



SPLIT CYLINDRICAL ROLLER BEARING CATALOG

TIMKEN

Warnings and Cautions



WARNING

Failure to observe the following warnings could create a risk of death or serious injury.

Proper maintenance and handling practices are critical. Always follow installation instructions and maintain proper lubrication.

Overheated bearings can ignite explosive atmospheres. Special care must be taken to properly select, install, maintain, and lubricate housed unit bearings that are used in or near atmospheres that may contain explosive levels of combustible gases or accumulations of dust such as grain, coal, or other combustible materials.



CAUTION

Failure to follow these cautions may result in property damage.

Do not use damaged housed units.

When fitting the inner ring there should be an equal gap at each joint. If there are no gaps do not proceed.

NOTE

Do not use excessive force when mounting or dismantling the unit.

Follow all tolerance, fit, and torque recommendations.

Ensure proper alignment.

Never weld housed units.

Do not heat components with an open flame.

Do not operate at bearing temperatures above 250° F (121° C).

Never interchange components between completed bearing assemblies.

Never use a hammer and steel bar on a bearing for installation or removal. Use only a brass bar or a soft-headed mallet.

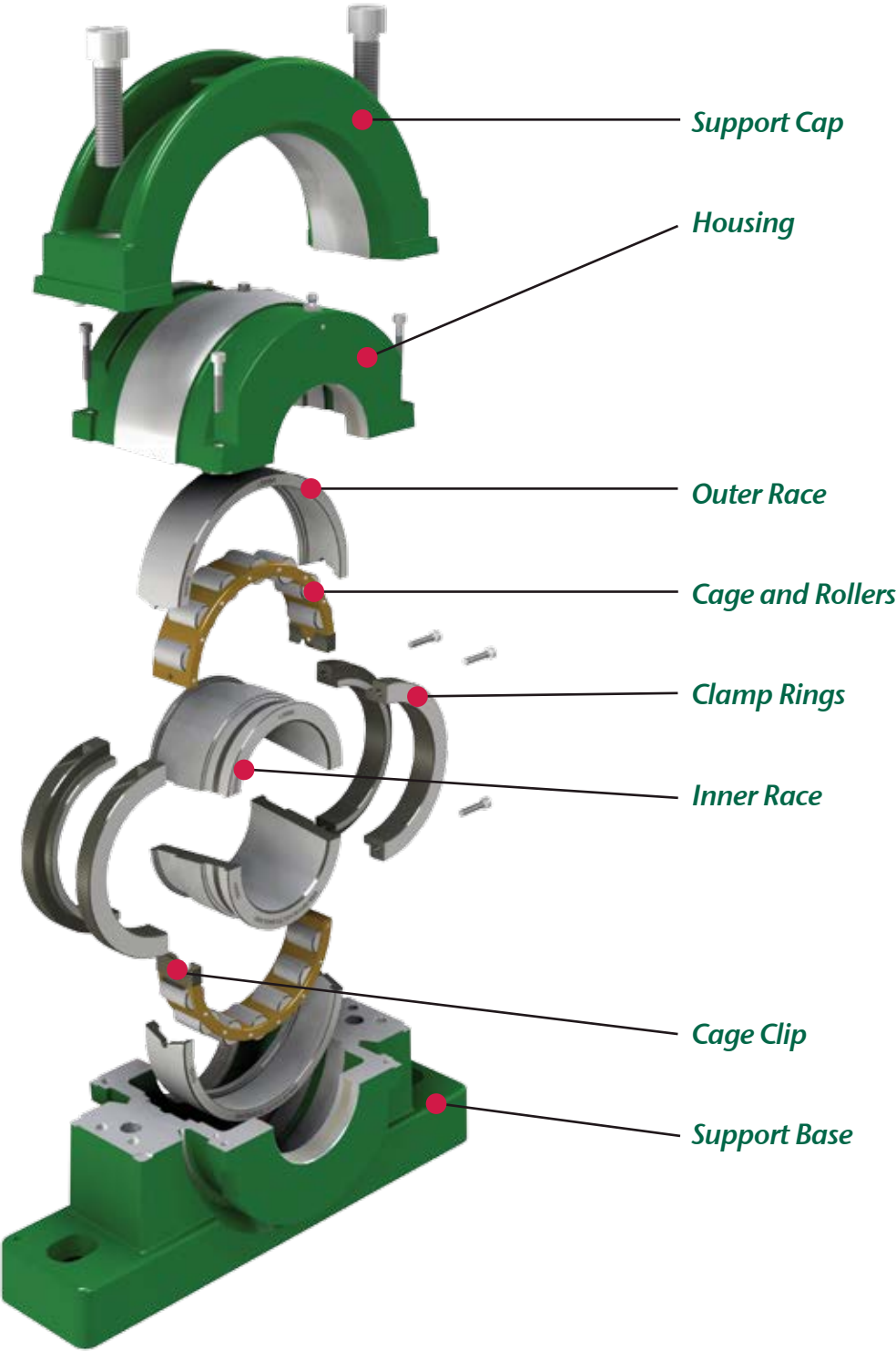
Consult your equipment designer or supplier for installation and maintenance instructions.

Warnings for this product line are in this catalog and posted on <http://www.timken.com/legal-notices/>

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Standard Unit Anatomy



Introduction

Taking the Initiative

In today's demanding industrial environment, specialist technology is, more than ever, key to improved efficiency, productivity and ultimately profitability. Timken® Revolve, is increasingly seen as a product brand, which routinely challenges technological boundaries.

Rapid response and flexibility are provided from a production facility manufacturing not only split cylindrical roller bearing assemblies but also cutting edge products for aerospace and motor sport. The unique relationship between manufacturer and distributors combined with innovative cellular manufacturing and modular stocking offer unparalleled availability.

From concept to design, design to production, and then throughout the life cycle of the unit no other split bearing manufacturer works so hard to exceed your expectations.

Performance

Timken Revolve products have been designed and developed to maximize service life and minimize maintenance effort.

Timken Revolve bearings have machined brass cages with unique single piece clips as standard, rolling elements are profiled to minimize damaging edge stresses and provide optimum rolling contact.

All supports and housings incorporate pry slots and doweled machined joints for easy separation. Supports are manufactured from high strength cast iron and feature double webs and thick sections; product life is thus enhanced due to high rigidity and inherent strength.

Innovation in Service

Producing products that push the boundaries of performance is only the beginning. Timken recognizes that users and specifiers of split cylindrical roller bearings demand logistical, technical and after sales support.

Experienced application engineering support assists customers with concepts through consultation, commissioning, training, supply and post installation support.

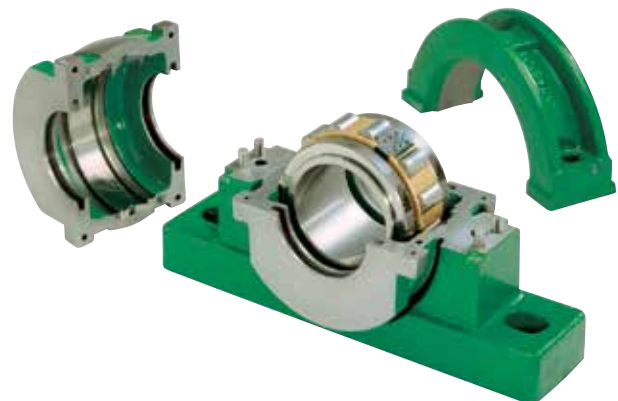
Regional inventory provide excellent availability of product in the right place at the right time.

Innovation in application

The benefits of totally split to the shaft bearing assemblies are long established, subsequent savings in production and maintenance are well documented.

However, split cylindrical roller bearings are today being selected for an ever-wider range of applications. Additional features and benefits available from the split cylindrical roller bearing range allow our products to run faster, take higher loads at higher temperatures and in increasingly hostile environments.

Optimization of plant efficiency is the goal of today's maintenance engineer. The application of reliable products offering real savings, derived from increased mean time between failures, which widens periods between planned shutdowns, and the elimination of unplanned downtime are becoming a reality when utilizing advanced components accommodating split options.



Advantages of Split Cylindrical Roller Bearings

Split cylindrical roller bearings are essential in applications involving limited access and are highly cost effective where down time due to change-outs results in significant production losses.

Split cylindrical roller bearings are completely split to the shaft. Installation and inspection times are therefore dramatically less than for solid bearings. Additionally the time saved and costs eliminated by not having to remove ancillary equipment results in even higher potential savings.

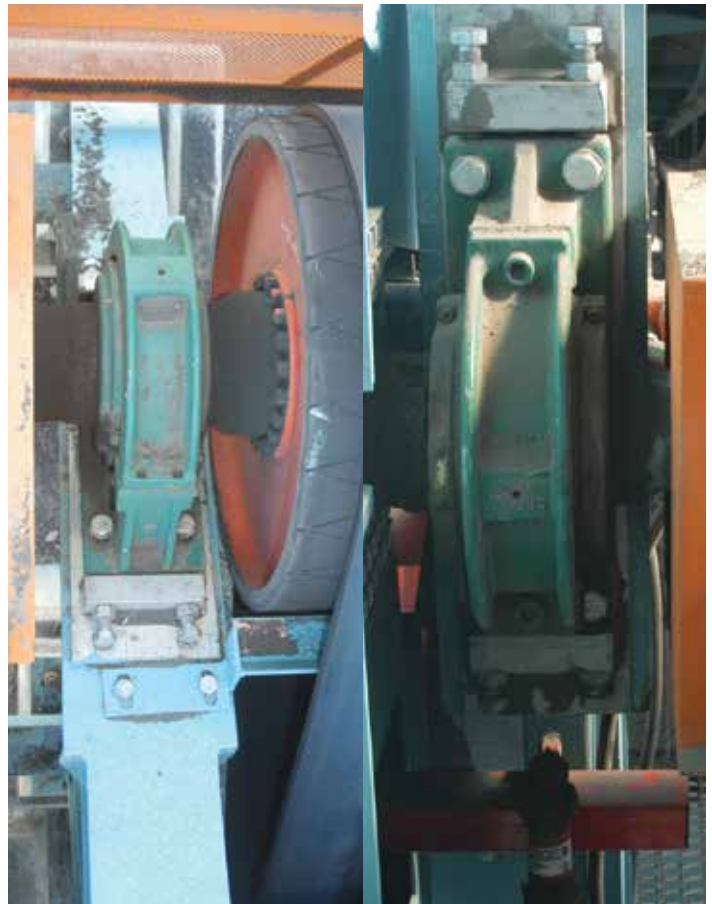
Inspection Simplified

No matter what the size or type of split cylindrical roller bearing, inspection is straight forward. Simply remove the support cap and the top half of the housing and all bearing parts become visible and accessible.

As a result, a considerable numbers of man-hours can be saved during planned maintenance, further adding to the potential cost savings available.

Short Term Payback, Long Term Benefits.

Though it would be easy to cite examples where the use of split bearings results in spectacular savings, the truth of the matter is that savings of a significant amount can be made in almost any trapped application. Even modest savings can be enough to justify the use of split bearings. Depending on the application, down times for replacement of split bearings can be a small fraction of those required for solid bearings. This yields savings in both maintenance man-hours and lost production.



When such cost savings are taken into account at the bearing selection stage, the case for Revolve split cylindrical roller bearings becomes irrefutable.

Further Savings

In situations where Revolve bearings are used to replace other split bearing brands, the potential for savings exist. Through the use of machined brass cages as standard, inclusion of profiled rolling elements and the incorporation of high-grade materials for housings and supports, Revolve bearings have the capability to extend service life leading to a reduction in bearing consumption.

Features and Benefits

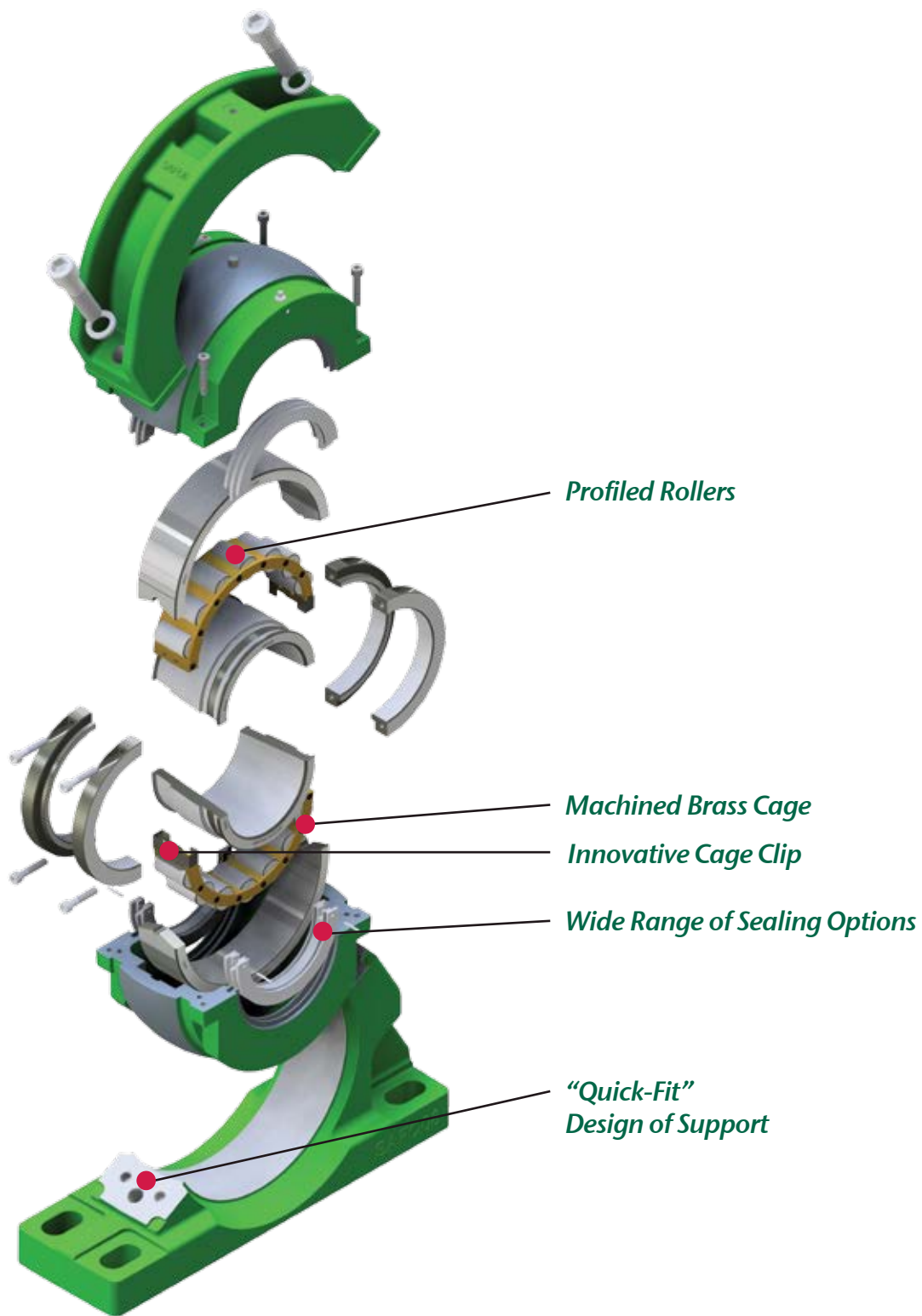
Features

Benefits

All components are totally split to the shaft	Quick and easy installation. Substantial reduction in downtime compared to replacement of solid bearings
Support caps and housing halves are quickly removed	Easy visual inspection to assess the condition of the bearing (during planned maintenance)
Replacement bearing interchangeability with existing housing	Simple and economic bearing replacement
Unit accommodates initial misalignment	Simplifies installation of associated equipment
Machined brass cage as standard	Enhanced ability to accommodate higher speeds and temperatures
Innovative cage clip design	Clips retained on one cage half during assembly and disassembly
ASTM 48A – Grade 35 Cast Iron	Strength and durability
Profiled rolling elements	Minimizes damaging edge stresses



Technical Features

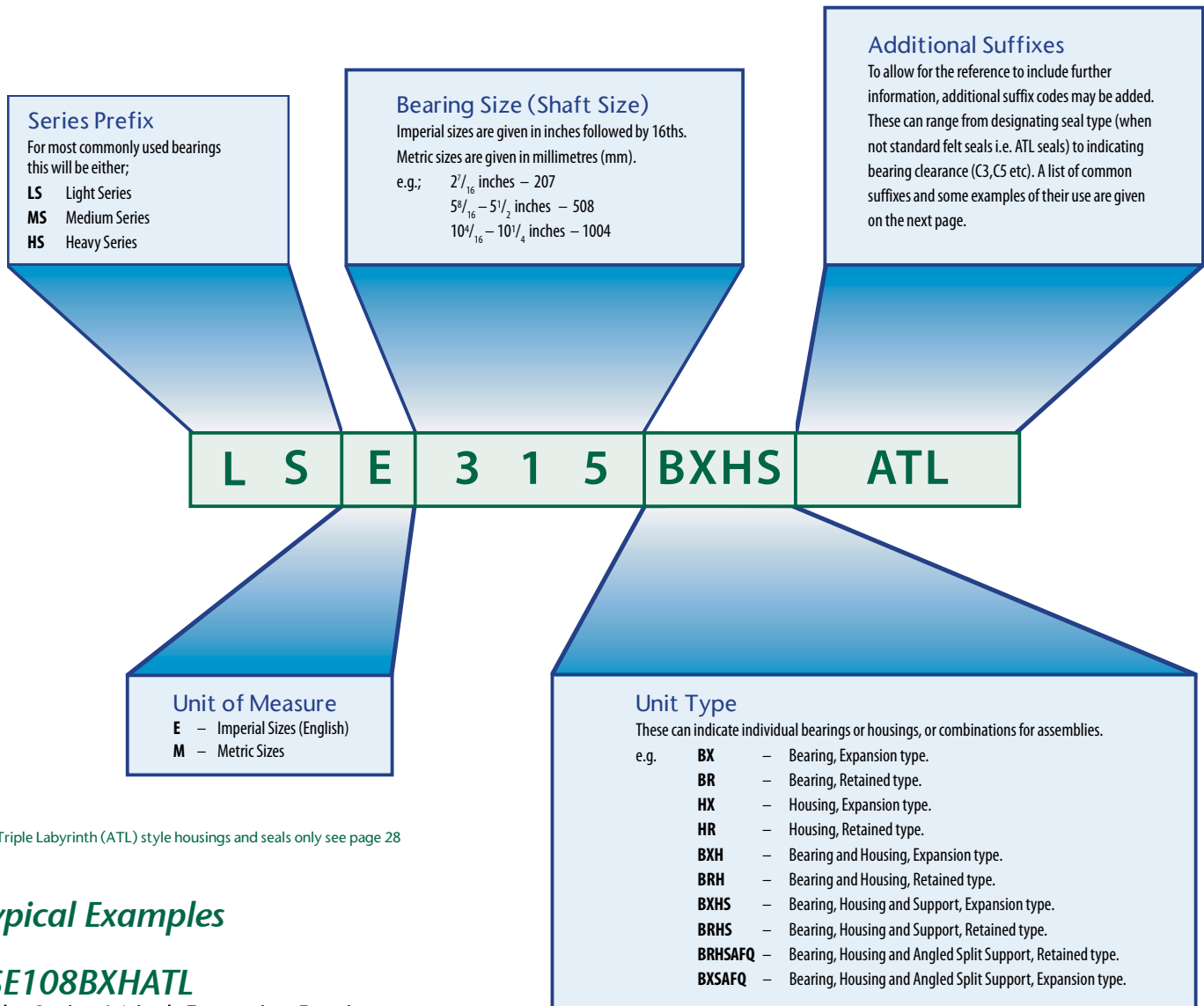


Industry Applications

Application	Target Markets													
	Bulk Terminals	Cement and Agg.	Construction Materials	Food and Bev.	Forest Products and Timber	Grains and Malts	Metals	Marine	Mining and Quarrying	Power Generation	Pulp and Paper	Refining and Petrochem	Sugar	Water Treatment
Ancillary Equipment														
Crankshafts		X					X		X					
Fans and Blowers		X	X	X	X	X	X		X	X	X		X	
Gearboxes and Transmissions	X	X		X	X	X	X		X	X	X		X	
Heat Exchangers									X					
Motors		X					X		X	X	X			
Pumps and Pump Drives		X						X	X	X				X
Mechanical Handling														
Continuous Casters							X							
Conveyors	X	X	X	X	X	X	X		X	X	X		X	
Cooling Beds							X							
Elevators	X	X	X			X							X	
Line Shafting			X				X				X			
Lumber Tables and Stackers					X						X			
Overhead Cranes			X				X				X			
Screw Conveyors		X	X			X				X	X	X		X
Bucket Wheels	X						X		X	X				
Stacker Reclaimers	X						X		X	X				
Process Equipment														
Ball Mill Drives		X	X				X		X	X				
Ball Mill Trunnions		X	X				X		X	X				
Cane Knives and Slicers													X	
Crushers		X	X				X		X	X				
Drum Drier Trunnions		X										X	X	
Dryer Rolls											X			
Kiln and Mill Carrier Rollers		X							X				X	
Kiln and Mill Drives		X										X	X	
Mixer Drives		X	X	X		X					X	X		
Press Rolls			X								X			
Rotary Screens											X			X
Shredders									X	X			X	
Sugar Diffuser Drives													X	
Sugar Diffuser Under Rolls													X	
Washers		X		X					X		X		X	
Other Applications														
Hydro Electric Turbines										X				
Rotary Biological Contactors														X
Mine Winders										X				
Marine Propulsion Shafts								X						
Water Treatment Screens											X			X
Water Treatment Aerators														X

Quick Reference Guide

In order to provide our customers with clear and concise labeling, Timken has endeavored to keep things simple when creating references. The following should cover the majority of ordering situations however, as always, your local Timken sales engineer will be pleased to provide further assistance if required.



For Triple Labyrinth (ATL) style housings and seals only see page 28

Typical Examples

LSE108BXHATL

Light Series 1½ inch Expansion Bearing with Housing and ATL Seals

LSE407BR

Light Series 4⁷/₁₆ inch Bearing Retained

MSE200BXHSATL

Medium Series 2 inch Expansion Bearing with Housing and with ATL Seals

LSE700BXHSAFQATL

Light Series 7 inch Bearing, Housing and Angled Split Support Retained type with ATL Seals

MSE815BRHSKPS

Medium Series 8¹⁵/₁₆ inch Bearing, Housing and Support, Retained type with Kevlar Seals

LSE315BXHSATL

Light Series 3¹⁵/₁₆ inch Bearing, Housing and Support, Expansion type with ATL Seals.

Series Prefixes

LSE	Light Series Imperial
LSM	Light Series Metric
MSE	Medium Series Imperial
MSM	Medium Series Metric
HSE	Heavy Series Imperial
HSM	Heavy Series Metric
XSE	Tubular Strander Series Imperial
XSM	Tubular Strander Series Metric
CCE	Water Cooled Series Imperial
CCM	Water Cooled Series Metric

Unit Type References

BX	Expansion Bearing
BR	Retained Bearing
HX	Expansion Housing
HR	Retained Housing
HG	Hanger Support
BXH	Expansion Bearing with Housing
BRH	Retained Bearing with Housing
BXHG	Expansion Bearing with Hanger
BXHS	Expansion Bearing with Housing and Support
BRHS	Retained Bearing with Housing and Support
BXHF	Expansion Bearing with Housing and Flange
BRHF	Retained Bearing with Housing and Flange
BXHTT	Expansion Bearing with Housing and Tension Type Take Up
BRHTT	Retained Bearing with Housing and Tension Type Take Up
BXHTP	Expansion Bearing with Housing and Pull Type Take Up
BRHTP	Retained Bearing with Housing and Pull Type Take Up

Examples of Additional Suffixes

AF	Axial Float
AP	Air Purge
ATL	Aluminium Triple Labyrinth
BEM	Base Ends Machined
BL	Brass Label
BOEC	Bolt On End Cover
C2,C3,C5	Bearing Clearance (ISO)
CH	Inner Race Bore Chamfer with Size e.g. CH6mm, CH11mm
E0302	Specifications for Marine Applications
EC	End Cover
ECTL	End Cover for Triple Labyrinth Bore
ES	Electrical Specification
FC	Full Compliment of rollers
GE	Grease Escape
HTPS	High Temperature Packing Seal
LSR	Laminar Seal Rings
OB	Overbored with Size e.g. OB160mm
OTL	Overbored Triple Labyrinth Seal
RSS	Nitrile Single Lip Seal
S1,S2,S3	Designation for Tempered Bearings (ISO)
SFO	Swivel Fit, Zero Clearance
SLO	Single Lipped Outer
SLUB	Spherical Lubrication
SNQ	SN Angled Split
TE	Temperature Probe Hole
WSRP	Single Lip Seal with Garter Spring and Retaining Plate
XAR	Extended Antirotation Pin

Light Series

inch	mm	Support	Flange	Take Ups
1 $\frac{1}{16}$ to 1 $\frac{1}{2}$	35 to 40	S01	F01	TT01 TP01
1 $\frac{1}{8}$ to 2	45 to 50	S02	F02	TT02 TP02
2 $\frac{1}{16}$ to 2 $\frac{1}{2}$	60 to 65	S03	F03	TT03 TP03
2 $\frac{1}{8}$ to 3	70 to 75	S04	F04	TT04 TP04
3 $\frac{1}{16}$ to 3 $\frac{1}{2}$	80 to 90	S05	F05	TT05 TP05
3 $\frac{1}{8}$ to 4	100 to 105	S06	F06	TT06 TP06
4 $\frac{1}{16}$ to 4 $\frac{1}{2}$	110 to 115	S07	F07	TT07 TP07
4 $\frac{1}{8}$ to 5	120 to 130	S08	F08	TT08 TP08
5 $\frac{1}{16}$ to 5 $\frac{1}{2}$	135 to 140	S09	F09	TT09 TP09
5 $\frac{1}{8}$ to 6	150 to 155	S10	F10	TT10 TP10
6 $\frac{1}{16}$ to 6 $\frac{1}{2}$	160	S11	F11	
6 $\frac{1}{8}$ to 7	170 to 180	S12	F12	
7 $\frac{1}{4}$ to 8	190 to 200	S13	F13	
8 $\frac{1}{2}$ to 9	220 to 230	S14	F14	
9 $\frac{1}{2}$ to 10	240 to 250	S15	F15	
10 $\frac{1}{2}$ to 11	260 to 280	S16	F16	
11 $\frac{1}{2}$ to 12	300	S17		
12 $\frac{1}{2}$ to 13	320 to 330	S18		
14	340 to 350	S19		
15	360 to 380	S20		
16	400	S21		
17	420	S22		
18	440 to 460	S23		
19	480	S24		
20	500	S25		
21	530	S26		
22	560	S27		
23	580	S28		
24	600	S29		

Medium Series

inch	mm	Support	Flange	Take Ups
1 $\frac{1}{16}$ to 2	45 to 50	S03	F03	TT03 TP03
2 $\frac{1}{8}$ to 2 $\frac{1}{2}$	60 to 65	S04	F04	TT04 TP04
2 $\frac{1}{4}$ to 3	70 to 75	S05	F05	TT05 TP05
3 $\frac{1}{16}$ to 3 $\frac{1}{2}$	80 to 90	S06	F06	TT06 TP06
3 $\frac{1}{8}$ to 4	100 to 105	S07	F07	TT07 TP07
4 $\frac{1}{16}$ to 4 $\frac{1}{2}$	110 to 115	S08	F08	TT08 TP08
4 $\frac{1}{8}$ to 5	120 to 130	S10	F10	TT09 TP09
5 $\frac{1}{16}$ to 5 $\frac{1}{2}$	135 to 140	S30	F30	TT30 TP30
5 $\frac{1}{8}$ to 6	150 to 155	S31	F31	TT31 TP31
6 $\frac{1}{16}$ to 6 $\frac{1}{2}$	160 to 170	S32	F32	
6 $\frac{1}{8}$ to 7	180	S33	F33	
7 $\frac{1}{4}$ to 8	190 to 200	S34	F34	
8 $\frac{1}{2}$ to 9	220 to 230	S35	F35	
9 $\frac{1}{2}$ to 10	240 to 260	S36	F36	
10 $\frac{1}{2}$ to 11	280	S37	F37	
11 $\frac{1}{2}$ to 12	300	S38	F38	
12 $\frac{1}{2}$ to 13	320 to 330	S39		
14	340 to 360	S40		
15	380	S41		
16	400	S42		
17	420	S43		
18	440 to 460	S44		
19	480	S45		
20	500	S46		
21	530	S47		
22	560	S48		
23	580	S49		
24	600	S50		

Heavy Series

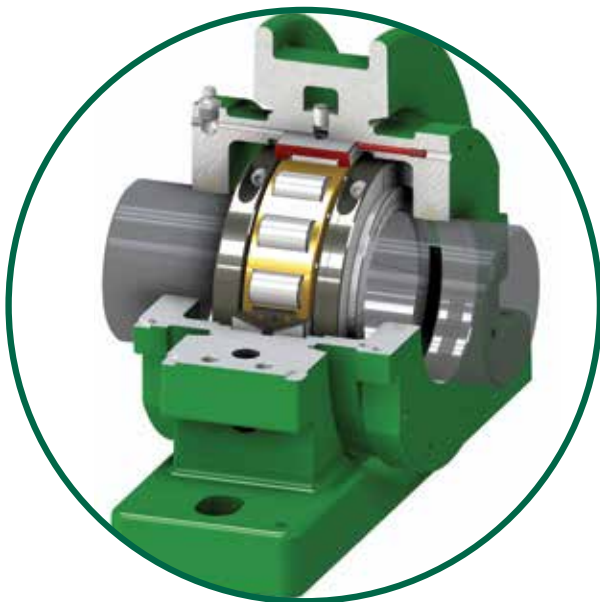
inch	mm	Support	Flange
3 $\frac{1}{16}$ to 4	100 to 105	S54	F54
4 $\frac{1}{16}$ to 4 $\frac{1}{2}$	110 to 120	S55	F55
4 $\frac{1}{8}$ to 5	125 to 130	S56	F56
5 $\frac{1}{16}$ to 5 $\frac{1}{2}$	135 to 140	S57	F57
5 $\frac{1}{8}$ to 6	150 to 155	S58	F58
6 $\frac{1}{16}$ to 6 $\frac{1}{2}$	160 to 170	S59	F59
6 $\frac{1}{8}$ to 7	180	S60	F60
7 $\frac{1}{4}$ to 8	190 to 200	S61	F61
8 $\frac{1}{2}$ to 9	220 to 230	S62	F62
9 $\frac{1}{2}$ to 10	240 to 260	S63	F63
11	280	S83	F64
12	300	S65	F65
13	320 to 330	S66	
14	340 to 360	S86	
15 to 16	380 to 400	S68	
17	420 to 440	S89	
18	460	S90	
19	480	S94	
20	500	S94	
21	530	S94	
22	560	S94	
23	580	S95	
24	600	S95	



Bearing Types

Retained Type Bearings (BR)

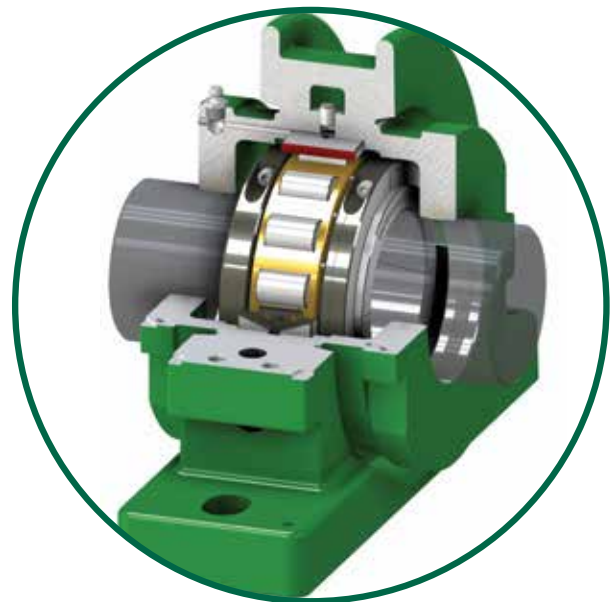
This bearing has integral flanges on the outer race to provide a surface for axial load. This axial load is accommodated on the inner race via the hardened clamp rings, which both align the inner race halves and provide roller guidance. In larger bearings the inner race is manufactured with integral ribs for roller guidance and axial load.



This type of bearing will locate the shaft axially as well as provide a means for taking axial load. The retained outer race must be fixed sideways against one of the housing groove shoulders using the pins and screws provided. Only one retained unit should be mounted on any particular shaft. Additional care should be taken when mounting split cylindrical roller bearing unit on shafts using other, non-split types of bearings (ball, cylindrical and spherical roller, etc.) to ensure there are no other locating bearings used.

Expansion Type Bearings (BX)

This bearing is designed for radial loads only. As in the retained type bearing, the rollers are guided on the inner race by the hardened shoulders of the clamping rings.



During expansion or contraction of the shaft, rollers are free to move across the outer race offering virtually no resistance to axial movement. Limits for the amount of axial movement are given in the Assembly and Maintenance section.

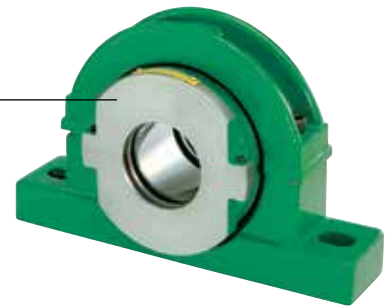
Support Types

Support Units

Revolvo bearings and housings may be mounted in a variety of support units according to the application and loading constraints. A number of variants are available as standard types with other unit types available on request. Timken offers a design and manufacturing facility to produce custom units to cover more specialized applications.

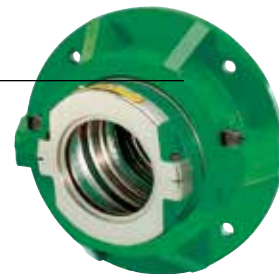
Pillow Block (Support) Type

This is by far the most popular method for mounting Revolve units. These supports are manufactured from high strength, ASTM 48A grade 35 cast iron. This, combined with the robust design, provides a stable, rigid base, allowing the split bearing fitted to give optimum performance.



Flange Units

In applications where bearings need to be mounted against horizontal or vertical faces, Revolve flange units provide a simple means of achieving this goal. Again, the use of ASTM 48A Grade 35 cast iron ensures a durable unit.



Hanger Units

A compact unit commonly used for supporting screw conveyors or similar equipment.



Take-up Units

These sliding units can be used to effectively tension conveyor and elevator systems. Both pull and push types are available.

Series Comparison

Comparison

Timken offers a range of bearing series, providing solutions for a wide range of operating conditions. Light Series, Medium Series and Heavy Series offer an increasing ability to accommodate higher loads. As the series increases the speed capability reduces.

