



**SEALMASTER**<sup>®</sup>  
PERFORMANCE MOUNTED SPHERICALS

## *Unitized Spherical Roller Bearings*



  
**EMERSON**<sup>™</sup>  
Industrial Automation

# ***Another bearing breakthrough from the name you trust***

For more than 70 years, the Sealmaster name has meant the very best in bearing quality, reliability and performance. Over those years we have brought an array of cutting-edge technical improvements and platform advancements to applications around the world. Since 1976, Sealmaster® Roller Pillow Block (RPB) tapered roller bearings have set the standard for performance in some of the toughest job sites.

Now Emerson Power Transmission is continuing our tradition of innovation, with the most advanced roller bearing available anywhere: the Sealmaster Mounted Spherical Roller Bearing. This new series builds on the rich heritage of past Sealmaster bearings and brings you design enhancements of an entirely new level.

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The Sealmaster Mounted Spherical Roller Bearing is available in two distinct locking systems: set-screw-lock bore sizes from 5 <sup>7</sup>/<sub>16</sub>" to 7"; and adapter lock with bore sizes from 5 <sup>7</sup>/<sub>16</sub>" to 8". Its race-mounted seals accommodate +/-2° misalignment, for optimum performance. Plus, for easy installation and maintenance, the new bearing series offers a simplistic design available shaft ready from the factory, with

replaceable cartridge inserts that mount up to six times more quickly than competitive versions. Just as important, the new Emerson Power Transmission Sealmaster performance mounted roller bearing brings you the time-tested reliability of the Sealmaster brand, a unique advantage that helps maximize uptime and minimize overall operating costs.



## ***Advanced design, optimal performance***

The Sealmaster performance mounted roller bearing is an advanced spherical roller bearing design that combines traditional Sealmaster features and built-in benefits with even more performance and value. The pillow blocks contain high-capacity double-row spherical roller bearings designed to carry high radial and combination loads.

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Our engineers have developed and manufactured new geometries that let us create an innovative double-row spherical roller bearing for load capacity, misalignment and speed capabilities.

The new bearing series has a basic dynamic rating (BDR) higher than competing brands utilizing a similar cartridge design. Among the key design features of the Sealmaster performance mounted roller bearing are two reliable locking systems.



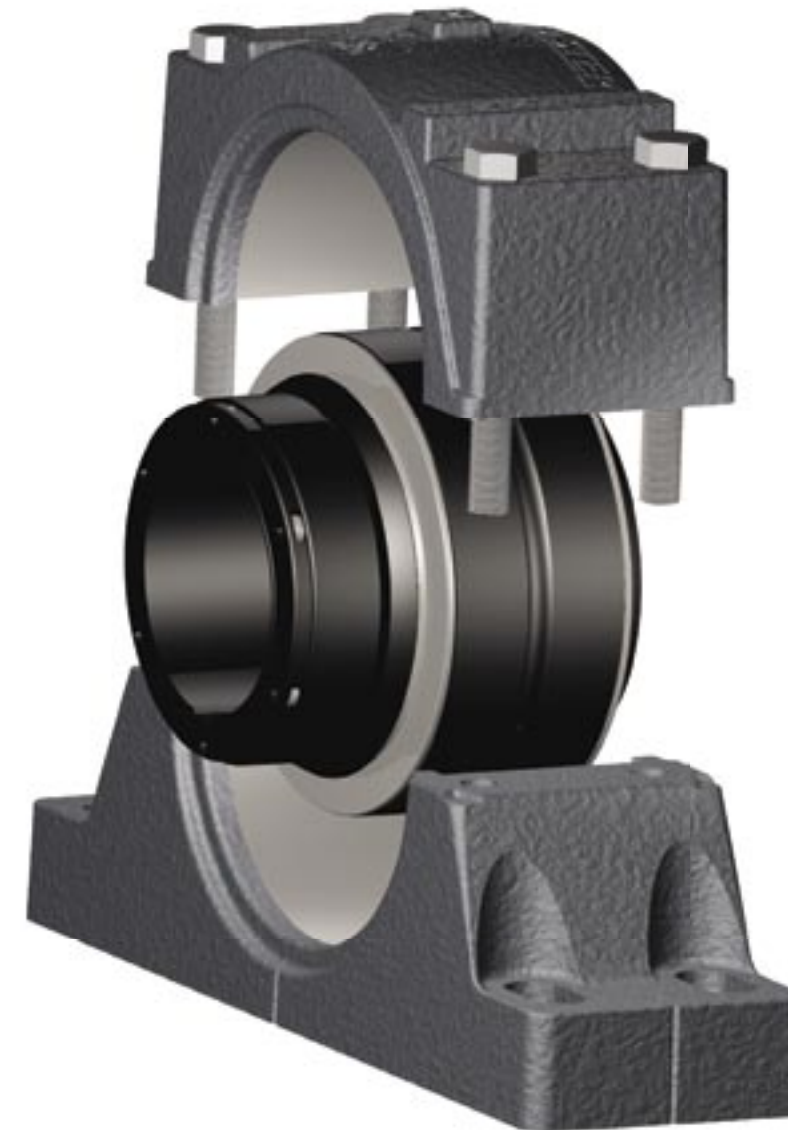
### **Sealmaster Mounted Spherical Roller Bearing**

