



VA & VIP Series

Valve + Actuator, Pneumatic Coaxial Valves



The VA and VIP Series combine a pneumatic actuator and valve into one body, eliminating packing glands, actuators and mounting kits. There are no exposed moving parts, eliminating pinch points and increasing operator safety. Since the actuator is part of the valve, costs are greatly reduced when compared to standard actuated valves.

Operating life has been tested to well over 1,000,000 cycles, the balanced design reduces friction and wear. The stroke is linear and parallel to the flow reducing the force to close or open the valve dramatically. The internal waterway design was designed for optimum flow characteristics.

DOC. AA-SV-2023.09

FEATURES

- Integrated pneumatic actuator
- NAMUR solenoid mounting pad
- Compact assembly
- Fast valve actuation
- High CV (flow coefficient)
- High cycle-life
- Competitive price
- Complete accessory equipment

MATERIALS

Body: Nickel Plated Brass

End Connections: NPT or G (BSPP)

Piston: Ni Plated Brass (EN 12164 CW614N)

Main Seat: NBR, EPDM, or Viton®

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

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

TYPICAL APPLICATIONS

- Air drying equipment
- Pollution control equipment
- Process control applications
- Laundry equipment
- Textile dyeing and drying
- Bottling and dispensing equipment
- Ink and paint dispensing
- Industrial compressors

SIZES & END CONNECTIONS

NPT: 3/8" to 2"

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

MAXIMUM PRESSURE

29 inHg vacuum to 150 PSIG

[see Pressure/Temperature Curve](#)

TEMPERATURE RANGE

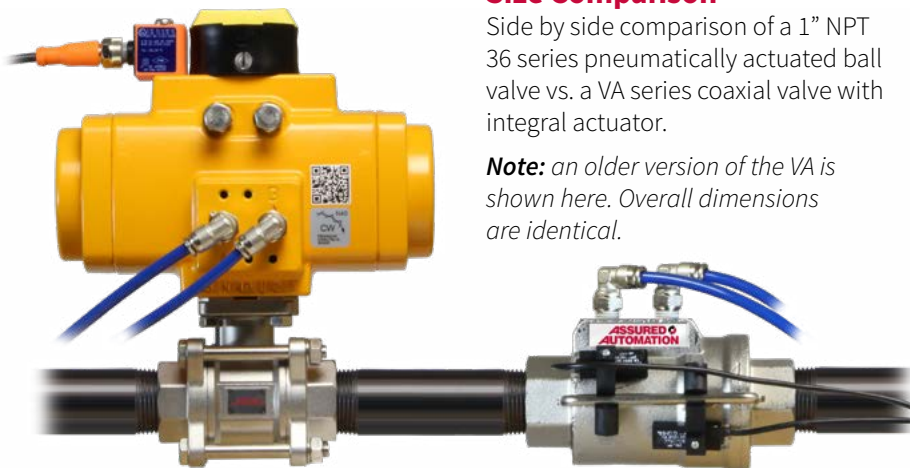
NBR: -4°F to 176°F

EPDM & Viton®: -4°F to 302°F

[see Pressure/Temperature Curve](#)

SPECIAL MODELS

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



Size Comparison

Side by side comparison of a 1" NPT 36 series pneumatically actuated ball valve vs. a VA series coaxial valve with integral actuator.

Note: an older version of the VA is shown here. Overall dimensions are identical.