Light Series

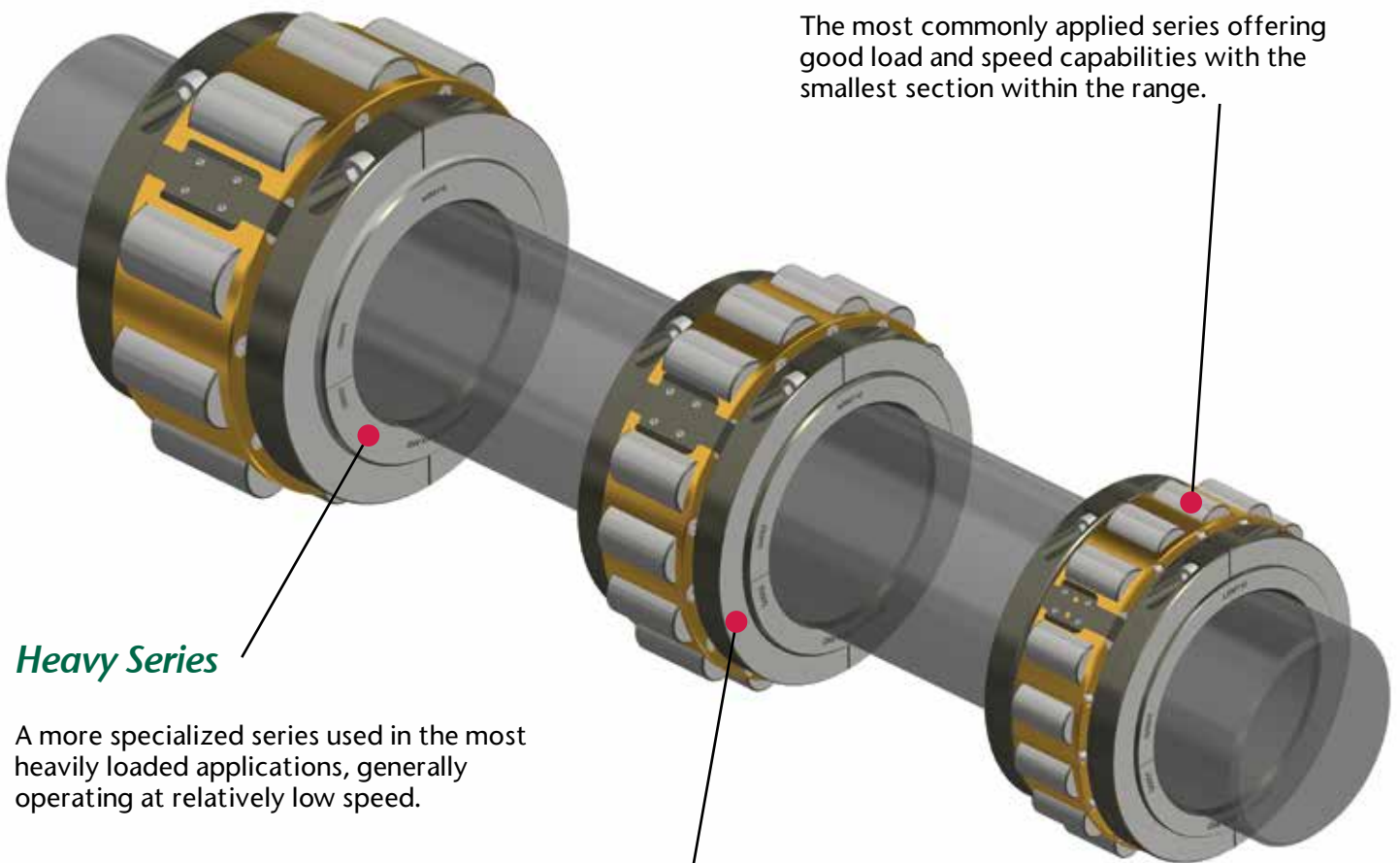
The most commonly applied series offering good load and speed capabilities with the smallest section within the range.

Heavy Series

A more specialized series used in the most heavily loaded applications, generally operating at relatively low speed.

Medium Series

An increased section offers additional load carrying capacity. This series is typically used in arduous, heavily loaded applications where shock load and vibration may be present.



Bearing Selection

Dynamic Loading

Selection of Revolve split cylindrical roller bearings must take into account the effects of both radial and axial loads. These loads must be considered independently of each other.

Radial Load Considerations

The basic rating life of a bearing can be derived from the formula laid down in ISO 281:2007

$$L_{10} = (C/P)^{10/3} \text{ (Millions of Revolutions)} \quad - \text{ (i)}$$

In the majority of cases where the speed remains constant then the life can be expressed in hours from the formula

$$L_{10}h = \frac{(10^6) \times L_{10}}{60 \times n} \quad - \text{ (ii)}$$

Substituting – (i)

$$L_{10}h = \frac{(10^6) \times \left(\frac{C}{P} \right)^{10/3}}{60 \times n} \quad - \text{ (ii)}$$

L_{10} = Basic Rating Life (90% reliability),
10⁶ Revolutions

$L_{10}h$ = Basic Rating Life (90% Reliability),
Hours

C = Bearing Dynamic Capacity, kN

n = Speed, min⁻¹

P = Equivalent Bearing Load

This calculation assumes for the load components considered for an individual bearing, that the shaft system is a beam resting on rigid, movement free supports. Elastic deformations in the bearing, housing or machine structure are not taken into account.

Equivalent Load “P”

As previously stated radial and axial loads must be considered separately for split cylindrical roller bearings. For the calculation of theoretical life only radial loads are considered.

Fr = Radial Loads

The value of Fr is that calculated from standard mechanical formula, the impact of additional forces resulting from external influences must also be considered.

Load Condition	Factor Fz
Steady	1.0 to 1.3
Light Shock or Out of Balance	1.3 to 2.0
Heavy Shock or Vibration	2.0 to 3.0

Fz = Factor

Under the influence of the above conditions

$$P = F_r \times F_z$$

The required theoretical bearing life is based upon a number of factors, including reliability, accessibility and service considerations. Generally life values should be as follows:

Guide to Life Values	
Machine Used Intermittently	500 to 2,000 hours
Occasional Use	5,000 to 10,000 hours
Normal Operation	20,000 to 50,000 hours
Continuous Operation	75,000 to 100,000 hours
High Reliability	> 100,000 hours

Adjusted Life Calculation

The L10 fatigue life calculation is based upon the rating life of a large number of identical bearings expressed as a number of revolutions operating at a constant speed. This rating life is reached or exceeded by 90 percent of these before the first evidence of fatigue appears.

The above definition applies to bearings operating under optimum conditions. Variations in operating conditions will lead to changes in the life of these bearings.

ISO 281 allows for an adjusted life calculation:

$$L_{hna} = a_1 \times a_2 \times a_3 \times L_{10h}$$

Where

L_{hna} = Adjusted Life

L_{10h} = Rating Life in Hours

a_1 = Life adjustment factor, failure probability other than 10%

a_2 = Life adjustment factor, material properties

a_3 = Life adjustment factor, operating conditions

a_1 Factor

In cases where a failure rate other than 10 percent is required, then an a_1 factor as in the table below should be applied.

Table a_1

	Adjustment Factor					
Failure Probability %	10	5	4	3	2	1
Factor a_1	1.00	0.62	0.53	0.44	0.33	0.21

a_2 Factor

This factor takes into account the material properties.

a_3 Factor

The a_3 factor considers all operational parameters that influence fatigue life. The most obvious of these is lubrication. The highest life values are achieved where a state of hydrodynamic lubrication exists, in this state no metal to metal contact occurs.

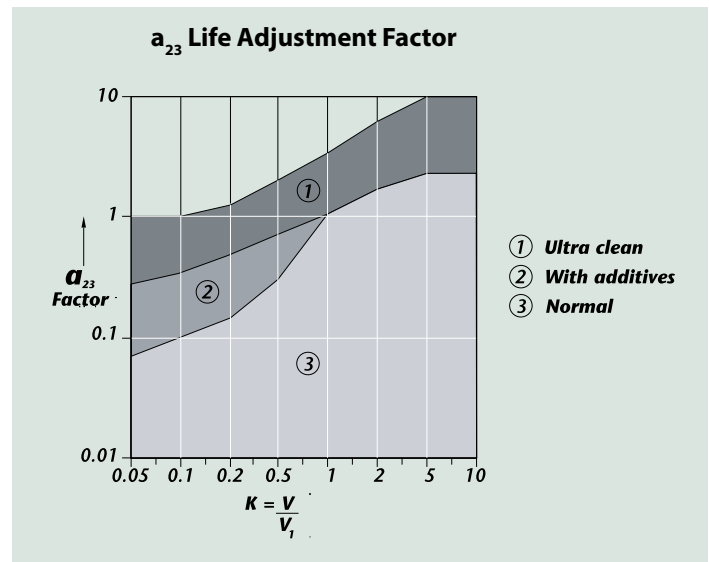
Decreasing effectiveness of lubricant due to decreasing film thickness or effects of contamination will reduce the a_3 factor.

Due to the interrelationships between materials adjustment factor a_2 and operating adjustment factor a_3 , a common factor a_{23} is frequently used.

a_{23} Factor

$$a_{23} = a_2 + a_3$$

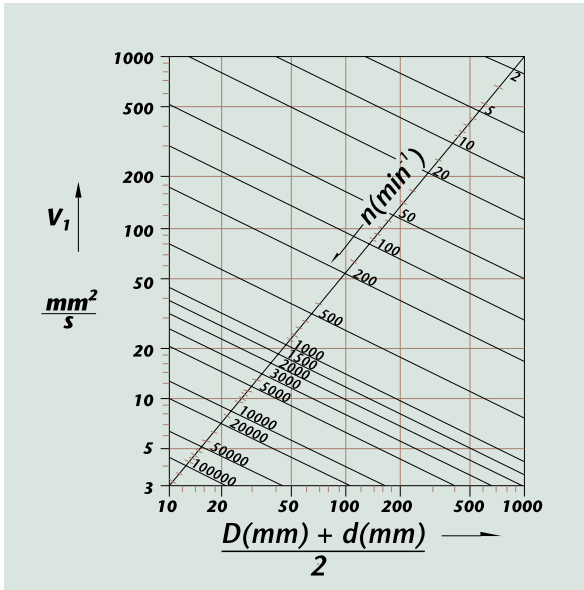
The a_{23} factor can be taken from fig 1:



V_1 = Rated Viscosity (Depends on bearing size and operating speed)

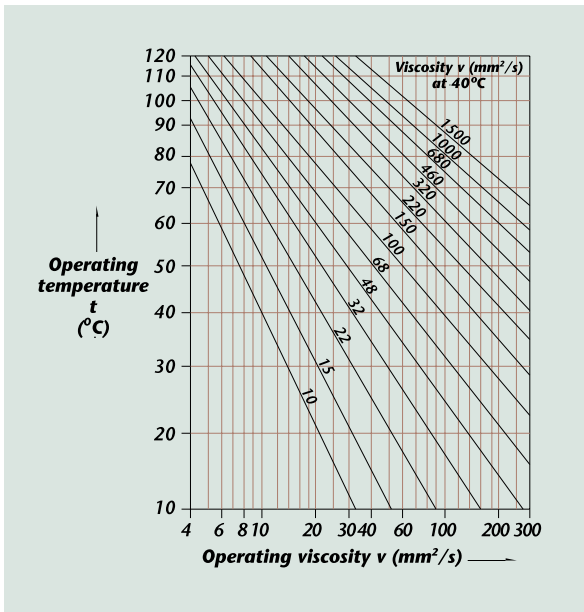
V = Operating Viscosity (Depends on original viscosity and operating temperature)

Values for V and V_1 are obtained from the following graphs:



Where D = Bearing outside diameter
 d = Bearing Bore
 n – Shaft speed (RPM)

V_1 is then read off the vertical axis.



Using the operating temperature and nominal lubricant viscosity, the value for operating viscosity, V , is read from the horizontal axis.

Static Loading

In situations where bearings rotate slowly (<10 rpm), oscillate slowly, are stationary for prolonged periods, or subject to high shock loads, it is important to check that no permanent deformations occur between rolling elements and raceways at peak load.

The basic static load rating is defined in ISO 76:1987 and refers to the contact stress at the centre of the most heavily loaded rolling element/raceway contact area. For roller bearings this value is 4000 Mpa. This will result in a permanent deformation of 0.0001 of the roller diameter.

The required static load rating can be determined from:

$$C_0 = F_s \cdot P_0$$

C_0 = Basic Static Load Rating

P_0 = Equivalent Static Load

F_s = Static Safety Factor

Guidelines for the Static Safety Factor F_s can be found in the table below:

Nature of Duty	Requirements for Duty		
	Low	Medium	High
Smooth no Vibration	1.0	1.5	3.0
Normal	1.0	1.5	3.5
Heavy	>2.5	>3.0	>4.0

Axial Considerations

Axial Load

Bearing selection, on an axial load basis, must be considered independently from the radial load.

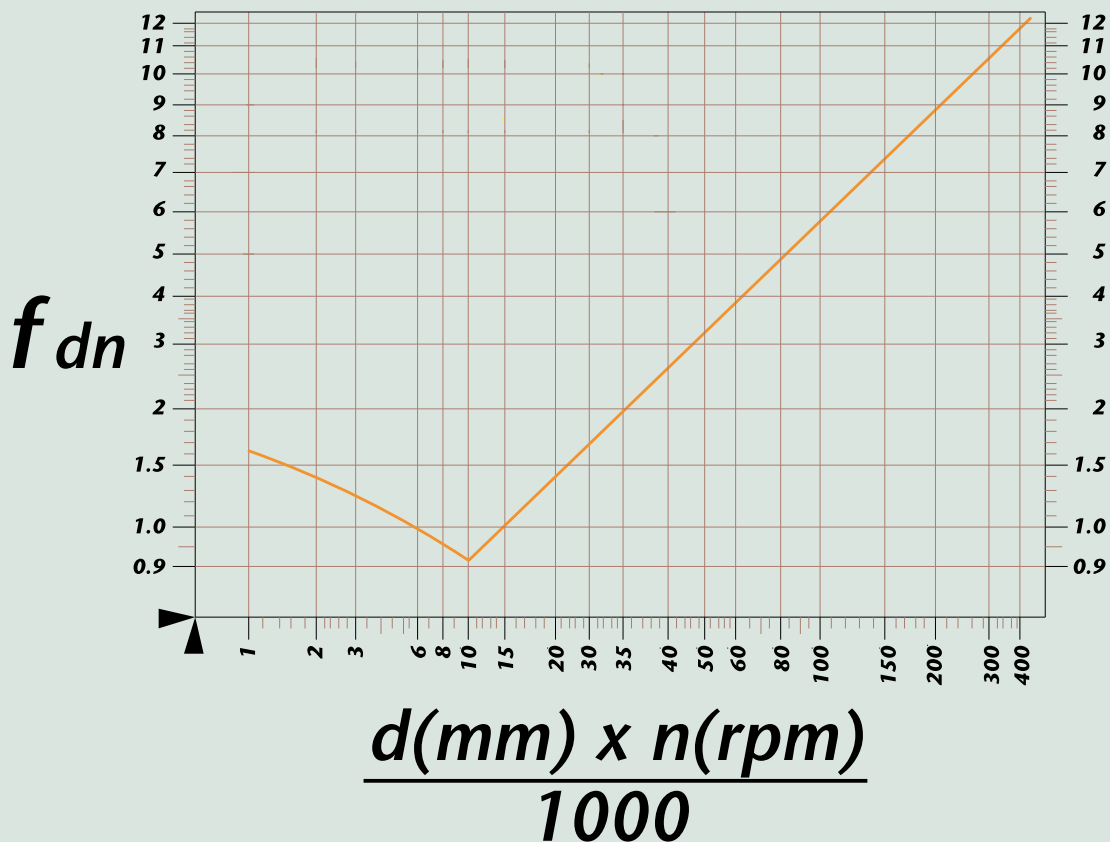
1. Calculate the axial loads acting on the bearing
2. Multiply each load by the appropriate dynamic factor f_z
3. Combine these loads to determine the effective axial load P_a
4. Select a bearing having a C_a value greater than the product of $P_a \times f_{dn}$, $d \cdot n$ is the product of the shaft size in mm and the speed in r.p.m. To determine f_{dn} use the velocity graph below.

Axial Ratings C_a

These ratings are for constant loads with oil or extra pressure greases. If greases without extra pressure additives are applied then the catalog rating must be decreased by 50 percent. In instances where bearings operate at over 50 percent of their catalog speed rating and over 50 percent of their axial load ratings (C_a) then recessed shafts should be considered. Please contact Timken for assistance.

VELOCITY

APPLIES ONLY TO AXIAL LOADS
ON BR RETAINED BEARINGS.
BEARING BORE = d
BEARING R.P.M. = n



Bearing Clearance and Temperature Considerations

Revolvo bearings are manufactured to give an ISO 'CN' clearance as standard. At specific customer request, bearings may be produced with any clearance to suit a particular application. When assessing the requirement for special clearances, it is particularly important to consider the differential temperature between shaft and housing. It should also be noted that an increase in bearing clearance will lead to a small reduction in bearing capacity. For example, typically a C3 clearance will reduce capacity by 5 percent and C5 clearance by 10 percent.

Revolvo bearings can also be produced as C2. This clearance is smaller than CN and is typically used in applications involving shock or reciprocating loads.

Cleanliness of component parts when fitting will have a direct impact on the running clearance of the bearing. This is of particular importance when fitting new bearing into existing cast iron or refitting bearings after maintenance. Special care must be taken to remove build-ups of aged grease and other contaminants in order to avoid reducing the bearing clearance when fitted.

When selecting bearings for use at elevated temperatures, consideration should also be given to the bearings dimensional stability. Revolvo bearings are tempered to give stability up to 284° F (140° C). In order to operate at higher temperatures, bearings must be specially heat-treated. This process will lead to a reduction in capacity as a result of the reduced hardness.

The designations for specially heat-treated bearings are in line with those quoted in ISO standards. The effects of temperature stabilization are detailed in the table shown.

Operating Temperature	392° F 200° C	482° F 250° C	572° F 300° C
Designation	S1	S2	S3
Reduction in Capacity	10%	25%	40%

Support Loads and Bearing Frequencies

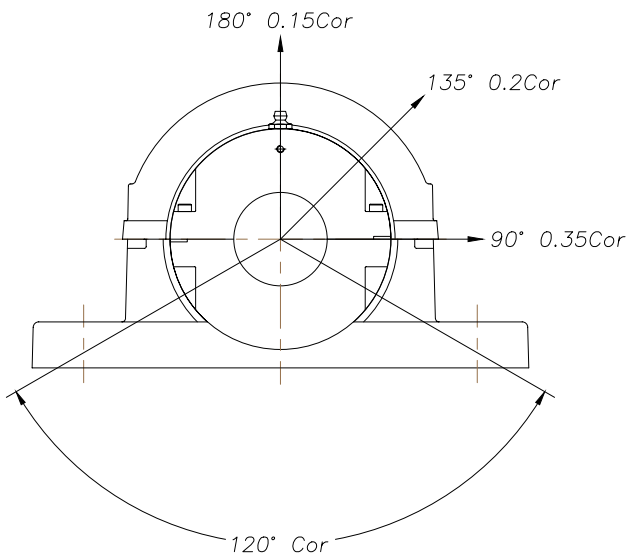
Throughout the Revolve range, the support units have been designed to provide a rigid and stable base to enable the associated bearing to operate to its full potential. With this in mind, all types of Revolve support units are manufactured from ASTM 48A – Grade 35 cast iron and include strengthening webs and ribs to provide a highly robust unit. In order to complement the inherent strength, we recommend that careful consideration be given to the siting and mounting of the support unit.

To determine a support's suitability, one should consider the resultant effective load derived in the bearing selection process and the direction of that load. The diagram shown indicates the area in which the full C_{or} rating of the bearing may be applied. Should the direction of the applied load be outside this area it may be necessary to consider alternative designs or materials. Timken has a proven track record of innovative solutions and would be happy to provide assistance.

Condition monitoring is the collection, storage, comparison and evaluation of data taken to establish the running condition of a machine. The data can be made up of several parameters, for example, electric current, pressure, brush wear, vibration and temperature, to name a few. Vibration analysis is the area of condition monitoring concerned with evaluating and identifying the source of vibration within a system and assessing its severity and hence proposing the required maintenance action.

The individual components of any bearing will exhibit frequency characteristics which will identify it within a system subject to vibration analysis. For Revolve bearings these characteristic frequencies are detailed in the tables opposite. The values given are for a nominal speed of 1 RPM. To obtain the correct frequency required for vibration analysis software, multiply by the speed of rotation in RPM.

For further information on condition monitoring services please contact Timken.



Bearing Frequencies Table (Hz)

Light Series						Medium Series						Heavy Series					
inch	mm	Inner Race	Outer Race	Roller	Cage	inch	mm	Inner Race	Outer Race	Roller	Cage	inch	mm	Inner Race	Outer Race	Roller	Cage
1 ³ / ₁₆	35	5.878	4.122	2.760	0.412												
1 ¹ / ₂	40																
1 ¹ / ₁₆	45	5.852	4.148	2.847	0.415	1 ¹ / ₁₆	45	5.988	4.012	2.432	0.401						
2	50					2	50										
2 ³ / ₁₆	60	6.932	5.068	3.140	0.422	2 ³ / ₁₆	60	7.091	4.909	2.659	0.409						
2 ¹ / ₂	65					2 ¹ / ₂	65										
2 ¹ / ₁₆	70	6.902	5.098	3.252	0.425	2 ¹ / ₁₆	70	7.153	4.847	2.506	0.404						
3	75					3	75										
3 ³ / ₁₆	80	8.017	5.983	3.370	0.427	3 ³ / ₁₆	80	7.091	4.909	2.659	0.409						
3 ¹ / ₂	90					3 ¹ / ₂	90										
3 ¹ / ₁₆	100	8.089	5.911	3.137	0.422	3 ¹ / ₁₆	100	8.205	5.795	2.818	0.414	3 ¹ / ₁₆	100	6.073	3.927	2.222	0.393
4	105					4	105					4	105				
4 ³ / ₁₆	110	9.109	6.891	3.538	0.431	4 ³ / ₁₆	110	8.143	5.857	2.981	0.418	4 ³ / ₁₆	110	5.983	4.017	2.446	0.402
4 ¹ / ₂	115					4 ¹ / ₂	115					4 ¹ / ₂	120				
4 ¹ / ₁₆	120	9.100	6.900	3.569	0.431	4 ¹ / ₁₆	120	8.105	5.895	3.088	0.421	4 ¹ / ₁₆	125	7.114	4.886	2.601	0.407
5	130					5	130					5	130				
5 ³ / ₁₆	135	9.087	6.913	3.612	0.432	5 ³ / ₁₆	135	8.082	5.918	3.157	0.423	5 ³ / ₁₆	135	8.259	5.741	2.690	0.410
5 ¹ / ₂	140					5 ¹ / ₂	140					5 ¹ / ₂	140				
5 ¹ / ₁₆	150	10.159	7.841	3.819	0.436	5 ¹ / ₁₆	150	9.225	6.775	3.188	0.423	5 ¹ / ₁₆	150	7.190	4.810	2.422	0.401
6	155					6	155					6	155				
6 ⁷ / ₁₆	160	10.162	7.838	3.809	0.435	6 ⁷ / ₁₆	160	8.107	5.893	3.083	0.421	6 ⁷ / ₁₆	160	7.159	4.841	2.491	0.403
6 ¹ / ₂	160					6 ¹ / ₂	170					6 ¹ / ₂	170				
6 ¹ / ₁₆	170	12.223	9.777	4.442	0.444	6 ¹ / ₁₆	180	9.192	6.808	3.281	0.425	6 ¹ / ₁₆	175	8.243	5.757	2.727	0.411
7	180					7	180					7	180				
7 ¹ / ₄	190	12.204	9.796	4.515	0.445	7 ¹ / ₄	190	9.119	6.881	3.505	0.430	7 ¹ / ₄	190	8.221	5.779	2.779	0.413
8	200					8	200					8	200				
8 ¹ / ₂	220	12.171	9.829	4.645	0.447	8 ¹ / ₂	220	9.161	6.839	3.372	0.427	8 ¹ / ₂	220	8.102	5.898	3.097	0.421
9	230					9	230					9	230				
9 ¹ / ₂	240	13.154	10.846	5.152	0.452	9 ¹ / ₂	240	10.218	7.782	3.628	0.432	9 ¹ / ₂	240	8.131	5.869	3.013	0.419
10	250					10	260					10	260				
10 ¹ / ₂	260	13.118	10.882	5.319	0.453	10 ¹ / ₂	270	10.162	7.838	3.808	0.435	11	280	9.197	6.803	3.267	0.425
11	280					11	280					11	280				
11 ¹ / ₂	300	13.087	10.913	5.472	0.455	11 ¹ / ₂	300	11.207	8.793	4.082	0.440	12	300	9.192	6.808	3.280	0.425
12	305					12	305					12	300				
12 ¹ / ₂	320	13.028	10.972	5.795	0.457	12 ¹ / ₂	320	12.287	9.713	4.217	0.442	13	320	9.246	6.754	3.132	0.422
13	330					13	330					13	320				
14	340	15.125	12.875	6.182	0.460	14	340	11.202	8.798	4.100	0.440	14	340	10.224	7.776	3.609	0.432
15	350					14	360					14	360				
15	360	16.133	13.867	6.580	0.462	15	380	12.141	9.859	4.769	0.448	15	380	10.250	7.750	3.530	0.431
16	380					15	400					16	400				
16	400	17.150	14.850	6.92	0.464	16	400	12.169	9.831	4.651	0.447	16	400				
17	420					16	400					17	420	11.263	8.737	3.895	0.437
17	420	18.156	15.844	7.319	0.466	17	420	12.195	9.805	4.548	0.446	17	440				
18	440					17	420					18	460	10.170	7.830	3.781	0.435
18	460	19.165	16.835	7.694	0.468	18	440	14.257	11.743	5.122	0.452	18	460				
19	480					18	460					19	480	14.273	11.727	5.057	0.451
19	480	19.166	16.834	7.684	0.468	19	480	14.273	11.727	5.057	0.451	19	480				
20	500	20.177	17.823	8.038	0.469	20	500	15.265	12.735	5.489	0.455	20	500	10.172	7.828	3.773	0.435
21	530					20	500					21	530				
21	530	21.175	18.825	8.479	0.471	21	530	15.249	12.751	5.559	0.455	21	530				
22	560					21	530					22	560	12.174	9.826	4.630	0.447
22	560	22.184	19.816	8.841	0.472	22	560	15.241	12.759	5.597	0.456	22	560				
23	580					22	560					23	580	12.240	9.760	4.378	0.444
23	580	23.254	20.746	8.744	0.472	23	580	16.277	13.723	5.831	0.457	24	600				
24	600					24	600	16.252	13.748	5.951	0.458	24	600				
24	600	23.208	20.792	9.078	0.473												

The above figures are unitary values. For the appropriate frequency, multiply by application RPM.

Shaft Considerations

It is essential that the shaft on to which the bearing is to be mounted has been produced to the correct size and tolerance for the operating conditions. If replacing a bearing in an existing system, the shaft must be checked to establish if any wear or damage has taken place. The table below may be followed for both the manufacture of new shafts and the inspection of existing shafts.

Shaft Considerations					
Shaft Dia.	$dn < 50000$ & $C/P > 10$	$50000 < dn < 150000$ & $C/P > 10$	$50000 < dn < 150000$ & $C/P < 10$	$dn > 150000$	Cylindricity of Shaft
Over - Incl	h9	h8	h7	h6	IT6
0 - 2"	-2.5	-1.5	-1	-0.6	-0.6
0 - 50 mm	-62	-39	-25	-16	-16
2 - 3"	-3	-1.8	-1.2	-0.7	-0.7
50 - 80 mm	-74	-46	-30	-19	-19
3 - 5"	-3.5	-2.1	-1.4	-0.9	-0.9
80 - 120 mm	-87	-54	-35	-22	-22
5 - 7"	-3.9	-2.5	-1.6	-1	-1
120 - 180 mm	-100	-63	-40	-25	-25
7 - 10"	-4.5	-2.8	-1.8	-1.2	-1.2
180 - 250 mm	-115	-72	-46	-29	-29
10 - 12½"	-5.1	-3.2	-2	-1.3	-1.3
250 - 315 mm	-130	-81	-52	-32	-32
12½ - 15½"	-5.5	-3.5	-2.2	-1.4	-1.4
315 - 400 mm	-140	-89	-57	-36	-36
15½ - 19½"	-6.1	-3.8	-2.5	-1.6	-1.6
400 - 500 mm	-155	-97	-63	-40	-40
19½ - 24"	-6.9	-4.3	-2.8	-1.7	-1.7
500 - 600 mm	-175	-110	-70	-44	-44

dn value = shaft size (mm) x rpm
 C = Bearing Dynamic Capacity (Kn)
 P = Equivalent Bearing Load

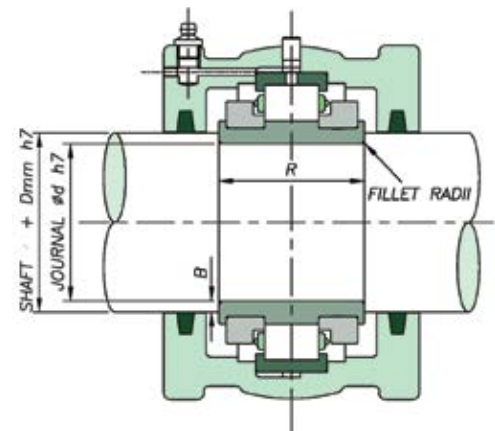
Recess Mounting

In applications where the resultant axial load exceeds 50 percent of the Ca rating for the bearing, the shaft design should include either a recess for bearing seating or grooves to accommodate retaining rings. Such an arrangement should also be considered if the unit is subjected to shock loads, fluctuations in temperature over 212° F or the shaft is vertical.

The dimensions for producing an appropriate recess or for governing the position and size of the retaining rings if used are derived from the following table.

Journal Diameter d	Shoulder Diameter D' inch	Fillet Radii	Shoulder Height B	Recess Width R	Squareness of Abutment Faces
1½" - 3½" 40 - 90 mm	$d + \frac{1}{4}"$	$\frac{3}{64}"$	$\frac{1}{8}"$	$C + 0.004"$ $C + 0.012"$	0.004"
Over 3½" - 6" Over 90 - 150 mm	$d + \frac{3}{8}"$	$\frac{5}{64}"$	$\frac{3}{16}"$	$C + 0.006"$ $C + 0.016"$	0.004"
Over 6" Over 155 mm	$d + \frac{3}{8}"$	$\frac{3}{32}"$	$\frac{3}{16}"$	$C + 0.008"$ $C + 0.02"$	0.004"

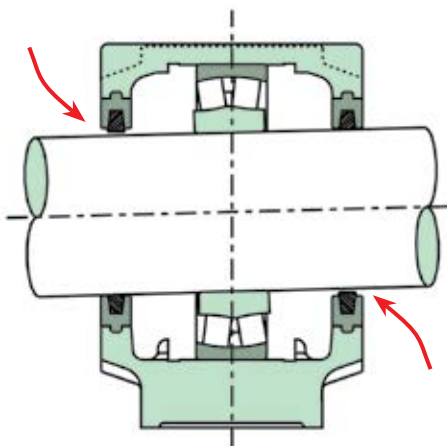
N.B. Width of recesses for standard bearings maybe different from that used for existing products. Please consult Timken for bearings suitable for other recess sizes.



Sealing Arrangements

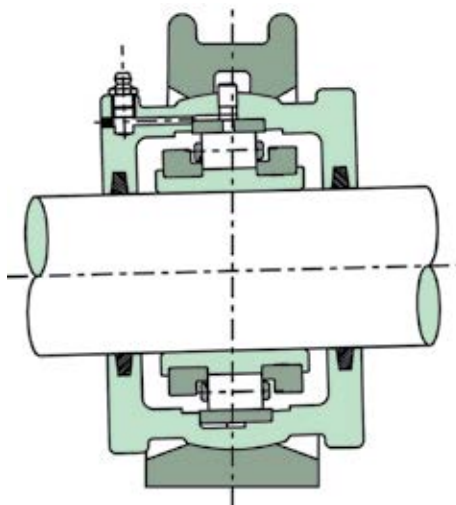
Any bearing, housing and support unit that is not suitably sealed against its surrounding environment is unlikely to achieve its full potential, either in terms of performance or life span. The prevention of ingress of foreign materials and contaminants is of paramount importance and should be considered as early in the selection process as possible.

A wide variety of sealing solutions are available to users of Revolve products as “off the shelf” arrangements. This range will cover the vast majority of operating environments found throughout all industries. To cover those situations where a proprietary arrangement is not suitable, Timken is able to work closely with designers and end users to develop and manufacture custom solutions tailored to specific applications.



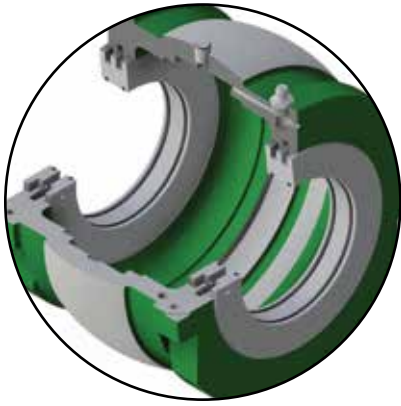
Seal ineffective

Revolve units have inherent advantages over traditional solid bearing arrangements when considering sealing. The spherical location between housing and support ensures that whichever type of seal is used, it will always remain concentric to the shaft.



Seal remains concentric

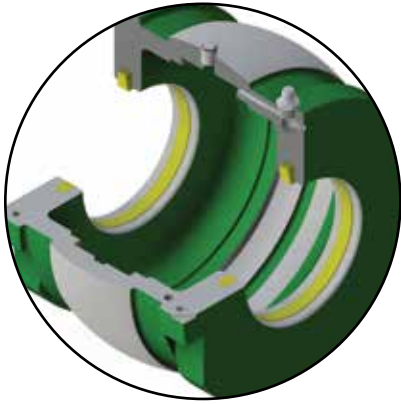




Aluminium Triple Labyrinth

A precision machined, non-contacting seal suitable for both high speed and general applications. Once fitted the seal revolves with the shaft. The seal grips the shaft via two split O-rings fitted to the bore of the seal. Revolve Triple Labyrinth seals are fitted with high temperature Viton cord as standard.

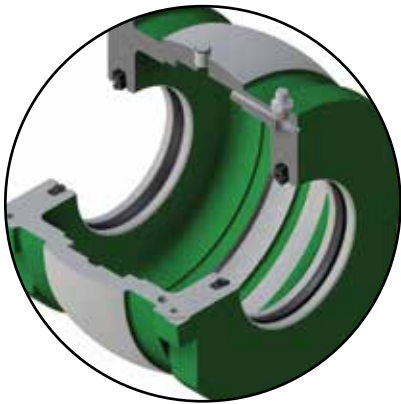
Max Speed	As Bearing
Temp Range	-4° F to + 347° F
Shaft Finish	3.2µm Ra
Suffix Letters	ATL



Kevlar Packing Seal

This recent addition to the sealing range has proved highly effective in areas having the potential for fine particle contaminants such as cement or ash. Please consult Timken for more information.

Max Speed	As bearing
Temp Range	-148° F to + 536° F
Shaft Finish	1.6µm Ra
Suffix Letters	KPS

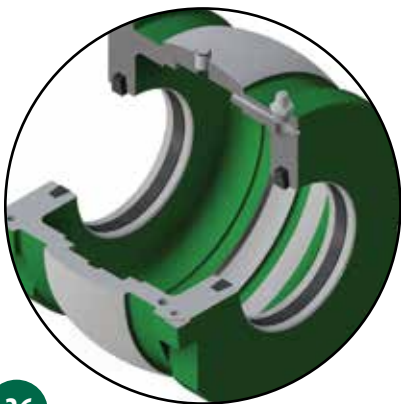


Viton Single Lip

For environments involving moderate liquid splashing but not submersion. Should be avoided where abrasive particles are also present as this can lead to shaft wear in the seal area.

Max Speed	dN(mm)<150000
Temp Range	-30° F to + 400° F
Shaft Finish	3.2µm Ra
Suffix Letters	RSS

Note: "d" shaft diameter, "N" RPM

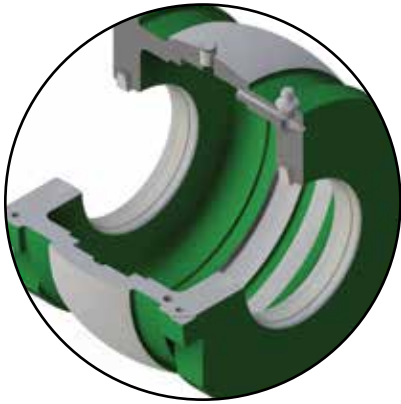


High Temperature Packing

A self-lubricating high temperature packing seal based around PTFE and graphite.

Max Speed	dN(mm)<150000
Temp Range	-76° F to + 572° F
Shaft Finish	1.2µm Ra
Suffix Letters	HTPS

Note: "d" shaft diameter, "N" RPM

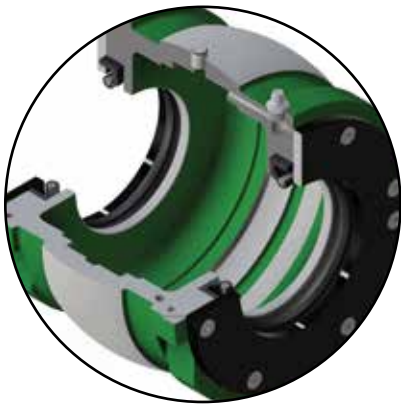


Felt Seal

This type of seal is supplied as standard with all Revolve housings up to a bore size of 12 inch. Consisting of felt strips made from blended fibers. Seals are supplied dry and need to be soaked in oil prior to fitting.

