



The Series 188 is a 3 Way, 10 mm wide micro solenoid valve designed to be used in fluid power applications. Using air or other neutral gasses the Series 188 can be used to pilot other valves or cylinders.

- Compact manifold design saves space and reduces assembly time.
- Low power consumption.
- LED and electrical protection comes standard.
- Manual override.

**Construction**

Valve Parts in Contact with Fluids	
Body	Manifold Mount: Polyamide (PA), In-line: Brass
Diaphragm	Nitrile (NBR)
Internal Parts	Brass & Stainless Steel
Manifold	Anodized Aluminum

**Electrical**

Standard Voltages	12 VDC or 24 VDC
Power Consumption	1 Watt
Duty Cycle Rating	Continuous
Coil Insulation	Class F
Ambient Temperature	41°F to 122°F (5°C to 50°C)
Electrical Connection	Clip type with lead wires, LED and diode protection.
Protection Rating	IP40

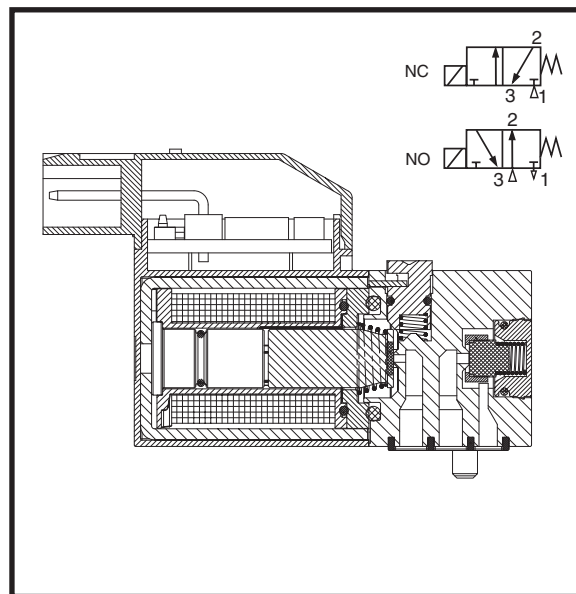
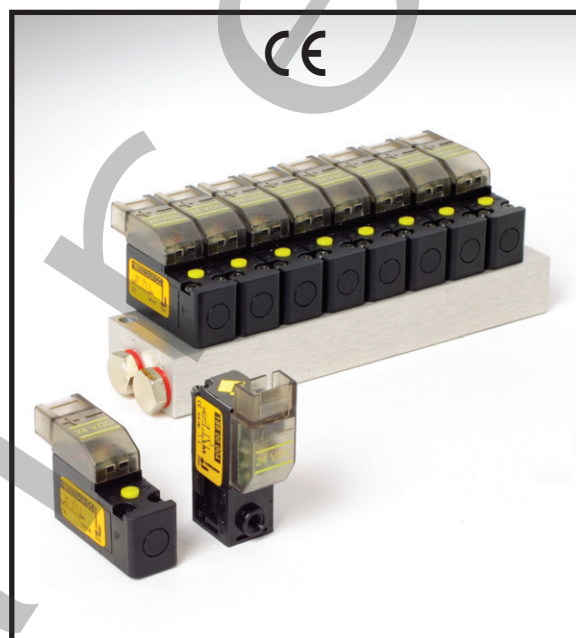
Connectors sold separately (see next page)

**Valve**

Response Time	Approx. 6 ms on, 8 ms off
Fluid Temperature	41°F to 122°F (5°C to 50°C)

**Solenoid Valves Assembled to Manifolds**

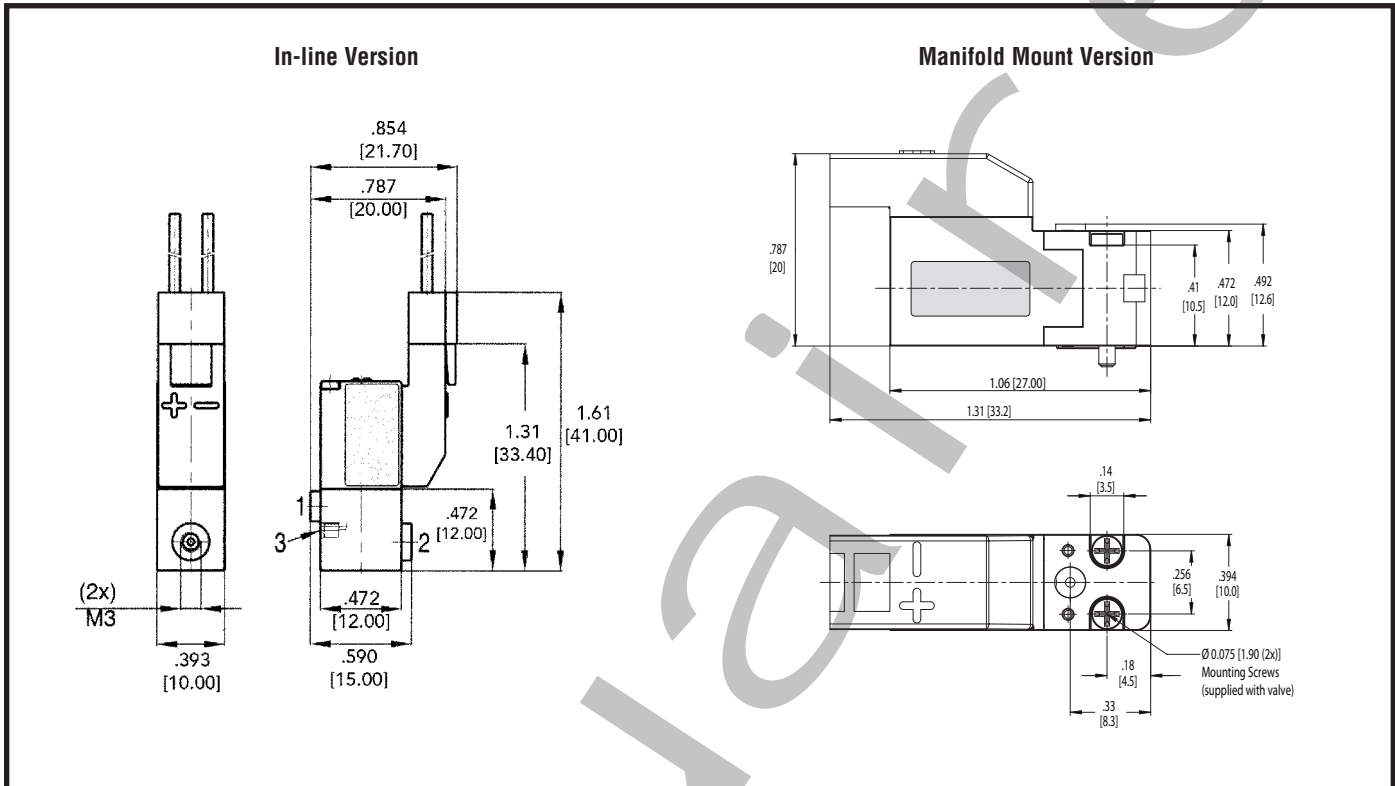
# of Valves	Cat. No.	# of Valves	Cat. No.	# of Valves	Cat. No.
2	18800054	5	18800057	8	18800060
3	18800055	6	18800058	9	18800061
4	18800056	7	18800059	10	18800062



**Specifications - Valve only**

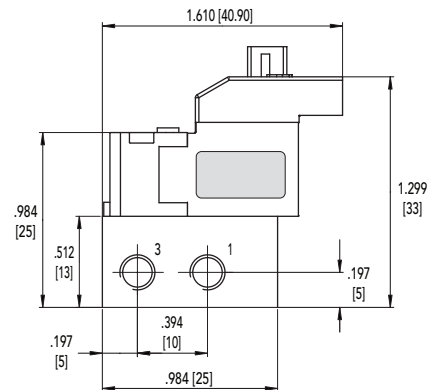
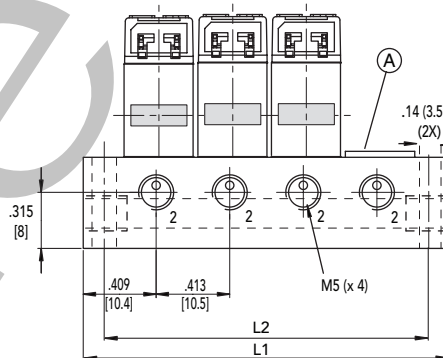
Ports	Orifice Size (ins.)	Cv Flow Factor	Min.	Differential Pressure (psi)		Catalog Numbers	Power (Watts)	Weight (oz)
				Max. Gases	Max. Liquids			
<b>In-Line Version</b>								
M3	0.024	0.008	0	115	0	18801004	1.3	0.388
<b>Manifold Mount Version - Normally Closed</b>								
-	0.020	0.008	0	115	0	18801003	1.3	0.388
-	0.031	0.010	0	58	0	18801081	1.3	0.388
-	0.031	0.010	0	58	0	18801081	1.3	0.388
<b>Manifold Mount Version - Normally Open</b>								
-	0.020	0.008	0	87	0	18801003	1.3	0.388
-	0.031	0.010	0	44	0	18801081	1.3	0.388
-	0.039	0.012	0	22	0	18801086	1.3	0.388

Dimensions: Inches [mm]



**Solenoid valves assembled to manifolds**  
( Normally closed, 0.020" orifice only.  
Consult ASCO for alternative configurations)

No. of Valves	Catalog Number	Length		Total Weight (oz)
		L1	L2	
2	18800054	1.32	1.08	2.08
3	18800055	1.73	1.50	3.18
4	18800056	2.15	1.91	4.27
5	18800057	2.56	2.32	5.37
6	18800058	2.97	2.74	6.46
7	18800059	3.39	3.15	7.48
8	18800060	3.80	3.56	8.51
9	18800061	4.21	3.98	9.60
10	18800062	4.63	4.39	10.70



A - Blanking Plate, Catalog # 881 35 305

The connectors should be ordered **separately**.  
Connectors with 2 lead wires

Length	Catalog Number
0.5m	881 18 801
1.5m	881 18 802
3m	881 18 803



## 3 Way Miniature Solenoid Valves

15 mm wide, Manifold Mount Construction

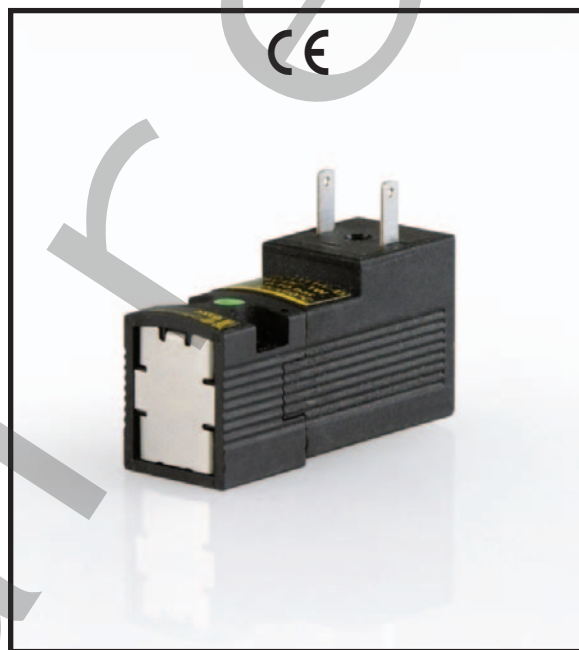


The Series 302 is a 3 Way, 15 mm wide, manifold mount solenoid valve designed to control the flow of air or inert gases to small cylinders or actuators. The Series 302 offers the following benefits:

- Compact 15 mm, manifold design saves space and reduces assembly time.
- Low power consumption (0.5W).
- Built-in LED for indication of electrical operation.
- Built-in surge suppression to protect sensitive equipment.
- Manual operator for testing and troubleshooting.

