



SLV Series Pneumatic Lockout Valves

Accessories

[HVM-34N](#)[SLV-PU](#)

Note: HVM series exhaust silencers have a maximum pressure of 250PSI (17 bar).

Features

- Silencers (mufflers) are aluminum construction
- High flow rates needed for safety lockout valves
- Pressure indicator pops out when pressure of 5psi or more is present



NITRA SLV Series Pneumatic Lockout Valve Accessories			
Part No.	Description	Price	Weight (lbs)
<u>HVM-18N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=2, 1/8in male NPT	\$23.50	0.1
<u>HVM-14N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=2.7, 1/4in male NPT	\$23.50	0.1
<u>HVM-38N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=3.2, 3/8in male NPT	\$23.50	0.1
<u>HVM-38N-H</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=4.9, 3/8in male NPT	\$31.50	0.2
<u>HVM-12N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=5.9, 1/2in male NPT	\$33.00	0.2
<u>HVM-34N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=5.9, 3/4in male NPT	Retired	0.2
<u>HVM-34N-H</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=13.5, 3/4in male NPT	\$66.00	0.6
<u>HVM-1N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=16.7, 1in male NPT	\$66.00	0.6
<u>HVM-114N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=17.4, 1-1/4in male NPT	\$66.00	0.6
<u>SLV-PU</u>	NITRA pneumatic pop up pressure indicator, 5 psi, 1/8in male NPT	\$31.50	0.1

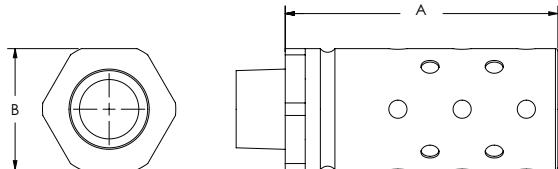


SLV Series Pneumatic Lockout Valves Accessories

Nitra High Volume Silencers (Mufflers)

Dimensions

inches [mm]

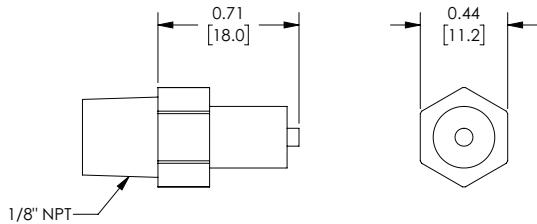


Muffler Dimensions		
Part #	A	B
HVM-18N	1.6 [40.64]	0.8 [20.32]
HVM-14N	1.6 [40.64]	0.8 [20.32]
HVM-38N	1.6 [40.64]	0.8 [20.32]
HVM-38N-H	2.9 [73.66]	1.3 [33.02]
HVM-12N	2.9 [73.66]	1.3 [33.02]
HVM-34N	2.9 [73.66]	1.3 [33.02]
HVM-34N-H	4.5 [114.30]	2.0 [50.80]
HVM-1N	4.5 [114.30]	2.0 [50.80]
HVM-114N	4.5 [114.30]	2.0 [50.80]

Nitra Pop Up Pressure Indicator

Dimensions

inches [mm]



See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Directional Control Solenoid Valves – AVP Series



Diagram "A"



2-Pos, Spring Return

NITRA™ pneumatic AVP series directional control solenoid valves are 3-way stackable poppet style valves with 1/8" NPT ports. They provide 2-position, normally closed, spring return operation with either 24 VDC or 120 VAC solenoid coils. The AVP series can be used in individual valve applications or multiple valves can be field assembled (stacked) to share supply air, simplifying piping connections. The DIN style wiring connector includes LED indication of the solenoid coil status.

Features

- 3-way stackable poppet style valves
- 1/8" NPT ports
- 2-position, normally closed, spring return
- 24VDC or 120VAC solenoid coils
- DIN style wiring connector with LED indication
- Single valve or multiple stacked valve applications
- 2 year warranty



See www.AutomationDirect.com
for a wide variety of fitting options



Stacked example using AVP-31KIT stacking screw kit and shown with mounting bracket AVP-31BKT



AVP-31KIT

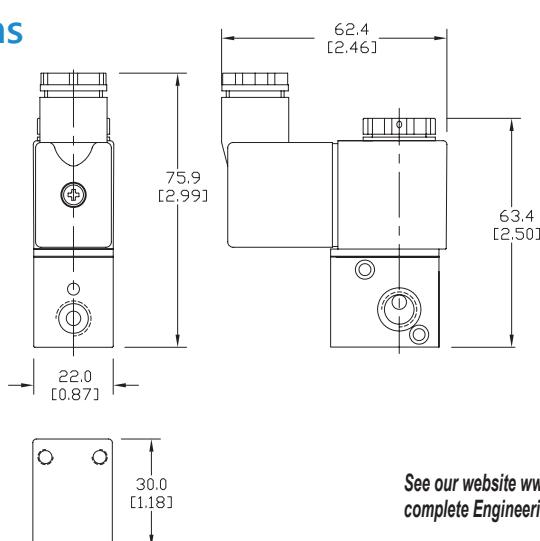
Note: One kit is required for each additional AVP-31 valve added to the stack.



AVP-31BKT

See our website www.AutomationDirect.com for complete Engineering drawings.

Dimensions in mm [inches]





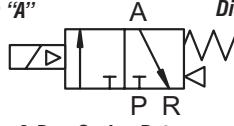
Pneumatic Directional Control Solenoid Valves – AVS-3 Series



AVS-3221

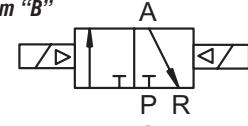
AVS-3211

Diagram "A"



2-Pos, Spring Return

Diagram "B"



2-Pos, Double Solenoid

NITRA™ pneumatic AVS-3 series directional control solenoid valves are body ported 3-port (3-way) spool valves. Available port sizes are 1/8", 1/4" or 3/8" NPT with flow coefficients (Cv) from 0.67 to 1.67. The single solenoid models provide 2-position, normally closed, spring return operation and the double solenoid models provide 2-position, energize open/energize closed operation. Solenoid coils are available in either 24VDC or 120VAC control voltages. The DIN style wiring connector includes LED indication of the solenoid coil status.

Features

- Body ported, 3-port (3-way) spool valves
- 1/8", 1/4" or 3/8" NPT ports
- 2-position, single solenoid normally closed spring return; 2-position, double solenoid energize open/energize closed
- 24VDC or 120VAC solenoid coils
- DIN style wiring connector with LED indication
- Locking manual operator
- 2 year warranty



See www.AutomationDirect.com
for a wide variety of fitting options

AVS-3 Series Specifications

Model	AVS-3111-24D	AVS-3111-120A	AVS-3111-24D	AVS-3211-120A	AVS-3221-24D	AVS-3212-24D	AVS-3212-120A	AVS-3222-24D	AVS-3222-120A
Price	\$36.50	\$36.50	\$37.50	\$37.00	\$62.00	\$37.50	\$37.00	\$62.00	\$60.00
Weight (lb)	0.3	0.3	0.5	0.5	0.8	0.5	0.5	0.7	0.7
Valve Type									
3 port 2 position									
Acting									
Internally Piloted									
Diagram		A	A	B	A	A	B		
Port Size		In/Out=1/8"	In/Out=1/8"				In/Out=1/4"		
Orifice Size		12mm ² (Cv=0.67)	14mm ² (Cv=0.78)				16mm ² (Cv=0.89)		
Fluid									
Air (to be filtered by 40μ filter element)									
Pressure									
Working: 20~115 psi, (0.15~0.8 MPa), (1.5~8.0 bar); Proof: 215 psi, (1.48 MPa), (14.8 bar)									
Voltage		24VDC single solenoid	120VAC single solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid
Power Consumption		DC: 2.5W AC: 3.5 VA; continuous duty (100% ED)				DC: 3.0W AC: 4.5 VA; continuous duty (100% ED)			
Max Frequency									
5 cycles/sec									
Operating Life									
50,000,000 cycles									
Insulation									
B class									
Min Response									
0.05 sec									
Temperature									
-5~60°C (23~140°F)									
Lubrication									
Not Required									
Protection									
IP65 (DIN40050)									
Connection		9.4 mm DIN Terminal				11mm DIN Terminal			
Body									
Aluminum Alloy									
Agency Approvals									
Solenoid CE marked; RoHS									



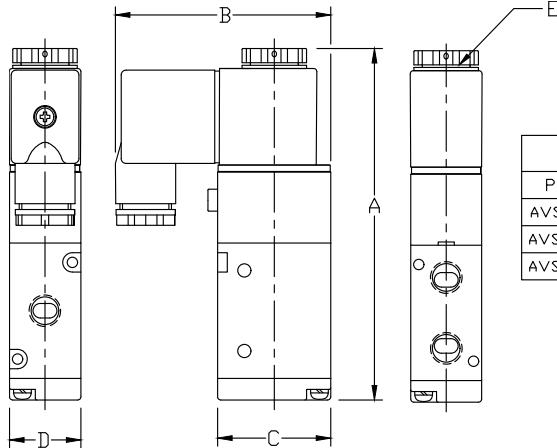
Pneumatic Directional Control Solenoid Valves – AVS-3 Series

AVS-3 Series Specifications									
Model	<u>AVS-3312-24D</u>	<u>AVS-3312-120A</u>	<u>AVS-3322-24D</u>	<u>AVS-3313-24D</u>	<u>AVS-3313-120A</u>	<u>AVS-3323-24D</u>	<u>AVS-3323-120A</u>		
Price	\$53.00	\$53.00	\$81.00	\$53.00	\$53.00	\$81.00	Retired		
Weight (lb)	0.7	0.7	0.9	0.7	0.7	0.9	0.9		
Valve Type	3 port 2 position								
Acting	Internally Piloted								
Diagram	A	B	A	B					
Port Size	In/Out=1/4"		In/Out=3/8"						
Orifice Size	16mm ² (Cv=1.39)		25mm ² (Cv=1.67)						
Fluid	Air (to be filtered by 40µ filter element)								
Pressure	Working: 20~115 psi, (0.15~0.8 MPa), (1.5~8.0 bar); Proof: 215 psi, (1.48 MPa), (14.8 bar)								
Voltage	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid		
Power Consumption	DC: 3.0W AC: 4.5 VA; continuous duty (100% ED)								
Max Freq	5 cycles/sec								
Insulation	B class								
Min Response	0.05 sec								
Temperature	-5~60°C (23~140°F)								
Lubrication	Not Required								
Protection	IP65 (DIN40050)								
Connection	11mm DIN Terminal								
Body	Aluminum Alloy								
Agency Approvals	Solenoid CE marked; RoHS								

Dimensions

mm [inches]

**AVS-311x,
AVS-321x,
AVS-331x**



DIMENSION TABLE					
PART NO.	A	B	C	D	E
AVS-311X-XXX	88.4 [3.48]	54.6 [2.15]	27.0 [1.06]	18.0 [0.71]	M7 – 0.5
AVS-321X-XXX	109.0 [4.29]	66.7 [2.63]	35.0 [1.38]	22.0 [0.87]	M8 – 0.75
AVS-331X-XXX	119.8 [4.72]	69.1 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 – 0.75

See our website www.AutomationDirect.com for complete Engineering drawings.

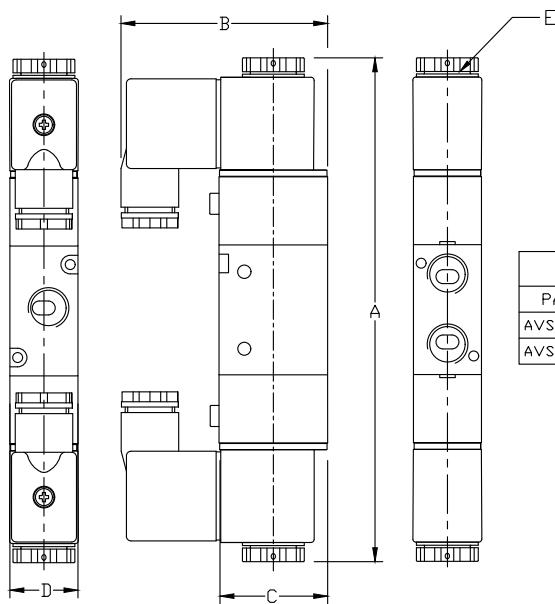


Pneumatic Directional Control Solenoid Valves – AVS-3 Series

Dimensions

mm [inches]

AVS-322x,
AVS-332x



DIMENSION TABLE					
PART NO.	A	B	C	D	E
AVS-322X-XXX	162.8 [6.41]	66.8 [2.63]	34.8 [1.37]	22.0 [0.87]	M8 – 0.75
AVS-332X-XXX	174.8 [6.88]	69.2 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 – 0.75

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Directional Control Solenoid Valves – AVS-5 Series

AVS-5211



NITRA™ pneumatic AVS-5 series directional control solenoid valves are body ported 5-port (4-way) spool valves. Available port sizes are 1/8", 1/4", 3/8" or 1/2" NPT with flow coefficients (Cv) from 0.50 to 2.79. Models are available with single solenoid, spring return or double solenoid 2-position operation. In addition, double solenoid models are available with 3-position, center closed or center exhaust operation. Solenoid coils are available in either 24VDC or 120VAC control voltages. The AVS-5 series can be used in individual valve applications or multiple valves can be field assembled on AM-5 series manifolds simplifying piping connections. AM-5 series manifolds are available in 2, 4, 6 or 8 stations. The DIN style wiring connector includes LED indication of the solenoid coil status.



Features

- Body ported, 5-port (4-way) spool valves
- 1/8", 1/4", 3/8" or 1/2" NPT ports
- 2-position, single solenoid normally closed, spring return; 2-position, double solenoid, energize open/energize closed; 3-position, double solenoid center closed or center exhaust
- 24VDC or 120VAC solenoid coils
- DIN style wiring connector with LED indication
- Single valve or multiple manifold mounted valve applications
- Locking manual operator
- 2 year warranty

See www.AutomationDirect.com
for a wide variety of fitting and
cable options



AVS-5221

Stacked solenoids shown mounted on optional manifold

AVS-5 Series Specifications																										
Model	AVS-5111-24D	AVS-5111-120A	AVS-5121-24D	AVS-5121-120A	AVS-513C1-120A	AVS-513E1-24D	AVS-513E1-120A	AVS-5211-24D	AVS-5211-120A	AVS-5221-24D	AVS-5221-120A	AVS-5222-24D	AVS-5222-120A													
Price	\$36.50	\$36.50	\$59.00	\$59.00	\$82.00	\$82.00	\$82.00	\$37.00	\$37.50	\$60.00	\$62.00	\$37.00	\$37.50	\$60.00	\$62.00											
Weight (lb)	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.5	0.5	0.8	0.8											
Valve Type	5 port 2 position			5 port 3 position			5 port 2 position																			
Acting	Internally Piloted																									
Diagram	A	B	C	D	A	B	C	D	A	B	C	D	A	B												
Port Size	In/Out/Exhaust=1/8"		In/Out/Exhaust=1/8"		In/Out/Exhaust=1/8"		In/Out=1/4", Exhaust=1/8"																			
Orifice Size	12mm ² (Cv=0.67)		9mm ² (Cv=0.50)		14mm ² (Cv=0.78)		16mm ² (Cv=0.89)																			
Fluid	Air (to be filtered by 40 μ filter element)																									
Pressure	Working: 20~115 psi, (0.15~0.8 MPa), (1.5~8.0 bar); Proof: 215 psi, (1.48 MPa), (14.8 bar)																									
Voltage (VAC @ 50/60 Hz)	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid	24VDC center closed double solenoid	120VAC center closed double solenoid	24VDC center exhaust double solenoid	120VAC center exhaust double solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid												
Power Consumption	DC: 2.5W AC: 3.5 VA; continuous duty (100% ED)				DC: 3.0W AC: 4.5 VA; continuous duty (100% ED)																					
Max Freqency	5 cycles/sec		3 cycles/sec		5 cycles/sec																					
Operating Life	50,000,000 cycles																									
Insulation	B class																									
Min Response	0.05 sec																									
Temperature	-5~60°C (23~140°F)																									
Lubrication	Not Required																									
Protection	IP65 (DIN40050)																									
Connection	9.4 mm DIN Terminal				11mm DIN Terminal																					
Body	Aluminum Alloy																									
Agency Approvals	Solenoid CE marked; RoHS																									



Pneumatic AVS Directional Control Solenoid Valves – AVS-5 Series



Diagram "A"



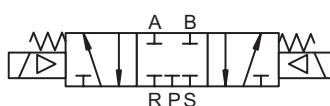
2-Pos, Spring Return

Diagram "B"



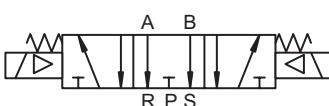
2-Pos, Double Solenoid

Diagram "C"



3-Pos, Closed Center

Diagram "D"



3-Pos, Exhaust Center

AVS-5 Series Specifications

Model	AVS-5312-24D	AVS-5312-120A	AVS-5322-24D	AVS-5322-120A	AVS-5313-24D	AVS-5313-120A	AVS-5323-24D	AVS-5323-120A	AVS-523C1-24D	AVS-523C1-120A	AVS-523E1-24D	AVS-523E1-120A	AVS-523C2-24D	AVS-523C2-120A	AVS-523E2-24D	AVS-523E2-120A										
Price	\$51.00	\$51.00	\$74.00	\$75.00	\$51.00	\$51.00	\$74.00	\$75.00	\$99.00	\$99.00	\$99.00	\$99.00	\$99.00	\$99.00	\$99.00	\$99.00										
Weight (lb)	0.8	0.8	1.0	1.0	0.7	0.7	1.0	1.0	0.9	0.8	0.9	0.9	0.9	0.8	0.9	0.8										
Valve Type	5 port 2 position							5 port 3 position																		
Acting	Internally Piloted																									
Diagram	A	B	A	B	C	D	C	D	C	D	C	D	C	D	C	D										
Port Size	In/Out/Exhaust=1/4"		In/Out=3/8", Exhaust=1/4"		In/Out/Exhaust=1/8"		In/Out=1/4", Exhaust=1/8"																			
Orifice Size	25mm ² (Cv=1.4)		30mm ² (Cv=1.68)		12mm ² (Cv=0.67)																					
Fluid	Air (to be filtered by 40µ filter element)																									
Pressure	Working: 20~115 psi, (0.15~0.8 MPa), (1.5~8.0 bar); Proof: 215 psi, (1.48 MPa), (14.8 bar)																									
Voltage (VAC @ 50/60 Hz)	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid	24VDC center closed double solenoid	120VAC center closed double solenoid	24VDC center exhaust double solenoid	120VAC center exhaust double solenoid	24VDC center closed double solenoid	120VAC center closed double solenoid	24VDC center exhaust double solenoid	120VAC center exhaust double solenoid										
Power Consumption	DC: 3.0W AC: 4.5 VA; continuous duty (100% ED)																									
Max Frequency	4 cycles/sec							3 cycles/sec																		
Operating Life	50,000,000 cycles																									
Insulation	B class																									
Min Response	0.05 sec																									
Temperature	-5~60°C (23~140°F)																									
Lubrication	Not Required																									
Protection	IP65 (DIN40050)																									
Connection	11mm DIN Terminal																									
Body	Aluminum Alloy																									
Agency Approvals	Solenoid CE marked; RoHS																									

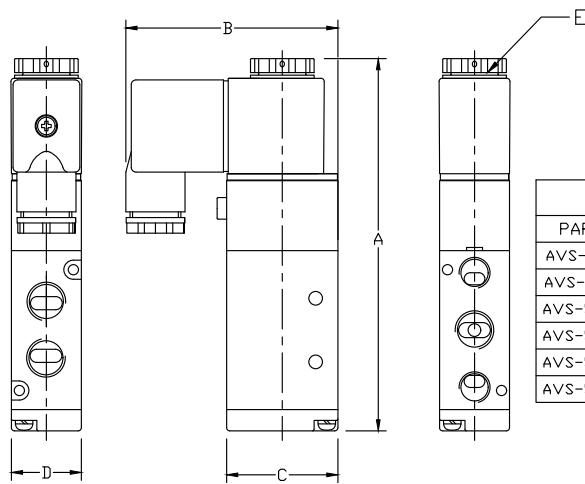


Pneumatic AVS Directional Control Solenoid Valves – AVS-5 Series

AVS-5 Series Specifications																									
Model	AVS-533C2-24D	AVS-533C2-120A	AVS-533E2-24D	AVS-533E2-120A	AVS-533C3-24D	AVS-533C3-120A	AVS-533E3-24D	AVS-533E3-120A	AVS-5414-24D	AVS-5414-120A	AVS-5424-24D	AVS-5424-120A	AVS-543C4-24D	AVS-543C4-120A	AVS-543E4-24D	AVS-543E4-120A									
Price	\$140.00	\$140.00	\$140.00	\$140.00	\$140.00	\$140.00	\$140.00	\$140.00	\$69.00	\$80.00	\$103.00	\$103.00	\$143.00	\$143.00	\$143.00										
Weight (lb)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.3	1.3	1.5	1.5	1.7	1.7	1.7										
Valve Type	5 port 3 position					5 port 2 position					5 port 3 position														
Acting	Internally Piloted																								
Diagram	C	D	C	D	A	B	C	D																	
Port Size	In/Out/Exhaust=1/4"		In/Out=3/8", Exhaust=1/4"		In/Out/Exhaust=1/2"																				
Orifice Size	18mm ² (Cv=1.0)					50mm ² (Cv=2.79)				30mm ² (Cv=1.68)															
Fluid	Air (to be filtered by 40μ filter element)																								
Pressure	Working: 20~115 psi, (0.15~0.8 MPa), (1.5~8.0 bar); Proof: 215 psi, (1.48 MPa), (14.8 bar)																								
Voltage (VAC @ 50/60 Hz)	24VDC center closed double solenoid	120VAC center closed double solenoid	24VDC center exhaust double solenoid	120VAC center exhaust double solenoid	24VDC center closed double solenoid	120VAC center exhaust double solenoid	24VDC center exhaust double solenoid	24VDC single solenoid	120VAC single solenoid	24VDC double solenoid	120VAC double solenoid	24VDC center closed double solenoid	120VAC center closed double solenoid	24VDC center exhaust double solenoid	120VAC center exhaust double solenoid										
Power Consumption	DC: 3.0W AC: 4.5 VA; continuous duty (100% ED)																								
Max Frequency	3 cycles/sec																								
Operating Life	50,000,000 cycles																								
Insulation	B class																								
Min Response	0.05 sec																								
Temperature	-5~60°C (23~140°F)																								
Lubrication	Not Required																								
Protection	IP65 (DIN40050)																								
Connection	11mm DIN Terminal																								
Body	Aluminum Alloy																								
Agency Approvals	Solenoid CE marked; RoHS																								

Dimensions

mm [inches]



**AVS-5111,
AVS-5211,
AVS-5212,
AVS-5312,
AVS-5313,
AVS-5414**

DIMENSION TABLE					
PART NO.	A	B	C	D	E
AVS-5111-XXX	99.4 [3.91]	55.0 [2.17]	27.0 [1.06]	18.0 [0.71]	M7 - 0.5
AVS-5211-XXX	117.1 [4.61]	66.7 [2.63]	35.0 [1.38]	22.0 [0.87]	M8 - 0.75
AVS-5212-XXX	117.1 [4.61]	66.7 [2.63]	35.0 [1.38]	22.0 [0.87]	M8 - 0.75
AVS-5312-XXX	134.9 [5.31]	69.2 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 - 0.75
AVS-5313-XXX	134.9 [5.31]	69.2 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 - 0.75
AVS-5414-XXX	168.4 [6.63]	74.0 [2.91]	50.0 [1.97]	34.0 [1.34]	M8 - 0.75

See our website www.AutomationDirect.com for complete Engineering drawings.

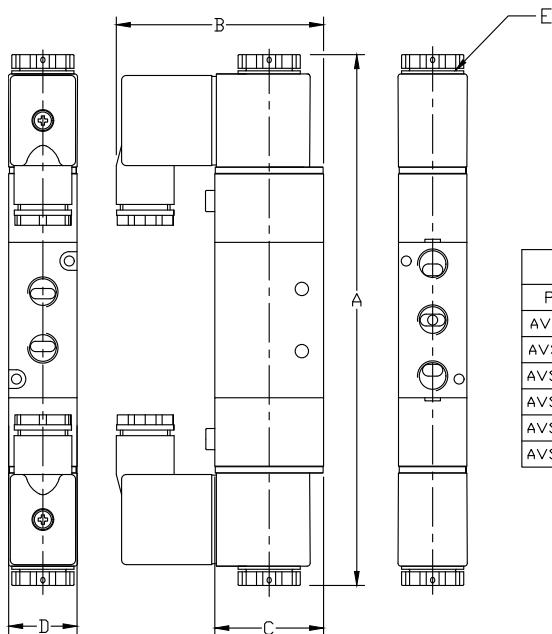


Pneumatic Directional Control Solenoid Valves – AVS-5 Series

Dimensions

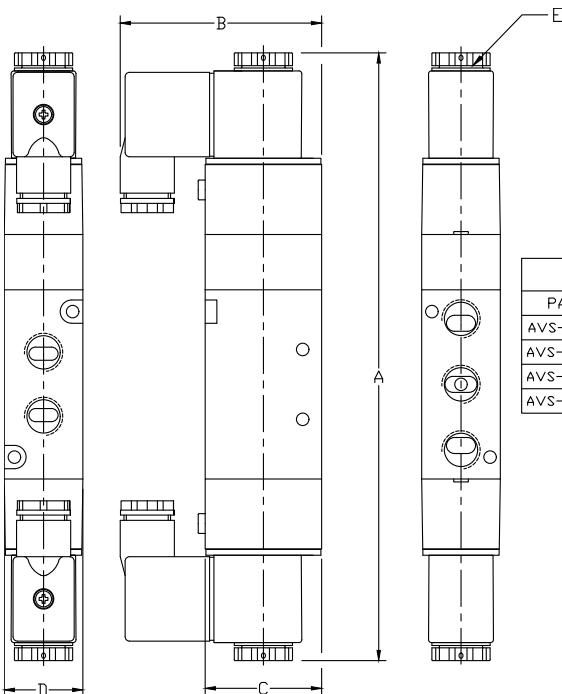
mm [inches]

**AVS-5121,
AVS-5221,
AVS-5222,
AVS-5322,
AVS-5323,
AVS-5424**



DIMENSION TABLE					
PART NO.	A	B	C	D	E
AVS-5121-XXX	142.4 [5.61]	54.8 [2.16]	27.0 [1.06]	18.0 [0.71]	M7 – 0.5
AVS-5221-XXX	170.8 [6.72]	66.7 [2.63]	35.0 [1.38]	22.0 [0.87]	M8 – 0.75
AVS-5222-XXX	170.8 [6.72]	66.7 [2.63]	35.0 [1.38]	22.0 [0.87]	M8 – 0.75
AVS-5322-XXX	189.8 [7.47]	69.2 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 – 0.75
AVS-5323-XXX	189.8 [7.47]	69.2 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 – 0.75
AVS-5424-XXX	222.8 [8.77]	74.0 [2.91]	50.0 [1.97]	34.0 [1.34]	M8 – 0.75

**AVS-513xx,
AVS-523xx,
AVS-533xx,
AVS-543xx**



DIMENSION TABLE					
PART NO.	A	B	C	D	E
AVS-513XX-XXX	157.4 [6.20]	54.8 [2.16]	26.6 [1.05]	18.0 [0.71]	M7 – 0.5
AVS-523XX-XXX	189.8 [7.47]	66.7 [2.63]	35.0 [1.38]	22.0 [0.87]	M8 – 0.75
AVS-533XX-XXX	208.8 [8.22]	69.2 [2.72]	40.0 [1.57]	27.0 [1.06]	M8 – 0.75
AVS-543XX-XXX	243.8 [9.60]	74.0 [2.91]	50.0 [1.97]	34.0 [1.34]	M8 – 0.75

See our website www.AutomationDirect.com for complete Engineering drawings.