Max Speed	dN(mm)<150000
Temp Range	-76° F to +212° F
Shaft Finish	1.6µm Ra

Note: "d" shaft diameter, "N" RPM

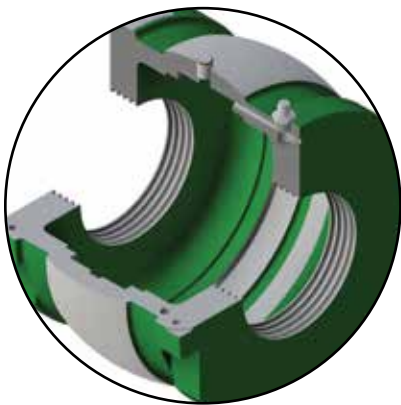


Single Lip with Garter Spring and Retaining Plate

A more specialized seal for very wet environments with heavy splash. This type of seal is NOT suitable for continuous submersion without due consideration being given to sealing of the housing joint and any other possible points of liquid entry. Please consult Timken for more information.

Max Speed	dN(mm)<150000
Temp Range	-4° F to + 212° F
Shaft Finish	0.8µm Ra
Suffix Letters	WSRP

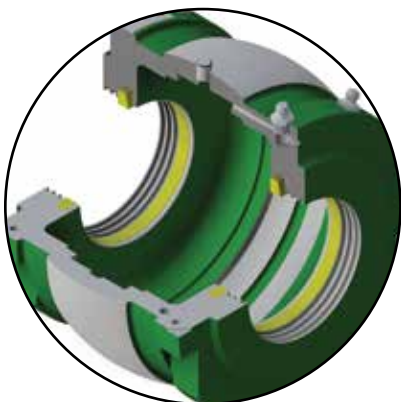
Note: "d" shaft diameter, "N" RPM



Labyrinth Grease Groove

For shaft sizes over 12 inches, housings are supplied with a close fitting labyrinth groove machined into the housing. No additional seal is added. For harsh environments, alternative sealing arrangements are available.

Max Speed	As Bearing
Temp Range	As Bearing
Shaft Finish	3.2µm Ra



Combination Seal

This seal combines a labyrinth grease seal with grease purge and the strip seal of your choice (Felt, RSS, HTPS or KPS). This combination is ideal for harsh environments with high levels of contamination.

Max Speed	As per the chosen strip seal type.
Temp Range	As per the chosen strip seal type.
Shaft Finish	1.6µm Ra
Suffix Letters	LABLUB

Bearing Lubricant

The function of a lubricant in a rolling element bearing is to prevent metal to metal contact between components, prevent wear and protect against corrosion. Two methods of lubrication are normal grease and oil. In the case of Revolvo split bearings grease lubrication is most often employed.

Grease Lubrication

Greases can be used to lubricate Revolvo split cylindrical roller bearings under most normal conditions. Grease is the preferred method of lubrication because it can be more easily retained within the bearing enclosure and housing, the latter simplifying sealing arrangements. Greases are essentially oils thickened usually with a metal soap, other ingredients are additives such as rust inhibitors, or extra pressure additives. The oils employed may be mineral or synthetic depending upon the application.

Revolvo bearings are heat treated to retain dimensional stability up to 284° F. At temperatures up to 212° F, standard high quality greases may be used. We suggest good quality lithium soap or complex based greases having extra pressure additives and a penetration number of 3. It is important to note that all values given in this catalog for axial capacity assume the use of grease with extra pressure (EP) additives. If EP additives are not present then axial capacity is reduced by 50 percent.

At temperatures exceeding 212° F care must be taken to ensure that the correct thickener and viscosity of base oil are selected. The performance of grease at such temperatures is dependent on a stable thickener and the temperature/viscosity ratio of the base oil. A stable base oil and soap thickener are important as is the ability of the oil to offer adequate viscosity at an elevated temperature.

In cases of water splash, calcium soap based greases may be used, these are particularly resistant to water wash out.

Care should be taken when mixing greases with different soap thickeners and base oil types. Please contact Timken for further advice.

For initial lubrication the bearing should always be well filled with grease. The remaining housing space should be filled as follows.

At low speeds, not exceeding 25 percent of catalog speed rating, we suggest that the remaining housing space be fully filled with grease.

At medium speeds, between 25 and 50 percent of catalog speed rating, the remaining housing space may be 1/3 to 1/2 filled with grease.

At high speeds, exceeding 50 percent of catalog speed rating, the remaining housing space should be left empty.

Re-lubrication

The re-lubrication intervals will be dependent on the prevailing operating conditions.

Greases age and oxidize due to a number of considerations these include load, speed, temperature, cleanliness, presence of water and even airflow through the bearing.

For retained type bearings, initial re-lubrication intervals for guidance purposes would be 2 – 4 weeks with 0.1 - 0.2 ounces (3 - 6 mls) added. For expansion type bearings, initial re-lubrication intervals would be 3 – 4 months with 0.1 - 0.2 ounces (3 – 6 mls) added. More accurate intervals and quantities should be established from observations taken during bearing operation. If re-lubrication can be carried out whilst the bearing is in operation, this will allow for even distribution of the grease. This means of re-lubrication should only be undertaken if it is safe to do so.

Oil Lubrication

Revolvo split cylindrical roller bearings are rarely lubricated with oil. In cases where oil is selected as a means of lubrication, then special consideration must be given to the bearing housing design and sealing.

There are three principal methods of oil lubrication:

- **Oil Sump:**

The oil sits in the bearing housing at a level approximately halfway up the bottom dead center rolling element. Oil circulation around the bearing is then provided via the bearing rotation agitating the oil sump. It is very important to provide a sufficiently dimensioned oil sump as too small a volume will result in increased frequency of oil change and elevated operating temperatures.

- **Oil Mist:**

An oil/air mist is injected into the bearing via nozzles, normally a total oil loss system; this provides extremely high speed capability at high cost.

For further advice on oil selection and oil lubrication systems please consult Timken.

- **Oil Circulation:**

Oil is circulated into the bearing housing assembly from an external oil sump. This allows the oil to be cooled and filtered, additionally an external oil sump normally allows for a higher volume of oil. While being a more optimum solution, specialist housing designs must be provided. There is also a cost and space requirement to this system.

Assembly and Maintenance

Shaft Check

When fitting bearings on both new and existing installations, the shaft need only be raised $\frac{1}{16}$ to $\frac{1}{4}$ inch. This should provide sufficient clearance to allow for easy fitting. Prior to the assembly of any bearing components the shaft must be checked for size, roundness and parallelism.

- Check a minimum of three positions along the journal length.
- Check a minimum of three positions around the shaft to establish roundness.
- Shaft tolerances and shaft surface finish are given in the table on page 24.

Fitting the Inner Ring

- Carefully unpack and clean the bearing removing all preservatives.
- Inner race locating clamping rings cannot be removed before the cage has been dismantled.
- Care must be taken that no damage occurs when cage halves are separated.

Please Note:

Spring Clips should always be retained on one cage half.

- Clean the shaft and lightly oil the bore of the inner race.
- Place the two inner race halves in approximately the correct position with the joints at the top and bottom. With the joints in that position it will allow easy access to the clamp ring screws later when they are tightened.
- Ensure that the match marks (black band) in the clamp ring groove on one side of the race coincide.

There should be an equal gap at each joint. If there are no gaps do not proceed and contact Timken.

- Fit the inner race locating clamping rings. Ensure that the correct clamp ring is fitted in the corresponding groove. To assist in this the clamping rings are intentionally manufactured to different widths on the more popular sizes. In addition, the match-marking groove found on the inner race is repeated on the corresponding clamping ring.
- Make sure that the thrust faces are not damaged when the rings enter the grooves.
- The joints should be at 90° to the inner race joints and the screws should be tightened in such a way that there are four equal gaps.
- Screws should only be finger tight so that the race can be adjusted axially into its final position.



Assembly of the Outer Race into the Seating Groove in the Housing

- The housing must be cleaned thoroughly removing all preservatives. If reusing an existing housing it is essential that the outer race seating groove is clean and free of any hardened grease deposits or corrosion.
- Lightly oil the seating groove and the outside diameter of the outer race halves.
- Place the race halves of the expansion or retained type into the seating groove and ensure that:
- The match marking numbers on the edge of each race half coincide.
- The lubrication hole in the outer race is in the upper housing half.
- The outer race joints should protrude equally above the housing joint faces.

If a retained bearing is being fitted:

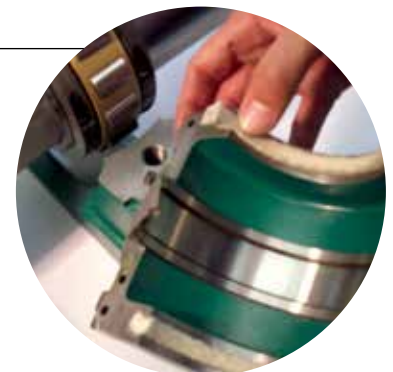
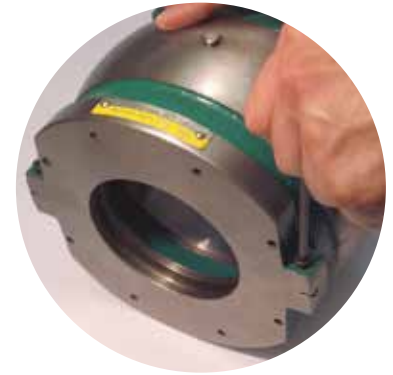
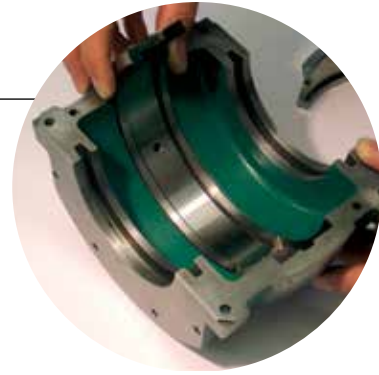
- Pre-assemble the housing halves and fully tighten the joint socket head cap screws.
- Ensure that the joints are closed.
- Fit the pins and screws provided and tighten up evenly to ensure that the outer race is fixed square against the opposite shoulder of the seating groove.

Larger bearings (both retained and expansion) may require outer race retaining screws. If these are required, please ensure that the flat washers are not omitted. Once fitted, ensure that the end of the screw does not protrude above the race track surface.

- Separate the housing halves, these are now ready for final assembly.
- Fit the appropriate seals. The seal grooves in the standard housing are suitable for felt and synthetic rubber. If the bearing is inspected or replaced on an existing installation and the housing is re-used, we advise that new seals are fitted.

Pre-Fitting the Lower Housing Half

On existing installations it is often unnecessary to change the support if a bearing, or bearing and housing has to be replaced. In such cases the support base bolts should not be touched to ensure that the replacement bearing and the old or new housing will be in the same position as previously. In new installations the support base should be positioned with the bolts finger tight. This will allow additional freedom of movement when aligning the inner and outer races.



Retained Bearing

- Slide the pre-assembled bottom half into the support base.
- Line up the inner and outer race roller track by adjusting the inner ring sideways into the final position. The final position should be confirmed by passing one half of the cage and roller assembly between the inner and outer races. The cage half should pass freely round the lower half of the bearing without becoming jammed or trapped.
- Remove the bottom housing half and tighten the clamp ring socket head cap screws and fit the cage as explained below.

Expansion Bearing

- As in the case of the retained bearing, slide in the pre-assembled bottom housing half.
- Line up the inner ring by adjusting it sideways until it is central with the outer race.
- The clearance between the inner race end faces and inside housing walls should be equal. If cage and rollers are assembled in this position the shaft can expand either side of the centre line by the amount shown in column 1 in the table right.
- When the position of the inner ring is satisfactory, remove the bottom half housing and tighten the clamp ring socket head cap screws and fit the cage as explained below.

A greater degree of expansion allowance can be obtained, but only in one direction. This is achieved by offsetting the inner race with respect to the housing. In this case the total amount of linear movement in service is given in column 2 of the table.

Group	Maximum Expansion if cage and rollers are assembled central	
	1	2
1½" 40 mm	⅛"	¼"
2" 50 mm	⅛"	¼"
2½" 60 mm	⅞⁶⁴"	⅞³²"
3" 70 mm	⅝³²"	⅝¹⁶"
3½" 80 mm	¼"	½"
4" 100 mm	⅞³²"	⅞¹⁶"
4½" 110 mm	⅞³²"	⅞¹⁶"
5" 120 mm	⅞³²"	⅞¹⁶"
5½" 140 mm	⅝¹⁶"	⅝⁸"
6" 150 mm	⅝¹⁶"	⅝⁸"

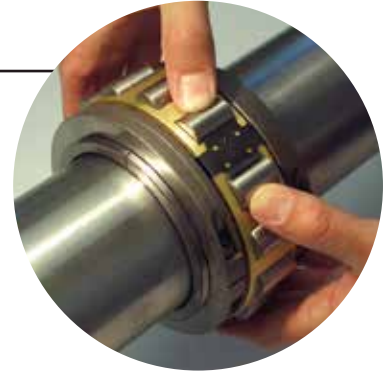
Tightening of the Locating Clamping Ring Screws

- When the inner race is in its final position, tighten all four clamping ring screws equally.
- Use the correct hexagon key and a torque wrench.
- Tap down the locating thrust rings with a nylon mallet to ensure that they are seating down correctly within the grooves.
- Re-tighten and repeat the tapping down until the screws are fully tight.
- Torque values for the various screw sizes are given in the tables at the end of this section. If a screw is lost it must be replaced using a High Tensile Socket Head Cap Screw Grade, 12.9.



Fitting the Cage

- Grease the inner race roller track and cage.
- Place the cage halves around the inner race ensuring that the match mark numbers on the edge of each cage half are the same and coincide at one joint.
- Press the cage halves into the clip ensuring that the roll pins are fully located.
- Check that the cage assembly runs freely on the inner race.
- Fully pack the cage and roller assembly with the correct type of grease.



Final Fitting of the Housing

- Charge the bottom and upper housing halves with the correct amount of grease. Refer to page 29 for correct types and quantities of grease depending on the application and the speed.
- Lightly oil the spherical diameter of both housing and support and slide the bottom housing half into the support base.
- Lower the shaft with the assembled inner races and cages, until the rollers touch the tracks in the bottom half housing. Make sure that when the rollers in the retained bearing enter the outer race groove they do not damage the lips.
- Revolve the shaft by hand, the rollers should move freely between the thrust shoulders of the inner race and the lips of the retained outer race.
- Fit the upper housing half then tighten the housing joint screws. Torque values for housing screws are given in the table at the end of this section. Check that there is no gap at the joints.



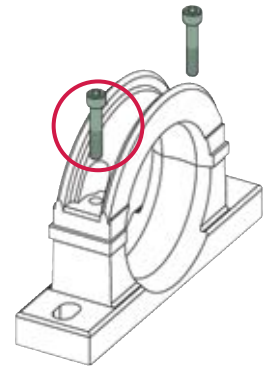
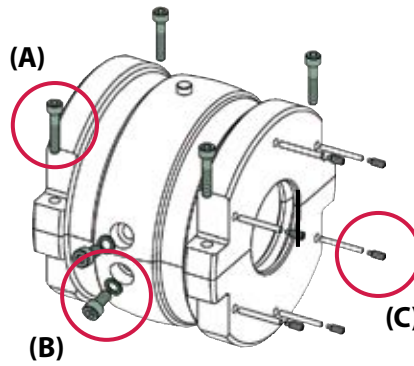
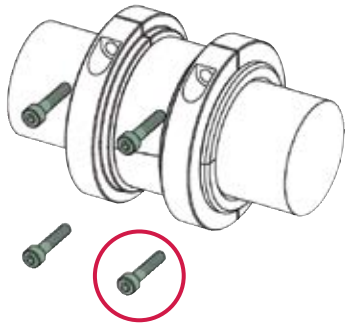
Fitting the Support Cap

- Place the support cap over the upper housing half and engage the locating dowels at the joint.
- Using a nylon mallet, gently tap the support cap down to close the gap at the joints.
- Fit the bolts and tighten just enough to hold the support joints closed.
- At this point, and only if it is safe to do so, the shaft should be run at low speed and if possible, with low loading. This will allow the spherical locating surfaces to correctly align. If running the shaft under power is not an option, the shaft should be rotated by hand to achieve this goal.
- Tighten the cap bolts fully using a torque wrench. At this point the support base bolts should also be checked and tightened as required. Torque values for support screws are given in the table at the end of this section.



Light Series

Screw Sizes, Key Sizes & Torque Values

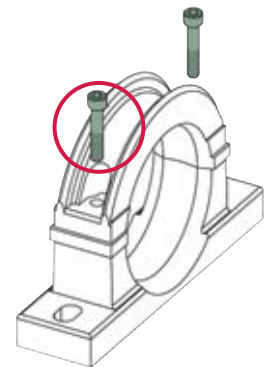
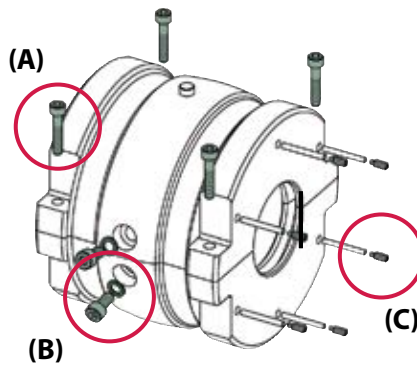
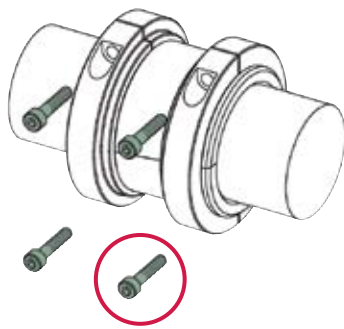


Shaft (d)		Clamping Ring*			Housing						Support					
inch	mm	Screw	Key	Torque (lb.ft) Nm	Joint (A)		Radial Retainer (B)		(HR only) (C)		Screw	Key	Torque (lb.ft) Nm			
					Screw	Key	Torque (lb.ft) Nm	Screw	Key	Torque (lb.ft) Nm	Screw	Key	Torque (lb.ft) Nm			
1 1/16 - 1 1/2	35 - 40	M4	3	(2.6) 4	M4	3	(2.6) 4			M4	3	(2.6) 4	M8	6	(20) 27	
1 1/8 - 2	45 - 50	M4	3	(2.6) 4	M4	3	(2.6) 4			M4	3	(2.6) 4	M8	6	(20) 27	
2 3/16 - 2 1/2	60 - 65	M4	3	(2.6) 4	M4	3	(2.6) 4			M4	3	(2.6) 4	M10	8	(40) 54	
2 1/4 - 3	70 - 75	M4	3	(2.6) 4	M4	3	(2.6) 4			M4	3	(2.6) 4	M12	10	(69) 94	
3 3/16 - 3 1/2	80 - 90	M5	4	(5) 7	M5	4	(5) 7			M4	3	(2.6) 4	M16	14	(170) 231	
3 1/8 - 4	100 - 105	M6	3	(8) 11	M6	3	(8) 11			M4	3	(2.6) 4	M16	14	(170) 231	
4 3/16 - 4 1/2	110 - 115	M6	3	(8) 11	M6	3	(8) 11			M6	3	(8) 11	M20	17	(320) 434	
4 1/8 - 5	120 - 130	M6	3	(8) 11	M6	3	(8) 11			M6	3	(8) 11	M20	17	(320) 434	
5 3/16 - 5 1/2	135 - 140	M8	6	(20) 27	M8	6	(20) 27			M6	3	(8) 11	M20	17	(320) 434	
5 1/8 - 6	150 - 155	M8	6	(20) 27	M8	6	(20) 27			M6	3	(8) 11	M20	17	(320) 434	
6 3/16 - 6 1/2	160	M8	6	(20) 27	M8	6	(20) 27			M6	3	(8) 11	M16	14	(170) 231	
6 1/8 - 7	170 - 180	M8	6	(20) 27	M8	6	(20) 27			M6	3	(8) 11	M16	14	(170) 231	
7 3/8 - 8	190 - 200	M8	6	(20) 27	M8	6	(20) 27	M10	8	(40) 54	M6	3	(8) 11	M16	14	(170) 231
8 3/8 - 9	220 - 230	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M6	3	(8) 11	M16	14	(170) 231
9 3/8 - 10	240 - 250	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M6	3	(8) 11	M20	17	(320) 434
10 3/8 - 11	260 - 280	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
11 3/8 - 12	300	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
12 3/8 - 13	320 - 330	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
14	340 - 350	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
15	360 - 380	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
16	400	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
17	420	M12	10	(69) 94	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
18	440 - 460	M12	10	(69) 94	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
19	480	M12	10	(69) 94	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
20	500	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
21	530	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
22	560	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
23	580	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
24	600	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434

* May be increased by up to 20% for high axial load applications

Medium Series

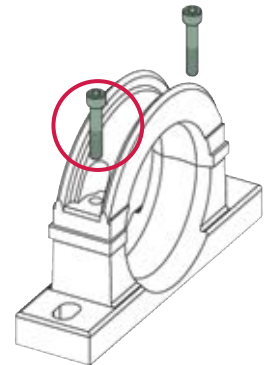
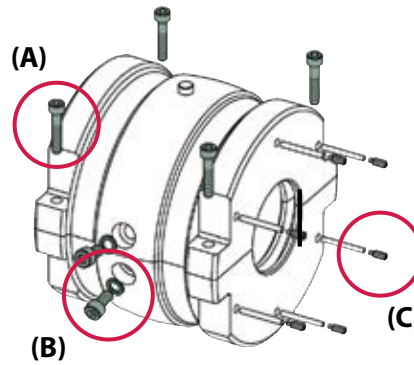
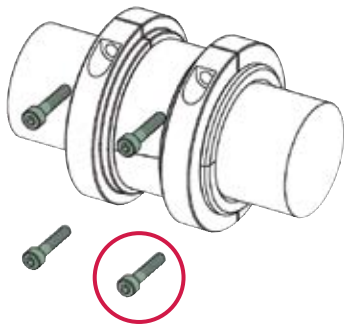
Screw Sizes, Key Sizes & Torque Values



Shaft (d)		Clamping Ring*			Housing									Support		
inch	mm	Screw	Key	Torque (lb.ft) Nm	Joint (A)			Radial Retainer (B)			(HR only) (C)			Screw	Key	Torque (lb.ft) Nm
					Screw	Key	Torque (lb.ft) Nm	Screw	Key	Torque (lb.ft) Nm	Screw	Key	Torque (lb.ft) Nm			
1 1/16 - 2	45 - 50	M5	4	(5) 7	M5	4	(5) 7				M4	3	(2.6) 4	M10	8	(40) 54
2 3/16 - 2 1/2	60 - 65	M5	4	(5) 7	M5	4	(5) 7				M4	3	(2.6) 4	M12	10	(69) 94
2 1/16 - 3	70 - 75	M6	3	(8) 11	M6	3	(8) 11				M4	3	(2.6) 4	M16	14	(170) 231
3 3/16 - 3 1/2	80 - 90	M6	3	(8) 11	M6	3	(8) 11				M4	3	(2.6) 4	M16	14	(170) 231
3 1/16 - 4	100 - 105	M6	3	(8) 11	M6	3	(8) 11				M4	3	(2.6) 4	M20	17	(320) 434
4 3/16 - 4 1/2	110 - 115	M8	6	(20) 27	M8	6	(20) 27				M6	3	(8) 11	M20	17	(320) 434
4 1/16 - 5	120 - 130	M8	6	(20) 27	M8	6	(20) 27				M6	3	(8) 11	M20	17	(320) 434
5 3/16 - 5 1/2	135 - 140	M8	6	(20) 27	M8	6	(20) 27				M6	3	(8) 11	M20	17	(320) 434
5 1/16 - 6	150 - 155	M8	6	(20) 27	M8	6	(20) 27				M6	3	(8) 11	M20	17	(320) 434
6 7/16 - 6 1/2	160 - 170	M10	8	(40) 54	M10	8	(40) 54				M6	3	(8) 11	M20	17	(320) 434
6 1/16 - 7	180	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M6	3	(8) 11	M20	17	(320) 434
7 1/4 - 8	190 - 200	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M6	3	(8) 11	M20	17	(320) 434
8 1/2 - 9	220 - 230	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M6	3	(8) 11	M20	17	(320) 434
9 1/2 - 10	240 - 260	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
10 1/2 - 11	280	M16	14	(170) 231	M16	14	(170) 231	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
11 1/2 - 12	300	M16	14	(170) 231	M16	14	(170) 231	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
12 1/2 - 13	320 - 330	M16	14	(170) 231	M16	14	(170) 231	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
14	340 - 360	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
15	380	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
16	400	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
17	420	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
18	440 - 460	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
19	480	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
20	500	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
21	530	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
22	560	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
23	580	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
24	600	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760

* May be increased by up to 20% for high axial load applications

Heavy Series Screw Sizes, Key Sizes & Torque Values



Shaft (d)		Clamping Ring*			Housing									Support		
inch	mm	Screw	Key	Torque (lb.ft) Nm	Joint (A)			Radial Retainer (B)			(HR only) (C)			Screw	Key	Torque (lb.ft) Nm
					Screw	Key	Torque (lb.ft) Nm	Screw	Key	Torque (lb.ft) Nm	Screw	Key	Torque (lb.ft) Nm			
3 1/16 - 4	100 - 105	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M6	3	(8) 11	M16	14	(170) 231
4 3/16 - 4 1/2	110 - 120	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M6	3	(8) 11	M16	14	(170) 231
4 15/16 - 5	125 - 130	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M16	14	(170) 231
5 3/16 - 5 1/2	135 - 140	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
5 11/16 - 6	150 - 155	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M10	8	(40) 54	M20	17	(320) 434
6 7/16 - 6 11/16	160 - 170	M12	10	(69) 94	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
6 3/4 - 7	180	M12	10	(69) 94	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
7 1/4 - 8	190 - 200	M12	10	(69) 94	M12	10	(69) 94	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
8 1/2 - 9	220 - 230	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
9 1/2 - 10	240 - 260	M16	14	(170) 231	M16	14	(170) 231	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
11	280	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
12	300	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M20	17	(320) 434
13	320 - 330	M20	17	(320) 434	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
14	340 - 360	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
15 - 16	380 - 400	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
17	420 - 440	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M16	14	(170) 231	M24	19	(560) 760
18	460	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M16	14	(170) 231	M24	19	(560) 760
19	480	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M16	14	(170) 231	M24	19	(560) 760
20	500	M24	19	(560) 760	M20	17	(320) 434	M16	14	(170) 231	M10	8	(40) 54	M24	19	(560) 760
21	530	M24	19	(560) 760	M20	17	(320) 434	M16	14	(170) 231	M10	8	(40) 54	M24	19	(560) 760
22	560	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
23	580	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760
24	600	M24	19	(560) 760	M20	17	(320) 434	M12	10	(69) 94	M10	8	(40) 54	M24	19	(560) 760

* May be increased by up to 20% for high axial load applications

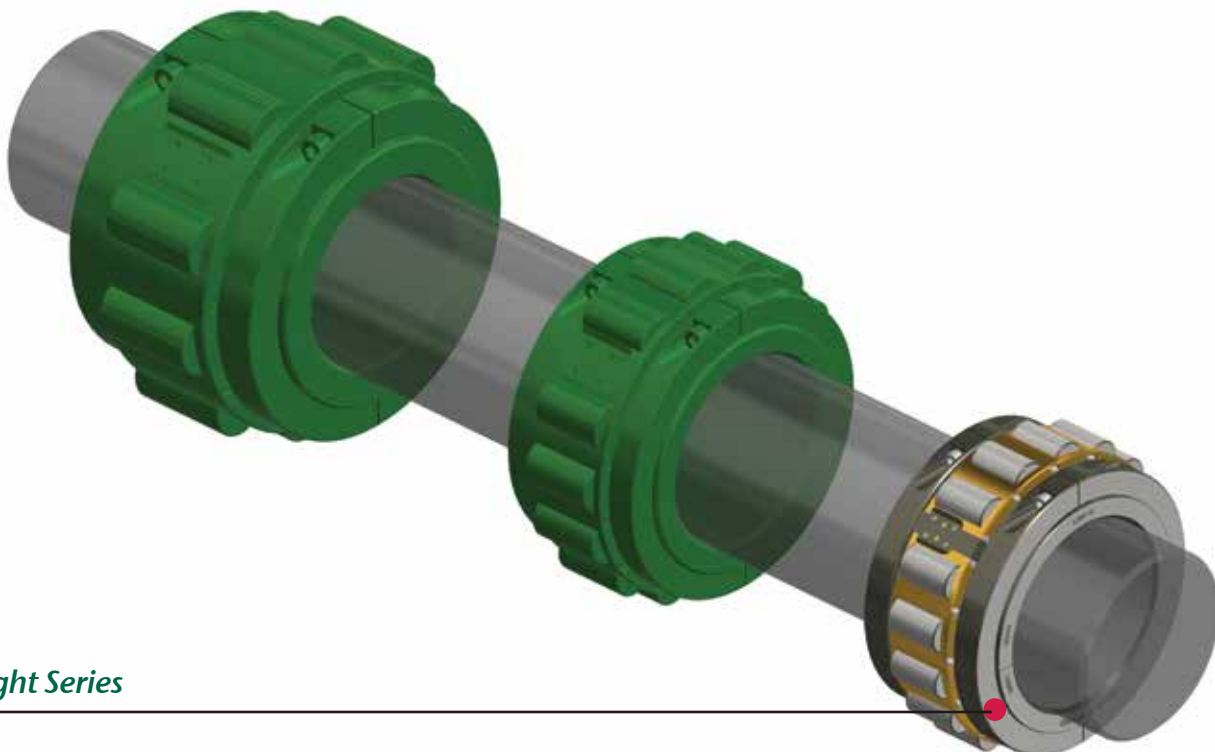
Shipping Weights

Light Series						Medium Series						Heavy Series					
inch	mm	Bearing lb/ Kg	Housing lb/ Kg	Support lb/ Kg	Comp. Unit	inch	mm	Bearing lb/ Kg	Housing lb/ Kg	Support lb/ Kg	Comp. Unit	inch	mm	Bearing lb/ Kg	Housing lb/ Kg	Support lb/ Kg	Comp. Unit
1 ¹ / ₁₆	35	3	6	7	16												
1 ¹ / ₂	40	1.3	2.5	3	6.8												
1 ¹ / ₄	45	4	8	11	23	1 ¹ / ₁₆	45	6	11	13	30						
2	50	1.8	3.5	5	10.3	2	50	2.5	5	5.9	13.4						
2 ³ / ₁₆	60	5	10	13	28	2 ³ / ₁₆	60	8	18	21	47						
2 ¹ / ₂	65	2.3	4.4	5.9	12.6	2 ¹ / ₂	65	3.7	8	9.5	21.2						
2 ¹ / ₄	70	7	14	21	42	2 ¹ / ₄	70	12	22	33	67						
3	75	3.3	6.5	9.5	19.3	3	75	5.6	10	15	30.6						
3 ³ / ₁₆	80	11	20	33	64	3 ³ / ₁₆	80	15	26	35	76						
3 ¹ / ₂	90	5	9	15	29	3 ¹ / ₂	90	7	12	16	35						
3 ¹ / ₄	100	15	24	35	74	3 ¹ / ₄	100	24	29	53	106	3 ¹ / ₁₆	100	77	88	266	431
4	105	7	11	16	34	4	105	11	13	24	48	4	105	35	40	121	196
4 ³ / ₁₆	110	23	35	53	111	4 ³ / ₁₆	110	34	44	90	168	4 ³ / ₁₆	110	90	99	310	499
4 ¹ / ₂	115	10.5	16	24	50.5	4 ¹ / ₂	115	15.5	20	41	76.5	4 ¹ / ₂	120	41	45	141	227
4 ¹ / ₄	120	31	53	90	174	4 ¹ / ₄	120	46	62	108	216	4 ¹ / ₄	125	92	101	343	536
5	130	14	24	41	79	5	130	21	28	49	98	5	130	42	46	156	244
5 ³ / ₁₆	135	37	59	108	204	5 ³ / ₁₆	135	55	79	158	292	5 ³ / ₁₆	135	110	112	433	655
5 ¹ / ₂	140	17	27	49	93	5 ¹ / ₂	140	25	36	72	133	5 ¹ / ₂	140	50	51	197	298
5 ¹ / ₄	150	40	68	108	216	5 ¹ / ₄	150	68	92	176	336	5 ¹ / ₄	150	130	165	574	869
6	155	18	31	49	98	6	155	31	42	80	153	6	155	59	75	261	395
6 ⁷ / ₁₆	160	42	77	143	262	6 ⁷ / ₁₆	160	88	128	260	476	6 ⁷ / ₁₆	160	163	191	640	994
6 ¹ / ₂	160	19	35	65	119	6 ¹ / ₂	170	40	58	118	216	6 ¹ / ₂	170	74	87	291	452
6 ¹ / ₄	170	51	79	161	291	6 ¹ / ₄	180	103	150	304	557	6 ¹ / ₄	175	183	200	744	1127
7	180	23	36	73	132	7	180	47	68	138	253	7	180	83	91	338	512
7 ¹ / ₄	190	57	99	202	358	7 ¹ / ₄	190	130	189	422	741	7 ¹ / ₄	190	231	264	999	1494
8	200	26	45	92	163	8	200	59	86	192	337	8	200	105	120	454	679
8 ¹ / ₂	220	73	106	257	436	8 ¹ / ₂	220	152	222	504	878	8 ¹ / ₂	220	332	361	1395	2088
9	230	33	48	117	198	9	230	69	101	229	399	9	230	151	164	408	949
9 ¹ / ₂	240	92	132	323	547	9 ¹ / ₂	240	174	238	609	1021	9 ¹ / ₂	240	337	383	1621	2341
10	250	42	60	147	249	10	260	79	108	277	464	10	260	153	174	540	1064
10 ¹ / ₂	260	117	161	376	654	10 ¹ / ₂	270	191	295	704	1190	11	280	447	442	1010	1899
11	280	53	73	171	297	11	280	87	134	320	541	11	280	203	201	459	863
11 ¹ / ₂	300	132	196	438	766	11 ¹ / ₂	300	275	290	818	1383	12	300	532	548	2242	3322
12	305	60	89	199	348	12	305	125	132	372	629	12	300	242	249	1019	1510
12 ¹ / ₂	320	158	240	471	869	12 ¹ / ₂	320	330	387	847	1564	13	320	719	660	2455	3834
13	330	72	109	214	395	13	330	150	176	385	711	13	320	327	300	1116	1743
14	340	174	266	530	970	14	340	405	418	1049	1872	14	340	825	794	3564	5183
	350	79	121	241	441		360	184	190	477	851		360	375	361	1620	2356
15	360	198	286	647	1131	15	380	411	469	1078	1958	15	380	959	953	3384	5296
	380	90	130	294	514			187	213	490	890	16	400	436	433	1538	2407
16	400	211	319	693	1223	16	400	462	568	1188	2218						
		96	145	315	556			210	258	540	1008						
17	420	231	341	711	1283	17	420	539	592	1289	2420	17	420	880	975	2231	4086
		105	155	323	583			245	269	586	1100			440	443	1014	1857
18	440	262	343	829	1434	18	440	561	594	1371	2526	18	460	1399	603	3329	5331
	460	119	156	377	652			255	270	623	1148			636	274	1513	2423
19	480	271	367	1027	1665	19	480	590	609	1518	2717						
		123	167	467	757			268	277	690	1235						
20	500	306	436	988	1730	20	500	607	722	1639	2968	20	500	1540	1936	4099	7575
		139	198	449	786			276	328	745	1349	21	530	700	880	1863	3443
21	530	396	484	1104	1984	21	530	691	785	1978	3454						
		180	220	502	902			314	357	899	1570						
22	560	407	568	1272	2247	22	560	750	847	2112	3709	22	560	1485	1527	4063	7075
		185	258	578	1021			341	385	960	1686			675	694	1847	3216
23	580	418	616	1518	2552	23	580	825	891	2202	3918	23	580	1540	1694	3947	7181
		190	280	690	1160			375	405	1001	1781	24	600	700	770	1794	3264
24	600	528	651	1606	2785	24	600	858	1012	2323	4193						
		240	296	730	1266			390	460	1056	1906						

Light Series Product

Light Series bearing products are by far the most commonly utilized range within the split bearing family. With a wide variety of mounting and sealing solutions available, Light Series bearing units can readily be matched to an ever-increasing range of applications. If a standard catalog product does not meet your requirements, Timken will be happy to provide help and advice on your application.

