

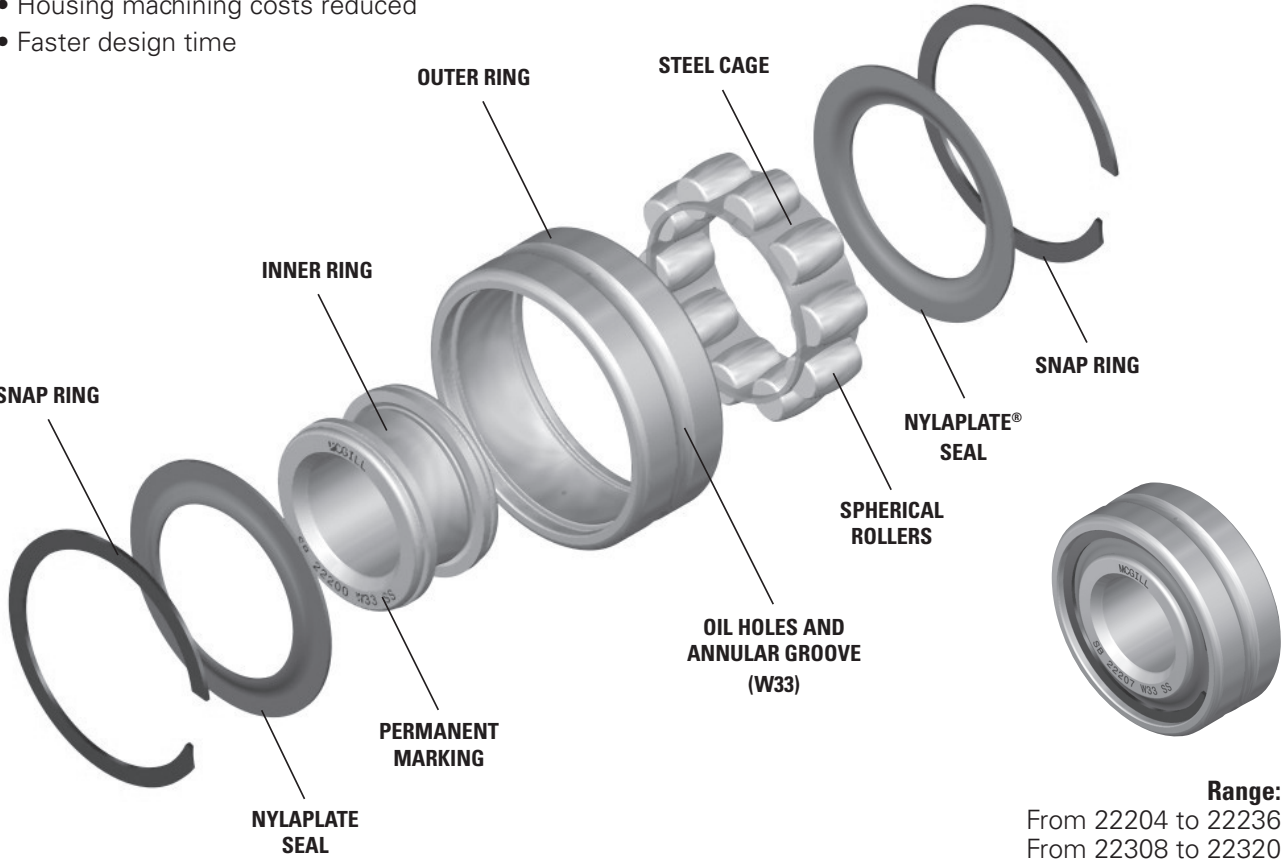
McGILL® SPHERE-ROL® BEARINGS

Invented in 1967, SPHERE-ROL bearings utilize a single row of rollers which provide a wide variety of advantages. High capacities, high limiting speeds, longer life under more misalignment, and protection from contaminants permit greater design flexibility than typically possible with ordinary two-row designs. SPHERE-ROL bearings are also dimensionally equivalent to conventional, two-row spherical unsealed bearings.

- Three sealing arrangements are available for the SPHERE-ROL bearing:
- NYLAPLATE® seal (suffix -SS)
  - NYLAPLATE® seal high temperature (suffix -TSS)
  - LAMBDA® seal (suffix -YSS)

Single-row SHPERE-ROL bearings provide more space between the roller end and bearing face. This allows for optional integral sealing and greater misalignment capability. The available integral sealing options remove the need for special redesigns when changing from unsealed bearings and can reduce OEM costs in the following ways:

- Costs of external seals eliminated
- Seal housing cost eliminated
- Housing machining costs reduced
- Faster design time



**Range:**  
From 22204 to 22236  
From 22308 to 22320

**Application fields:**  
Agriculture - Construction - Gearboxes -  
Steel Production - Mining - Material handling -  
Paper - Robotics

