	01 C 20	571.50 280	98 126
01 I600	390mm 400mm 16"	01 B 390M 01 B 400M	01 B 1600	546.10	140.0	76.2 76.2	10	95	01 C 390M 01 C 400M	01 C 1600	01 C 21	603.30 286	102 141
01 I700	420mm 17"	01 B 420M	01 B 1700	571.50	140.0	76.2 76.2	10	104	01 C 420M	01 C 1700	01 C 22	628.70 298	102 150
01 I800	440mm 460mm 18"	01 B 440M	01 B 1800	596.90	140.0	76.2 76.2	10	114	01 C 440M 01 C 460M	01 C 1800	01 C 23	650.90 310	108 151
01 I900	480mm 19"	01 B 480M	01 B 1900	628.65	144.0	81.0 81.0	11	128	01 C 480M	01 C 1900	01 C 24	682.60 324	108 162
01 I2000	500mm 20"	01 B 500M	01 B 2000	654.05	168.0	80.2 80.2	11	136	01 C 500M	01 C 2000	01 C 25	717.60 330	114 192
01 I2100	530mm 21"	01 B 530M	01 B 2100	692.15	168.0	81.0 81.0	11	164	01 C 530M	01 C 2100	01 C 26	755.70 336	114 226
01 I2200	560mm 22"	01 B 560M	01 B 2200	717.55	168.0	81.0 81.0	11	178	01 C 560M	01 C 2200	01 C 27	781.10 342	114 252
01 I2300	580mm 23"	01 B 580M	01 B 2300	749.30	172.0	84.1 84.1	11	195	01 C 580M	01 C 2300	01 C 28	816.00 348	120 273
01 I2400	600mm 24"	01 B 600M	01 B 2400	774.70	172.0	84.1 84.1	11	210	01 C 600M	01 C 2400	01 C 29	841.40 348	120 290

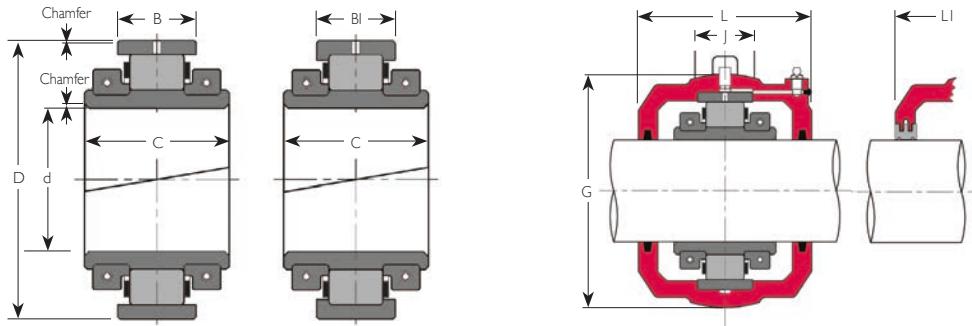
I) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g. **Bearing:** 01 B 320M EX or 01 B 1300 EX
Cartridge: 01 C 320M EX or 01 C 18 EX

2) Total movement tabulated. Maximum offset from centreline half this amount



PEDESTAL DATA

Reference	H (mm)	R Min. (mm)	Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d	Group Reference
P18	368	602	642	-	178	4-off M36 or 1 1/2"	812	254	54	735	196	320mm 330mm 340mm	13" 01 1300
P19	387	634	674	-	166	4-off M36 or 1 1/2"	850	254	57	775	213	340mm 350mm 360mm	14" 01 1400
P20	397	656	696	-	166	4-off M36 or 1 1/2"	902	254	60	795	288	360mm 380mm	15" 01 1500
P21	432	704	744	-	166	4-off M36 or 1 1/2"	940	254	67	865	309	390mm 400mm	16" 01 1600
P22	445	736	776	-	166	4-off M36 or 1 1/2"	966	254	67	890	316	420mm	17" 01 1700
P23	464	768	808	-	190	4-off M42 or 1 3/4"	1042	280	70	925	370	440mm 460mm	18" 01 1800
P24	483	796	836	-	188	4-off M42 or 1 3/4"	1092	304	73	965	402	480mm	19" 01 1900
P25	489	824	864	-	216	4-off M42 or 1 3/4"	1092	304	76	980	402	500mm	20" 01 2000
P26	533	884	924	-	206	4-off M42 or 1 3/4"	1194	304	80	1065	495	530mm	21" 01 2100
P27	552	916	956	-	206	4-off M42 or 1 3/4"	1220	304	83	1110	570	560mm	22" 01 2200
P28	578	857	896	102	220	8-off M36 or 1 1/2"	1346	304	90	1156	630	580mm	23" 01 2300
P29	597	888	928	105	220 84.1	8-off M36 or 1 1/2"	1372	304	90	1200	630	600mm	24" 01 2400

**BEARING DATA**

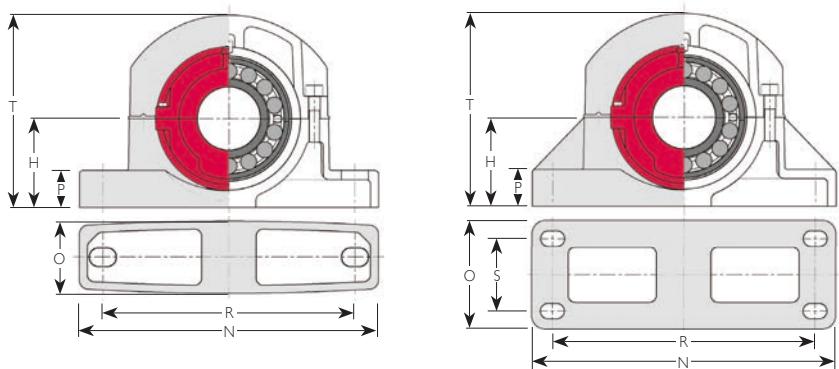
Group Reference	Shaft Diameter d	Reference (I)		Axial		
		D (mm)	C (mm)	B / BI (mm)	Float (2)	Mass (kg)
02 200	50mm 1 15/16" 2"	02 B 50M 02 B 200	107.95	67.5	35.0 35.0	5 2.0
02 208	60mm 2 3/16"	02 B 203				
	65mm 2 1/4"	02 B 60M 02 B 204	127.00	72.3	38.9	5.5
	65mm 2 7/16"	02 B 65M 02 B 207			38.9	3.0
	70mm 2 1/2"	02 B 208				
02 300	70mm 2 11/16"	02 B 211				
	75mm 2 3/4"	02 B 70M 02 B 212	149.22	82.6	46.1	6
	75mm 2 15/16"	02 B 75M 02 B 215			46.1	5.0
	75mm 3"	02 B 300				
02 308	80mm 3 1/4"	02 B 303				
	85mm 3 7/16"	02 B 80M 02 B 304	169.86	89.7	48.4	7
	90mm 3 1/2"	02 B 85M 02 B 307			48.4	7.0
	90mm 3 1/2"	02 B 90M 02 B 308				
02 400	100mm 3 3/4"	02 B 311				
	105mm 3 15/16"	02 B 100M 02 B 312	193.68	92.1	51.6	8
	105mm 4"	02 B 105M 02 B 315			51.6	9.0
	105mm 4"	02 B 400				
02 408	110mm 4 3/16"	02 B 403				
	115mm 4 7/16"	02 B 407 02 B 110M	228.60	100.0	57.2	9
	115mm 4 1/2"	02 B 408			57.2	16.0
02 500	120mm 4 15/16"	02 B 120M 02 B 415	254.00	114.3	63.5	10
	125mm 5"	02 B 125M 02 B 500			63.5	20.0
	130mm	02 B 130M				

CARTRIDGE DATA

Cartridge References (I) for felt seals	Cartridge References (I) for ATL seals	G (mm)	J (mm)	L/LI (mm)	Mass (kg)
02 C 50M 02 C 200	02 C 03	134.94	32	114 114	4
02 C 203					
02 C 60M 02 C 204	02 C 04	157.16	38	126 126	7
02 C 207	02 C 208				
02 C 211					
02 C 70M 02 C 212	02 C 05	177.80	50	140 140	9
02 C 75M 02 C 215	02 C 215 02 C 300				
02 C 303					
02 C 80M 02 C 304	02 C 06	203.20	50	154 154	10
02 C 307	02 C 307 02 C 308				
02 C 311					
02 C 100M 02 C 312	02 C 07	231.78	64	146 146	12
02 C 315	02 C 400				
02 C 403					
02 C 407 02 C 115M	02 C 08	266.70	76	162 162	19
02 C 408					
02 C 415					
02 C 500	02 C 10	295.28	82	184 184	26
02 C 30M					

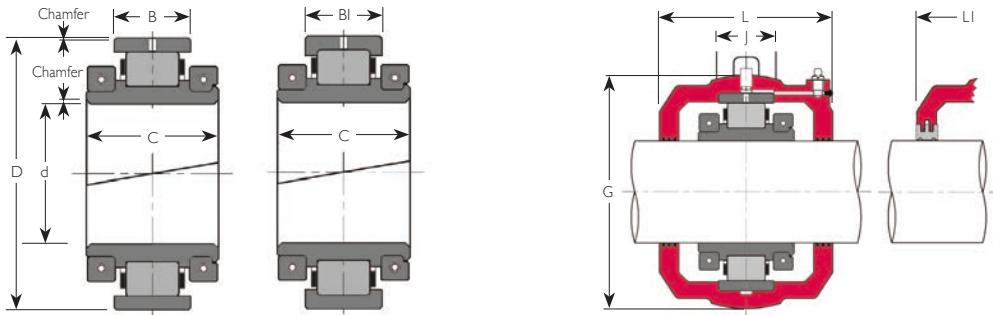
1) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g: **Bearing:** 02 B 50M EX or 02 B 115 EX
Cartridge: 02 C 50M EX or 02 C 03 EX

2) Total movement tabulated. Maximum offset from centre line half this amount.



PEDESTAL DATA

Reference	H (mm)	Min. (mm)	Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d	Group Reference
P03	80	226	242	-	-	2-off M16 or 5/8"	280	70	32	180	4.9	50mm 2"	I 15/16" 02 200
P04	95	260	280	-	-	2-off M20 or 3/4"	330	76	38	208	6.9	60mm 65mm 2 3/4" 2 7/16" 2 1/2"	2 3/16" 02 208
P05	112	312	328	-	-	2-off M24 or 7/8"	380	90	44	252	13.3	70mm 75mm 2 11/16" 2 3/4" 2 15/16" 3"	02 300
P06	125	342	366	-	-	2-off M24 or 7/8"	420	102	52	272	14.7	80mm 85mm 90mm 3 3/16" 3 1/4" 3 7/16" 3 1/2"	02 308
P07	143	374	410	-	-	2-off M24 or 7/8"	466	120	60	314	20.6	100mm 105mm 3 11/16" 3 3/4" 3 15/16" 4"	02 400
P08	162	438	462	-	120	4-off M24 or 7/8"	508	178	38	372	43.3	110mm 115mm 4 3/16" 4 7/16" 4 1/2"	02 408
P10	181	484	508	-	120	4-off M24 or 7/8"	558	178	41	415	54	120mm 125mm 130mm 4 15/16" 5"	02 500

**BEARING DATA**

Group Reference	Shaft Diameter d	Reference (I)	D (mm)	C (mm)	B / BI (mm)	Axial Float (2)	Mass (kg)
02 508	140mm 145mm 5 1/2"	02 B 140M 02 B 145M 02 B 508	02 B 503 02 B 507 02 B 508	273.05	I17.5	66.7 66.7	10 24.0
02 600	150mm 155mm 160mm 5 15/16" 6"	02 B 150M 02 B 155M 02 B 600-160M	02 B 515 02 B 600	292.10	I23.8	68.3 68.3	10 29.0
02E 608	160mm 170mm 6 7/16" 6 1/2"	02E B 160M 02E B 170M	02E B 607 02E B 608	317.50	I40.0	83.3 83.3	II 39.0
02E 700	175mm 180mm 6 15/16" 7"	02E B 175M 02E B 180M	02E B 615 02E B 700	330.20	I40.0	83.3 83.3	II 45.0
02E 800	190mm 200mm 7 15/16" 8"	02E B 190M 02E B 200M	02E B 715 02E B 800	368.30	I56.0	90.5 90.5	I3 59.0
02E 900	220mm 230mm 9"	02E B 220M 02E B 230M	02E B 900	393.70	I63.0	90.5 90.5	I3 68
02E 1000	240mm 250mm 260mm 10"	02E B 240M 02E B 250M 02E B 260M	02E B 1000	431.80	I70.0	96.8 96.8	I3 77
02E 1100	280mm 11"	02E B 280M	02E B 1100	463.55	I86.0	I01.6 I01.6	I4 86
02E 1200	300mm 12"	02E B 300M	02E B 1200	495.30	I93.0	I03.2 I03.2	I4 I23

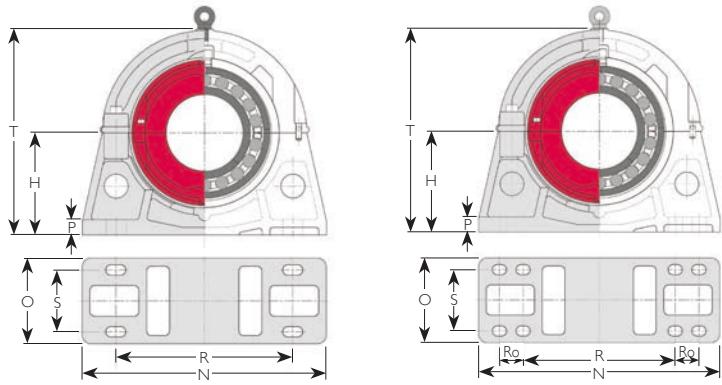
CARTRIDGE DATA

Cartridge References (I) for felt seals	Cartridge References (I) for ATL seals	G (mm)	J (mm)	L/LI (mm)	Mass (kg)
02 C 140M 02 C 145M	02 C 503 02 C 507 02 C 508	02 C 30	323.85	90	188 188
02 C 150M 02 C 155M 02 C 600-160M*	02 C 515 02 C 600	02 C 31*	336.55	95	204 204
02 C 160M 02 C 170M*	02 C 607 02 C 608	02 C 32*	368.30	95	206 232
02 C 175M 02 C 180M	02 C 615 02 C 700	02 C 33	381.00	95	222 242
02 C 190M 02 C 200M	02 C 715 02 C 800	02 C 34	425.50	I05	235 258
02 C 220M 02 C 230M	02 C 900	02 C 35	457.20	I10	242 274
02 C 240M 02 C 250M 02 C 260M*	02 C 1000	02 C 36*	495.30	I18	248 280
02 C 280M	02 C 1100	02 C 37	527.10	I30	264 300
02 C 300M	02 C 1200	02 C 38	552.50	I28	268 306

1) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g. **Bearing:** 02 B 140M EX or 02 B 503 EX
Cartridge: 02 C 140M EX or 02 C 30 EX

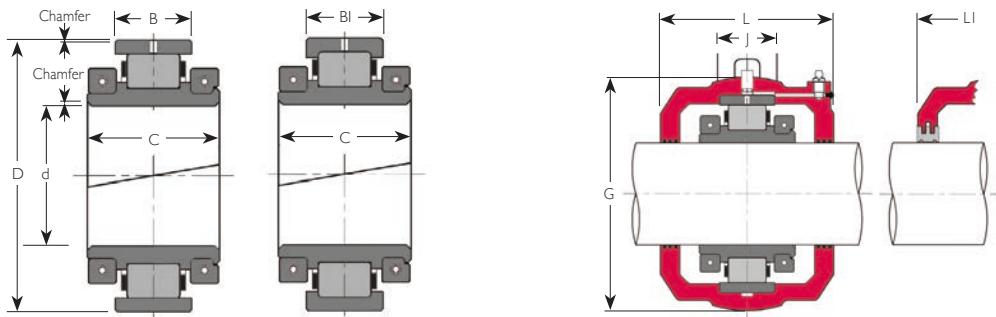
2) Total movement tabulated. Maximum offset from centreline half this amount.

* Add 'OTL' to reference for cartridge for ATL seals if the cartridge for felt seals with the same bore size is also marked*, eg 02 C 31 OTL



PEDESTAL DATA

Reference	H (mm)	Min. (mm)	Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d	Group Reference	
P30	203	534	558	-	120	4-off M24 or 1"	610	178	51	460	76	140mm 145mm	5 3/16" 5 7/16" 5 1/2"	02 508
P31	210	546	570	-	128	4-off M24 or 1"	636	204	50	470	83	150mm 155mm 160mm	5 15/16" 6"	02 600
P32	267	428	468	-	172	4-off M30 or 1 1/4"	596	242	44	535	106	160mm 170mm	6 7/16" 6 1/2"	02E 608
P33	273	438	478	-	166	4-off M30 or 1 1/4"	636	242	44	545	116	175mm 180mm	6 15/16" 7"	02E 700
P34	305	488	528	-	190	4-off M30 or 1 1/4"	686	266	50	610	145	190mm 200mm	7 15/16" 8"	02E 800
P35	324	530	570	-	190	4-off M36 or 1 1/2"	750	280	50	650	179	220mm 230mm	9"	02E 900
P36	356	576	616	-	204	4-off M36 or 1 1/2"	812	292	54	710	212	240mm 250mm 260mm	10"	02E 1000
P37	378	514	554	101	254	8-off M30 or 1 1/4"	914	330	60	760	292	280mm	11"	02E 1100
P38	394	546	586	101	254	8-off M30 or 1 1/4"	958	330	60	790	330	300mm	12"	02E 1200

**BEARING DATA**

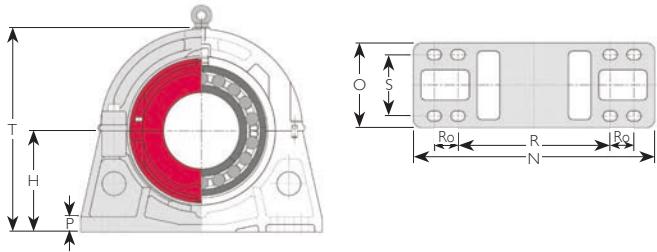
Group Reference	Shaft Diameter d	Reference (I)	D (mm)	C (mm)	B / BI (mm)	Axial Float (2)	Mass (kg)	
02 I300	320mm 330mm	13"	02 B 320M 02 B 330M	02 B I300	527.05	192.0	106.4 106.4	15 150
02 I400	340mm 350mm 360mm	14"	02 B 340M 02 B 350M 02 B 360M	02 B I400	565.15	200.0	115.9 115.9	16 182
02 I500	380mm	15"	02 B 380M	02 B I500	584.20	200.0	111.1 111.1	16 186
02 I600	400mm	16"	02 B 400M	02 B I600	615.95	200.0	115.9 115.9	16 209
02 I700	420mm	17"	02 B 420M	02 B I700	647.70	200.0	119.1 119.1	17 241
02 I800	440mm 460mm	18"	02 B 440M 02 B 460M	02 B I800	666.75	200.0	115.9 115.9	17 250
02 I900	480mm	19"	02 B 480M	02 B I900	698.50	223.0	119.1 119.1	17 263
02 2000	500mm	20"	02 B 500M	02 B 2000	717.55	226.0	115.9 115.9	17 272
02 2100	530mm	21"	02 B 530M	02 B 2100	762.00	229.0	119.1 119.1	18 309
02 2200	560mm	22"	02 B 560M	02 B 2200	793.75	233.0	122.2 122.2	18 336
02 2300	580mm	23"	02 B 580M	02 B 2300	812.80	232.0	119.1 119.1	16 340
02 2400	600mm	24"	02 B 600M	02 B 2400	838.20	214.0	119.1 119.1	18 381

CARTRIDGE DATA

Cartridge References (I) for felt seals	for ATL seals	G (mm)	J (mm)	L/LI (mm)	Mass (kg)
02 C 320M 02 C 330M	02 C I300	02 C 39	587.40	128	298 330
02 C 340M 02 C 350M 02 C 360M	02 C I400	02 C 40	628.70	146	305 342
02 C 380M	02 C I500	02 C 41	647.70	146	305 342
02 C 400M	02 C I600	02 C 42	685.80	146	324 350
02 C 420 M	02 C I700	02 C 43	717.60	146	324 356
02 C 440M 02 C 460M	02 C I800	02 C 44	733.40	146	324 356
02 C 480M	02 C I900	02 C 45	762.00	146	338 374
02 C 500M	02 C 2000	02 C 46	787.40	146	350 374
02 C 530M	02 C 2100	02 C 47	831.90	150	350 374
02 C 560M	02 C 2200	02 C 48	866.80	152	356 380
02 C 580M	02 C 2300	02 C 49	882.70	152	356 380
02 C 600M	02 C 2400	02 C 50	914.40	152	388 394

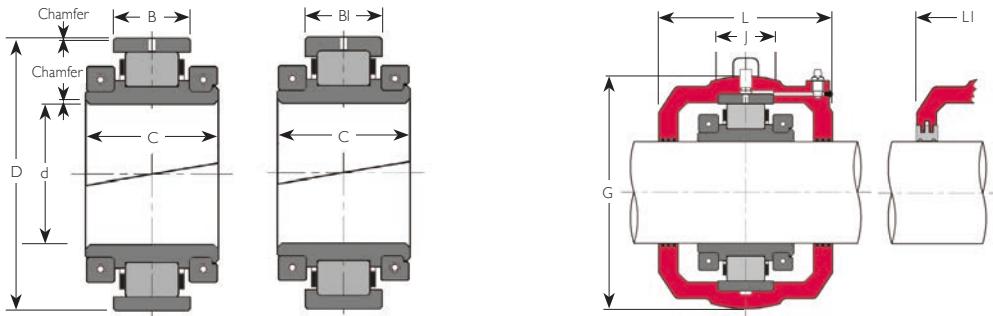
I) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g. Bearing: 02 B 320M EX or 02 B I300 EX
Cartridge: 02 C 320M EX or 02 C 39 EX

2) Total movement tabulated. Maximum offset from centreline half this amount.



PEDESTAL DATA

Reference	H (mm)	Min. (mm)	Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d	Group Reference
P39	419	590	630	101	210	8-off M30 or 1 1/4"	1016	292	64	840	383	320mm 330mm	I3" 02 I300
P40	451	640	680	102	280	8-off M36 or 1 1/2"	1092	368	67	900	429	340mm 350mm 360mm	I4" 02 I400
P41	464	662	702	102	280	8-off M36 or 1 1/2"	1092	368	67	925	445	380mm	I5" 02 I500
P42	495	710	750	102	280	8-off M36 or 1 1/2"	1168	368	70	990	537	400mm	I6" 02 I600
P43	514	748	788	102	280	8-off M36 or 1 1/2"	1194	368	70	1030	564	420mm	I7" 02 I700
P44	533	768	808	104	280	8-off M36 or 1 1/2"	1244	368	73	1070	564	440mm 460mm	I8" 02 I800
P45	552	792	832	115	280	8-off M36 or 1 1/2"	1270	368	76	1110	690	480mm	I9" 02 I900
P46	572	824	864	115	280	8-off M36 or 1 1/2"	1296	368	80	1145	677	500mm	20" 02 2000
P47	591	870	910	114	280	8-off M36 or 1 1/2"	1398	368	83	1180	905	530mm	21" 02 2100
P48	616	904	956	114	280	8-off M42 or 1 3/4"	1422	382	86	1230	965	560mm	22" 02 2200
P49	635	932	984	115	280	8-off M42 or 1 3/4"	1448	382	90	1270	1000	580mm	23" 02 2300
P50	673	984	1036	114	280	8-off M42 or 1 3/4"	1524	382	92	1345	1050	600mm	24" 02 2400



BEARING DATA

Group Ref.	Shaft Diameter d	
03 400	100mm 3 15/16" 4"	
03 408	110mm 4 7/16" 120mm 4 1/2"	
03 500	130mm 4 15/16" 5"	
03 508	140mm 5 7/16" 5 1/2"	
03 600	150mm 5 15/16" 6"	
03 608	160mm 6 7/16" 170mm 6 1/2"	
03 700	180mm 6 15/16" 7"	
03 800	190mm 200mm 7 15/16" 8"	
03 900	220mm 9"	
03 1000	240mm 250mm 260mm 10"	

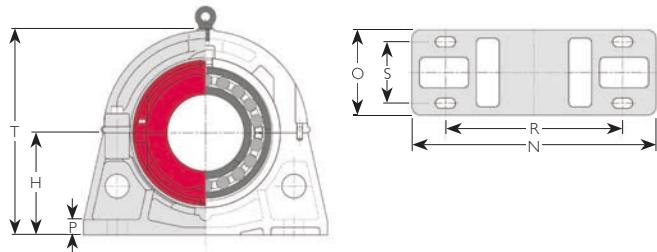
CARTRIDGE DATA

Cartridge References (I) for felt seals	Cartridge References (I) for ATL seals	Principal Dimensions	
G (mm)	J (mm)	L/LI (mm)	Mass (kg)
03 C 100M	03 C 315 03 C 400	308.00	95 200 206
03 C 110M	03 C 407	323.85	102 210 222
03 C 120M	03 C 408	323.85	102 214 222
03 C 130M	03 C 415 03 C 500	323.85	102 214 222
03 C 140M	03 C 507 03 C 508	355.60	108 216 230
03 C 150M	03 C 515 03 C 600	393.70	114 232 254
03 C 160M	03 C 607	422.30	120 244 268
03 C 170M	03 C 608	422.30	120 244 268
03 C 180M	03 C 615 03 C 700	431.80	132 254 284
03 C 190M	03 C 715	489.00	146 270 300
03 C 200M	03 C 800	546.10	165 298 334
03 C 220M	03 C 900	546.10	165 298 334
03 C 240M			161
03 C 250M	03 C 1000	558.80	165 298 334
03 C 260M*	03 C 63*		161

1) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g: **Bearing:** 03 B 100M EX or 03 B 315 EX
Cartridge: 03 C 100M EX or 03 C 54 EX

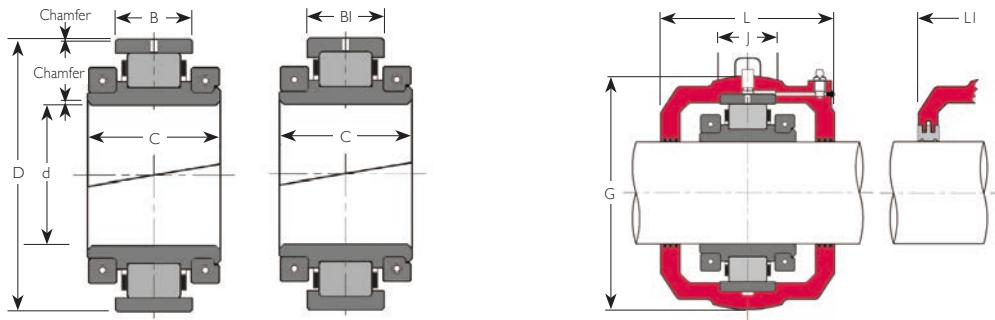
2) Total movement tabulated. Maximum offset from centreline half this amount.

