

# Garlock

an EnPro Industries family of companies



## Bearing Isolator Family

Garlock KLOZURE®

The best alternative to Radial Lip Seals



*Leaders in Sealing Integrity*

# Bearing Isolator Family

## Garlock KLOZURE® Bearing Isolators

### COMMON INDUSTRY CHALLENGES

- » **Premature bearing damage** – Bearing damage shortens Mean Time Between Failure (MTBF). Traditional lip seals cannot offer the performance and service life that is required to protect bearings.
- » **Lubrication, contamination and leakage** – Moisture, dust and dirt are just a few examples of contaminants that could enter the bearing housing. Contamination causes a number of issues such as seal degradation, which leads to leakage that poses a safety hazard to employees and harm to the environment.
- » **Different lubrication system** – Lubrication systems have evolved; splash, submerged, force feed, oil mist, air-oil and etc. Each has unique seal requirements.
- » **Costly shaft repair** – Shaft grooving from lip seals is costly to repair, and increases Mean Time to Repair (MTTR).
- » **Installation issues** – Lip seals are unidirectional seals. Training is required for proper installation as well as seal and material selection.

### FEATURES

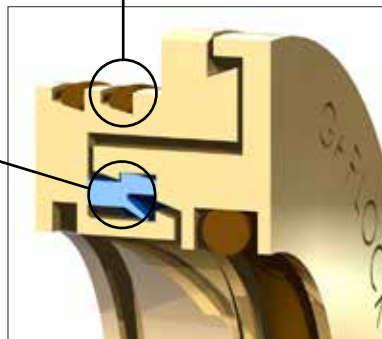
- » Labyrinth technology - Non-contact seals with no wear components for long service life and reduced drag on shaft, reducing power consumption
- » Unitized design – Bidirectional sealing designed to both exclude contaminants and retain lubrication
- » Fluoroelastomer o-ring fit – Allows easy installation without an arbor press or other tools, while providing a static secondary seal that does not score the shaft
- » Metallic and non-metallic design – different material for compliance with industry standards. API-610, IEEE841, NEMA MG-1, MSHA
- » Wide variety of sizes, configurations and customizable – Machined part with no tooling requirement for custom fit

### TYPICAL APPLICATIONS

- » Pump bearing frames
- » Electric motors
- » Gear boxes
- » Split pillow block bearings
- » Fans
- » Turbines (steam)

#### GARLOCK PATENTED UNITIZING RING

The patented unitizing ring is a machined component with tight tolerance to maintain a labyrinth; eliminating internal metal-to-metal contact that generates metal shavings that could damage the bearing.



#### GARLOCK PATENTED CAM-LOCK DESIGN

The patented Cam-Lock design provides superior retaining force compared to standard bearing isolator designs. This design also allows easy installation by hand, without the need for an arbor press or other tools.

# Bearing Isolator Family

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We offer a complete line of high-performance bearing isolators specifically designed and engineered to give you the maximum performance on your rotating equipment.

