



## VIP-EVO Series High Pressure Pneumatic Coaxial Valves



Assured Automation's VIP-EVO series High Pressure Coaxial Valves with Integral pneumatic actuator are extremely compact, fast-acting on-off valves. This compact design provides for a streamlined installation while using less air for each cycle. They have a long life of up to 300,000 cycles which is 9 to 10 times that of the same size ball valve.

Complete accessories including solenoid valves for use as pilot valves and limit switches for position indication are available and will be pre-installed at the factory.

### FEATURES

- Pneumatic actuator built-in to the valve body making the complete envelope extremely compact, lightweight, and streamlined while using less air per cycle
- High operating safety up to SIL 3
- Chemical Nickel plated piston resists corrosion and lessens friction providing for a longer life
- Vent/Inspection ports allow routine checking for leaks
- No external moving parts make it an extremely safe solution and provide for easy mounting

### TYPICAL APPLICATIONS

- Air distribution lines
- Injection blow molding
- PSA generators
- Car wash systems
- Gas Compressors
- Packaging industry
- Food industry (utility services)

### SIZES & END CONNECTIONS

- NPT: 3/8" to 2"
- G (BSPP): 3/8" to 2"

### PRESSURE RANGE

29 in-Hg vacuum to 580 PSIG

#### Vacuum Tightness:

Leak rate <math> < 5 \times 10^{-5}</math> mbar x l/s (<math> < 2</math> g of air at room temperature per year)

[see Pressure/Temperature Curve](#)

### TEMPERATURE RANGE

-4°F to 302°F

[see Pressure/Temperature Curve](#)

### MATERIALS

**Body:** Anodized Aluminum (non-wetted)

**End Connections:** Ni Plated Brass (wetted)

**Piston:** Ni Plated Brass (wetted)

**Main Seat:** PTFE with glass fiber

**O-ring & Lip Seals:** NBR, EPDM, or Viton®

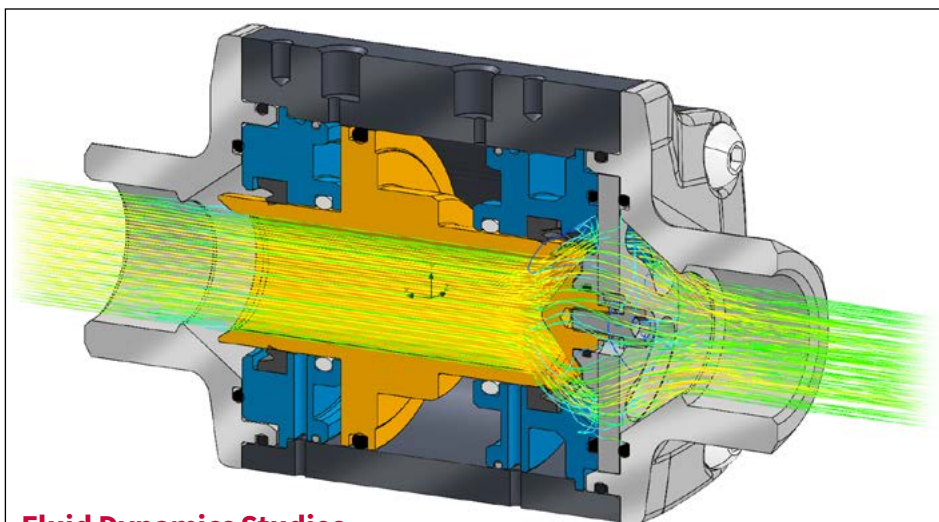
[see page 4 for complete material details](#)

### SPECIAL MODELS

- Prepared for use with Oxygen (special request - fees apply)

### FLOW CAPACITIES & SPEEDS

Size	C <sub>v</sub> (Coefficient of Flow [gpm])	Speed (@123psi/@58psi) supply air [ms]
3/8"	4.05	25/40
1/2"	7.63	30/55
3/4"	12.37	40/60
1"	19.77	45/70
1 1/4"	28.9	50/80
1 1/2"	43.47	70/120
2"	62.42	100/160



### Fluid Dynamics Studies

Finite Element Analysis programs were used to study the fluid dynamics and make changes to the valve geometry in order to optimize the C<sub>v</sub> and eliminate turbulence caused by the seat being in the center of the flow path.



