

MANUAL ACTUATOR FOR KNIFE GATE VALVES



Instruction **D10079**
November 2013

Instructions

These instructions are for use by personnel who are responsible for the installation, operation and maintenance of DeZURIK valves, actuators or accessories.

Safety Messages

All safety messages in the instructions are identified by a general warning sign and the signal word CAUTION, WARNING or DANGER. These messages indicate procedures to avoid injury or death.

Safety label(s) on the product indicate hazards that can cause injury or death. If a safety label becomes difficult to see or read, or if a label has been removed, please contact DeZURIK for replacement label(s).

WARNING

Personnel involved in the installation or maintenance of valves should be constantly alert to potential emission of pipeline material and take appropriate safety precautions. Always wear suitable protection when dealing with hazardous pipeline materials. Handle valves which have been removed from service with suitable protection for any potential pipeline material in the valve.

Inspection

Your DeZURIK product has been packaged to provide protection during shipment; however, items can be damaged in transport. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.

Parts

Replaceable wear parts are listed on the assembly drawing. These parts can be stocked to minimize downtime. Order parts from your local DeZURIK sales representative or directly from DeZURIK. When ordering parts please provide the following information:

If the valve has a data plate: please include the 7-digit part number with either 4-digit revision number (example: 9999999R000) or 8-digit serial number (example: S1900001) whichever is applicable. The data plate will be 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.

If there isn't any data plate visible on the valve: please include valve model number, part name, and item number from the assembly drawing. You may contact your local DeZURIK Representative to help you identify your valve.

DeZURIK Service

DeZURIK service personnel are available to maintain and repair all DeZURIK products. DeZURIK also offers customized training programs and consultation services. For more information, contact your local DeZURIK sales representative or visit our website at DeZURIK.com.

Operation

Lever Actuator

1. Loosen the lock screw near the top of the yoke.
2. Move the lever to open or close the valve.
3. Tighten the lock screw to hold the valve in the desired position.

Handwheel, Chainwheel and Bevel-Gear Actuators

Rotate the handwheel or chainwheel clockwise to close the valve.

Note: There is an arrow cast on the wheel to indicate direction of rotation.

Removing Actuator

1. Close the valve.
2. Disconnect the stem from the gate by removing the two screws and nuts.
3. Remove the screws securing the actuator yoke to the valve, then separate the actuator from the valve.

Actuator Installation

1. Close the valve.
2. Set the actuator on the valve and secure it in place with the screws.
3. Connect the stem to the gate with two screws and nuts.

Mounting Handwheel

2–12" C-Series, KBD, KGC, KGL, KGU, KGS, KSV and KUL Valves

Two Spirol® pins are used to connect the handwheel to the yoke sleeve. The use of any other type of pin will result in actuator failure.

1. Rotate the yoke sleeve until the flange on the yoke sleeve touches the yoke.
2. Place the thrust washer and the wave washer over the yoke sleeve.
3. Set the handwheel in place. Turn the wheel so the holes in the wheel line up with the pin ways in the yoke sleeve.
4. Insert a 5/16"-diameter bolt in one of the holes.

Note: This will prevent misalignment. If the holes are not aligned the pin ways in the yoke sleeve could be damaged by the Spirol® pins.



WARNING!

This actuator has been designed to use only heavy-duty Spirol® brand pins. The use of any other type of pin will result in actuator failure. See Figure 1.

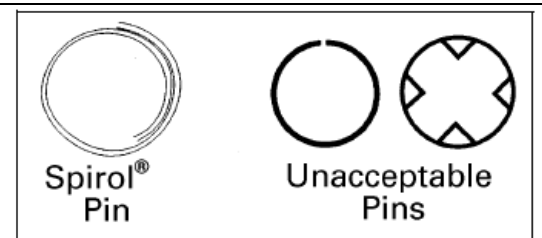


FIGURE 1– Pin Designs

5. Drive a Spirol® pin into the remaining hole in the wheel until the end of the pin is flush with the outer surface of the wheel.
6. Remove the 5/16" bolt installed in Step 4, and drive a Spirol® pin into the hole.
7. Lubricate the actuator as described in the LUBRICATION section of these instructions.

Mounting Chainwheel

2–12" C-Series, KBD, KGC, KGL, KGU, KGS, KSV and KUL Valves

Two Spirol® pins are used to connect the chainwheel to the yoke sleeve. The use of any other type of pin will result in actuator failure.

