



**Improve machine reliability and
reduce unplanned downtime**

AVENTICS™ Series 227 Poppet Valves

Rugged, high flow valves ideal for single-acting cylinders, air bellows,
and vacuum material handling



Poppet Valves

| | |
|-----------------------|---|
| Features and Benefits | 3 |
| How to Order | 3 |

Series 227 - Compressed Air Valve

Solenoid Air Pilot Actuated

| | |
|-------------------------------|-----|
| 1/8" to 3/8" Technical Data | 4 |
| 1/8" to 3/8" Dimensions | 5-6 |
| 1/2" to 1-1/2" Technical Data | 7 |
| 1/2" to 1-1/2" Dimensions | 8-9 |

Air Pilot Actuated

| | |
|-------------------------------|-------|
| 1/8" to 1-1/2" Technical Data | 10 |
| 1/8" to 3/8" Dimensions | 11-12 |
| 1/2" to 1-1/2" Dimensions | 12-13 |

Series 227 - Vacuum Valve

Solenoid Air Pilot Actuated

| | |
|-------------------------------|-------|
| 1/8" to 3/8" Technical Data | 14 |
| 1/8" to 3/8" Dimensions | 15-16 |
| 1/2" to 1-1/2" Technical Data | 17 |
| 1/2" to 1-1/2" Dimensions | 18-19 |

Air Pilot Actuated

| | |
|-------------------------------|-------|
| 1/8" to 1-1/2" Technical Data | 20 |
| 1/8" to 3/8" Dimensions | 21-22 |
| 1/2" to 1-1/2" Dimensions | 22-23 |

Series 227 - Foot Pedal Valve

| | |
|----------------|----|
| Technical Data | 24 |
|----------------|----|

Accessories

| | |
|--------------------------------|----|
| Coils, Repair Kits, Pipe Plugs | 25 |
|--------------------------------|----|

Additional Information

| | |
|---|----|
| Standard Poppet Valve Weight Requirements | 26 |
| FAQs | 27 |

For Compressed Air and Vacuum

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

- CAD Drawings Available
- High Flow
- Rugged Design
- Low Cost
- cURus Approved Coils



How to Order

8 227 A 1 N B 1 0 A00 00

Connection Type

- 8 = NPT
- G = G

Product Series

- 227 = Poppet Valve

Revision

- A = Initial Release

Item Type

- ³1 = Poppet for Compressed Air
- 2 = Poppet for Vacuum (requires External Pilot option 14A)
- 3 = Foot Pedal

Function

- ⁴G = 2 Position, 2 Way (2/2) NC
- N = 2 Position, 3 Way (3/2) NC
- ³P = 2 Position, 3 Way (3/2) NO
- 4 = 2 Position, 4 Way (5/2) (Foot Pedal Version ONLY)

Actuation

- A = Solenoid Pilot w/ Spring Return
- P = Air Pilot w/Spring Return
- F = Foot Pedal w/ Spring Return
- D = Foot Pedal w/out Spring

Voltage

- 00 = None
- C7 = 110-120 VAC/50-60 Hz
- ²F3 = 12 VDC
- F1 = 24 VDC

Options

- A00 = None
- 11M = COVER WITH NO OVERRIDE ACCESS
- 14A = EXTERNAL PILOT (standard on Air Pilot only valves)
- 60T = WITH FIELD INSTALLABLE ELECT. CONNECTOR(S) W/O LIGHT
- 66W = WITH FIELD INSTALLABLE ELECT. CONNECTOR(S) W/LIGHT
- 68C = 11M+14A
- 68D = 11M+66W
- 68E = 14A+66W
- 68F = 11M+60T
- 68G = 14A+60T
- 69A = 11M+14A+66W
- 69B = 11M+14A+60T

Wiring

- 0 = None
- 1 = DIN Plug

Port Size

- ⁴1 = 1/8 ^{2,35} = 3/4
- ^{1,42} = 1/4 ^{2,36} = 1
- ⁴3 = 3/8 ²⁸ = 1-1/2
- ^{2,34} = 1/2

¹Foot Pedal only offered with G 1/4 ports

²12 VDC not available with port sizes 1/2 and larger

³3/2 NO Poppet for Compressed Air not available with port size 1/2, 3/4, or 1

⁴2/2 Function not available with port size 1/8, 1/4, or 3/8

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

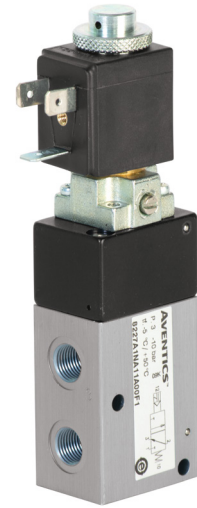
- 2 Position, 3 Way (3/2)
- Normally Closed (NC) or Normally Open (NO)
- Internal or External Pilot
- Solenoid pilot actuated
- Use with air or neutral gas
- AC & DC voltages available

NOTE:

3/2 valve (1/8" to 3/8") can be converted to a 2/2 valve by inserting a pipe plug into the exhaust port

NOTE:

For the Normally Open (NO) version the inlet port must connect to the exhaust port No "3"



Technical Data

| Ports (NPTF) | 1/8" | 1/4" | 3/8" |
|-----------------------------|--|------|--------------------------|
| Cv | 0.84 | 1.56 | 1.8 |
| Operating Pressure Range | 43.5-145 PSIG (3-10 Bar) | | 36-145 PSIG (2.5-10 Bar) |
| Temperature Range (Ambient) | 23° to +113°F ambient (-5° to +45°C ambient) | | |
| Coil Size | 22mm | | |

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

Internal Pilot

External Pilot

NC



NO



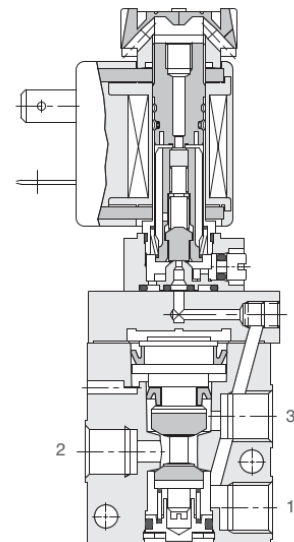
Operating Data

| Voltage | 12 VDC | 24 VDC | 110 VAC 50-60 Hz |
|-------------------|--------|--------|------------------|
| Power Consumption | 5W | | 8VA |

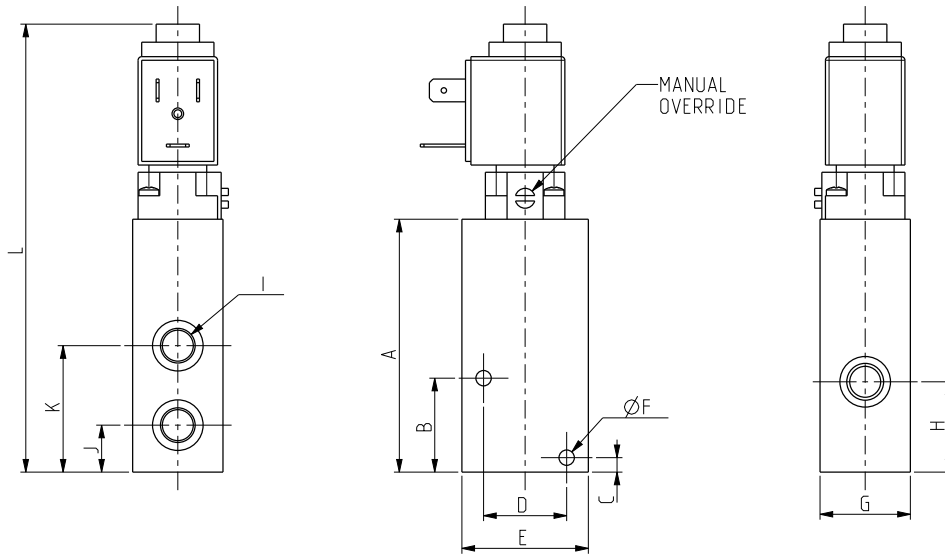
Plug Specifications: NEMA 4, IP 65 with plug-in connector
Solenoid Rating: Continuous Duty

| Response Time (Seconds) | Energize | De-Energize |
|-------------------------|----------|-------------|
| 1/8" (NC) | 0.018 | 0.032 |
| 1/4" (NC) | 0.016 | 0.057 |
| 3/8" (NC) | 0.014 | 0.034 |

NC: normally closed

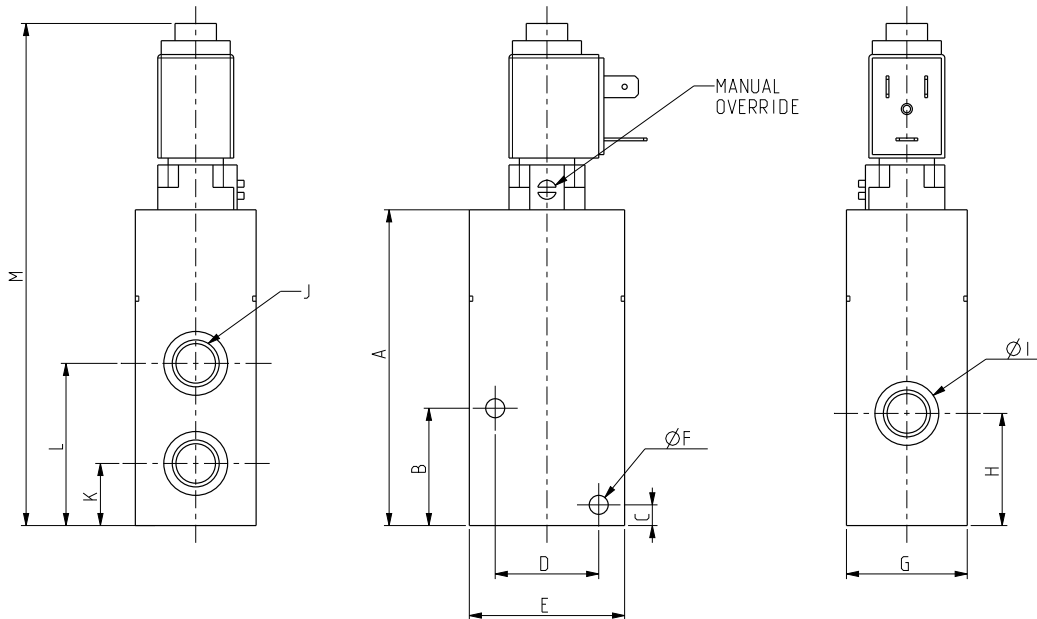


1/8" to 1/4" Dimensions for Solenoid Air Pilot Actuated



1/8" NPT Dimensions: inches (mm)