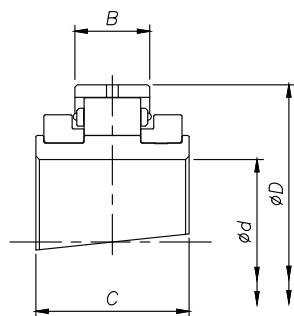
Bearings, Housings & Supports	1 ¹ / ₁₆ inch to 6 inch	Page	40 – 41
	6 ⁷ / ₁₆ inch to 14 inch	Page	42 – 43
	15 inch to 24 inch	Page	44 – 45
Flange Units		Page	46 – 47
Tensioning Units		Page	48 – 49
Hanger Units		Page	50



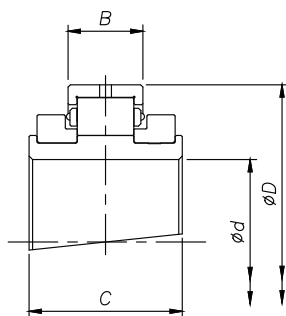
Light Series

Light Series Bearing & Housing

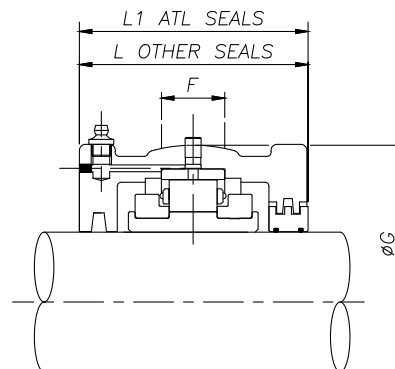
1 3/16 inch to 6 inch



Expansion BX



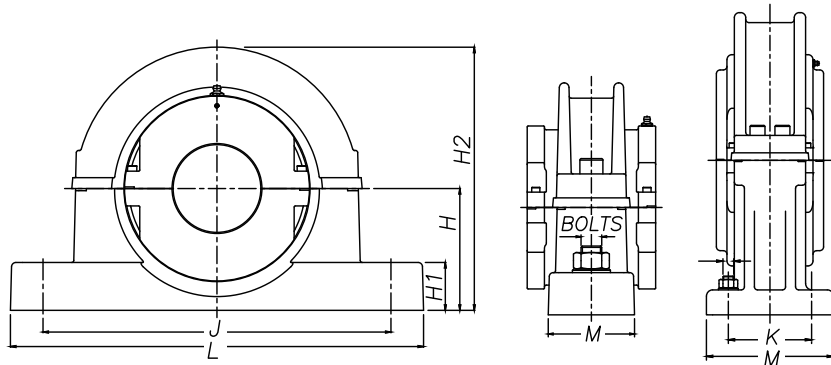
Retained BR



Shaft (d)		Reference	Bearings Ratings				Housing Reference			
inch	mm	Add BR for retained Add BX for expansion e.g. LSE215BR	Dynamic C_r (lb/kN)	Static C_{or} (lb/kN)	Axial C_a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm	
1 3/16		LSE103								
1 1/4	35	LSE104	LSM35	14613	15287	719.38	5400	84.14	23.80	55.00
1 3/8	40	LSE107	LSM40	65	68	3.20		3.313	0.937	2.165
1 1/2		LSE108								
1 7/16		LSE111								
1 3/4	45	LSE112	LSM45	18659	19558	809.30	4630	98.42	25.40	60.00
1 9/16	50	LSE115	LSM50	83	87	3.60		3.875	1.000	2.362
2		LSE200								
2 3/16		LSE203								
2 1/4	55	LSE204	LSM55	23155	25853	1213.95	3940	114.30	27.00	60.00
2 7/16	60	LSE207	LSM60	103	115	5.40		4.500	1.063	2.362
2 1/2	65	LSE208	LSM65							
2 11/16		LSE211								
2 3/4	70	LSE212	LSM70	31024	36194	1708.53	3310	133.35	31.80	65.00
2 9/16	75	LSE215	LSM75	138	161	7.60		5.250	1.252	2.559
3		LSE300								
3 3/16		LSE303								
3 1/4	80	LSE304	LSM80	42039	51931	2787.59	2790	152.4	38.90	75.00
3 7/16	85	LSE307	LSM85	187	231	12.40		6.000	1.531	2.953
3 1/2	90	LSE308	LSM90							
3 11/16		LSE311								
3 3/4	100	LSE312	LSM100	64745	82280	3596.90	2340	174.62	45.30	85.00
3 9/16	105	LSE315	LSM105	288	366	16.00		6.875	1.783	3.346
4		LSE400								
4 3/16		LSE403								
4 1/4	110	LSE404	LSM110	71040	95993	4181.39	1970	203.20	46.90	90.00
4 7/16	115	LSE407	LSM115	316	427	18.60		8.000	1.846	3.543
4 1/2		LSE408								
4 11/16		LSE411								
4 3/4	120	LSE412	LSM120	81606	111505	4990.69	1740	222.25	54.00	95.00
4 9/16	125	LSE415	LSM125	363	496	22.20		8.750	2.126	3.740
5	130	LSE500	LSM130							
5 3/16		LSE503								
5 1/4	135	LSE504	LSM135	94869	131513	5799.99	1570	241.30	55.60	98.40
5 7/16	140	LSE507	LSM140	422	585	25.80		9.500	2.189	3.874
5 1/2		LSE508								
5 11/16		LSE511								
5 3/4	150	LSE512	LSM150	103187	149273	6609.30	1450	254.00	55.60	98.40
5 9/16	155	LSE515	LSM155	459	664	29.40		10.000	2.189	3.874
6		LSE600								
160A		LSM160A								

ATL seals		Other seal types		G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm
Add HRTL for retained Add HXTL for expansion e.g. LS4HRTL	Add HR for retained Add HX for expansion e.g. LSE215HR						
LS1		LSE103					
		LSE104	LSM35	3.937	1.0	3.3	3.4
		LSE107	LSM40	100.00	25	84	86
		LSE108					
LS2		LSE111					
		LSE112	LSM45	4.625	1.0	3.8	3.9
		LSE115	LSM50	117.48	25	96	98
		LSE200					
LS3		LSE203					
		LSE204	LSM55	5.313	1.3	4.0	4.1
		LSE207	LSM60	134.94	32	102	104
		LSE208	LSM65				
LS4		LSE211					
		LSE212	LSM70	6.187	1.5	4.4	4.5
		LSE215	LSM75	157.16	38	112	114
		LSE300					
LS5		LSE303					
		LSE304	LSM80	7.000	2.0	5.3	5.4
		LSE307	LSM85	177.80	50	134	136
		LSE308	LSM90				
LS6		LSE311					
		LSE312	LSM100	8.000	2.0	5.2	5.3
		LSE315	LSM105	203.20	50	132	134
		LSE400					
LS7		LSE403					
		LSE404	LSM110	9.125	2.5	5.5	5.6
		LSE407	LSM115	231.78	64	140	142
		LSE408					
LS8		LSE411					
		LSE412	LSM120	10.500	3.0	6.1	6.1
		LSE415	LSM125	266.70	76	154	156
		LSE500	LSM130				
LS9		LSE503					
		LSE504	LSM135	11.000	3.0	6.5	6.6
		LSE507	LSM140	279.40	76	166	168
		LSE508					
LS10		LSE511					
		LSE512	LSM150	11.625	3.2	6.8	6.9
		LSE515	LSM155	295.28	82	172	174
		LSE600					
LS10E0548		LSM160A					

Light Series Support S01 - S10

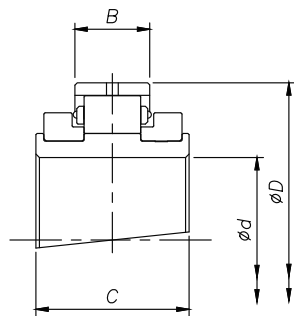


S01 - S10

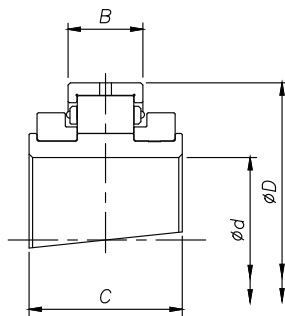
Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
1 ³ / ₁₆ 1 ¹ / ₄ 1 ⁷ / ₁₆ 1 ¹ / ₂	35 40	S01	2.362 60	0.9 22	5.4 138	7.1 180	9 x 2.4 228 x 60	2 x M12
1 ¹¹ / ₁₆ 1 ³ / ₄ 1 ⁵ / ₁₆ 2	45 50	S02	2.756 70	1.0 25	6.2 158	8.4 214	10.6 x 2.4 270 x 60	2 x M16
2 ³ / ₁₆ 2 ¹ / ₄ 2 ⁷ / ₁₆ 2 ¹ / ₂	55 60 65	S03	3.150 80	1.3 32	7.1 180	9.2 234	11 x 2.8 280 x 70	2 x M16
2 ¹¹ / ₁₆ 2 ³ / ₄ 2 ¹⁵ / ₁₆ 3	70 75	S04	3.740 95	1.5 38	8.2 208	10.6 270	13 x 3 330 x 76	2 x M20
3 ³ / ₁₆ 3 ¹ / ₄ 3 ⁷ / ₁₆ 3 ¹ / ₂	80 85 90	S05 S05-4B	4.409 112 4.409 112	1.7 44 1.7 44	9.53 242 9.53 242	12.6 320 12.9 x 3.5 328 x 88.9	15 x 3.5 380 x 90 15 x 5.51 380 x 140	2 x M24 4 x M20
3 ¹¹ / ₁₆ 3 ³ / ₄ 3 ¹⁵ / ₁₆ 4	100 105	S06 S06-4B	4.921 125 4.921 125	2.17 55 2.17 55	10.43 265 10.43 265	13.9 354 14.5 x 4 368 x 102	16.5 x 4 420 x 102 16.8 x 6 426 x 152	2 x M24 4 x M20
4 ³ / ₁₆ 4 ¹ / ₄ 4 ⁷ / ₁₆ 4 ¹ / ₂	110 115	S07 S07-4B	5.63 143 5.630 143	2.4 60 2.4 60	11.93 303 11.93 303	15.4 392 16.2 x 4.5 412 x 114.3	18.3 x 4.7 466 x 120 17.74 x 6.77 476 x 172	2 x M24 4 x M20
4 ¹¹ / ₁₆ 4 ³ / ₄ 4 ¹⁵ / ₁₆ 5	120 125 130	S08	6.378 162	1.5 38	14.6 372	17.7 x 4.7 450 x 120	20 x 7 508 x 178	4 x M24
5 ³ / ₁₆ 5 ¹ / ₄ 5 ⁷ / ₁₆ 5 ¹ / ₂	135 140	S09	7.126 181	1.6 40	15.9 405	19 x 4.7 482 x 120	22 x 7 558 x 178	4 x M24
5 ¹¹ / ₁₆ 5 ³ / ₄ 5 ¹⁵ / ₁₆ 6	150 155 160A	S10	7.126 181	1.6 40	16.3 415	19.5 x 4.7 496 x 120	22 x 7 558 x 178	4 x M24

Light Series Bearing & Housing

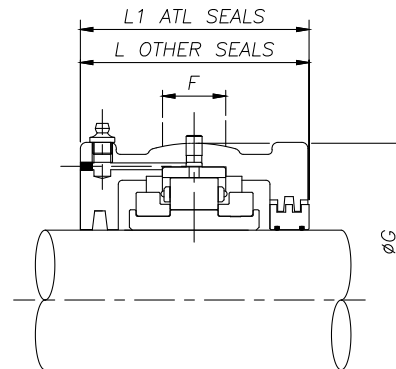
6⁷/₁₆ inch to 14 inch



Expansion BX



Retained BR

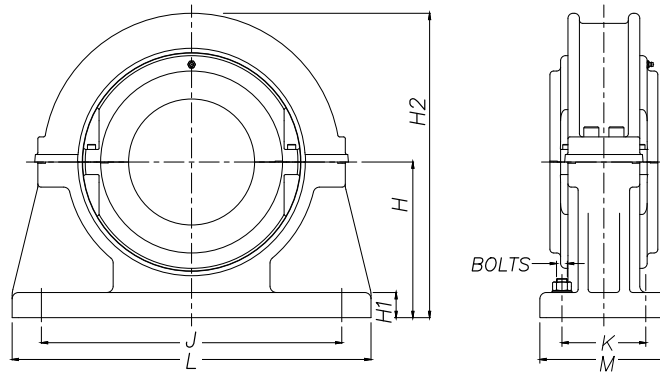


Shaft (d)		Reference		Bearings Ratings									
inch	mm	Add BR for retained Add BX for expansion e.g. LSE715BR		Dynamic C (lb/kN)	Static C (lb/kN)	Axial C (lb/kN)	Max RPM	D in./mm	B in./mm	C in./mm			
6 ⁷ / ₁₆	160	LSE607	LSM160	131064	178049	7419	1320	10.750	2.374	4.291			
6 ¹ / ₂	170A	LSE608	LSM170A	583	792	33.00		273.05	60.30	109.00			
6 ¹¹ / ₁₆	170	LSE611	LSM170	117800	186142	8183	1220	11.250	2.185	4.291			
6 ³ / ₄	175	LSE612	LSM175	524	828	36.40		285.75	55.50	109.00			
6 ⁵ / ₈	180	LSE615	LSM180										
7		LSE700											
7 ¹ / ₄		LSE704											
7 ¹ / ₂	190	LSE708	LSM190	138033	222561	9217	1070	12.250	2.374	4.291			
7 ³ / ₈	200	LSE715	LSM200	614	990	41.00		311.15	60.30	109.00			
8		LSE800											
8 ¹ / ₂	220	LSE808	LSM220	159165	262577	11016	930	13.500	2.500	4.528			
8 ³ / ₈	230	LSE814	LSM230	708	1168	49.00		342.90	63.50	115.00			
9		LSE900											
9 ¹ / ₂	240	LSE908	LSM240	167258	289779	12994	820	14.750	2.626	4.803			
9 ³ / ₈	250	LSE912	LSM250	744	1289	57.80		374.65	66.70	122.00			
10		LSE1000											
10 ¹ / ₂	260	LSE1008	LSM260	190638	337663	15017	730	16.000	2.717	5.039			
10 ³ / ₄	270	LSE1012	LSM270	848	1502	66.80		406.40	69.00	128.00			
11	280	LSE1100	LSM280										
11 ¹ / ₂	300	LSE1108	LSM300	208848	374307	17580	650	17.250	2.937	5.630			
12	305	LSE1200	LSM305	929	1665	78.20		438.15	74.60	143.00			
12 ¹ / ₂	320	LSE1208	LSM320	206824	376330	20008	590	18.250	2.937	5.354			
13	330	LSE1300	LSM330	920	1674	89.00		463.55	74.60	136.00			
14	340	LSE1400	LSM340	229755	441745	22391	540	19.250	2.937	5.354			
	350		LSM350	1022	1965	99.60		488.95	74.60	136.00			

Housing Reference							
ATL seals		Other seal types		G	F	L	L ₁
Add HRTL for retained Add HXTL for expansion e.g. LS13HRTL	Add HR for retained Add HX for expansion e.g. LSE715HR			in./mm	in./mm	in./mm	in./mm
LS11	LSE607 LSE608	LSM160 LSM170A		12.250 311.15	3.0 76	6.8 172	7.6 192
LS12	LSE611 LSE612 LSE615 LSE700	LSM170 LSM175 LSM180		12.750 323.85	2.8 70	6.8 172	7.9 200
LS13	LSE704 LSE708 LSE715 LSE800	LSM190 LSM200		14.125 358.78	3.4 86	6.8 172	7.9 200
LS14	LSE808 LSE814 LSE900	LSM220 LSM230		15.250 387.35	3.2 82	7.0 178	8.5 216
LS15	LSE908 LSE912 LSE1000	LSM240 LSM250		16.500 419.10	3.5 90	7.4 188	8.7 222
LS16	LSE1008 LSE1012 LSE1100	LSM260 LSM270 LSM280		17.874 454.00	3.7 95	8.0 204	9.1 232
LS17	LSE1108 LSE1200	LSM300 LSM305		19.252 489.00	3.9 98	8.5 216	9.8 248
LS18	LSE1208 LSE1300	LSM320 LSM330		20.500 520.70	3.7 95	10.2 260	-
LS19	LSE1400	LSM340 LSM350		21.500 546.10	3.9 98	10.2 260	-

*For Triple Labyrinth Seal Designations, please refer to page 28.

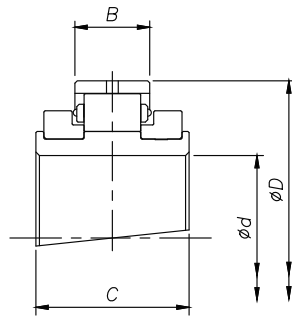
Light Series Support S11 - S19



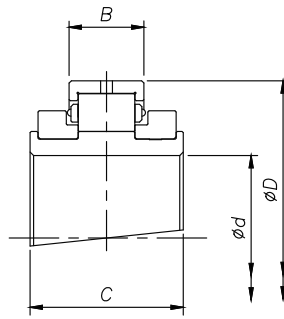
S11 - S19

Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
6 ⁷ / ₁₆ 6 ¹ / ₂	160 170A	S11	8.386 213	1.3 32	16.9 430	14.5 x 4.5 368 x 114	20 x 7 508 x 178	4 x M24
6 ¹¹ / ₁₆ 6 ³ / ₄ 6 ¹⁵ / ₁₆ 7	170 175 180	S12	9.252 235	1.4 35	18.5 470	15.3 x 5 388 x 128	21 x 7.5 534 x 190	4 x M24
7 ¹ / ₄ 7 ¹ / ₂ 7 ¹⁵ / ₁₆ 8	190 200	S13	9.764 248	1.5 38	19.5 495	16.6 x 5.5 422 x 140	22.5 x 8 572 x 204	4 x M24
8 ¹ / ₂ 8 ⁷ / ₈ 9	220 230	S14	10.630 270	1.6 40	21.3 540	18.1 x 5.5 460 x 140	25 x 8.5 636 x 216	4 x M30
9 ¹ / ₂ 9 ³ / ₄ 10	240 250	S15	11.496 292	1.7 44	23.0 585	19.8 x 5.5 502 x 140	27 x 9 686 x 228	4 x M30
10 ¹ / ₂ 10 ³ / ₄ 11	260 270 280	S16	12.244 311	1.9 48	24.4 620	21 x 5.5 534 x 140	28.5 x 9 724 x 228	4 x M30
11 ¹ / ₂ 12	300 305	S17	13.504 343	2.0 50	27.0 685	23 x 7 584 x 178	32 x 10 762 x 254	4 x M30
12 ¹ / ₂ 13	320 330	S18	14.488 368	2.1 54	28.9 735	24.5 x 7 622 x 178	32 x 10 812 x 254	4 x M36
14	340 350	S19	15.236 387	2.2 57	30.5 775	25.7 x 6.5 654 x 166	33.5 x 10 850 x 254	4 x M36

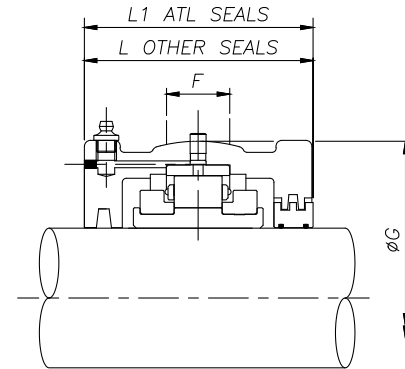
Light Series Bearing & Housing 15 inch to 24 inch



Expansion BX



Retained BR

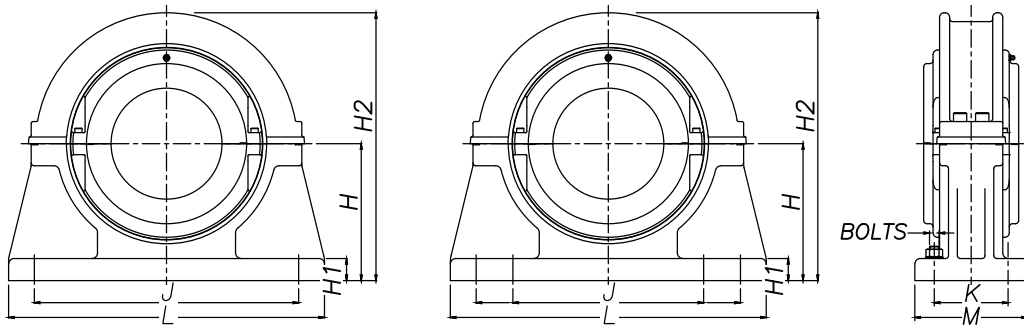


Shaft (d)		Reference		Bearings Ratings									
inch	mm	Add BR for retained Add BX for expansion e.g. LSM35BR		Dynamic C_r (lb/kN)	Static C_{or} (lb/kN)	Axial C_a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm			
15	360	LSE1500	LSM360	275166	546511	24819	500	20.500	3.000	5.512			
	380		LSM380	1224	2431	110.40		520.70	76.20	140.00			
16	400	LSE1600	LSM400	248864	509417	25988	460	21.500	3.000	5.512			
				1107	2266	115.60		546.10	76.20	140.00			
17	420	LSE1700	LSM420	257631	543588	27202	430	22.500	3.000	5.512			
				1146	2418	121.00		571.50	76.20	140.00			
18	440	LSE1800	LSM440	266399	555053	28596	410	23.500	3.000	5.512			
	460		LSM460	1185	2469	127.20		596.90	76.20	140.00			
19	480	LSE1900	LSM480	303042	666559	29810	380	24.750	3.189	5.669			
				1348	2965	132.60		628.65	81.00	144.00			
20	500	LSE2000	LSM500	312934	705675	30979	360	25.750	3.157	6.614			
				1392	3139	137.80		654.05	80.20	168.00			
21	530	LSE2100	LSM530	321702	745466	31608	340	27.250	3.189	6.614			
				1431	3316	140.60		692.15	81.00	168.00			
22	560	LSE2200	LSM560	330919	784583	32013	330	28.250	3.189	6.614			
				1472	3490	142.40		717.55	81.00	168.00			
23	580	LSE2300	LSM580	363291	863491	32372	310	29.488	3.311	6.772			
				1616	3841	144.00		749.00	84.10	172.00			
24	600	LSE2400	LSM600	373183	906654	33002	300	30.500	3.311	6.772			
				1660	4033	146.80		774.70	84.10	172.00			

Housing Reference							
ATL seals		Other seal types		G in./ mm	F in./ mm	L in./ mm	L_1 in./ mm
Add HRTL for retained Add HXTL for expansion e.g. LS11HRTL	Add BR for retained Add BX for expansion e.g. LSM35BR	Add HR for retained Add HX for expansion e.g. LSM35HR					
LS20	LSE1500	LSM360	22.500	3.9	10.2	-	
		LSM380	571.50	98	260		
LS21	LSE1600	LSM400	23.752	4.0	11.0	-	
			603.30	102	280		
LS22	LSE1700	LSM420	24.752	4.0	11.5	-	
			628.70	102	292		
LS23	LSE1800	LSM440	25.626	4.3	12.0	-	
		LSM460	650.90	108	304		
LS24	LSE1900	LSM480	26.874	4.3	12.0	-	
			682.60	108	304		
LS25	LSE2000	LSM500	28.252	4.5	12.0	-	
			717.60	114	304		
LS26	LSE2100	LSM530	29.752	4.5	13.0	-	
			755.70	114	330		
LS27	LSE2200	LSM560	30.752	4.5	13.2	-	
			781.10	114	336		
LS28	LSE2300	LSM580	32.126	4.7	13.5	-	
			816.00	120	342		
LS29	LSE2400	LSM600	33.126	4.7	13.5	-	
			841.40	120	342		

*For Triple Labyrinth Seal Designations, please refer to page 28.

Light Series Support S20 - S29



S20 - S29

Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
15	360 380	S20	15.630 397	2.4 60	31.3 795	26.6 x 6.5 676 x 166	35.5 x 10 902 x 254	4 x M36
16	400	S21	17.008 432	2.6 67	34.1 865	28.5 x 6.5 724 x 166	37 x 10 940 x 254	4 x M36
17	420	S22	17.520 445	2.6 67	35.0 890	29.8 x 6.5 756 x 166	38 x 10 966 x 254	4 x M36
18	440 460	S23	18.268 464	2.8 70	36.4 925	31 x 7.5 788 x 190	41 x 11 1042 x 280	4 x M42
19	480	S24	19.016 483	2.9 73	38.0 965	32.1 x 7.4 816 x 188	43 x 12 1092 x 304	4 x M42
20	500	S25	19.252 489	3.0 76	38.6 980	33.2 x 8.5 844 x 216	43 x 12 1092 x 304	4 x M42
21	530	S26	20.984 533	3.1 80	41.9 1065	35.6 x 8.1 904 x 206	47 x 12 1194 x 304	4 x M42
22	560	S27	21.732 552	3.3 83	43.7 1110	36.9 x 8.1 936 x 206	48 x 12 1220 x 304	4 x M42
23	580	S28	22.756 578	3.3 83	45.5 1156	42.5 & 34.5 x 8.7 1080 & 877 x 220	54 x 12 1372 x 304	8 x M36
24	600	S29	23.504 597	3.5 90	47.2 1200	44 & 35.7 x 7.9 1118 & 908 x 200	54 x 12 1372 x 304	8 x M36

Flange Units

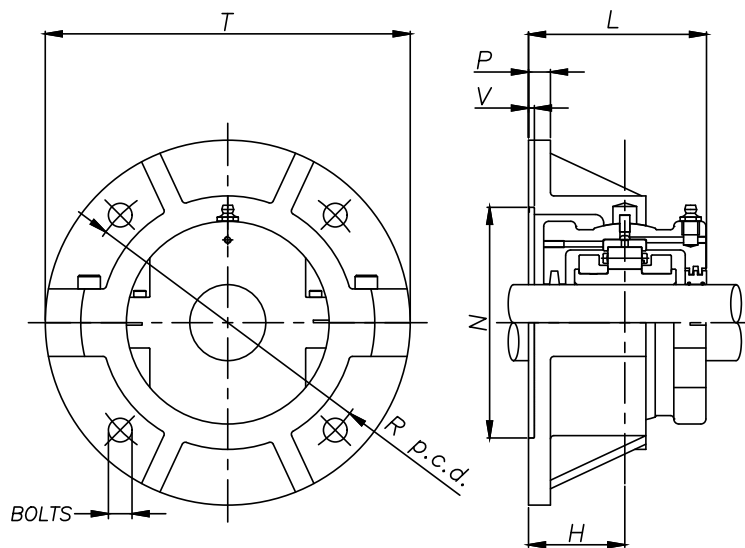
When faced with flat horizontal or vertical faces, flange units offer a simple mounting solution. As with pillow block supports, flange units are produced with spherical location to accommodate standard bearing housings and provide easy initial alignment of shaft and equipment.

To facilitate positive location of the flange to the surface, the rear face is recessed (dimensions N & V). This allows for a spigot (Tolerance f8) to be located into the flange.

Bearing inspection is simply a matter of removing the top half of the flange and housing. Bearing replacement may also be achieved in the same manner if required.

When integrating flange units into new applications, it should be noted that a maximum radial load equivalent to $0.26C_{or}$ is permissible. A maximum axial load of $0.25C_a$ must also be taken into account for applications with thrust loading. Units for vertically oriented shafts may also need special consideration given to sealing arrangements.

As always, Timken will be happy to advise on any application issues.



Light Series Support 1³/₁₆ inch to 12 inch Flanges

Light Series 40 mm - 300 mm Flanges

Shaft (d)		Flange Reference	T in./mm	Bolts	R in./mm	P in./mm	H in./mm	N in./mm	V in./mm	L in./mm
inch	mm									
1 ³ / ₁₆ 1 ¹ / ₄ 1 ⁷ / ₁₆ 1 ¹ / ₂	35 40	F01	8.0 204	4 x M12	6.5 164	0.5 13	2.0 51	4.687 119.06	0.1 3	3.7 94
1 ¹¹ / ₁₆ 1 ³ / ₄ 1 ¹⁵ / ₁₆ 2	45 50	F02	8.5 216	4 x M12	7.1 180	0.5 13	2.2 57	5.375 136.52	0.1 3	4.2 106
2 ³ / ₁₆ 2 ¹ / ₄ 2 ⁷ / ₁₆ 2 ¹ / ₂	55 60 65	F03	10.2 260	4 x M12	8.6 218	0.6 16	2.6 67	5.71 166.96	0.1 3	4.7 120
2 ¹¹ / ₁₆ 2 ³ / ₄ 2 ¹⁵ / ₁₆ 3	70 75	F04	11.3 286	4 x M12	9.5 242	0.6 16	2.9 73	7.563 192.09	0.1 3	5.1 130
3 ³ / ₁₆ 3 ¹ / ₄ 3 ⁷ / ₁₆ 3 ¹ / ₂	80 85 90	F05	13.0 330	4 x M16	10.8 274	0.7 19	3.1 79	5.00 215.98	0.1 3	5.8 148
3 ¹¹ / ₁₆ 3 ³ / ₄ 3 ¹⁵ / ₁₆ 4	100 105	F06	14.0 356	4 x M16	11.9 302	0.7 19	3.4 86	9.625 244.47	0.1 3	6.1 154
4 ³ / ₁₆ 4 ¹ / ₄ 4 ⁷ / ₁₆ 4 ¹ / ₂	110 115	F07	15.0 382	4 x M16	13.1 334	0.9 22	3.6 92	10.875 276.22	0.1 3	6.5 164
4 ¹¹ / ₁₆ 4 ³ / ₄ 4 ¹⁵ / ₁₆ 5	120 125 130	F08	17.0 432	4 x M24	14.7 374	0.9 22	3.9 98	12.375 314.32	0.1 3	6.9 176
5 ³ / ₁₆ 5 ¹ / ₄ 5 ⁷ / ₁₆ 5 ¹ / ₂	135 140	F09	17.5 444	4 x M24	15.1 384	1.0 25	3.9 98	2.500 317.51	0.1 3	7.2 182
5 ¹¹ / ₁₆ 5 ³ / ₄ 5 ¹⁵ / ₁₆ 6	150 155 160A	F10	18.5 470	4 x M24	16.2 412	1.0 25	4.5 114	13.625 346.07	0.1 3	8.0 202
6 ⁷ / ₁₆ 6 ¹ / ₂	160 170A	F11	19.5 496	4 x M24	16.8 426	1.0 25	4.1 105	13.875 352.42	0.1 3	8.0 202
6 ¹¹ / ₁₆ 6 ³ / ₄ 6 ¹⁵ / ₁₆ 7	170 175 180	F12	20.0 508	4 x M24	17.2 438	1.1 29	4.3 108	14.375 365.12	0.1 3	8.2 208
7 ¹ / ₄ 7 ¹ / ₂ 7 ¹⁵ / ₁₆ 8	190 200	F13	21.0 534	4 x M24	18.7 474	1.3 32	4.3 108	15.750 400.05	0.1 3	8.2 208
8 ¹ / ₂ 8 ⁷ / ₈ 9	220 230	F14	23.0 584	4 x M30	20.2 512	1.4 35	4.6 117	7.000 431.81	0.1 3	8.9 226
9 ¹ / ₂ 9 ³ / ₄ 10	240 250	F15	24.0 610	4 x M30	21.3 542	1.4 35	4.6 117	18.250 463.55	0.1 3	9.0 228
10 ¹ / ₂ 10 ³ / ₄ 11	260 270 280	F16	26.0 660	4 x M30	23.0 584	1.5 38	4.9 124	19.875 504.82	0.1 3	9.4 240
11 ¹ / ₂ 12	300 305	F17	28.0 712	4 x M30	24.6 626	1.5 38	5.2 133	21.250 539.75	0.1 3	10.2 258

For Bearings and Housings see pages 40 – 42.

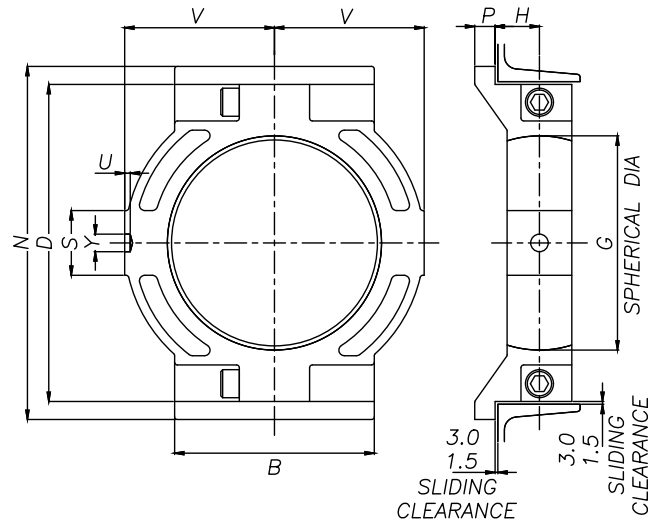
Tensioning Units

This type of split unit can be found in use on materials handling equipment in many industries. Take up units provide an efficient and readily accessible means of tensioning conveyor systems and large scale drives.

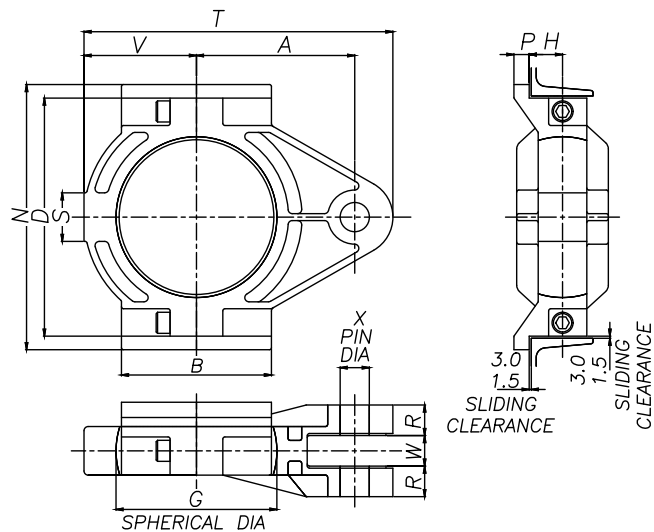
The units consist of either push type or pull type sliding supports into which standard housings and bearings may be mounted. When integrating tensioning units into new applications, it should be noted that a maximum radial load equivalent to $0.3C_{or}$ is permissible. As with all Revolve units, a wide variety of sealing solutions may be applied dependant on the environment and application. Please contact Timken for assistance.



