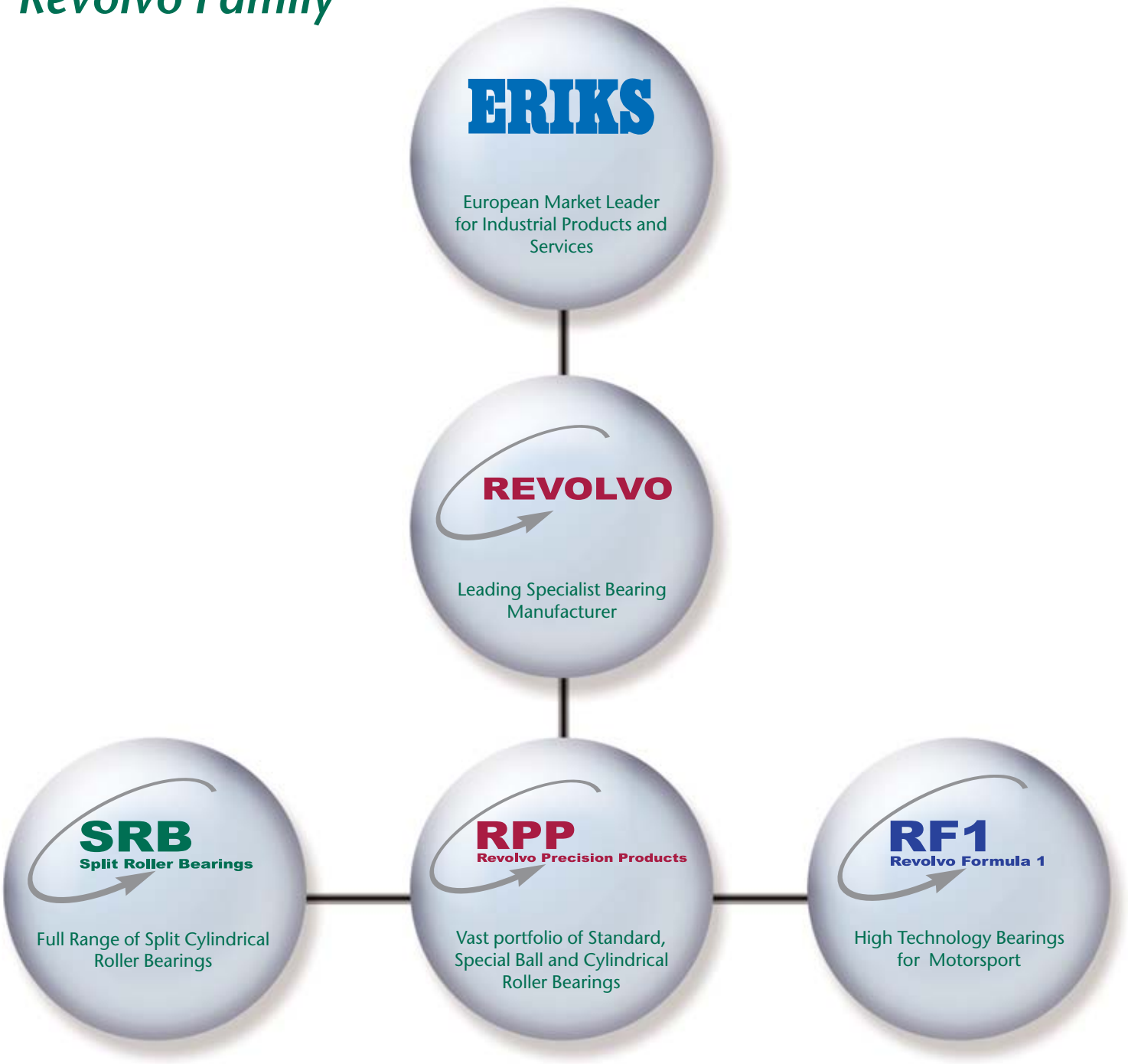
SRB
Split Roller Bearings

from
REVOLVO INC.

TECHNICAL CATALOG

Revolvo Family



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Introduction
Taking the Initiative

In today's demanding industrial environment, specialist technology is, more than ever, key to improved efficiency, productivity and ultimately profitability. SRB, 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 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

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

SRB 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.

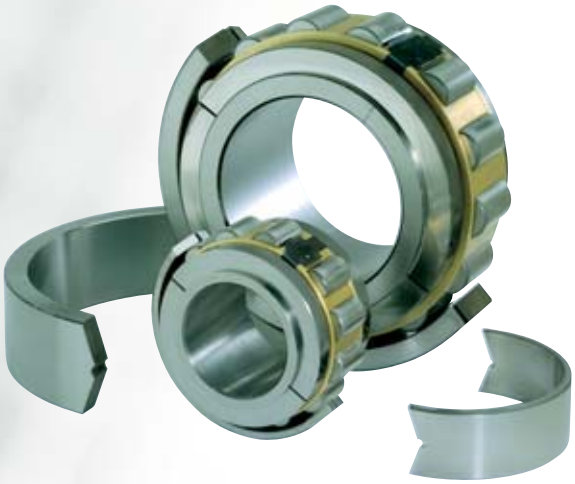
All supports and housings incorporate pry slots and doweled machined joints for easy separation. Supports are manufactured from high strength cast iron and feature double webs and thick sections; product life is thus enhanced due to high rigidity and inherent strength.

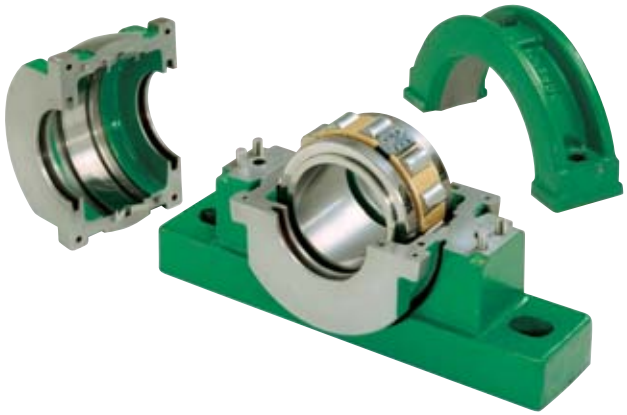
Innovation in application

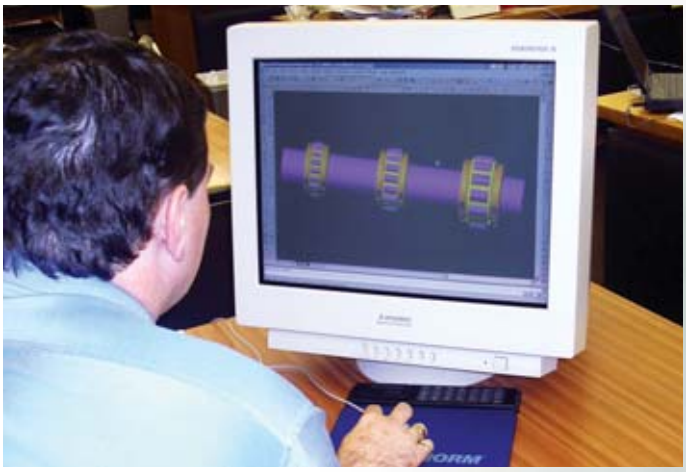
The benefits of totally split-to-the-shaft bearing assemblies are long established, subsequent savings in production and maintenance are well documented.

However, split roller bearings are today being selected for an ever-wider range of applications. Additional features and benefits available from the SRB 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.







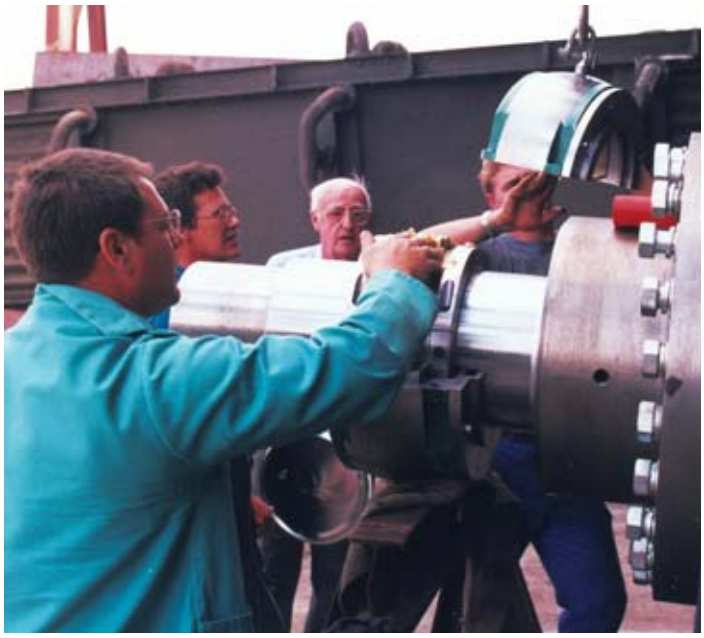
Innovation in Service

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

Experienced application engineering support is available to assist customers with concepts through consultation, commissioning, training, supply and post installation support.

Cellular manufacture, modular stocking, logistical expertize and unique distributor/manufacturer interfaces provide excellent availability of product in the right place at the right time.

A team of design engineers provides custom solutions on state of the art CAD systems. Close liaison with our customers allows SRB to continuously refine and improve products, production processes and service procedures. This enables ongoing development allowing SRB to provide a bench mark in technical support.



Advantages of Split Roller Bearings

Split 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 Roller Bearings are completely split to the shaft. Installation and inspection times are therefore dramatically reduced. Additionally the time saved and costs eliminated by not having to remove ancillary equipment results in even higher potential savings.

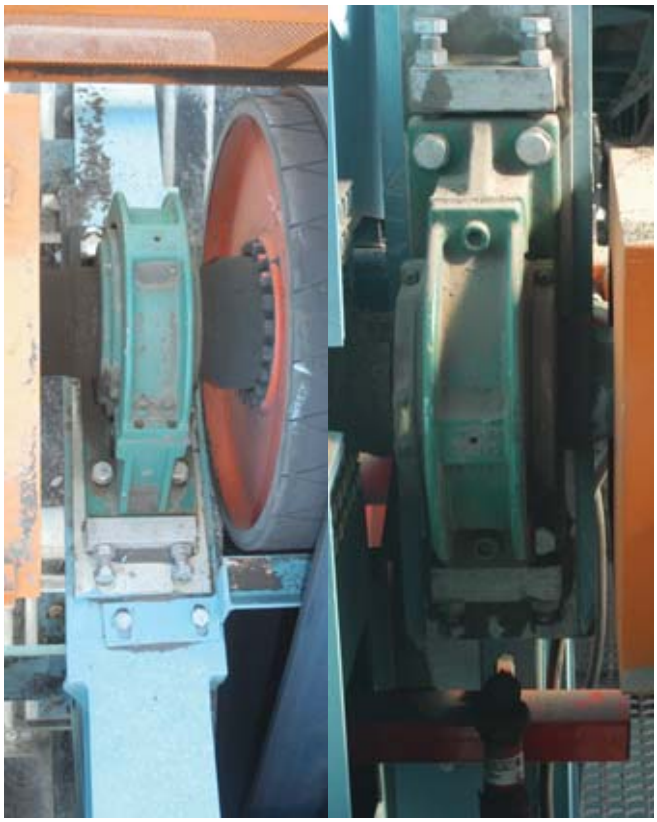
Inspection Simplified

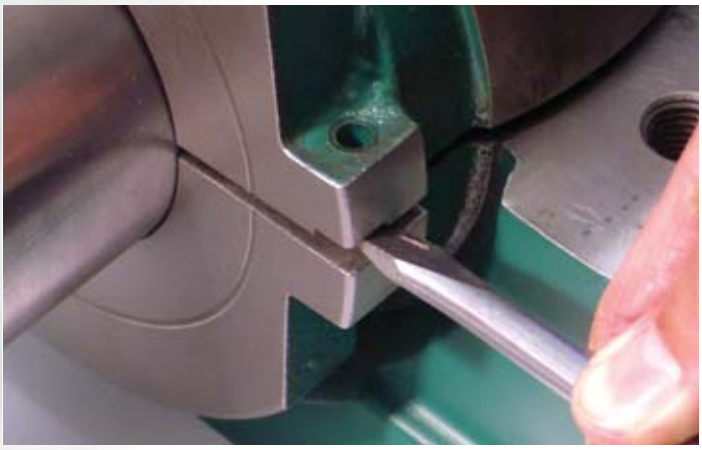
No matter what the size or type of split roller bearing, inspection is straight forward. Simply remove the support cap and the top half of the housing and all bearing parts become visible and accessible.

As a result 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 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 SRB split roller bearings becomes irrefutable.

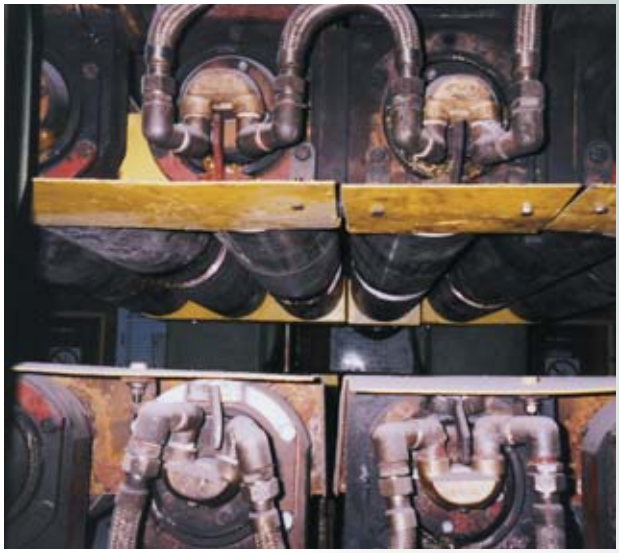
Further Savings

Even in situations where SRB bearings are used to replace other split bearing brands the potential for savings exists. 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, SRB bearings have the capability to extend service life leading to a reduction in bearing consumption.

Applications and Industries

The key benefit of split roller bearings is the savings that can be made in relation to reducing downtime. This is an advantage which can be utilized in any industry. Along with our distributors throughout the world, SRB have a proactive approach to market evolution and are constantly identifying and developing new applications for split roller bearings. SRB continue to service and supply a wide range of Industries and associated applications including:

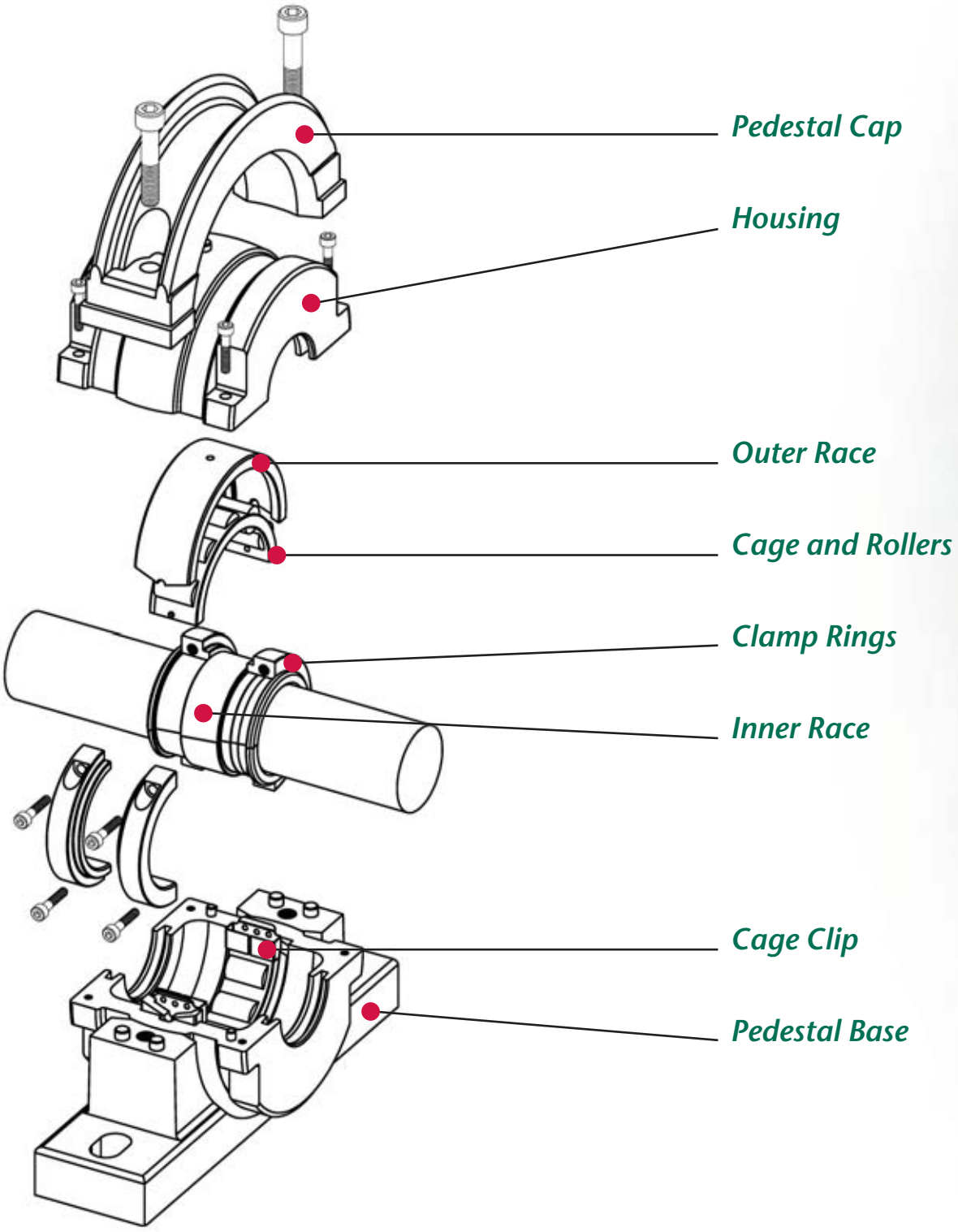
- Air Movement
- Cement
- Conveyor Systems
- Metal Processing
- Mining
- Power Generation
- Quarrying
- Sugar
- Timber
- Manufacturing



Features and Benefits

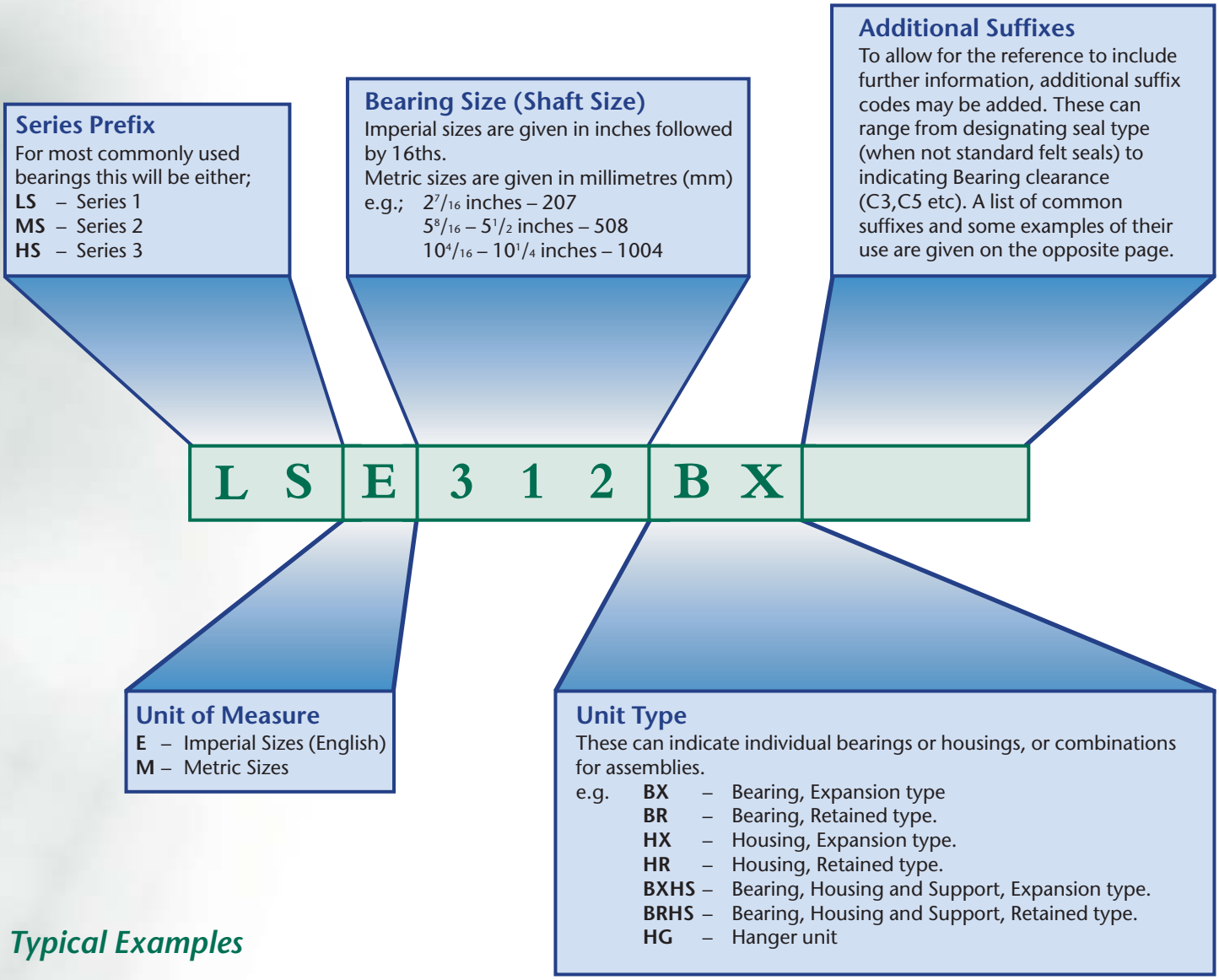
Features	Benefits
All components are totally split to the shaft	Quick and easy installation. Substantial reduction in downtime compared to replacement of solid bearings
Support caps and housing halves are quickly removed	Easy visual inspection to assess the condition of the bearing (during planned maintenance)
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
250 Grade cast iron to BS EN1561 : 1997	Strength and durability
Profiled rolling elements	Minimizes damaging edge stresses

Standard Unit Anatomy



Quick Reference Guide

In order to provide our customers with clear and concise labelling, SRB has endeavoured to keep things simple when creating references. The following should cover the majority of ordering situations, however, as always, your local SRB distributor or SRB Technical Services will be pleased to provide further assistance if required.



