

Standard Valve Selection

IMI Norgren has been developing and producing solenoid valves for over thirty years. In addition to our standard offering of solenoid valves, we can solve your fluid control problems with custom-made solutions.

Our standard solenoid valve offerings are designed to meet the broad range of sectors that we serve from commercial vehicle, food and beverage, energy, life science, rail to industrial automation. Our complete line of 2 way and 3 way solenoid valves range provide a wide range of maximum operating differential pressures and flow rates that can satisfy today's most rigid requirements. These valves are ideally suited to remotely control systems that use air, liquids or vacuum.

Direct Porting Solenoid Valves

Valves are available with a broad variety of materials of construction, port sizes, seal selections, termination styles, mounting brackets, pressure and flow capabilities to meet your most stringent application requirements.

Our standard valves dimensionally meet the industry standards from mounting holes and ports, to valve sizes and configurations. IMI Norgren offers a wide selection of coil construction and meets virtually any voltage requirements.

IMI Norgren is eager to install your fittings, attach your specific terminations to the lead wire or accommodate your unique mounting or installation requirements.

IMI Norgren Isolation Valves

KIP Series 1, 2, 6 and 9 valves can be supplied as a diaphragm seal isolated valve. The diaphragm seal provides a dry isolated barrier for all the metal parts of the solenoid valve, maintaining only the seal and valve body (usually plastic), as the only wetted parts.

The diaphragm isolated valve models are available as a 2-way normally closed valve only. However, if your application requires a 3-way, we can adapt two valves on a manifold block to act as a 3-way.

Q2

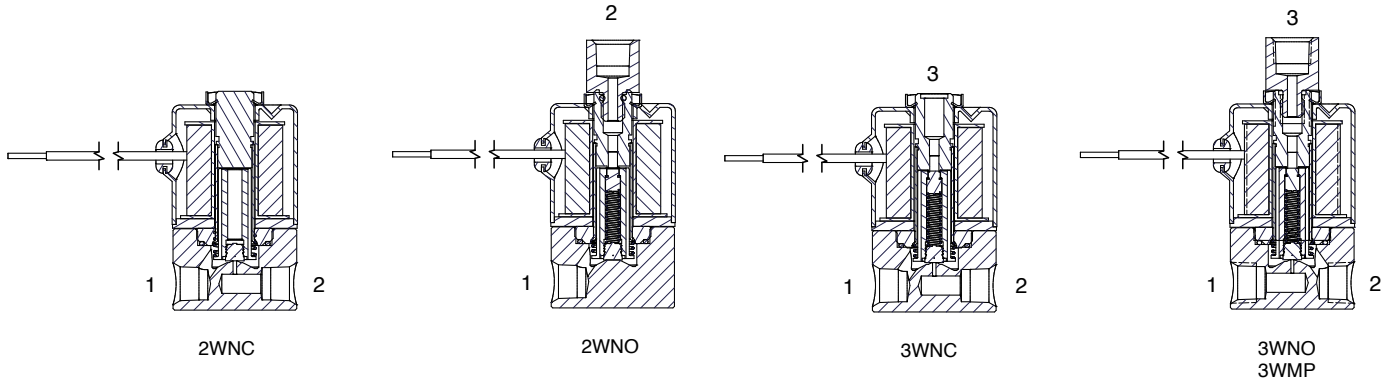
The IMI Norgren Q2 quick connect valves are constructed with the durable lightweight plastic bodies with minimum pressure drop. The valves are UL and CSA rated along with the NSF certification for your potable water requirements. The standard Q2 valves are yoke style housing with a 10 watt coil with ¼" top spades electrical connections. The Q2 solenoid valves have MOPDs of up to 120 PSI and orifice diameters from 1/8" to 5/16" giving you Cv factors up to 1.00.

Series 9

The low watt Series 9 is the small solution without sacrificing performance. The valves are available in 2-way and 3-way configurations. The Series 9 is compatible with air, water, gases, and vacuum. The standard Series 9 orifice is 1/16" with a maximum MOPD of 100 PSI leading to a maximum Cv factor of .05.



Solenoid Selection



Selecting the Best Solenoid Operator for Your Application

| FEATURE | Series 9 | Series 1 | Series 2 | Series 3 | Series 6 |
|--|----------------|----------------|----------------|----------------|----------------|
| Size - Diameter (inches) | 0.80 | 1 | 1 | 1-3/16 | 1-5/8 |
| Maximum MOPD (psi) | 100 | 800 | 1000 | 1000 | 1200 |
| Orifice size range | 1/16" | 1/32" to 5/32" | 1/32" to 5/32" | 5/64" to 1/4" | 1/32" to 3/8" |
| Vacuum Service | ✓ | ✓ | ✓ | ✓ | ✓ |
| Max. Cv - Body | 0.050 | 0.290 | 0.305 | 0.490 | 0.610 |
| Min. Cv - Body | 0.035 | 0.035 | 0.030 | 0.030 | 0.035 |
| Max. Cv - Stop | 0.025 | 0.115 | 0.140 | 0.140 | 0.270 |
| Min. Cv - Stop | 0.015 | 0.025 | 0.025 | 0.025 | 0.024 |
| Power Rating | .65 watts | 6 watts | 7 watts | 7 watts | 10 watts |
| Lead Wire Gauge | 24 AWG | 20 AWG/18 AWG | 20 AWG/18 AWG | 18 AWG | 18 AWG |
| Low Wattage Operators (1.5 to 3.0 Watts) | - | ✓ | ✓ | ✓ | - |
| 1/8" NPTF Ports - Body | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1/4" NPTF Ports - Body | | | | ✓ | ✓ |
| 3/8" NPTF Ports - Body | | | | | ✓ |
| #10 - 32 UNF Ports - Body (manifold mount) | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1/8" NPT or 1/4" NPT Male Bottom Port | | ✓ | ✓ | ✓ | |
| UL Recognized | | ✓ | ✓ | ✓ | ✓ |
| CSA Approved | | ✓ | ✓ | ✓ | ✓ |
| Grommet Style Housing | ✓ | ✓ | ✓ | ✓ | ✓ |
| Conduit Style Housing | | ✓ | ✓ | ✓ | ✓ |
| Spade Terminal Style - (Standard) | | | 1/4" | 1/4" | 1/4" |
| Yoke Style (Open Frame) | | ✓ | ✓ | | |
| Valve Mount Manifolds | ✓ | ✓ | ✓ | | ✓ |
| Diaphragm Isolated Version | ✓ | ✓ | ✓ | | ✓ |
| Duty cycle | 100% | 100% | 100% | 100% | 100% |
| Response time | 9 ms (typical) | 9 ms (typical) | 9 ms (typical) | 9 ms (typical) | 9 ms (typical) |
| Ambient temp (Class B coil) | 0°C to 40°C | 0°C to 40°C | 0°C to 40°C | 0°C to 40°C | 0°C to 40°C |
| Ambient temp (Class H coil) | 0°C to 80°C | 0°C to 80°C | 0°C to 80°C | 0°C to 80°C | 0°C to 80°C |
| Coil class | B, H | B, H | B, H | B, H | B, H |

Standard valve Part Identification Numbering (PIN) System for KIP Series 1, 2, 3, and 6 solenoid

The KIP Series 1, 2, 3, and 6 part numbers provide information about every aspect of the product it represents. The first letter is an optional prefix which identifies UL recognized, oxygen or low wattage. The following numbers identify series, ports, housing style, material, valve function, orifice, seal, coil construction and coil temperature, in that order. The numerical value for each respective category represents one of multiple options. Where possible, the organization of this catalog presents information in the order of the part identification number. You may use the number as a guide to finding information within the catalog.

The following charts are keys to understanding the Standard valve Part Identification Number.

U 2 4 0 1 1 5 - 0 2 5 1 - 24 VDC

| | | | |
|----------------------------|-------------------|--|---------------------------------------|
| PREFIXES (Optional) | Substitute | | VOLTAGE |
| UL Recognized | U | | COIL OPTIONS |
| Oxygen Service | Y | | SEAL |
| Low Wattage* - 1.5 Watt | A | | Buna |
| Low Wattage* - 2.0 Watt | B | | Fluorocarbon |
| Low Wattage* - 2.5 Watt | C | | Polyurethane (2WNC only) |
| Low Wattage* - 3.0 Watt | D | | Ethylene Propylene (EPR (Food Grade)) |
| SERIES | Substitute | | ORIFICE |
| Series 1 | 1 | | 1/32" |
| Series 2 | 2 | | 3/64" |
| Series 3 | 3 | | 1/16" |
| Series 6 | 6 | | 5/64" |
| PORT | Substitute | | 3/32" |
| 1/8" NPTF (a) | 4 | | 1/8" |
| 1/4" NPTF (b) | 5 | | 5/32" |
| Manifold Mount (c) | 6 | | 3/16" (b) |
| 3/8" NPT (f) | 8 | | 1/4" (b) |
| HOUSING | Substitute | | 3/8" (f) |
| Grommet | 1 | | FUNCTION |
| 1/2" NPT Conduit | 2 | | 2WNC |
| Yoke (d) | 3 | | 2WNO |
| Grommet w/bracket | 7 | | 3WNC |
| Slotted (e) | 9 | | 3WNO |
| BODY MATERIAL | Substitute | | 3WMP |
| Stainless Steel | 0 | | |
| Brass | 1 | | |

(a) = Available in Series 1 and 2.
 (b) = Available in Series 3 & 6.
 (c) = Available in Series 1, 2 & 6.
 (d) = Available in Series 2 & 3 only and must be used with molded spade coil or free standing molded coil with lead wires.
 (e) = Slotted housing (used with 31 & 51 spade coil option), available in Series 2, 3 & 6. Used with molded coil 61 in Series 2 & 3, and 41 in Series 1.
 (f) = Available in Series 6, 2WNC only.

Standard Series 9 valve part identification

★ 9 ★ 1 ★ ★ 2 - ★ ★ - ★ ★ ★ ★

| | | | |
|--------------------------|-------------------|--|-----------------|
| Prefix (optional) | Substitute | | Voltage* |
| Isolated 2WNC only * | G | | 5 VDC |
| Oxygen Service | Y | | 12 VDC |
| Porting | Substitute | | 15 VDC |
| Manifold Mount | 6 | | 24 VDC |
| #10-32 UNF | 7 | | Seal |
| Body | Substitute | | Buna |
| Stainless Steel | 0 | | Fluorocarbon |
| Brass | 1 | | EPR** |
| Operator | 3 | | |
| ECTFE | 8** | | Function |
| Acrylic | 9** | | 2 WNC |
| | | | 2 WNO |
| | | | 3 WNC |
| | | | 3 WNO |
| | | | 3 WMP |
| | | | 3 WDC |

*Coils are standard Class B construction

Not all combinations are available. Consult technical support for special requirements.
 *Low wattage coils are available in Series 1, 2 & 3 for 2-Way Normally Closed, 3-Way Normally Closed and 3-Way Multi-Purpose functions.
 ** Isolated version only

| | Series 1 | | | | | Series 2 | | | | |
|-----------------------------------|------------------|------|----------|-------|---------------|------------------|------|----------|-------|---------------|
| | Orifice Diameter | | Cv Value | | MOPD (PSI) | Orifice Diameter | | Cv Value | | MOPD (PSI) |
| | Body | Stop | Body | Stop | | Body | Stop | Body | Stop | |
| 2W Normally Open | | 1/32 | | 0.035 | 300 | | 1/32 | | 0.035 | 400 |
| | | 3/64 | | 0.050 | 200 | | 3/64 | | 0.050 | 300 |
| | | 1/16 | | 0.095 | 150 | | 1/16 | | 0.095 | 180 |
| | | | | | | | 5/64 | | 0.135 | 140 |
| 2W Normally Closed | 1/32 | | 0.035 | | 800 | 1/32 | | 0.035 | | 1000 |
| | 3/64 | | 0.050 | | 500 | 3/64 | | 0.050 | | 600 |
| | 1/16 | | 0.095 | | 300 | 1/16 | | 0.095 | | 400 |
| | 5/64 | | 0.135 | | 200 | 5/64 | | 0.135 | | 300 |
| | 3/32 | | 0.175 | | 175 | 3/32 | | 0.175 | | 250 |
| | 1/8 | | 0.245 | | 100 | 1/8 | | 0.245 | | 150 |
| | 5/32 | | 0.290 | | 50 | 5/32 | | 0.290 | | 100 |
| 3W Normally Open | 1/32 | 1/32 | 0.035 | 0.025 | 160 | 1/32 | 1/32 | 0.035 | 0.025 | 200 |
| | 3/64 | 3/64 | 0.050 | 0.065 | 125 | 3/64 | 3/64 | 0.050 | 0.065 | 150 |
| | 1/16 | 1/16 | 0.085 | 0.115 | 100 | 1/16 | 1/16 | 0.085 | 0.115 | 125 |
| | 5/64 | 1/16 | 0.125 | 0.115 | 80 | 5/64 | 5/64 | 0.125 | 0.140 | 100 |
| | 3/32 | 1/16 | 0.165 | 0.115 | 60 | 3/32 | 5/64 | 0.165 | 0.140 | 75 |
| | 1/8 | 1/16 | 0.240 | 0.115 | 40 | 1/8 | 5/64 | 0.240 | 0.140 | 60 |
| | 5/32 | 1/16 | 0.285 | 0.115 | 10 | 5/32 | 5/64 | 0.285 | 0.140 | 25 |
| 3W Normally Closed | 1/32 | 1/32 | 0.035 | 0.025 | 200 | 1/32 | 1/32 | 0.035 | 0.025 | 250 |
| | 3/64 | 3/64 | 0.050 | 0.065 | 150 | 3/64 | 3/64 | 0.050 | 0.065 | 175 |
| | 1/16 | 1/16 | 0.085 | 0.115 | 100 | 1/16 | 1/16 | 0.085 | 0.115 | 125 |
| | 5/64 | 1/16 | 0.125 | 0.115 | 80 | 5/64 | 5/64 | 0.125 | 0.140 | 100 |
| | 3/32 | 1/16 | 0.165 | 0.115 | 60 | 3/32 | 5/64 | 0.165 | 0.140 | 75 |
| | 1/8 | 1/16 | 0.240 | 0.115 | 40 | 1/8 | 5/64 | 0.240 | 0.140 | 45 |
| | 5/32 | 1/16 | 0.285 | 0.115 | 10 | 5/32 | 5/64 | 0.285 | 0.140 | 20 |
| 3W Multi- Purpose | 1/32 | 1/32 | 0.035 | 0.025 | 150 | 1/32 | 1/32 | 0.035 | 0.025 | 275 |
| | 3/64 | 3/64 | 0.050 | 0.065 | 100 | 3/64 | 3/64 | 0.050 | 0.065 | 200 |
| | 1/16 | 1/16 | 0.085 | 0.115 | 80 | 1/16 | 1/16 | 0.085 | 0.115 | 150 |
| | 5/64 | 1/16 | 0.125 | 0.115 | 60 | 5/64 | 5/64 | 0.125 | 0.140 | 100 |
| | 3/32 | 1/16 | 0.165 | 0.115 | 35 | 3/32 | 5/64 | 0.165 | 0.140 | 75 |
| | 1/8 | 1/16 | 0.240 | 0.115 | 20 | 1/8 | 5/64 | 0.240 | 0.140 | 50 |
| | 5/32 | 1/16 | 0.285 | 0.115 | 10 | 5/32 | 5/64 | 0.285 | 0.140 | 25 |