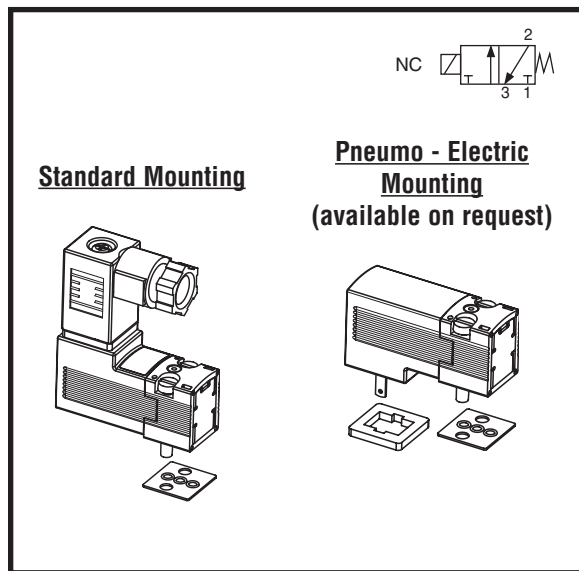
### Construction

Valve Parts in Contact with Fluids	
Body	IXEF (polyarylamide)
Seals	NBR, FKM
Internal Solenoid Components	POM, PET, stainless steel, brass
Manifold Interface Seal	Hytrel



### Electrical

Standard Voltage	5, 12, 24, 48- VDC +10%, -15% (Leaded version available in 24 VDC only. AC voltages available upon request)
Power Consumption	0.5, 1.0, 2.0 Watts (Nominal ratings without LED and surge suppression. Add 0.15W for versions with LED and surge suppression)
Duty Cycle Rating	Continuous
Coil Insulation	Class F
Ambient Temperature	See ambient temperature table.
Electrical Connection	AMP 2.8 x 0.5 with 9.4 mm spacing ISO 15217/DIN 43650C. 12" Lead wires
DIN Connector	Size 9.4 mm, Form C (supplied with valve)
Protection Rating	IP65 with DIN Plug Connector



### Valve

Fluid Temperature 0.5 & 2.0 Watt Coil 1.0 Watt Coil	14° F to 104° F (-10° C to 40° C) -13° F to 104° F (-25° C to 40° C)
Suitable Media	Air or inert gases filtered at 50µm, lubricated or not lubricated
Response Time	8 - 15 ms open or close
Manifold Mounting	CNOMO, 15 mm wide
Manual Operators	Momentary – push in and hold Maintained – screw type

### Ambient Temperature Ratings

Power	Version	Single Valve or 15mm space between valves	Valves stacked side by side
0.5 W	Standard	14° F to 122° F	14° F to 122° F
0.65 W	LED/Surge	14° F to 122° F	14° F to 122° F
1.0 W	Standard	-13° F to 140° F	-13° F to 140° F
1.15 W	LED/Surge	-13° F to 140° F	-13° F to 140° F
2.0 W	Standard	14° F to 122° F	14° F to 104° F
2.15 W	LED/Surge	14° F to 104° F	-

## Specifications

### Leaded Coil with LED & Surge Suppression

Orifice Size (ins.)	Cv Flow Factor		Operating Pressure Differential		Catalog Number		Constr. Ref.	Power (Watts)	Weight (oz.)
	182	283	Min.	Max.	Momentary Manual Operator	Sustained Manual Operator			
.024	.014	.030	0	116	30213106	30213107	1	0.65	1.7
.024	.014	.030	0	145	30213109	30213110	1	1.15	1.7
.031	.025	.033	0	116	30213112	30213113	1	1.15	1.7
.043	.036	.062	0	73	30213118	30213119	1	1.5	1.7
.059	.050	.064	0	44	30213124	30213125	1	1.15	1.7

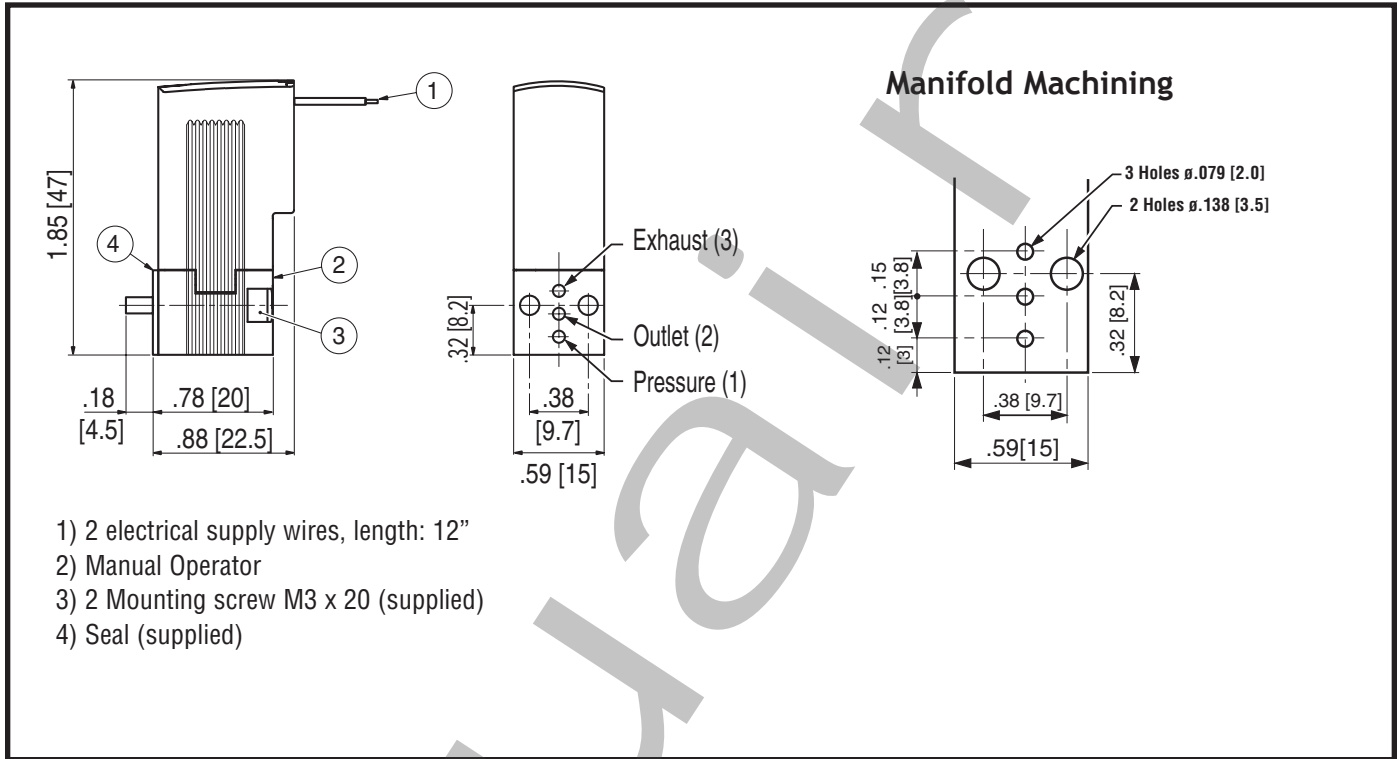
### DIN & AMP Spade Terminal Coils

Orifice Size (ins.)	Cv Flow Factor		Operating Pressure Differential		Catalog Number		Constr. Ref.	Power (Watts)	Weight (oz.)
	182	183	Min.	Max.	Momentary Manual Operator	Sustained Manual Operator			
.024	.014	.030	0	116	3021X106--P	3021X107--P	2	0.5	1.7
.024	.014	.030	0	145	3021X109--P	3021X110--P	2	1.0	1.7
.031	.025	.033	0	116	3021X112--P	3021X113--P	2	1.0	1.7
.043	.036	.062	0	73	3021X118--P	3021X119--P	2	1.0	1.7
.043	.036	.062	0	145	3021X121--P	3021X122--P	2	2.0	1.7
.059	.050	.064	0	44	3021X124--P	3021X125--P	2	1.0	1.7
.059	.050	.064	0	87	3021X127--P	3021X128--P	2	2.0	1.7

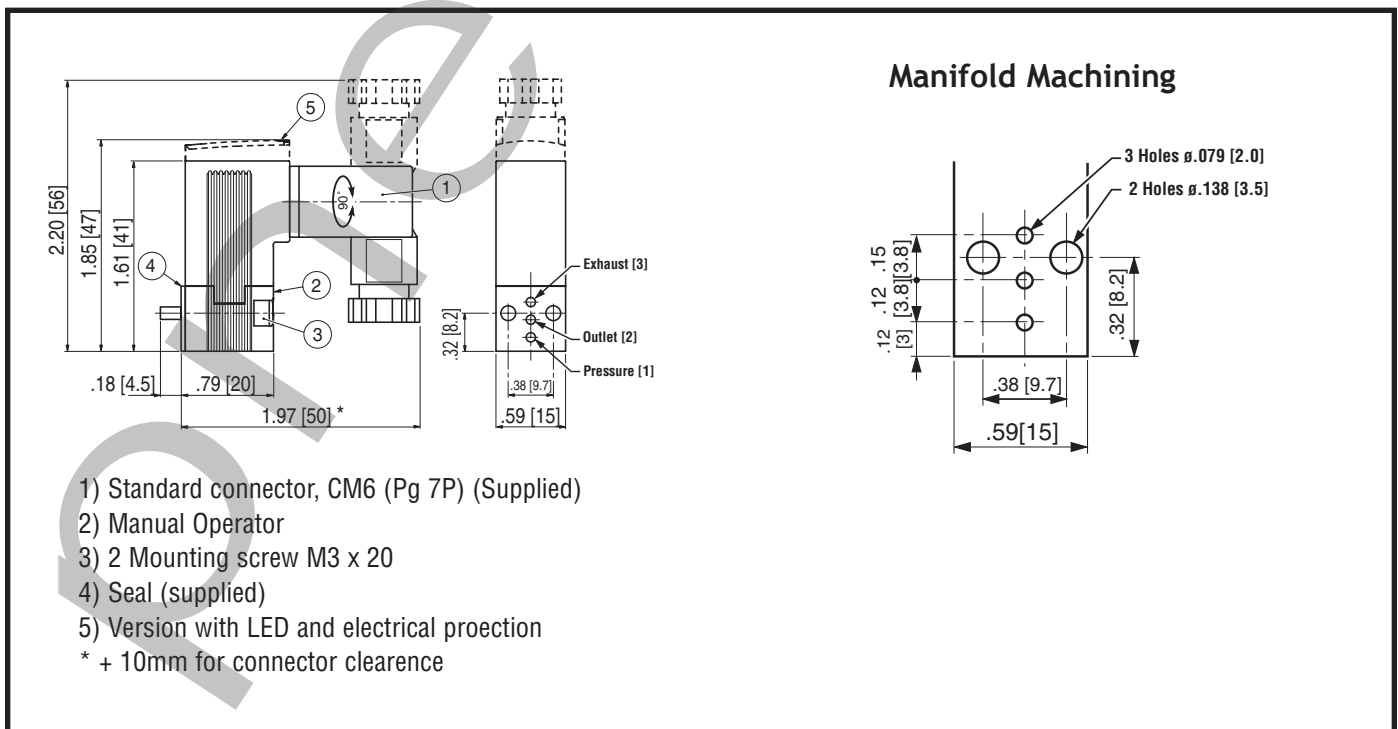
X	
0	connector ISO 15217/DIN 43650C
1	connector AMP 2.8x0.5, 9.4 mm spacing
4	connector ISO 15217/DIN 43650C + LED/Surge
5	connector AMP 2.8x0.5, 9.4 mm spacing + LED/Surge

Dimensions: Inches [mm]

Constr. Ref. 1



Constr. Ref. 2



Only 1/2" in diameter the Series 407C valves are suitable for a wide range of OEM applications where small size, low power, and light weight are required.

- Corrosion resistant materials of construction.
- Bib porting for use with 1/16" soft tubing.
- Magnetic latching construction available to maintain valve position with loss of power, eliminate coil heat rise and extend battery life.

