



## Poppet Series

Compressed Air & Vacuum



## **Poppet Valves**

Features and Benefits	2
How to Order	2

## **NF Series - Compressed Air Valve**

### **Solenoid Air Pilot Actuated**

1/8" to 3/8" Technical Data	3
1/8" to 3/8" Dimensions	4
1/2" to 1-1/2" Technical Data	5
1/2" to 1-1/2" Dimensions	6-7

### **Air Pilot Actuated**

1/8" to 1-1/2" Technical Data	8
1/8" to 3/8" Dimensions	9
1/2" to 1-1/2" Dimensions	10-11

## **NG Series - Vacuum Valve**

### **Solenoid Air Pilot Actuated**

1/8" to 3/8" Technical Data	12
1/8" to 3/8" Dimensions	13
1/2" to 1-1/2" Technical Data	14
1/2" to 1-1/2" Dimensions	15-16

### **Air Pilot Actuated**

1/8" to 1-1/2" Technical Data	17
1/8" to 3/8" Dimensions	18
1/2" to 1-1/2" Dimensions	19-20

## **NM Series - Foot Pedal Valve**

Technical Data	21
----------------	----

## **Accessories**

Coils, Repair Kits, Pipe Plugs	22
--------------------------------	----

## **Additional Information**

Standard Poppet Valve Weight Requirements	23
FAQs	24

**For Compressed Air and Vacuum**

The Numatics Poppet Valves are ideal for single acting cylinders, Air Bellows and vacuum material handling.

- CAD Drawings Available
- High Flow
- Rugged Design
- Low Cost
- CSA and CE Approved



**How to Order**

**NF 1 BA N 52 4 N 000 61**

**Valve Series**

NF = Poppet for Compressed Air  
NG = Poppet for Vacuum

**Port Size**

1 = 1/8"  
2 = 1/4"  
3 = 3/8"  
4 = 1/2"  
5 = 3/4"  
6 = 1"  
8 = 1-1/2"

**Valve Actuator**

BA = Solenoid pilot with spring return  
PA = Air pilot with spring return

**Valve Function**

G = 2 Position 2-way Normally Closed (non-passing)  
N = 2 Position 3-way Normally Closed (non-passing)  
P = 2 Position 3-way Normally Open (passing)

**Mounting**

52 = Line mounted (ports in valve body)

**Wiring Options**

O = No wiring - Air piloted  
2 = DIN Style Plug-in solenoid, AC voltage  
4 = DIN Style Plug-in solenoid, DC voltage

**Port Type**

N = NPTF Pressure ports

**Voltage**

00 = Air Pilot  
30 = 110V AC/50-60Hz  
40 = 220V AC/50-60Hz  
60 = 12VDC  
61 = 24VDC

**Special Options**

000 = No Option  
14A = External pilot (standard on air pilot only valves)  
11M = No manual override access  
66W = Field installable electrical connector included w/light  
60T = Field installable electrical connector included w/o light  
68C = (14A) External pilot (standard air pilot only valves) + (11M) no manual override access  
68D = (11M) No manual override access + (66W) Field installable electrical connector included w/light  
68E = (14A) External pilot (standard air pilot only valves) + (66W) field installable electrical connector included w/light  
68F = (11M) No manual override access + (60T) Field installable electrical connector included w/o light  
68G = (14A) External pilot (standard air pilot only valves) + (60T) field installable electrical connector included w/o light  
69A = (11M) No manual override + (14A) External pilot (standard on air pilot only valves) + (66W) Field installable electrical connector included w/light  
69B = (11M) No manual override + (14A) External pilot (standard on air pilot only valves) + (60T) Field installable electrical connector included w/o light

### Solenoid Air Pilot Actuated - 1/8" to 3/8"

- 3-way design
- Use with air or neutral gas
- AC & DC voltages available

**NOTE:**

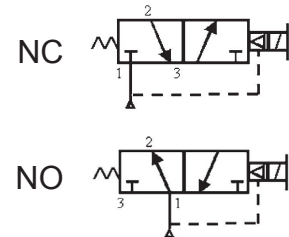
3 ported, 2 position valve (1/8" to 3/8") can be converted to a 2-way valve by inserting a pipe plug into the exhaust.



### Technical Data

Ports (NPTF)	1/8"	1/4"	3/8"
Cv	0.5	1.8	2
Flow Capacity	23 SCFM* (492 NI/min)	83 SCFM* (1773 NI/min)	93 SCFM* (1970 NI/min)
	*80 PSIG upstream pressure to atmosphere downstream		
Operating Pressure Range	24-145 PSIG (1.7-10 Bar) <sup>1</sup>		
Temperature Range (Ambient)	23° to +122°F ambient (-5° to +50°C ambient)		
Coil Type	U1 Series Coil		

<sup>1</sup> If ΔP from P1 to P2 is near 1 bar or less external pilot is required.



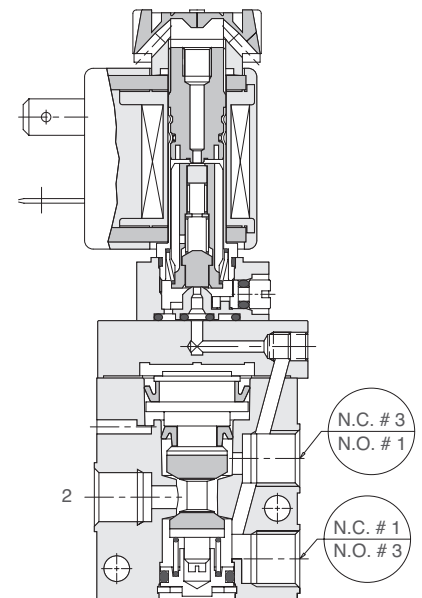
### Operating Data

Voltage	12 VDC	24 VDC	110 VAC 50-60 Hz	220 VAC 50-60 Hz
Power Consumption	3.5W	3.5W	0.04A	0.04A
In-rush Current	3.5W	3.5W	0.07A	0.07A

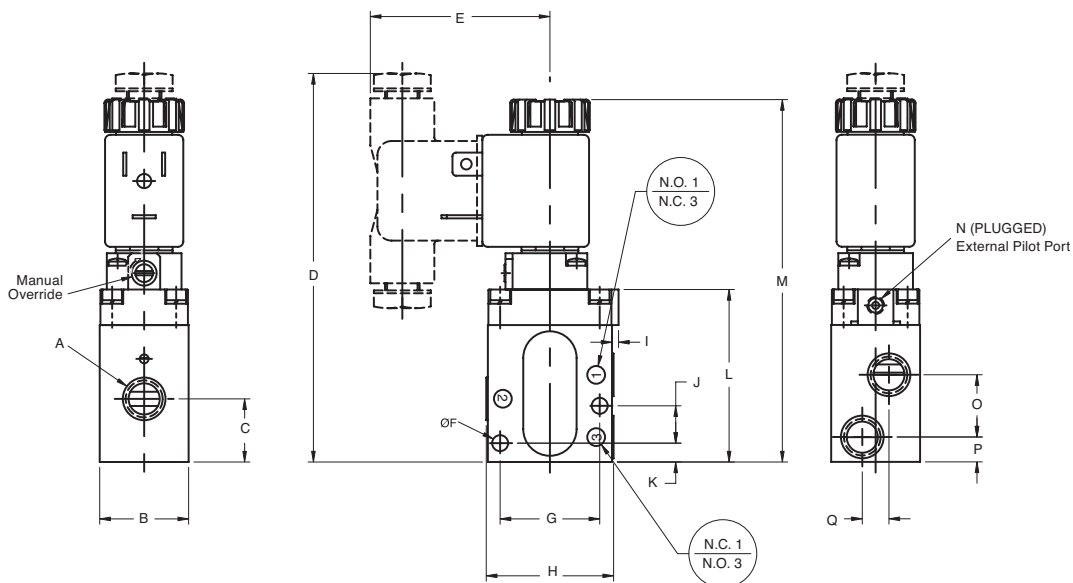
Plug Specifications: NEMA 4, IP 65 with plug-in connector  
Solenoid Rating: Continuous Duty

Response Time (Seconds)	Energize	De-Energize
1/8" (NC & NO)	0.015	0.020
1/4" - 3/8" (NC)	0.020	0.023
1/4" - 3/8" (NO)	0.015	0.020

NC: normally closed NO: normally open

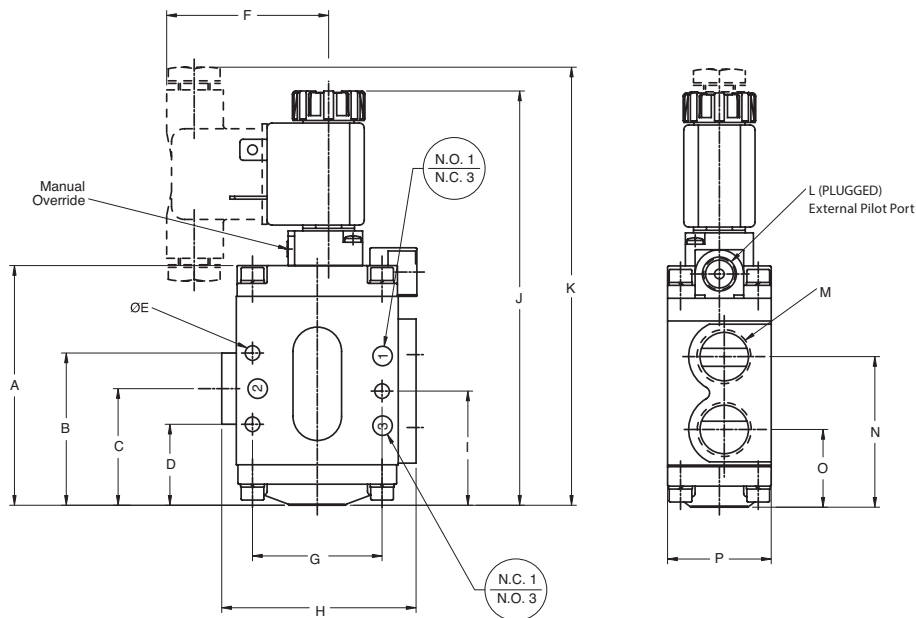


**1/8" to 3/8" Dimensions for Solenoid Air Pilot Actuated**



**1/8" NPT Dimensions: inches (mm)**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1/8" NPT	0.984 (25.0)	0.699 (17.8)	4.488 (114.0)	1.969 (50.0)	0.177 (4.5)	1.102 (28.0)	1.417 (36.0)	0.073 (1.9)	0.413 (10.5)	0.209 (5.3)	1.909 (48.5)	4.016 (102.0)	(M5)	0.689 (17.5)	0.276 (7.0)	0.295 (7.5)



**1/4" to 3/8" NPT Dimensions: inches (mm)**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2.913 (74.0)	1.850 (47.0)	1.417 (36.0)	0.984 (25.0)	0.177 (4.5)	2.028 (51.5)	1.575 (40.0)	2.362 (60.0)	1.398 (35.5)	5.079 (129.0)	5.354 (136.0)	1/8" GTAP	1/4" or 3/8" NPT	1.850 (47.0)	0.945 (24.0)	0.945 (24.0)

### Solenoid Air Pilot Actuated Compressed Air Valves - 1/2" to 1-1/2"

- 3-way design & 2-way design
- Use with air or neutral gas
- Solenoid pilot actuated
- AC & DC voltages available

**NOTE:**

- Always Supply Port #1.
- Port 3 must not be restricted.
- Normally open valve is a normally closed function using a normally open pilot operator.