1. Rotate the yoke sleeve until the flange on the yoke sleeve touches the yoke.
2. Place the thrust washer and the wave washer over the yoke sleeve.
3. Set the chainwheel in place. Turn the wheel so the holes in the wheel line up with the pin ways in the yoke sleeve.
4. Insert a 5/16"-diameter bolt in one of the holes.

Note: This will prevent misalignment. If the holes are not aligned the pin ways in the yoke sleeve could be damaged by the Spirol® pins.



WARNING!

This actuator has been designed to use only heavy-duty Spirol® brand pins. The use of any other type of pin will result in actuator failure. See Figure 2.

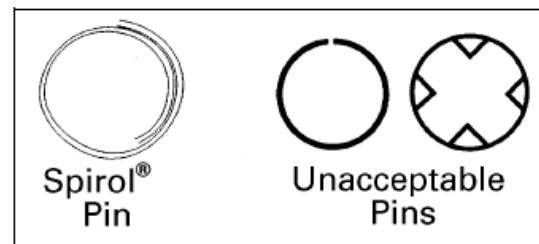


FIGURE 2—Pin Designs

5. Drive a Spirol® pin into the remaining hole in the wheel until the end of the pin is flush with the outer surface of the wheel.
6. Remove the 5/16" bolt installed in Step 4, and drive a Spirol® pin into the hole.

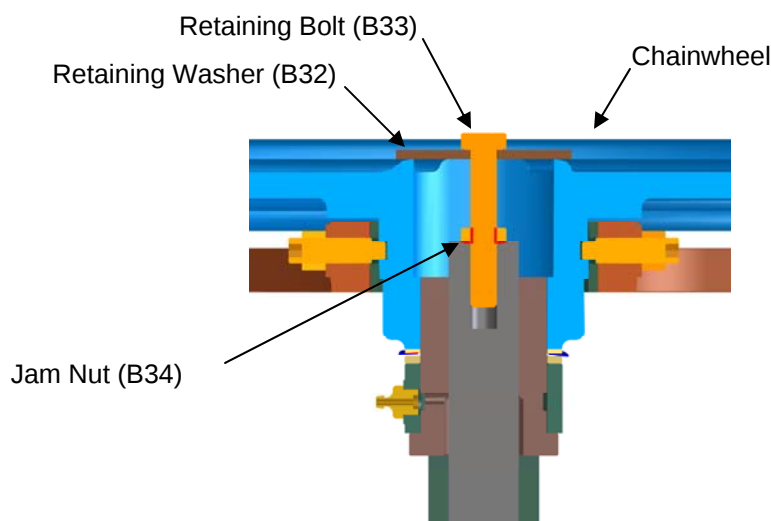


FIGURE 3—Detailed View of Chainwheel Retaining Components on 2-12" Valves

*Spirol® is a registered trademark of CEM Corporation

Mounting Chainwheel continued

7. As shown in Figure 3, insert the large hex-head retaining bolt (B33) through the 2.5-inch retaining washer (B32) and stake the washer to the head of the bolt. This keeps the washer from sliding down the shaft of the bolt when the valve is open (when the stem is extended upward).
8. Turn the 3/8-16 jam nut (B34) onto the retaining bolt/washer assembly. Turn the nut on far enough to allow the bolt to be fully inserted into the valve stem (detailed in the next step).
9. Turn the retaining bolt assembly into the tapped hole on the valve stem until it bottoms out.
10. Tighten the jam nut firmly against the valve stem. This prevents the retaining bolt assembly (and the chainwheel) from being dislodged if the two Spirol® pins are damaged or fatigued.
11. Lubricate the actuator as described in the LUBRICATION section of these instructions.

Mounting Handwheel or Chainwheel on Large Valves

14-24" KGC, KGL, KGU, KGS and KUL Valves only

1. Rotate the yoke sleeve until the flange on the yoke sleeve touches the yoke.
2. Place the thrust washer over the yoke sleeve.
3. Install the woodruff key in the yoke sleeve keyseat.
4. Align the keyway in the wheel with the key in the yoke sleeve, then slide the wheel into the yoke sleeve until the wheel contacts the shoulder on the yoke sleeve.
5. On valves with a chainwheel actuator, slide the chain guide over the yoke sleeve so the guide loops are directly under the chainwheel.
6. Screw the nut onto the yoke sleeve to retain the wheel.
7. Pin the nut to the yoke sleeve.