TP



TT



Tensioning Units TT/TP

Light Series - 1³/₁₆ inch to 6 inch Flanges

Shaft (d)		Support Reference															
inch	mm	Tension Type	Push Type	B in./mm	N in./mm	D in./mm	V in./mm	P in./mm	H in./mm	L in./mm	S in./mm	A in./mm	T in./mm	X in./mm	W in./mm	R in./mm	
1 ³ / ₁₆	35	TT01	TP01	4.0	6.8	6.0	3.0	0.6	1.1	3.4	1.0	4.5	8.5	0.8	1.0	0.9	
1 ¹ / ₄				102	172	153	76	14	29	86	25	114	216	20	25	24	
1 ¹ / ₂																	
1 ¹ / ₁₆	45	TT02	TP02	4.5	8.0	7.0	3.5	0.6	1.1	3.9	1.1	5.0	9.5	0.9	1.0	1.0	
1 ³ / ₈				114	204	178	88	16	29	98	29	128	242	24	25	25	
1 ¹ / ₂																	
2 ³ / ₁₆	55	TT03	TP03	5.0	9.3	8.0	4.0	0.8	1.3	4.1	1.5	5.7	11.0	0.9	1.2	1.1	
2 ¹ / ₄				128	235	203	102	20	32	104	38	146	280	24	30	29	
2 ¹ / ₂																	
2 ¹ / ₁₆	70	TT04	TP04	6.0	10.5	9.0	4.5	0.9	1.6	4.5	1.6	6.2	12.0	0.9	1.2	4.5	
2 ³ / ₈				152	266	229	114	22	40	114	41	158	305	24	30	114	
2 ¹ / ₂																	
3 ³ / ₁₆	80	TT05	TP05	7.5	12.5	11.0	5.5	0.9	1.6	5.4	2.0	7.5	14.5	1.2	1.5	1.4	
3 ¹ / ₄				190	318	280	140	22	40	136	51	190	368	30	38	35	
3 ¹ / ₂																	
3 ¹ / ₁₆	100	TT06	TP06	8.0	13.5	12.0	6.0	0.9	1.7	5.3	2.0	8.3	16.3	1.4	1.7	1.4	
3 ³ / ₈				204	342	305	152	22	43	134	51	210	414	36	44	35	
3 ¹ / ₂																	
4 ³ / ₁₆	110	TT07	TP07	8.5	15.0	13.5	6.4	0.9	1.9	5.6	2.8	9.0	17.5	1.7	1.7	1.6	
4 ¹ / ₄				216	382	343	162	22	48	142	70	228	445	42	44	41	
4 ¹ / ₂																	
4 ¹ / ₁₆	120	TT08	TP08	10.0	16.5	15.0	7.5	1.0	2.0	6.1	3.0	10.2	20.0	1.7	1.7	1.7	
4 ³ / ₈				254	420	381	190	25	51	156	76	260	508	42	44	44	
4 ¹ / ₂																	
5 ³ / ₁₆	135	TT09	TP09	10.5	17.2	15.7	7.7	1.0	2.1	6.6	3.0	10.5	20.2	1.7	1.7	1.9	
5 ¹ / ₄				266	438	400	196	25	54	168	76	266	514	42	44	48	
5 ¹ / ₂																	
5 ¹ / ₁₆	150	TT10	TP10	10.5	18.3	16.8	8.0	1.0	2.2	6.9	3.4	11.0	21.5	1.9	2.0	2.0	
5 ³ / ₈				266	464	426	204	25	57	174	86	280	546	48	50	51	
5 ¹ / ₂				160A													

For Bearings and Housings see page 40.

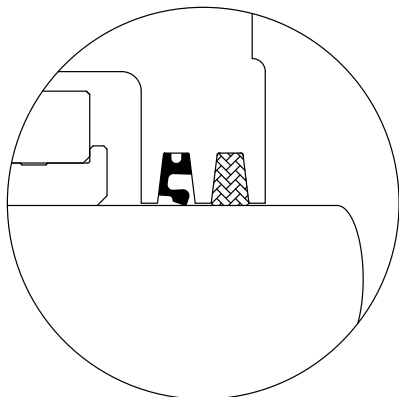
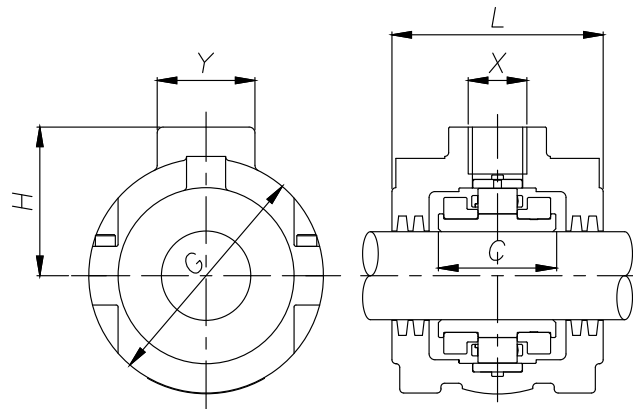
Hanger Units

Revolvo hanger units are the optimum solution for the support of screw conveyor shafts. The unit is comprised of a cast iron split housing into which expansion type split cylindrical roller bearings are fitted. Provision of a drilled and tapped boss in one half of the housing allows for the unit to be mounted from the conveyor cross bracing or any other suitable surface. It is recommended that some form of swivel fixing be incorporated into the mounting arrangement to allow for static alignment.

Due to the arduous conditions often found in screw conveyor applications, correct seal selection is critical. Revolvo hanger units are available with many sealing variants, all of which can also be tailored to suit specific applications. When integrating hanging units into new applications, it should be noted that a maximum radial load equivalent to $0.3C_{or}$ is permissible. Only suitable for an expansion (BX) type bearings. Please contact Timken for further information.

Hanger units have two seal grooves per side. They are supplied with double felt seals as standard. However, the standard seal groove will accept any combination of strip seal.

A further option is to have a tapped hole between the seal grooves at each end of the housing to incorporate a grease or air supply to purge the seals.



Light Series Hanger Units

Shaft (d)		Reference	C	G	L	H	X*	Y	
inch	mm								in./mm
1 ³ / ₁₆		LSE103HG							
1 ¹ / ₄	35	LSE104HG	LSM35HG	2.165	3.9	4.3	2.6	1 - 8 UNC	2.0
1 ⁷ / ₁₆	40	LSE107HG	LSM40HG	55.0	100	108	66	M30	50
1 ¹ / ₂		LSE108HG							
1 ¹³ / ₁₆		LSE111HG							
1 ³ / ₄	45	LSE112HG	LSM45HG	2.362	4.6	4.3	3.0	1 - 8 UNC	2.0
1 ¹⁵ / ₁₆	50	LSE115HG	LSM50HG	60.0	117	108	76	M30	50
2		LSE200HG							
2 ³ / ₁₆	55	LSE203HG	LSM55HG	2.362	5.3	4.3	3.2	1 - 8 UNC	2.0
2 ¹ / ₄	60	LSE204HG	LSM60HG	60.0	135	108	82	M30	50
2 ⁷ / ₁₆	65	LSE207HG	LSM65HG						
2 ¹ / ₂		LSE208HG							
2 ¹¹ / ₁₆		LSE211HG							
2 ³ / ₄	70	LSE212HG	LSM70HG	2.559	6.2	5.1	3.6	1 - 8 UNC	2.0
2 ¹⁵ / ₁₆	75	LSE215HG	LSM75HG	65.0	157	130	92	M30	50
3		LSE300HG							
3 ³ / ₁₆	80	LSE303HG	LSM80HG	2.953	7.0	5.7	4.5	1 1/2 - 6 UNC	3.0
3 ¹ / ₄	85	LSE304HG	LSM85HG	75.0	178	146	114	M36	76
3 ⁷ / ₁₆	90	LSE307HG	LSM90HG						
3 ¹ / ₂		LSE308HG							
3 ¹¹ / ₁₆		LSE311HG							
3 ³ / ₄	100	LSE312HG	LSM100HG	3.346	8.0	6.0	5.0	1 1/2 - 6 UNC	3.0
3 ¹⁵ / ₁₆	105	LSE315HG	LSM105HG	85.0	203	152	128	M36	76
4		LSE400HG							
4 ³ / ₁₆		LSE403HG							
4 ¹ / ₄	110	LSE404HG	LSM110HG	3.543	9.1	6.1	5.5	1 1/2 - 6 UNC	3.0
4 ⁷ / ₁₆	115	LSE407HG	LSM115HG	90.0	232	156	140	M36	76
4 ¹ / ₂		LSE408HG							
4 ¹¹ / ₁₆	120	LSE411	LSM120	3.740	10.866	6.378	6.142	1 1/2 - 6 UNC	2.992
4 ³ / ₄	125	LSE412	LSM125	95	276	162	156	M36	76
4 ¹⁵ / ₁₆	130	LSE415	LSM130						
5		LSE500							
5 ³ / ₁₆		LSE503							
5 ¹ / ₄	135	LSE504	LSM135	3.874	11.024	6.220	6.299	1 1/2 - 6 UNC	2.953
5 ⁷ / ₁₆	140	LSE507	LSM140	98.4	280	158	160	M36	75
5 ¹ / ₂		LSE508							

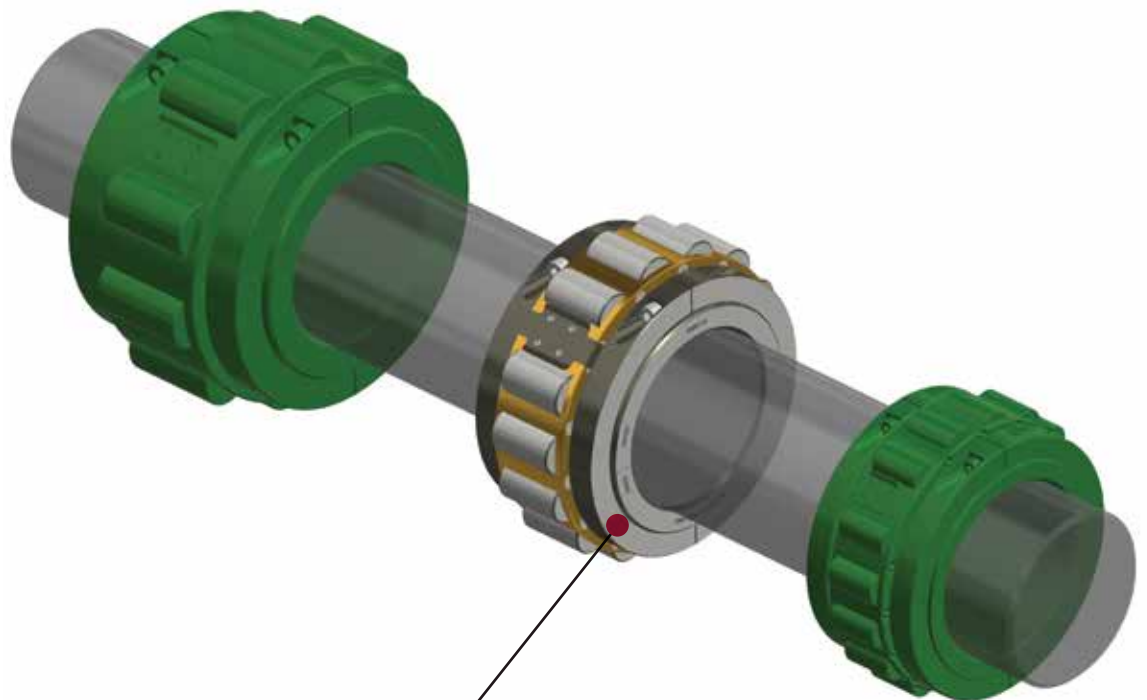
*Hanger units with inch bore sizes have UNC mounting threads as standard.

*Hanger units with metric bore sizes have metric mounting threads as standard

Medium Series Product

Medium Series bearing products can be utilized in applications requiring higher load carrying capacity. Under nominal conditions, Medium Series may also be selected to provide an extended bearing life when compared to Light Series. Medium Series offers the same range of mounting and sealing solutions as Light Series, with the exception of Hanger units. If a standard catalog product does not meet your requirements, Timken will be happy to provide help and advice on your application.

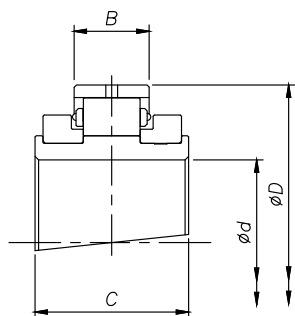
Bearings, Housings & Supports	1 ¹ / ₁₆ inch to 6 inch	Page	52 – 53
	6 ⁷ / ₁₆ inch to 14 inch	Page	54 – 55
	15 inch to 24 inch	Page	56 – 57
Flange Units		Page	58 – 59
Tensioning Units		Page	60 – 61



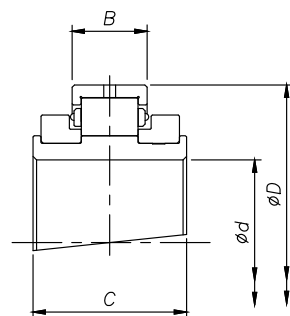
Medium Series

Medium Series Bearing & Housing

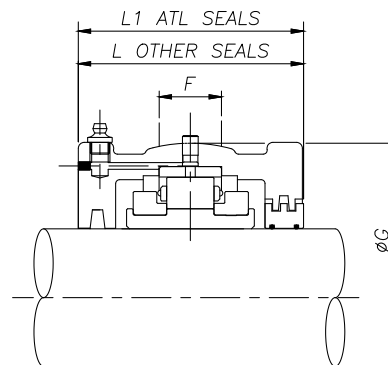
1¹¹/₁₆ inch to 6 inch



Expansion BX



Retained BR

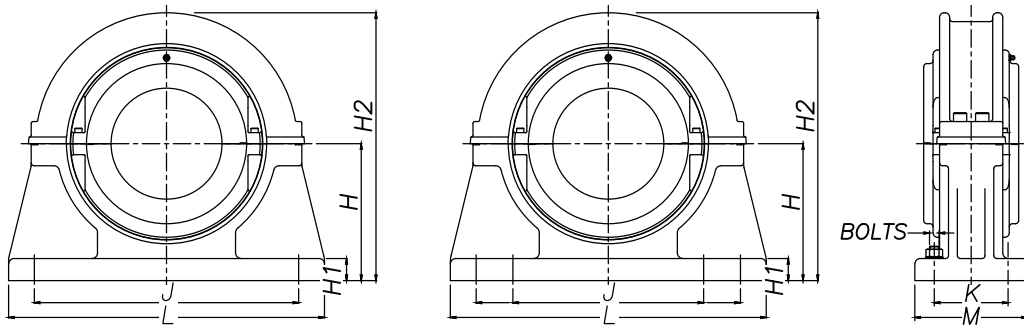


Shaft (d)		Reference	Bearings Ratings						D	B	C
inch	mm	Add BR for retained Add BX for expansion e.g. MSM55BR	Dynamic C _r (lb/kN)	Static C _{0r} (lb/kN)	Axial C _a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm		
1 ¹¹ / ₁₆	45	MSE111		27202	28551	1394	4350	4.250	1.378	2.657	
1 ³ / ₄	50	MSE112	MSM45	121	127	6.20	107.95	35.00	67.50		
1 ⁷ / ₈	50	MSE115	MSM50								
2		MSE200									
2 ³ / ₁₆	55	MSE203		37768	42714	1978	3680	5.000	1.531	2.846	
2 ¹ / ₄	60	MSE204	MSM55	168	190	8.80	127.00	38.90	72.30		
2 ¹ / ₂	60	MSE207	MSM60								
2 ¹ / ₂	65	MSE208	MSM65								
2 ¹¹ / ₁₆	70	MSE211		58001	67443	2383	3080	5.875	1.815	3.252	
2 ³ / ₄	70	MSE212	MSM70	258	300	10.60	149.22	46.10	82.60		
2 ⁵ / ₈	75	MSE215	MSM75								
3		MSE300									
3 ¹ / ₁₆	80	MSE303		66768	79358	4002	2520	6.687	1.906	3.531	
3 ¹ / ₄	85	MSE304	MSM80	297	353	17.80	169.86	48.40	89.70		
3 ³ / ₈	85	MSE307	MSM85								
3 ¹ / ₂	90	MSE308	MSM90								
3 ¹¹ / ₁₆	100	MSE311		87226	110381	5620	2130	7.625	2.031	3.626	
3 ³ / ₄	100	MSE312	MSM100	388	491	25.00	193.68	51.60	92.10		
3 ⁵ / ₈	105	MSE315	MSM105								
4		MSE400									
4 ¹ / ₁₆	110	MSE403		102063	133087	7014	1820	9.000	2.252	3.937	
4 ¹ / ₄	110	MSE404	MSM110	454	592	31.20	228.60	57.20	100.00		
4 ³ / ₈	115	MSE407	MSM115								
4 ¹ / ₂		MSE408									
4 ¹¹ / ₁₆	120	MSE411		118025	157366	8588	1600	10.000	2.500	4.500	
4 ³ / ₄	125	MSE412	MSM120	525	700	38.20	254.00	63.50	114.30		
4 ⁵ / ₈	130	MSE415	MSM125								
5		MSE500	MSM130								
5 ¹ / ₁₆	135	MSE503		134885	183669	10206	1450	10.750	2.626	4.626	
5 ¹ / ₄	140	MSE504	MSM135	600	817	45.40	273.05	66.70	117.50		
5 ³ / ₈	140	MSE507	MSM140								
5 ¹ / ₂		MSE508									
5 ¹¹ / ₁₆	150	MSE511		164111	232453	11780	1320	11.500	2.689	4.874	
5 ³ / ₄	155	MSE512	MSM150	730	1034	52.40	292.10	68.30	123.80		
5 ⁵ / ₈	155	MSE515	MSM155								
6		MSE600									
160A		MSM160A									

Housing Reference								
ATL seals		Other seal types			G	F	L	L ₁
Add HRTL for retained Add HXTL for expansion e.g. MS3HRTL	Add HR for retained Add HX for expansion e.g. MSM55HR	Add HR for retained Add HX for expansion e.g. MSM55HR	G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm		
MS3	MSE111 MSE112 MSE115 MSE200	MSM45 MSM50	5.313 134.94	1.3 32	4.4 112	4.5 114		
MS4	MSE203 MSE204 MSE207 MSE208	MSM55 MSM60 MSM65	6.187 157.16	1.5 38	4.9 124	5.0 126		
MS5	MSE211 MSE212 MSE215 MSE300	MSM70 MSM75	7.000 177.80	2.0 50	5.4 138	5.5 140		
MS6	MSE303 MSE304 MSE307 MSE308	MSM80 MSM85 MSM90	8.000 203.20	2.0 50	6.0 152	6.1 154		
MS7	MSE311 MSE312 MSE315 MSE400	MSM100 MSM105	9.125 231.78	2.5 64	5.7 144	5.7 146		
MS8	MSE403 MSE404 MSE407 MSE408	MSM110 MSM115	10.500 266.70	3.0 76	6.3 160	6.4 162		
MS10	MSE411 MSE412 MSE415 MSE500	MSM120 MSM125 MSM130	11.625 295.28	3.2 82	7.2 182	7.2 184		
MS30	MSE503 MSE504 MSE507 MSE508	MSM135 MSM140	12.750 323.85	3.5 90	7.3 186	7.4 188		
MS31	MSE511 MSE512 MSE515 MSE600	MSM150 MSM155	13.250 336.55	3.7 95	8.0 202	8.0 204		
MS32E0548	MSM160A							

*For Triple Labyrinth Seal Designations, please refer to page 28.

Medium Series Support S03 - S31

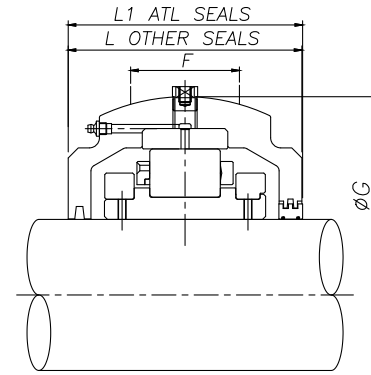
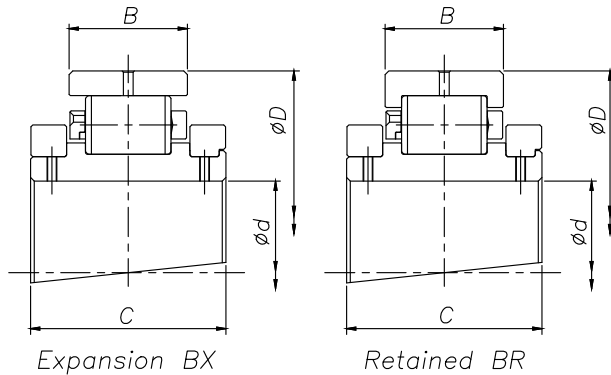


S03 - S31

Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
1 ¹ / ₁₆ 1 ³ / ₄ 1 ⁵ / ₁₆ 2	45 50	S03	3.150 80	1.3 32	7.1 180	9.2 234	11 x 2.8 280 x 70	2 x M16
2 ³ / ₁₆ 2 ¹ / ₄ 2 ⁷ / ₁₆ 2 ¹ / ₂	55 60 65	S04	3.740 95	1.5 38	8.2 208	10.6 270	13 x 3 330 x 76	2 x M20
2 ¹ / ₁₆ 2 ³ / ₄ 2 ⁵ / ₁₆ 3	70 75	S05 S05-4B	4.409 112 4.409 112	1.7 44 1.7 44	9.5 242 9.53 242	12.6 320 12.9 x 3.5 328 x 88.9	15 x 3.5 380 x 90 15 x 5.51 380 x 140	2 x M24 4 x M20
3 ³ / ₁₆ 3 ¹ / ₄ 3 ⁷ / ₁₆ 3 ¹ / ₂	80 85 90	S06 S06-4B	4.921 125 4.921 125	2.17 55 2.17 55	10.43 265 10.43 265	13.9 354 14.5 x 4 368 x 102	16.5 x 4 420 x 102 16.8 x 6 426 x 152	2 x M24 4 x M20
3 ¹ / ₁₆ 3 ³ / ₄ 3 ⁵ / ₁₆ 4	100 105	S07 S07-4B	5.630 143 5.63 143	2.4 60 2.4 60	11.93 303 11.93 303	15.4 392 16.2 x 4.5 412 x 114.3	18.3 x 4.7 466 x 120 17.74 x 6.77 476 x 172	2 x M24 4 x M20
4 ³ / ₁₆ 4 ¹ / ₄ 4 ⁷ / ₁₆ 4 ¹ / ₂	110 115	S08	6.378 162	1.5 38	14.6 372	17.7 x 4.7 450 x 120	20 x 7 508 x 178	4 x M24
4 ¹ / ₁₆ 4 ³ / ₄ 4 ⁵ / ₁₆ 5	120 125 130	S10	7.126 181	1.6 40	16.3 415	19.5 x 4.7 496 x 120	22 x 7 558 x 178	4 x M24
5 ³ / ₁₆ 5 ¹ / ₄ 5 ⁷ / ₁₆ 5 ¹ / ₂	135 140	S30	7.992 203	2.0 50	18.1 460	21.5 x 4.7 546 x 120	24 x 7 610 x 178	4 x M24
5 ¹ / ₁₆ 5 ³ / ₄ 5 ⁵ / ₁₆ 6	150 155 160A	S31	8.268 210	2.0 50	18.5 470	22 x 5 558 x 128	25 x 8 636 x 204	4 x M24

Medium Series Bearing & Housing

6 7/16 inch to 14 inch

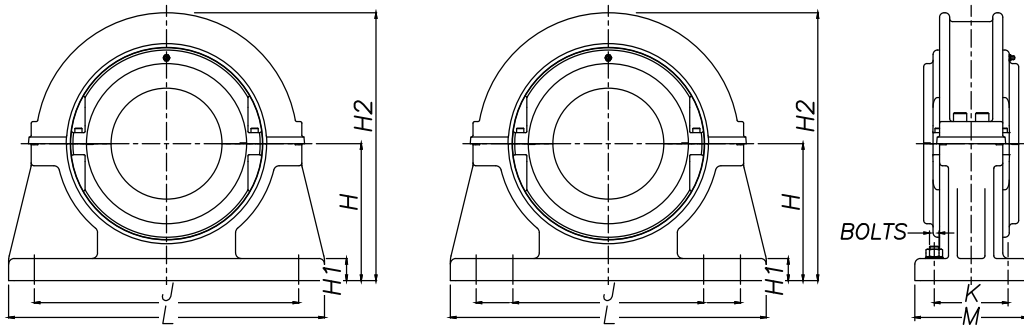


Shaft (d)		Reference		Bearings Ratings						
inch	mm	Add BR for retained Add BX for expansion e.g. MSM160BR		Dynamic C _r (lb/kN)	Static C _{0r} (lb/kN)	Axial C _a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm
6 7/16		MSE607								
6 1/2	160	MSE608	MSM160	189289	264151	13803		12.500	3.280	5.512
6 9/16	170	MSE611	MSM170	842	1175	61.40	1200	317.50	83.30	140.00
6 3/4		MSE612								
6 5/8	175	MSE615	MSM175	208398	305066	16006		13.000	3.280	5.512
7	180	MSE700	MSM180	927	1357	71.20	1120	330.20	83.30	140.00
7 1/4		MSE704								
7 1/2	190	MSE708	MSM190	227732	340810	17985		14.500	3.563	6.142
7 5/8	200	MSE715	MSM200	1013	1516	80.00	960	368.30	90.50	156.00
8		MSE800								
8 1/2	220	MSE808	MSM220	255833	374981	20188		15.500	3.563	6.417
8 7/8	230	MSE814	MSM230	1138	1668	89.80	850	393.70	90.50	163.00
9		MSE900								
9 1/2	240	MSE908	MSM240	304391	475921	22211		17.000	3.811	6.693
9 3/4	250	MSE912	MSM250	1354	2117	98.80	750	431.80	96.80	170.00
10	260	MSE1000	MSM260							
10 1/2	270	MSE1008	MSM270	331818	529875	25583		18.250	4.000	7.323
10 3/4	280	MSE1012	MSM280	1476	2357	113.80	670	463.55	101.60	186.00
11		MSE1100								
11 1/2	300	MSE1108	MSM300	356772	594395	29000		19.500	4.063	7.598
12	305	MSE1200	MSM305	1587	2644	129.00	610	495.30	103.20	193.00
12 1/2	320	MSE1208	MSM320	387346	656892	32417		20.750	4.189	7.559
13	330	MSE1300	MSM330	1723	2922	144.20	550	527.05	106.40	192.00
14	340		MSM340	447145	765025	35790		22.250	4.563	7.874
	350	MSE1400	MSM350	1989	3403	159.20	500	565.15	115.90	200.00
	360		MSM360							

Housing Reference		ATL seals		Other seal types		G	F	L	L ₁
		Add HRTL for retained Add HXTL for expansion e.g. MS32HRTL		Add HR for retained Add HX for expansion e.g. MSM160HR		in./ mm	in./ mm	in./ mm	in./ mm
MS32			MSE607	MSM160		14.500	3.7	8.1	9.1 232
			MSE608	MSM170		368.30	95	206	
			MSE611						
			MSE612						
MS33			MSE615	MSM175		15.000	3.7	8.7	9.5
			MSE700	MSM180		381.00	95	222	242
MS34			MSE704						
			MSE708	MSM190		16.752	4.1	9.3	10.2
			MSE715	MSM200		425.50	105	235	258
			MSE800						
MS35			MSE808	MSM220		18.000	4.3	9.5	10.8
			MSE814	MSM230		457.20	110	242	274
			MSE900						
MS36			MSE908	MSM240		19.500	4.6	9.8	11.0
			MSE912	MSM250		495.30	118	248	280
MS36E0548			MSE1000	MSM260					
MS37			MSE1008	MSM270		20.752	5.1	10.4	11.8
			MSE1012	MSM280		527.10	130	264	300
			MSE1100						
MS38			MSE1108	MSM300		21.752	5.0	10.6	12.0
			MSE1200	MSM305		552.50	128	268	306
MS39			MSE1208	MSM320		23.126	5.0	11.7	—
			MSE1300	MSM330		587.40	128	298	—
MS40				MSM340		24.752	5.7	12.0	—
			MSE1400	MSM350		628.70	146	305	—
				MSM360					

*For Triple Labyrinth Seal Designations, please refer to page 28.

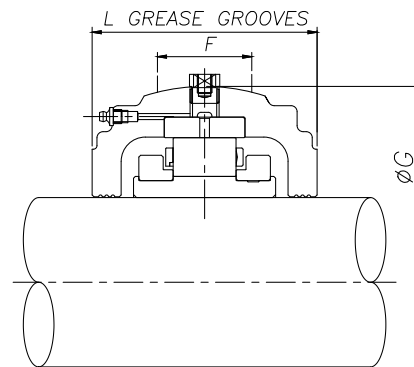
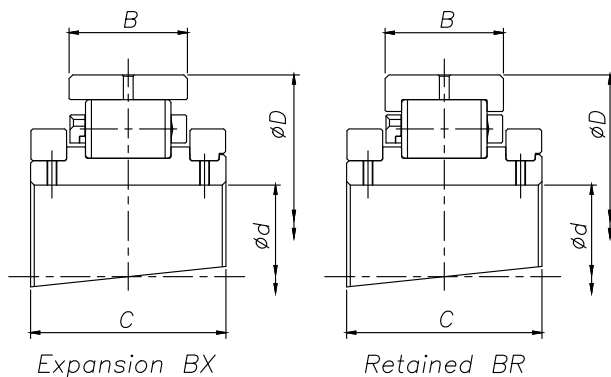
Medium Series Support S32 - S40



S32 - S40

Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
6 ¹ / ₁₆ 6 ¹ / ₂	160 170	S32	10.512 267	1.7 44	21.1 535	17.6 x 6.8 448 x 172	23.5 x 9.5 596 x 242	4 x M30
6 ¹ / ₁₆ 6 ³ / ₄ 6 ¹⁵ / ₁₆ 7	175 180	S33	10.748 273	1.7 44	21.5 545	18 x 6.5 458 x 166	25 x 9.5 636 x 242	4 x M30
7 ¹ / ₄ 7 ¹ / ₂ 7 ¹⁵ / ₁₆ 8	190 200	S34	12.008 305	2.0 50	24.0 610	20 x 7.5 508 x 190	27 x 10.5 686 x 266	4 x M30
8 ¹ / ₂ 8 ⁷ / ₈ 9	220 230	S35	12.756 324	2.0 50	25.6 650	21.7 x 7.5 550 x 190	29.5 x 11 750 x 280	4 x M30
9 ¹ / ₂ 9 ³ / ₄ 10	240 250	S36	14.016 356	2.1 54	28.0 710	23.5 x 8 596 x 204	32 x 11.5 812 x 292	4 x M36
10 ¹ / ₂ 10 ³ / ₄ 11	260 270 280	S37	14.882 378	2.4 60	29.9 760	29 & 21 x 10 736 & 534 x 254	36 x 13 914 x 330	8 x M30
11 ¹ / ₂ 12	300 305	S38	15.512 394	2.4 60	31.1 790	30.2 & 22.3 x 10 768 & 566 x 254	37.7 x 13 958 x 330	8 x M30
12 ¹ / ₂ 13	320 330	S39	16.496 419	2.5 64	33.1 840	32 & 24 x 8.3 812 & 610 x 210	40 x 11.5 1016 x 292	8 x M30
14	340 350	S40	17.756 451	2.6 67	35.4 900	34 & 26 x 11 864 & 660 x 280	43 x 14.5 1092 x 368	8 x M36

Medium Series Bearing & Housing 15 inch to 24 inch

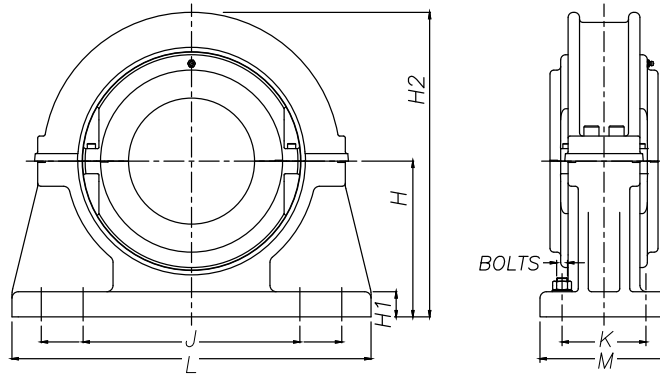


Shaft (d)		Reference		Bearings Ratings						
inch	mm	Add BR for retained Add BX for expansion e.g. MSM1700BR		Dynamic C_r (lb/kN)	Static C_0 (lb/kN)	Axial C_a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm
15	380	MSE1500	MSM380	434106 1931	791778 3522	39207 174.40	460	23.000 584.20	4.374 111.10	7.874 200.00
16	400	MSE1600	MSM400	473223 2105	852701 3793	42354 188.40	430	24.250 615.95	4.563 115.90	7.874 200.00
17	420	MSE1700	MSM420	522456 2324	936105 4164	45411 202.00	400	25.500 647.70	4.689 119.10	7.874 200.00
18	440 460	MSE1800	MSM440 MSM460	497952 2215	940376 4183	48559 216.00	380	26.250 666.75	4.563 115.90	7.874 200.00
19	480	MSE1900	MSM480	549658 2445	1032773 4594	51706 230.00	360	27.500 698.50	4.689 119.10	8.780 223.00
20	500	MSE2000	MSM500	551456 2453	1137229 5054	54853 244.00	340	28.250 717.55	4.563 115.90	8.898 226.00
21	530	MSE2100	MSM530	607434 2702	1230020 5467	58001 258.00	330	30.000 762.00	4.689 119.10	9.016 229.00
22	560	MSE2200	MSM560	640930 2851	1303567 5794	61148 272.00	310	31.250 793.75	4.811 122.20	9.173 233.00
23	580	MSE2300	MSM580	670380 2982	1402056 6231	64295 286.00	300	32.000 812.80	4.689 119.10	9.134 232.00
24	600	MSE2400	MSM600	668132 2972	1404650 6243	67443 300.00	290	33.000 838.20	4.689 119.10	8.425 214.00

Housing Reference						
ATL seals		Other seal types				
Add HRTL for retained Add HXTL for expansion e.g. MS34HRTL		Add HR for retained Add HX for expansion e.g. MSE1700HR	G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm
MS41	MSE1500	MSM360 MSM380	25.500 647.70	5.7 146	12.0 305	—
MS42	MSE1600	MSM400	27.000 685.80	5.7 146	12.8 324	—
MS43	MSE1700	MSM420	28.252 717.60	5.7 146	13.8 350	—
MS44	MSE1800	MSM440 MSM460	28.874 733.40	5.7 146	13.8 350	—
MS45	MSE1900	MSM480	30.000 762.00	5.7 146	14.5 368	—
MS46	MSE2000	MSM500	31.000 787.40	5.7 146	14.5 368	—
MS47	MSE2100	MSM530	32.752 831.90	5.9 150	14.5 368	—
MS48	MSE2200	MSM560	34.126 866.80	6.0 152	14.7 374	—
MS49	MSE2300	MSM580	34.764 883.00	6.0 152	14.7 374	—
MS50	MSE2400	MSM600	36.000 914.40	6.0 152	15.3 388	—

*For Triple Labyrinth Seal Designations, please refer to page 28.

Medium Series Support S41 - S50



S41-S50

Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
15	380	S41	18.268 464	2.6 67	36.4 925	34.9 & 26.9 x 11 886 & 682 x 280	43 x 14.5 1092 x 368	8 x M36
16	400	S42	19.488 495	2.8 70	39.0 990	36.8 & 28.7 x 11 934 & 730 x 280	46 x 14.5 1168 x 368	8 x M36
17	420	S43	20.236 514	2.8 70	40.6 1030	38.3 & 30.2 x 11 972 & 768 x 280	47 x 14.5 1194 x 368	8 x M36
18	440 460	S44	20.984 533	2.9 73	42.1 1070	39.2 & 31 x 11 996 & 788 x 280	49 x 14.5 1244 x 368	8 x M36
19	480	S45	21.732 552	3.0 76	43.7 1110	41 & 32 x 11 1042 & 812 x 280	50 x 14.5 1270 x 368	8 x M36
20	500	S46	22.520 572	3.1 80	45.1 1145	42.3 & 33.2 x 11 1074 & 844 x 280	51 x 14.5 1296 x 368	8 x M36
21	530	S47	23.386 594	3.3 83	46.5 1180	44 & 35 x 11 1118 & 890 x 280	55 x 14.5 1398 x 368	8 x M36
22	560	S48	24.252 616	3.4 86	48.4 1230	45.6 & 36.6 x 11 1158 & 930 x 280	56 x 15 1422 x 382	8 x M42
23	580	S49	25.000 635	3.5 89	50.0 1270	46.7 & 37.8 x 11 1187 & 959 x 280	57 x 15 1448 x 382	8 x M42
24	600	S50	26.496 673	3.6 92	53.0 1345	48.7 & 39.8 x 11 1238 & 1010 x 280	60 x 15 1524 x 382	8 x M42

Flange Units

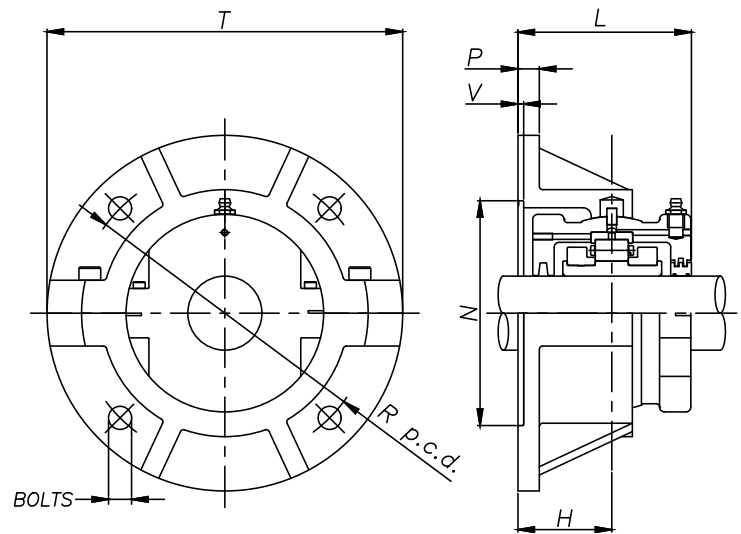
When faced with flat horizontal or vertical faces, flange units offer a simple mounting solution. As with pillow block supports, flange units are produced with spherical location to accommodate standard bearing housings and provide easy initial alignment of shaft and equipment.