**NOTE:**

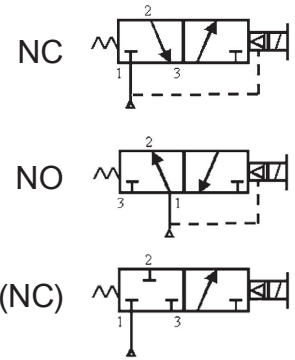
1/2" to 1-1/2" valves cannot be converted to a 2 ported (2-way), 2 position valve. If a 2-way valve is required, it must be ordered as a 2-way.



### Technical Data

Ports (NPTF)	1/2"	3/4"	1"	1-1/2"
Cv	5	5.6	8.8	24
Flow Capacity	232 SCFM* (4924 NI/min)**	260 SCFM* (5515 NI/min)**	407 SCFM*** (8667 NI/min)**	1111 SCFM**** (23637 NI/min)**
	*80 PSIG upstream pressure to atmosphere downstream **6 Bar upstream to 5 Bar downstream ***70 PSIG upstream pressure to atmosphere downstream ****60 PSIG upstream pressure to atmosphere downstream			
Operating Pressure Range	30-145 PSIG (2 - 10 Bar) <sup>1</sup>	32-145 PSIG (2.2 - 10 Bar) <sup>1</sup>	36-145 PSIG (2.5 - 10 Bar) <sup>1</sup>	
Temperature Range (Ambient)	23°F to +122°F ambient (-5°C to +50°C ambient)			
Coil Type	U2 Series Coil			

<sup>1</sup> If ΔP from P1 to P2 is near 1 bar or less external pilot is required.



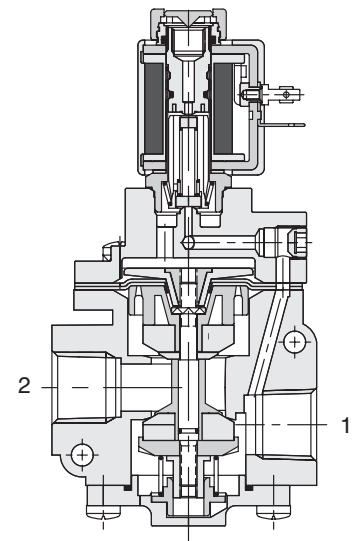
### Operating Data

Voltage	12 VDC	24 VDC	110 VAC 50-60 Hz	220 VAC 50-60 Hz
Power Consumption	11W	11W	0.08A	0.08A
In-rush Current	11W	11W	0.13A	0.13A

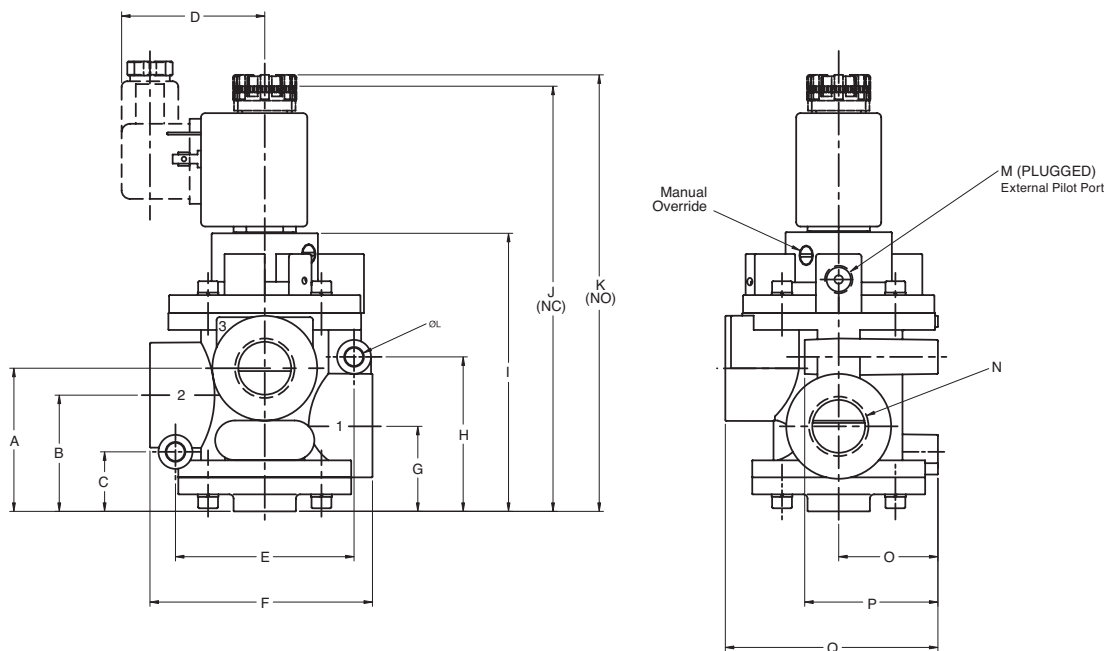
Plug Specifications: NEMA 4, IP 65 with plug-in connector  
Solenoid Rating: Continuous Duty

Response Time (Seconds)	Energize	De-Energize
1/2" & 3/4" (NC)	0.017	0.027
1/2" & 3/4" (NO)	0.030	0.022
1" (NC)	0.020	0.032
1" (NO)	0.028	0.023
1-1/2" (NC)	0.047	0.022
1-1/2" (NO)	0.055	0.020

NC: normally closed NO: normally open

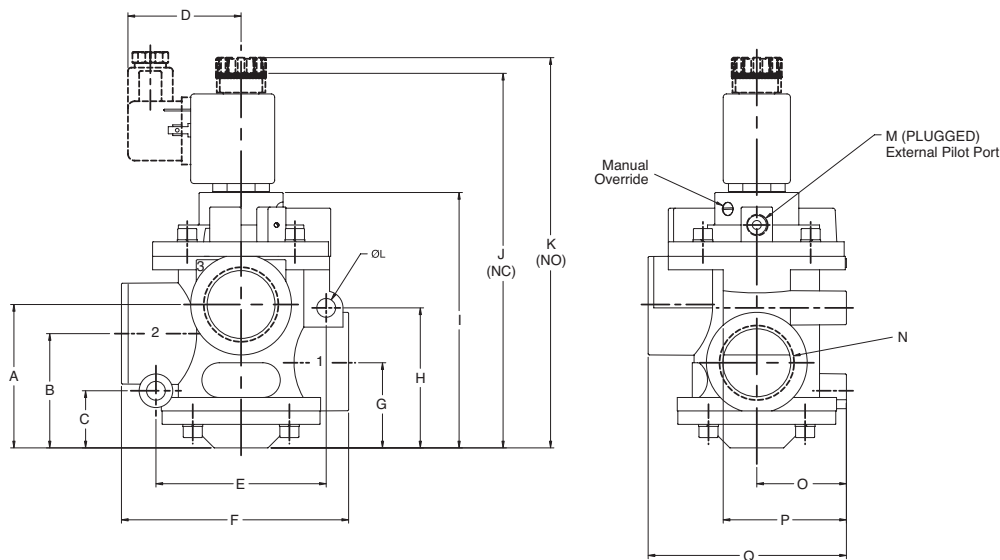


**1/2" to 1" Dimensions for Solenoid Air Pilot Actuated**



**1/2" & 3/4" NPT Dimensions: inches (mm)**

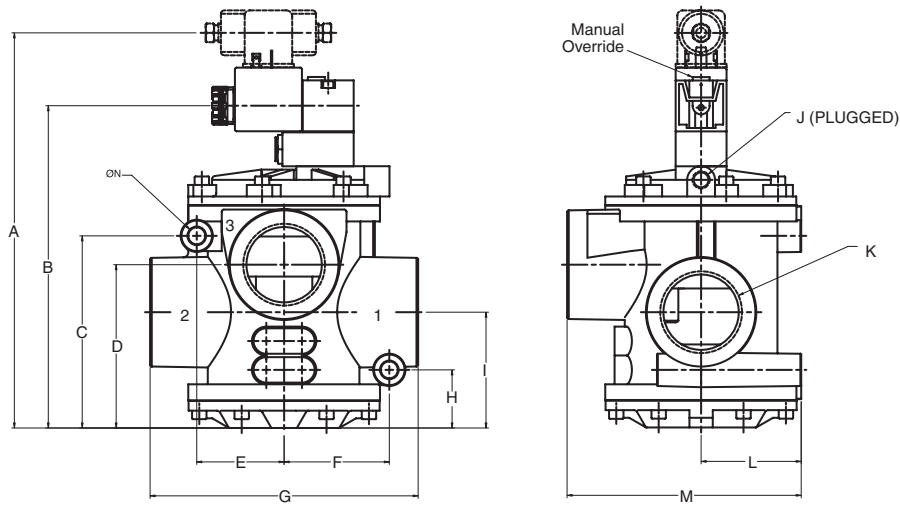
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1.988 (50.0)	1.614 (41.0)	0.827 (21.0)	1.988 (50.5)	2.480 (63.0)	3.091 (78.5)	1.181 (30.0)	2.146 (54.5)	3.996 (101.5)	5.906 (150.0)	6.063 (154.0)	0.252 (6.4)	1/8" GTAP	1/2" to 3/4" NPT	1.378 (35.0)	1.850 (47.0)	2.953 (75.0)



**1" NPT Dimensions: inches (mm)**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
2.520 (64.0)	2.008 (51.0)	1.004 (25.5)	1.969 (50.0)	2.992 (76.0)	3.976 (101.0)	1.496 (38.0)	2.461 (62.5)	4.528 (115.0)	6.575 (167.0)	6.850 (174.0)	0.331 (8.4)	1/8" GTAP	1" NPT	1.575 (40.0)	2.165 (55.0)	3.504 (89.0)

### 1-1/2" Dimensions for Solenoid Air Pilot Actuated



#### 1-1/2" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
9.173 (233.0)	7.480 (190.0)	4.449 (113.0)	3.780 (96.0)	2.028 (51.5)	2.441 (62.0)	6.220 (158.0)	1.339 (34.0)	2.677 (68.0)	1/8" GTAP	1-1/2" NPT	2.323 (59.0)	5.433 (138.0)	0.394 (10.0)



**Air Pilot Actuated Valves - 1/8" to 1-1/2"**

- 3-way & 2-way design
- Air pilot actuated
- Use with air or neutral gases
- For lubricated or non-lubricated service

NOTE: 3-ported, 2 position valve (1/8" to 3/8") can be converted to a 2 way valve by inserting a pipe plug into the exhaust port.

