High Pressure Equipment Company

Series “MB” Reactors

Assembly and Disassembly Instructions

High Pressure Equipment Company
2955 West 17th Street, Suite 6
PO Box 8248
Erie, PA 16505 USA
814-838-2028 (phone)
814-838-6075 (fax)
www.highpressure.com

Series Modified Bridgman (MB) Reactors

Description:

High Pressure Equipment Company's MB series reactors are designed for high pressure applications in which metal seals are required because of chemical or high temperature requirements.

The MB seal is a refinement of the Bridgeman seal, which operates on the unsupported area principle. When properly assembled, the pressure end load on the cover forces the entire closure assembly together, affecting the seal. The higher the pressure, the higher the sealing force.

Note: No rotation should be permitted between the body and the seal ring, and between the seal ring and the cover. Relative rotation between these surfaces might result in galling and consequent seal failure.

Assembly Instructions for Series "MB" Reactors:

Assembly Instructions for Series "MB" Micro Reactors:

1. Lubricate the following areas with an appropriate process compatible lubricate. High Pressure Equipment Company typically uses SS30 Jetlube, Molylit paste, or Krytox.
    a. Main nut threads
    b. Bottom main nut bearing surface
    c. Set screw threads
    d. Set screw bearing surfaces
    e. Seal ring sealing surfaces
2. Assemble the seal ring, bearing washer, main nut, thrust washer, and the lock nut onto the cover. Leave a gap of approximately 1/8" or more between the lock nut and the thrust washer. Thread the set screws into the lock nut until; they just contact the thrust washer.
3. Lower the cover assembly into the body while threading in the main nut. Do not allow the cover to rotate with the main nut.
4. After the main nut is completely threaded into the body, insert a bar into a hole into the side of the nut and rap lightly with a soft mallet to set the seal ring against the body.
5. Lift the cover against the seal ring. Thread the lock nut by hand if necessary until the set screws contact the thrust washer.
6. Release the cover and tighten the set screws. Using a cross pattern, tighten the set screws in approximately 5 ft-lb increments until the required torque is reached. Minimum recommended torque for your unit is listed on the assembly drawing.
7. The reactor is now ready for system connection.

Disassembly Instructions for Series “MB” Reactors:

Disassembly Instructions for Series “MB” Micro Reactors:

1. Loosen the set screws approximately 1/8” gap between set screw and the washer. Strike top of the cover with a soft mallet or equivalent to unseat the cover from the seal ring.
2. Lower the cover and let the assembly rest on the main nut.
3. Unthread the main nut approximately ½ turn. Rapping a bar inserted into the main nut holes might be required to loosen the nut. Make sure the cover does not turn with the nut.
4. Remove the cover, making sure the cover does not move as you unscrew the main nut.
5. If the seal ring has become wedged against the body during operation, it may be freed by evenly tightening any two opposite setscrews against the thrust washer until the seal ring comes loose.