

# 2 and 3-Way Miniature Solenoid Valves

General Service • Manifold & Line Mount



The 411 Series is available in 2-way and 3-way constructions, designed to control the flow of air and inert gases. The valves are suitable for a wide range of OEM applications where small size, low power, and long life are critical.

- Cycle life in the hundreds of millions
- Corrosion resistant materials of construction
- Manifold mount construction allows for easy assembly
- Lower power consumption offers extended battery life

## Construction

Valve Wetted Parts	
Body	PBT
Gaskets	FKM, NBR, EPDM
Bobbin/Core Tube	PBT
Core and Plugnut	400 Series Stainless Steel
Springs	300 Series Stainless Steel

## Electrical

Standard Voltages	5 VDC, 6 VDC, 12 VDC, 24 VDC
Power Consumption	0.65, 2.0 Watts
Duty Cycle Rating	Continuous
Coil Insulation	266°F (130°C)
Electrical Connection	.110" Spade, 24 AWG Hardwire

## Valve

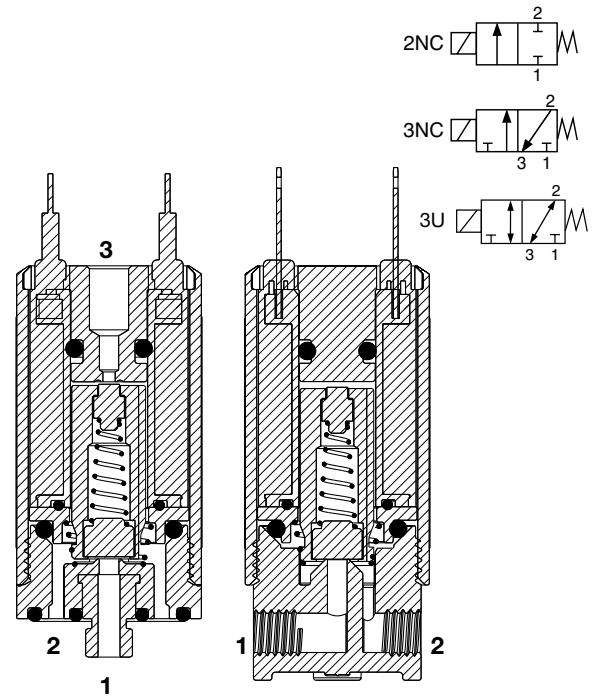
Response Time	~ 10 ms
Internal Volume (Max.)	Line Mount = 620µl Manifold Mount = 564µl
Vacuum Rating	29" Hg
Options	Oxygen clean available 300 Series Stainless Steel Body

## Alternate Construction/Options

Additional constructions and options are available including alternate elastomers and orifice sizes. Minimum quantities apply.



CE



## Temperature Range:

Ambient & Media:  
-10°F to 140°F (-23°C to 60°C)

## Approvals:

Meets applicable CE directives.  
UL Recognized\*  
CSA Certified\*

\* Stainless Steel Body Option Only



## Specifications

Orifice Size	Cv Flow Factor <sup>(1)</sup>	Operating Pressure (psi)		Catalog Number	Power (Watts)	Weight (oz)
		Vac (in Hg)	Max.			
<b>2/2NC - Normally Closed</b>						
0.030	.013	29	100	411x11xxxx	0.65	1.6
0.055	.038	29	100	411x21xxxx	2.0	1.6
0.080	.070	29	30	411x31xxxx	2.0	1.6
<b>3/2NC - Normally Closed</b>						
0.030 / .025	.013 / .008	29	100	411x12xxxx	0.65	1.6
0.055 / .050	.038 / .033	29	100	411x22xxxx	2.0	1.6
0.08 / .050	.070 / .033	29	30	411x32xxxx	2.0	1.6
<b>3/2U - Universal Operation</b>						
0.030 / .025	.013 / .008	29	100	411x13xxHx	0.65	1.6
0.055 / .050	.038 / .033	29	50	411x23xxHx	2.0	1.6
0.08 / .050	.070 / .033	29	30	411x33xxHx	2.0	1.6

(1) Cv Flow Factors are nominal

## Catalog Number Description and Options

411	x	11	xx	x	x	x
<b>Catalog Number</b>	<b>Mounting Style</b>	<b>Catalog Number</b>	<b>Voltage</b>	<b>Electrical Connection</b>	<b>Sealing Material</b>	<b>Option Suffix</b>
	M = Manifold, #10-32 UNF L = Line, #10-32 UNF K = Manifold, M5 J = Line, M5		05 = 5 VDC 06 = 6 VDC 12 = 12 VDC 24 = 24 VDC	F = .110 Spade H = Hardwire	V = FKM E = EPDM B = NBR	O = Oxygen Service P = Label Pressure units in kPa S = Stainless Steel Body

