

INSTALLATION, OPERATION, & MAINTENANCE OF BERIC CLASS 800 & 1500 FORGED STEEL VALVES

PRE-INSTALLATION

Prior to installation, user should ensure compatibility between valve materials and media being used. Valve markings and nameplate should be verified to ensure that the valve is of the correct type and pressure class for the intended service.

Check the valve visually and operate the valve to check for damage due to shipping and handling. Particular attention should be paid to pipe threads and flanges to make sure there are no foreign materials, scratches, nicks, or dents present. It will be necessary to remove the protective caps from the end connections for this inspection. If the valve is not to be installed immediately, the protective caps should be re-installed on the end connections.

INSTALLATION

It is extremely important to make certain that the valve and piping being installed are properly supported and that the valve and piping are properly aligned.

When installing flanged valves, the flange bolts should all be snugged tight using a "star" pattern. After snugging all bolts, each bolt should be tightened to the required torque, again using a "star" pattern. All bolts should then be re-checked for correct torque.

Socket weld gate valves should be in the closed position during pipeline installation welding.

Globe and check valves have an arrow stamped on the side of the body indicating direction of flow. Care must be taken to ensure that the inlet end is against line pressure. Check valves must be installed in the horizontal position, with the exception of the ball check valves, which may be installed either horizontally or vertically.

Once installation is complete, it is highly recommended that the entire system be pressurized and inspected for leakage. If leakage is detected, the valve and/or piping should be repaired or replaced prior to the system being placed into service.

ROUTINE INSPECTION AND MAINTENANCE

A good program of inspection and maintenance can not be over-stressed. Periodic inspection of critical leak-path areas such as; body/bonnet joint, end connections, seating surfaces, and around the stem packing should be a

requirement. Lubrication of the stem threads at the time of inspection is recommended.

The most common area for leakage is around the stem packing. This is usually due to wear and can normally be stopped by adjusting the packing. This procedure is performed by turning both gland plate nuts (1) 1/2 turn at a time until leakage stops. Once leakage stops, continue tightening gland plate nuts an additional 1/2 turn. If leakage cannot be halted by adjusting packing, repacking of the valve is indicated. (Refer to Field Repair)

REPLACEMENT PARTS

We recommend using genuine BERIC Valve replacement parts. These parts are generally available from stock and are manufactured to the same specifications as those parts that were originally supplied.

When ordering replacement parts, be sure to have as much information about the valve available as can be found. Most of the information can be found on the valve nameplate (model #, material, and trim specification). Other information required (size and class) can be found on the valve body.

Contact your dealer for prices for valve parts.

FIELD REPAIR

STEM LEAKAGE

The most common point for leakage is around the stem and packing. This leakage can normally be stopped by adjustment of the packing gland. If this does not stop the leakage, the valve will have to be repacked.

All BERIC forged steel gate and globe valves are equipped with backseats as standard and are tested before shipment. However, once the valve is put into service, corrosion and foreign material can affect the sealing of the backseat. Therefore, **REPACKING UNDER PRESSURE CAN BE HAZARDOUS**. BERIC recommends that the system and valve be depressurized before attempting any repair work. After removing all pressure from the valve and draining the system, the following procedure should be used to repack the valve.

1. Remove nuts (1) from gland plate bolts and raise gland plate (2) and follower (3).
2. Remove old packing (4), taking care not to scratch or damage the stem or stuffing box.
3. Clean and inspect stem, stuffing box, and follower. If any scratches, nicks, or corrosion is found, the parts should be replaced.

4. Split one ring in half at a time and install both halves before splitting the next ring. Carefully tamp each ring into place and continue installing rings placing splits at 90° to the splits in the previously installed ring until the recommended number of rings have been installed.
5. Replace follower (3), gland plate (2), and gland plate nuts (1). Tighten nuts alternately in 1/2 turn increments until a reasonable torque (3-5 ft/lbs. for 1" and below, 4-6 ft/lbs. for 1-1/4" and above) is applied to lightly compress packing. Lubricate stem and cycle valve through a couple of complete cycles.
6. If slight stem leakage occurs after system is pressurized, continue tightening gland plate nuts (1) in alternating 1/2 turn increments until leakage stops. Once leakage stops, continue tightening gland plate nuts an additional 1/2 turn.

| BOLT DIA. | TORQUE (FT/LBS) |
|-----------|-----------------|
| 3/8" | 18.00 |
| 1/2" | 45.00 |
| 5/8" | 90.00 |

Table 1

BODY/BONNET JOINT

Should leakage occur at the body/bonnet joint, tighten bonnet bolts (5) to the values shown in Table 1. If, after tightening bonnet bolts, leakage continues, replacement of gasket (7) is recommended. A new gasket is recommended anytime the valve is disassembled. The following procedure is recommended for the replacement of the gasket.

1. Place the valve in the half open position and remove all pressure and drain the system. Make sure that leakage of any residual material will be caught in an appropriate container and disposed of properly.
2. Loosen and remove bonnet bolts (5).
3. Remove bonnet (6) assembly and gate (8) taking note of the orientation of the gate to the body (9). The gate must be returned to the body during assembly with the same side of the gate facing the upstream side of the valve as was prior to dis-assembly.
4. Remove and discard old gasket (7).
5. Clean and inspect body (9) and bonnet (6) gasket surfaces. Check for erosion, corrosion, or damage, especially near point where leakage occurred. If damage is found, those surfaces must be repaired before continuing. If repair is not possible, valve should be replaced.
6. Install new gasket (7). Replace gate (8) (see step 3), bonnet (6), and bonnet bolts (5). Tighten bonnet bolts to torque shown in Table 1.

