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.

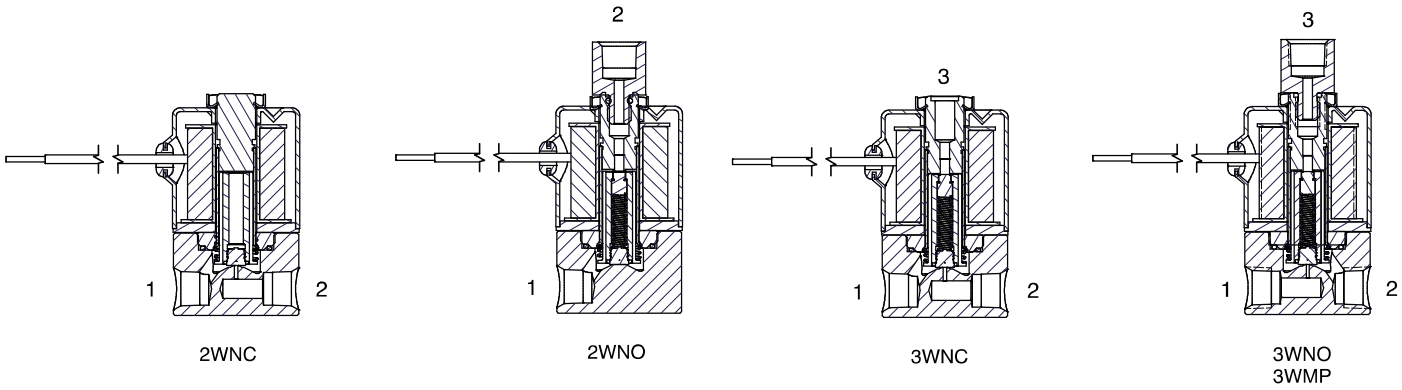
Q2

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
UL Recognized	U
Oxygen Service	Y
Low Wattage* - 1.5 Watt	A
Low Wattage* -2.0 Watt	B
Low Wattage* -2.5 Watt	C
Low Wattage* -3.0 Watt	D

SERIES	Substitute
Series 1	1
Series 2	2
Series 3	3
Series 6	6

PORT	Substitute
1/8" NPTF (a)	4
1/4" NPTF (b)	5
Manifold Mount (c)	6
3/8" NPT (f)	8

HOUSING	Substitute
Grommet	1
1/2" NPT Conduit	2
Yoke (d)	3
Grommet w/bracket	7
Slotted (e)	9

BODY MATERIAL	Substitute
Stainless Steel	0
Brass	1

VOLTAGE

COIL OPTIONS

SEAL	Substitute
Buna	01
Fluorocarbon	02
Polyurethane (2WNC only)	06
Ethylene Propylene (EPR (Food Grade)	13

ORIFICE	Substitute
1/32"	0
3/64"	1
1/16"	2
5/64"	3
3/32"	4
1/8"	5
5/32"	6
3/16" (b)	7
1/4" (b)	8
3/8" (f)	9

FUNCTION	Substitute
2WNC	1
2WNO	2
3WNC	3
3WNO	5
3WMP	6

(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
Isolated 2WNC only *	G
Oxygen Service	Y

Porting	Substitute
Manifold Mount	6
#10-32 UNF	7

Body	Substitute
Stainless Steel	0
Brass	1
Operator	3
ECTFE	8**
Acrylic	9**

Voltage*

5 VDC
12 VDC
15 VDC
24 VDC

Seal	Substitute
Buna	01
Fluorocarbon	02
EPR**	13

Function	Substitute
2 WNC	1
2 WNO	2
3 WNC	4
3 WNO	5
3 WMP	6
3 WDC	7

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

*Coils are standard Class B construction

	Series 1					Series 2				
	Orifice Diameter		Cv Value		MOPD	Orifice Diameter		Cv Value		MOPD
	Body	Stop	Body	Stop	(PSI)	Body	Stop	Body	Stop	(PSI)
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	Orifice Diameter		Cv Value		MOPD
	Body	Stop	Body	Stop	(PSI)	Body	Stop	Body	Stop	(PSI)
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

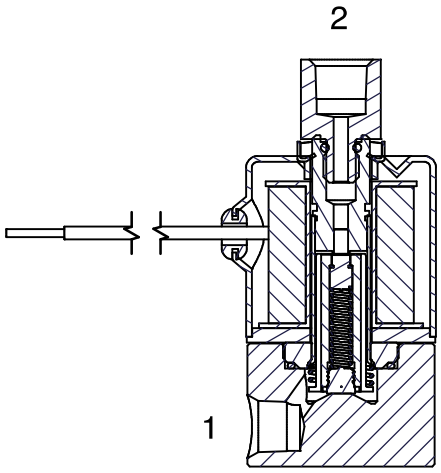
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

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

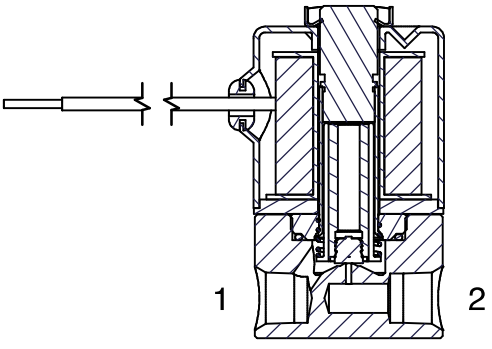
Technical data

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)