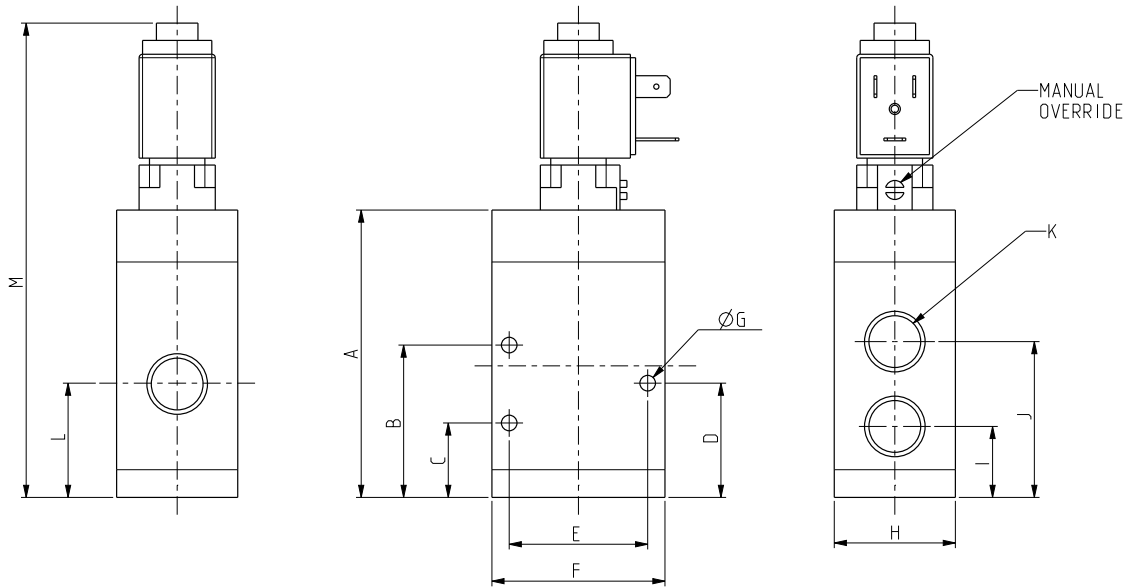
| A | B | C | D | E | F | G | H | I | J | K | L |
|-----------------|-----------------|---------------|----------------|-----------------|----------------|--------------|--------------|-------------|----------------|-----------------|------------------|
| 2.756 (70.0) | 1.024 (26.0) | .157 (4.0) | .906 (23.0) | 1.378 (35.0) | .167 (4.25) | .984 (25) | .984 (25) | 1/8" NPT | .512 (13.0) | 1.378 (35.0) | 4.882 (124.0) |



1/4" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----------------|-----------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|----------------|-------------|----------------|-----------------|------------------|
| 3.602 (91.5) | 1.339 (34.0) | .236 (6.0) | 1.181 (30.0) | 1.772 (45.0) | .217 (5.5) | 1.378 (35) | 1.280 (32.5) | .728 (18.5) | 1/4" NPT | .709 (18.0) | 1.850 (47.0) | 5.728 (145.5) |

3/8" Dimensions for Solenoid Air Pilot Actuated



3/8" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|-------------|-----------------|------------------|
| 3.268 (83.0) | 1.732 (44.0) | .846 (21.5) | 1.299 (33.0) | 1.575 (40.0) | 1.969 (50.0) | .177 (4.5) | 1.378 (35.0) | .807 (20.5) | 1.772 (45.0) | 3/8" NPT | 1.299 (33.0) | 5.394 (137.0) |

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

- 2 Position, 2 Way (2/2) and 3 Way (3/2)
- Normally Closed (NC) or Normally Open (NO)
- Internal or External Pilot
- Solenoid pilot actuated
- Use with air or neutral gas
- AC & DC voltages available

NOTE:
1/2" to 1-1/2" valves cannot be converted to a 2/2 valve. If a 2/2 valve is required, it must be ordered as such.

NOTE:
1-1/2" valve, for the Normally Open (NO) version the inlet port must be connect to the exhaust port No "3"

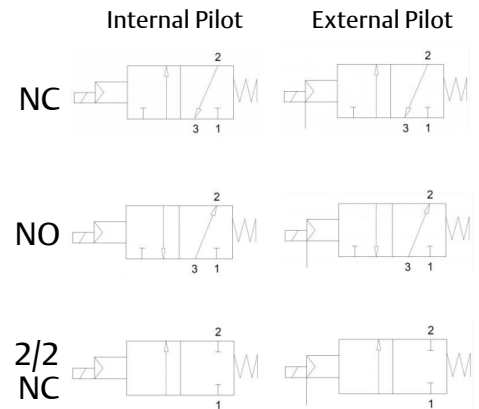
NOTE:
Normally Open (NO) version not available in sizes 1/2, 3/4 and 1



Technical Data

| Ports (NPTF) | 1/2" | 3/4" | 1" | 1-1/2" |
|-----------------------------|--|------|------|--------|
| Cv | 4.8 | 6.1 | 12.0 | 33.5 |
| Operating Pressure Range | 36-145 PSIG (2.5-10 Bar) | | | |
| Temperature Range (Ambient) | 23°F to +113°F ambient (-5°C to +45°C ambient) | | | |
| Coil Size | 30mm | | | |

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



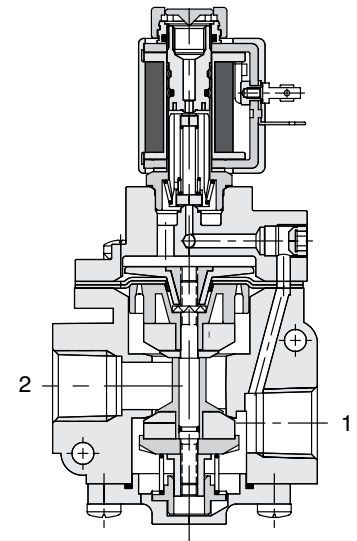
Operating Data

| Ports (NPTF) | 1/2" & 3/4" | | 1" & 1-1/2" | |
|-------------------|-------------|--------|-------------|----------------------------|
| Voltage | 24VDC | 110VAC | 24VDC | 115VAC 50Hz 120VAC 60Hz |
| Power Consumption | 4W | 9VA | 3W | 4VA |

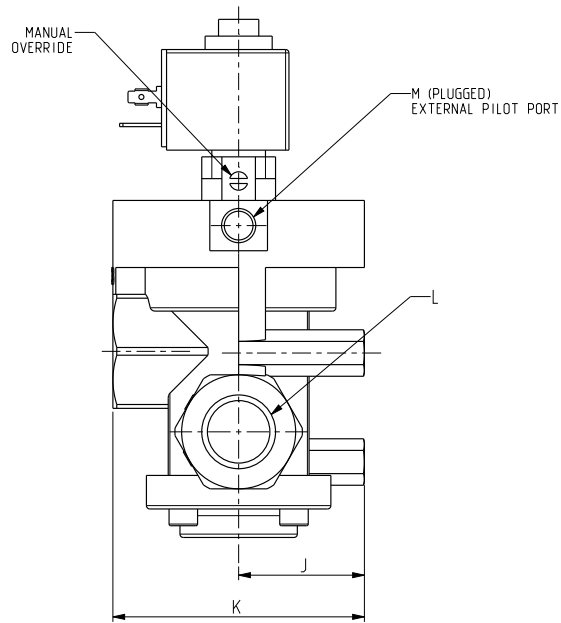
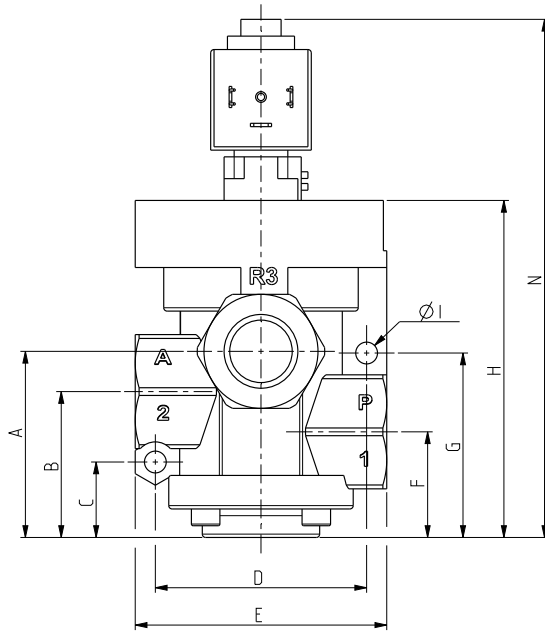
Plug Specifications: NEMA 4, IP 65 with plug-in connector
Solenoid Rating: Continuous Duty

| Response Time (Seconds) | Energize | De-Energize |
|-------------------------|----------|-------------|
| 1/2" (NC) | 0.021 | 0.044 |
| 3/4" (NO) | 0.021 | 0.042 |
| 1" (NC) | 0.031 | 0.098 |
| 1-1/2" (NC) | 0.067 | 0.052 |

NC: normally closed

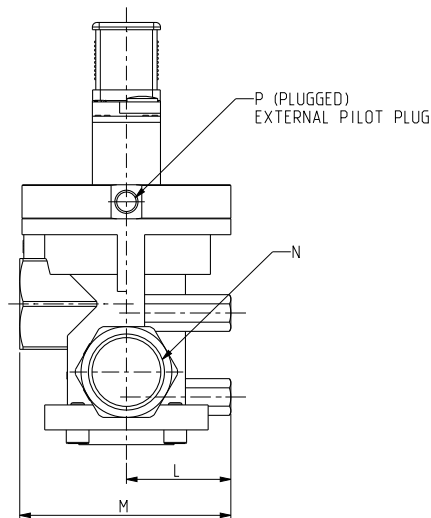
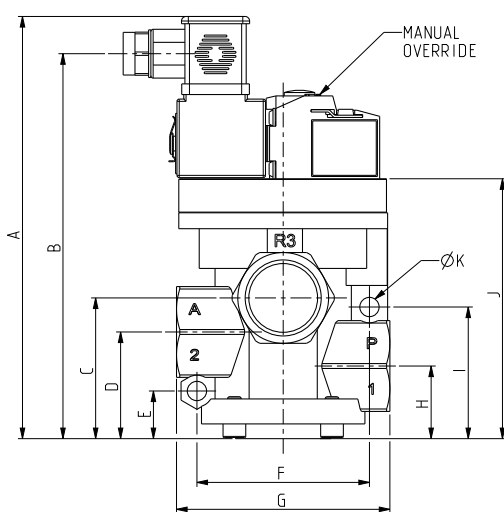