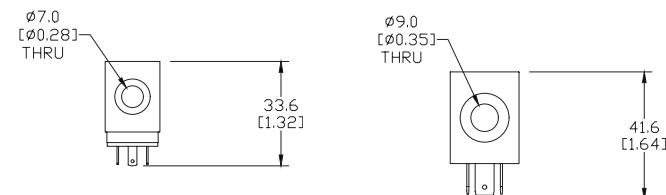
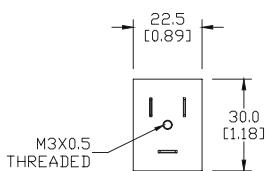
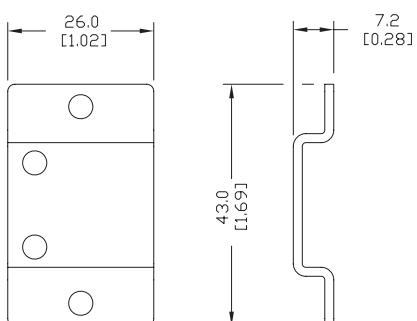
Pneumatic A-Series Direction Control Solenoid Valves - Accessories

**AVC1-12D****AVC2-12D****AVP-31BKT****AVP-31KIT**

Pneumatic A-Series Directional Control Solenoid Valve Series Accessories			
Part No.	Price	Description	Weight (lb)
AVC1-12D	\$12.50	NITRA solenoid coil, 12VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
AVC1-24D	\$12.50	NITRA solenoid coil, 24VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
AVC1-24A	\$12.50	NITRA solenoid coil, 24VAC, 4.0 VA. For use with AVS-31 and AVS-51 series valves.	0.1
AVC1-120A	\$12.50	NITRA solenoid coil, 120VAC, 3.5 VA. For use with AVS-31 and AVS-51 series valves.	0.1
AVC2-12D	\$13.00	NITRA solenoid coil, 12 VDC, 3.0W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
AVC2-24D	\$13.00	NITRA solenoid coil, 24 VDC, 3.0W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
AVC2-24A	\$12.50	NITRA solenoid coil, 24 VAC, 5.0VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
AVC2-120A	\$12.50	NITRA solenoid coil, 120 VAC, 4.5VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
AVP-31BKT	\$2.25	NITRA individual mounting bracket, plated steel. For use with AVP-31 directional control valves.	0.1
AVP-31KIT	\$3.25	NITRA stacking screws, for use with AVP-31 directional control valves. One kit is required for each additional AVP-31 valve added to the stack.	0.1

Dimensions

mm [inches]

**AVC1 Series Coils****AVC2 Series Coils****AVP-31BKT**

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Directional Control Solenoid Valve Manifolds and Accessories



AM-3 Series Manifolds



AM-31BP

Pneumatic Directional Control Solenoid Valve Series Accessories			
Part No.	Price	Description	Weight (lb)
AM-312	\$26.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.2
AM-314	\$37.50	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.3
AM-316	\$45.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.4
AM-318	\$59.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.5
AM-31BP	\$5.25	NITRA blanking plate, plated steel. For use with AM-31 series manifolds.	0.1
AM-322	\$24.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.2
AM-324	\$42.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.4
AM-326	\$60.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.5
AM-328	\$78.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.7
AM-32BP	\$5.25	NITRA blanking plate, plated steel. For use with AM-32 series manifolds.	0.1
AM-332	\$27.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.4
AM-334	\$48.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.6
AM-336	\$86.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.9
AM-338	\$91.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	1.1
AM-33BP	\$5.75	NITRA blanking plate, plated steel. For use with AM-33 series manifolds.	0.1
AM-512	\$13.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.4
AM-514	\$23.50	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.6
AM-516	\$33.50	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.8
AM-518	\$46.50	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	1.1
AM-51BP	\$6.50	NITRA blanking plate, plated steel. For use with AM-51 series manifolds.	0.1
AM-522	\$17.50	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	0.5
AM-524	\$34.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	0.9
AM-526	\$49.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	1.2
AM-528	\$66.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	1.5
AM-52BP	\$7.25	NITRA blanking plate, plated steel. For use with AM-52 series manifolds.	0.1



Pneumatic Directional Control Solenoid Valve Manifolds and Accessories

**AM-5 Series Manifolds****AM-31GS**

Pneumatic Directional Control Solenoid Valve Series Accessories Continued			
Part No.	Price	Description	Weight (lb)
AM-532	\$23.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	0.8
AM-534	\$46.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	1.4
AM-536	\$69.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	1.9
AM-538	\$92.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	2.5
AM-53BP	\$7.25	NITRA blanking plate, plated steel. For use with AM-53 series manifolds.	0.1
AM-542	\$31.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	1.7
AM-544	\$63.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	2.8
AM-546	\$96.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	4.0
AM-548	\$115.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	5.2
AM-54BP	\$7.25	NITRA blanking plate, plated steel. For use with AM-54 series manifolds.	0.1
AM-31GS	\$5.50	NITRA manifold mounting set, for use with AM-31 series manifolds.	0.1
AM-32GS	\$6.25	NITRA manifold mounting set, for use with AM-32 series manifolds.	0.1
AM-33GS	\$6.25	NITRA manifold mounting set, for use with AM-33 series manifolds.	0.1
AM-51GS	\$5.50	NITRA manifold mounting set, for use with AM-51 series manifolds.	0.1
AM-52GS	\$6.25	NITRA manifold mounting set, for use with AM-52 series manifolds.	0.1
AM-53GS	\$6.25	NITRA manifold mounting set, for use with AM-53 series manifolds.	0.1
AM-54GS	\$6.50	NITRA manifold mounting set, for use with AM-54 series manifolds.	0.1

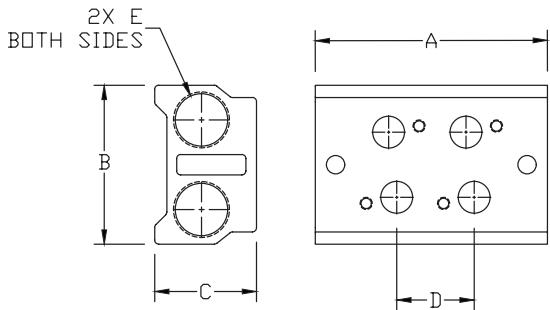


Pneumatic Directional Control Solenoid Valve Manifolds and Accessories

Dimensions

mm [inches]

AM 3x Series Manifolds

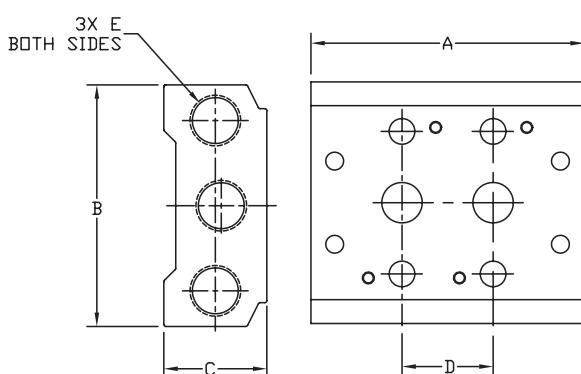


MANIFOLD DIMENSIONS				
PART NO.	A	B	C	D
AM-312	57.0 [2.24]	39.0 [1.54]	25.0 [0.98]	19.0 [0.75]
AM-314	95.0 [3.74]			3X 19.0 [0.75]
AM-316	133.0 [5.24]			5X 19.0 [0.75]
AM-318	171.0 [6.73]			7X 19.0 [0.75]
AM-322	69.0 [2.72]			23.0 [0.91]
AM-324	115.0 [4.53]			3X 23.0 [0.91]
AM-326	161.0 [6.34]			5X 23.0 [0.91]
AM-328	207.0 [8.15]			7X 23.0 [0.91]
AM-332	82.0 [3.23]			28.0 [1.10]
AM-334	138.0 [5.46]			3X 28.0 [1.10]
AM-336	194.0 [7.64]			5X 28.0 [1.10]
AM-338	250.0 [9.84]			7X 28.0 [1.10]

1/4 NPT

3/8 NPT

AM 5x Series Manifolds



MANIFOLD DIMENSIONS				
PART NO.	A	B	C	D
AM-512	57.0 [2.24]	58.0 [2.28]	25.0 [0.98]	19.0 [0.75]*
AM-514	95.0 [3.74]			3X 19.0 [0.75]*
AM-516	133.0 [5.24]			5X 19.0 [0.75]*
AM-518	171.0 [6.73]			7X 19.0 [0.75]*
AM-522	69.0 [2.72]			23.0 [0.91]
AM-524	115.0 [4.53]			3X 23.0 [0.91]
AM-526	161.0 [6.34]			5X 23.0 [0.91]
AM-528	207.0 [8.15]			7X 23.0 [0.91]
AM-532	82.0 [3.23]			28.0 [1.10]
AM-534	138.0 [5.46]			3X 28.0 [1.10]
AM-536	194.0 [7.64]			5X 28.0 [1.10]
AM-538	250.0 [9.84]			7X 28.0 [1.10]
AM-542	98.0 [3.86]	75.0 [2.95]	30.0 [1.19]	35.0 [1.38]
AM-544	168.0 [6.61]			3X 35.0 [1.38]
AM-546	238.0 [9.37]			5X 35.0 [1.38]
AM-548	308.0 [12.13]			7X 35.0 [1.38]

1/4 NPT

3/8 NPT

1/2 NPT

* Exhaust holes have 1mm offset from spacing centerline.

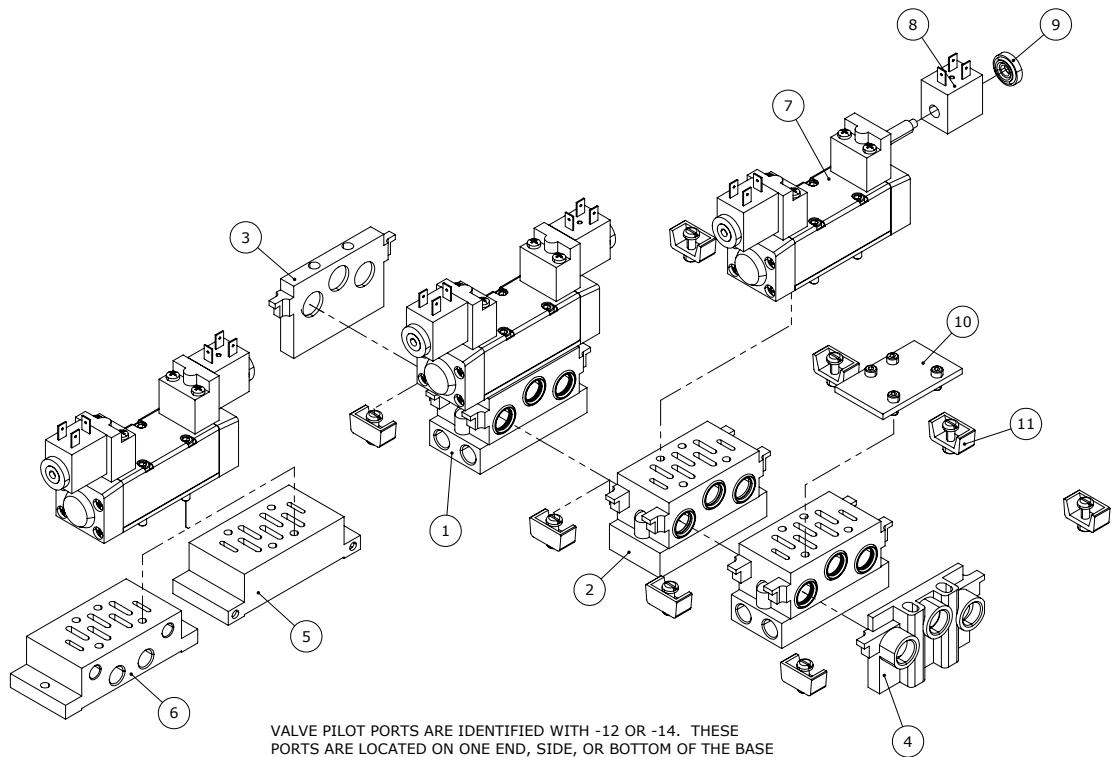
See our website www.AutomationDirect.com for complete Engineering drawings.



ISO 5599 Solenoid Valves, Bases, Manifolds and Accessories

NITRA ISO 5599 valves and other components are a robust directional control solution that conforms to ISO 5599/1 standard. Components are available in size 1 or size 2 to deliver excellent performance for many industrial pneumatic systems. Valves and bases are interchangeable with other 5599/1 systems from other manufacturers. Bases and manifolds are available in either G-thread (BSPP) or NPT.

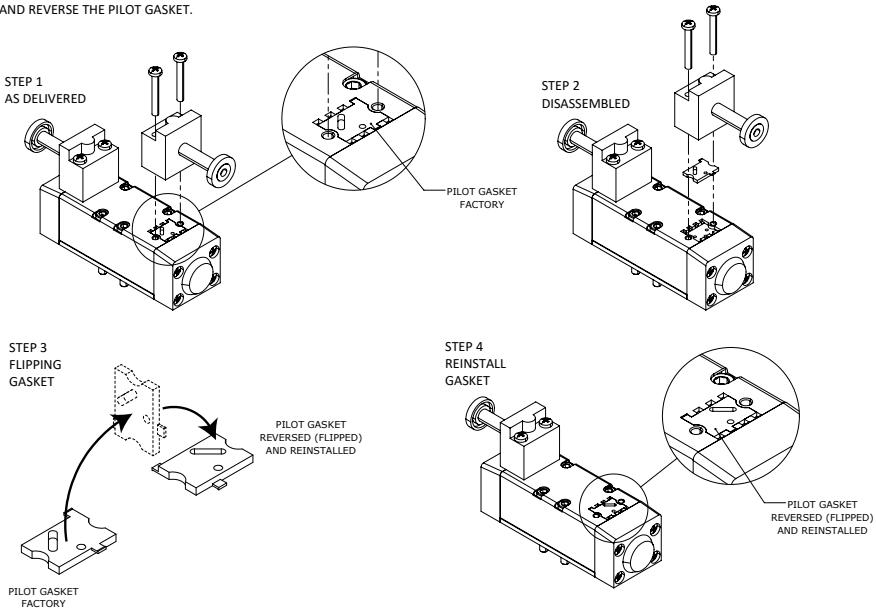
ISO 5599 Manifolds/ Bases/Valves	
1	Manifold Side Orientation
2	Manifold Bottom Orientation
3	Manifold Blind End Plate
4	Manifold Inlet
5	Stand Alone Base Bottom Orientation
6	Stand Alone Base Side Orientation
7	Solenoid Valve
8	Solenoid Coil
9	Coil Nut
10	Manifold Blank Plate
11	Manifold Attaching Kit



NITRA ISO 5599 manifold components are easily assembled to meet your needs:

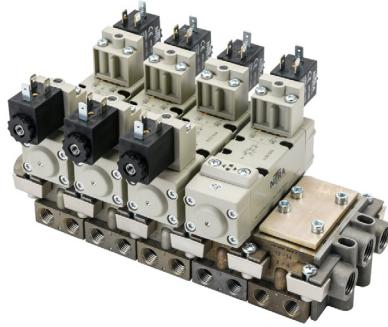
- Determine if bottom or side ports are needed.
- Join manifold sections with included clamps.
- Add inlet plate(s) and blind end plate (if needed).
- Install valves on the manifold sections. Blanking plates are available for unused stations.
- Install solenoid coils in desired voltage.
- Connect solenoids to control system and plumb as required.

TO OPERATE THE VALVE AT AN OPERATING PRESSURE (PORT 1) BELOW THE MINIMUM PILOT PRESSURE, REMOVE THE PILOT VALVE AND REVERSE THE PILOT GASKET.





ISO 5599 Solenoid Valves



Assembly examples show assembled ISO 5599 valves, bases and manifolds. (each sold separately)



Features

- ISO 5599/1 sizes 1 and 2 interchange with all other brands meeting ISO 5599/1
- 5-port / 2-position and 5/port / 3-position valves available
- Order stand-alone bases or manifolds separately
- Solenoid coils sold separately in 12 & 24 VDC and 24, 110 & 220 VAC



See www.AutomationDirect.com
for a wide variety of fitting and cable options



ISO 5599 Solenoid Valves																						
Model	HVS-5211	HVS-5212	HVS-53C12	HVS-53E12	HVS-53P12	HVS-5221	HVS-5222	HVS-53C22	HVS-53E22	HVS-53P22												
Price	\$96.00	\$125.00	\$150.00	\$150.00	\$150.00	\$148.00	\$174.00	\$183.00	\$183.00	\$183.00												
Drawing	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF												
Diagram	A	B	C	D	E	A	B	C	D	E												
Weight (lbs.)	0.76	0.86	0.82	0.82	0.82	1.58	1.63	1.59	1.59	1.59												
Fluid	Filtered air without lubrication; lubrication, if used, must be continuous																					
ISO Size	1					2																
Operating Pressure	Vacuum to 10 bar (vacuum to 145 psi)																					
Min. Pilot Pressure	2.5 bar (36 psi)	1 bar (15 psi)				2.5 bar (36 psi)	1 bar (15 psi)															
Operating Temp. Range	-10 to 60°C (14 to 140°F)																					
Nominal Diameter	7.5 mm					12mm																
Sonic Conductance (C)	250 NL/min • bar (36.5 scfm/psi)					657.14 NL/min • bar (95.9 scfm/psi)																
Critical Pressure Ratio (b)	0.36					0.25																
Flow Rate at 6 bar @ delta-P 0.5 bar (87 psi @ delta-P 7 psi)	700 NL/min (24.7 scfm)					1800 NL/min (63.6 scfm)																
Flow Rate at 6 bar @ delta-P 1 bar (87 psi @ delta-P 15 psi)	1100 NL/min (38.8 scfm)					2700 NL/min (95.3 scfm)																
Min Response ON/OFF	24/50 ms	20/20 ms			39/60 ms	25/25 ms																
Installation	Any	Vertical not recommended with vibration			Any	Vertical not recommended with vibration																
Assembly	On single and manifold bases according to ISO 5599/1																					
Manual Override	Locking																					
Coils	22mm Form B in Accordance with EN 175301-803-B (11mm pin width)																					
Max. Coil Nut Torque	1 Nm / 9 lb-in																					
Approvals	N/A																					



ISO 5599 Solenoid Valves

ISO 5599 Valve Diagrams

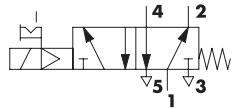


Diagram "A"

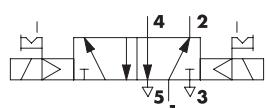


Diagram "B"

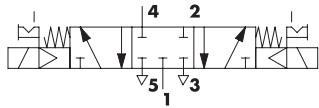


Diagram "C"

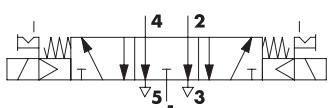


Diagram "D"

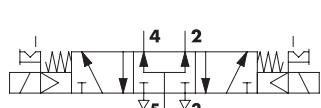
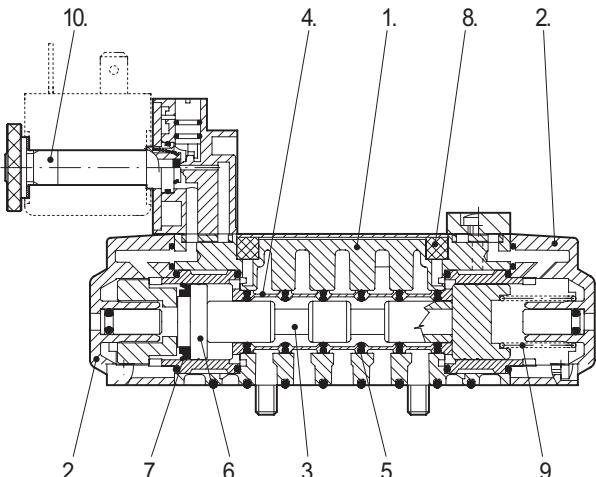


Diagram "E"

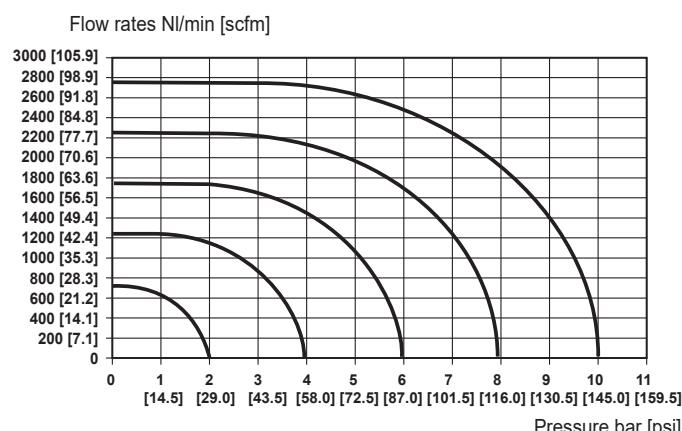
ISO 5599 Valve Components

1. VALVE BODY: Aluminium
2. END CAP: Hostaform®
3. SPOOL: chemically nickel-plated aluminium
4. DISTANCE PLATES: plastic
5. GASKETS: NBR (Buna-N)
6. PISTONS: Hostaform®
7. PISTON GASKET: NBR (Buna-N)
8. FILTER: sintered bronze
9. SPRINGS: special steel
10. OPERATOR: Brass pipe – Stainless steel core

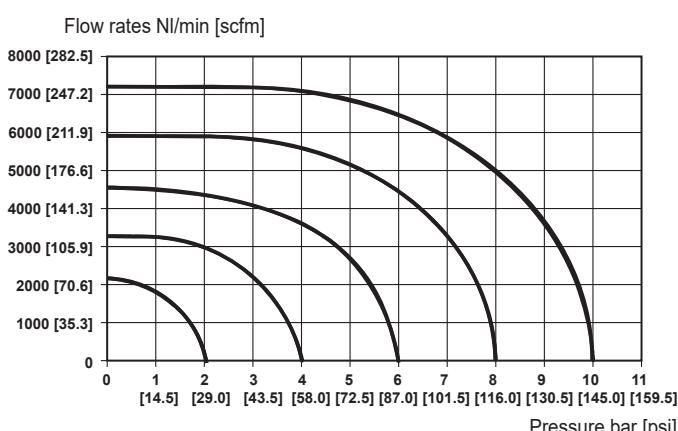


ISO 5599 Valve Flow Charts

ISO 1



ISO 2





ISO 5599 Solenoid Valve Bases

NITRA ISO 5599 Series Valve Bases allow mounting a single ISO 5599/1 solenoid valve. Bases will fit other brands of ISO 5599/1 valves.

Features

- Stand-alone bases compatible with all ISO 5599/1 valves in sizes 1 and 2
- Available with side or bottom ports
- Available port threads in G-thread (BSPP) or NPT
- Aluminum alloy



See www.AutomationDirect.com
for a wide variety of fitting and
cable options



ISO 5599 Series Valve Bases									
Item Photo	Part No.	Pressure	Inlet(s) / Outlet(s)	Orientation	Usage	Weight (lbs.)	Price	Drawing Link	
View Product	HSB-1SG	145 psi (10 bar) maximum operating pressure	G1/4 female BSPP	Side	ISO 5599/1 size 1 solenoid valves	0.36	\$16.00	PDF	
View Product	HSB-1SN		1/4 in female NPT			0.36	\$16.00	PDF	
View Product	HSB-1BG		G1/4 female BSPP	Bottom		0.43	\$15.50	PDF	
View Product	HSB-1BN		1/4 in female NPT			0.43	\$15.50	PDF	
View Product	HSB-2SG		G3/8 female BSPP	Side	ISO 5599/1 size 2 solenoid valves	0.57	\$26.00	PDF	
View Product	HSB-2SN		3/8 in female NPT			0.57	\$26.00	PDF	
View Product	HSB-2BG		G3/8 female BSPP	Bottom		0.67	\$22.00	PDF	
View Product	HSB-2BN		3/8 in female NPT			0.67	\$22.00	PDF	



ISO 5599 Solenoid Valve Manifolds

NITRA ISO 5599 Series pneumatic valve manifolds can be joined with included fasteners to build valve islands. These manifolds will fit other brands of ISO 5599/1 valves.



See www.AutomationDirect.com
for a wide variety of fitting and
cable options

Features

- Manifolds compatible with all ISO 5599/1 valves
- Available with side or bottom ports
- Available port threads in G-thread (BSPP) or NPT
- Aluminum alloy

ISO 5599 Series Valve Size 1 Manifolds

Item Photo	Part No.	Pressure	Inlet(s) / Outlet(s)	Orientation	Usage	Weight (lbs.)	Price	Drawing Link	
HM-1G	145 psi (10 bar) maximum operating pressure		G3/8 female BSPP	N/A	ISO 5599/1 size 1 solenoid valves	0.28	\$12.50	PDF	
HM-1N			3/8 in female NPT			0.28	\$12.50	PDF	
HM-1SG			G1/4 female BSPP	Side		0.29	\$29.00	PDF	
HM-1SN			1/4 in female NPT			0.29	\$29.00	PDF	
HM-1BG			G1/4 female BSPP	Bottom		0.69	\$29.00	PDF	
HM-1BN			1/4 in female NPT			0.69	\$29.00	PDF	

ISO 5599 Series Valve Size 1 Manifold Accessories

Item Photo	Part No.	Description	Weight (lbs.)	Price	Drawing Link
HM-1B		NITRA blind end, aluminum alloy. For use with ISO 5599/1 size 1 manifolds.	0.17	\$6.50	PDF
HM-1BP		NITRA blanking plate, aluminum alloy. For use with ISO 5599/1 size 1 manifolds. Assembly screws and seal included.	0.10	\$6.50	PDF
HM-1A		NITRA manifold attaching kit, aluminum alloy. For use with ISO 5599/1 size 1 solenoid valves. Includes (2) assembly clamps and (3) o-rings.	0.10	\$3.25	PDF



ISO 5599 Solenoid Valve Manifolds

ISO 5599 Series Valve Size 2 Manifolds									
Item Photo	Part No.	Pressure	Inlet(s) / Outlet(s)	Orientation	Usage	Weight (lbs.)	Price	Drawing Link	
A small, rectangular metal manifold with two female BSPP ports.	HM-2G	145 psi (10 bar) maximum operating pressure	G1/2 female BSPP	N/A	ISO 5599/1 size 2 solenoid valves	0.45	\$15.50	PDF	
A small, rectangular metal manifold with two female NPT ports.	HM-2N		1/2 in female NPT			0.45	\$15.50	PDF	
A small, rectangular metal manifold with two female BSPP ports.	HM-2SG		G3/8 female BSPP	Side		0.69	\$35.50	PDF	
A small, rectangular metal manifold with two female NPT ports.	HM-2SN		3/8 in female NPT			0.69	\$35.50	PDF	
A small, rectangular metal manifold with two female NPT ports.	HM-2BG		3/8 in female NPT	Bottom		1.11	\$35.50	PDF	
A small, rectangular metal manifold with two female NPT ports.	HM-2BN		3/8 in female NPT			1.11	\$35.50	PDF	

ISO 5599 Series Valve Size 2 Manifold Accessories						
Item Photo	Part No.	Description		Weight (lbs.)	Price	Drawing Link
A rectangular metal blind end plate.	HM-2B	NITRA blind end, aluminum alloy. For use with ISO 5599/1 size 2 manifolds.		0.29	\$10.00	PDF
A rectangular metal blanking plate with mounting hardware.	HM-2BP	NITRA blanking plate, aluminum alloy. For use with ISO 5599/1 size 2 manifolds. Assembly screws and seal included.		0.21	\$8.25	PDF
A kit of assembly clamps and o-rings.	HM-2A	NITRA manifold attaching kit, aluminum alloy. For use with ISO 5599/1 size 2 solenoid valves. Includes (2) assembly clamps and (3) o-rings.		0.10	\$3.75	PDF



ISO 5599 Valve Coils

NITRA ISO 5599 Series pneumatic valve coils fit NITRA ISO 5599/1 solenoid valves.

