



SLV Series Pneumatic Lockout Valves Accessories

Features

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



HVM-34N



SLV-PU

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

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, 1/8 in male NPT	Retired	0.1
<u>HVM-34N-H</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=13.5, 3/4 in male NPT	\$66.00	0.6
<u>HVM-1N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=16.7, 1 in male NPT	\$66.00	0.6
<u>HVM-114N</u>	NITRA pneumatic exhaust silencer, aluminum, cylindrical, Cv=17.4, 1-1/4 in male NPT	\$66.00	0.6
<u>SLV-PU</u>	NITRA pneumatic pop up pressure indicator, 5 psi, 1/8 in male NPT	\$32.00	0.1

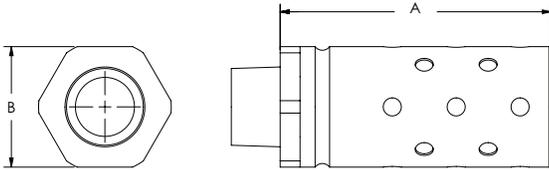


SLV Series Pneumatic Lockout Valves Accessories

Nitra High Volume Silencers (Mufflers)

Dimensions

inches [mm]

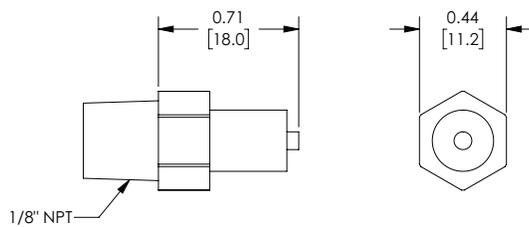


Muller Dimensions		
Part #	A	B
HVM-18N	1.6 [40.64]	0.8 [20.32]
HVM-34N	2.9 [73.66]	1.3 [33.02]
HVM-34N-H	4.5 [114.30]	2.0 [50.80]
HVM-1N	4.5 [114.30]	2.0 [50.80]
HVM-114N	4.5 [114.30]	2.0 [50.80]

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

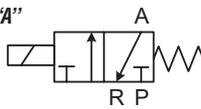


NITRA™ pneumatic AVP series directional control solenoid valves are 3-way stackable poppet style valves with 1/8" NPT ports. They provide 2-position, normally closed, spring return operation with either 24 VDC or 120 VAC solenoid coils. The AVP series can be used in individual valve applications or multiple 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
- 24 VDC or 120 VAC solenoid coils
- DIN style wiring connector with LED indication
- Single valve or multiple stacked valve applications
- 2-year warranty

Diagram "A"



2-Pos, Spring Return

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



AVP Series Specifications		
Model	AVP-31C1-24D	AVP-31C1-120A
Price	\$34.50	\$34.50
Weight (lbs)	0.3	
Valve Type	3-way 2 position	
Acting	Direct acting, normally closed, spring return	
Diagram	A	A
Port Size	1/8"	
Orifice Size	1.2 mm, Cv=0.051	
Fluid	Air (to be filtered by 40µ filter element)	
Operating Pressure	0 to 120 psi, (0 to 0.83 MPa), (0 to 8.3 bar)	
Voltage	20.4 - 26.4 VDC	102 - 132 VAC (50/60 Hz)
Power Consumption	DC: 3.0 W AC: 4.5 VA; continuous duty (100% ED)	
Maximum Frequency	10 cycles/sec	
Operating Life	50,000,000 cycles	
Insulation	B class	
Min Response	0.05 sec	
Temperature	-5 to +60 °C (23 to 140 °F)	
Lubrication	Not Required	
Protection	IP65 (DIN40050)	
Connection	11 mm DIN Terminal with Grommet	
Material of Body	Aluminum Alloy	
Agency Approvals	Solenoid CE marked; RoHS	



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.



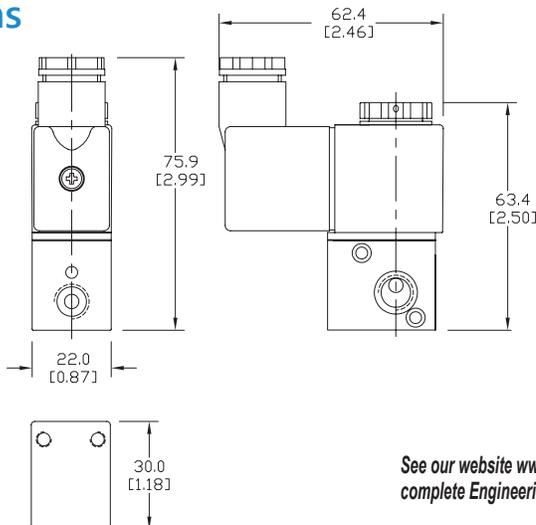
AVP-31BKT

Dimensions in mm [inches]

Dimensions

mm [inches]

AVP-31C1



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



Pneumatic Directional Control Solenoid Valves – AVS-3 Series



AVS-3221

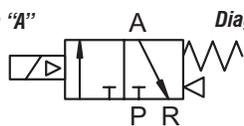
AVS-3211

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 24 VDC or 120 VAC control voltages. The DIN style wiring connector includes LED indication of the solenoid coil status.

Features

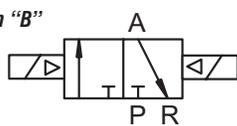
- Body ported, 3-port (3-way) spool valves
- 1/8", 1/4" or 3/8" NPT ports
- 2-position, single solenoid normally closed spring return; 2-position, double solenoid energize open/energize closed
- 24 VDC or 120 VAC solenoid coils
- DIN style wiring connector with LED indication
- Locking manual operator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

Diagram "A"



2-Pos, Spring Return

Diagram "B"



2-Pos, Double Solenoid



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

AVS-3 Series Specifications										
Model	AVS-3111-24D		AVS-3111-120A		AVS-3211-24D		AVS-3211-120A		AVS-3222-120A	
Price	\$37.50	Retired	\$39.00	\$38.50	\$64.00	\$39.00	\$38.50	\$64.00	\$62.00	
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		B	
Port Size	In/Out=1/8"		In/Out=1/8"		In/Out=1/4"		In/Out=1/4"		In/Out=1/4"	
Orifice Size	12mm ² (Cv=0.67)		14mm ² (Cv=0.78)		16mm ² (Cv=0.89)		16mm ² (Cv=0.89)		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	24 VDC single solenoid	120 VAC single solenoid	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	120 VAC double solenoid	
Power Consumption	DC: 2.5 W AC: 3.5 VA; continuous duty (100% ED)			DC: 3.0 W 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 to +60 °C (23 to 140 °F)									
Lubrication	Not Required									
Protection	IP65 (DIN40050)									
Connection	9.4 mm DIN Terminal			11 mm DIN Terminal						
Body	Aluminum Alloy									
Agency Approvals	Solenoid CE marked; RoHS									



