# MINIATURE SOLENOID
GENERAL SERVICE VALVES

ASCO™

- The 411 Series solenoid valves are designed for use with air and inert gases
- Manifold mount construction that is suitable for a wide variety of gas applications
- Compact light-weight architecture and low power consumption make them ideal for portable medical devices
- Exceptional service lifetime over 100 million cycles that increases OEM instrument reliability
- Meets all relevant CE directives, and is RoHS compliant
- Typical applications include:
  - Respiratory Therapy
  - Patient Monitoring
  - Compression Therapy (DVT)
  - Robotic Pharmacy Dispensing

2/2 Normally Closed

2/2 Normally Open

3/2 Universal

C E
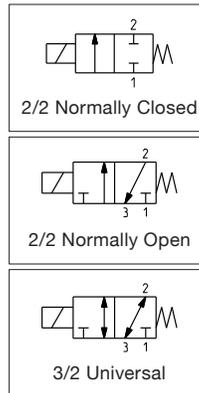
Fluids	Temperature Range	Seal Materials
Air or Inert Gas, non-lubricated[1]	-23 °C to 60 °C (-10 °F to 140 °F)	FKM, NBR, EDPM

[1] filtered at 10 µm

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

General Valve Information*	
Body	PBT
Seals	FKM, NBR, EPDM
Others	PBT, 400 Series stainless steel, 300 Series stainless steel
Response Time	< 10ms
Vacuum Rating	-0.9 bar (-13 psi)

* Other materials on request

Electrical Characteristics	
Standard Voltages*	5 VDC, 6 VDC, 12 VDC, 24 VDC
Power Consumption	0.65 to 2.0 W

* Other voltages on request

NOTE: The solenoid valves are designed for continuous operation within the maximum ambient temperature limits.
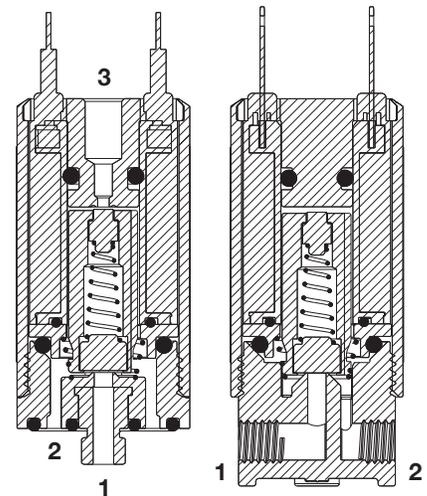
Insulation Class	Coil Insulation	Protection	Ambient Temperature Range	Electrical Connection
	°C (°F)	VA	°C (°F)	
B	130 (266)	-	-23 to 60 (-10 to 140)	0.11in Spade, 24 AWG Lead Wire

ASCO™

Specifications

Orifice Size		Flow Coefficient				Pressure Differential bar (psi)		Power	Catalog Number
mm (inches)		Kv (m³/h)		Cv		min.	max.	W	
Port 1	Port 3	Port 1	Port 3	Port 1	Port 3				
2/2 NC - Normally Closed									
0.76 (0.030)	-	0.39	-	0.013	-	-0.9 (-13)	6.9 (100)	0.65	411x11xxxx
1.4 (0.055)	-	1.14	-	0.038	-	-0.9 (-13)	6.9 (100)	2.0	411x21xxxx
2.0 (0.080)	-	2.1	-	0.070	-	-0.9 (-13)	2.1 (30)	2.0	411x31xxxx
3/2 NC - Normally Closed									
0.76 (0.030)	0.63 (0.025)	0.39	0.007	0.013	0.008	-0.9 (-13)	6.9 (100)	0.65	411x12xxxx
1.4 (0.055)	1.3 (0.050)	1.14	0.029	0.038	0.033	-0.9 (-13)	6.9 (100)	2.0	411x22xxxx
2.0 (0.080)	1.3 (0.050)	2.1	0.029	0.070	0.033	-0.9 (-13)	2.1 (30)	2.0	411x32xxxx
3/2 U - Universal									
0.76 (0.030)	0.63 (0.025)	0.39	0.007	0.013	0.008	-0.9 (-13)	6.9 (100)	0.65	411x13xxHx
1.4 (0.055)	1.3 (0.050)	1.14	0.029	0.038	0.033	-0.9 (-13)	3.4 (50)	2.0	411x23xxHx
2.0 (0.080)	1.3 (0.050)	2.1	0.029	0.070	0.033	-0.9 (-13)	2.1 (30)	2.0	411x33xxHx

How to Order

411 x 11 xx x x x

Catalog Number
411

Mounting Style
M = Manifold, 10-32 UNF
L = Line, 10-32 UNF
K = Manifold, M5
J = Line, M5

Base Number
(see Specifications table)

Voltage
12 = 12 VDC
24 = 24 VDC
05 = 5 VDC
06 = 6 VDC

Option Suffix
O = Oxygen Service
P = Label Pressure units in kPa
S = Stainless Steel Body

Sealing Material
V = FKM
E = EPDM
B = NBR

Electrical Connection
F = 0.11in Spade
H = Hardwire

NOTE: Oxygen Service valves available with FKM or EPDM Seals only. Oxygen clean available with 300 Series Stainless Steel Body. 3-Way Universal operation only available with hardwire electrical connection (H).