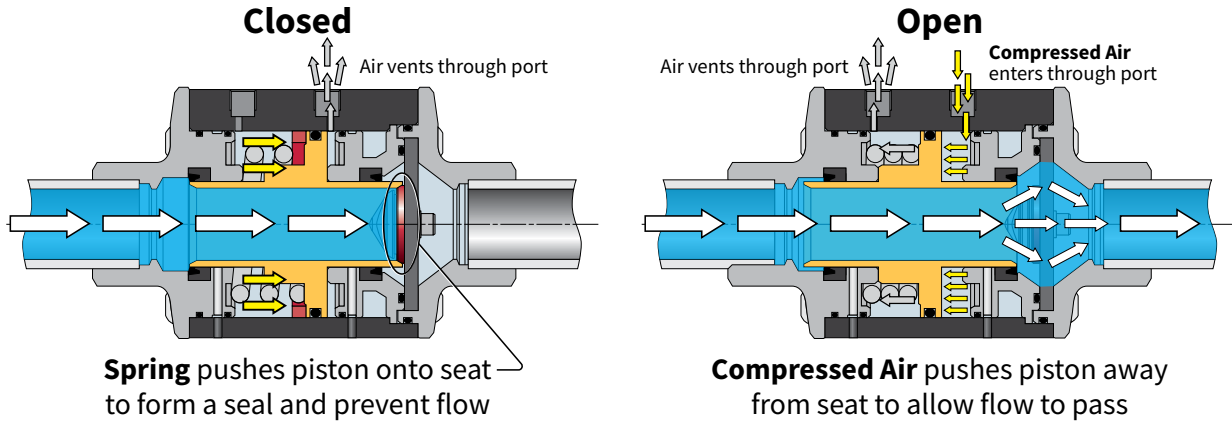
## VIP-EVO Series



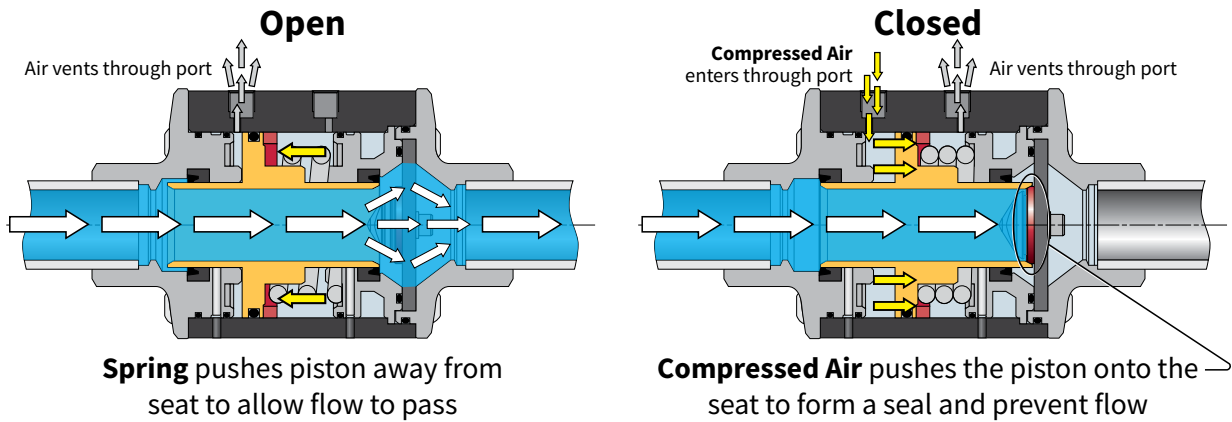
## High Pressure Pneumatic Coaxial Valves