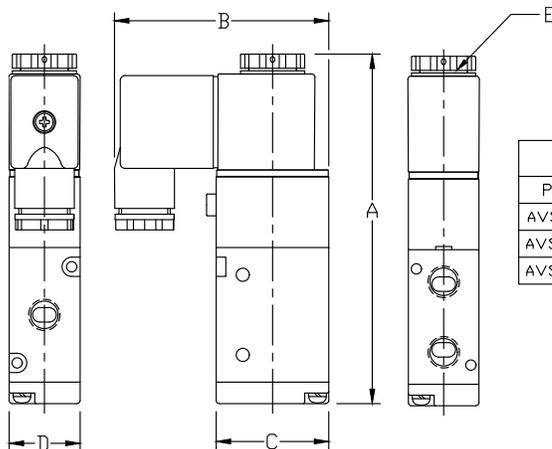
Pneumatic Directional Control Solenoid Valves – AVS-3 Series

AVS-3 Series Specifications							
Model	AVS-3312-24D	AVS-3312-120A	AVS-3322-24D	AVS-3313-24D	AVS-3313-120A	AVS-3323-24D	AVS-3323-120A
Price	\$55.00	\$55.00	\$84.00	\$55.00	\$55.00	\$89.00	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	16 mm ² (Cv=1.39)			25 mm 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	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	24 VDC single solenoid	120 VAC single solenoid	24V DC double solenoid	120 VAC double solenoid
Power Consumption	DC: 3.0 W AC: 4.5 VA; continuous duty (100% ED)						
Max Freq	5 cycles/sec						
Insulation	B class						
Min Response	0.05 sec						
Temperature	-5 to +60 °C (23 to 140 °F)						
Lubrication	Not Required						
Protection	IP65 (DIN40050)						
Connection	11 mm 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.

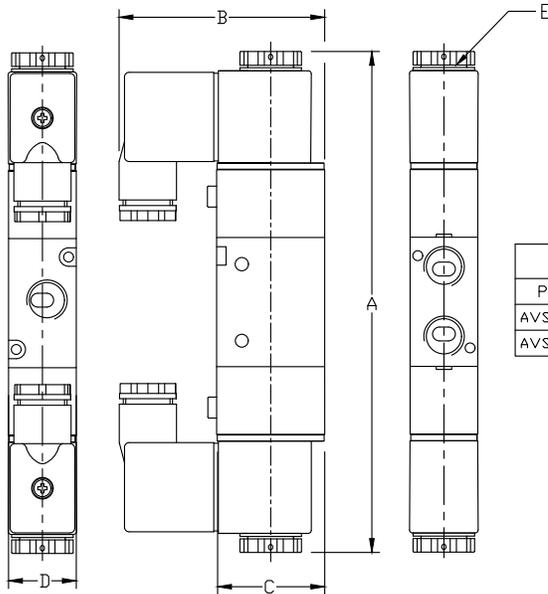


Pneumatic Directional Control Solenoid Valves – AVS-3 Series

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

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 24 VDC or 120 VAC 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.

AVS-5211



AVS-5221 Stacked solenoids shown mounted on optional manifold

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
- 24 VDC or 120 VAC 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



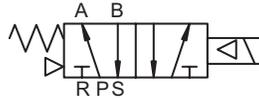
AVS-5 Series Specifications															
Model	AVS-5111-24D	AVS-5111-120A	AVS-5121-24D	AVS-5121-120A	AVS-513C1-24D	AVS-513C1-120A	AVS-513E1-24D	AVS-5211-24D	AVS-5211-120A	AVS-5221-24D	AVS-5221-120A	AVS-5212-24D	AVS-5212-120A	AVS-5222-24D	AVS-5222-120A
Price	\$37.50	\$37.50	Retired	Retired	\$86.00	\$86.00	\$86.00	\$38.50	\$39.00	\$62.00	\$64.00	\$38.00	\$39.00	\$62.00	\$64.00
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		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	12 mm ² (Cv=0.67)				9 mm ² (Cv=0.50)			14 mm ² (Cv=0.78)				16 mm 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 (VAC @ 50/60 Hz)	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC center closed double solenoid	120 VAC center closed double solenoid	24 VDC center exhaust double solenoid	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	120 VAC double solenoid
Power Consumption	DC: 2.5 W AC: 3.5 VA; continuous duty (100% ED)							DC: 3.0 W AC: 4.5 VA; continuous duty (100% ED)							
Max Frequency	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 to +60 °C (23 to 140 °F)														
Lubrication	Not Required														
Protection	IP65 (DIN40050)														
Connection	9.4 mm DIN Terminal							11 mm DIN Terminal							
Body	Aluminum Alloy														
Agency Approvals	Solenoid CE marked; RoHS														



Pneumatic AVS Directional Control Solenoid Valves – AVS-5 Series



Diagram "A"



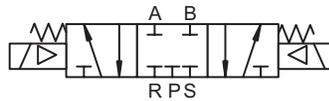
2-Pos, Spring Return

Diagram "B"



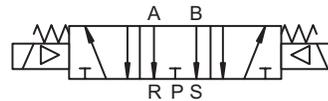
2-Pos, Double Solenoid

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	\$53.00	\$53.00	\$76.00	Retired	\$53.00	\$53.00	\$76.00	\$78.00	\$103.00	\$108.00	\$103.00	\$103.00	\$103.00	\$103.00	\$103.00	\$103.00
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	
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	25 mm ² (Cv=1.4)				30 mm ² (Cv=1.68)				12 mm 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)	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC center closed double solenoid	120 VAC center closed double solenoid	24 VDC center exhaust double solenoid	120 VAC center exhaust double solenoid	24 VDC center closed double solenoid	120 VAC center closed double solenoid	24 VDC center exhaust double solenoid	120 VAC center exhaust double solenoid
Power Consumption	DC: 3.0 W 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 to +60 °C (23 to 140 °F)															
Lubrication	Not Required															
Protection	IP65 (DIN40050)															
Connection	11 mm DIN Terminal															
Body	Aluminum Alloy															
Agency Approvals	Solenoid CE marked; RoHS															



