



OUR PRODUCTS DEVELOP TOMORROW'S TECHNOLOGIES™

DELTA-P™ VALVE (DPV)

Anti-Suckback and Vacuum System Isolation Valve



DESCRIPTION

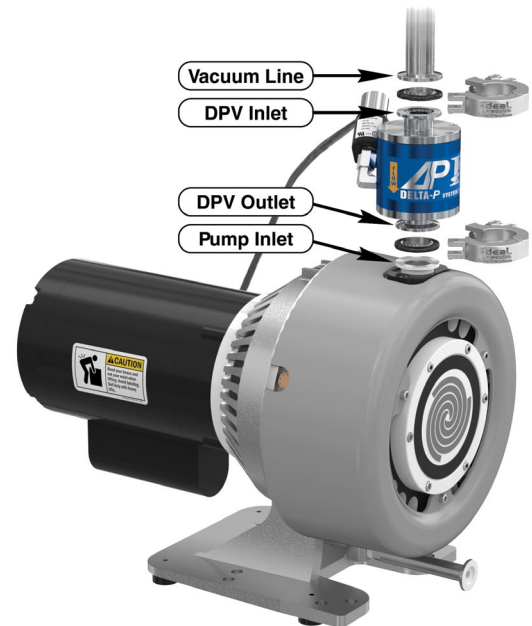
The Delta-P Valve (DPV) is an important component of any roughing or high vacuum system. The DPV provides anti-suckback and vacuum system isolation from the mechanical backing pump during a power outage. It prevents backstreaming and the migration of contaminants (e.g., rotary pump oil or scroll pump tip seal particles) into the vacuum system. It also protects a high vacuum pump (turbo) from damage.

The Delta-P Valve operates on the pressure difference (Delta P) between ambient atmosphere and the roughing/backing pump's vacuum level.

During a power failure, the mechanical pump is vented to atmosphere from its inlet flange which pushes debris towards the mechanical pump. This stops undesirable material from being swept into the system when the pump restarts.

The DPV is a compact, inline unit which mounts directly on the inlet side of the mechanical pump. It is available in five (5) standard KF flanged sizes (same flange on both ends), and with three (3) solenoid voltage options. DPV closure speed is approximately 25 ms, faster than any other isolation valve available.

The Delta-P Valve is intended for use with clean, dry air or inert gasses only.



FEATURES & FUNCTIONS

- Preserves chamber vacuum pressure during power outages
- Closes automatically upon loss of system power
- Operates on differential pressure between ambient atmosphere and roughing pump's vacuum level
- Isolates high vacuum pump and/or vacuum chamber system from mechanical pump
- Prevents backstreaming and migration of oil or particulate contaminants into the vacuum system
- Automatically re-opens when vacuum is restored
- Requires no additional power source or gasses to operate
- Very compact - mounts directly on the inlet flange of the mechanical roughing pump
- Works in any orientation: vertical, horizontal, or inverted
- Standard NW/KF flange connection sizes
- Non-restrictive flow for flange sizes smaller than KF-50
- Constructed entirely of vacuum compatible materials in the U.S.A.
- Use with clean, dry air or inert gas only

TECHNICAL SPECIFICATIONS

PARAMETER	MEASURE / TYPE
Geometry	Straight, Inline
Flanged End	KF-10, KF-16, KF-25, KF-40, or KF-50
Solenoid Voltage	110 VAC, 220 VAC, or 24 VDC
Temperature Rating	0° to 70° C (valve) 0° to 50° C (solenoid)
Close Time	≈ 25 ms
Leak Rate	<1x10 ⁻⁸ atm cc/sec Helium
Service Life	>10,000 cycles
Materials	
Valve Body	6061-T6 Aluminum
Flange Ends	6061-T6 Aluminum
Flange End O-Ring	Viton
Piston (Actuator Cup and Bushing)	Acetal
Piston (Actuator Cup) O-Ring	Viton
Tension Spring	302 Stainless Steel
Spring Stud Anchors	18-8 Stainless Steel
Assembly Hex Screws	18-8 Stainless Steel
Dimensions	
Body Outside Diameter	2.95 in. (75 mm)
Overall Length	4.2 in. (107 mm), KF-10 to KF-40 5.0 in. (127 mm), KF-50

CONFIGURATIONS

The Delta-P Valve is available in five (5) standard KF flanged sizes (same flange on both ends), and with three (3) solenoid voltage options. Ideal Vacuum part numbers for ordering standard DPV configurations are shown in the table below. The Delta-P Valve may be special ordered if different flange ends on either side are required (e.g., KF-25 on the inlet and KF-40 on the outlet). Replacement flange ends and solenoids are also available.

FLANGE	SOLENOID VOLTAGE		
	110 VAC	220 VAC	24 VDC
SIZE			
KF-10	P1010135	P1010180	P1010185
KF-16	P1010136	P1010181	P1010186
KF-25	P1010137	P1010182	P1010187
KF-40	P1010138	P1010183	P1010188
KF-50	P1010139	P1010184	P1010189

Download the Delta-P Manual at: idealvac.com/files/manuals/Idealvac-Delta-P-Manual.pdf



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