### Construction

Valve Parts in Contact with Fluids	
Body	POM
Disc	NBR or FKM
Gaskets	NBR or FKM
Bobbin/CoreTube	PPS
Core and Plugnut	400 Series Stainless Steel
Springs	300 Series Stainless Steel

### Electrical

Standard Voltages	6, 12, 24 VDC+ 10%, -5%
Power Consumption	1.5-2.5 Watts (10 watts for latching version)
Duty Cycle Rating	Continuous (Intermittent for latching version)
Coil Insulation	266°F (130°C)
Electrical Connection	26 gage lead wire

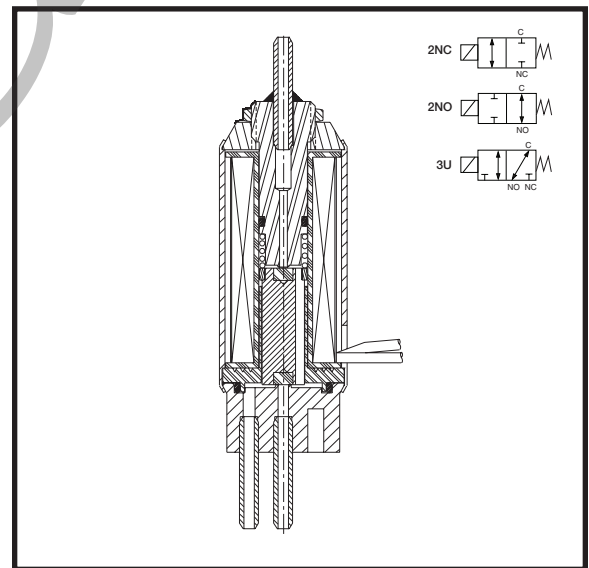
### Valve

Response Time	~4 ms at rated voltage
Internal Volume	2 Way NC = 90µL, 2 Way NO = 110µL, 3 Way = 120µL
Mounting Bracket	Optional mounting clip, pin S188-C3 (see drawing)
Options	<ul style="list-style-type: none"> <li>• Oxygen service construction available</li> <li>• Lubricant free construction available</li> </ul>

### Alternative Constructions

Many alternative constructions are available and include a variety of voltages, electrical connectors and materials of construction. ASCO Scientific can also custom design a valve for your specific application.

Contact your local ASCO sales office for more information.



### Temperature Range:

Ambient & Media:  
32°F to 77°F (0°C to 25°C) continuous duty  
up to 104°F (40°C) intermittent duty

### Approvals:

Meets applicable CE directives.

Specifications

Ports	Orifice Size (ins.)	Cv Flow Factor	Maximum Pressure (psi)	Catalog Number	Watt Rating @ 20°C	Weight (oz.)
<b>2 WAY NORMALLY CLOSED (Closed when de-energized)</b>						
Bibs for 1/16" ID Tubing	0.040	0.022	100	407C14xx100N	2.5	.67
Bibs for 1/16" ID Tubing	0.040	0.022	50	407C14xx050N	1.5	.67
<b>2 WAY NORMALLY OPEN (Open when de-energized)</b>						
Bibs for 1/16" ID Tubing	0.038	0.020	100	407C24xx100N	2.5	.67
Bibs for 1/16" ID Tubing	0.038	0.020	50	407C24xx050N	1.5	.67
<b>3 WAY UNIVERSAL OPERATION (Pressure at any port)</b>						
Bibs for 1/16" ID Tubing	0.040/0.038	0.022/0.020	100	407C34xx100N	2.5	.67
Bibs for 1/16" ID Tubing	0.040/0.038	0.022/0.020	50	407C34xx050N	1.5	.67
<b>2 WAY LATCHING</b>						
Bibs for 1/16" ID Tubing	0.040	0.022	100	407C14xx100NL**	10*	.67
Bibs for 1/16" ID Tubing	0.040	0.022	100	407C24xx100NL***	10*	.67
<b>3 WAY LATCHING</b>						
Bibs for 1/16" ID Tubing	0.040/0.038	0.022/0.020	100	407C34xx100NL	10*	.67
<b>Notes</b>						
"xx" Denotes place in catalog number for voltage						
* Latching valves are designed for intermittent duty only. Wattage rating applies to 20 – 30 ms duration required to actuate valve. Once switched no additional power is required to hold the valve in its position.						
** Flow Path through body (between NC and common ports)						
*** Flow Path between common port and NO port (top of valve)						

Catalog Number Description and Options

<b>407C34</b>	<b>xx</b>	<b>100</b>	<b>N</b>	<b>L</b>	<b>O</b>
Base Catalog Number	Voltage - 06 (DC) - 12 (DC) - 24 (DC)	Base Catalog Number (2nd Part)	Seals N= NBR V= FKM	Latching Suffix	Options Suffix O = No Lubricant K = Oxygen Service Construction PBT Valve Body, PPS Bobbin, FKM Seals, PFPE Lubricant

To Construct Catalog Number

- Select base catalog number
- Insert voltage into the 7<sup>th</sup> and 8<sup>th</sup> digits denoted by "xx"
- Insert "N" (NBR) or "V" (FKM) into 12<sup>th</sup> digit to select seal material
- Add suffix for optional features to end of base catalog number

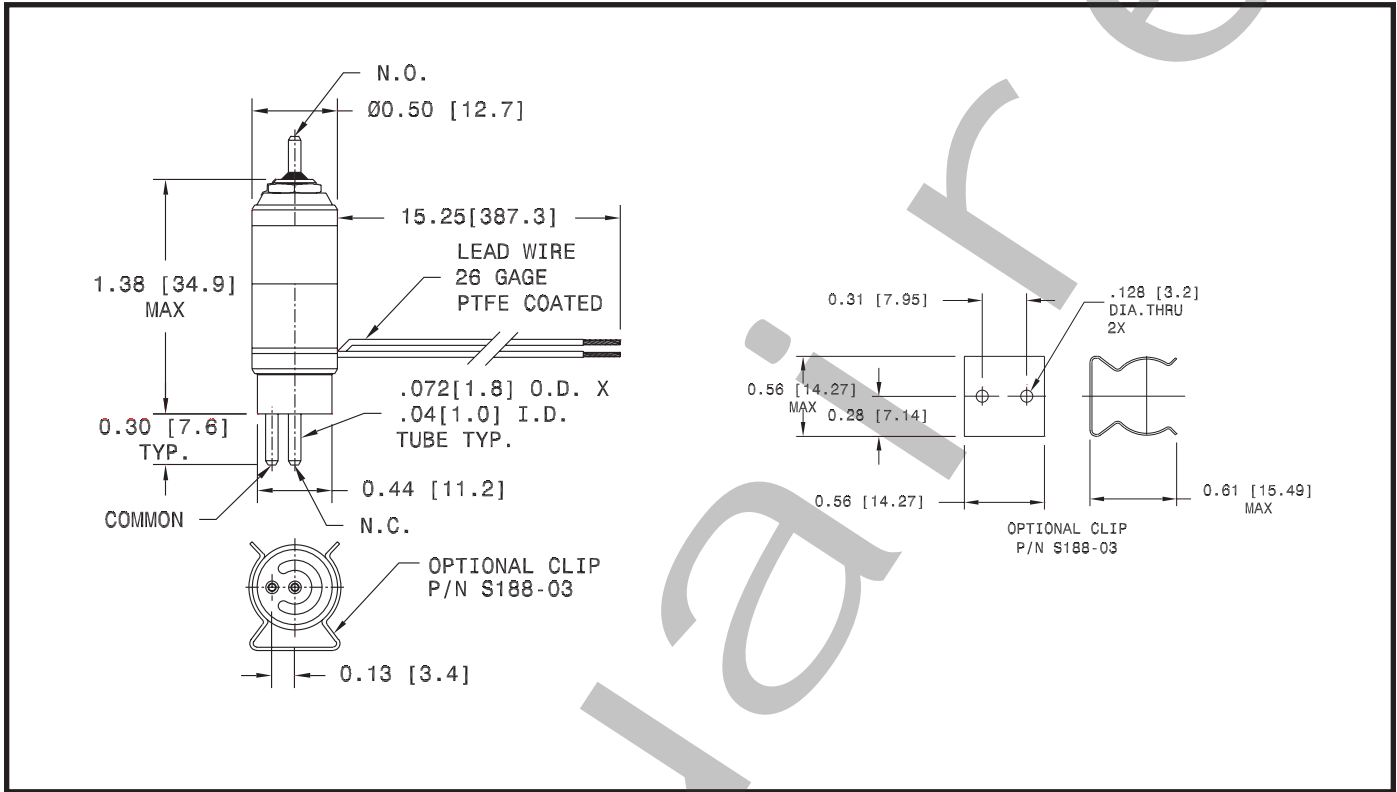
Examples

407C1424100N = 2 Way Normally Closed valve with 0.040" orifice, 100 psig maximum pressure rating, and 24 VDC coil rated at 2.5 Watts

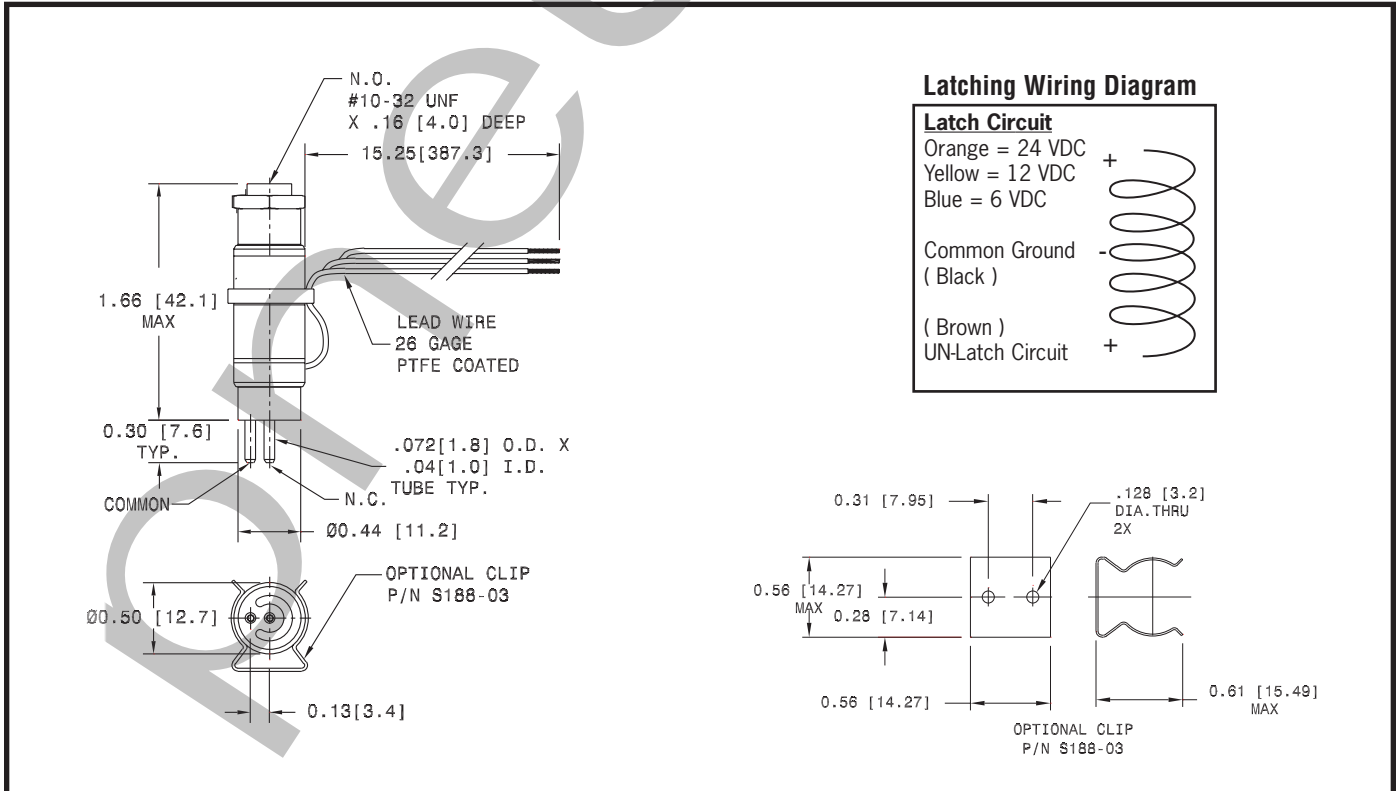
407C3406100VLO = 3 Way Latching valve with 0.040" and 0.038" orifices, 100 psig maximum pressure rating, 6 VDC coil suitable for oxygen service



Dimensions 2 and 3 way Standard Solenoid: Inches [mm]



Dimensions 2 and 3 way Latching Solenoid: Inches [mm]





# ASCO SCIENTIFIC®

Only 1/2" in diameter the Series 407M valves are suitable for a wide range of OEM applications where small size, low power, and light weight are required.