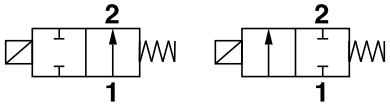


2WNO

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



2WNC



Symbol: 2/2 NO Symbol: 2/2 NC

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

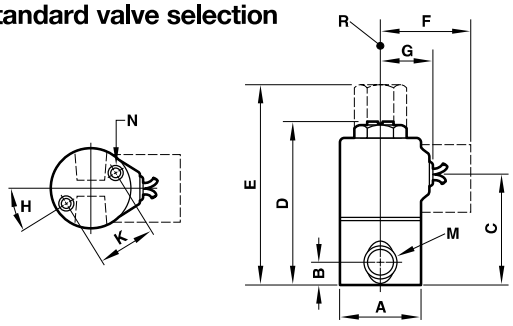
					Low Watt Specifications (MOPD (psi))		
Orifice Size	MOPD (psi)	Cv Value	Part Numbering	Cv Value Body	2.0 Watt B	2.5 Watt C	3.0 Watt D
1/32	800	0.035	1***10	0.030	85	106	285
3/64	500	0.050	1***11	0.050	55	65	190
1/16	300	0.095	1***12	0.085	30	40	85
5/64	200	0.135	1***13	0.125	25	40	55
3/32	175	0.175	1***14	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

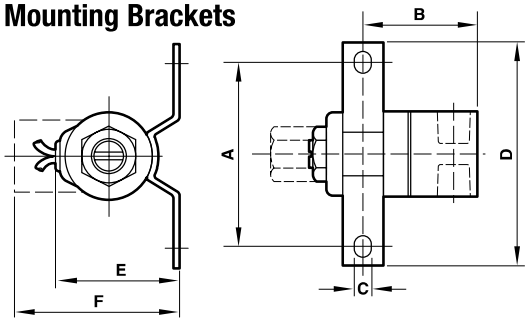


Series 1

Standard Valve

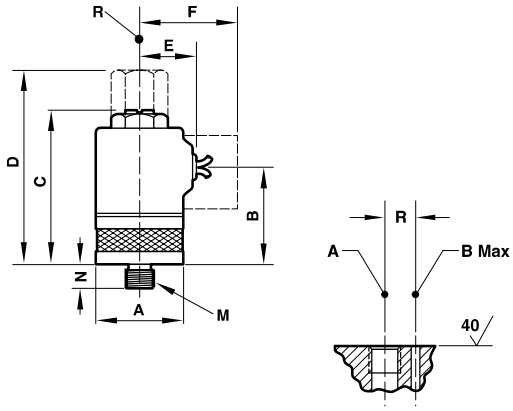
	A	B	C	D	E	F	G	H	K	M	N	R
Series 1	.99 (25)	.28 (7)	1.33 (33)	2.12 (54)	2.47 (63)	1.12 (29)	.64 (16)	32-1/2°	.73 (19)	1/8-27 NPTF	#8-32 UNC x 1/4 MFT	1/8-27 NPTF

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

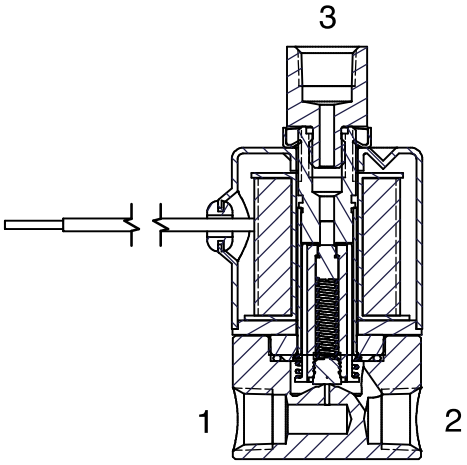
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

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

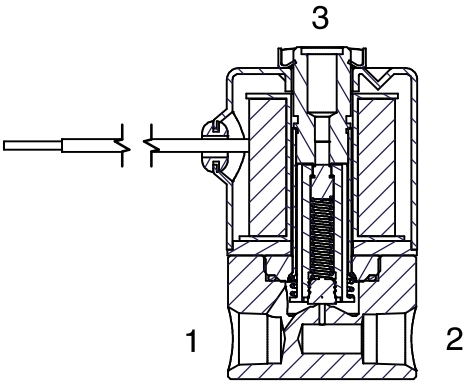
Technical data

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)

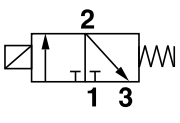


3WNO
3WMP

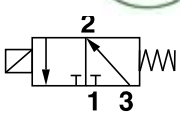
Agency Approvals
UL, CSA and NSF approvals available, consult factory for additional information.



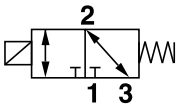
3WNC



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

							Low Watt Specifications (MOPD (psi))		
Orifice Size	MOPD (psi)	Cv Value body	Cv Value Endstop	Part Numbering	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

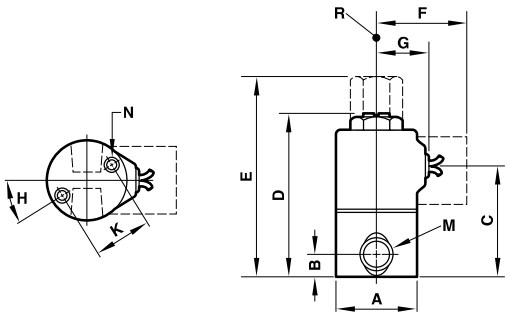
Orifice Size	MOPD	Cv Value Body	Cv Value Endstop	Part Numbering
1/32	200	0.035	0.025	1***40
3/64	150	0.050	0.065	2***41
1/16	100	0.085	0.115	1***42
5/64	80	0.125	0.115	1***43
3/32	60	0.165	0.115	1***44
1/8	40	0.240	0.115	1***45
5/32	10	0.285	0.115	1***46