| | Series 3 | | | | | Series 6 | | | | | |
|-----------------------------------|------------------|------|----------|-------|---------------|------------------|------|----------|-------|---------------|-----|
| | Orifice Diameter | | Cv Value | | MOPD (PSI) | Orifice Diameter | | Cv Value | | MOPD (PSI) | |
| | Body | Stop | Body | Stop | | Body | Stop | Body | Stop | | |
| 2W Normally Open | | | | | | | 1/32 | | 0.035 | 1000 | |
| | | | | | | | 3/64 | | 0.050 | 600 | |
| | | | | | | | 1/16 | | 0.095 | 350 | |
| | | 5/64 | | 0.140 | 140 | | 5/64 | | 0.140 | 250 | |
| | | | | | | | 3/32 | | 0.200 | 175 | |
| | | | | | | | 1/8 | | 0.295 | 100 | |
| 2W Normally Closed | | | | | | | 1/32 | | 0.035 | 1200 | |
| | | | | | | | 3/64 | | 0.050 | 1000 | |
| | | | | | | | 1/16 | | 0.095 | 500 | |
| | | 5/64 | | 0.140 | 300 | | 5/64 | | 0.140 | 300 | |
| | | 3/32 | | 0.185 | 250 | | 3/32 | | 0.200 | 200 | |
| | | 1/8 | | 0.265 | 150 | | 1/8 | | 0.295 | 150 | |
| | | 5/32 | | 0.330 | 100 | | 5/32 | | 0.370 | 110 | |
| | | 3/16 | | 0.385 | 40 | | 3/16 | | 0.435 | 60 | |
| | | 1/4 | | 0.450 | 15 | | 1/4 | | 0.610 | 30 | |
| | | | | | | | 3/8 | | 0.900 | 5 | |
| 3W Normally Open | | | | | | | 1/32 | 1/32 | 0.035 | 0.025 | 400 |
| | | | | | | | 3/64 | 3/64 | 0.050 | 0.065 | 250 |
| | | | | | | | 1/16 | 1/16 | 0.090 | 0.115 | 200 |
| | | 5/64 | 5/64 | 0.125 | 0.145 | 100 | 5/64 | 5/64 | 0.135 | 0.180 | 175 |
| | | 3/32 | 5/64 | 0.165 | 0.145 | 75 | 3/32 | 5/64 | 0.180 | 0.210 | 125 |
| | | 1/8 | 5/64 | 0.240 | 0.145 | 60 | 1/8 | 1/8 | 0.275 | 0.240 | 85 |
| | | 5/32 | 5/64 | 0.290 | 0.145 | 45 | 5/32 | 1/8 | 0.370 | 0.240 | 50 |
| | | 3/16 | 5/64 | 0.345 | 0.145 | 10 | 3/16 | 1/8 | 0.455 | 0.240 | 35 |
| | 1/4 | 5/64 | 0.415 | 0.145 | 5 | 1/4 | 1/8 | 0.650 | 0.240 | 15 | |
| 3W Normally Closed | | | | | | | 1/32 | 1/32 | 0.035 | 0.025 | 300 |
| | | | | | | | 3/64 | 3/64 | 0.050 | 0.065 | 250 |
| | | | | | | | 1/16 | 1/16 | 0.090 | 0.115 | 200 |
| | | 5/64 | 5/64 | 0.125 | 0.145 | 100 | 5/64 | 5/64 | 0.135 | 0.180 | 175 |
| | | 3/32 | 5/64 | 0.165 | 0.145 | 75 | 3/32 | 3/32 | 0.180 | 0.210 | 125 |
| | | 1/8 | 5/64 | 0.240 | 0.145 | 45 | 1/8 | 1/8 | 0.275 | 0.240 | 85 |
| | | 5/32 | 5/64 | 0.290 | 0.145 | 20 | 5/32 | 1/8 | 0.370 | 0.240 | 50 |
| | | 3/16 | 5/64 | 0.345 | 0.145 | 10 | 3/16 | 1/8 | 0.455 | 0.240 | 30 |
| | 1/4 | 5/64 | 0.415 | 0.145 | 5 | 1/4 | 1/8 | 0.650 | 0.240 | 15 | |
| 3W Multi- Purpose | | | | | | | 1/32 | 1/32 | 0.035 | 0.025 | 275 |
| | | | | | | | 3/64 | 3/64 | 0.050 | 0.065 | 200 |
| | | | | | | | 1/16 | 1/16 | 0.090 | 0.115 | 175 |
| | | 5/64 | 5/64 | 0.125 | 0.140 | 75 | 5/64 | 5/64 | 0.135 | 0.180 | 125 |
| | | 3/32 | 5/64 | 0.165 | 0.140 | 50 | 3/32 | 3/32 | 0.180 | 0.210 | 100 |
| | | 1/8 | 5/64 | 0.240 | 0.140 | 25 | 1/8 | 1/8 | 0.250 | 0.240 | 60 |
| | | 5/32 | 5/64 | 0.285 | 0.140 | 15 | 5/32 | 1/8 | 0.370 | 0.240 | 40 |
| | | 3/16 | 5/64 | 0.345 | 0.145 | 10 | 3/16 | 1/8 | 0.455 | 0.240 | 25 |
| | 1/4 | 5/64 | 0.415 | 0.145 | 5 | 1/4 | 1/8 | 0.650 | 0.240 | 15 | |

MOPD: 800 to 50 psi
Cv range: 0.035 to 0.290
For neutral gases and liquids

Solenoid Actuated
Connection Type 1/8" NPTF or Manifold Mount
AC, DC and Rectified Coil* options

Operating pressure: 0 to 800 PSIG, Vacuum Capable*

*Consult factory for vacuum ratings and rectified coil options

Description

General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

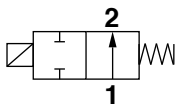
Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts: 430FR & 300 Series Cress



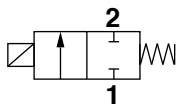
Technical data

| | |
|--|---|
| Switching Function: | Normally Closed & Normally Open |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or ¼" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 6 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 6oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

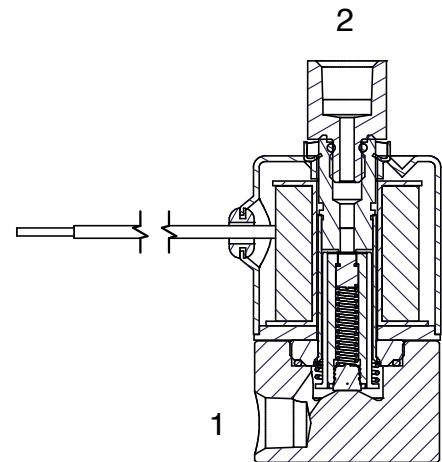
Agency Approvals
UL, CSA and NSF approvals available, consult factory for additional information.



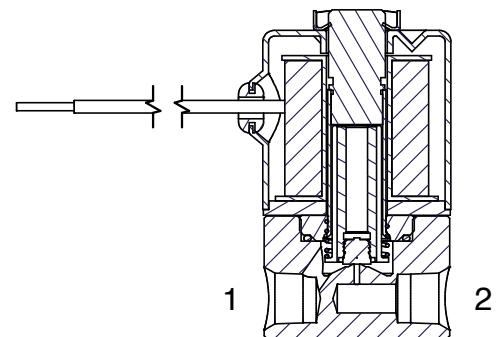
Symbol: 2/2 NO



Symbol: 2/2 NC



2WNO



2WNC

Standard valve selection

Series 1 Valve Configurator

Y 1 4 1 1 1 0 - 0 1 4 1 - 12 VDC

| | |
|---------------------------|-------------------|
| Prefix | Substitute |
| UL recognized | U |
| Oxygen clean | Y |
| Low watt* - 2.0 | B |
| Low watt* - 2.5 | C |
| Low watt* - 3.0 | D |
| Port Configuration | Substitute |
| 1/8" NPTF | 4 |
| Manifold Mount | 6 |
| Housing | Substitute |
| Grommet | 1 |
| 1/2" NPT Conduit | 2 |
| Grommet w/ bracket | 7 |
| Slotted | 9 |
| Body Material | Substitute |
| Stainless Steel | 0 |
| Brass | 1 |
| Function | Substitute |
| 2WNC | 1 |
| 2WNO | 2 |

| | |
|---------------------------------------|-------------------|
| Voltage | |
| 12 VDC | |
| 24 VDC | |
| 24 - 60 VAC | |
| 120 - 60 VAC | |
| 240 - 60 VAC | |
| Coil Options | Substitute |
| Dry taped with 24" Flying Leads | 01* |
| Free standing molded 24" Flying Leads | 41* |
| Seal Options | Substitute |
| Buna | 01 |
| Fluorocarbon | 02 |
| Polyurethane (2WNC Only) | 06 |
| Ethylene Propylene (EPR) | 13 |
| Orifice | Substitute |
| 1/32 | 0 |
| 3/64 | 1 |
| 1/16 | 2 |
| 5/64 | 3 |
| 3/32 | 4 |
| 1/8 | 5 |
| 5/32 | 6 |

*For class H coils replace second digit with 3.
Example: 43= Class H Molded with Flying Leads

Series 1 - 2/2 NC Cv and MOPD Values

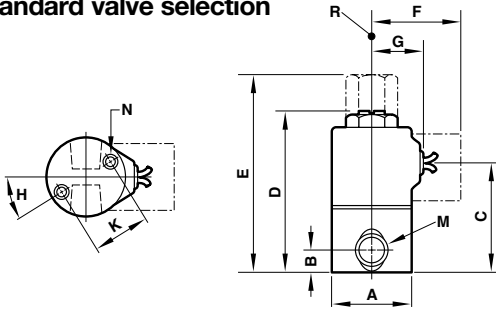
| Orifice Size | MOPD (psi) | Cv Value | Part Numbering | Cv Value Body | Low Watt Specifications (MOPD (psi)) | | |
|--------------|------------|----------|----------------|---------------|--------------------------------------|------------|------------|
| | | | | | 2.0 Watt B | 2.5 Watt C | 3.0 Watt D |
| 1/32 | 800 | 0.035 | 1***10 | 0.030 | 85 | 106 | 285 |
| 3/64 | 500 | 0.050 | 1***11 | 0.050 | 55 | 65 | 190 |
| 1/16 | 300 | 0.095 | 1***12 | 0.085 | 30 | 40 | 85 |
| 5/64 | 200 | 0.135 | 1***13 | 0.125 | 25 | 40 | 55 |
| 3/32 | 175 | 0.175 | 1***14 | 0.170 | 25 | 30 | 45 |
| 1/8 | 100 | 0.245 | 1***15 | 0.225 | 20 | 25 | 35 |
| 5/32 | 50 | 0.290 | 1***16 | 0.280 | - | 10 | 15 |

For low watt valves, please use the prefix; B for 2.0 Watt; C for 2.5 Watt; and D for 3.0 Watt

Series 1 - 2/2 NO Cv and MOPD Values

| Orifice Size | MOPD (psi) | Cv Value | Part Numbering |
|--------------|------------|----------|----------------|
| 1/32 | 300 | 0.035 | 1***20 |
| 3/64 | 200 | 0.050 | 1***21 |
| 1/16 | 150 | 0.095 | 1***22 |

Standard valve selection

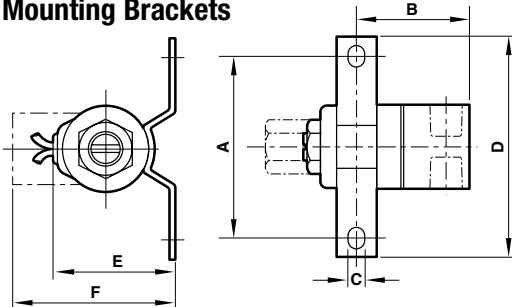


Standard Valve

| | A | B | C | D | E | F | G | H | K | M | N | R |
|----------|-------------|------------|--------------|--------------|--------------|--------------|-------------|---------|-------------|----------------|------------------------|----------------|
| Series 1 | .99 (25) | .28 (7) | 1.33 (33) | 2.12 (54) | 2.47 (63) | 1.12 (29) | .64 (16) | 32-1/2° | .73 (19) | 1/8-27 NPTF | #8-32 UNC x 1/4 MFT | 1/8-27 NPTF |

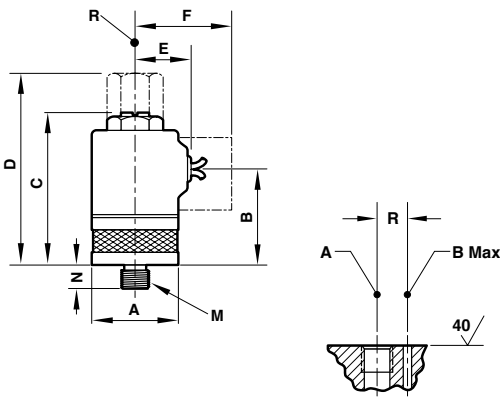
Series 1

Mounting Brackets



Bracket Dimensions

| | A | B | C | D | E | F |
|----------|-----------|-----------|---------|-----------|-----------|-----------|
| Series 1 | 2.13 (54) | 1.33 (34) | .20 (5) | 2.63 (67) | 1.45 (37) | 1.93 (49) |



