

# ASEPCO Diaphragms

## Designed for Critical Aseptic Processing Applications

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**ASEPCO**  
 ADVANCED ASEPTIC  
 PROCESSING EQUIPMENT

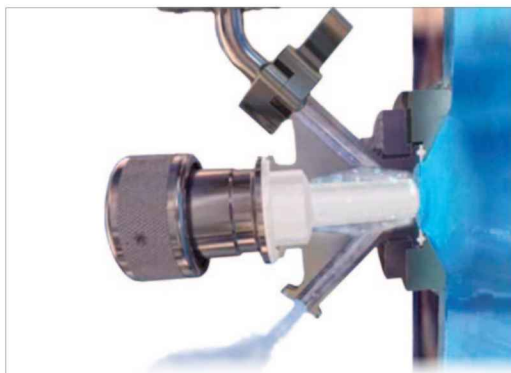


### Patented Radial-Diaphragm™ Valve and Weirless Diaphragm Valve Designs

The ASEPCO patented valve architecture (US Patent #5152500) includes a unique radial diaphragm that forms three seals with the valve: the seal at the inlet, a seal with the compound shoulder, and an O-ring seal at the bottom of the valve chamber. A behind-the-seat flow path allows complete flushing of the valve chamber. The result is a superb aseptic design that promotes self-draining and easy cleaning.

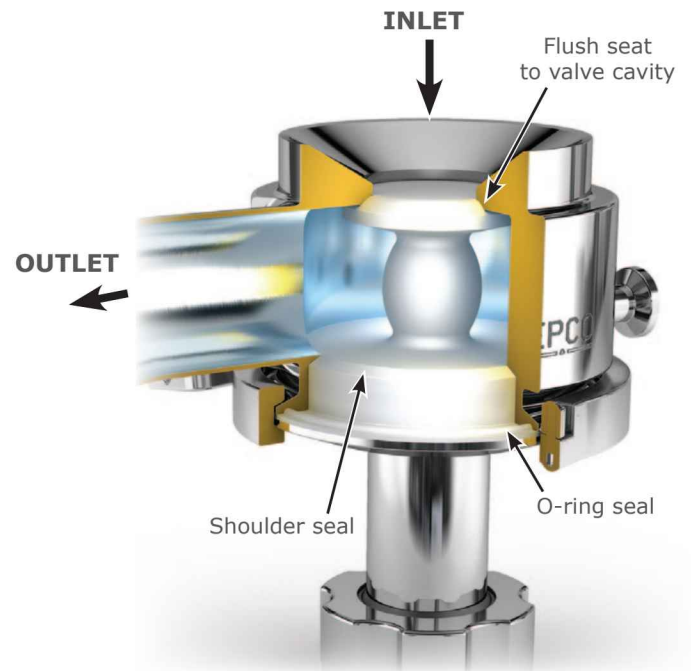
Diaphragm replacement is done with a hygienic clamp that never needs adjusting—no tools are required for maintenance and no bolts need to be periodically tightened with a torque wrench. The result is that our customers see significantly reduced maintenance costs over standard weir valves—some as much as an 80% reduction.

ASEPCO diaphragms come in a variety of materials (Silicone, EPDM, Silicone Plus, EPDM Plus, Viton, and PTFE) so that you can select the material that can best suit your specific application.



#### Behind-the-Seat Flow Path

When the valve is closed, the unique CIP/SIP “behind-the-seat flow path” can be created if you add a CIP or SIP port. This flow path makes it easy to steam or clean the valve while the valve is closed. This allows for validated aseptic and sterile connections and transfers to be performed.



Features	Benefits
All diaphragms meet USP VI standards and are FDA CFR 177.2600 compliant	Meets the standards for quality, purity, lack of toxicity, strength, and consistency Suitable for biomedical/pharma applications
Valve assembles with hygienic clamp and no tools	Diaphragm can be changed extremely quickly with little training No need for re-torquing after use
Three seals formed with valve body	Minimizes contamination and dead legs
Behind-the-seat flow path	Allows complete flushing of the valve chamber

Please contact our Customer Service Department for any non-standard valve requirement (800) 882-3886 or [info@asepco.com](mailto:info@asepco.com)

## ASEPCO Diaphragm Specifications, Material Availability, and Sizes

ASEPCO provides diaphragms created with a number of different materials. The materials vary with respect to heat-resistance, chemical-resistance, steam-resistance, and durability. The table below shows basic compatibility information. Please do not use this information as your sole method for determining whether an elastomer is right for your specific process. Before using any elastomer in a process you should verify its compatibility with an elastomer expert.