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

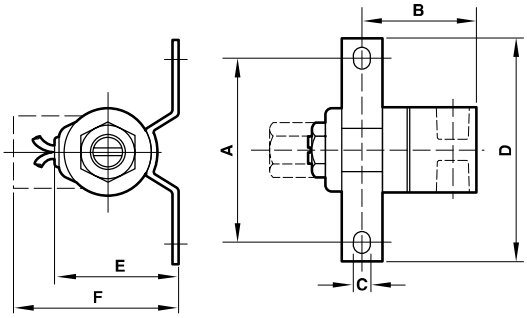
Mounting Brackets

Series 1



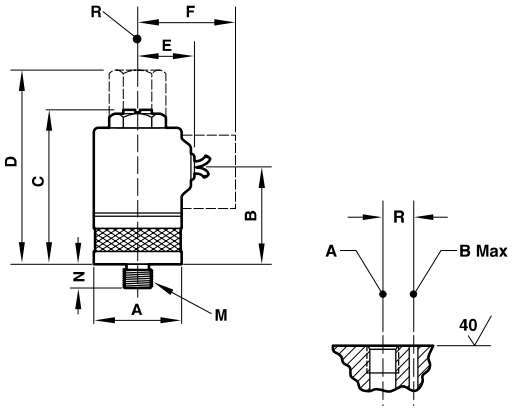
Standard Valve

	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

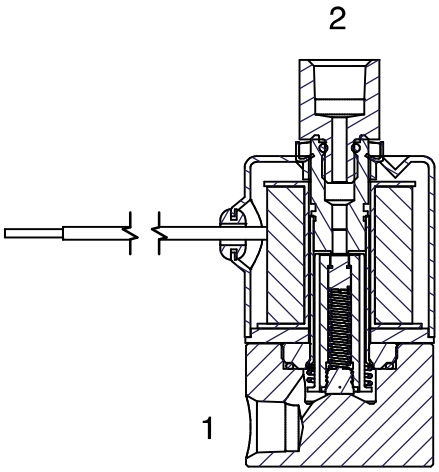
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

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

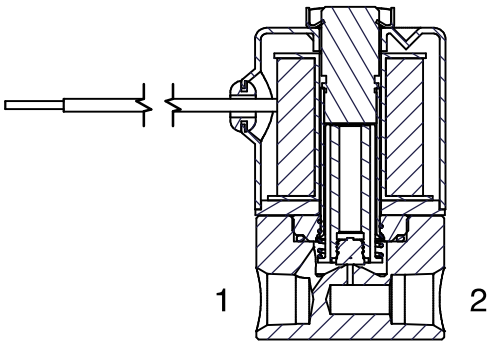
Technical data

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)

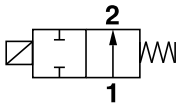


2WNO

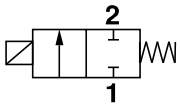
Agency Approvals
UL, CSA and NSF approvals available, consult factory for additional information.



2WNC



Symbol: 2/2 NO



Symbol: 2/2 NC

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
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

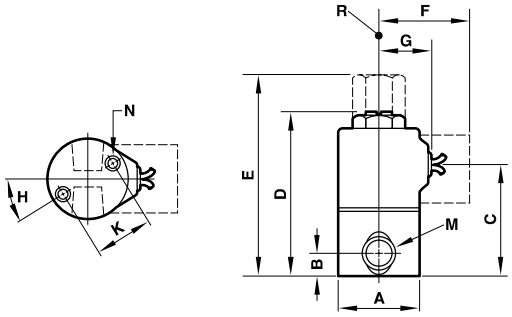
Series 2 - 2/2 NC Cv and MOPD Values

				Low Watt Specifications (MOPD (psi))				
Orifice Size	MOPD (psi)	Cv Value	Part Numbering	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

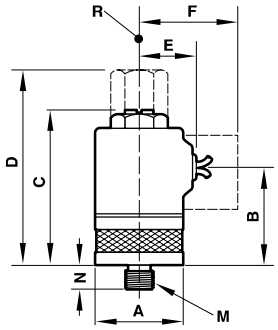
Orifice Size	MOPD	Cv-Valve	Part Numbering
1/32	400	0.035	2***20
3/64	300	0.050	2***21
1/16	180	0.095	2***22
5/64	140	0.135	2***23



Series 2

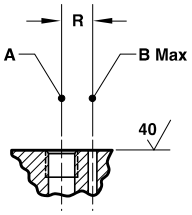
Standard Valve

	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°	.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

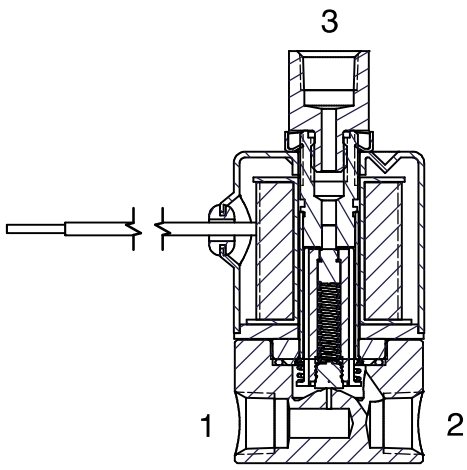
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

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

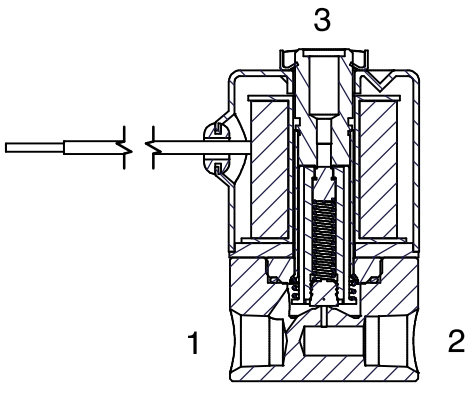
Technical data

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)**

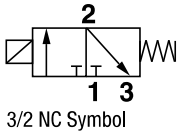


3WNO
3WMP

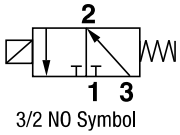
Agency Approvals
UL, CSA and NSF approvals available, consult factory for additional information.