To facilitate positive location of the flange to the surface, the rear face is recessed (dimensions N & V). This allows for a spigot (Tolerance f8) to be located into the flange.

Bearing inspection is simply a matter of removing the top half of the flange and housing. Bearing replacement may also be achieved in the same manner if required.

When integrating flange units into new applications, it should be noted that a maximum radial load equivalent to $0.26C_{or}$ is permissible. A maximum axial load of $0.25C_a$ must also be taken into account for applications with thrust loading. Units for vertically oriented shafts may also need special consideration given to sealing arrangements.

As always, Timken will be happy to advise on any application issues.



Medium Series Support 1¹¹/₁₆ inch to 12 inch Flanges

Medium Series 1¹¹/₁₆ inch to 12 inch Flanges

Shaft (d)		Flange Reference	T in./mm	Bolts	R in./mm	P in./mm	H in./mm	N in./mm	V in./mm	L in./mm	
inch	mm										
1 ¹¹ / ₁₆	45	F03	10.2	4 x M12	8.6	0.6	2.6	6.571	0.1	4.9	
1 ³ / ₄	50		260		218	16	67	166.9	3	124	
1 ¹⁵ / ₁₆											
2											
2 ³ / ₁₆	55	F04	11.3	4 x M12	9.5	0.6	2.9	7.563	0.1	5.4	
2 ¹ / ₄	60		286		242	16	73	192.09	3	136	
2 ⁷ / ₁₆	65										
2 ¹ / ₂											
2 ¹¹ / ₁₆	70	F05	13.0	4 x M16	10.8	0.7	3.1	8.500	0.1	5.9	
2 ³ / ₄	75		330		274	19	79	215.9	3	150	
2 ¹⁵ / ₁₆											
3											
3 ³ / ₁₆	80	F06	14.0	4 x M16	11.9	0.7	3.4	9.625	0.1	6.5	
3 ¹ / ₄	85		356		302	19	86	244.47	3	164	
3 ⁷ / ₁₆	90										
3 ¹ / ₂											
3 ¹¹ / ₁₆	100	F07	15.0	4 x M16	13.1	0.9	3.6	10.875	0.1	6.5	
3 ³ / ₄	105		382		334	22	92	276.22	3	166	
3 ¹⁵ / ₁₆											
4											
4 ³ / ₁₆	110	F08	17.0	4 x M24	14.7	0.9	3.9	12.375	0.1	7.1	
4 ¹ / ₄	115		432		374	22	98	314.32	3	180	
4 ⁷ / ₁₆											
4 ¹ / ₂											
4 ¹¹ / ₁₆	120	F10	18.5	4 x M24	16.2	1.0	4.5	13.625	0.1	8.1	
4 ³ / ₄	125		470		412	25	114	346.07	3	206	
4 ¹⁵ / ₁₆	130										
5											
5 ³ / ₁₆	135	F30	20.0	4 x M24	17.5	1.0	4.5	14.875	0.1	8.2	
5 ¹ / ₄	140		508		444	25	114	377.82	3	208	
5 ⁷ / ₁₆											
5 ¹ / ₂											
5 ¹¹ / ₁₆	150	F31	21.0	4 x M24	18.3	1.0	4.9	15.500	0.1	8.9	
5 ³ / ₄	155		534		466	25	124	393.70	3	226	
5 ¹⁵ / ₁₆	160A										
6											
6 ⁷ / ₁₆	160	F32	23.0	4 x M30	20.0	1.1	4.9	16.875	0.2	9.4	
6 ¹ / ₂	170		584		508	29	124	428.62	5	240	
6 ¹¹ / ₁₆	175	F33	23.5	4 x M30	20.6	1.3	5.1	17.500	0.2	9.9	
6 ³ / ₄	180		596		524	32	130	444.50	5	252	
6 ¹⁵ / ₁₆											
7											
7 ¹ / ₄	190	F34	25.5	4 x M30	22.5	1.3	5.4	19.375	0.2	10.5	
7 ¹ / ₂	200		648		572	32	137	492.12	5	266	
7 ¹⁵ / ₁₆											
8											
8 ¹ / ₂	220	F35	28.0	4 x M36	24.4	1.4	5.7	20.750	0.2	11.2	
8 ⁷ / ₈	230		712		620	35	146	527.05	5	284	
9											
9 ¹ / ₂	240	F36	29.0	4 x M36	26.0	1.5	5.9	22.375	0.2	11.4	
9 ³ / ₄	250		736		660	38	149	568.32	5	290	
10	260										
10 ¹ / ₂	270	F37	30.0	8 x M30	26.9	1.5	6.3	23.750	0.2	12.2	
10 ³ / ₄	280		762		682	38	159	603.25	5	310	
11											
11 ¹ / ₂	300	F38	31.0	8 x M30	27.9	1.6	6.4	24.750	0.2	12.4	
12	305		788		708	41	162	628.65	5	316	

For Bearings and Housings see pages 52–54.

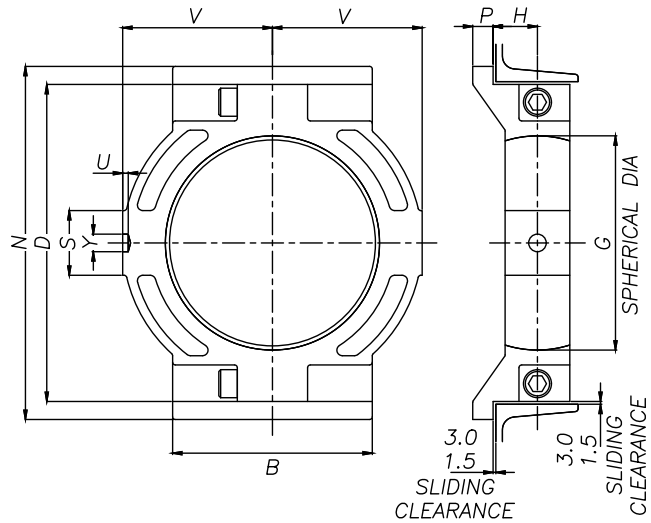
Tensioning Units

This type of split unit can be found in use on materials handling equipment in many industries. Take up units provide an efficient and readily accessible means of tensioning conveyor systems and large scale drives.

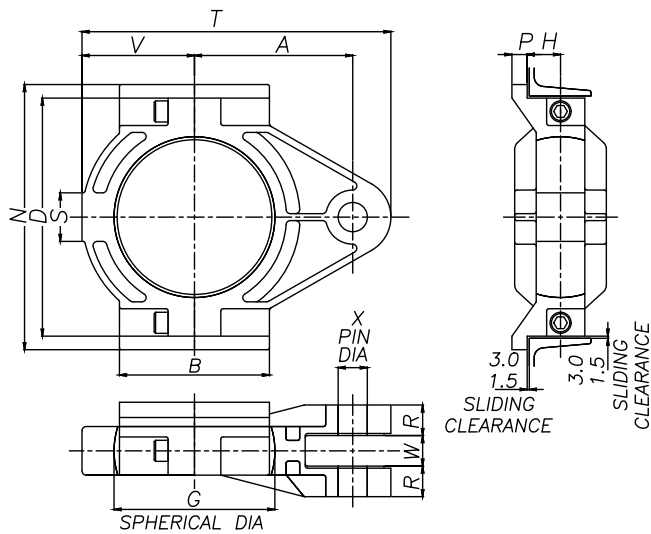
The units consist of either push type or pull type sliding supports into which standard housings and bearings may be mounted. When integrating tensioning units into new applications, it should be noted that a maximum radial load equivalent to $0.3C_{or}$ is permissible. As with all Revolve units, a wide variety of sealing solutions may be applied dependant on the environment and application. Please contact Timken for assistance.



TP



TT



Tensioning Units TT/TP

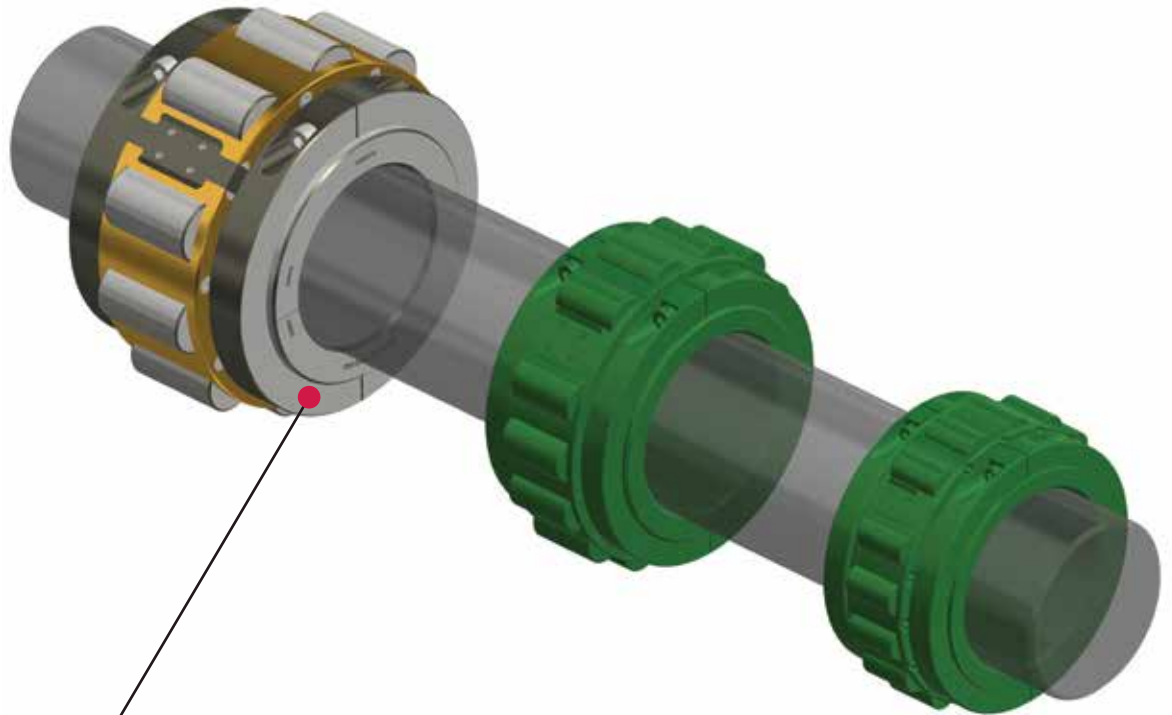
Medium Series 1¹¹/₁₆ inch to 6 inch Support

Shaft (d)		Support Reference															
inch	mm	Tension Type	Push Type	B in./mm	N in./mm	D in./mm	V in./mm	P in./mm	H in./mm	L in./mm	S in./mm	A in./mm	T in./mm	X in./mm	W in./mm	R in./mm	
1 ¹¹ / ₁₆	45	TT03	TP03	5.0	9.3	8.0	4.0	0.8	1.3	4.3	1.5	5.7	11.0	0.9	1.2	1.1	
1 ³ / ₄	50			128	235	203	102	20	32	108	38	146	280	24	30	29	
1 ⁵ / ₁₆	50																
2																	
2 ³ / ₁₆	55	TT04	TP04	6.0	10.5	9.0	4.5	0.9	1.6	4.9	1.6	6.2	12.0	0.9	1.2	4.5	
2 ¹ / ₄	60			152	266	229	114	22	40	124	41	158	305	24	30	114	
2 ⁷ / ₁₆	65																
2 ¹ / ₂																	
2 ¹ / ₁₆	70	TT05	TP05	7.5	12.5	11.0	5.5	0.9	1.6	5.2	2.0	7.5	14.5	1.2	1.5	1.4	
2 ³ / ₄	75			190	318	280	140	22	40	131	51	190	368	30	38	35	
2 ⁷ / ₁₆																	
3																	
3 ³ / ₁₆	80	TT06	TP06	8.0	13.5	12.0	6.0	0.9	1.7	5.6	2.0	8.3	16.3	1.4	1.7	1.4	
3 ¹ / ₄	85			204	342	305	152	22	43	141	51	210	414	36	44	35	
3 ⁷ / ₁₆	90																
3 ¹ / ₂																	
3 ¹ / ₁₆	100	TT07	TP07	8.5	15.0	13.5	6.4	0.9	1.9	5.6	2.8	9.0	17.5	1.7	1.7	1.6	
3 ³ / ₄	105			216	382	343	162	22	48	142	70	228	445	42	44	41	
3 ⁷ / ₁₆																	
4																	
4 ³ / ₁₆	110	TT08	TP08	10.0	16.5	15.0	7.5	1.0	2.0	6.1	3.0	10.2	20.0	1.7	1.7	1.7	
4 ¹ / ₄	115			254	420	381	190	25	51	156	76	260	508	42	44	44	
4 ⁷ / ₁₆																	
4 ¹ / ₂																	
4 ¹ / ₁₆	120	TT10	TP10	10.5	18.3	16.8	8.0	1.0	2.2	6.8	3.4	11.0	21.5	1.9	2.0	2.0	
4 ³ / ₄	125			266	464	426	204	25	57	173	86	280	546	48	50	51	
4 ⁵ / ₁₆	130																
5																	
5 ³ / ₁₆	135	TT30	TP30	11.0	19.8	18.3	8.7	1.0	2.4	7.0	3.6	11.7	23.0	1.9	2.0	2.1	
5 ¹ / ₄	140			280	502	464	222	25	60	178	92	298	584	48	50	54	
5 ⁷ / ₁₆																	
5 ¹ / ₂																	
5 ¹ / ₁₆	150	TT31	TP31	12.0	20.8	19.3	9.3	1.0	2.5	7.5	3.6	12.3	24.3	1.9	2.0	2.2	
5 ³ / ₄	155			305	528	489	235	25	64	190	92	312	616	48	50	57	
5 ⁷ / ₁₆	160A																
6																	

Heavy Series Product

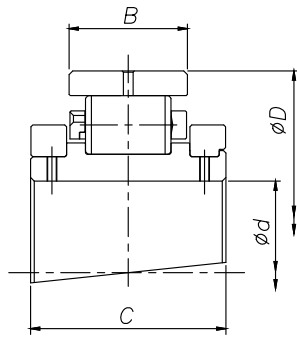
Heavy Series bearing products offer solutions to the most demanding of load conditions. Bearings are supported by robust and durable mountings and can be equipped with a variety of sealing solutions. If a standard catalog product does not meet your requirements, Timken will be happy to provide help and advice on your application.

Bearings, Housings & Supports	3 ¹¹ / ₁₆ inch to 10 inch	Page	64 – 65
	11 inch to 24 inch	Page	66 – 67
Flange Units		Page	68

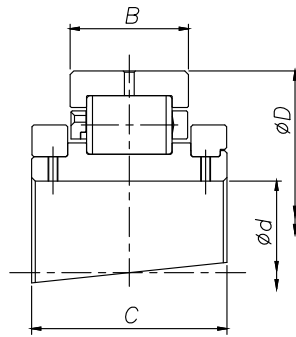


Heavy Series

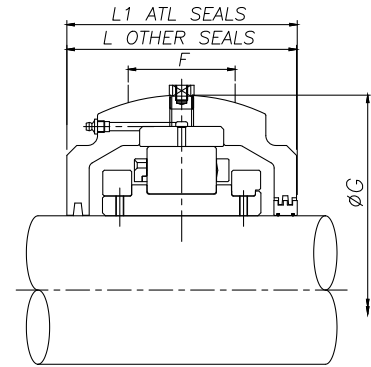
Heavy Series Bearing & Housing 3¹¹/₁₆ inch to 10 inch



Expansion BX



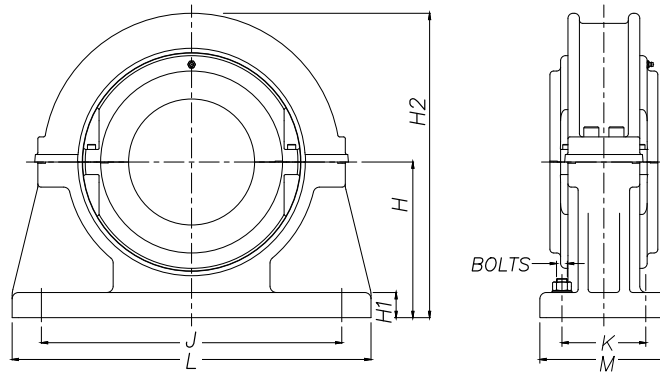
Retained BR



Shaft (d)		Reference		Bearings Ratings					Housing Reference								
inch	mm	Add BR for retained Add BX for expansion e.g. HSE515BR		Dynamic C _r (lb/kN)	Static C ₀ (lb/kN)	Axial C _a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm	ATL seals Add HRTL for retained Add HXTL for expansion e.g. HS58HRTL	Other seal types Add HR for retained Add HX for expansion e.g. HSE515HR	G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm	
3 ¹ / ₁₆	100	HSE311	HSM100	146800	176025	7014	1820	10.000	3.315	5.354	HS54	HSE311	12.126	3.7	7.9	8.1	
3 ³ / ₁₆	105	HSE312	HSM105	653	783	31.20		254.00	84.20	136.00		HSE312					
3 ¹⁵ / ₁₆		HSE315										HSE315					
4		HSE400										HSE400					
4 ³ / ₁₆	110	HSE403	HSM110	147475 656	180072 801	8790 39.10	1640	10.500 266.70	3.437 87.30	5.787 147.00	HS55	HSE403	12.750 323.85	4.0	8.3	8.7	
4 ¹ / ₄	115	HSE404	HSM115									HSE404					HSM115
4 ⁷ / ₁₆	120	HSE407	HSM120									HSE407					HSM120
4 ¹ / ₂		HSE408										HSE408					
4 ¹ / ₁₆	125	HSE411	HSM125	169281 753	218964 974	11016 49.00	1500	11.000 279.40	73.10 3.315	5.512 140.00	HS56	HSE411	12.750 323.85	4.0	8.4	8.7	
4 ³ / ₄	130	HSE412	HSM130									HSE412					HSM130
4 ⁵ / ₁₆		HSE415										HSE415					
5		HSE500										HSE500					
5 ³ / ₁₆	135	HSE503	HSM135	208623 928	284383 1265	13219 58.80	1340	12.000 304.80	79.40 3.563	5.787 147.00	HS57	HSE503	14.000 355.60	4.3	8.5	9.1	
5 ¹ / ₄	140	HSE504	HSM140									HSE504					HSM140
5 ⁷ / ₁₆		HSE507										HSE507					
5 ¹ / ₂		HSE508										HSE508					
5 ¹ / ₁₆	150	HSE511	HSM150	233127 1037	297872 1325	15602 69.40	1220	13.000 330.20	3.189 81.00	6.299 160.00	HS58	HSE511	15.500 393.70	4.5	9.1	10.0	
5 ³ / ₄	155	HSE512	HSM155									HSE512					HSM155
5 ¹⁵ / ₁₆		HSE515										HSE515					
6		HSE600										HSE600					
6 ¹ / ₁₆	160	HSE607	HSM160	268871 1196	354299 1576	17805 79.20	1110	14.000 355.60	4.063 103.20	6.732 171.00	HS59	HSE607	16.626 422.30	4.7	9.6	10.6	
6 ¹ / ₂	170	HSE608	HSM170									HSE608					HSM170
6 ¹ / ₄		HSE611										HSE611					
6 ³ / ₄	175	HSE612	HSM175	298996 1330	419718 1867	20008 89.00	1030	14.750 374.65	92.10 4.283	7.008 178.00	HS60	HSE612	17.000 431.80	5.2	10.0	11.2	
6 ⁷ / ₁₆	180	HSE615	HSM180									HSE615					HSM180
7		HSE700										HSE700					
7 ¹ / ₄	190	HSE704	HSM190	359020 1597	513688 2285	22391 99.60	880	16.500 419.10	97.70 4.657	7.520 191.00	HS61	HSE704	19.252 489.00	5.7	10.6	11.8	
7 ¹ / ₂	200	HSE708	HSM200									HSE708					HSM200
7 ¹⁵ / ₁₆		HSE715										HSE715					
8		HSE800										HSE800					
8 ¹ / ₂	220	HSE808	HSM220	374307 1665	551906 2455	24594 109.40	760	18.500 469.90	4.315 109.60	8.346 212.00	HS62	HSE808	21.500 546.10	6.5	11.7	13.1	
8 ⁷ / ₈	230	HSE814	HSM230									HSE814					HSM230
9		HSE900										HSE900					
9 ¹ / ₂	240	HSE908	HSM240	426238 1896	626992 2789	29405 130.80	700	19.000 482.60	4.157 105.60	8.307 211.00	HS63	HSE908	22.000 558.80	6.5	11.7	13.1	
9 ³ / ₄		HSE912										HSE912					
10		HSE1000										HSE1000					
	260		HSM260						124.60			HS63E0548					HSM260

*For Triple Labyrinth Seal Designations, please refer to page 28.

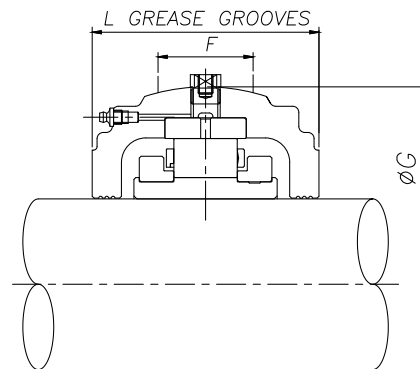
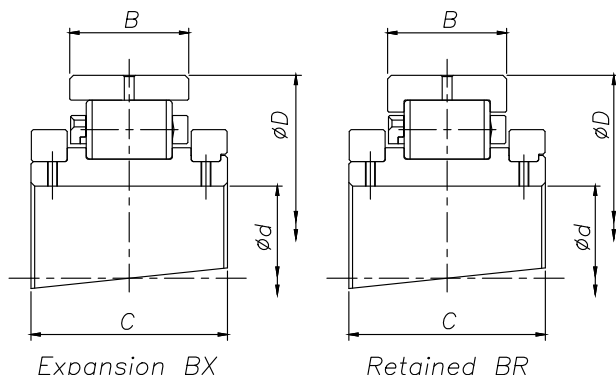
Heavy Series Support S54 - S63



S54 - S63

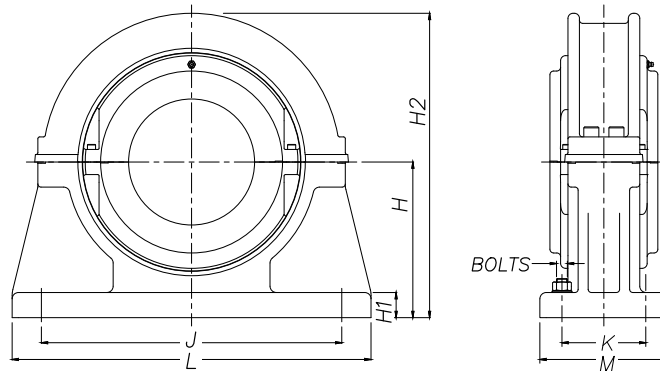
Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
3 ¹ / ₁₆ 3 ³ / ₄ 3 ¹ / ₂ 4	100 105	S54	7.520 191	1.5 38	15.9 405	17.2 x 3.2 438 x 82	20.2 x 6 514 x 152	4 x M24
4 ³ / ₁₆ 4 ¹ / ₄ 4 ⁷ / ₁₆ 4 ¹ / ₂	110 115 120	S55	7.756 197	1.5 38	16.7 425	18 x 3.5 458 x 88	21 x 6.5 534 x 166	4 x M24
4 ¹ / ₂ 5	125 130	S56	7.992 203	1.9 48	17.1 435	18.5 x 3.8 470 x 96	21.5 x 6.5 546 x 166	4 x M24
5 ³ / ₁₆ 5 ¹ / ₄ 5 ⁷ / ₁₆ 5 ¹ / ₂	135 140	S57	9.016 229	2.1 54	19.1 485	20.2 x 4 514 x 102	24.5 x 7 622 x 178	4 x M30
5 ¹ / ₂ 5 ³ / ₄ 5 ¹ / ₂ 6	150 155	S58	10.000 254	2.2 57	21.1 535	22 x 4.7 558 x 120	26.2 x 8 666 x 204	4 x M30
6 ⁷ / ₁₆ 6 ¹ / ₂ 6 ¹ / ₄	160 170	S59	10.512 267	2.4 60	22.4 570	24.7 x 5.5 628 x 140	29 x 9 736 x 228	4 x M30
6 ¹ / ₄ 6 ¹ / ₁₆ 7	175 180	S60	10.984 279	2.5 64	22.8 580	25 x 6 636 x 152	30 x 10 762 x 254	4 x M30
7 ¹ / ₄ 7 ¹ / ₂ 7 ¹ / ₁₆ 8	190 200	S61	12.244 311	2.6 67	25.8 655	25 x 6.8 636 x 172	33 x 10.5 838 x 266	4 x M36
8 ¹ / ₂ 8 ¹ / ₈ 9	220 230	S62	13.740 349	3.0 76	28.7 730	29 x 7 736 x 178	37.5 x 11 952 x 280	4 x M42
9 ¹ / ₂ 9 ¹ / ₄ 10	240 260	S63	15.512 394	3.0 76	31.1 790	26.4 x 12 670 x 304	36 x 16 914 x 406	4 x M42

Heavy Series Bearing & Housing 11 inch to 24 inch



Shaft (d)		Reference		Bearings Ratings					Housing Reference								
inch	mm	Add BR for retained Add BX for expansion e.g. HSE1700BR		Dynamic C _r (lb/kN)	Static C _{or} (lb/kN)	Axial C _a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm	ATL seals Add HRTL for retained Add HXTL for expansion e.g. HS89HRTL	Other seal types Add HR for retained Add HX for expansion e.g. HSE1700HR		G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm
11	280	HSE1100	HSM280	495029 2202	788405 3507	34396 153.00	620	19.500 495.30	5.500 139.70	9.606 244.00	HS83	HSE1100	HSM280	22.500 571.50	6.5 165	14.0 356	14.0 356
12	300	HSE1200	HSM300	525379 2337	820553 3650	39207 174.40	560	22.000 558.80	5.500 139.70	9.606 244.00	HS65	HSE1200	HSM300	25.252 641.40	6.5 165	13.6 346	14.6 370
13	320	HSE1300	HSM320	611031 2718	920143 4093	44692 198.80	500	24.500 622.30	6.315 160.40	10.709 272.00	HS66	HSE1300	HSM320	28.252 717.60	6.7 170	14.5 368	—
14	340 360	HSE1400	HSM340 HSM360	659814 2935	1117975 4973	48019 213.60	460	24.250 615.95	6.220 158.00	10.984 279.00	HS86	HSE1400	HSM340 HSM360	27.752 704.90	7.7 196	17.0 432	—
15	380	HSE1500	HSM380	718265	1177550	56382	420	27.000	6.563	11.496	HS68	HSE1500	HSM380	30.500	8.0	15.7	—
16	400	HSE1600	HSM400	3195	5238	250.80		685.80	166.70	292.00	HS68E0548	HSE1600	HSM400	774.70	202	400	
17	420 440	HSE1700	HSM420 HSM440	805266 3582	1433607 6377	62002 275.80	360	27.559 700.00	6.299 160.00	11.181 284.00	HS89	HSE1700	HSM420 HSM440	31.024 788.00	7.9 200	17.3 440	—
18	460	HSE1800	HSM460	855848 3807	1486212 6611	67982 302.40	340	29.134 740.00	6.693 170.00	11.575 294.00	HS90	HSE1800	HSM460	33.071 840.00	7.9 200	17.7 450	—
20	500	HSE2000	HSM500	1047610	1839612	78009	310	33.500	7.378	11.811	HS94	HSE2000	HSM500	37.752	8.0	19.5	—
21	530	HSE2100	HSM530	4660	8183	347.00		850.90	187.40	300.00	HS94E0548	HSE2100	HSM530	958.90	204	495	
22	560	HSE2200	HSM560	1077959 4795	2115902 9412	86012 382.60	280	34.000 863.60	7.752 196.90	12.205 310.00	HS94	HSE2200	HSM560	37.752 958.90	8.0 204	19.3 490	—
23	580	HSE2300	HSM580	1113029	2124669	89924	270	35.039	7.244	12.205	HS95	HSE2300	HSM580	38.976	8.0	19.3	—
24	600	HSE2400	HSM600	4951	9451	400		890.00	184.00	310.00		HSE2400	HSM600	990.00	204	490	

Heavy Series Support S83 - S95



S83-S95

Shaft (d)		Support Reference	H in./mm	H ₁ in./mm	H ₂ in./mm	J x K in./mm	L x M in./mm	Bolts
inch	mm							
11	280	S83	14.488 368	2.8 70	30.9 785	29.2 & 19.8 x 7 742 & 502 x 178	37 x 11 940 x 280	8 x M36
12	300	S65	17.992 457	3.0 76	36.0 915	34.5 & 26.5 x 13 876 & 674 x 330	43 x 16.5 1092 x 420	8 x M36
13	320	S66	20.394 518	3.1 80	40.7 1035	38.5 & 30 x 10.5 978 & 762 x 266	47 x 14 1194 x 356	8 x M36
14	340 360	S86	18.504 470	3.2 82	39.4 1000	36.5 & 26 x 7.5 928 & 660 x 190	48 x 12.5 1220 x 318	8 x M42
15 16	380 400	S68	22.008 559	3.6 92	44.1 1120	40.8 & 31.7 x 11.5 1036 & 806 x 292	50 x 15.5 1270 x 394	8 x M42
17	420 440	S89	20.000 508	3.5 90	42.3 1075	39 & 27.2 x 8.3 990 & 690 x 210	50 x 14.2 1270 x 360	8 x M48
18	460	S90	21.654 550	3.7 95	45.9 1165	42.5 & 30.7 x 8.7 1080 & 780 x 220	53.9 x 15 1370 x 380	8 x M48
20 21	500 530	S94	24.488 622	4.0 102	52.8 1340	50 & 37 x 9.5 1270 & 940 x 242	63 x 16 1600 x 406	8 x M56
22	560	S94	24.488 622	4.0 102	52.8 1340	50 & 37 x 9.5 1270 & 940 x 242	63 x 16 1600 x 406	8 x M56
23 24	580 600	S95	24.488 622	4.0 102	52.8 1340	50 & 37 x 9.5 1270 & 940 x 242	63 x 16 1600 x 406	8 x M56

Flange Units

When faced with flat horizontal or vertical faces, flange units offer a simple mounting solution. As with pillow block supports, flange units are produced with spherical location to accommodate standard bearing housings and provide easy initial alignment of shaft and equipment.

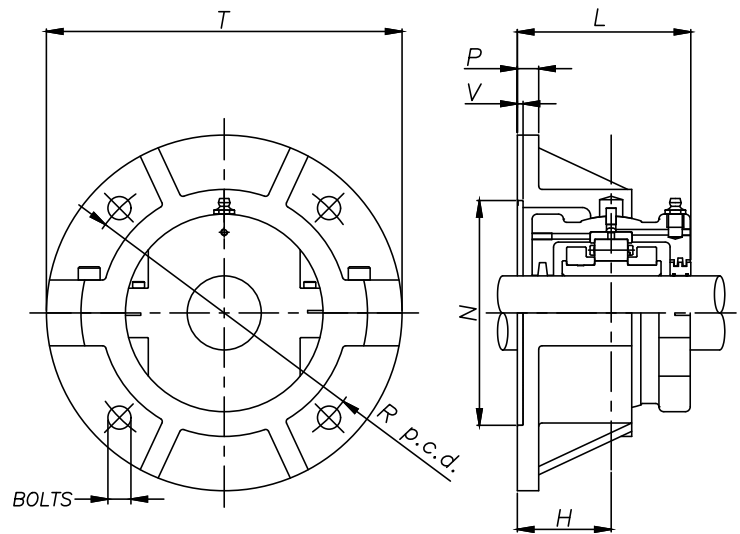
To facilitate positive location of the flange to the surface, the rear face is recessed (dimensions N & V). This allows for a spigot (Tolerance f8) to be located into the flange.

Bearing inspection is simply a matter of removing the top half of the flange and housing. Bearing replacement may also be achieved in the same manner if required.



When integrating flange units into new applications, it should be noted that a maximum radial load equivalent to $0.26C_{or}$ is permissible. A maximum axial load of $0.25C_a$ must also be taken into account for applications with thrust loading. Units for vertically oriented shafts may also need special consideration given to sealing arrangements.

As always, Timken will be happy to advise on any application issues.



Flange Units

Shaft (d)		Flange Reference	T	R	P	H	N	V	L
inch	mm		in./mm	in./mm	in./mm	in./mm	in./mm	in./mm	in./mm
4 ¹⁵ / ₁₆	125	F56	20.9	18.1	1.3	4.8	15.372	0.3	9.2
5	130		530	460	34	122	390.45	7	233
5 ¹¹ / ₁₆		F58	25.5	22.6	1.7	5.4	19.502	0.3	10.4
5 ³ / ₄	150		648	574	44	137	495.35	7	264
5 ¹⁵ / ₁₆	155								
6		F60	28.5	25.1	1.7	6.1	21.502	0.3	11.7
6 ³ / ₄	175		724	638	44	156	546.15	8	298
6 ¹⁵ / ₁₆	180								
7		F63	35.0	31.3	1.9	7.1	27.252	0.3	13.7
9 ¹ / ₂	240		890	796	48	181	692.20	8	348
9 ³ / ₄	250								
10	260								

For Bearings and Housings see page 64.

SAF/SN/SD Bearings

The new compact split plummer block bearing from Revolve is the first split cylindrical roller bearing assembly to be interchangeable with standard SAF, SN and SD series plummer blocks, bringing the benefits of a split design to a much wider audience.

Split roller bearings offer dramatically reduced downtime in maintenance and replacement situations, but could not previously be used in many bearing applications because of their dimensional incompatibility with standard plummer block sizes.

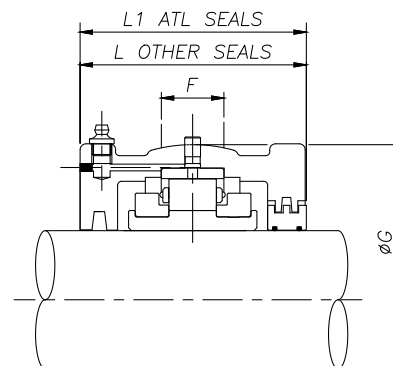
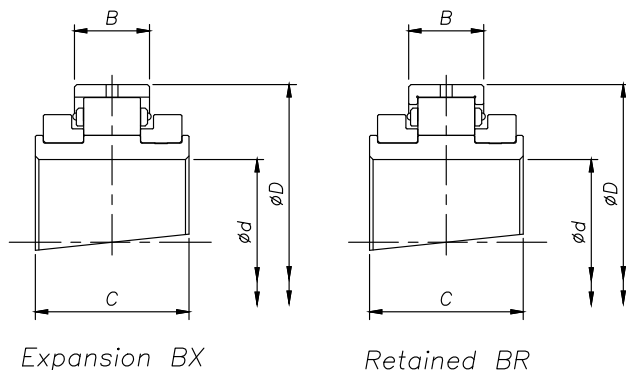
Cast iron plummer blocks accommodating adaptor sleeve mounted spherical roller bearings are amongst the most common types in use around the world, supporting rotating shafts in everything from conveyors and fans to line shafts. Yet their replacement is often time consuming and difficult due to the removal of adjacent equipment. Replacing a typical bearing mounted in a cast iron plummer block can take anything from six hours to several days, in contrast, it can take as little as one to two hours to replace a split cylindrical roller bearing unit. Revolve has designed the supports with an angled split (Quick-Fit) to eliminate the need to lift the shaft for the initial installation.