### OPERATION

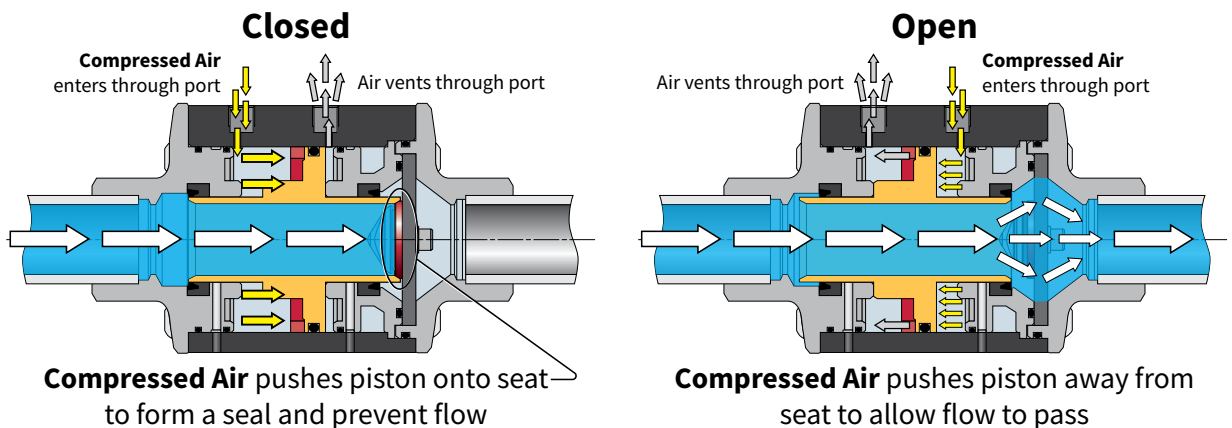
#### Spring Return - Normally Closed (Air to Open, Spring to Close)