Manifold Mount Valve

| | A | B | C | D | E | F | m | n | r |
|----------|-------------|--------------|--------------|--------------|-------------|--------------|----------------|------------|-------------|
| Series 1 | .99 (25) | 1.07 (27) | 1.87 (48) | 2.22 (56) | .64 (16) | 1.12 (29) | 5/16 24 UNF | .25 (6) | 1/8-27 NPTF |

Manifold Mount Interface

| | A | B | R |
|--------------|----------------------------|---------|---------|
| Series 1 & 2 | 5/16 - 24 UNF-2B x .26 MFT | .09 (2) | .31 (8) |

NOTE: A is underseat connection** B is overseat connection***

MOPD: 200 to 10 psi

CV range: 0.035 to 0.285

For neutral gases and liquids

Solenoid Actuated

Connection Type 1/8" NPTF or Manifold Mount

AC, DC and Rectified Coil* options

Operating pressure: 0 to 230 PSIG, Vacuum Capable*

Multi Purpose allows for NC, NO and DC capabilities

*Consult factory for vacuum ratings and rectified coil options



Description

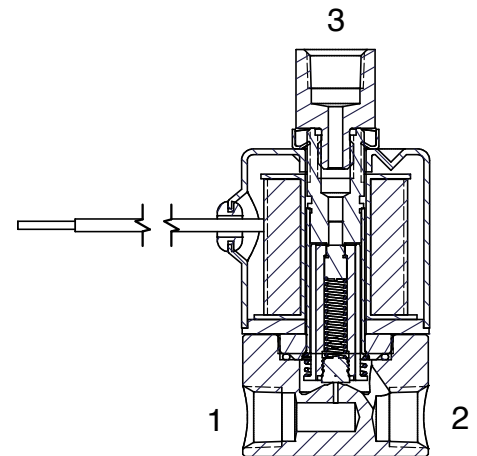
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

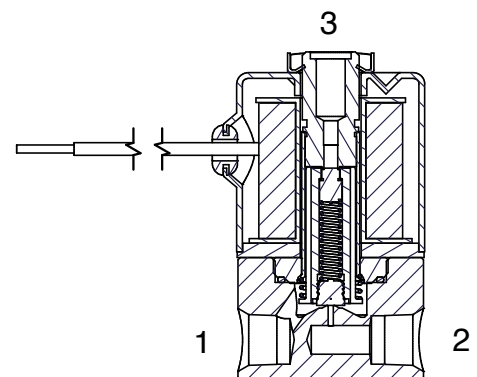
Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts: 430FR & 300 Series Cress

Technical data

| | |
|--|--|
| Switching Function: | Normally Closed, Normally Open & Multi Purpose |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or ¼" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 6 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 6oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

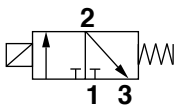


3WNO
3WMP

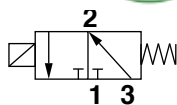


3WNC

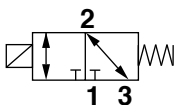
Agency Approvals
UL, CSA and NSF approvals available, consult factory for additional information.



3/2 NC Symbol



3/2 NO Symbol



3/2 MP Symbol

Series 1 Valve Configurator

U 1 4 3 1 3 1 - 0 1 5 1 - 12 VDC

| Prefix | Substitute |
|------------------------------|------------|
| UL recognized | U |
| Oxygen clean | Y |
| Low watt* - 2.0 | B |
| Low watt* - 2.5 | C |
| Low watt* - 3.0 | D |
| Port Configuration | Substitute |
| 1/8" NPTF | 4 |
| Manifold Mount | 6 |
| Housing | Substitute |
| Grommet | 1 |
| ½" NPT Conduit | 2 |
| Grommet w/ bracket | 7 |
| Slotted | 9 |
| Body Material | Substitute |
| Stainless Steel | 0 |
| Brass | 1 |
| Function | Substitute |
| 3WNC free vent | 3 |
| 3WNC line connect (1/8" NPT) | 4 |
| 3WNO | 5 |
| 3WMP | 6 |

| Voltage | |
|---------------------------------------|------------|
| 12 VDC | |
| 24 VDC | |
| 24 - 60 VAC | |
| 120 - 60 VAC | |
| 240 - 60 VAC | |
| Coil Options | Substitute |
| Dry taped with 24" Flying Leads | 01* |
| Free standing molded 24" Flying Leads | 41* |
| Seal Options | Substitute |
| Buna | 01 |
| Fluorocarbon | 02 |
| Polyurethane (2WNC Only) | 06 |
| Ethylene Propylene (EPR) | 13 |
| Orifice | Substitute |
| 1/32 | 0 |
| 3/64 | 1 |
| 1/16 | 2 |
| 5/64 | 3 |
| 3/32 | 4 |
| 1/8 | 5 |
| 5/32 | 6 |

*For class H coils replace second digit with 3.
Example: 43= Class H Molded with Flying Leads

Series 1 - 3/2 MP Cv and MOPD Values

| Orifice Size | MOPD (psi) | Cv Value body | Cv Value Endstop | Part Numbering | Low Watt Specifications (MOPD (psi)) | | | | |
|--------------|------------|---------------|------------------|----------------|--------------------------------------|---------------------------|------------|------------|------------|
| | | | | | Low Watt Cv Value Body | Low Watt Cv Value Endstop | 2.0 Watt B | 2.5 Watt C | 3.0 Watt D |
| 1/32 | 150 | 0.035 | 0.025 | 1***60 | 0.030 | 0.025 | 70 | 75 | 80 |
| 3/64 | 100 | 0.050 | 0.065 | 1***61 | 0.050 | 0.060 | 20 | 35 | 50 |
| 1/16 | 80 | 0.085 | 0.115 | 1***62 | 0.085 | 0.105 | - | - | 15 |
| 5/64 | 60 | 0.125 | 0.115 | 1***63 | 0.120 | 0.105 | - | - | 7 |
| 3/32 | 35 | 0.165 | 0.115 | 1***64 | 0.150 | 0.105 | - | - | - |
| 1/8 | 20 | 0.240 | 0.115 | 1***65 | 0.225 | 0.105 | - | - | - |
| 5/32 | 10 | 0.285 | 0.115 | 1***66 | 0.270 | 0.105 | - | - | - |

For low watt valves, please use the prefix B for 2.0 Watt; C for 2.5 Watt; and D for 3.0 Watt

Series 1 - 3/2 NC Cv and MOPD Values

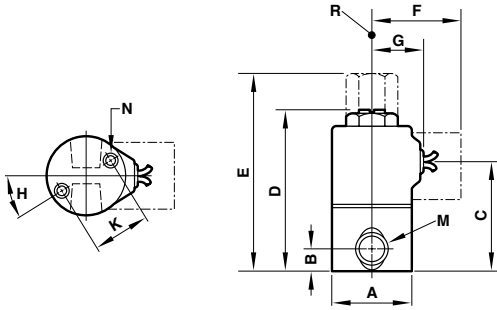
| Orifice Size | MOPD | Cv Value Body | Cv Value Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 1/32 | 200 | 0.035 | 0.025 | 1***40 |
| 3/64 | 150 | 0.050 | 0.065 | 2***41 |
| 1/16 | 100 | 0.085 | 0.115 | 1***42 |
| 5/64 | 80 | 0.125 | 0.115 | 1***43 |
| 3/32 | 60 | 0.165 | 0.115 | 1***44 |
| 1/8 | 40 | 0.240 | 0.115 | 1***45 |
| 5/32 | 10 | 0.285 | 0.115 | 1***46 |

Series 1 - 3/2 NO Cv and MOPD Values

| Orifice Size | MOPD | Cv Value Body | Cv Value Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 1/32 | 160 | 0.035 | 0.025 | 1***50 |
| 3/64 | 125 | 0.050 | 0.065 | 1***51 |
| 1/16 | 100 | 0.085 | 0.115 | 1***52 |
| 5/64 | 80 | 0.125 | 0.115 | 1***53 |
| 3/32 | 60 | 0.165 | 0.115 | 1***54 |
| 1/8 | 40 | 0.240 | 0.115 | 1***55 |
| 5/32 | 10 | 0.285 | 0.115 | 1***56 |

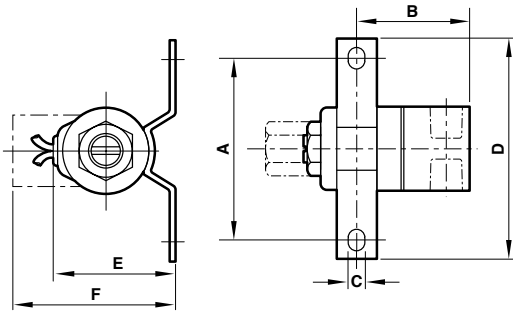
Mounting Brackets

Series 1



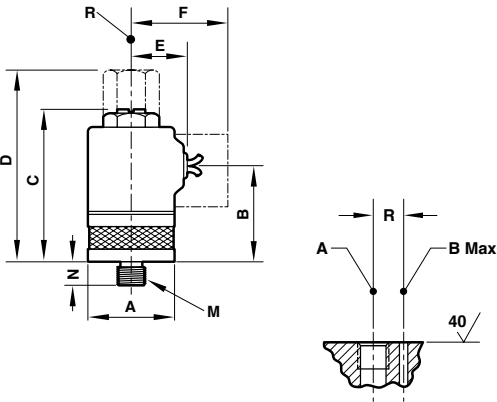
Standard Valve

| | A | B | C | D | E | F | G | H | K | M | N | R |
|----------|-------------|------------|--------------|--------------|--------------|--------------|-------------|---------|-------------|----------------|------------------------|----------------|
| Series 1 | .99 (25) | .28 (7) | 1.33 (33) | 2.12 (54) | 2.47 (63) | 1.12 (29) | .64 (16) | 32-1/2° | .73 (19) | 1/8-27 NPTF | #8-32 UNC x 1/4 MFT | 1/8-27 NPTF |



Bracket Dimensions

| | A | B | C | D | E | F |
|----------|-----------|-----------|---------|-----------|-----------|-----------|
| Series 1 | 2.13 (54) | 1.33 (34) | .20 (5) | 2.63 (67) | 1.45 (37) | 1.93 (49) |



Manifold Mount Valve

| | A | B | C | D | E | F | m | n | r |
|----------|-------------|--------------|--------------|--------------|-------------|--------------|----------------|------------|-------------|
| Series 1 | .99 (25) | 1.07 (27) | 1.87 (48) | 2.22 (56) | .64 (16) | 1.12 (29) | 5/16 24 UNF | .25 (6) | 1/8-27 NPTF |

Manifold Mount Interface

| | A | B | R |
|--------------|----------------------------|---------|---------|
| Series 1 & 2 | 5/16 - 24 UNF-2B x .26 MFT | .09 (2) | .31 (8) |

NOTE: A is underseat connection** B is overseat connection***

MOPD: 1000 to 100 PSI
Cv range: 0.035 to 0.290

For neutral gases and liquids

Solenoid Actuated

Connection Type 1/8" NPTF or Manifold Mount

AC, DC and Rectified Coil* options

Operating pressure: 0 to 1000 PSIG, Vacuum Capable*

*Consult factory for vacuum ratings and rectified coil options

Description

General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

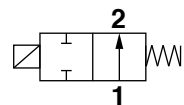
Body: Brass or Stainless Steel
 Seat seal: See Seal Options
 Internal Wetted Parts:
 430FR & 300 Series Cress



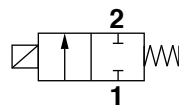
Technical data

| | |
|--|---|
| Switching Function: | Normally Closed & Normally Open |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or ¼" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 7 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 6oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

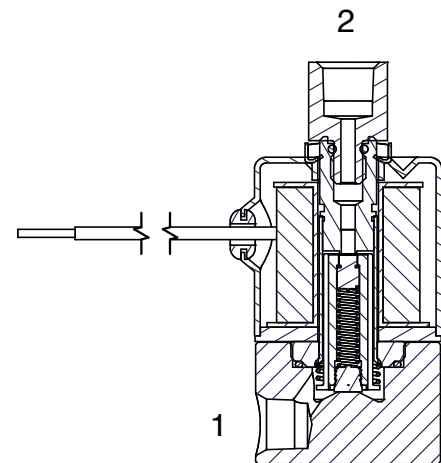
Agency Approvals
 UL, CSA and NSF approvals available, consult factory for additional information.