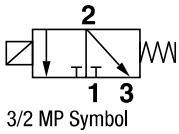
3WNC



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
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	Cv Value Endstop	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

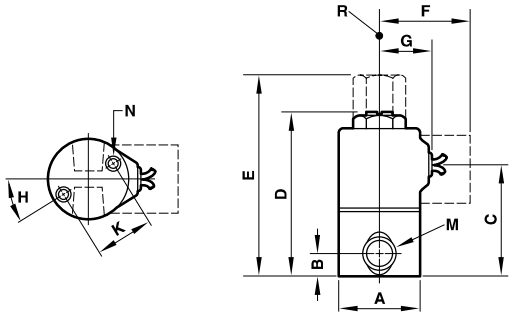
Series 2 - 3/2 NC Cv and MOPD Values

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

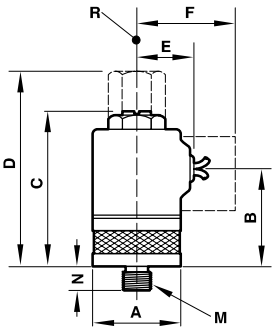
NOTE: Valve dimensions and housing options shown at end of Series 2 Section



Series 2

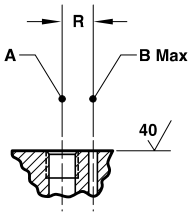
Standard Valve

	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°	.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

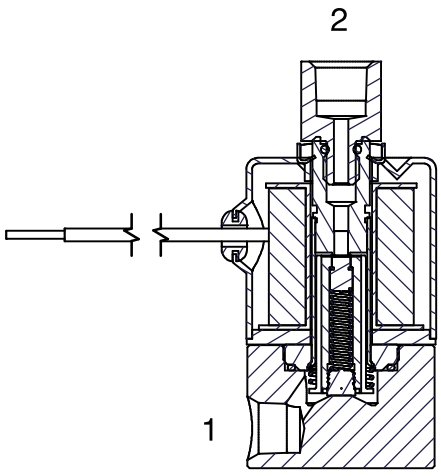
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

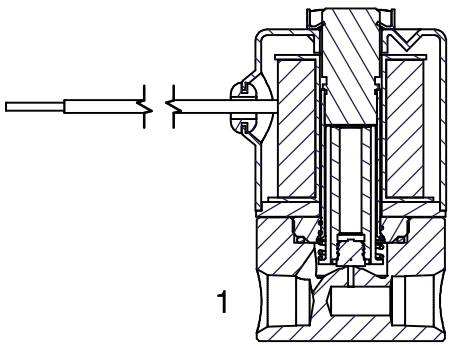
Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts:
430FR & 300 Series Cress

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)

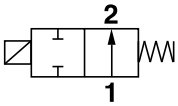


2WNO

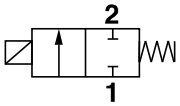


2WNC

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



Symbol: 2/2 NO



Symbol: 2/2 NC

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
½" 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
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

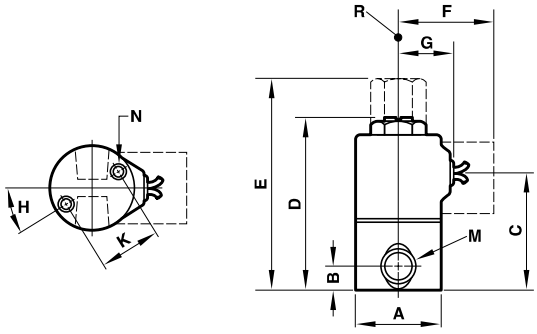
Orifice	Substitute
5/64	3
3/32	4
1/8	5
5/32	6
3/16	7
1/4	8

*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

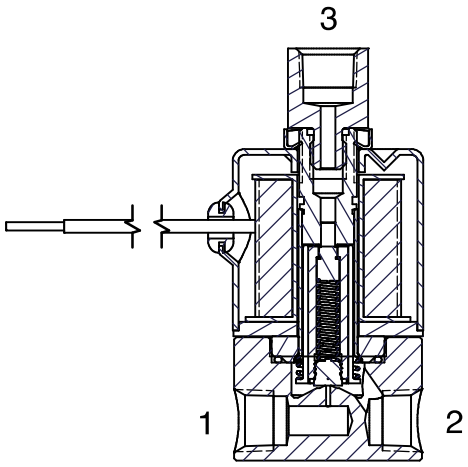
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

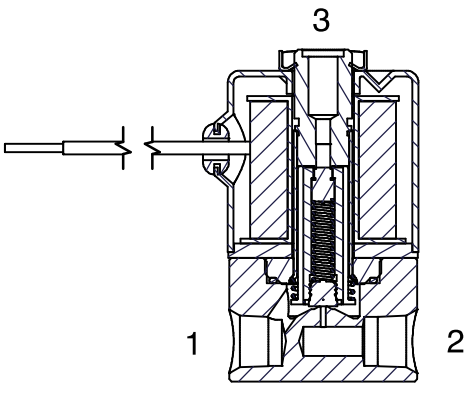
Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts:
430FR & 300 Series Cres

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 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)

