

# DeZURIK

## 3" Level Sensor Knife Gate Valve

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**Instructions** These instructions are intended for personnel who are responsible for the installation, operation and maintenance of Level Sensor Knife Gate Valves.

**Safety Messages** 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.

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.



### **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 the assumption of pipeline material within the valve.**

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**Parts** Recommended spare parts are listed on the assembly drawing. These parts should be stocked to minimize downtime.

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.

**DeZURIK Service** 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](http://www.dezurik.com).

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**Description** The DeZURIK Level Sensor Knife Gate Valve is a resilient seated valve designed specifically for mounting a level sensor to a stock chest. The valve, when closed, allows the level sensor to be removed without draining the stock chest. A ratcheting lever actuator requires minimum clearance to operate the valve. Two purge connections for flushing the inside of the valve are included.

**Installation** Install the valve with the seat end away from the stock chest, and toward the level sensor. Refer to Installation Drawing A-42347 for dimensional information. Flange gaskets are required. Before installation, remove foreign material such as weld spatter, oil, grease, and dirt from the valve and pipeline. Tighten the flange bolts evenly, in a crisscross pattern, to prevent distortion of the body and gate.

**Lubrication** Approximately monthly, lubricate the fitting on the valve actuator with a lithium-based grease.

**Packing Adjustment** The gate packing is contained and compressed by the packing gland. If packing leakage occurs, tighten the adjustment nuts on top of the packing gland. Tighten the nuts evenly and gently — just enough to stop the leakage. Over tightening will cause excessive operating forces, and will decrease the life of the packing.

**Packing Replacement** 1. Relieve the pressure in the pipeline and close the valve.

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**WARNING!**

**Pipeline pressure can propel the loose flange bolts and flanges, and can cause personal injury or equipment damage. Relieve pipeline pressure before removing flange bolts and flanges.**

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2. Remove the two screws and nuts near the top of the gate and disengage the actuator stem from the gate by stroking the actuator (not the valve) to the open position.
3. Remove the gland nuts, washers, and packing gland.
4. Remove the used packing from the packing chamber.
5. With the gate closed, center the gate in the body opening below the packing chamber.
6. Cut 3 new packing rings in 8-3/4" lengths. Assemble and pack the rings one at a time with the ends together, but not overlapped, first ring type CD, second ring type ZJ, last ring type CD. Stagger the joints, on the long sides of the packing chamber. A square-end wood or plastic tool, driven by a hammer or mallet, is recommended for packing the rings. The inside and outside edges of each ring are to be packed against the gate and packing chamber, so that each ring is compressed flat and evenly.
7. Replace the packing gland, washers, and nuts. Tighten the nuts evenly and finger tight, plus 1/2 turn.
8. Reconnect the actuator stem to the gate with the two screws and nuts.
9. The valve may now be pressurized. If packing leakage occurs, tighten the adjustment nuts on top of the packing gland. Tighten the nuts evenly and slowly, just enough to stop the leakage. Over tightening will cause excessive operating forces, and will decrease the life of the packing.

Seat 1. Relieve the pressure in the pipeline and close the valve.

### Replacement



#### **WARNING!**

**Pipeline pressure can propel the loose flange bolts and flanges, and can cause personal injury or equipment damage. Relieve pipeline pressure before removing flange bolts and flanges.**

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2. Remove the valve from the system.
3. Remove the two screws and nuts near the top of the gate and disengage the stem from the gate.
4. Remove the actuator yoke and actuator from the valve.
5. Remove the gland nuts, washers, and packing gland.
6. Remove the gate from the body.
7. Remove the packing from the packing chamber.
8. Push the top of the resilient seat toward the center of the valve, and remove the seat through the packing chamber.
9. Reversing step 8, insert the new seat through the packing chamber and behind the lug at the 6 o'clock position in the body. Then push the top of the seat into position.
10. Replace the gate in the body, with the beveled edge facing away from the resilient seat. Place the gate in the fully closed position.
11. Replace the packing, as described in step 6 in the PACKING REPLACEMENT section.
12. Replace the packing gland, washers, and nuts. Tighten the nuts evenly and finger tight, plus 1/2 turn.
13. Replace the yoke and actuator on the valve.
14. Reconnect the stem to the gate with the two screws and locknuts.
15. Replace the valve in the system. Refer to the requirements in the INSTALLATION section. If packing leakage occurs, tighten the adjustment nuts on top of the packing gland. Tighten the nuts evenly and slowly, just enough to stop the leakage. Over tightening will cause excessive operating forces, and will decrease the life of the packing.