**Set Screw Lock** – Sealmaster performance mounted roller bearing pillow blocks are anchored to the shaft with two concentric locking collars and set screws at 120°, providing a balanced three-point contact and extra holding power.



### **Sealmaster® Mounted Spherical Roller Bearing**

**Adapter Lock** – The Sealmaster performance mounted roller bearings grip the shaft with an advanced adapter-lock system, for fast installation and removal. Our advanced integral locking system incorporates axial cap screws that let you mount and dismount the bearing from one side. The result: This highly engineered locking system requires less force and installs up to six times more quickly than competitive bearings. Sealmaster Mounted Spherical Roller Bearings are also shaft ready and require only a hex key and torque wrench to install; no special tools or feeler gauges are required.







## ***Keep your business moving.***

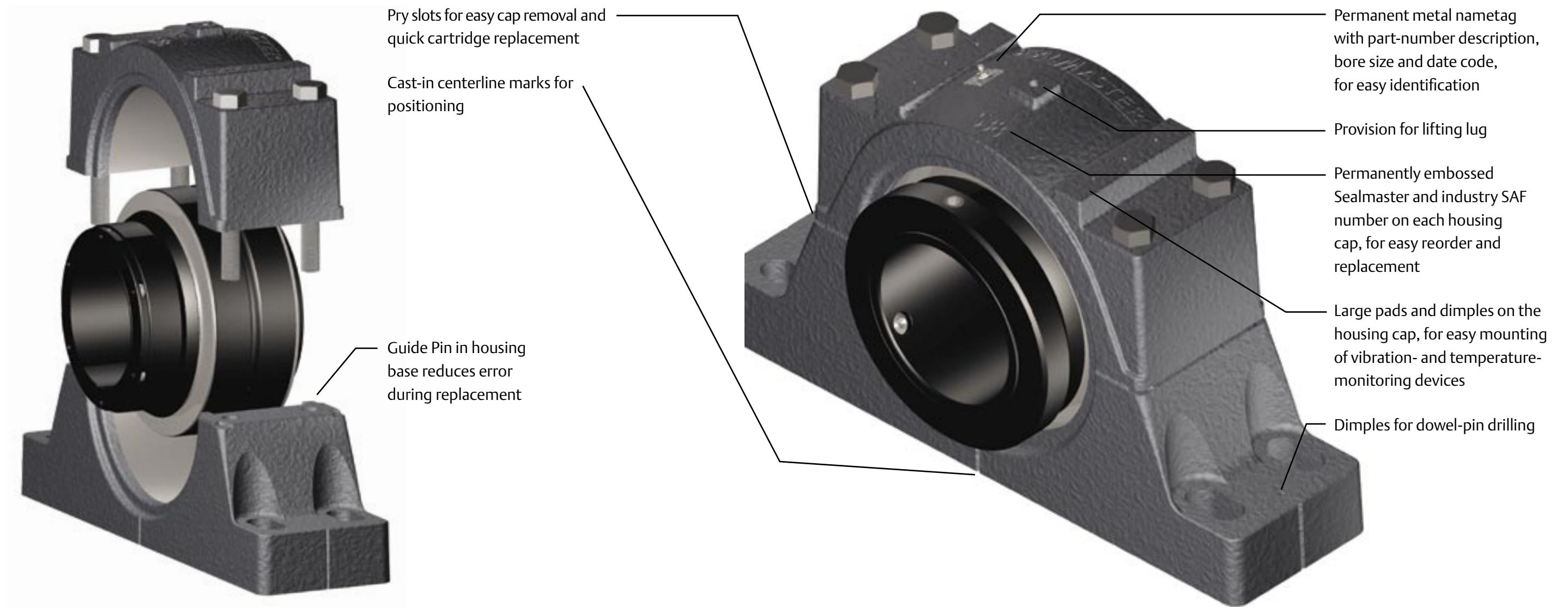
The new Sealmaster performance mounted spherical roller bearing blends traditional Sealmaster features with innovative technology, for exceptional performance. This combination dramatically cuts the potential for downtime and provides the kind of interchangeability, lower operating costs and reliability you need to keep your equipment – and your business – running 24/7.