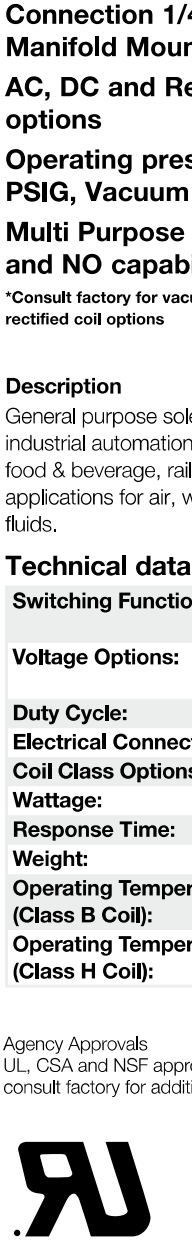


3WNO
3WMP

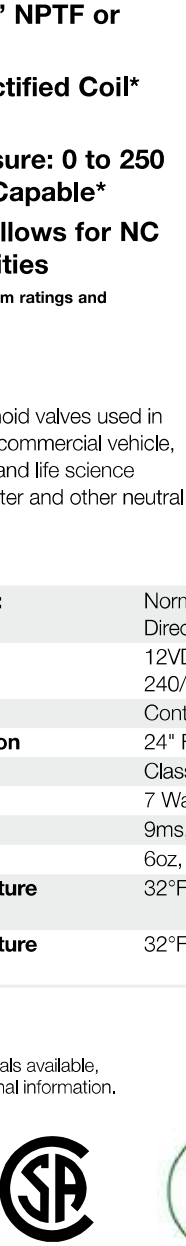


3WNC

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 3

U 3 4 3 1 1 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**
1/4" NPTF	5
Manifold Mount	6
Housing	**Substitute**
Grommet	1
1/2" NPT Conduit	2
Yoke	3
Grommet w/ bracket	7
Slotted	9
Body material	**Substitute**
Stainless Steel	0
Brass	1
Function	**Substitute**
3WNC	3
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*
Molded with 1/4" top 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 - 3/2 NC Cv and MOPD Values

					Low Watt Specifications			
Orifice Size	MOPD (psi)	Cv Value Body	Cv Value Endstop	Part Numbering	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	–	–

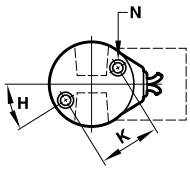
Series 3 - 3/2 NO Cv and MOPD Values

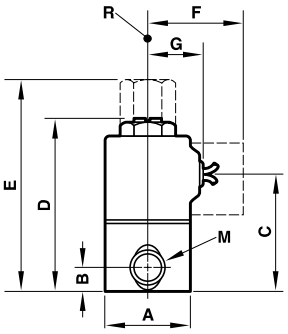
Orifice Size	MOPD	Cv-Value Body	Cv-Value Endstop	Part Numbering
5/64	75	0.125	0.145	3***53
3/32	50	0.165	0.145	3***54
1/8	25	0.240	0.145	3***55
5/32	15	0.290	0.145	3***56
3/16	10	0.345	0.145	3***57
1/4	5	0.415	0.145	3***58

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 3	1.18 (30)	.355 (9)	1.65 (42)	2.46 (62)	2.80 (71)	1.19 (30)	.78 (20)	41°	.91 (23)			1/4-18 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

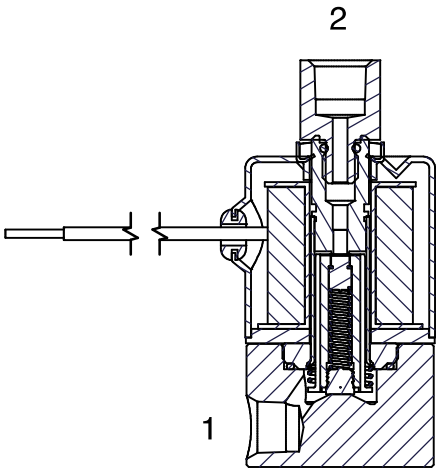
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

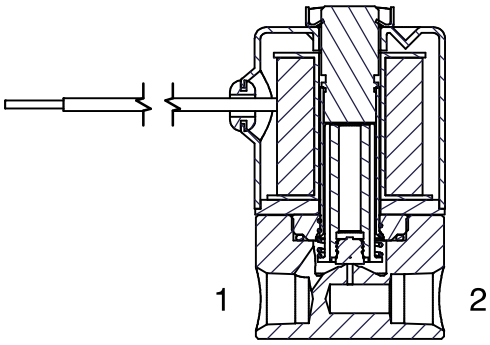
Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts:
430FR & 300 Series Cress

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 ¼" 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)

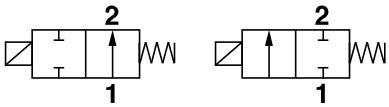


2WNO



2WNC

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



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
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*
Molded with 1/4" top spade	51*

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
3/16	7
1/4	8
3/8	9

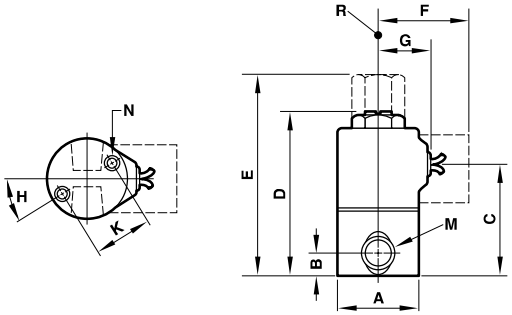
*For class H coils replace second digit with 3.
Example: 43= Class H molded with Flying Leads

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

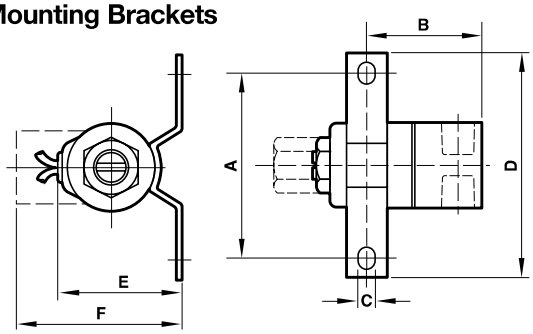


Series 6

Standard Valve

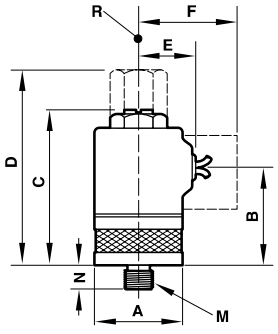
	A	B	C	D	E	F	G	H	K	M	N	R
Series 6	1.62 (41)	.344 (9)	G-2.04 (52) C-1.87 (48)	2.86 (73)	3.54 (90)	1.58 (40)	1.03 (26)	45°	1.24 (31)	1/8-27 NPTF or 1/4-18 NPTF	#10-32 UNF x 5/16 MFT	1/8-27 NPTF or 1/4-18 NPTF