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**APPLICATION CONSIDERATIONS**  
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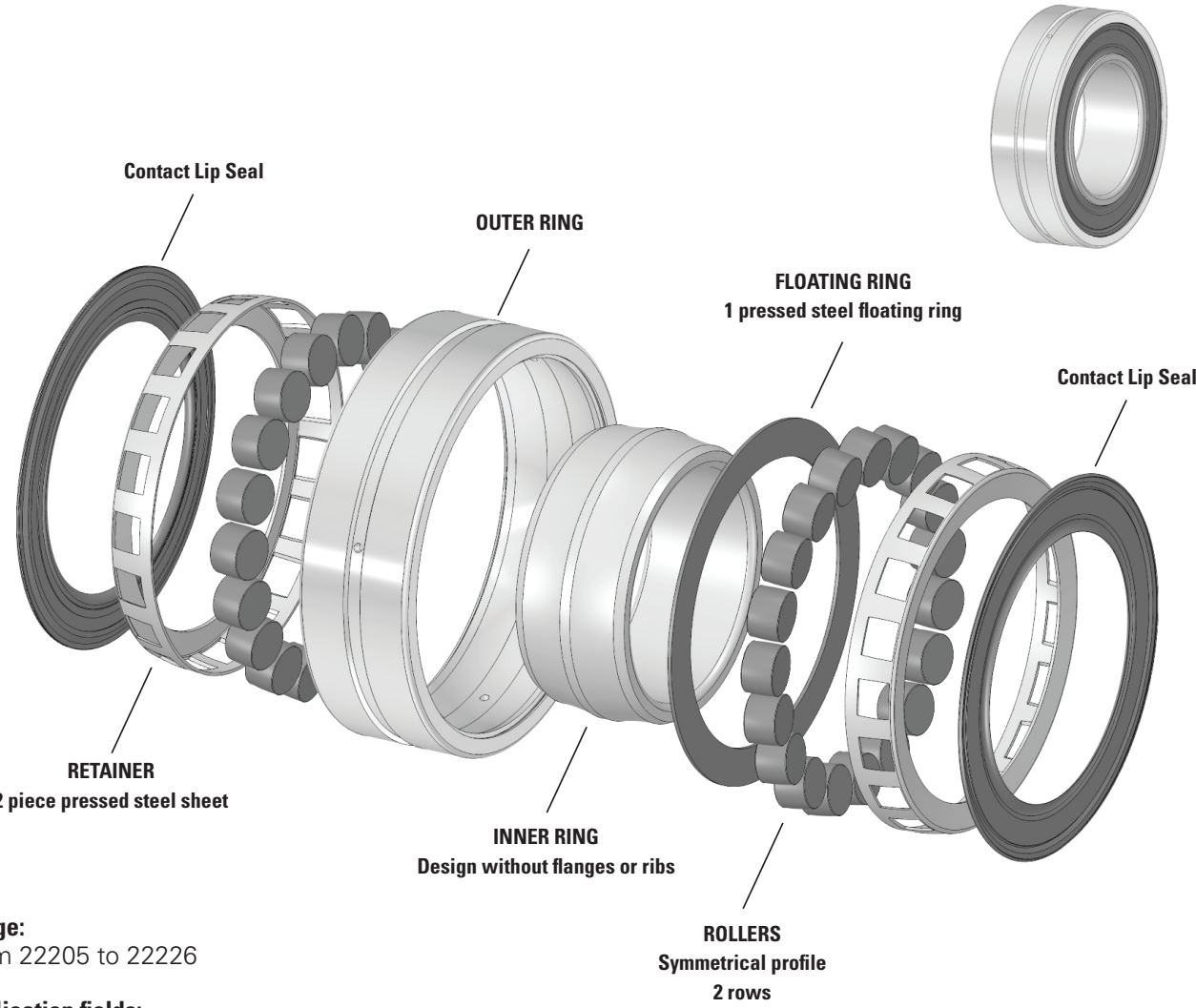


SEALED  
SPHERICAL ROLLER BEARING

ROLLWAY® SEALED SPHERICAL ROLLER BEARING

ROLLWAY sealed roller bearing design is a double row spherical roller bearing. The bore and outer ring diameter comply with the ISO 15 specification. To integrate seals and maintain misalignment capability, the bearing width is larger than an open spherical roller bearing.

The seals fit tight with the outer ring and make a close wiping fit contact with the inner ring race. The design and manufacture of this seal arrangement results in an effective means to help keep contaminants out of the bearing. The bearing is supplied with a quality lithium soap grease. The factory grease filling process is in a clean environment, which minimizes the potential of foreign particles trapped inside the bearing. Compare this with "in the field" grease filling practices, which may be in less than ideal environments. This all results in a significant longer service life of the bearing and a lower grease consumption.



