

# SV321 & SV421

2-Way Normally Closed and Normally Open Pilot Operated Solenoid Valves



Valcor Engineering Corporation



## DESCRIPTION

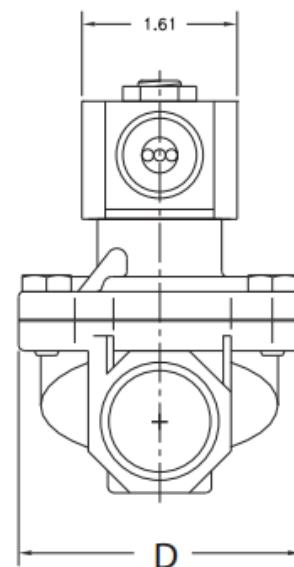
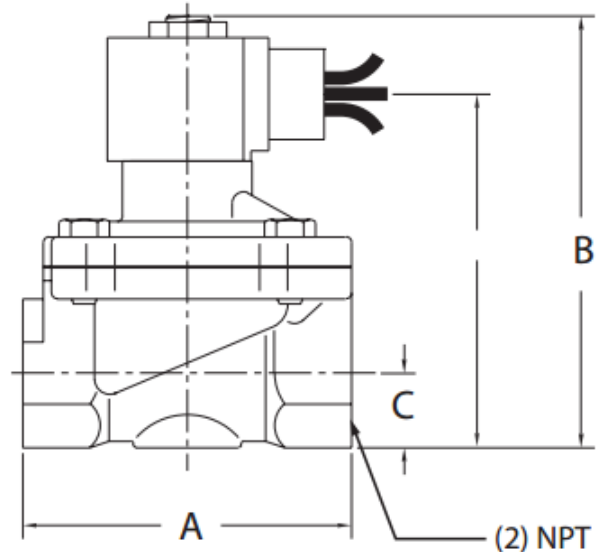
The SV321/SV421 series are pilot operated, 2-way normally closed and normally open general purpose solenoid valves designed to control the high flow of inert gases and liquids. The pilot operation enables these valves to control high flows with low power consumption in a compact envelope. The pilot feature requires a minimum operating pressure of 1-10 PSIG. They feature forged bodies for exceptional durability in typical industrial applications. The compact size and low weight allow these valves to be used in the tightest space available. They are available with UL and CSA listing upon request.

## APPLICATION

The SV321/SV421 series are suitable for a broad range of light industrial applications including: industrial pneumatic, fuel gas and hydraulic systems, potable and wastewater treatment plants, high BTU burner combustion gas control, air humidifiers, hot water in car/truck washes, and steam generators.

## FEATURES

- Maximum Operating Pressure: 250 PSI
- Flow Rate: Cv of 3.3 to 28 available
- Leak rate: Internal: bubble tight on gas, drip tight on liquid. External: 0 cc/min at 250 PSIG
- Temperature: -40°F to 150°F standard
- 8-11 watts at 115/60 Hz, 9-10 watts 24 VDC 70°F; continuous duty
- NEMA 4 coil housing standard, NEMA 7 available
- Electrical connection: 24" pigtailed standard, 1/2" conduit hub available
- Brass or stainless steel forged body
- 3/8" to 1 1/2" NPT ports based on orifice size
- Optional mounting bracket available
- Mountable in any orientation
- Fully customizable for your application



Custom designs are our specialty. Contact us today to see how we can help on your next project.

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## Construction

Operating Mode	Normally Closed: Open when energized, closed when de-energized Normally Open: Closed when energized, open when de-energized
Port Size (in.)	3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2
Orifice Size (in.)	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2
Temperature Ratings	Ambient Temp -40°F to 150°F max. with class F coil 175°F max. with Class H coil Fluid Temp. See specifications on next page.
Mounting Position	Mounts in any position (Best position is solenoid upright and vertical)
Agency Listings	UL listed, CSA approved by order
Options	Manual override, mounting bracket

### Valve Parts in Contact With Fluid

Body	Brass, 316 stainless steel
Seals	PKM, Buna N, PTFE, ethylene propylene
Internal Metal Parts	304 and 430F stainless steel

## Electrical

Standard Voltages	AC 24V 60Hz AC 110V 50Hz, AC 120V 60Hz AC 220V 50Hz, AC 240V 60Hz DC 12V, DC 24V
Voltage Tolerance	+10% to -15% of applicable voltage
Standard Coil Housing	Standard: Watertight NEMA 4 Options: Conduit, grommet, DIN, explosion proof NEMA 7, open frame, junction box
Coil	Class F and H
Lead Length	24 inches

## Coil Data

Model		SV321		SV421			
Frequency		50	60	50	60	50	60
Power	Inrush	26	22	35	30	56	51
VA	Holding	14	11	19	14	23	16
Power	AC	8		9		11	
Consumption (W)	DC	9, 10					