Mounting Brackets



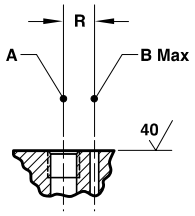
Bracket Dimensions

	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

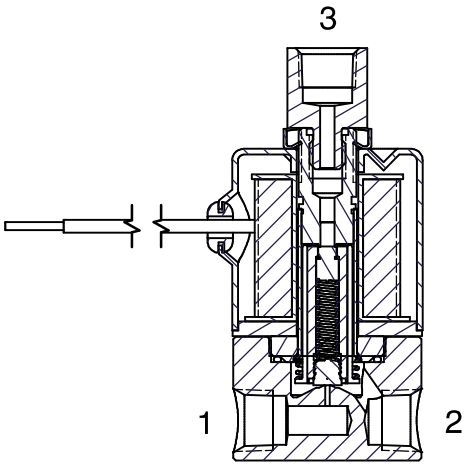
General purpose solenoid valves used in industrial automation, commercial vehicle, food & beverage, rail, and life science applications for air, water and other neutral fluids.

Material

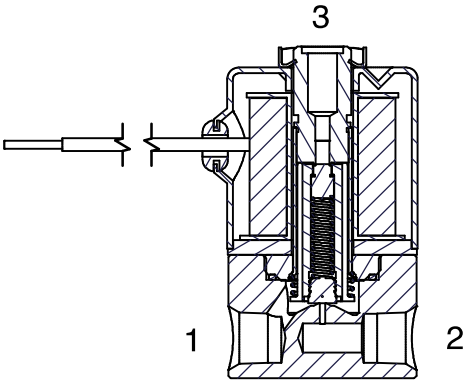
Body: Brass or Stainless Steel
Seat seal: See Seal Options
Internal Wetted Parts:
430FR & 300 Series Cress

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)

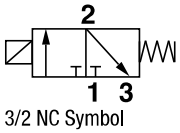


3WNO
3WMP

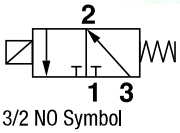


3WNC

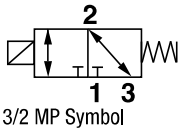
Agency Approvals
UL, CSA and NSF approvals available, consult factory for additional information.



3/2 NC Symbol



3/2 NO Symbol



3/2 MP Symbol

Series 6 - 3/2 Direct Acting Valves

U 6 4 1 1 3 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
½" NPT Conduit	2
Grommet w/ bracket	7
Slotted	9
Body material	**Substitute**
Stainless Steel	0
Brass	1
Function	**Substitute**
3WNC	3
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*
Molded w/1/4" top spade	51
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
3/16	7
1/4	8

*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

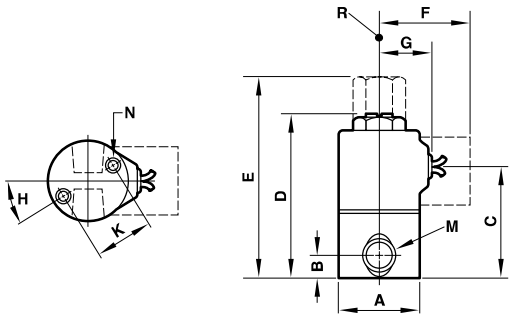
Orifice Size	MOPD	Cv Value Body	Cv Value Endstop	Part Numbering
1/32	300	0.035	0.025	6***40
3/64	250	0.050	0.065	6***41
1/16	200	0.090	0.115	6***42
5/64	175	0.135	0.180	6***43
3/32	125	0.180	0.210	6***44
1/8	85	0.275	0.240	6***45
5/32	50	0.370	0.240	6***46
3/16	30	0.455	0.240	6***47
1/4	15	0.650	0.240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

Series 6 - 3/2 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 - 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

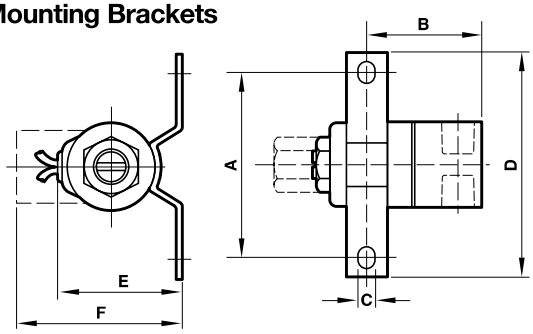


Series 6

Standard Valve

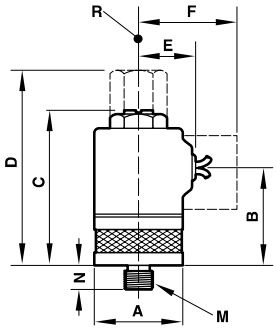
	A	B	C	D	E	F	G	H	K	M	N	R
Series 6	1.62 (41)	.344 (9)	G-2.04 (52) C-1.87 (48)	2.86 (73)	3.54 (90)	1.58 (40)	1.03 (26)	45°	1.24 (31)	⅛-27 NPTF or ¼-18 NPTF	#10-32 UNF x 5/16 MFT	⅛-27 NPTF or ¼-18 NPTF

Mounting Brackets



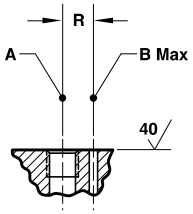
Bracket Dimensions

	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)	½ 20 UNF	.31 (8)	⅛-27 NPTF or ¼-18 NPTF



Manifold Mount Interface

	A	B	R
Series 6	½ - 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

★9★1★★2–★★–★★★★

Prefix (optional)	Substitute
Isolated 2WNC only *	G
Oxygen Service	Y
Porting	**Substitute**
Manifold Mount	6
#10-32 UNF	7
Body	**Substitute**
Stainless Steel	0
Brass	1
Operator	3
ECTFE	8*
Acrylic	9*