- Manifold mount construction allows for easy assembly.
- Corrosion resistant materials of construction
- Magnetic latching construction available to maintain valve position with loss of power, eliminate coil heat rise and extend battery life.

## Construction

Valve Parts in Contact with Fluids	
Body	300 Series Stainless Steel
Disc	NBR or FKM
Gaskets	NBR or FKM
Bobbin/CoreTube	PPS
Core and Plugnut	400 Series Stainless Steel
Springs	300 Series Stainless Steel

## Electrical

Standard Voltages	6, 12, 24 VDC + 10%, -5%
Power Consumption	1.5-2.5 Watts (10 watts for latching version)
Duty Cycle Rating	Continuous (Intermittent for latching version)
Coil Insulation	266°F (130°C)
Electrical Connection	26 gage lead wire

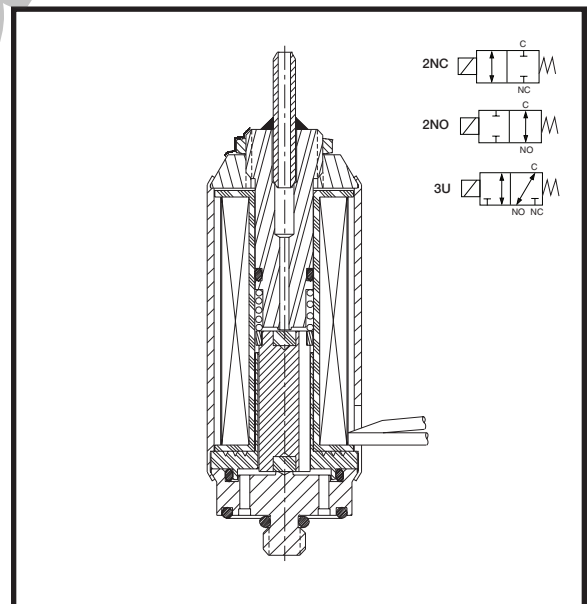
## Valve

Response Time	~4 ms at rated voltage
Internal Volume	2 Way NC = 70 $\mu$ , 2 Way NO = 100 $\mu$ , 3 Way = 110 $\mu$
Options	<ul style="list-style-type: none"> <li>• Oxygen service construction available</li> <li>• Lubricant free construction available</li> </ul>

## Alternative Constructions

Many alternative constructions are available and include a variety of voltages, electrical connectors and materials of construction. ASCO Scientific can also custom design a valve for your specific application.

Contact your local ASCO sales office for more information.



## Temperature Range:

Ambient & Media:  
32°F to 77°F (0°C to 25°C) continuous duty  
up to 104°F (40°C) intermittent duty

## Approvals:

Meets applicable CE directives.

### Specifications

Mounting Stud	Orifice Size (ins.)	Cv Flow Factor	Maximum Pressure (psi)	Catalog Number	Watt Rating @ 20 °C	Weight (oz.)
<b>2 WAY NORMALLY CLOSED (Closed when de-energized)</b>						
#6-32 UNC	0.040	0.022	100	407M14xx100N	2.5	.7
#6-32 UNC	0.040	0.022	50	407M14xx050N	1.5	.7
<b>2 WAY NORMALLY OPEN (Open when de-energized)</b>						
#6-32 UNC	0.038	0.020	100	407M24xx100N	2.5	.7
#6-32 UNC	0.038	0.020	50	407M24xx050N	1.5	.7
<b>3 WAY UNIVERSAL OPERATION (Pressure at any port)</b>						
#6-32 UNC	0.040/0.038	0.022/0.020	100	407M34xx100N	2.5	.7
#6-32 UNC	0.040/0.038	0.022/0.020	50	407M34xx050N	1.5	.7
<b>2 WAY LATCHING</b>						
#6-32 UNC	0.040	0.022	100	407M14xx100NL**	10*	.7
#6-32 UNC	0.040	0.022	100	407M24xx100NL***	10*	.7
<b>3 WAY LATCHING</b>						
#6-32 UNC	0.040/0.038	0.022/0.020	100	407M34xx100NL	10*	.7
<b>Notes</b>						
**xx* Denotes place in catalog number for voltage						
* Latching valves are designed for intermittent duty only. Wattage rating applies to 20 – 30 ms duration required to actuate valve. Once switched no additional power is required to hold the valve in its position.						
** Flow Path through body (between NC and common ports)						
*** Flow Path between common port and NO port (top of valve)						

### Catalog Number Description and Options

<b>407M34</b>	<b>xx</b>	<b>100</b>	<b>N</b>	<b>L</b>	<b>O</b>
Base Catalog Number	Voltage - 06 (DC) - 12 (DC) - 24 (DC)	Base Catalog Number (2nd Part)	Seals N= NBR V= FKM	Latching Suffix	Options Suffix O = No Lubricant K = Oxygen Service Construction 300 Series stainless steel body, PPS Bobbin,FKM Seals, PFPE lubricant

### To Construct Catalog Number

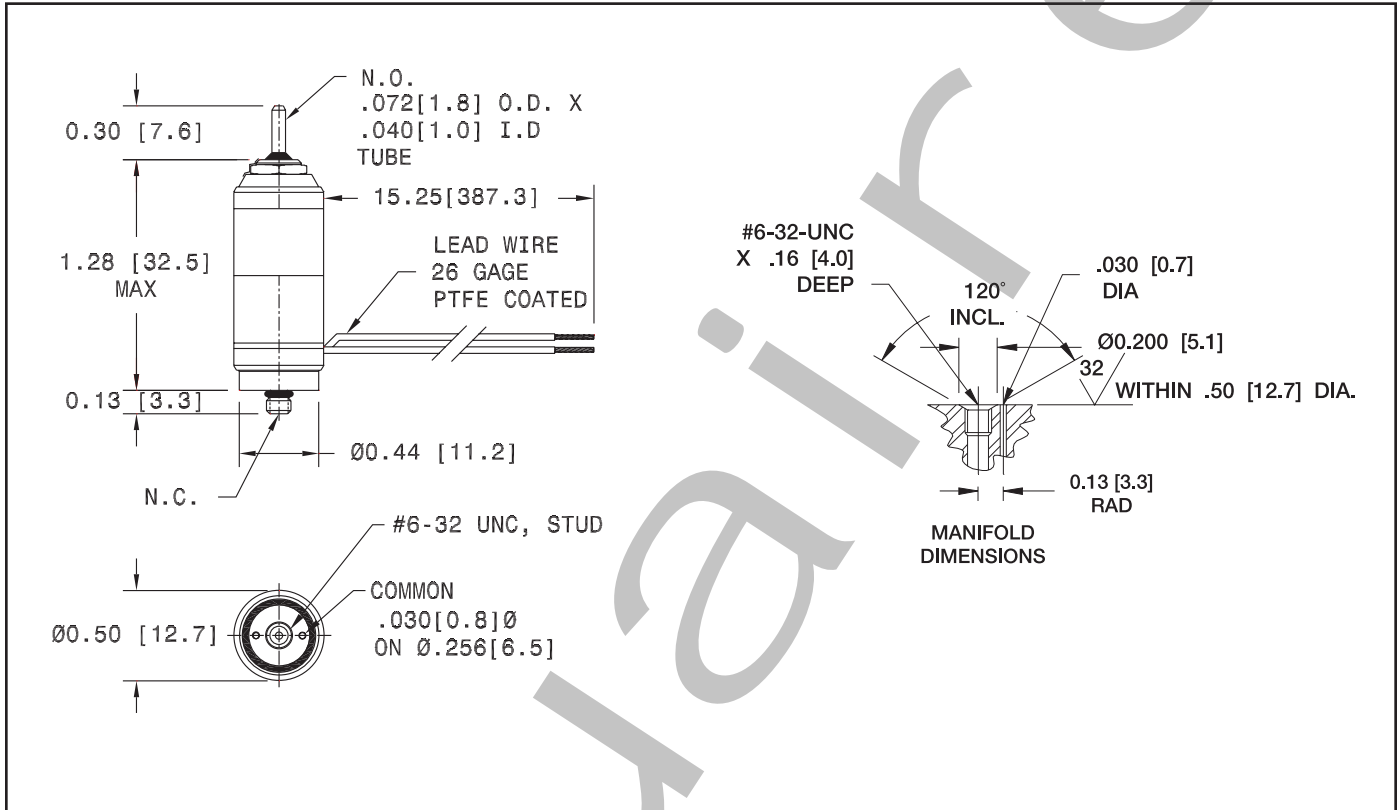
- Select base catalog number
- Insert voltage into the 7<sup>th</sup> and 8<sup>th</sup> digits denoted by “xx”
- Insert “N” (NBR) or “V” (FKM) into 12<sup>th</sup> digit to select seal material
- Add suffix for optional features to end of base catalog number

### Examples

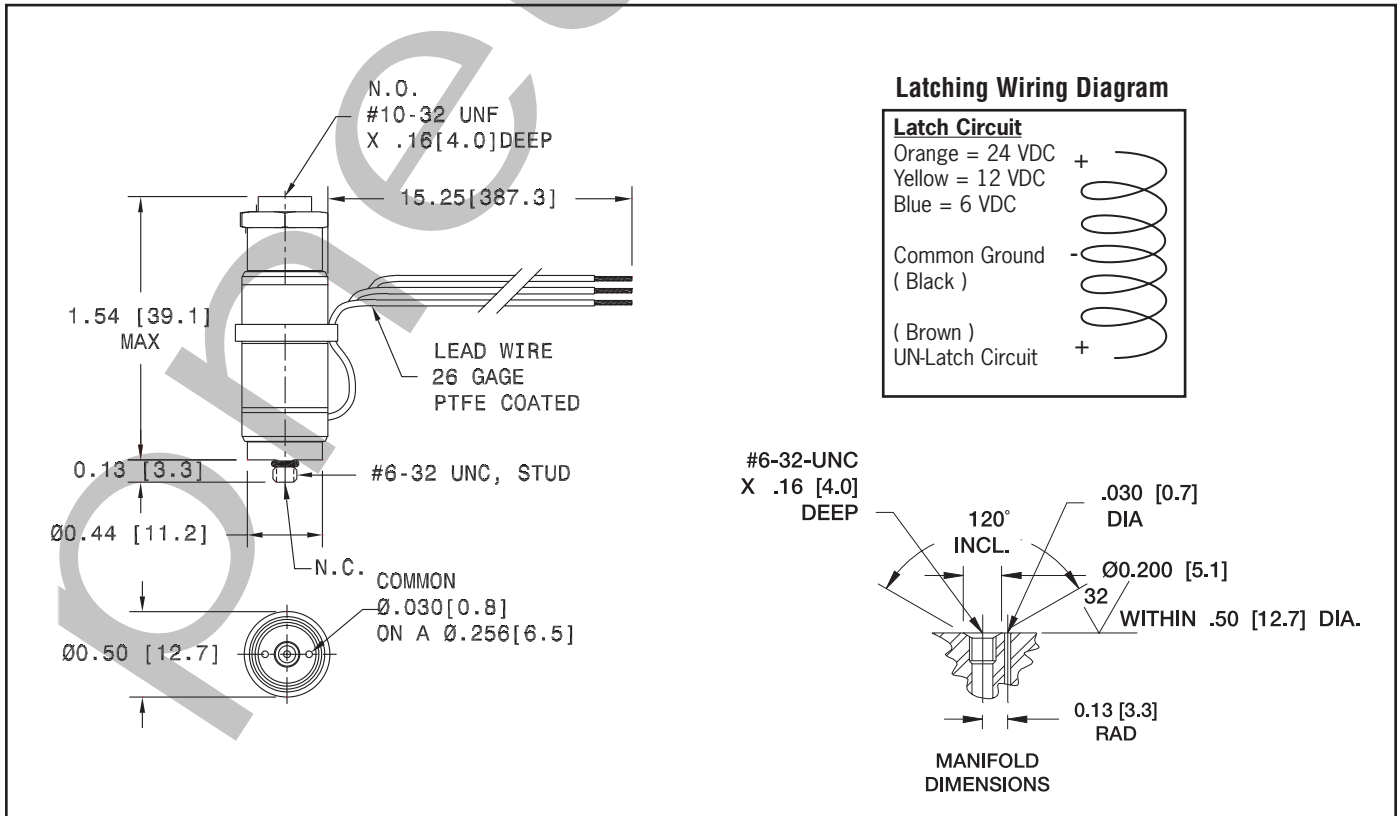
407M1424100N = 2 Way Normally Closed valve with 0.040" orifice, 100 psig maximum pressure rating, and 24 VDC coil rated at 2.5 Watts.