Key benefits of the Split Plummer Block are:

- Revolve SAFQ, SN, SD, SNQ, SDQ Series supports dimensionally interchangeable with the SAF500, SN5 and SD31 range of plummer blocks.
- Significant reductions in the time required to change trapped bearings.
- Quick and easy initial installation due to angled split support (Quick-Fit) design.
- Savings in downtime, improved machine availability.
- Simplified mounting procedures, no feeler gauges.
- Improved sealing efficiency, seals remain concentric to the shaft, unlike spherical roller bearings.
- Efficient use of Maintenance Engineering resources.
- Improved reliability, able to accommodate thermal expansion of the shaft within the bearing envelope.
- SAF 230, 231, and SD3000 available upon request.



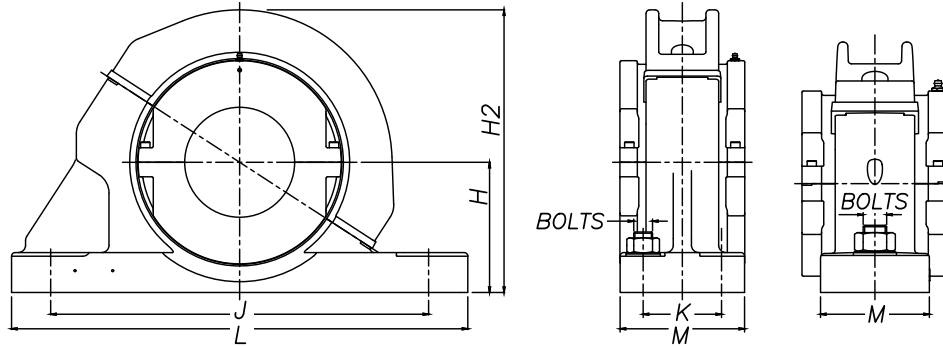
SAFQ 2 Bolt Support / SAFQ 4 Bolt Support



Reference		Bearing Ratings							
Shaft (d) inch	Add BR for retained Add BX for expansion	Additional Bearing(S) inch	mm	Dynamic C_r (lb/kN)	Static C_{or} (lb/kN)	MAX RPM	D in./ mm	B in./ mm	C in./ mm
1 $\frac{1}{16}$	LSE107	LSE103 LSE104	LSM30 LSM35 LSM40	14296 63.5	14724 65.4	5400	3.3126 84.14	0.937 23.8	2.1654 55
1 $\frac{1}{8}$	LSE111	LSE112	LSM45	18694 83.1	19643 87.3	4630	3.8748 98.42	1.000 25.4	2.3622 60
1 $\frac{3}{16}$	LSE115	LSE111 LSE112 LSE200	LSM45 LSM50	18695 83.1	19644 87.3	4630	3.8748 98.42	1.000 25.4	2.3622 60
2 $\frac{3}{16}$	LSE203	LSE204 LSE207 LSE208	LSM55 LSM60 LSM65	23118 102.7	25848 115	3940	4.500 114.3	1.063 27	2.3622 60
2 $\frac{7}{16}$	LSE207	LSE203 LSE204 LSE208	LSM55 LSM60 LSM65	23118 102.7	25848 114.9	3940	4.500 114.3	1.063 27	2.3622 60
2 $\frac{7}{16}$	LSE207	LSE203 LSE204 LSE208	LSM55 LSM60 LSM65	23118 102.7	25848 114.9	3940	4.500 114.3	1.063 27	2.3622 60
2 $\frac{1}{2}$	LSE211	LSE212 LSE215 LSE300	LSM70 LSM75	31041 138	36179 160.8	3310	5.250 133.35	1.252 31.8	2.5591 65
2 $\frac{1}{2}$	LSE211	LSE212 LSE215 LSE300	LSM70 LSM75	31041 138	36179 160.8	3310	5.250 133.35	1.252 31.8	2.5591 65
2 $\frac{1}{2}$	LSE215	LSE211 LSE212 LSE300	LSM70 LSM75	31041 138	36179 160.8	3310	5.250 133.35	1.252 31.8	2.5591 65
2 $\frac{5}{8}$	MSE215	MSE211 MSE212 MSE300	MSM70	58051 258	67566 300.3	3080	5.8748 149.22	1.815 46.1	3.252 82.6
3 $\frac{3}{16}$	LSE303	LSE304	LSM80 LSM85	42145 187.3	52033 231.3	2790	6.000 152.4	1.5315 38.9	2.7835 70.7
3 $\frac{7}{16}$	LSE307	LSE303 LSE304 LSE308	LSM80 LSM85	42145 187.3	52033 231.3	2790	6.000 152.4	1.5315 38.9	2.7835 70.7
3 $\frac{7}{16}$	MSE307	MSE303 MSE304 MSE308	MSM80 MSM85	66830 297	79315 352.5	2520	6.6874 169.86	1.9055 48.4	3.5315 89.7
3 $\frac{5}{8}$	MSE315	MSE311 MSE312 MSE400	MSM95 MSM100	87235 387.7	110375 490.6	2130	7.6252 193.68	2.0315 51.6	3.626 92.1
4 $\frac{3}{16}$	LSE403	LSE404 LSE406 LSE407 LSE408	LSM110 LSM115	71105 316	96059 426.9	1970	8.000 203.2	1.8465 46.9	3.3425 84.9

Housing Reference		Housing Reference				
Retained	Expansion	G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm	
LS1HRTL	LS1HXTL	3.937 100	0.984 25	3.307 84	3.386 86	
LS2HRTL	LS2HXTL	4.6252 117.48	0.984 25	3.780 96	3.858 98	
LS2HRTL	LS2HXTL	4.6252 117.48	0.984 25	3.780 96	3.858 98	
LS3HRTL	LS3HXTL	5.3126 134.94	1.260 32	4.016 102	4.094 104	
LS3HRTL	LS3HXTL	5.3126 134.94	1.260 32	4.016 102	4.094 104	
LS3HRTL	LS3HXTL	5.3126 134.94	1.260 32	4.016 102	4.094 104	
LS4HRTL	LS4HXTL	6.1874 157.16	1.496 38	4.409 112	4.488 114	
LS4HRTL	LS4HXTL	6.1874 157.16	1.496 38	4.409 112	4.488 114	
LS4HRTL	LS4HXTL	6.1874 157.16	1.496 38	4.409 112	4.488 114	
MS5HRTL	MS5HXTL	7.000 177.8	1.969 50	5.433 138	5.512 140	
LS5HRTL	LS5HXTL	7.000 177.8	1.969 50	5.276 134	5.354 136	
LS5HRTL	LS5HXTL	7.000 177.8	1.969 50	5.276 134	5.354 136	
MS6HRTL	MS6HXTL	8.000 203.2	1.969 50	5.984 152	6.063 154	
MS7HRTL	MS7HXTL	9.125 231.78	2.517 64	5.669 144	5.748 146	
LS7HRTL	LS7HXTL	9.125 231.78	2.517 64	5.512 140	5.591 142	

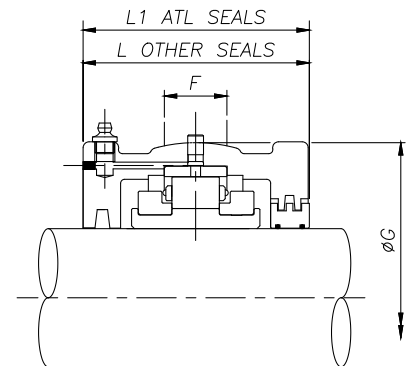
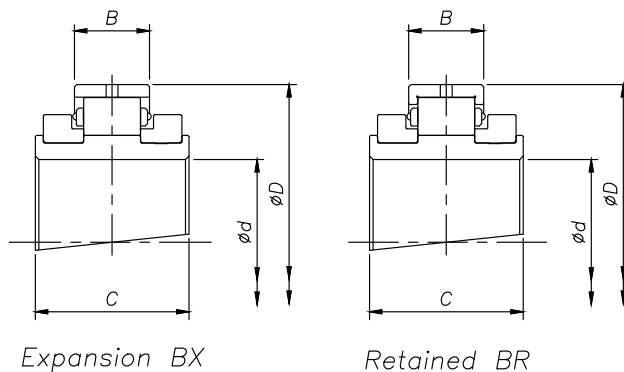
Bearings & Housings



SAFQ 2 Bolt Support / SAFQ 4 Bolt Support

Shaft (d) inch	Support Ref	SAF Ref	Additional Shafts		H inch	J		K inch	Bolt inch	L inch	M inch	H ₂ inch
			inch	mm		min inch	MAX inch					
1 ¹ / ₁₆	SAFQ01-2B	SAF 509 2-BOLT	1 ³ / ₁₆ 1 ¹ / ₄	30 35 40	2 ¹ / ₄	6 ¹ / ₄	7	-	2 x 1 ¹ / ₂	8 ¹ / ₄	2 ³ / ₁₆	5.2
1 ¹ / ₁₆	SAFQ02-2B	SAF 510 2-BOLT	1 ³ / ₄	45	2 ¹ / ₂	6 ¹ / ₂	7	-	2 x 1 ¹ / ₂	8 ¹ / ₄	2 ³ / ₈	5.9
1 ¹ / ₂	SAFQ02A-2B	SAF 511 2-BOLT	1 ¹¹ / ₁₆ 1 ³ / ₄ 2	45 50	2 ³ / ₄	7 ³ / ₈	8 ¹ / ₄	-	2 x 5 ⁸ / ₁₆	9 ⁵ / ₈	2 ³ / ₄	6.15
2 ³ / ₁₆	SAFQ03-2B	SAF 513 2-BOLT	2 ¹ / ₄ 2 ⁷ / ₁₆ 2 ¹ / ₂	55 60 65	3	8 ¹ / ₄	9 ¹ / ₂	-	2 x 5 ⁸ / ₁₆	11	3 ¹ / ₄	6.95
2 ⁷ / ₁₆	SAFQ03A-2B	SAF 515 2-BOLT	2 ³ / ₁₆ 2 ¹ / ₄ 2 ¹ / ₂	55 60 65	3 ¹ / ₄	8 ⁵ / ₈	9 ⁵ / ₈	-	2 x 5 ⁸ / ₁₆	11 ¹ / ₈	3 ³ / ₈	7.2
2 ⁷ / ₁₆	SAFQ03A-4B	SAF 515 4-BOLT	2 ³ / ₁₆ 2 ¹ / ₄ 2 ¹ / ₂	55 60 65	3 ¹ / ₄	8 ⁵ / ₈	9 ⁵ / ₈	1 ⁷ / ₈	4 x 1 ¹ / ₂	11 ¹ / ₈	3 ³ / ₈	7.2
2 ¹ / ₁₆	SAFQ04A-2B	SAF 516 2-BOLT	2 ³ / ₄ 2 ¹⁵ / ₁₆ 3	70 75	3 ¹ / ₂	9 ³ / ₄	11	-	2 x 3 ⁴ / ₄	12 ¹⁹ / ₃₂	3 ¹ / ₂	7.95
2 ¹ / ₁₆	SAFQ04A-4B	SAF 516 4-BOLT	2 ³ / ₄ 2 ¹⁵ / ₁₆ 3	70 75	3 ¹ / ₂	9 ⁵ / ₈	11	2 ¹ / ₈	4 x 5 ⁸ / ₁₆	12 ¹⁹ / ₃₂	3 ¹ / ₂	7.95
2 ¹ / ₂	SAFQ04-2B	SAF 517 2-BOLT	2 ¹¹ / ₁₆ 2 ³ / ₄ 3	70 75	3 ³ / ₄	9 ⁷ / ₈	11	-	2 x 3 ⁴ / ₄	12 ¹⁹ / ₃₂	3 ¹ / ₂	8.2
2 ¹ / ₂	SAFQ05A-4B	SAF 517 4-BOLT	2 ¹ / ₁₆ 2 ³ / ₄	80 85	3 ³ / ₄	9 ⁷ / ₈	11	2 ¹ / ₈	4 x 5 ⁸ / ₁₆	12 ¹⁹ / ₃₂	3 ¹ / ₂	8.5
3 ³ / ₁₆	SAFQ05B-2B	SAF 518 2-BOLT	3 ¹ / ₄	80 85	4	10 ¹ / ₄	11 ³ / ₄	-	2 x 3 ⁴ / ₄	13 ³ / ₈	3 ⁷ / ₈	8.95
3 ⁷ / ₁₆	SAFQ05-2B	SAF 520 2-BOLT	3 ³ / ₁₆ 3 ¹ / ₄ 3 ¹ / ₂	80 85 90	4 ¹ / ₂	11 ⁵ / ₈	13 ¹ / ₈	-	2 x 7 ⁸ / ₁₆	15 ²³ / ₆₄	4 ¹¹ / ₃₂	9.6
3 ⁷ / ₁₆	SAFQ06A	SAF 520 4-BOLT	3 ³ / ₁₆ 3 ¹ / ₄ 3 ¹ / ₂	80 85	4 ¹ / ₂	11 ⁵ / ₈	13 ¹ / ₈	2 ³ / ₈	4 x 3 ⁴ / ₄	15 ²³ / ₆₄	4 ¹¹ / ₃₂	9.95
3 ¹ / ₂	SAFQ07A	SAF 522	3 ¹¹ / ₁₆ 3 ³ / ₄ 4	95 100	4 ¹ / ₂	12 ¹ / ₁₆	14 ¹ / ₂	2 ³ / ₄	4 x 3 ⁴ / ₄	16 ¹ / ₂	4 ³ / ₄	11
4 ¹ / ₁₆	SAFQ07B	SAF 524	4 ¹ / ₄ 4 ³ / ₈ 4 ⁷ / ₁₆ 4 ¹ / ₂	110 115	5 ¹ / ₄	13 ¹ / ₄	14 ¹ / ₂	2 ³ / ₄	4 x 3 ⁴ / ₄	16 ¹ / ₂	4 ³ / ₄	11.3

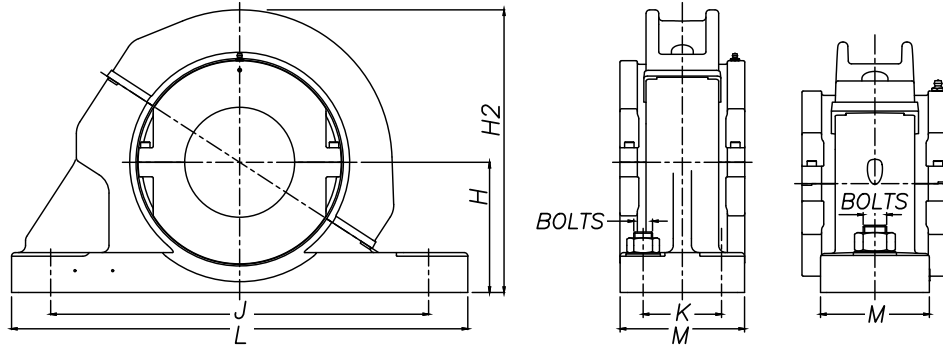
SAFQ 2 Bolt Support / SAFQ 4 Bolt Support



Reference			Bearing Ratings					
Shaft (d) inch	Add BR for retained Add BX for expansion	Additional Bearing(S) inch mm	Dynamic C_r (lb/kN)	Static C_{or} (lb/kN)	MAX RPM	D in./ mm	B in./ mm	C in./ mm
4 ⁷ / ₁₆	MSE407	MSE403 MSE404 MSE406 MSE408 MSM110 MSM115	102130 453.9	133135 591.7	1820	9.000 228.6	2.252 57.2	3.937 100
4 ¹ / ₂	MSE415	MSE411 MSE412 MSM120 MSM125	118084 524.8	157566 700.3	1600	10.000 254	2.189 63.5	3.874 114.3
5 ³ / ₁₆	LSE503	LSE504 LSE507 LSE508 LSM135 LSM140	95055 422.5	131675 585.2	1570	9.500 241.3	55.6/2.189	3.874 98.4
5 ⁷ / ₁₆	MSE507	MSE503 MSE504 MSE508 MSM135 MSM140	135088 600.4	183729 816.6	1450	10.750 273.05	2.626 66.7	4.626 117.5
5 ¹ / ₂	MSE515	MSE511 MSE512 MSE514 MSM150	164289 730.2	232600 1033.8	1320	11.500 292.1	2.689 68.3	4.874 123.8
6 ¹ / ₁₆	MSE607	MSE608 MSM160	185430 824.1	257168 1143	1200	12.500 317.5	3.2795 83.3	5.5118 140
6 ¹ / ₂	LSE615	LSE611 LSE612 LSE700 LSM170 LSM175 LSM180	117993 524.4	186233 827.7	1220	11.250 285.75	2.185 55.5	4.2913 109
7 ³ / ₁₆	LSE703	LSE704 LSE708 LSE715 LSE800 LSM190 LSM200	136576 607	222676 989.7	1070	12.250 311.15	2.374 60.3	4.2913 109
7 ¹ / ₂	MSE715	MSE703 MSE704 MSE708 MSE800 MSM190 MSM200	227893 1012.9	341160 1516.3	960	14.500 368.3	3.563 90.5	6.1417 156

Housing Reference					
Retained	Expansion	G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm
MS8HRTL	MS8HRTL	10.500 266.7	2.992 76	6.299 160	6.378 162
MS10HR- TLE0509	MS10HX- TLE0509	11.625 287.98	3.228 82	6.772 182	6.850 184
LS9HRTL	LS9HRTL	11.000 279.4	2.992 76	6.535 166	6.614 168
MS30HRTL	MS30HRTL	12.750 323.85	3.543 90	7.323 186	7.402 188
MS31HRTL	MS31HRTL	13.250 336.55	3.740 95	7.953 202	8.031 204
MS32HRTL	MS32HRTL	14.500 368.3	3.740 95	8.110 206	9.134 232
LS12HRTL	LS12HRTL	12.750 323.85	2.756 70	6.772 172	7.874 200
LS13HRTL	LS13HRTL	10.188 258.78	3.386 86	6.772 172	7.874 200
MS34HRTL	MS34HRTL	16.752 425.5	4.134 105	9.252 235	10.157 258

Bearings & Housings

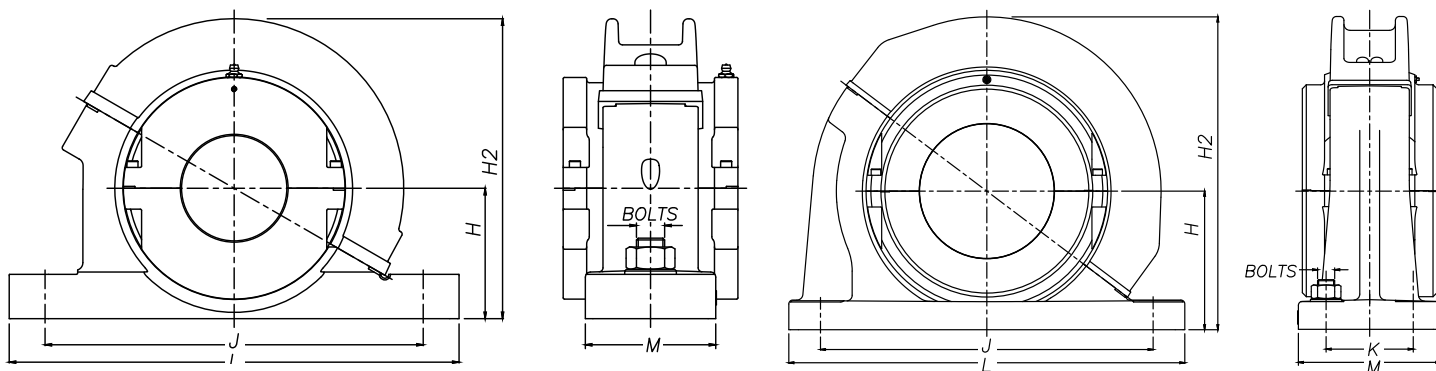


SAFQ 2 Bolt Support / SAFQ 4 Bolt Support

Shaft(d) inch	Support Ref	SAF Ref	Additional Shafts		H inch	J		K inch	Bolt inch	L inch	M inch	H ₂ inch
			inch	mm		min inch	MAX inch					
4 ⁷ / ₁₆	SAFQ08A	SAF526	4 ³ / ₁₆ 4 ¹ / ₄ 4 ³ / ₈ 4 ¹ / ₂	110 115	6	14 ¹ / ₂	16	3 ³ / ₄	4x7 ⁸ / ₁₆	18 ³ / ₈	5 ¹ / ₈	13.1
4 ¹⁵ / ₁₆	SAFQ10A	SAF528	4 ¹¹ / ₁₆ 4 ³ / ₄ 5	120 125	6	15 ⁵ / ₈	17 ³ / ₈	3 ³ / ₈	4x1	19 ⁴⁵ / ₆₄	5 ⁷ / ₈	13.3
5 ³ / ₁₆	SAFQ09A	SAF530	5 ⁷ / ₁₆ 5 ¹ / ₄ 5 ¹ / ₂	135 140	6 ⁹ / ₁₆	16 ³ / ₄	18 ¹ / ₂	3 ³ / ₄	4x1	21 ¹ / ₄	6 ¹ / ₄	14.2
5 ⁷ / ₁₆	SAFQ30	SAF532	5 ³ / ₁₆ 5 ¹ / ₄ 5 ¹ / ₂	135 140	6 ¹¹ / ₁₆	17 ³ / ₈	19 ¹ / ₄	3 ³ / ₄	4x1	21 ²¹ / ₃₂	6 ¹ / ₄	15.15
5 ¹⁵ / ₁₆	SAFQ31	SAF534	5 ¹¹ / ₁₆ 5 ³ / ₄ 5 ⁷ / ₈ 6	150	7 ¹ / ₁₆	19 ³ / ₈	21 ⁵ / ₈	4 ¹ / ₄	4x1	24 ³ / ₄	6 ³ / ₄	15.75
6 ¹ / ₁₆	SAFQ32	SAF536	6 ¹ / ₂	160	7 ¹ / ₂	20 ⁵ / ₈	23 ³ / ₈	4 ⁷ / ₈	4x1	26 ³ / ₄	7 ¹ / ₈	17.6
6 ¹⁵ / ₁₆	SAFQ12	SAF538	6 ¹¹ / ₁₆ 6 ³ / ₄ 7	170 175 180	7 ⁷ / ₈	21 ⁵ / ₈	24 ³ / ₈	4 ¹ / ₂	4x1 ¹ / ₄	28	7 ¹ / ₂	16.75
7 ³ / ₁₆	SAFQ13	SAF540	7 ¹ / ₄ 7 ¹ / ₂ 7 ¹⁵ / ₁₆ 8	190 200	8 ¹ / ₄	22 ¹ / ₂	25	5	4x1 ¹ / ₄	29 ³ / ₈	8	17.7
7 ¹⁵ / ₁₆	SAFQ34A	SAF544	7 ³ / ₁₆ 7 ¹ / ₄ 7 ¹ / ₂ 8	190 200	9 ¹ / ₂	24 ³ / ₄	27 ⁷ / ₈	5 ¹ / ₄	4x1 ¹ / ₂	32 ³ / ₄	8 ³ / ₄	21.35

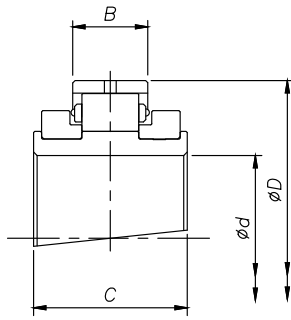
SAFQ supports manufactured in ductile iron

Light SNQ/SDQ Range Metric

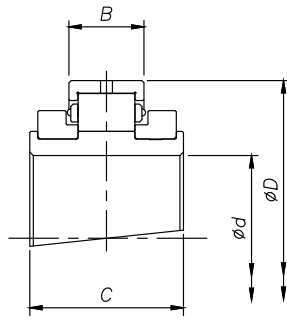


SNQ/SDQ								
Shaft (d) inch	Shaft (d) mm	SRB Reference	SN/SD Reference	H	H ₂	J x K	L x M	Bolts
1 ¹ / ₁₆ 1 ¹ / ₄ 1 ³ / ₁₆ 1 ¹ / ₂	35 40	SNQ01	SN 508 SN 509	60	135	170	205 x 60	2 x M12
1 ¹ / ₁₆ 1 ³ / ₄ 1 ¹ / ₁₆ 2	45 50	SNQ02	SN 511	70	155	210	255 x 70	2 x M16
2 ³ / ₁₆ 2 ¹ / ₄ 2 ¹ / ₁₆ 2 ¹ / ₂	55 60 65	SNQ03	SN 513 SN 515	80	180	234	275 x 70	2 x M16
2 ¹ / ₁₆ 2 ³ / ₄ 2 ¹ / ₁₆ 3	70 75	SNQ04	SN 516 SN 517	95	208	260	315 x 90	2 x M20
3 ³ / ₁₆ 3 ¹ / ₄ 3 ⁷ / ₁₆ 3 ¹ / ₂	80 85 90	SNQ05 SNQ05A SNQ05B	SN 518 SN 519 SN 520	100 112 112	230 242 242	290 290 320	345 x 100 345 x 100 380 x 110	2 x M20 2 x M20 2 x M24
3 ¹ / ₁₆ 3 ³ / ₄ 3 ¹ / ₁₆ 4	95 100 105	SNQ06	SN 522	125	265	350	410 x 120	2 x M24
4 ³ / ₁₆ 4 ¹ / ₄ 4 ⁷ / ₁₆ 4 ¹ / ₂	110 115	SNQ07 SNQ07A	SN 524 SN 526	140 150	300 310	350 380	410 x 120 445 x 130	2 x M24 2 x M24
4 ¹ / ₁₆ 4 ³ / ₄ 4 ¹ / ₁₆ 5	120 125 130	SNQ08	SN 528	150	354	420	500 x 150	2 x M30
5 ³ / ₁₆ 5 ¹ / ₄ 5 ⁷ / ₁₆ 5 ¹ / ₂	135 140	SNQ09 SNQ09A	SN 530 SN 532	160 170	369 379	450 470	530 x 160 550 x 160	2 x M30 2 x M30
5 ¹ / ₁₆ 5 ³ / ₄ 5 ¹ / ₁₆ 6	150 155 160	SDQ10	SD 3134	170	379	430 x 100	510 x 180	4 x M24

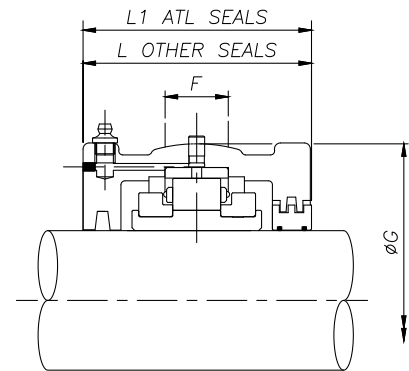
Bearings & Housings



Expansion BX



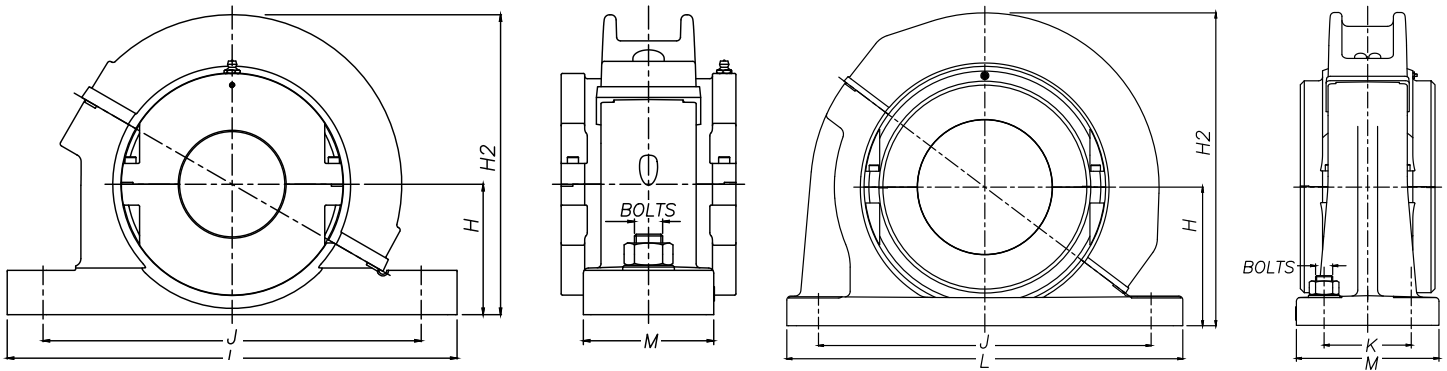
Retained BR



Reference		Bearings Ratings								
Shaft (d)		Reference Add BR for retained Add BX for expansion e.g. LSE103BR	Dynamic C_r (lb/kN)	Static C_o (lb/kN)	Axial C_a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm	
inch	mm									
1 ³ / ₁₆		LSE103								
1 ¹ / ₄	35	LSE104	LSM35	14613	15287	719.38	5400	3.313	0.937	2.165
1 ⁷ / ₁₆	40	LSE107	LSM40	65	68	3.20		84.14	23.80	55.00
1 ¹ / ₂		LSE108								
1 ¹¹ / ₁₆		LSE111								
1 ³ / ₄	45	LSE112	LSM45	18659	19558	809.30	4630	3.875	1.000	2.362
1 ¹⁵ / ₁₆	50	LSE115	LSM50	83	87	3.60		98.42	25.40	60.00
2		LSE200								
2 ¹ / ₁₆		LSE203								
2 ¹ / ₄	55	LSE204	LSM55	23155	25853	1213.95	3940	4.500	1.063	2.362
2 ⁷ / ₁₆	60	LSE207	LSM60	103	115	5.40		114.30	27.00	60.00
2 ¹ / ₂	65	LSE208	LSM65							
2 ¹¹ / ₁₆		LSE211								
2 ³ / ₄	70	LSE212	LSM70	31024	36194	1708.53	3310	5.250	1.252	2.559
2 ¹⁵ / ₁₆	75	LSE215	LSM75	138	161	7.60		133.35	31.80	65.00
3		LSE300								
3 ¹ / ₁₆		LSE303								
3 ¹ / ₄	80	LSE304	LSM80	42039	51931	2787.59	2790	6.000	1.531	2.953
3 ³ / ₁₆	85	LSE307	LSM85	187	231	12.40		152.40	38.90	75.00
3 ¹ / ₂	90	LSE308	LSM90							
3 ¹¹ / ₁₆		LSE311								
3 ³ / ₄	95	LSE312	LSM95	64745	82280	3596.90	2340	6.875	1.783	3.346
3 ¹⁵ / ₁₆	100	LSE315	LSM100	288	366	16.00		174.62	45.30	85.00
4	105	LSE400	LSM105							
4 ³ / ₁₆		LSE403								
4 ¹ / ₄	110	LSE404	LSM110	71040	95993	4181.39	1970	8.000	1.846	3.543
4 ⁷ / ₁₆	115	LSE407	LSM115	316	427	18.60		203.20	46.90	90.00
4 ¹ / ₂		LSE408								
4 ¹¹ / ₁₆		LSE411								
4 ³ / ₄	120	LSE412	LSM120	81606	111505	4990.69	1740	8.750	2.126	3.740
4 ¹⁵ / ₁₆	125	LSE415	LSM125	363	496	22.20		222.25	54.00	95.00
5	130	LSE500	LSM130							
5 ¹ / ₁₆		LSE503								
5 ¹ / ₄	135	LSE504	LSM135	94869	131513	5799.99	1570	9.500	2.189	3.874
5 ⁷ / ₁₆	140	LSE507	LSM140	422	585	25.80		241.30	55.60	98.40
5 ¹ / ₂		LSE508								
5 ¹¹ / ₁₆		LSE511								
5 ³ / ₄	150	LSE512	LSM150	103187	149273	6609.30	1450	10.000	2.189	3.874
5 ¹⁵ / ₁₆	155	LSE515	LSM155	459	664	29.40		254.00	55.60	98.40
6	160	LSE600	LSM160A							

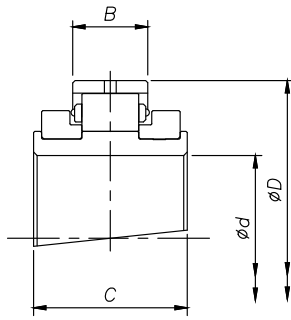
Housing Reference		Seal Types				
Seal Type	Reference	G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm	
						ATL seals Add HRTL for retained Add HXTL for expansion e.g. LSHRTL
LS1	LSE103					
	LSE104	LSM35	3.937	1.0	3.3	
	LSE107	LSM40	100.00	25	84	
	LSE108				86	
LS2	LSE111					
	LSE112	LSM50	4.625	1.0	3.8	
	LSE115		117.48	25	96	
	LSE200				98	
LS3	LSE203					
	LSE204	LSM55	5.313	1.3	4.0	
	LSE207	LSM60	134.94	32	102	
	LSE208	LSM65			104	
LS4	LSE211					
	LSE212	LSM70	6.187	1.5	4.4	
	LSE215	LSM75	157.16	38	112	
	LSE300				114	
LS5	LSE303					
	LSE304	LSM80	7.000	2.0	5.3	
	LSE307	LSM85	177.80	50	134	
	LSE308	LSM90			136	
LS6	LSE311					
	LSE312	LSM95	8.000	2.0	5.2	
	LSE315	LSM100	203.20	50	132	
	LSE400	LSM105			134	
LS7	LSE403					
	LSE404	LSM110	9.125	2.5	5.5	
	LSE407	LSM115	231.78	64	140	
	LSE408				142	
LS8	LSE411					
	LSE412	LSM120	10.500	3.0	6.1	
	LSE415	LSM125	266.70	76	154	
	LSE500	LSM130			156	
LS9	LSE503					
	LSE504	LSM135	11.000	3.0	6.5	
	LSE507	LSM140	279.40	76	166	
	LSE508				168	
LS10	LSE511					
	LSE512	LSM150	11.625	3.2	6.8	
	LSE515	LSM155	295.28	82	172	
	LSE600	LSM160A			174	

Light SNQ/SDQ Range Metric

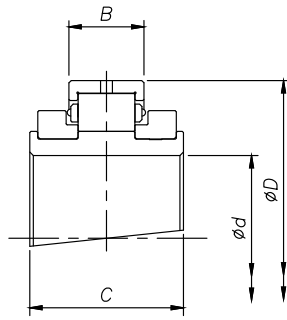


SNQ/SDQ								
Shaft (d) inch	Shaft (d) mm	SRB Reference	SN/SD Reference	H	H ₂	J x K	L x M	Bolts
6 ¹ / ₁₆ 6 ¹ / ₂	160 170	SDQ11	SD 3136	180	396	450 x 110	530 x 190	4 x M24
6 ¹ / ₁₆ 6 ³ / ₄ 6 ¹⁵ / ₁₆ 7	170 175 180	SDQ12 SDQ12A	SD 3138 SD 3140	190 210	417 437	480 x 120 510 x 130	560 x 210 610 x 230	4 x M24 4 x M30
7 ³ / ₁₆ 7 ¹ / ₄ 7 ¹ / ₂ 7 ¹⁵ / ₁₆ 8	190 200	SDQ13	SD 3144	220	457	540 x 140	640 x 240	4 x M30
8 ⁷ / ₁₆ 8 ¹ / ₂ 8 ⁷ / ₈ 9	220 230	SDQ14	SD 3148	240	510	600 x 150	700 x 260	4 x M30
9 ¹ / ₂ 9 ³ / ₄ 10	240 250 260	SDQ15	SD 3152	260	545	650 x 160	770 x 280	4 x M36
10 ⁷ / ₁₆ 10 ¹ / ₂ 10 ³ / ₄ 11	260 270 280	SDQ16 SDQ16A	SD 3156 SD 3160	280 300	589 609	670 x 160 710 x 190	790 x 280 830 x 310	4 x M36 4 x M36
11 ¹ / ₂ 12	300 305	SDQ17	SD3164	320	662	750 x 200	880 x 330	4 x M36