* Add 'OTL' to reference for cartridge for ATL seals if the cartridge for felt seals with the same bore size is also marked*, eg 03 C 63 OTL



PEDESTAL DATA

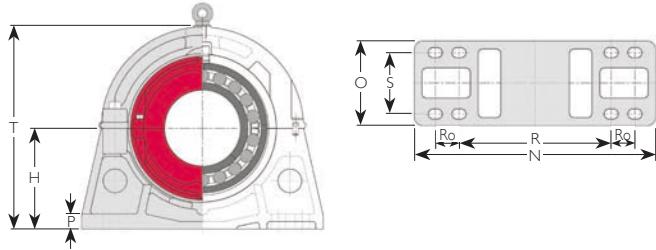
Reference	H (mm)	R Min. (mm)	R Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d	Group Reference	
P54	191	426	450	-	82	4-off M24 or 7/8"	514	152	38	405	61	100mm	3 15/16" 4"	03 400
P55	197	446	470	-	88	4-off M24 or 1"	534	166	38	425	69	110mm 120mm	4 7/16" 4 1/2"	03 408
P56	203	458	482	-	96	4-off M24 or 1 1/4"	546	166	48	435	74	130mm	4 15/16" 5"	03 500
P57	229	494	534	-	102	4-off M30 or 1 1/4"	622	178	54	485	97	140mm	5 7/16" 5 1/2"	03 508
P58	254	538	578	-	120	4-off M30 or 1 1/4"	666	204	57	535	142	150mm	5 15/16" 6"	03 600
P59	267	608	648	-	140	4-off M30 or 1 1/4"	736	228	60	570	162	160mm 170mm	6 7/16" 6 1/2"	03 608
P60	279	616	656	-	152	4-off M30 or 1 1/4"	762	254	64	580	172	180mm	6 15/16" 7"	03 700
P61	311	616	656	-	172	4-off M36 or 1 1/2"	838	266	67	655	223	190mm 200mm	7 15/16" 8"	03 800
P62	349	716	756	-	178	4-off M42 or 1 3/4"	952	280	76	730	309	220mm	9"	03 900
P63	394	650	690	-	304	4-off M42 or 1 3/4"	914	406	76	790	392	240mm 250mm 260mm	10"	03 1000



		BEARING DATA					CARTRIDGE DATA								
Group Reference	Shaft Diameter d	Reference (I)		D (mm)	C (mm)	B/BI (mm)	Axial Float (2)	Mass (kg)	Cartridge References (I) for felt seals	for ATL seals	G (mm)	J (mm)	L/LI (mm)	Mass (kg)	
03E I100	280mm 11"	03E B 280M	03E B I100	495.30	244.0	139.7	20	182	03E C 280M	03E C I100	03E C 83	571.50	165	356 356	204
03 I200	290mm 300mm 12"	03 B 290M 03 B 300M	03 B I200	558.80	244.0	139.7	19	238	03 C 290M 03 C 300M	03 C I200	03 C 65	641.40	165	346 370	239
03 I300	320mm 13"	03 B 320M	03 B I300	622.30	272.0	160.4	22	327	03 C 320M	03 C I300	03 C 66	717.60	170	368 418	273
03E I400	340mm 360mm 14"	03E B 340M 03E B 360M	03E B I400	615.95	279.0	158.0	22	318	03E C 340M 03E C 360M	03E C I400	03E C 86	704.90	196	432 432	385
03 I500	380mm 400mm 15"	03 B 380M 03 B 400M	03 B I500	685.80	292.0	166.7	23	431	03 C 380M 03 C 400M	03 C I500	03 C 68	774.70	202	400 438	399
03E I700	420mm 440mm 17"	03E B 420M 03E B 440M	03E B I700	700.00	284.0	160.0	23	395	03E C 420M 03E C 440M	03E C I700	03E C 89	788.00	200	440 442	408
03E I800	460mm 18"	03E B 460M	03E B I800	740.00	294.0	170.0	24	431	03E C 460M	03E C I800	03E C 90	840.00	200	450 450	454
03 2000	500mm 530mm 20"	03 B 500M 03 B 530M	03 B 2000	850.90	300.0	187.4	26	730	03 C 500M 03 C 530M	03 C 2000	03 C 94	958.90	204	495 508	770
03E 2200	560mm 22"	03E B 560M	03E B 2200	863.60	310.0	196.9	28	635	03E C 560M	03E C 2200	03E C 94	958.90	204	490 490	671
03E 2300	600mm 23"	03E B 600M	03E B 2300	890.00	310.0	184.0	27	680	03E C 600M	03E C 2300	03E C 95	990.00	204	490 490	720

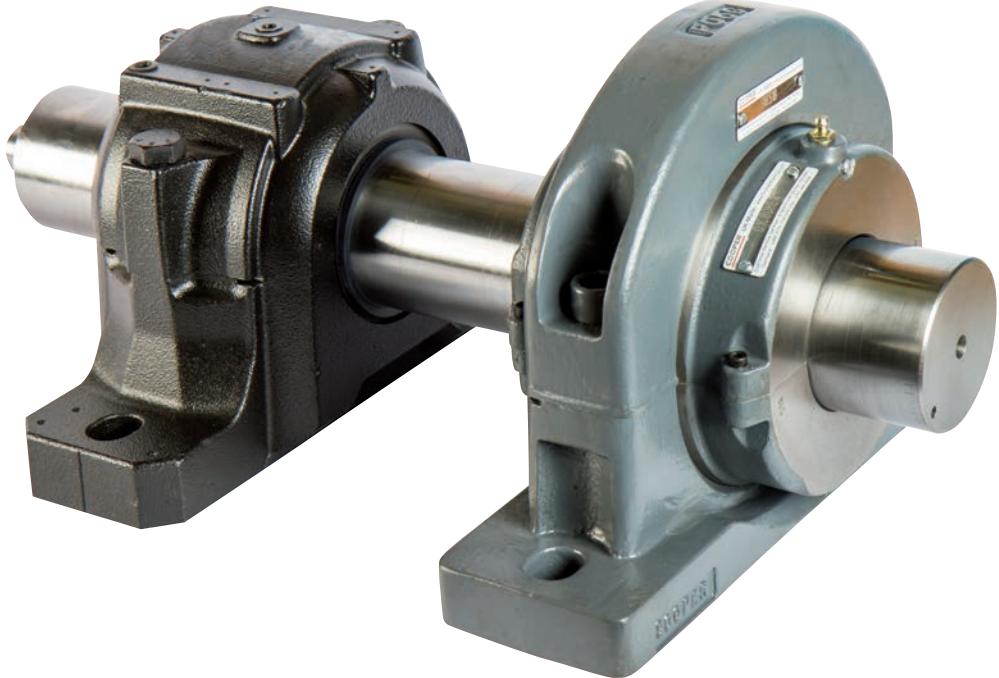
I) Add 'EX' or 'GR' to reference for expansion or fixed type respectively, e.g.: Bearing: 03 B 280M EX or 03 B I100 EX Cartridge: 03 C 280M EX or 03 C 83 EX

2) Total movement tabulated. Maximum offset from centreline half this amount.



PEDESTAL DATA

Reference	H (mm)	Min. (mm)	Max. (mm)	Ro (mm)	S (mm)	Bolts	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Kg)	Shaft Diameter d	Group Reference
P83	368	482	522	120	178	8-off M36 or 1 1/2"	940	280	70	785	205	280mm	1 1/8" 03E I100
P65	457	654	694	101	330	8-off M36 or 1 1/2"	1092	420	76	915	586	290mm 300mm	1 2/8" 03 I200
P66	518	742	782	108	266	8-off M36 or 1 1/2"	1194	356	80	1035	655	320mm	1 3/8" 03 I300
P86	470	634	686	134	190	8-off M42 or 1 3/4"	1220	318	82	1000	464	340mm 360mm	1 4/8" 03E I400
P68	559	780	832	115	292	8-off M42 or 1 3/4"	1270	394	92	1120	859	380mm 400mm	1 5/8" 03 I500
P89	508	664	716	150	210	8-off M48 or 2"	1270	360	90	1075	482	420mm 440mm	1 7/8" 03E I700
P90	550	754	806	150	220	8-off M48 or 2"	1370	380	95	1165	705	460mm	1 8/8" 03E I800
P94	622	914	966	165	242	8-off M56 or 2 1/4"	1600	406	102	1340	1000	500mm 530mm	2 0/8" 03 2000
P94	622	914	966	165	242	8-off M56 or 2 1/4"	1600	406	102	1340	1000	560mm	2 2/8" 03E 2200
P95	622	914	966	165	242	8-off M56 or 2 1/4"	1600 184.0	406	102	1340	930	600mm	2 3/8" 03E 2300



COOPER 'COMPATIBLE' PEDESTALS

Cooper SNC500, SDC3100 and SAFC500 Series pedestals are designed for use where interchangeability with SN500, SD3100 and SAF500 series pillow block units is required. They may be used to economically replace existing solid bearings, or may be incorporated into new machinery where the envelope dimensions of these units are desirable.

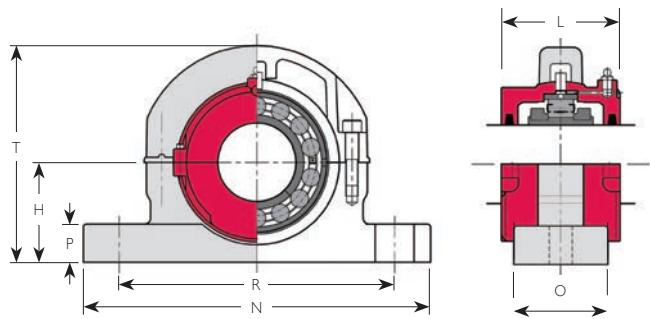
Generally, the bearings and cartridges are standard 01, 01E, 02 or 02E Series units. In some cases cartridges and bearings of reduced outside diameter are used in order to provide adequate pedestal base thickness. However, the load ratings of the standard bearings of the same bore size still apply.

The Cooper pedestals have bolt hole spacings and heights to centres corresponding to the equivalent industry standard units for solid bearings. However, the footprint, overall pedestal height and length on shaft may differ and should be checked against available space.

The tables on the following pages list the Cooper pedestals with the bearing and cartridge of the same bore size as the shaft diameter that is commonly accommodated in the equivalent pillow block with a solid bearing mounted on an adaptor sleeve. These pedestals may also be used with alternative sizes of Cooper bearing. Bearings and cartridges of the same group size (as tabulated in the main bearing, cartridge and pedestal pages) may be accommodated in the same pedestal. In many cases, bearings and cartridges of different series may also be accommodated in the these pedestals, providing an even wider choice of bore sizes where the pedestal dimensions are appropriate and loading conditions permit.

SNC500 pedestals are manufactured from grade EN-GJL-250 grey iron to BS EN 1561 : 1997 as standard. SAFC500 and SDC3100 pedestals are manufactured from grade EN-GJS-400/18 ductile iron to BS EN 1563 : 1997 as standard.

The Cooper "Compatible" pedestal range is also available as an angled joint version. Refer to page 52.



SN COMPATIBLE PEDESTALS

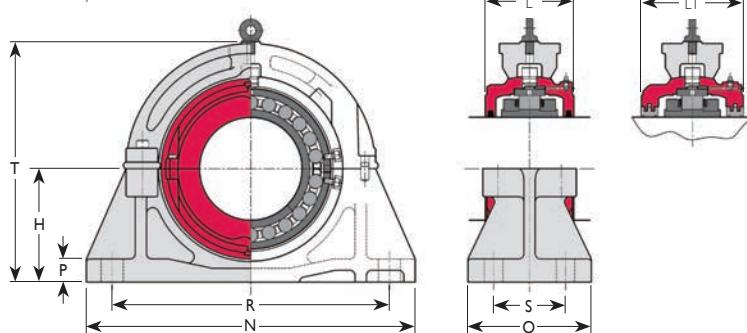
Shaft Diameter	Bearing Reference(I)	Reference(I) (pedestal only)	H (mm)	R Min(mm)	R Max (mm)	Bolt size	N (mm)	O (mm)	P (mm)	T (mm)	L(2) (mm)	Pedestal Mass (kg)
60	OIE B 60M	SNC513	80	226	242	M16	280	70	32	180	104	4.9
65	OIE B 65M	SNC515	80	226	242	M16	280	70	32	180	104	4.9
70	OIE B 70M	SNC516	95	254	266	M20	315	90	38	208	114	7.3
75	OIE B 75M	SNC517	95	254	266	M20	315	90	38	208	114	7.3
80	OIE B 80M	SNC518	100	284	296	M20	345	100	32	240	136	13.4
85	OIE B 85M	SNC519*	112	284	296	M20	345	100	44	252	136	15.2
90	OIE B 90M	SNC520*	112	312	328	M24	380	90	44	252	136	13.3
100	OIE B 100M	SNC522*	125	342	366	M24	420	102	52	272	134	14.7
110	OI B 110M	SNC524*	140	344	356	M24	410	120	45	310	142	19.5
115	OI B 115M	SNC526*	150	372	388	M24	450	130	50	320	142	22.7
125	OI B 125M	SNC528*	150	414	426	M30	500	150	50	360	156	38.2
135	OI B 135M	SNC530*	160	444	456	M30	530	160	56	386	168	40
140	OI B 140M	SNC532*	170	462	478	M30	558	178	41	391	168	52

1) For full references of bearings and cartridges see pages 32 to 38

2) Applies for cartridges with either single seal groove or TL seals

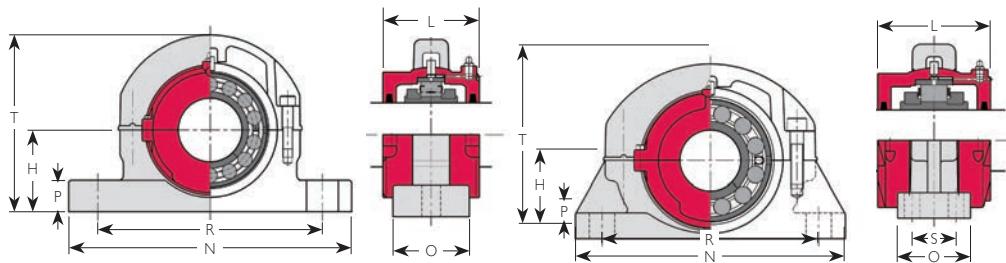
*Pedestals equivalent to these sizes are also available in the Cooper SSNC500 range. Cooper SSNC500 pedestals have the same height to centre as the SNC500 range but do not have slots for the holding-down bolts. They may be drilled by the user for either 2 or 4 bolts. The SSNC500 pedestals are manufactured from ductile iron. Please consult Cooper for full dimensional and loading data.

SD Compatible Pedestals



SD COMPATIBLE PEDESTALS

Shaft Diameter d (mm)	Bearing Expansion/Fixed	References		TL Cartridge Expansion/Fixed	Pedestal Only	R (mm)	H Min. (mm)	H Max. (mm)	S (mm)	Bolt Size	N (mm)	O (mm)	P (mm)	T (mm)	L (mm)	L1 (mm)	Masses (kg)	
		Standard	Cartridge														Pedestal only	Complete Unit
150	01 E B 150M EX	01C 150M EX	01C 10 EX	SDC3134 PN3112		170	424	436	100	M24	510	178	40	401	174	174	48	98
	01 B 150M GR	01C 150M GR	01C 10 GR														401	204
	02 B 150M EX10	02C 150M EX11	02C 31 EX20														53	109
160	01 E B 160M EX	01C 160M EX	01C 11 EX	SDC3136 PN3113		180	438	462	110	M24	530	190	40	396	172	192	50	105
	01 E B 160M GR	01C 160M GR	01C 11 GR														440	204
	02 B 600-160M EX	02C 600-160M EX	02C 31 EX OTL														69	178
170	01 E B 170M EX	01C 170M EX	01C 12 EX	SDC3138 PN3210		190	468	492	120	M24	560	200	40	425	172	200	59	113
	01 E B 170M GR	01C 170M GR	01C 12 GR														457	206
	02 E B 170M EX10	02C 170M EX11	02C 32 EX11														232	164
180	01 E B 180M EX	01C 180M EX	01C 12 EX	SDC3140 PN3312		210	503	517	130	M30	600	210	40	445	172	200	66	120
	01 E B 180M GR	01C 180M GR	01C 12 GR														482	222
	02 E B 180M EX	02C 180M EX	02C 33 EX														242	109
200	01 E B 200M EX	01C 200M EX	01C 13 EX	SDC3144 PN3410		220	533	547	140	M30	640	240	45	467	172	200	87	153
	01 E B 200M GR	01C 200M GR	01C 13 GR														525	235
	02 E B 200M EX10	02C 200M EX10	02C 34 EX10														258	115
220	01 E B 220M EX	01C 220M EX	01C 14 EX	SDC3148 PN3510		240	593	607	150	M30	700	250	45	510	178	216	96	174
	01 E B 220M GR	01C 220M GR	01C 14 GR														564	242
	02 E B 220M EX	02C 220M EX	02C 35 EX														274	141
240	01 E B 240M EX	01C 240M EX	01C 15 EX	SDC3152 PN3610		260	642	658	160	M36	770	280	49	552	188	222	132	230
	01 E B 240M GR	01C 240M GR	01C 15 GR														614	248
	02 E B 240M EX	02C 240M EX	02C 36 EX														280	174
260	01 E B 260M EX	01C 260M EX	01C 16 EX	SDC3156 PN3612		280	662	678	160	M36	790	280	55	591	204	232	160	280
	01 E B 260M GR	01C 260M GR	01C 16 GR														634	248
	02 E B 260M EX	02C 260M EX	02C 36 EX10														300	190
280	01 E B 280M EX	01C 280M EX	01C 16 EX	SDC3160 PN3711		300	702	718	190	M36	830	310	55	611	204	232	175	295
	01 E B 280M GR	01C 280M GR	01C 16 GR														678	264
	02 E B 280M EX	02C 280M EX	02C 37 EX														300	247
300	01 E B 300M EX	01C 300M EX	01C 17 EX	SDC3164 PN3811		320	742	758	200	M36	880	320	60	663	216	248	208	354
	01 E B 300M GR	01C 300M GR	01C 17 GR														714	268
	02 E B 300M EX	02C 300M EX	02C 38 EX														306	252
	02 E B 300M GR	02C 300M GR	02C 38 GR														534	



SAF COMPATIBLE PEDESTALS

Shaft Diameter d (inches)	Bearing Reference(I) (pedestal only)	Reference(I)	H	Min	R	Max	S	Bolts		N	O	P	T	L(2)	Pedestal Mass(kg)
								No.	Size						
1 15/16	OIE B 115	SAFC511	2 3/4"	7 3/8"	7 7/8"	-	2	5/8"	9 5/8"	2 1/4"	7/8"	6 1/8"	3 13/16"	4.3	
2 3/16	OIE B 203	SAFC513	3"	8 1/8"	9 1/2"	-	2	5/8"	11"	3 1/8"	1"	7"	4 1/16"	6.4	
2 7/16	OIE B 207	SAFC515	3 1/4"	8 5/8"	9 5/8"	-	2	5/8"	11 1/4"	3 1/8"	1 1/8"	7 1/4"	4 1/4"	7.4	
2 11/16	OIE B 211	SAFC516	3 1/2"	9 5/8"	11"	-	2	3/4"	13"	3 1/2"	1 3/16"	7 7/8"	4 1/2"	9.7	
2 15/16	OIE B 215	SAFC517	3 3/4"	9 7/8"	11"	-	2	3/4"	13"	3 1/2"	1 7/16"	8 3/16"	4 1/2"	11.5	
	02 B 215	FSAFC517	3 3/4"	10"	10 7/8"	2 3/16"	4	5/8"	13"	3 1/2"	1 1/4"	8 1/2"	5 1/2"	11.5	
3 3/16	OIE B 303	SAFC518	4"	10 3/8"	11 5/8"	-	2	3/4"	13 3/8"	3 7/8"	1 1/4"	9 1/2"	5 5/16"	15.4	
3 7/16	OIE B 307	SAFC520	4 1/2"	11 5/8"	13 1/8"	-	2	7/8"	15 1/4"	3 7/8"	1 1/4"	10"	5 5/16"	19.3	
	02 B 307	FSAFC520	4 1/2"	11 5/8"	13 1/8"	2 3/8"	4	3/4"	15 1/4"	4 7/8"	1 1/4"	10 1/4"	6 1/16"	15.0	
3 15/16	02 B 315	SAFC522	4 15/16"	12 5/8"	14 1/4"	2 3/4"	4	3/4"	16 1/2"	4 3/4"	2"	11 5/8"	5 3/4"	19.5	
4 7/16	02 B 407	SAFC526	6"	14 5/8"	16"	3 1/4"	4	7/8"	18 3/8"	5 1/8"	2 3/8"	14 1/4"	6 3/8"	43	
4 15/16	02 B 415 (3)	SAFC528 (3)	6"	16"	17 1/8"	3 3/8"	4	1"	20 1/8"	5 7/8"	1 3/8"	15	7 1/4"	54	
5 7/16	02 B 507	SAFC532	6 11/16"	17 3/8"	19 1/4"	3 3/4"	4	1"	22"	6 1/4"	2 11/16"	16 3/4"	7 3/8"	74	
5 15/16	02 B 515	SAFC534	7 1/16"	19 3/8"	21 5/8"	4 1/4"	4	1"	24 3/4"	6 1/4"	2 3/4"	17 1/4"	8"	83	

1) For full references of bearings and cartridges see pages 32 and 38 to 40

2) Applies for cartridges with either single seal groove or TL seals

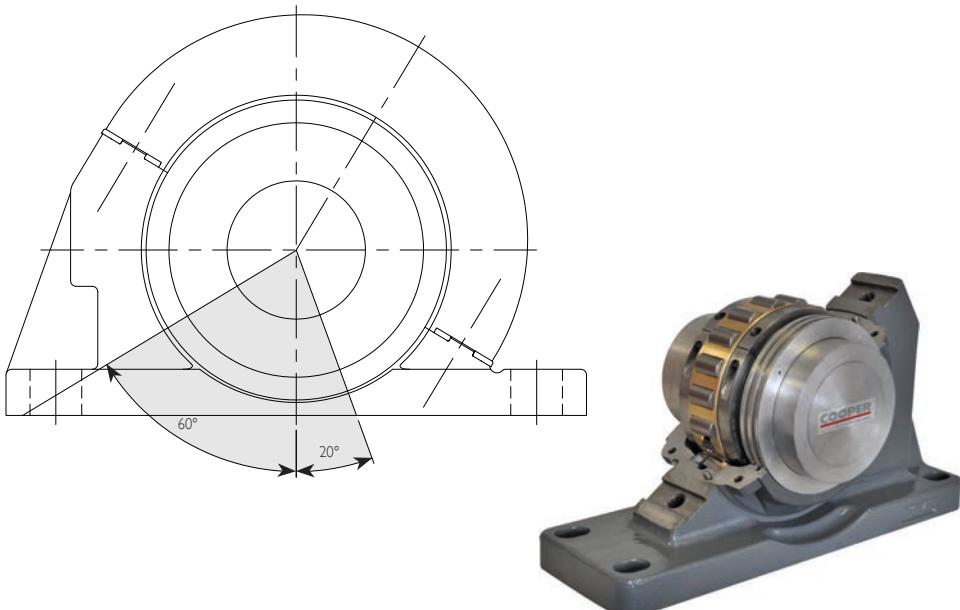
3) Special bearing and cartridge required for this size. Bearing ratings are as for standard 02 B 415, but outside diameters of bearing and cartridge differ from standard.

References: Fixed-type bearing: 02 B 415 GR 16

Expansion-type bearing: 02 B 415 EX 16

Fixed-type cartridge (for TL seals): 02 C 10 GR 21

Expansion-type cartridge (for TL seals): 02 C 10 EX 21



COOPER ANGLED PEDESTALS

Cooper SNQ, SDQ and SAFQ Series pedestals are designed for use where interchangeability with SNC500, SD500 and SAF500 series pillow block units is required, and where there is particularly difficult access for mounting the pedestal base.

The angled joint of the pedestal allows the pedestal base to be slid into position under the shaft without the need to hoist it, where there are no other means (such as removable packing) to create extra height between the mounting structure and the shaft and no possibility to put the pedestal base under the shaft in an area of greater clearance and move axially into position.

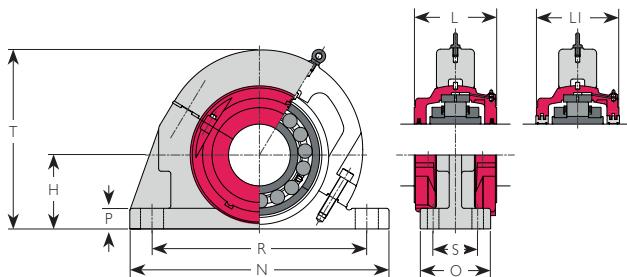
As with our conventional-style SNC, SDC and SAFC pedestals (see page **), the SNQ, SDQ and SAFQ pedestals have bolt hole spacings and heights to centres corresponding to the equivalent industry standard units for unsplit bearings. However, the footprint, overall height

and length on shaft may differ and should be checked against the available space.