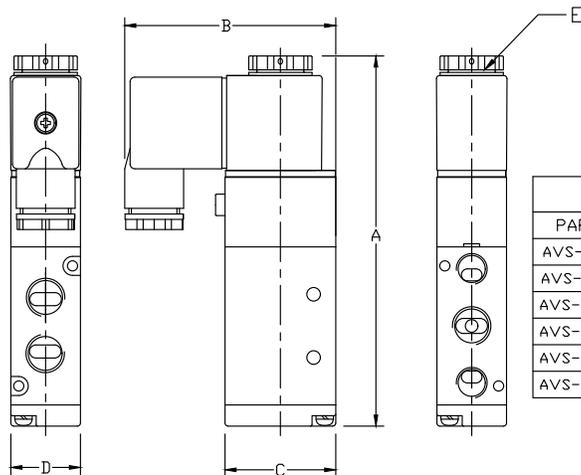
Pneumatic AVS Directional Control Solenoid Valves – AVS-5 Series

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	Retired	\$146.00	\$146.00	Retired	\$146.00	\$146.00	Retired	\$146.00	\$71.00	\$83.00	\$107.00	Retired	\$149.00	\$149.00	\$149.00	\$149.00
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	1.7
Valve Type	5 port 3 position								5 port 2 position				5 port 3 position			
Acting	Internally Piloted															
Diagram	C	D	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	18 mm ² (Cv=1.0)								50 mm ² (Cv=2.79)				30 mm 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)	24 VDC center closed double solenoid	120 VAC center closed double solenoid	24 VDC center exhaust double solenoid	120 VAC center exhaust double solenoid	24 VDC center closed double solenoid	120 VAC center closed double solenoid	24 VDC center exhaust double solenoid	120 VAC center exhaust double solenoid	24 VDC single solenoid	120 VAC single solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC center closed double solenoid	120 VAC center closed double solenoid	24 VDC center exhaust double solenoid	120 VAC center exhaust double solenoid
Power Consumption	DC: 3.0 W 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 to +60 °C (23 to 140 °F)															
Lubrication	Not Required															
Protection	IP65 (DIN40050)															
Connection	11 mm 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



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.

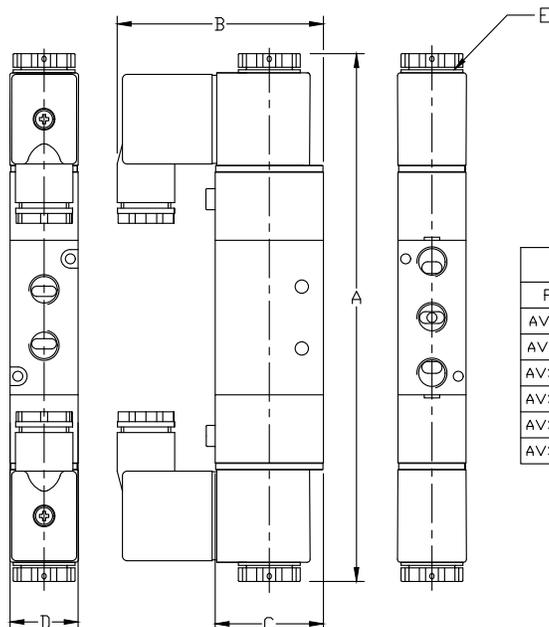


Pneumatic Directional Control Solenoid Valves – AVS-5 Series

Dimensions

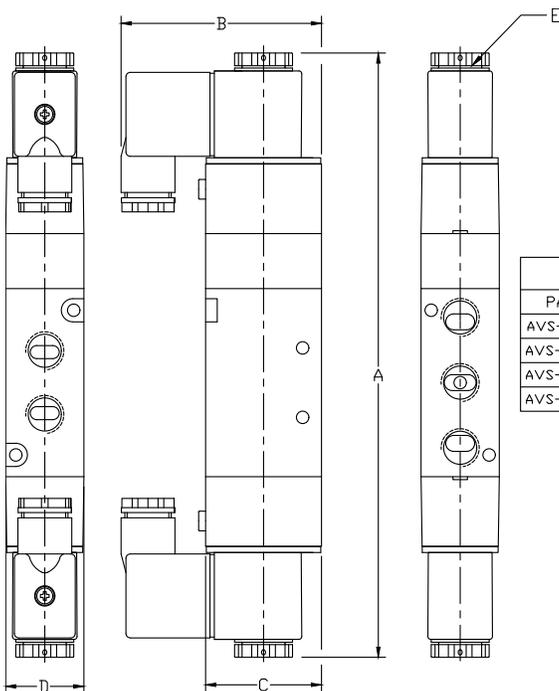
mm [inches]