Features

- Voltage tolerance: -10% to + 15%
- Insulation class: F155
- IP65 EN60529 protection with connector
- Coil temperature 100% ED: 55°C at 20°C – ambient temperature
- In accordance to Atex 2014/34/EU rule, group 2, category 3 GD
- Coils have 11mm DIN style connector



See www.AutomationDirect.com
for a wide variety of fitting and
cable options



ISO 5599 Series Valve Coils					
Item Photo	Part No.	Description	Weight (lbs.)	Price	Drawing Link
	HVC-12D	NITRA solenoid coil, 12 VDC, 2W. For use with HVS series solenoid valves.	0.1	\$12.00	PDF
	HVC-24D	NITRA solenoid coil, 24 VDC, 2W. For use with HVS series solenoid valves.	0.1	\$12.00	PDF
	HVC-24A	NITRA solenoid coil, 24 VAC, 3.5VA. For use with HVS series solenoid valves.	0.1	\$12.00	PDF
	HVC-110A	NITRA solenoid coil, 110 VAC, 3.5VA. For use with HVS series solenoid valves.	0.1	\$12.00	PDF
	HVC-220A	NITRA solenoid coil, 220 VAC, 3.5VA. For use with HVS series solenoid valves.	0.1	\$12.00	PDF

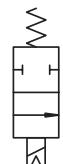


ISO 5599 Valve Accessories

ISO 5599 Series Valve Accessories				
Item Photo	Part No.	Description	Weight (lbs.)	Price
	<u>HS-NUT</u>	NITRA solenoid coil nut, replacement. For use with HVS series solenoid valves.	0.05	\$4.75
	<u>HVS-1SEAL</u>	NITRA seal kit, replacement. For use with ISO 5599/1 size 1 solenoid valves. Includes o-rings, lip seals and valve bottom gasket.	0.05	\$4.25
	<u>HVS-2SEAL</u>	NITRA seal kit, replacement. For use with ISO 5599/1 size 2 solenoid valves. Includes o-rings, lip seals and valve bottom gasket.	0.05	\$6.50



Part No. DVD-2AC3A-24D

Valve
Symbol

2-way, 2-pos

Process Pipeline Solenoid Valves

DVD-2A Series

The NITRA™ DVD-2A Series valves are 2-way, 2-position, normally closed valves for the control of air, oil, water, or media that is compatible with valve materials of manufacture. These valves feature an all brass body and a zero minimum pressure differential while still boasting a full flow 1/2" orifice. Available in 1/4", 3/8" and 1/2" FNPT port sizes, the DVD-2A valves can handle pressures to 230psi. The encapsulated coil construction ensures that the valve functions well under long periods of energization (100% duty), as well as providing a high degree of environmental protection (NEMA Type 4). The inner valve functions as a direct assist using a flat diaphragm and orifice plate. Pressure differentials shift the valve to full open. A push, non-locking manual override is standard.

Features

- 2-way diaphragm style valves
- 1/4", 3/8", or 1/2" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC, or 120VAC solenoids
- DIN style wiring connector



See www.AutomationDirect.com
for a wide variety of fitting and
cable options

DVD-2A Series Solenoid Valve Specifications

Model	DVD-2AC2A-24D	DVD-2AC2A-24A	DVD-2AC2A-120A	DVD-2AC3A-24D	DVD-2AC3A-24A	DVD-2AC3A-120A	DVD-2AC4A-24D	DVD-2AC4A-24A	DVD-2AC4A-120A						
Price	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00						
Weight (lbs)	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0						
Valve Type	2-way, 2-position														
Acting	Diaphragm, normally closed, spring return														
Port Size	1/4" FNPT			3/8" FNPT			1/2" FNPT								
Orifice Size	1/2" [12.7 mm]														
Cv	1.55			1.95			2.45								
Media	Air, oil, water, emulsion, inert gases														
Pressure Range	1-180 psi [0-12.4 bar]	1-160 psi [0-11.0 bar]	0-230 psi [0-15.9 bar]	1-180 psi [0-12.4 bar]	1-160 psi [0-11.0 bar]	0-230 psi [0-15.9 bar]	1-180 psi [0-12.4 bar]	1-160 psi [0-11.0 bar]	0-230 psi [0-15.9 bar]						
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz						
Inrush AC	-	10.5 VA		-	10.5 VA		-	10.5 VA							
Power Consumption	10W	8VA		10W	8VA		10W	8VA							
Max Freq	12.5 Hz														
Insulation	Class F (continuous duty)														
Min Response	20-80 ms complete cycle														
Temperature	Max fluid 194 deg F (90 deg C); Ambient 14 deg F to 122 deg F (-10 deg C to 50 deg C)														
Lubrication	Not required														
Protection	NEMA Type 4														
Connection	18mm DIN terminal; Cable OD 0.315" to 0.394", 14 AWG max														
Construction	Brass body; Viton seals; Operator Brass														
Life Cycle	10 million														
Agency Approvals	CE														

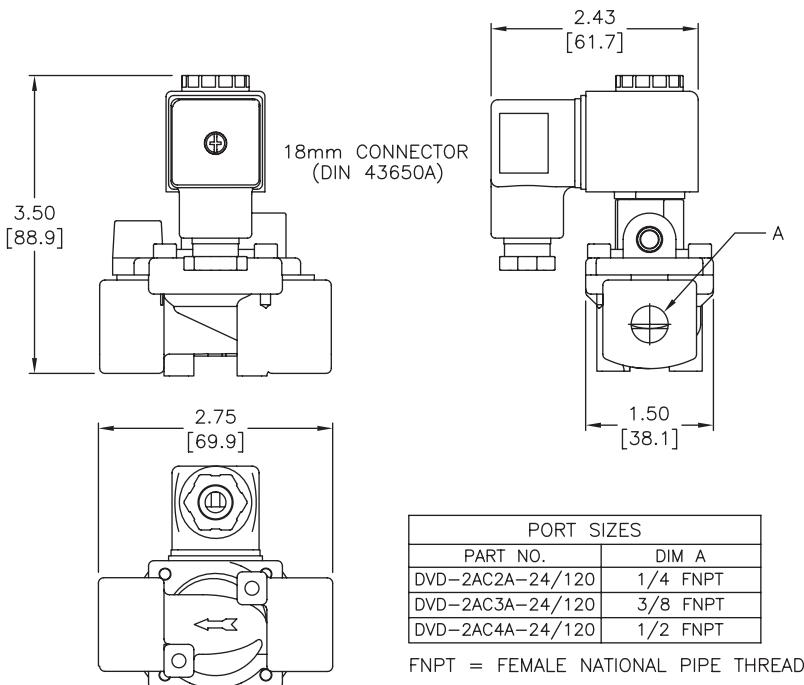


Process Pipeline Solenoid Valves

DVD-2A Series

Dimensions

inches [mm]



See our website www.AutomationDirect.com for
complete Engineering drawings.

Accessories

DVD-2A Series Solenoid Valve Accessories			
Part No.	Description	Price	Weight (lbs)
DVD-1VSEAL	Seal kit, replacement, Viton, for DVD-2AC series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.	\$10.00	0.1



Part No. **DVD-1VSEAL**

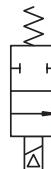


Process Pipeline Solenoid Valves

DVD-2B Series



Part No. DVD-2BC3A-120A

Valve
Symbol

2-way, 2-pos

The NITRA™ DVD-2B Series valves are engineered composite 2-way, 2-position solenoid/air operated valves designed for the control of liquid media and inert gas. The valves are available with a large 1/2" or 1-1/8" orifice and five port sizes, 1/4", 3/8", 1/2", 3/4", and 1" FNPT. The valve's compact design utilizes the latest in material sciences with the use of composite materials in the valve body. The solenoid pilot is power saving low wattage, made of stainless steel working components and is miniaturized to fit in tight places. The fully encapsulated coils are available in three voltages with a DIN connector attached. Typical applications are for installations where there is a need to control inert fluids and gases, condensate drainage, hot water plumbing and sprinkler systems.

Features

- 2-way diaphragm style valves
- 1/4, 3/8, 1/2, 3/4, or 1" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC, or 120VAC solenoids
- DIN style wiring connector



See www.AutomationDirect.com
for a wide variety of fitting and cable options



DVD-2B Series Solenoid Valve Specifications																				
Model	DVD-2BC2A-24D	DVD-2BC2A-24A	DVD-2BC2A-120A	DVD-2BC3A-24D	DVD-2BC3A-24A	DVD-2BC3A-120A	DVD-2BC4A-24D	DVD-2BC4A-24A	DVD-2BC4A-120A	DVD-2BC5F-24D	DVD-2BC5F-120A	DVD-2BC6F-24D	DVD-2BC6F-120A							
Price	\$55.00	\$55.00	\$55.00	\$55.00	\$55.00	\$55.00	\$55.00	\$55.00	\$55.00	\$116.00	\$116.00	\$116.00	\$116.00							
Weight (lbs)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6							
Valve Type	2-way, 2-position																			
Acting	Diaphragm, normally closed, spring return																			
Port Size	1/4" FNPT		3/8" FNPT		1/2" FNPT		3/4" FNPT		1" FNPT											
Orifice Size	1/2" [12.7 mm]						1.125" [28.6 mm]													
Cv	1.55		1.95		2.45		14													
Media	Air, oil, water, inert gas																			
Pressure Range	7-150 psi* [0.5-10.3 bar]						10-120 psi [0.7-8.3 bar]													
Voltage (± 10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	120VAC 50/60 Hz	24VDC	120VAC 50/60 Hz							
Inrush AC	-	10VA	-	10VA	-	10VA	-	10VA	-	8VA	-	8VA								
Power Consumption	6.5 W	8.5 VA	6.5 W	8.5 VA	6.5 W	8.5 VA	6 W	9 VA	6 W	9 VA	6 W	9 VA								
Max Freq	12.5 Hz						8.33 Hz													
Insulation	Class F (continuous duty)																			
Min Response	20-80 ms complete cycle						80-120 ms complete cycle													
Temperature	14°F to 122°F [-10°C to 50°C]																			
Lubrication	Not required																			
Protection	NEMA Type 4																			
Connection	11mm DIN terminal						18mm DIN terminal													
Construction	Glass filled nylon body; Viton seals; Operator Brass						Glass filled nylon body; Viton seals; Brass operator													
Life Cycle	10 million																			
Agency Approvals	CE																			

* Requires minimum sealing pressure



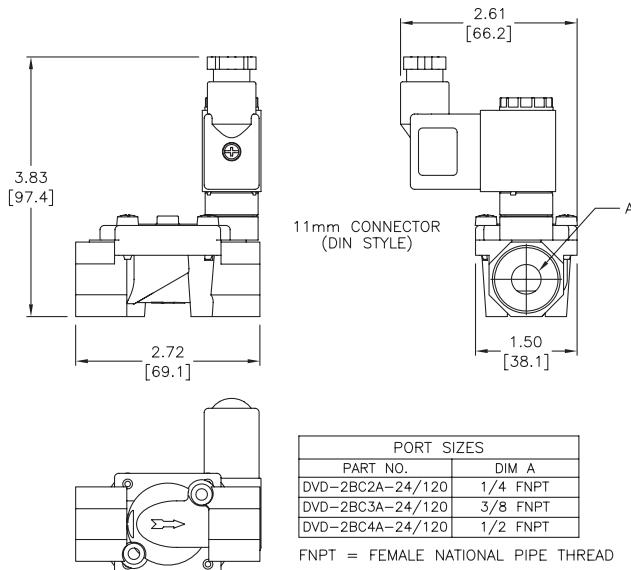
Process Pipeline Solenoid Valves

DVD-2B Series

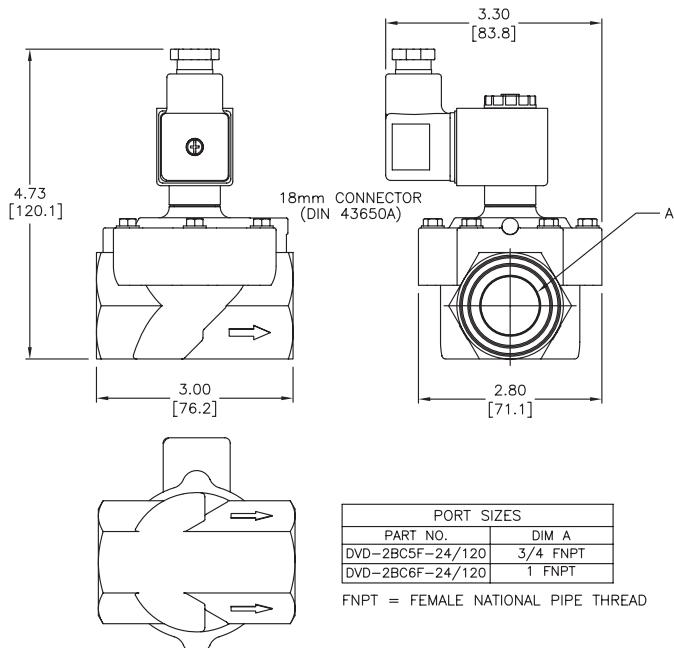
Dimensions

inches [mm]

DVD-2BCXX



DVD-2BC5&6



Accessories

See our website www.AutomationDirect.com for complete Engineering drawings.

DVD-2B Series Solenoid Valve Accessories			
Part No.	Description	Price	Weight (lbs)
DVD-2VSEAL	Seal kit, replacement, Viton, for DVD-2BC2A, DVD-2BC3A and DVD-2BC4A series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.	\$10.00	0.1
DVD-3VSEAL	Seal kit, replacement, Viton, for DVD-2BC5F or DVD-2BC6F series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.	\$27.50	0.6



Part No. DVD-2VSEAL

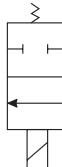


Part No. DVD-3VSEAL



Part No. DVP-2CC1C-24A

Valve Symbols



2-way, 2-pos, NC



3-way, 2-pos, NC

DVP-2C & DVP-3C Series Solenoid Valve Specifications

Model	DVP-2CC1C-24D	DVP-2CC1C-24A	DVP-2CC1C-120A	DVP-3CC1C-24D	DVP-3CC1C-24A	DVP-3CC1C-120A
Price	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00
Weight (lbs)	0.3	0.3	0.3	0.3	0.3	0.3
Valve Type	2-way, 2-position			3-way, 2-position		
Acting		Stackable poppet valve, normally closed, spring return				
Port Size		1/8" FNPT				
Orifice Size		0.6" [1.5 mm]				
CV	0.08			0.08 (exhaust 0.08)		
Media		Air, oil, inert gas, water, caustics*				
Pressure Range		0-200 psi [0-13.8 bar]			1-150 psi [0-10.3 bar]	
Voltage ($\pm 10\%$)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz
Inrush AC	-	10VA		-	10VA	
Power Consumption	6.5 W	8.5 VA		6.5 W	8.5 VA	
Max Freq		71.4 Hz				
Insulation		Class F (continuous duty)				
Min Response		12-14 ms complete cycle				
Temperature		14°F to 122°F [-10°C to 50°C]				
Lubrication		Not required				
Protection		NEMA Type 4				
Connection		11mm DIN terminal				
Construction		Glass filled nylon body; Viton seals; Operator Brass				
Life Cycle		20 million				
Agency Approvals		CE				

* Check the chemical compatibility of the valve materials with the process media being used.

is the versatility to stock single units and build, mix, and match to meet specifications. In most cases these valves reduce inventory costs and lower installation costs over a conventional manifold valve series. The coils are available with DIN connectors installed.

Process Pipeline Solenoid Valves

DVP-2C & DVP-3C Series

The NITRA™ DVP-2C and DVP-3C Series valves can be stacked into a multiple output bank of solenoid valves. The DVP-2C and 3C valves feature a fully encapsulated coil, spring compensated plunger seats for long life, and a miniature stackable composite valve body. The advantage to this design

Features

- 2-way and 3-way stackable poppet style valves
- 1/8" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids
- DIN style wiring connector



See www.AutomationDirect.com
for a wide variety of fitting and cable options

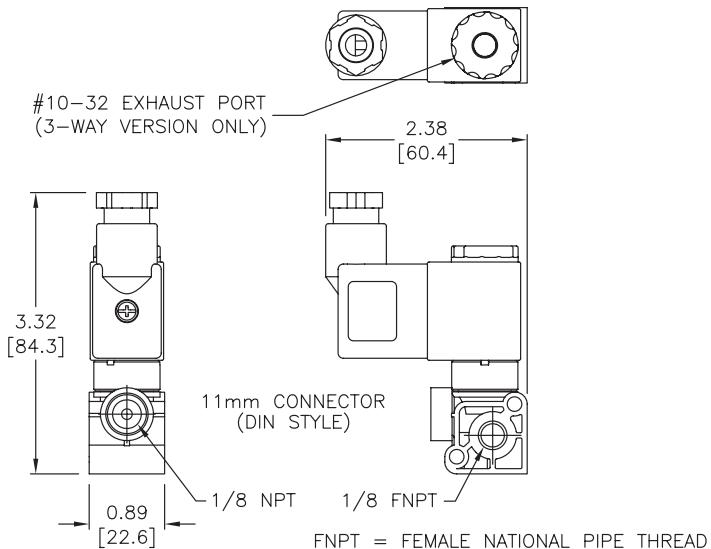


Process Pipeline Solenoid Valves

DVP-2C & DVP-3C Series

Dimensions

inches [mm]



See our website www.AutomationDirect.com for complete Engineering drawings.

Accessories

DVP-2C & DVP-3C Series Solenoid Valve Accessories			
Part No.	Description	Price	Weight (lbs)
DVP-2BKT	Mounting kit for DVP-2C & 3C series valves, 2 station. Includes (2) #8-32 x 2 inch screws, (2) #8 lock nuts and (1) Viton o-ring.	\$5.50	0.1
DVP-3BKT	Mounting kit for DVP-2C & 3C series valves, 3 station. Includes (2) #8-32 x 3 inch screws, (2) #8 lock nuts and (2) Viton o-rings.	\$7.50	0.1
DVP-4BKT	Mounting kit for DVP-2C & 3C series valves, 4 station. Includes (2) #8-32 x 4 inch screws, (2) #8 lock nuts and (3) Viton o-rings.	\$9.00	0.1
DVP-5BKT	Mounting kit for DVP-2C & 3C series valves, 5 station. Includes (2) #8-32 x 5 inch screws, (2) #8 lock nuts and (4) Viton o-rings.	\$11.00	0.1
DVP-6BKT	Mounting kit for DVP-2C & 3C series valves, 6 station. Includes (2) #8-32 x 6 inch screws, (2) #8 lock nuts and (5) Viton o-rings.	\$13.50	0.1



Part No. DVP-4BKT



Process Pipeline Solenoid Valves

DVP-2B & DVP-3B Series



The NITRA™ DVP-2B and DVP-3B Series valves are composite body solenoid valves offered in both 2-way and 3-way normally closed styles. Component features include the proven solenoid operator available in brass/stainless or all stainless pilot design. The glass filled composite material is media compatible, eliminating the need for stocking multiple body materials.

Part No. **DVP-2BC1C-24D**

Valve Symbols



2-way, 2-pos, NC



3-way, 2-pos, NC



3-way, 2-pos, Mixing



Features

- 2-way and 3-way poppet style valves
- 1/8" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids
- DIN style wiring connectors



See www.AutomationDirect.com
for a wide variety of fitting and cable options

DVP-2B & DVP-3B Series Solenoid Valve Specifications

Model	DVP-2BC1C-24D	DVP-2BC1C-24A	DVP-2BC1C-120A	DVP-3BC1C-24D	DVP-3BC1C-24A	DVP-3BC1C-120A				
Price	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00				
Weight (lbs)	0.3	0.3	0.3	0.3	0.3	0.3				
Valve Type	2-way, 2-position			3-way, 2-position						
Acting	Poppet valve, normally closed, spring return			Poppet valve, normally closed, spring return						
Port Size	1/8" FNPT									
Orifice Size	0.059" [1.5 mm]									
Cv	0.8			0.8 (exhaust 0.08)						
Media	Air, oil, inert gas, water, caustics*									
Pressure Range	0-200 psi [0-13.8 bar]			1-150 psi [0-10.3 bar]						
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz				
Inrush AC	–	10VA		–	10VA					
Power Consumption	6.5 W	8.5 VA		6.5 W	8.5 VA					
Max Freq	71.4 Hz									
Insulation	Class F (continuous duty)									
Min Response	12-14 ms complete cycle									
Temperature	14°F to 122°F [-10°C to 50°C]									
Lubrication	Not Required									
Protection	NEMA Type 4									
Connection	11mm DIN terminal									
Construction	Glass filled nylon body; Viton seals; Operator Brass									
Life Cycle	20 million									
Agency Approvals	CE									

* Check the chemical compatibility of the valve materials with the process media being used.

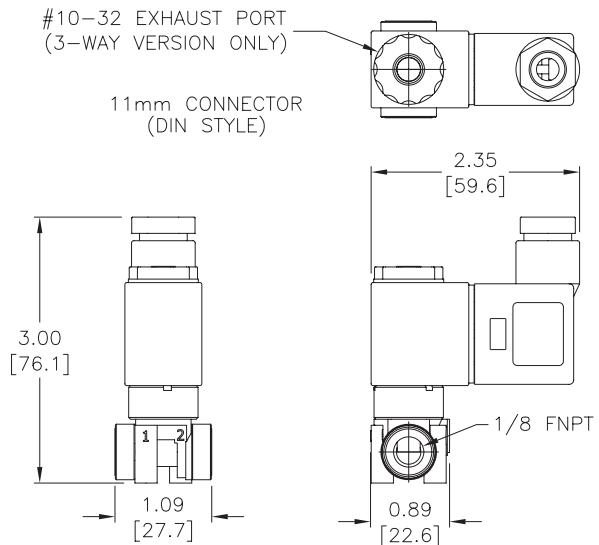


Process Pipeline Solenoid Valves

DVP-2B & DVP-3B Series

Dimensions

inches [mm]



FNPT = FEMALE NATIONAL PIPE THREAD

See our website www.AutomationDirect.com for
complete Engineering drawings.



Process Pipeline Solenoid Valves

DVP-2D & DVP-3D Series



Part No. DVP-2DC1D-24D

Valve Symbols



2-way, 2-pos, NC

The Nitra DVP-2D and DVP-3D Series valves are composite body solenoid valves offered in both 2-way and 3-way normally closed styles in three orifice sizes. Features include a direct acting solenoid utilizing a long-life spring compensated poppet at the heart of an all stainless solenoid operator. Body construction is glass filled nylon with Viton seals, making the valves compatible with air, oil, inert gas, water and caustics*. Operating voltages of 24VDC, 24VAC or 120VAC are available.

Features

- 2-way and 3-way poppet style valves
- 1/8, 1/4 or 3/8" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids
- DIN style wiring connector



See www.AutomationDirect.com
for a wide variety of fitting and cable options



DVP-2D Series Solenoid Valve Specifications															
Model	DVP-2DC1D-24D	DVP-2DC1D-24A	DVP-2DC1D-120A	DVP-2DC2E-24D	DVP-2DC2E-24A	DVP-2DC2E-120A	DVP-2DC3F-24D	DVP-2DC3F-24A	DVP-2DC3F-120A						
Price	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00						
Weight (lbs)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6						
Valve Type	2-way, 2-position														
Acting	Poppet valve, normally closed, spring return					Poppet valve, normally closed, spring return									
Port Size	1/8" FNPT			1/4" FNPT			3/8" FNPT								
Orifice Size	0.062" [1.6 mm]			0.094" [2.4 mm]			0.118" [3.0 mm]								
Cv	0.12			0.245			0.315								
Media	Air, oil, inert gas, water, caustics*														
Pressure Range	0-250 psi [0-17.2 bar]						0-150 psi [0-10.3 bar]		0-250 psi [0-17.2 bar]						
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz						
Inrush AC	-	26VA		-	26VA		-	26VA							
Power Consumption	10W	11.5 VA		10W	11.5 VA		10W	11.5 VA							
Max Freq	25Hz														
Insulation	Class F (continuous duty)														
Min Response	16-40 ms														
Temperature	14°F to 122°F [-10°C to 50°C]														
Lubrication	Not Required														
Protection	NEMA Type 4														
Connection	18mm DIN terminal														
Construction	Glass filled nylon body; Viton seals; Operator Stainless Steel														
Life Cycle	10 million														
Agency Approvals	CE														

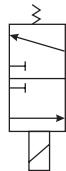
* Check the chemical compatibility of the valve materials with the process media being used.