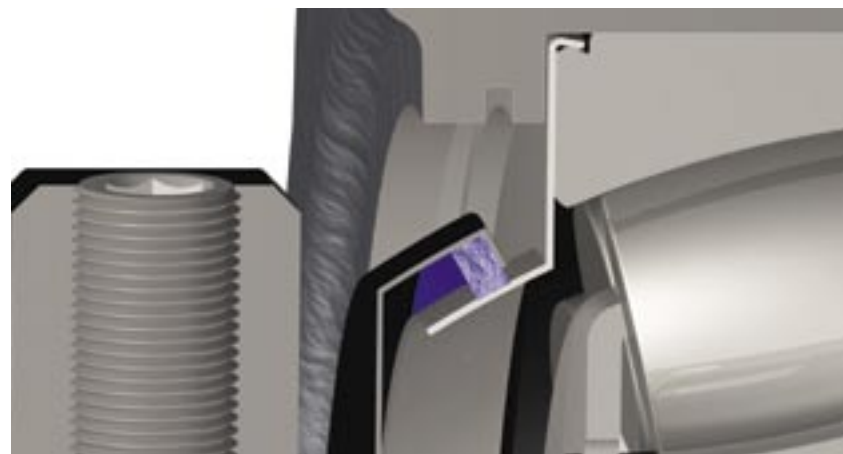
# Housing

A durable, split cast-iron housing lets you quickly and conveniently replace bearings whenever changeout is required. The one-piece replacement cartridge requires just minutes to install, and the housing's guide-pin feature reduces the possibility of error during replacement. Along with these benefits come several crucial features.