The tables on the following pages list the Cooper pedestals with the bearings and cartridges of the same bore size as the shaft diameter that is commonly accommodated in the equivalent pillow block with an unsplit bearing mounted on an adaptor sleeve. These pedestals may also be used with alternative sizes of Cooper bearings in a similar way to the conventional style pedestals.

Cooper SNQ, SDQ and SAFQ pedestals are manufactured from grade EN-GJS-400/18 ductile iron to BS EN 1563 : 1997 as standard, and have tenon-style joints.

50% of the static load rating (Cor) of the bearing with which the pedestal is listed in the following table may be applied when the load is applied over the area shaded in the diagram above. Refer to Cooper technical department for higher loading or load at other angles.



SN COMPATIBLE ANGLED PEDESTALS

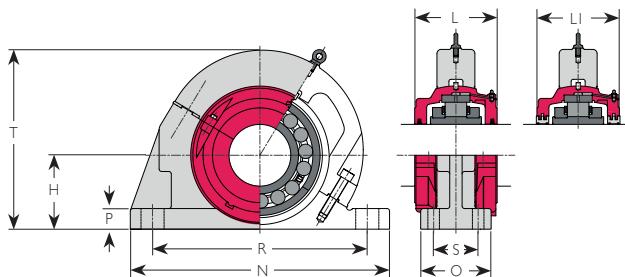
Shaft Diameter (2) (mm)	Bearing Reference (1)	Reference (1) (pedestal only)	H (mm)	R Min (mm)	R Max (mm)	S (mm)	Bolts No.	Size	N (mm)	O (mm)	P (mm)	T (mm)	L (mm)	LI (mm)	Pedestal Mass (kg)
50	0IEB50M	SNQ511	70	203	219	-	2	M16	255	60	25	158	98	98	3.9
75	0IEB75M	SNQ517	95	254	280	-	2	M20	315	90	38	208	114	114	9.7
90	0IEB90M	SNQ520	112	312	328	-	2	M24	380	90	44	253	136	136	17.5
100	0IEB100M	SNQ522	125	342	366	-	2	M24	420	102	52	274	134	134	21.7
110	0IBI10M	SNQ524	140	344	356	-	2	M24	410	120	45	310	142	142	26.1
115	0IBI15M	SNQ526	150	372	388	-	2	M24	450	130	50	320	142	142	33.3
125	0IBI25M	SNQ528	150	414	426	-	2	M30	500	150	38	358	156	156	42.9
125	0IBI25M	SNQ528	150	414	426	-	2	M30	500	150	38	358	156	156	42.9
135	0IBI35M	SNQ530	160	444	456	-	2	M30	530	160	45	380	168	168	52.8
140	0IBI40M	SNQ532	170	462	478	-	2	M30	558	178	41	390	168	168	59.7

SD COMPATIBLE ANGLED PEDESTALS

150	0IBI50M	SDQ3I34	170	424	436	100	4	M24	510	178	38	399	174	174	55.9
160	0IEB160M	SDQ3I36	180	438	462	110	4	M24	530	190	40	393	172	192	56.8
180	0IEB180M	SDQ3I40	210	503	517	130	4	M30	600	210	40	442	172	200	77.9
200	0IEB200M	SDQ3I44	220	533	547	140	4	M30	640	240	45	463	172	200	99.4
220	0IEB220M	SDQ3I48	240	593	607	150	4	M30	700	250	45	507	178	216	112.6

1) For full references of bearings and cartridges see pages 32 to 34 and 38 to 40

2) Shaft diameters shown are the most common, alternative sizes in the same group are available



SAF COMPATIBLE ANGLED PEDESTALS

Shaft Diameter (2) (mm)	Bearing Reference (I)	Reference (I) (pedestal only)	H (mm)	R Min (mm)	R Max (mm)	S (mm)	No. Bolts	Size	N (mm)	O (mm)	P (mm)	T (mm)	L (mm)	LI (mm)	Pedestal Mass (kg)
2 3/16"	0IEB203	SAFQ513	3"	8 1/8"	9 1/2"	-	2	5/8"	11"	3 1/8"	1"	7"	4 1/16"	4 1/16"	5.8
2 11/16"	0IEB211	SAFQ516	3 1/2"	9 5/8"	11"	-	2	3/4"	13"	3 1/2"	1 3/16"	7 7/8"	4 1/2"	4 1/2"	8.3
2 15/16"	02B215	FSAFQ517	3 3/4"	10"	10 7/8"	2 3/16"	4	5/8"	13"	3 1/2"	1"	9 5/16"	5 1/2"	5 1/2"	11.7
3 7/16"	02B307	FSAFQ520	4 1/2"	11 5/8"	13 1/8"	2 3/8"	4	3/4"	15 1/4"	4 3/8"	1 3/4"	10 3/8"	6 1/16"	6 1/16"	18.1
3 15/16"	02B315	SAFQ522	4 15/16"	12 5/8"	14 1/2"	2 3/4"	4	3/4"	16 1/2"	4 3/4"	1 9/16"	11 5/8"	5 3/4"	5 3/4"	22.9
4 7/16"	02B407	SAFQ526	6"	14 7/8"	16"	3 1/4"	4	7/8"	18 3/8"	5 1/8"	2 3/8"	12 15/16"	6 3/8"	6 3/8"	34.6
4 15/16"	02B415 (3)	SAFQ528 (3)	6"	16"	17 1/8"	3 3/8"	4	1"	20 1/8"	5 7/8"	1 3/8"	13 7/8"	7 1/4"	7 1/4"	40.9
5 7/16"	02B507	SAFQ532	6 11/16"	17 3/8"	19 1/4"	3 3/4"	4	1"	22"	6 1/4"	2"	15 3/4"	7 3/8"	7 3/8"	51.6
5 7/16"	02B507	SAFQ532	6 11/16"	17 3/8"	19 1/4"	3 3/4"	4	1"	22"	6 1/4"	2"	15 3/4"	7 3/8"	7 3/8"	51.6
5 15/16"	02B515	SAFQ534	7 1/16"	19 3/8"	21 5/8"	4 1/4"	4	1"	24 3/4"	6 3/4"	2"	17 1/8"	8"	8"	77.3

- 1) For full references of bearings and cartridges see pages 32 to 34 and 38 to 40
- 2) Shaft diameters shown are the most common, alternative sizes in the same group are available
- 3) Special bearing and cartridge required for this size. Bearing ratings are as for standard 02 B 415 but outside diameters of bearing and cartridge differ from standard.

References:

Fixed-type bearing:	02 B 415 GR 16
Expansion-type bearing:	02 B 415 EX 16
Fixed-type cartridge (for TL seals):	02 C 10 GR 21
Expansion-type cartridge (for TL seals):	02 C 10 EX 21

FLANGES

Flanges provide a simple means of mounting Cooper split roller bearings against a vertical or horizontal face or bulkhead.

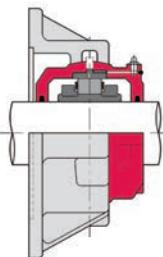
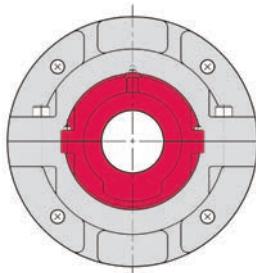
The most common types of flange are the round flange as shown on pages 56 to 60 and the more compact square flange as shown on page 61. Standard round flanges and square flanges are made from grey iron and ductile iron respectively. Alternative materials and designs are available.

Flanges are common between expansion (EX) and fixed (GR) units.

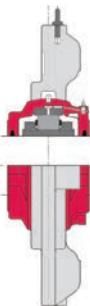
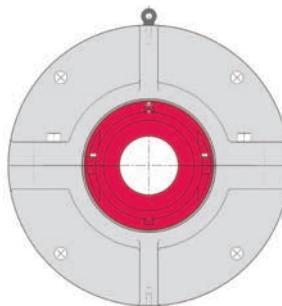
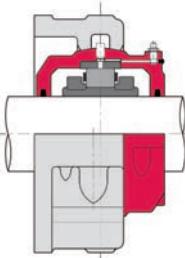
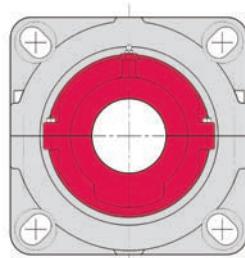
Maximum radial loads for standard units are 26% of static rating (Cor) when used with 01 or 02

Series bearings, and 20% of static rating when used with 01E, 02E and 100 Series bearings. Maximum axial loads are 25% of the axial rating (C_a) of 01 or 02 Series bearings, 18% for 100 Series and 13% for 01E or 02E Series bearings. These loadings can be exceeded considerably with modified construction or materials, and depending on loading direction.

The bulkhead or support plate on which the flange is mounted must be of adequate strength and rigidity to support the imposed load with little distortion of the flange mounting area. Square flanges are more appropriate for steel frames or skid mounted units. The flatness of the mounting surface should be to tolerance IT7 according to ISO 1101 and the surface roughness not more than $12.5\mu\text{m Ra}$.



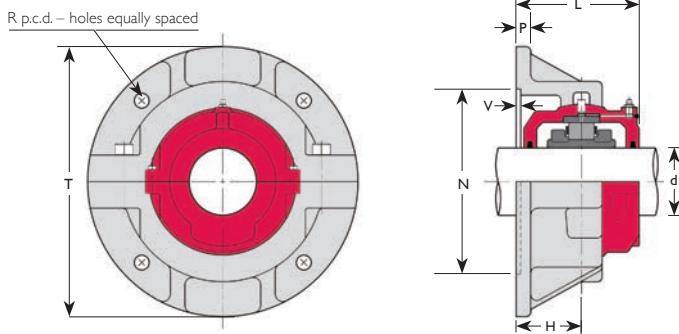
ROUND FLANGE



FLAT FLANGE

SQUARE (DF) FLANGE

Round flanges 100 series



100 SERIES

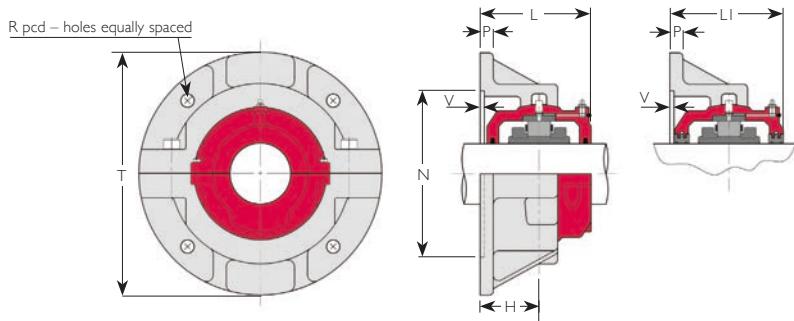
Group Reference	Shaft Diameter <i>d</i>	Bearing Reference (I)	Flange Reference	T(2) (mm)	Bolts	R (mm)	P (mm)	H (mm)	N(3) (mm)	V(3) (mm)	L (mm)	LI (mm)	Mass (flange only) (kg)		
I00 300	75mm	2 15/16" 3"	I00 B 75M	I00 B 215 I00 B 300	F03	260	4-off M12 or 1/2"	218	16	67	166.69	3	I19	I19	9.1
I00 307	85mm	3 7/16"	I00 B 85M	I00 B 307	F04	286	4-off M12 or 1/2"	242	16	73	192.09	3	I30	I30	12.4
I00 400	100mm	3 15/16" 4"	I00 B 100M	I00 B 315 I00 B 400	F05	330	4-off M16 or 5/8"	274	19	79	215.9	3	I47	I47	19.4
I00 408	110mm 115mm	4 7/16" 4 1/2"	I00 B 110M I00 B 115M	I00 B 407 I00 B 408	F06	356	4-off M16 or 5/8"	302	19	86	244.48	3	I53	I53	22
I00 500	120mm 125mm 130mm	4 15/16" 5"	I00 B 120M I00 B 125M I00 B 130M	I00 B 415 I00 B 500	F07	382	4-off M16 or 5/8"	334	22	92	276.23	3	I63	I63	26.6
I00 508	140mm	5 7/16" 5 1/2"	I00 B 140M	I00 B 507 I00 B 508	F08	432	4-off M24 or 1"	374	22	98	314.33	3	I76	I76	34.9
I00 600	150mm	5 15/16" 6"	I00 B 150M	I00 B 515 I00 B 600	F09	444	4-off M24 or 1"	384	25	98	317.5	3	I82	I82	40.8
I00 800	200mm	7-15/16" 8"	I00 B 200M	I00 B 715 I00 B 800	FI2	508	4-off M24 or 1"	438	29	I08	365.13	3	I94	(4)	62
I00 808	220mm	-	I00 B 220M	-	FI3	534	4-off M24 or 1"	474	32	I08	400.05	3	I94	(4)	71

1) For full references of bearings and cartridges see page 30

2) Dimension shown is as-cast dimension. Depending upon manufacturing method used, flanges supplied may be machined 5mm smaller

3) Dimensions shown are for locating spigot for mounting flange on to. Diameter tolerance of locating spigot: f8

4) Refer to Cooper

**01/01E SERIES**

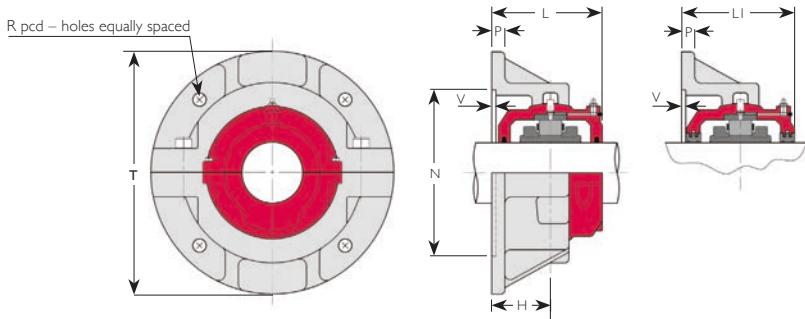
Group Reference	Shaft Diameter d	Bearing Reference (I)	Flange Reference	T(2) (mm)	Bolts	R (mm)	P (mm)	H (mm)	N(3) (mm)	V(3) (mm)	L (mm)	L1 (mm)	Mass (flange only) (kg)		
01 I08	35mm 40mm	I 3-1/6" I 1/4" I 7/16" I 1/2"	01 B 103 01 B 104 01 B 107 01 B 108	F01	204	4-off M12 or 1/2"	164	I3	51	119.06	3	94	94	4.2	
01E 200	45mm 50mm	I 11/16" I 3/4" I 15/16" 2"	01E B 111 01E B 112 01E B 115 01E B 200	F02	216	4-off M12 or 1/2"	180	I3	57	136.53	3	106	106	5.1	
01E 208	55mm 60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	01E B 203 01E B 204 01E B 207 01E B 208	F03	260	4-off M12 or 1/2"	218	I6	67	166.69	3	119	119	9.1	
01E 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	01E B 211 01E B 212 01E B 215 01E B 300	F04	286	4-off M12 or 1/2"	242	I6	73	192.09	3	130	130	12.4	
01E 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	01E B 303 01E B 304 01E B 307 01E B 308	F05	330	4-off M16 or 5/8"	274	I9	79	215.9	3	147	147	19.4	
01E 400	95mm 100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	01E B 311 01E B 312 01E B 315 01E B 400	F06	356	4-off M16 or 5/8"	302	I9	86	244.48	3	153	153	22.0	
01 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	01 B 403 01 B 407 01 B 408	F07	382	4-off M16 or 5/8"	334	I22	92	276.23	3	163	163	26.6	
01 500	120mm 125mm 130mm	4 15/16" 5"	01 B 120M 01 B 125M 01 B 130M	01 B 415 01 B 500	F08	432	4-off M24 or 1"	374	I22	98	314.33	3	176	176	34.9
01 508	135mm 140mm	5 3/16" 5 7/16" 5 1/2"	01 B 135M 01 B 140M	01 B 503 01 B 507 01 B 508	F09	444	4-off M24 or 1"	384	I25	98	317.5	3	182	182	40.8

1) For full references of bearings and cartridges see pages 32 to 36

2) Dimension shown is as-cast dimension. Depending upon manufacturing method used, flanges supplied may be machined 5mm smaller.

3) Dimensions shown are for locating spigot for mounting flange on to. Diameter tolerance of locating spigot: f8

Round flanges 01/01E Series



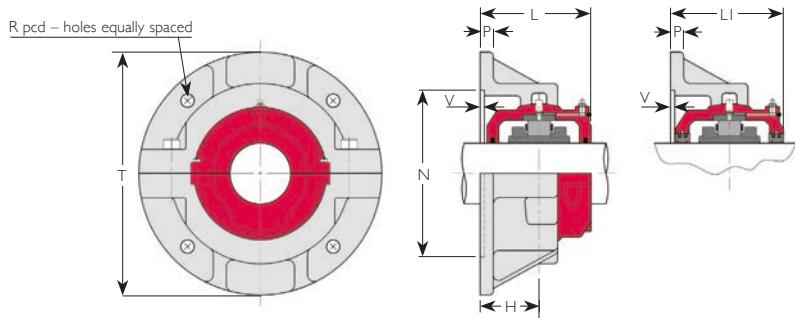
01/01E SERIES

Group Reference	Shaft Diameter d	Bearing Reference (I)	Flange Reference	T(2) (mm)	Bolts	R (mm)	P (mm)	H (mm)	N(3) (mm)	V(3) (mm)	L (mm)	LI (mm)	Mass (flange only) (kg)		
01 600	150mm 160mm	5 15/16" 6"	01 B 150M 01 B 600-160M	01 B 515 01 B 600	F10	470	4-off M24 or 1"	412	25	114	346.07	3	201	201	50.2
01E 608	160mm 170mm	6 7/16" 6 1/2"	01 E B 160M 01 E B 608-170M	01 E B 607 01 E B 608	F11	496	4-off M24 or 1"	426	25	105	352.43	3	191	201	58
01E 700	170mm 175mm 180mm	6 15/16" 7"	01 E B 170M 01 E B 175M 01 E B 180M	01 E B 615 01 E B 700	F12	508	4-off M24 or 1"	438	29	108	365.13	3	194	208	62
01E 800	190mm 200mm	7 15/16" 8"	01 E B 190M 01 E B 200M	01 E B 715 01 E B 800	F13	534	4-off M24 or 1"	474	32	108	400.05	3	194	208	71
01E 900	220mm 230mm	9"	01 E B 220M 01 E B 230M	01 E B 900	F14	584	4-off M30 or 1 1/4"	512	35	117	431.8	3	206	225	85
01E 1000	240mm 250mm 260mm	10"	01 E B 240M 01 E B 250M 01 E B 1000-260M	01 E B 1000	F15	610	4-off M30 or 1 1/4"	542	35	117	463.55	3	211	228	100
01E 1100	260mm 270mm 275mm 280mm	11"	01 E B 260M 01 E B 270M 01 E B 275M 01 E B 280M	01 E B 1100	F16	660	4-off M30 or 1 1/4"	584	38	124	504.83	3	226	240	116
01E 1200	290mm 300mm	12"	01 E B 290M 01 E B 300M	01 E B 1200	F17	712	4-off M30 or 1 1/4"	626	38	133	539.75	3	241	257	119
01 I 300	320mm 330mm 340mm	13"	01 B 320M 01 B 330M 01 B 1300-340M	01 B 1300	F18	812	4-off M36 or 1 1/2"	698	38	152	584.2	5	282	288	184
01 I 400	340mm 350mm 360mm	14"	01 B 340M 01 B 350M 01 B 1400-360M	01 B 1400	F19	850	4-off M36 or 1 1/2"	738	40	140	610	7	270	276	207
01 I 500	360mm 380mm	15"	01 B 360M 01 B 380M	01 B 1500	F20	914	8-off M30 or 1 1/4"	800	44	165	673.1	5	295	305	276
01 I 600	390mm 400mm	16"	01 B 390M 01 B 400M	01 B 1600	F21	914	8-off M30 or 1 1/4"	800	44	165	673.1	5	305	308	273.0

1) For full references of bearings and cartridges see pages 32 to 36

2) Dimension shown is as-cast dimension. Depending upon manufacturing method used, flanges supplied may be machined 5mm smaller.

3) Dimensions shown are for locating spigot for mounting flange on to. Diameter tolerance of locating spigot: f8



02/02E SERIES

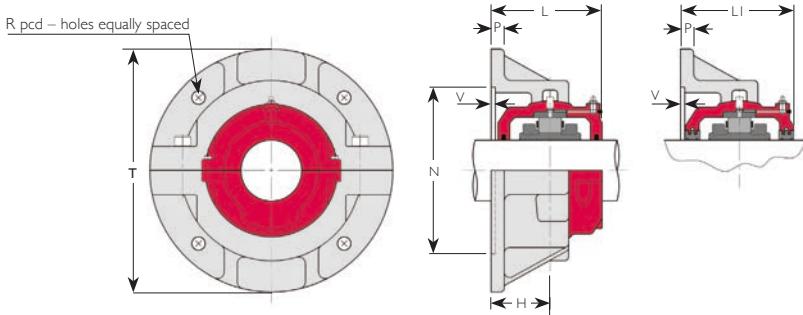
Group Reference	Shaft Diameter d	Bearing Reference (I)	Flange Reference	T(2) (mm)	Bolts	R (mm)	P (mm)	H (mm)	N(3) (mm)	V(3) (mm)	L (mm)	L1 (mm)	Mass (flange only) (kg)		
02 200	50mm	1 15/16" 2"	02 B 50M 02 B 200	02 B 115 02 B 200	F03	260	4-off M12 or 1/2"	218	16	67	166.69	3	124	124	9.1
02 208	60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	02 B 203 02 B 204 02 B 207 02 B 208	02 B 203 02 B 204 02 B 207 02 B 208	F04	286	4-off M12 or 1/2"	242	16	73	192.09	3	136	136	12.4
02 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	02 B 70M 02 B 75M 02 B 211 02 B 212 02 B 215 02 B 300	02 B 211 02 B 212 02 B 215 02 B 300	F05	330	4-off M16 or 5/8"	274	19	79	215.9	3	149	149	19.4
02 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	02 B 80M 02 B 85M 02 B 90M 02 B 303 02 B 304 02 B 307 02 B 308	02 B 303 02 B 304 02 B 307 02 B 308	F06	356	4-off M16 or 5/8"	302	19	86	244.48	3	163	163	22.0
02 400	100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	02 B 100M 02 B 105M 02 B 311 02 B 312 02 B 315 02 B 400	02 B 311 02 B 312 02 B 315 02 B 400	F07	382	4-off M16 or 5/8"	334	22	92	276.23	3	165	165	26.6
02 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	02 B 110M 02 B 115M 02 B 403 02 B 407 02 B 408	02 B 403 02 B 407 02 B 408	F08	432	4-off M24 or 1"	374	22	98	314.33	3	179	179	34.9
02 500	120mm 125mm 130mm	4 15/16" 5"	02 B 120M 02 B 125M 02 B 130M 02 B 415 02 B 500	02 B 415 02 B 500	F10	470	4-off M24 or 1"	412	25	114	346.07	3	206	206	50

1) For full references of bearings and cartridges see pages 38 to 42

2) Dimension shown is as-cast dimension. Depending upon manufacturing method used, flanges supplied may be machined 5mm smaller

3) Dimensions shown are for locating spigot for mounting flange on to. Diameter tolerance of locating spigot: f8

Round flanges 02/02E series



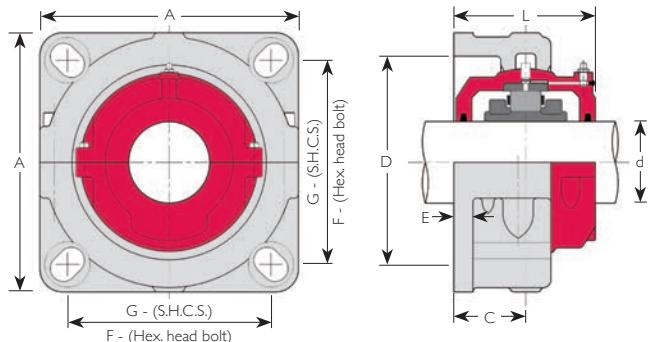
02/02E SERIES

Group Reference	Shaft Diameter d	Bearing Reference (I)	Flange Reference	T(2) (mm)	Bolts	R (mm)	P (mm)	H (mm)	N(3) (mm)	V(3) (mm)	L (mm)	L1 (mm)	Mass (flange only) (kg)		
02 508	140mm 145mm 5 1/2"	5 3/16" 5 7/16" 5 1/2"	02 B 140M 02 B 145M 02 B 508	02 B 503 02 B 507 02 B 508	F30	508	4-off M24 or 1"	444	25	114	377.82	3	208	208	67
02 600	150mm 155mm 160mm	5 15/16" 6"	02 B 150M 02 B 155M 02 B 600-160M	02 B 515 02 B 600	F31	534	4-off M24 or 1"	466	25	124	393.7	3	226	226	81
02E 608	160mm 170mm	6 7/16" 6 1/2"	02E B 160M 02E B 170M	02E B 607 02E B 608	F32	584	4-off M30 or 1 1/4"	508	29	124	428.63	5	227	240	95
02E 700	175mm 180mm	6 15/16" 7"	02E B 175M 02E B 180M	02E B 615 02E B 700	F33	596	4-off M30 or 1 1/4"	524	32	130	444.5	5	241	251	100
02E 800	190mm 200mm	7 15/16" 8"	02E B 190M 02E B 200M	02E B 715 02E B 800	F34	648	4-off M30 or 1 1/4"	572	32	137	492.13	5	254.5	266	138
02E 900	220mm 230mm	9"	02E B 220M 02E B 230M	02E B 900	F35	712	4-off M36 or 1 1/2"	620	35	146	527.05	5	267	283	145
02E 1000	240mm 250mm 260mm	10"	02E B 240M 02E B 250M 02E B 260M	02E B 1000	F36	736	4-off M36 or 1 1/2"	660	38	149	568.33	5	273	289	178
02E 1100	280mm	11"	02E B 280M	02E B 1100	F37	762	8-off M30 or 1 1/4"	682	38	159	603.25	5	291	309	195
02E 1200	300mm	12"	02E B 300M	02E B 1200	F38	788	8-off M30 or 1 1/4"	708	41	162	628.65	5	296	315	195
02 I300	320mm 330mm	13"	02 B 320M 02 B 330M	02 B I300	F39	914	8-off M30 or 1 1/4"	800	45	190	680	7	339	355	309

1) For full references of bearings and cartridges see pages 38 to 42

2) Dimension shown is as-cast dimension. Depending upon manufacturing method used, flanges supplied may be machined 5mm smaller

3) Dimensions shown are for locating spigot for mounting flange on to. Diameter tolerance of locating spigot: f8

**100 SERIES**

Group Reference	Shaft Diameter d	Bearing Reference (I)	Flange Reference	A (mm)	SHCS Size G centres (mm)	Hex. Head Bolt Size F centres (mm)	C (mm)	D (mm)	E (mm)	L(2) (mm)	Mass (flange only) (kg)				
I00 300	75mm	2 15/16" 3"	I00 B 75M	I00 B 215 I00 B 300	DF03	184	M16	I36	5/8"	I41	55	I46	16	I07	5.6
I00 307	85mm	3 7/16"	I00 B 85M	I00 B 307	DF04	217	M20	I64	3/4"	I71	60	I78	16	I17	8.5
I00 400	100mm	3 15/16" 4"	I00 B 100M	I00 B 315 I00 B 400	DFN0510	214(3)	M20	I71	3/4"	I71	79	I80	25	I47	10.9

OIE SERIES

Group Reference	Shaft Diameter d	Bearing Reference (I)	Flange Reference	A (mm)	SHCS Size G centres (mm)	Hex. Head Bolt Size F centres (mm)	C (mm)	D (mm)	E (mm)	L(2) (mm)	Mass (flange only) (kg)				
OIE 200	45mm 50mm	1 11/16" 1 3/4" 1 15/16" 2"	OIE B 45M OIE B 50M OIE B 115 OIE B 200	OIE B 111 OIE B 112 OIE B 115 OIE B 200	DF02	165	M12	I14	1/2"	I18	52	I20	I3	I01	4
OIE 208	55mm 60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	OIE B 55M OIE B 60M OIE B 65M OIE B 208	OIE B 203 OIE B 204 OIE B 207 OIE B 208	DF03	184	M16	I36	5/8"	I41	55	I46	16	I07	5.6
OIE 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	OIE B 70M OIE B 75M OIE B 215 OIE B 300	OIE B 211 OIE B 212 OIE B 215 OIE B 300	DF04	217	M20	I64	3/4"	I71	60	I78	16	I17	8.5
OIE 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	OIE B 80M OIE B 85M OIE B 90M OIE B 308	OIE B 303 OIE B 304 OIE B 307 OIE B 308	DFN0510	214(3)	M20	I71	3/4"	I71	79	I80	25	I47	10.9

1) For full references of bearings and cartridges see pages 30 and 32

2) Applies for cartridges with either single seal groove or TL seals

3) Dimension applies to backface of flange. Joint bosses project beyond footprint of backface. Width over joint bosses: 255mm

HANGERS

Hanger units are a compact means of supporting the shafts of screw conveyors and similar equipment.

