

SN Series - Solenoid Valve

Schematic Representation Only



Specifications :

Patented Poppet Valve Design

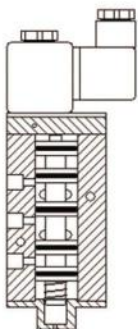
- Unique patented poppet valve technology provides **high flow, fast response, high temperature range and multi-million** cycle life reliability.
- Patented poppet valve design minimizes friction by utilizing dual static rolling diaphragm-poppet seals.
- Advantage of this design is its suitability for cryogenic environments. Wide operating temperature range -4°F to +140°F (-20°C to +60°C).

Poppet Valve Design



* Poppet valve design offers better characteristics and reliability.

Typical O-ring Seal Design



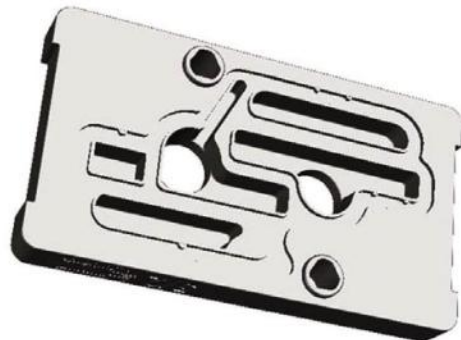
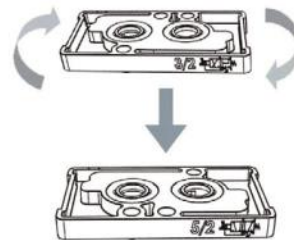
- Traditional solenoid valves operate a spool to direct airflow.
- The o-ring type seals are subject to constant abrasion, reducing their lifetime and reliability.
- The operating temperature usually is limited to no less than -5°C.

Features :

- Multi-million cycle life reliability. The innovative design and all composite construction means the SN Series is not affected by wear or corrosion.
- Set 5/2 or 3/2 function simply by turning the rotary sealing plate 180°, dramatically reducing parts inventory.
- High airflow: $C_v > 1.1$ (1100 L/min) (I-Safe $C_v = 0.8$).
- Manual override built in - no extra parts required.
- Operating temperature range: -4°F to +140°F (-20°C to +60°C).
- For extreme environmental corrosion protection, all port threaded inserts and armature components can be supplied in stainless steel.
- Direct mounting conforms to Namur VDI/VDE 3845 standard.
- Exhaust feedback – provides spring chamber with instrument air preventing corrosion.
- Very competitively priced with a wide variety of available options.

Patented Rotary Sealing Plate

- By turning the patented rotary sealing plate 180° the operating mode can be easily changed from 5/2 to 3/2 function.
- The SN Series can be used on both double acting and single acting actuators.
- Many competitors' solenoid valves either work 5/2 or 3/2 function requiring stocking for both solenoid valves.
- The SN Series rotary sealing plate results in less inventory.

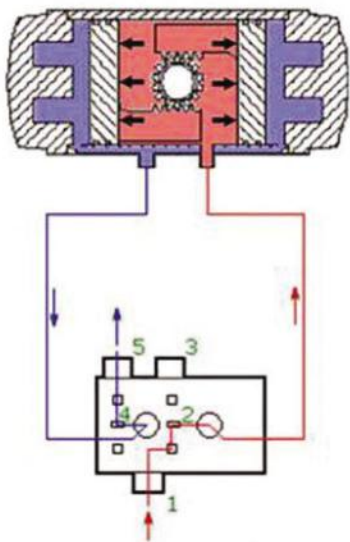


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5/2 Mode for Double Acting Operation:

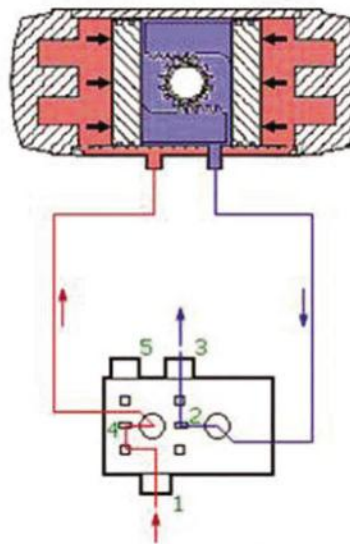
Energized State

- Air supply through port 1, flow is directed to port 2.
- Port 4 is vented to atmosphere via port 5.