Typical Examples

LSE108BXH
Series 1-1½ inch Expansion Bearing with Housing

LSM50BR
Series 1-50mm Retained Bearing

MSE200BXHS
Series 2-2 inch Expansion Bearing with Housing and Support

MSM100HR
Series 2-100mm Retained Housing

LSM75BXHG
Series 1-75mm Expansion Bearing in Hanger Unit

Series Prefixes

LSE	Series 1 Imperial
LSM	Series 1 Metric
MSE	Series 2 Imperial
MSM	Series 2 Metric
HSE	Series 3 Imperial
HSM	Series 3 Metric
XSM	Tubular Strander Series Metric
XSE	Tubular Strander Series Imperial
CCM	Water Cooled Series Metric
CCE	Water Cooled Series Imperial

Type References

BX	Expansion Bearing
BR	Retained Bearing
HX	Expansion Housing
HR	Retained Housing
HG	Hanger Housing
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 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 eg CH6mm, CH11mm
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
NTL	Nitrile Triple Labyrinth
OB	Overbored with size eg OB160mm
OTL	Overbored Triple Labyrinth Seal
RSS	Nitrile Single Lip Seal
S1,S2,S3	Designation for Tempered Bearings (ISO)
SF0	Swivel fit, Zero clearance.
SLO	Single Lipped Outer
SLUB	Spherical Lubrication
TE	Temperature Probe hole
WSRP	Single Lip Seal with Garter Spring and Retaining Plate
XAR	Extended Antirotation Pin

Series 1

inch	mm	Support	Flange	Take Ups	
1 3/16 to 1 1/2	35 to 40	S01	F01	TT01	TP01
1 11/16 to 2	45 to 50	S02	F02	TT02	TP02
2 3/16 to 2 1/2	60 to65	S03	F03	TT03	TP03
2 11/16 to 3	70 to 75	S04	F04	TT04	TP04
3 3/16 to 3 1/2	80 to 90	S05	F05	TT05	TP05
3 11/16 to 4	100 to 105	S06	F06	TT06	TP06
4 3/16 to 4 1/2	110 to 115	S07	F07	TT07	TP07
4 11/16 to 5	120 to 130	S08	F08	TT08	TP08
5 3/16 to 5 1/2	135 to 140	S09	F09	TT09	TP09
5 11/16 to 6	150 to 155	S10	F10	TT10	TP10
6 7/16 to 6 1/2	160	S11	F11		
6 11/16 to 7	170 to 180	S12	F12		
7 1/4 to 8	190 to 200	S13	F13		
8 1/2 to 9	220 to 230	S14	F14		
9 1/2 to 10	240 to 250	S15	F15		
10 1/2 to 11	260 to 280	S16	F16		
11 1/2 to 12	300	S17			
12 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			

Series 2

inch	mm	Support	Flange	Take Ups	
1 11/16 to 2	45 to 50	S03	F03	TT03	TP03
2 3/16 to 2 1/2	60 to 65	S04	F04	TT04	TP04
2 11/16 to 3	70 to 75	S05	F05	TT05	TP05
3 3/16 to 3 1/2	80 to 90	S06	F06	TT06	TP06
3 11/16 to 4	100 to 105	S07	F07	TT07	TP07
4 3/16 to 4 1/2	110 to 115	S08	F08	TT08	TP08
4 11/16 to 5	120 to 130	S10	F10	TT09	TP09
5 3/16 to 5 1/2	135 to 140	S30	F30	TT30	TP30
5 11/16 to 6	150 to 155	S31	F31	TT31	TP31
6 7/16 to 6 1/2	160 to 170	S32	F32		
6 11/16 to 7	180	S33	F33		
7 1/4 to 8	190 to 200	S34	F34		
8 1/2 to 9	220 to 230	S35	F35		
9 1/2 to 10	240 to 260	S36	F36		
10 1/2 to 11	280	S37	F37		
11 1/2 to 12	300	S38	F38		
12 1/2 to 13	320 to 330	S39			
14	340 to 350	S40			
15	360 to 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			

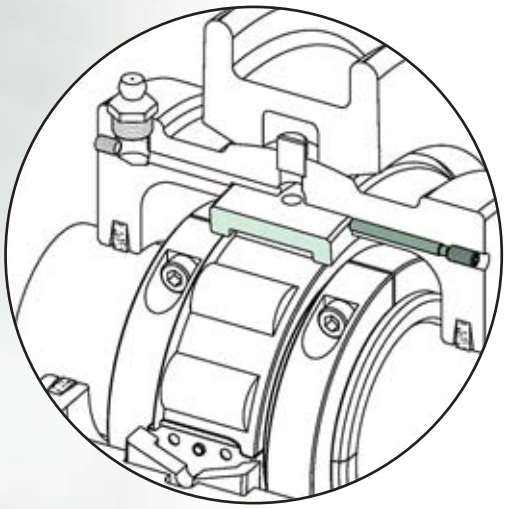
Series 3

inch	mm	Support	Flange
3 11/16 to 4	100 to 105	S54	F54
4 3/16 to 4 1/2	110 to 120	S55	F55
4 11/16 to 5	125 to 130	S56	F56
5 3/16 to 5 1/2	135 to 140	S57	F57
5 11/16 to 6	150 to 155	S58	F58
6 7/16 to 6 1/2	160 to 170	S59	F59
6 11/16 to 7	180	S60	F60
7 1/4 to 8	190 to 200	S61	F61
8 1/2 to 9	220 to 230	S62	F62
9 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)

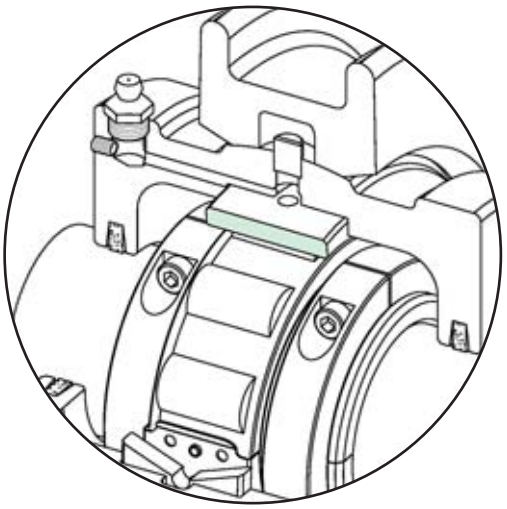
This bearing has integral lips on the outer race to provide a surface for axial load. This axial load is accommodated on the inner race via the hardened clamp rings, which both align the inner race halves and provide roller guidance. In larger bearings the inner race is manufactured with integral ribs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



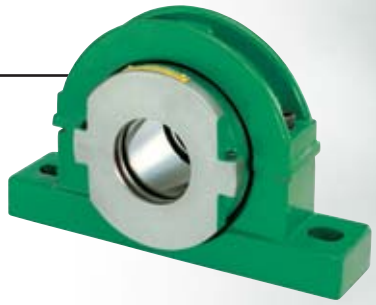
During expansion or contraction of the shaft, rollers are free to move across the plain outer race offering virtually no resistance to axial movement. Limits for the amount of axial movement are given in the Assembly and Maintenance section.

Support Types

Support Units

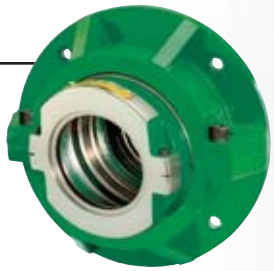
SRB bearings and housings may be mounted in a variety of support units according to the application and loading constraints. A number of variants are available as standard types with other unit types available on request. SRB can also offer a design and manufacturing facility to produce custom units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

Pillow Block (Pedestal) Type



This is by far the most popular method for mounting SRB units. These supports are manufactured from high strength, grade 250 (BS EN1561 :1997) 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, SRB flange units provide a simple means of achieving this goal. Again, the use of Grade 250 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.

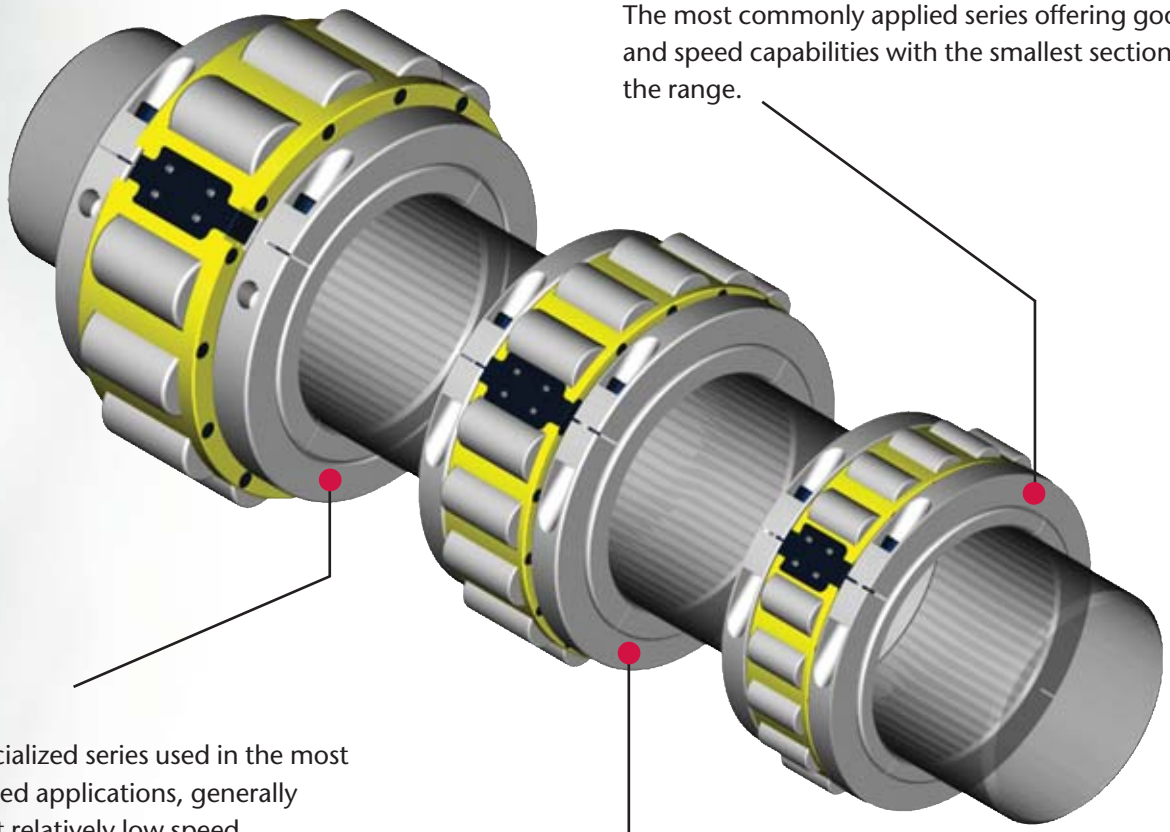
Range Comparison
Bearing Series

Comparison

SRB offers a range of bearing series, providing solutions for a wide range of operating conditions. Series 1, Series 2 and Series 3 offer an increasing ability to accommodate higher loads. As the series increases the speed capability reduces.

Series 1:

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



Series 3

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

Series 2

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 SRB split 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 ISO281:2007

$$L_{10} = (C/P)^{10/3} \ (10^6 \text{ Revolutions}) \quad \text{– (i)}$$

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)

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

L_{10} = **Basic Rating Life (90% reliability), 10^6 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, moment 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 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% 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.

ISO281 allows for an adjusted life calculation:

Lhna = a_1 x a_2 x a_3 x $L_{10}h$

Where

Lhna = Adjusted Life

$L_{10}h$ = 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% is required, then an a_1 factor as in the table below, should be applied.

Table A1

	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:

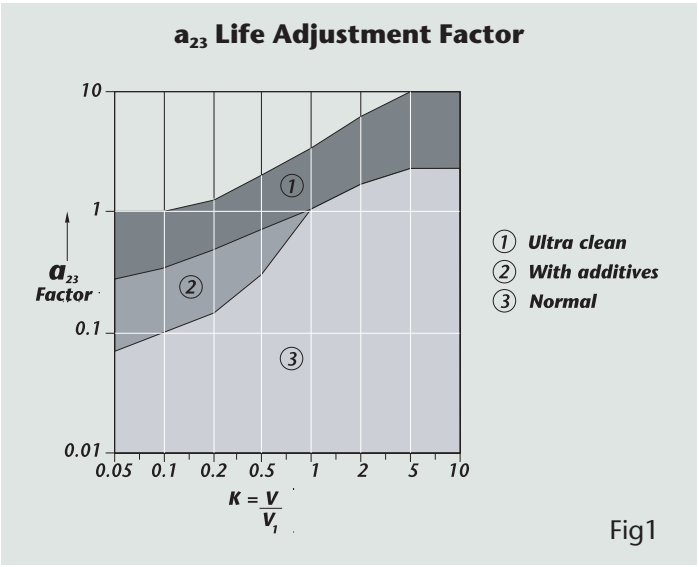
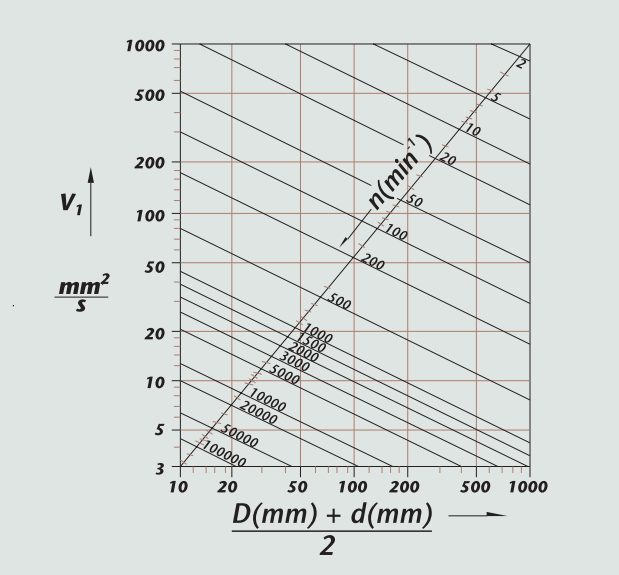


Fig1

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

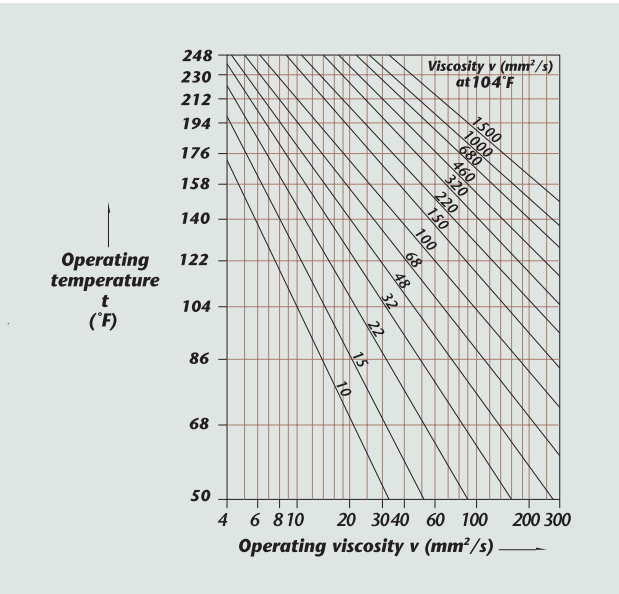
V = Operating Viscosity (Depends on original viscosity and operating temperature)

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 off 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:

Co = Fs. Po

Co = Basic Static Load Rating
Po = Equivalent Static Load
Fs = Static Safety Factor

Guidelines for the Static Safety Factor Fs 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

Bearing Ratings

Series 1

Shaft (d)		Bearings Ratings			
inch	mm	Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM
1 3/16	35	65	68	3.20	5400
1 1/2	40	14613	15287	719.38	
1 11/16	45	83	87	3.60	4630
2	50	18659	19558	809.30	
2 3/16	60	103	115	5.40	3940
2 1/2	65	23155	25853	1213.95	
2 11/16	70	138	161	7.60	3310
3	75	31024	36194	1708.53	
3 3/16	80	187	231	12.40	2790
3 1/2	90	42039	51931	2787.59	
3 11/16	100	288	366	16.00	2340
4	105	64745	82280	3596.90	
4 3/16	110	316	427	18.60	1970
4 1/2	115	71040	95993	4181.39	
4 11/16	120	363	496	22.20	1740
5	130	81606	111505	4990.69	
5 3/16	135	422	585	25.80	1570
5 1/2	140	94869	131513	5799.99	
5 11/16	150	459	664	29.40	1450
6	155	103187	149273	6609.30	
6 7/16	160	583	792	33.00	1320
6 1/2		131064	178049	7419	
6 11/16	170	524	828	36.40	1220
7	180	117800	186142	8183	
7 1/4	190	614	990	41.00	1070
8	200	138033	222561	9217	
8 1/2	220	659	1062	49.00	930
9	230	148149	238747	11016	
9 1/2	240	696	1182	57.80	820
10	250	156467	265724	12994	
10 1/2	260	794	1376	66.80	730
11	280	178498	309337	15017	
11 1/2	300	929	1665	78.20	650
12	305	208848	374307	17580	
12 1/2	320	920	1674	89.00	590
13	330	206824	376330	20008	
14	340	967	1824	99.60	540
	350	217390	410052	22391	
15	360	1011	1975	110.40	500
	380	227282	443998	24819	
16	400	1054	2125	115.60	460
		236949	477719	25988	
17	420	1095	2275	121.00	430
		246166	511440	27202	
18	440	1134	2427	127.20	410
	460	254933	545611	28596	
19	480	1291	2800	132.60	380
		290228	629465	29810	
20	500	1336	2974	137.80	360
		300345	668582	30979	
21	530	1377	3150	140.60	340
		309562	708148	31608	
22	560	1419	3324	142.40	330
		319004	747265	32013	
23	580	1591	3759	144.00	310
		357671	845057	32372	
24	600	1638	3956	146.80	300
		368237	889344	33002	

Series 2

Shaft (d)		Bearings Ratings			
inch	mm	Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM
1 11/16	45	121	127	6.20	4350
2	50	27202	28551	1394	
2 3/16	55	168	190	8.80	3680
2 1/2	65	37768	42714	1978	
2 11/16	70	258	300	10.60	3080
3	75	58001	67443	2383	
3 3/16	80	297	353	17.80	2520
3 1/2	90	66768	79358	4002	
3 11/16	100	388	491	25.00	2130
4	105	87226	110381	5620	
4 3/16	110	454	592	31.20	1820
4 1/2	115	102063	133087	7014	
4 11/16	120	525	700	38.20	1600
5	130	118025	157366	8588	
5 3/16	135	600	817	45.40	1450
5 1/2	140	134885	183669	10206	
5 11/16	150	730	1034	52.40	1320
6	155	164111	232453	11780	
6 7/16	160	842	1175	61.40	1200
6 1/2	170	189289	264151	13803	
6 11/16	180	927	1357	71.20	1120
7		208398	305066	16006	
7 1/4	190	1013	1516	80.00	960
8	200	227732	340810	17985	
8 1/2	220	1138	1668	89.80	850
9	230	255833	374981	20188	
9 1/2	240	1240	1882	98.80	750
10	260	278763	423091	22211	
10 1/2	270	1476	2357	113.80	670
11	280	331818	529875	25583	
11 1/2	300	1569	2607	129.00	610
12	305	352725	586077	29000	
12 1/2	320	1723	2922	144.20	550
13	330	387346	656892	32417	
14	340	1989	3403	159.20	500
	360	447145	765025	35790	
15	380	1800	3202	174.40	460
		404656	719838	39207	
16	400	2105	3793	188.40	430
		473223	852701	42354	
17	420	2324	4164	202.00	400
		522456	936105	45411	
18	440	2215	4183	216.00	380
	460	497952	940376	48559	
19	480	2445	4594	230.00	360
		549658	1032773	51706	
20	500	2320	4571	244.00	340
		521557	1027602	54853	
21	530	2556	5028	258.00	330
		574612	1130340	58001	
22	560	2683	5436	272.00	310
		603163	1222062	61148	
23	580	2740	5601	286.00	300
		615977	1259155	64295	
24	600	2770	5637	300.00	290
		622721	1267248	67443	

Series 3

Shaft (d)		Bearings Ratings			
inch	mm	Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM
3 11/16	100	653	783	31.20	1820
4	105	146800	176025	7014	
4 3/16	110	656	801	39.10	1640
4 1/2	120	147475	180072	8790	
4 15/16	125	753	974	49.00	1500
5	130	169281	218964	11016	
5 3/16	135	827	1084	58.80	1340
5 1/2	140	185917	243693	13219	
5 11/16	150	1037	1325	69.40	1220
6	155	233127	297872	15602	
6 7/16	160	1015	1326	79.20	1110
6 11/16	170	228181	298097	17805	
6 3/4	175	1275	1767	89.00	1030
7	180	286631	397238	20008	
7 1/4	190	1423	1958	99.60	880
8	200	319903	440176	22391	
8 1/2	220	1665	2455	109.40	760
9	230	374307	551906	24594	
9 1/2	240	1694	2519	130.80	700
10	260	380826	566294	29405	
11	280	1936	3115	153.00	620
		435230	700280	34396	
12	300	2114	3194	174.40	560
		475246	718040	39207	
13	320	2718	4093	198.80	500
		611031	920143	44692	
14	340	2686	4421	213.60	460
	360	603837	993881	48019	
15	380	3195	5238	250.80	420
16	400	718265	1177550	56382	
17	420	3187	5813	275.80	360
	440	716466	1306815	62002	
18	460	3501	6091	302.40	340
		787056	1369312	67982	
20	500	4324	7603	347.00	310
21	530	972074	1709223	78009	
22	560	4448	8781	382.60	280
		999950	1974048	86012	
23	580	4443	8918	400	270
24	600	998826	2004847	89924	

Axial load ratings (C_a) assume the use of EP additives or oil lubrication, otherwise use 50% of values.

Higher loads and speeds may be permissible. Please contact SRB Technical Services.

Axial Considerations

Axial Load

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

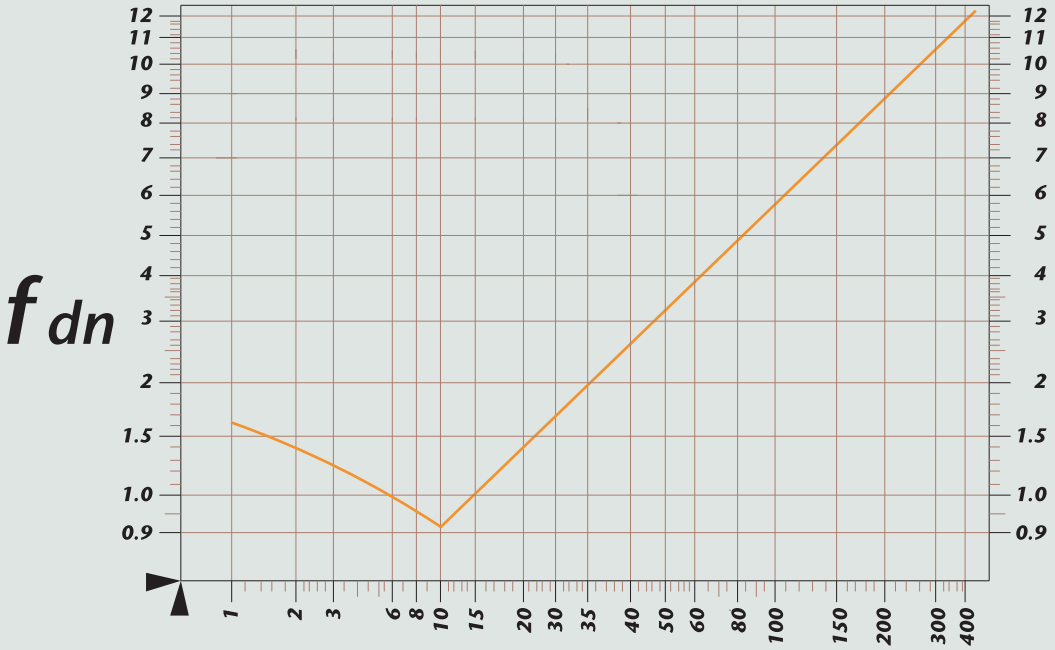
1. Calculate the axial loads acting on the bearing
2. Multiply each load by the appropriate dynamic factor f_z
3. Combine these loads to determine the effective axial load Pa
4. Select a bearing having a Ca value greater than the product of Pa x fdn, d.n is the product of the shaft size in mm and the speed in r.p.m. To determine fdn 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 catalogue rating must be decreased by 50%. In instances where bearings operate at over 50% of their catalogue speed rating and over 50% of their axial load ratings (C_a) then recessed shafts should be considered. Please contact our Technical Services Department.

VELOCITY

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



$$\frac{d(mm) \times n(rpm)}{1000}$$

Bearing Clearance and Temperature Considerations

SRB 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. Typically a C3 clearance will reduce capacity by 5% and C5 clearance by 10%.

SRB 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 bearings 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. SRB 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.

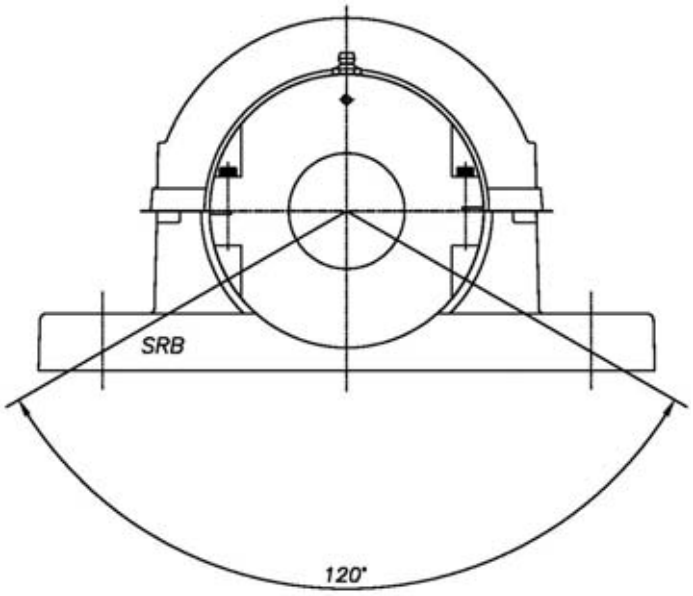
The designations for specially heat-treated bearings are in line with those quoted in ISO standards. The effects of temperature stabilization are detailed in the table shown.

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

Pedestal Loads

Throughout the SRB range, the pedestal 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 SRB support unit are manufactured from Grade 250 cast iron (BS EN1561:1997) and include strengthening webs and ribs to provide a highly robust unit. In order to compliment the inherent strength, we recommend that careful consideration be given to the siting and mounting of the support unit.

To determine a supports 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. SRB Technical Services has a proven track record of innovative solutions and would be happy to provide assistance.



Bearing Frequencies

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 it's 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 SRB 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 SRB Technical.