The 100 Series units offer the lowest housing frontal area for a given shaft diameter.

Double felt seals are supplied as standard. The standard seal grooves are also able to accommodate rubber lip seals or high temperature packing. A tapped hole in communication with the space between the seal grooves at each end of the housing is optionally provided. This is for connection to either a grease supply or an air supply for regular or continuous purging of the seals.

Another option is for the housing end bores to be machined to take heavy duty lip seals as illustrated below. The length on shaft of these units may be slightly greater than standard; details will be supplied on request.

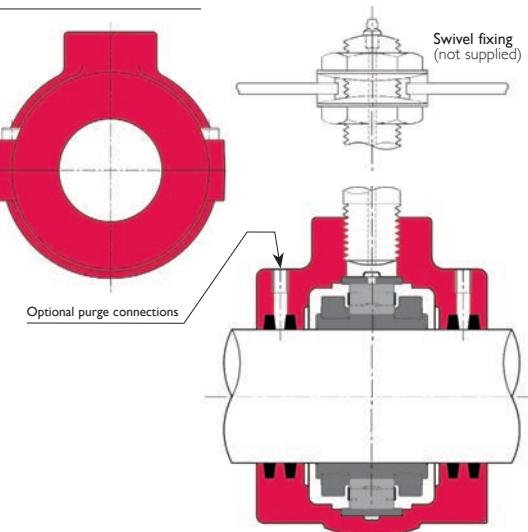
It is recommended that our technical department is contacted in order to obtain a recommendation for the sealing of each hanger unit application.

Lubrication points are not fitted to hangers as standard, with provision for lubrication of the bearing usually made through the suspension rod. Continuous grease feed is sometimes desirable.

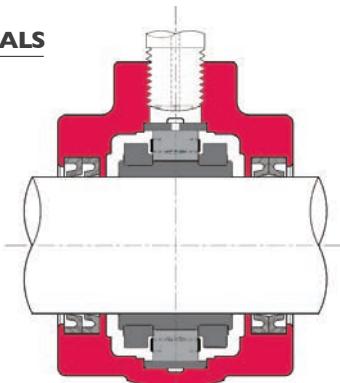
The bearing is mounted directly into a split grey iron housing ('hanger') with a threaded boss, to allow suspension from the conveyor cross-bracing. A swivel fixing at the cross-bracing joint is recommended to provide for alignment of the bearing.

Hangers are only suitable for housing expansion ('EX') type bearings.

STANDARD HANGER

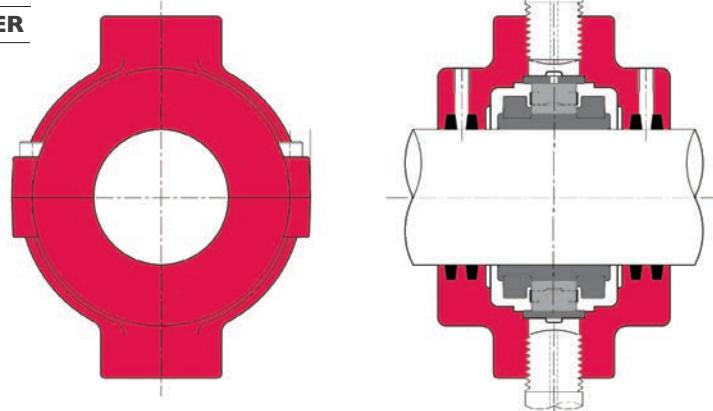


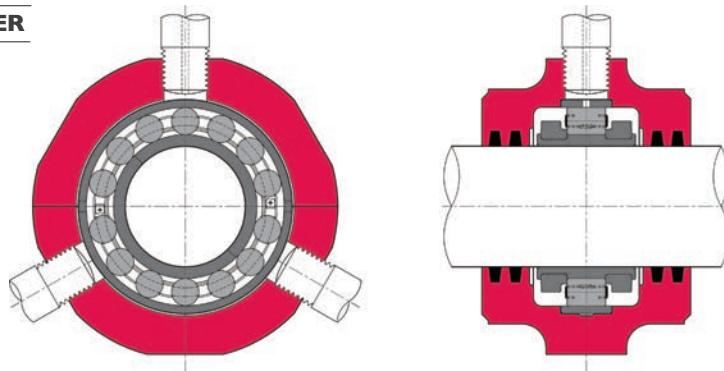
HANGER WITH HEAVY DUTY LIP SEALS



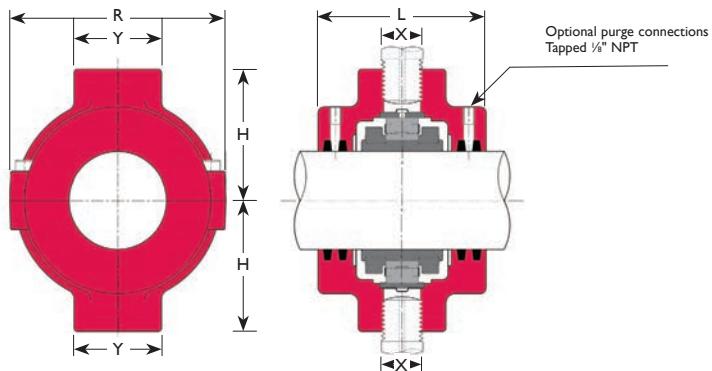
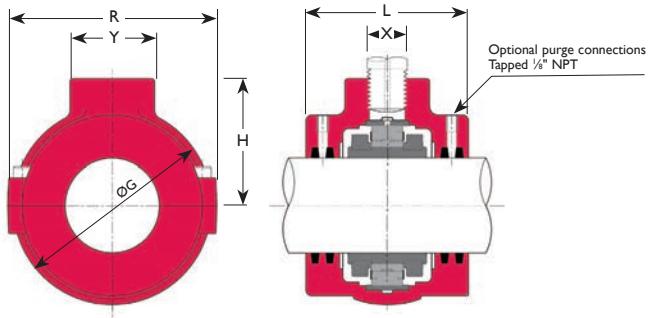
The standard type of hanger has a single threaded boss for suspension from above, by a single rod to minimise the obstruction to material flow in scroll conveyors. For applications where it is desired to locate the housing by rods from above and below, a double boss type is available.

A further type of hanger has three threaded bosses disposed at 120 degree intervals for location by three rods.

DOUBLE BOSS HANGER

TRIPLE BOSS HANGER

Single and Double Boss Hangers



100 SERIES

Group Reference	Shaft Diameter d	Bearing Reference	Hanger Only Reference (1)	G (mm)	L (mm)	H (mm)	X (2)	Y (mm)	R (mm)	Hanger Mass (3) (kg)		
100.300	75mm 2 15/16" 3"	100 B 75M EX 100 B 300 EX	100 B 215 EX 100 H 75M	100 H 215 100 H 300	134	108	82	M30	1"-8 UNC	50	139	4.7
100.307	85mm 3 7/16"	100 B 85M EX	100 B 307 EX 100 H 85M	100 H 307	158	130	92	M30	1"-8 UNC	50	162	8.0
100.400	100mm 3 15/16" 4"	100 B 100M EX 100 B 400 EX	100 B 315 EX 100 H 100M	100 H 315 100 H 400	178	146	114	M36	1 1/2"-6 UNC	76	188	12.0
100.408	110mm 4 7/16" 115mm 4 1/2"	100 B 110M EX 100 B 408 EX	100 B 407 EX 100 H 110M	100 H 407 100 H 408	203	152	127	M36	1 1/2"-6 UNC	76	204	14.0
100.500	120mm 4 15/16" 125mm 5" 130mm 5 1/2"	100 B 120M EX 100 B 125M EX 100 B 130M EX	100 B 415 EX 100 H 120M 100 H 125M 100 H 130M	100 H 415 100 H 500	232	156	140	M36	1 1/2"-6 UNC	76	226	16.4
100.508	140mm 5 7/16" 5 1/2"	100 B 140M EX 100 B 508 EX	100 B 507 EX 100 H 140M	100 H 507 100 H 508	276	162	156	M36	1 1/2"-6 UNC	76	238	22.3
100.600	150mm 5 15/16" 6"	100 B 150M EX 100 B 600 EX	100 B 515 EX 100 H 150M	100 H 515 100 H 600	280	158	160	M36	1 1/2"-6 UNC	76	264	20.9

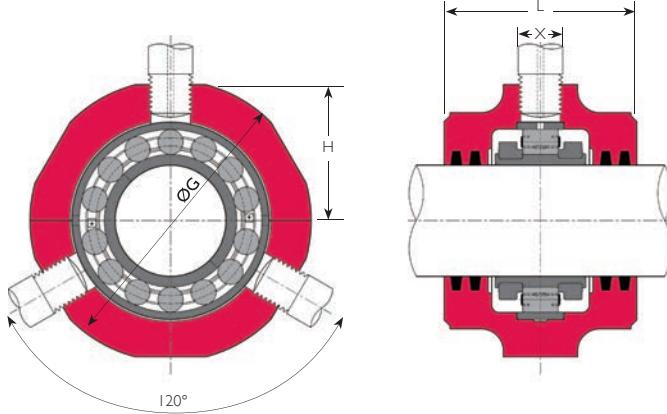
01/01E SERIES

Group Reference	Shaft Diameter d	Bearing Reference	Hanger Only Reference (l)	G (mm)	L (mm)	H (mm)	X (2)	Y (mm)	R (mm)	Hanger Mass (3) (kg)				
01 I08	35mm 40mm	I 3-16" I 1/4" I 7/16" I 1/2"	01 B I03 EX 01 B I04 EX 01 B I07 EX 01 B I08 EX	01 H I03 01 H I04 01 H I07 01 H I08	100	108	66	M30	I"-8 UNC	50	I06	2.6		
01E 200	45mm 50mm	I 11/16" I 3/4" I 15/16" 2"	0IEB III EX 0IEB I12 EX 0IEB I15 EX 0IEB 200 EX	01 H III 01 H I12 01 H I15 01 H 200	I18	I08	76	M30	I"-8 UNC	50	I23	4.1		
01E 208	55mm 60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	0IEB B55M EX 0IEB B60M EX 0IEB B65M EX 0IEB 208 EX	01 H 55M 01 H 60M 01 H 65M 01 H 208	I34	I08	82	M30	I"-8 UNC	50	I39	4.7		
01E 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	0IEB B11 EX 0IEB B12 EX 0IEB B15 EX 0IEB 300 EX	01 H 211 01 H 212 01 H 215 01 H 300	I58	I30	92	M30	I"-8 UNC	50	I62	8.0		
01E 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	0IEB B303 EX 0IEB B304 EX 0IEB B307 EX 0IEB 308 EX	01 H 80M 01 H 85M 01 H 90M 01 H 308	I78	I46	I14	M36	I 1/2"-6 UNC	76	I88	I2.0		
01E 400	95mm 100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	0IEB B95M EX 0IEB B100M EX 0IEB B105M EX 0IEB 400 EX	01 H 95M 01 H 100M 01 H 105M 01 H 400	I	I311	I312	I315	I 1/2"-6 UNC	76	I204	I4.0		
01 408	I10mm I15mm	4 3/16" 4 7/16" 4 1/2"	01 B II0M EX 01 B II5M EX 01 B 408 EX	01 B 403 EX 01 B 407 EX 01 B 408 EX	01 H II0M 01 H II5M 01 H 408	232	I56	I40	M36	I 1/2"-6 UNC	76	226	I6.4	
01 500	I20mm I25mm I30mm	4 15/16" 5"	01 B I20M EX 01 B I25M EX 01 B I30M EX	01 B 415 EX 01 B 500 EX	01 H I20M 01 H I25M 01 H I30M	01 H 415 01 H 500	276	I62	I56	M36	I 1/2"-6 UNC	76	238	22.3
01 508	I35mm I40mm	5 3/16" 5 7/16" 5 1/2"	01 B I35M EX 01 B I40M EX	01 B 503 EX 01 B 507 EX 01 B 508 EX	01 H I35M 01 H I40M 01 H 508	01 H 503 01 H 507 01 H 508	280	I58	I60	M36	I 1/2"-6 UNC	76	264	20.9

1) For grease / air purge points to seals add 'AP' to reference, e.g.: 01 H 125M AP For double boss type add 'DOUBLE BOSS' to reference, e.g.: 01 H 125M AP
For double boss type with purge points to seals add 'DOUBLE BOSS AP' to reference, e.g.: 01 H 125M DOUBLE BOSS AP

2) Hangers with metric bore sizes have metric mounting threads as standard.
Hangers with inch-size bore sizes have UNC mounting threads as standard.
3) Mass of single boss version. Double boss version slightly heavier.

Triple Boss Hangers



TRIPLE BOSS HANGERS

Group Reference	Shaft Diameter d	Bearing Reference	Hanger Only Reference (I)	G (mm)	L (mm)	H (mm)	X(I)	Hanger Mass (kg)		
01E 200	45mm	1 11/16" OIEB 45M EX	OIEB III EX	01 H 111 TRIPLE BOSS 01 H 112 TRIPLE BOSS 01 H 115 TRIPLE BOSS 01 H 200 TRIPLE BOSS	160	109	76	M30 1"-8 UNC	6.4	
	50mm	1 3/4" OIEB 50M EX	OIEB II EX							
	50mm	1 15/16" OIEB 50M EX	OIEB II5 EX							
	2"	OIEB 200 EX								
01E 300	70mm	2 11/16" OIEB 70M EX	OIEB II EX	01 H 211 TRIPLE BOSS 01 H 212 TRIPLE BOSS 01 H 215 TRIPLE BOSS 01 H 300 TRIPLE BOSS	190	130	92	M30 1"-8 UNC	10.0	
	75mm	2 3/4" OIEB 75M EX	OIEB 212 EX							
	75mm	2 15/16" OIEB 75M EX	OIEB 215 EX							
	3"	OIEB 300 EX								
I00 307	85mm	3 7/16" I00 B 85M EX	I00 B 307 EX	I00 H 85M TRIPLE BOSS	I00 H 307 TRIPLE BOSS	190	130	92	M30 1"-8 UNC	10.0
01 408	110mm	4 3/16" OI B 110M EX	OI B 403 EX	OI H 403 TRIPLE BOSS OI H 407 TRIPLE BOSS OI H 408 TRIPLE BOSS	290	170	140	M36 1 1/2"-6 UNC	30.0	
	115mm	4 7/16" OI B 115M EX	OI B 407 EX							
	115mm	4 1/2" OI B 408 EX	OI B 408 EX							
I00 500	120mm	4 15/16" I00 B 120M EX	I00 B 415 EX	I00 H 120M TRIPLE BOSS I00 H 125M TRIPLE BOSS I00 H 130M TRIPLE BOSS	I00 H 415 TRIPLE BOSS I00 H 500 TRIPLE BOSS	290	170	140	M36 1 1/2"-6 UNC	30.0
	125mm	I00 B 125M EX	I00 B 500 EX							
	130mm	5" I00 B 130M EX								

I) Hangers with metric bore sizes have metric mounting threads as standard.

Hangers with inch-size bore sizes have UNC mounting threads as standard.

TAKE-UP UNITS

Cooper Take-up units are an efficient means of tensioning the pulleys of conveyors and elevators.

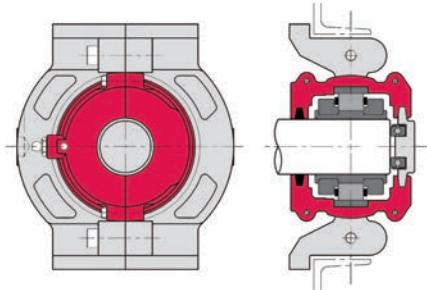
Each take-up unit consists of a Cooper split roller bearing in a swivel cartridge mounted in a cast iron sliding unit. Two basic configurations are available – the 'push' type and 'tension' type as illustrated.

Usually a Cooper take-up will be mounted at each end of the shaft. Up to and including

90mm/3½" bore size the standard arrangement uses two expansion (EX) bearings, with axial location provided by blanking plates and ball thrust bearings. Above 90mm/3½" bore size the standard arrangement uses two fixed (GR) bearings and plain blanking plates. If a through-shaft or different method of axial location is required, please consult our technical department.

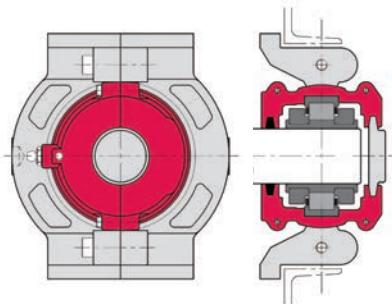
PUSH TYPE

Up to 90mm arrangement



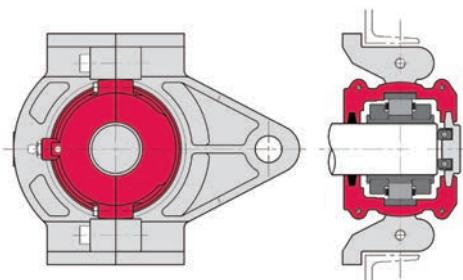
PUSH TYPE

Over 90mm arrangement



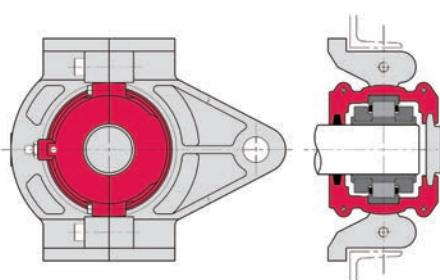
TENSION TYPE

Up to 90mm arrangement

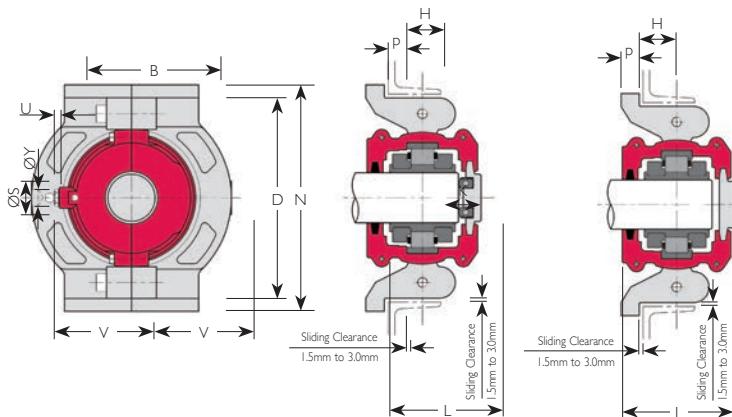


TENSION TYPE

Over 90mm arrangement



Take-up push units 100 series



100 SERIES UP TO 90mm BORE SIZE

Group Reference	Shaft Diameter d	References (1)		Take-up housing	B (mm)	N (mm)	D (mm)	V (mm)	K (mm)	P (mm)	H (mm)	L (mm)	S (mm)	Y (mm)	U (mm)	Mass (Complete unit) (kg)	
		Bearing															
100 300	75mm	2 15/16" 3"	100 B 75M	100 B 215 100 B 300	TP03	128	235	203	102	30	20	32	104	38	16	6	13
100 307	85mm	3 7/16"	100 B 85M	100 B 307	TP04	152	266	229	114	35	22	40	114	41	16	6	17

1) For radial bearing only reference (for standard arrangement) add 'EX' e.g. 100 B 75M EX. Ball thrust bearings are usually

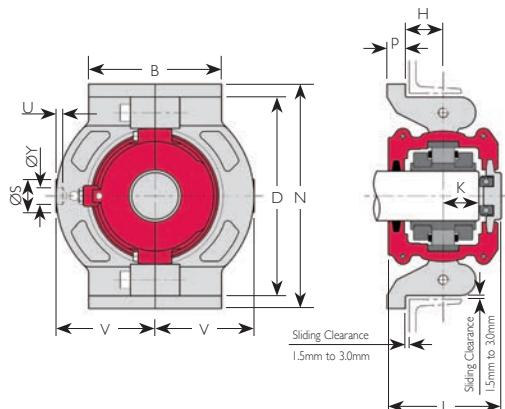
supplied complete with blanking plate. Refer to page 12
For cartridge reference refer to page 28

100 SERIES OVER 90mm BORE SIZE

Group Reference	Shaft Diameter d	References (2)		Take-up housing	B (mm)	N (mm)	D (mm)	V (mm)	P (mm)	H (mm)	L (mm)	S (mm)	Y (mm)	U (mm)	Mass (Complete unit) (kg)	
		Bearing														
100 400	100mm	3 15/16" 4"	100 B 100M	100 B 315 100 B 400	TP05	190	318	280	140	22	40	136	51	16	6	26
100 408	110mm 115mm	4 7/16" 4 1/2"	100 B 110M 100 B 115M	100 B 407 100 B 408	TP06	204	342	305	152	22	43	134	51	19	6	29
100 500	120mm 125mm 130mm	4 15/16" 5"	100 B 120M 100 B 125M 100 B 130M	100 B 415 100 B 500	TP07	216	382	343	162	22	48	142	70	19	6	42
100 508	140mm	5 7/16" 5 1/2"	100 B 140M	100 B 507 100 B 508	TP08	254	420	381	190	25	51	156	76	19	6	60
100 600	150mm	5 15/16" 6"	100 B 150M	100 B 515 100 B 600	TP09	266	438	400	196	25	54	168	76	23	8	73

2) For radial bearing only reference (for standard arrangement) add 'GR' e.g. 100 B 100M GR