407M3406100VLO = 3 Way Latching valve with 0.040" and 0.038" orifices, 100 psig maximum pressure rating, 6 VDC coil suitable for oxygen service.

Dimensions 2 and 3 way Standard Solenoid: Inches [mm]



Dimensions 2 and 3 way Latching Solenoid: Inches [mm]



The Series AL Valves are suitable for a wide range of OEM applications where small size, low power and long life are a must.

- Cycle life in the hundreds of millions.
- Corrosion resistant materials of construction.
- In-line porting for use with standard metal or plastic #10-32 UNF fittings.
- Magnetic latching construction available to maintain valve position with loss of power, eliminate coil heat rise and extend battery life.

### Construction

Valve Parts in Contact with Fluids	
Body	POM or 300 Series Stainless Steel
Disc	FKM
Gaskets	FKM
Bobbin/CoreTube	PBT
Core and Plugnut	400 Series Stainless Steel
Springs	300 Series Stainless Steel

### Electrical

Standard Voltages	6, 12, 24 VDC + 10%, -5% 115 VAC (with rectifier in lead wires)
Power Consumption	0.65-2.0 Watts (10 watts for latching version)
Duty Cycle Rating	Continuous (Intermittent for latching version)
Coil Insulation	266°F (130°C)
Electrical Connection	26 gage lead wire

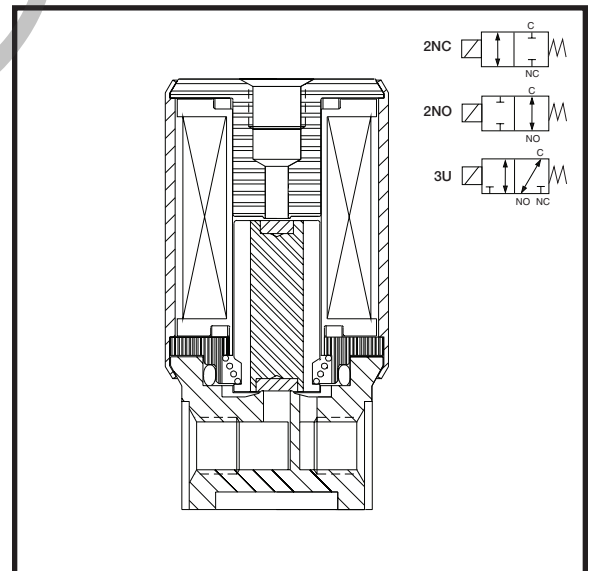
### Valve

Response Time	~5 ms at rated voltage (2 watt coil) ~12 ms at rated voltage (0.65 watt coil)
Internal Volume	2 Way NC = 330 µL, 2 Way NO = 310 µL, 3 Way = 370 µL
Mounting Bracket	Optional mounting clip, pin 5188-02 (see drawing)
Options	<ul style="list-style-type: none"> <li>• Oxygen service construction available</li> <li>• Lubricant free construction available</li> </ul>

### Alternative Constructions

Many alternative constructions are available and include a variety of voltages, electrical connectors and materials of construction. ASCO Scientific can also custom design a valve for your specific application.

Contact your local ASCO sales office for more information.



### Temperature Range:

Ambient & Media:

32°F to 77°F (0°C to 25°C) continuous duty  
up to 104°F (40°C) intermittent duty

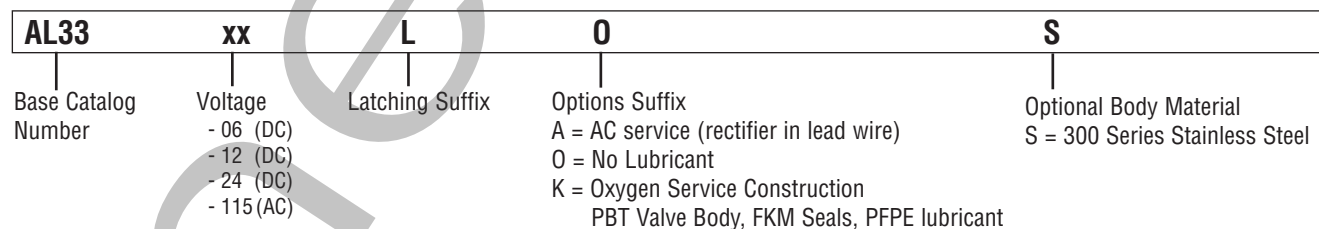
### Approvals:

Meets applicable CE directives.

Specifications

Ports	Orifice Size (ins.)	Cv Flow Factor	Maximum Pressure (psi)	Catalog Number	Watt Rating @ 20°C	Weight (oz.)
<b>2 WAY NORMALLY CLOSED (Closed when de-energized)</b>						
#10-32 UNF	0.025	0.015	110	AL11xx	0.65	1.3
#10-32 UNF	0.055	0.038	50	AL21xx	0.65	1.3
#10-32 UNF	0.055	0.038	100	AL31xx	2.0	1.3
#10-32 UNF	0.090	0.07	30	AL41xx	2.0	1.3
<b>2 WAY NORMALLY OPEN (Open when de-energized)</b>						
#10-32 UNF	0.025	0.013	110	AL12xx	0.65	1.3
#10-32 UNF	0.048	0.033	50	AL22xx	0.65	1.3
#10-32 UNF	0.048	0.033	100	AL32xx	2.0	1.3
#10-32 UNF	0.078	0.06	30	AL42xx	2.0	1.3
<b>3 WAY UNIVERSAL OPERATION (Pressure at any port)</b>						
#10-32 UNF	0.025/0.025	0.015/0.013	110	AL13xx	0.65	1.3
#10-32 UNF	0.055/0.048	0.038/0.033	50	AL23xx	0.65	1.3
#10-32 UNF	0.055/0.048	0.038/0.033	100	AL33xx	2.0	1.3
#10-32 UNF	0.090/0.078	0.07/0.06	30	AL43xx	2.0	1.3
<b>2 WAY LATCHING</b>						
#10-32 UNF	0.025	0.015	110	AL11xxL	10*	1.8
#10-32 UNF	0.055	0.038	100	AL31xxL	10*	1.8
#10-32 UNF	0.090	0.07	30	AL41xxL	10*	1.8
<b>3 WAY LATCHING</b>						
#10-32 UNF	0.025/0.025	0.015/0.013	110	AL13xxL	10*	1.8
#10-32 UNF	0.055/0.048	0.038/0.033	100	AL33xxL	10*	1.8
#10-32 UNF	0.090/0.078	0.07/0.06	30	AL43xxL	10*	1.8
<b>Notes</b>						
*xx* Denotes place in catalog number for voltage, three characters may be used when required.						
* Latching valves are designed for intermittent duty only. Wattage rating applies to 20 – 30 ms duration required to actuate valve. Once switched no additional power is required to hold the valve in its position.						

Catalog Number Description and Options



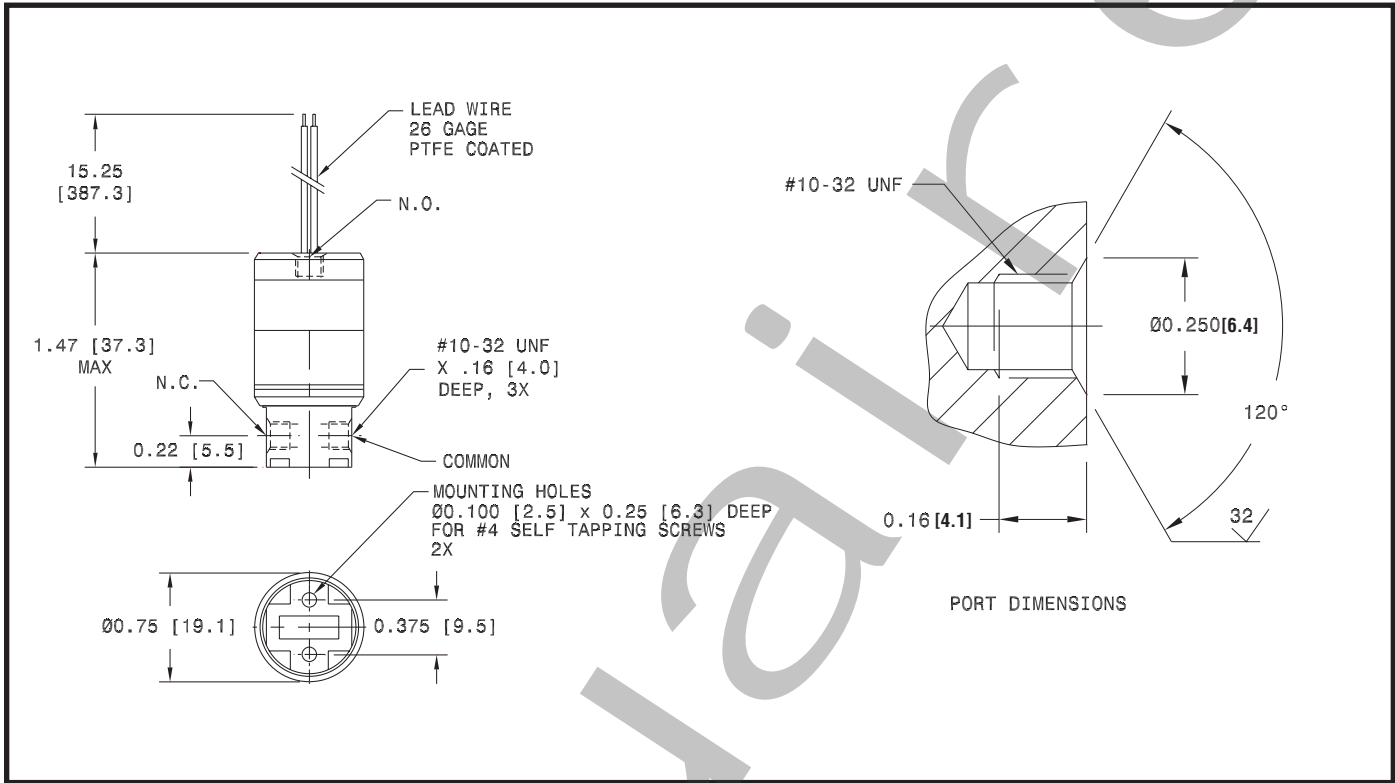
To Construct Catalog Number

- Select base catalog number
- Insert voltage into the 5th, 6th, (and 7th when required), digits denoted by “xx”
- Add suffix for optional features to end of base catalog number