Bearing Frequencies Table (Hz)

Series 1

inch	mm	Inner Race	Outer Race	Roller	Cage
1 3/16 1 1/2	35 40	5.878	4.122	2.760	0.412
1 11/16 2	45 50	5.852	4.148	2.847	0.415
2 3/16 2 1/2	60 65	6.932	5.068	3.140	0.422
2 11/16 3	70 75	6.902	5.098	3.252	0.425
3 3/16 3 1/2	80 90	8.017	5.983	3.370	0.427
3 11/16 4	100 105	8.089	5.911	3.137	0.422
4 3/16 4 1/2	110 115	9.109	6.891	3.538	0.431
4 11/16 5	120 130	9.100	6.900	3.569	0.431
5 3/16 5 1/2	135 140	9.087	6.913	3.612	0.432
5 11/16 6	150 155	10.159	7.841	3.819	0.436
6 7/16 6 1/2	160	10.162	7.838	3.809	0.435
6 11/16 7	170 180	12.223	9.777	4.442	0.444
7 1/4 8	190 200	12.204	9.796	4.515	0.445
8 1/2 9	220 230	11.064	8.936	4.645	0.447
9 1/2 10	240 250	12.058	9.942	5.152	0.452
10 1/2 11	260 280	12.025	9.975	5.319	0.453
11 1/2 12	300 305	13.087	10.913	5.472	0.455
12 1/2 13	320 330	13.028	10.972	5.795	0.457
14	340 350	14.045	11.955	6.180	0.460
15	360 380	15.058	12.942	6.580	0.462
16	400	16.076	13.924	6.935	0.464
17	420	17.088	14.912	7.319	0.466
18	440 460	18.094	15.906	7.739	0.468
19	480	18.102	15.898	7.684	0.468
20	500	19.115	16.885	8.038	0.469
21	530	20.117	17.883	8.479	0.471
22	560	21.127	18.873	8.841	0.472
23	580	21.140	18.860	8.744	0.472
24	600	22.153	19.847	9.078	0.473

Series 2

inch	mm	Inner Race	Outer Race	Roller	Cage
1 11/16 2	45 50	5.988	4.012	2.432	0.401
2 3/16 2 1/2	55 65	7.091	4.909	2.659	0.409
2 11/16 3	70 75	7.153	4.847	2.506	0.404
3 3/16 3 1/2	80 90	7.091	4.909	2.659	0.409
3 11/16 4	100 105	8.205	5.795	2.818	0.414
4 3/16 4 1/2	110 115	8.143	5.857	2.981	0.418
4 11/16 5	120 130	8.105	5.895	3.088	0.421
5 3/16 5 1/2	135 140	8.082	5.918	3.157	0.423
5 11/16 6	150 155	9.225	6.775	3.188	0.423
6 7/16 6 1/2	160 170	8.107	5.893	3.083	0.421
6 11/16 7	180	9.192	6.808	3.281	0.425
7 1/4 8	190 200	9.119	6.881	3.505	0.430
8 1/2 9	220 230	9.161	6.839	3.372	0.427
9 1/2 10	240 260	9.082	6.918	3.628	0.432
10 1/2 11	270 280	10.162	7.838	3.808	0.435
11 1/2 12	300 305	11.207	8.793	4.082	0.440
12 1/2 13	320 330	11.170	8.830	4.217	0.442
14	340 360	11.180	8.820	4.178	0.441
15	380	11.037	8.963	4.769	0.448
16	400	12.169	9.831	4.651	0.447
17	420	12.195	9.805	4.548	0.446
18	440 460	13.160	10.840	5.122	0.452
19	480	13.181	10.819	5.031	0.451
20	500	14.153	11.847	5.593	0.456
21	530	14.160	11.840	5.559	0.455
22	560	15.200	12.800	5.793	0.457
23	580	15.203	12.797	5.778	0.457
24	600	15.168	12.832	5.951	0.458

Series 3

mm	inch	Inner Race	Outer Race	Roller	Cage
100 105	3 11/16 4	6.073	3.927	2.222	0.393
110 120	4 3/16 4 1/2	5.982	4.018	2.446	0.402
125 130	4 15/16 5	7.114	4.886	2.601	0.407
135 140	5 3/16 5 1/2	7.079	4.921	2.690	0.410
150 155	5 11/16 6	7.190	4.810	2.422	0.401
160 170	6 7/16 6 11/16	7.126	4.874	2.570	0.406
175 180	6 3/4 7	8.243	5.757	2.727	0.411
190 200	7 1/4 8	7.047	4.953	2.779	0.413
220 230	8 1/2 9	8.102	5.898	3.097	0.421
240 260	9 1/2 10	8.056	5.944	3.240	0.425
280	11	9.114	6.886	3.520	0.430
300	12	8.043	5.957	3.280	0.425
320	13	8.105	5.895	3.088	0.421
340 360	14	9.093	6.907	3.591	0.432
380 400	15 16	9.111	6.889	3.530	0.431
420 440	17	11.158	8.842	4.260	0.442
460	18	10.125	7.875	3.938	0.438
500 530	20 21	10.132	7.868	3.911	0.437
560	22	12.159	9.841	4.693	0.447
580 600	23 24	13.208	10.792	4.916	0.450

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.

Tolerance units are 0.001 inches / 0.001 mm. All tolerances are +0.000

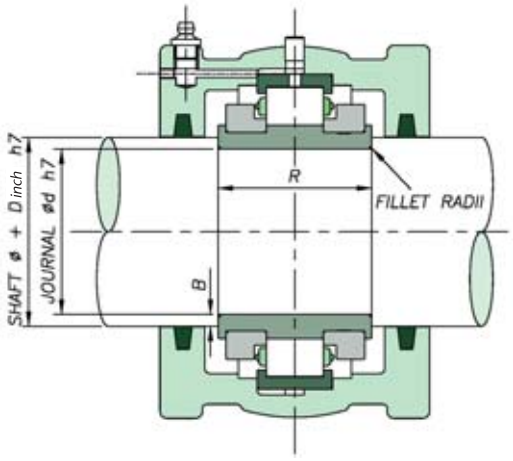
Shaft Dia.	dn<50000 & C/P>10	50000<dn<150000 & C/P>10	50000<dn<150000 & C/P<10	dn>150000	Cylindricity of Shaft
	h9	h8	h7	h6	IT6
0 - 2" 0 - 50 mm	-2.5 -62	-1.5 -39	-1 -25	-0.6 -16	-0.6 -16
2 - 3" 50 - 80 mm	-3 -74	-1.8 -46	-1.2 -30	-0.7 -19	-0.7 -19
3 - 5" 80 -120 mm	-3.5 -87	-2.1 -54	-1.4 -35	-0.9 -22	-0.9 -22
5 - 7" 120 - 180 mm	-3.9 -100	-2.5 -63	-1.6 -40	-1 -25	-1 -25
7 - 10" 180 - 250 mm	-4.5 -115	-2.8 -72	-1.8 -46	-1.2 -29	-1.2 -29
10 - 12½" 250 - 315 mm	-5.1 -130	-3.2 -8.1	-2 -52	-1.3 -32	-1.3 -32
12½ - 15½" 315 - 400 mm	-5.5 -140	-3.5 -89	-2.2 -57	-1.4 -36	-1.4 -36
15½ - 19½" 400 - 500 mm	-6.1 -155	-3.8 -97	-2.5 -63	-1.6 -40	-1.6 -40
19½ - 24" 500 - 600 mm	-6.9 -175	-4.3 -110	-2.8 -70	-1.7 -44	-1.7 -44

Recess Mounting

In applications where the resultant axial load exceeds 50% 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
1¼" - 3½" 40 -90 mm	d + ¼"	3/64"	1/8"	C + 0.004" C + 0.012"	0.004"
Over 3½" - 6" Over 90 - 150 mm	d + 3/8"	5/64"	3/16"	C + 0.006" C + 0.016"	0.004"
Over 6" Over 155 mm	d + 3/8"	3/32"	3/16"	C + 0.008" C + 0.02"	0.004"

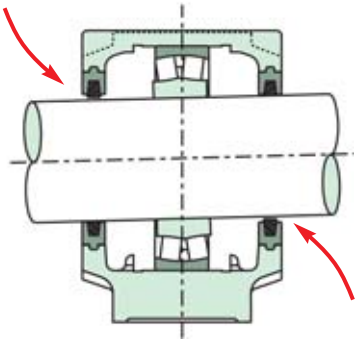


N.B. Width of recesses for standard bearings maybe different from that used for existing products. Please consult SRB Technical Services department for bearings suitable for other recess sizes.

Sealing Arrangements

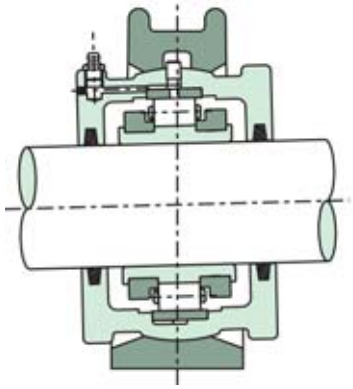
Any bearing, housing and support unit that is not suitably sealed against its surrounding environment is unlikely to achieve its full potential, either in terms of performance or life span. The prevention of ingress of foreign materials and contaminants is of paramount importance and should be considered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

A wide variety of sealing solutions are available to users of SRB 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, SRB Technical Services are able to work closely with designers and end users to develop and manufacture custom solutions tailored to specific applications.

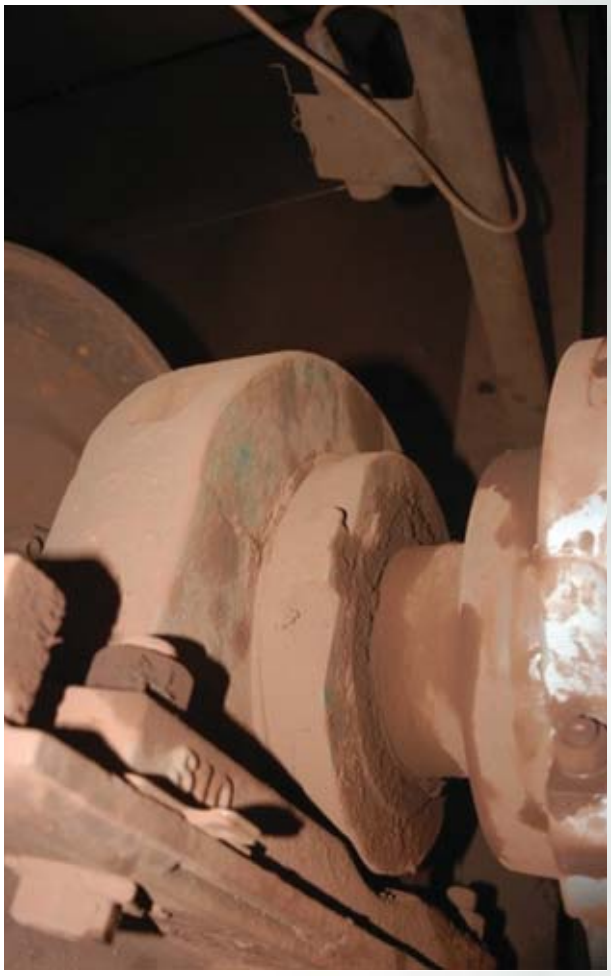


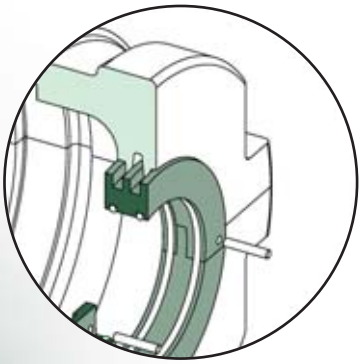
Seal ineffective

SRB 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

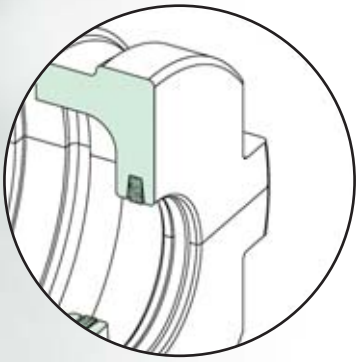




Aluminium Triple Labyrinth

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. SRB Triple Labyrinth seals are fitted with high temperature Viton cord as standard.

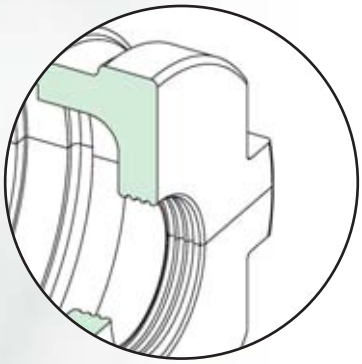
Max Speed	As Bearing
Temp Range	-4°F to + 347°F
Shaft Finish	3.2µm Ra
Suffix Letters	**ATL**



Felt Seal

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

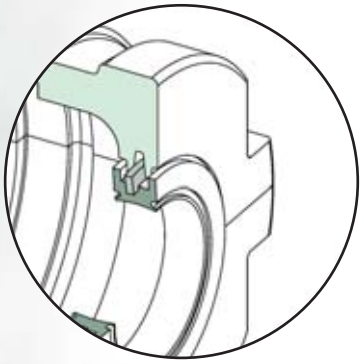
Max Speed	6000dN (dN(mm)≤150000)
Temp Range	-76°F to +212°F
Shaft Finish	1.6µm Ra



Labyrinth Grease Groove

For shaft sizes over 12inch, 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.

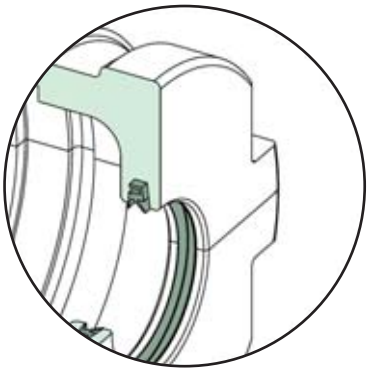
Max Speed	As Bearing
Temp Range	As Bearing
Shaft Finish	3.2µm Ra



Neoprene Triple Labyrinth

The seal is molded from Neoprene rubber and incorporates a steel center band. This steel pressing has ends which form an interlocking arrangement and hence secure the seal to the shaft. The seal can be used where restrictions prevent the use of Aluminium (e.g. Mining).

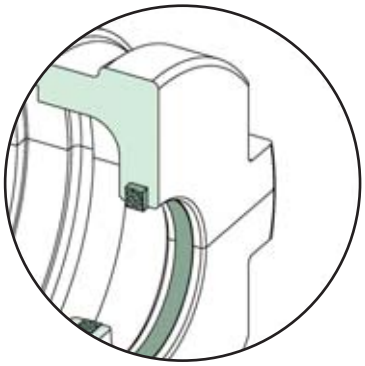
Max Speed	6000 (dN(mm)≤150000)
Temp Range	-4°F to + 212°F
Shaft Finish	3.2µm Ra
Suffix Letters	**NTL**



Nitrile 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. High temperature versions are also available.

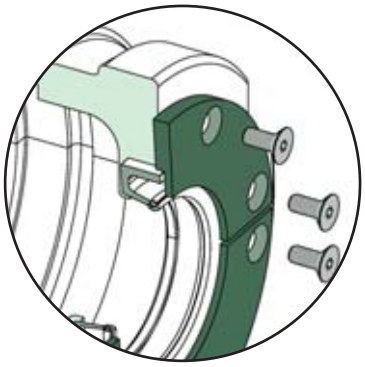
Max Speed	6000dN (dN(mm) ≤150000)
Temp Range	-4°F to + 212°F
Shaft Finish	3.2µm Ra
Suffix Letters	**RSS (RSSHT for high temperature)**



High Temperature Packing

A self-lubricating seal based around PTFE and graphite. In order to utilize the highest quality materials available, SRB housings for high temperature applications are machined to suit the High Temperature Packing used.

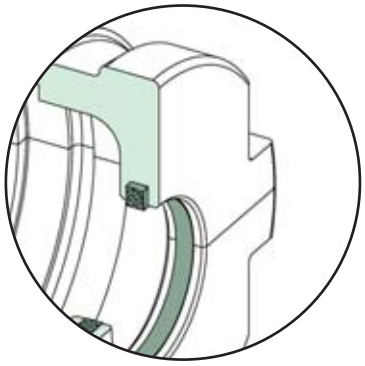
Max Speed	6000dN (dN(mm) ≤150000)
Temp Range	-76°F to + 572°F
Shaft Finish	1.2µm Ra
Suffix Letters	**HTPS**



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 SRB Technical Services for more information.

Max Speed	6000dN (dN(mm) ≤150000)
Temp Range	-4°F to + 212°F
Shaft Finish	0.8µm Ra
Suffix Letters	**WSRP**



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 SRB technical services for more information.

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

Bearing Lubrication

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 normally employed grease and oil. In the case of SRB Split Bearings grease lubrication is most often employed.

Grease Lubrication

Greases can be used to lubricate SRB split 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.

SRB 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 catalogue for axial capacity assume the use of a grease with extra pressure (EP) additives. If EP additives are not present then axial capacity is reduced by 50%

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 SRB Technical Services 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% of catalogue speed rating, we suggest that the remaining housing space be fully filled with grease.

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

At high speeds, exceeding 50% of catalogue 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

SRB split 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 centre 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 SRB Technical Services.

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.

Shaft Check

When fitting bearings on both new and existing installations, the shaft need only be raised 1/16 to 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 23.

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.

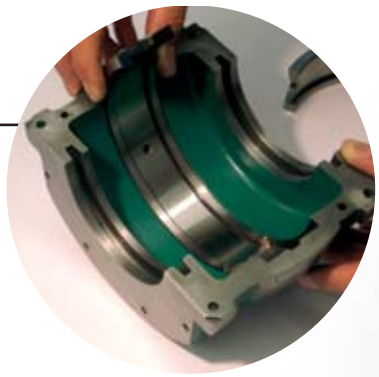
- Clean the shaft and lightly oil the bore of the inner race.
- Place the two inner race halves in approximately the correct position with the joints at the top and bottom. With the joints in that position it will allow easy access to the clamp ring screws later when they are tightened.
- Ensure that 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 the SRB Technical Services Department.

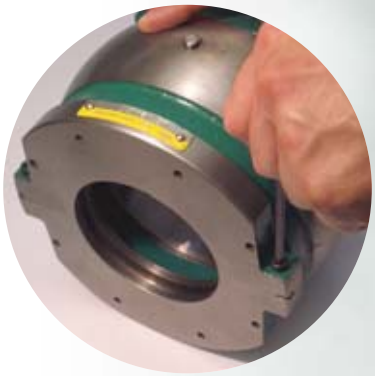
- Fit the inner race locating clamping rings. Ensure that the correct clamp ring is fitted in the corresponding groove. To assist in this the clamping rings are intentionally manufactured to different widths on the more popular sizes. In addition, the match-marking groove found on the inner race is repeated 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

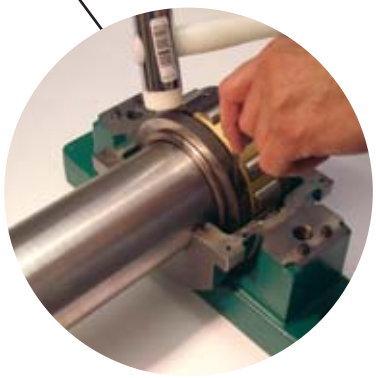
- As in the case of the retained bearing, slide in the pre-assembled bottom housing half.
- Line up the inner ring by adjusting it sideways until it is central with the outer race.
- The clearance between the inner race end faces and inside housing walls should be equal. If cage and rollers are assembled 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.

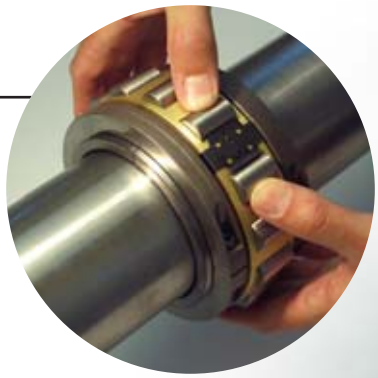
Group	Maximum Expansion if cage and rollers are assembled central 1	Maximum Expansion 2
1½" 40 mm	1/8"	1/4"
2" 50 mm	1/8"	1/4"
2½" 60 mm	9/64"	9/32"
3" 70 mm	5/32"	5/16"
3½" 80 mm	13/64"	13/32"
4" 100 mm	7/32"	7/16"
4½" 110 mm	5/16"	5/8"
5" 120 mm	11/32"	11/16"
5½" 140 mm	23/64"	23/32"
6" 160 mm	23/64"	23/32"

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

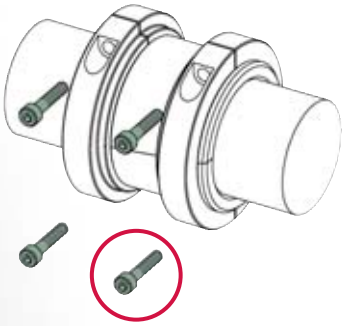
- Charge the bottom and upper housing halves with the correct amount of grease. Refer to page 27 for correct types and quantities of grease depending on the application and the speed.
- Lightly oil the spherical diameter of both housing and support and slide the bottom housing half into the support base.
- 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.
- Rotate 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 valves for housing screws are given in the table at the end of this section. Check that there is no gap at the joints.

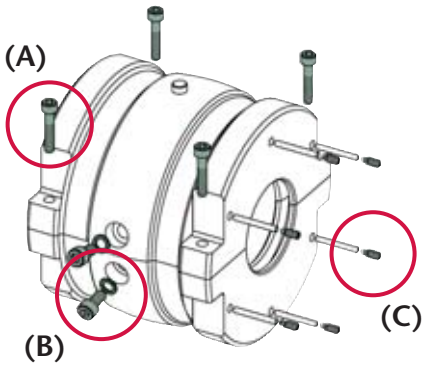
Fitting the Support Cap

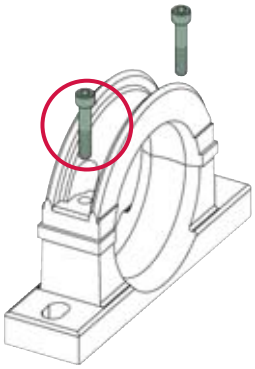
- Place the support cap over the upper housing half and engage the locating dowels at the joint.
- Using a nylon mallet, gently tap the support cap down to close the gap at the joints.
- Fit the bolts and tighten just enough to hold the support joints closed.
- At this point, and only if it is safe to 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.

Series 1

Screw Sizes, Key Sizes & Torque Values





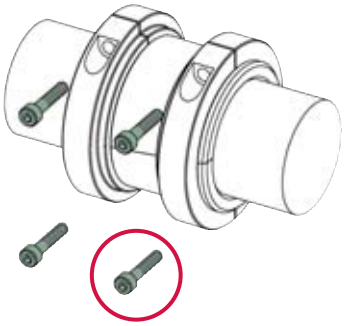


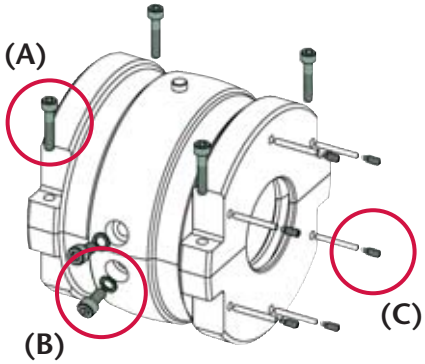
Shaft (d)		Clamping Ring*			Housing									Support		
					Joint (A)			Radial Retainer (B)			Axial Retainers (HR only) (C)					
inch	mm	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)
1 3/16 - 1 1/2	35 - 40	M4	3	5 (3.6)	M4	3	4 (2.6)				M4	2	4 (2.6)	M8	6	27 (20)
1 11/16 - 2	45 - 50	M4	3	5 (3.6)	M4	3	4 (2.6)				M4	2	4 (2.6)	M8	6	27 (20)
2 3/16 - 2 1/2	60 - 65	M4	3	5 (3.6)	M4	3	4 (2.6)				M4	2	4 (2.6)	M10	8	54 (40)
2 11/16 - 3	70 - 75	M4	3	5 (3.6)	M4	3	4 (2.6)				M4	2	4 (2.6)	M12	10	94 (69)
3 3/16 - 3 1/2	80 - 90	M5	4	9 (7)	M5	4	7 (5)				M4	2	4 (2.6)	M16	14	231 (170)
3 11/16 - 4	100 - 105	M6	5	15 (11)	M6	5	11 (8)				M4	2	4 (2.6)	M16	14	231 (170)
4 3/16 - 4 1/2	110 - 115	M6	5	15 (11)	M6	5	11 (8)				M6	3	11 (8)	M20	17	434 (320)
4 11/16 - 5	120 - 130	M6	5	15 (11)	M6	5	11 (08)				M6	3	11 (08)	M20	17	434 (320)
5 3/16 - 5 1/2	135 - 140	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (08)	M20	17	434 (320)
5 11/16 - 6	150 - 155	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (08)	M20	17	434 (320)
6 7/16 - 6 1/2	160	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (08)	M16	14	231 (170)
6 11/16 - 7	170 - 180	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (08)	M16	14	231 (170)
7 1/4 - 8	190 - 200	M8	6	35 (26)	M8	6	27 (20)	M10	8	54 (40)	M6	3	11 (08)	M16	14	231 (170)
8 1/2 - 9	220 - 230	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M6	3	11 (08)	M16	14	231 (170)
9 1/2 - 10	240 - 250	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M6	3	11 (08)	M20	17	434 (320)
10 1/2 - 11	260 - 280	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
11 1/2 - 12	300	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
12 1/2 - 13	320 - 330	M12	10	125 (92)	M12	10	94 (69)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
14	340 - 350	M12	10	125 (92)	M12	10	94 (69)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
15	360 - 380	M12	10	125 (92)	M12	10	94 (69)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
16	400	M12	10	125 (92)	M12	10	94 (69)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
17	420	M12	10	125 (92)	M12	10	94 (69)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
18	440 - 460	M12	10	125 (92)	M12	10	94 (69)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
19	480	M12	10	125 (92)	M12	10	94 (69)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
20	500	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
21	530	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
22	560	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
23	580	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
24	600	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)

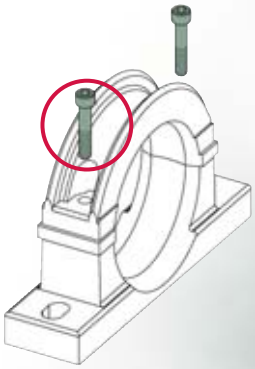
* May be increased by up to 20% for high axial load applications