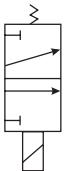
Process Pipeline Solenoid Valves

DVP-2D & DVP-3D Series

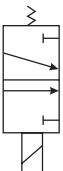
Valve Symbols



3-way, 2-pos, NC



3-way, 2-pos, Mixing



3-way, 2-pos, Diverting

DVP-3D Series Solenoid Valve Specifications															
Model	DVP-3DC1D-24D	DVP-3DC1D-24A	DVP-3DC1D-120A	DVP-3DC2E-24D	DVP-3DC2E-24A	DVP-3DC2E-120A	DVP-3DC3E-24D	DVP-3DC3E-24A	DVP-3DC3F-120A						
Price	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00						
Weight (lbs)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6						
Valve Type	3-way, 2-position														
Acting	Poppet valve, normally closed, spring return														
Port Size	1/8" FNPT			1/4" FNPT			3/8" FNPT								
Orifice Size	0.062" [1.6 mm]			0.094" [2.4 mm]			0.118" [3.0 mm]								
Cv	0.12 (exhaust port 0.08)			0.245 (exhaust port 0.08)			0.315 (exhaust port 0.08)								
Media	Air, oil, inert gas, water, caustics*														
Pressure Range	0–220 psi [0–15.2 bar]			1–120 psi [0–8.3 bar]		1–150 psi [0–10.3 bar]	1–82 psi [0–5.7 bar]	1–90 psi [0–6.2 bar]							
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz						
Inrush AC	–	26VA		–	26VA		–	26VA							
Power Consumption	10W	11.5 VA		10W	11.5 VA		10W	11.5 VA							
Max Freq	25Hz														
Insulation	Class F (continuous duty)														
Min Response	16–40 ms														
Temperature	14°F to 122°F [-10°C to 50°C]														
Lubrication	Not Required														
Protection	NEMA Type 4														
Connection	18mm DIN terminal														
Construction	Glass filled nylon body; Viton seals; Operator Brass														
Life Cycle	10 million														
Agency Approvals	CE														

* Check the chemical compatibility of the valve materials with the process media being used.

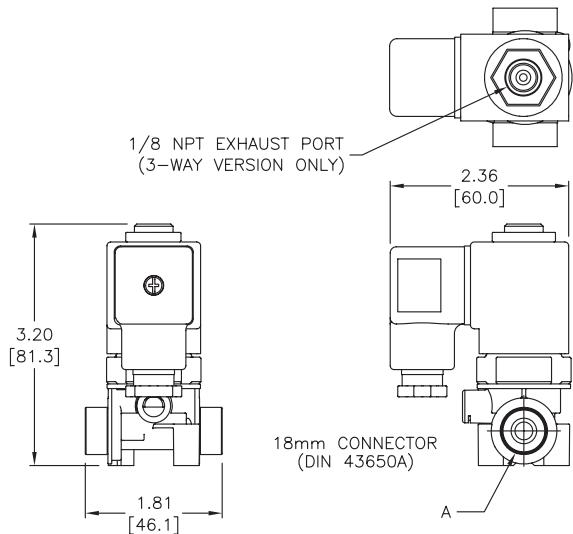


Process Pipeline Solenoid Valves

DVP-2D & DVP-3D Series

Dimensions

inches [mm]



PORT SIZES	
PART NO.	DIM A
DVP-2DC1D-24/120	1/8 FNPT
DVP-2DC2E-24/120	1/4 FNPT
DVP-2DC3F-24/120	3/8 FNPT
DVP-3DC1D-24/120	1/8 FNPT
DVP-3DC2E-24/120	1/4 FNPT
DVP-3DC3F-24/120	3/8 FNPT

FNPT = FEMALE NATIONAL PIPE THREAD

See our website www.AutomationDirect.com for
complete Engineering drawings.



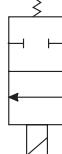
Process Pipeline Solenoid Valves

DVM-2B Series



Part No. DVM-2BC2E-24D

Valve Symbols



2-way, 2-pos, NC

Features

- 2-way media separated diaphragm style valve
- 1/8 or 1/4" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC or 120VAC solenoids

sizes are offered. Body construction is glass filled nylon with Viton seals, making the valves compatible with air, gases, water and chemicals. Operating voltages of 24VDC, 24VAC or 120VAC are available.

- DIN style wiring connector



See www.AutomationDirect.com
for a wide variety of fitting and cable options



DVM-2B Series Solenoid Valve Specifications																					
Model	DVM-2BC1B-24D	DVM-2BC1B-24A	DVM-2BC1B-120A	DVM-2BC2E-24D	DVM-2BC2E-24A	DVM-2BC2E-120A	DVM-2BC2G-24D	DVM-2BC2G-24A	DVM-2BC2G-120A												
Price	\$55.00	\$55.00	\$55.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00												
Weight (lbs)	0.2	0.2	0.2	0.6	0.6	0.6	0.6	0.6	0.6												
Valve Type																					
2-way, 2-position																					
Acting																					
Media separated valve, normally closed, spring return																					
Port Size	1/8" FNPT		1/4" FNPT																		
Orifice Size	0.047" [1.2 mm]			0.094" [2.4 mm]			0.157" [4.0 mm]														
Cv	0.065			0.24			0.52														
Media	Water, chemicals, air, gases			Air, noble gases, oils, medical fluid applications*																	
Pressure Range	0 to 120 psi [0 to 8.3 bar]			15" Hg (mercury) to 120psi [-0.5 to 8.3 bar]	15" Hg (mercury) to 120psi [-0.5 to 8.3 bar]			15" Hg (mercury) to 45psi [-0.5 to 3.1 bar]	15" Hg (mercury) to 45psi [-0.5 to 3.1 bar]												
Maximum Allowable Back Pressure	20psi regardless of voltage																				
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz												
Inrush AC	—	10VA		—	10.5 VA		—	26VA													
Power Consumption	6.5 W	8.5 VA		10W	9VA		10W	9VA													
Max Freq	40Hz			38.5 Hz																	
Insulation	Class F (continuous duty)																				
Min Response	18–25 ms complete cycle			18–26 ms complete cycle																	
Temperature	14°F to 131°F [-10°C to 55°C]			14°F to 122°F [-10°C to 50°C]																	
Lubrication	Not required																				
Protection	NEMA Type 4																				
Connection	11mm DIN terminal			18mm DIN terminal																	
Construction	Glass filled nylon body; Viton seals; 302 stainless steel inlet strainer																				
Life Cycle	10 million																				
Agency Approvals	CE																				

* Check the chemical compatibility of the valve materials with the process media being used.



Process Pipeline Solenoid Valves

DVM-2B Series

DVM-2B Series Solenoid Valve Specifications										
Model	DVM-2BC3E-24D	DVM-2BC3E-24A	DVM-2BC3E-120A	DVM-2BC3G-24D	DVM-2BC3G-24A	DVM-2BC3G-120A				
Price	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00				
Weight (lbs)	0.6	0.6	0.6	0.6	0.6	0.6				
Valve Type	Media separated valve									
Acting	2-way, 2-position, normally closed, spring return									
Port Size	3/8" FNPT									
Orifice Size	0.094" [2.4 mm]		0.157" [4.0 mm]							
Cv	0.24		0.52							
Fluid	Air, noble gases, oils, medical fluid applications*									
Pressure Range	15" vacuum to 120psi [0.04–8.3 bar]	15" vacuum to 120psi [0.04–8.3 bar]	15" vacuum to 45psi [0.04–3.1 bar]	15" vacuum to 55psi [0.04–3.8 bar]	15" vacuum to 45psi [0.04–3.1 bar]	15" vacuum to 45psi [0.04–3.1 bar]				
Maximum Allowable Back Pressure	20psi regardless of voltage									
Voltage (±10%)	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz	24VDC	24VAC 50/60 Hz	120VAC 50/60 Hz				
Inrush AC	–	26VA		–	26VA					
Power Consumption	10W	11.5 VA		10W	11.5 VA					
Max Freq	38.5 Hz									
Insulation	Class F (continuous duty)									
Min Response	18–26 ms complete cycle									
Temperature	14°F to 122°F [-10°C to 50°C]									
Lubrication	Not required									
Protection	NEMA Type 4									
Connection	18mm DIN terminal									
Construction	Glass filled nylon body; Viton seals; 302 stainless steel inlet strainer									
Life Cycle	10 million									
Agency Approvals	CE									

* Check the chemical compatibility of the valve materials with the process media being used.



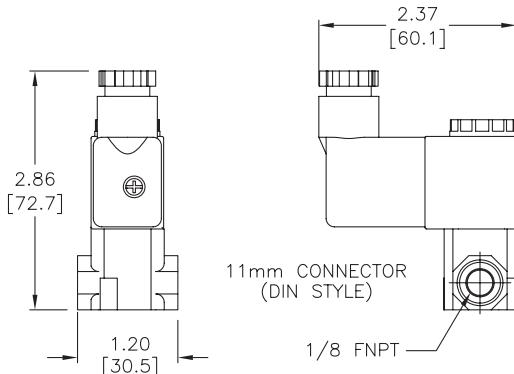
Process Pipeline Solenoid Valves

DVM-2B Series

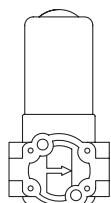
Dimensions

inches [mm]

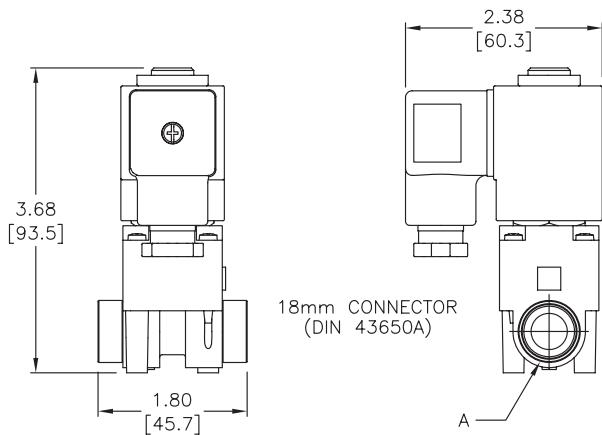
DVM-2BC1B-XX



FNPT = FEMALE NATIONAL PIPE THREAD

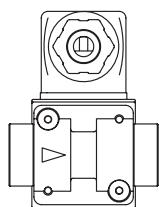


DVM-2BCXX



PORT SIZES	
PART NO.	DIM A
DVM-2BC2E-24/120	1/4 FNPT
DVM-2BC2G-24/120	1/4 FNPT
DVM-2BC3E-24/120	3/8 FNPT
DVM-2BC3G-24/120	3/8 FNPT

FNPT = FEMALE NATIONAL PIPE THREAD



See our website www.AutomationDirect.com for complete Engineering drawings.

Solenoid Valve Cables and Connectors



8mm Connectors

Dimensions shown
mm [inches]

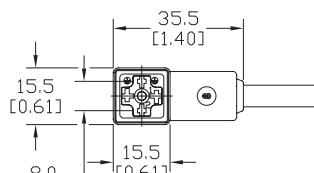


These high quality connectors and over-molded cables help reduce wiring time. The lower voltage models, 24V or 110V AC/DC, include built-in surge suppression, Yellow LED indicator and are rated for connecting with electronics. The 230V AC/DC models are rated for straight wired products. All models are available in five sizes based on DIN 43650.

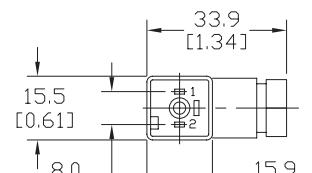


Features

- 8mm, 9.4mm, 10mm, 11mm and 18mm square DIN styles
- Fits most popular solenoid valves and sensors
- Suppression and LED indication available in 24V or 110V AC/DC models
- PVC jacketed cables in 1, 3 or 5 meter lengths on select connectors
- Field wireable connectors on select models
- Polarity insensitive (follow solenoid, sensor, or other devices wiring diagram)



Height = 25mm [0.98in]
Connector with Cable



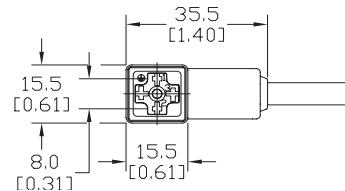
Height = 26mm [1.02in]
Field Wireable Connector

8mm (3-pole) Connectors (per DIN 43650 Form C)												
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC8-LS24-3	\$17.00	24 \pm 20%	max 4A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2W)	1	m2.5-0.45x25mm/0.4 Nm (3.5 in lb)	0.40	CSA (080128-0-000)
SC8-LS24-5	\$20.50							zener diode (D-Z DO-41 ZY200 2W)	7		0.65	
SC8-LS110-3	\$20.50	110 \pm 10%		65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	0.20 to 0.24	no	none	9	m2.5-0.45x25mm/0.5 Nm (4.4 in lb)	0.41	
SC8-LS110-5	\$24.00							none	2		0.63	
SC8-3	\$13.50		max 6A	230	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	0.20 to 0.24	no	none	9	m2.5-0.45x25mm/0.5 Nm (4.4 in lb)	0.39	none
SC8-0	\$8.75							none	9		0.10	
SC8-1	\$17.50			67	18 AWG	0.23		none	2		0.10	
SC8-5	\$19.50										0.68	

Last digit in part number denotes cable length in meters, a 0 indicates field termination.

8mm Transmitter Connector

Dimensions shown
mm [inches]



Height = 25mm [0.98in]
Connector with Cable

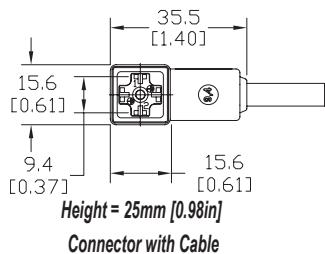
8mm (4-pole) Connectors (per DIN 43650 Form C)												
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC8-5T	\$26.00	230	max 6A	67	18 AWG	0.26	yes	none	8	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.80	CSA (080128-0-000)

Last numeric digit in part number denotes cable length in meters, a 0 indicates field termination.

Solenoid Valve Cables and Connectors

9.4mm Connectors

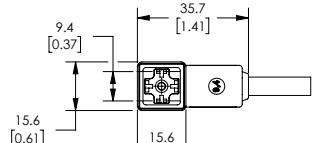
Dimensions shown
mm [inches]



9.4mm (3-pole) Connectors (DIN Style, Form C Industrial)												
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC9-LS24-3	\$17.00	24 ±20% max 4A	110 ±10%	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2W)	1	m3-0.5x26mm/ 0.4 Nm (3.5 in lb)	0.40	CSA (080128-0-000)
SC9-LS24-5	\$20.50							zener diode (D-Z DO-41 ZY200 2W)	7		0.64	
SC9-LS110-3	\$20.50						no	none	2		0.40	
SC9-LS110-5	\$24.00							none	2		0.64	
SC9-3	\$13.50	230	max 6A							m3-0.5x26mm/ 0.5 Nm (4.4 in lb)	0.40	none
SC9-5	\$19.50									0.64		

9.4mm Connectors

Dimensions shown
mm [inches]



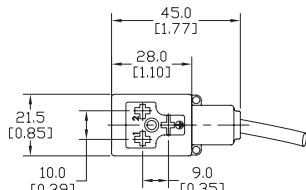
Height = 25mm [0.98in]
Connector with Cable

9.4mm (4-pole) Connectors (DIN Style, Form C Industrial)													
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia.	Cable Length	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
7000-94141-6270300	\$22.00	230 VAC/ VDC	max 6A	IP67	18 AWG	5.6-6.2 mm	9.8ft/3m	no	none	8	m3-0.5x26mm/ 0.4 Nm (3.5 in lb)	0.50	CSA (080128-0-000)/ RoHS
7000-94141-6270500	\$29.00						16.4ft/5m					0.79	

Solenoid Valve Cables and Connectors

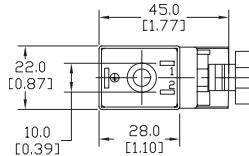
10mm Connectors

Dimensions shown
mm [inches]



Height = 30mm [1.18in]

Connector with Cable



Height = 41mm [1.61in]

Field Wireable Connector

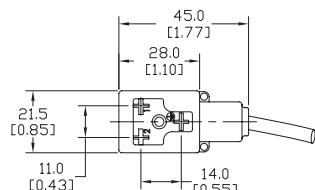
10mm (3-pole) Connectors (per DIN 43650 Form B)

Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC10-LS24-3	\$17.00	24 ±20%	max 4A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2W)	10	m3-0.5x30mm/0.4 Nm (3.5 in lb)	0.43	CSA (080128-0-000)
SC10-LS24-5	\$20.50							zener diode (D-Z DO-41 ZY200 2W)			0.68	
SC10-LS110-3	\$20.50	110 ±10%	max 4A					none			0.43	
SC10-LS110-5	\$24.00						no	none	3	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.68	
SC10-3	\$13.50	230	max 10A					zener diode (D-Z DO-15 47V 2W)			0.43	
SC10-5	\$19.50							mov (SIOV S10 K130)			0.68	
SC10-LS24-0	\$12.50	24 ±20%	max 4A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	yes	zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.07	none
SC10-LS110-0	\$14.00	110 ±10%	max 1A					mov (SIOV S10 K130)			0.07	

Last digit in part number denotes cable length in meters, a 0 indicates field termination.

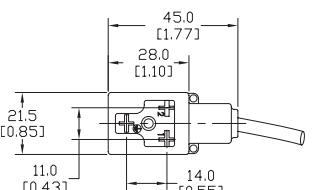
11mm Connectors

Dimensions shown
mm [inches]



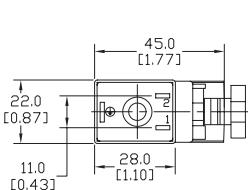
Height = 30mm [1.18in]

Connector with Cable



Height = 30mm [1.18in]

Reverse Connector with Cable



Height = 41mm [1.61in]

Field Wireable Connector

11mm (3-pole) Connectors (DIN Style, Form B Industrial)

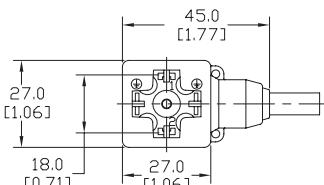
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC11-LS24-3	\$17.00	24 ±20%	max 4A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2W)	10	m3-0.5x30mm/0.4 Nm (3.5 in lb)	0.44	CSA (080128-0-000)
SC11-LS24-5	\$20.50							zener diode (D-Z DO-41 ZY200 2W)			0.67	
SC11-LS110-3	\$20.50	110 ±10%	max 4A					zener diode (D-Z DO-41 ZY200 2W)			0.44	
SC11-LS110-5	\$24.00							zener diode (D-Z DO-15 47V 2W)			0.67	
SC11-LS24-3R	\$17.00	24 ±20%	max 4A					zener diode (D-Z DO-15 47V 2W)			0.44	
SC11-LS24-5R	\$20.50						no	zener diode (D-Z DO-41 ZY200 2W)	6	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.67	
SC11-LS110-3R	\$20.50	110 ±10%	max 4A					zener diode (D-Z DO-41 ZY200 2W)			0.44	
SC11-LS110-5R	\$24.00						no	none	3	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.67	
SC11-3	\$13.50	230	max 10A					zener diode (D-Z DO-15 47V 2W)			0.44	
SC11-5	\$19.50							mov (SIOV S10 K130)			0.44	
SC11-LS24-0	\$12.50	24 ±20%	max 4A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	yes	zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.07	none
SC11-LS110-0	\$14.00	110 ±10%	max 1A					mov (SIOV S10 K130)			0.07	
SC11-0	\$10.50	230	max 10A				no	none	9	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.07	

Last numeric digit in part number denotes cable length in meters, a 0 indicates field termination.

Solenoid Valve Cables and Connectors

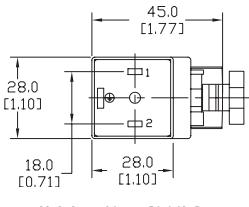
18mm Connectors

Dimensions shown
mm [inches]



Height = 30mm [1.18in]

Connector with Cable



Height = 41mm [1.61in]

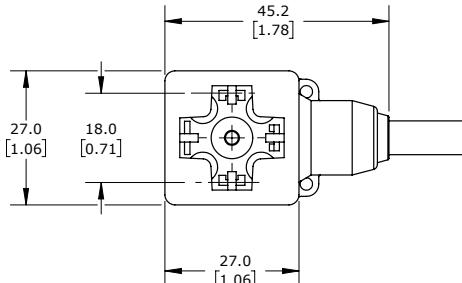
Field Wireable Connector

18mm (3-pole) Connectors (per DIN 43650 Form A)																
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval				
SC18-LS24-3	\$17.00	24 ±20%	max 4A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2W)	7	m3-0.5x30mm/0.4 Nm (3.5 in lb)	0.44	CSA (080128-0-000)				
SC18-LS24-5	\$22.50							zener diode (D-Z DO-41 ZY200 2W)			0.69					
SC18-LS110-3	\$20.50							none			0.44					
SC18-LS110-5	\$24.00						no	none	2	m3-0.5x30mm/0.4 Nm (3.5 in lb)	0.69					
SC18-3	\$13.50		230					zener diode (D-Z DO-15 47V 2W)			0.44					
SC18-5	\$19.50							mov (SIOV S10 K130)			0.44					
SC18-LS24-0	\$12.50	24 ±20%	max 4A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	yes	zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/0.5 Nm (4.4 in lb)	0.07	none				
SC18-LS110-0	\$14.00	110 ±10%	max 1A					none			0.07					
SC18-0	\$10.50	230	max 10A				no	none	9		0.07					

Last digit in part number denotes cable length in meters, a 0 indicates field termination.

18mm Connectors

Dimensions shown
mm [inches]



Height = 30mm [1.18in]

Connector with Cable

18mm (4-pole) Connectors (DIN Style, Form A Industrial)													
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia.	Cable Length	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
7000-18111-6270300	\$22.00	230 VAC/VDC	max 10A	67	18 AWG	5.6 – 6.2 mm	9.8ft/3m	no	none	8	m3-0.5x26mm/0.4 Nm (3.5 in lb)	0.53	CSA (080128-0-000)/RoHS
7000-18111-6270500	\$29.00						16.4ft/5m					0.83	

Solenoid Valve Cables and Connectors Wiring Diagrams

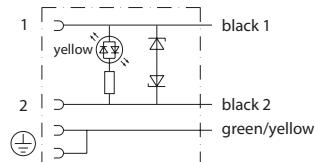


Figure No. 1

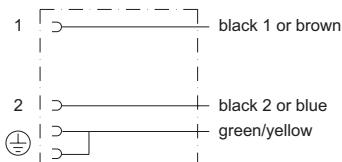


Figure No. 2

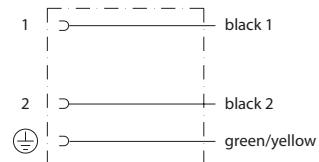


Figure No. 3

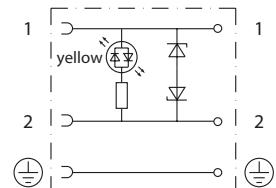


Figure No. 4

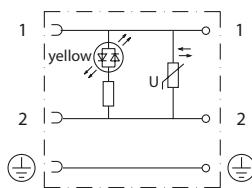


Figure No. 5

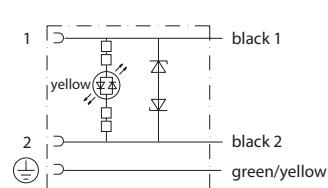


Figure No. 6

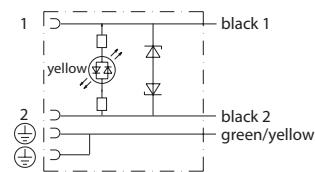


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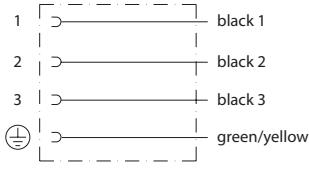


Figure No. 8

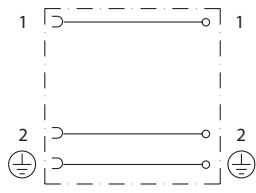


Figure No. 9

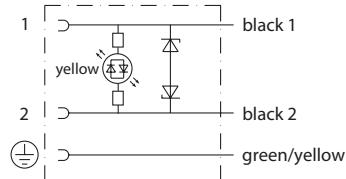


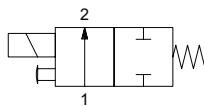
Figure No. 10



Pneumatic GVP Series Miniature Solenoid Valves

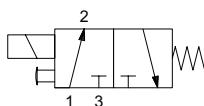
Part No. GVP-211C-12DPart No. GVP-321C-12D

Diagram "A"



2-way, 2-position, Spring Return

Diagram "B"



3-way, 2-position, Spring Return

NITRA™ pneumatic miniature solenoid valves are an excellent choice for many automation applications with low flow requirements. Valves must be mounted to a GM-3 series manifold (sold separately).

Features

- 10mm and 15mm valve widths
- Available in 2-way or 3-way normally closed configurations
- 12 or 24 VDC solenoids
- GM-3 series manifolds sold separately



See www.AutomationDirect.com for a wide variety of fitting options

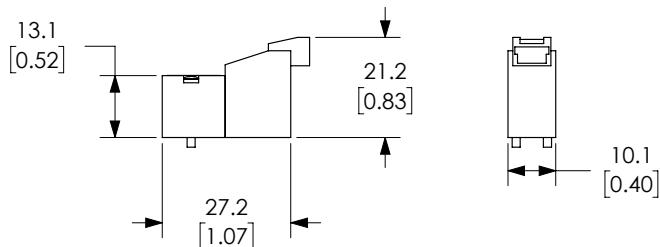
GVP Series Miniature Solenoid Valves											
Models	<u>GVP-211C-12D</u>	<u>GVP-211C-24D</u>	<u>GVP-311C-12D</u>	<u>GVP-311C-24D</u>	<u>GVP-221C-12D</u>	<u>GVP-321C-12D</u>	<u>GVP-321C-24D</u>				
Price	\$43.50	\$43.50	\$43.50	\$43.50	\$38.00	\$38.00	\$38.00				
Weight (lbs)	0.05				0.1						
Size	10mm				15mm						
Valve Type	2-way, 2-position, Normally Closed	3-way, 2-position, Normally Closed		2-way, 2-position, Normally Closed	3-way, 2-position, Normally Closed						
Acting	Single solenoid spring return poppet										
Diagram	A	B	A	B							
Fluid	Air or Inert Gas (to be filtered by 40 μ filter element)										
Min. / Max. Pressure	0 to 105 psi (0 to 7.24 bar)										
Flow (Cv)	0.013	0.013	0.013	0.013	0.047	0.047	0.047				
Port	Requires GM type 10mm or 15mm manifolds for operation										
Voltage	12VDC	24VDC	12VDC	24VDC	12VDC	12VDC	24VDC				
Continuous ON Power	1.3 W			2.3 W							
Expected Life	50,000,000 cycles at max 3 cycles/second										
Wiring	Connector Receptacle (Wire connector required)			18" Flying Leads							
Response Time	6ms (on), 8ms (off)										
Indication	LED			No LED							
Temperature - Operation and Storage	14~122°F (-10~50°C)										
Lubrication	Not Required										
Body	Glass-filled nylon										
Protection	n/a										



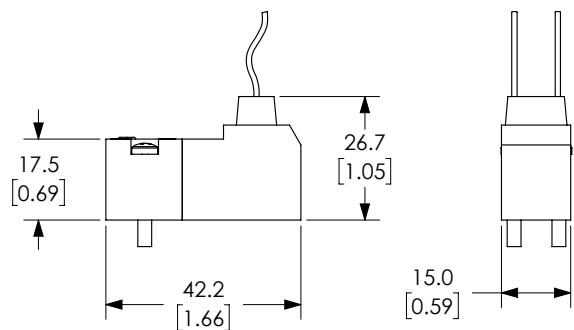
Pneumatic GVP Series Miniature Solenoid Valves

Dimensions

mm [inches]



GVP-x11C-xxD



GVP-x21C-xxD

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic GVP Series Miniature Latching Solenoid Valves

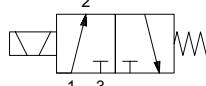


Part No. GVP-311CL-24D



Part No. GVP-321CL-12D

Diagram "A"



3-way, 2-position, Spring Return

NITRA pneumatic latching solenoid valves will stay open after being momentarily energized thus saving power consumption and reducing heat. Valves must be mounted to a GM-3 series manifold (sold separately).