C_v FACTORS

Size	C _v (Coefficient of Flow [gpm])
3/8"	3
1/2"	7.5
3/4"	12.7
1"	18.1
1 1/4"	28.9
1 1/2"	53.2
2"	67.0



VA & VIP Series

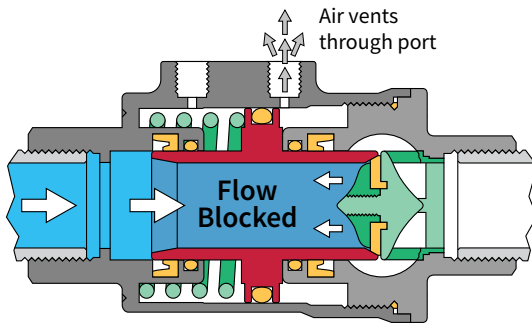


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OPERATION

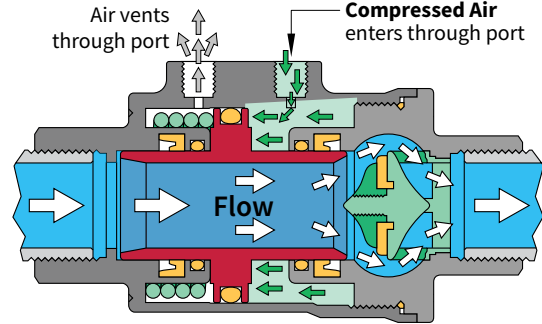
Spring Return - Normally Closed (Air to Open, Spring to Close)

Closed



Spring pushes piston onto seat to form a seal and prevent flow

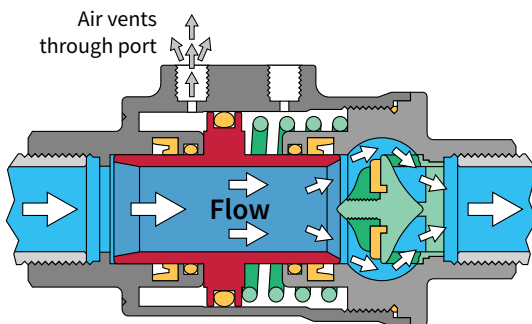
Open



Compressed Air pushes piston away from seat to allow flow to pass

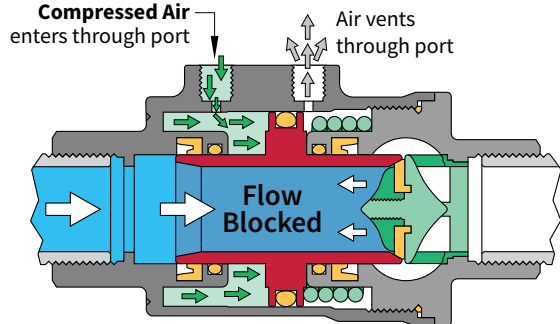
Spring Return - Normally Open (Spring to Open, Air to Close)

Open



Spring pushes piston away from seat to allow flow to pass

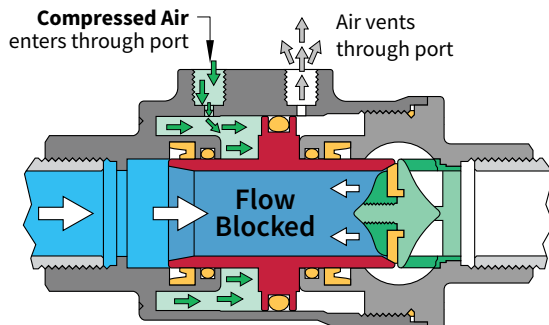
Closed



Compressed Air pushes piston away from seat to allow flow to pass

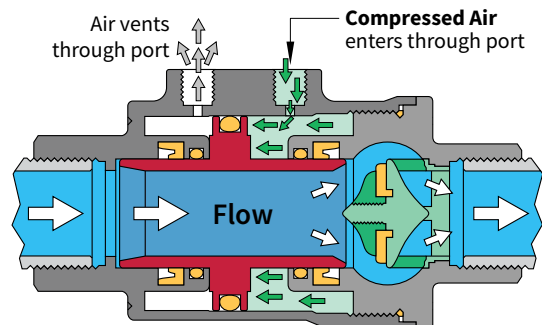
Double Acting (Air to Open, Air to Close)