Series 2

Screw Sizes, Key Sizes & Torque Values





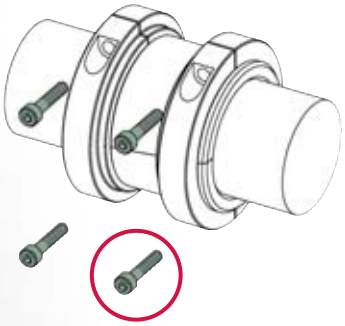


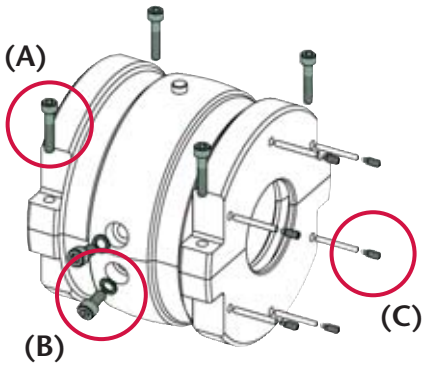
Shaft (d)		Clamping Ring*			Housing									Support		
					Joint (A)			Radial Retainer (B)			Axial Retainers (HR only) (C)					
inch	mm	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)
1 11/16 - 2	45 - 50	M5	4	9 (7)	M5	4	7 (5)				M4	2	4 (2.6)	M10	8	54 (40)
2 3/16 - 2 1/2	60 - 65	M5	4	9 (7)	M5	4	7 (5)				M4	2	4 (2.6)	M12	10	94 (69)
2 11/16 - 3	70 - 75	M6	5	15 (11)	M6	5	11 (08)				M4	2	4 (2.6)	M16	14	231 (170)
3 3/16 - 3 1/2	80 - 90	M6	5	15 (11)	M6	5	11 (08)				M4	2	4 (2.6)	M16	14	231 (170)
3 11/16 - 4	100 - 105	M6	5	15 (11)	M6	5	11 (8)				M4	2	4 (2.6)	M20	17	434 (320)
4 3/16 - 4 1/2	110 - 115	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (8)	M20	17	434 (320)
4 11/16 - 5	120 - 130	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (08)	M20	17	434 (320)
5 3/16 - 5 1/2	135 - 140	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (08)	M20	17	434 (320)
5 11/16 - 6	150 - 155	M8	6	35 (26)	M8	6	27 (20)				M6	3	11 (08)	M20	17	434 (320)
6 7/16 - 6 1/2	160 - 170	M10	8	72 (53)	M10	8	54 (40)				M6	3	11 (08)	M20	17	434 (320)
6 11/16 - 7	180	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M6	3	11 (08)	M20	17	434 (320)
7 1/4 - 8	190 - 200	M12	10	125 (92)	M12	10	94 (69)	M10	8	54 (40)	M6	3	11 (08)	M20	17	434 (320)
8 1/2 - 9	220 - 230	M12	10	125 (92)	M12	10	94 (69)	M10	8	54 (40)	M6	3	11 (08)	M20	17	434 (320)
9 1/2 - 10	240 - 260	M12	10	125 (92)	M12	10	94 (69)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
10 1/2 - 11	280	M16	14	309 (228)	M16	14	231 (170)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
11 1/2 - 12	300	M16	14	309 (228)	M16	14	231 (170)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
12 1/2 - 13	320 - 330	M16	14	309 (228)	M16	14	231 (170)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
14	340 - 360	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
15	380	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
16	400	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
17	420	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
18	440 - 460	M16	14	309 (228)	M16	14	231 (170)	M12	10	54 (40)	M10	5	54 (40)	M20	17	434 (320)
19	480	M20	17	600 (442)	M20	17	434 (320)	M12	10	54 (40)	M10	5	54 (40)	M24	19	760 (560)
20	500	M20	17	600 (442)	M20	17	434 (320)	M12	10	54 (40)	M10	5	54 (40)	M24	19	760 (560)
21	530	M20	17	600 (442)	M20	17	434 (320)	M12	10	54 (40)	M10	5	54 (40)	M24	19	760 (560)
22	560	M20	17	600 (442)	M20	17	434 (320)	M12	10	54 (40)	M10	5	54 (40)	M24	19	760 (560)
23	580	M20	17	600 (442)	M20	17	434 (320)	M12	10	54 (40)	M10	5	54 (40)	M24	19	760 (560)
24	600	M20	17	600 (442)	M20	17	434 (320)	M12	10	54 (40)	M10	5	54 (40)	M24	19	760 (560)

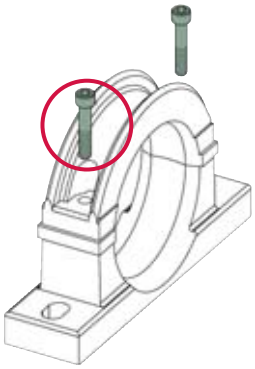
* May be increased by up to 20% for high axial load applications

Series 3

Screw Sizes, Key Sizes & Torque Values







Shaft (d)		Clamping Ring*			Housing									Support		
					Joint (A)			Radial Retainer (B)			Axial Retainers (HR only) (C)					
inch	mm	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)	Screw	Key	Torque Nm (lb.ft)
3 11/16 - 4	100 - 105	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M6	3	11 (08)	M16	14	231 (170)
4 3/16 - 4 1/2	110 - 120	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M6	3	11 (08)	M16	14	231 (170)
4 15/16 - 5	125 - 130	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M10	5	54 (40)	M16	14	231 (170)
5 3/16 - 5 1/2	135 - 140	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
5 11/16 - 6	150 - 155	M10	8	72 (53)	M10	8	54 (40)	M10	8	54 (40)	M10	5	54 (40)	M20	17	434 (320)
6 7/16 - 6 11/16	160 - 170	M12	10	125 (92)	M12	10	94 (69)	M12	10	94 (69)	M10	5	54 (40)	M20	17	434 (320)
6 3/4 - 7	180	M12	10	125 (92)	M12	10	94 (69)	M12	10	94 (69)	M10	5	54 (40)	M20	17	434 (320)
7 1/4 - 8	190 - 200	M12	10	125 (92)	M12	10	94 (69)	M12	10	94 (69)	M10	5	54 (40)	M20	17	434 (320)
8 1/2 - 9	220 - 230	M16	14	309 (228)	M16	14	231 (170)	M12	10	94 (69)	M10	5	54 (40)	M20	17	434 (320)
9 1/2 - 10	240 - 260	M16	14	309 (228)	M16	14	231 (170)	M12	10	94 (69)	M10	5	54 (40)	M20	17	434 (320)
11	280	M20	17	600 (442)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M20	17	434 (320)
12	300	M20	17	600 (442)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M20	17	434 (320)
13	320 - 330	M20	17	600 (442)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M24	19	760 (560)
14	340 - 360	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M24	19	760 (560)
15 - 16	380 - 400	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M24	19	760 (560)
17	420 - 440	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M16	14	231 (170)	M24	19	760 (560)
18	460	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M16	14	231 (170)	M24	19	760 (560)
19	480	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M16	14	231 (170)	M24	19	760 (560)
20	500	M24	19	997 (735)	M20	17	434 (320)	M16	14	231 (170)	M10	5	54 (40)	M24	19	760 (560)
21	530	M24	19	997 (735)	M20	17	434 (320)	M16	14	231 (170)	M10	5	54 (40)	M24	19	760 (560)
22	560	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M24	19	760 (560)
23	580	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M24	19	760 (560)
24	600	M24	19	997 (735)	M20	17	434 (320)	M12	10	94 (69)	M10	5	54 (40)	M24	19	760 (560)

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

Shipping Weights

Series 1

inch	mm	Bearing Kg/lb	Housing Kg/lb	Support Kg/lb	Comp. Unit
1 3/16 1 1/2	35 40	1.3 3	2.5 6	3 7	6.8 16
1 11/16 2	45 50	1.8 4	3.5 8	5 11	10.3 23
2 3/16 2 1/2	60 65	2.3 5	4.4 10	5.9 13	12.6 28
2 11/16 3	70 75	3.3 7	6.5 14	9.5 21	19.3 42
3 3/16 3 1/2	80 90	5 11	9 20	15 33	29 64
3 11/16 4	100 105	7 15	11 24	16 35	34 74
4 3/16 4 1/2	110 115	10.5 23	16 35	24 53	50.5 111
4 11/16 5	120 130	14 31	24 53	41 90	79 174
5 3/16 5 1/2	135 140	17 37	27 59	49 108	93 204
5 11/16 6	150 155	18 40	31 68	49 108	98 216
6 7/16 6 1/2	160	19 42	35 77	65 143	119 262
6 11/16 7	170 180	23 51	36 79	73 161	132 291
7 1/4 8	190 200	26 57	45 99	92 202	163 358
8 1/2 9	220 230	33 73	48 106	117 257	198 436
9 1/2 10	240 250	42 92	60 132	147 323	249 547
10 1/2 11	260 280	53 117	73 161	171 376	297 654
11 1/2 12	300 305	60 132	89 196	199 438	348 766
12 1/2 13	320 330	72 158	109 240	214 471	395 869
14	340 350	79 174	121 266	241 530	441 970
15	360 380	90 198	130 286	294 647	514 1131
16	400	96 211	145 319	315 693	556 1223
17	420	105 231	155 341	323 711	583 1283
18	440 460	119 262	156 343	377 829	652 1434
19	480	123 271	167 367	467 1027	757 1665
20	500	139 306	198 436	449 988	786 1730
21	530	180 396	220 484	502 1104	902 1984
22	560	185 407	258 568	578 1272	1021 2247
23	580	190 418	280 616	690 1518	1160 2552
24	600	240 528	296 651	730 1606	1266 2785

Series 2

inch	mm	Bearing Kg/lb	Housing Kg/lb	Support Kg/lb	Comp. Unit
1 11/16 2	45 50	2.5 6	5 11	5.9 13	13.4 30
2 3/16 2 1/2	60 65	3.7 8	8 18	9.5 21	21.2 47
2 11/16 3	70 75	5.6 12	10 22	15 33	30.6 67
3 3/16 3 1/2	80 90	7 15	12 26	16 35	35 76
3 11/16 4	100 105	11 24	13 29	24 53	48 106
4 3/16 4 1/2	110 115	15.5 34	20 44	41 90	76.5 168
4 11/16 5	120 130	21 46	28 62	49 108	98 216
5 3/16 5 1/2	135 140	25 55	36 79	72 158	133 292
5 11/16 6	150 155	31 68	42 92	80 176	153 336
6 7/16 6 1/2	160 170	40 88	58 128	118 260	216 476
6 11/16 7	180	47 103	68 150	138 304	253 557
7 1/4 8	190 200	59 130	86 189	192 422	337 741
8 1/2 9	220 230	69 152	101 222	229 504	399 878
9 1/2 10	240 260	79 174	108 238	277 609	464 1021
10 1/2 11	270 280	87 191	134 295	320 704	541 1190
11 1/2 12	300 305	125 275	132 290	372 818	629 1383
12 1/2 13	320 330	150 330	176 387	385 847	711 1564
14	340 360	184 405	190 418	477 1049	851 1872
15	380	187 411	213 469	490 1078	890 1958
16	400	210 462	258 568	540 1188	1008 2218
17	420	245 539	269 592	586 1289	1100 2420
18	440 460	255 561	270 594	623 1371	1148 2526
19	480	268 590	277 609	690 1518	1235 2717
20	500	276 607	328 722	745 1639	1349 2968
21	530	314 691	357 785	899 1978	1570 3454
22	560	341 750	385 847	960 2112	1686 3709
23	580	375 825	405 891	1001 2202	1781 3918
24	600	390 858	460 1012	1056 2323	1906 4193

Series 3

inch	mm	Bearing Kg/lb	Housing Kg/lb	Support Kg/lb	Comp. Unit
3 11/16 4	100 105	35 77	40 88	121 266	196 431
4 3/16 4 1/2	110 120	41 90	45 99	141 310	227 499
4 15/16 5	125 130	42 92	46 101	156 343	244 536
5 3/16 5 1/2	135 140	50 110	51 112	197 433	298 655
5 11/16 6	150 155	59 130	75 165	261 574	395 869
6 7/16 6 11/16	160 170	74 163	87 191	291 640	452 994
6 3/4 7	175 180	83 183	91 200	338 744	512 1127
7 1/4 8	190 200	105 231	120 264	454 999	679 1494
8 1/2 9	220 230	151 332	164 361	408 1395	949 2088
9 1/2 10	240 260	153 337	174 383	540 1621	1064 2341
11	280	203 447	201 442	459 1010	863 1899
12	300	242 532	249 548	1019 2242	1510 3322
13	320	327 719	300 660	1116 2455	1743 3834
14	340 360	375 825	361 794	1620 3564	2356 5183
15 16	380 400	436 959	433 953	1538 3384	2407 5296
17	420 440	400 880	443 975	1014 2231	1857 4086
18	460	636 1399	274 603	1513 3329	2423 5331
20 21	500 530	700 1540	880 1936	1863 4099	3443 7575
22	560	675 1485	694 1527	1847 4063	3216 7075
23 24	580 600	700 1540	770 1694	1794 3947	3264 7181

Pelletizer Drive Problem

Solved by SRB

SRB was invited to supply product on a problem application at a major UK steel producer. A drive to a pelletiser supported on split roller bearings had become a major headache.

Regular bearing failures were being experienced; sometimes bearings lasted no longer than 3 or 4 months.

The latest design of a competitor's split bearing featuring a pressed steel cage was used in an attempt to extend bearing life, however, it quickly became clear that this product was unable to solve the problem.

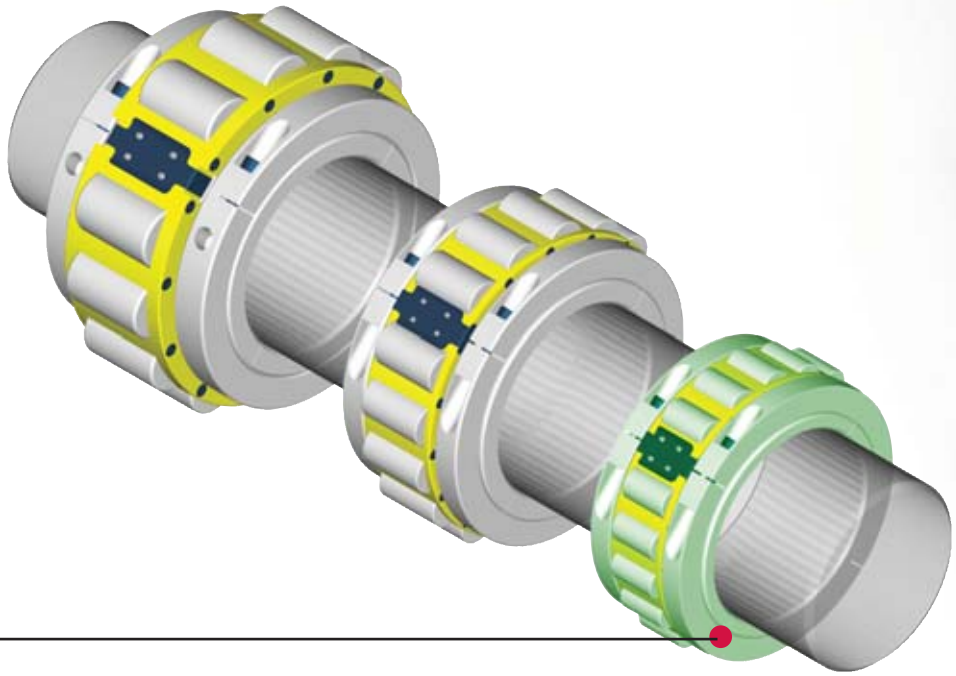
It was agreed that a brass caged SRB bearing should be fitted in a final attempt to solve the problem.

An engineer from SRB supervised the fitting of the bearing and, following a check of all mating components, the SRB bearing was mounted into the competitor's cast iron support.

The bearings and housing have now operated for over two years without problems. The success of the SRB product in this application lead to many other opportunities with this customer.

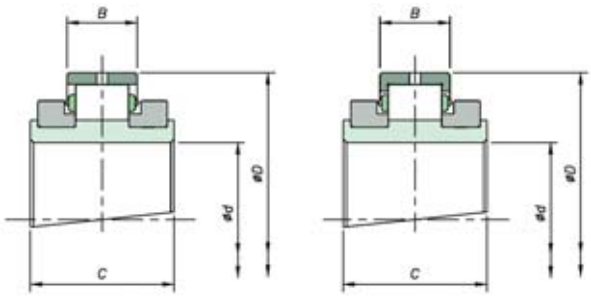
Series 1 Product

Series1 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, Series 1 bearing units can readily be matched to an ever-increasing range of applications. If a standard catalog product does not meet your requirements, SRB Technical Services will be happy to provide help and advice on your application.

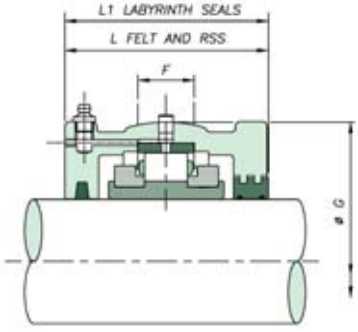


Series 1

Series 1 Bearing & Housing
1 3/16 inch to 6 inch



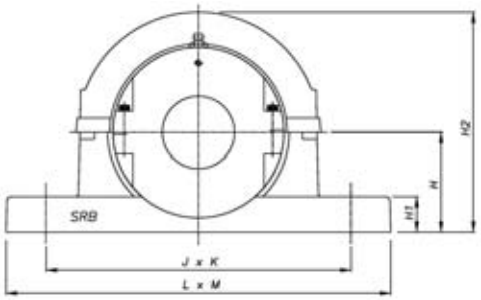
Expansion BX Retained BR



Shaft (d)		Reference		Bearings Ratings							Housing Reference					
inch	mm	Add BR for retained Add BX for expansion e.g. LSM35BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C	Housing Reference Retained	Reference Expansion	G	F	L	L_1
1 3/16 1 1/4 1 7/16 1 1/2	35 40	LSM35 LSM40	LSE103 LSE104 LSE107 LSE108	65 14613	68 15287	3.20 719.38	5400	84.14 3.313	23.80 0.937	55.00 2.165	LS1HR	LS1HX	100.00 3.937	25 1.0	84 3.3	86 3.4
1 11/16 1 3/4 1 15/16 2	45 50	LSM45 LSM50	LSE111 LSE112 LSE115 LSE200	83 18659	87 19558	3.60 809.30	4630	98.42 3.875	25.40 1.000	60.00 2.362	LS2HR	LS2HX	117.48 4.625	25 1.0	96 3.8	98 3.9
2 3/16 2 1/4 2 7/16 2 1/2	55 60 65	LSM55 LSM60 LSM65	LSE203 LSE204 LSE207 LSE208	103 23155	115 25853	5.40 1213.95	3940	114.30 4.500	27.00 1.063	60.00 2.362	LS3HR	LS3HX	134.94 5.313	32 1.3	102 4.0	104 4.1
2 11/16 2 3/4 2 15/16 3	70 75	LSM70 LSM75	LSE211 LSE212 LSE215 LSE300	138 31024	161 36194	7.60 1708.53	3310	133.35 5.250	31.80 1.252	65.00 2.559	LS4HR	LS4HX	157.16 6.187	38 1.5	112 4.4	114 4.5
3 3/16 3 1/4 3 7/16 3 1/2	80 85 90	LSM80 LSM85 LSM90	LSE303 LSE304 LSE307 LSE308	187 42039	231 51931	12.40 2787.59	2790	152.4 6.000	38.90 1.531	75.00 2.953	LS5HR	LS5HX	177.80 7.000	50 2.0	134 5.3	136 5.4
3 11/16 3 3/4 3 15/16 4	100 105	LSM100 LSM105	LSE311 LSE312 LSE315 LSE400	288 64745	366 82280	16.00 3596.90	2340	174.62 6.875	45.30 1.783	85.00 3.346	LS6HR	LS6HX	203.20 8.000	50 2.0	132 5.2	134 5.3
4 3/16 4 1/4 4 7/16 4 1/2	110 115	LSM110 LSM115	LSE403 LSE404 LSE407 LSE408	316 71040	427 95993	18.60 4181.39	1970	203.20 8.000	46.90 1.846	90.00 3.543	LS7HR	LS7HX	231.78 9.125	64 2.5	140 5.5	142 5.6
4 11/16 4 3/4 4 15/16 5	120 125 130	LSM120 LSM125 LSM130	LSE411 LSE412 LSE415 LSE500	363 81606	496 111505	22.20 4990.69	1740	222.25 8.750	54.00 2.126	95.00 3.740	LS8HR	LS8HX	266.70 10.500	76 3.0	154 6.1	156 6.1
5 3/16 5 1/4 5 7/16 5 1/2	135 140	LSM135 LSM140	LSE503 LSE504 LSE507 LSE508	422 94869	585 131513	25.80 5799.99	1570	241.30 9.500	55.60 2.189	98.40 3.874	LS9HR	LS9HX	279.40 11.000	76 3.0	166 6.5	168 6.6
5 11/16 5 3/4 5 15/16 6	150 155 160A	LSM150 LSM155 LSM160A	LSE511 LSE512 LSE515 LSE600	459 103187	664 149273	29.40 6609.30	1450	254.00 10.000	55.60 2.189	98.40 3.874	LS10HR	LS10HX	295.28 11.625	82 3.2	172 6.8	174 6.9

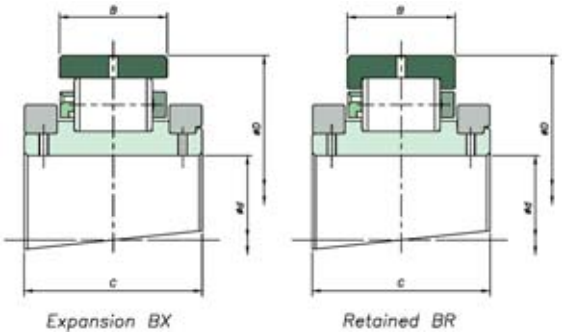
* For triple labyrinth seal designations, please refer to page 70

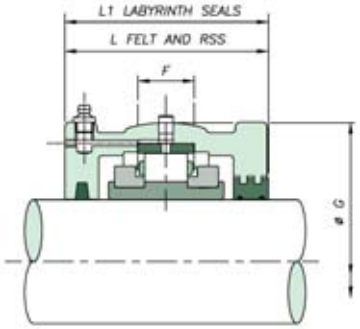
Series 1 Pedestal
S01 - S10



S01 - S10								
Shaft (d) inch	Shaft (d) mm	Pedestal Reference	H	H_1	H_2	J x K	L x M	Bolts
$1^3/_{16}$ $1^1/_4$ $1^7/_{16}$ $1^1/_2$	35 40	S01	60 2.362	22 0.9	138 5.4	180 7.1	228 x 60 9 x 2.4	2 x M12
$1^{11}/_{16}$ $1^3/_4$ $1^{15}/_{16}$ 2	45 50	S02	70 2.756	25 1.0	158 6.2	214 8.4	270 x 60 10.6 x 2.4	2 x M16
$2^3/_{16}$ $2^1/_4$ $2^7/_{16}$ $2^1/_2$	55 60 65	S03	80 3.150	32 1.3	180 7.1	234 9.2	280 x 70 11 x 2.8	2 x M16
$2^{11}/_{16}$ $2^3/_4$ $2^{15}/_{16}$ 3	70 75	S04	95 3.740	38 1.5	208 8.2	270 10.6	330 x 76 13 x 3	2 x M20
$3^3/_{16}$ $3^1/_4$ $3^7/_{16}$ $3^1/_2$	80 85 90	S05	112 4.409	44 1.7	252 9.9	320 12.6	380 x 90 15 x 3.5	2 x M24
$3^{11}/_{16}$ $3^3/_4$ $3^{15}/_{16}$ 4	100 105	S06	125 4.921	52 2.0	272 10.7	354 13.9	420 x 102 16.5 x 4	2 x M24
$4^3/_{16}$ $4^1/_4$ $4^7/_{16}$ $4^1/_2$	110 115	S07	143 5.630	60 2.4	314 12.4	392 15.4	466 x 120 18.3 x 4.7	2 x M24
$4^{11}/_{16}$ $4^3/_4$ $4^{15}/_{16}$ 5	120 125 130	S08	162 6.378	38 1.5	372 14.6	450 x 120 17.7 x 4.7	508 x 178 20 x 7	4 x M24
$5^3/_{16}$ $5^1/_4$ $5^7/_{16}$ $5^1/_2$	135 140	S09	181 7.126	40 1.6	405 15.9	482 x 120 19 x 4.7	558 x 178 22 x 7	4 x M24
$5^{11}/_{16}$ $5^3/_4$ $5^{15}/_{16}$ 6	150 155 160A	S10	181 7.126	40 1.6	415 16.3	496 x 120 19.5 x 4.7	558 x 178 22 x 7	4 x M24

Series 1 Bearing & Housing
$6^{7}/_{16}$ inch to 14inch

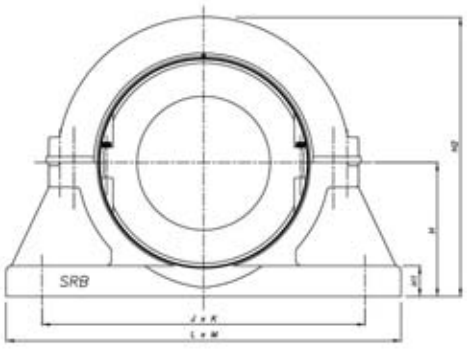




Shaft (d)		Reference		Bearings Ratings							Housing Reference					
inch	mm	Add BR for retained Add BX for expansion e.g. LSM35BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C	Housing Retained	Refernece Expansion	G	F	L	L_1
$6^{7}/_{16}$	160	LSM160	LSE607	583	792	33.00	1320	273.05	60.30	109.00	LS11HR	LS11HX	311.15	76	172	192
$6^{1}/_{2}$	170A	LSM170A	LSE608	131064	178049	7419		10.750	2.374	4.291			12.250	3.0	6.8	7.6
$6^{11}/_{16}$	170	LSM170	LSE611													
$6^{3}/_{4}$	175	LSM175	LSE612	524	828	36.40	1220	285.75	55.50	109.00	LS12HR	LS12HX	323.85	70	172	200
$6^{15}/_{16}$	180	LSM180	LSE615	117800	186142	8183		11.250	2.185	4.291			12.750	2.8	6.8	7.9
7			LSE700													
$7^{1}/_{4}$			LSE704													
$7^{1}/_{2}$	190	LSM190	LSE708	614	990	41.00	1070	311.15	60.30	109.00	LS13HR	LS13HX	358.78	86	172	200
$7^{15}/_{16}$	200	LSM200	LSE715	138033	222561	9217		12.250	2.374	4.291			14.125	3.4	6.8	7.9
8			LSE800													
$8^{1}/_{2}$	220	LSM220	LSE808	659	1062	49.00	930	342.90	63.50	115.00	LS14HR	LS14HX	387.35	82	178	216
$8^{7}/_{8}$	230	LSM230	LSE814	148149	238747	11016		13.500	2.500	4.528			15.250	3.2	7.0	8.5
9			LSE900													
$9^{1}/_{2}$	240	LSM240	LSE908	696	1182	57.80	820	374.65	66.70	122.00	LS15HR	LS15HX	419.10	90	188	222
$9^{3}/_{4}$	250	LSM250	LSE912	156467	265724	12994		14.750	2.626	4.803			16.500	3.5	7.4	8.7
10			LSE1000													
$10^{1}/_{2}$	260	LSM260	LSE1008	794	1376	66.80	730	406.40	69.00	128.00	LS16HR	LS16HX	454.00	95	204	232
$10^{3}/_{4}$	270	LSM270	LSE1012	178498	309337	15017		16.000	2.717	5.039			17.874	3.7	8.0	9.1
11	280	LSM280	LSE1100													
$11^{1}/_{2}$	300	LSM300	LSE1108	929	1665	78.20	650	438.15	74.60	143.00	LS17HR	LS17HX	489.00	98	216	248
12	305	LSM305	LSE1200	208848	374307	17580		17.250	2.937	5.630			19.252	3.9	8.5	9.8
$12^{1}/_{2}$	320	LSM320	LSE1208	920	1674	89.00	590	463.55	74.60	136.00	LS18HR	LS18HX	520.70	95	260	–
13	330	LSM330	LSE1300	206824	376330	20008		18.250	2.937	5.354			20.500	3.7	10.2	
14	340	LSM340	LSE1400	967	1824	99.60	540	488.95	74.60	136.00	LS19HR	LS19HX	546.10	98	260	–
	350	LSM350		217390	410052	22391		19.250	2.937	5.354			21.500	3.9	10.2	

*For Triple Labyrinth Seal Designations, please refer to page 70.

