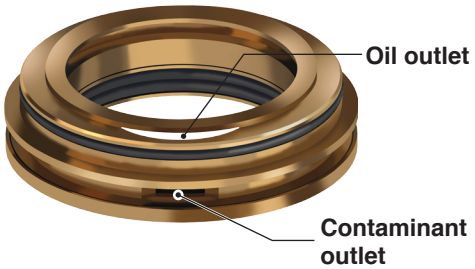
FLOWSERVE

Bearing Gard™

Installation, Operation and Maintenance Instructions



Section 1 - Description of Use

The Bearing Gard is a permanent, non-wearing bearing protection device used to replace lip seals and simple labyrinth seals in bearing housings for pumps, motors, gearboxes and other pieces of rotating equipment. It's main purpose is to retain lubrication in the bearing housing and prevent the ingress of contamination as this can lead to premature failure of the lubrication and bearings.

Section 2 - Hazzard Summary

To ensure safe and reliable operation of the Bearing Gard follow all installation, operation, and maintenance instructions. Failure to comply with these instructions may result in frictional heating of the Bearing Gard components and will result in loss in performance.

To find your local Flowserve representative
and find out more about Flowserve Corporation, visit www.flowserve.com

Section 3 - Preparations for Installation

3.1 Remove the oil seal from the housing.

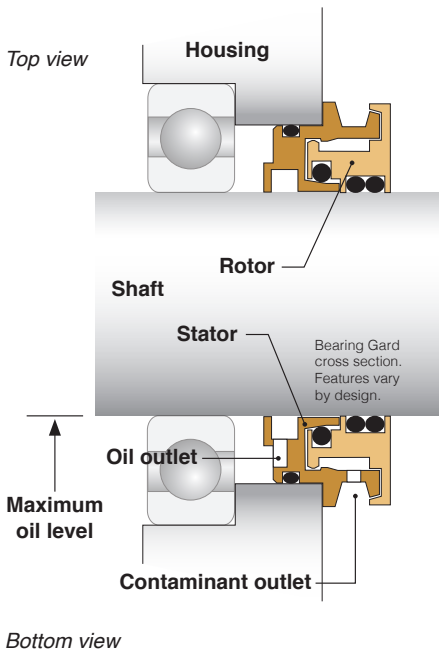
3.2 Inspect for and remove sharp edges from the housing bore, keyways, and shaft steps where Bearing Gard O-rings must pass.

3.3 Thoroughly clean both the shaft and housing bore.

3.4 Ensure Bearing Gard shaft O-ring position is located on an area of the shaft free from scratches, nicks, or dings.

3.5 Shaft and housing surface finish must be 0.8 micrometer (32 μin) or better.

3.6 Concentricity of the housing bore to the shaft must to be maintained within 0.127 mm (0.005 inch) TIR.



Section 4 - Installation

4.1 Do not disassemble the Bearing Gard. It is designed to be installed as an assembly.

4.2 Lightly lubricate O-rings, shaft, and housing bore with the lubricant provided.

4.3 Align the Bearing Gard in housing so the two outlets are located on the bottom.

4.4 Use an arbor press to push the assembly into the housing bore. The tool should make contact with as much of rotor surface as possible. Do not hammer or hit the Bearing Gard directly.

4.5 Push the housing with the Bearing Gard installed down the shaft into final position.

4.6 Press on the rotor to confirm it is fully inserted in the stator and perpendicular to the shaft.

4.7 Fill bearing housing to proper oil level.

4.8 Spin shaft by hand. Listen and feel for any shaft binding for rubbing. If binding or rubbing occurs, verify equipment is within tolerances shown in Operation section of this document.

4.9 Protect Bearing Gard from mechanical impact in service by location or suitable guarding.

4.10 Properly align rotating equipment.

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Section 5 - Operation

5.1 Shaft tolerance ± 0.051 mm (0.002 inch)

5.2 Housing tolerance ± 0.025 mm (0.001 inch)

5.3 Maximum axial movement: 0.63 mm (0.025 inch) TIR
Maximum radial runout: 0.13 mm (0.005 inch) TIR

5.4 Speed: 30 m/s (6000 ft/min) maximum

5.5 Maximum temperature: 190°C (375°F)
For ATEX parts, see below

5.6 Bearing Gard's labyrinth is designed to contain oil and repel water. It is not designed for use in either horizontal or vertical applications that are flooded with oil or other liquid.

Section 6 - Maintenance

6.1 Use an arbor press to push the Bearing Gard from the bore. Do not hammer.

6.2 Contact your Flowserve seal representative for technical support of the Bearing Gard.

ATEX Parts

Equipment	Rated Service Temperature Range	Additional Marking	Certificate Number
Special	Maximum: 180°C (356°F)	⟨Ex⟩ II 2 GD c U	DEMKO 13 ATEX 1206U Rev. 2
	Minimum: -18 °C (-0.4°F)	⟨Ex⟩ I M2 c U	

Stator Metal Component: Bronze or Aluminum (for Group II only)

Rotor Metal Component: Bronze, 316 SS or Aluminum (for Group II only)

Non-Metal Components: Fluoroelastomer

Schedule of limitations

- The Bearing Gard shall be protected from mechanical impact in service by location or suitable guarding.
- The Bearing Gard stator and rotor have clearances between them and are not electrically bonded together. The effects of circulating currents between them, in particular the shaft potential with respect to ground shall be considered when the Bearing Gard is installed to motors.
- Maximum surface temperatures must be considered on the end product to establish compliance with the limitation given in EN 13463-1:2009. In addition, consideration should be made to ensure that the O-ring temperature does not exceed 180°C at the maximum ambient temperature range.