1/2" to 1" Dimensions for Solenoid Air Pilot Actuated



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

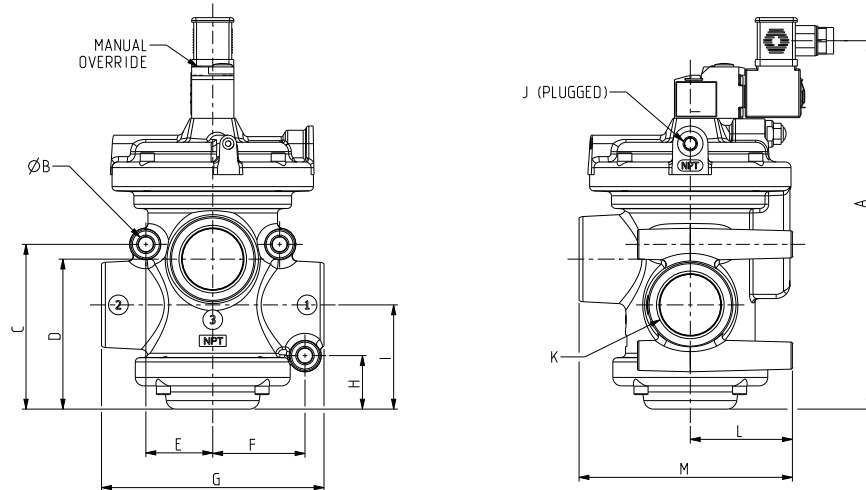
| A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------|-----------------|-----------------|---------------------|--------------|------------------|
| 2.185 (55.5) | 1.713 (43.5) | .886 (22.5) | 2.480 (63.0) | 2.953 (75.0) | 1.240 (31.5) | 2.165 (55.0) | 3.957 (100.5) | .256 (6.5) | 1.476 (37.5) | 2.953 (75.0) | 1/2" TO 3/4" NPT | 1/8" GTAP | 6.083 (154.5) |



1" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | P |
|------------------|------------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------|-----------------|-----------------|-----------|--------------|
| 7.323 (186.0) | 6.677 (169.6) | 2.441 (62.0) | 1.850 (47.0) | .827 (21.0) | 2.992 (76.0) | 3.701 (94.0) | 1.260 (32.0) | 2.283 (58.0) | 4.508 (114.5) | .335 (8.5) | 1.811 (46.0) | 3.661 (93.0) | 1" NPT | 1/8" GTAP |

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

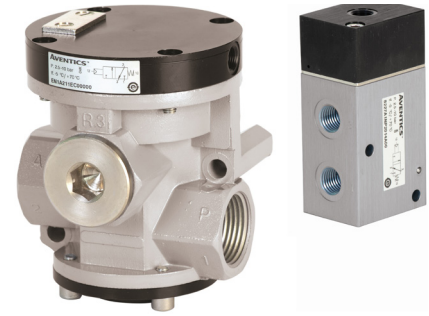


1-1/2" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|-------------------|----------------|------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|--------------|---------------|-----------------|------------------|
| 10.299 (261.6) | .394 (10.0) | 4.606 (117.0) | 4.193 (106.5) | 1.870 (47.5) | 2.579 (65.5) | 6.220 (158.0) | 1.496 (38.0) | 2.913 (74.0) | 1/8" GTAP | 1-1/2" NPT | 2.854 (72.5) | 5.965 (151.5) |

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

- 2 Position, 2 Way (2/2) and 3 Way (3/2)
- Normally Closed (NC) or Normally Open (NO)
- Air pilot actuated (External Pilot)
- Use with air or neutral gases
- For lubricated or non-lubricated service

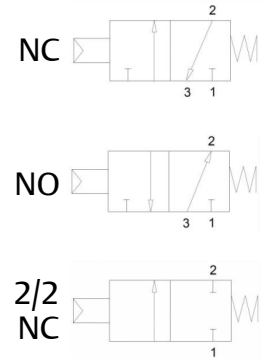


NOTE:
3/2 valve (1/8" to 3/8") can be converted to a 2/2 valve by inserting a pipe plug into the exhaust port

NOTE:
1/2" to 1-1/2" valves cannot be converted to a 2/2 valve. If a 2/2 valve is required, it must be ordered as such.

NOTE:
1/8", 1/4", 3/8" and 1-1/2" valves, for the Normally Open (NO) version the inlet port must be connect to the exhaust port No "3"

NOTE:
Normally Open (NO) version not available in sizes 1/2, 3/4 and 1"



Technical Data

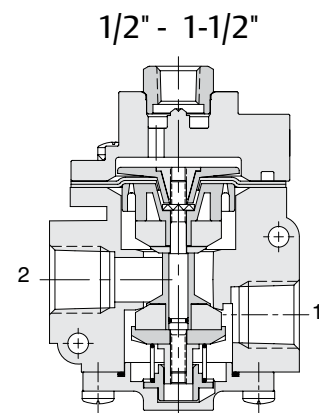
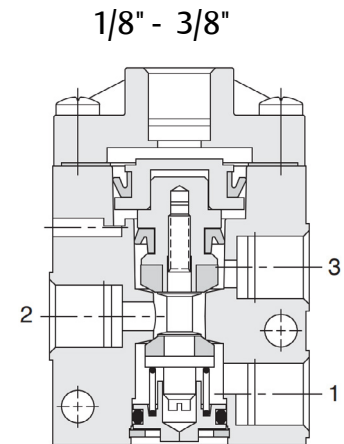
| Ports (NPTF) | 1/8" | 1/4" | 3/8" |
|--------------------------|--|------|------|
| Cv | 0.84 | 1.56 | 1.8 |
| Operating Pressure Range | 36-145 PSIG (2.5-10 Bar) | | |
| Pilot Pressure | Minimum 36 PSIG (2.5) | | |
| Temperature Range | 23° to +158°F ambient (-5° to +70°C ambient) | | |

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

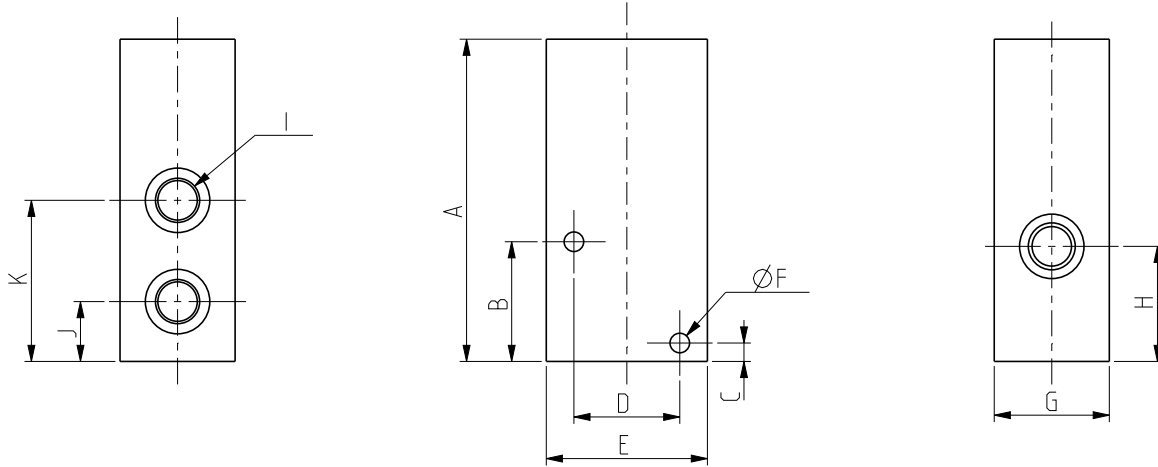
| Ports (NPTF) | 1/2" | 3/4" | 1" | 1-1/2" |
|--------------------------|--|------|------|--------|
| Cv | 4.8 | 6.1 | 12.0 | 33.5 |
| Operating Pressure Range | 36-145 PSIG (2.5-10 Bar) | | | |
| Pilot Pressure | Minimum 36 PSIG (2.5) | | | |
| Temperature Range | 23° to +158°F ambient (-5° to +70°C 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

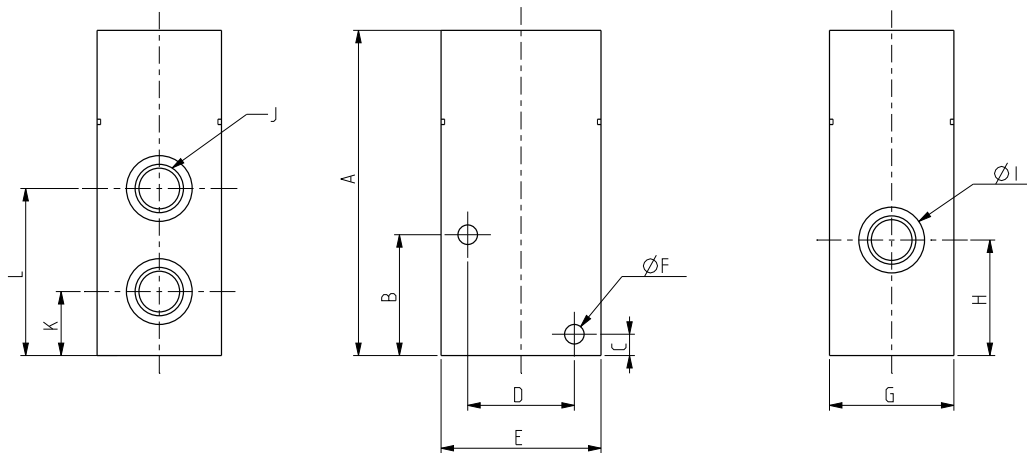


1/8" to 1/4" Dimensions for Air Pilot Actuated



1/8" NPT Dimensions: inches (mm)

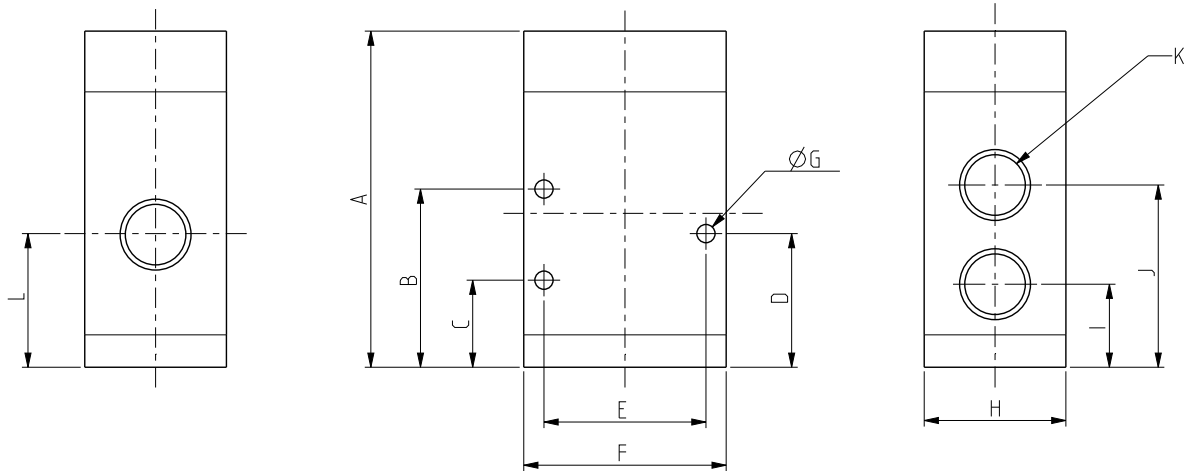
| A | B | C | D | E | F | G | H | I | J | K |
|-----------------|-----------------|---------------|----------------|-----------------|----------------|--------------|--------------|-------------|----------------|-----------------|
| 2.756 (70.0) | 1.024 (26.0) | .157 (4.0) | .906 (23.0) | 1.378 (35.0) | .167 (4.25) | .984 (25) | .984 (25) | 1/8" NPT | .512 (13.0) | 1.378 (35.0) |