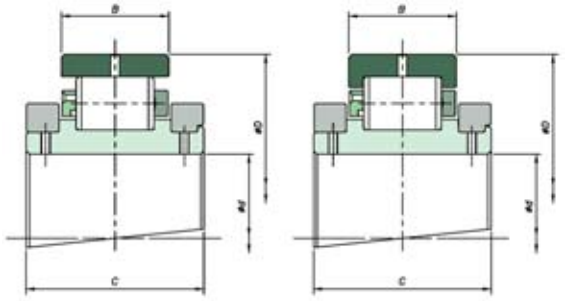
Series 1 Pedestal
S11 - S19

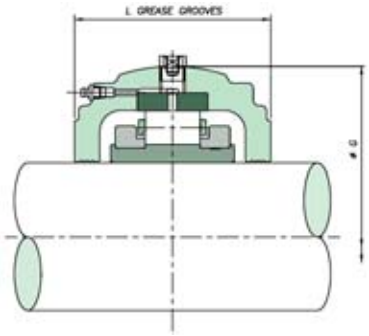


S11 - S19

Shaft (d) inch	Shaft (d) mm	Pedestal Reference	H	H_1	H_2	J x K	L x M	Bolts
6 7/16 6 1/2	160 170A	S11	213 8.386	32 1.3	430 16.9	368 x 114 14.5 x 4.5	508 x 178 20 x 7	4 x M24
6 11/16 6 3/4 6 15/16 7	170 175 180	S12	235 9.252	35 1.4	470 18.5	388 x 128 15.3 x 5	534 x 190 21 x 7.5	4 x M24
7 1/4 7 1/2 7 15/16 8	190 200	S13	248 9.764	38 1.5	495 19.5	422 x 140 16.6 x 5.5	572 x 204 22.5 x 8	4 x M24
8 1/2 8 7/8 9	220 230	S14	270 10.630	40 1.6	540 21.3	460 x 140 18.1 x 5.5	636 x 216 25 x 8.5	4 x M30
9 1/2 9 3/4 10	240 250	S15	292 11.496	44 1.7	585 23.0	502 x 140 19.8 x 5.5	686 x 228 27 x 9	4 x M30
10 1/2 10 3/4 11	260 270 280	S16	311 12.244	48 1.9	620 24.4	534 x 140 21 x 5.5	724 x 228 28.5 x 9	4 x M30
11 1/2 12	300 305	S17	343 13.504	50 2.0	685 27.0	584 x 178 23 x 7	762 x 254 32 x 10	4 x M30
12 1/2 13	320 330	S18	368 14.488	54 2.1	735 28.9	622 x 178 24.5 x 7	812 x 254 32 x 10	4 x M36
14	340 350	S19	387 15.236	57 2.2	775 30.5	654 x 166 25.7 x 6.5	850 x 254 33.5 x 10	4 x M36

Series 1 Bearing & Housing
15inch to 24inch

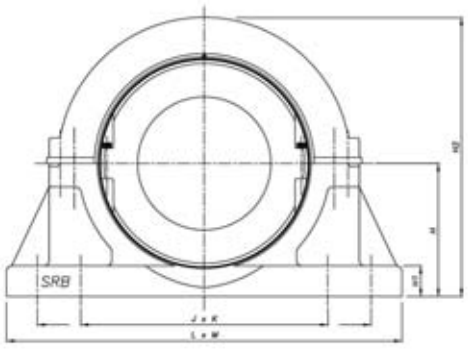




Shaft (d)		Reference		Bearings Ratings						Housing Reference					
inch	mm	Add BR for retained Add BX for expansion e.g. LSM35BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C	Housing Retained	Refernece Expansion	G	F	L	L_1
15	360	LSM360	LSE1500	1011	1975	110.40	500	520.70	76.20	140.00	LS20HR	LS20HX	571.50	98	260	–
	380	LSM380		227282	443998	24819		20.500	3.000	5.512			22.500	3.9	10.2	
16	400	LSM400	LSE1600	1054	2125	115.60	460	546.10	76.20	140.00	LS21HR	LS21HX	603.30	102	280	–
				236949	477719	25988		21.500	3.000	5.512			23.752	4.0	11.0	
17	420	LSM420	LSE1700	1095	2275	121.00	430	571.50	76.20	140.00	LS22HR	LS22HX	628.70	102	292	–
				246166	511440	27202		22.500	3.000	5.512			24.752	4.0	11.5	
18	440	LSM440	LSE1800	1134	2427	127.20	410	596.90	76.20	140.00	LS23HR	LS23HX	650.90	108	304	–
	460	LSM460		254933	545611	28596		23.500	3.000	5.512			25.626	4.3	12.0	
19	480	LSM480	LSE1900	1291	2800	132.60	380	628.65	81.00	144.00	LS24HR	LS24HX	682.60	108	304	–
				290228	629465	29810		24.750	3.189	5.669			26.874	4.3	12.0	
20	500	LSM500	LSE2000	1336	2974	137.80	360	654.05	80.20	168.00	LS25HR	LS25HX	717.60	114	304	–
				300345	668582	30979		25.750	3.157	6.614			28.252	4.5	12.0	
21	530	LSM530	LSE2100	1377	3150	140.60	340	692.15	81.00	168.00	LS26HR	LS26HX	755.70	114	330	–
				309562	708148	31608		27.250	3.189	6.614			29.752	4.5	13.0	
22	560	LSM560	LSE2200	1419	3324	142.40	330	717.55	81.00	168.00	LS27HR	LS27HX	781.10	114	336	–
				319004	747265	32013		28.250	3.189	6.614			30.752	4.5	13.2	
23	580	LSM580	LSE2300	1591	3759	144.00	310	749.00	84.10	172.00	LS28HR	LS28HX	816.00	120	342	–
				357671	845057	32372		29.488	3.311	6.772			32.126	4.7	13.5	
24	600	LSM600	LSE2400	1638	3956	146.80	300	774.70	84.10	172.00	LS29HR	LS29HX	841.40	120	342	–
				368237	889344	33002		30.500	3.311	6.772			33.126	4.7	13.5	

*For Triple Labyrinth Seal Designations, please refer to page 70.

Series 1 Pedestal
S20 - S29



S20 - S29								
Shaft (d) inch	Shaft (d) mm	Support Reference	H	H_1	H_2	J x K	L x M	Bolts
15	360 380	S20	397 15.630	60 2.4	795 31.3	676 x 166 26.6 x 6.5	902 x 254 35.5 x 10	4 x M36
16	400	S21	432 17.008	67 2.6	865 34.1	724 x 166 28.5 x 6.5	940 x 254 37 x 10	4 x M36
17	420	S22	445 17.520	67 2.6	890 35.0	756 x 166 29.8 x 6.5	966 x 254 38 x 10	4 x M36
18	440 460	S23	464 18.268	70 2.8	925 36.4	788 x 190 31 x 7.5	1042 x 280 41 x 11	4 x M42
19	480	S24	483 19.016	73 2.9	965 38.0	816 x 188 32.1 x 7.4	1092 x 304 43 x 12	4 x M42
20	500	S25	489 19.252	76 3.0	980 38.6	844 x 216 33.2 x 8.5	1092 x 304 43 x 12	4 x M42
21	530	S26	533 20.984	80 3.1	1065 41.9	904 x 206 35.6 x 8.1	1194 x 304 47 x 12	4 x M42
22	560	S27	552 21.732	83 3.3	1110 43.7	936 x 206 36.9 x 8.1	1220 x 304 48 x 12	4 x M42
23	580	S28	578 22.756	83 3.3	1156 45.5	1080 & 877 x 220 42.5 & 34.5 x 8.7	1372 x 304 54 x 12	8 x M36
24	600	S29	597 23.504	90 3.5	1200 47.2	1118 & 908 x 200 44 & 35.7 x 7.9	1372 x 304 54 x 12	8 x M36

Flange Units

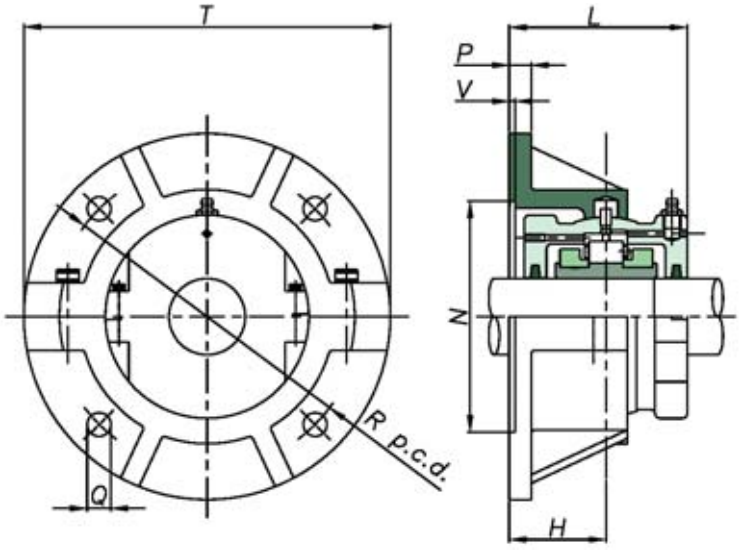
When faced with flat horizontal or vertical faces, flange units offer a simple mounting solution. As with Pillow block supports, Flange units are produced with spherical location to accommodate standard bearing housings and provide easy initial alignment of shaft and equipment.

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, SRB Technical Services will be happy to advise on any application issues.



Series 1 Support
1 3/16 inch to 12inch Flanges

Series 1 - 1 3/16 inch to 12 inch Flanges

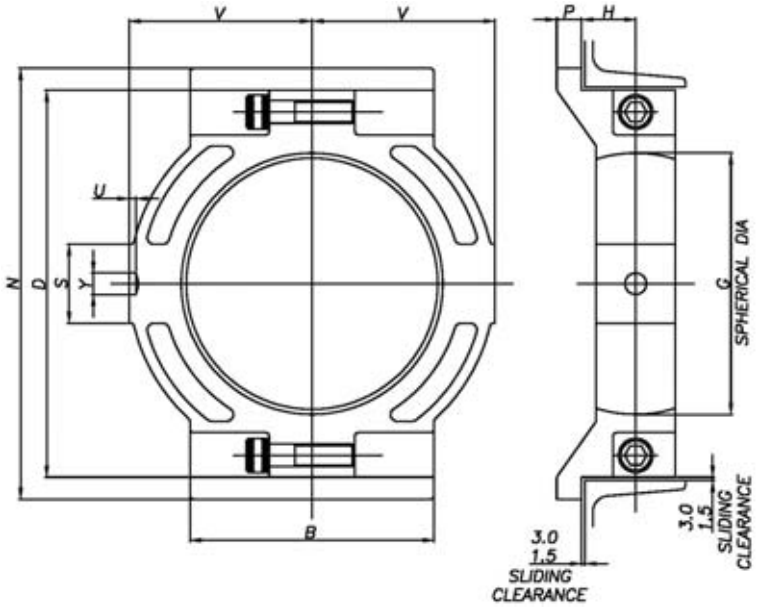
Shaft (d) inch	Shaft (d) mm	Flange Reference	T	Bolts	R	P	H	N	V	L
1 3/16 1 1/4 1 7/16 1 1/2	35 40	F01	204 8.0	4 x M12	164 6.5	13 0.5	51 2.0	119.06 4.687	3 0.1	94 3.7
1 11/16 1 3/4 1 15/16 2	45 50	F02	216 8.5	4 x M12	180 7.1	13 0.5	57 2.2	136.52 5.375	3 0.1	106 4.2
2 3/16 2 1/4 2 7/16 2 1/2	55 60 65	F03	260 10.2	4 x M12	218 8.6	16 0.6	67 2.6	166.96. 571	3 0.1	120 4.7
2 11/16 2 3/4 2 15/16 3	70 75	F04	286 11.3	4 x M12	242 9.5	16 0.6	73 2.9	192.09 7.563	3 0.1	130 5.1
3 3/16 3 1/4 3 7/16 3 1/2	80 85 90	F05	330 13.0	4 x M16	274 10.8	19 0.7	79 3.1	215.98 500	3 0.1	148 5.8
3 11/16 3 3/4 3 15/16 4	100 105	F06	356 14.0	4 x M16	302 11.9	19 0.7	86 3.4	244.47 9.625	3 0.1	154 6.1
4 3/16 4 1/4 4 7/16 4 1/2	110 115	F07	382 15.0	4 x M16	334 13.1	22 0.9	92 3.6	276.22 10.875	3 0.1	164 6.5
4 11/16 4 3/4 4 15/16 5	120 125 130	F08	432 17.0	4 x M24	374 14.7	22 0.9	98 3.9	314.32 12.375	3 0.1	176 6.9
5 3/16 5 1/4 5 7/16 5 1/2	135 140	F09	444 17.5	4 x M24	384 15.1	25 1.0	98 3.9	317.51 2.500	3 0.1	182 7.2
5 11/16 5 3/4 5 15/16 6	150 155 160A	F10	470 18.5	4 x M24	412 16.2	25 1.0	114 4.5	346.07 13.625	3 0.1	202 8.0
6 7/16 6 1/2	160 170A	F11	496 19.5	4 x M24	426 16.8	25 1.0	105 4.1	352.42 13.875	3 0.1	202 8.0
6 11/16 6 3/4 6 15/16 7	170 175 180	F12	508 20.0	4 x M24	438 17.2	29 1.1	108 4.3	365.12 14.375	3 0.1	208 8.2
7 1/4 7 1/2 7 15/16 8	190 200	F13	534 21.0	4 x M24	474 18.7	32 1.3	108 4.3	400.05 15.750	3 0.1	208 8.2
8 1/2 8 7/8 9	220 230	F14	584 23.0	4 x M30	512 20.2	35 1.4	117 4.6	431.81 7.000	3 0.1	226 8.9
9 1/2 9 3/4 10	240 250	F15	610 24.0	4 x M30	542 21.3	35 1.4	117 4.6	463.55 18.250	3 0.1	228 9.0
10 1/2 10 3/4 11	260 270 280	F16	660 26.0	4 x M30	584 23.0	38 1.5	124 4.9	504.82 19.875	3 0.1	240 9.4
11 1/2 12	300 305	F17	712 28.0	4 x M30	626 24.6	38 1.5	133 5.2	539.75 21.250	3 0.1	258 10.2

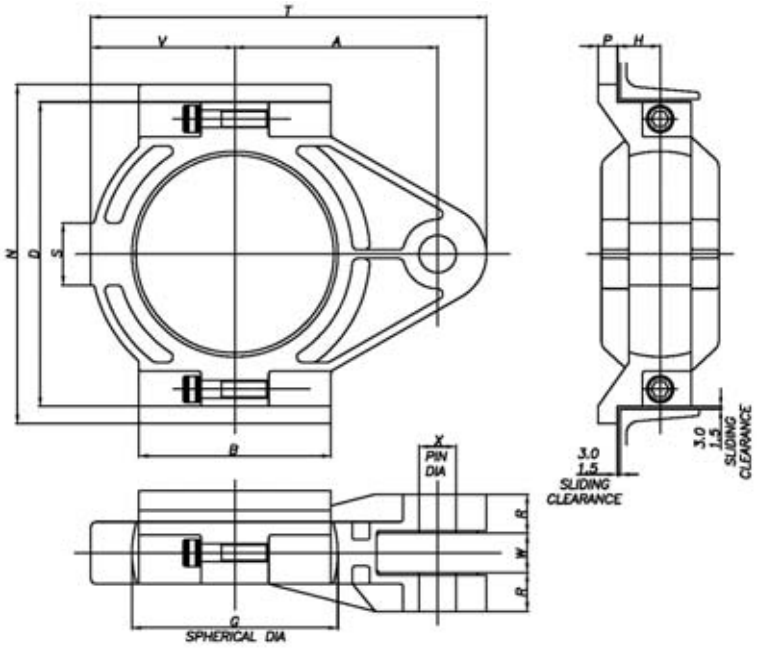
For Bearings and Housings see pages 39 – 44

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 SRB Units, a wide variety of sealing solutions may be applied dependant on the environment and application. Please contact SRB Technical Services for assistance.





Tensioning Units TT/TP

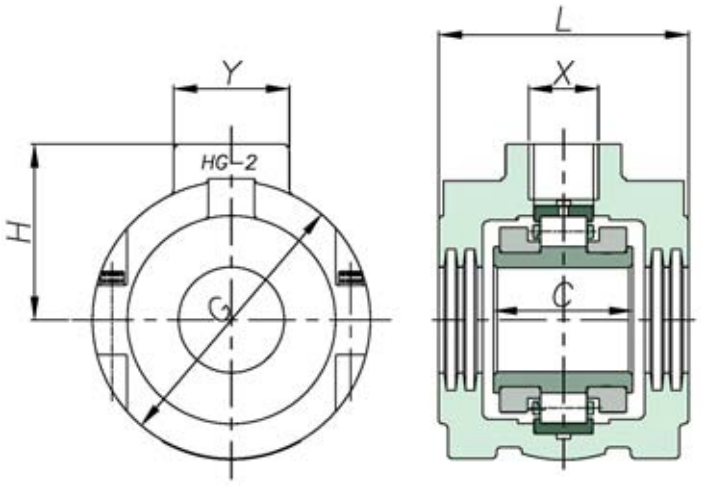
Series 1 - 1 3/16 inch to 6inch Flanges

Shaft (d)		Support Reference														
inch	mm	Tension Type	Push Type	B	N	D	V	P	H	L	S	A	T	X	W	R
1 3/16 1 1/4 1 7/16 1 1/2	35 40	TT01	TP01	102 4.0	172 6.8	153 6.0	76 3.0	14 0.6	29 1.1	86 3.4	25 1.0	114 4.5	216 8.5	20 0.8	25 1.0	24 0.9
1 11/16 1 3/4 1 15/16 2	45 50	TT02	TP02	114 4.5	204 8.0	178 7.0	88 3.5	16 0.6	29 1.1	98 3.9	29 1.1	128 5.0	242 9.5	24 0.9	25 1.0	25 1.0
2 3/16 2 1/4 2 7/16 2 1/2	55 60 65	TT03	TP03	128 5.0	235 9.3	203 8.0	102 4.0	20 0.8	32 1.3	104 4.1	38 1.5	146 5.7	280 11.0	24 0.9	30 1.2	29 1.1
2 11/16 2 3/4 2 15/16 3	70 75	TT04	TP04	152 6.0	266 10.5	229 9.0	114 4.5	22 0.9	40 1.6	114 4.5	41 1.6	158 6.2	305 12.0	24 0.9	30 1.2	114 4.5
3 3/16 3 1/4 3 7/16 3 1/2	80 85 90	TT05	TP05	190 7.5	318 12.5	280 11.0	140 5.5	22 0.9	40 1.6	136 5.4	51 2.0	190 7.5	368 14.5	30 1.2	38 1.5	35 1.4
3 11/16 3 3/4 3 15/16 4	100 105	TT06	TP06	204 8.0	342 13.5	305 12.0	152 6.0	22 0.9	43 1.7	134 5.3	51 2.0	210 8.3	414 16.3	36 1.4	44 1.7	35 1.4
4 3/16 4 1/4 4 7/16 4 1/2	110 115	TT07	TP07	216 8.5	382 15.0	343 13.5	162 6.4	22 0.9	48 1.9	142 5.6	70 2.8	228 9.0	445 17.5	42 1.7	44 1.7	41 1.6
4 11/16 4 3/4 4 15/16 5	120 125 130	TT08	TP08	254 10.0	420 16.5	381 15.0	190 7.5	25 1.0	51 2.0	156 6.1	76 3.0	260 10.2	508 20.0	42 1.7	44 1.7	44 1.7
5 3/16 5 1/4 5 7/16 5 1/2	135 140	TT09	TP09	266 10.5	438 17.2	400 15.7	196 7.7	25 1.0	54 2.1	168 6.6	76 3.0	266 10.5	514 20.2	42 1.7	44 1.7	48 1.9
5 11/16 5 3/4 5 15/16 6	150 155 160A	TT10	TP10	266 10.5	464 18.3	426 16.8	204 8.0	25 1.0	57 2.2	174 6.9	86 3.4	280 11.0	546 21.5	48 1.9	50 2.0	51 2.0

Hanger Units

SRB Hanger Units are the optimum solution for the support of screw conveyor shafts. The unit comprises of a cast iron split housing into which standard SRB 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. SRB 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. Please contact SRB Technical Services for further information.



Series 1 Hanger Units

Shaft (d) inch	Shaft (d) mm	Reference		C	G	L	H	X	Y
1 3/16 1 1/4 1 7/16 1 1/2	35 40	LSM35HG LSM40HG	LSE103HG LSE104HG LSE107HG LSE108HG	55.0 2.165	100 3.9	108 4.3	66 2.6	M30	50 2.0
1 11/16 1 3/4 1 15/16 2	45 50	LSM45HG LSM50HG	LSE111HG LSE112HG LSE115HG LSE200HG	60.0 2.362	117 4.6	108 4.3	76 3.0	M30	50 2.0
2 3/16 2 1/4 2 7/16 2 1/2	55 60 65	LSM55HG LSM60HG LSM65HG	LSE203HG LSE204HG LSE207HG LSE208HG	60.0 2.362	135 5.3	108 4.3	82 3.2	M30	50 2.0
2 11/16 2 3/4 2 15/16 3	70 75	LSM70HG LSM75HG	LSE211HG LSE212HG LSE215HG LSE300HG	65.0 2.559	157 6.2	130 5.1	92 3.6	M30	50 2.0
3 3/16 3 1/4 3 7/16 3 1/2	80 85 90	LSM80HG LSM85HG LSM90HG	LSE303HG LSE304HG LSE307HG LSE308HG	75.0 2.953	178 7.0	146 5.7	114 4.5	M36	76 3.0
3 11/16 3 3/4 3 15/16 4	100 105	LSM100HG LSM105HG	LSE311HG LSE312HG LSE315HG LSE400HG	85.0 3.346	203 8.0	152 6.0	128 5.0	M36	76 3.0
4 3/16 4 1/4 4 7/16 4 1/2	110 115	LSM110HG LSM115HG	LSE403HG LSE404HG LSE407HG LSE408HG	90.0 3.543	232 9.1	156 6.1	140 5.5	M36	76 3.0

Zambesi Rapid Water Ride

SRB has supplied ground breaking split bearing assemblies to resolve the support problems for the twin ascender screw providing water to the massive Zambesi Rapid Water ride in the Gold Reef City theme park, RSA.

The lower bearings, traditionally of an inefficient plain bearing design, are completely submerged in water. The water also contains sand and silt in suspension as a result of the constant churning. This forms an abrasive solution.
In contrast, the upper bearing, though in dry conditions, must accommodate some 16 tons of thrust load.

The screw conveyors are 36ft long and 9ft diameter angled 30 degrees and rotating at 27.5 rpm. Together, the twin units are capable of supplying 9 cubic yards of water per second (25,200 tons per hour).

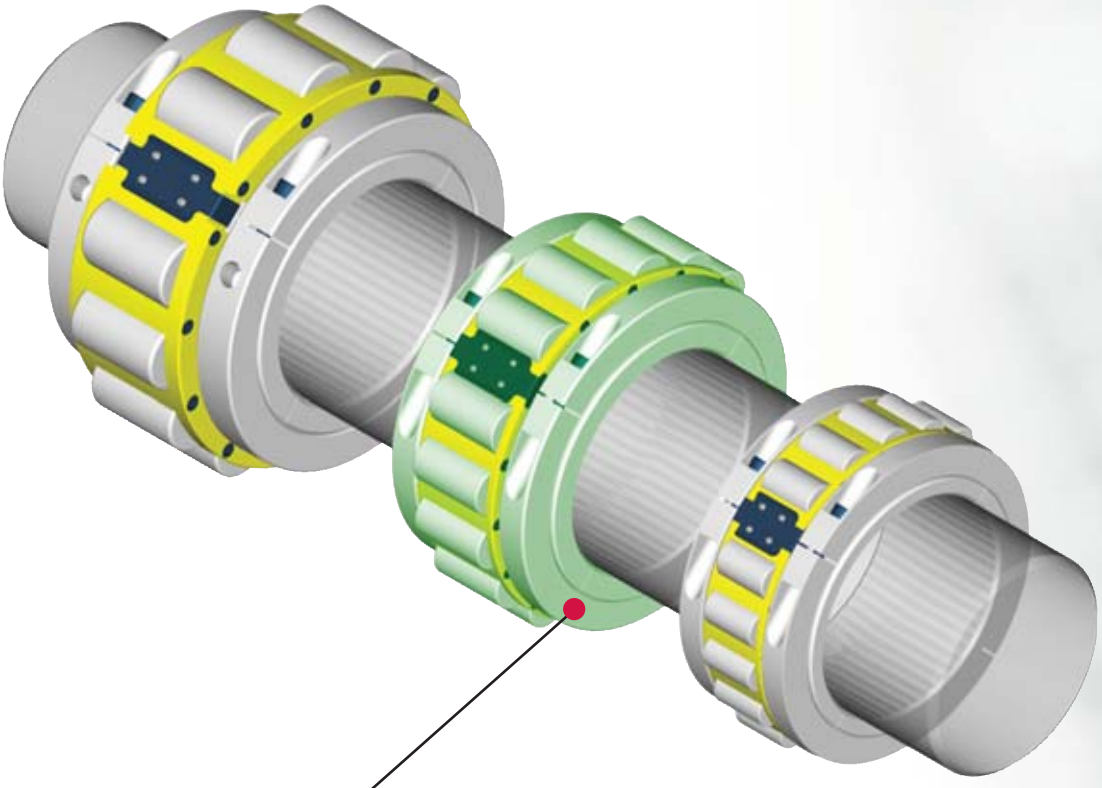
The lower bearing, a Series 1 $7^{15}/_{16}$ inch diameter, features sealing adequate to exclude water and other contaminants from the bearing enclosure. This is achieved via an arrangement of two lip seals with garter springs with a central grease feed. The sealing efficiency and grease purge provides long term reliable operation.