### To Construct Catalog Number

- Select catalog numbers
- Insert mounting style into 4th digit
- Insert voltage into 7th & 8th digits
- Insert electrical connection into 9th digit
- Insert seal material into 10th digit
- Insert option code into 11th digit (if more than one option code, put in alphabetical order)

### Note:

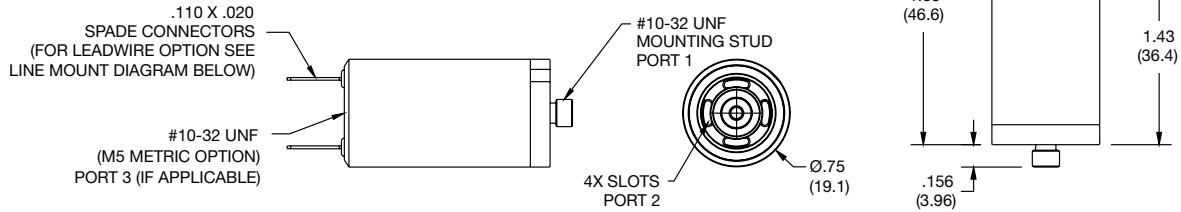
- Oxygen Service valves available with FKM or EPDM Seals only
- 3-Way Universal operation only available with hardwire electrical connection (H)

### Examples

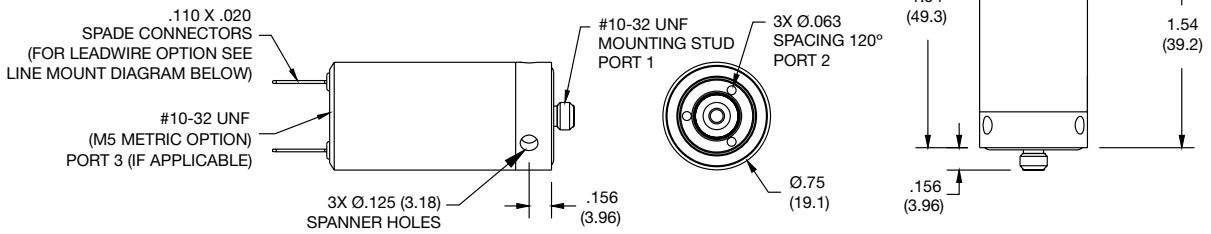
- 411M1124FV = 2-way normally closed manifold mount valve with 0.030 orifice, 24 VDC coil rating at 0.65 Watts, .110 spade connection, FKM seals
- 411L3212HV = 3-way normally closed line mount valve with 0.080 orifice, 12 VDC coil rating at 2.0 Watts, hard wire coil, FKM seals
- 411K1124HVOS = 2-way normally closed manifold mount and M5 stud with 0.030 orifice, 24 VDC coil rating at 0.65 watts, hardwire coil, FKM seals, clean for Oxygen use and Stainless Steel body

Dimensions: - 2 and 3-Way Manifold Mount Solenoid: Inches (mm)

PBT Body

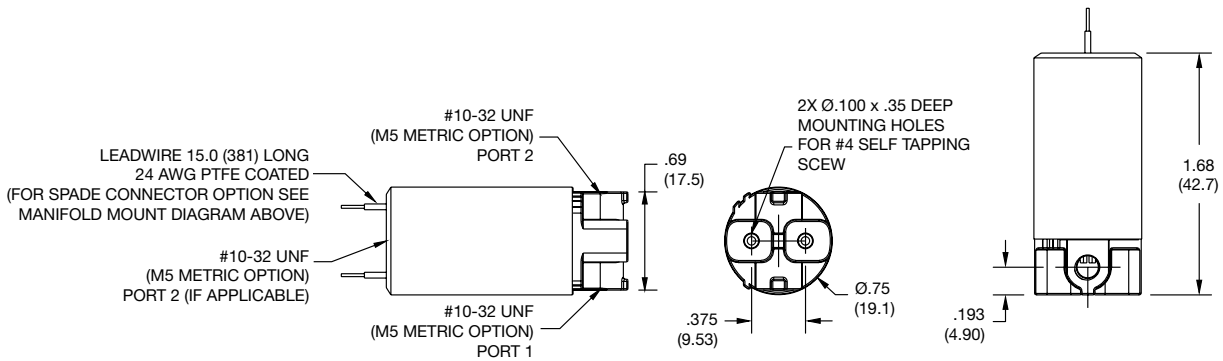


Stainless Steel Body



Dimensions: - 2 and 3-Way Line Mount Solenoid: Inches (mm)

PBT Body



Stainless Steel Body

