DeZURIK NT NUT AND LEVER ACTUATOR
USED ON 4” - 6” PEC & 3” - 6” PEF ECCENTRIC VALVES
DeZURIK
NT Nut and Lever Actuators

Instructions
These instructions provide information about NT Nut and Lever Actuators. They are for use by personnel who are responsible for installation, operation and maintenance of NT Nut and Lever Actuators.

Safety Messages
All safety messages in the instructions are flagged with an exclamation symbol and the word Caution, Warning or Danger. These messages indicate procedures that 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 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 the assumption of pipeline material within the valve.

Inspection
Your NT Nut and Lever Actuator has been packaged to provide protection during shipment, however, it 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
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 sales representative or visit our website at www.dezurik.com.
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Description
The 4” - 6” PEC & 3” - 6” PEF Eccentric valves can be actuated with the LV or LVF lever operators or with other levers that fit the 2” NT wrenching nut. Recommended lengths for levers are dependent upon valve size and maximum pressure drop expected across the valve as shown in Table A.

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Lever Length</th>
<th>Pressure Drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 &amp; 4 in</td>
<td>15 in</td>
<td>25 psi 170 kPa</td>
</tr>
<tr>
<td>80 &amp; 100 mm</td>
<td>381 mm</td>
<td>50 &amp; 75 psi 345 &amp; 515 kPa</td>
</tr>
<tr>
<td>5 &amp; 6 in</td>
<td>23 in</td>
<td>100 psi 690 kPa</td>
</tr>
<tr>
<td>125 &amp; 150 mm</td>
<td>584 mm</td>
<td>125 psi 860 kPa</td>
</tr>
</tbody>
</table>

Table A: Lever Length

Pressure Ratings
Direct shutoff pressure differentials for nut or lever actuated valves must not exceed the limits shown in Table B.

Note: Reverse shutoff differentials must not exceed 25 psi (170 kPa).

If valves must seal higher pressures, use handwheel actuators.

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Nitrile-Butadiene (Buna V) NBR Packing (with Friction Cone)</th>
<th>Low Friction Nitrile-Butadiene (Buna V) NBRL Packing (without Friction Cone)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 &amp; 4 in</td>
<td>125 psi 860 kPa</td>
<td>40 psi 275 kPa</td>
</tr>
<tr>
<td>80 &amp; 100 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 6 in</td>
<td>50 psi 345 kPa</td>
<td>25 psi 170 kPa</td>
</tr>
<tr>
<td>125 - 150 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table B: Maximum Shutoff Pressure Differentials

Figure 1 - Direct and Reverse Pressure Detail
Operation

Slowly rotate the lever clockwise around the valve stem to close the valve.

⚠️ CAUTION!

Close the valve slowly. Rapid closure of the valve can cause pipeline pressure surges that will damage pipeline equipment.

Stop Adjustments

This actuator features open and closed position stops. These stops can be adjusted to stop valve stroke at the fully open and fully closed valve positions, or at any other valve position as desired to allow full control of your flow system.

Open Position Stop

The open position stop is a socket head cap screw and nut located in the slot in the gland. To change the stop setting, loosen the nut, slide the screw to the desired stop location, then tighten the nut. Check the stop setting by operating the valve until the lug contacts the stop; readjust the stop if necessary.

Closed Position Stop

The closed position setting for PEC Eccentric valves is determined by torquing the valve plug into the seat. To set the closed position stop, turn the closed position stop screw counterclockwise several turns, torque the plug into the seat to the torque specified in Table C, then turn the closed position stop screw clockwise until it contacts the adaptor.

Table C: Valve Seating Torque

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Valve Seating Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 &amp; 4 in</td>
<td>150 ft lbs</td>
</tr>
<tr>
<td>80 &amp; 100 mm</td>
<td>200 N·M</td>
</tr>
<tr>
<td>5 &amp; 6 in</td>
<td>180 ft lbs</td>
</tr>
<tr>
<td>125 mm &amp; 150 mm</td>
<td>245 N·M</td>
</tr>
</tbody>
</table>

Removing Actuator

1. Stop pipeline flow.

⚠️ WARNING!

Flow in the pipeline with the actuator removed can allow the valve to slam closed and cause personal injury and/or damage to the flow system. Shut down the flow in the pipeline before removing the actuator.

2. Scribe a line on the wrenching nut, packing gland and the valve bonnet for alignment during assembly.

3. Remove the nut recessed in the top of the wrenching nut.

4. Lift the wrenching nut off the plug stem.

Note: Do not lose the washers that are in the recessed hole.
Installing Actuator

1. Line up the scribe marks on the wrenching nut and packing gland, then set the wrenching nut on the plug stem.
2. Slide the flat washer (PEC Valves only) down the plug stem stud, then install the spring washers as shown in Figure 2.
3. Screw the lock nut down the plug stud until it is tight and the spring washers are completely compressed, then back the nut off one full turn.

Figure 2 – Spring Washer Stackup
Guarantee

Products, auxiliaries and parts thereof of DeZURIK, Inc. manufacture are warranted to the original purchaser for a period of twenty-four (24) months from date of shipment from factory, against defective workmanship and material, but only if properly installed, operated and serviced in accordance with DeZURIK, Inc. recommendations. Repair or replacement, at our option, for items of DeZURIK, Inc. manufacture will be made free of charge, (FOB) our facility with removal, transportation and installation at your cost, if proved to be defective within such time, and this is your sole remedy with respect to such products. Equipment or parts manufactured by others but furnished by DeZURIK, Inc. will be repaired or replaced, but only to the extent provided in and honored by the original manufacturers warranty to DeZURIK, Inc., in each case subject to the limitations contained therein. No claim for transportation, labor or special or consequential damages or any other loss, cost or damage shall be allowed. You shall be solely responsible for determining suitability for use and in no event shall DeZURIK, Inc. be liable in this respect. DeZURIK, Inc. does not guarantee resistance to corrosion, erosion, abrasion or other sources of failure, nor does DeZURIK, Inc. guarantee 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 DeZURIK, Inc. 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 install and operate said products and parts according to instructions furnished by DeZURIK, Inc., or misuse, modification, abuse or alteration of such product, accident, fire, flood or other Act of God, or failure to pay entire contract price when due shall be a waiver by you of all rights under this warranty.

The foregoing guarantee 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 DeZURIK, Inc. Factory Service personnel.

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Sales and Service

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

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