The upper bearing, a Series 2 $9^{3}/_{4}$ inch diameter, was designed to accommodate the large axial load. The load is carried between the inner race shoulder on one side and the outer race lip on the other. Both shoulders and lips are specially designed to facilitate the generation of an oil film between the sliding surfaces of roller ends and lips, thereby reducing wear and limiting temperature generation.

The bearings operate in an ambient temperature of up to 104°F and have now run problem free for over six years. This illustrates how SRB can design and manufacture units to accept conditions outside of the normal perceived split bearing capabilities.

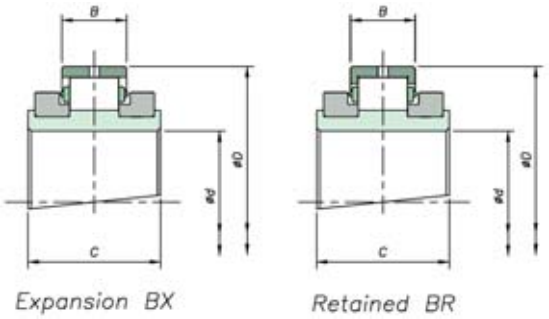
Series 2 Product

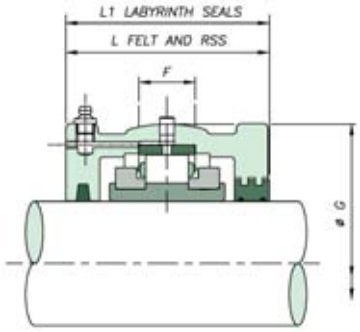
Series 2 bearing products can be utilized in applications requiring higher load carrying capacity. Under nominal conditions, Series 2 may also be selected to provide an extended bearing life when compared to Series 1. Series 2 offers the same range of mounting and sealing solutions as Series 1, with the exception of Hanger units. If a standard catalog product does not meet your requirements, SRB Technical Services will be happy to provide help and advice on your application.



Series 2

Series 2 Bearing & Housing
$1^{11}/_{16}$inch to 6inch

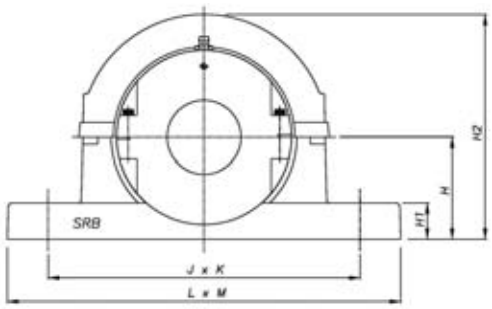




Shaft (d)		Reference		Bearings Ratings						Housing Reference					
inch	mm	Add BR for retained Add BX for expansion e.g. MSM55BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C	Housing Retained	Refernece Expansion	G	F	L	L_1
$1^{11}/_{16}$			MSE111													
$1^{3}/_{4}$	45	MSM45	MSE112	121	127	6.20	4350	107.95	35.00	67.50	MS3HR	MS3HX	134.94	32	112	114
$1^{15}/_{16}$	50	MSM50	MSE115	27202	28551	1394		4.250	1.378	2.657			5.313	1.3	4.4	4.5
2			MSE200													
$2^{3}/_{16}$			MSE203													
$2^{1}/_{4}$	55	MSM55	MSE204	168	190	8.80	3680	127.00	38.90	72.30	MS4HR	MS4HX	157.16	38	124	126
$2^{7}/_{16}$	60	MSM60	MSE207	37768	42714	1978		5.000	1.531	2.846			6.187	1.5	4.9	5.0
$2^{1}/_{2}$	65	MSM65	MSE208													
$2^{11}/_{16}$			MSE211													
$2^{3}/_{4}$	70	MSM70	MSE212	258	300	10.60	3080	149.22	46.10	82.60	MS5HR	MS5HX	177.80	50	138	140
$2^{15}/_{16}$	75	MSM75	MSE215	58001	67443	2383		5.875	1.815	3.252			7.000	2.0	5.4	5.5
3			MSE300													
$3^{3}/_{16}$			MSE303													
$3^{1}/_{4}$	80	MSM80	MSE304	297	353	17.80	2520	169.86	48.40	89.70	MS6HR	MS6HX	203.20	50	152	154
$3^{7}/_{16}$	85	MSM85	MSE307	66768	79358	4002		6.687	1.906	3.531			8.000	2.0	6.0	6.1
$3^{1}/_{2}$	90	MSM90	MSE308													
$3^{11}/_{16}$			MSE311													
$3^{3}/_{4}$	100	MSM100	MSE312	388	491	25.00	2130	193.68	51.60	92.10	MS7HR	MS7HX	231.78	64	144	146
$3^{15}/_{16}$	105	MSM105	MSE315	87226	110381	5620		7.625	2.031	3.626			9.125	2.5	5.7	5.7
4			MSE400													
$4^{3}/_{16}$			MSE403													
$4^{1}/_{4}$	110	MSM110	MSE404	454	592	31.20	1820	228.60	57.20	100.00	MS8HR	MS8HX	266.70	76	160	162
$4^{7}/_{16}$	115	MSM115	MSE407	102063	133087	7014		9.000	2.252	3.937			10.500	3.0	6.3	6.4
$4^{1}/_{2}$			MSE408													
$4^{11}/_{16}$			MSE411													
$4^{3}/_{4}$	120	MSM120	MSE412	525	700	38.20	1600	254.00	63.50	114.30	MS10HR	MS10HX	295.28	82	182	184
$4^{15}/_{16}$	125	MSM125	MSE415	118025	157366	8588		10.000	2.500	4.500			11.625	3.2	7.2	7.2
5	130	MSM130	MSE500													
$5^{3}/_{16}$			MSE503													
$5^{1}/_{4}$	135	MSM135	MSE504	600	817	45.40	1450	273.05	66.70	117.50	MS30HR	MS30HX	323.85	90	186	188
$5^{7}/_{16}$	140	MSM140	MSE507	134885	183669	10206		10.750	2.626	4.626			12.750	3.5	7.3	7.4
$5^{1}/_{2}$			MSE508													
$5^{11}/_{16}$			MSE511													
$5^{3}/_{4}$	150	MSM150	MSE512	730	1034	52.40	1320	292.10	68.30	123.80	MS31HR	MS31HX	336.55	95	202	204
$5^{15}/_{16}$	155	MSM155	MSE515	164111	232453	11780		11.500	2.689	4.874			13.250	3.7	8.0	8.0
6	160A	MSM160A	MSE600													

*For Triple Labyrinth Seal Designations, please refer to page 70.

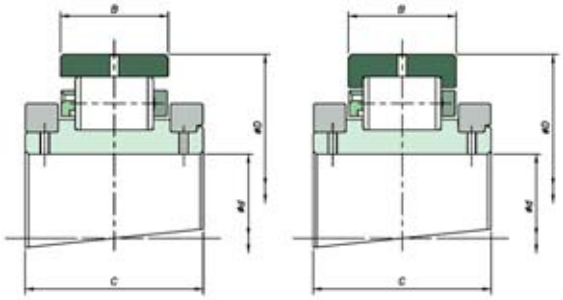
Series 2 Pedestal
S03 - S31

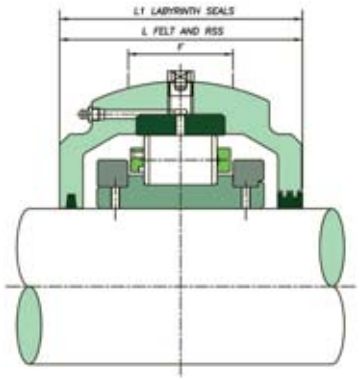


S03 - S31

Shaft (d) inch	Shaft (d) mm	Pedestal Reference	H	H_1	H_2	J x K	L x M	Bolts
$1^{11}/_{16}$ $1^{3}/_{4}$ $1^{15}/_{16}$ 2	45 50	S03	80 3.150	32 1.3	180 7.1	234 9.2	280 x 70 11 x 2.8	2 x M16
$2^{3}/_{16}$ $2^{1}/_{4}$ $2^{7}/_{16}$ $2^{1}/_{2}$	55 60 65	S04	95 3.740	38 1.5	208 8.2	270 10.6	330 x 76 13 x 3	2 x M20
$2^{11}/_{16}$ $2^{3}/_{4}$ $2^{15}/_{16}$ 3	70 75	S05	112 4.409	44 1.7	252 9.9	320 12.6	380 x 90 15 x 3.5	2 x M24
$3^{3}/_{16}$ $3^{1}/_{4}$ $3^{7}/_{16}$ $3^{1}/_{2}$	80 85 90	S06	125 4.921	52 2.0	272 10.7	354 13.9	420 x 102 16.5 x 4	2 x M24
$3^{11}/_{16}$ $3^{3}/_{4}$ $3^{15}/_{16}$ 4	100 105	S07	143 5.630	60 2.4	314 12.4	392 15.4	466 x 120 18.3 x 4.7	2 x M24
$4^{3}/_{16}$ $4^{1}/_{4}$ $4^{7}/_{16}$ $4^{1}/_{2}$	110 115	S08	162 6.378	38 1.5	372 14.6	450 x 120 17.7 x 4.7	508 x 178 20 x 7	4 x M24
$4^{11}/_{16}$ $4^{3}/_{4}$ $4^{15}/_{16}$ 5	120 125 130	S10	181 7.126	40 1.6	415 16.3	496 x 120 19.5 x 4.7	558 x 178 22 x 7	4 x M24
$5^{3}/_{16}$ $5^{1}/_{4}$ $5^{7}/_{16}$ $5^{1}/_{2}$	135 140	S30	203 7.992	50 2.0	460 18.1	546 x 120 21.5 x 4.7	610 x 178 24 x 7	4 x M24
$5^{11}/_{16}$ $5^{3}/_{4}$ $5^{15}/_{16}$ 6	150 155 160A	S31	210 8.268	50 2.0	470 18.5	558 x 128 22 x 5	636 x 204 25 x 8	4 x M24

Series 2 Bearing & Housing
$6^{7}/_{16}$inch to 14inch

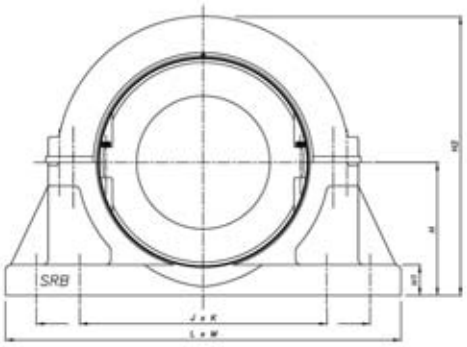




Shaft (d)		Reference		Bearings Ratings							Housing Reference					
inch	mm	Add BR for retained Add BX for expansion e.g. MSM160BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C	Housing Retained	Refernece Expansion	G	F	L	L_1
$6^{7}/_{16}$	160	MSM160	MSE607	842	1175	61.40	1200	317.50	83.30	140.00	MS32HR	MS32HX	368.30	95	206	232
$6^{1}/_{2}$	170	MSM170	MSE608	189289	264151	13803		12.500	3.280	5.512			14.500	3.7	8.1	9.1
$6^{11}/_{16}$			MSE611													
$6^{3}/_{4}$	175	MSM175	MSE612	927	1357	71.20	1120	330.20	83.30	140.00	MS33HR	MS33HX	381.00	95	222	242
$6^{15}/_{16}$	180	MSM180	MSE615	208398	305066	16006		13.000	3.280	5.512			15.000	3.7	8.7	9.5
7			MSE700													
$7^{1}/_{4}$			MSE704													
$7^{1}/_{2}$	190	MSM190	MSE708	1013	1516	80.00	960	368.30	90.50	156.00	MS34HR	MS34HX	425.50	105	235	258
$7^{15}/_{16}$	200	MSM200	MSE715	227732	340810	17985		14.500	3.563	6.142			16.752	4.1	9.3	10.2
8			MSE800													
$8^{1}/_{2}$	220	MSM220	MSE808	1138	1668	89.80	850	393.70	90.50	163.00	MS35HR	MS35HX	457.20	110	242	274
$8^{7}/_{8}$	230	MSM230	MSE814	255833	374981	20188		15.500	3.563	6.417			18.000	4.3	9.5	10.8
9			MSE900													
$9^{1}/_{2}$	240	MSM240	MSE908	1240	1882	98.80	750	431.80	96.80	170.00	MS36HR	MS36HX	495.30	118	248	280
$9^{3}/_{4}$	250	MSM250	MSE912	278763	423091	22211		17.000	3.811	6.693			19.500	4.6	9.8	11.0
10	260	MSM260	MSE1000													
$10^{1}/_{2}$	270	MSM270	MSE1008	1476	2357	113.80	670	463.55	101.60	186.00	MS37HR	MS37HX	527.10	130	264	300
$10^{3}/_{4}$	280	MSM280	MSE1012	331818	529875	25583		18.250	4.000	7.323			20.752	5.1	10.4	11.8
11			MSE1100													
$11^{1}/_{2}$	300	MSM300	MSE1108	1569	2607	129.00	610	495.30	103.20	193.00	MS38HR	MS38HX	552.50	128	268	306
12	305	MSM305	MSE1200	352725	586077	29000		19.500	4.063	7.598			21.752	5.0	10.6	12.0
$12^{1}/_{2}$	320	MSM320	MSE1208	1723	2922	144.20	550	527.05	106.40	192.00	MS39HR	MS39HX	587.40	128	298	–
13	330	MSM330	MSE1300	387346	656892	32417		20.750	4.189	7.559			23.126	5.0	11.7	
14	340	MSM340	MSE1400	1989	3403	159.20	500	565.15	115.90	200.00	MS40HR	MS40HX	628.70	146	305	–
	360	MSM360		447145	765025	35790		22.250	4.563	7.874			24.752	5.7	12.0	

*For Triple Labyrinth Seal Designations, please refer to page 70.

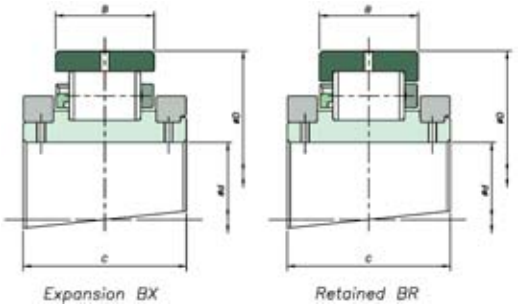
Series 2 Pedestal
S32 - S40

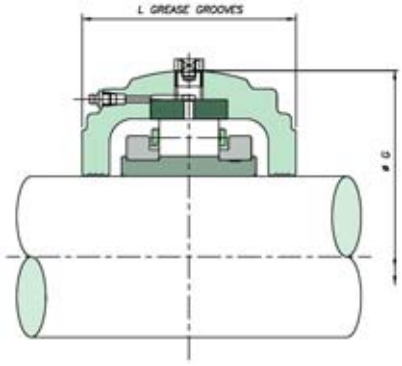


S32 - S40

Shaft (d) inch	Shaft (d) mm	Pedestal Reference	H	H_1	H_2	J x K	L x M	Bolts
$6^{7}/_{16}$ $6^{1}/_{2}$	160 170	S32	267 10.512	44 1.7	535 21.1	448 x 172 17.6 x 6.8	596 x 242 23.5 x 9.5	4 x M30
$6^{11}/_{16}$ $6^{3}/_{4}$ $6^{15}/_{16}$ 7	175 180	S33	273 10.748	44 1.7	545 21.5	458 x 166 18 x 6.5	636 x 242 25 x 9.5	4 x M30
$7^{1}/_{4}$ $7^{1}/_{2}$ $7^{15}/_{16}$ 8	190 200	S34	305 12.008	50 2.0	610 24.0	508 x 190 20 x 7.5	686 x 266 27 x 10.5	4 x M30
$8^{1}/_{2}$ $8^{7}/_{8}$ 9	220 230	S35	324 12.756	50 2.0	650 25.6	550 x 190 21.7 x 7.5	750 x 280 29.5 x 11	4 x M30
$9^{1}/_{2}$ $9^{3}/_{4}$ 10	240 250 260	S36	356 14.016	54 2.1	710 28.0	596 x 204 23.5 x 8	812 x 292 32 x 11.5	4 x M36
$10^{1}/_{2}$ $10^{3}/_{4}$ 11	270 280	S37	378 14.882	60 2.4	760 29.9	736 & 534 x 254 29 & 21 x 10	914 x 330 36 x 13	8 x M30
$11^{1}/_{2}$ 12	300 305	S38	394 15.512	60 2.4	790 31.1	768 & 566 x 254 30.2 & 22.3 x 10	958 x 330 37.7 x 13	8 x M30
$12^{1}/_{2}$ 13	320 330	S39	419 16.496	64 2.5	840 33.1	812 & 610 x 210 32 & 24 x 8.3	1016 x 292 40 x 11.5	8 x M30
14	340 360	S40	451 17.756	67 2.6	900 35.4	864 & 660 x 280 34 & 26 x 11	1092 x 368 43 x 14.5	8 x M36

Series 2 Bearing & Housing
15inch to 24inch

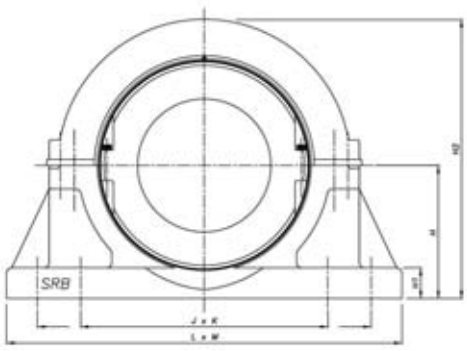




Shaft (d)		Reference		Bearings Ratings							Housing Reference					
inch	mm	Add BR for retained Add BX for expansion e.g. MSM380BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C	Housing Retained	Refernece Expansion	G	F	L	L_1
15	380	MSM380	MSE1500	1800 404656	3202 719838	174.40 39207	460	584.20 23.000	111.10 4.374	200.00 7.874	MS41HR	MS41HX	647.70 25.500	146 5.7	305 12.0	–
16	400	MSM400	MSE1600	2105 473223	3793 852701	188.40 42354	430	615.95 24.250	115.90 4.563	200.00 7.874	MS42HR	MS42HX	685.80 27.000	146 5.7	324 12.8	–
17	420	MSM420	MSE1700	2324 522456	4164 936105	202.00 45411	400	647.70 25.500	119.10 4.689	200.00 7.874	MS43HR	MS43HX	717.60 28.252	146 5.7	350 13.8	–
18	440 460	MSM440 MSM460	MSE1800	2215 497952	4183 940376	216.00 48559	380	666.75 26.250	115.90 4.563	200.00 7.874	MS44HR	MS44HX	733.40 28.874	146 5.7	350 13.8	–
19	480	MSM480	MSE1900	2445 549658	4594 1032773	230.00 51706	360	698.50 27.500	119.10 4.689	223.00 8.780	MS45HR	MS45HX	762.00 30.000	146 5.7	368 14.5	–
20	500	MSM500	MSE2000	2320 521557	4571 1027602	244.00 54853	340	717.55 28.250	115.90 4.563	226.00 8.898	MS46HR	MS46HX	787.40 31.000	146 5.7	368 14.5	–
21	530	MSM530	MSE2100	2556 574612	5028 1130340	258.00 58001	330	762.00 30.000	119.10 4.689	229.00 9.016	MS47HR	MS47HX	831.90 32.752	150 5.9	368 14.5	–
22	560	MSM560	MSE2200	2683 603163	5436 1222062	272.00 61148	310	793.75 31.250	122.20 4.811	233.00 9.173	MS48HR	MS48HX	866.80 34.126	152 6.0	374 14.7	–
23	580	MSM580	MSE2300	2740 615977	5601 1259155	286.00 64295	300	812.80 32.000	119.10 4.689	232.00 9.134	MS49HR	MS49HX	883.00 34.764	152 6.0	374 14.7	–
24	600	MSM600	MSE2400	2770 622721	5637 1267248	300.00 67443	290	838.20 33.000	119.10 4.689	214.00 8.425	MS50HR	MS50HX	914.40 36.000	152 6.0	388 15.3	–

*For Triple Labyrinth Seal Designations, please refer to page 70.

Series 2 Pedestal
S41 - S50



S41- S50								
Shaft (d) inch	Shaft (d) mm	Pedestal Reference	H	H_1	H_2	J x K	L x M	Bolts
15	380	S41	464 18.268	67 2.6	925 36.4	886 & 682 x 280 34.9 & 26.9 x 11	1092 x 368 43 x 14.5	8 x M36
16	400	S42	495 19.488	70 2.8	990 39.0	934 & 730 x 280 36.8 & 28.7 x 11	1168 x 368 46 x 14.5	8 x M36
17	420	S43	514 20.236	70 2.8	1030 40.6	972 & 768 x 280 38.3 & 30.2 x 11	1194 x 368 47 x 14.5	8 x M36
18	440 460	S44	533 20.984	73 2.9	1070 42.1	996 & 788 x 280 39.2 & 31 x 11	1244 x 368 49 x 14.5	8 x M36
19	480	S45	552 21.732	76 3.0	1110 43.7	1042 & 812 x 280 41 & 32 x 11	1270 x 368 50 x 14.5	8 x M36
20	500	S46	572 22.520	80 3.1	1145 45.1	1074 & 844 x 280 42.3 & 33.2 x 11	1296 x 368 51 x 14.5	8 x M36
21	530	S47	594 23.386	83 3.3	1180 46.5	1118 & 890 x 280 44 & 35 x 11	1398 x 368 55 x 14.5	8 x M36
22	560	S48	616 24.252	86 3.4	1230 48.4	1158 & 930 x 280 45.6 & 36.6 x 11	1422 x 382 56 x 15	8 x M42
23	580	S49	635 25.000	89 3.5	1270 50.0	1187 & 959 x 280 46.7 & 37.8 x 11	1448 x 382 57 x 15	8 x M42
24	600	S50	673 26.496	92 3.6	1345 53.0	1238 & 1010 x 280 48.7 & 39.8 x 11	1524 x 382 60 x 15	8 x M42

Flange Units

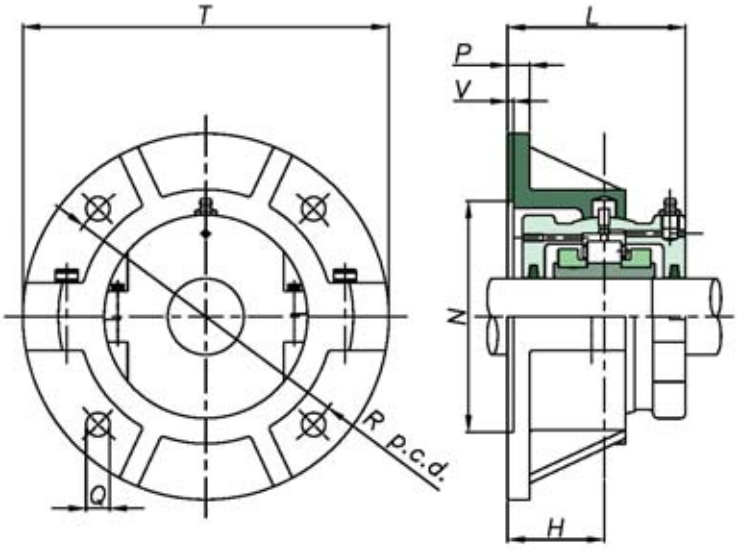
When faced with flat horizontal or vertical faces, flange units offer a simple mounting solution. As with Pillow block supports, Flange units are produced with spherical location to accommodate standard bearing housings and provide easy initial alignment of shaft and equipment.

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, SRB Technical Services will be happy to advise on any application issues.