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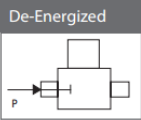
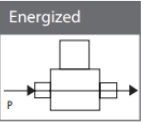
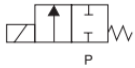
## 2-Way Normally Closed and Normally Open Pilot Operated Solenoid Valves



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### Specifications for SV321 Normally Closed

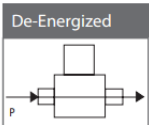
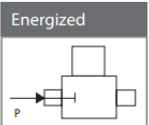
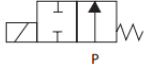
Normally Closed



Port Size	Orifice Size (ins.)	C <sub>v</sub>	Min PSI	Operating Pressure Differential								Max Fluid Temp °F	Model Number	
				Max Pressure (PSI)									Normally Closed	
				Air/Gas		Water		Lt. Oil		Steam			Brass	Stainless Steel
AC	DC	AC	DC	AC	DC	AC	DC	AC	DC					
3/8	1/2	3.3	1	250	150	250	150	250	150	-	-	230	SV321GF02K4CG1	---
	1/2	3.3	1	-	-	-	-	-	-	100	100	338	SV321GH02T4CG1	---
	1/2	3.3	10	-	-	-	-	-	-	150	150	386	SV321GH02T2CG1	---
	5/8	3.3	4	200	150	150	100	150	100	-	-	180	SV321GF02N5CG4	SV321GF02L7CG4*
1/2	1/2	3.3	1	250	150	250	150	250	150	-	-	230	SV321GF02K4DG1	---
	1/2	3.3	1	-	-	-	-	-	-	100	100	338	SV321GH02T4DG1	---
	1/2	3.8	10	-	-	-	-	-	-	150	150	388	SV321GH02T2DG1	---
	5/8	4.1	4	200	150	150	100	150	100	-	-	180	SV321GF02N5DG4	SV321GF02L7DG4*
3/4	3/4	8.1	1	250	150	250	150	250	150	-	-	230	SV321GF02K4EG5	---
	3/4	6.1	-	-	-	-	-	-	-	100	100	338	SV321GH02T4EG5	---
	3/4	7.0	10	-	-	-	-	-	-	150	150	386	SV321GH02T2EG5	---
	3/4	5.5	4	200	150	150	100	150	100	-	-	180	SV321GF02N5EG5	SV321GF02L7EG5*
1	1	13.0	10	250	150	250	150	250	150	-	-	200	SV321GF02N1FG9	---
	1	13.0	10	-	-	-	-	-	-	150	150	386	SV321GH02T2FG9	---
	1	13.0	5	200	150	150	150	100	100	-	-	180	SV321GF02N5FG9	SV321GF02L7FG9*
	1	13.0	5	-	-	-	-	-	-	50	50	295	SV321GF02C5FG9	SV321GF02E7FG9
1 1/4	1 1/2	22.0	10	250	150	250	150	250	150	-	-	200	SV321GF02N1GJ5	---
	1 1/2	22.0	10	-	-	-	-	-	-	150	150	386	SV321GH02T2GJ5	---
	1 1/4	19	5	200	150	150	150	85	85	-	-	180	SV321GF02N5GJ2	SV321GF02L7GJ2*
	1 1/4	19	5	-	-	-	-	-	-	50	50	295	SV321GF02C5GJ2	SV321GF02E7GJ2
1 1/2	1 1/2	28	10	250	150	250	150	250	150	-	-	200	SV321GF02N1HJ5	---
	1 1/2	28	10	-	-	-	-	-	-	150	150	388	SV321GH02T2HJ5	---
	1 1/4	25	5	200	150	150	150	85	85	-	-	180	SV321GF02N5HJ2	SV321GF02L7HJ2*
	1 1/4	25	5	-	-	-	-	-	-	50	50	295	SV321GF02C5HJ2	SV321GF02E7HJ2
2	1 1/2	29.0	10	250	150	250	150	250	150	-	-	200	SV321GF02N1JJ5	---
	1 1/2	29.0	10	-	-	-	-	-	-	150	150	386	SV321GH02T2JJ5	---
	1 1/4	28.0	5	200	150	150	150	85	85	-	-	180	SV321GF02N5JJ2	SV321GF02L7JJ2*
	1 1/4	28.0	5	-	-	-	-	-	-	50	50	295	SV321GF02C5JJ2	SV321GF02E7JJ2

