



# *USER INSTRUCTIONS*

## *Automax Valve S25N NAMUR Directional Valve*

*AUTO-111-02 – (12/13)*

*Installation  
Operation  
Maintenance*

The Automax NAMUR Directional valve mounts directly to SuperNova series actuators which eliminates the cost of tubing and fittings. The valves are available for double acting and spring return actuators with NEMA 4, 4X, 7 & 9, weatherproof intrinsically-safe, and low power solenoid operators. These valves have been tested and proven reliable for over 1 million cycles.

**Operation**

Solenoid will not shift without backpressure on ports 2 and 4. Air supply lines to the valve must have I.D. at least as large as the NPT size of valve ports.

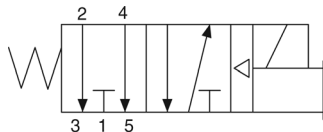
- Temperature:** NEMA 4X: -20°F to 150°F  
 NEMA 4X, 7 & 9: -20°F to 125°F  
 For temperatures below 40°F, air must be free of water vapor.
- Pressure:** Minimum: 35 psig  
 Maximum: 150 psig
- Media:** Dry or lubricated non-corrosive gas compatible with nitrile seals.

**C<sub>v</sub> = 1.8**

**Flow Schematics:**

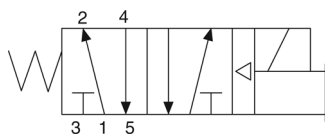
(Port 1 - air supply)

**3-way Valve (Spring Return Actuators)**



When operator is energized, the spool shifts allowing the air pressure to enter the actuator and compress the springs. When de-energized, the spool returns, exhausting the air.

**4-way Valve (Double-acting Actuators)**



When operator is energized, the spool shifts, driving the actuator CCW. When de-energized the spool returns, driving the actuator CW. For de-energized CCW, rotate directional valve 180°, so that operator points left.

**Options:**

- Dual coil 2-position and 3-position valves are available. Consult factory.
- Sandwich NAMUR mount accessories:
  - APS1 - Air purge system to purge spring chambers with solenoid valve exhaust.

FC1, FCSR and FCDA - Single port and dual port exhaust flow controls.

LV1 - Lockout and vent valve for lockout and manual override applications.

Automax sandwich NAMUR mount accessories provide compact, clean control packages for the SuperNova actuator.

**Solenoid Information  
 NEMA 4X Weatherproof**



- Coil is U.L. and C.S.A. recognized
- Standard 1/2" NPT connector meets NEMA 4X rating
- Optional DIN connector for wiring with 3 lead, 18ga cord available. Eliminates junction boxes at solenoid. Simply plug in and tighten screw for easy installation and service
- Standard with non-locking override
- Continuous duty molded class H coil
- 24" electrical leads
- External air pilot

**NEMA 4X, 7 & 9 "Explosion-proof"**



- 1/2" NPT conduit
- 24" electrical leads
- Meets U.L., C.S.A. and NEMA requirements for Class I, Gr C & D Div. 1 & 2  
 Class II, Gr E, F & G Div. 1 & 2
- Standard with non-locking override
- Continuous duty molded Class B Coil
- External air pilot

**Solenoid Electrical Characteristics**

Characteristics for standard coils are shown below. All common voltages and hertz are available.

	AC VOLTAGE ±10%		DC VOLTAGE	
	120 VAC	240 VAC	12 VDC	24 VDC
<b>WEATHERPROOF</b>				
Inrush Amps	0.078	0.041	0.400	0.200
Holding Amps	0.058	0.030	0.400	0.200
Resistance (Ω)	840	3310	31.6	121
<b>EXPLOSION-PROOF</b>				
Inrush Amps	0.127	0.063	0.632	0.320
Holding Amps	0.057	0.038	0.632	0.320
Resistance (Ω)	475	2000	19.0	75

**Weatherproof intrinsically-safe/low power**

A .67 watt coil is available with 1/2" NPT weatherproof housing. The operator has Factory Mutual Entity approval. See the separate I.S. operator I.O.M. for further information.