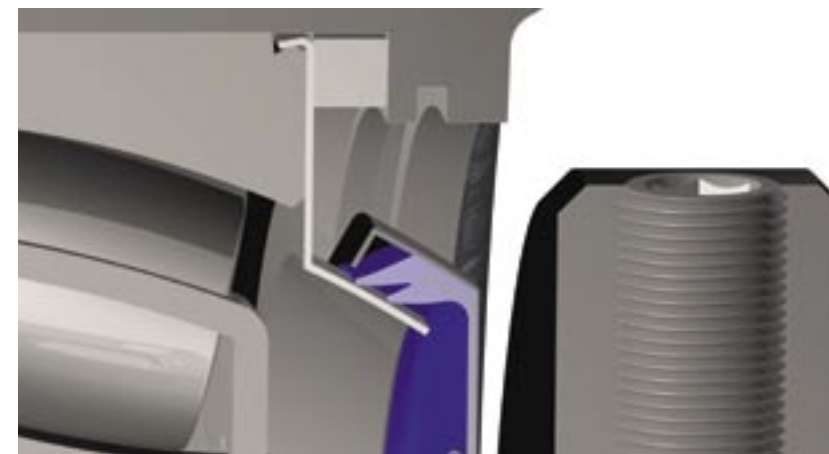


# Seals

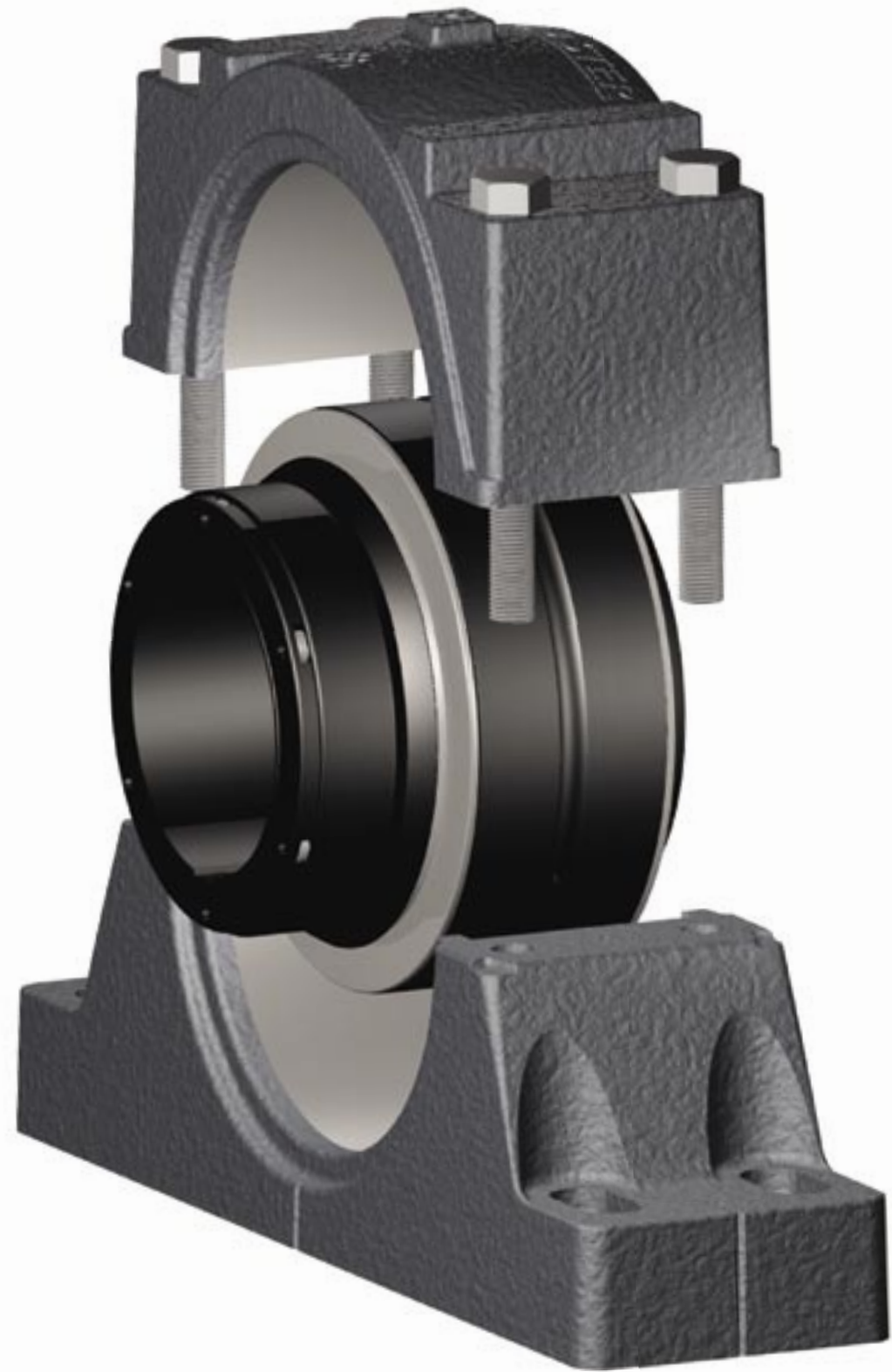
The seals are attached to the races and move with the cartridge when the bearing is subject to static or dynamic misalignment or during axial expansion. This feature reduces stress on the seals and controls seal component positioning, providing superior sealing capability, compared to SAF products and other competitive designs with standard housing-mounted stationary seals. The seal stampings are black oxide coated for corrosion resistance.



**Felt seal (U.S. patent #5002406)** – The Sealmaster patented felt-lined rotating flinger seal, mounted between races, allows up to  $\pm 2^\circ$  of static and dynamic misalignment. The outer member rotates with the inner race, to help direct contamination away from the seal. Due to the unique spherical geometric design of the seal contact areas, sealing effectiveness is maintained throughout the entire specified range of static or dynamic misalignment. Meanwhile, the inner member, affixed to the outer race, retains lubricant inside the bearing. The patented felt design provides a tight labyrinth seal, which retains grease, acts as a filter to help exclude foreign material and has low friction.