### Specifications for SV421 Normally Open

Normally Open



Port Size	Orifice Size (ins.)	C <sub>v</sub>	Min PSI	Operating Pressure Differential								Max Fluid Temp °F	Model Number	
				Max Pressure (PSI)									Normally Open	
				Air/Gas		Water		Lt. Oil		Steam			Brass	Stainless Steel
AC	DC	AC	DC	AC	DC	AC	DC	AC	DC					
3/8	1/2	3.3	1	150	140	150	140	150	140	-	-	230	SV421GF02K4CG1	---
	1/2	3.3	1	-	-	-	-	-	-	100	100	338	SV421GH02T4CG1	---
1/2	5/8	3.3	3	150	140	200	125	200	125	-	-	180	SV421GF02N5CG4	SV421GF02L7CG4*
	1/2	3.3	1	150	140	150	140	150	140	-	-	230	SV421GF02K4DG1	---
	1/2	3.3	1	-	-	-	-	-	-	100	100	338	SV421GH02T4DG1	---
3/4	5/8	4.1	3	200	140	200	125	200	125	-	-	180	SV421GF02N5DG4	SV421GF02L7DG4*
	3/4	6.1	1	150	140	150	140	150	140	-	-	230	SV421GF02K4EG5	---
	3/4	8.1	1	-	-	-	-	-	-	100	100	338	SV421GH02T4EG5	---
	3/4	5.5	3	200	140	200	125	200	125	-	-	180	SV421GF02N5EG5	SV421GF02L7EG5*
1	1	13.0	10	200	140	200	140	200	140	-	-	200	SV421GF02N1FG9	---
	1	13.0	10	-	-	-	-	-	-	100	100	338	SV421GH02T2FG9	---
	1	13.0	5	200	140	150	140	100	100	-	-	180	SV421GF02N5FG9	SV421GF02L7FG9*
	1	13.0	5	-	-	-	-	-	-	50	50	295	SV421GF02C5FG9	SV421GF02E7FG9
1 1/4	1 1/2	22.0	10	200	140	200	140	200	140	-	-	200	SV421GF02N1HJ5	---
	1 1/2	22.0	10	-	-	-	-	-	-	100	100	338	SV421GH02T2HJ5	---
	1 1/4	19.0	5	200	140	140	140	85	85	-	-	180	SV421GF02N5HJ2	SV421GF02L7GJ2*
	1 1/4	19.0	5	-	-	-	-	-	-	50	50	295	SV421GF02C5GJ2	SV421GF02E7GJ2
1 1/2	1 1/2	28.0	10	200	140	200	140	200	140	-	-	200	SV421GF02N1HJ5	---
	1 1/2	28.0	10	-	-	-	-	-	-	100	100	388	SV421GH02T2HJ5	---
	1 1/4	25.0	5	200	140	140	140	85	85	-	-	180	SV421GF02N5HJ2	SV421GF02L7HJ2*
	1 1/4	25.0	5	-	-	-	-	-	-	50	50	295	SV421GF02C5HJ2	SV421GF02E7HJ2
2	1 1/2	29.0	10	200	140	200	140	200	140	-	-	200	SV421GF02N1JJ5	---
	1 1/2	29.0	10	-	-	-	-	-	-	100	100	338	SV421GH02T2JJ5	---
	1 1/4	28.0	5	200	140	140	140	85	85	-	-	180	SV421GF02N5JJ2	SV421GF02L7JJ2*
	1 1/4	28.0	5	-	-	-	-	-	-	50	50	295	SV421GF02C5JJ2	SV421GF02E7JJ2

\*Maximum Fluid Temperature is 230°F

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## Part Number Configurator

Example Part Number: SV321GH02N5CG4

Series		Operating Mode		Housing		Coil Insulation		Applicable Voltage		Material (Seal, Body)		Pipe Connection NPT (in.)		Orifice Size (in.)		Option	
SV321	Normally Closed	A	Conduit	F	Class F	02	120V/60Hz	K4	FKM, Forged Brass w/ SS Trim	C	3/8	G1	1/2	K Mounting Bracket M Manual Override			
		P	Open Frame	H	Class H	04	110V/50Hz	T4	PTFE, Forged Brass w/ SS Trim	D	1/2	G5	3/4				
		B	Grommet			01	220V/60Hz	K2	FKM, Brass w/ SS Trim	E	3/4	G1	1/2				
		X	Explosion Proof NEMA 7			15	220V/50Hz	T2	PTFE, Brass w/ SS Trim			G5	3/4				
		S	Junction Box			16	24V/60Hz	N1	Buna N, 316 SS	G	1 1/4	J5	1 1/2				
		G	Watertight NEMA 4				12V DC	T1	PTFE/EPR 316 SS	H	1 1/2						
							24V DC			J	2						
								N5*	Buna N., Brass	C	3/8	G4	5/8				
								V5*	FKM, Brass	D	1/2						
								C5*	EPR, Brass	E	3/4	G5	3/4				
SV421	Normally Open	Y	DIN					J7*	Buna N, 316 SS	F	1	G9	1				
								E7*	Santoprene/EPDM 316 SS	G	1 1/4	J2	1 1/4				
								F7*^	Santoprene EPDM 316 SS	H	1 1/2						
								CP	EPR/Nylon	C	3/8						
								NP	Nitrile/Nylon	D	1/2						
								VP	FKM/Nylon	E	3/4						
								*	Compact Version	F	1						
								^	ANSI-61 Compliant								

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