For cartridge reference refer to page 30



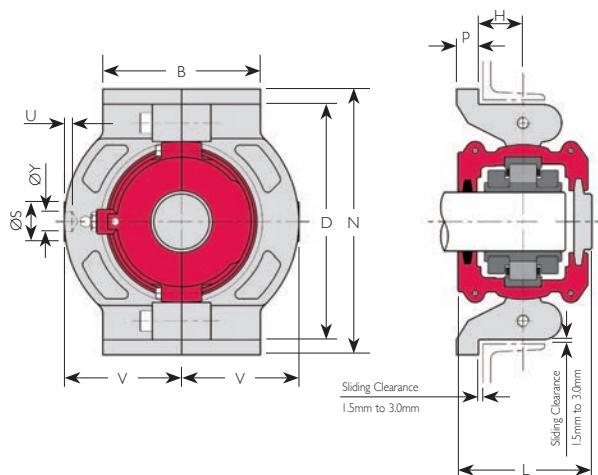
01/01E SERIES UP TO 90mm BORE SIZE

Group Reference	Shaft Diameter d	Bearing	References (!)	Take-up housing	Mass (Complete unit) (kg)											
					B (mm)	N (mm)	D (mm)	V (mm)	K (mm)	P (mm)	H (mm)	L (mm)	S (mm)	Y (mm)	U (mm)	(kg)
01 108	35mm	1 3/16"	01 B 103	TP01	102	172	153	76	27	14	29	86	25	13	5	6
	40mm	1 1/4"	01 B 35M		101	172	153	76	27	14	29	86	25	13	5	6
	40mm	1 7/16"	01 B 40M		104	172	153	76	27	14	29	86	25	13	5	6
	40mm	1 1/2"	01 B 108		107	172	153	76	27	14	29	86	25	13	5	6
01E 200	45mm	1 11/16"	01E B 45M	TP02	114	204	178	88	29	16	29	98	29	13	5	9
	50mm	1 3/4"	01E B 50M		112	204	178	88	29	16	29	98	29	13	5	9
	50mm	1 15/16"	01E B 200		115	204	178	88	29	16	29	98	29	13	5	9
	50mm	2"			200											
01E 208	55mm	2 3/16"	01E B 55M	TP03	128	235	203	102	30	20	32	104	38	16	6	13
	60mm	2 1/4"	01E B 60M		129	235	203	102	30	20	32	104	38	16	6	13
	65mm	2 7/16"	01E B 207		127	235	203	102	30	20	32	104	38	16	6	13
	65mm	2 1/2"	01E B 65M		208											
01E 300	70mm	2 11/16"	01E B 211	TP04	152	266	229	114	35	22	40	114	41	16	6	17
	75mm	2 3/4"	01E B 70M		151	266	229	114	35	22	40	114	41	16	6	17
	75mm	2 15/16"	01E B 212		266											
	75mm	3"	01E B 215		215											
01E 308	80mm	3 3/16"	01E B 303	TP05	190	318	280	140	40	22	40	136	51	16	6	27
	85mm	3 1/4"	01E B 304		191	318	280	140	40	22	40	136	51	16	6	27
	90mm	3 7/16"	01E B 307		192	318	280	140	40	22	40	136	51	16	6	27
	90mm	3 1/2"	01E B 308		208											

I) For radial bearing only reference (for standard arrangement)
add 'EX' e.g. 01 B 40M EX

For cartridge reference refer to page 32

Take-up push units 01/01E Series



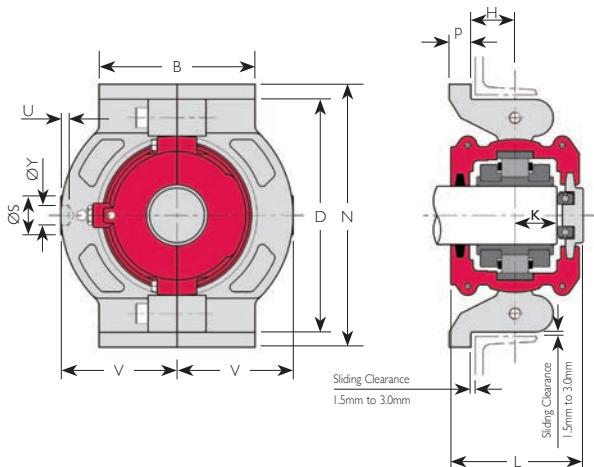
01/01E SERIES OVER 90mm BORE SIZE

Group Reference	Shaft Diameter d	References (I) Bearing		Take-up housing	B (mm)	N (mm)	D (mm)	V (mm)	P (mm)	H (mm)	L (mm)	S (mm)	Y (mm)	U (mm)	Mass (Complete unit) (kg)	
		Bearing	Reference													
01E 400	95mm 100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	01E B 95M 01E B 100M 01E B 315 01E B 400	01E B 311 01E B 312 01E B 400	TP06	204	342	305	152	22	43	134	51	19	6	31
01 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	01 B 110M 01 B 115M 01 B 408	01 B 403 01 B 407 01 B 408	TP07	216	382	343	162	22	48	142	70	19	6	46
01 500	120mm 125mm 130mm	4 15/16" 5"	01 B 120M 01 B 125M 01 B 130M	01 B 415 01 B 500	TP08	254	420	381	190	25	51	156	76	19	6	65
01 508	135mm 140mm	5 3/16" 5 7/16" 5 1/2"	01 B 135M 01 B 140M 01 B 508	01 B 503 01 B 507 01 B 508	TP09	266	438	400	196	25	54	168	76	23	8	80
01 600	150mm 160mm	5 15/16" 6"	01 B 150M 01 B 600-160M	01 B 515 01 B 600	TPI0	266	464	426	204	25	57	174	86	23	8	91

I) For radial bearing only reference (for standard arrangement) add 'GR' e.g. 01E B 100M GR

Ball thrust bearings are usually supplied complete with

blanking plate. Refer to page 12
For cartridge reference refer to page 32



02 SERIES UP TO 90mm BORE SIZE

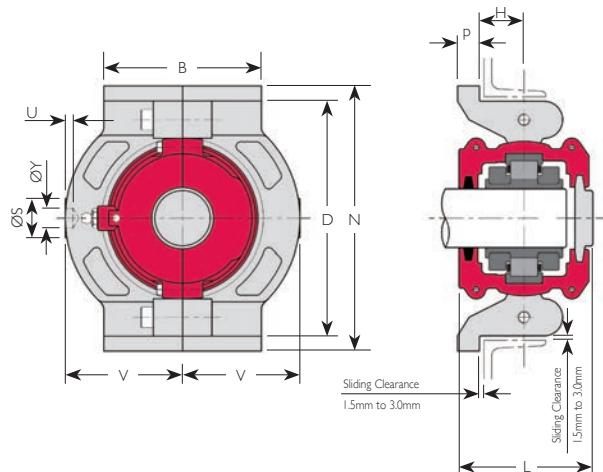
Group Reference	Shaft Diameter d	Reference (!)		Take-up housing	B (mm)	N (mm)	D (mm)	V (mm)	K (mm)	P (mm)	H (mm)	L (mm)	S (mm)	Y (mm)	U (mm)	Mass (Complete unit) (kg)	
		Bearing															
02 200	50mm	1 15/16" 2"	02 B 50M	02 B 115 02 B 200	TP03	128	235	203	102	35	20	32	114	38	16	6	12
02 208	60mm 65mm	2 3/16"	02 B 203	TP04	152	266	229	114	38	22	40	126	41	16	6	17	
		2 1/4"	02 B 204														
		2 7/16"	02 B 207														
		2 1/2"	02 B 208														
02 300	70mm 75mm	2 11/16"	02 B 211	TP05	190	318	280	140	41	22	40	140	51	16	6	27	
		2 3/4"	02 B 212														
		2 15/16" 3"	02 B 215 02 B 300														
02 308	80mm 85mm 90mm	3 3/16"	02 B 303	TP06	204	342	305	152	48	22	43	154	51	19	6	31	
		3 1/4"	02 B 304														
		3 7/16"	02 B 307 02 B 90M														

I) For radial bearing only reference (for standard arrangement)

add 'EX' e.g. 02 B 50M EX

For cartridge reference refer to page 38

Take-up push units 02 Series

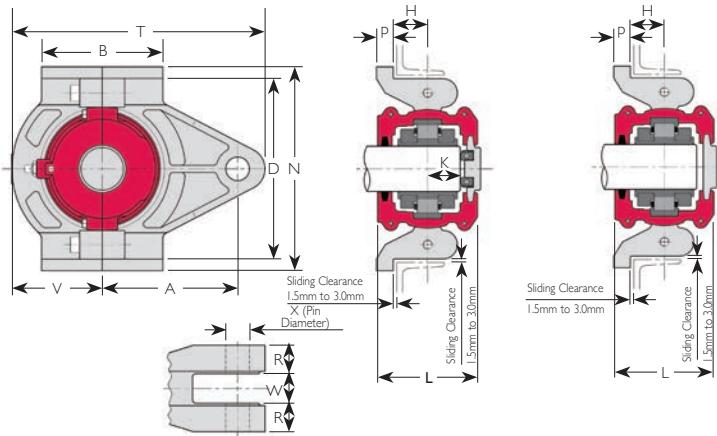


02 SERIES OVER 90mm BORE SIZE

Group Reference	Shaft Diameter d	References (1)		Take-up housing	B (mm)	N (mm)	D (mm)	V (mm)	P (mm)	H (mm)	L (mm)	S (mm)	Y (mm)	U (mm)	Mass (Complete unit) (kg)
		Bearing													
02 400	100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	02 B 100M 02 B 105M	TP07	216	382	343	162	22	48	146	70	19	6	46
02 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	02 B 110M 02 B 115M	TP08	254	420	381	190	25	51	162	76	19	6	65
02 500	120mm 125mm 130mm	4 15/16" 5"	02 B 120M 02 B 125M 02 B 130M	TP10	266	464	426	204	25	57	184	86	23	8	91
02 508	140mm 145mm	5 3/16" 5 7/16" 5 1/2"	02 B 140M 02 B 145M	TP09	266	438	400	196	25	54	168	76	23	8	109
02 600	150mm 155mm 160mm	5 15/16" 6"	02 B 150M 02 B 155M 02 B 600-160M	TP3I	305	528	489	235	25	64	204	92	26	10	109

(1) For radial bearing only reference (for standard arrangement)
add 'GR' e.g. 02 B 100M GR

For cartridge reference refer to pages 38 and 40



100 SERIES UP TO 90mm BORE SIZE

Group Reference	Shaft Diameter d	References (1)		Take-up housing	B (mm)	N (mm)	D (mm)	A (mm)	T (mm)	X (mm)	V (mm)	K (mm)	P (mm)	H (mm)	W (mm)	R (mm)	L (mm)	Mass (Complete unit) (kg)
Bearing																		
100 300	75mm 2 15/16" 3"	100 B 75M	100 B 215 100 B 300	TT03	128	235	203	146	280	24	102	30	20	32	30	29	104	13
100 307	85mm 3 7/16"	100 B 85M	100 B 307	TT04	152	266	229	158	305	24	114	35	22	40	30	32	114	19

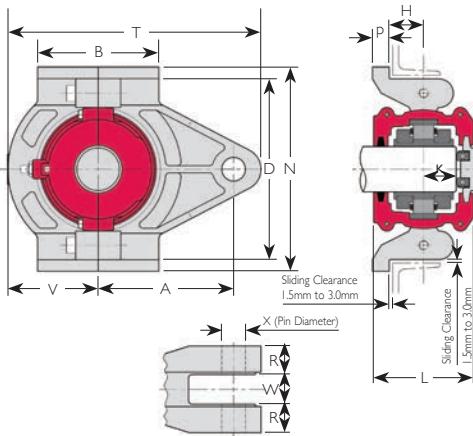
100 SERIES OVER 90mm BORE SIZE

Group Reference	Shaft Diameter d	References (2)		Take-up housing	B (mm)	N (mm)	D (mm)	A (mm)	T (mm)	X (mm)	V (mm)	P (mm)	H (mm)	W (mm)	R (mm)	L (mm)	Mass (Complete unit) (kg)
Bearing																	
100 400	100mm 3 15/16" 4"	100 B 100M	100 B 315 100 B 400	TT05	190	318	280	190	368	30	140	22	40	38	35	136	29
100 408	110mm 115mm 4 7/16" 4 1/2"	100 B 110M 100 B 115M	100 B 407 100 B 408	TT06	204	342	305	210	414	36	152	22	43	44	35	134	33
100 500	120mm 125mm 130mm 4 15/16" 5"	100 B 120M 100 B 125M 100 B 130M	100 B 415 100 B 500	TT07	216	382	343	228	445	42	162	22	48	44	41	142	47
100 508	140mm 5 7/16" 5 1/2"	100 B 140M	100 B 507 100 B 508	TT08	254	420	381	260	508	42	190	25	51	44	44	156	67
100 600	150mm 5 15/16" 6"	100 B 150M	100 B 515 100 B 600	TT09	266	438	400	266	514	42	196	25	54	44	48	168	82

1) For radial bearing only reference (for standard arrangement)
 add 'EX' e.g. 100 B 75M EX. Ball thrust bearings are usually supplied complete with blanking plate. Refer to page 12
 For cartridge reference refer to page 30

2) For radial bearing only reference
 (for standard arrangement) add 'GR' e.g. 100 B 100M GR
 For cartridge reference refer to page 30

Take-up tension units OI Series



01/01E SERIES UP TO 90mm BORE SIZE

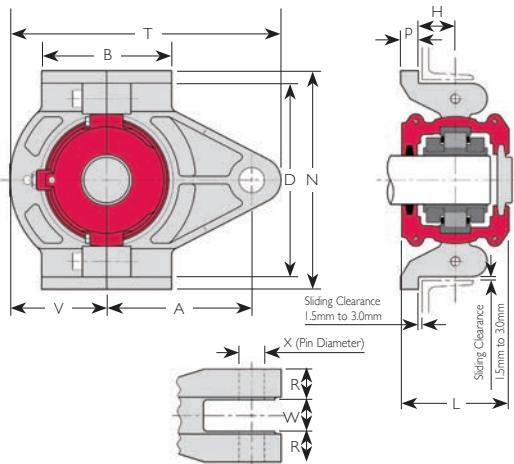
Group Reference	Shaft Diameter d	Bearing	References (I)	Take-up housing	B	N	D	A	T	X	V	K	P	H	W	R	L	Mass (Complete unit) (kg)
					(mm)													
01 108	35mm	I 3-16"	OI B 103	TT01	102	172	153	114	216	20	76	27	14	29	25	24	86	7
		I 1/4"	OI B 35M															
	40mm	I 7/16"	OI B 40M															
		I 1/2"	OI B 108															
01E 200	45mm	I 11/16"	OIE B III	TT02	114	204	178	128	242	24	88	29	16	29	25	25	98	10
	50mm	I 3/4"	OIE B 45M															
		I 15/16"	OIE B 50M															
		2"	OIE B 200															
01E 208	55mm	2 3/16"	OIE B 203	TT03	128	235	203	146	280	24	102	30	20	32	30	29	104	13
	60mm	2 1/4"	OIE B 204															
	65mm	2 7/16"	OIE B 207															
		2 1/2"	OIE B 208															
01E 300	70mm	2 11/16"	OIE B 211	TT04	152	266	229	158	305	24	114	35	22	40	30	32	114	19
	75mm	2 3/4"	OIE B 212															
		2 15/16"	OIE B 215															
		3"	OIE B 300															
01E 308	80mm	3 3/16"	OIE B 303	TT05	190	318	280	190	368	30	140	40	22	40	38	35	136	30
	85mm	3 1/4"	OIE B 304															
	90mm	3 7/16"	OIE B 307															
		3 1/2"	OIE B 308															

I) For radial bearing only reference (for standard arrangement)

add 'EX' e.g. OI B 40M EX

Ball thrust bearings are usually supplied complete with blanking plate. Refer to page 12

For cartridge reference refer to page 32



01/01E SERIES OVER 90mm BORE SIZE

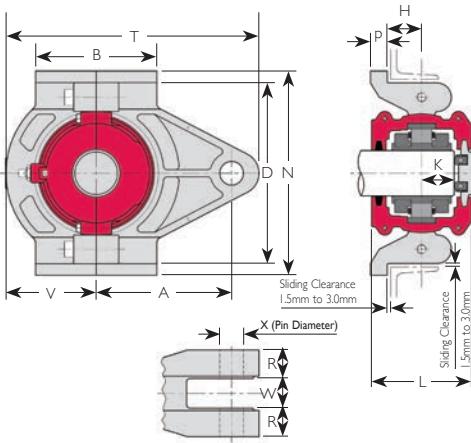
Group Reference	Shaft Diameter d	Reference (I)		Take-up housing	B (mm)	N (mm)	D (mm)	A (mm)	T (mm)	X (mm)	V (mm)	P (mm)	H (mm)	W (mm)	R (mm)	L (mm)	Mass (Complete unit) (kg)	
		Bearing																
01E 400	95mm 100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	01E B 95M 01E B 100M 01E B 105M	OIE B 311 OIE B 312 OIE B 315 OIE B 400	TT06	204	342	305	210	414	36	152	22	43	44	35	134	34
01 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	01 B 110M 01 B 115M	01 B 403 01 B 407 01 B 408	TT07	216	382	343	228	445	42	162	22	48	44	41	142	51
01 500	120mm 125mm 130mm	4 15/16" 5"	01 B 120M 01 B 125M 01 B 130M	01 B 415 01 B 500	TT08	254	420	381	260	508	42	190	25	51	44	44	156	71
01 508	135mm 140mm	5 3/16" 5 7/16" 5 1/2"	01 B 135M 01 B 140M	01 B 503 01 B 507 01 B 508	TT09	266	438	400	266	514	42	196	25	54	44	48	168	89
01 600	150mm 160mm	5 15/16" 6"	01 B 150M 01 B 600-160M	01 B 515 01 B 600	TT10	266	464	426	280	546	48	204	25	57	50	51	174	100

I) For radial bearing only reference (for standard arrangement)

add 'GR' e.g. 01E B 100M GR

For cartridge reference refer to page 32

Take-up tension units 02 Series



02 SERIES UP TO 90mm BORE SIZE

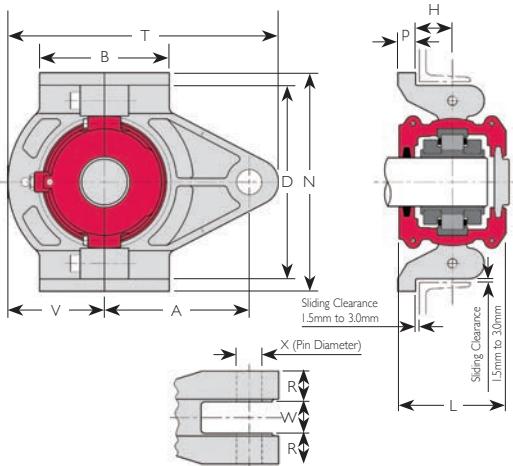
Group Reference	Shaft Diameter d	References (1) Bearing	Take-up housing	Mass (Complete unit) (kg)														
				B	N	D	A	T	X	V	K	P	H	W	R	L		
02 200	50mm	1 15/16" 2"	02 B 50M 02 B 200	TT03	128	235	203	146	280	24	102	35	20	32	30	29	114	13
02 208	60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	02 B 203 02 B 204 02 B 207 02 B 208	TT04	152	266	229	158	305	24	114	38	22	40	30	32	126	19
02 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	02 B 211 02 B 212 02 B 215 02 B 300	TT05	190	318	280	190	368	30	140	41	22	40	38	35	140	30
02 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	02 B 303 02 B 304 02 B 307 02 B 308	TT06	204	342	305	210	414	36	152	48	22	43	44	35	154	34

I) For radial bearing only reference (for standard arrangement)

add 'EX' e.g. 02 B 50M EX

Ball thrust bearings are usually supplied complete with blanking plate. Refer to page 12

For cartridge reference refer to page 32



02 SERIES OVER 90mm BORE SIZE

Group Reference	Shaft Diameter d	References (I) Bearing	Take-up housing	Mass (Complete unit) (kg)														
				B (mm)	N (mm)	D (mm)	A (mm)	T (mm)	X (mm)	V (mm)	P (mm)	H (mm)	W (mm)	R (mm)	L (mm)			
02 400	100mm	3 11/16" 3 3/4"	02 B 311	TT07	216	382	343	228	445	42	162	22	48	44	41	146	51	
	105mm	3 15/16" 4"	02 B 105M 02 B 400		02 B 312	254	420	381	260	508	42	190	25	51	44	44	162	71
	110mm	4 3/16"	02 B 403		02 B 110M	266	464	426	280	546	48	204	25	57	50	51	184	100
	115mm	4 7/16" 4 1/2"	02 B 407 02 B 408		02 B 115M	280	502	464	298	584	48	222	25	60	50	54	188	119
02 500	120mm	4 15/16"	02 B 120M	TT10	305	528	489	312	616	48	235	25	64	50	57	204	141	
	125mm	5"	02 B 125M		02 B 415	312	546	508	328	634	48	252	25	67	50	57	214	151
	130mm	5 1/2"	02 B 130M		02 B 500	328	564	531	346	654	48	270	25	70	50	57	224	161
02 508	140mm	5 3/16"	02 B 140M	TT30	345	602	564	362	708	48	304	25	76	50	57	234	171	
	145mm	5 7/16"	02 B 145M		02 B 507	362	628	600	380	734	48	322	25	80	50	57	244	181
	150mm	5 15/16"	02 B 150M		02 B 515	380	654	626	408	762	48	340	25	84	50	57	254	191
02 600	155mm	6"	02 B 155M	TT31	405	680	654	428	788	48	356	25	88	50	57	264	201	
	160mm	02 B 600-160M	02 B 600		428	706	700	446	814	48	374	25	92	50	57	274	211	

I) For radial bearing only reference (for standard arrangement)

add 'GR' e.g. 02 B 100M GR

For cartridge reference refer to pages 38 and 40

ROD ENDS

Cooper split roller bearings in rod end housings provide a simple way of mounting roller bearings on cranks. As the complete bearing and housing unit is split radially, cranks can be made solid rather than being built-up or overhung. Typical applications include shaker screens and classifiers. Rod ends are available to suit 100, 01/01E and 02 Series bearings as shown on pages 30 to 32 and 38 to 40.

Each rod end consists of a split outer casing which encloses a fixed (GR) bearing in a swivel cartridge. Two basic configurations are available – the 'T' type and the 'shoe' type. These can be modified to suit various rods and attachments.

Standard rod ends are of grey iron. Spheroidal graphite iron or steel versions are available. Rod ends are supplied with matched cartridge to

reduce the clearance between the cartridge and rod-end (S1 fit).

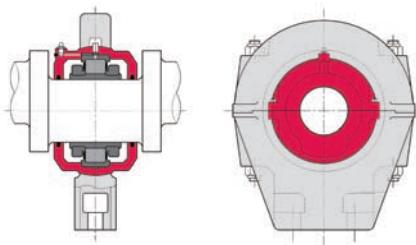
Except for very slow speed applications, bearings with C2 clearance should be specified.

Dimensions and load capacities of housings should be confirmed before finalising designs.

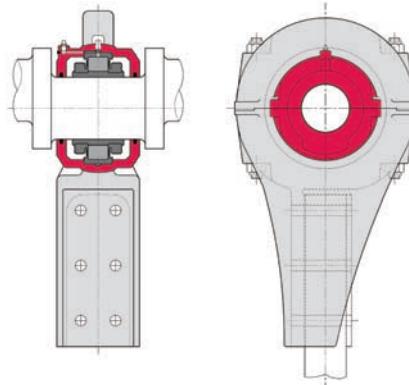
SHAFT DIMENSIONS

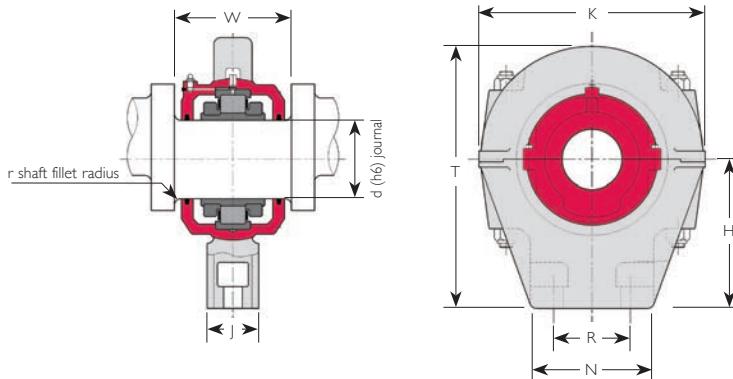
Journals should be machined to h6 tolerance. Close tolerance machining to the sides of the journal is not required. These are clearance only (i.e. not locating) as the bearing is positioned by the inner race being clamped onto the shaft. The journal widths and fillet radii listed in the tables are suggested dimensions to clear standard Cooper cartridges. Other combinations of journal width and fillet radius may be used. Special cartridges may be supplied if narrower journals are required.