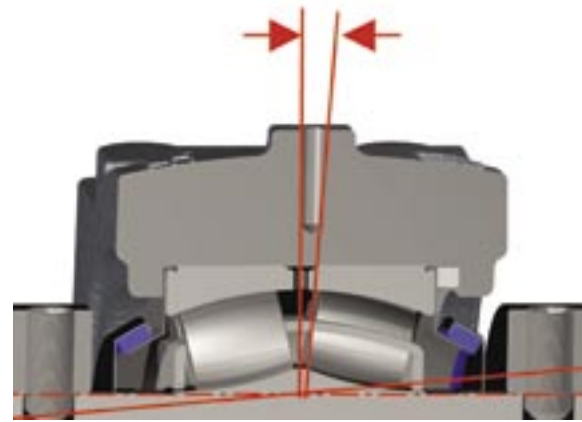


**Contact seal (patent pending)** – The Sealmaster double-lip contact seal, mounted between races, also allows up to  $\pm 2^\circ$  of static and dynamic misalignment. The outer member rotates with the inner race, to help direct contamination away from the seal. Due to the unique spherical geometric design of the seal contact areas, sealing effectiveness is maintained throughout the entire specified range of static or dynamic misalignment. This seal operates with a low drag, making it a smart choice for dry, dusty or wet conditions. The rotating double-lip hinge seal design delivers unmatched limiting speed, compared to competitors' similarly configured lip contact-seal units.



## ***Replacement cartridge inserts***

The Sealmaster performance mounted roller bearings have a replaceable cartridge insert that consists of a double-row spherical roller bearing with patented race-mounted seals. These integrally sealed, one-piece cartridge inserts can also be used for mounting in cylindrical-bore housings for an even wider range of applications, including extruders, mill equipment and coating lines, where space is at a premium.



## ***Misalignment***

The arrangement of rolling elements and races in Sealmaster Mounted Spherical Roller Bearings compensates for  $\pm 2^\circ$  of misalignment – up to twice an SAF – while maintaining catalog load ratings and sealing effectiveness. The spherical bearing not only corrects for structure mounting irregularities and equipment settling, but also compensates for shaft deflections.



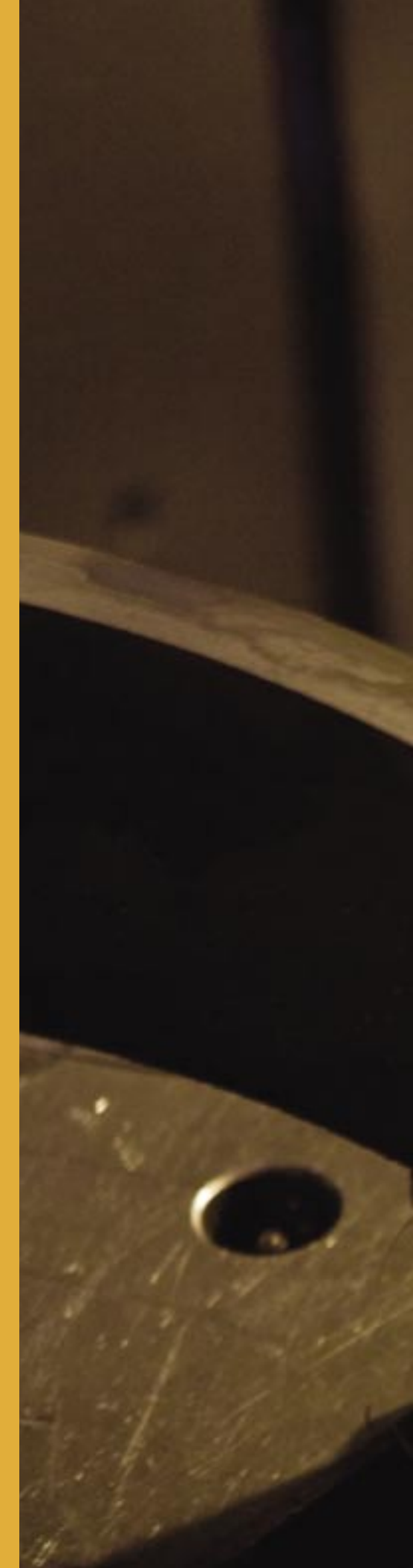
## ***Wide outer race***

The wide outer race, coupled with innovative rolling-element geometries, provides higher load capacity and more insert stability in the housing, as well as the ability to better absorb shock loads. More important, the wide outer race provides for better sealing and creates a large internal grease chamber, for more grease capacity. The outer races are black oxide coated for corrosion protection.

