



## UNDERSTANDING SHUTOFF CAPABILITIES OF THE PTW/PFW PLUG VALVE

Critical to the dead-tight shut-off capability of DeZURIK's 3-Way and 4-Way valves PTW/PFW plug valves is the Lift, Turn, Reseat actuator. DeZURIK provides two types of manual actuators that provide dead-tight shutoff. Other actuator options such as cylinders or electric motors cannot provide tight shutoff.

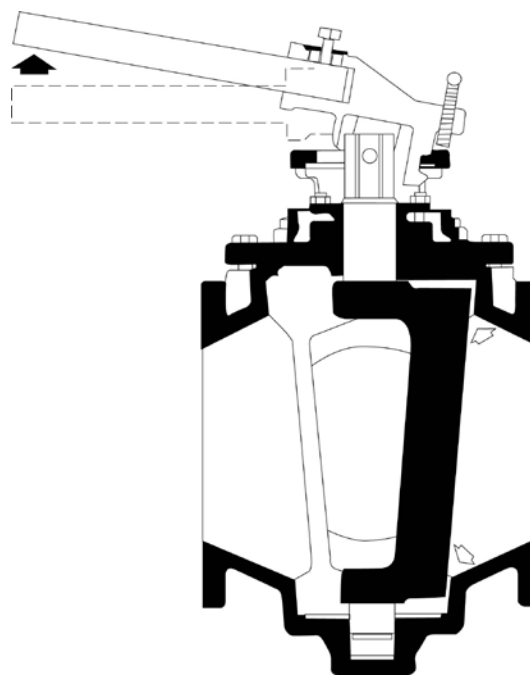
On Lift, Turn, Reseat handwheel actuated valves, the top handwheel is operated first to lift the plug away from the seat to provide clearance for easy operation. The side handwheel is then used to rotate the plug to the desired port to be closed. Rotate the top handwheel in the opposite direction to seat the plug in the closed position onto the body providing a dead tight shutoff.

In thousands of installations worldwide, DeZURIK Eccentric Plug Valves have a proven record of long-term reliability. Originally, the Eccentric Plug Valve was developed by Matt DeZURIK in 1928. Since then, DeZURIK has advanced valve reliability and application technology with the design enhancements. A wide variety of value-added design features and lowest total cost of ownership have made it the preferred choice of engineering, operations and maintenance personnel.



**Lift, Turn, Reseat Operation with Double Handwheel Actuator**

DeZURIK also provides a Lift, Turn, Reseat Lever actuator that works on the same principle. The single lever incorporates both functions: it can be used to lift the lever, and also to rotate the plug.

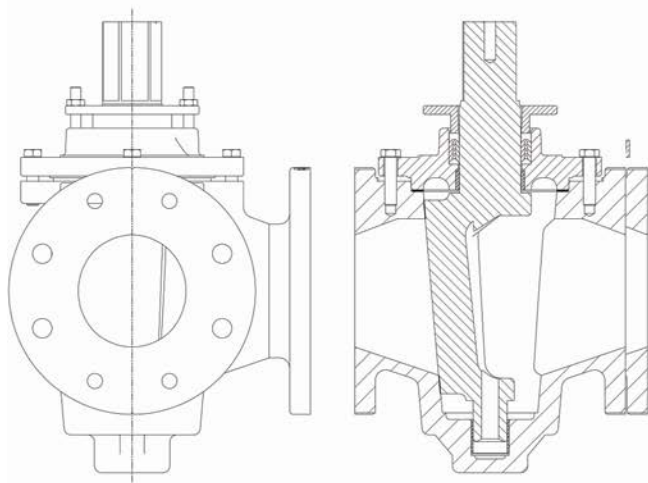


**Lift, Turn, Reseat Operation with Lever Actuator**

When a PTW/PFW valve is specified with a cylinder or electric motor actuator, the vertical "lift" motion cannot be accomplished with these actuator types. Likewise, the vertical motion is also eliminated when extended levers or floorstands are ordered with the valve. When a PTW or PFW valve is specified with a cylinder, motor, extended lever or floorstand, a Plug Adjusting Device or jack screw is added to the valve assembly which keeps the valve plug permanently "lifted." A clearance of .015" is set between the plug face and body seat for optimum operation.

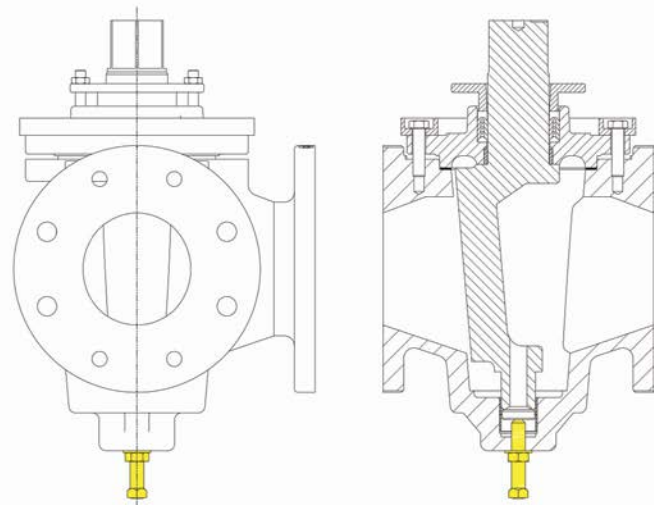
Because of this required clearance due to the vertical motion being eliminated from the valve operation, the valve CANNOT provide a dead-tight shut-off. The valve will have a leakage rate in all ports depending up media characteristics. DeZURIK does not perform a leak test on these valves. Clearance dimension is set at the factory and can be adjusted as necessary in the field. Due to potential swelling of elastomers reacting to various media which can affect this important clearance requirement, the plug material specified is 316 stainless steel in the PTW/PFW plug valve.

#### Valve for Use with Lift, Turn, Reseat Actuation



The plug position in the normal Lift, Turn and Reseat configuration provides tight shutoff in the closed position.

#### Valve for Use with Cylinder, Motor, Extension or Floorstand



When the valve is for use with a Cylinder, Motor, Extension or Floorstand, a plug adjusting device is installed in the bottom of the valve to set a permanent/adjustable "clearance" between the plug and seat. A threaded collar maintains constant clearance between the plug and seat to assure smooth valve operation. Plug-to-seat clearance is easily adjusted by turning the collar.

### Sales and Service

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

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