* Isolated Version Only

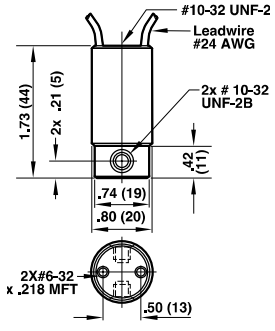
Voltage	
5 VDC	
12 VDC	
15 VDC	
24 VDC	
Seal	**Substitute**
Buna	01
Fluorocarbon	02
EPR*	13
Function	**Substitute**
2 WNC	1
2 WNO	2
3 WNC	4
3 WNO	5
3 WMP	6
3 WDC	7

*Coils are standard Class B construction

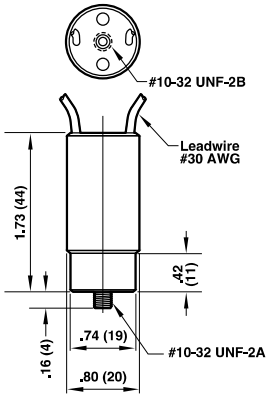
Series 9

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



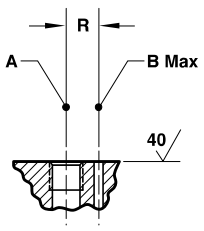
Series 9 Manifold Mount



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

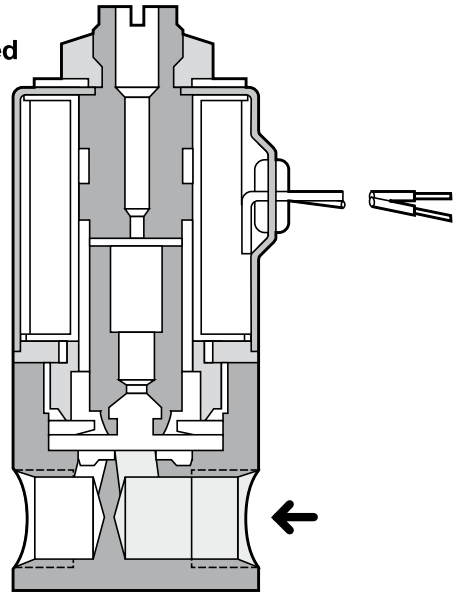
Two valves can be combined on a common base for 3-way operation

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

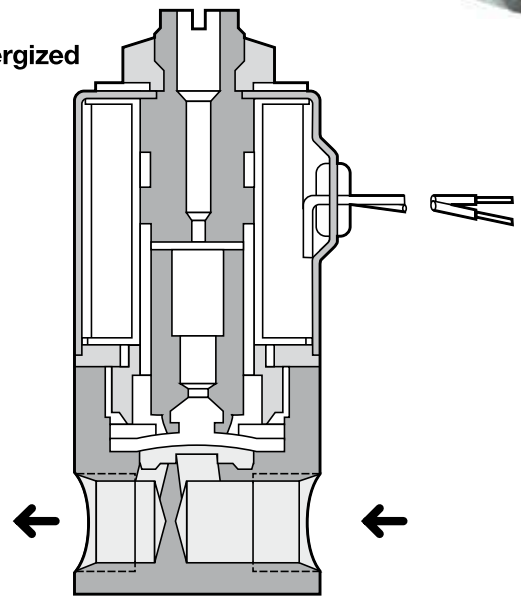
Complete line of standard manifold designs and materials

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

De-Energized



Energized



Series 1, 2 & 6

G 2 7 9 6 1 2 - 0 2 6 1 - 12 VDC

PREFIXES
G = Isolated

SERIES
1 = Series 1
2 = Series 2
6 = Series 6

PORT
4 = 1/8" NPT
5 = 1/4" NPT (Series 6* only)
7 = #10-32 UNF
8 = 1/4-28 UNF

HOUSING
1 = Grommet
2 = Conduit
3 = Yoke
9 = Slotted

BODY MATERIAL
3 = Operator
4 = Acetal
5 = PVC
6 = PVDF

FUNCTION
1 = 2WNC

ORIFICE
0 = 1/32"
1 = 3/64"
2 = 1/16"
3 = 5/64"
4 = 3/32"
5 = 1/8"
6 = 5/32"
7 = 3/16" (Series 6* only)
8 = 1/4" (Series 6* only)

SEAL
02 = Fluorocarbon
13 = EPR* (Series 1, 2)

COIL OPTIONS

VOLTAGE
12 VDC
24 VDC
110 VDC
24-50-60
120-50-60
240-50-60

* 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	✔	✔	✔	✔

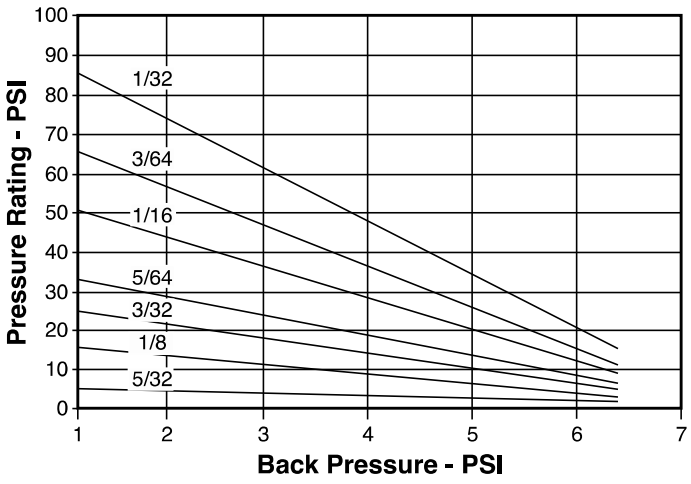
	Orifice Diameter	Cv Value	MOPD	Standard Valve Body		
				PVDF	Acetal	PVC
Series 1	1/32"	0.025	95	G141610	G141410	G141510
	3/64"	0.045	75	G141611	G141411	G141511
	1/16"	0.075	55	G141612	G141412	G141512
	5/64"	0.115	35	G141613	G141413	G141513
	3/32"	0.155	25	G141614	G141414	G141514
	1/8"	0.210	15	G141615	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

