FLOWSERVE

Installation Instructions

BGM Dura Seal®

The Flowserve BGM *Dura Seal* is designed to keep bearing lubricant in the bearing frame. At the same time, it keeps contamination out of the bearing frame. The BGM *Dura Seal* consists of two major components: a stator assembly and a rotor assembly. The seals work in conjunction with a „bull's-eye" sight gauge to completely isolate the bearing frame from harmful contamination.

Temperature changes in the bearing housing will result in pressure fluctuations. Conventional „constant level" oilers are not recommended. They are intolerant of such small pressure changes.

Atmospheric Sealing of Bearing Frame

To isolate the bearing frame from environmental conditions such as high humidity, steam or condensation, the following steps **must** be taken before seal assembly.

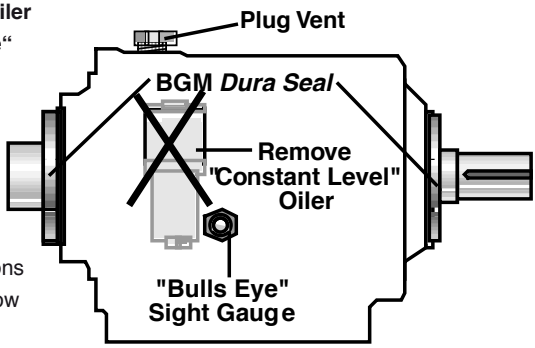
1. **Remove bearing housing vents**. They are a path for contamination.

2. **Plug each vent.**

3. **Remove the „constant level" oiler and replace it with a „bulls eye" sight gauge**. See Figure 1. A minimum $^{3}/_{8}$" - 18 NPT tapped hole must be provided to accommodate the sight gauge.

4. When applying on equipment using oil mist lubrication, provisions must be made to allow oil mist flow through the bearing housing.

Stator Installation Figure 1



Stator Assembly Installation

The stator assembly, consisting of the stator and the stator mounting ring, can be installed using either an arbor press or the appropriate BGM installation tool.

1. **Remove the oil seals** or other bearing protection devices.

2. **Break the sharp edges** of the housing bores using a file, emery cloth, etc. 0.005“ R minimum to 0.030 R maximum)

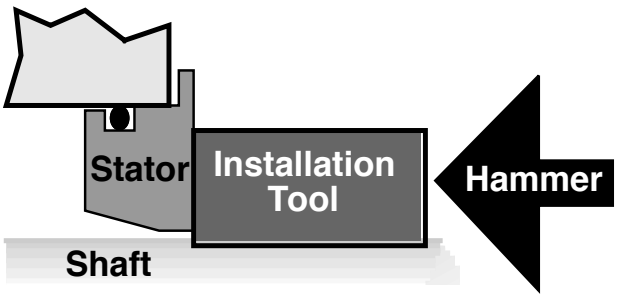
3. **Apply a light film of silicon lubricant** to the outer diameter of the stator mounting O-ring.

4. **Install the stator assembly** in the housing bore. If you are using an arbor press, use a protective shield such as cardboard, rubber, etc. protect the entire stator sealing surface. If you are using the BGM installation tool, tap the outer end of the tool with a hammer until the stator enters the housing bore, Figure 2. Protective shields are not necessary when using the installation tool.

5. **Do not press the stator flange hard against the bearing housing**. Leave about a 0.020“ gap between that stator flange and the housing. Use this gap for final FIM (Full Indicator Movement) adjustments, if needed.

6. **The stator must be square to the shaft within 0.005“ FIM** for proper seal performance. If you are using the BGM Installation tool, the stator will be automatically set within 0.005“ FIM and no further adjustments are needed. If you are using an arbor press, mount a dial indicator on the shaft and set the indicator on the stator face. Rotate the shaft and read the dial indicator. Adjust the stator so the difference between the maximum and minimum readings is less than 0.005“.

Stator Installation Figure

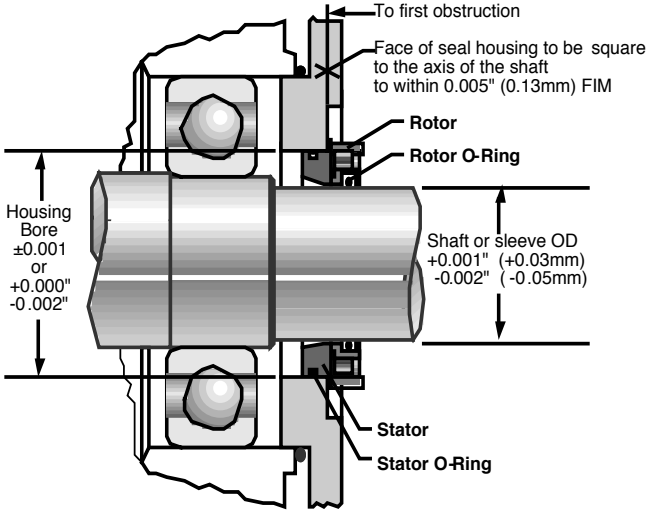


Rotor Assembly Installation

1. **Lightly lubricate the rotor O-ring** inside diameter with the silicone grease provided with the BGM *Dura Seal*.

2. **Break the sharp edges** of shaft keyways or grooves using a file, emery cloth, etc., to protect the O-ring from being cut or nicked.

3. Use silicone grease to **lightly lubricate** the shaft that the BGM rotor has to slide over.



- **Bearings must be in good condition**
- **Maximum lateral or axial movement of shaft (end play) 0.015" FIM**
- **Housing bore to be concentric with shaft 0.003" FIM**
- **Maximum dynamic shaft deflection at face of housing 0.002" FIM**

4. Gently **slide the rotor along the shaft** so that the rotor face seats against the stator face. Make certain the silicone lubricant does not get on the seal face.

5. Use light finger pressure to ensure the seal faces are making contact.

6. Hold the shaft stationary and rotate the rotor a minimum of one revolution to evenly

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

USA and Canada
Kalamazoo, Michigan USA
Telephone: 1 269 381 2650
Telefax: 1 269 382 8726

Europe, Middle East, Africa
Etten-Leur, the Netherlands
Telephone: 31 765 028 200
Telefax: 31 765 028 487

Asia Pacific
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Telefax: 65 6214 0541

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Mexico City
Telephone: 52 55 5567 7170
Telefax: 52 55 5567 4224

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