NOTE: 1/2" to 1-1/2" valves cannot be converted to a 2 ported (2-way), 2 position valve. If a 2-way valve is required, it must be ordered as a 2-way.



**Technical Data**

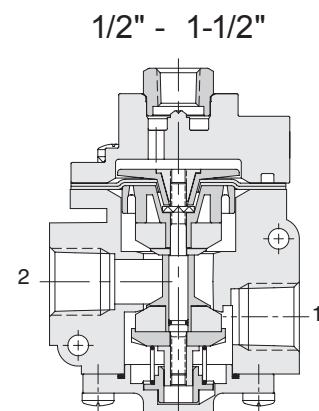
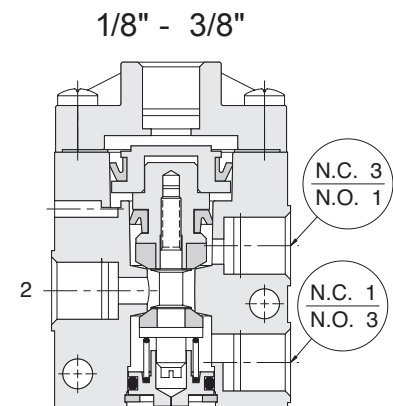
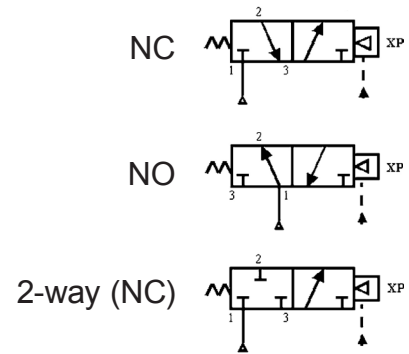
Ports (NPTF)	1/8"	1/4"	3/8"
Cv	0.5	1.8	2
Flow Capacity	23 SCFM* (492 NI/min)**	83 SCFM* (1773 NI/min)**	93 SCFM* (1970 NI/min)**
	*80 PSIG upstream pressure to atmosphere downstream		
Operating Pressure Range	24-145 PSIG (1.7 - 10 Bar) <sup>1</sup>		
Pilot Pressure	Minimum 58% of Operating Pressure	Minimum 67% of operating pressure	
Temperature Range	23° to +122°F ambient (-5° to +50°C ambient)		

<sup>1</sup> If ΔP from P1 to P2 is near 1 bar or less external pilot is required.

Ports (NPTF)	1/2"	3/4"	1"	1-1/2"
Cv	5	5.6	8.8	24
Flow Capacity	232 SCFM* (4924 NI/min)	260 SCFM* (5155 NI/min)	407 SCFM** (8667 NI/min)	407 SCFM*** (8667 NI/min)
	*80 PSIG upstream pressure to atmosphere downstream			
	**70 PSIG upstream pressure to atmosphere downstream			
	***60 PSIG upstream pressure to atmosphere downstream			
Operating Pressure Range	32-145 PSIG (2.2 - 10 Bar)		36-145 PSIG (2.5 - 10 Bar)	
Pilot Pressure	Minimum 67% of operating pressure <sup>1</sup>			
Temperature Range	23° to +122°F ambient (-5° to +50°C ambient)			

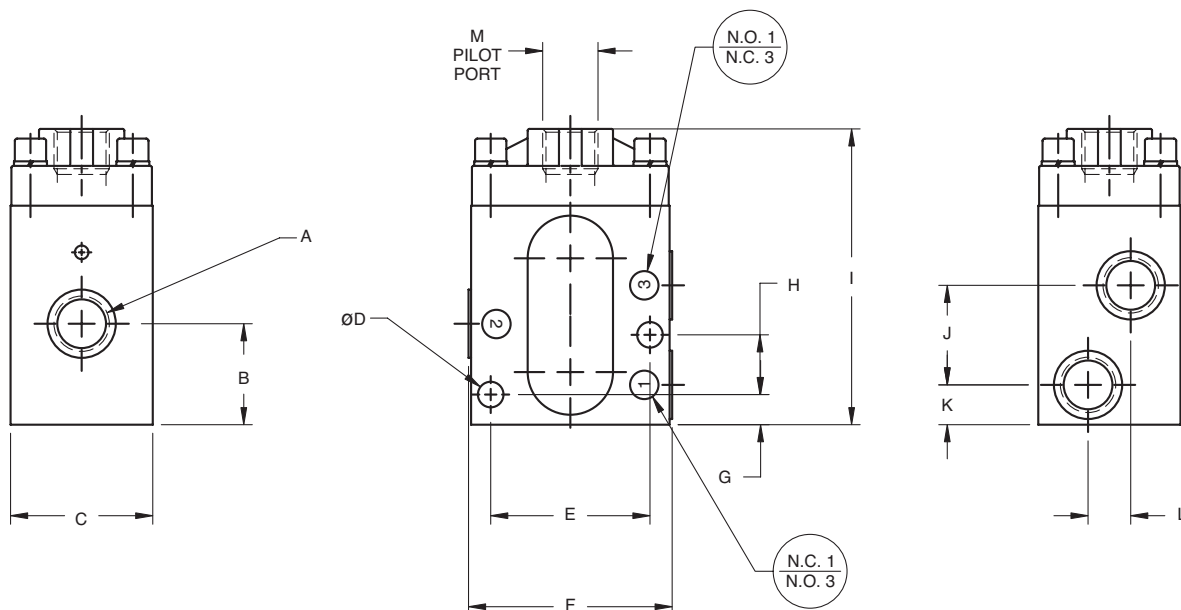
Response Time (Seconds)	Energize	De-Energize
1/8" (NC, NO)	0.005	0.008
1/4" & 3/8" (NC, NO)	0.005	0.007
1/2" & 3/4" (NC)	0.007	0.010
1" (NC)	0.010	0.012
1-1/2" (NC)	0.036	0.015

NC: normally closed NO: normally open



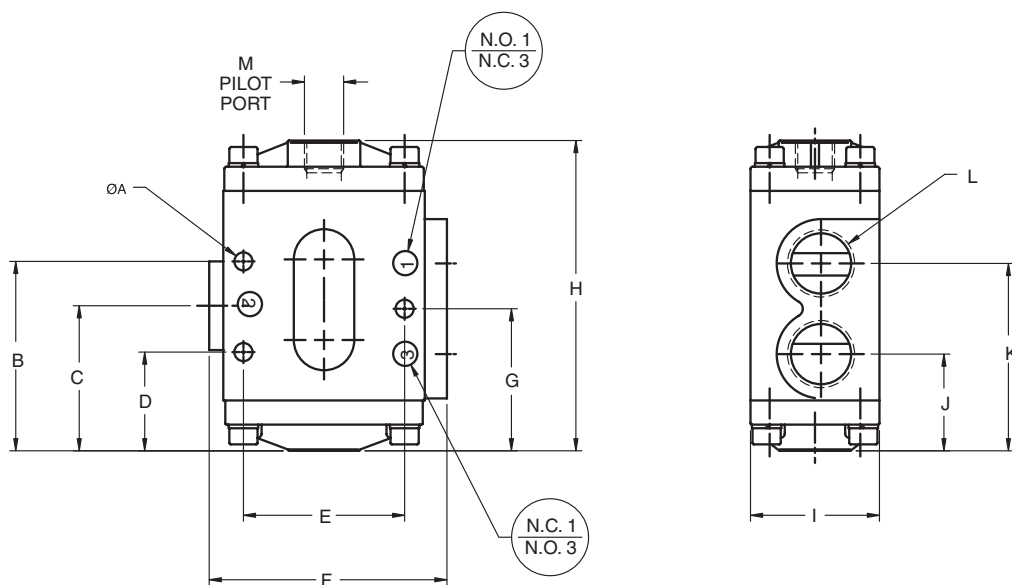
NOTE: 1/2" to 1-1/2" not available in (NO).  
NOTE: Always supply Port 1.