#### Spring Return - Normally Open (Spring to Open, Air to Close)



#### Double Acting (Air to Open, Air to Close)



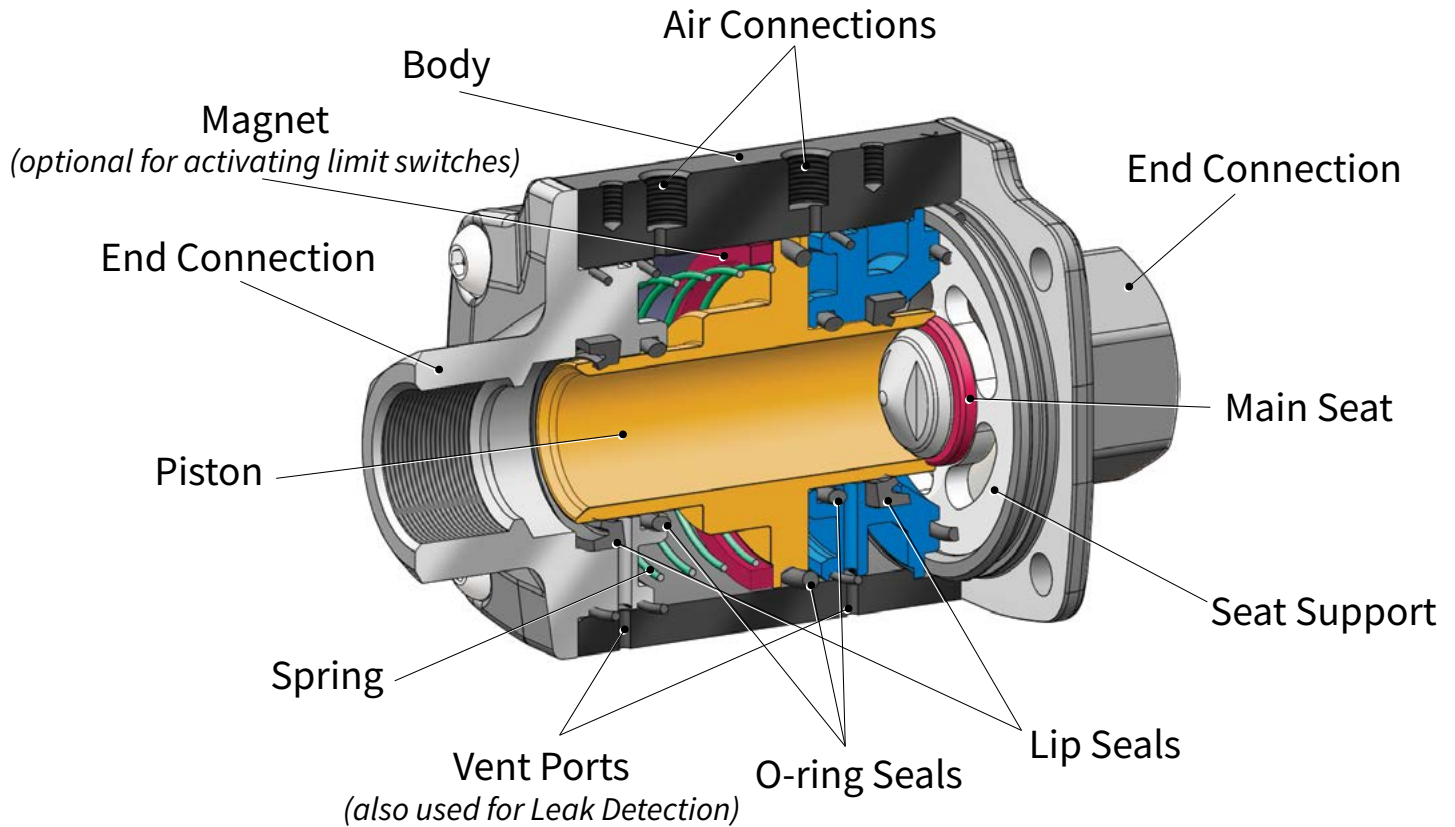


## VIP-EVO Series



## High Pressure Pneumatic Coaxial Valves

### CONSTRUCTION



Part / Feature	Benefit
Specially designed <b>Lip Seals</b>	Less wear compared to O-rings
<b>Vent Ports/Inspection Holes</b>	Allow for easy checking for lip seal leaks while also preventing leaked fluid to damage the supply air system
<b>Magnet</b>	Optional for use with hall effect and reed switch position indicator switches
<b>Spring</b>	Can be removed for conversion to Double Acting or flipped with the piston to convert from N.O. to N.C. or vice versa
Anodized Aluminum <b>Body</b>	Keeps weight low while providing adequate strength for high pressures