Closed



Compressed Air pushes piston onto seat to form a seal and prevent flow

Open



Compressed Air pushes piston away from seat to allow flow to pass

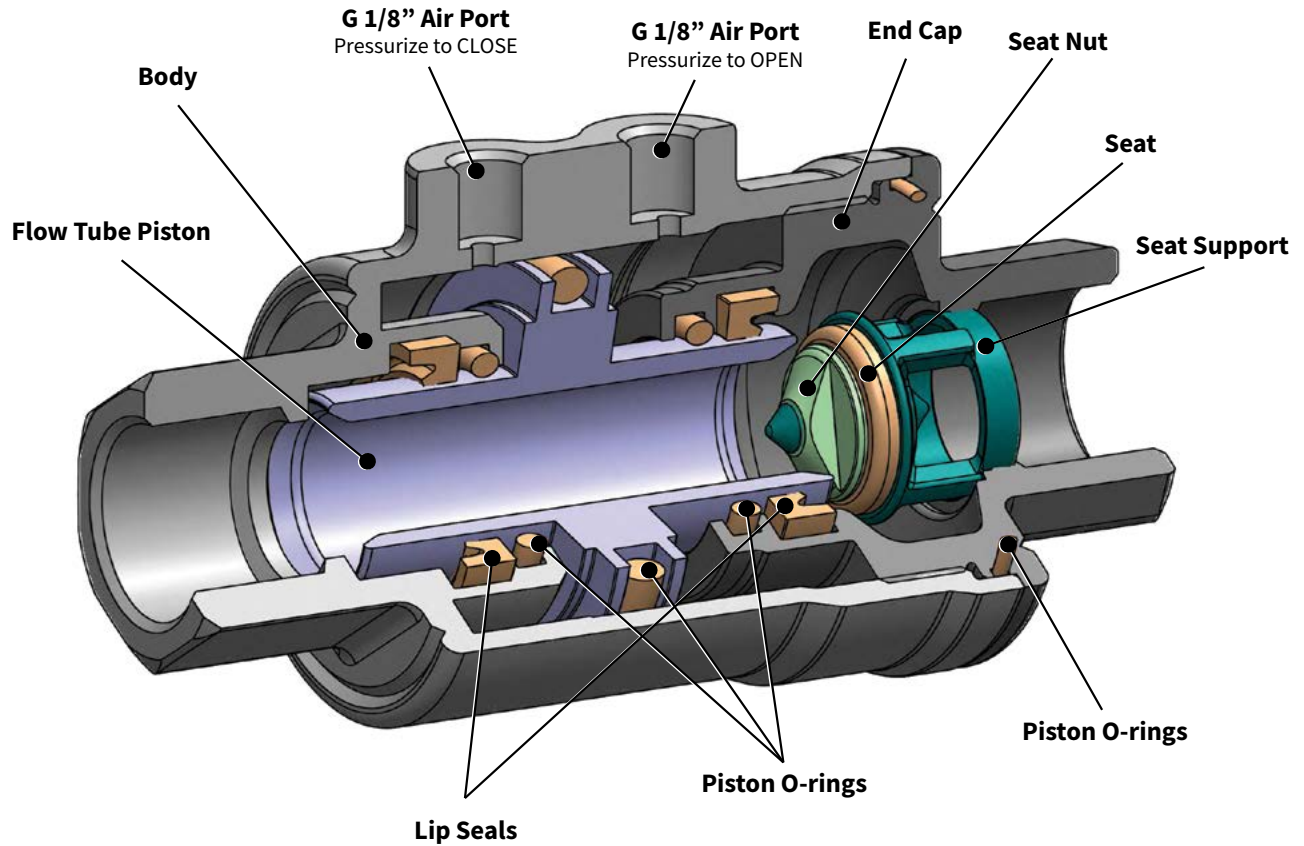


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CONSTRUCTION



Part / Feature	Description
Valve Body	Compact and streamline Nickel plated brass
End Cap	Screws into valve body to form the 2-piece valve
Flow Tube Piston	Slides back and forth to control flow
Seat Support	Holds seat in place but allows flow around
Seat Seal	Soft seal allows flow tube piston to seat and provide positive shutoff
Seat Nut	Holds seat seal onto seat support
Body O-ring	Seals body to prevent air leakage from valve OPEN actuator chamber
Piston O-rings	Provide secondary seal between flow media and actuator air chambers
Lip Seals	Provide primary seal between flow media and actuator air chambers
NAMUR Mounting Pad	Allows for simple addition of a NAMUR solenoid valve
Air Port (to Close)	G 1/8" port for supply air to actuator CLOSE chamber
Air Port (to Open)	G 1/8" port for supply air to actuator OPEN chamber