### 1/8" to 3/8" Dimensions for Air Pilot Actuated



### 1/8" NPT Dimensions: inches (mm)

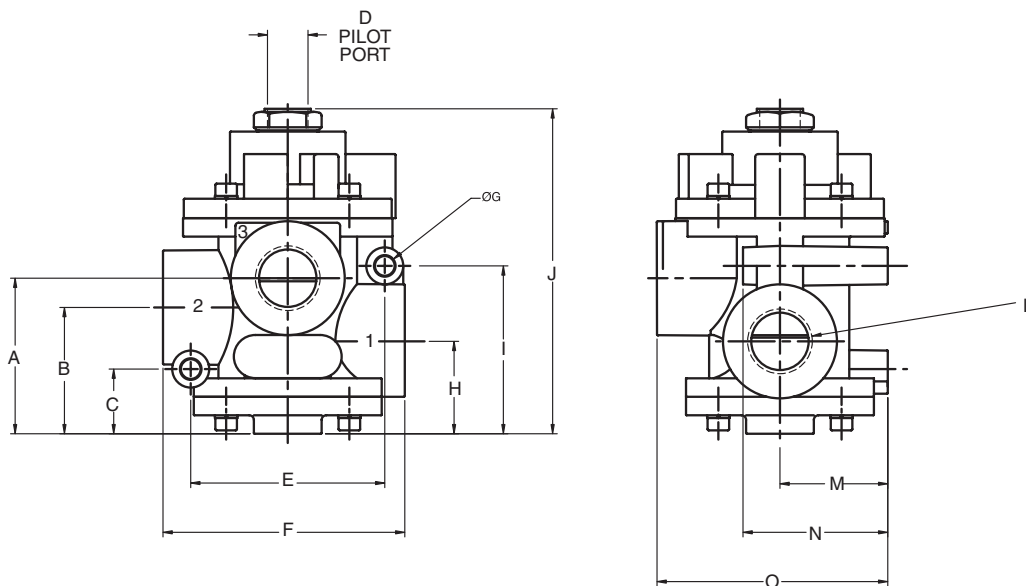
A	B	C	D	E	F	G	H	I	J	K	L	M
1/8" NPT	0.699 (17.8)	0.984 (25.0)	0.177 (4.5)	1.102 (28.0)	1.417 (36.0)	0.209 (5.3)	0.413 (10.5)	1.988 (50.5)	0.689 (17.5)	0.276 (7.0)	0.295 (7.5)	1/8" GTAP



### 1/4" & 3/8" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	J	K	L	M
0.177 (4.5)	1.850 (47.0)	1.417 (36.0)	0.945 (24.0)	1.575 (40.0)	2.362 (60.0)	1.398 (35.5)	3.031 (77.0)	1.260 (32.0)	0.945 (24.0)	1.850 (47.0)	1/4" or 3/8" NPT	1/8" BSPP*

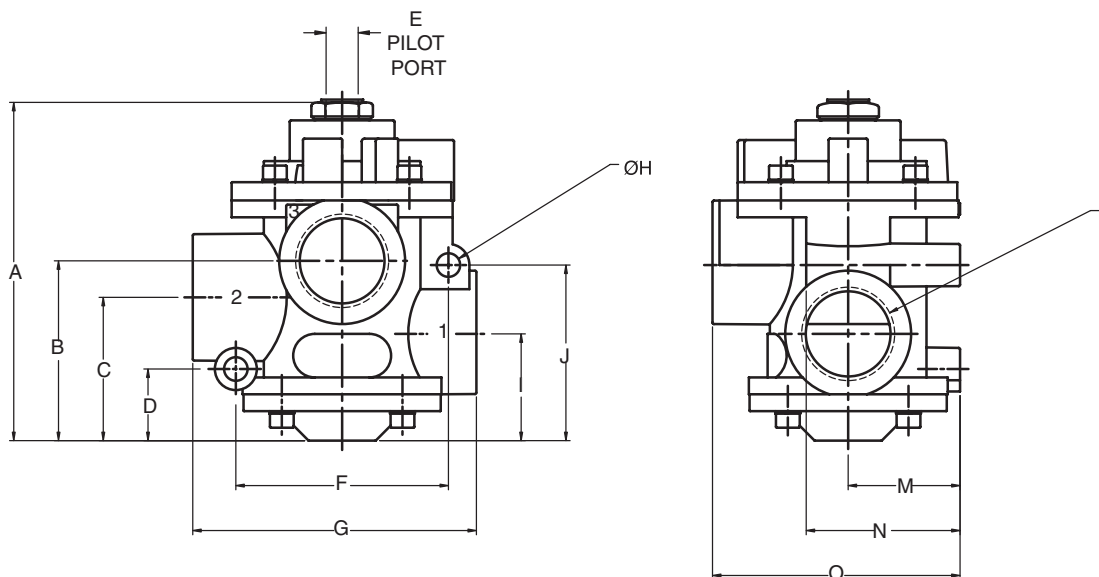
**1/2" to 1" Dimensions for Air Pilot Actuated**



**1/2" & 3/4" NPT Dimensions: inches (mm)**

A	B	C	D	E	F	G	H	I	J	L	M	N	O
1.988 (50.5)	1.614 (41.0)	0.827 (21.0)	1/4" GTAP	2.480 (63.0)	3.091 (78.5)	0.252 (6.4)	1.181 (30.0)	2.146 (54.5)	4.134 (105.0)	1/2" to 3/4" NPT	1.378 (35.0)	1.850 (47.0)	2.953 (75.0)

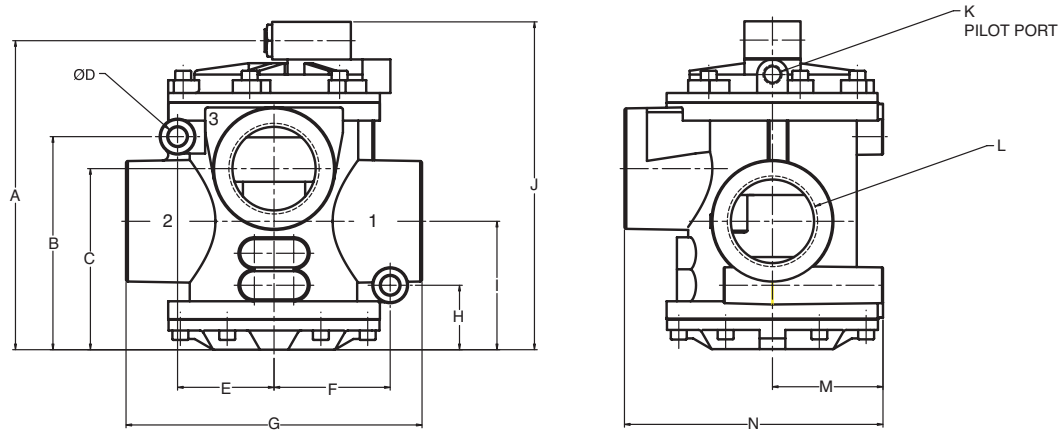
**1" Dimensions for Air Pilot Actuated**



**1" NPT Dimensions: inches (mm)**

A	B	C	D	E	F	G	H	I	J	L	M	N	O
4.744 (120.5)	2.520 (64.0)	2.008 (51.0)	1.004 (25.5)	1/4" GTAP	2.992 (76.0)	3.976 (101.0)	0.331 (8.4)	1.496 (38.0)	2.461 (62.5)	1" NPT	1.575 (40.0)	2.165 (55.0)	3.484 (88.5)

### 1-1/2" Dimensions for Air Pilot Actuated



### 1-1/2" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
6.467 (164.3)	4.449 (113.0)	3.780 (96.0)	0.433 (11.0)	2.028 (51.5)	2.441 (62.0)	6.220 (158.0)	1.339 (34.0)	2.677 (68.0)	6.860 (174.3)	1/8" NPT	1-1/2" NPT	2.323 (59.0)	5.433 (138.0)

**Solenoid Air Pilot Actuated Vacuum Valves - 1/8" to 3/8"**

- Solenoid External Air Pilot Actuated
- 3 ported, 2 position
- For lubricated or non lubricated service
- Diaphragm actuated
- Polyurethane diaphragm



**Technical Data**

Ports (NPTF)	1/8"	1/4"	3/8"
Cv	0.5	1.8	2
Operating Vacuum Range	Maximum 29.9" of Hg (759.5 mm of Hg)		
Pilot Range	36 - 145 PSIG (2.5 - 10 Bar)		
Temperature Range	23°F to +122°F ambient (-5°C to +50°C ambient)		
Coil Type	U1 Series Coil		

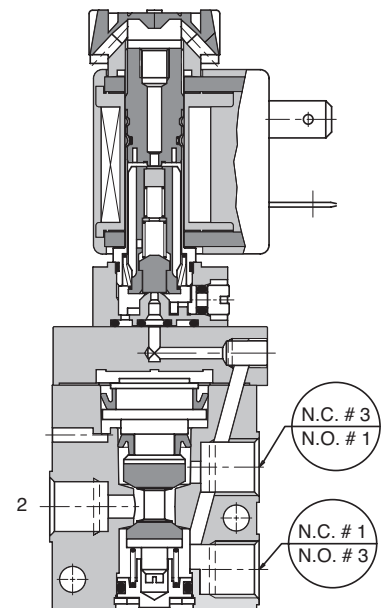
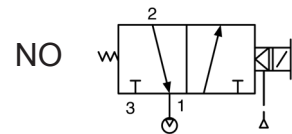
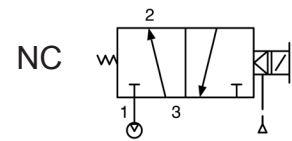
**Operating Data**

Voltage	12 VDC	24 VDC	110 VAC 50-60 Hz	220 VAC 50-60 Hz
Power Consumption	3.5W	3.5W	0.04A	0.04A
In-rush Current	3.5W	3.5W	0.07A	0.07A

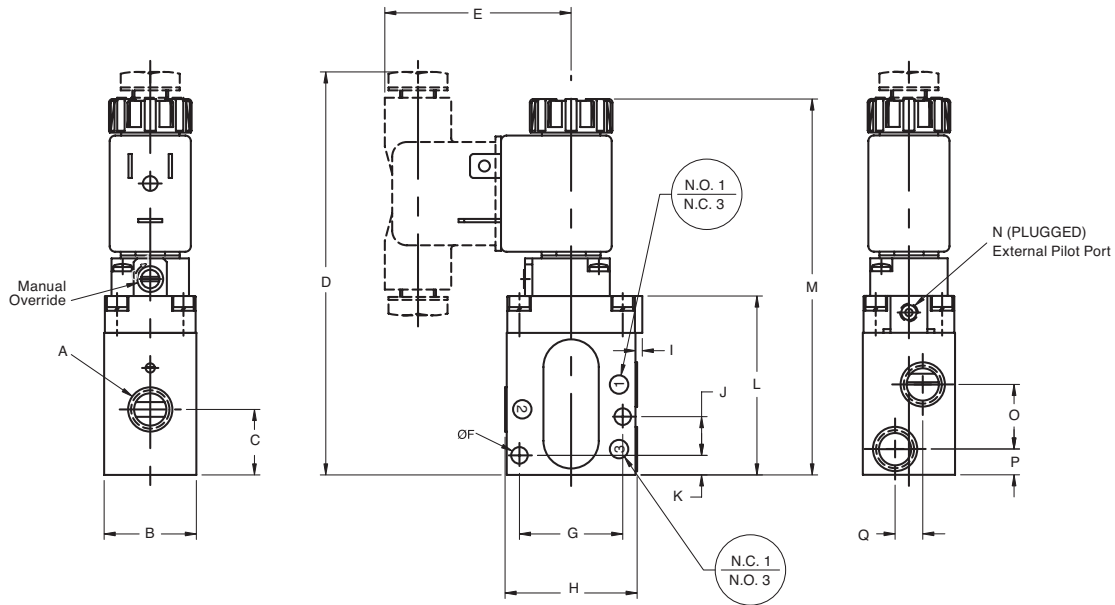
Plug Specifications: NEMA 4, IP 65 with plug-in connector  
Solenoid Rating: Continuous Duty