'T' TYPE



SHOE TYPE





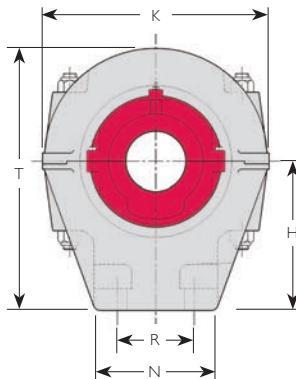
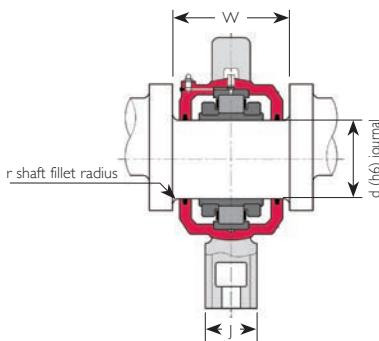
100 SERIES

Group Reference	Shaft Diameter d	Bearing Reference (1)	Housing Reference (2)	W (max) (mm)	r (mm)	N (mm)	J (mm)	H (mm)	K (mm)	T (mm)	R	Bolts	Mass (Complete unit) (kg)		
100 300	75mm 3"	2 15/16" 100 B 75M GR C2	100 B 215 GR C2 100 B 300 GR C2	100 RET 75M 100 RET 300	100	215	113	4.5	115	38	95	197	194	76(3) M16	9
100 307	85mm	3 7/16" 100 B 85M GR C2	100 B 307 GR C2	100 RET 85M	100	CRET 307	126	6	128	44	108	216	220	89(3) M16	13
100 400	100mm 4"	3 15/16" 100 B 100M GR C2	100 B 315 GR C2 100 B 400 GR C2	100 RET 100M 100 RET 400	100	CRET 315	148	6	146	48	127	248	256	102(3) M20	19
100 408	110mm 4 1/2"	4 7/16" 100 B 110M GR C2	100 B 407 GR C2	100 RET 110M 100 RET 408	100	CRET 407	146	6	170	76	200	308	356	124 M24	35
100 500	120mm 5"	4 15/16" 100 B 120M GR C2	100 B 415 GR C2	100 RET 120M 100 RET 415	100	CRET 415	154	6	190	86	222	334	390	136 M30	48
100 508	140mm 5 1/2"	5 7/16" 100 B 140M GR C2	100 B 507 GR C2 100 B 508 GR C2	100 RET 140M 100 RET 508	100	CRET 507	168	6	190	86	222	375	425	136 M30	60
100 600	150mm 6"	5 15/16" 100 B 150M GR C2	100 B 515 GR C2 100 B 600 GR C2	100 RET 150M 100 RET 600	100	CRET 515	187	9.5	204	102	279	442	502	140 M30	82

1) These are reduced clearance bearings which are standard specification for rod ends

3) Holes tapped in end face

2) Reference refers to matched rod-end housing and cartridge together



01/01E SERIES

Group Reference	Shaft Diameter d	Bearing Reference (1)	Housing Reference (2)	Dimensions								Bolts (Complete unit) (kg)	Mass (Complete unit) (kg)
				W (mm)	r (max) (mm)	N (mm)	J (mm)	H (mm)	K (mm)	T (mm)	R (mm)		
01 108	35mm	I 3-1/16" 01 B 35M GR C2	01 B 103 GR C2	01 CRET 103									
	40mm	I 7/16" 01 B 40M GR C2	01 B 104 GR C2	01 CRET 35M	92	3	86	30	76	140	152	57(3)	M12 6
		I 1/2" 01 B 108 GR C2	01 CRET 108	01 CRET 104	01 CRET 107								
01E 200	45mm	I 11/16" 01E B 45M GR C2	01E B 111 GR C2	01 CRET 111									
	50mm	I 3/4" 01E B 50M GR C2	01E B 112 GR C2	01 CRET 45M	104	3	102	32	102	166	190	70(3)	M10 8
	55mm	I 15/16" 01E B 55M GR C2	01E B 115 GR C2	01 CRET 50M	01 CRET 115								
		2" 01E B 200 GR C2	01E B 200 GR C2	01 CRET 200	01 CRET 112								
01E 208	55mm	2 3/16" 01E B 55M GR C2	01E B 203 GR C2	01 CRET 55M	01 CRET 203								
	60mm	2 1/4" 01E B 60M GR C2	01E B 204 GR C2	01 CRET 60M	01 CRET 204								
	65mm	2 7/16" 01E B 65M GR C2	01E B 207 GR C2	01 CRET 65M	01 CRET 207	113	4.5	115	38	95	197	194	76(3) M16 9
		2 1/2" 01E B 208 GR C2	01E B 208 GR C2	01 CRET 208	01 CRET 208								
01E 300	70mm	2 11/16" 01E B 70M GR C2	01E B 211 GR C2	01 CRET 211									
	75mm	2 15/16" 01E B 75M GR C2	01E B 212 GR C2	01 CRET 70M	01 CRET 212	126	6	128	44	108	216	220	89(3) M16 13
		3" 01E B 75M GR C2	01E B 215 GR C2	01 CRET 75M	01 CRET 215								
			01E B 300 GR C2	01 CRET 300	01 CRET 300								
01E 308	80mm	3 3/16" 01E B 80M GR C2	01E B 303 GR C2	01 CRET 80M	01 CRET 303								
	85mm	3 1/4" 01E B 85M GR C2	01E B 304 GR C2	01 CRET 85M	01 CRET 304	148	6	146	48	127	248	256	102(3) M20 20
	90mm	3 7/16" 01E B 90M GR C2	01E B 307 GR C2	01 CRET 90M	01 CRET 307								
		3 1/2" 01E B 90M GR C2	01E B 308 GR C2	01 CRET 308	01 CRET 308								
01E 400	95mm	3 11/16" 01E B 95M GR C2	01E B 311 GR C2	01 CRET 95M	01 CRET 311								
	100mm	3 3/4" 01E B 100M GR C2	01E B 312 GR C2	01 CRET 100M	01 CRET 312	146	6	170	76	200	308	356	124 M24 36
		3 15/16" 01E B 105M GR C2	01E B 315 GR C2	01 CRET 105M	01 CRET 315								
		4" 01E B 105M GR C2	01E B 400 GR C2	01 CRET 105M	01 CRET 400								
01 408	110mm	4 3/16" 01 B 110M GR C2	01 B 403 GR C2	01 CRET 110M	01 CRET 403								
	115mm	4 7/16" 01 B 115M GR C2	01 B 407 GR C2	01 CRET 115M	01 CRET 407	154	6	190	86	222	334	390	136 M30 52
		4 1/2" 01 B 408 GR C2	01 CRET 408	01 CRET 408	01 CRET 408								
01 500	120mm	4 15/16" 01 B 120M GR C2	01 B 415 GR C2	01 CRET 120M	01 CRET 415								
	125mm	5" 01 B 125M GR C2	01 B 500 GR C2	01 CRET 125M	01 CRET 500	168	6	190	86	222	375	425	136 M30 65
		130mm 01 B 130M GR C2	01 CRET 130M	01 CRET 130M	01 CRET 500								
01 508	135mm	5 3/16" 01 B 135M GR C2	01 B 503 GR C2	01 CRET 135M	01 CRET 503								
	140mm	5 7/16" 01 B 140M GR C2	01 B 507 GR C2	01 CRET 140M	01 CRET 507	187	9.5	204	102	279	442	502	140 M30 89
		5 1/2" 01 B 508 GR C2	01 CRET 508	01 CRET 508	01 CRET 508								
01 600	150mm	5 15/16" 01 B 150M GR C2	01 B 515 GR C2	01 CRET 150M	01 CRET 515								
	155mm	6" 01 B 155M GR C2	01 B 600 GR C2	01 CRET 155M	01 CRET 600	193	9.5	204	102	279	442	502	140 M30 99
		160mm 01 B 600-160M GR C2	01 CRET 600-160M	01 CRET 600-160M	01 CRET 600								

02 SERIES

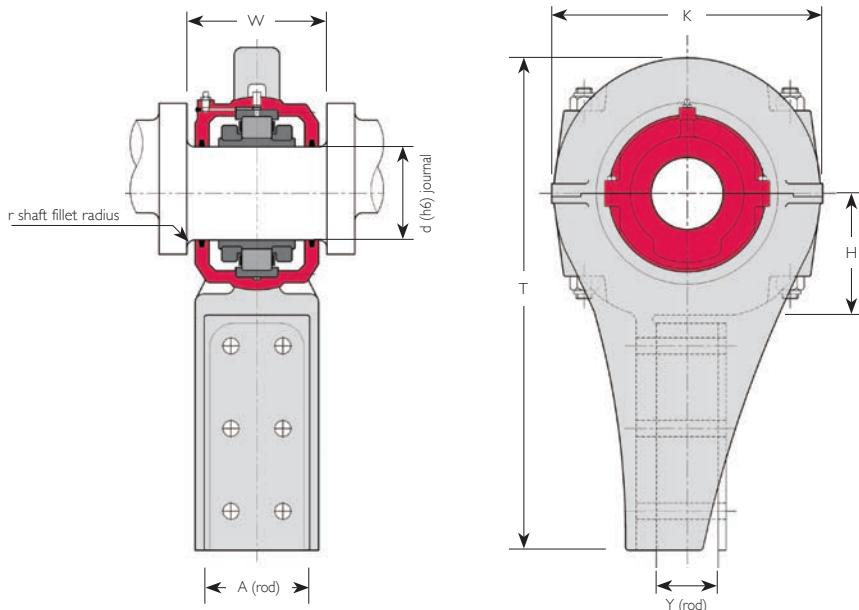
Group Reference	Shaft Diameter d	Bearing Reference (1)		Housing Reference (2)		W (max) (mm)	r (mm)	N (mm)	J (mm)	H (mm)	K (mm)	T (mm)	R (mm)	Bolts (Complete unit)	Mass (kg)
02 200	50mm	1 15/16" 2"	02 B 50M GR C2	02 B 115 GR C2 02 B 200 GR C2	02 CRET 50M	02 CRET 115 02 CRET 200	123	45	115	38	95	197	194	76(3) M16	9
02 208	60mm	2 3/16" 2 1/4"	02 B 60M GR C2	02 B 203 GR C2	02 CRET 60M	02 CRET 203									
	65mm	2 7/16" 2 1/2"	02 B 65M GR C2	02 B 207 GR C2 02 B 208 GR C2	02 CRET 65M	02 CRET 207 02 CRET 208	138	6	128	44	108	216	220	89(3) M16	13
02 300	70mm	2 11/16" 2 3/4"	02 B 70M GR C2	02 B 211 GR C2 02 B 212 GR C2	02 CRET 70M	02 CRET 211 02 CRET 212									
	75mm	2 15/16" 3"	02 B 75M GR C2	02 B 215 GR C2 02 B 300 GR C2	02 CRET 75M	02 CRET 215 02 CRET 300	152	6	146	48	127	248	256	102(3) M20	20
02 308	80mm	3 3/16" 3 1/4"	02 B 80M GR C2	02 B 303 GR C2	02 CRET 80M	02 CRET 303									
	85mm	3 7/16" 3 1/2"	02 B 85M GR C2	02 B 304 GR C2	02 CRET 85M	02 CRET 304	173	95	170	76	200	308	356	124 M24	36
02 400	100mm	3 11/16" 3 3/4"	02 B 100M GR C2	02 B 311 GR C2	02 CRET 100M	02 CRET 311									
	105mm	3 15/16" 4"	02 B 105M GR C2	02 B 312 GR C2 02 B 400 GR C2	02 CRET 105M	02 CRET 312 02 CRET 400	171	125	190	86	222	334	390	136 M30	52
02 408	110mm	4 3/16" 4 7/16"	02 B 110M GR C2	02 B 403 GR C2	02 CRET 110M	02 CRET 403									
	115mm	4 1/2"	02 B 115M GR C2	02 B 407 GR C2 02 B 408 GR C2	02 CRET 115M	02 CRET 407 02 CRET 408	187	125	190	86	222	375	425	136 M30	65
02 500	120mm	4 15/16" 5"	02 B 120M GR C2	02 B 415 GR C2	02 CRET 120M	02 CRET 415									
	125mm	5 7/16" 5 1/2"	02 B 125M GR C2	02 B 500 GR C2	02 CRET 125M 02 CRET 130M	02 CRET 500	209	125	204	102	279	442	502	140 M30	99
02 508	140mm	5 3/16" 5 7/16"	02 B 140M GR C2	02 B 503 GR C2	02 CRET 140M	02 CRET 503									
	145mm	5 1/2"	02 B 145M GR C2	02 B 507 GR C2 02 B 508 GR C2	02 CRET 145M	02 CRET 507 02 CRET 508	213	125	204	102	279	445	558	140 M30	119
02 600	150mm	5 15/16" 6"	02 B 150M GR C2 02 B 155M GR C2 02 B 600-160M GR C2	02 B 515 GR C2 02 B 600 GR C2	02 CRET 150M 02 CRET 155M 02 CRET 600-160M	02 CRET 515 02 CRET 600	229	125	204	102	279	445	558	140 M30	131

1) These are reduced clearance bearings which are standard specification for rod ends

3) Holes tapped in end face

2) Reference refers to matched rod-end housing and cartridge together

Rod ends shoe type 100 series



100 SERIES

Group Reference	Shaft Diameter d	Bearing Reference (1)	Housing Reference (2)	W (mm)	r (max) (mm)	$A(3)$ (mm)	$Y(3)$ (mm)	H (mm)	K (mm)	T (mm)	Mass (Complete unit) (kg)			
I00 300	75mm	2 15/16" 3"	I00 B 75M GR C2 I00 B 300 GR C2	I00 B 215 GR C2 I00 B 300 GR C2	I00 CRES 75M I00 CRES 300	113	4.5	62	10	79	190	330	13	
I00 307	85mm	3 7/16"	I00 B 85M GR C2	I00 B 307 GR C2	I00 CRES 85M	100 CRES 307	126	6	88	50	108	248	432	23
I00 400	100mm	3 15/16" 4"	I00 B 100M GR C2 I00 B 400 GR C2	I00 B 315 GR C2 I00 B 400 GR C2	I00 CRES 100M	I00 CRES 315 I00 CRES 400	148	6	114	38	130	248	540	36
I00 408	110mm	4 7/16"	I00 B 110M GR C2	I00 B 407 GR C2	I00 CRES 110M	I00 CRES 407	146	6	100	58	125	308	572	43
I00 408	115mm	4 1/2"	I00 B 115M GR C2	I00 B 408 GR C2	I00 CRES 115M	I00 CRES 408	146	6	100	58	125	308	572	43
I00 500	120mm	4 15/16"	I00 B 120M GR C2	I00 B 415 GR C2	I00 CRES 120M	I00 CRES 415	154	6	126	58	149	354	618	59
I00 500	125mm	5"	I00 B 125M GR C2	I00 B 500 GR C2	I00 CRES 125M	I00 CRES 500	154	6	126	58	149	354	618	59
I00 500	130mm		I00 B 130M GR C2		I00 CRES 130M									
I00 508	140mm	5 7/16" 5 1/2"	I00 B 140M GR C2	I00 B 507 GR C2 I00 B 508 GR C2	I00 CRES 140M	I00 CRES 507 I00 CRES 508	168	6	126	64	158	400	654	78
I00 600	150mm	5 15/16" 6"	I00 B 150M GR C2	I00 B 515 GR C2 I00 B 600 GR C2	I00 CRES 150M	I00 CRES 515 I00 CRES 600	187	9.5	152	76	177	442	696	91

01/01E SERIES

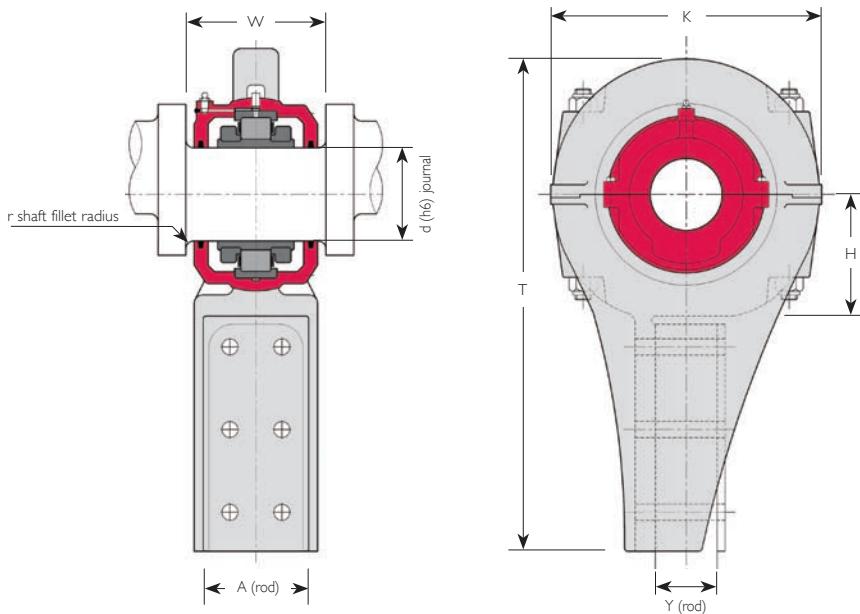
Group Reference	Shaft Diameter d	Bearing Reference (1)	Bearing Reference (2)	W (mm)	r (mm)	A(3) (rod) (mm)	Y(3) (rod) (mm)	H (mm)	K (mm)	T (mm)	Mass (Complete unit) (kg)	
01 108	35mm 40mm	1 3/16" 1 1/4" 1 7/16" 1 1/2"	01 B 103 GR C2 01 B 104 GR C2 01 B 107 GR C2 01 B 108 GR C2	01 CRES 103 01 CRES 104 01 CRES 107 01 CRES 108	92	3	62	10	65	160	258	5
01E 200	45mm 50mm	1 11/16" 1 3/4" 1 15/16" 2"	01E B 45M GR C2 01E B 50M GR C2 01E B 200 GR C2	01 CRES 111 01 CRES 112 01 CRES 115 01 CRES 200	104	3	62	10	70	166	308	7
01E 208	55mm 60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	01E B 55M GR C2 01E B 60M GR C2 01E B 65M GR C2 01E B 208 GR C2	01 CRES 203 01 CRES 204 01 CRES 207 01 CRES 208	113	4.5	62	10	79	190	330	13
01E 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	01E B 70M GR C2 01E B 75M GR C2 01E B 300 GR C2	01 CRES 211 01 CRES 212 01 CRES 215 01 CRES 300	126	6	88	50	108	248	432	22
01E 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	01E B 80M GR C2 01E B 85M GR C2 01E B 90M GR C2 01E B 308 GR C2	01 CRES 303 01 CRES 304 01 CRES 307 01 CRES 308	148	6	100	50	133	264	602	43
01E 400	95mm 100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	01E B 95M GR C2 01E B 100M GR C2 01E B 105M GR C2 01E B 400 GR C2	01 CRES 95M 01 CRES 100M 01 CRES 105M 01 CRES 400	146	6	100	58	125	308	572	44
01 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	01 B 110M GR C2 01 B 115M GR C2 01 B 408 GR C2	01 CRES 110M 01 CRES 115M 01 CRES 408	154	6	126	58	149	354	618	63
01 500	120mm 125mm 130mm	4 15/16" 5"	01 B 120M GR C2 01 B 125M GR C2 01 B 130M GR C2 01 B 500 GR C2	01 CRES 120M 01 CRES 125M 01 CRES 130M 01 CRES 500	168	6	126	64	158	400	654	83
01 508	135mm 140mm 145mm	5 3/16" 5 7/16" 5 1/2"	01 B 135M GR C2 01 B 140M GR C2 01 B 508 GR C2	01 CRES 135M 01 CRES 140M 01 CRES 508	187	9.5	152	76	177	442	696	98
01 600	150mm 155mm 160mm	5 15/16" 6"	01 B 150M GR C2 01 B 155M GR C2 01 B 600-160M GR C2	01 CRES 150M 01 CRES 155M 01 CRES 600-160M	193	9.5	152	76	177	442	696	107

1) These are reduced clearance bearings which are standard specification for rod ends

2) Reference refers to matched rod-end housing and cartridge together

3) Rod fixing varies from 2 to 6 bolts according to size, and can be adapted to requirements

Rod ends shoe type 02 series



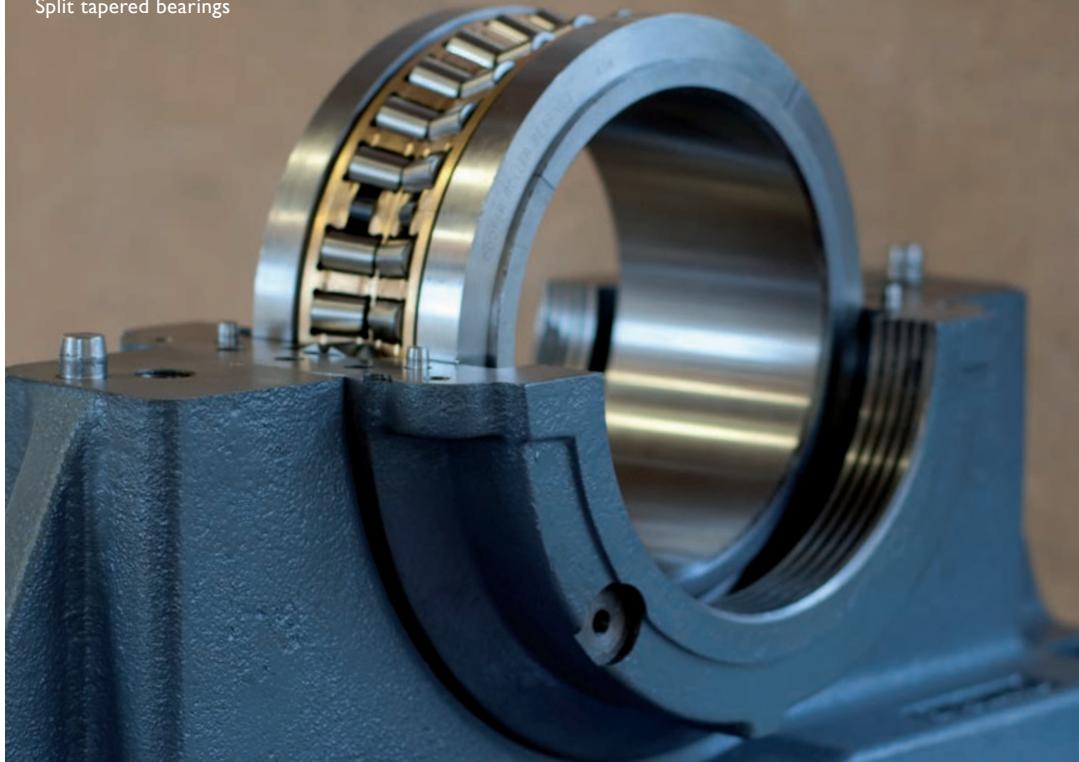
02 SERIES

Group Reference	Shaft Diameter d	Bearing Reference (1)		Housing Reference (2)		W (mm)	r (max) (mm)	A(3) (rod) (mm)	Y(3) (rod) (mm)	H (mm)	K (mm)	T (mm)	Mass (Complete unit) (kg)	
													(mm)	(mm)
02 200	50mm	1 15/16" 2"	02 B 50M GR C2 02 B 200 GR C2	02 B 115 GR C2 02 B 204 GR C2	02 CRES 50M	02 CRES 115 02 CRES 200	123	4.5	62	32	76	190	330	10
02 208	60mm 65mm	2 3/16" 2 1/4" 2 7/16" 2 1/2"	02 B 60M GR C2 02 B 65M GR C2	02 B 203 GR C2 02 B 204 GR C2 02 B 207 GR C2 02 B 208 GR C2	02 CRES 60M 02 CRES 65M	02 CRES 203 02 CRES 204 02 CRES 207 02 CRES 208	138	6	88	50	108	248	432	20
02 300	70mm 75mm	2 11/16" 2 3/4" 2 15/16" 3"	02 B 70M GR C2 02 B 75M GR C2	02 B 211 GR C2 02 B 212 GR C2 02 B 215 GR C2 02 B 300 GR C2	02 CRES 70M 02 CRES 75M	02 CRES 211 02 CRES 212 02 CRES 215 02 CRES 300	152	6	114	38	130	248	540	40
02 308	80mm 85mm 90mm	3 3/16" 3 1/4" 3 7/16" 3 1/2"	02 B 80M GR C2 02 B 85M GR C2 02 B 90M GR C2	02 B 303 GR C2 02 B 304 GR C2 02 B 307 GR C2 02 B 308 GR C2	02 CRES 80M 02 CRES 85M 02 CRES 90M	02 CRES 303 02 CRES 304 02 CRES 307 02 CRES 308	173	9.5	126	76	149	334	610	62
02 400	100mm 105mm	3 11/16" 3 3/4" 3 15/16" 4"	02 B 100M GR C2 02 B 105M GR C2	02 B 311 GR C2 02 B 312 GR C2 02 B 315 GR C2 02 B 400 GR C2	02 CRES 100M 02 CRES 105M	02 CRES 311 02 CRES 312 02 CRES 315 02 CRES 400	171	12.5	126	76	149	354	618	71
02 408	110mm 115mm	4 3/16" 4 7/16" 4 1/2"	02 B 110M GR C2 02 B 115M GR C2	02 B 403 GR C2 02 B 407 GR C2 02 B 408 GR C2	02 CRES 110M 02 CRES 115M	02 CRES 403 02 CRES 407 02 CRES 408	187	12.5	126	76	162	400	654	91
02 500	120mm 125mm 130mm	4 15/16" 5"	02 B 120M GR C2 02 B 125M GR C2 02 B 130M GR C2	02 B 415 GR C2 02 B 500 GR C2	02 CRES 120M 02 CRES 125M 02 CRES 130M	02 CRES 415 02 CRES 500	209	12.5	152	76	177	442	696	124
02 508	140mm 145mm	5 3/16" 5 7/16" 5 1/2"	02 B 140M GR C2 02 B 145M GR C2	02 B 503 GR C2 02 B 507 GR C2 02 B 508 GR C2	02 CRES 140M 02 CRES 145M	02 CRES 503 02 CRES 507 02 CRES 508	213	12.5	152	76	177	442	696	145
02 600	150mm 155mm 160mm	5 15/16" 6"	02 B 150M GR C2 02 B 155M GR C2 02 B 600-160M GR C2	02 B 515 GR C2 02 B 600 GR C2	02 CRES 150M 02 CRES 155M 02 CRES 600-160M	02 CRES 515 02 CRES 600	229	12.5	152	64	203	444	736	166

1) These are reduced clearance bearings which are standard specification for rod ends

2) Reference refers to matched rod-end housing and cartridge together

3) Rod fixing varies from 2 to 6 bolts according to size, and can be adapted to requirements



SPLIT TAPERED BEARINGS

INTRODUCTION

The Cooper split tapered bearing is intended for the 'fixed' bearing position of shafts where there is both radial and axial loading and our 'GR' type cylindrical bearing is unsuitable. It is constructed with two rows of opposed rollers to take axial loading in either direction.

Cooper split tapered roller bearings are usually mounted in a cartridge in a similar way to Cooper cylindrical bearings. Cartridges for tapered bearings are machined with grease groove seals as standard and provision made for a temperature element. Alternative seal types are available as page 10 and 11, and flange-mounted units may be supplied with bulkhead

sealing arrangements. The proximity of the temperature element hole to the shaft means that if it is of a headed type, generally it will have to have a cranked probe. Alternative positions for the temperature element are possible.

The cartridge is mounted by its spherical seat in an outer housing. Various housing types are available, as for cylindrical bearings, but the most common types are the pedestal and flange. Cooper technical department should be consulted to confirm housing strength against the anticipated loads before finalising selection. Ductile iron housings are generally used with these bearings, as indicated by the part numbers listed on the following pages.

