

# GUARDIAN™ XL

Garlock KLOZURE®

Bearing Isolator protection to ensure bearing life



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## Garlock KLOZURE® Bearing Isolators

GUARDIAN bearing isolators offer exceptional bearing protection for pumps, motors, and bearing supported industrial equipment under the harshest conditions. The engineered labyrinth design excludes liquid and solid contamination while retaining bearing lubrication.

Garlock is pleased to announce the offering of the GUARDIAN bearing isolator in additional sizes of 12 to 24 inches for your larger application needs. We offer 7 day lead times in order to assist you with your needs.

### VALUE & BENEFITS

Lifetime bearing protection increases mean time between failure (MTBF)

- » GUARDIAN bearing isolators are safe for bearings
- » Extend bearing life
- » Consistent sealing performance

Faster mean time to repair (MTTR) during rebuilds

- » Eliminate repairs for shaft grooving
- » Eliminate repairs for seal housings
- » Reduce time to install

Use 97% - 99% less energy vs. contact lip seals

Compliant with safety and industry manufacturing standards

### AVAILABILITY

- » Global Application Engineering Support
- » Typical 3 day lead time 7 days for larger sizes
- » Same Day and Next Day service upon request, [www.garlock.com](http://www.garlock.com) | 1.866.KLOZURE

### TECHNOLOGY TO SUPPORT VALUE & BENEFITS

Non-wearing components provide lifetime bearing protection

- » Garlock's patented Unitizing Ring eliminates metal to metal contact between stator and rotor.
- » Engineered labyrinth designs exclude contamination while retaining bearing lubrication, to IP 66 ratings
- » Non-wearing components means seal properties are not degraded over time vs. contact seals that wear

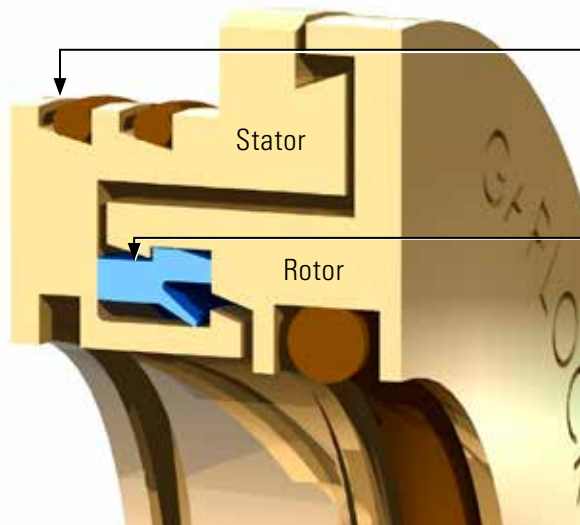
Split GUARDIAN designs offer even faster MTTR

- » Stationary O-ring contact between shaft and rotor does not groove the shaft
- » Stationary O-ring contact will not damage the seal housing
- » Garlock's patented Cam-Lock system allows the GUARDIAN to be installed without an arbor press

Non-contact engineered labyrinth design reduces shaft drag

Industry Standards

- » Surpasses IEEE 841-2001 Standards
- » IP 55-66 rating per NEMA MG 1-2003, see GUARDIAN configuration table
- » API 610 compliant bronze construction (standard), 316 SS construction available upon request



### GUARDIAN TECHNOLOGY EXPLAINED

#### Garlock Patented Cam-Lock Design

The patented Cam-Lock design of the Guardian provides excellent bore retention while allowing easy installation by hand, without the need for an arbor press. The interference fit of other designs require special tools for installation and may generate bronze shavings and result in bore scoring.

#### Garlock Patented Unitizing Ring

GUARDIAN bearing isolators employ the patented unitizing ring to eliminate metal-to-metal contact between the rotor and stator.

Simple O-ring designs lack axial reinforcement and allow bronze components to contact. Rotation and misalignment between the rotor and stator during normal operation cause O-rings to shred. O-ring designs result in self generated debris entering the bearing housing which can damage expensive bearings.

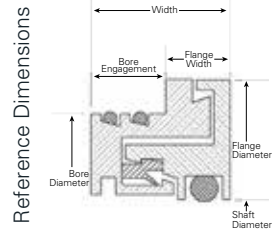
# GUARDIAN™ XL - Bearing Isolators

Material: Filled PTFE unitizing ring and fluoroelastomer O-rings are standard. Please inquire about special O-rings.