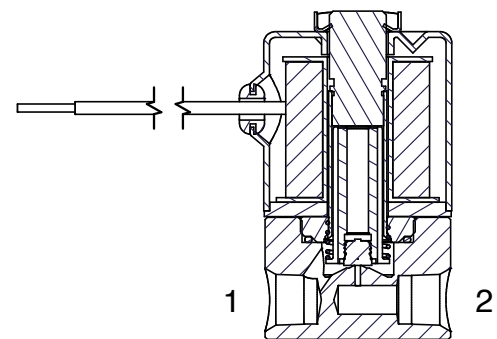
Symbol: 2/2 NO



Symbol: 2/2 NC



2WNO



2WNC

Series 2 - 2/2 Direct acting valves

U 1 4 3 1 3 1 - 0 1 5 1 - 12 VDC

| Prefix | Substitute |
|--------------------|------------|
| UL recognized | U |
| Oxygen clean | Y |
| Low watt* - 1.5 | A |
| Low watt* - 2.0 | B |
| Low watt* - 2.5 | C |
| Low watt* - 3.0 | D |
| Port Configuration | Substitute |
| 1/8" NPTF | 4 |
| Manifold Mount | 6 |
| Housing | Substitute |
| Grommet | 1 |
| ½" NPT Conduit | 2 |
| Yoke | 3 |
| Grommet w/ bracket | 7 |
| Slotted | 9 |
| Body material | Substitute |
| Stainless Steel | 0 |
| Brass | 1 |
| Function | Substitute |
| 2WNC | 1 |
| 2WNO | 2 |

| Voltage | Coil Options | Substitute |
|--------------------------|--------------|------------|
| 12 VDC | | |
| 24 VDC | | |
| 24 - 60 VAC | | |
| 120 - 60 VAC | | |
| 240 - 60 VAC | | |
| Seal Options | Substitute | |
| Buna | 01 | |
| Fluorocarbon | 02 | |
| Polyurethane (2WNC Only) | 06 | |
| Ethylene Propylene (EPR) | 13 | |
| Orifice | Substitute | |
| 1/32 | 0 | |
| 3/64 | 1 | |
| 1/16 | 2 | |
| 5/64 | 3 | |
| 3/32 | 4 | |
| 1/8 | 5 | |
| 5/32 | 6 | |

*For class H coils replace second digit with 3.
Example: 43 = Class H Molded with Flying Leads

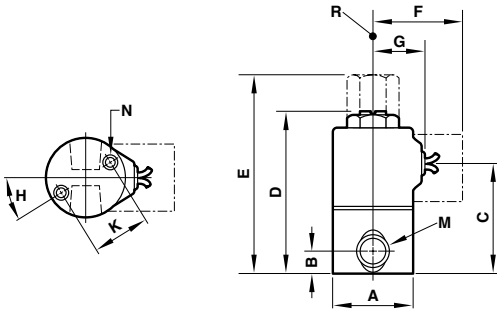
Series 2 - 2/2 NC Cv and MOPD Values

| Orifice Size | MOPD (psi) | Cv Value | Part Numbering | Low Watt Specifications (MOPD (psi)) | | | | |
|--------------|------------|----------|----------------|--------------------------------------|------------|------------|------------|------------|
| | | | | Low Watt Cv Value | 1.5 Watt A | 2.0 Watt B | 2.5 Watt C | 3.0 Watt D |
| 1/32 | 1000 | 0.035 | 2***10 | 0.030 | 50 | 140 | 225 | 405 |
| 3/64 | 600 | 0.050 | 2***11 | 0.050 | 45 | 105 | 190 | 315 |
| 1/16 | 400 | 0.095 | 2***12 | 0.085 | 10 | 55 | 85 | 155 |
| 5/64 | 300 | 0.135 | 2***13 | 0.125 | 25 | 40 | 60 | 105 |
| 3/32 | 250 | 0.175 | 2***14 | 0.170 | 15 | 25 | 35 | 70 |
| 1/8 | 150 | 0.245 | 2***15 | 0.225 | 15 | 25 | 35 | 50 |
| 5/32 | 100 | 0.290 | 2***16 | 0.280 | 9 | 13 | 20 | 35 |

For low watt valves, please use the prefix A for 1.5 Watt; B for 2.0 Watt; C for 2.5 Watt; and D for 3.0 Watt

Series 2 - 2/2 NO Cv and MOPD Values

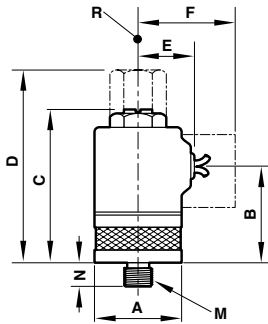
| Orifice Size | MOPD | Cv-Valve | Part Numbering |
|--------------|------|----------|----------------|
| 1/32 | 400 | 0.035 | 2***20 |
| 3/64 | 300 | 0.050 | 2***21 |
| 1/16 | 180 | 0.095 | 2***22 |
| 5/64 | 140 | 0.135 | 2***23 |



Standard Valve

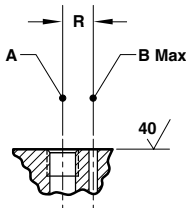
Series 2

| | A | B | C | D | E | F | G | H | K | M | N | R |
|----------|-------------|------------|--------------|--------------|--------------|--------------|-------------|---------|-------------|----------------|------------------------|----------------|
| Series 2 | .99 (25) | .28 (7) | 1.51 (38) | 2.32 (59) | 2.66 (68) | 1.12 (29) | .64 (16) | 32-1/2° | .73 (19) | 1/8-27 NPTF | #8-32 UNC x 1/4 MFT | 1/8-27 NPTF |



Manifold Mount Valve

| | A | B | C | D | E | F | m | n | r |
|----------|-------------|--------------|--------------|--------------|-------------|--------------|----------------|------------|-------------|
| Series 2 | .99 (25) | 1.26 (32) | 2.07 (53) | 2.41 (61) | .64 (16) | 1.12 (29) | 5/16 24 UNF | .25 (6) | 1/8-27 NPTF |



Manifold Mount Interface

| | A | B | R |
|--------------|----------------------------|---------|---------|
| Series 1 & 2 | 5/16 - 24 UNF-2B x .26 MFT | .09 (2) | .31 (8) |

NOTE: A is underseat connection** B is overseat connection***

MOPD: 250 to 15 PSI

Cv range: 0.025 to 0.285

For neutral gases and liquids

Solenoid Actuated

Connection Type 1/8" NPTF or Manifold Mount

AC, DC and Rectified Coil* options

Operating pressure: 0 to 250 PSIG, Vacuum Capable*

Multi Purpose allows for NC, NO and DC capabilities

*Consult factory for vacuum ratings and rectified coil options

Description

General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

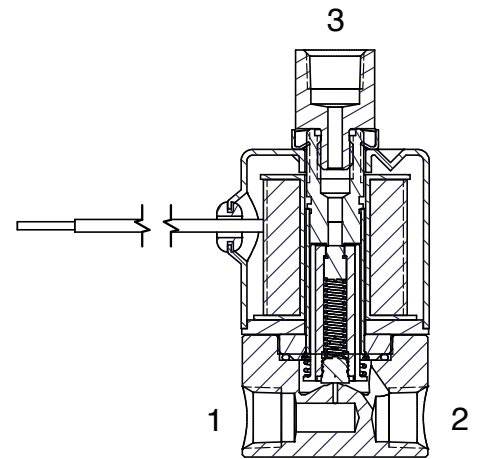
Material

Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts: 430FR & 300 Series Cress

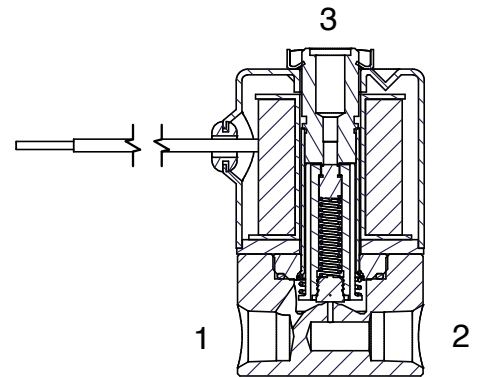


Technical data

| | |
|--|--|
| Switching Function: | Normally Closed, Normally Open, & Multi Purpose |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or ¼" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 7 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 6oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

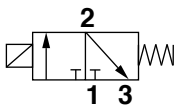


3WNO
3WMP

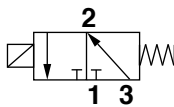


3WNC

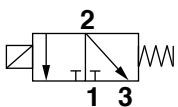
Agency Approvals
UL, CSA and NSF approvals available, consult factory for additional information.



3/2 NC Symbol



3/2 NO Symbol



3/2 MP Symbol

Series 2 - 3/2 Direct acting valves

U 2 4 3 1 3 1 - 0 1 5 1 - 12 VDC

| Prefix | Substitute |
|--------------------|------------|
| UL recognized | U |
| Oxygen clean | Y |
| Low watt* - 2.5 | C |
| Low watt* - 3.0 | D |
| Port Configuration | Substitute |
| 1/8" NPTF | 4 |
| Manifold Mount | 6 |
| Housing | Substitute |
| Grommet | 1 |
| ½" NPT Conduit | 2 |
| Yoke | 3 |
| Grommet w/ bracket | 7 |
| Body material | Substitute |
| Stainless Steel | 0 |
| Brass | 1 |
| Function | Substitute |
| 3WNC | 3 |
| 3WNO | 5 |
| 3WMP | 6 |
| 3WDC | 7 |

| Voltage | Substitute |
|---------------------------------------|------------|
| 12 VDC | |
| 24 VDC | |
| 24 - 60 VAC | |
| 120 - 60 VAC | |
| 240 - 60 VAC | |
| Coil Options | Substitute |
| Dry taped with 24" Flying Leads | 01* |
| Free standing molded 1/4" spade | 51* |
| Free standing molded 24" Flying Leads | 61* |
| Seal Options | Substitute |
| Buna | 01 |
| Fluorocarbon | 02 |
| Polyurethane (2WNC Only) | 06 |
| Ethylene Propylene (EPR) | 13 |
| Orifice | Substitute |
| 1/32 | 0 |
| 3/64 | 1 |
| 1/16 | 2 |
| 5/64 | 3 |
| 3/32 | 4 |
| 1/8 | 5 |
| 5/32 | 6 |

*For class H coils replace second digit with 3.
Example: 43 = Class H Molded with Flying Leads

Series 2 - 3/2 MP Cv and MOPD Values

| Orifice Size | MOPD (psi) | Cv Value Body | Cv Value Endstop | Part Numbering | Low Watt Specifications (MOPD (psi)) | | | |
|--------------|------------|---------------|------------------|----------------|--------------------------------------|------------|------------|-----|
| | | | | | Low Watt Cv Value Body | 2.5 Watt C | 3.0 Watt D | |
| 1/32 | 175 | 0.035 | 0.025 | 2***60 | 0.030 | 0.025 | 40 | 105 |
| 3/64 | 125 | 0.050 | 0.065 | 2***61 | 0.050 | 0.060 | 35 | 65 |
| 1/16 | 100 | 0.085 | 0.115 | 2***62 | 0.085 | 0.105 | 10 | 15 |
| 5/64 | 75 | 0.125 | 0.140 | 2***63 | 0.120 | 0.125 | - | 13 |
| 3/32 | 50 | 0.165 | 0.140 | 2***64 | 0.150 | 0.125 | - | - |
| 1/8 | 25 | 0.240 | 0.140 | 2***65 | 0.225 | 0.125 | - | - |
| 5/32 | 15 | 0.285 | 0.140 | 2***66 | 0.270 | 0.125 | - | - |

For low watt valves, please use the prefix C for 2.5 Watt; and D for 3.0 Watt

Series 2 - 3/2 NC Cv and MOPD Values

| Orifice Size | MOPD | Cv-Valve Body | Cv-Valve Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 1/32 | 250 | 0.035 | 0.025 | 2***40 |
| 3/64 | 175 | 0.050 | 0.065 | 2***41 |
| 1/16 | 125 | 0.085 | 0.115 | 2***42 |
| 5/64 | 100 | 0.125 | 0.140 | 2***43 |
| 3/32 | 75 | 0.165 | 0.140 | 2***44 |
| 1/8 | 45 | 0.240 | 0.140 | 2***45 |
| 5/32 | 20 | 0.285 | 0.140 | 2***46 |

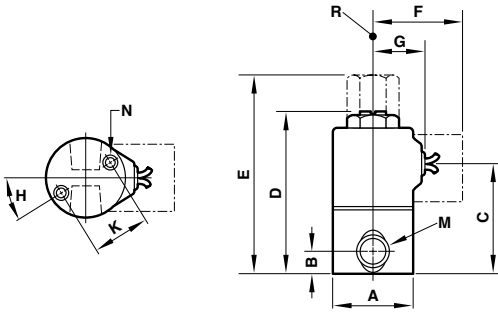
Series 2 - 3/2 NO Cv and MOPD Values

| Orifice Size | MOPD | Cv-Valve Body | Cv-Valve Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 1/32 | 200 | 0.035 | 0.025 | 2***50 |
| 3/64 | 150 | 0.050 | 0.065 | 2***51 |
| 1/16 | 125 | 0.085 | 0.115 | 2***52 |
| 5/64 | 100 | 0.125 | 0.140 | 2***53 |
| 3/32 | 75 | 0.165 | 0.140 | 2***54 |
| 1/8 | 60 | 0.240 | 0.140 | 2***55 |
| 5/32 | 25 | 0.285 | 0.140 | 2***56 |

NOTE: Valve dimensions and housing options shown at end of Series 2 Section

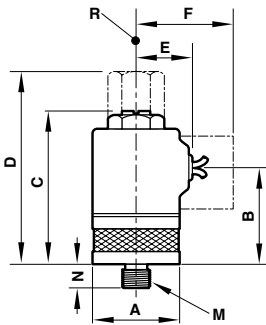
Series 2

Standard Valve



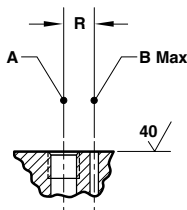
| | A | B | C | D | E | F | G | H | K | M | N | R |
|-----------------|-------------|------------|--------------|--------------|--------------|--------------|-------------|-----------------|-------------|----------------|------------------------|----------------|
| Series 2 | .99 (25) | .28 (7) | 1.51 (38) | 2.32 (59) | 2.66 (68) | 1.12 (29) | .64 (16) | 32-1/2° (19) | .73 (19) | 1/8-27 NPTF | #8-32 UNC x 1/4 MFT | 1/8-27 NPTF |

Manifold Mount Valve



| | A | B | C | D | E | F | m | n | r |
|-----------------|-------------|--------------|--------------|--------------|-------------|--------------|----------------|------------|-------------|
| Series 2 | .99 (25) | 1.26 (32) | 2.07 (53) | 2.41 (61) | .64 (16) | 1.12 (29) | 5/16 24 UNF | .25 (6) | 1/8-27 NPTF |

Manifold Mount Interface



| | A | B | R |
|--------------|----------------------------|---------|---------|
| Series 1 & 2 | 5/16 - 24 UNF-2B x .26 MFT | .09 (2) | .31 (8) |

NOTE: A is underseat connection** B is overseat connection***

MOPD: 300 to 15 PSI**Cv range: .185 to .450****For neutral gases and liquids****Solenoid Actuated****Connection Type 1/8" NPTF, 1/4" NPTF or Manifold Mount****AC, DC and Rectified Coil* options****Operating pressure: 0 to 1000 PSIG, Vacuum Capable***

*Consult factory for vacuum ratings and rectified coil options

Description

General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

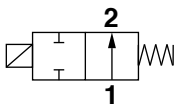
Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts:
430FR & 300 Series Cress

Technical data

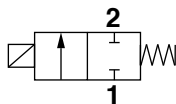
| | |
|--|---|
| Switching Function: | Normally Closed & Normally Open |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or ¼" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 7 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 6oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

Agency Approvals

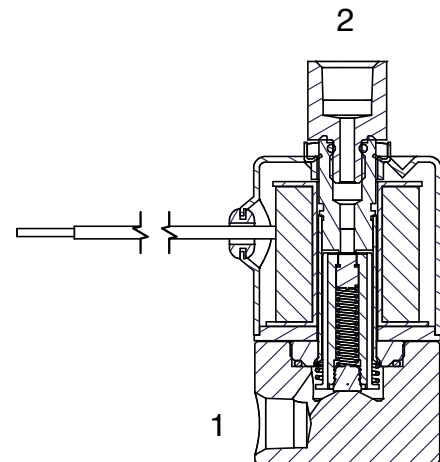
UL, CSA and NSF approvals available, consult factory for additional information.



