Innovation in Motion

Spare parts for Housing Slide Bearings

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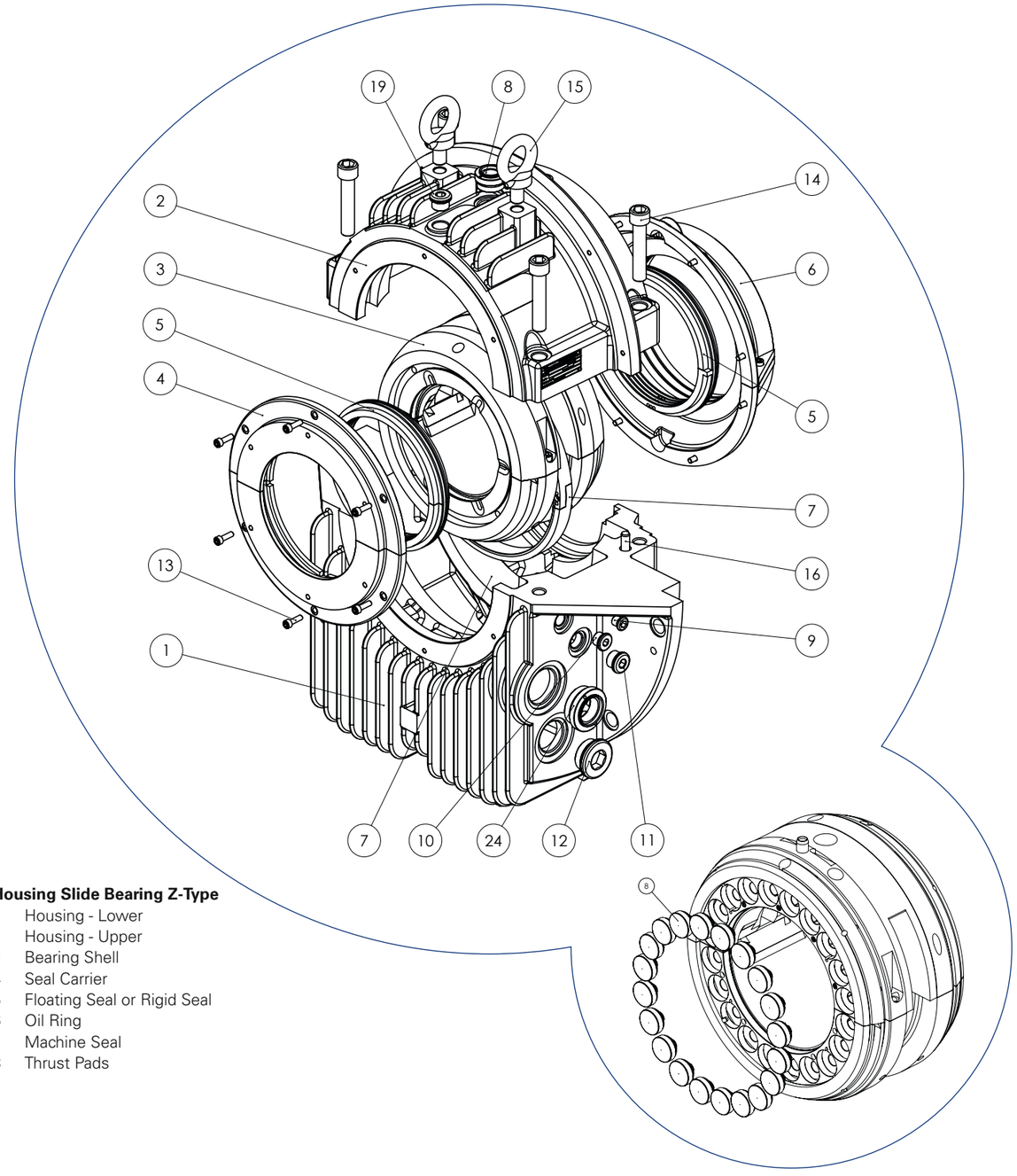
Miba Industrial Bearings
The Industrial Bearing Branch of the Miba Bearing Group produces hydrodynamic bearings and labyrinth seals for use in mechanical and plant engineering
which are used in a wide range of high-performance applications.
Our highly inspired teams, work diligently to serve our customers the best bearing solutions for each and every application.