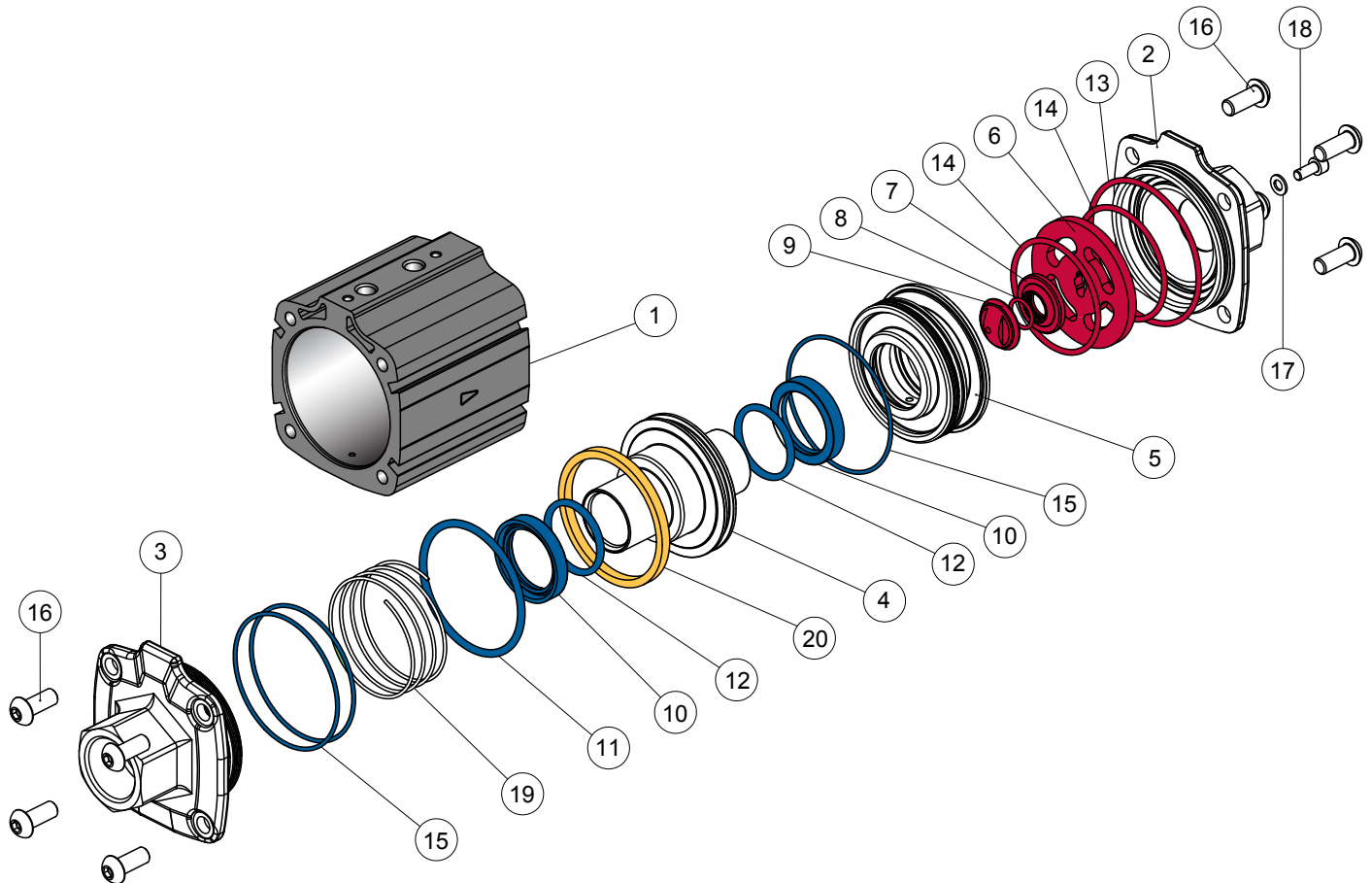


## VIP-EVO Series



## High Pressure Pneumatic Coaxial Valves

### MATERIALS



Item	Part	
1	Valve Body	Black Anodized Aluminum
2	Outlet End Connections	Ni Plated Brass CW617N
3	Inlet End Connections	Ni Plated Brass CW617N
4	Piston	Chemical Ni Plated Brass CW617N
5	Internal Support	Ni Plated Brass CW617N
6	Seat Support	316L Stainless Steel
7	Main Seat	PTFE with 15% Glass Fiber
8	Seat O-ring	NBR, EPDM, or FKM
9	Seat Nut	Brass CW617N
10	Lip Seals (2x)	NBR, EPDM, or FKM

Item	Part	
11	Large Piston O-ring	NBR, EPDM, or FKM
12	Small Piston O-ring (2x)	NBR, EPDM, or FKM
13	Sleeve Body O-ring	NBR, EPDM, or FKM
14	Support O-ring (2x)	NBR, EPDM, or FKM
15	End Cap O-ring (3x)	NBR, EPDM, or FKM
16	End Connection Screw (8x)	A2-70
17	Washer	A2 (304 Stainless Steel)
18	Screw	A2-70
19	Spring	301 SS
20	Magnet (optional)	Plastic Ferrite