BEARING SELECTION

Bearing ratings for dynamic radial capacity (Cr) and static radial capacity (Cor) shown in this leaflet are in accordance with ISO 281-1990 and ISO 76-1987 respectively.

Radial and axial loads must be considered together as combined 'equivalent loads', as explained below. Generally, maximum instantaneous loading is governed by housing strength rather than bearing static capacity.

Dynamic rating

Expected bearing life is calculated by the following equation:

$$L_{10} = [Cr/(P \times fd)]^{(10/3)}$$

where:

- L_{10} = expected life of 90% of similar bearings under similar operating conditions
- Cr = radial dynamic rating
- P = equivalent dynamic load
- fd = dynamic or service factor, generally from 1 for steady loading to 3.5 for heavy shock, reciprocation or vibration

The dynamic equivalent load is calculated as follows:

$$\text{when } F_a/F_r \leq e : P = F_r + Y_1 F_a \\ \text{when } F_a/F_r > e : P = 0.67F_r + Y_2 F_a$$

where:

F_r = applied radial load

F_a = applied axial load

and calculation factors Y_1 , Y_2 and e are given in the product data tables.

Life calculation with multiple load conditions

Where varying loads are experienced in operation, using the maximum load condition may lead to an unrealistically low calculated life. For n load conditions constituting the full load cycle (at constant speed), an overall dynamic equivalent load may be calculated as follows:

$$P = \left[\sum_{i=1}^{j=n} P_i^{(10/3)} p_i \right]^{0.3}$$

where:

P_i = dynamic equivalent load under load condition i

p_i = proportion of time load condition i is applicable

Where the load is continuously variable it may be broken down into a discrete approximation to the actual load cycle.

Minimum loading

In order to avoid excessive skidding of the rollers, sufficient loading must be applied to the bearing, as follows:

$$P \geq 0.01Cr$$

ASSEMBLY

The assembly procedure for a Cooper split tapered roller bearing unit is substantially similar to that of a cylindrical bearing and housing. However, some additional points need to be

drawn to the attention of the fitter and a full set of assembly instructions for split tapered bearings should be referred to before commencing installation. This may be obtained in electronic form from Cooper technical department.

GREASE QUANTITY FOR INITIAL LUBRICATION

The quantity of grease required on initial lubrication is dependent upon operating speed and temperature.

If the operating temperature is below 80°C the quantity of grease may be determined directly according to the bearing reference and operating speed from the table below. If the operating temperature is above 80°C a 25% pack of grease

should be used regardless of operating speed (refer to the right hand column of the table).

With a 'full pack' of grease the space within the housing (i.e. surrounding the bearing components) in the assembled unit is completely filled with grease.

The table assumes normal density grease (about 0.85 g/cm³).

INITIAL LUBRICANT QUANTITIES

Shaft Diameter (mm)	Bearing Reference	Speed (rpm) up to	Grease (full pack) (Kg)	Speed (rpm)		Grease (75% full pack) (Kg)	Speed (rpm) from	to	Grease (50% full pack) (Kg)	Speed (rpm) from	to	Grease (33% full pack) (Kg)	Speed (rpm) over	Grease (25% full pack) (Kg)
				from	to									
75	IDTB75M	667	0.19	667	1333	0.14	1333	2000	0.10	2000	2667	0.06	2667	0.05
80	IDTB80M	625	0.23	625	1250	0.17	1250	1875	0.12	1875	2500	0.08	2500	0.06
90	IDTB90M	556	0.25	556	1111	0.19	1111	1667	0.12	1667	2222	0.08	2222	0.06
100	IDTB100M	500	0.41	500	1000	0.31	1000	1500	0.20	1500	2000	0.13	2000	0.10
110	IDTB110M	455	0.44	455	909	0.33	909	1364	0.22	1364	1818	0.14	1818	0.11
120	IDTB120M	417	0.50	417	833	0.38	833	1250	0.25	1250	1667	0.17	1667	0.13
130	IDTB130M	357	0.65	357	714	0.48	714	1071	0.32	1071	1429	0.21	1429	0.16
140	IDTB140M	357	0.65	357	714	0.48	714	1071	0.32	1071	1429	0.21	1429	0.16
150	IDTB150M	313	0.63	313	625	0.47	625	938	0.32	938	1250	0.21	1250	0.16
160	IDTB160M	313	0.63	313	625	0.47	625	938	0.32	938	1250	0.21	1250	0.16
180	IDTB180M	278	0.77	278	556	0.58	556	833	0.39	833	1111	0.25	1111	0.19

ROUTINE GREASING

Relubricate the bearing weekly or every 150 hours of operation. Sizes up to and including 120mm: Use 2ml of fresh grease. Sizes over 120mm: Use 4ml of fresh grease. Note that 2ml is approximately 1 shot from a conventional side-lever grease gun. Automatic lubrication systems should be metered to deliver grease at an

average rate equivalent to the routine greasing periods and quantities specified. If it can be done safely, the bearing should be re-greased as it rotates to help distribute the grease. Do not mix different types of grease in the bearing. Excessive quantities of lubricant should not be used, particularly at high speeds, as this may result in excessive churning and overheating.

TIGHTENING TORQUES

The tightening torques for the assembly of the bearings and housing are given in the following table. All screws are metric coarse thread, grade

12.9. Full assembly instructions are provided with each order, and are available separately if required.

TIGHTENING TORQUES

Shaft Diam- eter (mm)	Bearing Reference	Clamping ring screw			Cartridge joint screw			Side screw			Pedestal joint screw			Flange joint screw		
		Screw size	Key size	Torque A/F (mm) (Nm)	Screw size	Key size	Torque (Nm)	Screw size	Key size	Torque (Nm)	Screw size	Key size	Torque (Nm)	Screw size	Key size	Torque (Nm)
75	IDTB75M	M5x25	4	8.5	M6x25	5	11	M6x10	3	7.8	M16x65	14	225	M12x55	10	90
80	IDTB80M	M5x25	4	8.5	M10x45	8	52.5	M6x10	3	7.8	M16x65	14	225	M16x65	14	225
90	IDTB90M	M5x25	4	8.5	M10x45	8	52.5	M6x10	3	7.8	M16x65	14	225	M16x65	14	225
100	IDTB100M	M8x30	6	35	M10x45	8	52.5	M6x10	3	7.8	M20x80	17	420	M16x65	14	225
110	IDTB110M	M8x30	6	35	M12x55	10	90	M6x10	3	7.8	M20x80	17	420	M20x80	17	420
120	IDTB120M	M8x30	6	35	M10x45	8	52.5	M6x10	3	7.8	M20x80	17	420	M20x80	17	420
130	IDTB130M	M10x45	8	70	M10x45	8	52.5	M6x10	3	7.8	M20x80	17	420	M20x80	17	420
140	IDTB140M	M8x30	6	35	M10x45	8	52.5	M6x10	3	7.8	M20x80	17	420	M20x80	17	420
150	IDTB150M	M10x45	8	70	M10x45	8	52.5	M10x16	5	30	M16x65	14	225	M20x100	17	420
160	IDTB160M	M8x30	6	35	M10x45	8	52.5	M10x16	5	30	M16x65	14	225	M20x100	17	420
180	IDTB180M	M8x30	6	35	M10x55	8	52.5	M10x16	5	30	M20x80	17	420	M24x100	19	712

TAPER BEARING FREQUENCIES

Shaft Diameter d (mm)	Bearing Reference	Part Frequencies (per shaft rev.)				PCD (mm)	No.	Roller details	
		Cage	Roller	Outer	Inner			Diameter (mm)	Roller axis angle (°)
75	IDTB75M	0.445	4.264	8.006	9.994	102.6	18	11.95	17.50
80	IDTB80M	0.448	4.507	8.959	11.041	108.2	20	11.95	18.50
90	IDTB90M	0.453	4.898	9.955	12.045	117.4	22	11.95	20.13
100	IDTB100M	0.449	4.627	9.888	12.112	136.0	22	14.63	19.00
110	IDTB110M	0.455	5.167	10.926	13.074	147.9	24	14.29	21.25
120	IDTB120M	0.457	5.404	11.895	14.105	154.5	26	14.29	22.25
130	IDTB130M	0.461	6.022	12.901	15.099	176.4	28	14.62	18.00
140	IDTB140M	0.461	6.022	12.901	15.099	176.4	28	14.62	18.00
150	IDTB150M	0.461	6.145	12.918	15.082	196.9	28	15.99	17.21
160	IDTB160M	0.461	6.145	12.918	15.082	196.9	28	15.99	17.21
180	IDTB180M	0.465	6.776	13.959	16.041	216.8	30	15.99	19.00

COOPER[®] THE ORIGINAL SPLIT ROLLER BEARING

The inventor of the split to the shaft roller bearing, Cooper has unrivalled expertise gained in over 100 years manufacturing both the bearing and the housing at their site in King's Lynn (UK)



HIGHEST CAPACITY

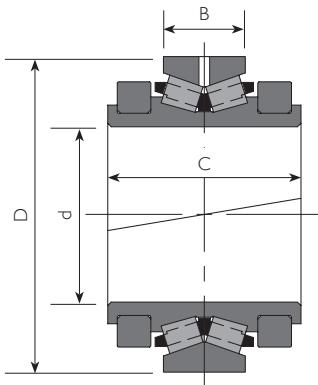
Cooper's position as a leader in the field has been recently re-affirmed with the introduction of the 01E/02E series. Equipped with a robust brass cage and larger rollers the new series ensures significant improvements in radial and axial capacity confirming Cooper as the highest capacity split bearing on the market.

WIDEST RANGE

With 4 series of split cylindrical roller bearings: 100 (light), 01 (medium), 02 (heavy) and 03 (extra heavy) as well as a range of split taper roller bearings, Cooper has a range unmatched by any manufacturer.

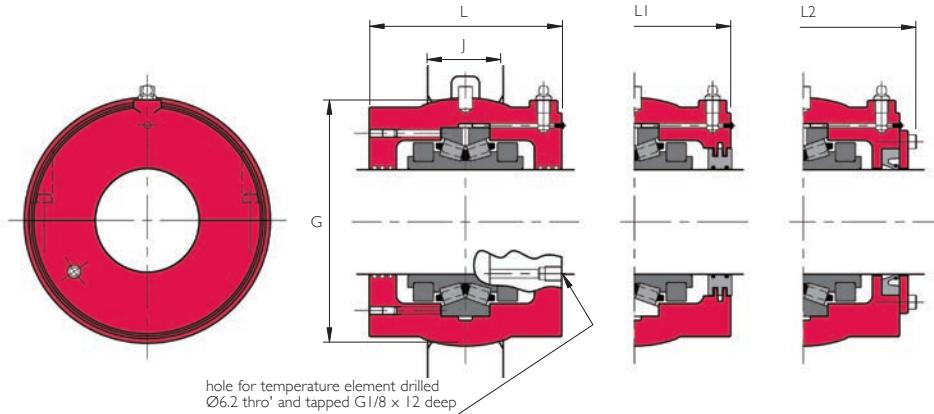


Split tapered bearings



BEARING DATA

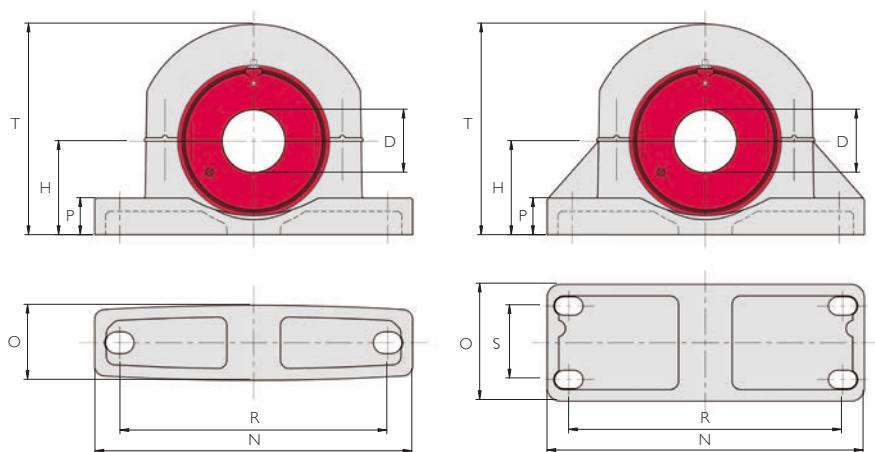
Shaft Diameter d (mm)	Reference	Bearing Ratings			Calculation Factors				Principal Dimensions			
		Cr (kN)	Cor (kN)	Max. Speed (rpm)	Y1	Y2	e	Yo	D (mm)	C (mm)	B (mm)	Mass (kg)
75	IDTB75M	143	208	3410	1.27	1.89	0.53	1.24	135	82.6	35	4.0
80	IDTB80M	152	232	3200	1.20	1.79	0.56	1.18	145	85	35	4.6
90	IDTB90M	160	254	2840	1.11	1.65	0.61	1.08	150	85	35	4.7
100	IDTB100M	235	379	2560	1.17	1.75	0.58	1.15	175	100	40	8.3
110	IDTB110M	282	504	2330	1.05	1.56	0.64	1.02	190	110	48	11.4
120	IDTB120M	295	544	2130	1.00	1.49	0.68	0.98	200	110	48	11.9
130	IDTB130M	296	555	1830	1.27	1.90	0.53	1.24	215	125	45	13.9
140	IDTB140M	296	555	1830	1.27	1.90	0.53	1.24	215	110	45	12.2
150	IDTB150M	350	670	1600	1.34	1.99	0.50	1.31	240	123.8	45	16.8
160	IDTB160M	350	670	1600	1.34	1.99	0.50	1.31	240	110	45	14.8
180	IDTB180M	358	716	1420	1.21	1.80	0.56	1.18	265	110	45	17.0



CARTRIDGE DATA

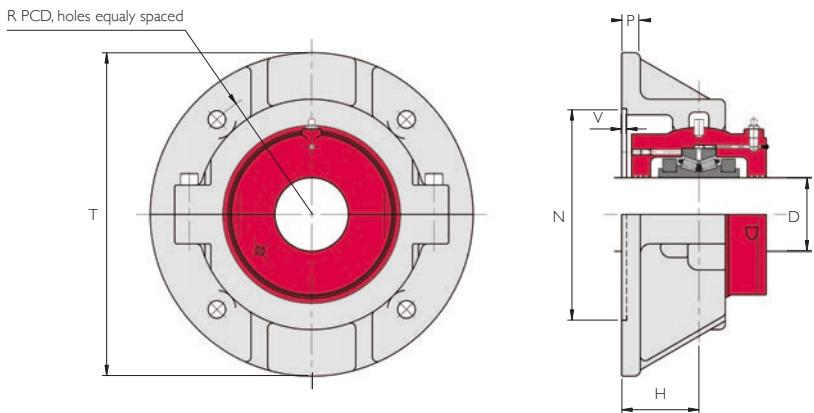
Cartridge for LAB seals	References	Cartridge for ATL seals	G (mm)	J (mm)	Principal Dimensions	L (mm)	L1 (mm)	L2 (mm)	Mass (kg)
IDTC75GR75M		IDTC75GR30TL	177.80	50	138	140	162	11.8	
IDTC80GR80M		IDTC80GR35TL	203.20	50	140	142	164	15.1	
IDTC90GR90M		IDTC90GR35TL	203.20	50	146	148	170	13.5	
IDTC100GR100M		IDTC100GR40TL	231.78	64	170	172	202	20.1	
IDTC110GR110M		IDTC110GR45TL	266.70	76	178	180	210	29.8	
IDTC120GR120M		IDTC120GR50TL	266.70	76	178	180	210	26.5	
IDTC140GR130M		IDTC140GR50TL	279.40	76	190	192	222	31.2	
IDTC140GR140M		IDTC140GR55TL	279.40	76	190	192	222	31.2	
IDTC160GR150M		IDTC160GR60TL	311.15	76	200	202	232	47.0	
IDTC160GR160M		IDTC160GR65TL	311.15	76	200	202	232	47.0	
IDTC180GR180M		IDTC180GR70TL	336.55	95	200	206	232	42.5	

Tapered bearing pedestal units



PEDESTAL DATA

Shaft Diameter d (mm)	Bearing Reference	Pedestal Reference	H (mm)	R Min. (mm)	Max. (mm)	S (mm)	Bolts No.	Size	N (mm)	O (mm)	P (mm)	T (mm)	Mass (Pedestal only) (Kg)
75	IDTB75M	PN05	112	312	328	-	2	M24	380	90	44	252	13.3
80	IDTB80M	PN06	125	342	366	-	2	M24	420	102	52	272	14.7
90	IDTB90M	PN06	125	342	366	-	2	M24	420	102	52	272	14.7
100	IDTB100M	PN07	143	374	410	-	2	M24	466	120	60	314	20.6
110	IDTB110M	PN08	162	438	462	120	4	M24	508	178	38	372	43.3
120	IDTB120M	PN08	162	438	462	120	4	M24	508	178	38	372	43.3
130	IDTB130M	PN09	181	470	494	120	4	M24	558	178	41	405	52
140	IDTB140M	PN09	181	470	494	120	4	M24	558	178	41	405	52
150	IDTB150M	PN11	213	356	380	114	4	M24	508	178	32	430	53
160	IDTB160M	PN11	213	356	380	114	4	M24	508	178	32	430	53
180	IDTB180M	PN31	210	546	570	128	4	M24	636	204	50	470	83



FLANGE DATA

Shaft Diameter d (mm)	Bearing Reference	Flange Reference	T(l) (mm)	Bolt Size	R (mm)	P (mm)	H (mm)	N(2) (mm)	V(2) (mm)	Mass (flange only) (kg)
75	IDTB75M	FN05	330	M16	274	19	79	215.90	3	19.4
80	IDTB80M	FN06	356	M16	302	19	86	244.48	3	22.0
90	IDTB90M	FN06	356	M16	302	19	86	244.48	3	22.0
100	IDTB100M	FN07	382	M16	334	22	92	276.23	3	26.6
110	IDTB110M	FN08	432	M24	374	22	98	314.33	3	34.9
120	IDTB120M	FN08	432	M24	374	22	98	314.33	3	34.9
130	IDTB130M	FN09	444	M24	384	25	98	317.50	3	40.8
140	IDTB140M	FN09	444	M24	384	25	98	317.50	3	40.8
150	IDTB150M	FN11	496	M24	426	25	105	352.43	3	58
160	IDTB160M	FN11	496	M24	426	25	105	352.43	3	58
180	IDTB180M	FN31	534	M24	466	25	124	393.70	3	81

1) Dimension shown is as-cast dimension. Depending upon manufacturing method used, flanges supplied may be machined 5mm smaller

2) Dimensions shown are for locating spigot for mounting flange on to. Diameter tolerance of locating spigot: f8 Where SRSRP seals are used cartridge assembly may protrude into bulkhead. Consult Cooper for minimum bulkhead aperture size.



LARGE BORE BEARINGS

The following table lists some of the bearings over 600mm/24" bore size manufactured by Cooper recently.

This table may be used as a guide for selecting or designing-in large bore bearings, but it should be borne in mind that these larger sizes of bearing are frequently adapted to meet application requirements. They may be modified to match existing or required envelopes and capacities. Many of the bearings may be supplied with slightly different bore sizes to those under which they are listed, while alternative versions may already be available at some bore sizes without modification.

Generally, these bearing are available in expansion 'EX' or fixed 'GR' types (see page 3). Extra-expansion 'EXILOG' types are also made regularly, but often have different envelope dimensions (in particular, the inner race is usually wider).

Lighter duty 04 Series bearings are shown separately on page 98. It is always advisable to contact Cooper when specifying large bearings.

HOUSINGS

If the bearing is to be mounted in a housing made by the equipment manufacturer, Cooper will supply details of the required mounting tolerances upon request.

If the bearing is to be fitted into an existing housing, accurate details of the mounting dimensions should be supplied to Cooper to ensure compatibility.

Cooper can supply suitable housings, including cartridges, pedestals, flanges, and custom housings for large bearings. (See other sections for explanations of these housing types). Please contact Cooper with application details so that we can supply details of the most suitable housing, or design or adapt a housing to suit if required.

DOUBLE BEARINGS

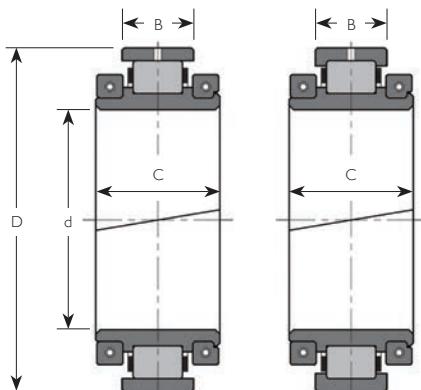
Large bearings are often paired to form a 'double bearing' of increased capacity.

To calculate the dynamic capacity of a double bearing, multiply the dynamic capacity (C_r) of the single bearing by 1.714.

To calculate the static capacity of the double bearing, multiply the static capacity (C_{or}) of the single bearing by 2.

Mountings for double bearings should be designed to equalise the loading on the two rows of rollers.

Bearings should only be mounted together to form a two-row bearing if they are supplied by Cooper specifically for this purpose, and the bearings should be maintained in their allocated pairings.



LARGE BEARINGS

Shaft Diameter d	Reference	D (mm)	C (mm)	B (mm)	Cr (kN)	Cor (kN)
610mm	01 B 610M	780	172	84.1	1431	3311
613.2mm	03E B 613.2M	980	370(1)	200(1)	5593	9863
630mm	01 B 630M 03 B 630M	794 980	190 361.6	88 216	1780 7036(2)	4181 14708(2)
25"	02 B 2500	86678	219.08	117.48	2724	5833
650mm	02 B 650M 03E B 650M	860 980	220 320	120 200	2724 5738	5833 11253
670mm	02 B 670M 03 B 670M	900 1050	260 410	142 250	3923(2) 8866(2)	8652(2) 18398(2)
26"	03E B 2600	980	320	200	5738	11253
27"	01 B 2700	864	170	94	1761	4014
690mm	01 B 690M	864	170	94	1761	4014
710mm	01 B 710M 02 B 710M 03 B 710M	890 980 1090	185 290 383	95 155 230	1817 3530 8594(2)	4234 7019 17990(2)
28"	01 B 2800	892.18	184.15	87.31	1682	4038
750mm	01 B 750M 02 B 750M 03 B 750M	971.55 990 1060	206 240 310	101.6 140 185	2321 3554 5173	5685 7582 10544
775mm	01 B 775M	945	165	80	1762	3974
850mm	01 B 850M 02 B 850M	1046 1112	200 260	106 156	2555 4335	6401 9585
860mm	03 B 860M	1170	330	190	5698	12404
950mm	01 B 950M 02 B 950M	1172 1212	220 260	120 156	3238 4882	8209 11587
40"	01 B 4000	1270	260	139.7	3958	10084
1100mm	03 B 1100M	1467	410	250	9654(2)	23450(2)
1150mm	4DS B 1150M	1490	305	175	5737	13445
1250mm	03 B 1250M	1630	350	214	8587	21001

1) Dimensions of 03E B 613.2mm refer to EXILOG type with roller axial guide surfaces to outer race only

2) These capacities are achieved with a special type of cage and roller assembly.

04 SERIES BEARINGS

Cooper 04 Series bearings are specialised bearings for lighter duties at large bore sizes.

04 Series bearings are capable of high speeds, but are also used on lower speed applications. Use of these bearings at high speeds requires special attention to lubrication.

If the bearing is to be used at slow speeds only it may be possible to omit some of the 'high speed' features of the bearing, allowing a more economical bearing specification.

Generally, these bearing are available in expansion 'EX' or fixed 'GR' types (see page 3). Alternative configurations are possible where appropriate. These bearings may be subjected to a degree of adaption to suit application requirements. They may also be supplied with slightly different bore sizes to those under which they are listed.

It is advisable to contact Cooper when specifying 04 Series bearings.

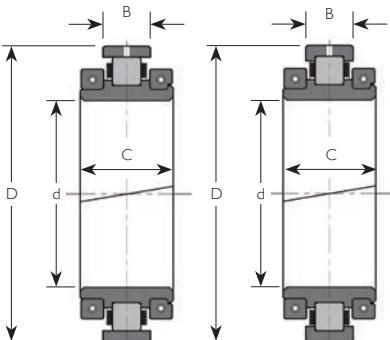
HOUSINGS

Most commonly, 04 Series bearings are mounted in customer's own housings or into housings integrated into the structure of the machine. Details of appropriate mounting tolerances can be supplied on request.

If it is wished for Cooper to supply bearings complete with housings, please contact us with application details.

In general, if operating conditions and envelope restrictions allow, it is more economical to supply 01 Series bearings complete with housings, as a greater range of standardised housings is available for the 01 Series.

Shaft Diameter d (mm) (inches)	Reference	D (mm)	C (mm)	B (mm)	Cr (kN)	Cor (kN)	Max. Speed (rpm)	Mass (kg)
6	04 B 600	257.18	79	38.1	198	246	3000	14
10%	04 B 1010	365.13	103	48.4	336	367	2470	27
340	04 B 340M	438.15	103	48.4	261	282	1950	35
13½	04 B 1308	438.15	103	48.4	261	282	1950	34
400	04 B 400M	505	100	36	214	235	1650	34
17½	04 B 1708	546.1	108	48.4	302	367	1460	45
18½	04 B 1808	571.5	108	48.4	316	395	1370	50
20¾	04 B 2012	635	114	48.4	326	423	1210	54
550	04 B 550M	655	98	36	266	289	1150	54
22	04 B 2200	666.75	101	38.1	361	452	1130	54
23	04 B 2300	692.15	101	38.1	368	470	1080	59
24	04 B 2400	717.55	101	38.1	413	543	1020	61
26½	04 B 2608	781.05	114	48.4	509	818	910	77
30	04 B 3000	882.65	114	44.5	372	509	780	95
32	04 B 3200	939.8	114	44.5	394	579	730	104
33	04 B 3300	965.2	114	44.5	403	602	705	104
36	04 B 3600	1041.4	114	44.5	418	556	620	118
1060	04 B 1060M	1220	127	60	954	1472	560	180
44	04 B 4400	1295.4	168	76.2	1339	1822	140	200
48	04 B 4800	1371.6	140	69.9	1094	1693	350	146
1295	04 B 1295AM	1435.1	127	63.5	988	1606	340	193
1295	04 B 1295BM	1473.2	168	76.2	1831	2877	120	313
1550	04 B 1550M	1720	140	75	1364	2418	300	336



WHAT TO DO WITH YOUR USED BEARING

RECONDITIONING

Cooper offer a reconditioning service for larger bearings. A used bearing is thoroughly cleaned and a detailed report prepared on its condition and the work required to bring it back to an as-new functional condition. Generally a reconditioned bearing will consist of a combination of remachined components of the original bearing and new components to give the correct clearances.