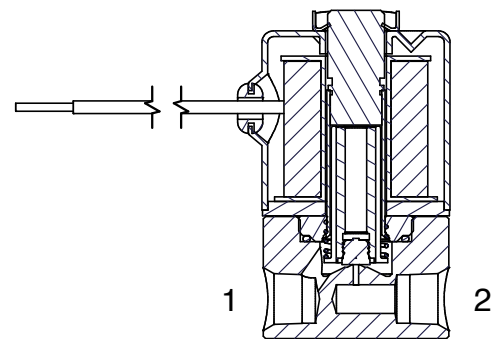
Symbol: 2/2 NO



Symbol: 2/2 NC



2WNO



2WNC

Series 3 - 2/2 Direct acting valves

U 3 4 3 1 1 1 - 0 1 5 1 - 12 VDC

| Prefix | Substitute |
|--------------------|------------|
| UL recognized | U |
| Oxygen clean | Y |
| Low watt* - 1.5 | A |
| Low watt* - 2.0 | B |
| Low watt* - 2.5 | C |
| Low watt* - 3.0 | D |
| Port Configuration | Substitute |
| 1/8" NPTF | 4 |
| 1/4" NPTF | 5 |
| Manifold Mount | 6 |
| Housing | Substitute |
| Grommet | 1 |
| 1/2" NPT Conduit | 2 |
| Yoke | 3 |
| Grommet w/ bracket | 7 |
| Slotted | 9 |
| Slotted w/bracket | 0 |
| Body material | Substitute |
| Stainless Steel | 0 |
| Brass | 1 |
| Function | Substitute |
| 2WNC | 1 |
| 2WNO | 2 |

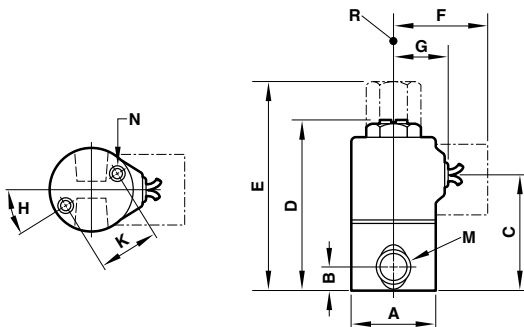
| Voltage | Substitute |
|---------------------------------------|------------|
| 12 VDC | |
| 24 VDC | |
| 24 - 60 VAC | |
| 120 - 60 VAC | |
| 240 - 60 VAC | |
| Coil Options | Substitute |
| Dry taped with 24" Flying Leads | 01* |
| Free standing molded 1/4" spade | 51* |
| Free standing molded 24" Flying Leads | 61* |
| Seal Options | Substitute |
| Buna | 01 |
| Fluorocarbon | 02 |
| Polyurethane (2WNC Only) | 06 |
| Ethylene Propylene (EPR) | 13 |
| Orifice | Substitute |
| 5/64 | 3 |
| 3/32 | 4 |
| 1/8 | 5 |
| 5/32 | 6 |
| 3/16 | 7 |
| 1/4 | 8 |

*For class H coils replace second digit with 3.
Example: 43 = Class H molded with Flying Leads

Series 3 - 2/2 NC Cv and MOPD Values

| Orifice Size | MOPD (psi) | Cv Value | Part Numbering | Low Watt Specifications | | | | |
|--------------|------------|----------|----------------|-------------------------|------------|------------|------------|------------|
| | | | | Low Watt Cv Value | 1.5 Watt A | 2.0 Watt B | 2.5 Watt C | 3.0 Watt D |
| 5/64 | 300 | .140 | 3***13 | 0.125 | 25 | 40 | 60 | 105 |
| 3/32 | 250 | 0.185 | 3***14 | 0.170 | 15 | 25 | 35 | 70 |
| 1/8 | 150 | 0.265 | 3***15 | 0.225 | 15 | 25 | 35 | 50 |
| 5/32 | 100 | 0.330 | 3***16 | 0.280 | 9 | 13 | 20 | 35 |
| 3/16 | 40 | 0.385 | 3***17 | - | - | - | - | - |
| 1/4 | 15 | 0.450 | 3***18 | - | - | - | - | - |

For low watt valves, please use the prefix A for 1.5 Watt; B for 2.0 Watt; C for 2.5 Watt; and D for 3.0 Watt



Standard Valve

| | A | B | C | D | E | F | G | H | K | M | N |
|----------|--------------|-------------|--------------|--------------|--------------|--------------|-------------|----|-------------|----------------|------------------------|
| Series 3 | 1.18 (30) | .355 (9) | 1.65 (42) | 2.46 (62) | 2.80 (71) | 1.19 (30) | .78 (20) | 0° | .91 (23) | 1/4-18 NPTF | #8-32 UNC x 1/4 NPT |

MOPD: 100 to 5 PSI**Cv range: 0.145 to 0.415****For neutral gases and liquids****Solenoid Actuated****Connection 1/4" NPTF or Manifold Mount****AC, DC and Rectified Coil* options****Operating pressure: 0 to 250 PSIG, Vacuum Capable*****Multi Purpose allows for NC and NO capabilities**

*Consult factory for vacuum ratings and rectified coil options

Description

General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

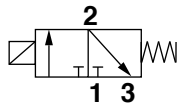
Body: Brass or Stainless Steel
 Seat seal: See Seal Options
 Internal Wetted Parts:
 430FR & 300 Series Cres

Technical data

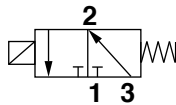
| | |
|--|---|
| Switching Function: | Normally Closed, Normally Open, Directional Control & Multi Purpose |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or 1/4" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 7 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 6oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

Agency Approvals

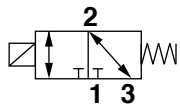
UL, CSA and NSF approvals available, consult factory for additional information.



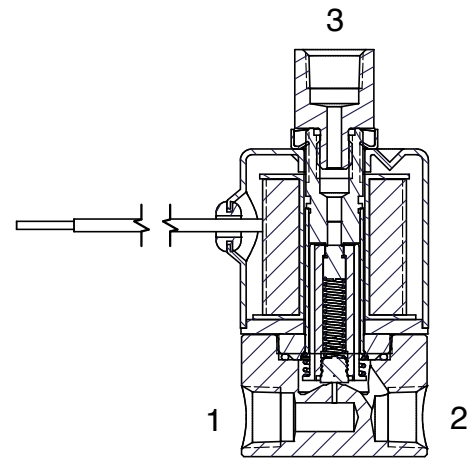
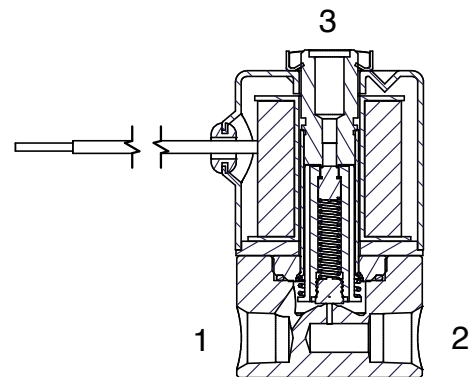
3/2 NC Symbol



3/2 NO Symbol



3/2 MP Symbol

3WNO
3WMP

3WNC

Series 3

| Prefix | Substitute | U 3 4 3 1 1 1 - 0 1 5 1 - 12 VDC | Voltage |
|---------------------------|-------------------|----------------------------------|---------------------------------------|
| UL recognized | U | | 12 VDC |
| Oxygen clean | Y | | 24 VDC |
| Low watt* - 2.5 | C | | 24 - 60 VAC |
| Low watt* - 3.0 | D | | 120 - 60 VAC |
| Port Configuration | Substitute | | 240 - 60 VAC |
| 1/4" NPTF | 5 | | Coil Options |
| Manifold Mount | 6 | | Substitute |
| Housing | Substitute | | Dry taped with 24" Flying Leads |
| Grommet | 1 | | 01* |
| 1/2" NPT Conduit | 2 | | Molded with 1/4" top spade |
| Yoke | 3 | | 51* |
| Grommet w/ bracket | 7 | | Free standing molded 24" Flying Leads |
| Slotted | 9 | | 61* |
| Body material | Substitute | | Seal Options |
| Stainless Steel | 0 | | Substitute |
| Brass | 1 | | Buna |
| Function | Substitute | | Fluorocarbon |
| 3WNC | 3 | | Polyurethane (2WNC Only) |
| 3WNO | 5 | | Ethylene Propylene (EPR) |
| 3WMP | 6 | | 01 |
| | | | 02 |
| | | | 06 |
| | | | 13 |
| | | | Orifice |
| | | | Substitute |
| | | | 5/64 |
| | | | 3/32 |
| | | | 1/8 |
| | | | 5/32 |
| | | | 3/16 |
| | | | 1/4 |

*For class H coils replace second digit with 3.
Example: 43 = Class H molded with Flying Leads

Series 3 - 3/2 NC Cv and MOPD Values

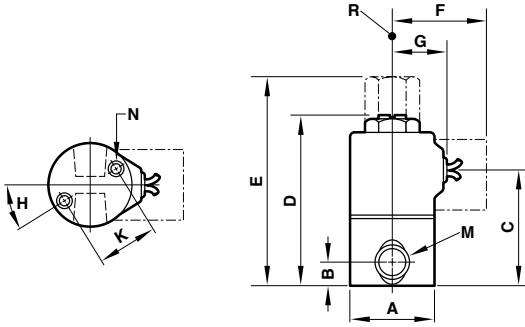
| Orifice Size | MOPD (psi) | Cv Value Body | Cv Value Endstop | Part Numbering | Low Watt Specifications | | | |
|--------------|------------|---------------|------------------|----------------|-------------------------|------------------|------------|------------|
| | | | | | Low Watt Cv Value Body | Cv Value Endstop | 2.5 Watt C | 3.0 Watt D |
| 5/64 | 100 | 0.125 | 0.145 | 3***33 | 5/64 | 75 | - | 13 |
| 3/32 | 75 | 0.165 | 0.145 | 3***34 | 3/32 | 50 | - | - |
| 1/8 | 45 | 0.240 | 0.145 | 3***35 | 1/8 | 25 | - | - |
| 5/32 | 20 | 0.290 | 0.145 | 3***36 | 5/32 | 15 | - | - |
| 3/16 | 10 | 0.345 | 0.145 | 3***37 | 3/16 | 10 | - | - |
| 1/4 | 5 | 0.415 | 0.145 | 3***38 | 1/4 | 5 | - | - |

Series 3 - 3/2 NO Cv and MOPD Values

| Orifice Size | MOPD | Cv-Value Body | Cv-Value Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 5/64 | 75 | 0.125 | 0.145 | 3***53 |
| 3/32 | 50 | 0.165 | 0.145 | 3***54 |
| 1/8 | 25 | 0.240 | 0.145 | 3***55 |
| 5/32 | 15 | 0.290 | 0.145 | 3***56 |
| 3/16 | 10 | 0.345 | 0.145 | 3***57 |
| 1/4 | 5 | 0.415 | 0.145 | 3***58 |

Series 3 - 3/2 MP Cv and MOPD Values

| Orifice Size | MOPD | Cv Value Body | Cv Value Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 5/64 | 75 | 0.125 | 0.145 | 3***63 |
| 3/32 | 50 | 0.165 | 0.145 | 3***64 |
| 1/8 | 25 | 0.240 | 0.145 | 3***65 |
| 5/32 | 15 | 0.290 | 0.145 | 3***66 |
| 3/16 | 10 | .0345 | 0.145 | 3***67 |
| 1/4 | 5 | 0.415 | 0.145 | 3***68 |

Series 3 - 3/2 Direct Acting Valves

Standard Valve

| | A | B | C | D | E | F | G | H | K | M | N | R |
|---------------|------|------|------|------|------|------|------|-----|------|----------------|------------------------|--------|
| Series | 1.18 | .355 | 1.65 | 2.46 | 2.80 | 1.19 | .78 | 41° | .91 | | | 1/4-18 |
| 3 | (30) | (9) | (42) | (62) | (71) | (30) | (20) | | (23) | | | NPTF |
| | | | | | | | | 0° | | 1/4-18 NPTF | #8-32 UNC x 1/4 MFT | |

MOPD: 1200 to 5 PSI
Cv range: .035 to .900
For neutral gases and liquids
Solenoid Actuated
Connection Type 1/8" NPTF, 1/4" NPTF or Manifold Mount
AC, DC and Rectified Coil* options
Operating pressure: 0 to 1200 PSIG, Vacuum Capable*

*Consult factory for vacuum ratings and rectified coil options

Description

General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

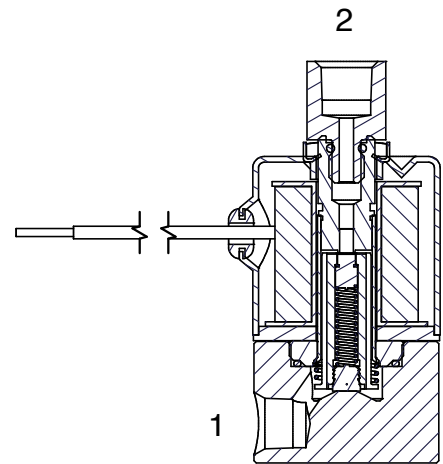
Material

Body: Brass or Stainless Steel
 Seat seal: See Seal Options
 Internal Wetted Parts: 430FR & 300 Series Cress

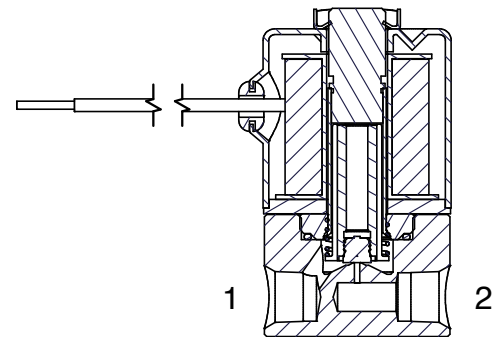
Technical data

| | |
|--|---|
| Switching Function: | Normally Closed & Normally Open |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or 1/4" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 10 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 19 oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

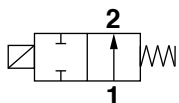
Agency Approvals
 UL, CSA and NSF approvals available, consult factory for additional information.