Limited Warranty

DeZURIK, Inc. ("Seller") manufactured products, auxiliaries and parts thereof that we manufacture for a period of twenty-four (24) months from date of shipment from Seller's factory, are warranted to the original purchaser only against defective workmanship and material, but only if properly stored, installed, operated, and serviced in accordance with Seller's recommendations and instructions.

For items proven to be defective within the warranty period, your exclusive remedy under this limited warranty is repair or replacement of the defective item, at Seller's option, FCA Incoterms 2020 Seller's facility with removal, transportation, and installation at your cost.

Products or parts manufactured by others but furnished by Seller are not covered by this limited warranty. Seller may provide repair or replacement for other's products or parts only to the extent provided in and honored by the original manufacturer's warranty to Seller, in each case subject to the limitations contained in the original manufacturer's warranty.

No claim for transportation, labor, or special or consequential damages or any other loss, cost or damage is being provided in this limited warranty. You shall be solely responsible for determining suitability for use and in no event shall Seller be liable in this respect.

This limited warranty does not warrant that any Seller product or part is resistant to corrosion, erosion, abrasion or other sources of failure, nor does Seller warrant a minimum length of service.

Your failure to give written notice to us of any alleged defect under this warranty within twenty (20) days of its discovery, or attempts by someone other than Seller or its authorized representatives to remedy the alleged defects therein, or failure to return product or parts for repair or replacement as herein provided, or failure to store, install, or operate said products and parts according to the recommendations and instructions furnished by Seller shall be a waiver by you of all rights under this limited warranty.

This limited warranty is voided by any misuse, modification, abuse or alteration of Seller's product or part, accident, fire, flood or other Act of God, or your failure to pay entire contract price when due.

The foregoing limited warranty shall be null and void if, after shipment from our factory, the item is modified in any way or a component of another manufacturer, such as but not limited to; an actuator is attached to the item by anyone other than a Seller factory authorized service personnel.

All orders accepted shall be deemed accepted subject to this limited warranty, which shall be exclusive of any other or previous warranty, and this shall be the only effective guarantee or warranty binding on Seller, despite anything to the contrary contained in the purchase order or represented by any agent or employee of Seller in writing or otherwise, notwithstanding, including but not limited to implied warranties.

THE FOREGOING REPAIR AND REPLACEMENT LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS AND LIABILITIES, INCLUDING, BUT NOT LIMITED TO, ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE SELLER'S ENTIRE AND EXCLUSIVE LIABILITY AND YOUR EXCLUSIVE REMEDY FOR ANY CLAIM IN CONNECTION WITH THE SALE AND FURNISHING OF SERVICES, GOODS OR PARTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATIONS. NEITHER ANY PERFORMANCE OR OTHER CONDUCT, NOR ANY ORAL OR WRITTEN INFORMATION, STATEMENT, OR ADVICE PREPARED BY SELLER OR ANY OF OUR EMPLOYEES OR AGENTS WILL CREATE A WARRANTY, OR IN ANY WAY INCREASE THE SCOPE OR DURATION OF THE LIMITED WARRANTY.

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Limitation of Liability

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO; DAMAGE TO OR LOSS OF OTHER PROPERTY OR EQUIPMENT, BUSINESS INTERRUPTION, COST OF SUBSTITUTE PRODUCTS, LOSS OF TIME, LOSS OF PROFITS OR REVENUE, COST OF CAPITAL, LOSS OF USE, OR DIMINUTION IN VALUE) WHATSOEVER, AND SELLER'S LIABILITY, UNDER NO CIRCUMSTANCES, WILL EXCEED THE CONTRACT PRICE FOR THE GOODS AND/OR SERVICES FOR WHICH LIABILITY IS CLAIMED. ANY ACTION FOR BREACH OF CONTRACT BY YOU, OTHER THAN RIGHTS RESPECTING OUR LIMITED WARRANTY DESCRIBED ABOVE, MUST BE COMMENCED WITHIN 12 MONTHS AFTER THE DATE OF SALE.

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web site: www.dezurik.com E-Mail: info@dezurik.com



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