**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

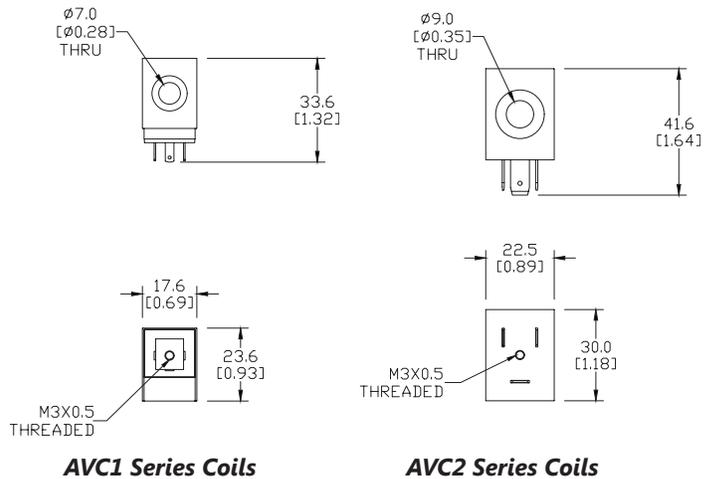


AVP-31KIT

Pneumatic A-Series Directional Control Solenoid Valve Series Accessories			
Part No.	Price	Description	Weight (lb)
<u>AVC1-12D</u>	Retired	NITRA solenoid coil, 12 VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC1-24D</u>	\$13.00	NITRA solenoid coil, 24 VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC1-24A</u>	\$13.00	NITRA solenoid coil, 24 VAC, 4.0 VA. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC1-120A</u>	\$13.00	NITRA solenoid coil, 120 VAC, 3.5 VA. For use with AVS-31 and AVS-51 series valves.	0.1
<u>AVC2-12D</u>	\$13.50	NITRA solenoid coil, 12 VDC, 3W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
<u>AVC2-24D</u>	\$13.50	NITRA solenoid coil, 24 VDC, 3W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
<u>AVC2-24A</u>	\$13.00	NITRA solenoid coil, 24 VAC, 5 VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
<u>AVC2-120A</u>	\$13.00	NITRA solenoid coil, 120 VAC, 4.5 VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53, AVS-54 series valves and ASD series soft starters.	0.2
<u>AVP-31BKT</u>	\$2.25	NITRA individual mounting bracket, plated steel. For use with AVP-31 directional control valves.	0.1
<u>AVP-31KIT</u>	\$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]



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

AVP-31BKT



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)
<u>AM-312</u>	\$27.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-31 series.	0.2
<u>AM-314</u>	Retired	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-31 series.	0.3
<u>AM-316</u>	\$47.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-31 series.	0.4
<u>AM-318</u>	\$61.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-31 series.	0.5
<u>AM-31BP</u>	\$5.25	NITRA blanking plate, plated steel. For use with AM-31 series manifolds.	0.1
<u>AM-322</u>	\$25.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-32 series.	0.2
<u>AM-324</u>	\$44.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-32 series.	0.4
<u>AM-326</u>	\$62.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-32 series.	0.5
<u>AM-328</u>	\$81.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4 in FNPT inlet port(s), (2) 1/4 in FNPT exhaust port(s). For use with AVS-32 series.	0.7
<u>AM-32BP</u>	\$5.25	NITRA blanking plate, plated steel. For use with AM-32 series manifolds.	0.1
<u>AM-332</u>	\$28.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8 in FNPT inlet port(s), (2) 3/8 in FNPT exhaust port(s). For use with AVS-33 series.	0.4
<u>AM-334</u>	\$50.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8 in FNPT inlet port(s), (2) 3/8 in FNPT exhaust port(s). For use with AVS-33 series.	0.6
<u>AM-336</u>	\$90.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8 in FNPT inlet port(s), (2) 3/8 in FNPT exhaust port(s). For use with AVS-33 series.	0.9
<u>AM-338</u>	\$95.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8 in FNPT inlet port(s), (2) 3/8 in FNPT exhaust port(s). For use with AVS-33 series.	1.1
<u>AM-33BP</u>	\$6.00	NITRA blanking plate, plated steel. For use with AM-33 series manifolds.	0.1
<u>AM-514</u>	Retired	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4 in FNPT inlet port(s), (4) 1/4 in FNPT exhaust port(s). For use with AVS-51 series.	0.6
<u>AM-516</u>	\$34.50	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4 in FNPT inlet port(s), (4) 1/4 in FNPT exhaust port(s). For use with AVS-51 series.	0.8
<u>AM-518</u>	\$48.50	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4 in FNPT inlet port(s), (4) 1/4 in FNPT exhaust port(s). For use with AVS-51 series.	1.1
<u>AM-51BP</u>	\$6.75	NITRA blanking plate, plated steel. For use with AM-51 series manifolds.	0.1
<u>AM-522</u>	\$18.50	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4 in FNPT inlet port(s), (4) 1/4 in FNPT exhaust port(s). For use with AVS-52 series.	0.5
<u>AM-524</u>	\$35.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4 in FNPT inlet port(s), (4) 1/4 in FNPT exhaust port(s). For use with AVS-52 series.	0.9
<u>AM-526</u>	\$51.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4 in FNPT inlet port(s), (4) 1/4 in FNPT exhaust port(s). For use with AVS-52 series.	1.2
<u>AM-528</u>	\$68.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4 in FNPT inlet port(s), (4) 1/4 in FNPT exhaust port(s). For use with AVS-52 series.	1.5
<u>AM-52BP</u>	\$7.75	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)
<u>AM-532</u>	\$24.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8 in FNPT inlet port(s), (4) 3/8 in FNPT exhaust port(s). For use with AVS-53 series.	0.8
<u>AM-534</u>	\$48.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8 in FNPT inlet port(s), (4) 3/8 in FNPT exhaust port(s). For use with AVS-53 series.	1.4
<u>AM-536</u>	\$71.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8 in FNPT inlet port(s), (4) 3/8 in FNPT exhaust port(s). For use with AVS-53 series.	1.9
<u>AM-538</u>	\$96.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8 in FNPT inlet port(s), (4) 3/8 in FNPT exhaust port(s). For use with AVS-53 series.	2.5
<u>AM-53BP</u>	\$7.75	NITRA blanking plate, plated steel. For use with AM-53 series manifolds.	0.1
<u>AM-542</u>	\$32.00	NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/2 in FNPT inlet port(s), (4) 1/2 in FNPT exhaust port(s). For use with AVS-54 series.	1.7
<u>AM-544</u>	\$65.00	NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/2 in FNPT inlet port(s), (4) 1/2 in FNPT exhaust port(s). For use with AVS-54 series.	2.8
<u>AM-546</u>	\$100.00	NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/2 in FNPT inlet port(s), (4) 1/2 in FNPT exhaust port(s). For use with AVS-54 series.	4.0
<u>AM-548</u>	\$119.00	NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/2 in FNPT inlet port(s), (4) 1/2 in FNPT exhaust port(s). For use with AVS-54 series.	5.2
<u>AM-54BP</u>	\$7.75	NITRA blanking plate, plated steel. For use with AM-54 series manifolds.	0.1
<u>AM-31GS</u>	\$5.50	NITRA manifold mounting set, for use with AM-31 series manifolds.	0.1
<u>AM-32GS</u>	\$6.50	NITRA manifold mounting set, for use with AM-32 series manifolds.	0.1
<u>AM-33GS</u>	\$6.50	NITRA manifold mounting set, for use with AM-33 series manifolds.	0.1
<u>AM-51GS</u>	\$5.50	NITRA manifold mounting set, for use with AM-51 series manifolds.	0.1
<u>AM-52GS</u>	\$6.50	NITRA manifold mounting set, for use with AM-52 series manifolds.	0.1
<u>AM-53GS</u>	\$6.50	NITRA manifold mounting set, for use with AM-53 series manifolds.	0.1
<u>AM-54GS</u>	\$6.75	NITRA manifold mounting set, for use with AM-54 series manifolds.	0.1