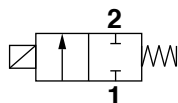
2WNO



2WNC



Symbol: 2/2 NO



Symbol: 2/2 NC

Series 6 valve configurator

U 6 4 1 1 1 1 - 0 1 5 1 - 12 VDC

| Prefix | Substitute |
|--------------------|------------|
| UL recognized | U |
| Oxygen clean | Y |
| Port Configuration | Substitute |
| 1/8" | 4 |
| 1/4" NPTF | 5 |
| Manifold Mount | 6 |
| Housing | Substitute |
| Grommet | 1 |
| 1/2" NPT Conduit | 2 |
| Grommet w/ bracket | 7 |
| Slotted | 9 |
| Body material | Substitute |
| Stainless Steel | 0 |
| Brass | 1 |
| Function | Substitute |
| 2WNC | 1 |
| 2WNO | 2 |

| Voltage | Coil Options | Substitute | Seal Options | Substitute | Orifice | Substitute |
|--------------|---------------------------------------|------------|--------------------------|------------|---------|------------|
| 12 VDC | Dry taped with 24" Flying Leads | 01* | Buna | 01 | 1/32 | 0 |
| 24 VDC | Free standing molded 24" Flying Leads | 41* | Fluorocarbon | 02 | 3/64 | 1 |
| 24 - 60 VAC | Molded with 1/4" top spade | 51* | Polyurethane (2WNC Only) | 06 | 1/16 | 2 |
| 120 - 60 VAC | | | Ethylene Propylene (EPR) | 13 | 5/64 | 3 |
| 240 - 60 VAC | | | | | 3/32 | 4 |
| | | | | | 1/8 | 5 |
| | | | | | 5/32 | 6 |
| | | | | | 3/16 | 7 |
| | | | | | 1/4 | 8 |
| | | | | | 3/8 | 9 |

*For class H coils replace second digit with 3.
Example: 43= Class H molded with Flying Leads

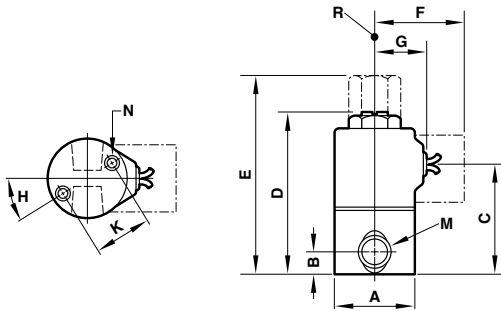
Series 6 - 2/2 NC Cv and MOPD Values

| Orifice Size | MOPD | Cv Value | Part Numbering |
|--------------|------|----------|----------------|
| 1/32 | 1200 | 0.035 | 6***10 |
| 3/64 | 1000 | 0.050 | 6***11 |
| 1/16 | 500 | 0.095 | 6***12 |
| 5/64 | 300 | 0.140 | 6***13 |
| 3/32 | 200 | 0.200 | 6***14 |
| 1/8 | 150 | 0.295 | 6***15 |
| 5/32 | 110 | 0.370 | 6***16 |
| 3/16 | 60 | 0.435 | 6***17 |
| 1/4 | 30 | 0.610 | 6***18 |
| 3/8 | 5 | 0.900 | 6***19 |

Series 6 - 2/2 NO Cv and MOPD Values

| Orifice Size | MOPD | Cv Value | Part Numbering |
|--------------|------|----------|----------------|
| 1/32 | 1000 | 0.035 | 6***20 |
| 3/64 | 600 | 0.050 | 6***21 |
| 1/16 | 350 | 0.095 | 6***22 |
| 5/64 | 250 | 0.140 | 6***23 |
| 3/32 | 175 | 0.200 | 6***24 |
| 1/8 | 100 | 0.295 | 6***25 |

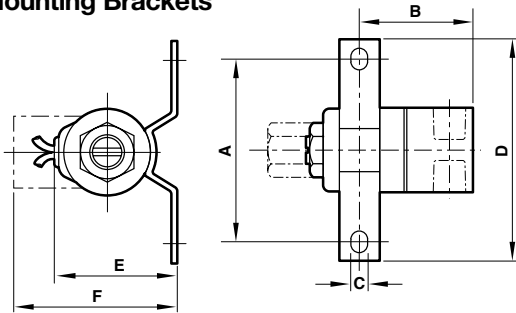
Series 6



Standard Valve

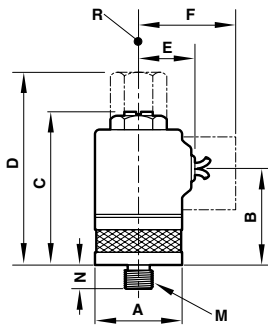
| | A | B | C | D | E | F | G | H | K | M | N | R |
|----------|--------------|-------------|----------------------------------|--------------|--------------|--------------|--------------|-----|--------------|-------------------------------------|--------------------------|-------------------------------------|
| Series 6 | 1.62 (41) | .344 (9) | G-2.04 (52) C-1.87 (48) | 2.86 (73) | 3.54 (90) | 1.58 (40) | 1.03 (26) | 45° | 1.24 (31) | 1/8-27 NPTF or 1/4-18 NPTF | #10-32 UNF x 5/16 MFT | 1/8-27 NPTF or 1/4-18 NPTF |

Mounting Brackets



Bracket Dimensions

| | A | B | C | D | E | F |
|----------|-----------|-----------|---------|-----------|-----------|-----------|
| Series 6 | 2.13 (54) | 1.97 (50) | .20 (5) | 2.63 (67) | 2.15 (55) | 2.68 (68) |



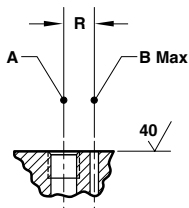
Manifold Mount Valve

| | A | B | C | D | E | F | m | n | r |
|----------|--------------|------------------------------------|--------------|--------------|--------------|--------------|---------------|------------|----------------------------------|
| Series 6 | 1.62 (41) | G- 1.73 (44) C- 1.56 (40) | 2.55 (65) | 3.23 (82) | 1.03 (26) | 1.58 (40) | 1/2 20 UNF | .31 (8) | 1/8-27 NPTF or 1/4-18 NPTF |

Manifold Mount Interface

| | A | B | R |
|----------|---------------------------|---------|----------|
| Series 6 | 1/2 - 20 UNF-2B x .32 MFT | .27 (7) | .51 (13) |

NOTE: A is underseat connection** B is overseat connection***



MOPD: 300 to 15 PSI**Cv range: .035 to .650****For neutral gases and liquids****Solenoid Actuated****Connection Type 1/8" NPTF, 1/4" NPTF or Manifold Mount****AC, DC and Rectified Coil* options****Operating pressure: 0 to 400 PSIG, Vacuum Capable*****Multi Purpose allows for NC & NO capabilities**

*Consult factory for vacuum ratings and rectified coil options

Description

General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

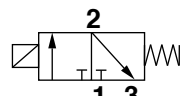
Body: Brass or Stainless Steel
 Seat seal: See Seal Options
 Internal Wetted Parts:
 430FR & 300 Series Cress

Technical data

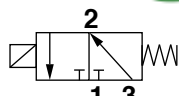
| | |
|--|--|
| Switching Function: | Normally Closed, Normally Open & Multi Purpose |
| Voltage Options: | 12VDC, 24VDC, 24/60VAC, 120/60VAC & 240/60VAC |
| Duty Cycle: | Continuous |
| Electrical Connection | 24" Flying Leads or ¼" Spade Terminals |
| Coil Class Options: | Class B, H |
| Wattage: | 10 Watts (Nominal) |
| Response Time: | 9ms, Typical |
| Weight: | 19oz, Typical |
| Operating Temperature (Class B Coil): | 32°F to 104°F (0°C to 40°C) |
| Operating Temperature (Class H Coil): | 32°F to 176°F (0°C to 80°C) |

Agency Approvals

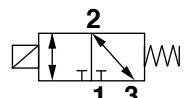
UL, CSA and NSF approvals available, consult factory for additional information.



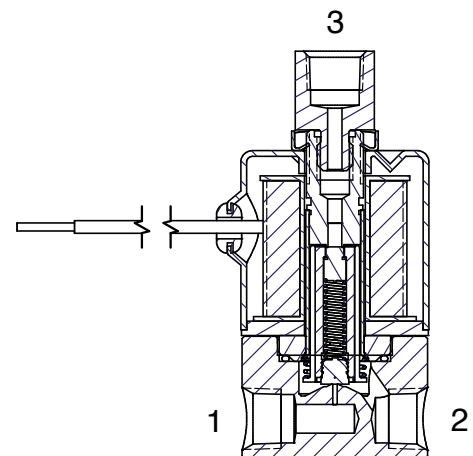
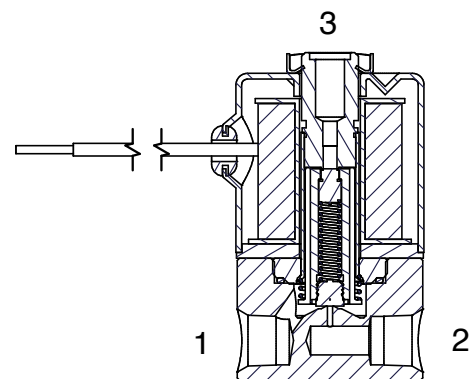
3/2 NC Symbol



3/2 NO Symbol

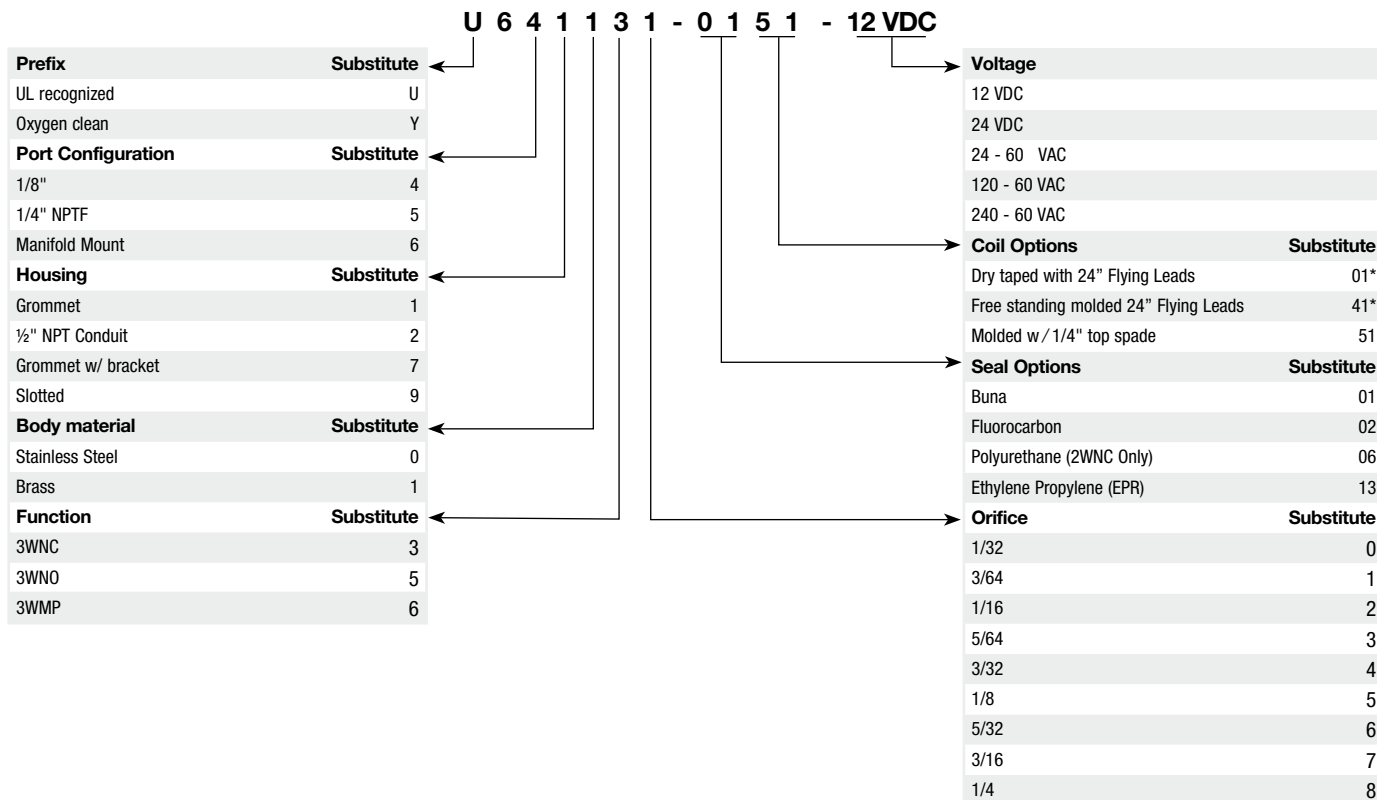


3/2 MP Symbol

3WNO
3WMP

3WNC

Series 6 - 3/2 Direct Acting Valves



*For class H coils replace second digit with 3.
Example: 43 = Class H molded with Flying Leads