Response Time (Seconds)	Energize	De-Energize
1/8" (NC, NO)	0.014	0.025
1/4" & 3/8" (NC, NO)	0.016	0.027

NC: normally closed NO: normally open



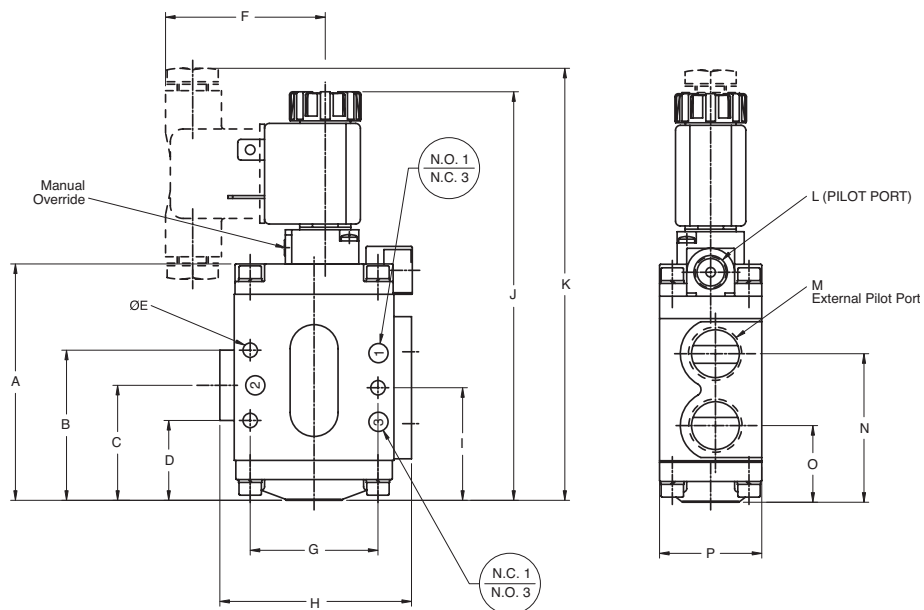
### 1/8" to 3/8" Dimensions for Solenoid Air Pilot Actuated Vacuum Valves



#### 1/8" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1/8" NPT	0.984 (25.0)	0.699 (17.8)	4.488 (114.0)	1.969 (50.0)	0.177 (4.5)	1.102 (28.0)	1.417 (36.0)	0.073 (1.9)	0.413 (10.5)	0.209 (5.3)	1.909 (48.5)	4.016 (102.0)	(M5)	0.689 (17.5)	0.276 (7.0)	0.295 (7.5)

### 1/4" to 3/8" Dimensions for Solenoid Air Pilot Actuated Vacuum Valves



#### 1/4" & 3/8" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2.913 (74.0)	1.850 (47.0)	1.417 (36.0)	0.984 (25.0)	0.177 (4.5)	1.969 (50.0)	1.575 (40.0)	2.362 (60.0)	1.398 (35.5)	5.079 (129.0)	5.354 (136.0)	1/8" GTAP	1/4" or 3/8" NPT	1.850 (47.0)	0.945 (24.0)	1.260 (32.0)

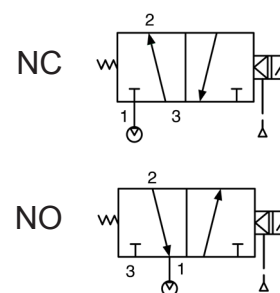
**Solenoid Air Pilot Actuated Vacuum Valves - 1/2" to 1-1/2"**

- Solenoid External Air Pilot Actuated
- 3 ported, 2 position
- For lubricated or non lubricated service
- Diaphragm actuated
- Polyurethane diaphragm



**Technical Data**

Ports (NPTF)	1/2"	3/4"	1"	1-1/2"
Cv	5.0	5.6	8.8	24.0
Operating Vacuum Range	10" - 29.9" of Hg (759.5 mm of Hg)			
Pilot Pressure	43 - 145 PSIG (3 - 10 Bar)		58 - 145 PSIG (4 - 10 Bar)	
Temperature Range	23°F to +122°F ambient (-5°C to +50°C ambient)			
Coil Type	U2 Series Coil			



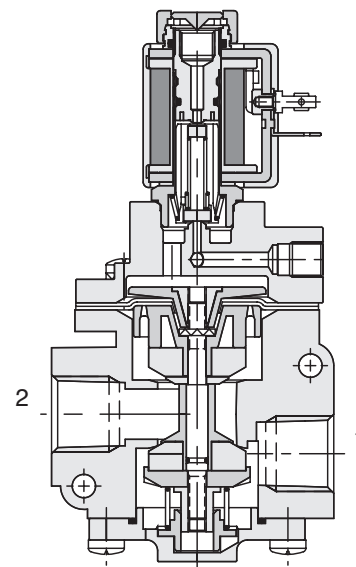
**Operating Data**

Voltage	12 VDC	24 VDC	110 VAC 50-60 Hz	220 VAC 50-60 Hz
Power Consumption	11W	11W	0.08A	0.08A
In-rush Current	11W	11W	0.13A	0.13A

Plug Specifications: NEMA 4, IP 65 with plug-in connector  
Solenoid Rating: Continuous Duty

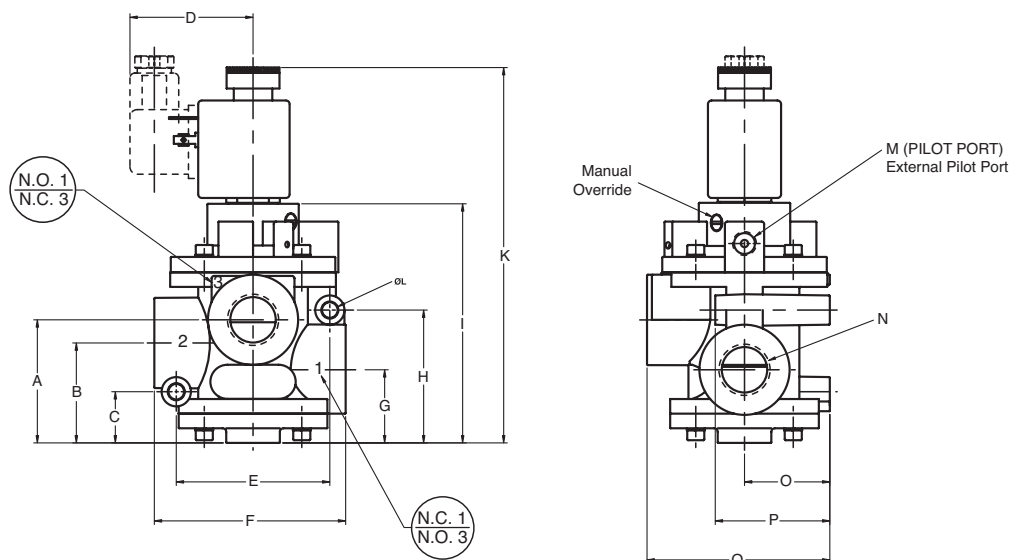
Response Time (Seconds)	Energize	De-Energize
1/2" & 3/4" (NO)	0.016	0.040
1" (NO)	0.018	0.042
1-1/2" (NO)	0.060	0.038

NC: normally closed NO: normally open



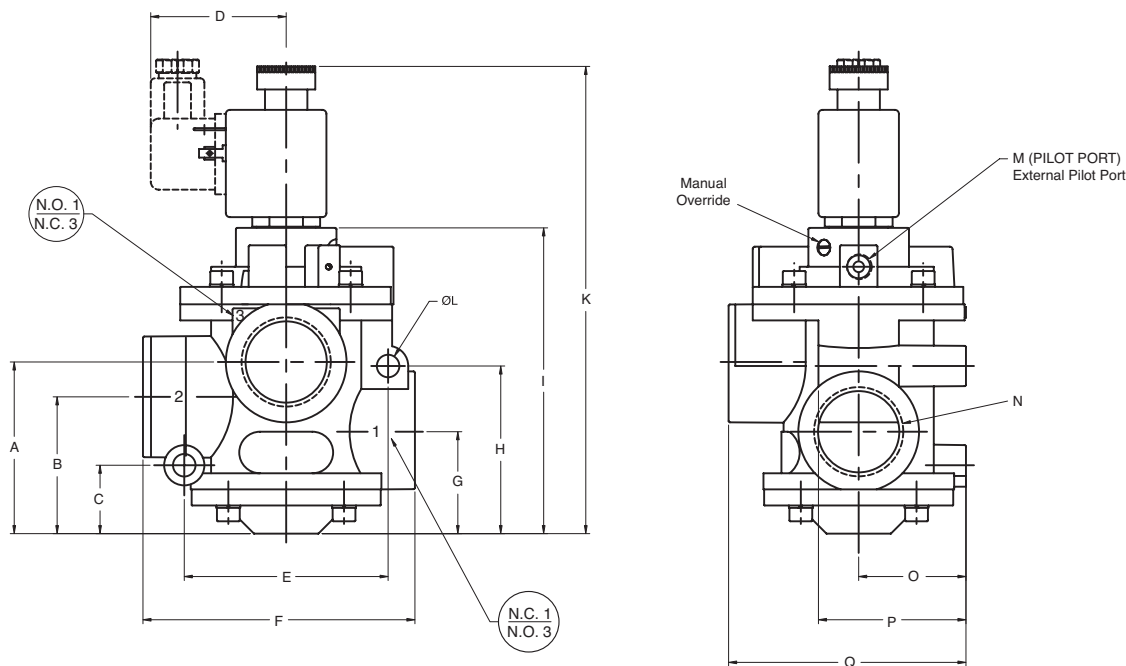
NOTE: Port 3 Cv must not be restricted

### 1/2" to 1" Dimensions for Solenoid Air Pilot Actuated Vacuum Valves



#### 1/2" & 3/4" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q
1.988 (50.5)	1.614 (41.0)	0.827 (21.0)	1.988 (50.5)	2.480 (63.0)	3.091 (78.5)	1.181 (30.0)	2.146 (54.5)	3.996 (101.5)	6.063 (154.0)	0.252 (6.4)	1/8" GTAP	1/2" or 3/4" NPT	1.378 (35.0)	1.850 (47.0)	2.953 (75.0)