Temperature: -22°F to 400°F (-30°C to 204°C), limited by fluoroelastomer O-rings.



Pressure: Design pressure differential across the seal is 0 psi.

Cross Section: Minimum cross section (C/S) of 0.375" unless otherwise stated, C/S = (Bore Diameter - Shaft Diameter) / 2

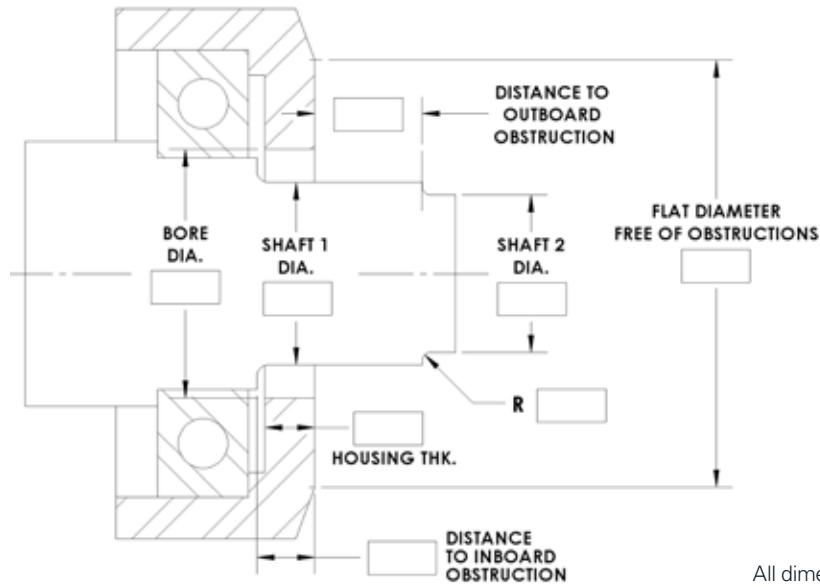


GUARDIAN Configurations	Description	IP Rating	Surface Speed	Axial Motion	Misalignment & Runout	Shaft Diameter Ranges	Overall Width (Flange Width / Bore Engagement)	Flange Diameter = Bore ID + Stator Flange (SF) (CS Range : SF)
 Standard Flanged	Construction Material: 29602: Bronze 29604: 316 SS  Drainports: 1 inboard 1 outboard	IP 66	12,000 fpm  60.9 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	0.625" to 10.500"  15.9 mm to 266.7 mm	0.700" (0.325" / -0.375")  17.8 mm (8.3 mm / 9.5 mm)	(≤0.625") : 0.347" (>0.625") : 0.125"  (≤15.9 mm) : 8.8 mm (>15.9 mm) : 3.2 mm
 Small Cross Section 0.188" min C/S	Construction Material: 29607: Bronze 29606: 316 SS  Drainports: 1 inboard 1 outboard	IP 65	12,000 fpm  60.9 m/s	±0.015"  ±0.38 mm	±0.010"  ±0.25 mm	0.625" to 5.500"  15.9 mm to 139.7 mm	0.625" (0.375" / -0.250")  15.9 mm (9.5 mm / 6.4 mm)	(≤0.375") : 0.285" (>0.375") : 0.125"  (≤9.5 mm) : 7.2 mm (>9.5 mm) : 3.2 mm
 Narrow Width Flangeless	Construction Material: 29609: Bronze 29611: 316 SS  Drainports: 0 inboard 0 outboard	IP 65	12,000 fpm  60.9 m/s	±0.015"  ±0.38 mm	±0.010"  ±0.25 mm	0.625" to 4.000"  15.9 mm to 101.6 mm	0.375" (0.000" / -0.375")  9.5 mm (0.0 mm / 9.5 mm)	N/A
 Flangeless	Construction Material: 29619: Bronze 29612: 316 SS  Drainports: 1 inboard 0 outboard	IP 65	12,000 fpm  60.9 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	0.625" to 10.500"  15.9 mm to 266.7 mm	0.625" (0.000" / -0.625")  15.9 mm (0 mm / 15.9 mm)	N/A
 Split Pillow Block Standard & Custom	Construction Material: 29616: Bronze 29617: 316 SS  Drainports: 1 inboard 1 outboard	IP 66	12,000 fpm  60.9 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	0.625" to 10.500"  15.9 mm to 266.7 mm	Various (0.500" / Various)  Various (12.7 mm / Various)	(≤0.625") : 0.347" (>0.625") : 0.125"  (≤15.9 mm) : 8.8 mm (>15.9 mm) : 3.2 mm
 Vertical Design**	Construction Material: 29620: Bronze 29622: 316 SS  Drainports: 0 inboard 0 outboard	IP 66	12,000 fpm  60.9 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	0.625" to 10.500"  15.9 mm to 266.7 mm	0.700" (0.325" / -0.375")  17.8 mm (8.3 mm / 9.5 mm)	(≤0.625") : 0.347" (>0.625") : 0.125"  (≤15.9 mm) : 8.8 mm (>15.9 mm) : 3.2 mm
 Step Shaft Custom Design	Construction Material: 29697: Bronze  Drainports: 1 inboard 1 outboard	IP 65	12,000 fpm  60.9 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	0.625" to 10.500"  15.9 mm to 266.7 mm	Various	Various
 Surface Mounted 0.250" max C/S Required	Construction Material: 29603: Bronze  Drainports: Various	IP 66	12,000 fpm  60.9 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	0.625" to 10.500"  15.9 mm to 266.7 mm	0.595" (0.959" / 0.000")  15.1 mm (15.1 mm / 0.0 mm)	Various