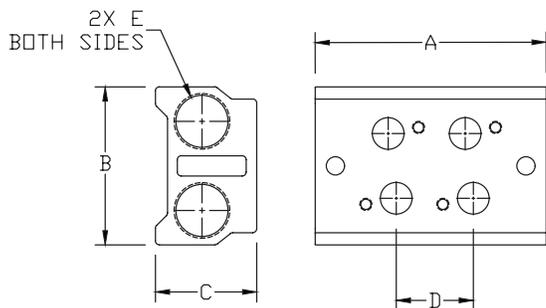


Pneumatic Directional Control Solenoid Valve Manifolds and Accessories

Dimensions

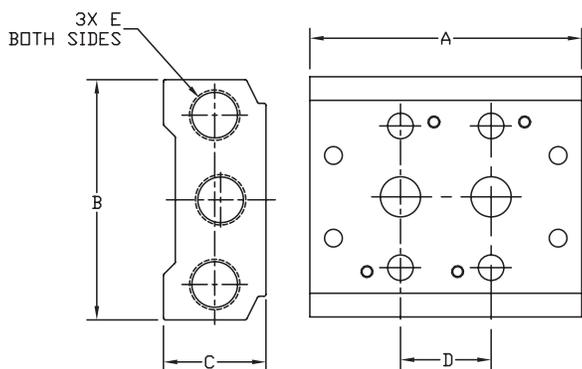
mm [inches]

AM 3x Series Manifolds



MANIFOLD DIMENSIONS					
PART NO.	A	B	C	D	E
AM-312	57.0 [2.24]	39.0 [1.54]	25.0 [0.98]	19.0 [0.75]	1/4 NPT
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]	45.0 [1.77]	25.0 [0.98]	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]	52.0 [2.05]	29.0 [1.14]	28.0 [1.10]	3/8 NPT
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]	

AM 5x Series Manifolds



MANIFOLD DIMENSIONS					
PART NO.	A	B	C	D	E
AM-512	57.0 [2.24]	58.0 [2.28]	25.0 [0.98]	19.0 [0.75]*	1/4 NPT
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]	61.0 [2.40]	26.0 [1.02]	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]	75.0 [2.95]	30.0 [1.19]	28.0 [1.10]	3/8 NPT
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]	104.0 [4.09]	38.0 [1.50]	35.0 [1.38]	1/2 NPT
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]	

* Exhaust holes have 1mm offset from spacing centerline.

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



MVDC - Stackable Solenoid Valves



Part No. [103022011324002](#)

The MVDC-220 series is a compact, direct-acting solenoid valve designed for air applications up to 102 psi. Available in 2-way / 2-position and 3-way / 2-position configurations with 1/8" NPT ports, these valves feature a quick 20 ms response time. The series offers both 24 VDC and 110 VAC power options to accommodate various control system requirements.

Features

- Compact design: 22.3mm width, 155g weight with stacked mounting capability for space-efficient installations
- LED visual indication: Solenoid connector with built-in LED provides instant valve status feedback for easy troubleshooting
- Quick response: 20 ms actuation time with operating pressure range from 0-102 psi
- NPT threading: Standard NPT port threads for easy integration into North American pneumatic systems
- Locking manual override standard on all valves for testing/troubleshooting



Assembly example shown.

Diagram "A"

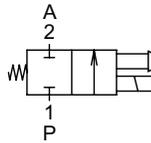
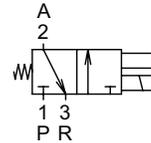


Diagram "B"



MVDC - Stackable Solenoid Valves

Part No.	103022011324002	103022011524002	103022013324003	103022013524003
Mfg. Part No.	MVDC-220-2E1-DC24-L-NPT	MVDC-220-2E1-AC110-L-NPT	MVDC-220-3E1-DC24-L-NPT	MVDC-220-3E1-AC110-L-NPT
Price	\$28.00	\$28.00	\$28.00	\$28.00
Drawing Link	PDF	PDF	PDF	PDF
Weight (lb)	0.35	0.35	0.35	0.35
Manufacturer Specs	PDF			
Valve Type	2-port (2-way)	2-port (2-way)	3-port (3-way)	3-port (3-way)
Positions	2			
Pneumatic Diagram	A		B	
Operating Voltage	24 VDC	110 VAC	24 VDC	110 VAC
Power Rating	2W	4.4 VA	2W	4.4 VA
Electrical Connection	11mm DIN style wiring plug			
Valve Configuration	N.C.			
Acting	Single solenoid spring return			
Inlet Port Size	(2) 1/8" FNPT			
Outlet Port Size	1/8" FNPT			
Exhaust	N/A		Vent hole	Vent hole
Flow (Cv)	0.04	0.04	0.04	0.04
Media	Filtered air without lubrication; lubrication, if used, must be continuous			
Min. Operating Pressure	0 psi			
Max. Operating Pressure	102 psi			
Temperature	23 to 122 °F (-5 to +50 °C)			
Lubrication	ISO VG32 or equivalent			
Life Cycle	10 Million cycles			

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVDC - Stackable Solenoid Valves