Features

- 10mm and 15mm valve widths
- 3-way normally closed configuration
- Reversing polarity changes state
- GM-3 series manifolds sold separately



See www.AutomationDirect.com for a wide variety of fitting options

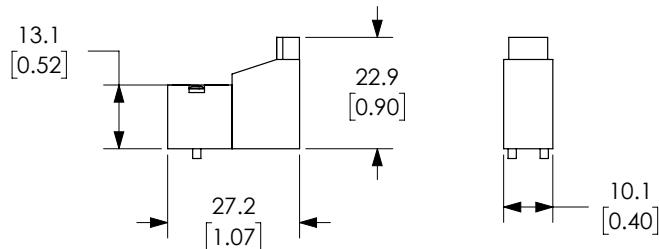
GVP Series Miniature Latching Solenoid Valves		
Model	GVP-311CL-24D	GVP-321CL-12D
Price	\$67.00	\$66.00
Weight (lbs)	0.05	0.1
Size	10mm	15mm
Valve Type	3-way, 2-position, Normally Closed	3-way, 2-position, Normally Closed
Acting	Single latching solenoid spring return poppet	
Diagram	A	A
Fluid	Air or Inert Gas (to be filtered by 40µ filter element)	
Min. / Max. Pressure	0 to 105 psi (0 to 7.24 bar)	
Flow (Cv)	0.013	0.047
Port	Requires GM type 10mm or 15mm manifolds for operation	
Voltage	24VDC	12VDC
Continuous ON Power	1.3 W	4 W
Expected Life	50,000,000 cycles at max 2 cycles/second	
Wiring	Connector Receptacle (Wire connector required)	18" Flying Leads
Response Time	6ms (on), 8ms (off)	
Indication	LED	No LED
Temperature - Operation and Storage	14~122°F (-10~50°C)	
Lubrication	Not Required	
Body	Glass-filled nylon	
Protection	n/a	



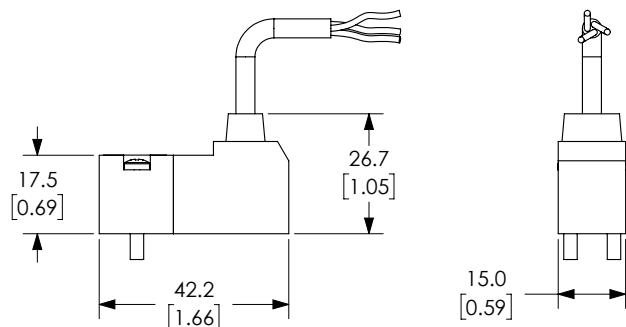
Pneumatic GVP Series Miniature Latching Solenoid Valves

Dimensions

mm [inches]



GVP-x11CL-xxD



GVP-x21CL-xxD

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic GVP Series Miniature Solenoid Valve Manifolds



NITRA manifolds designed to work with 10mm wide GVP series valves.

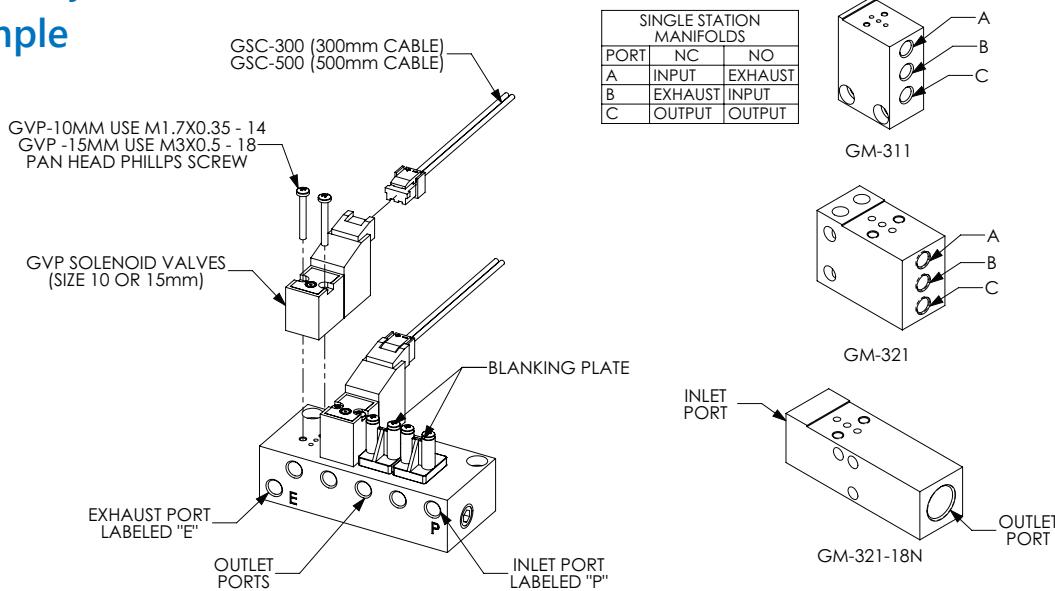
- Single to 6 stations
- #10-32 female threaded ports
- Precision machined
- Compact
- Anodized aluminum for corrosion resistance
- Made in USA



Nitra Pneumatic GVP Series 10mm Miniature Solenoid Valve Manifolds

Item	Part No.	Description	A inches [mm]	Price	Weight (lbs)
	GM-311	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (1) station, #10-32 female UNF inlet(s), #10-32 female UNF outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	N/A	\$26.00	0.05
	GM-312	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (2) stations, #10-32 female UNF inlet(s), #10-32 female UNF outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	1.42 [36.1]	\$35.50	0.05
	GM-314	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (4) stations, #10-32 female UNF inlet(s), #10-32 female UNF outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	2.25 [78.2]	\$40.00	0.10
	GM-316	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (6) stations, #10-32 female UNF inlet(s), #10-32 female UNF outlet(s), #10-32 female threaded exhaust(s). For use with GVP-21 and GVP-31 series solenoid valves.	3.08 [78.2]	\$47.50	0.15

Assembly Example





Pneumatic GVP Series Miniature Solenoid Valve Manifolds



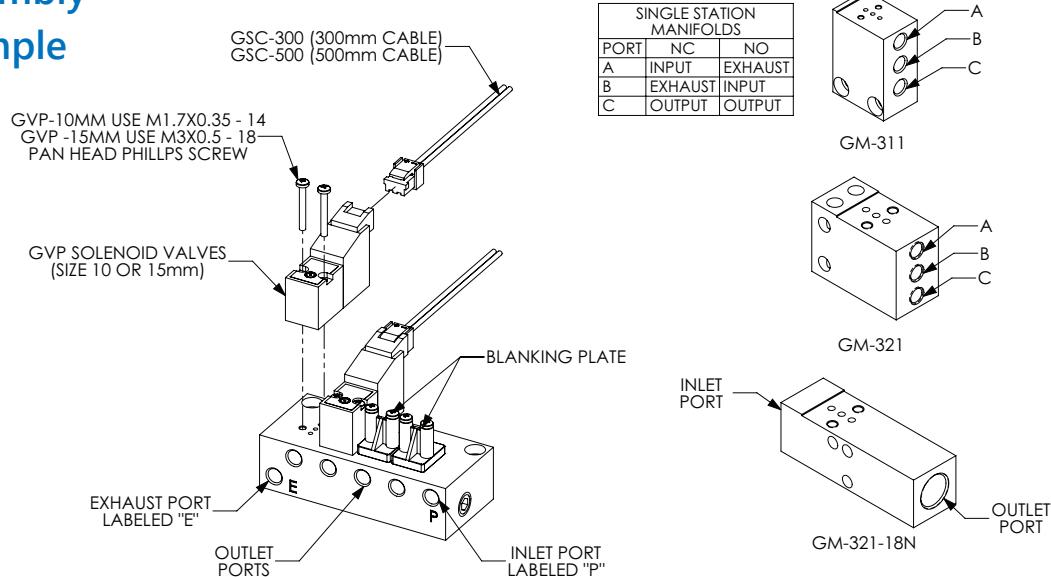
NITRA manifolds designed to work with 15mm wide GVP series valves.

- Single to 4 stations
- #10-32 threaded or 1/8in NPT female ports
- Precision machined
- Compact
- Anodized aluminum for corrosion resistance
- Made in USA



Nitra Pneumatic GVP Series 15mm Miniature Solenoid Valve Manifolds					
Item	Part No.	Description	A inches [mm]	Price	Weight (lbs)
	GM-321	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (1) station, #10-32 female UNF inlet(s), #10-32 female UNF outlet(s), #10-32 female threaded exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	N/A	\$26.00	0.05
	GM-322	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (2) stations, 1/8in female NPT inlet(s), #10-32 female UNF outlet(s), 1/8in female NPT exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	2.13 [54.0]	\$33.00	0.15
	GM-324	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (4) stations, 1/8in female NPT inlet(s), #10-32 female threaded outlet(s), 1/8in female NPT exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	3.37 [85.7]	\$45.00	0.25
	GM-321-18N	NITRA pneumatic valve manifold, anodized aluminum, black, rectangular, (1) station, 1/8in female NPT inlet(s), 1/8in female NPT outlet(s), vent hole exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	N/A	\$31.50	0.6

Assembly Example

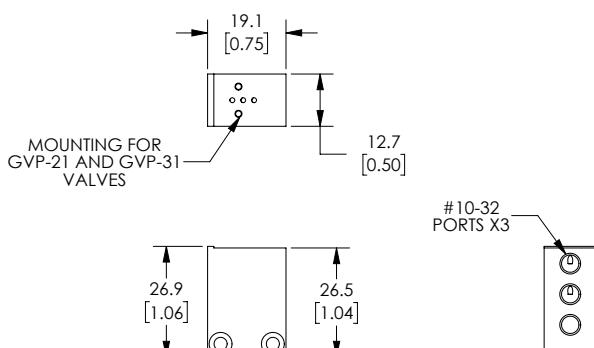




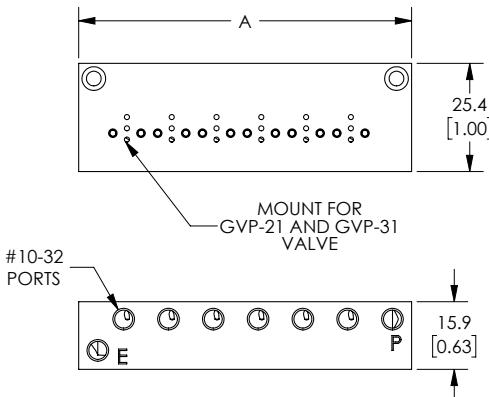
Pneumatic GVP Series Miniature Solenoid Valve Manifolds

Dimensions

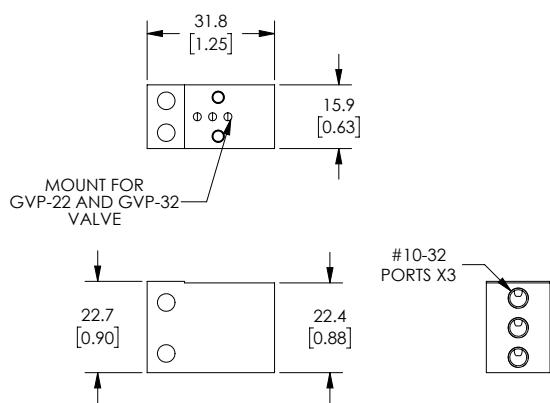
mm [inches]



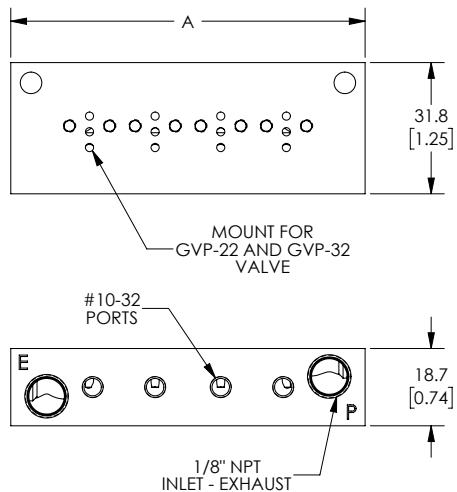
Part No. GM-311



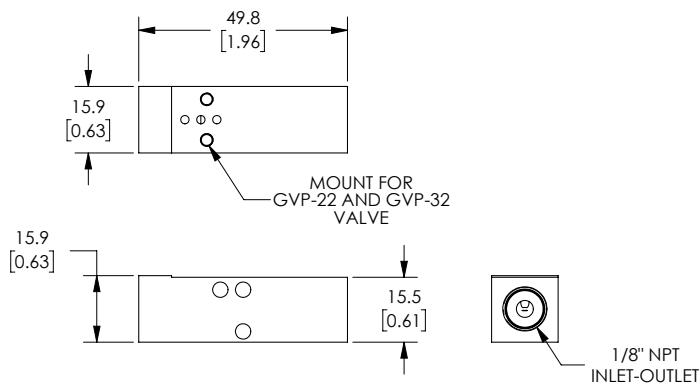
Part No. GM-312, GM-314, GM-316



Part No. GM-321



Part No. GM-322, GM-324



Part No. GM-321-18N

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic GVP Series Miniature Solenoid Manifold Accessories

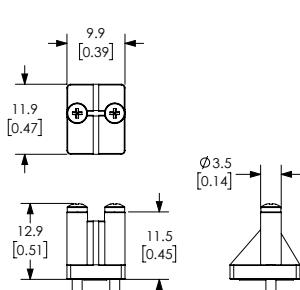


Nitra Pneumatic GVP Series Miniature Solenoid Valve Manifold Accessories

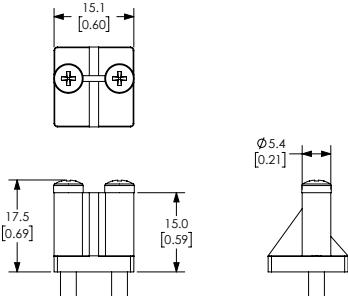
Item	Part No.	Description	Price	Weight (lbs)
	GM-31BP	NITRA blanking plate, nylon. For use with GM-31 series manifolds. Gasket and mounting screws included.	\$6.25	0.05
	GM-32BP	NITRA blanking plate, nylon. For use with GM-32 series manifolds. Gasket and mounting screws included.	\$6.00	0.05
	GSC-300	NITRA solenoid valve cable, miniature pin plug to pigtail, 11.8in/300mm cable length. For use with GVP series solenoid valves.	\$6.00	0.05
	GSC-500	NITRA solenoid valve cable, miniature pin plug to pigtail, 19.6in/500mm cable length. For use with GVP series solenoid valves.	\$6.25	0.05

Dimensions

mm [inches]



Part No. [GM-31BP](#)



Part No. [GM-32BP](#)

See our website www.AutomationDirect.com for complete Engineering drawings.



Manifolds for Modular Solenoid Valves – BVM-3 Series



BVM - 4-Station

NITRA pneumatic BVM-3 series modular manifolds simplify the mounting and wiring of BVS-3 series solenoid valves*. Made of sturdy glass reinforced thermoplastic with DIN rail mounting clips included, they are available in 4 and 8-station models. Push-to-connect inlet and out connections and a 9-pin D-sub connector allow quick and easy tubing and wiring.

Features

- No tools required to install/remove valves
- 2, 3, 4 or 8-station manifolds available
- 6mm or 1/4" tube inlets
- 35mm DIN rail mounting clips included
- 9-pin D-sub connector for easy wiring
- 2-year warranty



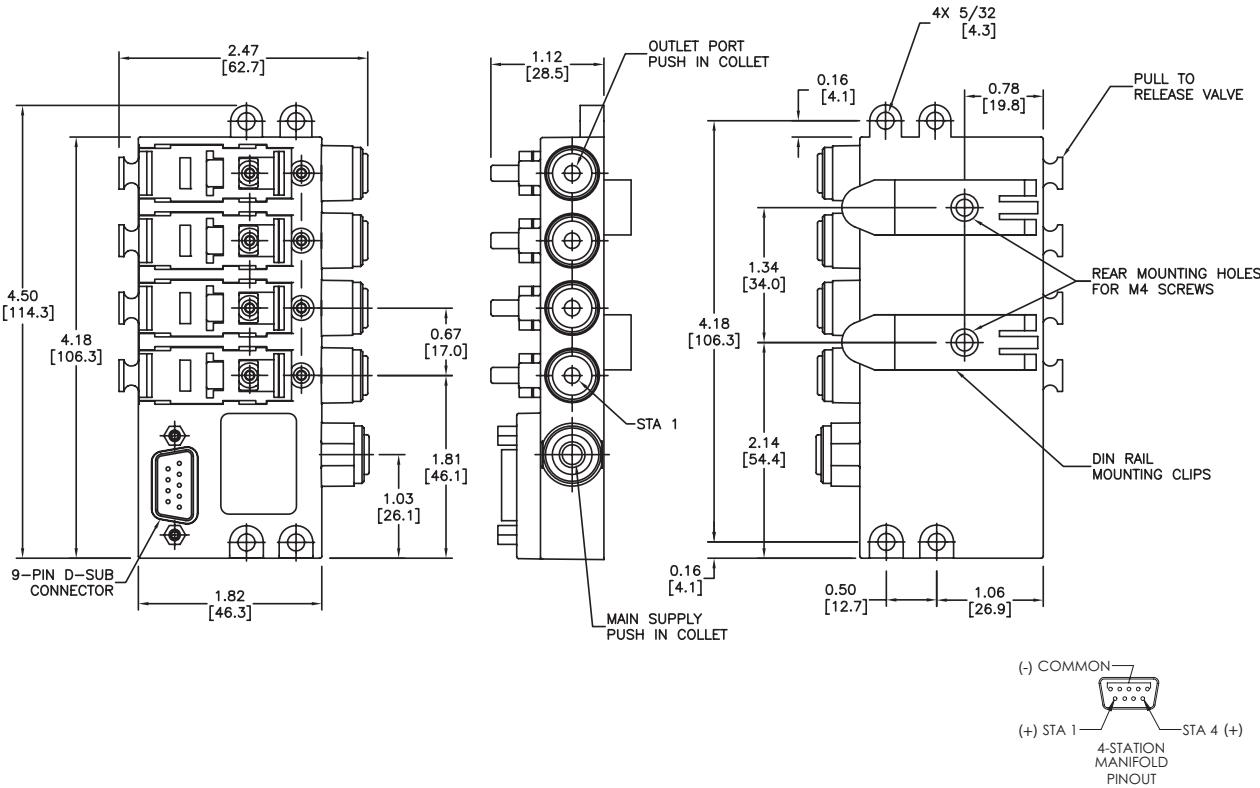
BVM Series Manifolds						
Part No.	Stations	Inlet	Outlet	Connection	Price	Weight (lbs)
BVM-346M	4	6mm	5/32" (4mm)	9-pin D-sub	Retired	0.3

* Works with BVS series valves with flying leads ONLY. Does not accept DIN connector valves

Dimensions

inches [mm]

4-Station Manifold



See our website www.AutomationDirect.com for complete Engineering drawings.



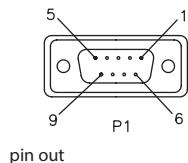
Pneumatic Directional Control Solenoid Valves – BVS Series - Accessories

Accessories

BVM Series Manifold Accessories			
Part No.	Description	Price	Weight (lbs)
ZL-DB9F-CBL-2P	ZIPLink pigtail cable with 9-pin D-sub female connector, 28AWG, 2.0 meter (6.6 ft) length	\$14.00	0.3
ZL-DB9F-CBL-5P	ZIPLink pigtail cable with 9-pin D-sub female connector, 28AWG, 5.0 meter (16.4 ft) length	\$27.00	0.5

ZL-DB9F-CBL-xP

Pinout



pin out

P1	P2	for BVM Series 4-station man	for BVM Series 8-station man
1	black	N/A	station 4
2	brown	N/A	station 3
3	red	N/A	station 2
4	orange	N/A	station 1
5	yellow	common	common
6	green	station 1	station 5
7	blue	station 2	station 6
8	violet	station 3	station 7
9	grey	station 4	station 8



ZL-DB9F-CBL-xP



See solenoid valve cables and connectors section



Above photo shows an assembled BVM Series manifold with BVS Series Solenoids and BVM blanking plug

Note: Manifold must have a BVS valve (flying leads ONLY)

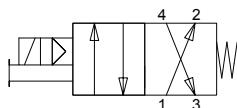


Pneumatic Directional Control Solenoid Valves – BVS-4 Series



BVS Series Solenoid with Leads

Valve Symbol



NITRA pneumatic BVS-4 series modular solenoid valves are body ported 4-port (4-way) spool valve models have removable flying leads or DIN Form C connector. Units are only DIN rail mountable when used with BVM series manifolds.

Features

- Body ported, 4-port (4-way) spool valves
- 1/4" (6mm) push-to-connect ports
- Flow coefficients (Cv) 0.8
- 2-position, single solenoid spring return
- 12VDC, 24VDC, 24VAC or 120VAC solenoid coils with LED status indication & surge suppression diode
- Flying leads or DIN Form C connection
- Lever manual operator - latching
- 2-year warranty



BVS (4-port, 2-position) 4 Series Specifications

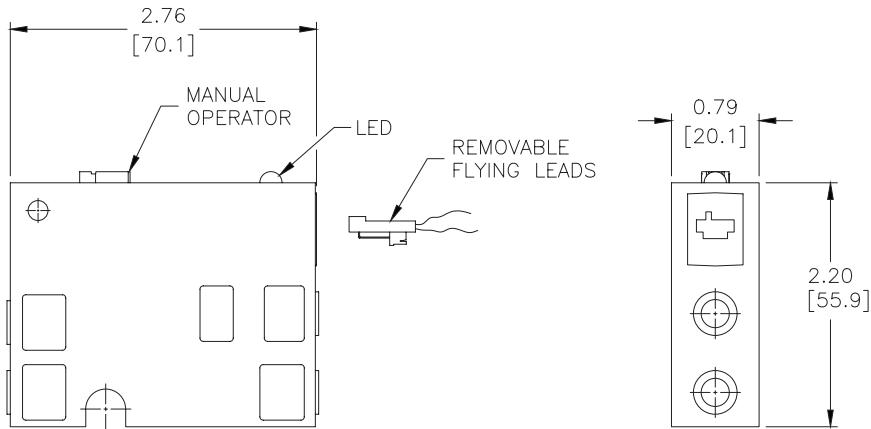
Models	BVS-4251-24A
Price	Retired
Weight (lbs)	0.2
Acting	Spool (2-Position)
Port Size	1/4" Push-to-Connect
Orifice Size	0.2" [5.0 mm] (Cv = 0.8)
Fluid	Air or Inert Gas (to be filtered by 40µ filter element)
Min. / Max. Pressure	30psi (2bar) - 120psi (8.3 bar)
Vacuum	Air pilot models can be used in vacuum applications with external air signal to pilot ports.
Body	Glass Reinforced Thermoplastic
Voltage	24VAC
Inrush Power	1.4 VA
Continuous ON Power	1.2 VA
Expected Life	20,000,000 cycles at max 3 cycles/second
Wiring	Removable 18" Flying Leads
Response Time	0.016 sec
Temperature - Operation and Storage	0~120°F (-18~49°C)
Lubrication	Not Required
Protection	IP 65



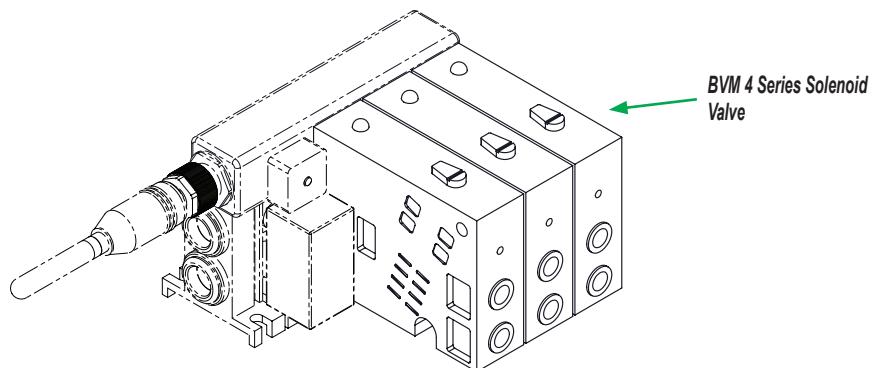
Pneumatic Directional Control Solenoid Valves – BVS-4 Series

Dimensions

inches [mm]



BVS 4 Series w/Removable Leads



See our website www.AutomationDirect.com for
complete Engineering drawings.



Pneumatic Directional Control Valves – AVS Air Pilot Valves



Single Pilot Valve



Double Pilot Valve

NITRA™ pneumatic AVS-5 series directional control air valves are body ported 5-port (4-way) spool valves. Available port sizes are 1/8", 1/4", 3/8" or 1/2" NPT with flow coefficients (Cv) from 0.67 to 2.79. Models are available with single pilot spring return or double pilot 2-position operation. In addition, double pilot models are available with 3-position center closed operation. The AVS series can be used in individual valve applications, or multiple valves can be field assembled on AM-5 series manifolds for simplifying piping connections (AVS-52 & AVS-53 series only). AM-5 series manifolds are available in 2, 4, 6 or 8 stations.