Reconditioning is generally more economical than manufacture of new bearings, depending upon the amount of work required to the subject bearing, for the following bearings:

01 Series: 320mm/13" bore size and over

02 Series: 320mm/13" bore size and over

03 Series: 160mm/6½" bore size and over

04 Series: all sizes

Thrust bearings: all sizes

Cooper are also able to recondition radial and thrust cylindrical bearings of non-Cooper manufacture.

FAILURE ANALYSIS

Cooper offer a failure analysis service for all sizes of bearing, of any age. Where appropriate, we will offer advice on fitting practices, lubrication regime, or modifications to the mounting arrangements to help improve future bearing life. Bearings sent for analysis may be reconditioned, recycled or returned as appropriate.

Please inform Cooper if you wish to use this service, before returning bearings to one of our sites. A small charge may be made depending on requirements.

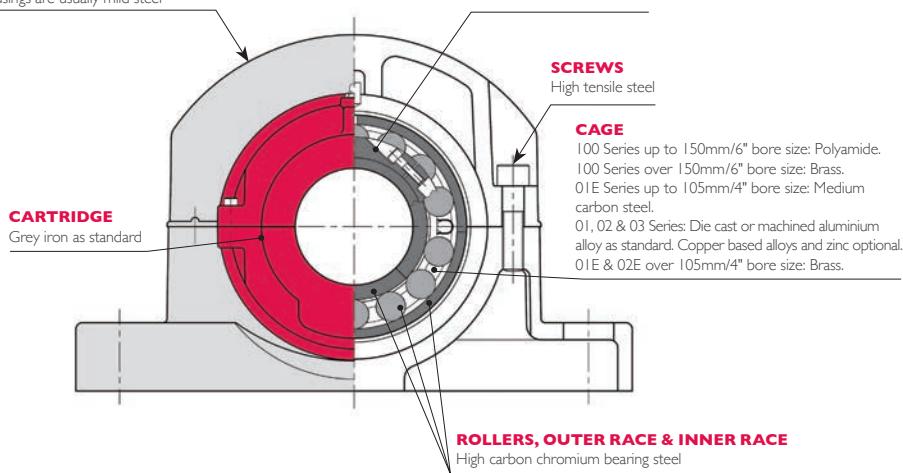
RECYCLING

The materials used in a Cooper bearing unit are almost completely recyclable. The diagram below helps to identify the various materials used in standard and popular optional versions of Cooper bearings so that they can be segregated as required.

OUTER HOUSING

Grey iron or ductile iron as standard.

Cast steel housings will usually have the letter 'S' inserted into their reference compared to the standard units listed in this catalogue (e.g. "PS07" instead of "P07" or "FS07" instead of F07"). Fabricated housings are usually mild steel



SPECIAL FEATURES

Suffix characters may be used to indicate special features. Examples include:

BEARING FEATURES

C2/C3/C5	Special clearances
AF	Axial float. This is preceded by the amount of axial float, e.g.: 2mm AF
AL(D)F	Aluminium cage with (double) flange (usually race riding)
AP	Air / grease purge points
CHAM	Special chamfer to inner race bore. This is followed by size of chamfer; e.g. (to indicate 7mm x 45° chamfer): CHAM 7
EXILOG	Bearing with fixed type outer race and floating inner race
FR	Full complement of rollers (no cage)
GM	Gunmetal / brass / bronze cage
GM(D)F	Gunmetal / brass / bronze cage with (double) flange (usually race riding)
GROSL	Single lipped outer race
OSO	Outer race set out (particularly for large bearings where outer race is usually retained in housing by radial screws)
XJR	Joint relief (to allow inner race to be mounted in recess)
ZN	Zinc alloy cage

CARTRIDGE FEATURES

BOBP	Bolt-on blanking plate
BOBT	Bolt-on blanking plate with thrust bearing
BP/BT/BPTL/BTTL	See page 12
IH	Inspection hole (for measuring position of inner race of expansion bearings once assembled)
OB	Overbore (cartridge end bore is larger than bearing bore) This is followed by end bore size, using same format as bearing bore reference, e.g.: OB 207 or OB 65M (or OB 65mm)
TE	Drilled for temperature indicator element
OIL LUB	Oil lubricated

A letter may succeed the 'C' in the cartridge designation to indicate that the cartridge is made from non-standard material. Taking the examples of 01 C 60M and 01 C 03 as examples:

01 CN 60M and 01 CN 03 would indicate nodular (ductile) iron.
 01 CS 60M and 01 CS 03 would indicate steel.
 01 CA 60M and 01 CA 03 would indicate aluminium.

OUTER HOUSING FEATURES

BEM	Base ends machined. This may be followed by machined length, e.g.: BEM 500mm
SI	Reduced swivel clearance between outer housing and cartridge
SLUB	Lubrication to spherical seat

For outer housings made in material other than standard, letters are interposed between the letter(s) designating the housing type (e.g. 'P' for pedestal, 'F' for flange or 'RET' for rod-end T-type) and the size designation. Taking the example of a P06 pedestal:

PN06 indicates a P06 in nodular (ductile) iron
 PS06 indicates a P06 in steel
 PA06 indicates a P06 in aluminium

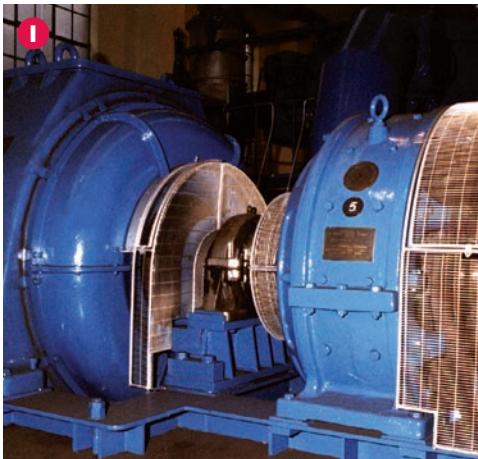
Ductile iron and steel versions of an RET06 would be designated RETN06 and RETS06 respectively.

Numbers may be suffixed to bearing, cartridge or outer housing designations indicating a combination of special features or parts to special dimensions.

MINING EXCELLENCE

Underground or surface, Cooper bearings make mining more profitable and are used on key applications across the industry. From material handling through hauling, screening and stockpile management, Cooper split bearings have long been recognized as a benchmark for reliability.

MINE WINDERS



1. Coal industry mine winders include 03 Series 600mm for an operating load of 80 tonnes per bearing at 48 rpm and 02 Series 400mm for an operating load of 32 tonnes per bearing at 31 rpm.

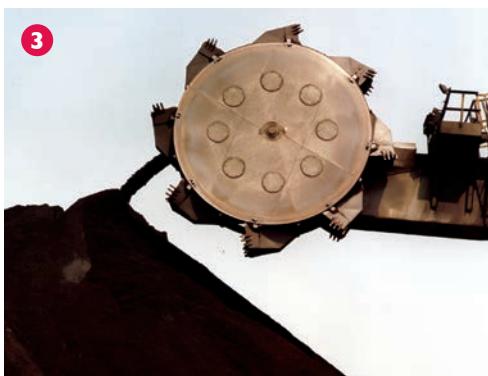


2. A 700mm diameter special double bearing supplied for a tower mounted winder in a copper mine. Normal operating load is 185 tonnes and the speed is 54 rpm.

3. STACKER RECLAIMERS

This bucket wheel stacker reclaimer can handle 3,500 tons per hour and the boom can operate on a pile up to 50 feet high. The slewing ring pinion gear is supported by 6½ inch and 7 inch 01 Series Cooper bearing in flange housings.

Cooper Bearings up to 380mm in diameter are used on the shaft of the bucket wheel as shown.



SUGAR PRODUCTION

The Cooper value proposition is universally recognised by both cane and beet sugar manufacturers and is used across a range of demanding applications from cane knives to conveyors, fans and blowers etc. Besides the savings in downtime from the split bearing, the Cooper sealing solution is the ideal defence against the abrasive effects of "bagasse" and other contaminants.



I. CANE KNIVES AND CRUSHERS

This cane knife machine is fitted with O3 BCP 200mm EX (Expansion) and GR (Fixed) bearings.



2. SCROLL CONVEYOR

Cleanliness requirements during the final stage of transporting white sugar to the bagging area demanded the use of custom-built 100mm stainless steel hanger unit.



SPLIT ROLLER BEARING APPLICATIONS

The following pages show Cooper Split Roller Bearings "in action" across a range of industries and applications.

The examples shown underline the key advantages in terms of ease of installation, inspection and replacement, as well as graphically illustrating the superior efficiency of the Cooper sealing solution in even the most adverse environments.



MARINE SOLUTIONS

Cooper bearings have long-standing expertise in supplying both the commercial and military fleets of the world and are installed on a variety of vessel types from water-jet and z-drive driven passenger, cargo and support vessels to powered-from-amidships minesweepers.

Cooper offers an extensive range of split cylindrical and taper roller bearings in a variety of housing materials including aluminium and stainless steel. Application expertise gained over the years results in a range of "customized" options including jacking screws for easy alignment and spherical cartridge lubrication to counter hull flexing.



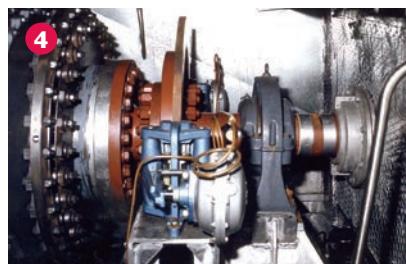
1. This Offshore Supply Vessel is fitted with Cooper 01 BCP 500 EX and 02 BCP 500 GR on the propulsion shaft.



2. A typical installation of a Cooper BCP on a propulsion shafting application.



3. Hoverspeed Super SeaCat is fitted with weight saving aluminium 01 BCAPLA 210mm EX cartridges and pedestals.



4. A typical waterjet drive trapped position utilising a 240mm BCP EX with felt seals.

POWER GENERATION CONVENTIONAL

Cooper split roller bearings support the power generation industry in both conventional and renewable segments across a wide range of key applications such as fans and blowers, conveyors, motors and generators etc.

Our experience and technology means many of our solutions can be "Made to Order" to suit the individual conditions and requirements.



I. CONVEYORS

The roles of conveyors include the transport of fuels (ranging from coal to organic wastes) and raw materials such as limestone for scrubbing. They remove waste products from both nuclear and conventional processes. You will find Cooper bearings assuring the smooth running of belt feeder, screw and other conveyors in power plants all over the world, in the harshest conditions and especially in 'trapped' locations where no other type of bearing can easily be installed or inspected.

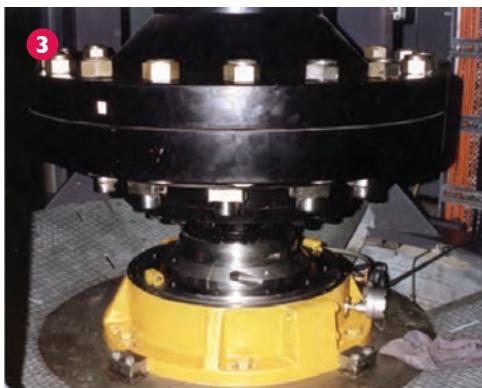
3. PUMPS AND PUMP DRIVES

Hardworking bearings support vital pumping activities, feeding boilers, circulating cooling fluids and extracting condensates. Cooper bearings find application on a wide range of pump shafts, many in hard-to-access situations.



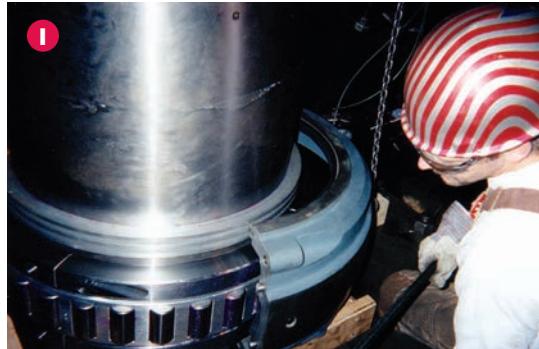
2. FANS AND BLOWERS

Fans play an important role in regulating temperature, removing dust, maintaining ventilation and scrubbing flue gases, often in harsh or corrosive conditions. Bearing locations are often trapped, with the result that split-to-the-shaft Cooper products offer distinct advantages in terms of accessibility.



POWER GENERATION RENEWABLE

I. HYDRO TURBINES



02 BCF 2500 EX fitted to a Hydro Turbine vertical shaft. The customer chose Cooper for ease of installation and inspection. The elimination of oil lubrication was also a bonus for the customer as they could comply with environmental legislation.



2. 01 BCF 380mm fitted to a vertical shaft water turbine.

01 BCF 380mm EX was selected in conjunction with the OEM on this 11,000kW vertical shaft 'Kaplan' turbine. Cooper was chosen for simplified installation, and uncomplicated inspection & maintenance

3. WIND TURBINES

Housing manufactured at our foundry for 1250mm bearing for a wind turbine test rig. The Cooper solution offered significant advantages over hydrodynamic/plain bearings in terms of requirements for shaft tolerance. At the same time significant power savings are achieved on start up and the risk of loss of lubricant film due to power failure is eliminated avoiding potential damage to the shaft.

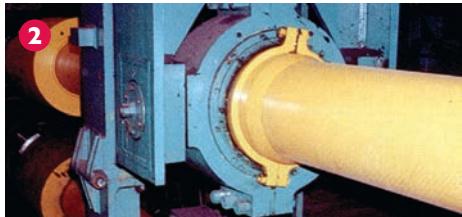


STEEL EXPERTISE

Specialists in steel for decades, Cooper Bearings offer optimum performance, simple and speedy bearing inspection for preventative maintenance and immense downtime savings during inspection or replacement.

I. CONTINUOUS SLAB CASTER BEARINGS

Cooper is renowned with steel end users and OEM customers around the world for their expertise and experience in producing bearings and water-cooled housings for this most demanding of applications.



2. LINK SPINDLES

A Cooper 01 B 560mm on a link spindle drive to a high speed reversing (78rpm in 2 seconds) rolling mill. The use of 01 Series bearings, double mounted in one specially manufactured housing provided the required load capacity while meeting the high speed reversal speed requirements.



3. PILGER MILLS

The Cooper brand has long been synonymous with longer bearing life in this most demanding of applications and is the bearing of choice for OE manufacturers and tube makers.

With a range from 125mm to 500mm bore, Cooper split bearings are used across the world for the manufacture of pilgered tube in copper, stainless steel and titanium.

4. COOLING BEDS

Cooling beds are an application which perfectly illustrates the advantages in maintenance and downtime savings in trapped applications as well as the efficiency of the superior Cooper sealing solution.

Cooling bed drive mechanism utilising 200mm 01 Series BCP units.



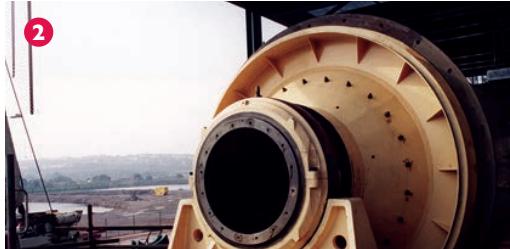
CEMENT/AGGREGATES ROBUST SOLUTIONS

Cooper Bearings are proven to operate effectively in hostile and abrasive conditions across a range of applications in the cement and quarrying industries.



I. CLINKER BREAKERS

Detail of cement works clinker breaker showing a Cooper 03 BCP 180mm GR. This machine also uses 03 BCP 180mm EX Expansion bearings.



2. BALL MILLS

01 BCP 1016mm EXILOG GR fitted to a 10 feet diameter Silica Mill.

3. BALL MILLS

Lichtenberg Lafarge use Cooper 03BCP 320mm on this ball mill.

In addition to these illustrations and numerous UK applications, Cooper bearings are also used on ball mills in: Egypt, Greece, Ireland, USA and Turkey.

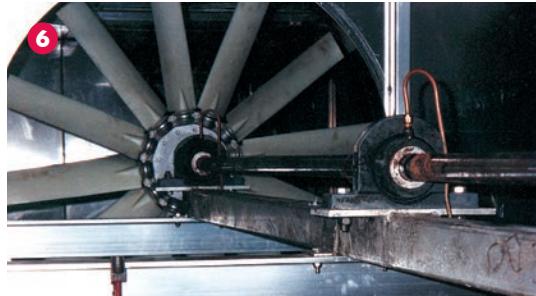
Sizes range from 01 BCP 300mm EX and GR to 01 BCP 950mm EXILOG GR



4. SCREW CONVEYORS

This Kaolin screw conveyor is fitted with 01 BH 60mm EX bearing and uses automatic lubrication. The hanger bearing has a double heavy duty lip seal to retain the lubrication and keep out the Kaolin

CEMENT/AGGREGATES ROBUST SOLUTIONS



5. FANS

This lubricator equipped cement industry fan is fitted with an 02 BCP 8" EXTL.

6. FANS

Cooper 01 Series BCP on a Canadian lumber drying kiln.



7. FANS

This cement works ventilation fan uses Cooper 02 BCP 900 EX TL SI and 02 BCP 900 GR TL SI.

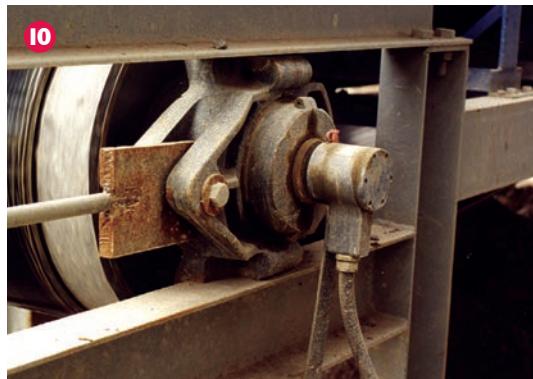
8. CEMENT KILN

Cement kiln using 10 inch 03 Series with roller thrust bearings in the cartridge end plates which support the under rollers on the kiln. The radial load is 28 tons, the axial load 10 tons and the speed is 4-5rpm.



9. BUCKET ELEVATORS

This German bucket elevator uses Cooper 01 BCP 160mm GR in trapped positions. The advantages of Cooper split to the shaft bearings are easily seen in these pictures.



10. BELT CONVEYORS

Take up housings (Tension Type) with Cooper 01E 80mm EX (Expansion) and GR (Fixed) bearings fitted to a raw materials conveyor at an aggregate depot.



11. BELT CONVEYORS

A German chalk extraction conveyor operates in dusty, dirty and moist conditions which caused the motor and gearbox to be firmly stuck to the shaft. The main conveyor bearing failed requiring immediate replacement.

The existing 150mm bearing was replaced with a Cooper 01 BCP 150mm GR SRS. The split rubber seal was specified to combat the moist environmental conditions.



12. BELT CONVEYORS

Water collected in the tail drum pit entered the bearings. As a result, the SNL 515 - 612 bearing fitted to the 100mm shaft failed every 2 to 3 months.

Cooper recommended a BCP 100mm GR (Fixed) and EX (Expansion) bearing equipped with the Cooper SRSRP seal to solve the problem of water penetration.

MISCELLANEOUS APPLICATIONS



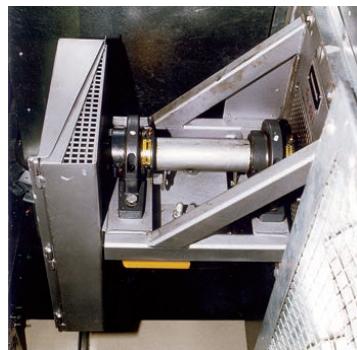
PAPER

Trapped 01E BCP 315 EX ATL and 01 EBCP 415 EX ATL bearings are shown in use on agitators in the paper industry.

GRAIN

The previously fitted SF75/1075/75 bearings used on this 600 staggered bucket elevator had the 75mm, 106RPM drive shaft bearings fitted in trapped applications behind a 13:1 reduction gearbox which caused immense maintenance access problems.

In order to reduce the customer maintenance expense, Cooper recommended 01E BCDFN 75mm EX (Expansion) and GR (Fixed) bearings.



ASPHALT

This application is a conversion from a solid pillow block unit to a split to the shaft 01E 65mm GR Cooper SN compatible pedestal. For trapped applications such as this Cooper split bearings are the ideal solution.

AUTOMOTIVE

The UK General Motors paint shop uses Cooper 01E BCP 75mm EX and GR bearings for fume extraction bearings.

BESPOKE SOLUTIONS

Cooper has a long and proud tradition of manufacturing "Made to Measure" solutions for individual customer requirements. Our facility for customising encompasses both bearing and housing both of which are manufactured in our factory. The following examples are merely a selection of the kind of configurations which we are pleased to do for continuing customer satisfaction.

I. SCROLL CONVEYORS



Picture A shows a plain bearing on a scroll conveyor at a French sugar plant where short bearing life, shaft wear and product contamination from oil and rust were causing major problems.



The custom-built Cooper solution in picture B combined a triple boss hanger mounting with split roller bearing equipped with double sealing and air purge provision on each end.



2. MIXERS

Twin-screw mixer for processing Ammonia Nitrate for fertilizer. Due to both cost and the toxic environment the user wanted to reduce changeover time to an absolute minimum.



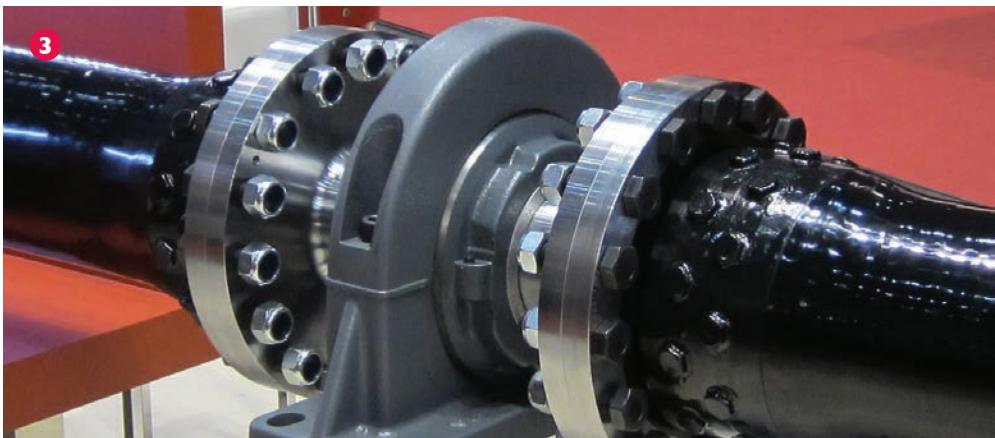
The use of a special tandem unit comprising a double pedestal housing with O2 BCP 60mm EX/GR bearings with special extended HTP seals reduced change time considerably with a saving of £4500 per outage.

BESPOKE SOLUTIONS

3. MARINE “Z-LINE” UNITS

The image shows a Cooper Pedestal unit mounted by a Spanish coupling manufacturer on a composite propulsion shaft. The pedestal base is solid to enable mounting in “Chock-fast”® on the vessel.

The housing is drilled to enable mounting of a temperature sensor and a spherical lubrication point added to assist alignment when the ship's hull flexes during operation.



4. SPLIT TAPERED ROLLER BEARINGS

In recent years Cooper expertise and split bearing technology has seen the expansion of our product offering to include a range of split tapered roller bearings examples of which are shown below.



Cooper double row 780mm bore split tapered roller bearing on a link-spindle for a steel making plant.



Cooper tapered roller bearing for marine Z-drive propulsion for intermittent thrust loading.

NOTES

NOTES

NOTES

NOTES



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COOPER BEARINGS GROUP

UK, Europe, South America, Asia, Middle East, India

Cooper Roller Bearings Company Ltd.
Wisbech Road | Kings Lynn | Norfolk
PE30 5JX | United Kingdom

Tel: +44 (0) 1553 763447
Fax: +44 (0) 1553 761113
Email: CoopersalesUK@kaydon.com

USA, Canada, Mexico and Central America

The Cooper Split Roller Bearing Corp.
5365 Robin Hood Road | Suite B | Norfolk
VA 23513 | USA

Tel: +1 (1) 757 460 0925
Fax: +1 (1) 757 464 3067
Email: CoopersalesUS@kaydon.com

Germany

Cooper Geteilte Rollenlager GmbH.
Postfach 100 423 | Oberbenrader Str. 407
47704 Krefeld | Germany

Tel: +49 (0) 2151 713 016
Fax: +49 (0) 2151 713 010
Email: CoopersalesDE@kaydon.com

People's Republic of China

Cooper Bearings Group Beijing
Room 909 | Canway Building Tower 1
No 66, Nanlishi Road | Xicheng District
Beijing | PRC 100045

Tel: +86 (0) 10 68080803
+86 (0) 10 68080805
+86 (0) 10 68080806
Fax: +86 (0) 10 68080801
Email: CoopersalesCN@kaydon.com

Australia

Cooper Bearings Group
PO BOX 241 | Kelmscott
Western Australia | 6991

Tel: +61(0) 8 93979990
Fax: +61(0) 8 93979990
Email: CoopersalesAU@kaydon.com



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