1/4" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L |
|-----------------|-----------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|----------------|-------------|----------------|-----------------|
| 3.602 (91.5) | 1.339 (34.0) | .236 (6.0) | 1.181 (30.0) | 1.772 (45.0) | .217 (5.5) | 1.378 (35) | 1.280 (32.5) | .728 (18.5) | 1/4" NPT | .709 (18.0) | 1.850 (47.0) |

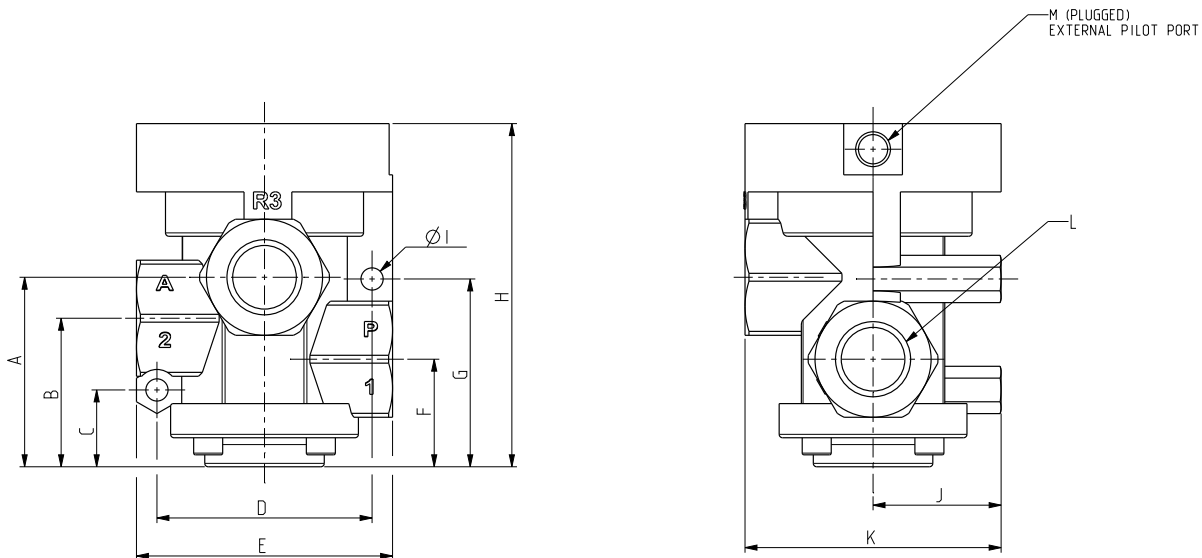
3/8" Dimensions for Air Pilot Actuated



3/8" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|-------------|-----------------|
| 3.268 (83.0) | 1.732 (44.0) | .846 (21.5) | 1.299 (33.0) | 1.575 (40.0) | 1.969 (50.0) | .177 (4.5) | 1.378 (35.0) | .807 (20.5) | 1.772 (45.0) | 3/8" NPT | 1.299 (33.0) |

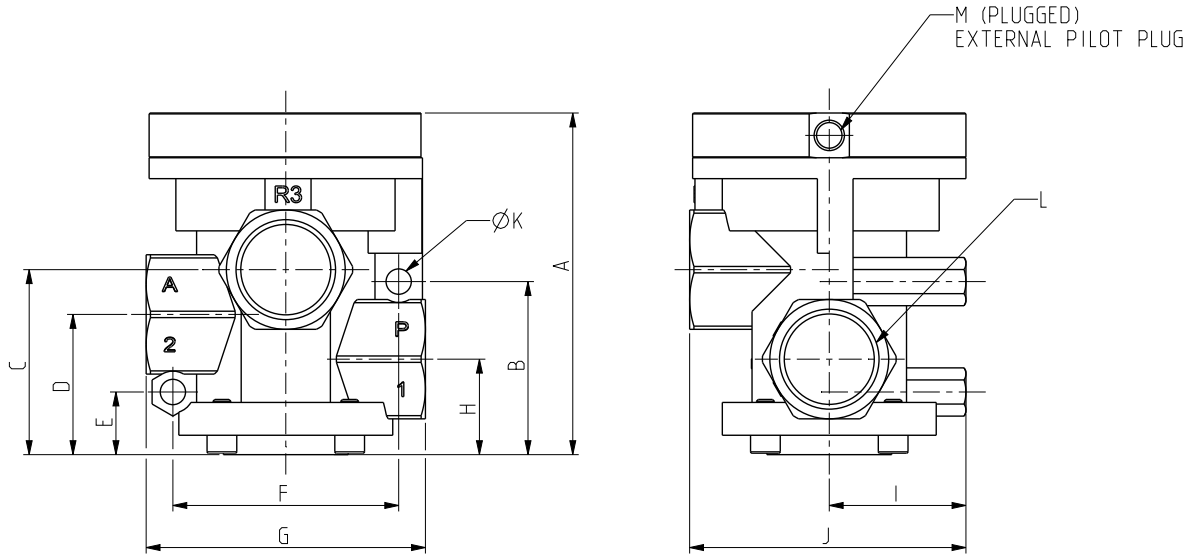
1/2" & 3/4" Dimensions for Air Pilot Actuated



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

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------|-----------------|-----------------|---------------------|--------------|
| 2.185 (55.5) | 1.713 (43.5) | .886 (22.5) | 2.480 (63.0) | 2.953 (75.0) | 1.240 (31.5) | 2.165 (55.0) | 3.957 (100.5) | .256 (6.5) | 1.476 (37.5) | 2.953 (75.0) | 1/2" TO 3/4" NPT | 1/8" GTAP |

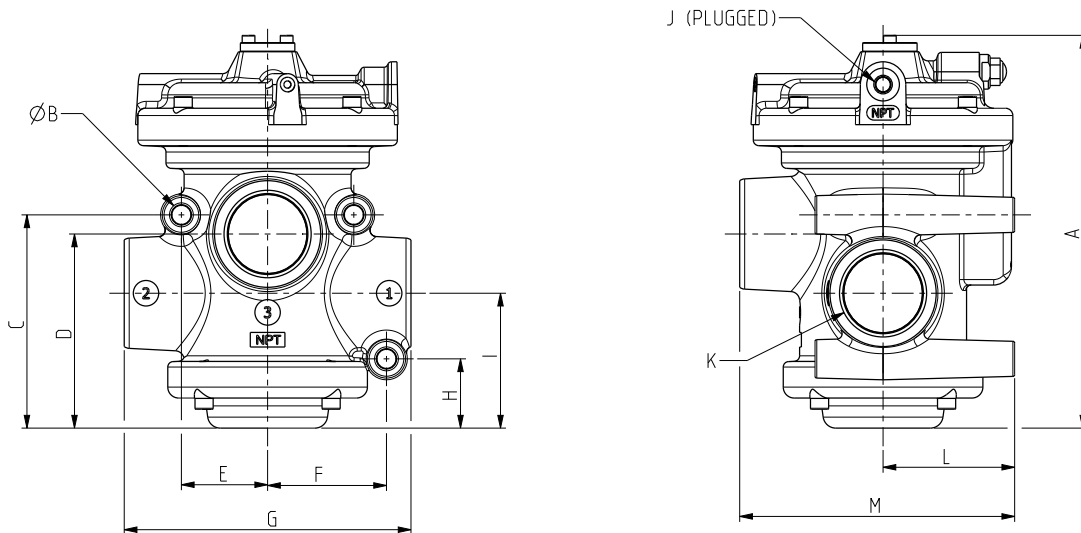
1" Dimensions for Air Pilot Actuated



1" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|------------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|-----------|--------------|
| 4.508 (114.5) | 2.283 (58.0) | 2.441 (62.0) | 1.850 (47.0) | .827 (21.0) | 2.992 (76.0) | 3.701 (94.0) | 1.260 (32.0) | 1.811 (46.0) | 3.661 (93.0) | .335 (8.5) | 1" NPT | 1/8" GTAP |

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 |
|------------------|----------------|------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|--------------|---------------|-----------------|------------------|
| 8.484 (215.5) | .394 (10.0) | 4.606 (117.0) | 4.193 (106.5) | 1.870 (47.5) | 2.579 (65.5) | 6.220 (158.0) | 1.496 (38.0) | 2.913 (74.0) | 1/8" GTAP | 1-1/2" NPT | 2.854 (72.5) | 5.965 (151.5) |

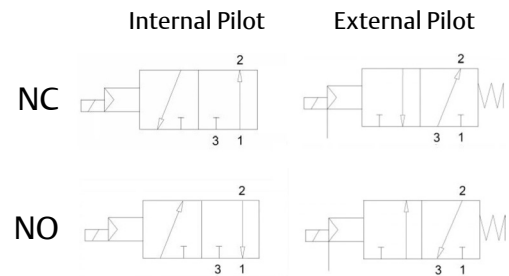
Solenoid Air Pilot Actuated Vacuum Valves - 1/8" to 3/8"

- Solenoid External Air Pilot Actuated
- 2 Position, 3 Way (3/2)
- Normally Closed (NC) or Normally Open (NO)
- For lubricated or non lubricated service
- Diaphragm actuated
- Polyurethane diaphragm



Technical Data

| Ports (NPTF) | 1/8" | 1/4" | 3/8" |
|------------------------|---|------|------------------------|
| Cv | 0.84 | 1.56 | 1.8 |
| Operating Vacuum Range | Minimum 9.8" of Hg (250 mm of Hg) Maximum 29.9" of Hg (759.5 mm of Hg) | | |
| Pilot Range | 43.5-145 PSIG (3-10 Bar) | | 30-145 PSIG (2-10 Bar) |
| Temperature Range | 23°F to +113°F ambient (-5°C to +45°C ambient) | | |
| Coil Size | 22mm | | |



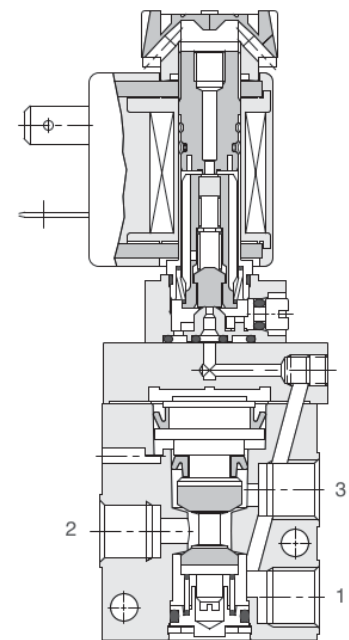
Operating Data

| Voltage | 12 VDC | 24 VDC | 110 VAC 50-60 Hz |
|-------------------|--------|--------|------------------|
| Power Consumption | 5W | | 8VA |

