



## **DeZURIK PEF 100% PORT ECCENTRIC PLUG VALVES**



## The Improved DeZURIK PEF Eccentric Plug Valve

DeZURIK has once again advanced plug valve reliability and application technology with the design enhancements provided in the PEF Eccentric Plug Valve. This is the next generation in the evolution of the DeZURIK Plug Valve which is presently in use in most U.S. wastewater treatment plants and on a wide range of industrial applications worldwide.

Product dependability, long service life and unmatched quality have set the standard for Eccentric Plug Valves throughout the design history of this innovative product concept. Improvements incorporated in the PEF Eccentric Plug Valve again demonstrate a commitment to providing the best in product design as measured by installed performance.



# Unique Port Design

**The DeZURIK PEF Eccentric Plug Valve combines 100% pipe area flow capacity with the application benefits and superior performance of a rectangular port.**

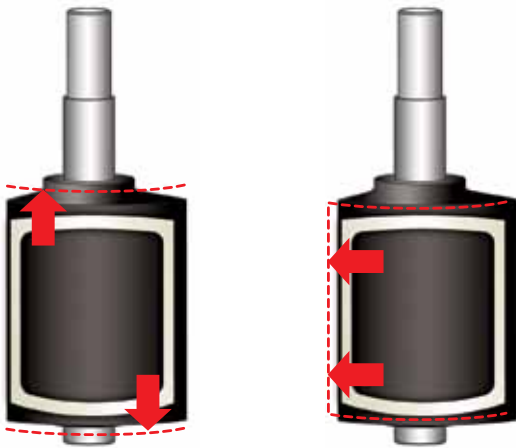
## 100% Port Area

The port is 100% of standard pipe area providing straight through flow and high flow capacity.

## Modified Rectangular Port for Improved Shutoff

The 100% full pipe area rectangular port of the DeZURIK PEF provides more flow and avoids the problems associated with point-to-point seating in valves utilizing a segmented ball design. Point-to-point seating attempts to fit a spherical ball segment into a circular seat. Any vertical or horizontal misalignment results in excessive interference at the initial point of contact which increases wear and prevents the segmented ball from closing fully.

With the cylindrical/rectangular port of the DeZURIK PEF, exact plug to seat alignment is not required. Vertical alignment is not an issue, as it does not affect seat contact. Horizontal alignment is provided by eccentric action which moves the plug into the seat until uniform, full contact is made. Without the need for exact alignment, the plug shutoff position has much wider tolerances and provides more reliable shutoff.



Upward or downward plug movement is not critical to plug/seat alignment or shutoff.

Plug rotation up to 95° assures seat coverage and compensates for normal wear.

## Flushing Port

For wastewater and slurry applications, the enlarged port opposite the seat end minimizes pooling in the body. Complete flushing of the valve happens every time it opens.



## Full Port Allows Pipeline Pigging

The full opening, 100% area port and straight-through interior body design provides the capability for in-line pigging.

## Outstanding Control Characteristics

DeZURIK PEF valves are ideal for control applications. They provide a modified linear installed characteristics for predictable and reliable flow response. Their high critical factors also make them highly resistant to cavitation, and associated damage.

# Rugged Design For Long Life & Low Maintenance

## Heavy Duty Construction

Rugged construction and application-based design features maximize valve performance and extend service life to provide reliability at the lowest possible installed usage cost.

## Welded Nickel Seat for Corrosion Resistance

The welded nickel seat provides the best protection against seat corrosion that can cause plug face damage and resultant leakage. The raised seat is welded with 95% pure nickel; it is  $\frac{1}{2}$ " wide and  $\frac{1}{8}$ " thick. The raised seat ensures the plug only contacts the nickel, and prolongs the life of resilient plug facings.



## Corrosion Resistant Coatings

We offer a full range of corrosion resistant interior and exterior coatings in a variety of materials and thicknesses to meet application requirements.

## One-Piece Plug

A one-piece plug casting provides the best in rigidity and journal alignment. Ductile iron construction provides added strength. Because the plug rotates out of the flow path, plug life is extended on abrasive applications.



## Resilient Plug Facings for Dead-Tight Shutoff

PEF Eccentric Plug valves are available with a variety of resilient plug facings. Resilient-faced plugs provide dead-tight shutoff without the use of sealing lubricants. Even if small solids are trapped between the plug and seat, the resilient facing provides tight shutoff and prevents seat damage. The resilient plug design provides drip-tight shutoff on wet-service applications up to the full pressure rating of the valve with pressure in either direction.

## Bond Strength Integrity

DeZURIK resilient plug facings are applied to achieve superior bond strength in full compliance with the ASTM D429 method B standard.

### **Reliable, Multiple Ring Stem Seal Packing**

Multiple V-ring packing and an adjustable gland in a machined packing chamber provide the best technology in stem seal design. The multiple packing rings are compressed to provide self-compensation for wear. The gland is very easily accessible for adjustment to further extend packing seal life. And most importantly, packing can be replaced or adjusted under pressure without actuator removal or valve disassembly.

### **Corrosion Resistant Bearings**

Heavy-duty bearings resist corrosion to prevent binding and ensure lasting easy valve operation without lubrication. These rugged stainless steel bearings are furnished in the top and bottom journals of all valves.



### **Grit Excluders at Plug Journals**

Grit excluders at the upper and lower plug journals are provided as standard to prevent the entry of grit and foreign solids into the bearing area and to further assure lasting ease of operation.

## Compliance To All Applicable Standards

### Conforms to AWWA C517 Standard for Eccentric Plug Valves

### Flanges Meet All ANSI Standards

Valve flange thickness, diameter and drilling meet all applicable standards for ANSI Class 125 cast iron valves.