METALLIC	<b>GUARDIAN®</b> 	<p><b>Key Benefits:</b> Multi-purpose general service seal, designed to reduce downtime from equipment failure. Bi-directional sealing provides both ingress and egress protection</p> <p><b>Target Application:</b> Ancillary equipment in dirty, dusty and wet environments. Electric-motors, pumps, gearboxes and pillow-blocks</p>	<ul style="list-style-type: none"> <li>» Size ranges from 0.875" (22.2mm) to 23.250" (590.6mm)</li> <li>» Temperature limit -22°F(-30°C) to 400°F(204°C)</li> <li>» Speeds up to 12,000 fpm (60.9m/s), except bore &gt;11.5" speed rated to 4500fpm</li> <li>» Meets NEMA MG-1</li> <li>» Surpasses IEEE 841 test standard</li> <li>» Conforms to API 610</li> </ul>
	<b>MICRO-TEC® II</b> 	<p><b>Key Benefits:</b> Ability to filter dust and small particulates from entering the bearing chamber by adding a microcellular foam into the labyrinth pathway</p> <p><b>Target Application:</b> Application in/near a heavy airborne contaminant area. Ancillary equipment in mining industry with dusty environment or bakeries with air borne raw material</p>	<ul style="list-style-type: none"> <li>» Size ranges from 0.875" (22.2mm) to 23.250" (590.6mm)</li> <li>» Temperature limit -22°F(-30°C) to 400°F(204°C)</li> <li>» Speeds up to 4,500 fpm (22.9m/s)</li> <li>» Meets NEMA MG-1</li> <li>» Surpasses IEEE 841 test standard</li> <li>» Conforms to API 610</li> </ul>
	<b>SGi®</b> 	<p><b>Key Benefits:</b> Integrated AEGIS® Shaft Grounding Ring to divert stray shaft current on electric motor driven by VFD's. AEGIS® Shaft Grounding Ring provides continuous 360° constant connection to the shaft</p> <p><b>Target Application:</b> Electric motor driven by VFD (Variable Frequency Drive) that could introduce electric discharge into the bearing</p>	<ul style="list-style-type: none"> <li>» Size ranges from 0.875" (22.2mm) to 6" (152.4mm)</li> <li>» Temperature limit -22°F(-30°C) to 400°F(204°C)</li> <li>» Speeds up to 12,000 fpm (60.9m/s)</li> </ul>
COMPOSITE	<b>ISO-GARD®</b> 	<p><b>Key Benefits:</b> Glass filled PTFE construction provides great chemical compatibility.</p> <p><b>Target Application:</b> Rotating equipment with chemical wash-down. Example, food and beverage industry</p>	<ul style="list-style-type: none"> <li>» Size ranges from 0.875" (22.2mm) to 11" (279.4mm)</li> <li>» Temperature limit -22°F(-30°C) to 400°F(204°C)</li> <li>» Speeds up to 4,500 fpm (22.9m/s)</li> <li>» Meets NEMA MG-1</li> <li>» Surpasses IEEE 841 test standard</li> <li>» FDA compliant PTFE</li> </ul>

\* Specification is based on standard Flanged design

## CAPABILITY, SERVICE & SUPPORT

### Same day and 24hours Turnaround Service Available

We support our customers' needs for emergency service by offering same day\* or next day\* service on select bearing isolators.

### Plant and Mill Surveys

Understanding how to gain greater productivity while lowering overall costs is a KLOZURE® specialization. On-going assessments are also available to determine the best sealing strategy for each unique plant/facility.

### Customer Training

We partner with our customers to be sure that their on-site knowledge is as comprehensive as possible. Training sessions are available on all key KLOZURE® products, and specialized or custom training sessions can be implemented on an as-needed basis.

### Applications Support

Garlock application engineers are available to ensure customer requirements are translated into the appropriate KLOZURE® product recommendations, maximizing service life.

### Seals & Application Failure Analysis

Forensic analysis of seal failure is critical to our customers. This service is available upon request.

### Engineering Expertise

KLOZURE® innovation extends to the customer's facility with our custom engineering capability. We have successfully designed custom solutions across a broad range of industries and applications to meet our customer's toughest challenges.

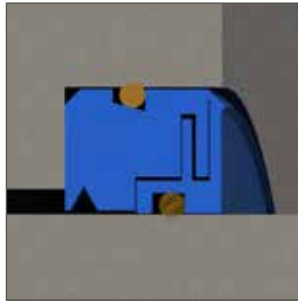
## CONFIGURATIONS

Garlock KLOZURE® bearing isolators are offered in various configuration for a perfect fit to your equipment

- » Flanged
- » Flangeless
- » Split
- » Surface Mounted
- » Flange Mounted (Bolt-on)
- » Narrow Width
- » Pillow Block (replacing LER)
- » Grease Purge
- » Vertical Mount
- » Step Shaft
- » Custom/Special design



**FLANGED**



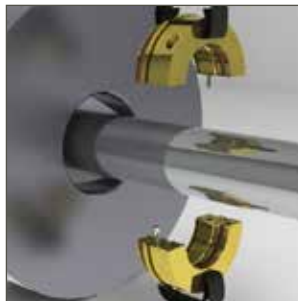
**FLANGELESS**



**STEP-SHAFT**



**SURFACE MOUNT**



**SPLIT**



**PILLOW BLOCK**

\* Order must be placed by 11am EST for same day turnaround and 4pm EST for 24 hour turnaround. Max. of 5 pc with OD of 6" or below. Limited to Flange (29602), Flangeless (29619), Narrow Width (29609), Small cross-section (29607) configurations only.

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