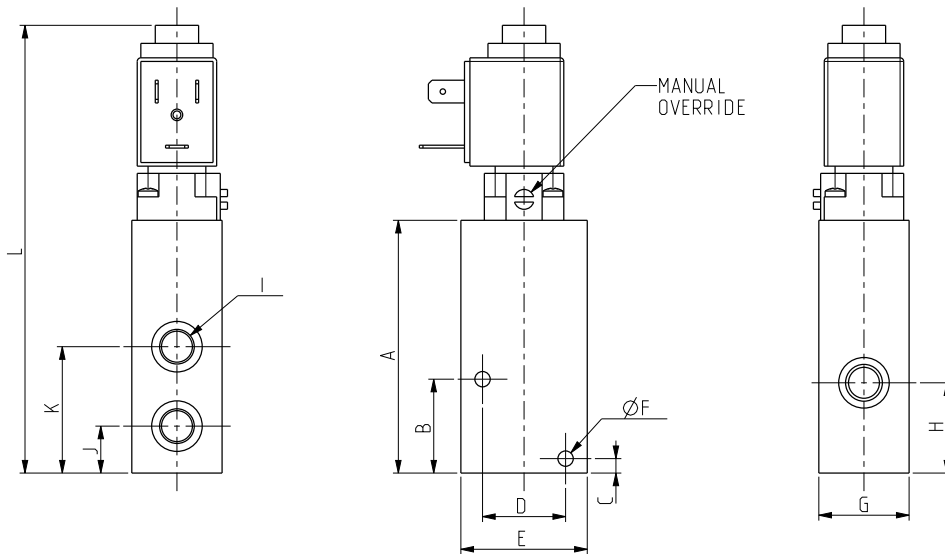
Plug Specifications: NEMA 4, IP 65 with plug-in connector
Solenoid Rating: Continuous Duty

Vacuum Valve Connections

| Function | P (1) | A (2) | R (3) |
|---------------------------------|---------|--------|---------|
| Normally Closed, Internal Pilot | Exhaust | Outlet | Pump |
| Normally Closed, External Pilot | Pump | Outlet | Exhaust |
| Normally Open, Internal Pilot | Pump | Outlet | Exhaust |
| Normally Open, External Pilot | Exhaust | Outlet | Pump |



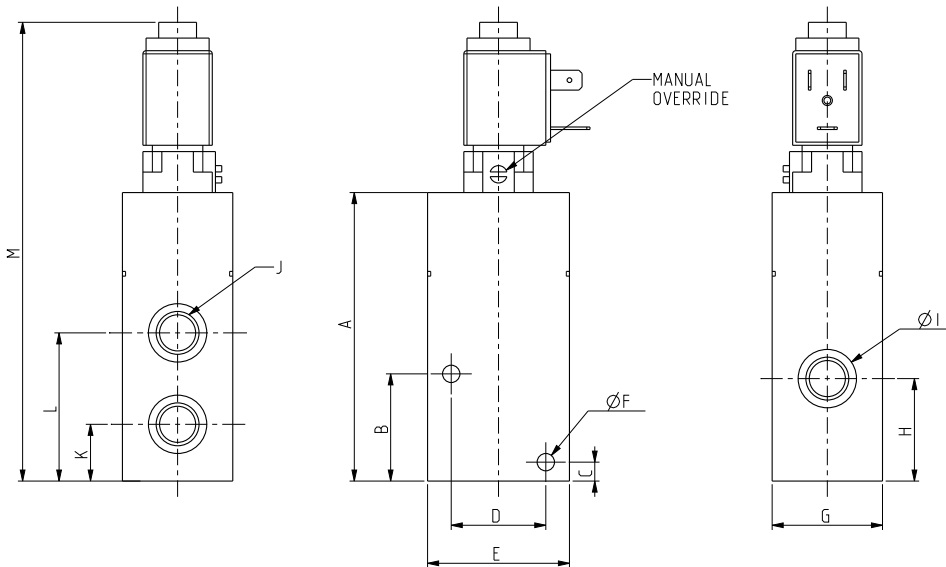
1/8" Dimensions for Solenoid Air Pilot Actuated Vacuum Valves



1/8" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L |
|-----------------|-----------------|---------------|----------------|-----------------|----------------|--------------|--------------|-------------|----------------|-----------------|------------------|
| 2.756 (70.0) | 1.024 (26.0) | .157 (4.0) | .906 (23.0) | 1.378 (35.0) | .167 (4.25) | .984 (25) | .984 (25) | 1/8" NPT | .512 (13.0) | 1.378 (35.0) | 4.882 (124.0) |

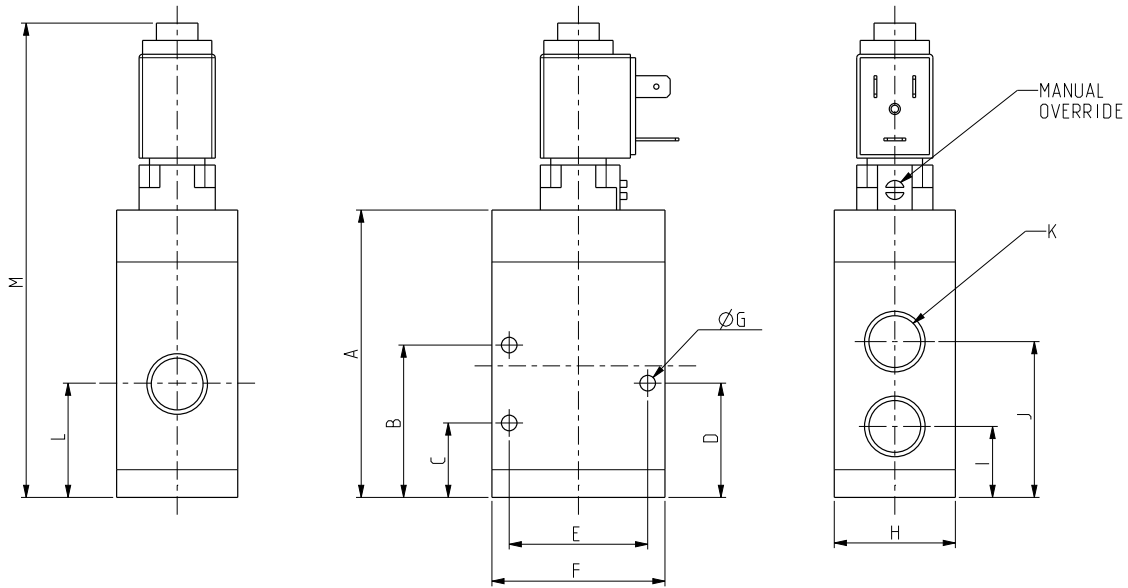
1/4" Dimensions for Solenoid Air Pilot Actuated Vacuum Valves



1/4" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----------------|-----------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|----------------|-------------|----------------|-----------------|------------------|
| 3.602 (91.5) | 1.339 (34.0) | .236 (6.0) | 1.181 (30.0) | 1.772 (45.0) | .217 (5.5) | 1.378 (35) | 1.280 (32.5) | .728 (18.5) | 1/4" NPT | .709 (18.0) | 1.850 (47.0) | 5.728 (145.5) |

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



3/8" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|-------------|-----------------|------------------|
| 3.268 (83.0) | 1.732 (44.0) | .846 (21.5) | 1.299 (33.0) | 1.575 (40.0) | 1.969 (50.0) | .177 (4.5) | 1.378 (35.0) | .807 (20.5) | 1.772 (45.0) | 3/8" NPT | 1.299 (33.0) | 5.394 (137.0) |



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

- Solenoid External Air Pilot Actuated
- 2 Position, 3 Way (3/2)
- Normally Closed (NC) or Normally Open (NO)
- For lubricated or non lubricated service
- Diaphragm actuated
- Polyurethane diaphragm

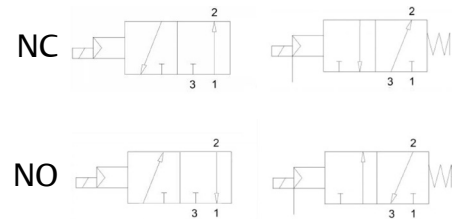


Technical Data

| Ports (NPTF) | 1/2" | 3/4" | 1" | 1-1/2" |
|------------------------|---|------|------|--------|
| Cv | 4.8 | 6.1 | 12.0 | 33.5 |
| Operating Vacuum Range | Minimum 9.8" of Hg (250 mm of Hg) Maximum 29.9" of Hg (759.5 mm of Hg) | | | |
| Pilot Pressure | 30-145 PSIG (2-10 Bar) | | | |
| Temperature Range | 23°F to +113°F ambient (-5°C to +45°C ambient) | | | |
| Coil Size | 30mm | | | |

Internal Pilot

External Pilot



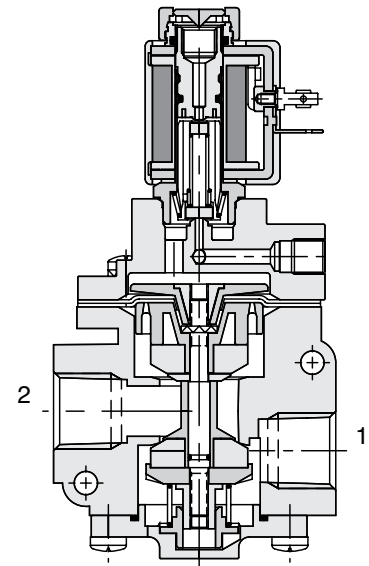
Operating Data

| Ports (NPTF) | 1/2" & 3/4" | | 1" & 1-1/2" | |
|-------------------|-------------|--------|-------------|----------------------------|
| Voltage | 24VDC | 110VAC | 24VDC | 115VAC 50Hz 120VAC 60Hz |
| Power Consumption | 4W | 9VA | 3W | 4VA |

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

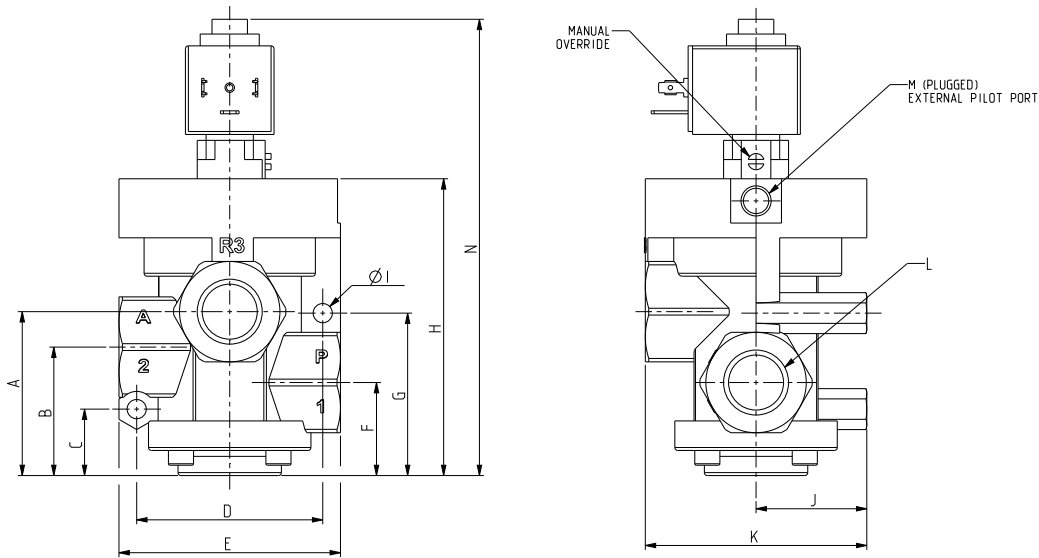
Vacuum Valve Connections

| Function | P (1) | A (2) | R (3) |
|---------------------------------|---------|--------|---------|
| Normally Closed, Internal Pilot | Exhaust | Outlet | Pump |
| Normally Closed, External Pilot | Pump | Outlet | Exhaust |
| Normally Open, Internal Pilot | Pump | Outlet | Exhaust |
| Normally Open, External Pilot | Exhaust | Outlet | Pump |



