



Valve

Solutions

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LoPro™ Valves

COMPACT VACUUM VALVE

The LoPro Valve has a smaller profile, is lighter, lower in cost, and easier to maintain than similar competitive valves. With its small footprint, this valve fits as easily into existing vacuum systems as well as new systems. Manufactured using superior techniques and high quality materials, the LoPro Valve is extremely durable and dependable. The LoPro Valve lifetime can extend to 1,000,000 cycles under clean conditions, greatly increasing system uptime. A formed stainless steel bellows prevents outgassing, virtual leaks, and particle entrapment between bellows convolutions and extends the LoPro Valve's life cycle. The bellows' stroke length is optimized to assure a longer cycle life while maintaining a high conductance.

Another standard feature is a TIG fusion-welded, bead-blasted body made of high grade, corrosion resistant, 304 stainless steel for significantly fewer entrapment areas, resulting in less contaminant build-up. In the event of power or air loss, the pneumatic LoPro Valve will automatically spring to close. Actuation can be pneumatic or manual.

The LoPro Valve is available in both angle and inline versions. Port sizes include outside diameters of 1, 1½, and 2 inches and standard port interfaces include KF flanges, CF flanges, and weld stubs. For leak-tight operation, elastomer seals are available in Viton® for typical vacuum operating conditions, in Kalrez® or Chemraz® for higher temperature conditions and increased chemical resistance, and in Buna-N or Silicone.

Options for the LoPro Valve include an air solenoid for electropneumatic control of the valve and a limit switch assembly for remote indication of its position. LoPro Valves with faster actuation times than those listed in the specifications are available by special request.

The LoPro Valve is designed for high performance in gauge or system isolation. It is ideally suited in applications such as semiconductor manufacturing, process industries, high energy physics research, and thin film deposition.

Features & Benefits

- Improved square cap design for ease of maintenance
- Compact, low profile
- Bellows-sealed poppet valve
- Formed bellows for less particle trapping and longer cycle life
- Spring-to-close, air-to-open pneumatic valve
- Manual version available
- Greater sealing force provides better seal integrity in contaminated conditions
- High purity, corrosion resistant, 304 stainless steel body
- May easily be accommodated into existing systems
- Angle or inline option
- Available in port diameters of 1, 1 1/2, and 2 inches
- Choice of KF flanges, CF flanges, or weld stubs
- Assorted seal options to meet process needs



Specifications

Vacuum Range	Atmosphere to 1.0×10^{-9} Torr		
Cylinder Air Pressure	90 psig \pm 30 psig		
Helium Leak Rate	1.0×10^{-9} std cc/sec		
Maximum Bakeout Temperature	150°C		
Limit Switch Rating	5A - 250 VAC		
Single Pole, Single Throw	5A - 30 VDC		
Typical Life	1,000,000 cycles		
Port Size in. (NW)	NW25	NW40	NW50
	1.0 (25)	1.5 (40)	2.0 (50)
Weight ISO-KF, Pneumatic lb. (kg)			
Angle	1.6 (0.7)	3.0 (1.4)	5.4 (2.5)
Inline	1.9 (0.9)	3.1 (1.4)	6.4 (2.9)
Cylinder Volume in³ (cm³)	1.2 (20)	2.2 (36)	6.4 (105)
Actuation Time at 100 psi: opening (closing)	0.12 sec (0.18 sec)	0.27 sec (0.53 sec)	0.45 sec (1.13 sec)
Blow-By Pressure psia	80	50	45
Maximum Internal Spring Closing Pressure psia	43	60	38

Ordering Information

NW25 LoPro Valve Ordering Information					
Body Configuration LPV1-XX-XX	Actuator Type -X	Limit Switch X	Seal Type X	O-Ring Configuration X	Pneumatic Solenoid Voltage -XXX
Select 1	Select 1	Select 1	Select 1	Select 1	Select 1
LPV1-25-AK KF 25 Angle	C Normally Closed	L With Limit Switch	V Viton®	S Standard	12D 12VDC
LPV1-25-IK KF 25 Inline	M Manual	N No Limit Switch	B Buna-N	N Manual	24D 24VDC
LPV1-25-AC CF 2 1/8" Angle			S Silicone		24A 24VAC 50/60 Hz
LPV1-25-IC CF 2 1/8" Inline			K Kalrez®		100 100VAC 50 Hz
LPV1-25-AT 1" Tube Angle			Z Chemraz®		120 120VAC 50/60 Hz
LPV1-25-IT 1" Tube Inline					208 208VAC 50/60 Hz
					240 220VAC 50/60 Hz
					None 1/8" NPT-F

Add the price of the options to the price of the body. Sample part number: LPV1-25-AK-CLVS-120.