Series 6 - 3/2 NC Cv and MOPD Values

| Orifice Size | MOPD | Cv Value Body | Cv Value Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 1/32 | 300 | 0.035 | 0.025 | 6***40 |
| 3/64 | 250 | 0.050 | 0.065 | 6***41 |
| 1/16 | 200 | 0.090 | 0.115 | 6***42 |
| 5/64 | 175 | 0.135 | 0.180 | 6***43 |
| 3/32 | 125 | 0.180 | 0.210 | 6***44 |
| 1/8 | 85 | 0.275 | 0.240 | 6***45 |
| 5/32 | 50 | 0.370 | 0.240 | 6***46 |
| 3/16 | 30 | 0.455 | 0.240 | 6***47 |
| 1/4 | 15 | 0.650 | 0.240 | 6***48 |

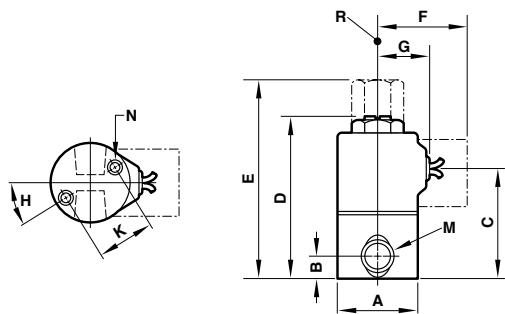
Series 6 - 3/2 MP Cv and MOPD Values

| Orifice Size | MOPD | Cv Value Body | Cv Value Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 1/32 | 275 | 0.035 | 0.025 | 6***60 |
| 3/64 | 200 | 0.050 | 0.065 | 6***61 |
| 1/16 | 175 | 0.090 | 0.115 | 6***62 |
| 5/64 | 125 | 0.135 | 0.180 | 6***63 |
| 3/32 | 100 | 0.180 | 0.210 | 6***64 |
| 1/8 | 60 | 0.275 | 0.240 | 6***65 |
| 5/32 | 40 | 0.370 | 0.240 | 6***66 |
| 3/16 | 25 | 0.455 | 0.240 | 6***67 |
| 1/4 | 15 | 0.650 | 0.240 | 6***68 |

Series 6 - 3/2 NO Cv and MOPD Values

| Orifice Size | MOPD | Cv Value Body | Cv-Value Endstop | Part Numbering |
|--------------|------|---------------|------------------|----------------|
| 1/32 | 400 | 0.035 | 0.025 | 6***50 |
| 3/64 | 250 | 0.050 | 0.065 | 6***51 |
| 1/16 | 200 | 0.090 | 0.115 | 6***52 |
| 5/64 | 175 | 0.135 | 0.180 | 6***53 |
| 3/32 | 125 | 0.180 | 0.210 | 6***54 |
| 1/8 | 85 | 0.275 | 0.240 | 6***55 |
| 5/32 | 50 | 0.370 | 0.240 | 6***56 |
| 3/16 | 35 | 0.455 | 0.240 | 6***57 |
| 1/4 | 15 | 0.650 | 0.240 | 6***58 |

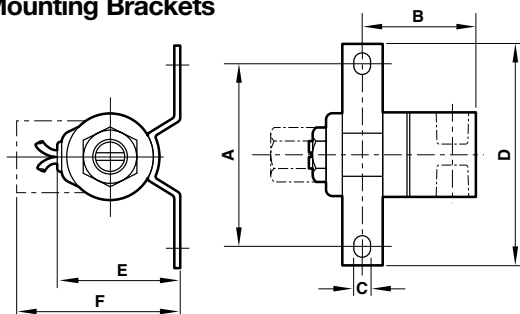
Series 6



Standard Valve

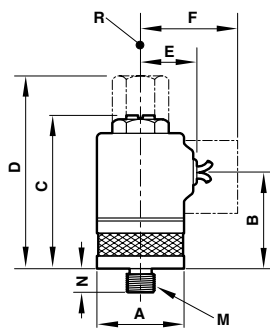
| | A | B | C | D | E | F | G | H | K | M | N | R |
|----------|--------------|-------------|----------------------------------|--------------|--------------|--------------|--------------|-----|--------------|----------------------------------|--------------------------|----------------------------------|
| Series 6 | 1.62 (41) | .344 (9) | G-2.04 (52) C-1.87 (48) | 2.86 (73) | 3.54 (90) | 1.58 (40) | 1.03 (26) | 45° | 1.24 (31) | 1/8-27 NPTF or 1/4-18 NPTF | #10-32 UNF x 5/16 MFT | 1/8-27 NPTF or 1/4-18 NPTF |

Mounting Brackets



Bracket Dimensions

| | A | B | C | D | E | F |
|----------|-----------|-----------|---------|-----------|-----------|-----------|
| Series 6 | 2.13 (54) | 1.97 (50) | .20 (5) | 2.63 (67) | 2.15 (55) | 2.68 (68) |



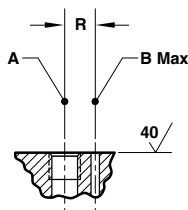
Manifold Mount Valve

| | A | B | C | D | E | F | m | n | r |
|----------|--------------|------------------------------------|--------------|--------------|--------------|--------------|------------|------------|----------------------------------|
| Series 6 | 1.62 (41) | G- 1.73 (44) C- 1.56 (40) | 2.55 (65) | 3.23 (82) | 1.03 (26) | 1.58 (40) | 1/2 20 UNF | .31 (8) | 1/8-27 NPTF or 1/4-18 NPTF |

Manifold Mount Interface

| | A | B | R |
|----------|---------------------------|---------|----------|
| Series 6 | 1/2 - 20 UNF-2B x .32 MFT | .27 (7) | .51 (13) |

NOTE: A is underseat connection** B is overseat connection***



Series 9 low watt - .65 Watt

Small solution without sacrificing performance.
 Available in all 2- and 3-way configurations
 Compatible with air, water, gases, vacuum and many other fluids. Designed for long life.
 12" long, #24 AWG electrical leads
 Wetted parts are PPS and stainless steel.
 Nickel plated housing for a durable, corrosion resistant package.



Standard Series 9 valve part identification

| Prefix (optional) | | Substitute | Voltage | |
|----------------------|--|-------------------|-----------------|-------------------|
| Isolated 2WNC only * | | G | 5 VDC | |
| Oxygen Service | | Y | 12 VDC | |
| Porting | | Substitute | 15 VDC | |
| Manifold Mount | | 6 | 24 VDC | |
| #10-32 UNF | | 7 | Seal | Substitute |
| Body | | Substitute | Buna | 01 |
| Stainless Steel | | 0 | Fluorocarbon | 02 |
| Brass | | 1 | EPR* | 13 |
| Operator | | 3 | Function | Substitute |
| ECTFE | | 8* | 2 WNC | 1 |
| Acrylic | | 9* | 2 WNO | 2 |
| | | | 3 WNC | 4 |
| | | | 3 WNO | 5 |
| | | | 3 WMP | 6 |
| | | | 3 WDC | 7 |

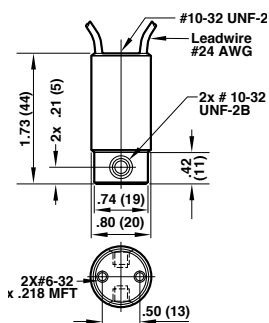
* Isolated Version Only

*Coils are standard Class B construction

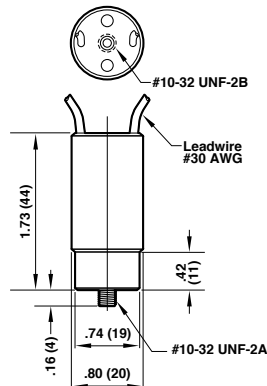
Series 9

| Type | Orifice size | | Cv Value | | MOPD | SS | Brass | Manifold Mount stainless steel | Manifold Mount brass |
|------|--------------|-------|----------|------|------|--------|--------|--------------------------------|----------------------|
| | Body | Stop | Body | Stop | | | | | |
| 2WNC | 1/16" | - | .050 | - | 100 | 971012 | 971112 | 961012 | 961112 |
| 2WNO | - | 3/64" | - | .025 | 90 | 971022 | 971122 | 961022 | 961122 |
| 3WNC | 1/16" | 3/64" | .035 | .020 | 80 | 971042 | 971142 | 961042 | 961142 |
| 3WNO | 1/16" | 3/64" | .050 | .015 | 60 | 971052 | 971152 | 961052 | 961152 |
| 3WMP | 1/16" | 3/64" | .035 | .015 | 40 | 971052 | 971162 | 961062 | 961162 |
| 3WDC | 1/16" | 3/64" | .050 | .025 | 60 | 971052 | 971172 | 961072 | 961172 |

Series 9 Standard



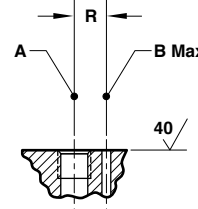
Series 9 Manifold Mount



Series 9 Manifold Mount Interface

| | A | B | R |
|-----------------|----------------------------|---------------|---------------|
| Low Watt | 10-32 UNF-2B x .150 MFT | .08 (2.08) | .22 (5.45) |

NOTE: A is underseat connection**
 B is overseat connection***



KIP Isolation Valves

Ideal for control of corrosive and aggressive media

Elastomer diaphragm provides protection from aggressive, corrosive, and gritty media

Isolation valves can be equipped with a low wattage coil (as low as 0.65 watts in the Series 9 series)

Valves can also be integrated into standard manifolds or intricate custom manifold assemblies to simplify your pneumatic or liquid circuit

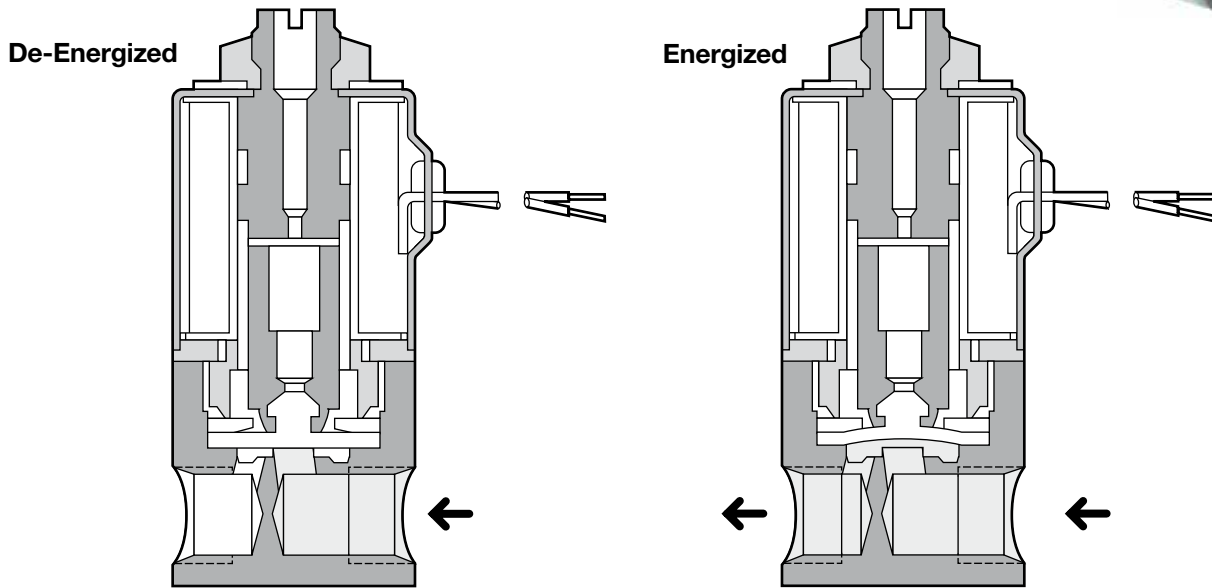
Isolation valves are available in a 2-way normally closed configuration

Two valves can be combined on a common base for 3-way operation

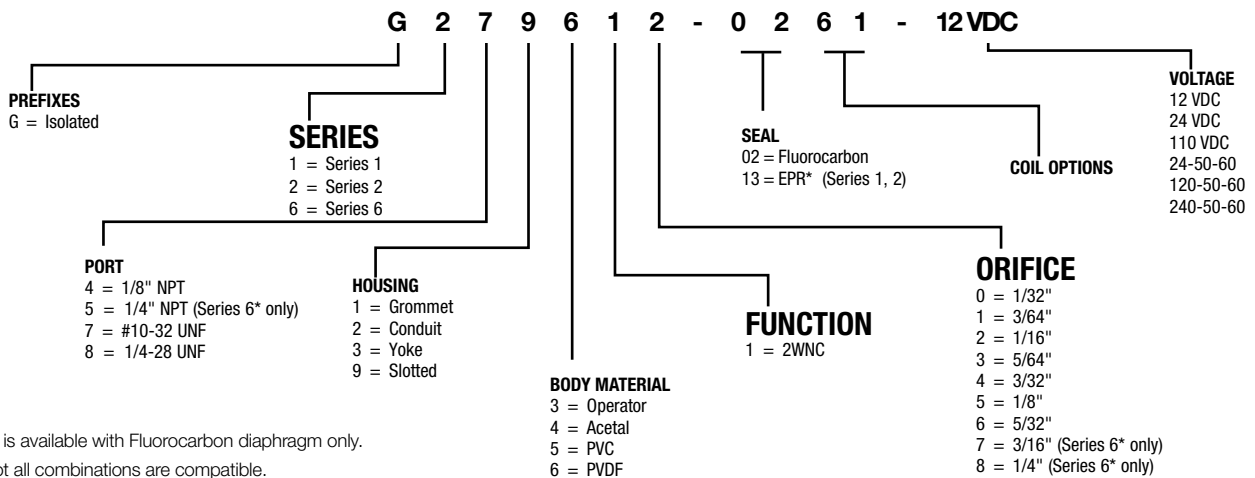
Isolation valves can be combined on a manifold block to simplify your pneumatic or liquid circuit

Complete line of standard manifold designs and materials

We offer custom designed manifolds complete with fittings, tubing and other accessories



Series 1, 2 & 6



* Series 6 is available with Fluorocarbon diaphragm only.

NOTE: Not all combinations are compatible.