**Range:**  
From 22205 to 22226

**Application fields:**  
Agriculture - Construction - Gearboxes -  
Steel Production - Mining - Material handling -  
Paper - Robotics



SEALED SPHERICAL ROLLER BEARINGS

In industrial rotary machines, spherical roller bearings are frequently used for their robust characteristics. Spherical roller bearings are designed to sustain heavy loads, fair speed rates, shaft misalignment and deflection. They often operate in harsh operating conditions where contamination of the bearing is a continuous issue.

To help maintain internal bearing cleanliness, designers must typically integrate a complex external sealing solution next to the bearing. This is a time consuming and expensive process.

This cost includes sealing specification, purchase, warehousing, mounting and finally maintenance. To help simplify the work of the customer, Regal has two types of sealed spherical roller bearing which can simplify the sealing process, reduce cost and and minimize lubricant issues.



FEATURES

ROLLWAY® BEARINGS	FEATURES	MCGILL® BEARINGS
Wider than standard series	Dimension	Dimensional interchange to standard spherical roller bearing
Lower due to the seal friction	Speed	Lower due to seal friction
Roll 2 grade steel (100Cr6)	Bearing Material	SAE 52100
P6 in production	Precision	PN
Reduced by ½ due to the seals	Misalignment capability	± 2° with NYLAPLATE® seal. ± 1° with LAMBDA® seal
Standard NBR rubber, HNBR(!), Viton®(!)*	Seals	NYLAPLATE, NYLAPLATE high temperature, LAMBDA
-30 to 150°C max, S1, S2, S3 available	Operating temp	-34° to 149°C
Standard Shell® Gadus® or specific grease*	Lubrication	NLGI#2 EP grease
222 / 223	Series	222 / 223
From 25 to 130mm	Bore Dia. Range	From 20 to 180mm

NOMENCLATURE

Example 22222C W33 2RS

NOMENCLATURE FOR ROLLWAY SEALED SPHERICAL ROLLER BEARINGS							
Series	Cage material	Bore	Lubrication groove	Seals	Clearance		
22200 22300(!)	C: Steel	(!): Cylindrical K: Tapered 1/12	W33	2RS (NBR) 2HRS 2VS (FKM)	C2	CN	C3 C4

(1) Available on special request subsequent series

SUFFIX	SEAL MATERIAL	OPERATING TEMPERATURE
2RS	Nitrile butadiene rubber (NBR) Standard	-30 to 110 °C
2HRS	Hydrogenated Nitrile rubber	-30 to 170 °C
2VS	Viton® rubber FKM (!)	-30 to 230 °C

(!) FKM rubber can be harmful at high temperature. Use the appropriate security clothes during maintenance.

(!) Available on special request  
\* The following trade names, trademarks and/or registered trademarks are NOT owned or controlled by Regal Beloit Corporation and are believed to be owned by the following parties. Gadus and Shell: Shell Trademark Management BV; Viton: The Chemours Company FC, LLC.

DATA TABLE ROLLWAY® SEALED SPHERICAL ROLLER BEARING

BEARING	PRINCIPAL DIMENSIONS			LOAD RATINGS			
	BORE (mm)	OUTER (mm)	WIDTH (mm)	DYNAMIC		STATIC	
	d	D	Rollway Bearing B	McGill® Bearing B	Rollway Bearing Cr	McGill Bearing Cr	Rollway Bearing Cor
22205	25	52	23	18	42,1	36.1	43,5
22206	30	62	25	20	51,7	51.2	55
22207	35	72	28	23	67	67.2	73,9
22208	40	80	28	23	76,9	74.7	85
22209	45	85	28	23	80,5	79.2	91,9
22210	50	90	28	23	83,1	83.2	97,8
22211	55	100	31	25	102	102.3	119
22212	60	110	34	28	127	129.9	154
22213	65	120	38	31	151	157.9	188
22214	70	125	38	31	155	159.7	193
22215	75	130	38	31	161	167.2	204
22216	80	140	40	33	174	188.6	225
22217	85	150	44	36	216	226.4	277
22218	90	160	48	40	252	263.3	332
22220	100	180	55	46	317	345.6	423
22222	110	200	63	53	414	444.8	574
22224	120	215	69	58	488	533.8	666
22226	130	230	75	64	581	589.4	808

DESIGN

The rings and rollers are made of high grade Roll 2 steel. The rollers are retained by 2 separate pressed window type steel cages and a guide ring between the cages.

The inner ring has no shoulders, which helps improve the axial load carrying capability of the bearing.

The standard seal (2RS) is made from NBR rubber. A steel washer reinforces the seal and helps maintain a constant contact pressure of the seal lip on the inner ring race. Other sealing washer material, such as FKM (Viton®\*\* rubber), is available on request.

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