Housing Slide Bearing Z-Type

1 Housing - Lower
2 Housing - Upper
3 Bearing Shell
4 Seal Carrier
5 Floating Seal or Rigid Seal
6 Oil Ring
7 Machine Seal
8 Thrust Pads

Seal carrier, floating seal and rigid seal (IP44)

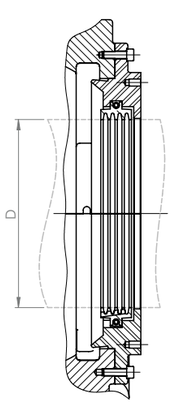
The seals are selected based on the different operational conditions and the requested protection level. The standard arrangement is the floating labyrinth seal (IP 44) made of high heat resistant, fiber-reinforced synthetic material. Bearings for high oil throughput are equipped with adjustable rigid seals (IP 44) made of aluminium alloy. Both types of seals can be equipped with bolt-on baffles (IP 55) or dust flingers (IP 54) if the bearing is operating in a dusty or a wet environment or if rotating parts (clutches, couplings, fans, etc.) are fitted close to the bearing. Special seals which offer a higher protection, or pressurized seals, etc. can be supplied for special applications. Details upon request. An end cover is used while the end of the shaft is inside the bearing.

1 // Housing size and shaft diameter

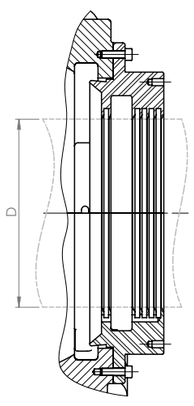
Size of housing	Shaft diameter on seal region (D)							
7	60	70	80	90				
9	80	90	100	110				
11	100	110	125	140				
14	125	140	160	180				
18	160	180	200	225				
22	200	225	250	280	300			
28	250	280	300	315	335*	355		
35	300	315	335*	355	375	400	425	450
45	375	400	425	450	475	500	530	560
56	475	500	530	560	600	630	670	710

*- Only rigid seal for Ø335.
Floating labyrinth seal is available up to Ø 355. For larger diameters, only rigid seal is available.

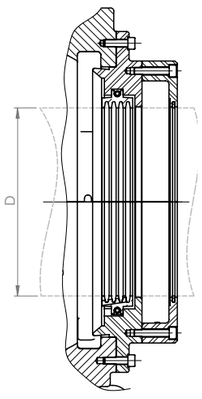
2 // Type of protection



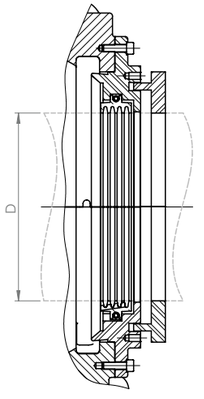
Floating labyrinth seal
(Protection IP 44)



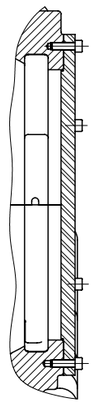
Rigid seal
(Protection IP 44)



Floating labyrinth seal
with bolt-on baffle
(Protection IP 55)



Floating labyrinth seal
with dust flinger
(Protection IP 54)



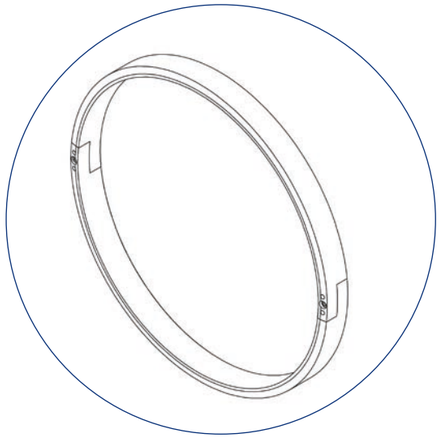
End cover

Oil ring

A fully self-contained lubrication is achieved by a loose oil ring. Alternatively, when bearings are lubricated by an external oil circulation system for cooling the oil, this loose oil ring assures that the oil reaches the proper bearing surfaces and also provides an emergency shutdown without any damage in case of an oil system failure (oil system should have a shutdown protection if oil flow is interrupted).