Part No. 20302200000025

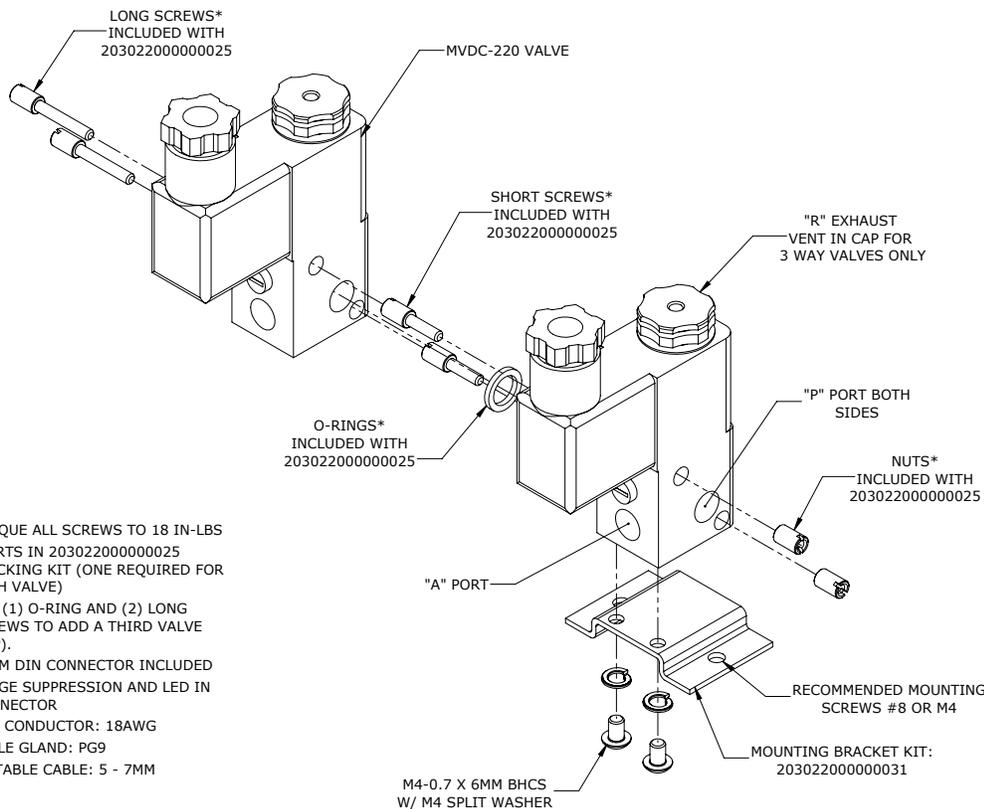


Part No. 20302200000031



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

MVDC - Stackable Solenoid Valve Accessories						
Part No.	Mfg. Part No.	Description	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
20302200000025	MVDC-220-M2	Mindman mounting kit, plated steel. For use with MVDC series solenoid directional control valves. Includes (2) long stacking screws, (2) short stacking screws, (2) nuts and (1) nitrile O-ring.	PDF	PDF	\$5.75	0.02
20302200000031	MVDC-220-B	Mindman individual mounting bracket, plated steel. For use with MVDC series solenoid directional control valves. Bracket and fasteners included.		PDF	\$2.00	0.05



Click or scan the QR code for assembly instructions.

- TORQUE ALL SCREWS TO 18 IN-LBS
- *PARTS IN 20302200000025 STACKING KIT (ONE REQUIRED FOR EACH VALVE)
- USE (1) O-RING AND (2) LONG SCREWS TO ADD A THIRD VALVE (TYP).
- 11MM DIN CONNECTOR INCLUDED
- SURGE SUPPRESSION AND LED IN CONNECTOR
- MAX CONDUCTOR: 18AWG
- CABLE GLAND: PG9
- SUITABLE CABLE: 5 - 7MM



MVSC1 - Series Solenoid Valves



Part No. [100815015321002](#)



Part No. [100818016324001](#)

The MVSC1-150 and MVSC1-180 series are compact solenoid valves designed for precise pneumatic control in industrial automation applications. The MVSC1-150 series features M5×0.8 ports, while the MVSC1-180 series offers 1/8" NPT ports for higher flow capacity. Both series are available in single solenoid and double solenoid configurations with 24 VDC and 110 VAC options.