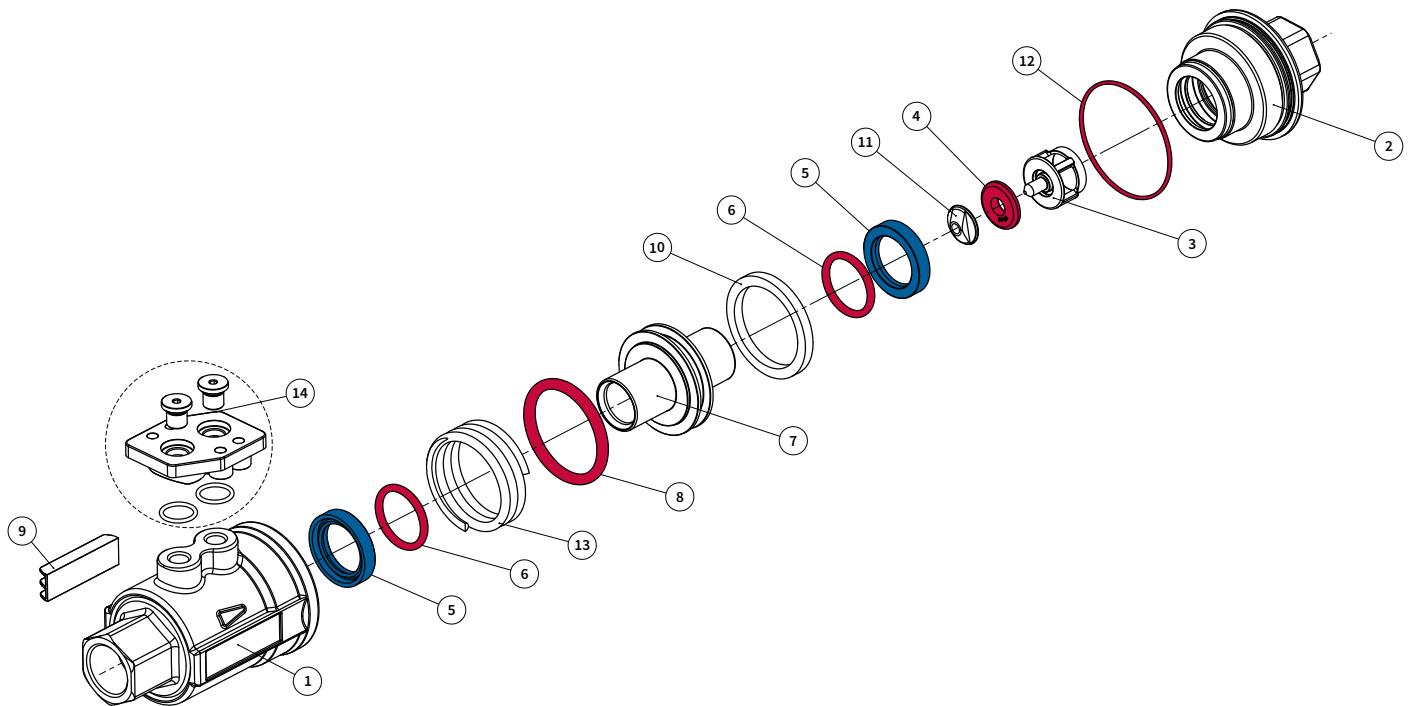


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MATERIALS



Item	Part	Material	Qty	Wetted	In Repair Kit
1	Valve Body	Nickel Plated Brass (EN 12165 CW617N)	1	X	
2	Outlet End Connection	Nickel Plated Brass (EN 12165 CW617N)	1	X	
3	Seat Support	Nickel Plated Brass (EN 12165 CW617N)	1	X	
4	Seat Seal	NBR, EPDM, or FKM	1	X	X
5	Lip Seals	NBR, EPDM, or FKM	2	X	X
6	O-ring	NBR, EPDM, or FKM	2		X
7	Flow Tube Piston	Nickel Plated Brass (EN 12165 CW617N)	1	X	
8	Piston O-ring	NBR, EPDM, or FKM	1		X
9	Limit Switch Bracket	Polyamide + 30% Glass	1		
10	Magnetic Ring	Plastoferrite	1		
11	Seat Nut	Nickel Plated Brass (EN 12165 CW617N)	1	X	
12	Body O-ring	NBR, EPDM, or FKM	1		X
13	Spring	Stainless Steel	1		
14	NAMUR Plate Kit	????	optional		