De-energized State

- Air supply through port 1, flow is directed to port 4.
- Port 2 is vented to atmosphere via port 3.

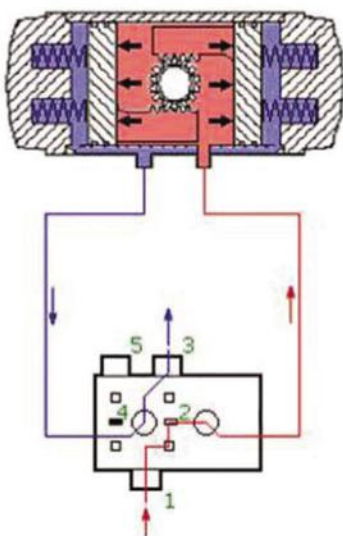


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3/2 Mode for Single Acting Operation:

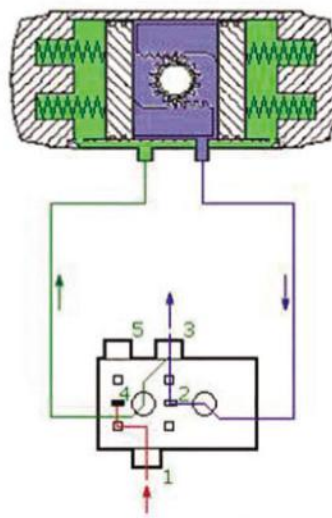
Energized State

- Air supply through port 1, flow is directed to port 2.
- Exhaust air is directed to port 4 and vented to atmosphere via port 3.



De-energized State

- Air supply through port 1, flow is blocked.
- Exhaust air is directed through port 2 to port 4.



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Technical Specifications :