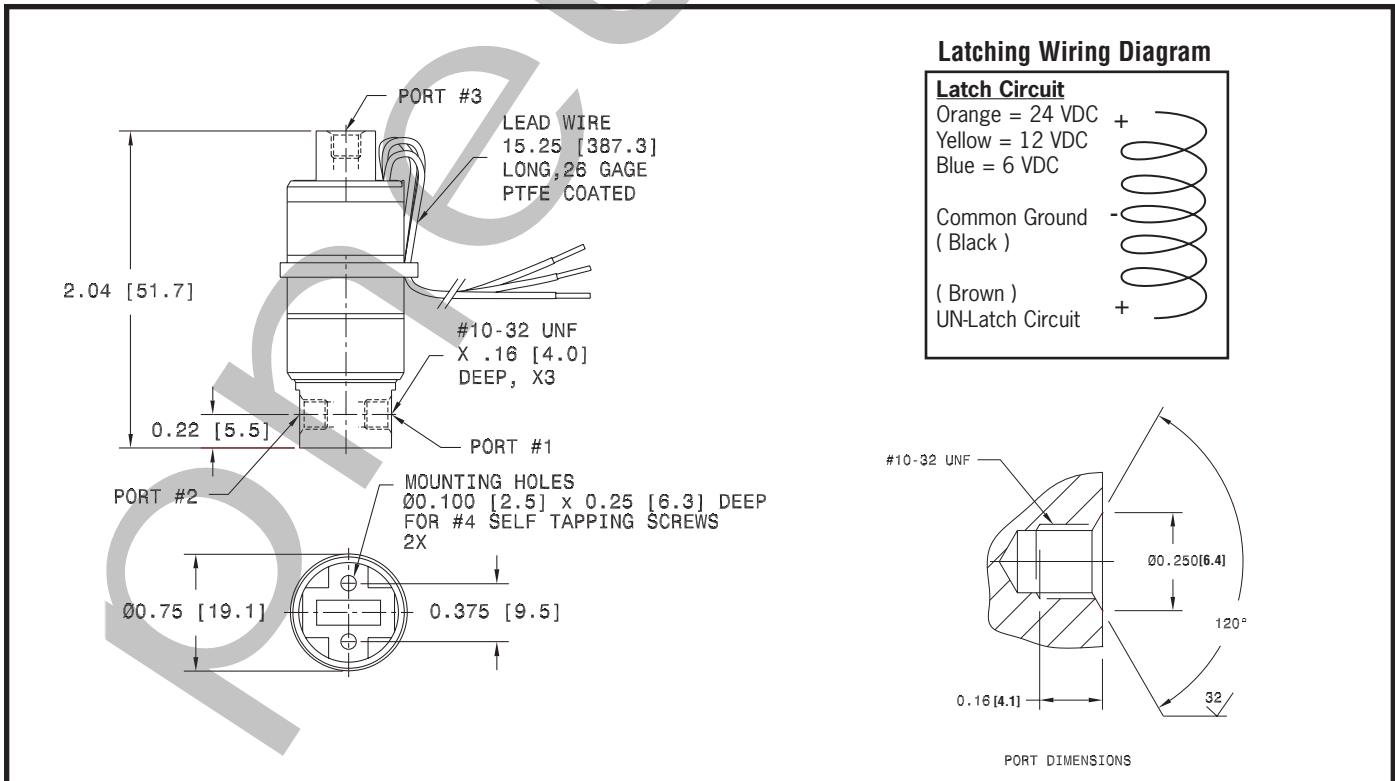
Examples

AL1124 = 2 Way Normally Closed valve with 0.025" orifice, 110 psig max pressure rating, and 24 VDC coil rated at 0.65 watts.  
 AL32115A = 2 Way Normally Open valve with 0.048" orifice, 100 psig max pressure rating, and 115 VAC coil with rectifier.  
 AL4306LK = 3 Way Latching valve with 0.090" and 0.078" orifices, 30 psig max pressure rating, 6 VDC coil and suitable for oxygen service.

Dimensions 2 and 3 way Standard Solenoid: Inches [mm]



Dimensions 2 and 3 way Latching Solenoid: Inches [mm]



The Series AM Valves are suitable for a wide range of OEM applications where small size, low power and long life are a must.

- Cycle life in the hundreds of millions.
- Corrosion resistant materials of construction.
- Manifold mount construction allows for easy assembly.
- Magnetic latching construction available to maintain valve position with loss of power, eliminate coil heat rise and extend battery life.

### Construction

Valve Parts in Contact with Fluids	
Body	POM/300 Series Stainless Steel or all 300 Series Stainless Steel
Disc	FKM
Gaskets	FKM
Bobbin/CoreTube	PBT
Core and Plugnut	400 Series Stainless Steel
Springs	300 Series Stainless Steel

### Electrical

Standard Voltages	6, 12, 24 VDC+ 10%, -5% 115 VAC (with rectifier in lead wires)
Power Consumption	0.65-2.0 Watts (10 watts for latching version)
Duty Cycle Rating	Continuous (Intermittent for latching version)
Coil Insulation	266°F (130°C)
Electrical Connection	26 gage lead wire

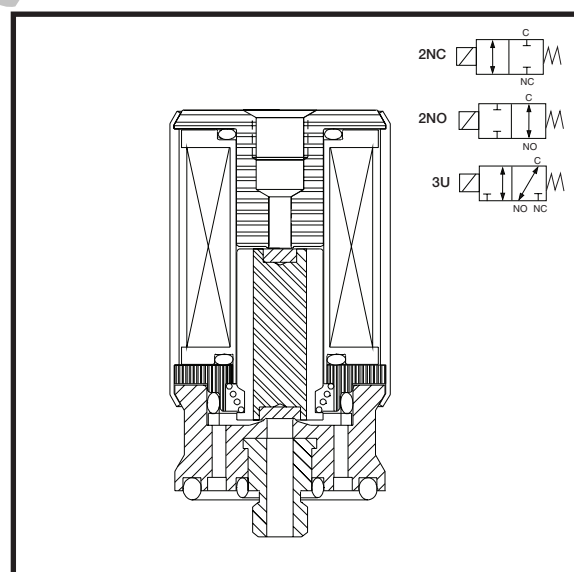
### Valve

Response time	~5 ms at rated voltage (2 watt coil) ~12 ms at rated voltage (0.65 watt coil)
Internal Volume	2 Way NC = 360 µL, 2 Way NO = 400 µL, 3 Way = 400 µL
Options	<ul style="list-style-type: none"> <li>• Oxygen service construction available</li> <li>• Lubricant free construction available</li> </ul>

### Alternative Constructions

Many alternative constructions are available and include a variety of voltages, electrical connectors and materials of construction. ASCO Scientific can also custom design a valve for your specific application.

Contact your local ASCO sales office for more information.



### Temperature Range:

Ambient & Media:

32°F to 77°F (0°C to 25°C) continuous duty  
up to 104°F (40°C) intermittent duty

### Approvals:

Meets applicable CE directives.



Specifications

Mounting Stud	Orifice Size (ins.)	Cv Flow Factor	Maximum Pressure (psi)	Catalog Number	Watt Rating @ 20°C	Weight (oz.)
<b>2 WAY NORMALLY CLOSED (Closed when de-energized)</b>						
#10-32 UNF	0.025	0.015	110	AM11xx	0.65	1.3
#10-32 UNF	0.055	0.038	50	AM21xx	0.65	1.3
#10-32 UNF	0.055	0.038	100	AM31xx	2.0	1.3
#10-32 UNF	0.090	0.07	30	AM41xx	2.0	1.3
<b>2 WAY NORMALLY OPEN (Open when de-energized)</b>						
#10-32 UNF	0.025	0.013	110	AM12xx	0.65	1.3
#10-32 UNF	0.048	0.033	50	AM22xx	0.65	1.3
#10-32 UNF	0.048	0.033	100	AM32xx	2.0	1.3
#10-32 UNF	0.078	0.06	30	AM42xx	2.0	1.3
<b>3 WAY UNIVERSAL OPERATION (Pressure at any port)</b>						
#10-32 UNF	0.025/0.025	0.015/0.013	110	AM13xx	0.65	1.3
#10-32 UNF	0.055/0.048	0.038/0.033	50	AM23xx	0.65	1.3
#10-32 UNF	0.055/0.048	0.038/0.033	100	AM33xx	2.0	1.3
#10-32 UNF	0.090/0.078	0.07/0.06	30	AM43xx	2.0	1.3
<b>2 WAY LATCHING</b>						
#10-32 UNF	0.025	0.015	110	AM11xxL	10*	1.8
#10-32 UNF	0.055	0.038	100	AM31xxL	10*	1.8
#10-32 UNF	0.090	0.07	30	AM41xxL	10*	1.8
<b>3 WAY LATCHING</b>						
#10-32 UNF	0.025/0.025	0.015/0.013	110	AM13xxL	10*	1.8
#10-32 UNF	0.055/0.048	0.038/0.033	100	AM33xxL	10*	1.8
#10-32 UNF	0.090/0.078	0.07/0.06	30	AM43xxL	10*	1.8
<b>Notes</b>						
*xx* Denotes place in catalog number for voltage, three characters may be used when required.						
* Latching valves are designed for intermittent duty only. Wattage rating applies to 20 – 30 ms duration required to actuate valve. Once switched no additional power is required to hold the valve in its position.						

Catalog Number Description and Options

<b>AM33</b>	<b>xx</b>	<b>L</b>	<b>O</b>	<b>S</b>
Base Catalog Number	Voltage - 06 (DC) - 12 (DC) - 24 (DC) - 115 (AC)	Latching Suffix	Options Suffix A = AC service (rectifier in lead wire) O = No Lubricant K = Oxygen Service Construction PBT Valve Body, FKM Seals, PFPE lubricant	Optional Body Material S= 300 Series Stainless Steel

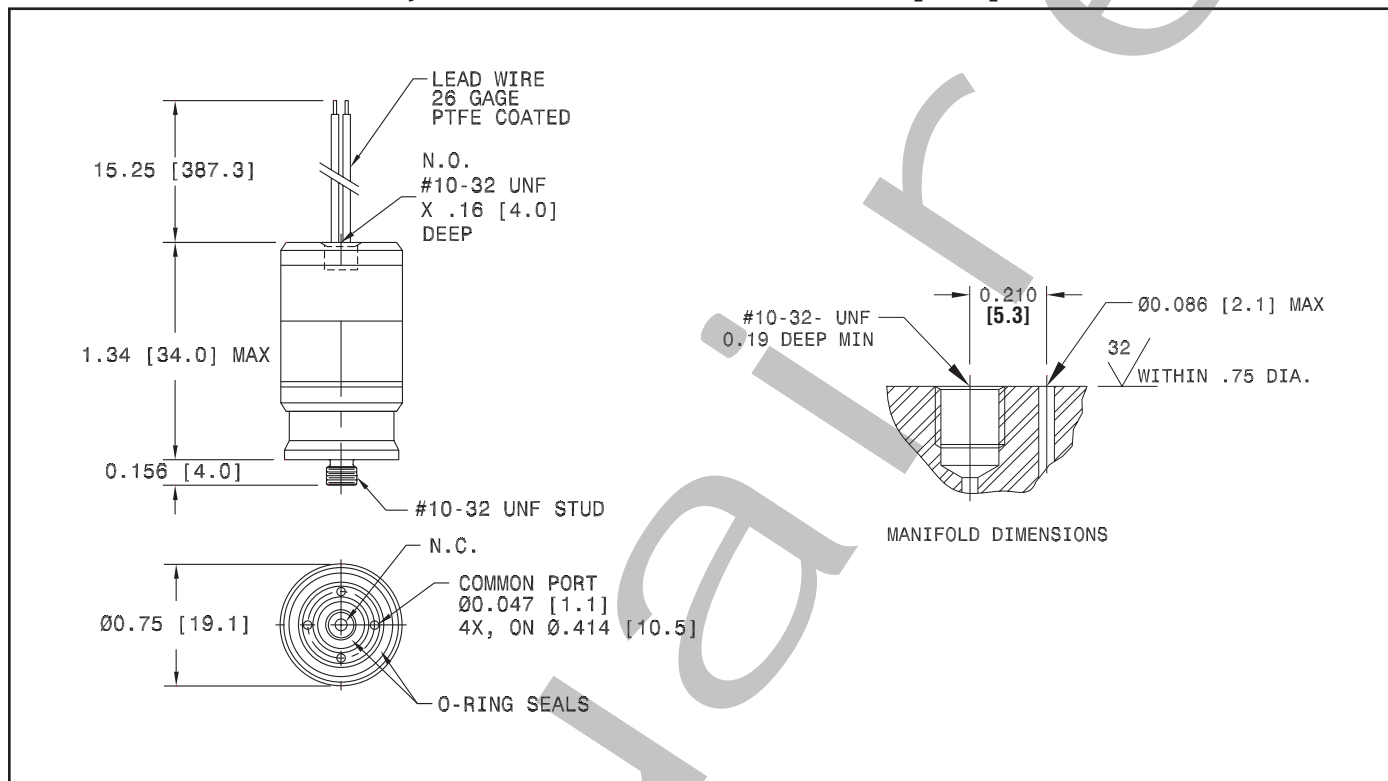
To Construct Catalog Number

- Select base catalog number
- Insert voltage into the 5<sup>th</sup>, 6<sup>th</sup>, (and 7<sup>th</sup> when required), digits denoted by “xx”
- Add suffix for optional features to end of base catalog number