## Extensive Application Capability

### Broadest Size Range

DeZURIK PEF Eccentric Valves are available in sizes 3-36" (76-914mm). Other models are available in sizes 1/2 to 2 1/2" (13-64mm) and 42-72" (1067-1829mm). Various models are available with flanged and mechanical joint.

### Fully Rated Bi-Directional Shutoff

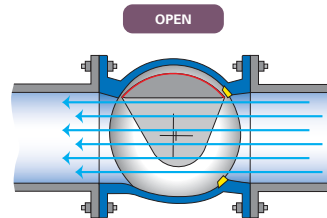
PEF valves provide 175 psi shutoff in sizes 3-12" (80-300mm) and 150 psi in sizes 14-36", (350-900mm) with flow in either direction. All components are tested and rated in compliance with applicable standards and to the full pressure rating of the valve. Actuators are sized for operating conditions.

### Wide Application Range

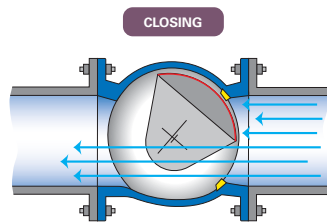
Full port flow capacity and application-based construction features meet the requirements of a wide range of service conditions requiring ruggedness, economy and dependability. The DeZURIK PEF is designed for applications throughout water and wastewater treatment plants, for clean water distribution and for dirty water collection systems. The PEF can handle a variety of liquids, gasses and solids including air, water, slurries, hydrocarbons and non-corrosive chemicals.

## Eccentric Action

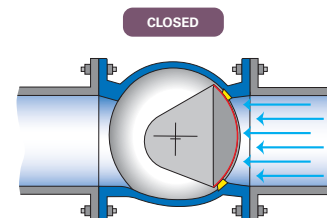
DeZURIK Eccentric Action and Resilient Plug facings ensure lasting dead-tight shutoff. As the eccentric plug rotates from open to closed, it moves into a raised eccentric seat.



In the open position, the plug is out of the flow path.



As the plug closes, it moves toward the seat without scraping the seat or body walls, so there is no plug binding or wear.

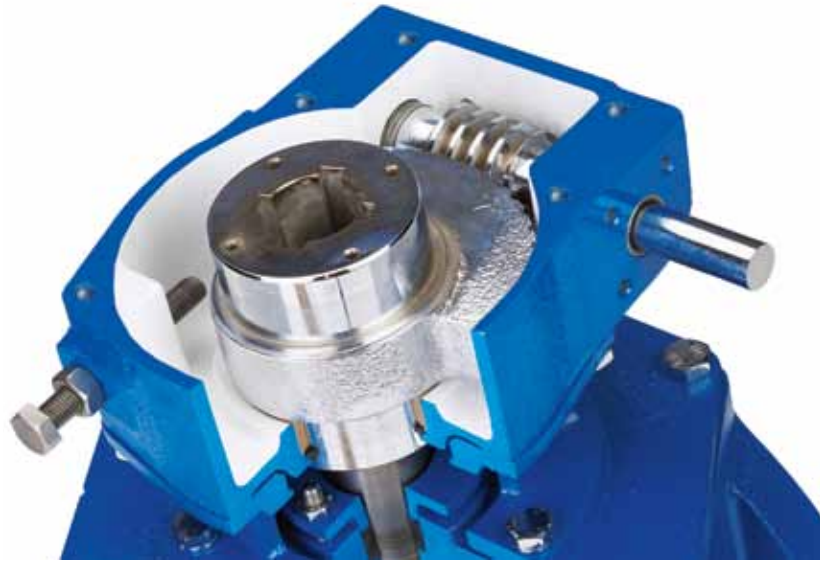


The resilient plug face seals firmly into the seat for dead-tight shutoff.

# Rugged Actuators Match Valve Performance

## Manual Actuators

Manual actuators are constructed for dependable and lasting performance. Rugged worm gear design and heavy duty-corrosion resistant bearings provide easy valve operation and reliable long life. Both above ground and buried actuators are equipped with corrosion resistant stainless steel input shaft and bolting as standard. Housing is fully sealed and grease filled for maintenance-free service.



## Cylinder Actuators

DeZURIK cylinder actuators have demonstrated reliability and performance to match. These actuators utilize a rack and pinion design for smooth and efficient operation.

The cylinder barrel is not only corrosion resistant but also highly impact resistant fiberglass resin composite. At the heart of the cylinder is a unique piston seal design that applies a triple teflon wiper with nitrile rubber backing for resiliency. This seal design has been used in our cylinders for generations with proven reliability and long life.



## Accessories

We offer a full line of extensions and accessories, including enclosed neck extensions, extended operating nuts, floorstands, valve boxes, floor boxes, solenoid valves, switches, speed control valves, positioners and electric motor operators.



## Defining the DeZURIK Difference

DeZURIK has Eccentric Plug valve installations worldwide and a proven record of long-term reliability. Originally, the Eccentric Plug valve was developed by Matt Dezurik in 1928. Through our unmatched experience, a wide variety of value-added design features have made it the preferred choice of engineering, operations and maintenance personnel.

DeZURIK has a wide variety of valve styles to meet the application requirements of water and wastewater treatment, pulp and paper, chemical, power, mining, steel, HVAC and other process industries. Today, DeZURIK products are recognized worldwide for quality and performance.

## Certification

For our latest certifications, please visit our web site. [www.dezurik.com](http://www.dezurik.com)

## Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:  
Web Site: [www.dezurik.com](http://www.dezurik.com) E-Mail: [info@dezurik.com](mailto:info@dezurik.com)



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