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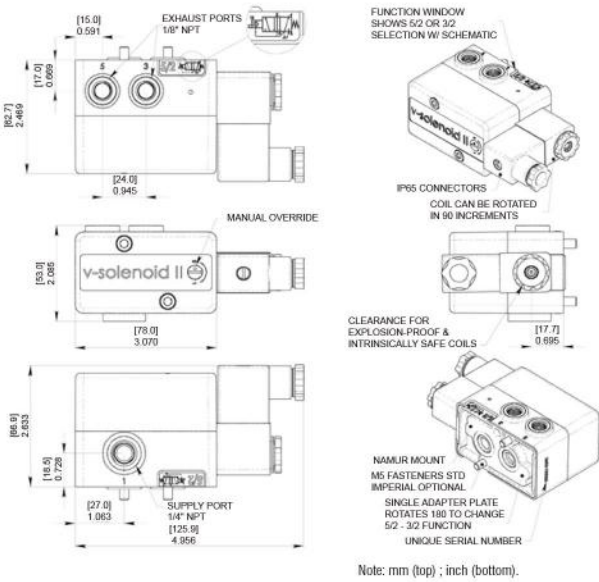
	Standard Series	Explosion Proof		
		ATEX Ex	Ex-Proof	I-Safe
Temperature	-4°F to 140°F (-20°C to 60°C)	-4°F to 122°F (-20°C to 50°C)	-4°F to 140°F (-20°C to 60°C)	-4°F to 140°F (-20°C to 60°C)
Flow	Cv>1.1	Cv>1.1	Cv>1.1	Cv=0.8
Operating Pressure	35 to 120 psi (2.4 to 8.3 bar)			
Ports	1/4" NPT and Namur flange			
Response	Opening (on) 20ms, closing (off) 40ms			
Media	Compressed air-lubricated or unlubricated, instrument air and nitrogen			
Valve Body	Reinforced polyamide (PA)			
Sealing Material	Exhaust ports o-ring: NBR Armature o-ring: Viton			
Ports	Supply ports: MS zinc plated (standard) or Stainless (corrosion resistant)			
Voltage	24VDC, 24VAC 120VAC, 240VAC	24VDC, 120VAC, 230VAC	24VDC, 120VAC, 230VAC	24VDC
Power Consumption	DC 4.8W, AC@60Hz 6.9VA AC@50Hz 8.5VA	Temp class T4, 24VDC, rated power 5.2W Temp class T6, 220V 50/60Hz, rated power 2.5VA	DC 4.8W, AC@60Hz 6.9VA AC@50Hz 8.5VA	Voltage range 21.6 to 28 VDC Peak values 28VDC, 115mA, 1.6w Temp (Max): 50°C
Duty Cycle	100% continuous service			
Insulation Class	F	F	H	F
Connection	DIN industrial form	Encapsulated coil and connector, with cable	1/2" NPT conduit entry	DIN EN 175301-803-A/ ISO 4400
Protection Class	IP65 NEMA types 1,2,3,3S,4&index	IP65	NEMA types 7,8&9	NEMA types 1,2,3,3S,4&4X
Approvals		PTB, ATEX	CSA, FM	CSA, FM, PTB
Hazardous Locations		<ul style="list-style-type: none"> • II 2G EEx m II T6, T5 or T4 approved • IEC Ex m II T6, T5, T4 approved coils are approved according to EN 50 • 014:1997 +A1+A2 and EN50028:1987 by the Physikalisch-Technischen Bundesanstalt (PTB) 	<ul style="list-style-type: none"> • Class 1; Zone1 • Ex m II; AEx m II • Class I; Division 1; Groups A,B,C and D • Class II; Group E,F and G • Class III • Tested according to CAN/CSA-E79-0-95 and CAN/CSA-E79-18-95 for CSA, according to ANSI/ISA-S12.00.01-1999 and ANSI/ISA-S12.23.01-1998 for FM 	<ul style="list-style-type: none"> • Ex II 2G EEx ia IIC T6 approved • IEC Ex ia IIC T6 approved • FM IS /I, II, III/ ABCDEFG approved • Coils are approved according to EN 50 020 resp • DIN VDE 0170/0171, part 5 by the PTB

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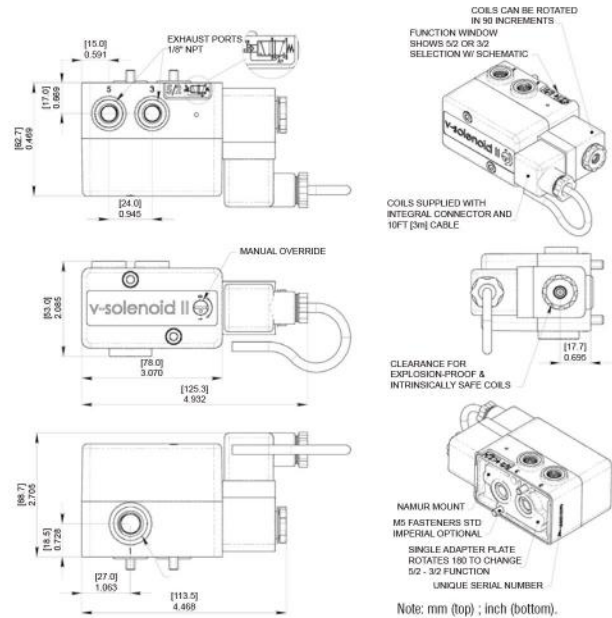
Dimensions :

SN Standard Series :