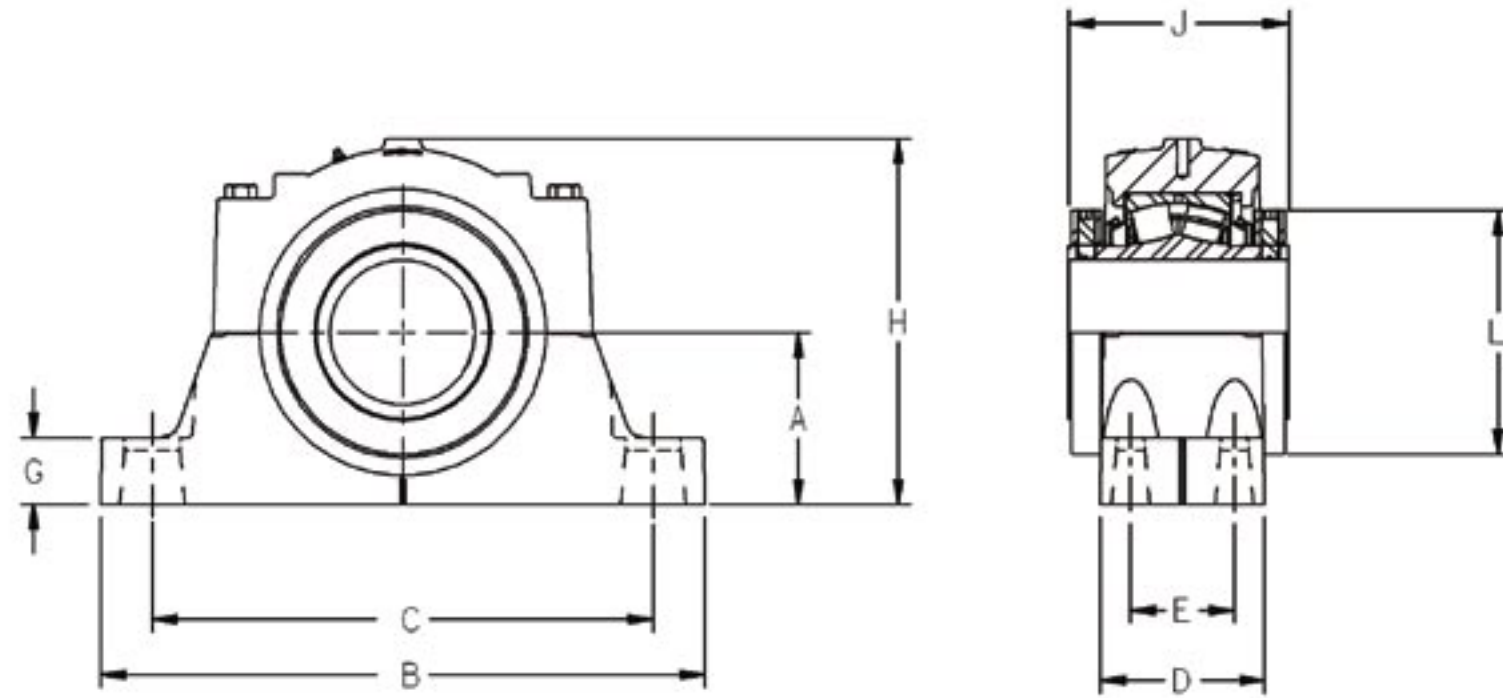


## ***Double-row spherical roller bearings***

The new Sealmaster pillow blocks contain high-capacity double-row spherical roller bearings designed to handle a combination of loads. New geometries developed and manufactured by Sealmaster engineers result in an innovative double-row spherical roller bearing with optimal load capacity, misalignment and speed capability.