### REPLACEMENT PARTS

Items in **Red** are included in the **Main Seat Repair Kit**

Items in **Blue** and **Red** are included in the **Complete Repair Kit**

to order a repair kit visit <https://assuredautomation.com/VIP-EVO/?p=parts>

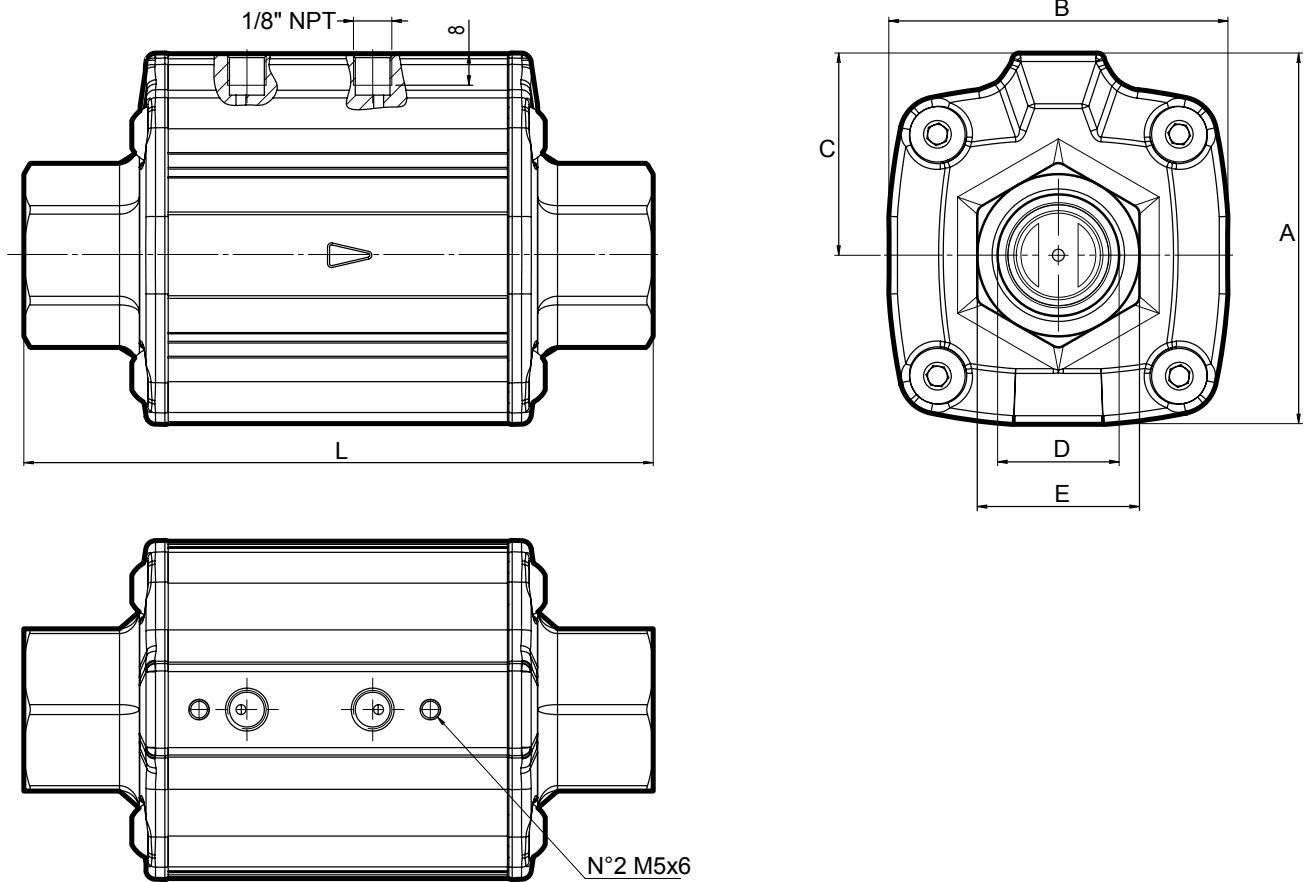


## VIP-EVO Series



## High Pressure Pneumatic Coaxial Valves

### DIMENSIONS (in inches)



Size	L (Length)	A (Height)	B (Width)	C (Height from Pipe Center)	D (Bore)	E (Wrench Flats)	C <sub>v</sub> (Coefficient of Flow [gpm])	Speed (min/max psi supply air [ms])	Weight (w/o Spring lbs.)	Weight (w/ Spring lbs.)
3/8"	4.72	2.48	2.20	1.40	0.41	0.87	4.05	25/40	2.43	2.54
1/2"	5.30	2.89	2.60	1.59	0.63	1.06	7.63	30/55	3.75	3.97
3/4"	6.06	3.37	3.09	1.85	0.82	1.34	12.37	40/60	5.51	5.73
1"	6.26	3.70	3.39	2.01	1.05	1.61	19.77	45/70	6.61	6.83
1 1/4"	7.28	4.33	4.06	2.36	1.32	1.97	28.9	50/80	10.36	10.80
1 1/2"	8.31	4.86	4.55	2.60	1.61	2.36	43.47	70/120	15.87	16.53
2"	8.98	5.28	4.86	2.85	2.01	2.76	62.42	100/160	17.64	18.30