REPLACEMENT PARTS

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

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

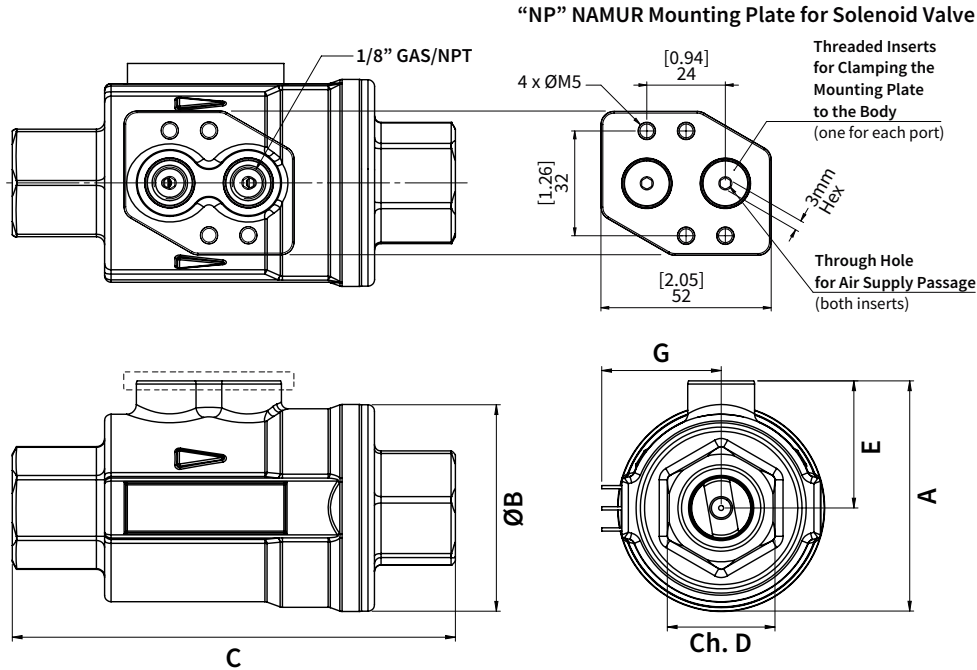


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DIMENSIONS (in mm)



VA Series (NPT Connections)

NPT Size	A (Height)	ØB	C (Length)	E (Height from Pipe Center)	Weight (lbs.)	Stroke Speed (seconds)			
						Spring Return		Double Acting	
						Spring Stroke	Air Stroke	Air to Open	Air to Close
3/8"	54	46	93	31	1.43	0.02	0.01	0.01	0.01
1/2"	69	52	106	33	1.87	0.02	0.01	0.01	0.01
3/4"	71	64	126	39	3.31	0.03	0.02	0.02	0.02
1"	76	69	136	42	3.75	0.04	0.02	0.02	0.02
1 1/4"	91	86	154	48	7.28	0.07	0.04	0.03	0.03
1 1/2"	102	96	171	54	7.94	0.11	0.06	0.06	0.06
2"	114	109	187	60	11.24	0.13	0.07	0.07	0.07