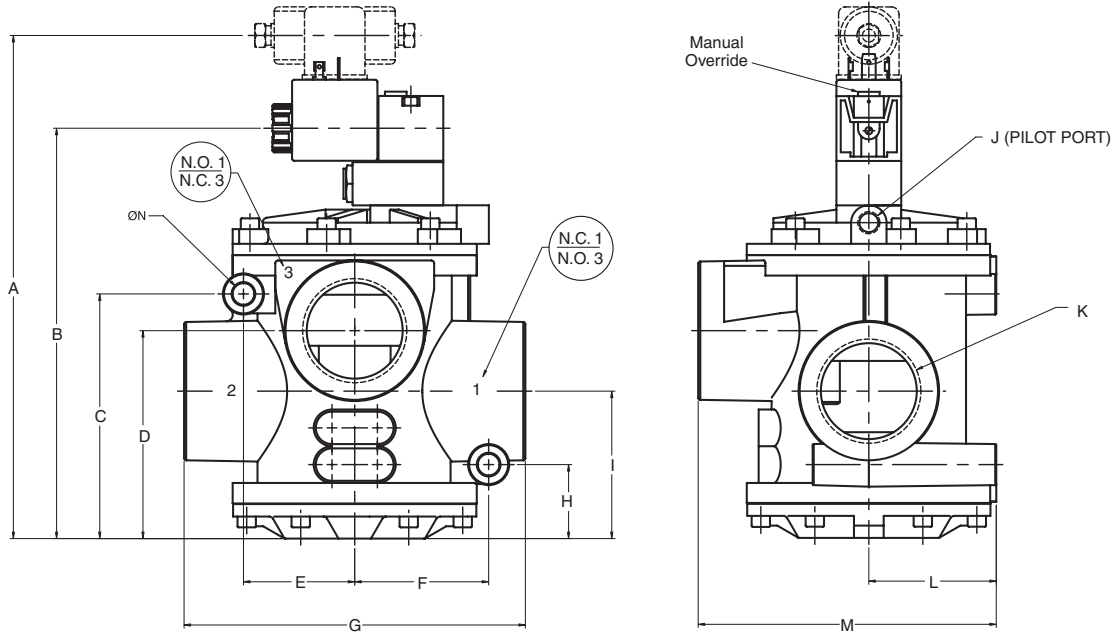


#### 1" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q
2.520 (64.0)	2.008 (51.0)	1.004 (25.5)	1.969 (50.0)	2.992 (76.0)	3.976 (101.0)	1.496 (38.0)	2.461 (62.5)	4.528 (115.0)	6.850 (174.0)	.331 (8.4)	1/8" GTAP	1" NPT	1.575 (40.0)	2.165 (55.0)	3.504 (89.0)



**1-1/2" Dimensions for Solenoid Air Pilot Actuated Vacuum Valves**



**1-1/2" NPT Dimensions: inches (mm)**

A	B	C	D	E	F	G	H	I	J	K	L	M	N
9.173 (233.0)	7.480 (190.0)	4.449 (113.0)	3.780 (96.0)	2.028 (51.5)	2.441 (62.0)	6.220 (158.0)	1.339 (34.0)	2.677 (68.0)	1/8" GTAP	1-1/2" NPT	2.323 (59.0)	5.433 (138.0)	0.394 (10.0)

### Air Pilot Actuated Vacuum Valves - 1/8" to 1-1/2"

- 3-way & 2-way design
- Air pilot actuated
- Diaphragm actuated
- Polyurethane diaphragm
- For lubricated or non-lubricated service

NOTE: 3-ported, 2 position valve (1/8" to 3/8") can be converted to a 2 way valve by inserting a pipe plug into the exhaust port.

NOTE: 1/2" to 1-1/2" valves cannot be converted to a 2 ported (2-way), 2 position valve. If a 2-way valve is required, it must be ordered as a 2-way.



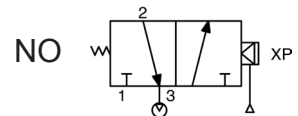
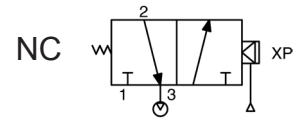
### Technical Data

Ports (NPTF)	1/8"	1/4"	3/8"
Cv	0.5	1.8	2
Operating Vacuum Range	Maximum 29.9" of Hg (759.5 mm of Hg)		
Pilot Range	36 - 145 PSIG (2.5 - 10 Bar)		
Temperature Range	23°F to +122°F ambient (-5°C to +50°C ambient)		

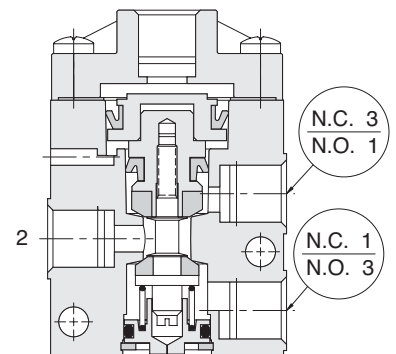
Ports (NPTF)	1/2"	3/4"	1"	1-1/2"
Cv	5	5.6	8.8	24
Operating Vacuum Range	10" - 29.9" of Hg (759.5 mm of Hg)			
Pilot Pressure	43 - 145 PSIG (3 - 10 Bar)		58 - 145 PSIG (4-10 Bar)	
Temperature Range	23°F to + 122°F ambient (-5°C to +50°C ambient)			

Response Time (Seconds)	Energize	De-Energize
1/8" (NC, NO)	0.003	0.006
1/4" & 3/8" (NC, NO)	0.004	0.008
1/2" & 3/4" (NC)	0.006	0.015
1" (NC)	0.007	0.016
1-1/2" (NC)	0.065	0.025

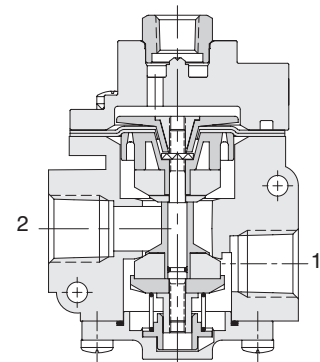
NC: normally closed NO: normally open



1/8" - 3/8"

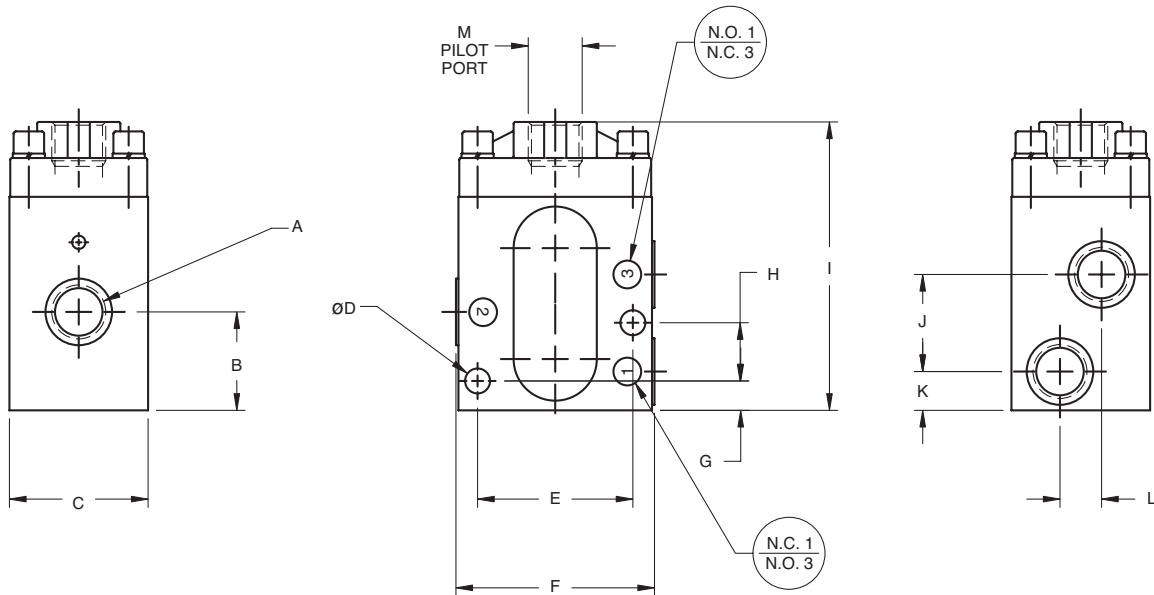


1/2" - 1-1/2"



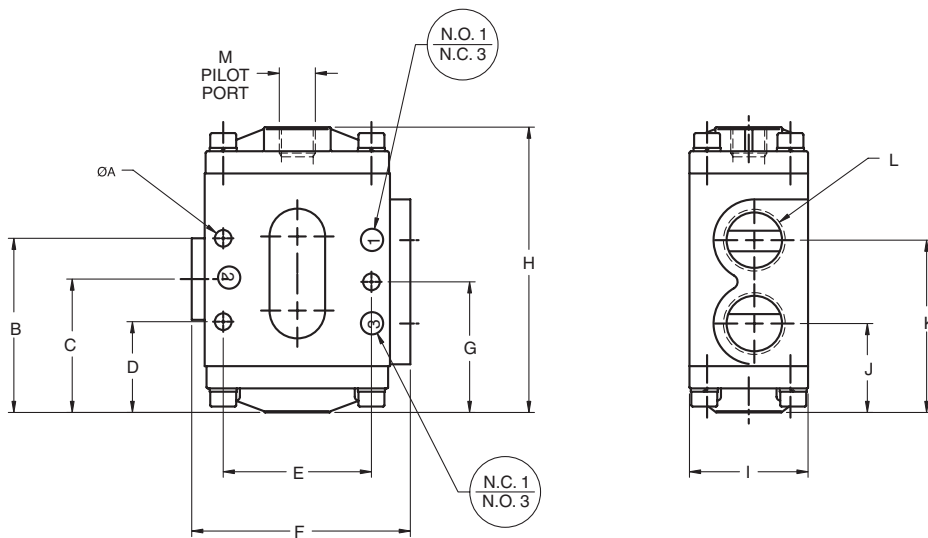
NOTE: Port 3 Cv must not be restricted.