**Pillow Block Dimensions: Set-Screw**

SHAFT DIAM. (INCHES)	STANDARD-SEAL PART NO.	CONTACT-SEAL PART NO.	DIMENSIONS (INCHES)										BASE BOLT SIZE (INCHES)	APPROX. WT. (LBS.)	MAX. SPEED (RPM)	BDR (LBS.)
			A	B	C		D	E	G	H	J	L				
5 7/16	USRB5532-507	USRB5532-507-C	6.688	22.00	Min. 17.38	Max. 19.25	6.25	3.75	2.63	13.53	9.02	8.50	1	229	1,500	194,807
5 15/16	USRB5534-515	USRB5534-515-C	7.063	24.75	19.38	21.63	6.75	4.25	2.75	14.96	9.78	10.00	1	311	1,300	258,514
6 7/16	USRB5536-607	USRB5536-607-C	7.500	26.75	20.88	23.63	7.13	4.63	3.00	15.95	10.50	11.00	1	390	1,200	320,998
6 1/2	USRB5536-608	USRB5536-608-C	7.500	26.75	20.88	23.63	7.13	4.63	3.00	15.95	10.50	11.00	1	390	1,200	320,998
6 15/16	USRB5538-615	USRB5538-615-C	7.875	28.00	21.63	24.38	7.50	4.50	3.13	16.56	10.50	11.00	1 1/4	435	1,200	320,998
7	USRB5538-700	USRB5538-700-C	7.875	28.00	21.63	24.38	7.50	4.50	3.13	16.56	10.50	11.00	1 1/4	435	1,200	320,998

**Set Screw Tightening Torque**

SHAFT SIZE (INCHES)	SET-SCREW DIAM (INCHES)	RECOMMENDED TORQUE	
		IN-LBS	FT-LBS
5 7/16 - 5 15/16	3/4	2,150	180
6 7/16 - 7	7/8	5,130	428

**Housing Cap Bolt Torque**

SHAFT SIZE (INCHES)	IN-LBS	FT-LBS
5 7/16 - 6 1/2	3,192	266
6 15/16 - 7"	7,200	600

**Recommended Set-Screw  
Shaft Tolerances**

SHAFT SIZE (INCHES)	TOLERANCE (INCHES)
5 7/16 - 5 15/16	+0.000 / -0.0015
6 7/16 and above	+0.000 / -0.002

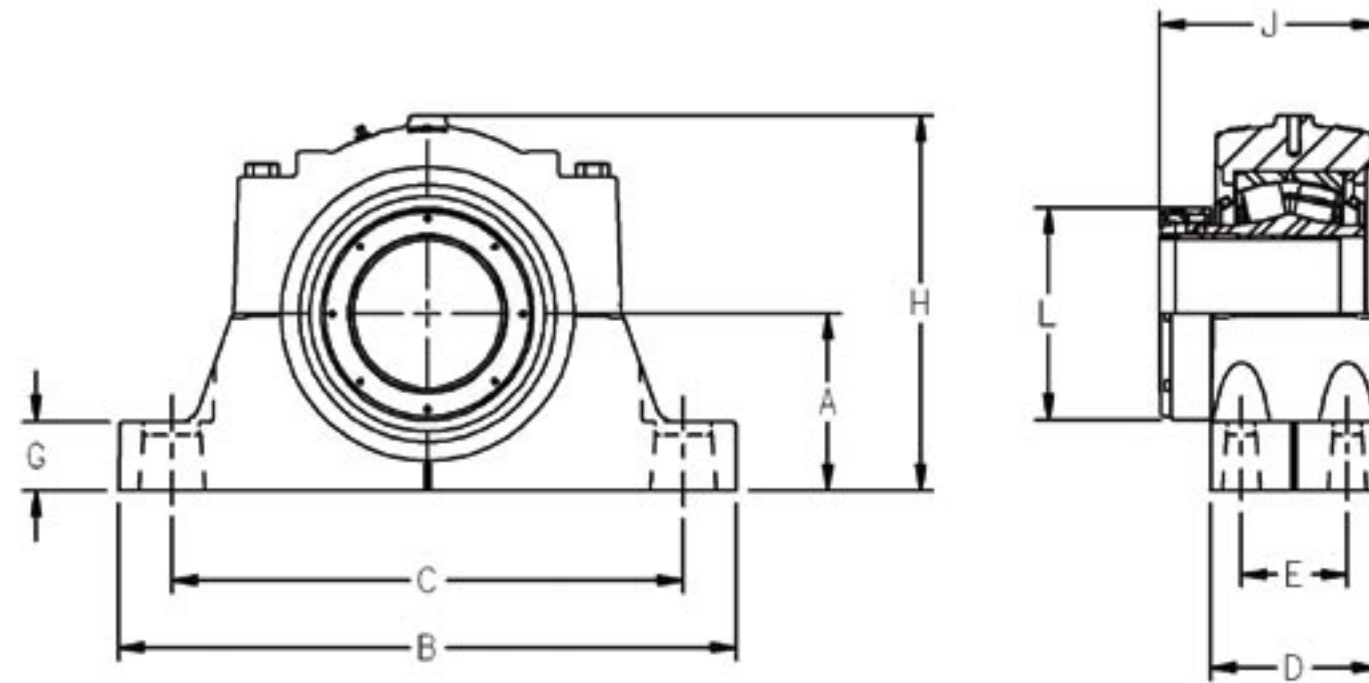
**Lifting Lug Thread Size**

SHAFT SIZE (INCHES)	THREAD SIZE
5 7/16 - 7	1/2 - 13 UNC

Expansion pillow block part descriptions are specified by adding "E"  
(e.g., USRB-5532E-507).