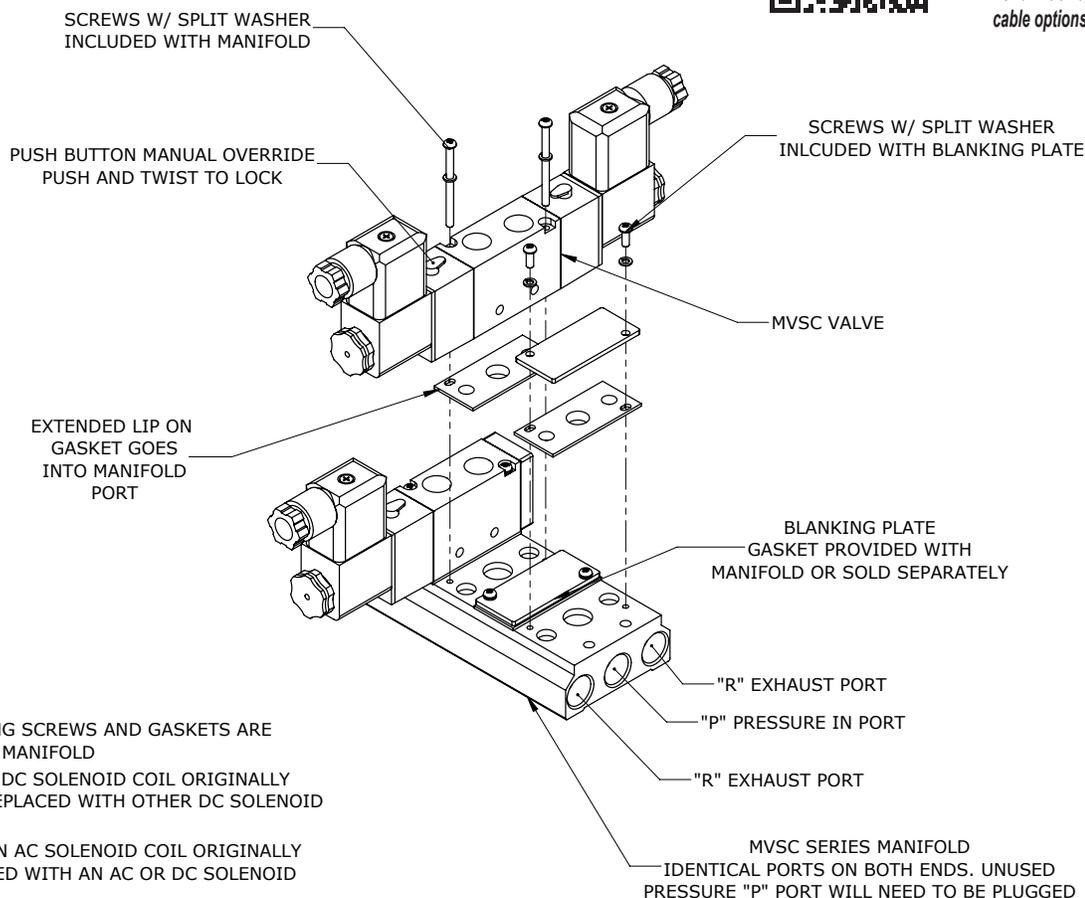
Features

- Versatile configurations: MVSC1-150 offers 4-way/5-port control with M5 threading; MVSC1-180 expands options with 3-way and 4-way configurations plus specialized center position types (closed, pressure, exhaust) with NPT threading
- Fast response times: MVSC1-150 achieves <23 ms (DC) response; MVSC1-180 provides <25-30 ms (DC) depending on model for quick actuation
- Wide pressure range: Operating pressure from 22 to 116 psi with proof pressure rating of 145 psi for reliable performance across various applications
- LED visual indication: All solenoid connectors include built-in LED indicators for instant valve status feedback and easy troubleshooting

Click or scan the QR code for assembly instructions.



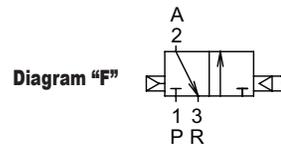
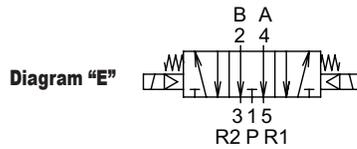
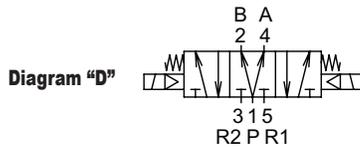
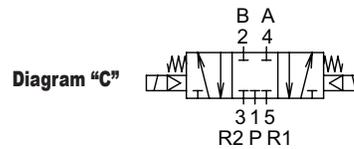
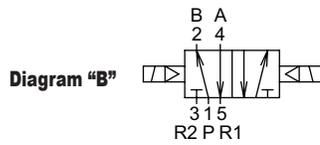
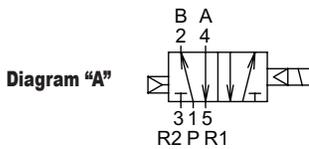
See www.AutomationDirect.com for a wide variety of fitting and cable options



- VALVE MOUNTING SCREWS AND GASKETS ARE SUPPLIED WITH MANIFOLD
- VALVES WITH A DC SOLENOID COIL ORIGINALLY CAN ONLY BE REPLACED WITH OTHER DC SOLENOID COILS.
- VALVES WITH AN AC SOLENOID COIL ORIGINALLY CAN BE REPLACED WITH AN AC OR DC SOLENOID COIL.



MVSC1 - Series Solenoid Valves

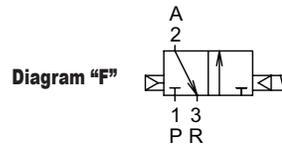
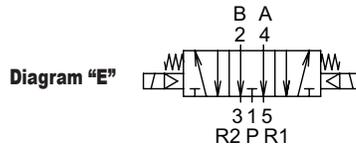
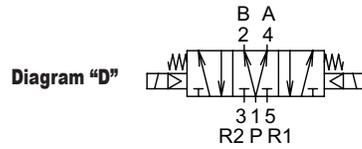
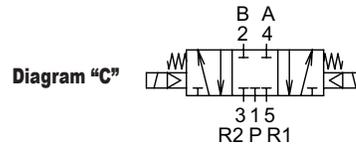
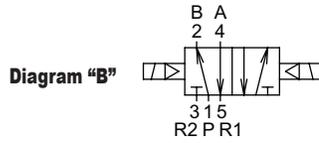
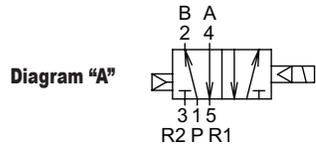


MVSC1 Series Solenoid Valves								
Part No.	100815015321002		100815015521002		100815016321001		100815016521001	
Mfg. Part No.	MVSC1-150-4E1-DC24-L		MVSC1-150-4E1-AC110-L		MVSC1-150-4E2-DC24-L		MVSC1-150-4E2-AC110-L	
Price	\$28.00		\$29.00		\$48.00		\$49.00	
Drawing Link	PDF		PDF		PDF		PDF	
Weight (lb)	0.22		0.21		0.33		0.33	
Manufacturer Specs	PDF				PDF			
Valve Type	5-port (4-way)				3-port (3-way)		5-port (4-way)	
Positions	2							
Pneumatic Diagram	A		B		F		A	
Operating Voltage	24 VDC		110 VAC		24 VDC		110 VAC	
Power Rating	0.95W		1.12 VA		0.95W		1.12 VA	
Electrical Connection	9.4mm DIN style wiring plug							
Valve Configuration	N/A				N.C.		N/A	
Acting	Single solenoid internal pilot return		Double solenoid		Single solenoid internal pilot return			
Inlet Port Size	M5 x 0.8 female				1/8" FNPT			
Outlet Port Size	(2) M5 x 0.8 female				1/8" FNPT		(2) 1/8" FNPT	
Exhaust	(2) M5 x 0.8 female				1/8" FNPT		(2) 1/8" FNPT	
Flow (Cv)	0.21		0.21		0.21		0.21	
Media	Filtered air without lubrication; lubrication, if used, must be continuous							
Min. Operating Pressure	22 psi							
Max. Operating Pressure	116 psi							
Temperature	23 to 122 °F (-5 to +50 °C)							
Lubrication	ISO VG32 or equivalent							
Life Cycle	10 Million cycles							