Series 2 Support
1 11/16inch to 12inch Flanges

Series 2 1 11/16inch to 12inch Flanges

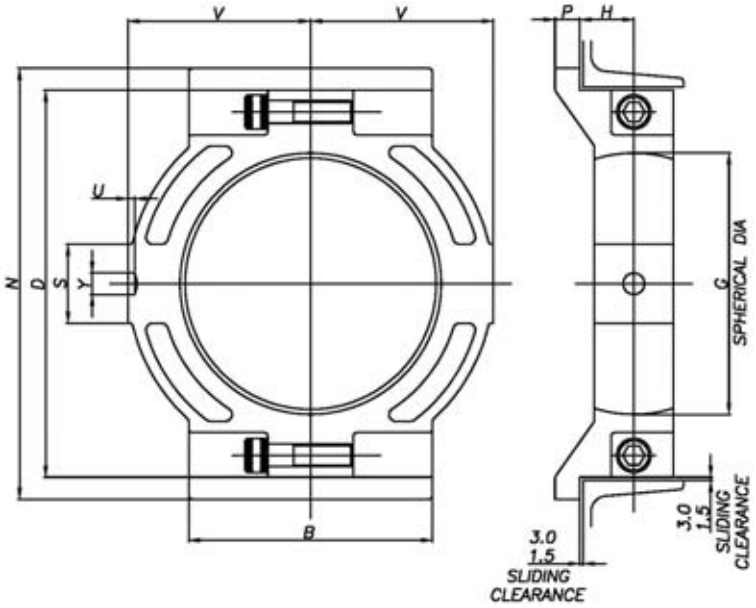
Shaft (d) inch	Shaft (d) mm	Flange Reference	T	Bolts	R	P	H	N	V	L
1 11/16 1 3/4 1 15/16 2	45 50	F03	260 10.2	4 x M12	218 8.6	16 0.6	67 2.6	166.9 6.571	3 0.1	124 4.9
2 3/16 2 1/4 2 7/16 2 1/2	55 60 65	F04	286 11.3	4 x M12	242 9.5	16 0.6	73 2.9	192.09 7.563	3 0.1	136 5.4
2 11/16 2 3/4 2 15/16 3	70 75	F05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

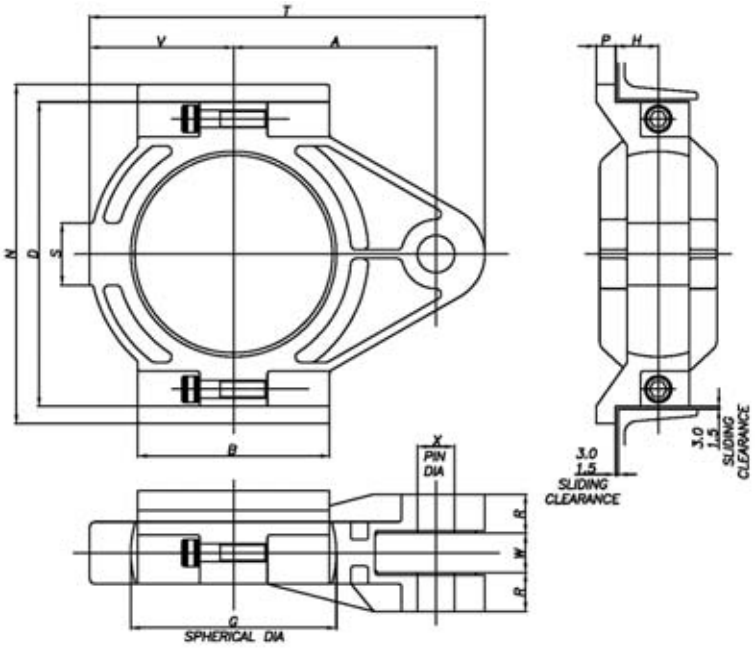
For Bearings and Housings see pages 53 – 58

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 SRB Units, a wide variety of sealing solutions may be applied dependant on the environment and application. Please contact SRB Technical Services for assistance.





Tensioning Units TT/TP

Series 2 1 11/16 inch to 6inch Support

Shaft (d)		Support Reference														
inch	mm	Tension Type	Push Type	B	N	D	V	P	H	L	S	A	T	X	W	R
1 11/16 1 3/4 1 15/16 2	45 50	TT03	TP03	128 5.0	235 9.3	203 8.0	102 4.0	20 0.8	32 1.3	108 4.3	38 1.5	146 5.7	280 11.0	24 0.9	30 1.2	29 1.1
2 3/16 2 1/4 2 7/16 2 1/2	55 60 65	TT04	TP04	152 6.0	266 10.5	229 9.0	114 4.5	22 0.9	40 1.6	124 4.9	41 1.6	158 6.2	305 12.0	24 0.9	30 1.2	114 4.5
2 11/16 2 3/4 2 15/16 3	70 75	TT05	TP05	190 7.5	318 12.5	280 11.0	140 5.5	22 0.9	40 1.6	131 5.2	51 2.0	190 7.5	368 14.5	30 1.2	38 1.5	35 1.4
3 3/16 3 1/4 3 7/16 3 1/2	80 85 90	TT06	TP06	204 8.0	342 13.5	305 12.0	152 6.0	22 0.9	43 1.7	141 5.6	51 2.0	210 8.3	414 16.3	36 1.4	44 1.7	35 1.4
3 11/16 3 3/4 3 15/16 4	100 105	TT07	TP07	216 8.5	382 15.0	343 13.5	162 6.4	22 0.9	48 1.9	142 5.6	70 2.8	228 9.0	445 17.5	42 1.7	44 1.7	41 1.6
4 3/16 4 1/4 4 7/16 4 1/2	110 115	TT08	TP08	254 10.0	420 16.5	381 15.0	190 7.5	25 1.0	51 2.0	156 6.1	76 3.0	260 10.2	508 20.0	42 1.7	44 1.7	44 1.7
4 11/16 4 3/4 4 15/16 5	120 125 130	TT10	TP10	266 10.5	464 18.3	426 16.8	204 8.0	25 1.0	57 2.2	173 6.8	86 3.4	280 11.0	546 21.5	48 1.9	50 2.0	51 2.0
5 3/16 5 1/4 5 7/16 5 1/2	135 140	TT30	TP30	280 11.0	502 19.8	464 18.3	222 8.7	25 1.0	60 2.4	178 7.0	92 3.6	298 11.7	584 23.0	48 1.9	50 2.0	54 2.1
5 11/16 5 3/4 5 15/16 6	150 155 160A	TT31	TP31	305 12.0	528 20.8	489 19.3	235 9.3	25 1.0	64 2.5	190 7.5	92 3.6	312 12.3	616 24.3	48 1.9	50 2.0	57 2.2

High Capacity Unit from SRB Reduces Downtime

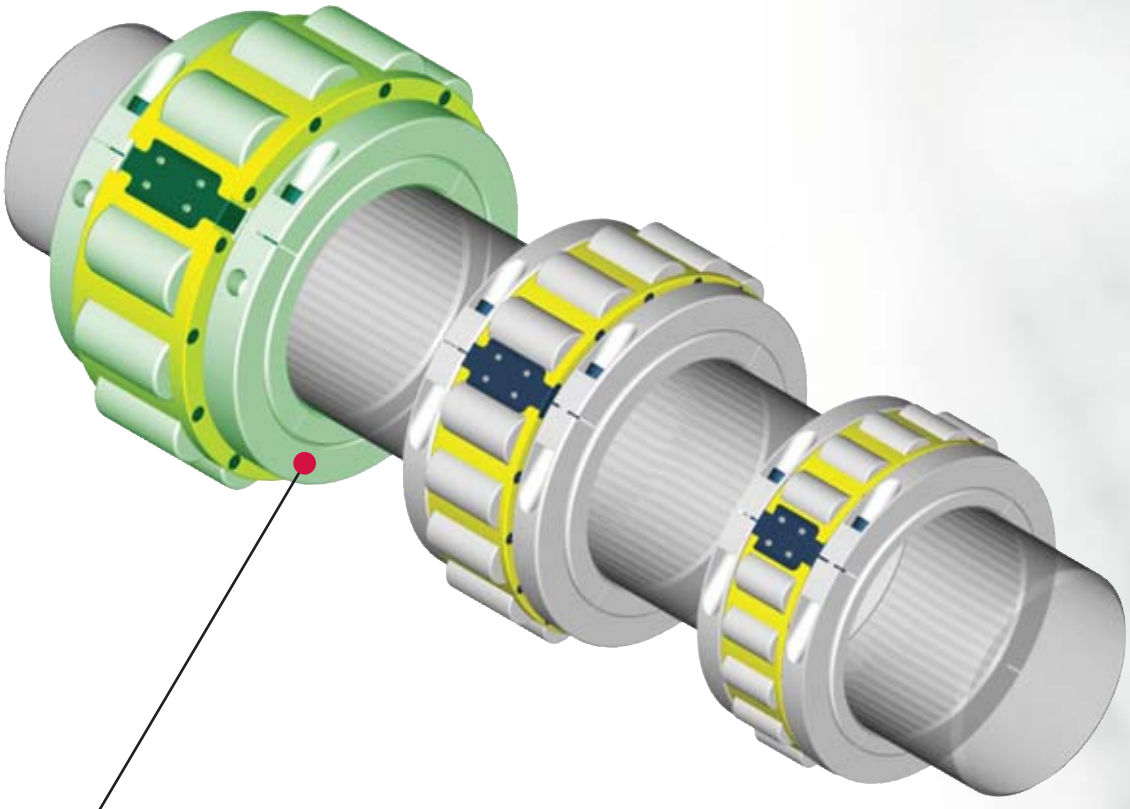
A continuing problem with bearing failure on the raw mill drive pinions at a major Cement manufacturer has been solved by employing SRB's high capacity Series 3 units. The 13 inch bore bearings originally used were prone to premature failure and a replacement was being fitted every twelve months. The job was taking over two days to complete and causing unnecessary cost and disruption meaning partial plant shutdowns in each instance.

Working closely with the end users engineering staff, SRB was able to provide a solution in the shape of our Series 3 Units using high quality materials and drawing on years of field experience to improve on existing designs. The SRB units are produced with a machined brass cage as standard rather than the aluminium type found in older designs. A strong, bolt located "H" section clip ensures secure and accurate alignment of the cage halves further improving the performance characteristics.

To date the bearing has been in operation for some three years and is performing as well as when first fitted. The bearing has now been joined on site by numerous others as a result of maintenance staff actively seeking for applications which would benefit by specifying SRB units. As a result of continuing successes in both standard and specialised applications, SRB bearings are now in use at all sites throughout the UK.

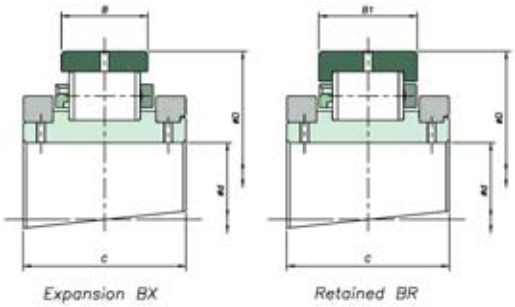
Series 3 Product

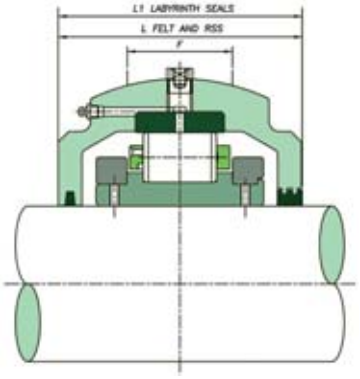
Series 3 bearing products offer solutions to the most demanding of load conditions. Bearings are supported by robust and durable mountings and can be equipped with a variety of sealing solutions. If a standard catalog product does not meet your requirements, SRB Technical Services will be happy to provide help and advice on your application.



Series 3

Series 3 Bearing & Housing
$3^{11}/_{16}$inch to 10inch



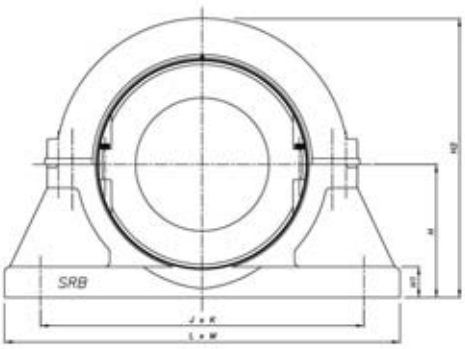


Shaft (d)		Reference		Bearings Ratings						
inch	mm	Add BR for retained Add BX for expansion e.g. HSM100BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B B_1	C
$3^{11}/_{16}$ $3^{3}/_{4}$ $3^{15}/_{16}$ 4	100 105	HSM100 HSM105	HSE311 HSE312 HSE315 HSE400	653 146800	783 176025	31.20 7014	1820	254.00 10.000	84.20 3.315	136.00 5.354
$4^{3}/_{16}$ $4^{1}/_{4}$ $4^{7}/_{16}$ $4^{1}/_{2}$	110 115 120	HSM110 HSM115 HSM120	HSE403 HSE404 HSE407 HSE408	656 147475	801 180072	39.10 8790	1640	266.70 10.500	87.30 3.437	147.00 5.787
$4^{15}/_{16}$ 5	125 130	HSM125 HSM130	HSE415 HSE500	753 169281	974 218964	49.00 11016	1500	279.40 11.000	73.10 2.878 84.20 3.315	140.00 5.512
$5^{3}/_{16}$ $5^{1}/_{4}$ $5^{7}/_{16}$ $5^{1}/_{2}$	135 140	HSM135 HSM140	HSE503 HSE504 HSE507 HSE508	827 185917	1084 243693	58.80 13219	1340	304.80 12.000	79.40 3.126 90.50 3.563	147.00 5.787
$5^{11}/_{16}$ $5^{3}/_{4}$ $5^{15}/_{16}$ 6	150 155	HSM150 HSM155	HSE511 HSE512 HSE515 HSE600	1037 233127	1325 297872	69.40 15602	1220	330.20 13.000	81.00 3.189 96.90 3.815	160.00 6.299
$6^{7}/_{16}$ $6^{1}/_{2}$ $6^{11}/_{16}$	160 170	HSM160 HSM170	HSE607 HSE608 HSE611	1015 228181	1326 298097	79.20 17805	1110	355.60 14.000	103.20 4.063	171.00 6.732
$6^{3}/_{4}$ $6^{15}/_{16}$ 7	175 180	HSM175 HSM180	HSE612 HSE615 HSE700	1275 286631	1767 397238	89.00 20008	1030	374.65 14.750	92.10 3.626 108.80 4.283	178.00 7.008
$7^{1}/_{4}$ $7^{1}/_{2}$ $7^{15}/_{16}$ 8	190 200	HSM190 HSM200	HSE704 HSE708 HSE715 HSE800	1423 319903	1958 440176	99.60 22391	880	419.10 16.500	97.70 3.846 118.30 4.657	191.00 7.520
$8^{1}/_{2}$ $8^{7}/_{8}$ 9	220 230	HSM220 HSM230	HSE808 HSE814 HSE900	1665 374307	2455 551906	109.40 24594	760	469.90 18.500	109.60 4.315 131.80 5.189	212.00 8.346
$9^{1}/_{2}$ $9^{3}/_{4}$ 10	240 260	HSM240 HSM260	HSE908 HSE912 HSE1000	1694 380826	2519 566294	130.80 29405	700	482.60 19.000	105.60 4.157 124.60 4.906	211.00 8.307

Housing Reference					
Housing Retained	Refernece Expansion	G	F	L	L_1
HS54HR	HS54HX	308.00 12.126	95 3.7	200 7.9	206 8.1
HS55HR	HS55HX	323.85 12.750	102 4.0	210 8.3	222 8.7
HS56HR	HS56HX	323.85 12.750	102 4.0	214 8.4	222 8.7
HS57HR	HS57HX	355.60 14.000	108 4.3	216 8.5	230 9.1
HS58HR	HS58HX	393.70 15.500	114 4.5	232 9.1	254 10.0
HS59HR	HS59HX	422.30 16.626	120 4.7	244 9.6	268 10.6
HS60HR	HS60HX	431.80 17.000	132 5.2	254 10.0	284 11.2
HS61HR	HS61HX	489.00 19.252	146 5.7	270 10.6	300 11.8
HS62HR	HS62HX	546.10 21.500	165 6.5	298 11.7	334 13.1
HS63HR	HS63HX	558.80 22.000	165 6.5	298 11.7	334 13.1

*For Triple Labyrinth Seal Designations, please refer to page 70.

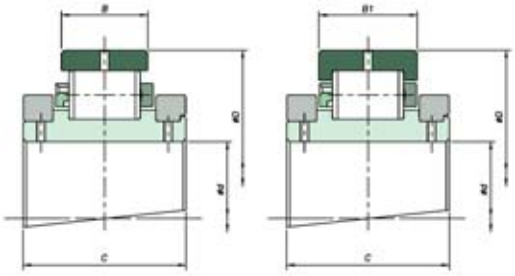
Series 3 Pedestal
S54 - S63

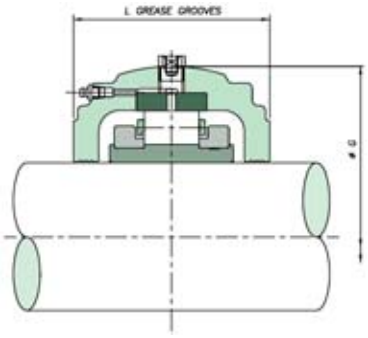


S54 - S63

Shaft (d) inch	Shaft (d) mm	Pedestal Reference	H	H_1	H_2	J x K	L x M	Bolts
$3^{11}/_{16}$ $3^{3}/_{4}$ $3^{15}/_{16}$ 4	100 105	S54	191 7.520	38 1.5	405 15.9	438 x 82 17.2 x 3.2	514 x 152 20.2 x 6	4 x M24
$4^{3}/_{16}$ $4^{1}/_{4}$ $4^{7}/_{16}$ $4^{1}/_{2}$	110 115 120	S55	197 7.756	38 1.5	425 16.7	458 x 88 18 x 3.5	534 x 166 21 x 6.5	4 x M24
$4^{15}/_{16}$ 5	125 130	S56	203 7.992	48 1.9	435 17.1	470 x 96 18.5 x 3.8	546 x 166 21.5 x 6.5	4 x M24
$5^{3}/_{16}$ $5^{1}/_{4}$ $5^{7}/_{16}$ $5^{1}/_{2}$	135 140	S57	229 9.016	54 2.1	485 19.1	514 x 102 20.2 x 4	622 x 178 24.5 x 7	4 x M30
$5^{11}/_{16}$ $5^{3}/_{4}$ $5^{15}/_{16}$ 6	150 155	S58	254 10.000	57 2.2	535 21.1	558 x 120 22 x 4.7	666 x 204 26.2 x 8	4 x M30
$6^{7}/_{16}$ $6^{1}/_{2}$ $6^{11}/_{16}$	160 170	S59	267 10.512	60 2.4	570 22.4	628 x 140 24.7 x 5.5	736 x 228 29 x 9	4 x M30
$6^{3}/_{4}$ $6^{15}/_{16}$ 7	175 180	S60	279 10.984	64 2.5	580 22.8	636 x 152 25 x 6	762 x 254 30 x 10	4 x M30
$7^{1}/_{4}$ $7^{1}/_{2}$ $7^{15}/_{16}$ 8	190 200	S61	311 12.244	67 2.6	655 25.8	636 x 172 25 x 6.8	838 x 266 33 x 10.5	4 x M36
$8^{1}/_{2}$ $8^{7}/_{8}$ 9	220 230	S62	349 13.740	76 3.0	730 28.7	736 x 178 29 x 7	952 x 280 37.5 x 11	4 x M42
$9^{1}/_{2}$ $9^{3}/_{4}$ 10	240 260	S63	394 15.512	76 3.0	790 31.1	670 x 304 26.4 x 12	914 x 406 36 x 16	4 x M42

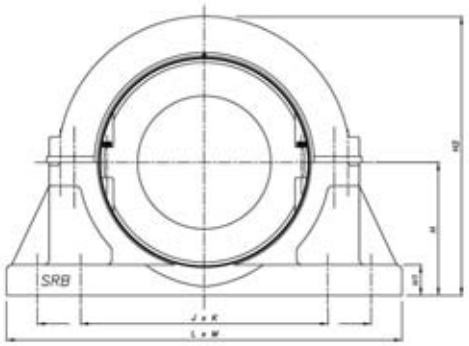
Series 3 Bearing & Housing
11inch to 24inch





Shaft (d)		Reference		Bearings Ratings							Housing Reference						
inch	mm	Add BR for retained Add BX for expansion e.g. HSM280BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C	Housing Retained	Refernece Expansion	G	F	L	L_1
11	280	HSM280	HSE1100	1936 435230	3115 700280	153.00 34396	620	495.30 19.500	139.70 5.500	244.00 9.606	HS83HR	HS83HX	571.50 22.500	165 6.5	356 14.0	356 14.0
12	300	HSM300	HSE1200	2114 475246	3194 718040	174.40 39207	560	558.80 22.000	139.70 5.500	244.00 9.606	HS65HR	HS65HX	641.40 25.252	165 6.5	346 13.6	370 14.6
13	320	HSM320	HSE1300	2718 611031	4093 920143	198.80 44692	500	622.30 24.500	160.40 6.315	272.00 10.709	HS66HR	HS66HX	717.60 28.252	170 6.7	368 14.5	–
14	340 360	HSM340 HSM360	HSE1400	2686 603837	4421 993881	213.60 48019	460	615.95 24.250	158.00 6.220	279.00 10.984	HS86HR	HS86HX	704.90 27.752	196 7.7	432 17.0	–
15 16	380 400	HSM380 HSM400	HSE1500 HSE1600	3195 718265	5238 1177550	250.80 56382	420	685.80 27.000	166.70 6.563	292.00 11.496	HS68HR	HS68HX	774.70 30.500	202 8.0	400 15.7	–
17	420 440	HSM420 HSM440	HSE1700	3187 716466	5813 1306815	275.80 62002	360	700.00 27.559	160.00 6.299	284.00 11.181	HS89HR	HS89HX	788.00 31.024	200 7.9	440 17.3	–
18	460	HSM460	HSE1800	3501 787056	6091 1369312	302.40 67982	340	740.00 29.134	170.00 6.693	294.00 11.575	HS90HR	HS90HX	840.00 33.071	200 7.9	450 17.7	–
20 21	500 530	HSM500 HSM530	HSE2000 HSE2100	4324 972074	7603 1709223	347.00 78009	310	850.90 33.500	187.40 7.378	300.00 11.811	HS94HR	HS94HX	958.90 37.752	204 8.0	495 19.5	–
22	560	HSM560	HSE2200	4448 999950	8781 1974048	382.60 86012	280	863.60 34.000	196.90 7.752	310.00 12.205	HS94HR	HS94HX	958.90 37.752	204 8.0	490 19.3	–
23 24	580 600	HSM580 HSM600	HSE2300 HSE2400	4443 998826	8918 2004847	400 89924	270	890.00 35.039	184.00 7.244	310.00 12.205	HS95HR	HS95HX	990.00 38.976	204 8.0	490 19.3	–

Series 3 Pedestal
S83 - S95



S83 - S95

Shaft (d) inch	Shaft (d) mm	Pedestal Reference	H	H_1	H_2	J x K	L x M	Bolts
11	280	S83	368 14.488	70 2.8	785 30.9	742 & 502 x 178 29.2 & 19.8 x 7	940 x 280 37 x 11	8 x M36
12	300	S65	457 17.992	76 3.0	915 36.0	876 & 674 x 330 34.5 & 26.5 x 13	1092 x 420 43 x 16.5	8 x M36
13	320	S66	518 20.394	80 3.1	1035 40.7	978 & 762 x 266 38.5 & 30 x 10.5	1194 x 356 47 x 14	8 x M36
14	340 360	S86	470 18.504	82 3.2	1000 39.4	928 & 660 x 190 36.5 & 26 x 7.5	1220 x 318 48 x 12.5	8 x M42
15 16	380 400	S68	559 22.008	92 3.6	1120 44.1	1036 & 806 x 292 40.8 & 31.7 x 11.5	1270 x 394 50 x 15.5	8 x M42
17	420 440	S89	508 20.000	90 3.5	1075 42.3	990 & 690 x 210 39 & 27.2 x 8.3	1270 x 360 50 x 14.2	8 x M48
18	460	S90	550 21.654	95 3.7	1165 45.9	1080 & 780 x 220 42.5 & 30.7 x 8.7	1370 x 380 53.9 x 15	8 x M48
20 21	500 530	S94	622 24.488	102 4.0	1340 52.8	1270 & 940 x 242 50 & 37 x 9.5	1600 x 406 63 x 16	8 x M56
22	560	S94	622 24.488	102 4.0	1340 52.8	1270 & 940 x 242 50 & 37 x 9.5	1600 x 406 63 x 16	8 x M56
23 24	580 600	S95	622 24.488	102 4.0	1340 52.8	1270 & 940 x 242 50 & 37 x 9.5	1600 x 406 63 x 16	8 x M56

Flange Units

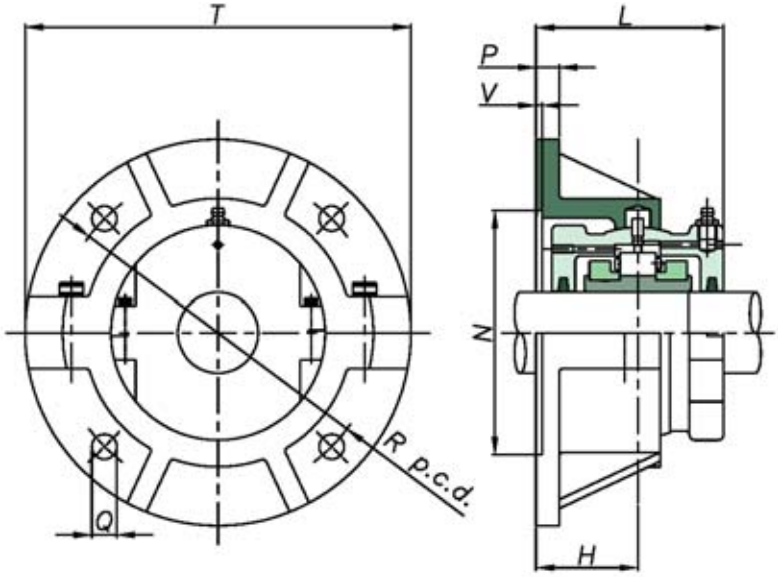
When faced with flat horizontal or vertical faces, flange units offer a simple mounting solution. As with Pillow block supports, Flange units are produced with spherical location to accommodate standard bearing housings and provide easy initial alignment of shaft and equipment.

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, SRB Technical Services will be happy to advise on any application issues.