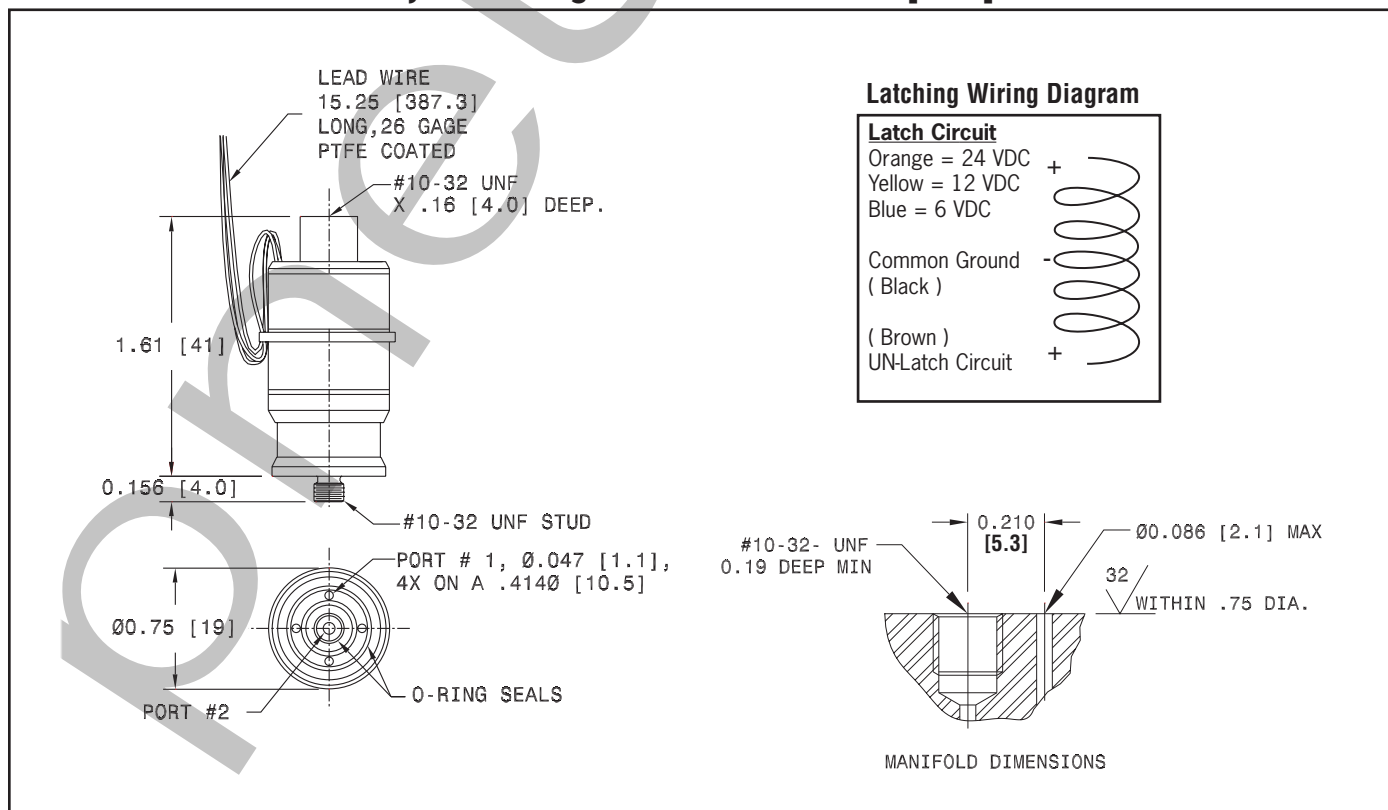
Examples

AM1124 = 2 Way Normally Closed valve with 0.025" orifice, 110 psig max pressure rating, and 24 VDC coil rated at 0.65 watts.  
 AM32115A = 2 Way Normally Open valve with 0.048" orifice, 100 psig max pressure rating, and 115 VAC coil with rectifier.  
 AM4306LK = 3 Way Latching valve with 0.090" and 0.078" orifices, 30 psig max pressure rating, 6 VDC coil and suitable for oxygen service.

Dimensions 2 and 3-way Standard Solenoid: Inches [mm]



Dimensions 2 and 3-way Latching Solenoid: Inches [mm]



**Posiflow® Micro Proportional Valves**  
M5 Threaded Ports or Pad Mount Versions  
Brass body



The Series 202 Posiflow® valves are 2 Way, normally closed, micro solenoid valves designed to proportionally control the flow of air or other gases by varying the electrical input to the coil. They are available as stand alone valves with M5 thread ports or pad mount versions for manifold mounting.

- Ideal to precisely control flow rates in medical equipment and analytical instrumentation.
- Compact construction saves valuable space in OEM equipment.
- Low power consumption of 3 Watts.
- Low hysteresis, excellent repeatability, and high sensitivity for precise flow control.

**Construction**

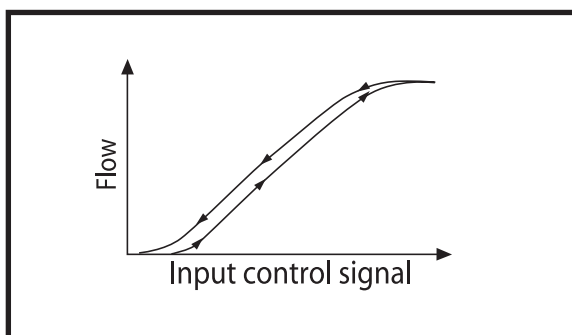
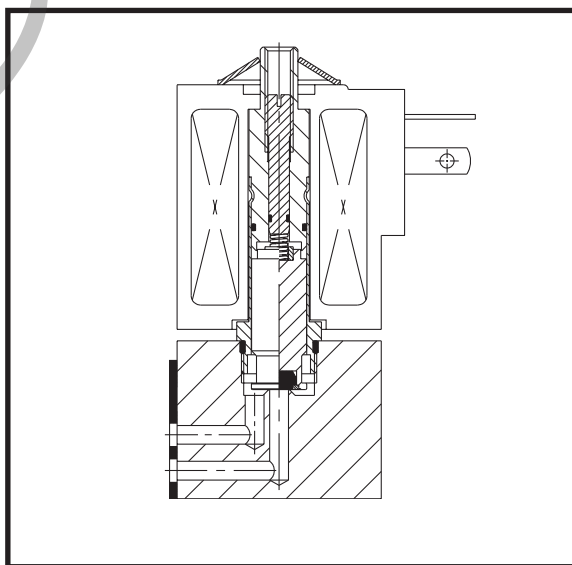
Valve Parts in Contact with Fluids	
Body	Brass
Core Tube	Brass
Core and Plugnut	Stainless Steel
Springs	Stainless Steel
Seat	Brass
Disc and Seals	FKM

**Electrical**

Standard Voltage	12, 24 VDC
Electrical Coil Input	0-24 VDC
Power Consumption	3 Watts
Opening Current 12 VDC 24 VDC	Max. 175 mA Max. 125 mA
Recommended PWM Frequency	1000 Hz
Hysteresis	<5%
Repeatability	<3%
Sensitivity	<2%
Coil Insulation	Class F
Ambient Temperature	32°F to 140°F (0 C to 60 C)
Electrical Connection	Spade, (DIN 46244, ISO 4400)
DIN Connectors	(See Electrical Connectors page 75) Size 9.4 mm, Form C
Protection Rating	IP65 with DIN Plug Connector

**Valve**

Fluid Temperature	32° F to 212° F (0° C to 100° C) to 194°F
Vacuum Rating	29" Hg

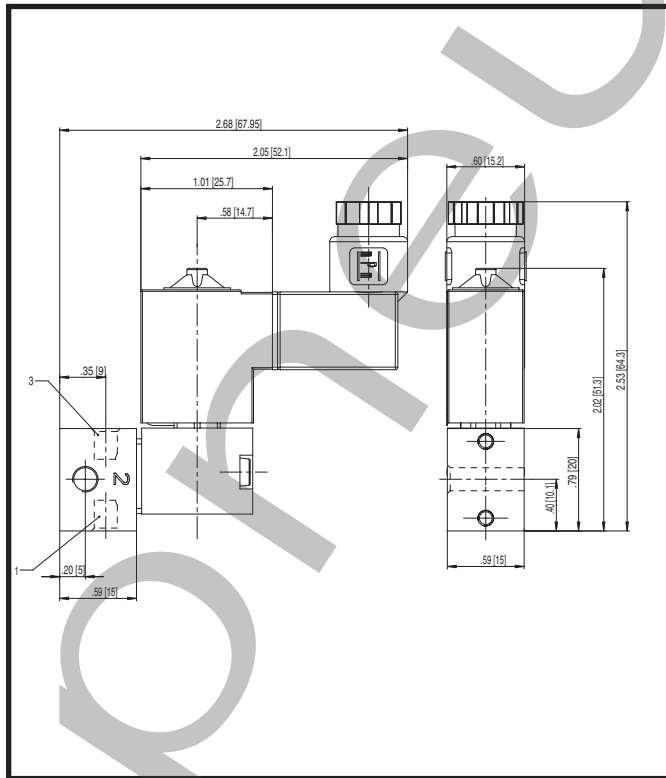


Specifications

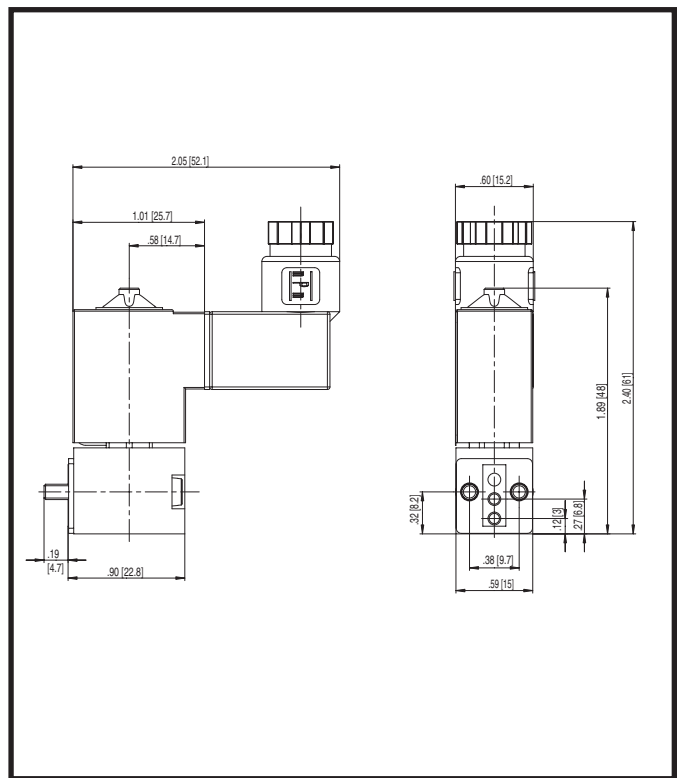
Ports	Orifice Size (ins.)	Cv Flow Factor	Differential Pressure (psi)		Catalog Number	Constr. Ref.	Power (Watts)	Weight (oz.)
			Minimum	Maximum				
<b>M5 Threaded Ports</b>								
M5	0.031	0.023	0	174	SCE202A105V	1	3	4
M5	0.047	0.059	0	101	SCE202A106V	1	3	4
M5	0.062	0.094	0	58	SCE202A107V	1	3	4
M5	0.079	0.117	0	36	SCE202A108V	1	3	4
<b>Pad Mount Construction</b>								
-	0.031	0.023	0	174	SCS202A101V	2	3	3
-	0.047	0.059	0	101	SCS202A102V	2	3	3
-	0.062	0.094	0	58	SCS202A103V	2	3	3
-	0.079	0.117	0	36	SCS202A104V	2	3	3

