

Design Notes

GGB recommends the following for maximum performance:

- Corrosion protection for the shaft/pin
- Shaft/pin surface finish after plating 8-16 μin (0.2-0.4 μm)
- Shaft/pin surface hardness > 50 Rc

Standard Dimensions

GGB Sealed Bearing Cartridges are available in a range of standard dimensions to accommodate shafts from 1" to 4" (25 mm to 100 mm) diameter and housing bores from 1.75" to 4.875" (41mm to 122mm)

diameter as follows. GGB Sealed Bearing Cartridges can also be produced to non standard diameters to meet customers' requirements.

Nominal ID (in)	Nominal OD (in)	Shaft Dia. (D _J) (in)	Housing Dia. (D _H) (in)	Nominal ID (mm)	Nominal OD (mm)	Shaft Dia. (D _J) (mm)	Housing Dia. (D _H) (mm)
1	1.75	1.0000 0.9995	1.7500 1.7505	25	41	25.000 24.967	41.000 41.025
1.25	2	1.2500 1.2495	2.0000 2.0005	30	46	30.000 29.967	46.000 46.025
1.5	2.25	1.5000 1.4995	2.2500 2.2510	35	51	35.000 34.961	51.000 51.030
1.75	2.5	1.7500 1.7495	2.5000 2.5010	40	56	40.000 39.961	56.000 56.030
2	2.75	2.0000 1.9995	2.7500 2.7510	50	66	50.000 49.961	66.000 66.030
2.25	3	2.2500 2.2495	3.0000 3.0015	55	71	55.000 54.954	71.000 71.030
2.5	3.25	2.5000 2.4990	3.2500 3.2515	60	76	60.000 59.954	76.000 76.030
2.75	3.5	2.7500 2.7490	3.5000 3.5020	70	86	70.000 69.954	86.000 86.035
3	3.75	3.0000 2.9990	3.7500 3.7520	80	96	80.000 79.954	96.000 96.035
3.5	4.375	3.5000 3.4990	4.3750 4.3770	90	112	90.000 89.946	112.000 112.035
4	4.875	4.0000 3.9990	4.8750 4.8770	100	122	100.000 99.946	122.000 122.040

SBC

Sealed Bearing Cartridges

Maintenance-free, self-lubricating bearings



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GGB, an EnPro Industries, Inc. company



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Technical Information



an EnPro Industries company

Introduction

This brochure describes **GGB Sealed Bearing Cartridges** designed to provide a cost effective, environmentally friendly and maintenance-free alternative to conventional greased bronze, hardened steel or rolling element bearings in demanding applications typically found in off-highway, construction and earth-moving equipment.

GGB is the world's leading manufacturer of polymer bearings with almost 50 years experience in providing self-lubricated bearing solutions. GGB is also the inventor of DU® and DX®, the global industry standards for metal-backed, polymer plain bearings. In addition, GGB has more than thirty years experience in the manufacture and

formulation of class leading, no compromise, self lubricating, maintenance free filament wound plain bearing products, with an established history of successful applications across a wide spectrum of industries

At the heart of **GGB Sealed Bearing Cartridges** are GGB's **GAR-MAX®** bearings, the leading filament wound bearing and sold throughout the world, and GGB's **HSG™** (High Strength GAR-MAX®) filament wound bearing. **GGB Sealed Bearing Cartridges** provide a sealed, grease free plain bearing unit to meet the demanding performance and economic requirements of your equipment.

Advantages

GGB Sealed Bearing Cartridges offer the following advantages:

- Maintenance free operation - self lubricating
- Environmental friendly - no grease required
- High load capability - up to 90,000 lbf/in² (620 Mpa)
- Excellent tolerance to shock and edge loading
- Superior wear-rate and bearing life
- Dimensional stability, low water absorption - no swelling
- Excellent corrosion resistance
- Sealed to exclude contaminants from the bearing
- No galling of shaft/pin
- Secure and simple installation
- Elimination of costly and complex automated greasing systems