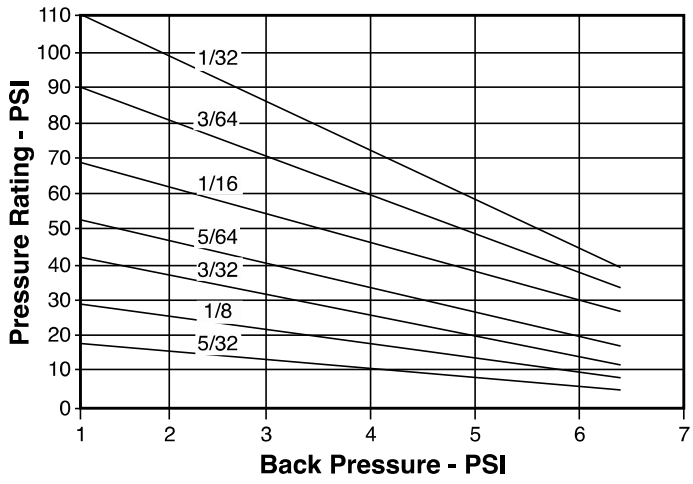
Diaphragm Isolation Valves have a large difference in pressure area between open and closed, creating a sensitivity to back pressure. Excessive back pressure can hinder the closing of the valve. Please use the back pressure charts below to deetermine the maximum operating pressure of the valve based 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.

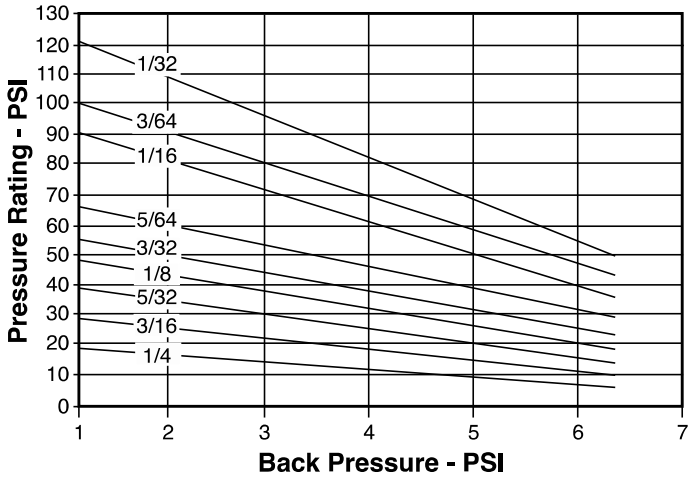
Series 1 Isolation Valves



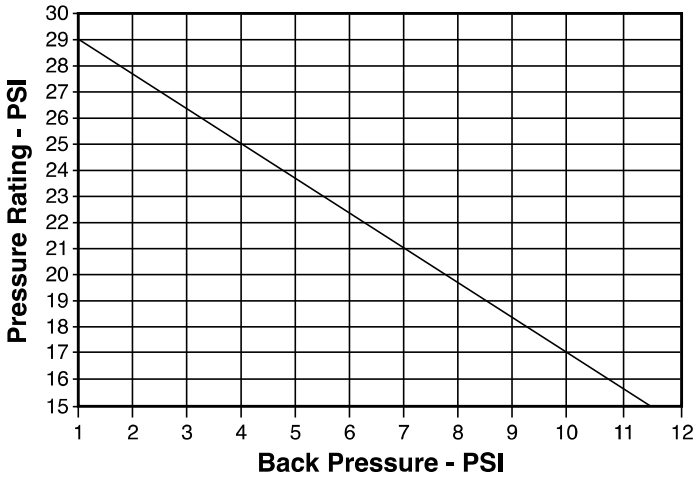
Series 2 Isolation Valves



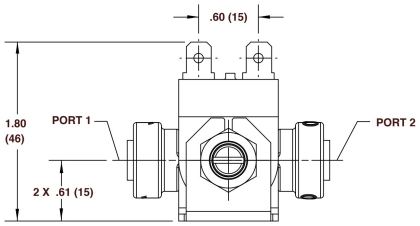
Series 6 Isolation Valves

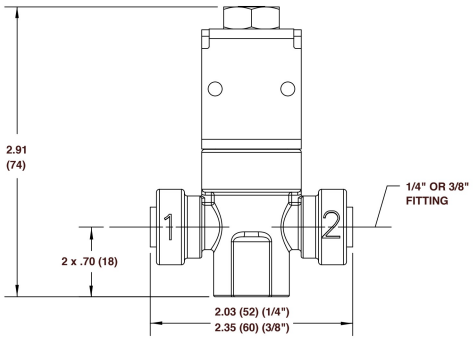


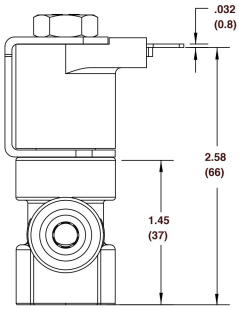
Series 9 Isolation Valves

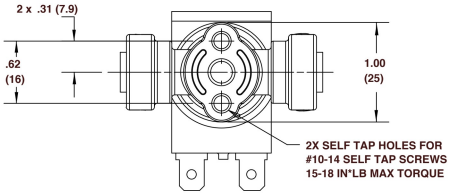


Q2 Quick-Connect Plastic Body Valve
Durable, lightweight plastic body
Quick push-to-connect fittings
NSF and cURus (UL and CSA) Certified
Minimal Pressure drop









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

Coil Orientation Options

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

Valve Inquiry Application Sheet

Copy this page. Fill in the blanks.
Fax it to IMI Norgren at (860) 677-4999
Call us at 1-800-722-5547
Date ____/____/____

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 _____