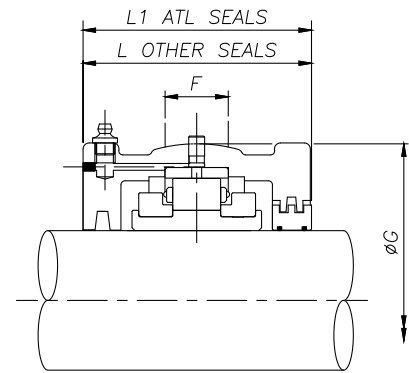
Bearings & Housings



Expansion BX



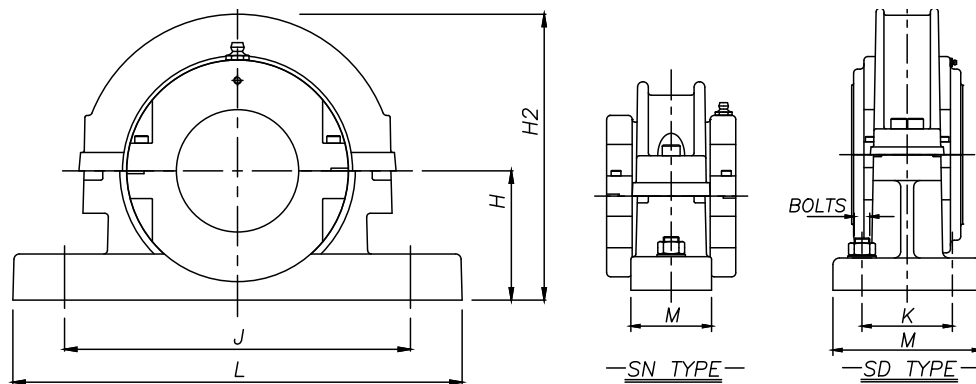
Retained BR



Reference		Bearings Ratings								
Shaft (d)		Reference Add BR for retained Add BX for expansion e.g. LSE103BR	Dynamic C_r (lb/kN)	Static C_{or} (lb/kN)	Axial C_a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm	
inch	mm									
6 ¹ / ₁₆ 6 ¹ / ₂	160 170	LSE607 LSE608	LSM160 LSM170A	131064 583	178049 792	7419 33.00	1320	10.750 273.05	2.374 60.30	4.291 109.00
6 ¹ / ₁₆ 6 ³ / ₁₆ 6 ¹ / ₂ 7	170 175 180	LSE611 LSE612 LSE615 LSE700	LSM170 LSM175 LSM180	117800 524	186142 828	8183 36.40	1220	11.250 285.75	2.185 55.50	4.291 109.00
7 ³ / ₁₆ 7 ¹ / ₄ 7 ¹ / ₂ 7 ¹ / ₁₆ 8	190 200	LSE703 LSE704 LSE708 LSE715 LSE800	LSM190 LSM200	138033 614	222561 990	9217 41.00	1070	12.250 311.15	2.374 60.30	4.173 106.00
8 ⁷ / ₁₆ 8 ¹ / ₂ 8 ⁷ / ₈ 9	220 230	LSE807 LSE808 LSE814 LSE900	LSM220 LSM230	159165 708	262577 1168	11016 49.00	930	13.500 342.90	2.500 63.50	4.528 115.00
9 ¹ / ₂ 9 ³ / ₄ 10	240 250 260	LSE908 LSE912 LSE1000	LSM240 LSM250 LSM260A	167258 744	289779 1289	12994 57.80	820	14.750 374.65	2.626 66.70	4.803 122.00
10 ⁷ / ₁₆ 10 ¹ / ₂ 10 ³ / ₄ 11	260 270 280	LSE1007 LSE1008 LSE1012 LSE1100	LSM260 LSM270 LSM280	190638 848	337663 1502	15017 66.80	730	16.000 406.40	2.717 69.00	5.039 128.00
11 ¹ / ₂ 12	300 305	LSE1108 LSE1200	LSM300 LSM305	208848 929	374307 1665	17580 78.20	650	17.250 438.15	2.937 74.60	5.630 143.00

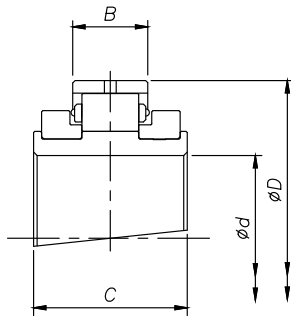
Housing Reference						
ATL seals Add HRTL for retained Add HXTL for expansion e.g. LS1HRTL	Other seal types Add HR for retained Add HX for expansion e.g. LSE103HR	G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm	
						LS
LS11	LSE607 LSE608	LSM160 LSM170A	12.250 311.15	3.0 76	6.8 172	7.6 192
LS12	LSE611 LSE612 LSE615 LSE700	LSM170 LSM175 LSM180	12.750 323.85	2.8 70	6.8 172	7.9 200
LS13	LSE703 LSE704 LSE708 LSE715 LSE800	LSM190 LSM200	14.125 358.78	3.4 86	6.8 172	7.9 200
LS14	LSE807 LSE808 LSE814 LSE900	LSM220 LSM230	15.250 387.35	3.2 82	7.0 178	8.5 216
LS15	LSE908 LSE912 LSE1000	LSM240 LSM250 LSM260A	16.500 419.10	3.5 90	7.4 188	8.7 222
LS16	LSE1007 LSE1008 LSE1012 LSE1100	LSM260 LSM270 LSM280	17.874 454.00	3.7 95	8.0 204	9.1 232
LS17	LSE1108 LSE1200	LSM300 LSM305	19.252 489.00	3.9 98	8.5 216	9.8 248

Light SN/SD Range

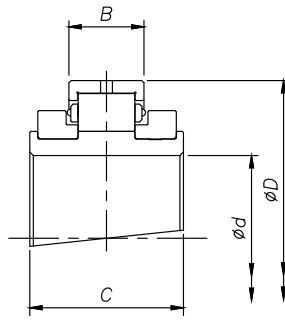


SN/SD								
Shaft (d) inch	Shaft (d) mm	SRB Reference	SN/SD Reference	H	H ₂	J x K	L x M	Bolts
1 ¹ / ₁₆ 1 ¹ / ₄ 1 ⁷ / ₁₆ 1 ¹ / ₂	35 40	SN01	SN 508 SN 509	60	135	170	205 x 60	2 x M12
1 ¹¹ / ₁₆ 1 ³ / ₄ 1 ⁵ / ₁₆ 2	45 50	SN02	SN 511	70	155	210	255 x 70	2 x M16
2 ³ / ₁₆ 2 ¹ / ₄ 2 ⁷ / ₁₆ 2 ¹ / ₂	55 60 65	SN03	SN 513 SN 515	80	180	234	275 x 70	2 x M16
2 ¹¹ / ₁₆ 2 ³ / ₄ 2 ¹⁵ / ₁₆ 3	70 75	SN04	SN 516 SN 517	95	208	260	315 x 90	2 x M20
3 ³ / ₁₆ 3 ¹ / ₄ 3 ⁷ / ₁₆ 3 ¹ / ₂	80 85 90	SN05 SN05A SN05B	SN 518 SN 519 SN 520	100 112 112	230 242 242	290 290 320	345 x 100 345 x 100 380 x 110	2 x M20 2 x M20 2 x M24
3 ¹¹ / ₁₆ 3 ³ / ₄ 3 ¹⁵ / ₁₆ 4	95 100 105	SN06	SN 522	125	265	350	410 x 120	2 x M24
4 ³ / ₁₆ 4 ¹ / ₄ 4 ⁷ / ₁₆ 4 ¹ / ₂	110 115	SN07 SN07A	SN 524 SN 526	140 150	300 310	350 380	410 x 120 445 x 130	2 x M24 2 x M24
4 ¹¹ / ₁₆ 4 ³ / ₄ 4 ¹⁵ / ₁₆ 5	120 125 130	SN08	SN 528	150	354	420	500 x 150	2 x M30
5 ³ / ₁₆ 5 ¹ / ₄ 5 ⁷ / ₁₆ 5 ¹ / ₂	135 140	SN09 SN09A	SN 530 SN 532	160 170	369 379	450 470	530 x 160 550 x 160	2 x M30 2 x M30
5 ¹¹ / ₁₆ 5 ³ / ₄ 5 ¹⁵ / ₁₆ 6	150 155 160	SD10	SD 3134	170	379	430 x 100	510 x 180	4 x M24

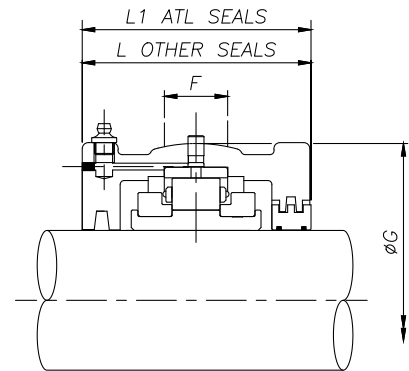
Bearings & Housings



Expansion BX



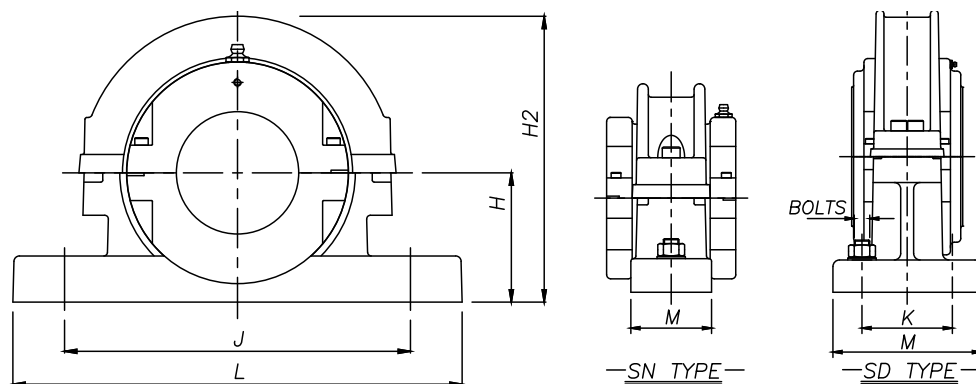
Retained BR



Reference		Bearings Ratings								
Shaft (d)	Add BR for retained Add BX for expansion e.g. LSE103BR	Dynamic C_r (lb/kN)	Static C_o (lb/kN)	Axial C_a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm		
									inch	mm
1 $\frac{1}{16}$	LSE103									
1 $\frac{1}{4}$	LSE104	LSM35	14613	15287	719.38	5400	3.313	0.937	2.165	
1 $\frac{3}{16}$	LSE107	LSM40	65	68	3.20		84.14	23.80	55.00	
1 $\frac{1}{2}$	LSE108									
1 $\frac{11}{16}$	LSE111									
1 $\frac{3}{4}$	LSE112	LSM45	18659	19558	809.30	4630	3.875	1.000	2.362	
1 $\frac{5}{8}$	LSE115	LSM50	83	87	3.60		98.42	25.40	60.00	
2	LSE200									
2 $\frac{3}{16}$	LSE203									
2 $\frac{1}{4}$	LSE204	LSM55	23155	25853	1213.95	3940	4.500	1.063	2.362	
2 $\frac{3}{8}$	LSE207	LSM60	103	115	5.40		114.30	27.00	60.00	
2 $\frac{1}{2}$	LSE208	LSM65								
2 $\frac{11}{16}$	LSE211									
2 $\frac{3}{4}$	LSE212	LSM70	31024	36194	1708.53	3310	5.250	1.252	2.559	
2 $\frac{5}{8}$	LSE215	LSM75	138	161	7.60		133.35	31.80	65.00	
3	LSE300									
3 $\frac{1}{16}$	LSE303									
3 $\frac{1}{4}$	LSE304	LSM80	42039	51931	2787.59	2790	6.000	1.531	2.953	
3 $\frac{3}{8}$	LSE307	LSM85	187	231	12.40		152.40	38.90	75.00	
3 $\frac{1}{2}$	LSE308	LSM90								
3 $\frac{11}{16}$	LSE311									
3 $\frac{3}{4}$	LSE312	LSM95	64745	82280	3596.90	2340	6.875	1.783	3.346	
3 $\frac{5}{8}$	LSE315	LSM100	288	366	16.00		174.62	45.30	85.00	
4	LSE400	LSM105								
4 $\frac{3}{16}$	LSE403									
4 $\frac{1}{4}$	LSE404	LSM110	71040	95993	4181.39	1970	8.000	1.846	3.543	
4 $\frac{3}{8}$	LSE407	LSM115	316	427	18.60		203.20	46.90	90.00	
4 $\frac{1}{2}$	LSE408									
4 $\frac{11}{16}$	LSE411									
4 $\frac{3}{4}$	LSE412	LSM120	81606	111505	4990.69	1740	8.750	2.126	3.740	
4 $\frac{5}{8}$	LSE415	LSM125	363	496	22.20		222.25	54.00	95.00	
5	LSE500	LSM130								
5 $\frac{3}{16}$	LSE503									
5 $\frac{1}{4}$	LSE504	LSM135	94869	131513	5799.99	1570	9.500	2.189	3.87	
5 $\frac{3}{8}$	LSE507	LSM140	422	585	25.80		241.30	55.60	98.40	
5 $\frac{1}{2}$	LSE508									
5 $\frac{11}{16}$	LSE511									
5 $\frac{3}{4}$	LSE512	LSM150	103187	149273	6609.30	1450	10.000	2.189	3.874	
5 $\frac{5}{8}$	LSE515	LSM155	459	664	29.40		254.00	55.60	98.40	
6	LSE600	LSM160A								

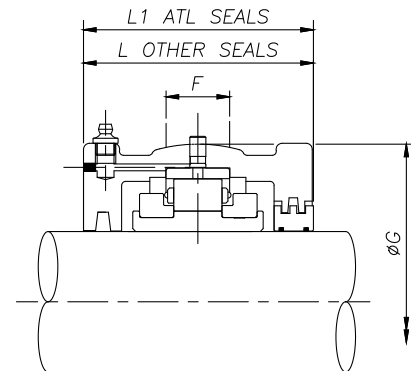
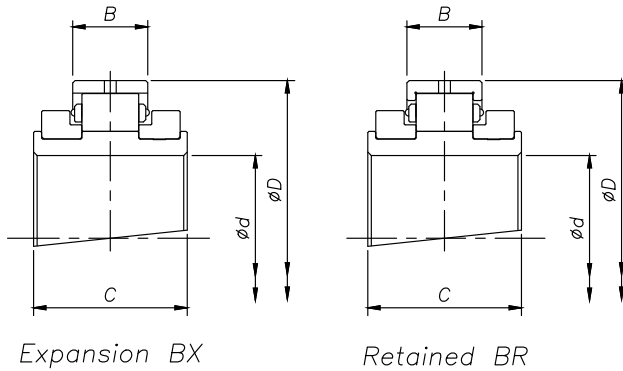
Housing Reference							
ATL seals		Other seal types		G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm
Add HRTL for retained Add HXTL for expansion e.g. LSE103HRTL	Add HR for retained Add HX for expansion e.g. LSE103HR						
LS1	LSE103						
	LSE104	LSM35	3.937	1.0	3.3	3.4	
	LSE107	LSM40	100.00	25	84	86	
	LSE108						
LS2	LSE111						
	LSE112						
	LSE115	LSM50	4.625	1.0	3.8	3.9	
	LSE200		117.48	25	96	98	
LS3	LSE203						
	LSE204	LSM55	5.313	1.3	4.0	4.1	
	LSE207	LSM60	134.94	32	102	104	
	LSE208	LSM65					
LS4	LSE211						
	LSE212	LSM70	6.187	1.5	4.4	4.5	
	LSE215	LSM75	157.16	38	112	114	
	LSE300						
LS5	LSE303						
	LSE304	LSM80	7.000	2.0	5.3	5.4	
	LSE307	LSM85	177.80	50	134	136	
	LSE308	LSM90					
LS6	LSE311						
	LSE312	LSM95	8.000	2.0	5.2	5.3	
	LSE315	LSM100	203.20	50	132	134	
	LSE400	LSM105					
LS7	LSE403						
	LSE404	LSM110	9.125	2.5	5.5	5.6	
	LSE407	LSM115	231.78	64	140	142	
	LSE408						
LS8	LSE411						
	LSE412	LSM120	10.500	3.0	6.1	6.1	
	LSE415	LSM125	266.70	76	154	156	
	LSE500	LSM130					
LS9	LSE503						
	LSE504	LSM135	11.000	3.0	6.5	6.6	
	LSE507	LSM140	279.40	76	166	168	
	LSE508						
LS10	LSE511						
	LSE512	LSM150	11.625	3.2	6.8	6.9	
	LSE515	LSM155	295.28	82	172	174	
	LSE600	LSM160A					

Light SN/SD Range



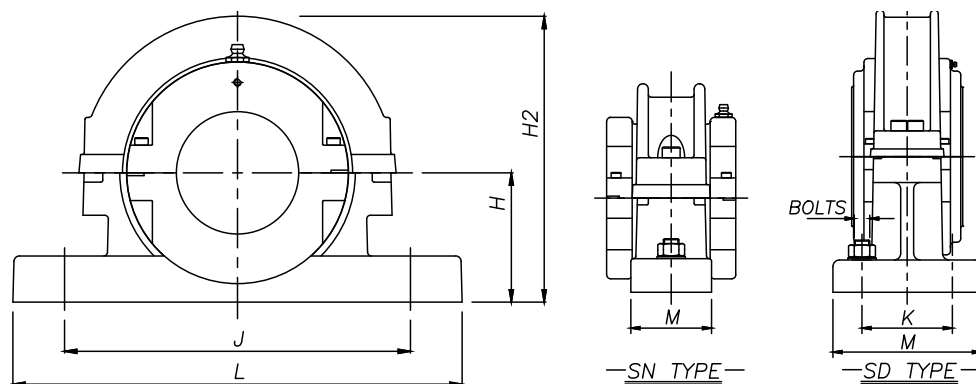
SN SD								
Shaft (d) inch	Shaft (d) mm	SRB Reference	SN/SD Reference	H	H ₂	J x K	L x M	Bolts
6 ¹ / ₁₆ 6 ¹ / ₂	160 170	SD11	SD 3136	180	396	450 x 110	530 x 190	4 x M24
6 ¹ / ₁₆ 6 ³ / ₄ 6 ¹⁵ / ₁₆ 7	170 175 180	SD12 SD12A	SD 3138 SD 3140	190 210	417 437	480 x 120 510 x 130	560 x 210 610 x 230	4 x M24 4 x M30
7 ³ / ₁₆ 7 ¹ / ₄ 7 ¹ / ₂ 7 ¹⁵ / ₁₆ 8	190 200	SD13	SD 3144	220	457	540 x 140	640 x 240	4 x M30
8 ⁷ / ₁₆ 8 ¹ / ₂ 8 ⁷ / ₈ 9	220 230	SD14	SD 3148	240	510	600 x 150	700 x 260	4 x M30
9 ¹ / ₂ 9 ³ / ₄ 10	240 250 260	SD15	SD 3152	260	545	650 x 160	770 x 280	4 x M36
10 ⁷ / ₁₆ 10 ¹ / ₂ 10 ³ / ₄ 11	260 270 280	SD16 SD16A	SD 3156 SD 3160	280 300	589 609	670 x 160 710 x 190	790 x 280 830 x 310	4 x M36 4 x M36
11 ¹ / ₂ 12	300 305	SD17	SD 3164	320	662	750 x 200	880 x 330	4 x M36

Bearings & Housings



Reference		Bearings Ratings									Housing Reference						
Shaft (d) inch mm	Add BR for retained Add BX for expansion e.g. LSE103BR	Dynamic C _r (lb/kN)	Static C _{0r} (lb/kN)	Axial C _a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm	ATL seals		Other seal types		G in./ mm	F in./ mm	L in./ mm	L ₁ in./ mm	
									Add HRTL for retained Add HXTL for expansion e.g. LS1HRTL	Add HR for retained Add HX for expansion e.g. LSE103HR							
6 ¹ / ₁₆ 6 ¹ / ₂	160 170	LSE607 LSE608	LSM160 LSM170A	131064 583	178049 792	7419 33.00	1320	10.750 273.05	2.374 60.30	4.291 109.00	LS11	LSE607 LSE608	LSM160 LSM170A	12.250 311.15	3.0 76	6.8 172	7.6 192
6 ¹ / ₁₆ 6 ³ / ₄ 6 ¹ / ₂ 7	170 175 180	LSE611 LSE612 LSE615 LSE700	LSM170 LSM175 LSM180	117800 524	186142 828	8183 36.40	1220	11.250 285.75	2.185 55.50	4.291 109.00	LS12	LSE611 LSE612 LSE615 LSE700	LSM170 LSM175 LSM180	12.750 323.85	2.8 70	6.8 172	7.9 200
7 ³ / ₁₆ 7 ¹ / ₄ 7 ¹ / ₂ 7 ¹ / ₂ 8	190 200	LSE703 LSE704 LSE708 LSE715 LSE800	LSM190 LSM200	138033 614	222561 990	9217 41.00	1070	12.250 311.15	2.374 60.30	4.173 106.00	LS13	LSE703 LSE704 LSE708 LSE715 LSE800	LSM190 LSM200	14.125 358.78	3.4 86	6.8 172	7.9 200
8 ¹ / ₁₆ 8 ¹ / ₂ 8 ⁷ / ₈ 9	220 230	LSE807 LSE808 LSE814 LSE900	LSM220 LSM230	159165 708	262577 1168	11016 49.00	930	13.500 342.90	2.500 63.50	4.528 115.00	LS14	LSE807 LSE808 LSE814 LSE900	LSM220 LSM230	15.250 387.35	3.2 82	7.0 178	8.5 216
9 ¹ / ₂ 9 ³ / ₄ 10	240 250 260	LSE908 LSE912 LSE1000	LSM240 LSM250 LSM260A	167258 744	289779 1289	12994 57.80	820	14.750 374.65	2.626 66.70	4.803 122.00	LS15	LSE908 LSE912 LSE1000	LSM240 LSM250 LSM260A	16.500 419.10	3.5 90	7.4 188	8.7 222
10 ¹ / ₁₆ 10 ¹ / ₂ 10 ³ / ₄ 11	260 270 280	LSE1007 LSE1008 LSE1012 LSE1100	LSM260 LSM270 LSM280	190638 848	337663 1502	15017 66.80	730	16.000 406.40	2.717 69.00	5.039 128.00	LS16	LSE1007 LSE1008 LSE1012 LSE1100	LSM260 LSM270 LSM280	17.874 454.00	3.7 95	8.0 204	9.1 232
11 ¹ / ₂ 12	300 305	LSE1108 LSE1200	LSM300 LSM305	208848 929	374307 1665	17580 78.20	650	17.250 438.15	2.937 74.60	5.630 143.00	LS17	LSE1108 LSE1200	LSM300 LSM305	19.252 489.00	3.9 98	8.5 216	9.8 248

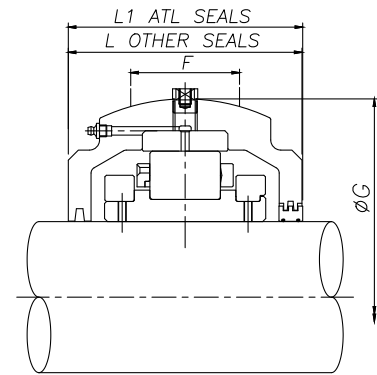
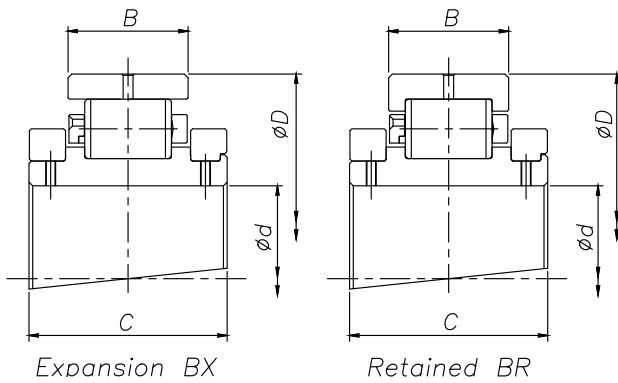
Medium SN/SD Range



SN SD

Shaft (d) inch	Shaft (d) mm	SRB Reference	SN/SD Reference	H	J x K	L x M	Bolts					
5 ³ / ₁₆	135	SN30	SNL532	170	470	550 x 160	2 x M30					
5 ¹ / ₄	140		SD30	SD/SNL3134	170	430 x 100	510 x 180	4 x M24				
5 ¹ / ₂	150											
6												
5 ¹¹ / ₁₆	150	SD31	SD3136	180	450 x 110	530 x 190	4 x M24					
5 ³ / ₄	155		SNL3136									
5 ¹⁵ / ₁₆	160											
6												
6 ⁷ / ₁₆	160	SD32	SD3138	190	480 x 120	560 x 210	4 x M24					
6 ¹ / ₂	170		SNL3138									
6 ¹¹ / ₁₆	175	SD33	SD3140	210	510 x 130	610 x 230	4 x M30					
6 ³ / ₄	180		SNL3140									
6 ¹⁵ / ₁₆												
7												
7 ¹ / ₄	190	SD34	SD3144	220	540 x 140	640 x 240	4 x M30					
7 ¹ / ₂	200		SNL3144									
7 ¹⁵ / ₁₆												
8												
8 ¹ / ₂	220	SD35	SD/SNL3148	240	600 x 150	700 x 260	4 x M30					
8 ⁷ / ₈	230											
9												
9 ¹ / ₂	240	SD36	SD/SNL3152	260	650 x 160	770 x 280	4 x M36					
9 ³ / ₄	250		SD/SNL3156									
10	260											
10 ¹ / ₂	270	SD37	SD3160	300	710 x 190	830 x 310	4 x M36					
10 ³ / ₄	280		SNL3160									
11												
11 ¹ / ₂	300	SD38	SD3164	320	750 x 200	880 x 330	4 x M36					
12	305		SNL3164									
12 ¹ / ₂	320	SD39	SNL3168L	340	810 x 220	950 x 360	4 x M36					
13	330											
13 ¹ / ₂	340	SD40	SNL3172L	350	840 x 220	1000 x 360	4 x M36					
14	350		SD40A					SNL3176L	360	870 x 220	1040 x 360	4 x M36
15	380											
15	380	SD41	SNL3180L	380	950 x 240	1120 x 390	4 x M42					
16	400	SD42	SNL3184L	410	1000 x 260	1170 x 420	4 x M42					

Bearings & Housings

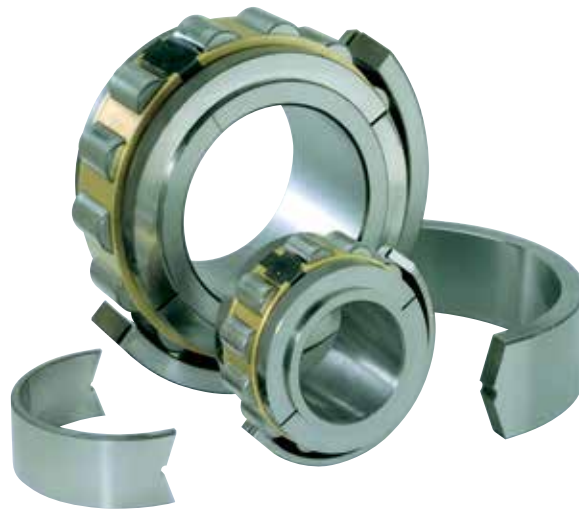


Reference		Bearings Ratings									Housing Reference						
Shaft (d)	Reference Add BR for retained Add BX for expansion e.g. MSE503BR	Dynamic C_r (lb/kN)	Static C_0 (lb/kN)	Axial C_a (lb/kN)	Max RPM	D in./ mm	B in./ mm	C in./ mm	ATL seals		G in./ mm	F in./ mm	L in./ mm	L_1 in./ mm			
									Add HRTL for retained Add HXTL for expansion e.g. MS30HRTL	Other seal types Add HR for retained Add HX for expansion e.g. MSE503HR							
5 ³ / ₁₆ 5 ¹ / ₄ 5 ⁷ / ₁₆ 5 ¹ / ₂ 6	MSE503 MSE504 MSE507 MSE508 MSE600A*	134885 600	183669 817	10206 45.40	1450	10.750 273.05	2.626 66.70	4.626 117.50	MS30 MS30E0548	MSE503 MSE504 MSE507 MSE508 MSE600A	MSM135 MSM140 MSM150A*	12.750 323.85	3.543 90	7.323 186	7.402 188		
5 ¹¹ / ₁₆ 5 ³ / ₄ 5 ¹⁵ / ₁₆ 6	MSE511 MSE512 MSE515 MSE600	164111 730	232452 1034	11780 52.40	1320	11.500 292.10	2.689 68.30	4.874 123.80	MS31 MS31E0548	MSE511 MSE512 MSE515 MSE600	MSM150 MSM155 MSM160A*	13.250 336.55	3.74 95	7.953 202	8.031 204		
6 ¹ / ₁₆ 6 ¹ / ₂	MSE607 MSE608	189289 842	264151 1175	13803 61.40	1200	12.500 317.50	3.280 83.30	5.512 140.00	MS32	MSE607 MSE608	MSM160 MSM170	14.500 368.30	3.74 95	8.11 206	9.134 232		
6 ¹ / ₁₆ 6 ³ / ₄ 6 ⁵ / ₁₆ 7	MSE611 MSE612 MSE615 MSE700	208398 927	305066 1357	16006 71.20	1120	13.000 330.20	3.280 83.30	5.512 140.00	MS33	MSE611 MSE612 MSE615 MSE700	MSM175 MSM180	15.000 381.00	3.74 95	8.74 222	9.528 242		
7 ¹ / ₄ 7 ¹ / ₂ 7 ³ / ₄ 8	MSE704 MSE708 MSE715 MSE800	227731 1013	340810 1516	17985 80.00	960	14.500 368.30	3.563 90.50	6.417 156.00	MS34	MSE704 MSE708 MSE715 MSE800	MSM190 MSM200	16.752 425.5	4.134 105	9.252 235	10.157 258		
8 ¹ / ₂ 8 ⁷ / ₈ 9	MSE807 MSE814 MSE900	255833 1138	374981 1668	20188 89.80	850	15.500 393.70	3.563 90.50	6.147 163.00	MS35	MSE807 MSE814 MSE900	MSM220 MSM230	18.000 457.20	4.331 110	9.528 242	10.787 274		
9 ¹ / ₂ 9 ³ / ₄ 10	MSE908 MSE912 MSE1000	305740 1360	478843 2130	22211 98.80	750	17.000 431.80	3.811 96.80	6.693 170.00	MS36	MSE908 MSE912 MSE1000	MSM240 MSM250 MSM260	19.500 495.30	4.646 118	9.764 248	11.024 280		
10 ¹ / ₂ 10 ³ / ₄ 11	MSE1008 MSE1012 MSE1000	331818 1476	529875 2357	25583 113.80	670	18.250 463.55	4.000 101.60	7.323 186.00	MS37	MSE1008 MSE1012 MSE1000	MSM270 MSM280	20.752 527.10	5.118 130	10.394 264	11.811 300		
11 ¹ / ₂ 12	MSE1108 MSE1200	356771 1587	594395 2644	29000 129.00	610	19.500 495.30	4.063 103.20	7.598 193.00	MS38	MSE1108 MSE1200	MSM300 MSM305	21.752 552.50	5.039 128	10.6 268	12.0 306		
12 ¹ / ₂ 13	MSE1208 MSE1300	416121 1851	722536 3214	32417 144.20	550	20.750 527.05	4.189 106.40	7.559 192.00	MS39	MSE1208 MSE1300	MSM320 MSM330	23.126 587.40	5.039 128	11.732 298			
13 ¹ / ₂ 14	MSE1308 MSE1400	456137 2029	775366 3449	35790 159.20	500	22.250 565.15	4.563 115.90	7.874 200.00	MS40 MS40E0548	MSE1308 MSE1400	MSM340 MSM350 MSM360	24.752 628.70	5.748 146	12.008 305			
15	MSE1500	434106 1931	791777 3522	39207 174.40	460	23.000 584.20	4.374 111.10	7.874 200.00	MS41	MSE1500	MSM380	25.500 647.70	5.748 146	12.008 305			
16	MSE1600	473223 2105	852700 3793	42354 188.40	430	24.250 615.95	4.563 115.90	7.874 200.00	MS42	MSE1600	MSM400	27.000 685.80	5.748 146	12.756 324			

*When ordering these bearings with ATL seals the housing must contain the E0548 suffix

The Revolve split cylindrical roller bearing product range and all support services are available through a selected worldwide network of Authorized Distributors.

Selected as the best in their area, Timken® Revolve product Authorized Distributors are technically competent to support all our customers in application engineering, supply, installation and life maintenance of split cylindrical roller bearings. They have the full support and backing of Timken including a complete design and manufacturing service for special and custom applications.



Housed Unit Conversion Worksheet

Option #1: To help us understand your application needs, please fill out the information below. This data will enable us to select the appropriate Split Cylindrical Bearing unit that will perform best for your application.

Option #2: Please fill out the following information to help us select the appropriate Split Cylindrical Bearing unit for your application.

Option #3: When converting to a different style of housed unit, use this worksheet to provide the application data specific to your project needs. This information is critical to ensuring the appropriate Split Cylindrical Bearing unit is selected.

Date: _____

Customer Contact: _____ Timken Contact: _____

Application Details: _____

Drive Details

Motor Power: _____ No. Belts: _____

Direct Drive: YES NO Drive Pulley Dia. (mm): _____

Belt Drive: YES NO Driven Pulley Dia. (mm): _____

Gear Drive: YES NO Current DE Bearing: _____

Gear Ratio: YES NO Current NDE Bearing: _____

Environment

Wet: YES NO Bearing Temp. (Deg ° C): _____

Dry: YES NO Shaft Diameter (mm): _____

Dust: YES NO

Severe: YES NO Shaft Speed (rpm): _____

Submerged: YES NO

Load

Radial (kN or lbs): _____

Lubrication

Oil: YES NO

Specification

Amount

Axial (kN or lbs): _____ Grease: YES NO

Duty

Intermittent: YES NO

Continuous: YES NO

Current Sealing Arrangement

Timken Housed Unit Offering

	Type	Bearing	Size range	Features	Material
SNT Plummer					
	<ul style="list-style-type: none"> Split Plummer 	Spherical Roller	20 – 530 mm	<ul style="list-style-type: none"> Split Housing Multiple sealing options 	Cast Iron Ductile Iron
SAF Pillow					
	<ul style="list-style-type: none"> Pillow 	Spherical Roller	1 3/8 – 19 1/2 in	<ul style="list-style-type: none"> Split Housing Multiple sealing options 	Cast Iron Ductile Iron
Split Cylindrical Roller Bearing Housed Unit					
	<ul style="list-style-type: none"> Pedestal Flange Take Up Hanger 	Split Cylindrical Roller Bearing	1 3/16 – 24 in 30 – 600 mm	<ul style="list-style-type: none"> Simplified inspection and assembly Robust brass cage High speed capabilities Multiple sealing options 	Cast Iron Ductile Iron Cast Steel
SRB Solid Block					
	<ul style="list-style-type: none"> Pillow Flange Take Up Cartridge 	Spherical Roller	1 7/16 – 15 in 40 – 380 mm	<ul style="list-style-type: none"> Wide range of locking options Multiple sealing options and end covers 	Cast Steel
Type E					
	<ul style="list-style-type: none"> Pillow Flange Take Up 	Tapered Roller	1 3/16 – 5 in 35 – 125 mm	<ul style="list-style-type: none"> High-load carrying capacity Optimized double lip seal 	Cast Iron
Ball Bearing (includes R, Y, V and S)					
	<ul style="list-style-type: none"> Pillow Flange Take Up Cartridge 	Ball	1/2 – 3 15/16 in 12 – 90 mm	<ul style="list-style-type: none"> Wide range of locking options Safety end caps 	Cast Iron
UC Series Ball Bearing					
	<ul style="list-style-type: none"> Pillow Flange Take Up Cartridge 	Ball	1/2 – 3 1/2 in 12 – 90 mm	<ul style="list-style-type: none"> Precision formed flinger Wide inner ring 	Cast Iron



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