Features

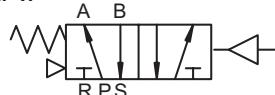
- Body ported, 5-port (4-way) spool valves
- 1/8", 1/4", 3/8" or 1/2" NPT ports
- 2-position, single pilot normally closed, spring return; 2-position, double pilot; 3-position, double pilot center closed
- Single valve or multiple manifold mounted valve applications
- 2 year warranty



See www.AutomationDirect.com for a wide variety of fitting options



Diagram "A"



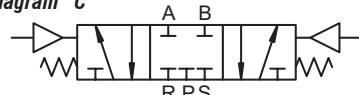
Single Pilot, Spring Return

Diagram "B"



Double Pilot, 2-Position

Diagram "C"



Double Pilot, 3-Position, Center Closed



AVS Series Air Pilot Valve Specifications																
Models	AVS-5241	AVS-5251	AVS-526C1	AVS-5242	AVS-5252	AVS-526C2	AVS-5343	AVS-5353	AVS-536C3	AVS-5444	AVS-5454	AVS-546C4				
Price	\$30.00	\$39.00	\$63.00	\$31.50	\$44.00	\$64.00	\$44.50	\$54.00	\$69.00	\$48.00	\$69.00	\$78.00				
Weight (lbs)	0.3	0.4	0.5	0.3	0.4	0.5	0.5	0.6	0.7	1.1	1.2	1.4				
Valve Type	5-port 2-position	3-position closed center	5-port 2-position	5-port 3-position closed	5-port 2-position	5-port 3-position closed	5-port 2-position	5-port 3-position closed	5-port 2-position	5-port 3-position closed center						
Acting	single air pilot	double air pilot	single air pilot	double air pilot	single air pilot	double air pilot	single air pilot	double air pilot	single air pilot	double air pilot						
Diagram	A	B	C	A	B	C	A	B	C	A	B	C				
Port Size	1/8" NPT			Inlet port 1/4" NPT - Exhaust 1/8" NPT			Inlet port 3/8" NPT - Exhaust 1/4" NPT			1/2" NPT						
Pilot Port Size	1/8 NPT															
Flow Cv	0.78	0.67	0.89	0.67	1.67	1.00	2.79	1.68								
Fluid	Air (to be filtered by 40 μ filter element)															
Min. / Max. Pressure	20-115Psi (Pilot must be at least 50% of inlet pressure)															
Max Activate Rate	5 cycles/sec	3 cycles/sec	5 cycles/sec	3 cycles/sec	5 cycles/sec		3 cycles/sec									
Temperature	-5-60°C (23-140°F)															
Lubrication	Not Required															
Body	Aluminum Alloy															
Drawing Figure	1	2	3	1	2	3	4	5	6	7	8	9				



Pneumatic Directional Control - Foot Pedal Valve with Guard



Foot Pedal Valve with Guard

NITRA™ pneumatic CVS series directional control foot pedal valves are 5-port (4-way) spool valves that are ideal for non-electrical operator control applications. Available in 1/4" NPT with a flow coefficient (Cv) of 0.80. Models are available with momentary or latching operation.

Features

- Body ported, 5-port (4-way) spool valves
- 1/4" NPT ports
- Momentary or latching models
- Includes guard to prevent accidental actuation
- 2 year warranty



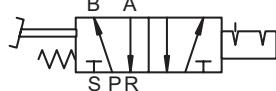
See www.AutomationDirect.com for
a wide variety of fitting options

Diagram "A"



5-Port, 2-Pos. Foot Pedal Without Lock (Momentary)

Diagram "B"



5-Port, 2-Pos. Foot Pedal With Lock (Latching)

CVS Series Air Pilot Valve Specifications		
Model	CVS-5272-FP (Momentary)	CVS-527D2-FP (Latching)
Price	\$51.00	\$57.00
Weight (lbs)	2.3	2.4
Valve Type	5-port 2-position	
Acting	Direct Acting	
Diagram	A	B
Port Size	1/4" NPT	
Flow Cv	0.80	
Fluid	Air (to be filtered by 40µ filter element)	
Min. / Max. Pressure	0-115Psi	
Temperature	-5-60°C (23-140°F)	
Lubrication	Not Required	
Body	Aluminum Alloy	
Drawing Figure	10	



Pneumatic Directional Control – Manual Valves

NITRA™ pneumatic directional control manual valves are body ported spool or ball valves. Available port sizes are 1/8", 1/4" or 1/2 NPT with flow coefficients (Cv) from 0.78 to 5.29. Models are available in 2-position or 3-position, detented or spring return operation styles.



Toggle Style Hand Lever Valve

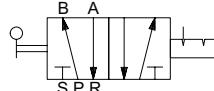
Features

- Body ported, 5-port spool or 4-port rotary valves
- 2-position or 3-position detented operation models
- 2-position or 3-position spring return models
- 2 year warranty



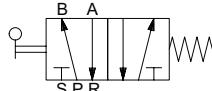
See www.AutomationDirect.com for
a wide variety of fitting options

Diagram "A"



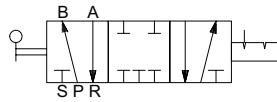
5-Port, 2-Pos. Toggle Detented

Diagram "B"



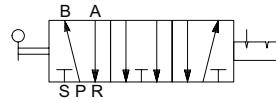
5-Port, 2-Pos. Spring Return

Diagram "C"



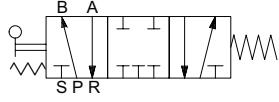
5-Port, 3-Pos. Center Closed
Detented

Diagram "D"



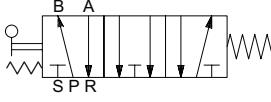
5-Port, 3-Pos. Center Exhaust
Detented

Diagram "E"



5-Port, 3-Pos. Center Closed
Spring Return

Diagram "F"



5-Port, 3-Pos. Center Exhaust
Spring Return

Toggle Style Hand Lever Valve Specifications

Models	AVS-527D1-HL	AVS-537D2-HL	AVS-5271-HL	AVS-528DC1-HL	AVS-528DE1-HL	AVS-538DC1-HL	AVS-538DE1-HL	AVS-528C1-HL	AVS-528E1-HL	AVS-538C1-HL	AVS-538E1-HL	AVS-5372-HL
Price	\$32.00	\$46.00	\$54.00	\$54.00	\$56.00	\$73.00	\$75.00	\$71.00	\$71.00	\$68.00	\$80.00	\$70.00
Weight (lbs)	0.40	0.60	0.40	0.60	0.40	0.40	0.60	0.60	0.40	0.40	0.60	0.60
Valve Type	5-port 2-position detented	5-port 2-position spring return	5-port 3-position center closed detented	5-port 3-position center exhaust detented	5-port 3-position center closed detented	5-port 3-position center exhaust detented	5-port 3-position center closed detented	5-port 3-position center closed spring return	5-port 3-position center exhaust spring return	5-port 3-position center closed spring return	5-port 3-position center exhaust spring return	5-port 2-position spring return
Acting												
Diagram	A	B	C	D	C	D	E	F	E	F	F	B
Port Size	1/8" NPT	1/4" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Flow Cv	0.78	1.39	0.78	0.67	0.67	1.00	1.00	0.67	0.67	1.00	1.00	1.39
Fluid	Air (to be filtered by 40 μ filter element)											
Min. / Max. Pressure	0-115Psi											
Temperature	-5~60°C (23~140°F)											
Lubrication	Not Required											
Body	Aluminum Alloy											
Drawing Figure	11											



Pneumatic Directional Control – Manual Valves



See www.AutomationDirect.com for
a wide variety of fitting options

Push-Pull Valves

Diagram "A"



5-Port, 2-Pos. Push-Pull Detented

Push-Pull Valve Specifications		
Models	AVS-527D1-PP	AVS-537D2-PP
Price	\$30.00	\$37.00
Weight (lbs)	0.3	0.6
Valve Type	5-port 2-position detented	
Acting	Direct Acting Push-Pull	
Diagram	A	
Port Size	1/8" NPT	1/4" NPT
Flow Cv	0.78	1.39
Fluid	Air (to be filtered by 40 μ filter element)	
Min. / Max. Pressure	0-115Psi	
Temperature	-5~60°C (23~140°F)	
Lubrication	Not Required	
Body	Aluminum Alloy	
Drawing Figure	12	



Pneumatic Directional Control – Manual Valves



See www.AutomationDirect.com for
a wide variety of fitting options

Rotary Style Hand Lever Valve

Diagram "A"

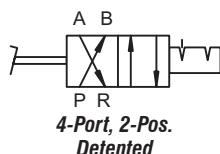
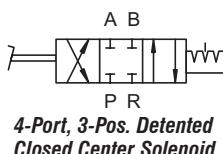


Diagram "B"



Rotary Style Hand Lever Valve Specifications				
Models	CVR-437D2-HL	CVR-438D2-HL	CVR-447D4-HL	CVR-448D4-HL
Price	\$32.00	\$32.00	\$39.00	\$39.00
Weight (lbs)	1.5	1.5	3.1	3.1
Valve Type	4-port 2-position detented	4-port 3-position detented closed center	4-port 2-position detented	4-port 3-position detented closed center
Acting	Rotary Style Hand Lever			
Diagram	A	B	A	B
Port Size	1/4" NPT	1/4" NPT	1/2" NPT	1/2" NPT
Flow Cv	0.89	0.89	5.29	5.29
Fluid	Air (to be filtered by 40 μ filter element)			
Min. / Max. Pressure	0-145Psi			
Temperature	-5-63°C (23-145°F)			
Lubrication	Not Required			
Body	Aluminum Alloy			
Drawing Figure	13			

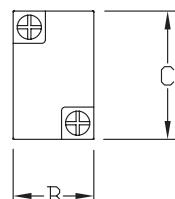
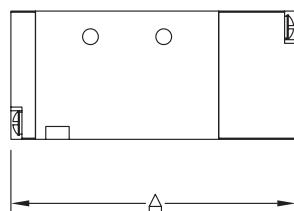
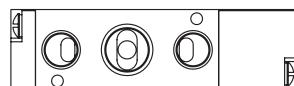


Pneumatic Directional Control – Manual Valve Dimensions

Dimensions

mm [inches]

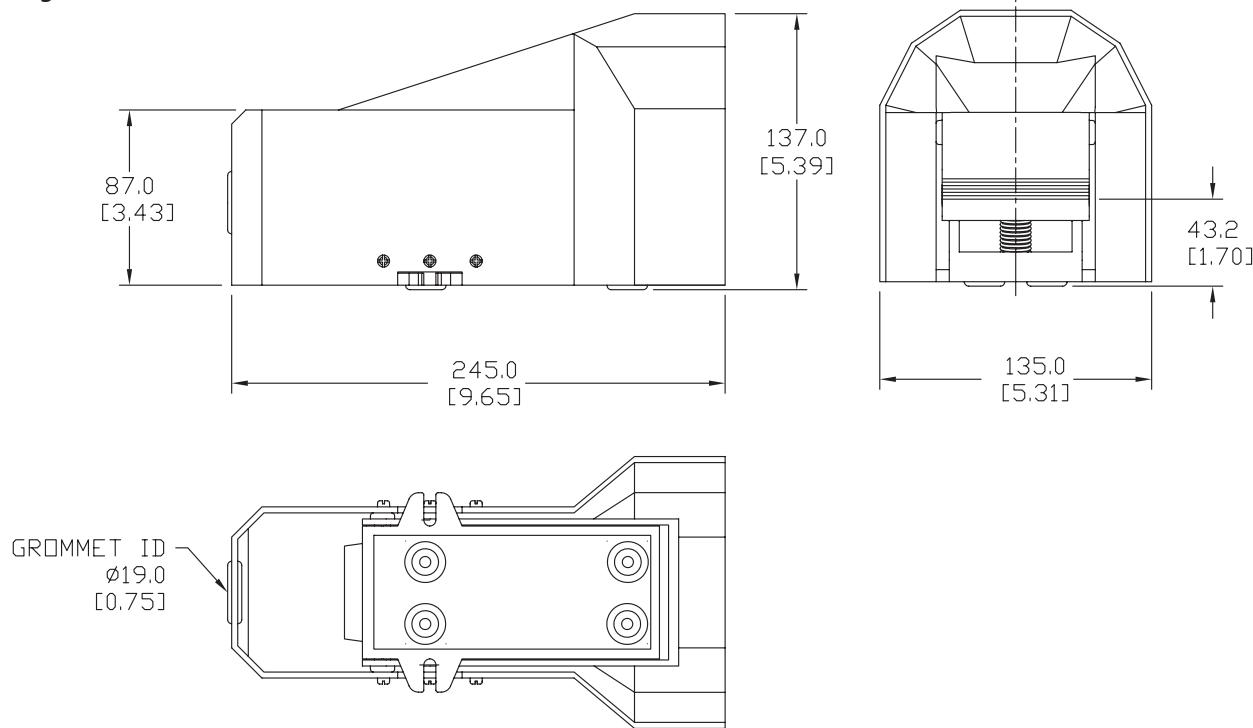
Figures 1-9



PILOT VALVE DIMENSIONS									
DWG FIGURE	1	2	3	4	5	6	7	8	9
DIM. A	77.7 [3.06]	92.0 [3.62]	111.0 [4.37]	95.5 [3.76]	111.0 [4.37]	130.0 [5.12]	128.0 [5.04]	142.0 [5.51]	163.0 [6.42]
DIM. B	22.0 [0.87]	22.0 [0.87]	22.0 [0.87]	27.0 [1.06]	27.0 [1.06]	27.0 [1.06]	34.0 [1.34]	34.0 [1.34]	34.0 [1.34]
DIM. C	35.0 [1.38]	35.0 [1.38]	35.0 [1.38]	40.0 [1.57]	40.0 [1.57]	40.0 [1.57]	50.0 [1.97]	50.0 [1.97]	50.0 [1.97]

See our website www.AutomationDirect.com for complete Engineering drawings

Figure 10



See our website www.AutomationDirect.com for complete Engineering drawings

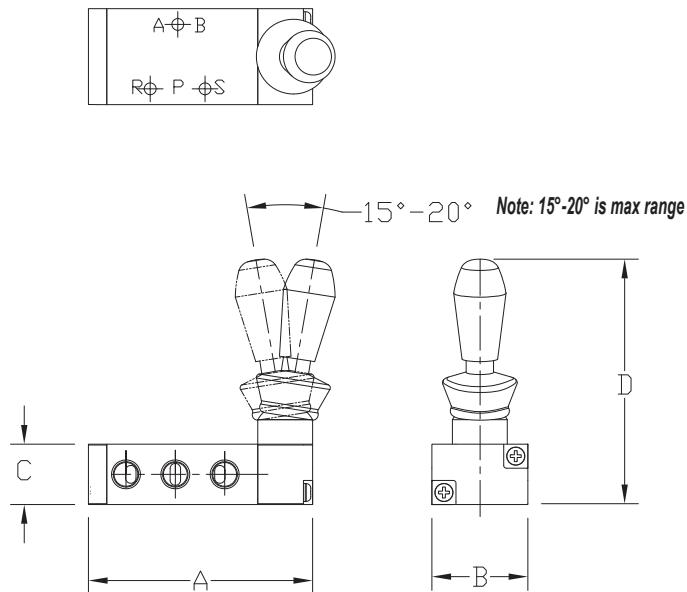


Pneumatic Directional Control - Manual Valve Dimensions

Dimensions

mm [inches]

Figure 11



Push-Pull Valve Specifications				
Model	A mm [inches]	B mm [inches]	C mm [inches]	D mm [inches]
AVS-527D1-HL	81.8 [3.22]	35.0 [1.38]	22.0 [0.87]	89.5 [3.52]
AVS-537D2-HL	100.9 [3.97]	40.2 [1.58]	27.1 [1.07]	91.6 [3.61]
AVS-5271-HL	81.5 [3.21]	35.0 [1.38]	22.0 [0.87]	89.9 [3.54]
AVS-528DC1-HL	81.5 [3.21]	35.0 [1.38]	22.0 [0.87]	89.9 [3.54]
AVS-528DE1-HL	81.5 [3.21]	35.0 [1.38]	22.0 [0.87]	89.9 [3.54]
AVS-538DC1-HL	101.0 [3.98]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]
AVS-538DE1-HL	101.0 [3.98]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]
AVS-528C1-HL	100.5 [3.96]	35.0 [1.38]	22.0 [0.87]	90.4 [3.56]
AVS-528E1-HL	100.5 [3.96]	35.0 [1.38]	22.0 [0.87]	90.4 [3.56]
AVS-538C1-HL	120.0 [4.72]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]
AVS-538E1-HL	120.0 [4.72]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]
AVS-5372-HL	101.0 [3.98]	40.0 [1.57]	27.0 [1.06]	94.0 [3.70]

See our website www.AutomationDirect.com for complete Engineering drawings

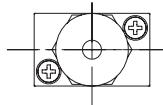


Pneumatic Directional Control – Manual Valve Dimensions

Dimensions

mm [inches]

Figure 12



PUSH-PULL VALVE DIMENSIONS		
PART NUMBER	AVS-527D1-PP	AVS-537D2-PP
DIM. A	35.0 [4.96]	40.0 [1.57]
DIM. B	22.0 [0.87]	27.0 [1.06]
DIM. C	65.8 [2.59]	80.8 [3.18]
DIM. D	98.3 [3.87]	115.8 [4.56]
DIM. E	4.01 [0.16]	5.08 [0.20]
DIM. F	M14 X 1.0	M16 X 1.0

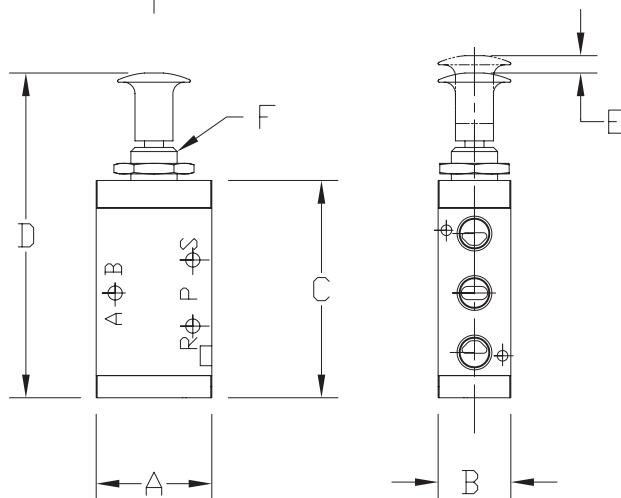
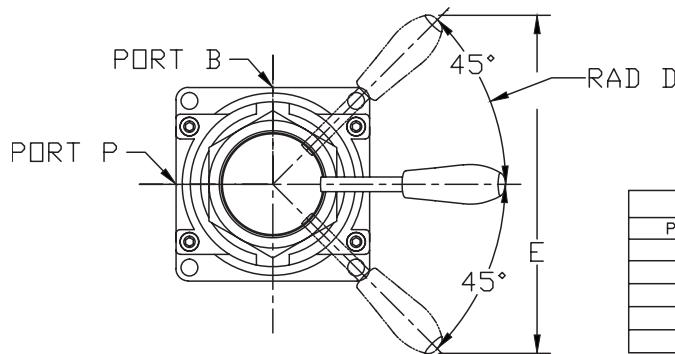
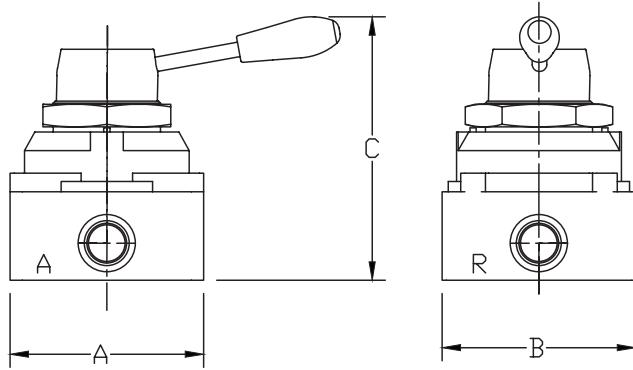


Figure 13



ROTARY VALVE DIMENSIONS		
PART NO	CRV-43_D2-HL	CRV-44_D4-HL
DIM. A	73.7 [2.90]	94.0 [3.70]
DIM. B	73.7 [2.90]	102.0 [4.02]
DIM. C	100.3 [3.95]	126.0 [4.96]
RAD D	101.6 [4.00]	113.0 [4.45]
DIM. E	144.8 [5.70]	160.0 [6.30]



See our website www.AutomationDirect.com for complete Engineering drawings



Pneumatic Pushbuttons, 22mm

NITRA® pneumatic pushbuttons are all plastic and come with adapters to allow mounting of up to two 3-way valves, or one valve and one to three contact blocks. They fit in a standard 22.5mm hole, just like electrical pushbuttons.

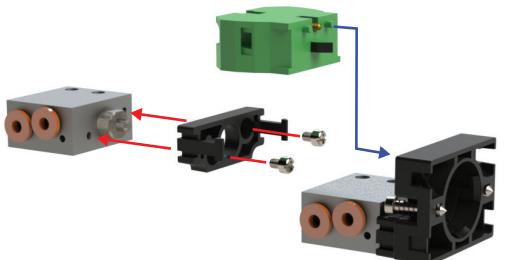
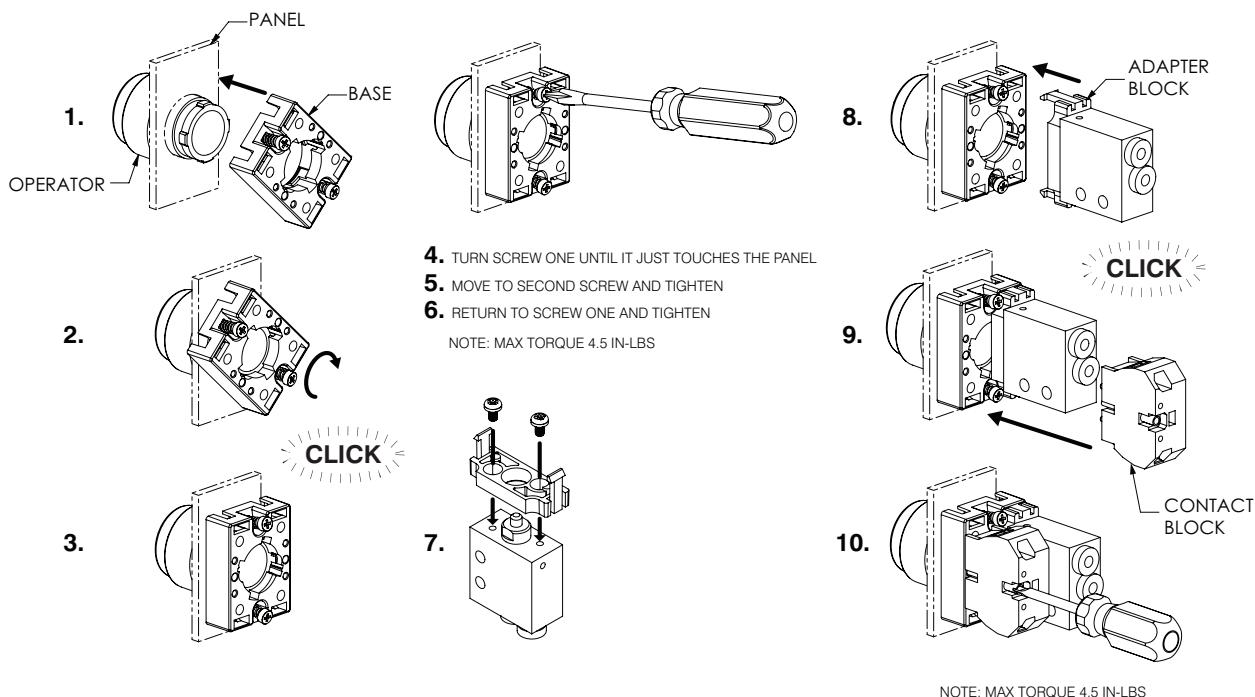
Features

- Plastic bezel and button
- Valve adapters and mounting screws included
- Valves sold separately
- Bases will work with GCX plastic operators and **only** the three ECX Series contact blocks shown below



Pushbutton Specifications	
Operating Temperature	-13 to 158°F (-25 to +70°C)
Storage Temperature	-40 to 176°F (-40 to +80°C)
Mechanical Life	1,000,000 cycles
Switching Cycles	3600 cycles/hr
Mounting (Valve)	(4) M3x5 valve mounting screws included
Protection	IP65 after installation
Approvals	CE

Adapter Block Installation



ECX1040-2



ECX1042-2



ECX1030-2



Pneumatic Pushbuttons, 22mm

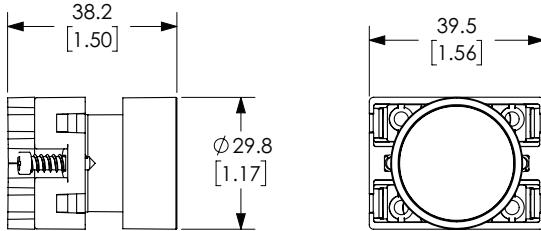
Momentary flush pushbuttons with protective plastic ring (30mm diameter actuator)



ECP3100

Part Number	Color	Description	Weight (lbs)	Price
ECP3100	Black	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: black, flush, 30mm, round, plastic.	0.07	\$3.00
ECP3101	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: red, flush, 30mm, round, plastic.	0.07	\$3.00
ECP3102	Green	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: green, flush, 30mm, round, plastic.	0.07	\$3.00
ECP3103	Yellow	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: yellow, flush, 30mm, round, plastic.	0.07	\$3.00
ECP3104	Blue	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: blue, flush, 30mm, round, plastic.	0.07	\$3.00
ECP3105	White	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: white, flush, 30mm, round, plastic.	0.07	\$3.00
ECP3106	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: red, flush, 30mm, round, plastic, operator text "(O)".	0.07	\$3.25
ECP3107	Green	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: green, flush, 30mm, round, plastic, operator text "(I)".	0.07	\$3.25

Dimensions
mm [inches]



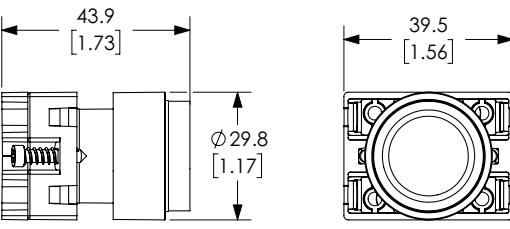
Momentary extended pushbuttons with protective plastic ring (30mm diameter actuator)



ECP3110

Part Number	Color	Description	Weight (lbs)	Price
ECP3110	Black	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: black, extended, 30mm, round, plastic.	0.07	\$3.00
ECP3111	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: red, extended, 30mm, round, plastic.	0.07	\$3.00
ECP3112	Green	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: green, extended, 30mm, round, plastic.	0.07	\$3.00
ECP3113	Yellow	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: yellow, extended, 30mm, round, plastic.	0.07	\$3.00
ECP3114	Blue	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: blue, extended, 30mm, round, plastic.	0.07	\$3.00
ECP3115	White	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: white, extended, 30mm, round, plastic.	0.07	\$3.00

Dimensions
mm [inches]



See our website www.AutomationDirect.com for complete Engineering drawings.