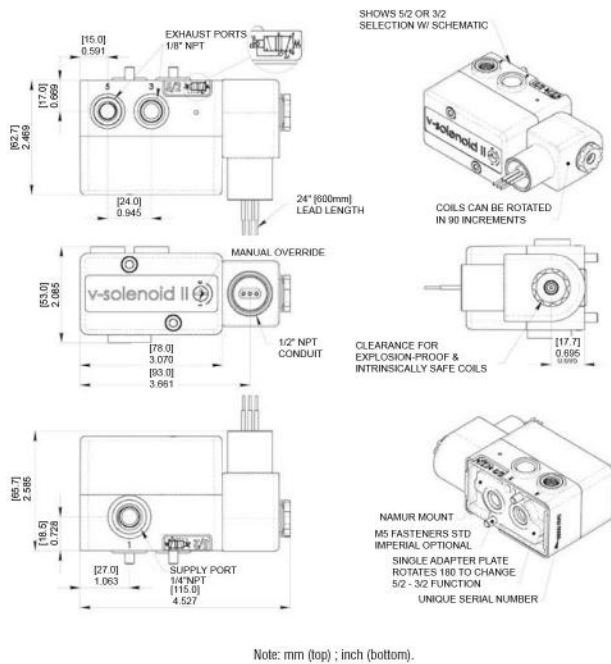
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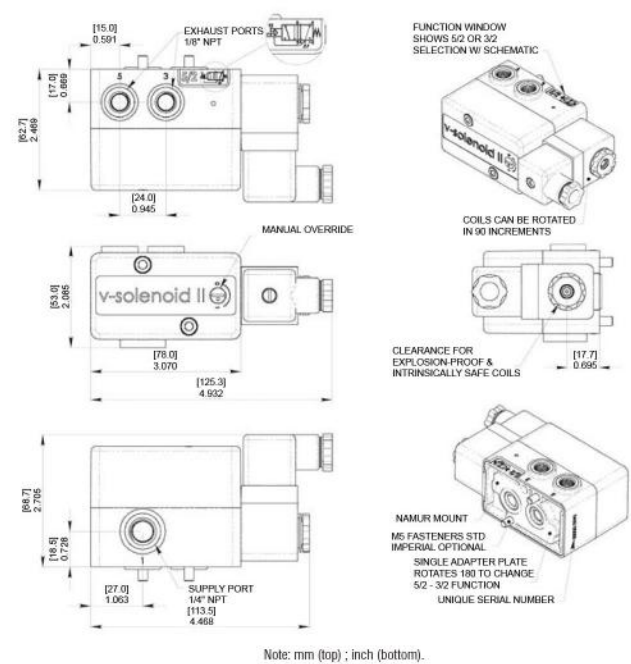
SN ATEX Ex Series :



SN EX-PROOF Series :



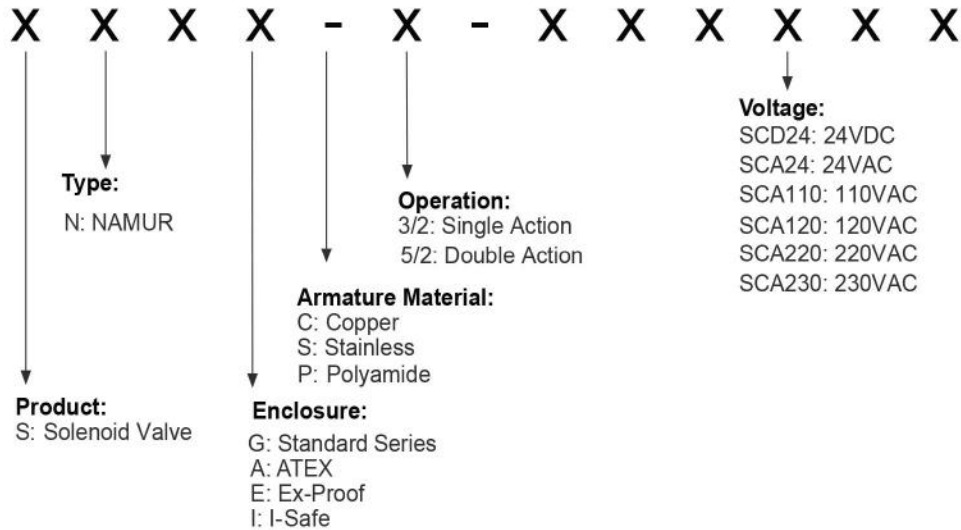
SN I-SAFE Series :



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How to Order :

SN Series Coding Rule



Solenoid Valve, NAMUR, Standard Series, Polyamide Case, Single Action 3/2, Volage 120 Alternate Current.

SNGP-3/2-SCA120