Selection Criteria for Isolation Style Valves

| Feature | Series 1 | Series 2 | Series 6 | Series 9 |
|----------------------------|---------------|---------------|----------|-----------|
| Size - (Diameter) | 1" | 1" | 1-5/8" | 0.80" |
| MOPD (psi) | 95 | 120 | 130 | 30 |
| Vacuum Service | ✓ | ✓ | ✓ | ✓ |
| Max. Cv - Body | 0.250 | 0.250 | 0.545 | 0.06 |
| Power Rating | 6 watts | 7 watts | 10 watts | .65 watts |
| Lead Wire Gauge | 20 AWG/18 AWG | 20 AWG/18 AWG | 18 AWG | 24 AWG |
| Optional Low Wattage Coils | ✓ | ✓ | | ✓ |
| 1/8" NPTF Ports | ✓ | ✓ | ✓ | |
| #10 - 32 UNF Ports | ✓ | ✓ | ✓ | ✓ |
| 1/4 - 28 UNF | ✓ | ✓ | ✓ | |
| Grommet Style Housing | ✓ | ✓ | ✓ | ✓ |
| Conduit Style Housing | ✓ | ✓ | ✓ | |
| Spade Coil | ✓ | ✓ | ✓ | |
| Manifolds | ✓ | ✓ | ✓ | ✓ |

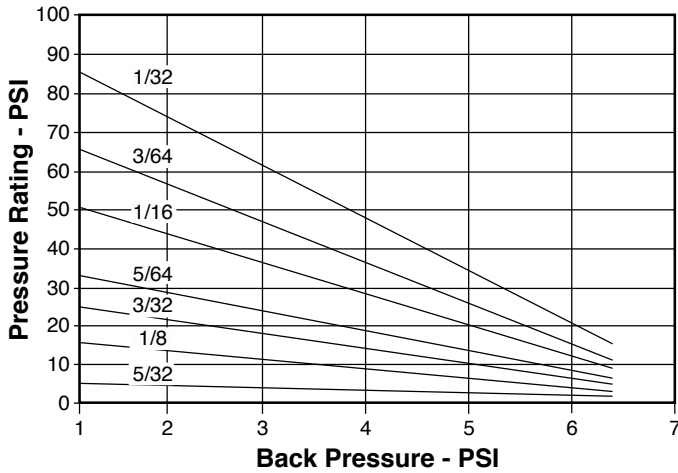
| | Orifice Diameter | Cv Value | MOPD | Standard Valve Body | | |
|------------------------|-------------------------|-----------------|-------------|---------------------|----------------|---------|
| | | | | PVDF | Acetal | PVC |
| Series 1 | 1/32" | 0.025 | 95 | G141610 | G141410 | G141510 |
| | 3/64" | 0.045 | 75 | G141611 | G141411 | G141511 |
| | 1/16" | 0.075 | 55 | G141612 | G141412 | G141512 |
| | 5/64" | 0.115 | 35 | G141613 | G141413 | G141513 |
| | 3/32" | 0.155 | 25 | G141614 | G141414 | G141514 |
| | 1/8" | 0.210 | 15 | G141615 | G141415 | G141515 |
| | 5/32" | 0.250 | 10 | G141616 | G141416 | G141516 |
| Series 2 | 1/32" | 0.025 | 120 | G241610 | G241410 | G241510 |
| | 3/64" | 0.045 | 100 | G241611 | G241411 | G241511 |
| | 1/16" | 0.075 | 75 | G241612 | G241412 | G241512 |
| | 5/64" | 0.115 | 55 | G241613 | G241413 | G241513 |
| | 3/32" | 0.155 | 45 | G241614 | G241414 | G241514 |
| | 1/8" | 0.210 | 30 | G241615 | G241415 | G241515 |
| | 5/32" | 0.250 | 20 | G241616 | G241416 | G241516 |
| Series 6 | 1/32" | 0.031 | 130 | G641610 | G641410 | G641510 |
| | 3/64" | 0.058 | 110 | G641611 | G641411 | G641511 |
| | 1/16" | 0.078 | 95 | G641612 | G641412 | G641512 |
| | 5/64" | 0.117 | 70 | G641613 | G641413 | G641513 |
| | 3/32" | 0.167 | 60 | G641614 | G641414 | G641514 |
| | 1/8" | 0.241 | 50 | G641615 | G641415 | G641515 |
| | 5/32" | 0.316 | 40 | G641616 | G641416 | G641516 |
| | 3/16" | 0.398 | 30 | G641617 | G641417 | G641517 |
| 1/4" | 0.545 | 20 | G641618 | G641418 | G141518 | |
| Series 9 Series | Orifice Diameter | Cv Value | MOPD | ECTFE | Acrylic | |
| Series 9 | 1/16" | 0.06 | 30 | G971812-13 | G971912-13 | |

Isolation Valve Back Pressure De-rating Curves

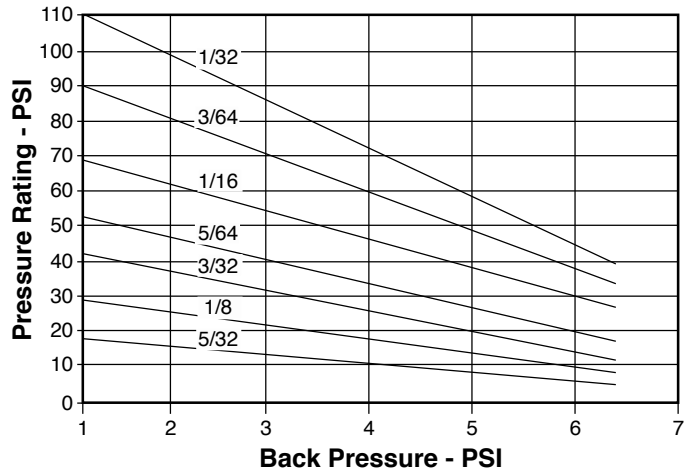
Diaphragm Isolation Valves have a large difference in pressure area between open and closed, creating a sensitivity to back pressure. Excessive back pressure can hinder the closing of the valve. Please use the back pressure charts below to determine the maximum operating pressure of the valve based on the maximum potential back pressure in the application. Choose the orifice size which meets a worst case condition.

Unless a preference for diaphragm body shape is specifically requested, valves may be shipped with either square or round bodies, at IMI's discretion, and depending on availability or size of order.

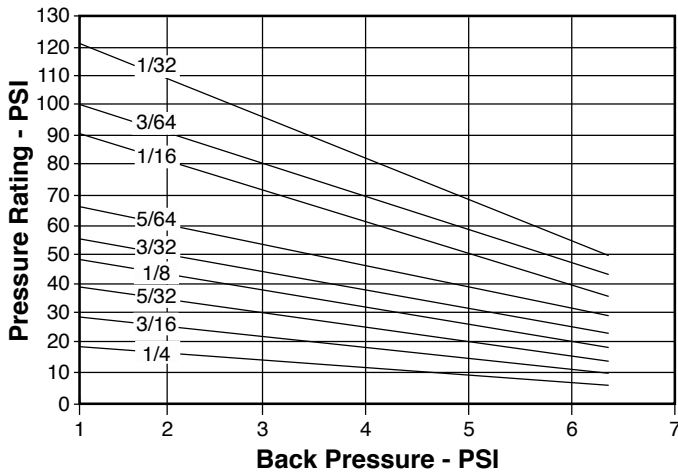
Series 1 Isolation Valves



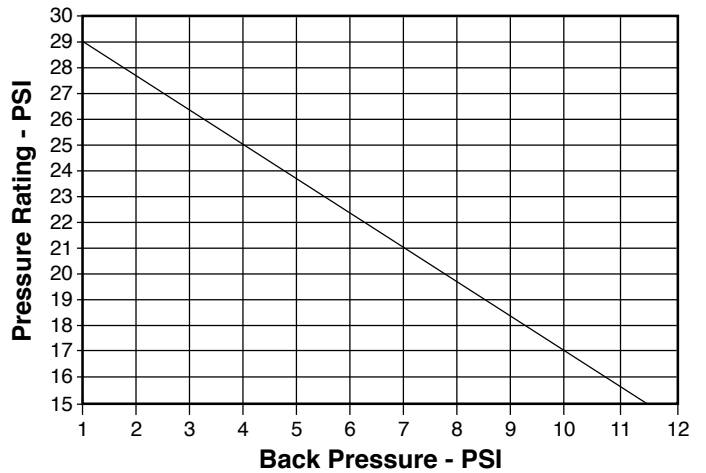
Series 2 Isolation Valves



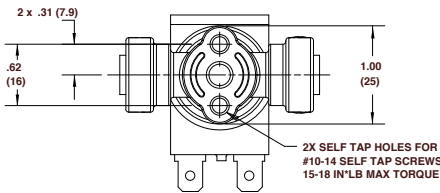
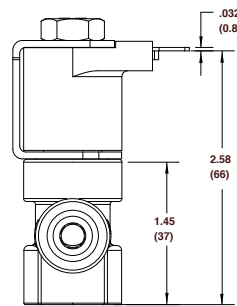
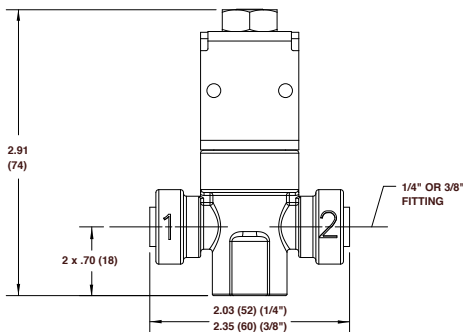
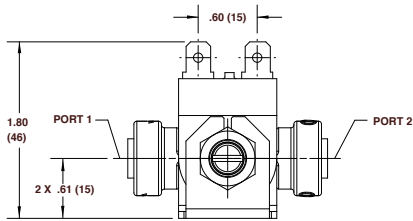
Series 6 Isolation Valves



Series 9 Isolation Valves



Q2 Quick-Connect Plastic Body Valve
 Durable, lightweight plastic body
 Quick push-to-connect fittings
 NSF and cURus (UL and CSA) Certified
 Minimal Pressure drop



Coil Orientation Options

- A = Terminals over 2
- B = 90° Counterclockwise from 2 (Standard – Figure 1)
- C = 90° Clockwise from 2
- D = Terminals over 1

Specifications

| | |
|---------------------------|--|
| Power Rating | 10 Watt |
| Voltage | 12, 24, 110 Volt DC 24/50-60, 120/50-60, 240/50-60 Volt AC* |
| Housing | Yoke |
| Coil | 1/4" Top Spade |
| Temperature Rating | |
| Ambient and Media | -10°F to 100°F |

*All AC valves are full wave rectified



Port Identification: IN - 2 OUT - 1

| Standard Valve Part Number | Orifice Diameter Body | Seal Material | Porting OD Tube Fitting | Cv Value Body | MOPD (PSI) |
|----------------------------|-----------------------|-----------------|-------------------------|---------------|------------|
| Q212315-1351B-VOLTAGE | 1/8" | Food-Grade EPR* | 1/4" | 0.228 | 120 |
| Q212316-1351B-VOLTAGE | 5/32" | Food-Grade EPR* | 1/4" | 0.314 | 80 |
| Q212317-1351B-VOLTAGE | 3/16" | Food-Grade EPR* | 1/4" | 0.367 | 40 |
| Q213318-1351B-VOLTAGE | 1/4" | Food-Grade EPR* | 3/8" | 0.500 | 15 |
| Q213319-1351B-VOLTAGE | 5/16" | Food-Grade EPR* | 3/8" | 1.000 | 5 |

* Food-Grade EPR seals are NSF approved

Copy this page. Fill in the blanks.

Fax it to IMI Norgren at (860) 677-4999

Call us at 1-800-722-5547

Date ___/___/___

Valve Inquiry Application Sheet

Name _____ Company _____
Address _____ City _____ E-mail _____
State _____ Zip _____ Telephone _____ Fax _____
Description of application _____

Valves Per System _____ Manifold _____ (Submit System Schematic)
Immediate Quantity _____ Prototype Y _____ N _____ Estimated Yearly Quantity _____

MEDIA INFORMATION

Air - Y _____ N _____ Lubricated - Y _____ N _____ Oxygen Service - Y _____ N _____
Liquid Media _____ Specific Gravity _____ Viscosity _____
Inlet Pressure _____ Minimum Temp. _____
Downstream Pressure (-) _____ Minimum Temp. _____
Maximum Oper. Pressure Diff. (MOPD) (=) _____ Operating Temp. _____
Flow Required Body _____ (CV, GPM, SCFM, ETC.) At Operating Pressure _____
Flow Required Stop _____ (CV, GPM, SCFM, ETC.) At Operating Pressure _____

TYPE OF VALVE

Standard Poppet Type Valve - Y _____ N _____ Isolated Style Valve - Y _____ N _____ (2WNC Only)
2WNC _____ 2WNO _____ 3WNCFV _____ 3WNCLC _____ 3WNO _____ 3WMP _____ 3WDC _____
Standard Valve Body _____ Manifold Mount Body _____ Operator _____ Other _____
Body Material - Brass _____ 430 SS _____ Other _____ (See Page 12 for Body Material)
UL Recognized _____ CSA Approved _____ Food Grade _____ Other _____

BODY PORTING INFORMATION

Inlets Ports Body - Side _____ Bottom _____ Size _____ (ie 1/8" NPT, 1/4" NPT, 10-32 UNF)
Outlet Ports Body - Side _____ Bottom _____ Size _____ (ie 1/8" NPT, 1/4" NPT, 10-32 UNF)
Adapter Porting- Size _____ (ie 1/8" NPT, 1/4" NPT, 10-32 UNF) Other _____

BODY OPTIONS INFORMATION

Side-Metered Orifice _____ Side-Metered Common _____ Bottom-Metered Orifice _____

SEAL SELECTION

Lower Seal (Buna Standard) _____ Upper Seal (FPM Standard) _____
Seal Selections Special Information _____

COIL SELECTION CRITERIA

Housing Style (See Page 9 For Info) _____ (ie. Grommet) Bracket - Y _____ N _____
Housing/Plating Special Request _____

Class B _____ Class H _____ Molded Coil _____ Tape Wound (Dry) _____ Wattage Req'd _____
Voltage _____ AC/DC _____ HZ _____ Minimum Voltage _____ Maximum Voltage _____
Rectified - Y _____ N _____ Lead Wire (24" STD) _____ Termination _____ Spade Style _____
Continuous Duty _____ Intermittent Duty _____ Max. Time On _____ Max. Time Off _____ Cycle Rate _____
Will Valve Be in a Moisture Environment _____ Coil Comments _____

Application Comments