



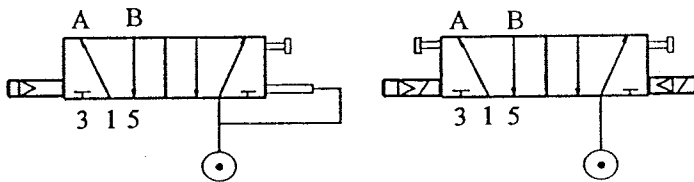
# INSTALLATION & MAINTENANCE INSTRUCTIONS

UniTorq 4 Way Solenoid Valves

**General Description:**

UniTorq direct mount Solenoid Valves come lubricated and are designed for long life. These solenoid valves are specially designed to be easy to install on pneumatic actuators. The solenoids come equipped with BUNA O-Rings to seal the valve ports to the body of the actuator.

**Operation:**



Single Coil

Dual Coil

**Figure 1**  
(Pneumatic Diagrams)

Port 1 is the supply port and ports 3 and 5 are the exhaust ports for both the dual coil and single coil types. The exhaust port may be equipped with silencers or speed controls to control the actuation time. Ports A and B are the actuator input ports. In the normal position air goes from the supply port (port 1) to port B. During solenoid activation the flow will be from the supply port to port A.

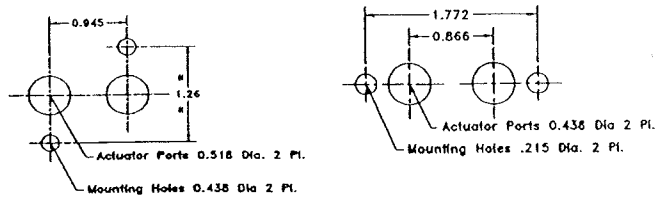
The dual coil solenoid only requires a pulse to cause the actuator to move. To return the actuator the normal position a pulse must be sent to the 2<sup>nd</sup> coil.

**Mounting Patterns:**

The UniTorq solenoid valve comes with two different mounting types.

- a. Proprietary (See Figure 2.b)
- b. Namur (See Figure 2.a)

The proprietary mounting pattern is used with the UniTorq models M20-M103 but can be configured to the Namur standard easily by the addition of a Namur adapter block.



Namur Mounting (a)

Proprietary Mounting (b)

**Figure 2**

**Installation:**

Note: Make sure that Port O-Rings are correctly placed inside O-Ring groove.

1. Affix solenoid valve to actuator and tighten screw to 70 in-lbs.
2. Disconnect solenoid wire hood. Wire terminal block and replace hood. (See Figure 3)

Note: Terminal designation

1. Positive
  2. Neutral
  3. Ground
3. Energize solenoid valve several times and test for leaks and proper operation. Note: Solenoid nut should be hand tight.

**Manual Override:**

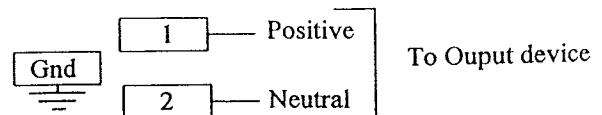
The UniTorq solenoid valve comes equipped with a locking manual override. A small red switch located between the valve body and the coil positioned perpendicular to the long axis of the valve body allows for the overriding of the solenoid if necessary. The normal position for the switch will be perpendicular to the long axis of the valve body (pointing toward the 0). A 90° rotation of the switch in the counter clockwise direction will manually override the solenoid and lock the solenoid in the disengaged position until the switch is returned to its original position.

**Solenoid Classification:**

The UniTorq solenoid valve is designed to the NEMA 4 and 4X standard. The UniTorq solenoid valve can be adapted to the 7 and 9 classifications by installing a special solenoid on the standard valve body.

- NEMA 4,4X: Watertight and Dust tight - indoor & outdoor. Protects against windblown dust rain, splashing water and hose directed water. Also corrosion resistant.
- NEMA 7,9: All of above standard plus: Class I & Class II, indoor hazardous locations, Explosion proof. Will include groups A,B,C,D,E,F,G.

**Wiring Diagram:**



**Figure 3**

Note: Wiring diagram is the same for all voltages.  
(24/48/120/220 AC : 12/24/48/120 DC)



# Specifications

1. EV1 - 4 Way NEMA 4 solenoid valve with proprietary mount. (M20 - M103)

Specifications:

- Nominal Voltage: 110 VAC +/- 10%
- Port Dimensions: Ports 1,3,5 1/8" NPT
- Power: 60 Hz AC at 3.3 Watts
- Pressure Range: Min - 29 psi. / Max - 145 psi.
- KV Factor: 4

2. EV2 - 4 Way NEMA 4 solenoid valve with namur mount (M148 - M2958)

Specifications:

- Nominal Voltage: 110 VAC +/- 10%
- Port Dimensions: Ports 1,3,5 1/4" NPT
- Power: 60 Hz AC at 3.3 Watts
- Pressure Range: Min - 29 psi. / Max - 145 psi.
- KV Factor: 9

In addition to these two basic models UniTorq also offers a NEMA 4,7,9 upgrade for explosion proof applications. The UniTorq explosion proof solenoid can easily be mounted to the standard UniTorq valve block with the addition of a spacer block and a valve adapter kit.