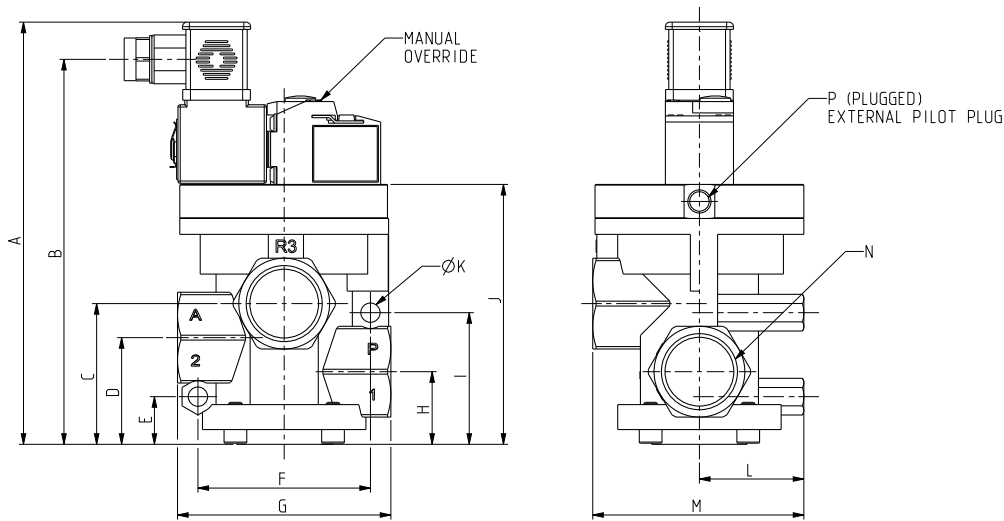
NOTE: Port 3 Cv must not be restricted

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



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

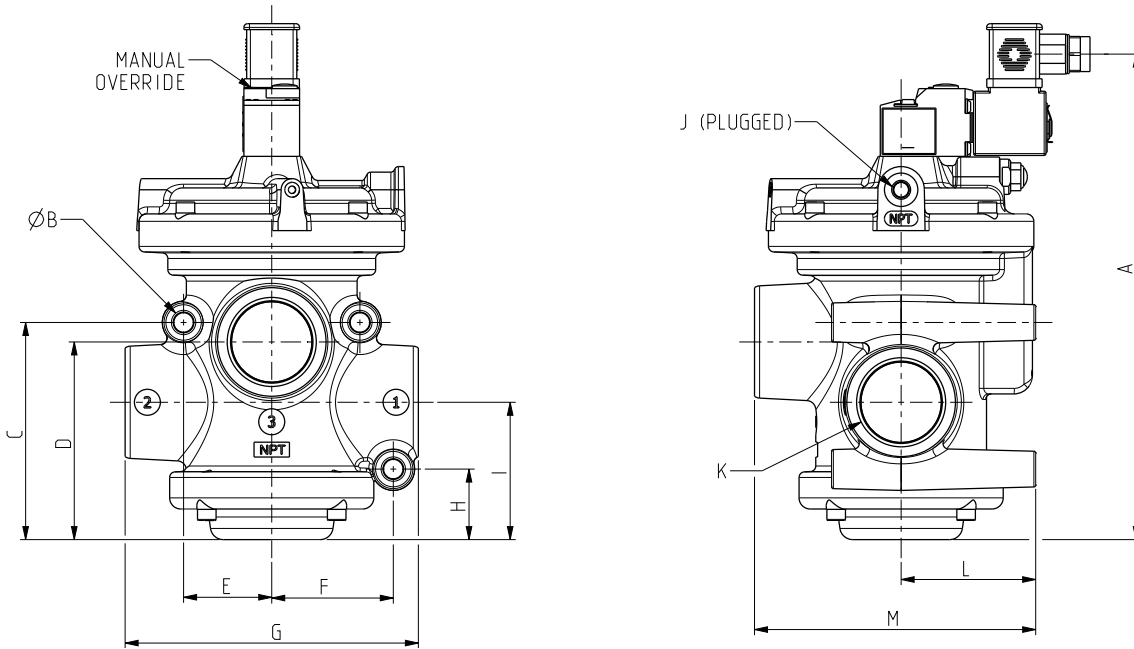
| A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------|-----------------|-----------------|---------------------|--------------|------------------|
| 2.185 (55.5) | 1.713 (43.5) | .886 (22.5) | 2.480 (63.0) | 2.953 (75.0) | 1.240 (31.5) | 2.165 (55.0) | 3.957 (100.5) | .256 (6.5) | 1.476 (37.5) | 2.953 (75.0) | 1/2" TO 3/4" NPT | 1/8" GTAP | 6.083 (154.5) |



1" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | P |
|------------------|------------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------|-----------------|-----------------|-----------|--------------|
| 7.323 (186.0) | 6.677 (169.6) | 2.441 (62.0) | 1.850 (47.0) | .827 (21.0) | 2.992 (76.0) | 3.701 (94.0) | 1.260 (32.0) | 2.283 (58.0) | 4.508 (114.5) | .335 (8.5) | 1.811 (46.0) | 3.661 (93.0) | 1" NPT | 1/8" GTAP |

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 |
|-------------------|----------------|------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|--------------|---------------|-----------------|------------------|
| 10.299 (261.6) | .394 (10.0) | 4.606 (117.0) | 4.193 (106.5) | 1.870 (47.5) | 2.579 (65.5) | 6.220 (158.0) | 1.496 (38.0) | 2.913 (74.0) | 1/8" GTAP | 1-1/2" NPT | 2.854 (72.5) | 5.965 (151.5) |

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

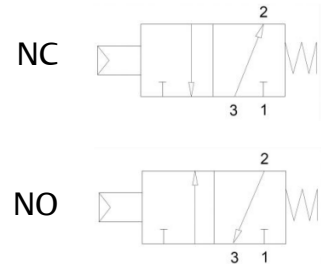
- 2 Position, 3 Way (3/2)
- Normally Closed (NC) or Normally Open (NO)
- Air pilot actuated (External Pilot)
- Diaphragm actuated
- Polyurethane diaphragm
- For lubricated or non-lubricated service

NOTE:

3/2 valve (1/8" to 3/8") can be converted to a 2/2 valve by inserting a pipe plug into the exhaust port

NOTE:

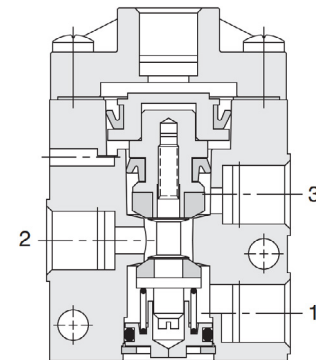
1/2" to 1-1/2" valves cannot be converted to a 2/2 valve. If a 2/2 valve is required, it must be ordered as such.



Technical Data

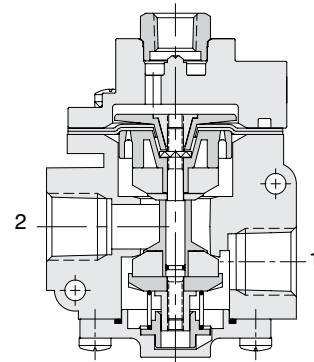
| Ports (NPTF) | 1/8" | 1/4" | 3/8" |
|------------------------|---|------|------------------------|
| Cv | 0.84 | 1.56 | 1.8 |
| Operating Vacuum Range | Minimum 9.8" of Hg (250 mm of Hg) Maximum 29.9" of Hg (759.5 mm of Hg) | | |
| Pilot Range | 36-145 PSIG (2.5-10 Bar) | | 30-145 PSIG (2-10 Bar) |
| Temperature Range | 23°F to +158°F ambient (-5°C to +70°C ambient) | | |

1/8" - 3/8"

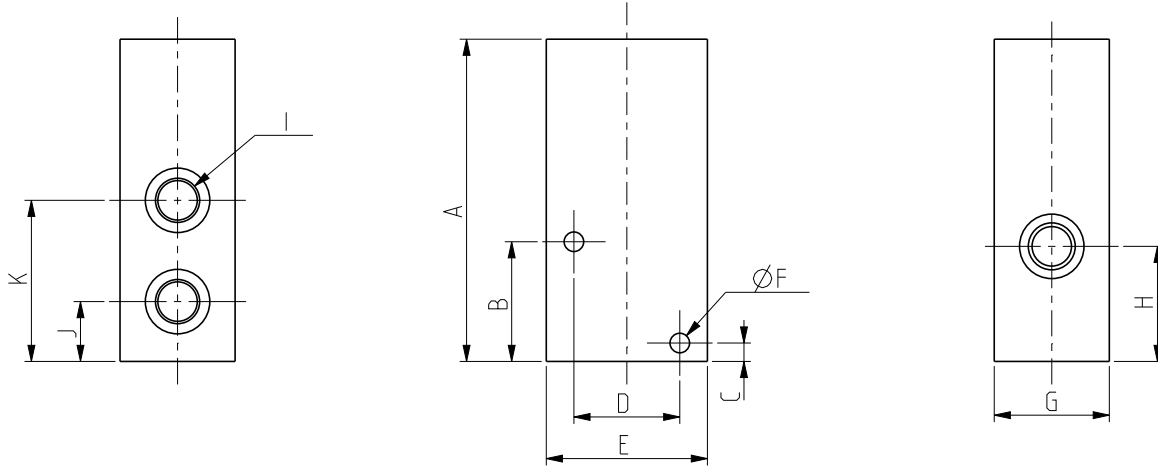


| Ports (NPTF) | 1/2" | 3/4" | 1" | 1-1/2" |
|------------------------|---|------|------|--------|
| Cv | 4.8 | 6.1 | 12.0 | 33.5 |
| Operating Vacuum Range | Minimum 9.8" of Hg (250 mm of Hg) Maximum 29.9" of Hg (759.5 mm of Hg) | | | |
| Pilot Pressure | 30-145 PSIG (2-10 Bar) | | | |
| Temperature Range | 23°F to + 158°F ambient (-5°C to +70°C ambient) | | | |

1/2" - 1-1/2"