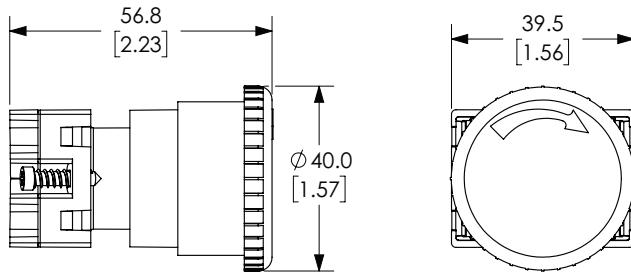
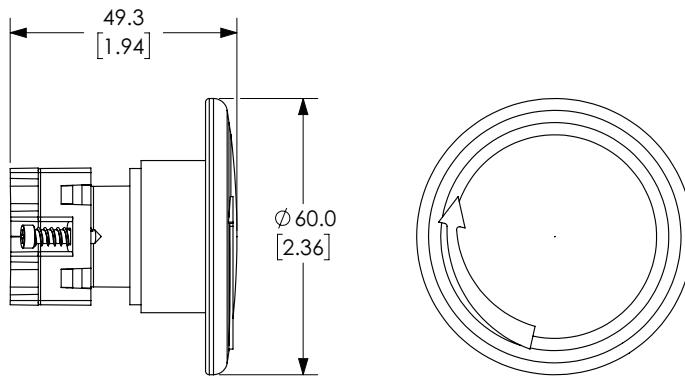
Pneumatic Pushbuttons, 22mm Mushroom

Mushroom pushbutton operator (40mm & 60mm diameter actuator)

**ECP3131****ECP3133****ECP3138**

Part Number	Color	Description	Weight (lbs)	Price
ECP3131	Red	NITRA pneumatic pushbutton, IP65, 22mm, twist-to-release, emergency stop, plastic base, plastic bezel, black, operator only. Operator: red, mushroom, 40mm, round, plastic.	0.1	\$8.25
ECP3132	Black	NITRA pneumatic pushbutton, IP65, 22mm, twist-to-release, plastic base, plastic bezel, black, operator only. Operator: black, mushroom, 60mm, round, plastic.	0.1	\$10.50
ECP3133	Black	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: black, mushroom, 60mm, round, plastic.	0.1	\$11.50
ECP3134	Black	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: black, mushroom, 40mm, round, plastic.	0.1	\$6.25
ECP3135	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: red, mushroom, 40mm, round, plastic.	0.1	\$6.25
ECP3136	Red	NITRA pneumatic pushbutton, IP65, 22mm, twist-to-release, emergency stop, plastic base, plastic bezel, black, operator only. Operator: red, mushroom, 60mm, round, plastic.	0.1	\$10.00
ECP3137	Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: red, mushroom, 60mm, round, plastic.	0.1	\$8.75
ECP3138	Yellow	NITRA pneumatic pushbutton, IP65, 22mm, twist-to-release, plastic base, plastic bezel, black, operator only. Operator: yellow, mushroom, 60mm, round, plastic.	0.1	\$10.50
ECP3139	Yellow	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only. Operator: yellow, mushroom, 40mm, round, plastic.	0.1	\$6.25

Dimensions mm [inches]

40mm Versions***60mm Versions***

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Pushbuttons, 22mm Key Operated & Double Headed

**Mushroom pushbutton operator - key operated
(40mm dia. actuator)**



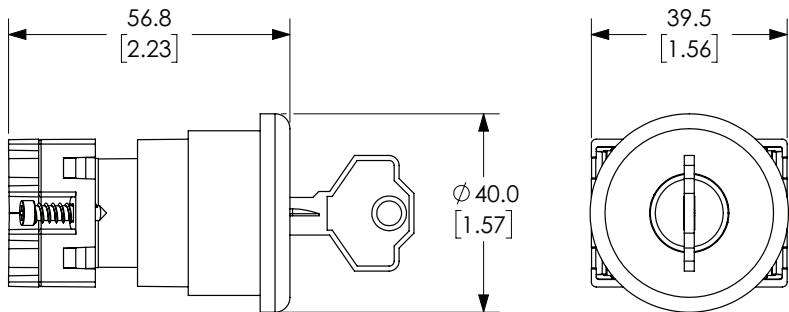
ECP3141

Part Number	Color	Description	Weight (lbs)	Price
ECP3141	Red	NITRA pneumatic pushbutton, IP65, 22mm, key operated release, plastic base, plastic bezel, black, operator only, Operator: red, mushroom, 40mm, round, plastic.	0.19	\$12.50



Note: Keyed switches come with two keys. All plastic 22mm keyed switches are keyed the same. Replacement keys are available. Order part no. ECX1067-2 (pkg. of 2). Keys for plastic 22mm keyed switches are not compatible with Cutler-Hammer key switches.

Dimensions mm [inches]



Double headed pushbutton operator



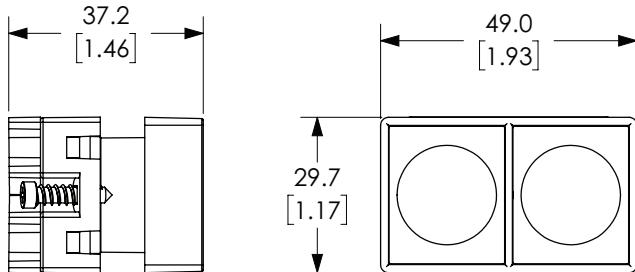
ECP3150



ECP3152

Part Number	Color	Description	Weight (lbs)	Price
ECP3150	Green/ Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: green and red, double headed, rectangular, plastic.	0.08	\$5.50
ECP3152	Green/ Red	NITRA pneumatic pushbutton, IP65, 22mm, momentary, plastic base, plastic bezel, black, operator only, Operator: green and red, double headed, rectangular, plastic, operator text "(I)" and "(O)".	0.08	\$6.25

Dimensions mm [inches]



See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Selector Switches, 22mm Lever

Knob selector switches

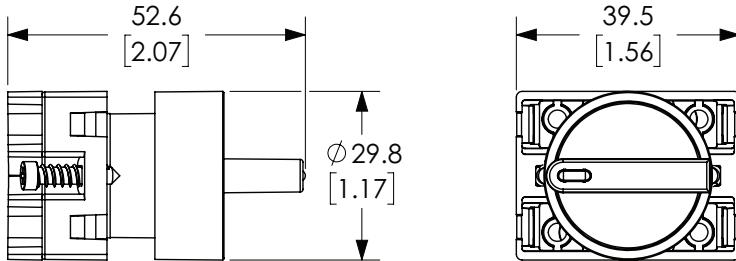


ECP3300

Part Number	Color	Description	Weight (lbs)	Price
ECP3300	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, maintained, plastic base, plastic bezel, operator only. Operator: black, knob, 30mm, round, plastic.	0.09	\$5.25
ECP3310	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, spring return from right, plastic base, plastic bezel, operator only. Operator: black, knob, 30mm, round, plastic.	0.09	\$6.50
ECP3320	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, maintained, plastic base, plastic bezel, operator only. Operator: black, knob, 30mm, round, plastic.	0.09	\$5.25
ECP3330	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, spring return to center from right or left, plastic base, plastic bezel, operator only. Operator: black, knob, 30mm, round, plastic.	0.09	\$6.25



ECP3320

Dimensions
 mm [inches]


Long lever selector switches

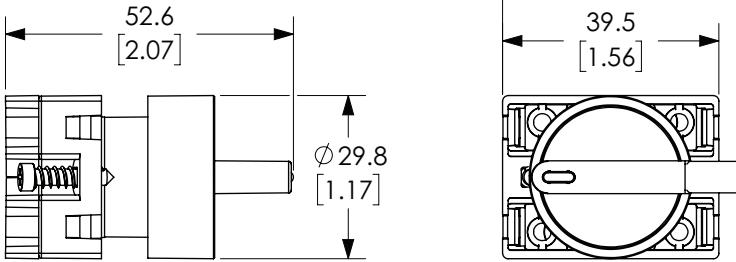


ECP3350

Part Number	Color	Description	Weight (lbs)	Price
ECP3350	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, maintained, plastic base, plastic bezel, operator only. Operator: black, lever, 30mm, round, plastic.	0.09	\$6.50
ECP3360	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, spring return from right, plastic base, plastic bezel, operator only. Operator: black, lever, 30mm, round, plastic.	0.09	\$6.75
ECP3370	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, maintained, plastic base, plastic bezel, operator only. Operator: black, lever, 30mm, round, plastic.	0.09	\$6.50
ECP3380	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, spring return to center from right or left, plastic base, plastic bezel, operator only. Operator: black, lever, 30mm, round, plastic.	0.09	\$6.75



ECP3370

Dimensions
 mm [inches]

 See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Key Selector Switches, 22mm

Key selector switches

ECP3420

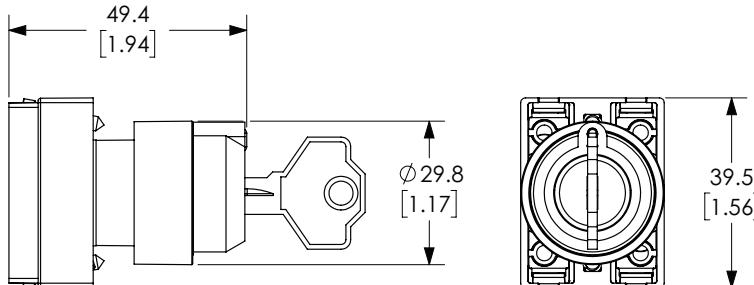
Part Number	Color	Description	Weight (lbs)	Price
ECP3420	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, maintained, key removable in all positions, plastic base, plastic bezel, operator only, Operator: black, key, 30mm, round, plastic.	0.17	\$12.50
ECP3430	Black	NITRA pneumatic selector switch, IP65, 22mm, 2-position, spring return from right, key removable left position, plastic base, plastic bezel, operator only, Operator: black, key, 30mm, round, plastic.	0.17	\$12.50
ECP3470	Black	NITRA pneumatic selector switch, IP65, 22mm, 3-position, maintained, key removable in all positions, plastic base, plastic bezel, operator only, Operator: black, key, 30mm, round, plastic.	0.17	\$11.50

Note: Keyed switches come with two keys. All plastic 22mm keyed switches are keyed the same.

Replacement keys are available. Order part no. ECX1067-2 (pkg. of 2). Keys for plastic 22mm keyed switches are not compatible with Cutler-Hammer key switches.

Dimensions

mm [inches]

ECP3470

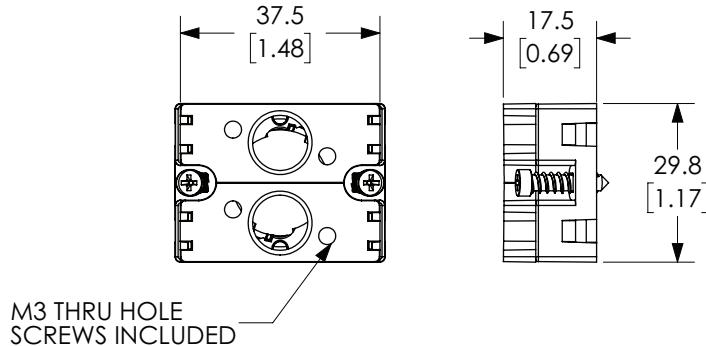
Pneumatic switch accessory - support base with adapters

ECP3029-02

Part Number	Description	Weight (lbs)	Price
ECP3029-02	NITRA valve adapter block, replacement, plastic. For use with ECP series pneumatic pushbuttons.	0.03	\$1.00

Dimensions

mm [inches]



Note: base sold as three piece kit.

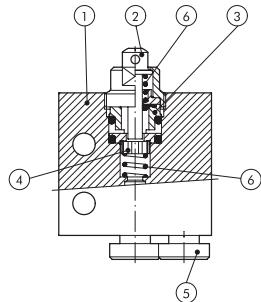
See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

Pneumatic Manual Valve Materials

1. Aluminum valve body
2. Chemically nickel-plated brass button
3. Brass distance plates
4. NBR gaskets
5. Stainless steel, brass and plastic push-to-connect cartridges
6. Stainless steel springs



Pneumatic Metal Plunger Valves

These pneumatic valves are used with Nitra pneumatic pushbuttons and switches

Features

- Available in normally open or normally closed
- 5/32" [4mm] push-to-connect ports located on side or end

Valve Symbols

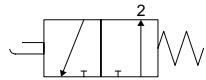


Diagram "A"

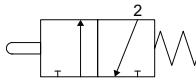


Diagram "B"



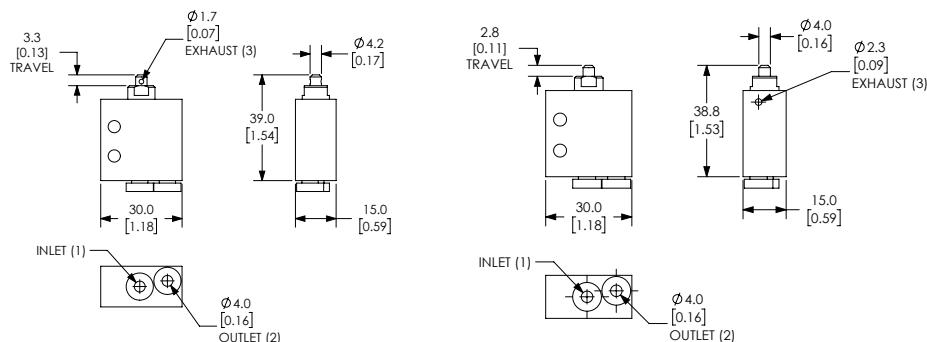
EVP-CA-PL



EVP-CS-PL

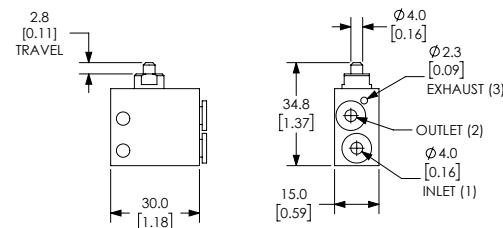
Specifications				
Models	EVP-CA-PL	EVP-AA-PL	EVP-CS-PL	EVP-AS-PL
Price	\$24.00	\$26.50	\$21.50	\$24.00
Weight (lbs)	0.1	0.1	0.1	0.1
Valve Type	2-port (3-way) 2-position			
Acting	Metal plunger, normally closed, spring return	Metal plunger, normally open, spring return	Metal plunger, normally closed, spring return	Metal plunger, normally open, spring return
Diagram	B	A	B	A
Port Size	Axial ports 5/32in (4mm)			
Flow (Cv)	0.13	0.13	0.13	0.13
Fluid	Air (to be filtered by 40 μ filter element)			
Min. / Max. Pressure	7.25 to 145 psi (0.5 to 10 bar)			
Temperature	14°F to 140°F (-10°C to 60°C)			
Lubrication	Not Required			
Body	Aluminum			
Protection	IP65			

Dimensions mm [inches]



EVP-CA-PL

EVP-AA-PL



EVP-CS-PL / EVP-AS-PL

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

Pneumatic Metal Plunger Valves with metal roller

Features

- These valves function as pneumatic limit switches
- Available in normally open or normally closed
- 5/32" [4mm] push-to-connect ports located on side or end



Valve Symbols



Diagram "C"

Diagram "D"



EVP-CA-R

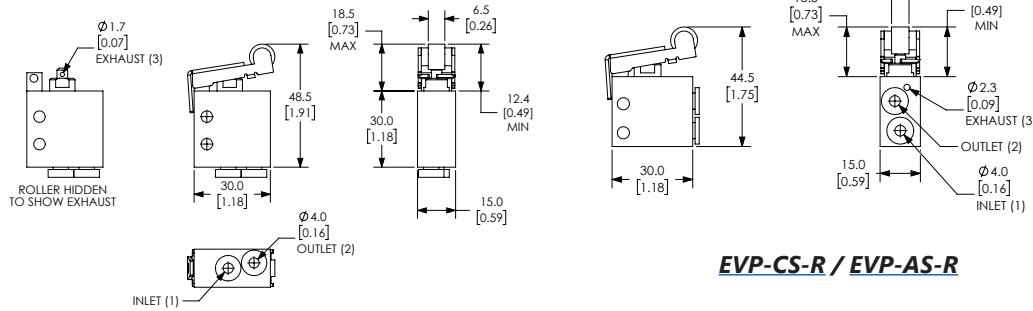


EVP-AS-R

Specifications				
Models	EVP-CA-R	EVP-AA-R	EVP-CS-R	EVP-AS-R
Price	\$28.00	\$28.00	\$26.00	\$28.50
Weight (lbs)	0.1	0.1	0.1	0.1
Valve Type	2-port (3-way) 2-position			
Acting	Metal plunger with metal roller, normally closed, spring return	Metal plunger with metal roller, normally open, spring return	Metal plunger with metal roller, normally closed, spring return	Metal plunger with metal roller, normally open, spring return
Diagram	D	C	D	C
Port Size	Axial ports 5/32in (4mm)		Side ports 5/32in (4mm)	
Flow (Cv)	0.13	0.13	0.13	0.13
Fluid	Air (to be filtered by 40 μ filter element)			
Min. / Max. Pressure	7.25 to 145 psi (0.5 to 10 bar)			
Temperature	14°F to 140°F (-10°C to 60°C)			
Lubrication	Not Required			
Body	Aluminum			
Protection	IP65			

Dimensions

mm [inches]



EVP-CA-R / EVP-AA-R

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

Pneumatic Metal Plunger Valves with one-way metal roller

Features

- These valves function as pneumatic limit switches
- Available in normally closed
- 5/32" [4mm] push-to-connect ports located on side or end



EVP-CA-T



EVP-CS-T

Valve Symbol

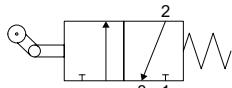
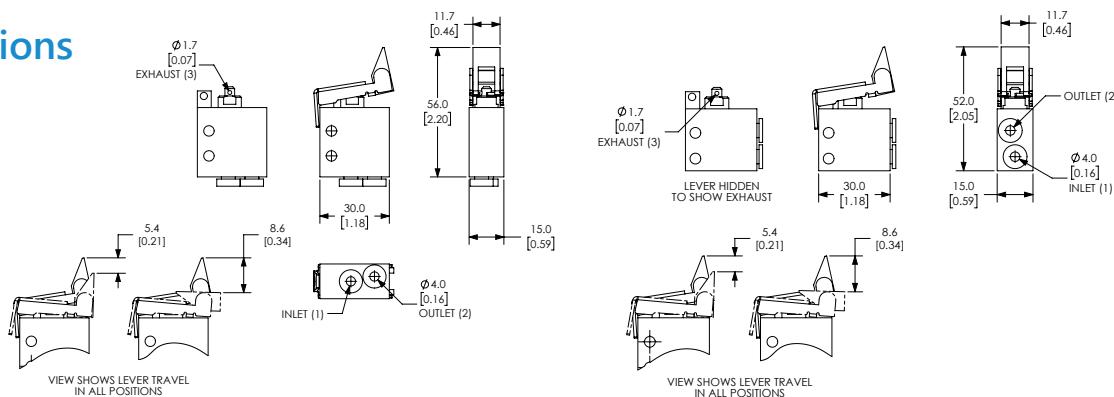


Diagram "E"

Specifications

Models	EVP-CA-T	EVP-CS-T
Price	\$29.50	\$27.50
Weight (lbs)	0.1	0.1
Valve Type	2-port (3-way) 2-position	
Acting	Metal plunger with one-way metal roller, normally closed, spring return	Metal plunger with one-way metal roller, normally closed, spring return
Diagram	E	E
Port Size	Axial ports 5/32in (4mm)	Side ports 5/32in (4mm)
Flow (Cv)	0.13	0.13
Fluid	Air (to be filtered by 40 μ filter element)	
Min. / Max. Pressure	7.25 to 145 psi (0.5 to 10 bar)	
Temperature	14°F to 140°F (-10°C to 60°C)	
Lubrication	Not Required	
Body	Aluminum	
Protection	IP65	

Dimensions mm [inches]



See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

Pneumatic Metal Plunger Valves for thru-panel mounting

Features

- These valves function as pneumatic limit switches
- Available in normally closed
- 5/32" [4mm] push-to-connect ports located on side or end
- Fits 1/2" diameter hole in panel



Valve Symbol

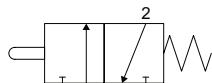


Diagram "B"

EVP-CA-PL-PNL

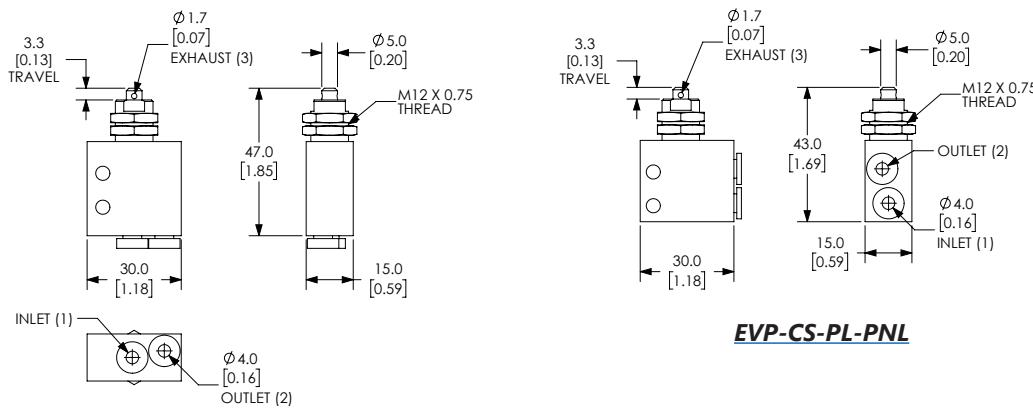


EVP-CS-PL-PNL

Specifications		
Models	<u>EVP-CA-PL-PNL</u>	<u>EVP-CS-PL-PNL</u>
Price	\$26.00	\$23.50
Weight (lbs)	0.1	0.1
Valve Type	2-port (3-way) 2-position	
Acting	Metal plunger, normally closed, spring return, through panel mount	Metal plunger, normally closed, spring return, through panel mount
Diagram	B	B
Port Size	Axial ports 5/32in (4mm)	Side ports 5/32in (4mm)
Flow (Cv)	0.13	0.13
Fluid	Air (to be filtered by 40 μ filter element)	
Min. / Max. Pressure	7.25 to 145 psi (0.5 to 10 bar)	
Temperature	14°F to 140°F (-10°C to 60°C)	
Lubrication	Not Required	
Body	Aluminum	
Protection	IP65	

Dimensions

mm [inches]



EVP-CA-PL-PNL

EVP-CS-PL-PNL

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

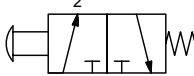
Manual Valves, Normally Closed, Spring Return, Pushbutton

NITRA GVP manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be through panel mounted for a very clean looking operator interface. Valves with male NPT inlets can be threaded into MR series air manifolds to simplify supply connections.

- Swivel output port
- High flow
- Poppet design contributes to product life
- Made in USA

Part No. GVP-3C2P-PBPart No. GVP-3C1M2P-PBPart No. GVP-3C1F-PB

Diagram "A"

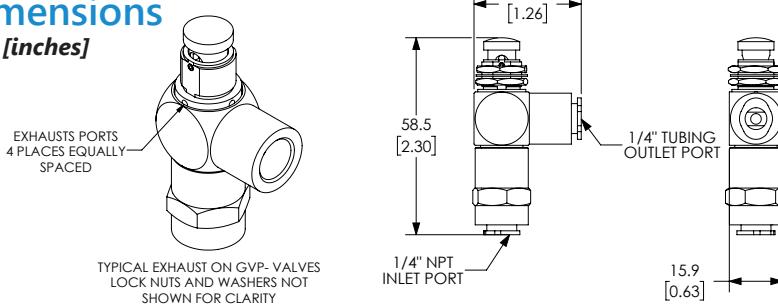


3-port, 2-position

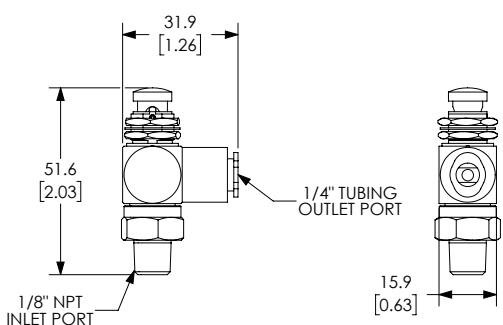
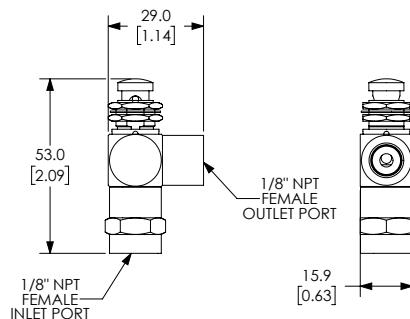
Models	<u>GVP-3C2P-PB</u>	<u>GVP-3C1M2P-PB</u>	<u>GVP-3C1F-PB</u>
Price	\$38.50	\$37.00	\$33.50
Weight (lbs)	0.1	0.1	0.1
Valve Type	3-port (3-way) 2-position		
Acting	Pushbutton, normally closed, spring return, through panel mount		
Diagram	A	A	A
Port Size	90-degree ports, 1/4in tube inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in male NPT inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in female NPT inlet(s), 1/8in FNPT outlet(s), (1) vent hole exhaust(s)
Flow (Cv)	0.29	0.29	0.29
Fluid	Air (to be filtered by 40 μ filter element)		
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)		
Temperature	-20°F to 160°F (-51°C to 71°C)		
Lubrication	Not Required		
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Stainless Steel, Nylon, Acetal Copolymer, Buna-N		
Protection	IP65		

Dimensions

mm [inches]



Note: For panel mounting
 • Maximum thickness 0.25"
 • Diameter Ø 0.484 thru

Part No. GVP-3C1M2P-PBPart No. GVP-3C2P-PBPart No. GVP-3C1F-PB

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

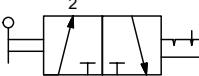
Manual Valves, Normally Closed, Detented, Toggle

NITRA GVP manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be through panel mounted for a very clean looking operator interface. Valves with male NPT inlets can be threaded into MR series air manifolds to simplify supply connections.

- Swivel output port
- High flow
- Poppet design contributes to product life
- Made in USA



Diagram "A"



3-port, 2-position

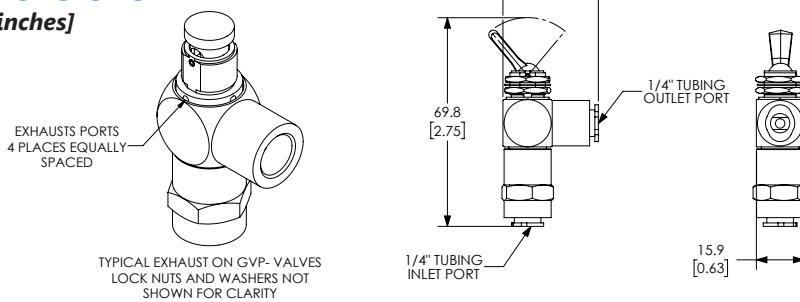
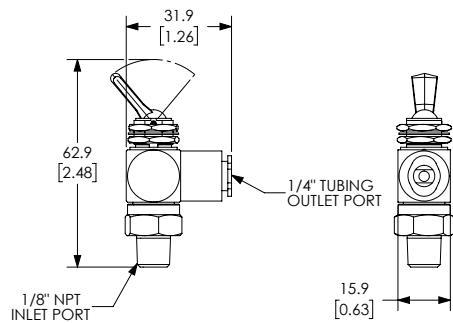
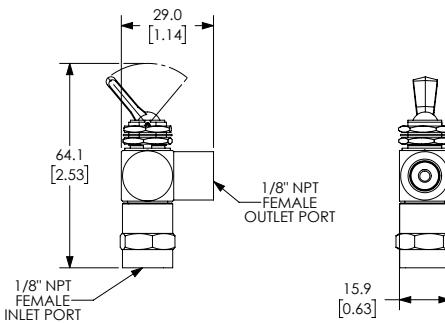
Part No. GVP-3C2P-TDPart No. GVP-3C1M2P-TDPart No. GVP-3C1F-TD

Specifications			
Models	GVP-3C2P-TD	GVP-3C1M2P-TD	GVP-3C1F-TD
Price	\$40.00	\$41.00	\$39.00
Weight (lbs)	0.1	0.1	0.1
Valve Type	3-port (3-way) 2-position, NC		
Acting	Toggle style actuator, normally closed, detented, through panel mount		
Diagram	A	A	A
Port Size	90-degree ports, 1/4in tube inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in male NPT inlet(s), 1/4in tube outlet(s), (1) vent hole exhaust(s)	90-degree ports, 1/8in female NPT inlet(s), 1/8in FNPT outlet(s), (1) vent hole exhaust(s)
Flow (Cv)	0.23	0.23	0.23
Fluid	Air (to be filtered by 40 μ filter element)		
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)		
Temperature	-20°F to 160°F (-51°C to 71°C)		
Lubrication	Not Required		
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Stainless Steel, Nylon, Acetal Copolymer, Buna-N		
Protection	IP65		

Dimensions

mm [inches]

Note: For panel mounting
 • Maximum thickness 0.25"
 • Diameter Ø 0.484 thru

Part No. GVP-3C2P-TDPart No. GVP-3C1M2P-TDPart No. GVP-3C1F-TD

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

303 Stainless Steel Single Stem Style

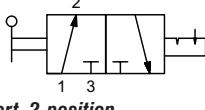
Part No. GVS-3C0F-TD-SSPart No. GVS-3C0F-PB-SS

NITRA GVS manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be through panel mounted for a very clean looking operator interface.