VIP Series (G [BSPP] Connections)

G Size	A (Height)	ØB	C (Length)	E (Height from Pipe Center)	Weight (lbs.)	Stroke Speed (seconds)			
						Spring Return		Double Acting	
						Spring Stroke	Air Stroke	Air to Open	Air to Close
3/8"	54	46	98	31	1.43	0.02	0.01	0.01	0.01
1/2"	69	52	113	33	1.87	0.02	0.01	0.01	0.01
3/4"	71	64	136	39	3.31	0.03	0.02	0.02	0.02
1"	76	69	144	42	3.75	0.04	0.02	0.02	0.02
1 1/4"	91	86	166	48	7.28	0.07	0.04	0.03	0.03
1 1/2"	102	96	181	54	7.94	0.11	0.06	0.06	0.06
2"	114	109	205	60	11.24	0.13	0.07	0.07	0.07

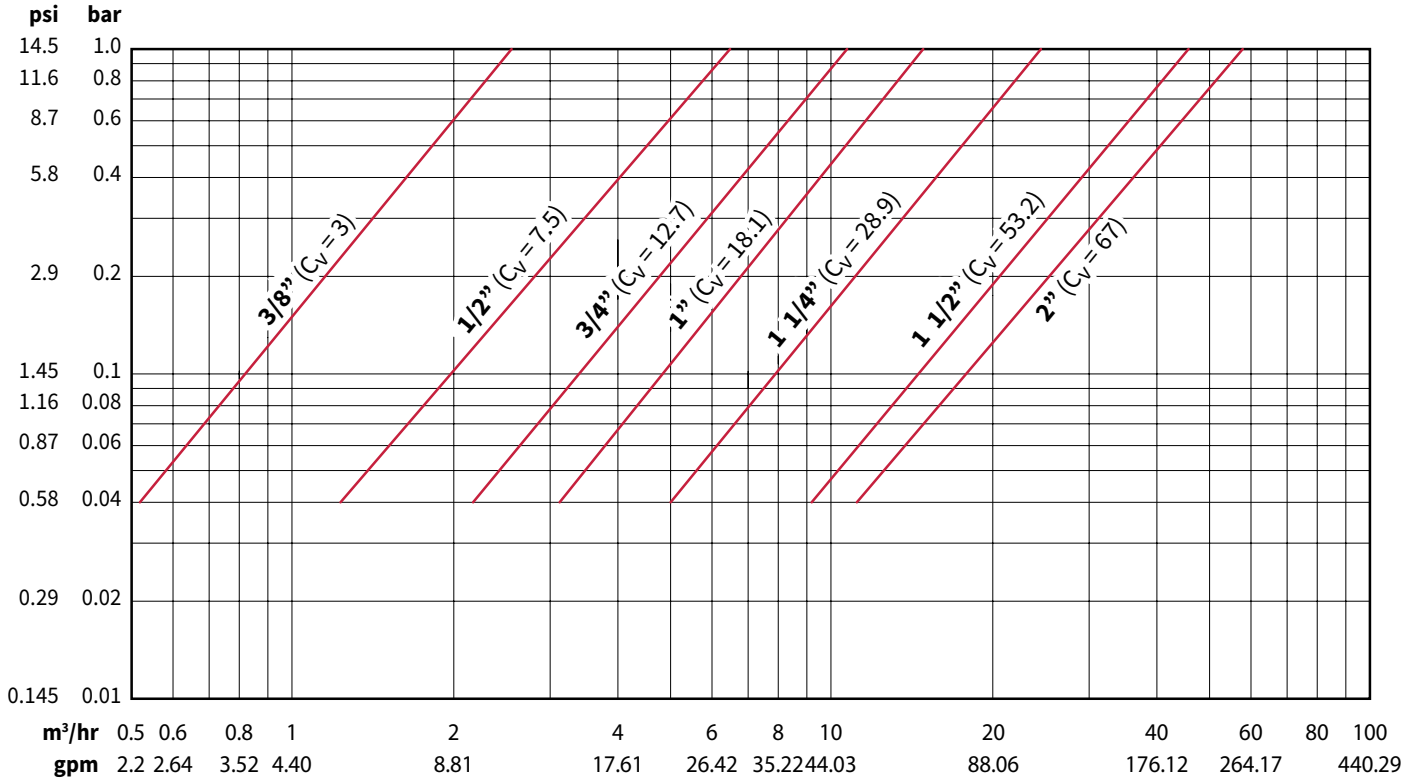


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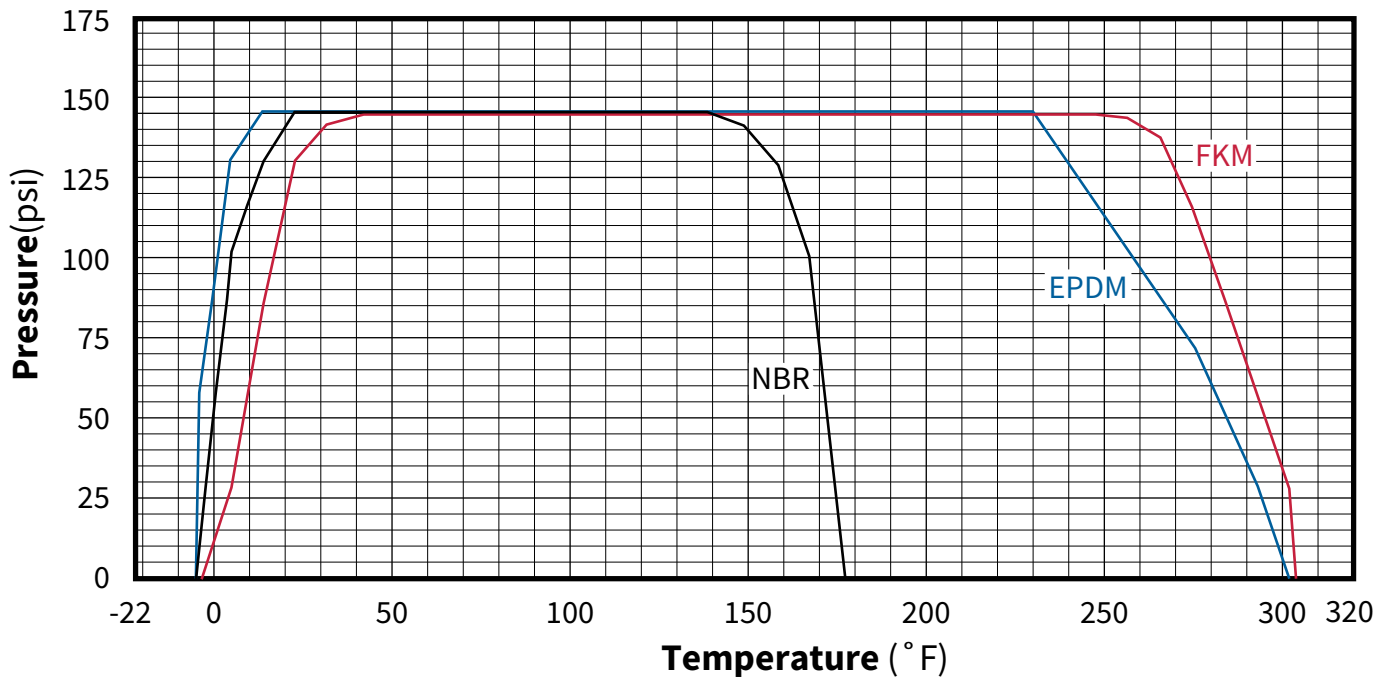