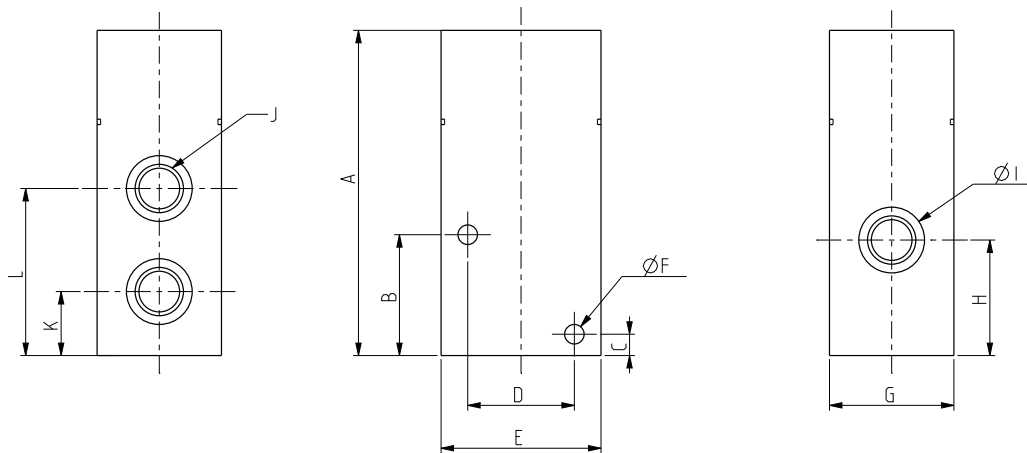


1/8" to 1/4" Dimensions for Air Pilot Actuated Vacuum Valves



1/8" NPT Dimensions: inches (mm)

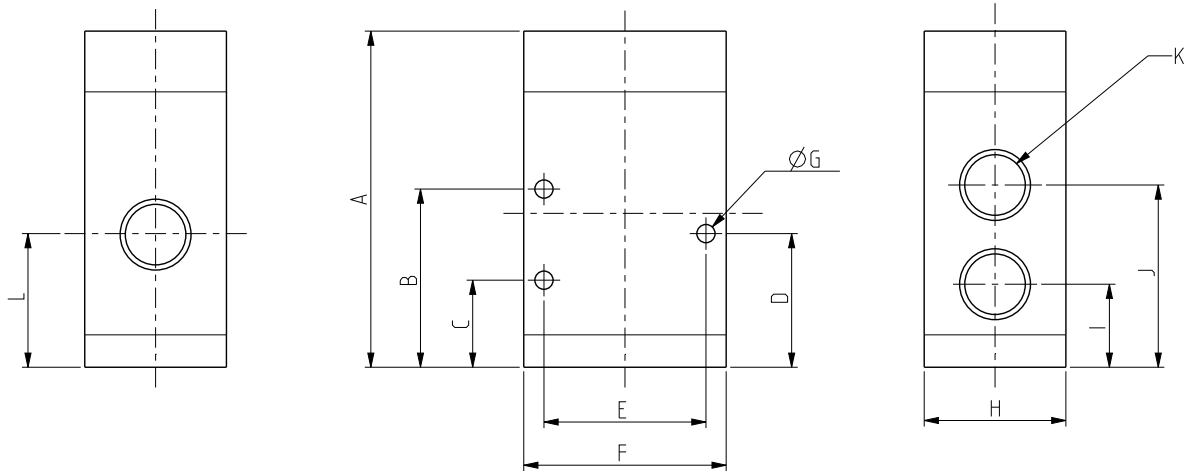
| A | B | C | D | E | F | G | H | I | J | K |
|-----------------|-----------------|---------------|----------------|-----------------|----------------|--------------|--------------|-------------|----------------|-----------------|
| 2.756 (70.0) | 1.024 (26.0) | .157 (4.0) | .906 (23.0) | 1.378 (35.0) | .167 (4.25) | .984 (25) | .984 (25) | 1/8" NPT | .512 (13.0) | 1.378 (35.0) |



1/4" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L |
|-----------------|-----------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|----------------|-------------|----------------|-----------------|
| 3.602 (91.5) | 1.339 (34.0) | .236 (6.0) | 1.181 (30.0) | 1.772 (45.0) | .217 (5.5) | 1.378 (35) | 1.280 (32.5) | .728 (18.5) | 1/4" NPT | .709 (18.0) | 1.850 (47.0) |

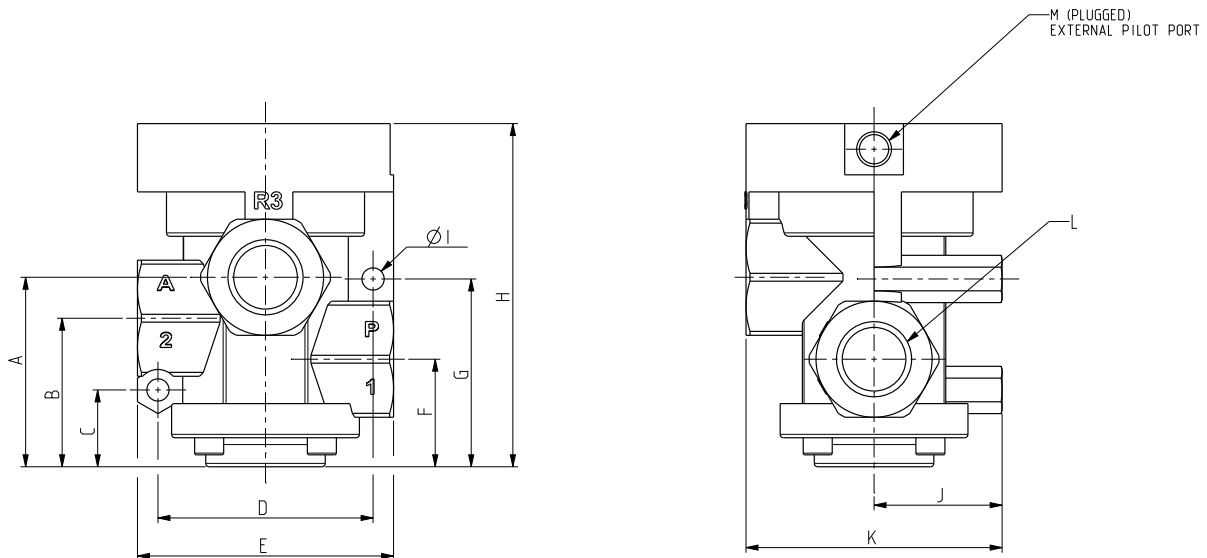
3/8" Dimensions for Air Pilot Actuated Vacuum Valves



3/8" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|-------------|-----------------|
| 3.268 (83.0) | 1.732 (44.0) | .846 (21.5) | 1.299 (33.0) | 1.575 (40.0) | 1.969 (50.0) | .177 (4.5) | 1.378 (35.0) | .807 (20.5) | 1.772 (45.0) | 3/8" NPT | 1.299 (33.0) |

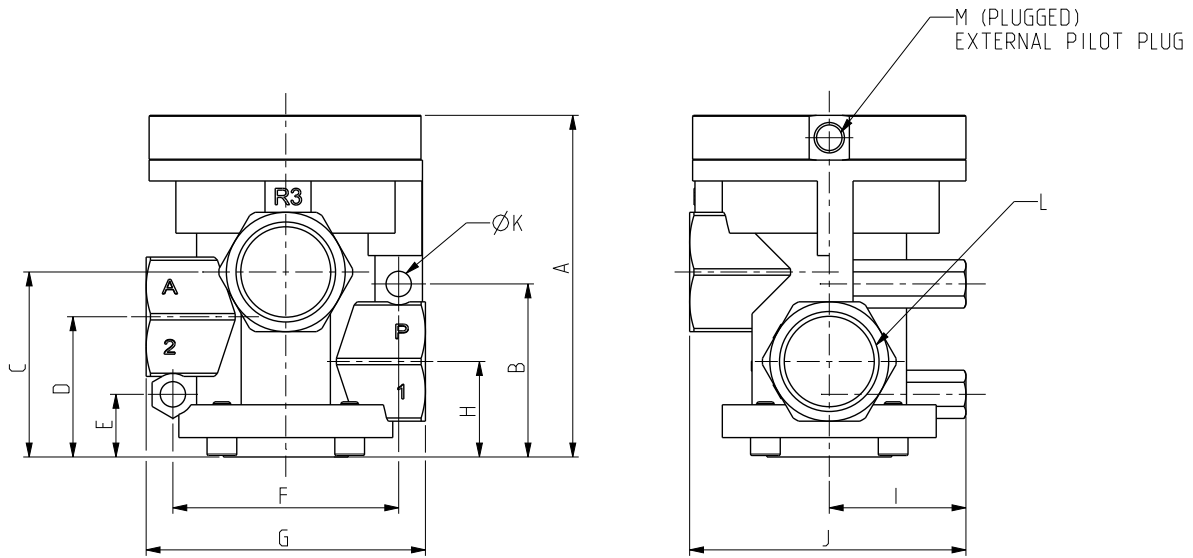
1/2" & 3/4" Dimensions for Air Pilot Actuated Vacuum Valves



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

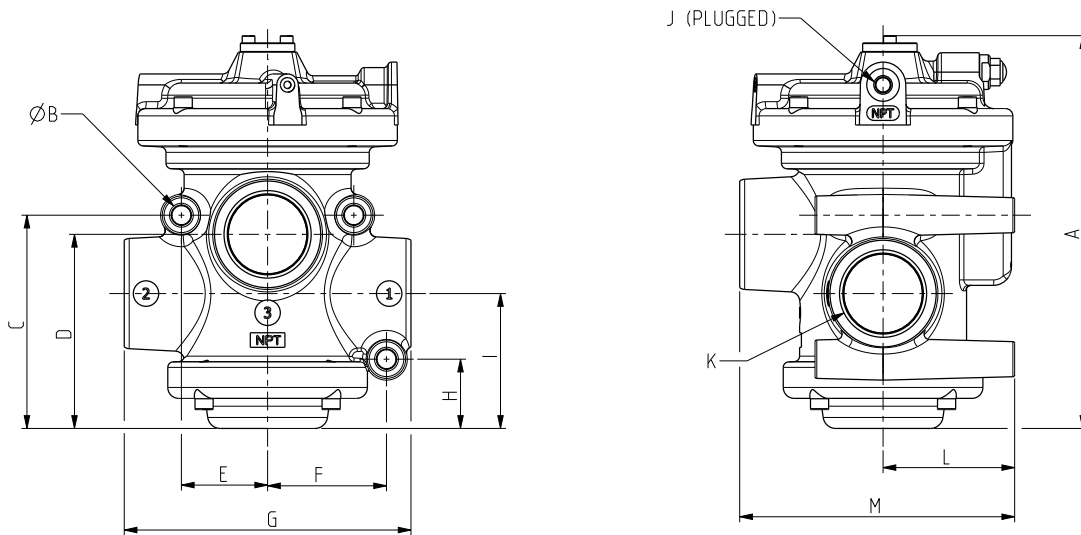
| A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|---------------|-----------------|-----------------|---------------------|--------------|
| 2.185 (55.5) | 1.713 (43.5) | .886 (22.5) | 2.480 (63.0) | 2.953 (75.0) | 1.240 (31.5) | 2.165 (55.0) | 3.957 (100.5) | .256 (6.5) | 1.476 (37.5) | 2.953 (75.0) | 1/2" TO 3/4" NPT | 1/8" GTAP |