NW25 Angle Dimensions in. (mm)				NW25 Inline Dimensions in. (mm)			
A	KF 1.97 (50)	CF 2.02 (51)	Tube 1.88 (48)	A	KF 3.94 (100)	CF 4.62 (117)	Tube 4.35 (110)



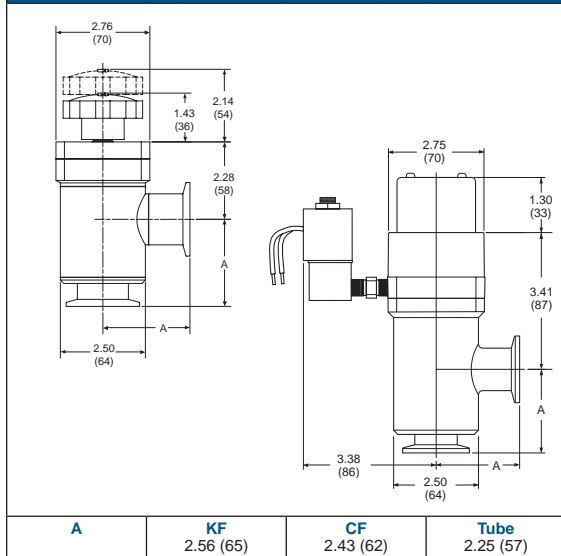
Ordering Information

NW40 LoPro Valve Ordering Information

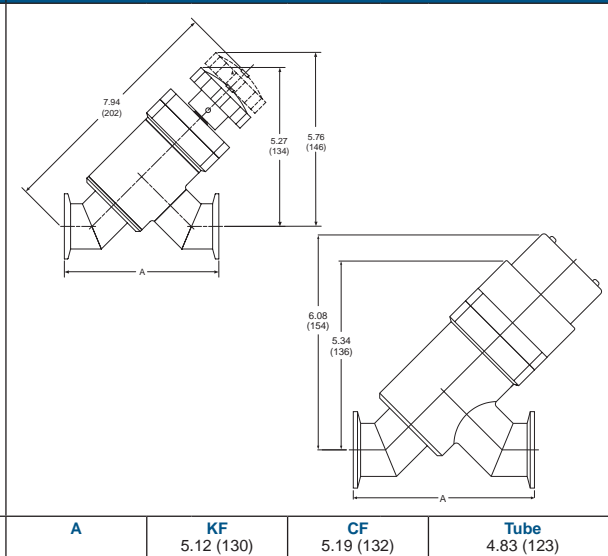
Body Configuration LPV1-XX-XX	Actuator Type -X	Limit Switch X	Seal Type X	O-Ring Configuration X	Pneumatic Solenoid Voltage -XXX
Select 1	Select 1	Select 1	Select 1	Select 1	Select 1
LPV1-40-AK KF 40 Angle LPV1-40-IK KF 40 Inline LPV1-40-AC CF 2 3/4" Angle LPV1-40-IC CF 2 3/4" Inline LPV1-40-AT 1 1/2" Tube Angle LPV1-40-IT 1 1/2" Tube Inline	C Normally Closed M Manual	L With Limit Switch N No Limit Switch	V Viton® B Buna-N S Silicone K Kalrez® Z Chemraz®	S Standard N Manual	12D 12VDC 24D 24VDC 24A 24VAC 50/60 Hz 100 100VAC 50 Hz 120 120VAC 50/60 Hz 208 208VAC 50/60 Hz 240 220VAC 50/60 Hz None 1/8" NPT-F

Add the price of the options to the price of the body. Sample part number: LPV1-40-AK-CLVS-120.

NW40 Angle Dimensions in. (mm)



NW40 Angle Dimensions in. (mm)



Seal Set

Port Size in. (NW)	Viton Seal Set	Buna-N Seal Set	Silicone Seal Set	Kalrez Seal Set	Chemraz Seal Set
	Part Number	Part Number	Part Number	Part Number	Part Number
1.0 (25)	100002224	100002215	100002221	100002218	100009145
1.5 (40)	100002225	100002216	100002222	100002219	100009146
2.0 (50)	100002226	100002217	100002223	100002220	100009147

Spare Parts

Port Size in.	Pneumatic Valve Internals** Viton Seals	Manual Valve Internals** Viton Seals	Limit Switch
	Part Number	Part Number	Part Number
1.0 (25)	100010104	100010128	100002227
1.5 (40)	100010103	100010129	100002228
2.0 (50)	100010102	100010130	100002229



Ordering Information

NW50 LoPro Valve Ordering Information					
Body Configuration LPV1-XX-XX	Actuator Type -X	Limit Switch X	Seal Type X	O-Ring Configuration X	Pneumatic Solenoid Voltage -XXX
Select 1	Select 1	Select 1	Select 1	Select 1	Select 1
LPV1-50-AK KF 50 Angle	C Normally Closed	L With Limit Switch	V Viton®	S Standard	12D 12VDC
LPV1-50-IK KF 50 Inline	M Manual	N No Limit Switch	B Buna-N	N Manual	24D 24VDC
LPV1-50-AC CF 3 3/8" Angle			S Silicone		24A 24VAC 50/60 Hz
LPV1-50-IC CF 3 3/8" Inline			K Kalrez®		100 100VAC 50 Hz
LPV1-50-AT 2" Tube Angle			Z Chemraz®		120 120VAC 50/60 Hz
LPV1-50-IT 2" Tube Inline					208 208VAC 50/60 Hz
					240 220VAC 50/60 Hz
					None 1/8" NPT-F

Add the price of the options to the price of the body. Sample part number: LPV1-50-AK-CLVS-120.

NW50 Angle Dimensions in. (mm)				NW50 Inline Dimensions in. (mm)			
A	KF 2.76 (70)	CF 3.19 (81)	Tube 3.19 (81)	A	KF 7.00 (178)	CF 7.59 (193)	Tube 7.20 (183)

Replacement Solenoid Valves		
Voltage and Frequency	Watts	Part Number
24VAC 50/60 Hz	6.0	100008164
24VDC	7.0	100008163
12 VDC	7.0	100008539
120VAC 50/60 Hz	7.5	100008165
208VAC 50/60 Hz	7.5	100008166
220VAC 50/60 Hz	7.5	100008167



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