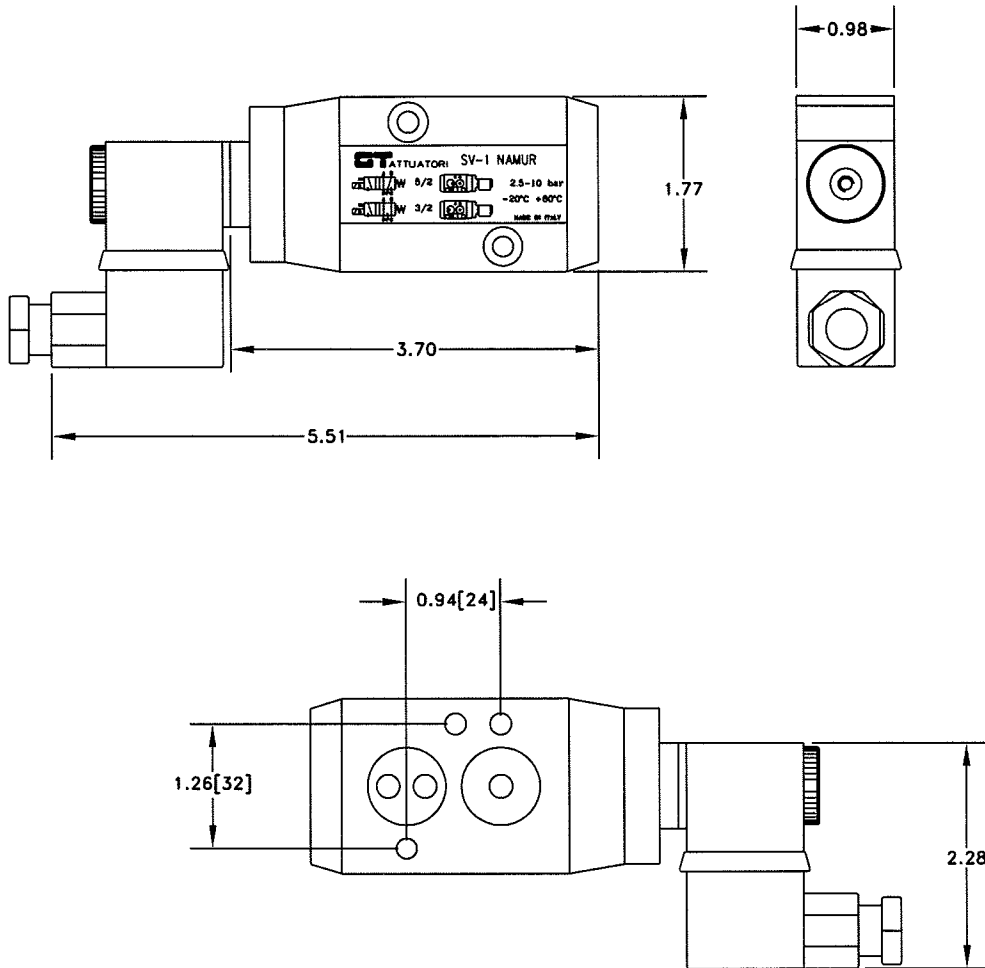
3. EV1 & EV2 - 4Way - NEMA 4,7,9 solenoid valve with proprietary or Namur Mounting

Specification:

- Nominal Voltage: 110 VAC +/- 10%
- Port Dimensions: 1,3,5 1/4" NPT (Namur); 1/8" NPT (Proprietary)
- Power: 60 Hz AC at 5.9 Watts
- Pressure Range: Min - 29 psi. / Max - 145 psi.
- KV Factor: 4,9

SV1 NEMA 4 Solenoid Valve

Voltage	Power	Current
110 VAC	3.3 Watts	30 ma
12 VDC	3.5 Watts	290 ma
24 VAC	3.6 Watts	150 ma
24 VDC	4.8 Watts	198 ma



SOLENOID SV-1 NAMUR  
 2.5-10 bar  
 -20°C +80°C  
 MADE IN ITALY

CT INFORMATION

**UNITORQ** ACTUATORS AND CONTROLS  
 NORCROSS, GEORGIA U.S.A. 30071

DESCRIPTION

SOLENOID SV-1

PRODUCT

SOLENOID

PART NUMBER

UT-XXX-123456789

SALES DRAWING NO.

ABYYMMDDC

CLN

XXXX

REV.