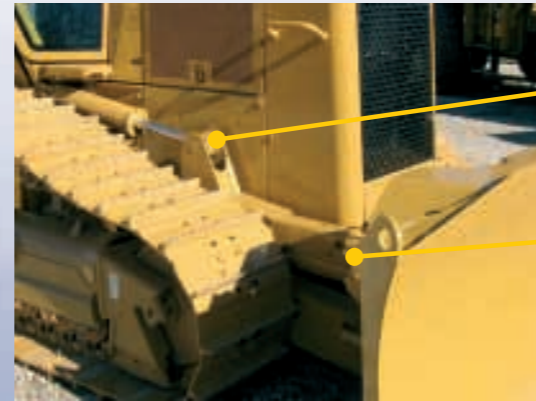
Applications



Dump body pivot



Critical clearance joints



Lift cylinders

Frame/walking beam trunnion

Suspension or track trunnions

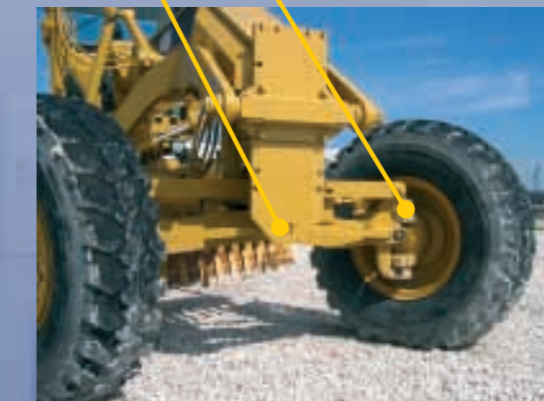


Articulating joints

Steering cylinders

Axle trunnions

King pins



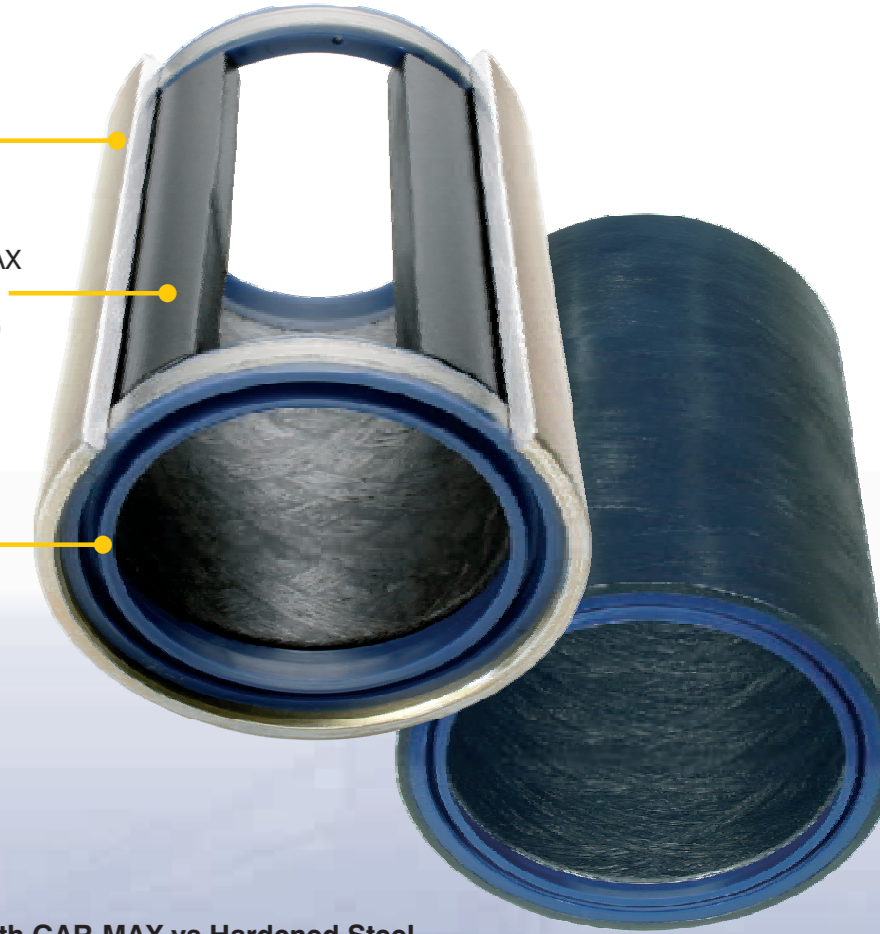
Linkage pins

Material Composition

Zinc plated steel outer shell

High Strength GAR-MAX self-lubricated bearing (grease free operation)

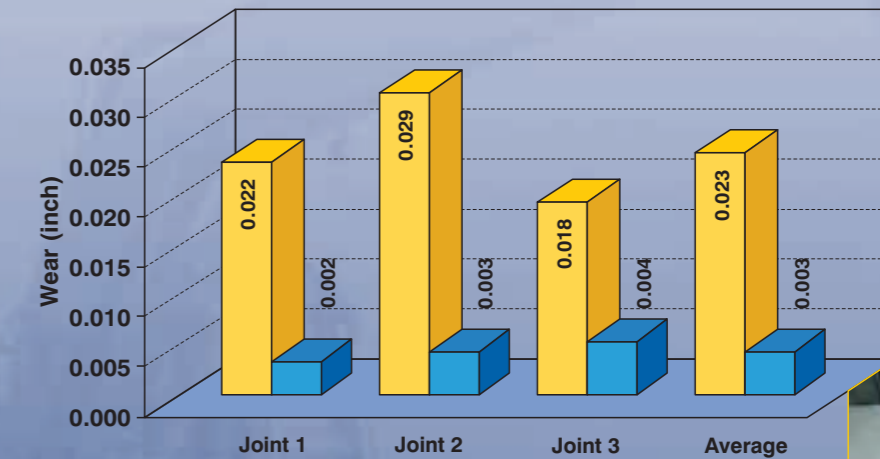
Industry proven integral lip seal



Specific Wear

Contaminated Testing of GGB Sealed Bearing Cartridge with GAR-MAX vs Hardened Steel

Test conditions: 7500 lbf/in² (51.7 MPa), ± 30°deg Oscillation



■ Greased Hardened Steel Total Wear

■ GGB Sealed GAR-MAX Total Wear

Test data:
Advanced Manufacturing Institute, Kansas State University



Test rig