Flange Units

Shaft (d) inch	Shaft (d) mm	Flange Reference	T	Bolts	R	P	H	N	V	L
$4^{15}/_{16}$ 5	125 130	F56	530 20.9	4 x M24	460 18.1	34 1.3	122 4.8	390.45 15.372	7 0.3	233 9.2
$5^{11}/_{16}$ $5^{3}/_{4}$ $5^{15}/_{16}$ 6	150 155	F58	648 25.5	4 x M24	574 22.6	44 1.7	137 5.4	495.35 19.502	7 0.3	264 10.4
$6^{3}/_{4}$ $6^{15}/_{16}$ 7	175 180	F60	724 28.5	4 x M24	638 25.1	44 1.7	156 6.1	546.15 21.502	8 0.3	298 11.7
$9^{1}/_{2}$ $9^{3}/_{4}$ 10	240 250 260	F63	890 35.0	4 x M24	796 31.3	48 1.9	181 7.1	692.20 27.252	8 0.3	348 13.7

For Bearings and Housings see pages 65 – 68

Triple Labyrinth Housing and Seal References

Series 1

Shaft (d)		Triple Labyrinth Seal Reference		Housing Reference
inch	mm	mm	inch	Retained Expansion
1 3/16			103ATL	
1 1/4	35	35MMATL	104 ATL	LS1HRTL
1 7/16	40	40MMATL	107ATL	LS1HXTL
1 1/2			108ATL	
1 11/16			111ATL	
1 3/4	45	45MMATL	112ATL	LS2HRTL
1 15/16	50	50MMATL	115ATL	LS2HXTL
2			200ATL	
2 3/16	55	55MMATL	203ATL	
2 1/4	60	60MMATL	204ATL	LS3HRTL
2 7/16	65	65MMATL	207ATL	LS3HXTL
2 1/2			208ATL	
2 11/16			211ATL	
2 3/4	70	70MMATL	212ATL	LS4HRTL
2 15/16	75	75MMATL	215ATL	LS4HXTL
3			300ATL	
3 3/16	80	80MMATL	303ATL	
3 1/4	85	85MMATL	304ATL	LS5HRTL
3 7/16	90	90MMATL	307ATL	LS5HXTL
3 1/2			308ATL	
3 11/16			311ATL	
3 3/4	100	100MMATL	312ATL	LS6HRTL
3 15/16	105	105MMATL	315ATL	LS6HXTL
4			400ATL	
4 3/16			403ATL	
4 1/4	110	110MMATL	404ATL	LS7HRTL
4 7/16	115	115MMATL	407ATL	LS7HXTL
4 1/2			408ATL	
4 11/16	120	120MMATL	411ATL	
4 3/4	125	125MMATL	412ATL	LS8HRTL
4 15/16	130	130MMATL	415ATL	LS8HXTL
5			500ATL	
5 3/16			503ATL	
5 1/4	135	135MMATL	504ATL	LS9HRTL
5 7/16	140	140MMATL	507ATL	LS9HXTL
5 1/2			508ATL	
5 11/16			511ATL	
5 3/4	150	150MMATL	512ATL	LS10HRTL
5 15/16	155	155MMATL	515ATL	LS10HXTL
6			600ATL	
6 7/16	160	160MMATL	607ATL	LS11HRTL
6 1/2			608ATL	LS11HXTL
6 11/16	170	170MMATL	611ATL	
6 3/4	175	175MMATL	612ATL	LS12HRTL
6 15/16	180	180MMATL	615ATL	LS12HXTL
7			700ATL	
7 1/4			704ATL	
7 1/2	190	190MMATL	708ATL	LS13HRTL
7 15/16	200	200MMATL	715ATL	LS13HXTL
8			800ATL	
8 1/2	220	220MMATL	808ATL	
8 7/8	230	230MMATL	814ATL	LS14HRTL
9			900ATL	LS14HXTL
9 1/2	240	240MMATL	908ATL	
9 3/4	250	250MMATL	912ATL	LS15HRTL
10			1000ATL	LS15HXTL
10 1/2	260	260MMATL	1008ATL	
10 3/4	270	270MMATL	1012ATL	LS16HRTL
11	280	280MMATL	1100ATL	LS16HXTL
11 1/2	300	300MMATL	1108ATL	LS17HRTL
12	305	305MMATL	1200ATL	LS17HXTL

Series 2

Shaft (d)		Triple Labyrinth Seal Reference		Housing Reference
inch	mm	mm	inch	Retained Expansion
1 11/16			111ATL	
1 3/4	45	45MMATL	112ATL	MS3HRTL
1 15/16	50	50MMATL	115ATL	MS3HXTL
2			200ATL	
2 3/16	55	55MMATL	203ATL	
2 1/4	60	60MMATL	204ATL	MS4HRTL
2 7/16	65	65MMATL	207ATL	MS4HXTL
2 1/2			208ATL	
2 11/16			211ATL	
2 3/4	70	70MMATL	212ATL	MS5HRTL
2 15/16	75	75MMATL	215ATL	MS5HXTL
3			300ATL	
3 3/16	80	80MMATL	303ATL	
3 1/4	85	85MMATL	304ATL	MS6HRTL
3 7/16	90	90MMATL	307ATL	MS6HXTL
3 1/2			308ATL	
3 11/16			311ATL	
3 3/4	100	100MMATL	312ATL	MS7HRTL
3 15/16	105	105MMATL	315ATL	MS7HXTL
4			400ATL	
4 3/16			403ATL	
4 1/4	110	110MMATL	404ATL	MS8HRTL
4 7/16	115	115MMATL	407ATL	MS8HXTL
4 1/2			408ATL	
4 11/16	120	120MMATL	411ATL	
4 3/4	125	125MMATL	412ATL	MS10HRTL
4 15/16	130	130MMATL	415ATL	MS10HXTL
5			500ATL	
5 3/16			503ATL	
5 1/4	135	135MMATL	504ATL	MS30HRTL
5 7/16	140	140MMATL	507ATL	MS30HXTL
5 1/2			508ATL	
5 11/16			511ATL	
5 3/4	150	150MMATL	512ATL	MS31HRTL
5 15/16	155	155MMATL	515ATL	MS31HXTL
6			600ATL	
6 7/16			607ATL	
6 1/2	160	160MMATL	608ATL	MS32HRTL
6 11/16	170	170MMATL	611ATL	MS32HXTL
6 3/4			612ATL	
6 15/16	175	175MMATL	615ATL	MS33HRTL
7	180	180MMATL	700ATL	MS33HXTL
7 1/4			704ATL	
7 1/2	190	190MMATL	708ATL	MS34HRTL
7 15/16	200	200MMATL	715ATL	MS34HXTL
8			800ATL	
8 1/2	220	220MMATL	808ATL	MS35HRTL
8 7/8	230	230MMATL	814ATL	MS35HXTL
9			900ATL	
9 1/2	240	240MMATL	908ATL	MS36HRTL
9 3/4	260	260MMATL	912ATL	MS36HXTL
10			1000ATL	
10 1/2	270	270MMATL	1008ATL	MS37HRTL
10 3/4	280	280MMATL	1012ATL	MS37HXTL
11			1100ATL	
11 1/2	300	300MMATL	1108ATL	MS38HRTL
12	305	305MMATL	1200ATL	MS38HXTL

Series 3

Shaft (d)		Triple Labyrinth Seal Reference		Housing Reference
inch	mm	mm	inch	Retained Expansion
3 11/16			311ATL	
3 3/4	100	100MMATL	312ATL	HS6HRTL
3 15/16	105	105MMATL	315ATL	HS6HXTL
4			400ATL	
4 3/16	110	110MMATL	403ATL	
4 1/4	115	115MMATL	404ATL	HS7HRTL
4 7/16	120	120MMATL	407ATL	HS7HXTL
4 1/2			408ATL	
4 11/16			411ATL	
4 3/4	125	125MMATL	412ATL	HS8HRTL
4 15/16	130	130MMATL	415ATL	HS8HXTL
5			500ATL	
5 3/16			503ATL	
5 1/4	135	135MMATL	504ATL	HS9HRTL
5 7/16	140	140MMATL	507ATL	HS9HXTL
5 1/2			508ATL	
5 11/16			511ATL	
5 3/4	150	150MMATL	512ATL	HS10HRTL
5 15/16	155	155MMATL	515ATL	HS10HXTL
6			600ATL	
6 7/16			607ATL	
6 1/2	160	160MMATL	608ATL	HS11HRTL
6 11/16	170	170MMATL	611ATL	HS11HXTL
6 3/4			612ATL	
6 15/16	175	175MMATL	615ATL	HS12HRTL
7	180	180MMATL	700ATL	HS12HXTL
7 1/4			704ATL	
7 1/2	190	190MMATL	708ATL	HS13HRTL
7 15/16	200	200MMATL	715ATL	HS13HXTL
8			800ATL	
8 1/2	220	220MMATL	808ATL	HS14HRTL
8 7/8	230	230MMATL	814ATL	HS14HXTL
9			900ATL	
9 1/2	240	240MMATL	908ATL	HS15HRTL
9 3/4	260	260MMATL	912ATL	HS15HXTL
10			1000ATL	
10 1/2	270	270MMATL	1008ATL	HS16HRTL
10 3/4	280	280MMATL	1012ATL	HS16HXTL
11			1100ATL	
11 1/2	300	300MMATL	1108ATL	HS17HRTL
12	305	305MMATL	1200ATL	HS17HXTL

The most popular sealing solution for split roller bearings after the standard felt seal is the Triple Labyrinth. This none contacting seal offers resistance to contaminant ingress at speeds greater than can be accommodated by other seal types (see page 25).

Specialized Bearings

Over the past 10 years, SRB has built a reputation throughout the world for the manufacture of highly specialized bearing units. From thin section, high speed bearings for wire stranding machines to robust, dependable water cooled units for continuous casting, SRB has the capability to provide products at least equal to, and usually far in excess of, the performance of bearings of other manufacture.

The cornerstone of this growing reputation is SRB's willingness to work closely with equipment manufacturers and end users to solve specific application problems. This has led to the development of a number of innovative designs, some of which have now been incorporated into the SRB product range.

With a grinding capacity in excess of 4.6ft and turning capacity greater than 6ft, SRB has ability to produce bearings substantially larger than those listed in the main body of this or other catalogs. With a number of bearings of bore sizes in excess of 27inches in service, SRB have repeatedly demonstrated their ability in this sector.

Continuous casting plants found throughout the steel industry provides one of the most challenging operating environments for any bearing system. SRB, by working in conjunction with a number of OEMs and end-users have established a growing reputation in this field. SRB has introduced a number of design innovations whilst

maintaining the envelope, layout and fitting conditions stipulated by current applications. As a result, a bearing operation life in excess of one million tons of cast steel is not uncommon.

Manufacture of SRB's highly specialized bearing units.

Replacement SRB Split Bearing keeps the Roof on at Ibstock Brick

SRB's recently launched range of interchangeable Split Plummer Block mounted bearings has emphatically proved the value of the new designs by ensuring that one of the two central brick production lines at Ibstock Brick was kept in operation cost effectively. Using the split design as a direct replacement for a failed conventional interference fit SAF housed bearing, SRB demonstrated a huge saving in terms of time and cost of replacement.

Engineers took just three hours to complete the replacement whereas the alternative of replacing the original like-for-like would have taken 3–4 working days and required a crane to remove part of the factory roof. In all, the cost would have been approaching $20,000.00 and required far more logistical planning. As it was, the repair work took just three

hours and cost a little over $3,500.00 fitted, including a James Walker split seal to help prevent liquid contaminants entering the bearing enclosure and causing future failures.

The failed bearing supported one of the main power transmission shafts in one of the two central brick production lines at Ibstock. Until recently, there were only two choices open to maintenance engineers faced with this situation; the first would be to fit another standard bearing and the second to adapt the mounting and shaft positions to accommodate a traditional split roller bearing.

The first option would have required the complete dismantling of a large part of the plant with all the incumbent costs. To fit the second option – a traditional split roller bearing, would also have required a significant amount of work to alter or replace the main support beam in order to accommodate the larger housing dimensions normally associated with a split bearing design. The new 'compact' SRB split plummer block bearing however, is the first split cylindrical roller bearing assembly to be dimensionally interchangeable with standard SAF series plummer blocks and therefore could be installed without the major drawbacks associated with the other two options.

Simple inspection is another key advantage of the SRB design. With a solid bearing, specialized vibration analysis maybe required to detect bearing wear. Many are replaced routinely rather than risk downtime due to failure; the top sections of an SRB unit, however, can be simply unbolted and lifted off to provide a rapid visual inspection. Again, this feature can save time and reduce the risk of unplanned or pressurized downtime.

SRB bearings can also compensate for a higher degree of shaft misalignment. Self-aligning ball and spherical roller bearings allow misalignment of the shaft relative to the seal, which results in inefficient sealing performance. The SRB bearing is enclosed by a housing that can swivel within the cast iron support allowing the bearing and seals to remain concentric to the shaft. This feature prevents the characteristic shaft wear and seal damage caused by standard bearings compensating for misalignment within the bearing.

SAF Bearings

The New compact Split Plummer Block Bearing from SRB is the first split cylindrical roller bearing assembly to be interchangeable with standard SAF series plummer blocks, bringing the benefits of a split design to a much wider audience.

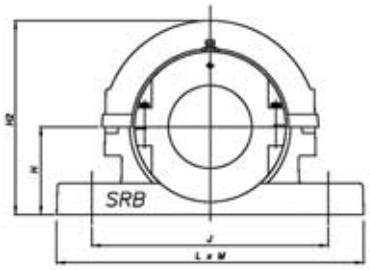
Split roller bearings offer dramatically reduced downtime in maintenance and replacement situations, but could not previously be used in many bearing applications because of their dimensional incompatibility with standard plummer block sizes.

Cast iron plummer blocks accommodating adaptor sleeve mounted spherical roller bearings are amongst the most common types in use, 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 6 hours to several days, in contrast, it can take as little as 1–2 hours to replace an SRB bearing unit.

Key benefits of the Split Plummer Block are:

- SRB SAFR Series supports dimensionally interchangeable with the SAF range of plummer blocks.
- Significant reductions in the time required to change trapped bearings.
- 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.

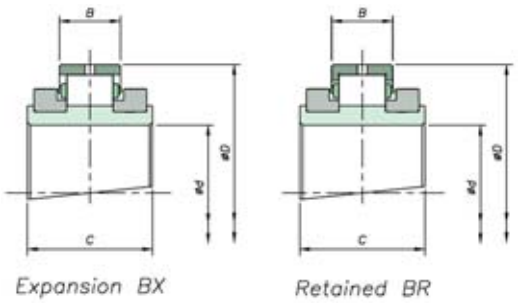
SAFR 2 Bolt Pedestal/SAFR 4 Bolt Pedestal

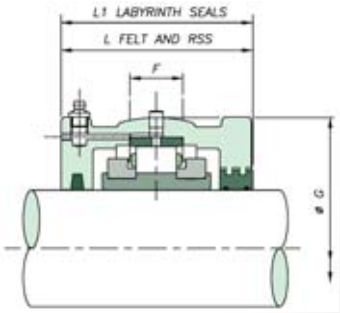


SAFR 2 Bolt Pedestal / SAFR 4 Bolt Pedestal

Shaft (d) mm	Complete Assembly	Addional Bearing Sizes	H	J	S	Bolt Size	B	L	M	H²
1 15/16"	LSE115HSSAFR511AT	1 11/16", 1 3/4", 2" 45mm, 50mm	2 3/4"	7 5/8"	-	2 x 5/8"	3 13/16"	9 5/8"	2 3/4"	6 1/8"
2 3/16"	LSE203HSSAFR513AT	2 1/4", 2 7/16", 2 1/2", 60mm, 65mm	3"	9 13/16"	-	2 x 5/8"	4 1/16"	11"	3 1/8"	7"
2 7/16"	LSE207HSSAFR515AT	2 3/16", 2 1/4", 2 1/2", 60mm, 65mm	3 1/4"	9 1/8"	-	2 x 5/8"	4 1/16"	11 1/4"	3 1/8"	7 1/4"
2 11/16"	LSE211HSSAFR516AT	2 3/4", 2 15/16", 3", 70mm, 75mm	3 1/2"	10 5/16"	-	2 x 3/4"	4 1/2"	13"	3 1/2"	8"
2 15/16"	LSE215HSSAFR517AT	2 11/16", 2 3/4", 3", 70mm, 75mm	3 3/4"	10 7/16"	-	2 x 3/4"	4 1/2"	13"	3 1/2"	8 1/4"
2 15/16"	MSE215HSSAFR517AT	2 11/16", 2 3/4", 3", 70mm, 75mm	3 3/4"	10 7/16"	2 1/8"	4 x 5/8"	5 1/2"	13"	3 1/2"	8 1/2"
3 3/16"	LSE303HSSAFR518AT	3 1/4", 3 7/16", 3 1/2", 80mm, 85mm,90mm	4"	11"	-	2 x 3/4"	5 5/16"	13 3/8"	3 7/8"	9 1/2"
3 7/16"	LSE307HSSAFR520AT	3 3/16", 3 1/4", 3 1/2", 80mm, 85mm,90mm	4 1/2"	12 3/8"	-	2 x 7/8"	5 5/16"	15 1/4"	4 3/8"	10"
3 7/16"	MSE307HSSAFR520AT	3 3/16", 3 1/4", 3 1/2", 80mm, 85mm,90mm	4 1/2"	12 3/8"	2 3/8"	4 x 3/4"	6 1/16"	15 1/4"	4 3/8"	10 1/4"
3 15/16"	MSE315HSSAFR522AT	3 11/16", 3 3/4", 3 1/2", 100mm, 105mm	4 15/16"	13 9/16"	2 3/4"	4 x 3/4"	5 3/4"	16 1/2"	4 3/4"	11 5/8"
4 7/16"	MSE407HSSAFR526AT	4 3/16", 4 1/2", 110mm, 115mm	6"	15 5/16"	3 1/4"	4 x 3/4"	6 3/8"	18 3/8"	5 1/8"	14 1/4"

Bearings & Housings





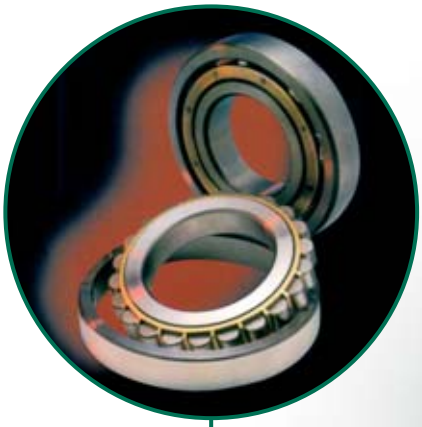
Shaft (d)		Reference		Bearings Ratings						
inch	mm	Add BR for retained Add BX for expansion e.g. LSM35BR		Dynamic C_r (kN/lb)	Static C_{or} (kN/lb)	Axial C_a (kN/lb)	Max RPM	D	B	C
$1^{11}/_{16}$ $1^{3}/_{4}$ $1^{15}/_{16}$ 2	45 50	LSM45 LSM50	LSE111 LSE112 LSE115 LSE200	83 18659	87 19558	3.60 809.30	4630	98.42 3.875	25.40 1.000	60.00 2.362
$2^{3}/_{16}$ $2^{1}/_{4}$ $2^{7}/_{16}$ $2^{1}/_{2}$	55 60 65	LSM55 LSM60 LSM65	LSE203 LSE204 LSE207 LSE208	103 23155	115 25853	5.40 1213.95	3940	114.30 4.500	27.00 1.063	60.00 2.362
$2^{3}/_{16}$ $2^{1}/_{4}$ $2^{7}/_{16}$ $2^{1}/_{2}$	55 60 65	LSM55 LSM60 LSM65	LSE203 LSE204 LSE207 LSE208	103 23155	115 25853	5.40 1213.95	3940	114.30 4.500	27.00 1.063	60.00 2.362
$2^{11}/_{16}$ $2^{3}/_{4}$ $2^{15}/_{16}$ 3	70 75	LSM70 LSM75	LSE211 LSE212 LSE215 LSE300	138 31024	161 36194	7.60 1708.53	3310	133.35 5.250	31.80 1.252	65.00 2.559
$2^{11}/_{16}$ $2^{3}/_{4}$ $2^{15}/_{16}$ 3	70 75	LSM70 LSM75	LSE211 LSE212 LSE215 LSE300	138 31024	161 36194	7.60 1708.53	3310	133.35 5.250	31.80 1.252	65.00 2.559
$2^{11}/_{16}$ $2^{3}/_{4}$ $2^{15}/_{16}$ 3	70 75	MSM70 MSM75	MSE211 MSE212 MSE215 MSE300	258 58001	300 67443	10.60 2383	3080	149.22 5.875	46.10 1.815	82.60 3.252
$3^{3}/_{16}$ $3^{1}/_{4}$ $3^{7}/_{16}$ $3^{1}/_{2}$	80 85 90	LSM80 LSM85 LSM90	LSE303 LSE304 LSE307 LSE308	187 42039	231 51931	12.40 2787.59	2790	152.4 6.000	38.90 1.531	75.00 2.953
$3^{3}/_{16}$ $3^{1}/_{4}$ $3^{7}/_{16}$ $3^{1}/_{2}$	80 85 90	LSM80 LSM85 LSM90	LSE303 LSE304 LSE307 LSE308	187 42039	231 51931	12.40 2787.59	2790	152.4 6.000	38.90 1.531	75.00 2.953
$3^{3}/_{16}$ $3^{1}/_{4}$ $3^{7}/_{16}$ $3^{1}/_{2}$	80 85 90	MSM80 MSM85 MSM90	MSE303 MSE304 MSE307 MSE308	297 66768	353 79358	17.80 4002	2520	169.86 6.687	48.40 1.906	89.70 3.531
$3^{11}/_{16}$ $3^{3}/_{4}$ $3^{15}/_{16}$ 4	100 105	MSM100 MSM105	MSE311 MSE312 MSE315 MSE400	388 87226	491 110381	25.00 5620	2130	193.68 7.625	51.60 2.031	92.10 3.626
$4^{3}/_{16}$ $4^{1}/_{4}$ $4^{7}/_{16}$ $4^{1}/_{2}$	110 115	MSM110 MSM115	MSE403 MSE404 MSE407 MSE408	454 102063	592 133087	31.20 7014	1820	228.60 9.000	57.20 2.252	100.00 3.937

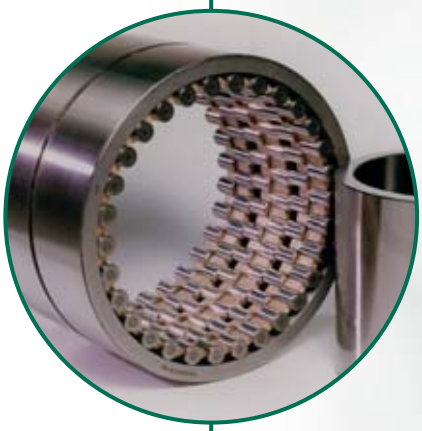
Housing Reference					
Housing Retained	Reference Expansion	G	F	L	L_1
LS2HR	LS2HX	117.48 4.625	25 1.0	96 3.8	98 3.9
LS3HR	LS3HX	134.94 5.313	32 1.3	102 4.0	104 4.1
LS3HR	LS3HX	134.94 5.313	32 1.3	102 4.0	104 4.1
LS4HR	LS4HX	157.16 6.187	38 1.5	112 4.4	114 4.5
LS4HR	LS4HX	157.16 6.187	38 1.5	112 4.4	114 4.5
MS5HR	MS5HX	177.80 7.000	50 2.0	138 5.4	140 5.5
LS5HR	LS5HX	177.80 7.000	50 2.0	134 5.3	136 5.4
LS5HR	LS5HX	177.80 7.000	50 2.0	134 5.3	136 5.4
MS6HR	MS6HX	203.20 8.000	50 2.0	152 6.0	154 6.1
MS7HR	MS7HX	231.78 9.125	64 2.5	144 5.7	146 5.7
MS8HR	MS8HX	266.70 10.500	76 3.0	160 6.3	162 6.4

Notes

RPP
Revolvo Precision Products

Leading Specialist
Bearing Manufacturer





RPP is a sister division to SRB and manufacture specialist bearings for all industries.

Bearing Types

Cylindrical Roller Bearings (Single and Multi Track)
Deep Groove Ball Bearings (Single and Multi Track)
Angular Contact Bearings (Single and Multi Track)
Four Point Duplex Bearings
Thrust Bearings (Ball and Roller)

Production Capabilities

Diameter Range - 0.6inch bore to 60inch OD

Material Types

Races	Carbon Chrome Steel - AISI 52100, AMS6444 Stainless Steel - AISI 440C Tool Steel - AISI M50, BG42 Case Hardening Steels
Cages	Brass Bronze Steel Aluminium P.E.E.K.
Rolling Elements	Carbon Chrome - AISI 52100 Stainless Steel - AISI 440C Tool Steel - AISI M50 Silicon Nitride

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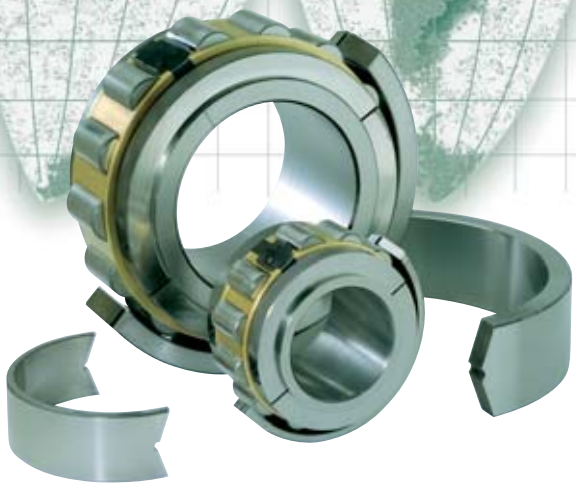
The SRB product range and all support services are available through a selected worldwide network of Authorized Distributors.

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



Revolvo is committed to providing a service that contributes to the optimization of your plant efficiency by providing specialized bearing solutions in both SRB split bearing and RPP solid rolling element bearings.

Our approach of working closely with customers allows us to continuously refine and improve our products, production processes and service procedures.

Making the world go round

Authorized Distributors Stamp

REVOLVO

SRB
Split Roller Bearings

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