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



1" NPT Dimensions: inches (mm)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|------------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|-----------|--------------|
| 4.508 (114.5) | 2.283 (58.0) | 2.441 (62.0) | 1.850 (47.0) | .827 (21.0) | 2.992 (76.0) | 3.701 (94.0) | 1.260 (32.0) | 1.811 (46.0) | 3.661 (93.0) | .335 (8.5) | 1" NPT | 1/8" GTAP |



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

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|------------------|----------------|------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|--------------|---------------|-----------------|------------------|
| 8.484 (215.5) | .394 (10.0) | 4.606 (117.0) | 4.193 (106.5) | 1.870 (47.5) | 2.579 (65.5) | 6.220 (158.0) | 1.496 (38.0) | 2.913 (74.0) | 1/8" GTAP | 1-1/2" NPT | 2.854 (72.5) | 5.965 (151.5) |

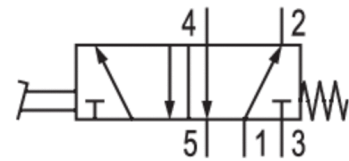
227 Series Pedal Valve

- 2 Position, 5 Way (5/2)
- Nylon shell & steel reinforced base plate
- Die cast zinc alloy valve body
- Spring return & detented models
- Large opening for foot operation



Technical Data

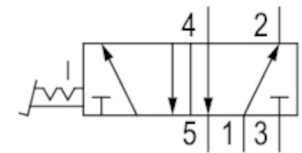
| Ports (NPTF) | 1/4" Spring | 1/4" Pedal |
|----------------------------|--|------------|
| Cv | 1..36 | |
| Maximum Operating Pressure | 145 PSIG (10 Bar) | |
| Temperature Range | 23°F to +122°F ambient (-5°C to +50°C ambient) | |
| Fluid Temperature Range | 23°F to +122°F ambient (-5°C to +50°C ambient) | |



Spring Return Pedal

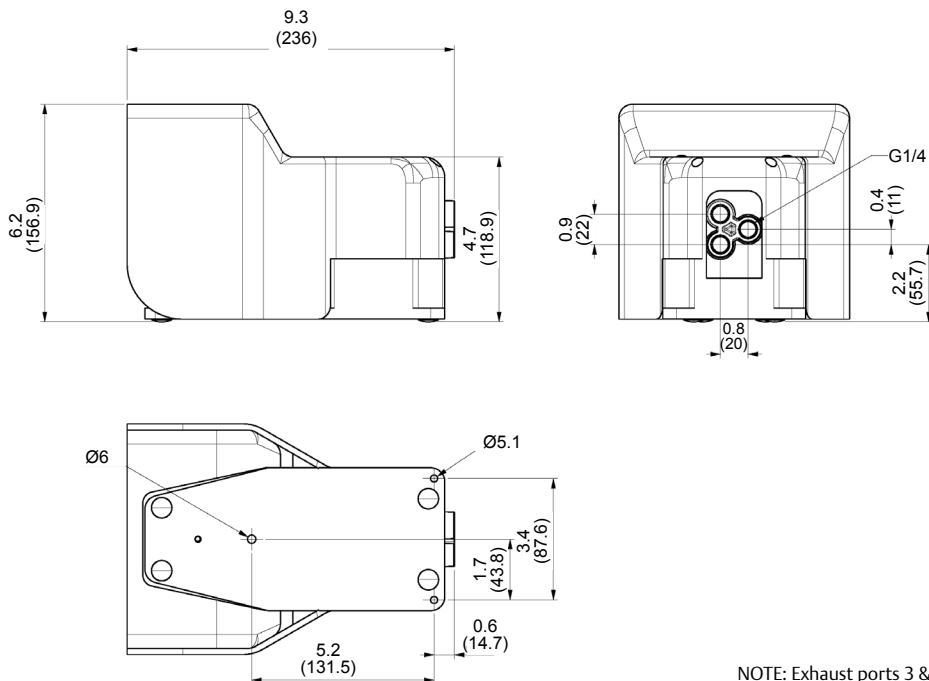
Operating Data

| Foot Pedal Description | Part No. |
|--------------------------|-----------------|
| 1/4" GTAP Spring Return | G227A34F20A0000 |
| 1/4" GTAP Without Spring | G227A34D20A0000 |




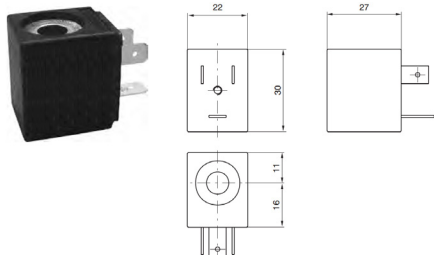
Detented Operation Pedal

Pedal Valve Dimensions: Inches (mm)



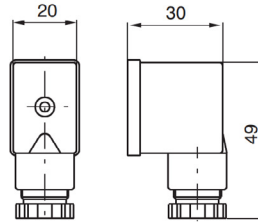
NOTE: Exhaust ports 3 & 5 are located under the cover

22mm 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 | | | |
|  |  | 100% | 5W | 5W | — | ±10% | 0.54 | 12VDC | M200717A00 |
| | | | | | | | | 24VDC | M200718A00 |
| | | 100% | 8VA | 14VA | 10% | ±10% | 0.54 | 110VAC 50-60HZ | M200720A00 |


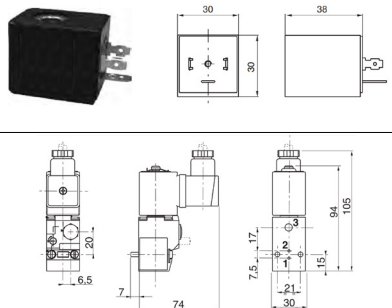
*Under continuous service a maximum temperature will not compromise the functioning of the coil provided that the working position is ventilated.

PLUG-IN CONNECTOR ASSEMBLIES



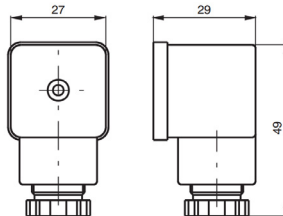
| Plug Connector Description | Part No. |
|-------------------------------|------------|
| Black Plug Assembly | M200727A00 |
| Plug assembly with 24V Light | M200728A00 |
| Plug assembly with 110V Light | M200729A00 |

30mm Coil (for 1/2", 3/4", 1" & 1-1/2" sizes)

| Type | Overall Dimensions | Ports (NPTF) | *Duty Cycle | Consumption | | Tolerance | | Mass Kg | Rated Voltage | Part Number |
|---|---|--------------|-------------|-------------|---------|-----------|---------|---------|--------------------|-------------|
| | | | | Continuous | In-Rush | Frequency | Voltage | | | |
|  |  | 1/2" & 3/4" | 100% | 4W | 4W | — | ±10% | 0.11 | 24VDC | M200723A00 |
| | | | | 9VA | 14VA | 50-60HZ | ±10% | | 110VAC | M200725A00 |
| | | 1" & 1-1/2" | 100% | 3W | 3W | — | ±10% | 0.27 | 24VDC | 43005642 |
| | | | | 4VA | 9VA | 50-60HZ | ±10% | | 115V/50 120V/60 | 43005617 |

*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



| Plug Connector Description | Part No. |
|-------------------------------|------------|
| Black Plug Assembly | M200731A00 |
| Plug assembly with 24V Light | M200732A00 |
| Plug assembly with 110V Light | M200733A00 |

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

Repair Kits for Compressed Air and Vacuum Valves

| Port Size | Compressed Air Valves | Vacuum Valves |
|-----------|-----------------------|---------------|
| 1/8" | M200795A00 | M200796A00 |
| 1/4" | M200792A00 | M200793A00 |
| 3/8" | M200797A00 | M200798A00 |
| 1/2" | M200788A00 | M200789A00 |
| 3/4" | M200790A00 | M200791A00 |
| 1" | M200786A00 | M200787A00 |
| 1-1/2" | M200794A00 | |

Standard Poppet Valve Weight Requirements

Solenoid Pilot for Air

| Port (NPT) | Function | Weight | |
|------------|----------|--------|------|
| | | Lbs | Kg |
| 1/8" | NC / NO | 0.53 | 0.24 |
| 1/4" | NC / NO | 1.01 | 0.45 |
| 3/8" | NC / NO | 0.93 | 0.42 |
| 1/2" | NC | 2.56 | 1.16 |
| 3/4" | NC | 2.31 | 1.05 |
| 1" | NC | 2.47 | 1.12 |
| 1-1/2" | NC / NO | 7.96 | 3.61 |

Solenoid Pilot for Vacuum

| Port (NPT) | Function | Weight | |
|------------|----------|--------|-------|
| | | Lbs | Kg |
| 3/8" | NC / NO | 0.93 | 0.42 |
| 1/2" | NC / NO | 2.56 | 1.16 |
| 3/4" | NC / NO | 2.31 | 1.05 |
| 1" | NC / NO | 2.47 | 1.12 |
| 1-1/2" | NC / NO | 7.12 | 3.228 |

Air Pilot for Air

| Port (NPT) | Function | Weight | |
|------------|----------|--------|-------|
| | | Lbs | Kg |
| 1/8" | NC / NO | 0.37 | 0.17 |
| 1/4" | NC / NO | 0.87 | 0.395 |
| 3/8" | NC / NO | 0.79 | 0.36 |
| 1/2" | NC | 2.43 | 1.1 |
| 3/4" | NC | 2.18 | 0.99 |
| 1" | NC | 2.34 | 1.06 |
| 1-1/2" | NC / NO | 7.83 | 3.55 |

Air Pilot for Vacuum

| Port (NPT) | Function | Weight | |
|------------|----------|--------|-------|
| | | Lbs | Kg |
| 3/8" | NC / NO | 0.79 | 0.36 |
| 1/2" | NC / NO | 2.43 | 1.1 |
| 3/4" | NC / NO | 2.18 | 0.99 |
| 1" | NC / NO | 2.34 | 1.06 |
| 1-1/2" | NC / NO | 6.98 | 3.168 |



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 the manual override in place.
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, but a special part number is required.
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?
Yes, in certain cases. Please consult factory.
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, 9.8" of Hg is the minimum required.

Improve machine reliability and reduce unplanned downtime throughout the lifecycle of your machinery or processes.



AVENTICS™

With its rugged design and high flow capabilities, AVENTICS poppet valves are ideal for automotive, bottling, press room

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners. © 2021 Emerson Electric Co. All rights reserved. TR000289ENUS-01_04-21



CONSIDER IT SOLVED™