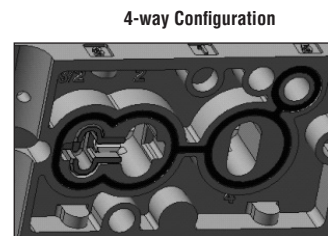
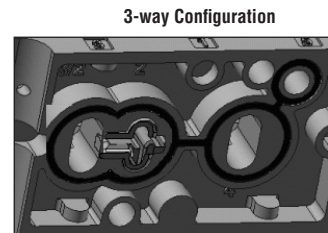
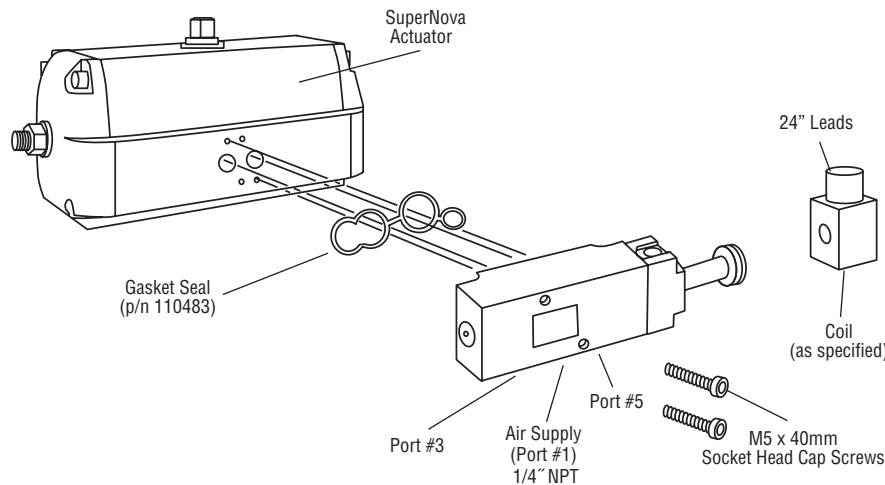
The Automax S25N directional valve is installed very easily to any SuperNova series actuator.

1. Place the gasket seal provided into the gasket bore on the face of the valve. The gasket seal should be completely seated in the bore.
2. Place the actuator with the two ports facing you, and the pinion pointing up. Orient the Automax solenoid valve with the gasket seal toward the actuator and the operator towards the right.
3. The valve is then mounted to the actuator with the two screws provided. Apply Loctite Threadlocker 222 or equal to the screws prior to assembly.
4. Connect the air supply to port #1 and wire solenoid per local and national electrical codes. The assembly is now ready for operation.
5. Optional porous bronze vents (P/N 101602) or adjustable speed controls (P/N 100531) can be added to ports #3 & #5.
6. The S25N directional valve is easily converted from 4-way to 3-way configuration (see figures below right). With the NAMUR interface facing forward, move the conversion plug from the left to righthand port to convert to 3-way configuration. The flathead screw will lift conversion plug out of port. Tighten screw to secure conversion plug.

**Lubrication:**

- Lubrication of Automax products is not required but is recommended to maximize service life. Where devices not made by Automax are used in the system the manufacturer should be consulted regarding their lubrication requirements.
- Lubricators should be installed downstream of regulators per the manufacturer's instructions.
- Automax positioner supply air must be clean, dry and oil free. Do not use lubricators in conjunction with Automax positioners.
- Oils used in air line lubricators should be compatible with seals used in the system. Generally Automax products use Buna-N (Nitrile) with Viton seals available as an option. Oils should be petroleum based with oxidation inhibitors, an ISO 32 or lighter viscosity, and an aniline point between 82°C (180°F) and 104°C (220°F).

*Note: See appropriate IOM's for installation of sandwich NAMUR mount accessories.*



**Ordering Guide**

Automax S25N Spool Type	Body Type	Operator	Spring	Voltages
A- 2-position 4-way F- 2-position 3-way C- 3-position 4-way - blocked center D- 3-position 4-way exhaust center	A- single operator B- dual operator	A - Remote air pilot W - NEMA 4X X - NEMA 4X, 7 & 9 N - Intrinsically Safe V - 1.8 Watt Low Power NEMA 4X, 7, & 9	D - 3 position spring center R - 2 position spring return Repeat operator code for 2 position, dual operator	1- 110/50, 120/60 2- 220/50, 240/60, 120 VDC 3- 12 VDC, 22/50, 24/60 4- 24 VDC

Ordering Example: Automax 4-way solenoid valve with NEMA 4X, 7 & 9 operator, spring return,

120 VAC / 60 HZ would be: **S25NAAXR1**

*For other options - consult factory.*



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