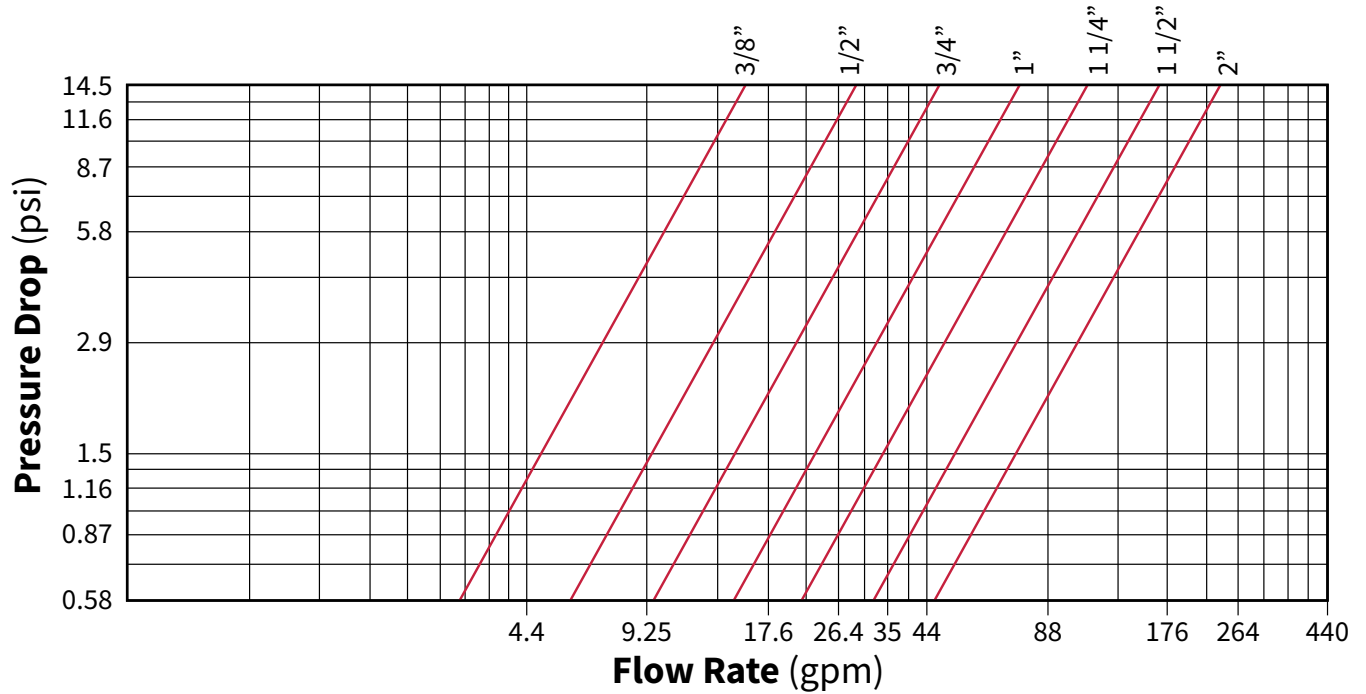


# VIP-EVO Series

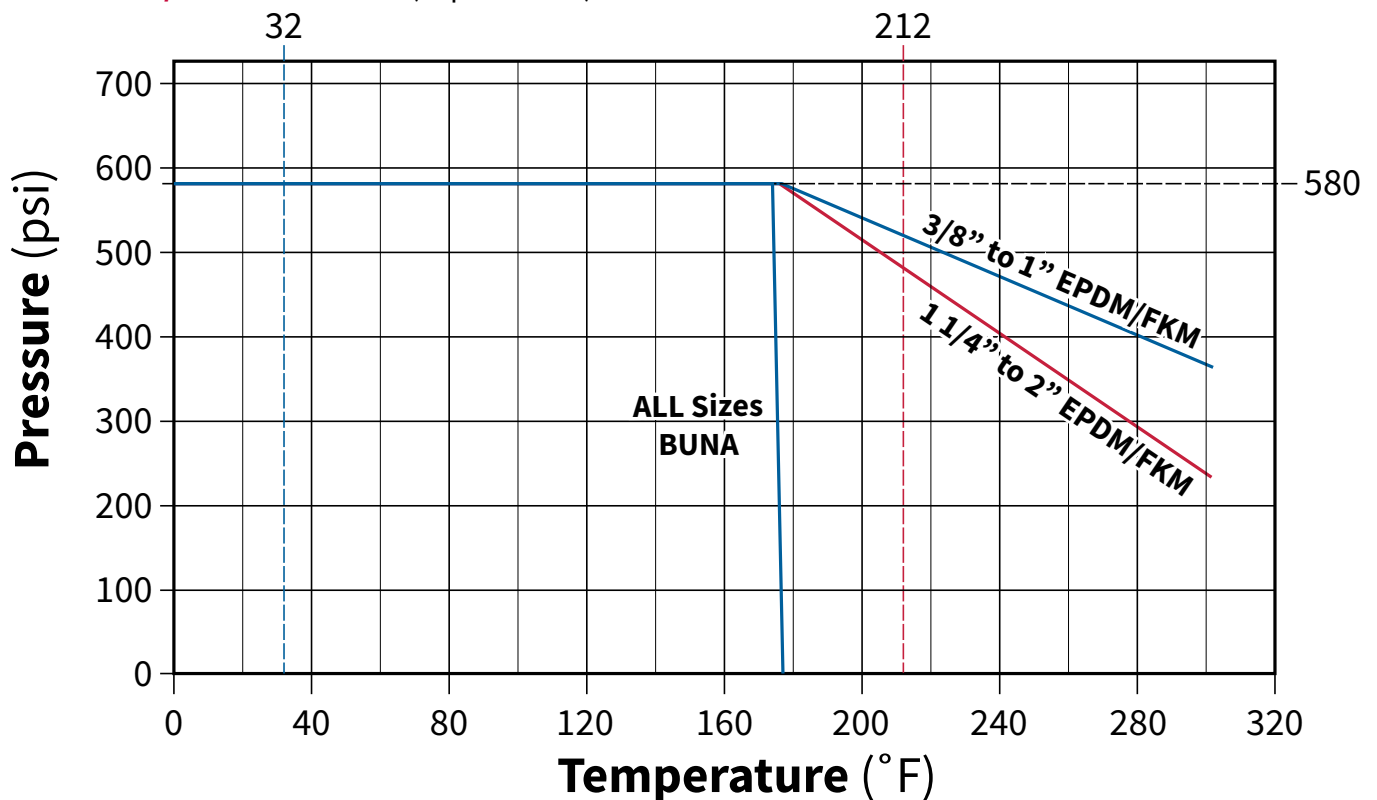


## High Pressure Pneumatic Coaxial Valves

### PRESSURE DROP (in psi)



### PRESSURE/TEMPERATURE (in psi and °F)





## VIP-EVO Series



## High Pressure Pneumatic Coaxial Valves

### ORDERING INFORMATION

VIP-EVO - N 100 C VV C3B G2

#### VALVE

Connection Type: \_\_\_\_\_

- N** = NPT (National Pipe Thread Tapered)
- G** = Gas / BSPP (British Pipe Thread Parallel)

Size: \_\_\_\_\_

- 037** = 3/8"
- 050** = 1/2"
- 075** = 3/4"
- 100** = 1"
- 125** = 1 1/4"
- 150** = 1 1/2"
- 200** = 2"

Actuation Type: \_\_\_\_\_

- C** = Spring to Close (fail closed)
- O** = Spring to Open (fail open)
- D** = Double Acting (fail in place)

Seals: \_\_\_\_\_

- VV** = Viton®
- BB** = BUNA
- EE** = EPDM

#### ACCESSORIES

Solenoid Pilot Valve: *(omit for none)* \_\_\_\_\_

<b>C</b>	<b>3</b>	<b>B</b>
Type	Coil & Connector	Function

Type: \_\_\_\_\_

- C** = 3-way, 2-position (Cv = 0.08)
- E** = 3/4-way, 2-position (Cv = 0.7) - with manual override

Coil and Electrical Connector: \_\_\_\_\_

- 1** = Weatherproof (NEMA 4/4X) potted DIN 1/2" conduit
- 2** = Explosion Proof (NEMA 7) 1/2" conduit
- 3** = Weatherproof (NEMA 4/4X) DIN cord grip cable gland (PG9)