1 // Main dimensions of oil ring

Size of housing	Shaft diameter (D)								Internal diameter of oil ring		
7	60	65	70	75	80				120		
9	80	90	100						160		
11	100	110	125						190		
14	125	140	160	180					235	250	
18	160	180	200	225					286	306	
22	200	225	250	280	300				352	401	
28	250	280	300	315	335	355			424	450	500
35	300	315	335	355	375	400	425	450	564		
45	375	400	425	450	475	500	530	560	670		
56	475	500	530	560	600	630	670	710	770	825	

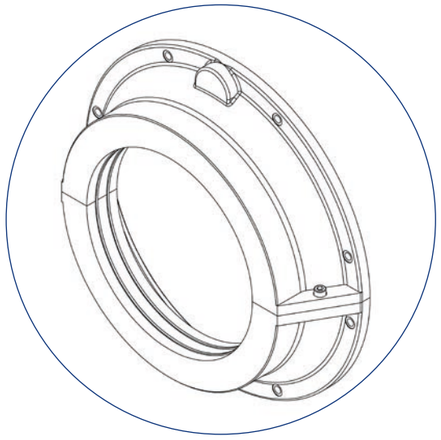


Machine seal

Bearings should be used with an additional machine seal to avoid any interference from inside the machine where negative or positive pressures occur near the internal floating seals. This machine seal is mounted on the inside of the machine housing, creating a chamber next to the bearing housing. This chamber is connected to the atmosphere for pressure equalization, which prevents oil leakage from the bearing into the machine enclosure.

1 // Housing size and shaft diameter

Size of housing	Shaft diameter on machine seal region						
7	90	100	110				
9	110	120	130				
11	135	150	160				
14	170	190	200	220			
18	215	240	250	275			
22	265	290	315	345			
28	325	355	375	390	395		
35	300	315	335	375	400	425	450
45	375	400	425	450	500	530	560



2 // Type of housing

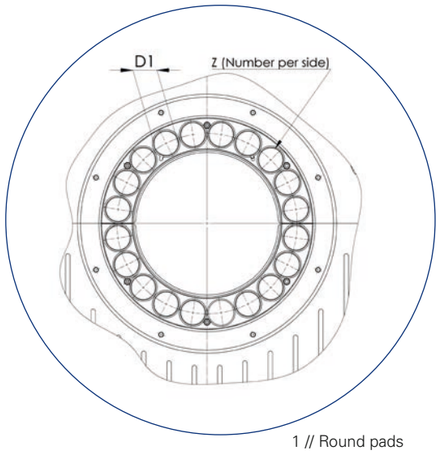
		Machine seal
Centre flange mounted bearing, finned	M	Split
End flange mounted bearing, finned	F	Split, Non-Split

Thrust pads

Thrust pad bearings with round segments are used in many areas of mechanical engineering. Their use ranges from highly stressed water turbines to ship generators and gearboxes of all types, up to high-speed fans or compressors. Due to their central support, they are independent of the direction of rotation. The round wings are used for the development of the hydro-optimal use of dynamic pressure and are therefore highly resilient. In addition to their elastic and tiltable support, they are better feasible to adapt to shaft misalignments and thus better compensate asymmetries in the pressure distribution of individual pads. Furthermore, round pads are characterized by a better starting and stopping behavior compared to fixed wedge surface bearings.

1 // Round pads

Size of housing	Diameter of pads (D1)			Quantity of pads (Z) per side			
9	16	20		14	16	20	
11	16	20		16	18	22	
14	20	25		18	20	24	
18	25	31,5		18	20	24	
22	25	31,5	40	18	20	24	32
28	31,5	40	50	18	20	24	30
35	50	63		16	18	20	24
45	63	80		16	18	20	26
56	80	100		16	18	22	

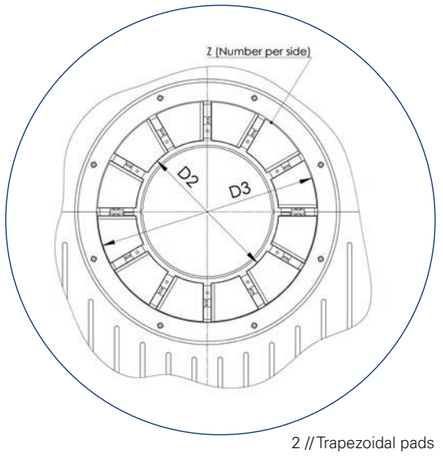


1 // Round pads

2 // Trapezoidal pads

Size of housing	Internal diameter (D2)	External diameter (D3)	Quantity of pads (Z) per side	Sense of rotation
7				
9				
11				
14				
18				
22				
28				
35				
45				
56				

Trapezoidal pads are a special design. If this is your case, please check dimensions above at site. Please use the bearing's serial number at the identification plate, fixed at bearing housing and any identification marked on the pad itself.