## GUARDIAN XL

 Standard Flanged	Construction Material: 29680: Bronze 29681: 316 SS  Drainports: 1 inboard 1 outboard	IP 56	4,500 fpm  22.86 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	10.50" to 22"  266.7 mm to 558 mm	0.875" (0.375" / 0.5")  22.2 mm (9.5 mm / 12.7 mm)	(≤0.625") : 0.347" (>0.625") : 0.125"  (≤15.9 mm) : 8.8 mm (>15.9 mm) : 3.2 mm
 Flangeless	Construction Material: 29682: Bronze 29683: 316 SS  Drainports: 1 inboard 1 outboard	IP 55	4,500 fpm  22.86 m/s	±0.025"  ±0.64 mm	±0.020"  ±0.51 mm	10.50" to 22"  266.7 mm to 558 mm	0.875" (0" / 0.875")  22.2 mm (0 mm / 22.2 mm)	N/A

**GARLOCK KLOZURE GUARDIAN™ APPLICATION DATASHEET**



All dimensions supplied to 3 decimal places.

**Contact Information:** Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
 Email: \_\_\_\_\_

**Equipment Type:**  Pump  Motor  Other: \_\_\_\_\_  
 Manufacturer: \_\_\_\_\_  
 Model Number: \_\_\_\_\_

**Previous Seal Design:**  Oil Seal  Bearing Isolator  Other: \_\_\_\_\_  
 Seal Manufacturer: \_\_\_\_\_ Quantity Required: \_\_\_\_\_  
 Seal Part Number: \_\_\_\_\_

**Seal Design:**  Solid  Split  
 Mounting Method:  Cam-Lock O-ring System  Epoxy Mount  Bolting Flange  
 Construction Material:  Bronze  316 SS  
 Seal Purpose:  Contamination Exclusion  Lubricant Retention  Shaft Grounding

**Application Conditions**

Speed: \_\_\_\_\_  RPM  fpm  mps  
 Temperature: \_\_\_\_\_  °F  °C  
 Pressure: \_\_\_\_\_  PSI  bar  
 TIR (total indicated runout): \_\_\_\_\_  in  mm  
 Axial Movement: \_\_\_\_\_  in  mm  
 Shaft Orientation:  Horizontal  Vertical Top  Vertical Bottom  
 Lubrication Method:  Grease  Oil Sump  Air-Oil  Oil Mist  
 Media Fill Level:  Below Shaft  Mid Shaft  Submerged Shaft  
 Media Manufacturer: \_\_\_\_\_  
 Media Product Name: \_\_\_\_\_

**Notes:** \_\_\_\_\_  
 \_\_\_\_\_

KLZ 2:108\_1-2016