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PRESSURE DROP



PRESSURE/TEMPERATURE



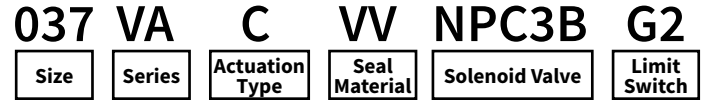


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ORDERING INFORMATION



VA (NPT connections)

Size & Connection: _____

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

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

NAMUR Solenoid Mounting Pad: *(omit for none)* _____

(omit) = None

- NP** = include NAMUR mounting plate

Solenoid Valve: *(NP Plate above required)*

Type: _____

(omit) = no solenoid

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

Coil and Electrical Connector: _____

(omit) = no solenoid

- 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: _____

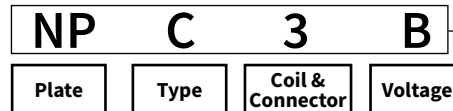
(omit) = no solenoid

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

Limit Switch: _____

(omit) = None

- G2** = 2 switches, Open and Closed



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ORDERING INFORMATION



VIP (G [BSPP] connections)

Actuation Type: _____

- C0** = Spring to Close (fail closed)
- A0** = Spring to Open (fail open)
- D0** = Double Acting (fail in place)

Seals: _____

- V** = Viton®
- B** = BUNA
- E** = EPDM

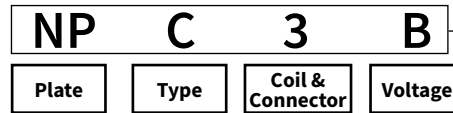
Special Options: _____

- 000** = None
- M00** = Magnet for Limit Switch (required at time of order for using limit switch)

Size & Connection: _____

- 43** = G 3/8" **47** = G 1 1/4"
- 44** = G 1/2" **48** = G 1 1/2"
- 45** = G 3/4" **49** = G 2"
- 46** = G 1"

ACCESSORIES



NAMUR Solenoid Mounting Pad: _____

- (omit)* = None
- NP** = include NAMUR mounting plate

Solenoid Valve: *(NP Plate above required)*

Type: _____

- (omit)* = no solenoid
- C** = 3-way, 2-position (Cv = 0.08)
- E** = 3/4-way, 2-position (Cv = 0.7) - with manual override

Coil and Electrical Connector: _____

- (omit)* = no solenoid
- 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: _____

- (omit)* = no solenoid
- A** = 120 VAC
- B** = 24 VDC
- C** = 220 VAC
- E** = 24 VAC
- F** = 12 VDC

Limit Switch: _____

- (omit)* = None
- G2** = 2 switches, Open and Closed

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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

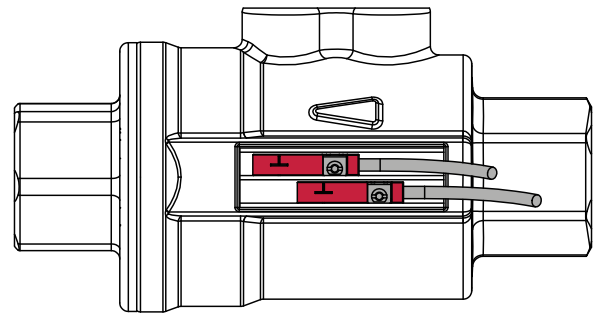


Limit Switches (valve position indicators)

VIP can be provided with inductive limit switch (magnetic contact) and signal LED. Limit switches can be easily mounted in the integrated slots and fixed with a screw.

IMPORTANT! Since the magnets are situated inside the valve, they must be mounted while assembling the VIP and not afterwards. For this reason, in case needed, magnet must be requested at VIP order phase.

The maximum fluid temperature must be lower than the maximum temperature supported by the limit switch.



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