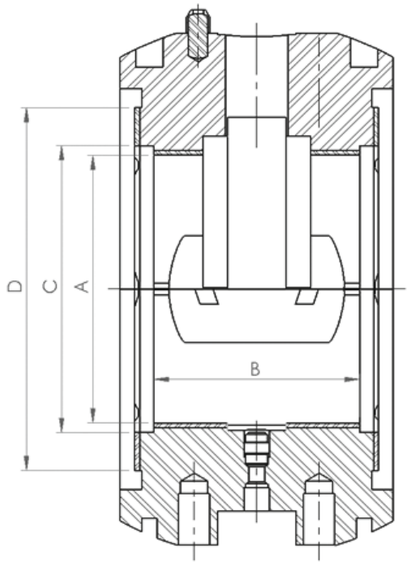
2 // Trapezoidal pads

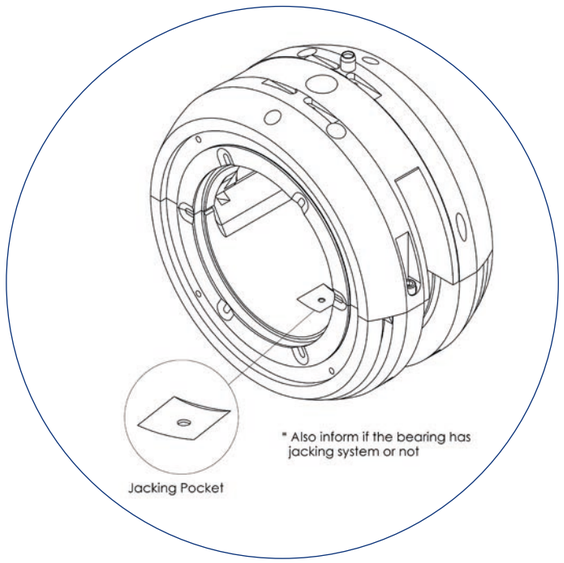
3 // Other details

Further information should be sent to Miba Industrial Bearings to analyse other important details like positions of holes to install RTD's, thermometer, probes etc.

Bearing shell

The shell is supplied in halves and spherically seated in the housing ensuring easy alignment during assembly. The material is low carbon steel lined with high tin based white metal. This construction allows easy assembly and long life cycle. Bearing shells with plain cylindrical bore and loose oil ring are used in most cases, but other shapes of bore are possible.





1 // Housing size and shaft diameter

Size of housing	Shaft diameter (A)								Effective width (B)			Internal diameter of thrust face (C)								External diameter of thrust face (D)							
7	60	65	70	75	80				50			66	70	76	80	86				86	85	96	95	106			
9	80	90	100						61,4	65		86	96	106						110	120	130					
11	100	110	125						81,4	85		108	118	133						135	150	160					
14	125	140	160	180					105,4	106,4		135	150	170	190					170	190	200	220				
18	160	180	200	225					135,7	140,4		172	192	212	237					215	240	250	275				
22	200	225	250	280	300				168,5	175,7		214	239	264	294	310				265	290	315	345	345			
28	250	280	300	315	335	355			213,2	218,5		266	296	316	331	351	371			325	355	375	390	410	430		
35	300	315	335	355	375	400	425	450	254	263,5		320	335	355	375	395	420	445		385	400	425	450	470	495	515	
45	375	400	425	450	475	500	530	560	318,8	329		400	425	450	475	500	525	555	585	480	505	530	555	580	605	635	665
56	475	500	530	560	600	630	670	710	409	418,8	429	505	530	560	590	630	660			590	615	645	675	715	745		

2 // Shape of bore and type of lubrication

C	Plain cylindrical bore without oil ring
L	Plain cylindrical bore with loose oil ring
F	Plain cylindrical bore with oil disk
Y	Two-lobe bore without oil ring
V	Four-lobe bore without oil ring
K	Journal tilting pads without oil ring

3 // Geometry of thrust bearing

Q	Without thrust capability
B	Plain white metal lined shoulders with oil groves
K	Tapered land thrust faces for both sense of rotation
D	Tapered land thrust faces for one sense of rotation
A	Round tilting thrust pads, cup spring supported

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