- 4** = Weatherproof (NEMA 4/4X) DIN 1/2" conduit
- 5** = Weatherproof (NEMA 4/4X) DIN cord set with 6' cable
- 6** = Weatherproof (NEMA 4/4X) DIN cord set with 15' cable

Voltage: \_\_\_\_\_

- A** = 120 VAC
- B** = 24 VDC
- C** = 220 VAC
- E** = 24 VAC
- F** = 12 VDC

Limit Switch: *(omit for none)* \_\_\_\_\_

- GO** = Open
- GC** = Closed
- G2** = Open and Closed

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## High Pressure Pneumatic Coaxial Valves

### ACCESSORIES

#### Solenoid Pilot Valves

NAMUR solenoid valves for direct mount to coaxial valve (optional NP mounting plate required). Various coil and connector options are available including weatherproof, explosion proof, corded, NPT conduit, and cable gland.

**3-way**  
for spring return models



**3/4-way for**  
for double acting models



#### Limit Switches (valve position indicators)

Inductive Proximity Sensors that slip neatly into the grooves in the valve body. Integral LED indicates when switch is closed/active.

**Important!** use of these switches require that a magnet (#20 on page 5) is installed at the factory during assembly. **They CAN NOT be installed after sale.**



switch is open and LED is off



switch is closed and LED is lit



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