Total expansion capabilities = 3/8"

For axial load greater than c/30 contact application engineering at 219-465-2211.



**Pillow Block Dimensions: Adapter**

SHAFT DIAM. (INCHES)	STANDARD-SEAL PART NO.	CONTACT-SEAL PART NO.	DIMENSIONS (INCHES)										BASE BOLT SIZE (INCHES)	APPROX. WT. (LBS.)	MAX. SPEED (RPM)	BDR (LBS.)
			A	B	C		D	E	G	H	J	L				
5 7/16	USRB5532A-507	USRB5532A-507-C	6.688	22.00	Min. 17.38	Max. 19.25	6.25	3.75	2.63	13.53	8.27	7.73	1	215	1,500	194,807
5 15/16	USRB5534A-515	USRB5534A-515-C	7.063	24.75	19.38	21.63	6.75	4.25	2.75	14.96	9.10	8.50	1	290	1,300	258,514
6 7/16	USRB5536A-607	USRB556A-607-C	7.500	26.75	20.88	23.63	7.13	4.63	3.00	15.95	9.82	9.68	1	355	1,200	320,998
6 1/2	USRB5536A-608	USRB5536A-608-C	7.500	26.75	20.88	23.63	7.13	4.63	3.00	15.95	9.82	9.68	1	355	1,200	320,998
6 15/16	USRB5538A-615	USRB5538A-615-C	7.875	28.00	21.63	24.38	7.50	4.50	3.13	16.56	10.00	9.68	1 1/4	405	1,200	320,998
7	USRB5538A700	USRB5538A-700-C	7.875	28.00	21.63	24.38	7.50	4.50	3.13	16.56	10.00	9.68	1 1/4	405	1,200	320,998
7 1/2	USRB5544A-708	USRB5544A-708-C	9.500	32.75	24.75	27.88	8.75	5.25	3.75	19.63	11.38	11.11	1 1/2	655	1,100	362,335
7 15/16	USRB5544A-715	USRB5544A-715-C	9.500	32.75	24.75	27.88	8.75	5.25	3.75	19.63	11.38	11.11	1 1/2	655	1,100	362,335
8	USRB5544A-800	USRB5544A-800-C	9.500	32.75	24.75	27.88	8.75	5.25	3.75	19.63	11.38	11.11	1 1/2	655	1,100	362,335

**Cap Screw Tightening Torque**

SHAFT SIZE (INCHES)	# CAP-SCREWS	HEX SIZE (INCHES)	IN-LBS.
5 7/16	6	3/16	115
5 15/16	8	3/16	175
6 7/16 - 7	8	1/4	225
7 1/2 - 8	8	1/4	275

**Housing Cap Bolt Torque**

SHAFT SIZE (INCHES)	HOUSNG-CAP TIGHTENING TORQUE	
	IN-LBS.	FT-LBS.
5 7/16 - 6 1/2	3,192	266
6 15/16 - 8	7,200	600

**Lifting Lug Thread Size**

SHAFT SIZE (INCHES)	THREAD SIZE
5 7/16 - 7	1/2-13 UNC
7 1/2 - 8	3/4-10 UNC

**Recommended Adapter-Lock Shaft Tolerances**

SHAFT SIZE (INCHES)	TOLERANCE (INCHES)
5 7/16 - 5 15/16	+.000 / -.005
6 7/16 - 8	+.000 / -.006

Always used (1) fixed and (1) floating unitized spherical roller bearing.

Usage of (2) fixed bearings is not recommended and could lead to reduced performance of the bearing.

Expansion pillow block part descriptions are specified by adding "E"  
(e.g., USRB-5532AE-507).

Total expansion capabilities = 3/8"  
Max. thrust load for all sizes is C/30 lbs.



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**SEALMASTER**  
Mounted Ball Bearings



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### APPLICATION CONSIDERATIONS

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