- Single stem design
- Stainless Steel construction
- High flow
- Made in USA

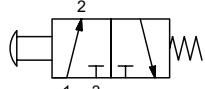


Diagram "A"



3-port, 2-position

Diagram "B"



3-port, 2-position

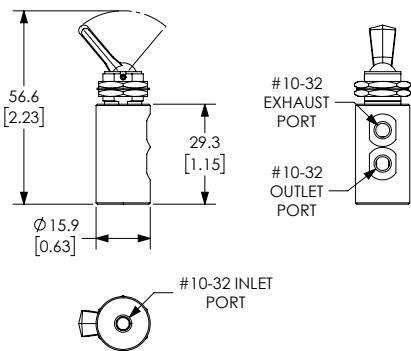
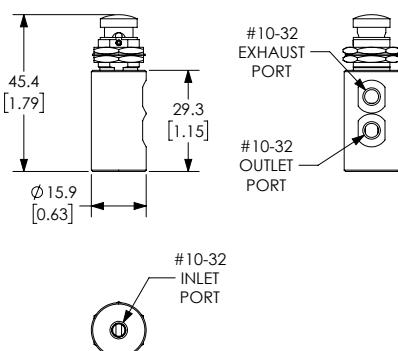
Specifications

Models	<u>GVS-3C0F-TD-SS</u>	<u>GVS-3C0F-PB-SS</u>
Price	\$44.00	\$42.50
Weight (lbs)	0.1	0.1
Valve Type	3-port (3-way) 2-position	
Acting	Toggle style actuator, normally closed, detented, through panel mount	Pushbutton, normally closed, spring return, through panel mount
Diagram	A	B
Port Size	90-degree ports, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s)	90-degree ports, #10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s)
Flow (Cv)	0.27	0.27
Fluid	Air (to be filtered by 40 μ filter element)	
Min. / Max. Pressure	26" Hg to 125 psi (-0.8 to 8.62 bar)	
Temperature	-20°F to 160°F (-51°C to 71°C)	
Lubrication	Not Required	
Body	Brass/ Electroless Nickel, Aluminum/ Anodize, Stainless Steel, Buna-N	
Protection	IP65	

Dimensions

mm [inches]

Note: For panel mounting
 • Maximum thickness 0.25"
 • Diameter Ø 0.484 thru

Part No. GVS-3C0F-TD-SSPart No. GVS-3C0F-PB-SS

See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

Aluminum Single Stem Style

Part No. [GVS-3C1F-TD](#)Part No. [GVS-3C1F-PB](#)Part No. [GVS-3CS1F-TD](#)Part No. [GVS-3CS1F-PB](#)

NITRA GVS manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be through panel mounted for a very clean looking operator interface.

- Single stem design
- High flow
- Made in USA



Diagram "A"

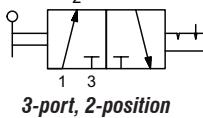
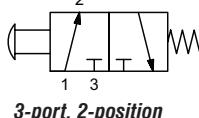


Diagram "B"



Specifications

Models	GVS-3C1F-TD	GVS-3C1F-PB	GVS-3CS1F-TD	GVS-3CS1F-PB
Price	\$31.00	\$27.00	\$39.00	\$37.00
Weight (lbs)	0.05	0.05	0.1	0.1
Valve Type	3-port (3-way) 2-position			
Acting	Toggle style actuator, normally closed, detented, through panel mount	Pushbutton, normally closed, spring return, through panel mount	Toggle style actuator, normally closed, detented, through panel mount	Pushbutton, normally closed, spring return, through panel mount
Diagram	A	B	A	B
Port Size	1/8in female NPT inlet(s), 1/8in female NPT outlet(s), vent hole exhaust	1/8in female NPT inlet(s), 1/8in female NPT outlet(s), vent hole exhaust	Side ports, 1/8in female NPT inlet(s), 1/8in female NPT outlet(s), 1/8in female NPT exhaust(s)	Side ports, 1/8in female NPT inlet(s), 1/8in female NPT outlet(s), 1/8in female NPT exhaust(s)
Flow (Cv)	0.42	0.42	0.42	0.42
Fluid	Air (to be filtered by 40 μ filter element)			
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)			
Temperature	-20°F to 160°F (-51°C to 71°C)			
Lubrication	Not Required			
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N			
Protection	IP65			

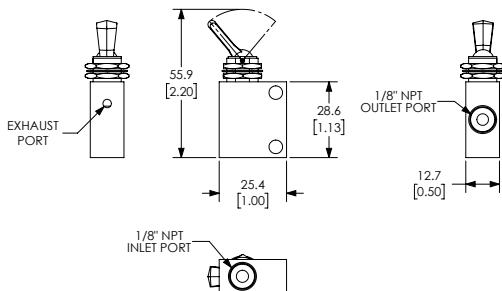
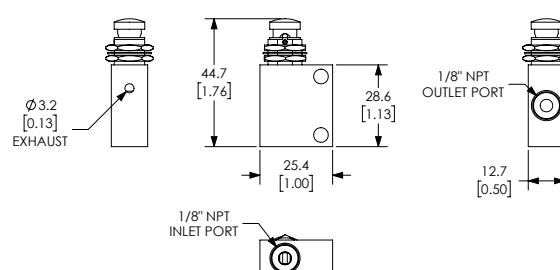
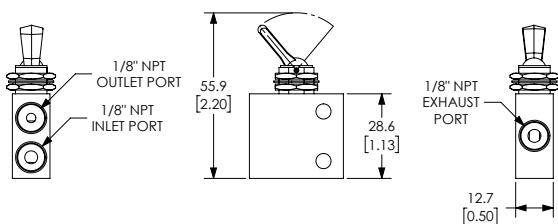
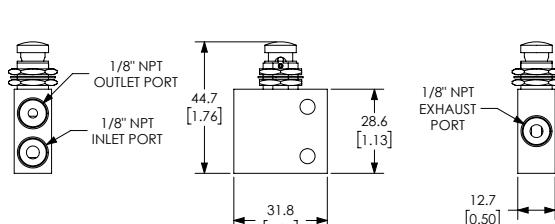
Dimensions

mm [inches]

Note: For panel mounting

• Maximum thickness 0.25"

• Diameter Ø 0.484 thru

Part No. [GVS-3C1F-TD](#)Part No. [GVS-3C1F-PB](#)Part No. [GVS-3CS1F-TD](#)Part No. [GVS-3CS1F-PB](#)See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

Aluminum and Stainless Single Stem Style

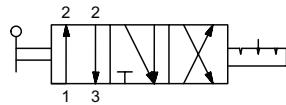
Part No. [GVS-331F-TD](#)Part No. [GVS-331F-TM](#)Part No. [GVS-231F-TD](#)Part No. [GVS-231F-TM](#)

NITRA GVS manual valves offer the unique feature of two spool valves in one body with a common inlet port. Available as either (2) 3-way NC or (2) 2-way NC with a momentary or detented toggle operator. All valves can be through-panel mounted for a very clean looking operator interface.

- Single stem design
- High flow
- Made in USA

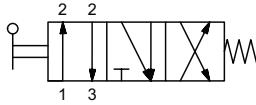


Diagram "A"



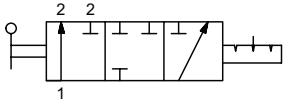
Dual 3-way, 3-position

Diagram "B"



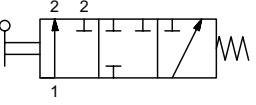
Dual 3-way, 3-position

Diagram "C"



Dual 2-way, 3-position

Diagram "D"



Dual 2-way, 3-position

Specifications

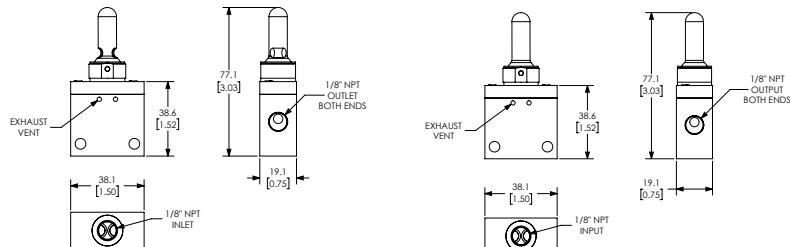
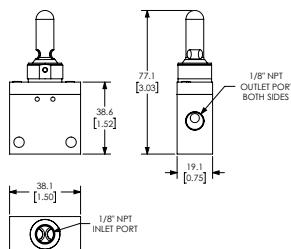
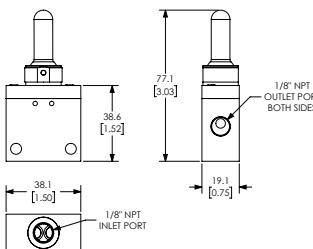
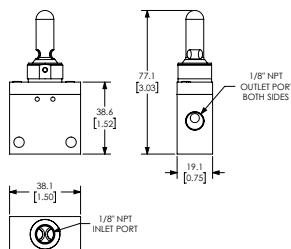
Models	GVS-331F-TD	GVS-331F-TM	GVS-231F-TD	GVS-231F-TM
Price	\$70.00	\$70.00	\$70.00	\$74.00
Weight (lbs)	0.3	0.3	0.3	0.3
Valve Type	Dual 3-way, 3-position, center exhaust			
Acting	Toggle style actuator, detented, through panel mount	Toggle style, spring return, through panel mount	Toggle style actuator, detented, through panel mount	Toggle style, spring return, through panel mount
Diagram	A	B	C	D
Port Size	1/8in female NPT inlet(s), 1/8in female NPT outlet(s), 1 vent hole exhaust(s)	1/8in female NPT inlet(s), 1/8in female NPT outlet(s), 1 vent hole exhaust(s)	1/8in female NPT inlet(s), 1/8in female NPT outlet(s)	1/8in female NPT inlet(s), 1/8in female NPT outlet(s)
Flow (Cv)	0.54	0.54	0.54	0.54
Fluid	Air (to be filtered by 40 μ filter element)			
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)			
Temperature	-20°F to 160°F (-51°C to 71°C)			
Lubrication	Not Required			
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N			
Protection	IP65			

Dimensions

mm [inches]

Note: For panel mounting

- Maximum thickness 0.25"
- Diameter Ø 0.781 thru

Part No. [GVS-331F-TD](#)Part No. [GVS-331F-TM](#)Part No. [GVS-331F-TM](#)Part No. [GVS-231F-TM](#)Part No. [GVS-231F-TD](#)Part No. [GVS-231F-TM](#)See our website www.AutomationDirect.com for complete Engineering drawings.



Pneumatic Manual Valves

Heavy Duty Toggle and Pushbutton Valves

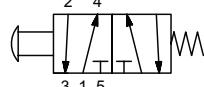
Part No. [GVS-520F-PB](#)

NITRA GVS manual valves offer a simple, convenient method for directional control and other pneumatic valve applications. All valves can be thru-panel mounted for a very clean looking operator interface.

- Single stem design
- High flow
- Made in USA

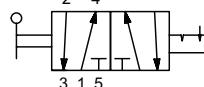


Diagram "A"



5-port, 2-position

Diagram "B"



5-port, 2-position

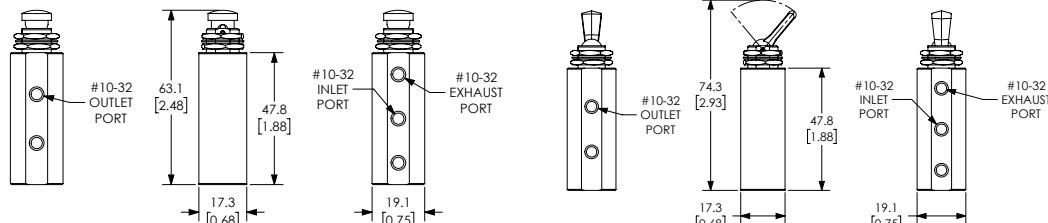
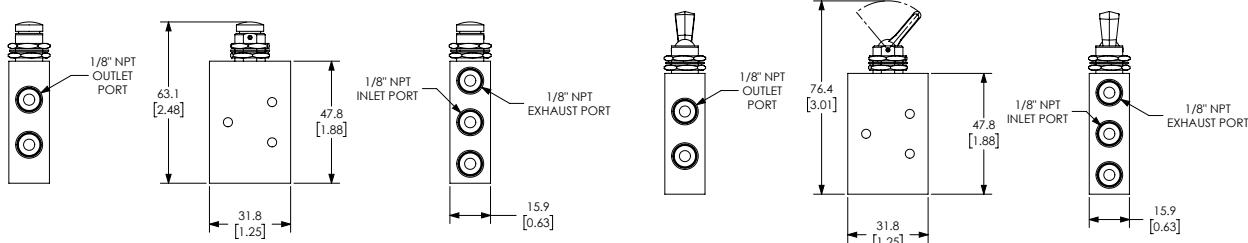
Part No. [GVS-520F-TD](#)Part No. [GVS-521F-PB](#)Part No. [GVS-521F-TD](#)

Models	GVS-520F-PB	GVS-520F-TD	GVS-521F-PB	GVS-521F-TD
Price	\$33.50	\$35.50	\$38.50	\$40.00
Weight (lbs)	0.1	0.1	0.1	0.15
Valve Type	5-port (4-way) 2-position			
Acting	Pushbutton, spring return, through panel mount	Toggle style actuator, detented, through panel mount	Pushbutton, spring return, through panel mount	Toggle style actuator, detented, through panel mount
Diagram	A	B	A	B
Port Size	#10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s)	#10-32 female threaded inlet(s), #10-32 female threaded outlet(s), #10-32 female threaded exhaust(s)	1/8in FNPT inlet(s), 1/8in FNPT outlet(s), 1/8in FNPT exhaust(s)	1/8in FNPT inlet(s), 1/8in FNPT outlet(s), 1/8in FNPT exhaust(s)
Flow (Cv)	0.23	0.23	0.37	0.37
Fluid	Air (to be filtered by 40 μ filter element)			
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)			
Temperature	-20°F to 160°F (-51°C to 71°C)			
Lubrication	Not Required			
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N			
Protection	IP65			

Dimensions

mm [inches]

Note: For panel mounting
 • Maximum thickness 0.25"
 • Diameter Ø 0.484 thru

Part No. [GVS-520F-PB](#)Part No. [GVS-520F-TD](#)Part No. [GVS-521F-PB](#)Part No. [GVS-521F-TD](#)

See our website www.AutomationDirect.com for complete Engineering drawings.

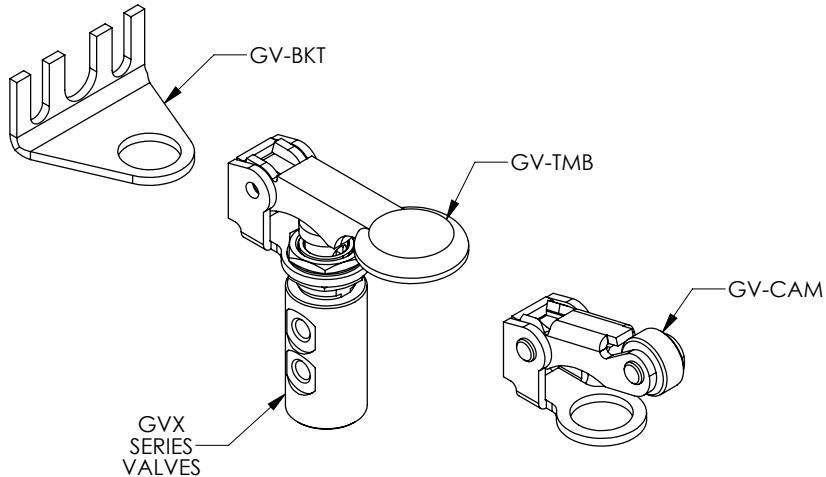


GVP and GVS Series Pneumatic Valve Accessories



Nitra Pneumatic GVP and GVS Series Pneumatic Valve Accessories				
Item	Part No.	Description	Price	Weight (lbs)
	GV-BKT	NITRA 90 degree mounting bracket, plated steel. For use with all GVP and GVS valves.	\$3.50	0.5
	GV-CAM	NITRA roller cam actuator, plated steel, for use with all GVP and GVS valves. The roller is manufactured from durable acetal plastic. All cams feature a unique acetal pad which minimizes side load and virtually eliminates wear.	\$15.50	0.5
	GV-TMB	NITRA thumb actuator, plated steel, for use with all GVP and GVS valves.	\$14.50	0.5

Assembly Example



See our website www.AutomationDirect.com for complete Engineering drawings.



Exhaust Silencers

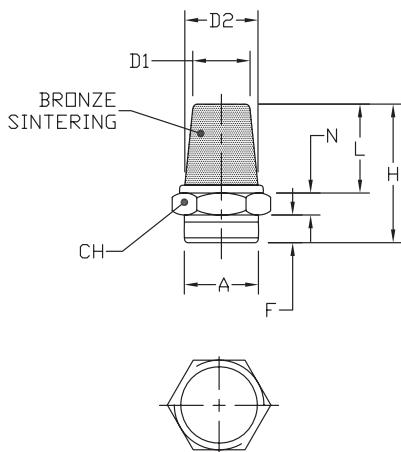
NITRA™ exhaust silencers are available in three styles and nine popular NPT and BSPT sizes. Add these to the exhaust ports of NITRA directional control solenoid valves to reduce noise.

Features

- Inch and metric sizes available
- Bronze cone and flat styles
- Plastic cylindrical
- Maximum pressure = 150 psi (10 bar)



SBC Silencers

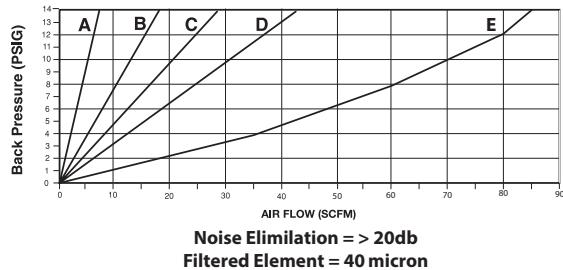


NITRA™ Bronze Cone Silencers											2
Inch Sizes - dimensions in inches [mm]											2
Part No.	Price	A	CH	D1	D2	F	H	L	N	Package Weight (lb)	
SBC-18N	\$3.50	MNPT 1/8	0.47 [12.0]	0.32 [8.0]	0.28 [7.0]	0.24 [6.0]	0.94 [24.0]	0.55 [14.0]	0.16 [4.0]	0.01	
SBC-14N	\$4.75	MNPT 1/4	0.63 [16.0]	0.47 [12.0]	0.40 [10.0]	0.32 [8.0]	1.18 [30.0]	0.71 [18.0]	0.16 [4.0]	0.01	
SBC-38N	\$6.75	MNPT 3/8	0.71 [18.0]	0.55 [14.0]	0.39 [11.0]	0.35 [9.0]	1.38 [35.0]	0.83 [21.0]	0.197 [5.0]	0.05	
SBC-12N	\$12.50	MNPT 1/2	0.94 [24.0]	0.75 [19.0]	0.59 [15.0]	0.40 [10.0]	1.73 [44.0]	1.10 [28.0]	0.24 [6.0]	0.15	
Metric Sizes - dimensions in inches [mm]											2
SBC-M5	\$2.50	M5	0.31 [8.0]	0.20 [5.0]	0.16 [4.0]	0.20 [5.0]	0.79 [20.0]	0.47 [12.0]	0.12 [3.0]	0.01	
SBC-18R	\$3.50	R 1/8	0.47 [12.0]	0.32 [8.0]	0.28 [7.0]	0.24 [6.0]	0.94 [24.0]	0.55 [14.0]	0.16 [4.0]	0.01	
SBC-14R	\$4.00	R 1/4	0.63 [16.0]	0.47 [12.0]	0.40 [10.0]	0.32 [8.0]	1.18 [30.0]	0.71 [18.0]	0.16 [4.0]	0.01	
SBC-38R	\$6.00	R 3/8	0.71 [18.0]	0.55 [14.0]	0.39 [11.0]	0.35 [9.0]	1.38 [35.0]	0.83 [21.0]	0.197 [5.0]	0.05	
SBC-12R	\$10.50	R 1/2	0.94 [24.0]	0.75 [19.0]	0.59 [15.0]	0.40 [10.0]	1.73 [44.0]	1.10 [28.0]	0.24 [6.0]	0.15	

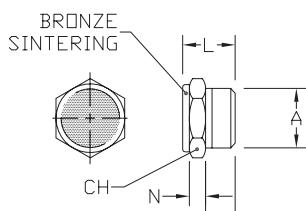
Flow Characteristics

Bronze Cone Silencers

- A: SBC-M5
- B: SBC-18N; SBC-18R
- C: SBC-14N; SBC-14R
- D: SBC-38N; SBC-38R
- E: SBC-12N; SBC-12R



SBF Silencers



NITRA™ Bronze Flat Silencers										
Inch Sizes - dimensions in inches [mm]										
Part No.	Price	A	CH	F	L	N	Package Weight (lb)	Qty. per pack		
SBF-18N	\$3.50	MNPT 1/8	0.47 [12.0]	0.24 [6.0]	0.47 [12.0]	0.16 [4.0]	0.01	2		2
SBF-14N	\$4.25	MNPT 1/4	0.67 [17.0]	0.32 [8.0]	0.59 [15.0]	0.16 [4.0]	0.01			
SBF-38N	\$7.25	MNPT 3/8	0.75 [19.0]	0.35 [9.0]	0.67 [17.0]	0.20 [5.0]	0.05			
SBF-12N	\$11.00	MNPT 1/2	0.94 [24.0]	0.40 [10.0]	0.71 [18.0]	0.24 [6.0]	0.15			
Metric Sizes - dimensions in inches [mm]										
SBF-M5	\$2.50	M5	0.31 [8.0]	0.20 [5.0]	0.35 [9.0]	0.12 [3.0]	0.01	2		2
SBF-18R	\$3.50	R 1/8	0.47 [12.0]	0.24 [6.0]	0.47 [12.0]	0.16 [4.0]	0.01			
SBF-14R	\$4.00	R 1/4	0.67 [17.0]	0.32 [8.0]	0.59 [15.0]	0.16 [4.0]	0.01			
SBF-38R	\$6.25	R 3/8	0.75 [19.0]	0.35 [9.0]	0.67 [17.0]	0.20 [5.0]	0.05			
SBF-12R	\$11.00	R 1/2	0.94 [24.0]	0.40 [10.0]	0.71 [18.0]	0.24 [6.0]	0.15			

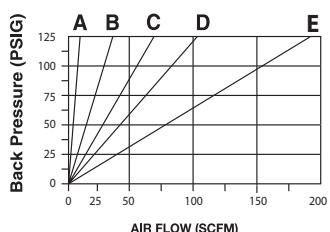


Exhaust Silencers

Flow Characteristics

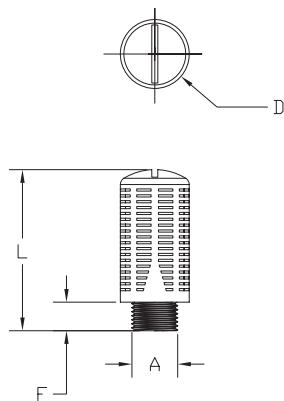
Bronze Flat Silencers

- A: SBF-M5
- B: SBF-18N; SBF-18R
- C: SBF-14N; SBF-14R
- D: SBF-28N; SBF-38R
- E: SBF-12N; SBF-12R



Noise Elimination = > 30db
Filtered Element = 40 micron

SPL Silencers



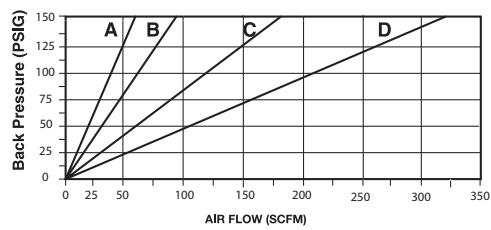
Note: SPL series plastic exhaust silencers have a maximum pressure of 80 PSI (5.5 bar).

NITRA™ Plastic Exhaust Silencers							
Inch Sizes - dimensions in inches [mm]							
Part No.	Price	A	D	L	F	Package Weight (lbs)	Qty. per pack
<u>SPL-18N</u>	\$2.75	MNPT 1/8	0.55 [13.8]	1.28 [32.4]	0.33 [8.3]	0.02	2
<u>SPL-14N</u>	\$3.00	MNPT 1/4	0.68 [17.3]	1.68 [42.5]	0.39 [9.9]	0.03	
<u>SPL-38N</u>	\$3.50	MNPT 3/8	0.87 [22.0]	2.10 [53.4]	0.40 [10.0]	0.06	
<u>SPL-12N</u>	\$3.50	MNPT 1/2	1.00 [25.4]	2.66 [67.6]	0.44 [11.1]	0.08	
Metric Sizes - dimensions in inches [mm]							
<u>SPL-18R</u>	\$2.75	R 1/8	0.60 [15.2]	1.33 [33.7]	0.24 [6.1]	0.02	2
<u>SPL-14R</u>	\$3.00	R 1/4	0.60 [18.8]	1.60 [40.6]	0.31 [7.7]	0.03	
<u>SPL-38R</u>	\$3.50	R 3/8	0.94 [24.0]	2.20 [55.9]	0.39 [9.9]	0.06	
<u>SPL-12R</u>	\$3.50	R 1/2	0.94 [24.0]	2.20 [55.9]	0.39 [9.9]	0.08	

Flow Characteristics

Plastic Silencers

- A: SPL-18N; SPL-18R
- B: SPL-14N; SPL-14R
- C: SPL-38N; SPL-38R
- D: SPL-12N; SPL-12R



Noise Elimination = > 30db
Filtered Element = 40 micron