Ordering Examples:
411M1124FV = 2-way normally closed manifold mount valve with 0.76mm (0.030in) orifice, 24 VDC coil rating at 0.65 Watts, .110 spade connection, FKM seals
411L3212HV = 3-way normally closed line mount valve with 2.0mm (0.080in) orifice, 12 VDC coil rating at 2.0 Watts, lead wire coil, FKM seals
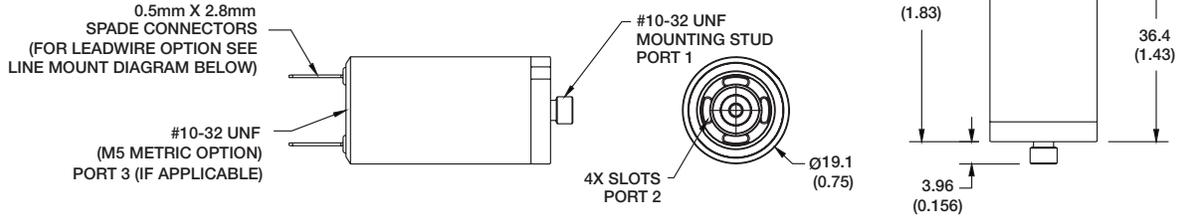**411K1124HVOS** = 2-way normally closed manifold mount and M5 stud with 0.76mm (0.030in) orifice, 24 VDC coil rating at 0.65 Watts, lead wire coil, FKM seals, clean for Oxygen use and Stainless Steel body
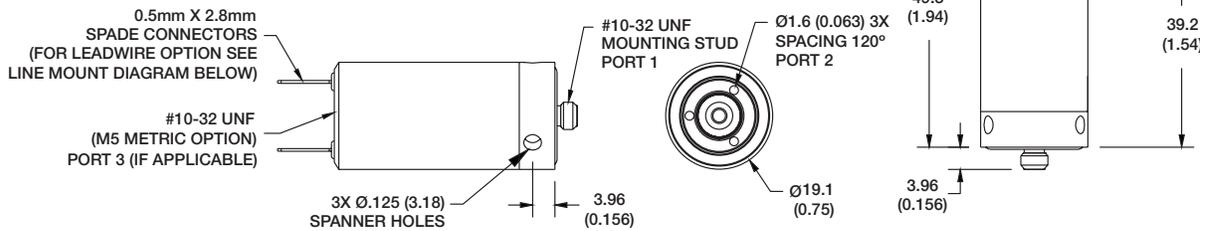
ASCO™

Dimensional Drawings

2- and 3-Way Manifold Mount Solenoid

PBT Body

0.5mm X 2.8mm
SPADE CONNECTORS
(FOR LEADWIRE OPTION SEE
LINE MOUNT DIAGRAM BELOW)

#10-32 UNF
(M5 METRIC OPTION)
PORT 3 (IF APPLICABLE)

#10-32 UNF
MOUNTING STUD
PORT 1

4X SLOTS
PORT 2

Ø19.1
(0.75)

46.6
(1.83)

36.4
(1.43)

3.96
(0.156)

Stainless Steel Body

0.5mm X 2.8mm
SPADE CONNECTORS
(FOR LEADWIRE OPTION SEE
LINE MOUNT DIAGRAM BELOW)

#10-32 UNF
(M5 METRIC OPTION)
PORT 3 (IF APPLICABLE)

3X Ø.125 (3.18)
SPANNER HOLES

3.96
(0.156)

#10-32 UNF
MOUNTING STUD
PORT 1

Ø1.6 (0.063) 3X
SPACING 120°
PORT 2

Ø19.1
(0.75)

49.3
(1.94)

39.2
(1.54)

3.96
(0.156)

2- and 3-Way Line Mount Solenoid

PBT Body

LEADWIRE 381 (15.0) LONG
24 AWG PTFE COATED
(FOR SPADE CONNECTOR OPTION SEE
MANIFOLD MOUNT DIAGRAM ABOVE)

#10-32 UNF
(M5 METRIC OPTION)
PORT 2

#10-32 UNF
(M5 METRIC OPTION)
PORT 2 (IF APPLICABLE)

#10-32 UNF
(M5 METRIC OPTION)
PORT 1

17.5
(0.69)

2X Ø.100 x .35 DEEP
MOUNTING HOLES
FOR #4 SELF TAPPING
SCEW

Ø19.1
(0.75)

.375
(9.53)

42.7
(1.68)

4.90
(0.193)

Stainless Steel Body

LEADWIRE 381 (15.0) LONG
24 AWG PTFE COATED
(FOR SPADE CONNECTOR OPTION SEE
MANIFOLD MOUNT DIAGRAM ABOVE)

#10-32 UNF
(M5 METRIC OPTION)
PORT 2

#10-32 UNF
(M5 METRIC OPTION)
PORT 3 (IF APPLICABLE)

#10-32 UNF
(M5 METRIC OPTION)
PORT 1

17.5
(0.69)

2X #6-32 UNC
.22 (5.6) FULL THREAD
MOUNTING HOLES
(M3 METRIC OPTION)

Ø19.1
(0.75)

.375
(9.53)

42.7
(1.68)

4.90
(0.193)