**1/8" to 3/8" Dimensions for Air Pilot Actuated Vacuum Valves**



**1/8" NPT Dimensions: inches (mm)**

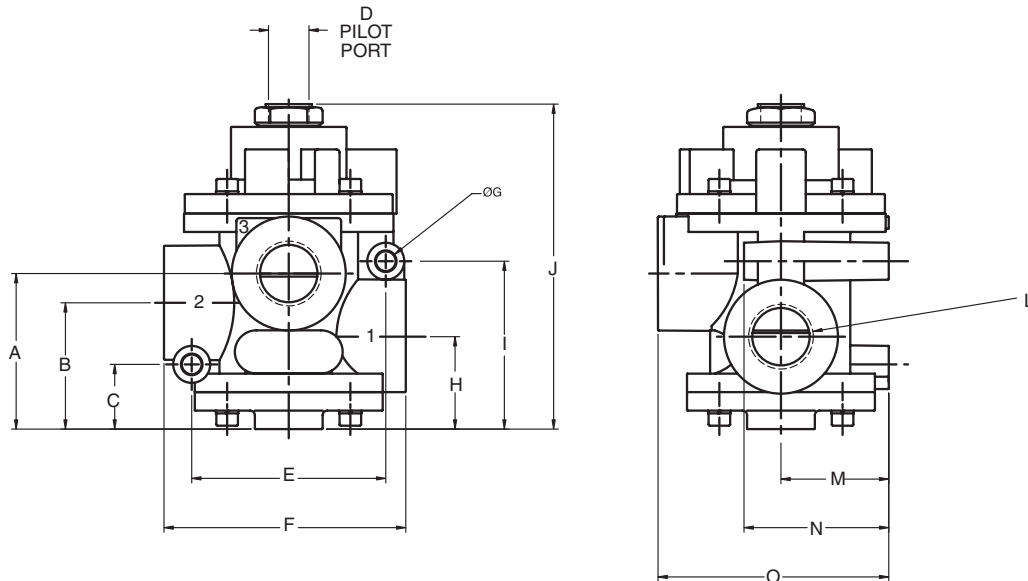
A	B	C	D	E	F	G	H	I	J	K	L	M
1/8" NPT	0.699 (17.8)	0.984 (25.0)	0.177 (4.5)	1.102 (28.0)	1.417 (36.0)	0.209 (5.3)	0.413 (10.5)	1.909 (48.5)	0.689 (17.5)	0.276 (7.0)	0.295 (7.5)	M5



**1/4" & 3/8" NPT Dimensions: inches (mm)**

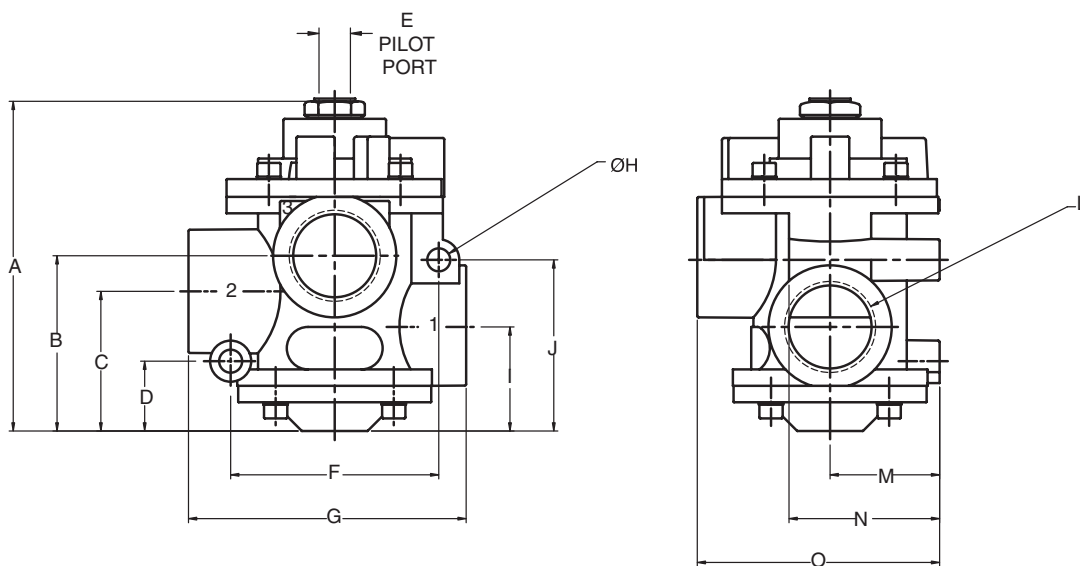
A	B	C	D	E	F	G	H	I	J	K	L	M
0.177 (4.5)	1.850 (47.0)	1.417 (36.0)	0.945 (24.0)	1.575 (40.0)	2.362 (60.0)	1.398 (35.5)	3.031 (77.0)	1.260 (32.0)	0.945 (24.0)	1.850 (47.0)	1/4" or 3/8" NPT	1/8" GTAP

### 1/2" to 1" Dimensions for Air Pilot Actuated Vacuum Valves



#### 1/2" & 3/4" NPT Dimensions: inches (mm)

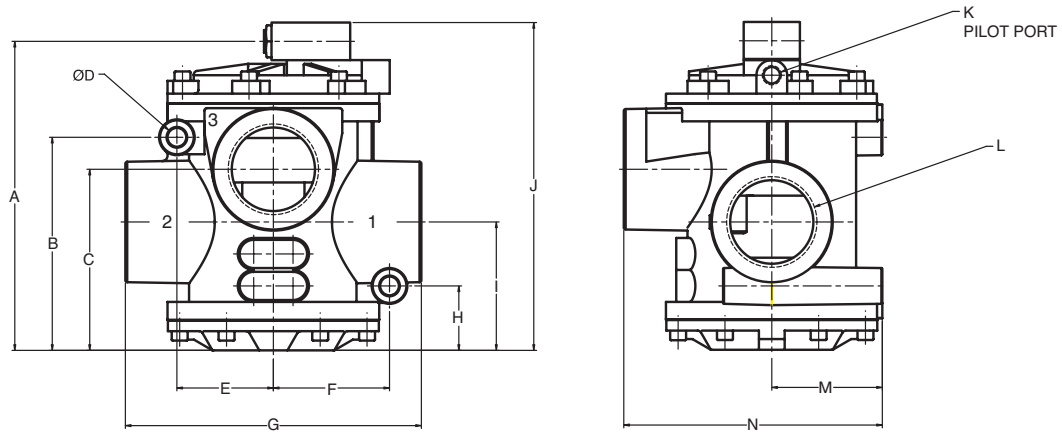
A	B	C	D	E	F	G	H	I	J	L	M	N	O
1.988 (50.5)	1.614 (41.0)	0.827 (21.0)	1/4" NPT	2.480 (63.0)	3.091 (78.5)	0.252 (6.4)	1.181 (30.0)	2.146 (54.5)	4.134 (105.0)	1/2" or 3/4" NPT	1.378 (35.0)	1.850 (47.0)	2.953 (75.0)



#### 1" NPT Dimensions: inches (mm)

A	B	C	D	E	F	G	H	I	J	L	M	N	O
4.744 (120.5)	2.520 (64.0)	2.008 (51.0)	1.004 (25.5)	1/4" NPT	2.992 (76.0)	3.976 (101.0)	0.331 (8.4)	1.496 (38.0)	2.461 (62.5)	1" NPT	1.575 (40.0)	2.165 (55.0)	3.484 (88.5)

**1-1/2" Dimensions for Air Pilot Actuated Vacuum Valves**



**1-1/2" NPT Dimensions: inches (mm)**

A	B	C	D	E	F	G	H	I	J	K	L	M	N
6.467 (164.3)	4.449 (113.0)	3.780 (96.0)	0.433 (11.0)	2.028 (51.5)	2.441 (62.0)	6.220 (158.0)	1.339 (34.0)	2.677 (68.0)	6.860 (174.3)	1/8" NPT	1-1/2" NPT	2.323 (59.0)	5.433 (138.0)

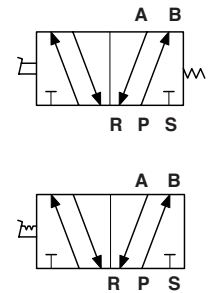
### NM Series Pedal Valve

- 5 port 4-way valve
- Nylon shell & steel reinforced base plate
- Die cast zinc alloy valve body
- Spring return & detented models
- Large opening for foot operation



### Technical Data

Ports (NPTF)	1/4" Spring	1/4" Pedal
Cv	0.8	
Flow Capacity	22.74 SCFM (800 NI/min)	
Maximum Operating Pressure	145 PSIG (10 Bar)	
Temperature Range	14°F to +155°F ambient (-10°C to +70°C ambient)	
Fluid Temperature Range	14°F to +155°F ambient (-10°C to +70°C ambient)	

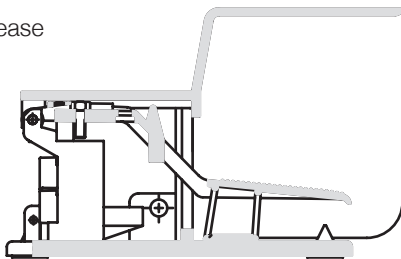


### Operating Data

Foot Pedal Description	Part No.
1/4" GTAP Spring Return	NM2FA452AG00000
1/4" GTAP Detented	NM2FD452AG00000