### Material Specifications

Material		Acceptable Temp Range	Pressure Range	Features
Silicone	Medical grade (platinum cured)	-60 to 275°F -51 to 135°C	100-150psi	<ul style="list-style-type: none"> <li>• Low cost</li> <li>• Physically resilient</li> <li>• Two finishes: white and clear</li> <li>• Widely used in pharmaceutical apps</li> </ul>
Silicone Plus	Silicone with Parylene surface treatment	-60 to 275°F -51 to 135°C	100-150psi	<ul style="list-style-type: none"> <li>• The same features of Silicone</li> <li>• Two times the longevity of Silicone</li> </ul>
EPDM	Ethylene propylene diene monomer (peroxide cured)	-60 to 275°F -51 to 135°C	100-150psi	<ul style="list-style-type: none"> <li>• Widely used in pharmaceutical apps</li> <li>• Relatively low cost</li> <li>• Wide temperature range; good in steam applications</li> <li>• Fairly chemically resistant; should not be used with solvents or petroleum agents</li> <li>• Black color</li> </ul>
EPDM Plus	EPDM with Parylene surface treatment	-30 to 275°F -35 to 135°C	100-150psi	<ul style="list-style-type: none"> <li>• Similar properties to EPDM; however, does not have the same stickiness</li> <li>• Two times the longevity of EPDM</li> <li>• Moderate cost</li> </ul>
Viton A	Fluoropolymer elastomer	5 to 400°F -15 to 204°C	100-150psi	<ul style="list-style-type: none"> <li>• The most commonly used version of Viton</li> <li>• Should NOT be used with most ketones or esters</li> <li>• Should not be used with extended steam exposure</li> <li>• Higher cost than EPDM and Silicone</li> </ul>
Viton A (SR)	Steam resistant version of Viton A	5 to 400°F -15 to 204°C	100-150psi	<ul style="list-style-type: none"> <li>• Performs well in conditions with extended steam</li> </ul>
Viton GF	Peroxide cured F-type Gum Polymers	5 to 400°F -15 to 204°C	100-150psi	<ul style="list-style-type: none"> <li>• More chemically resistant than Viton A</li> <li>• Offers good steam resistance</li> <li>• It should not be used with most ketones and esters</li> <li>• Higher cost than Viton A</li> </ul>
PTFE	Polytetrafluoroethylene	39 to 500°F 4 to 260°C	40-60psi	<ul style="list-style-type: none"> <li>• Extremely chemically resistant — often used with heptane and methyl chloride</li> <li>• Extremely steam resistant</li> <li>• Not really an elastomer; has cold flow issues that can result in leaking</li> <li>• Relatively higher cost compared to other materials</li> <li>• Currently only available for the following ASEPCO tank valves: Tank-Bottom, Tangential, Sterillite, Sample, Retrofit, Zero Dead Leg, Point of Use, Process, and Divert valves</li> </ul>

**Valve Size Availability:** Not all sizes of our diaphragms are available in every material. This chart indicates size availability.

Material	0.5 inch	1 inch	1.5 inches	2 inches	3 inches	4 inches
Silicone	▲	▲	▲	▲	▲	▲
Silicone Plus	▲	▲	▲	▲	▲	
EPDM	▲	▲	▲	▲	▲	▲
EPDM Plus	▲	▲	▲	▲	▲	
Viton A	▲	▲		▲	▲	
Viton A (SR)	▲	▲		▲	▲	
Viton GF	▲	▲		▲	▲	
PTFE (solid)		■	■	■	■	■

▲ Available for all valves.

■ Not available for the Inline Valve family, Insulate Valves, or I-Sample Valves; see above table for list of supported tank valves.



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