Dimensions: inches [mm]

Constr. Ref. 1



Constr. Ref. 2

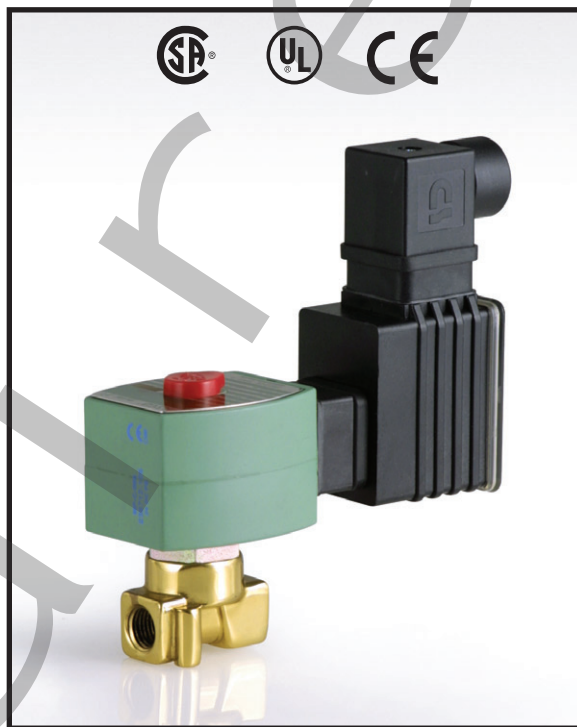


The 8202/8203 Series is a 2 Way proportional valve available in a Normally Closed construction only. They are available as 24 VDC operated only with brass or stainless steel bodies. Flow rates are adjustable between 0% and 100% of rating. There are many optional features available including an ASCO electronic control unit and electrical connections. Dedicated constructions of the 8202/8203 Series are suitable for the following applications.

- General Service (air, inert gas, water, light oil)

### Construction

Valve Parts in Contact with Fluids		
Body	Brass	303 Stainless Steel
Seals and Disc/Diaphragm	FKM or NBR	
Core Tube	305 Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Springs	302 Stainless Steel	
Rider Rings	PTFE	
Breaker Piece	Brass	303 Stainless Steel



### Electrical

Standard voltage: 24 VDC

Coil: Molded Class F (standard)

Coil resistance: 25 Ohm at 68°F (20°C)

Operating current: 100 - 500 mA

Electrical coil input: 0 - 24 VDC

Recommended PWM frequency: 300 Hz Air/Gas;  
200 Hz Water/Light Oil

Hysteresis: <5% ① (<7.5% for 8203 Valves)

Repeatability: <3% (<1% for 1/8" NPT Valves)①

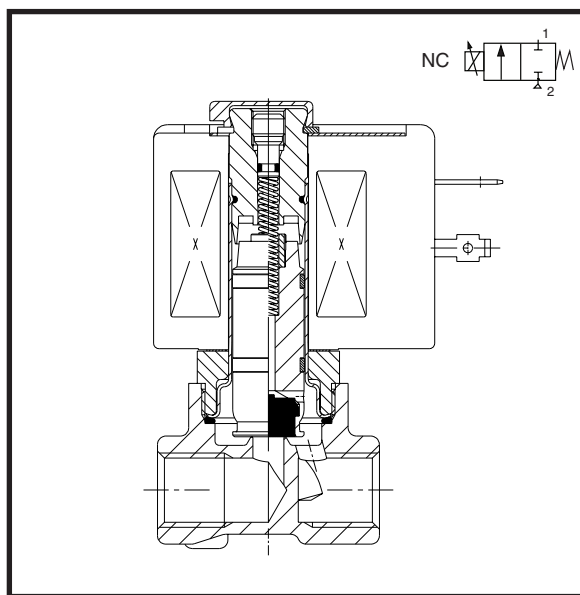
Sensitivity: <2% (<1% for 1/8" NPT Valves)①

① Percentage of max. value with 24 VDC, PWM,  
300 Hz voltage supply at constant differential pressure.

### Nominal Ambient Temperature Ranges:

14°F to 104°F (-10°C to 40°C) for 22.6 watt solenoid.

32°F to 104°F (0°C to 40°C) for 8.6 watt solenoid.



Specifications

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow	Operating Pressure Differential (psi)			Max. Fluid Temp. °F	Brass	Const. Ref.	Agency		Stainless Steel	Const. Ref.	Agency		Wattage ①	Approx. Shipping Weight (lbs.)
			Min.	Maximum					UL	FM			UL	FM		
				Air- Gas ②	Inert Gas											
<b>8202 Series</b>																
1/8	3/64	.04	0	115	75	180	SC8202A201V	1	□	-	SC8202A205V	1	□	-	8.6	0.8
1/8	1/16	.06	0	90	60	180	SC8202A202V	1	□	-	SC8202A206V	1	□	-	8.6	0.8
1/8	3/32	.14	0	60	45	180	SC8202A203V	1	□	-	SC8202A207V	1	□	-	8.6	0.8
1/8	1/8	.20	0	35	35	180	SC8202A204V	1	□	-	SC8202A208V	1	□	-	8.6	0.8
1/4	3/64	.06	0	230	-	150	8202G001V	2	●	-	8202G011V	3	○	-	22.6	1.4
1/4	3/64	.06	0	-	230	150	8202G051V	2	●	-	8202G061V	3	○	-	22.6	1.4
1/4	3/32	.14	0	115	-	150	8202G002V	2	●	-	8202G012V	3	○	-	22.6	1.4
1/4	3/32	.14	0	-	115	150	8202G052V	2	●	-	8202G062V	3	○	-	22.6	1.4
1/4	1/8	.28	0	60	-	150	8202G003V	2	●	-	8202G013V	3	○	-	22.6	1.4
1/4	1/8	.28	0	-	60	150	8202G053V	2	●	-	8202G063V	3	○	-	22.6	1.4
1/4	5/32	.50	0	35	-	150	8202G004V	2	●	-	8202G014V	3	○	-	22.6	1.4
1/4	5/32	.50	0	-	35	150	8202G054V	2	●	-	8202G064V	3	○	-	22.6	1.4
1/4	7/32	.85	0	20	-	150	8202G006V	2	●	-	8202G016V	3	○	-	22.6	1.4
1/4	7/32	.85	0	-	20	150	8202G056V	2	●	-	8202G066V	3	○	-	22.6	1.4
1/4	9/32	1.06	0	15	-	150	8202G007V	2	●	-	8202G017V	3	○	-	22.6	1.4
1/4	9/32	1.06	0	-	15	150	8202G057V	2	●	-	8202G067V	3	○	-	22.6	1.4
3/8	1/8	.28	0	60	-	150	8202G023V	4	●	-	8202G033V	5	○	-	22.6	1.8
3/8	1/8	.28	0	-	60	150	8202G073V	4	●	-	8202G083V	5	○	-	22.6	1.8
3/8	5/32	.50	0	35	-	150	8202G024V	4	●	-	8202G034V	5	○	-	22.6	1.8
3/8	5/32	.50	0	-	35	150	8202G074V	4	●	-	8202G084V	5	○	-	22.6	1.8
3/8	7/32	.85	0	20	-	150	8202G026V	4	●	-	8202G036V	5	○	-	22.6	1.8
3/8	7/32	.85	0	-	20	150	8202G076V	4	●	-	8202G086V	5	○	-	22.6	1.8
3/8	9/32	1.06	0	15	-	150	8202G027V	4	●	-	8202G037V	5	○	-	22.6	1.8
3/8	9/32	1.06	0	-	15	150	8202G077V	4	●	-	8202G087V	5	○	-	22.6	1.8
<b>8203 Series</b>																
3/8	1/2	2.43	5	-	150	150	8203G001	6	-	-	-	-	-	-	22.6	2.4
1/2	1/2	2.43	5	-	150	150	8203G002	6	-	-	-	-	-	-	22.6	2.4

● = General Purpose Valve; ○ = Safety Shutoff Valve (Component Solenoid only with prefix SC, SD, or SV) □ = Component Solenoid  
 ① Varies with duty cycle; 22.6 watt is 8.5 @ 500 mA with ambient temp. 104 F; 8.6 watt is 6.8 cold/9.1 hot @ 450 mA with ambient temp. 69°F  
 ② Suitable for low vacuum.

Capabilities Chart

Solenoid Options							Base Catalog Number		Resilient Materials							Other		Standard Rebuild Kit					
NEMA Type 3-9	High Temp.	Wiring Box Screw Terminal	Multipin	DIN	Spade	Open Frame with Leads	Brass	Stainless Steel	NBR	FKM	EPDM	Neoprene	Oxygen Service	PTFE	Urethane	Vacuum	Manual Operator	Mounting Bracket	Brass AC	Brass DC	Stainless Steel AC	Stainless Steel DC	
-	-	-	-	●	-	-	SC8202A201V	SC8202A205V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
-	-	-	-	●	-	-	SC8202A202V	SC8202A206V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
-	-	-	-	●	-	-	SC8202A203V	SC8202A207V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
-	-	-	-	●	-	-	SC8202A204V	SC8202A208V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G001V	8202G011V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G051V	8202G061V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G002V	8202G012V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G052V	8202G062V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G003V	8202G013V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G053V	8202G063V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G004V	8202G014V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G054V	8202G064V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G006V	8202G016V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G056V	8202G066V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G007V	8202G017V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G057V	8202G067V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G023V	8202G033V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G073V	8202G083V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G024V	8202G034V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G074V	8202G084V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G026V	8202G036V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G076V	8202G086V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G027V	8202G037V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8202G077V	8202G087V	-	●	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8203G001	-	●	V	E	J	N	-	-	-	-	-	-	-	-	-	-
EF	HB	JKP	-	SD	OFSP	-	8203G002	-	●	V	E	J	N	-	-	-	-	-	-	-	-	-	-

● = Standard

Electronic Control Unit (sold separately)

Component Material	
Housing Assembly	PA + FV
Cover	PA + FV
Screw	Zinc plated steel
Gasket	NBR
Connector Specification	ISO 4400
Protection	IP 65

Attribute	Control
Supply Voltage	24VDC +/- 10% (10% max. ripple)
Power Consumption	0.8 Watts
Max. Full-Load Current	1100 mA (pre-set to 500 mA)
Input Control Signal	0-10 VDC, 0-20 mA, or 4-20 mA
Switch-Off Current	<2% of max. Input Control Signal
Ramp Time	On (adjustable 0.1-3 sec.) or Off
Adjustable PWM Frequency	40-700 Hz
Adjustable Off-set	15-50% of PWM voltage
Adjustable Full-load	30-100% of PWM voltage

**Dimensions: inches**

M3 THREAD

**Pipe Size**  
1/8"  
1/4" to 1/2"

**Part Number**  
8908A001  
8908A003



Dimensions: Inches [mm]