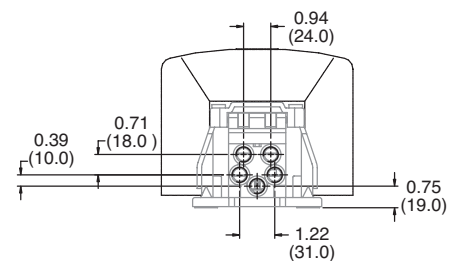
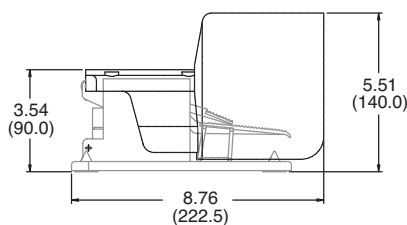
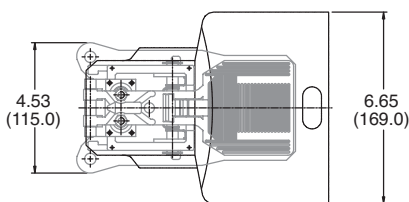
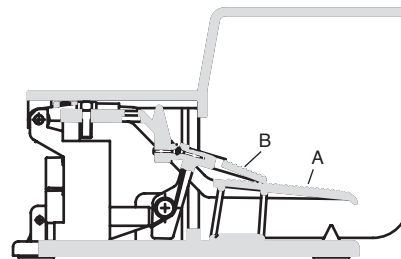
### Spring Return Pedal

Press & Release  
Operation




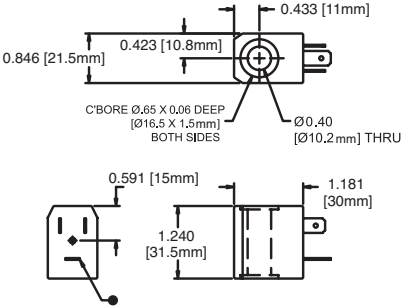
### Detented Operation Pedal

Press main pedal A  
to actuate & lock.  
Press lock pedal B  
to release.



### Pedal Valve Dimensions: inches (mm)

**U1 Coil (for 1/8", 1/4" & 3/8" sizes)**

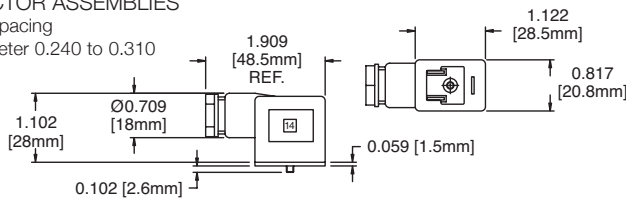
Type	Overall Dimensions	*Duty Cycle	Consumption		Tolerance		Mass Kg	Rated Voltage	Part Number
			Continuous	In-Rush	Frequency	Voltage			
 Coil Nut AM-5211A		100%	3.5W	3.5W	—	±10%	0.10	12VDC	DA-0050
								24VDC	DA-0051
		100%	0.04A	0.07A	±5%	±10%	0.10	110V/50-60HZ	DA-0108
								220V/50-60HZ	DA-0124

\*Under continuous service a maximum temperature will not compromise the functioning of the coil provided that the working position is ventilated.

**PLUG-IN CONNECTOR ASSEMBLIES**


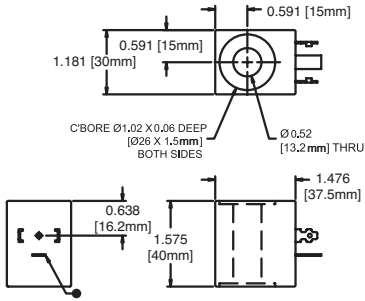
Mini-Din: 11mm pin spacing

\*Accepts Cable Diameter 0.240 to 0.310



Plug Connector Description	Part No.
Black Plug Assembly	230-364
Plug with 12 VDC Light	230-385
Plug assembly with 24V Light	230-365
Plug assembly with 110V Light	230-366
Plug assembly with 220V Light	230-367

**U2 Coil (for 1/2", 3/4", 1" & 1-1/2" sizes)**

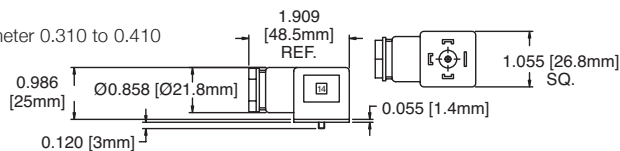
Type	Overall Dimensions	*Duty Cycle	Consumption		Tolerance		Mass Kg	Rated Voltage	Part Number
			Continuous	In-Rush	Frequency	Voltage			
 Coil Nut AM-5212A		100%	11W	11W	—	±10%	0.10	12VDC	DB-0501
								24VDC	DB-0502
		100%	0.08A	0.13A	±5%	±10%	0.10	110V/50-60HZ	DB-0509
								220V/50-60HZ	DB-0510

\*Under continuous service a maximum temperature will not compromise the functioning of the coil provided that the working position is ventilated.

**PLUG-IN CONNECTOR ASSEMBLIES**

18mm pin spacing

\*Accepts Cable Diameter 0.310 to 0.410



Plug Connector Description	Part No.
Black Plug Assembly	230-370
Plug assembly with 12-24V Light	230-371
Plug assembly with 110V Light	230-372
Plug assembly with 220V Light	230-373

**Repair Kits - NF & NG Series**

Port Size	NF Series Sol & Air Pilot	NG Series Ext. Air Pilot
1/8"	AF-9655	N/A
1/4" - 3/8"	AF-9660	AG-9660
1/2" - 3/4"	AF-9665	AG-9665
1"	AF-9670	AG-9670
1-1/2"	AF-9675	AG-9675

Pipe Plug - NAF Series	Part No.
1/8"	129-100
1/4"	129-101
3/8"	129-102

### Standard Poppet Valve Weight Requirements

#### Solenoid Pilot (Internal) for Air

Port (NPT)	Function	Weight	
		Lbs	Kg
1/8"	3/2 NC, NO	0.70	0.32
1/4"	3/2 NC, NO	1.50	0.68
3/8"	3/2 NC, NO	1.45	0.66
1/2"	3/2 NC	3.10	1.41
1/2"	3/2 NO	3.05	1.38
3/4"	3/2 NC	2.85	1.29
3/4"	3/2 NO	2.55	1.16
1"	3/2 NC	4.20	1.91
1"	3/2 NO	4.25	1.93
1"	2/2 NC	3.90	1.77
1-1/2"	3/2 NC	6.25	2.83
1-1/2"	3/2 NO	6.10	2.77
1-1/2"	2/2 NC	5.65	2.56

#### Solenoid Pilot (External) for Vacuum

Port (NPT)	Function	Weight	
		Lbs	Kg
1/8"	3/2 NC, NO	0.70	0.32
1/4"	3/2 NC, NO	1.80	0.82
3/8"	3/2 NC, NO	1.80	0.82
1/2"	3/2 NC	3.10	1.41
1/2"	3/2 NO	3.05	1.38
3/4"	3/2 NC, NO	2.85	1.29
1"	3/2 NC	4.20	1.91
1"	3/2 NO	4.25	1.93
1-1/2"	3/2 NC	6.25	2.83
1-1/2"	3/2 NO	6.10	2.77

#### Air Pilot (External) for Air

Port (NPT)	Function	Weight	
		Lbs	Kg
1/8"	3/2 NC, NO	0.45	0.20
1/4"	3/2 NC, NO	1.25	0.57
3/8"	3/2 NC	1.20	0.54
1/2"	3/2 NC	2.70	1.22
1/2"	2/2 NC	3.15	1.43
3/4"	3/2 NC	2.55	1.16
3/4"	2/2 NC	2.90	1.32
1"	3/2 NC	3.90	1.77
1"	3/2 NO	3.50	1.59
1"	2/2 NC	4.25	1.93
1-1/2"	3/2 NC	5.45	2.47
1-1/2"	3/2 NO	4.80	2.19
1-1/2"	2/2 NC	6.35	2.63

#### Air Pilot (External) for Vacuum

Port (NPT)	Function	Weight	
		Lbs	Kg
1/8"	3/2 NC, NO	0.45	0.20
1/4"	3/2 NC, NO	1.25	0.57
3/8"	3/2 NC	1.20	0.54
1/2"	3/2 NC	2.70	1.22
1/2"	2/2 NC	3.15	1.43
3/4"	3/2 NC	2.55	1.16
3/4"	2/2 NC	2.90	1.32
1"	3/2 NC	3.90	1.77
1"	3/2 NO	3.50	1.59
1"	2/2 NC	4.25	1.93
1-1/2"	3/2 NC	5.45	2.47
1-1/2"	3/2 NO	4.80	2.19
1-1/2"	2/2 NC	6.35	2.63



### **Poppet Valve FAQs**

1. Are different coils available on the smaller sized poppet valves?  
*Yes, but a special part number is required.*
2. Is the manual override held captive in place?  
*Yes, the solenoid stem itself locates and holds this brass manual override in place. There is a slot (or groove) on the manual override.*
3. Is there an option code for external piloting solenoid air valves?  
*The option code is 14A.*
4. What are these valves best suited for?  
*These valves are particularly suitable for applications where high flow and cycle rates are required.*
5. Is a lower watt solenoid operator available?  
*Yes, for U1 solenoid stems a 2.5 watt is available.*
6. Is field conversion from internal to external pilot supply possible?  
*Yes, in certain cases. Please consult factory.*
8. Is it possible to convert NC to NO?  
*No, it is not.*
9. What is the cycle life of the poppet valves?  
*Recent tests have recorded 9 million cycles.*
10. Are FKM seals available with the poppet valve?  
*No, they are not available.*
11. Are poppet valves strictly used for air?  
*Inert gases can be used with these valves.*
12. Can the internally piloted vacuum valve operate in an “open” circuit?  
*No, as stated, 5.9" of Hg is the minimum required.*



## World Headquarters

### **USA - Numatics, Incorporated**

46280 Dylan Drive  
Novi, Michigan 48377

P: 248-596-3200  
F: 248-596-3201

### **Canada - Numatics, Ltd**

P: 519-758-2700  
F: 519-758-5540

### **México - Ascomatica SA de CV**

P: 52 55 58 09 56 40 (DF y Area metropolitana)  
P: 01 800 000 2726 (Interior de la República)  
F: 52 55 58 09 56 60

### **Brazil - Ascoval Ind.e Comercio Ltda**

P: (55) 11-4208-1700  
F: (55) 11-4195-3970