


DeZURIK

Cylinder Actuator for DeZURIK Gate Valve

Instructions	<p>These instructions provide information about DeZURIK Cylinder Actuators. They are intended for personnel who are responsible for the installation, operation and maintenance of Cylinder Actuators.</p>
Safety	<p>All safety messages in the instructions are flagged with the word Caution, Warning or Danger. These messages must be followed exactly to avoid equipment damage, personal injury or death.</p> <p>Safety label(s) on the product indicate hazards that can cause equipment damage, personal injury or death. If a safety label becomes difficult to see, or if a label has been removed, please contact DeZURIK for replacement label(s).</p> <hr/> <p> WARNING! Personnel involved in the installation or maintenance of valves should be constantly alert to potential emission of process material and take appropriate safety precautions. Always wear suitable protection when dealing with hazardous process materials. Handle valves which have been removed from service with the assumption of process material within the valve.</p> <hr/>
Inspection	<p>Your cylinder actuator knife gate valve has been packaged to provide protection during shipment. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.</p>
Parts	<p>Recommended spare parts are listed on the assembly drawing. These parts should be stocked to minimize downtime.</p> <p>Order parts from your DeZURIK sales representative, or directly from DeZURIK. When ordering parts, please include the 7-digit part number and 4-digit revision number (example: 9999999R000) located on the data plate attached to the valve assembly. Also include the part name, the assembly drawing number, the balloon number and the quantity stated on the assembly drawing.</p>
DeZURIK Service	<p>DeZURIK Service personnel are available to install, maintain and repair all DeZURIK products. DeZURIK also offers customized training programs and consultation services. For more information, contact your local DeZURIK representative or visit our website at www.dezurik.com.</p>

DeZURIK

Cylinder Actuator for DeZURIK Gate Valve

Description

The cylinder used with DeZURIK Gate Valves is a pneumatic double acting cylinder that requires a supply pressure between 60 and 100 psi.

Lubrication

Cylinder lubrication is required only when the cylinder is disassembled. At reassembly, lubricate the piston seal, O-rings, piston grooves and the cylinder wall with Dow Corning No.44 lubricant.

Disassembly



WARNING!

This cylinder is a pressure vessel. Release the pressure from both ends of the cylinder before attempting any disassembly or repair

1. Relieve the pipeline pressure and the cylinder pressure.
2. Disconnect the cylinder tubing. NOTE: When flexible tubing is used, only one swivel connector per piece of tubing is installed. This swivel connector is on the cylinder port end of the tubing.
3. Remove the nuts and washers from the tie rods.
4. Remove the cylinder cap.
5. Remove the O-ring seal from the cylinder cap.
6. Remove the cylinder tube. Rotate the cylinder tube while pulling it off the piston.
7. Remove the piston seal and O-ring. Clean the parts and the grooves in the piston.
8. Remove piston rod assembly.
9. Remove O-ring from cylinder head.
10. Remove rod and O-ring from cylinder head.

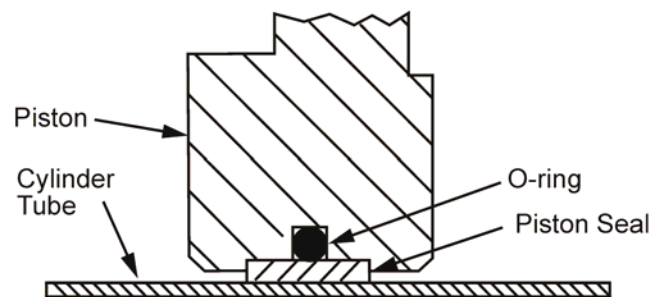


Figure 1 Piston Seal Arrangement

Reassembly

1. Install the piston rod seal as shown in Figure 2.
 - a. Clean the groove in the cylinder head and lubricate all the parts.
 - b. Insert the seal ring in the groove. Make sure the sealing ring lies flat in the groove.

Reassembly

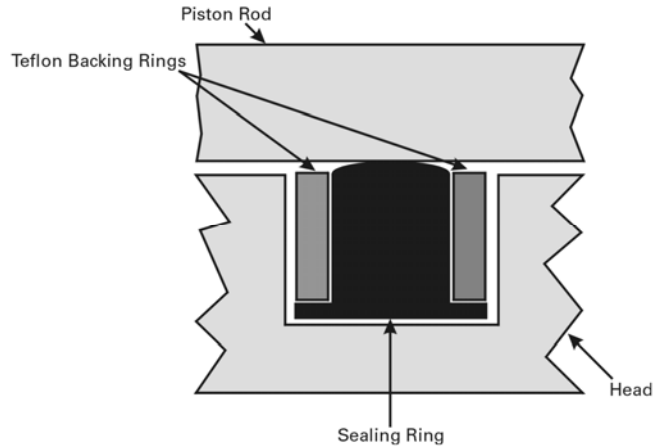


Figure 2 Rod Seal Arrangement

c. Insert the Teflon backing rings. The backing rings are cut with a bevel. Be sure the ends match and do not overlap.

2. Mount the cylinder head to the actuator.
3. Lubricate the O-ring with Dow Corning No.44 lubricant and place it on the cylinder head.
4. Carefully install the piston rod.
5. Lubricate the piston seal, groove and O-ring with Dow Corning No.44 lubricant, and place the O-ring and seal on the piston.

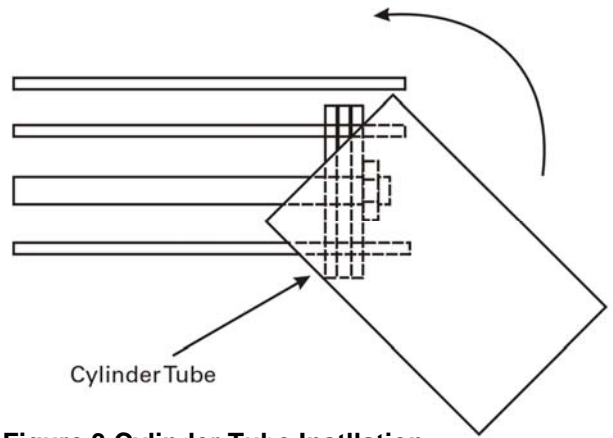


Figure 3 Cylinder Tube Installation

6. Carefully slide the cylinder tube over the piston seal. The cylinder tube and piston seal must be well lubricated with Dow Corning No.44 lubricant. Start with the tube at a 45 degree angle to the piston and rotate the tube on to the piston. On 6 inch and larger cylinders, remove tie rods as needed to allow positioning the tube at a 45 degree angle. See Figure 3.

7. Lubricate the O-ring with Dow Corning No. 44 lubricant and place it on the cylinder cap.
8. Place the cylinder cap on the cylinder tube and place the washers and nuts on the tie rods. Tighten the nuts to the torque listed in Table A.

Table A: Torque Specifications for Tie Rod Nuts

Cylinder Size	Torque	
	Ft. Lbs.	Nm
C4	12	16
C6-C8	16	22
C10-C12	20	27