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC1 - Series Solenoid Valves



MVSC1 Series Solenoid Valves								
Part No.	100818015524001		100818016324001		100818016524001		100818017324001	
Mfg. Part No.	MVSC1-180-4E1-AC110-L-NPT		MVSC1-180-4E2-DC24-L-NPT		MVSC1-180-4E2-AC110-L-NPT		MVSC1-180-4E2-DC24-L-NPT	
Price	\$31.00		\$48.00		\$49.00		\$64.00	
Drawing Link	PDF		PDF		PDF		PDF	
Weight (lb)	0.27		0.38		0.38		0.40	
Manufacturer Specs	PDF							
Valve Type	5-port (4-way)							
Positions	2			3				
Pneumatic Diagram	A		B		C		D	
Operating Voltage	110 VAC		24 VDC		110 VAC		24 VDC	
Power Rating	1.12 VA		0.95W		1.12 VA		0.95W	
Electrical Connection	9.4mm DIN style wiring plug							
Valve Configuration	N/A			Center closed		Center pressure		Center exhaust
Acting	Single solenoid internal pilot return		Double solenoid					
Inlet Port Size	1/8" FNPT							
Outlet Port Size	(2) 1/8" FNPT							
Exhaust	(2) 1/8" FNPT							
Flow (Cv)	0.67		0.67		0.67		0.5	
Media	Filtered air without lubrication; lubrication, if used, must be continuous							
Min. Operating Pressure	22 psi			29 psi				
Max. Operating Pressure	116 psi			102 psi				
Temperature	23 to 122 °F (-5 to +50°C)							
Lubrication	ISO VG32 or equivalent							
Life Cycle	10 Million cycles							

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC1 - Valve Manifolds



Part No. [100015093024001](#)



Part No. [100218091064001](#)



Part No. [100018093084002](#)

Screws and gaskets included with manifolds.

MVSC1 manifolds fit MVSC1-150 and MVSC1-220 valves. Available in 2 to 8 stations with blanking plates sold separately.

Features

- Made from aluminum
- All manifolds include valve mounting screws and gaskets



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

MVSC1 - Valve Manifolds								
Part No.	Mfg. Part No.	Number of Stations	Inlet Port Size	Exhaust Port Size	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
100015093024001	MVSC1-150-5B2-NPT	2	(2) 1/8" FNPT	(4) 1/8" FNPT	PDF	PDF	\$11.00	0.41
100015093044001	MVSC1-150-5B4-NPT	4				PDF	\$17.00	0.64
100015093064001	MVSC1-150-5B6-NPT	6				PDF	\$23.00	0.87
100015093084001	MVSC1-150-5B8-NPT	8				PDF	\$29.00	1.11
100218091024001	MVSC1-180-3B2-NPT	2	(2) 1/4" FNPT	(4) 1/4" FNPT	PDF	PDF	\$19.00	0.33
100218091044002	MVSC1-180-3B4-NPT	4				PDF	\$27.00	0.55
100218091064001	MVSC1-180-3B6-NPT	6				PDF	\$32.00	0.77
100218091084001	MVSC1-180-3B8-NPT	8				PDF	\$42.00	0.99
100018093024002	MVSC1-180-5B2-NPT	2	(4) 1/4" FNPT	(4) 1/4" FNPT	PDF	PDF	\$9.50	0.32
100018093044002	MVSC1-180-5B4-NPT	4				PDF	\$17.00	0.53
100018093064002	MVSC1-180-5B6-NPT	6				PDF	\$24.50	0.75
100018093084002	MVSC1-180-5B8-NPT	8				PDF	\$34.00	0.97



MVSC1 - Accessories

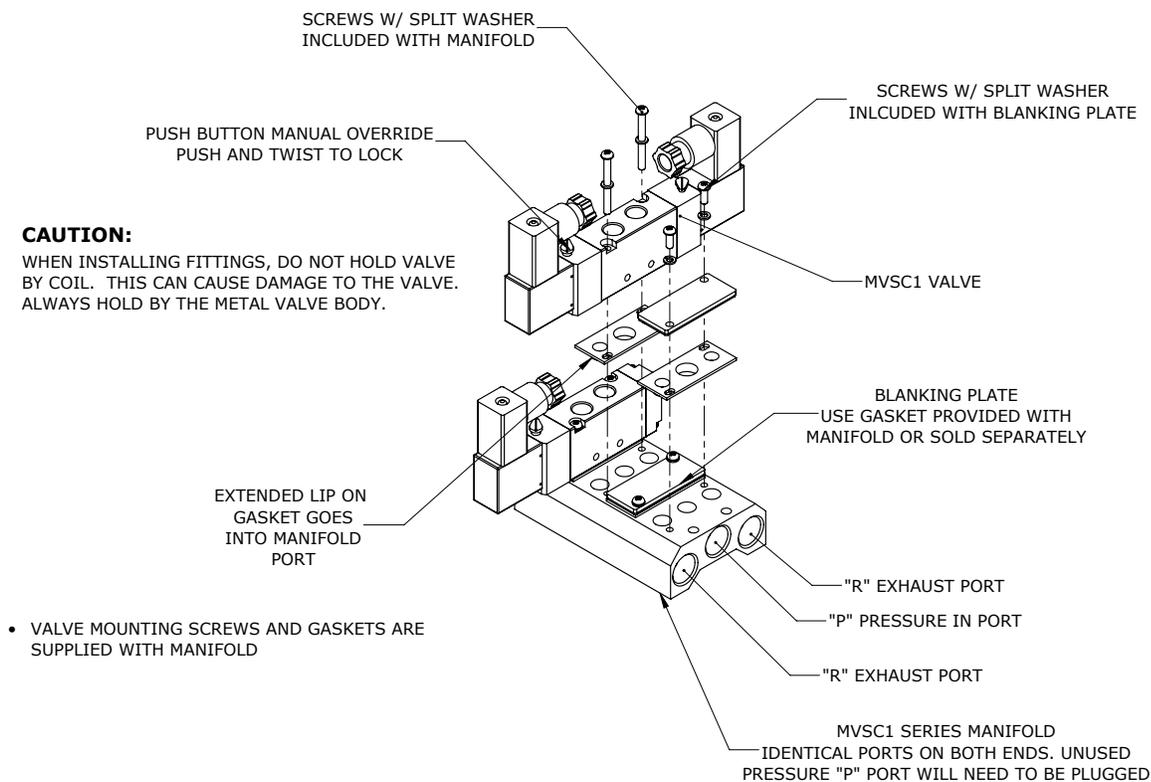


Part No. [100018091000002](#)



Part No. [MVSC180-5-SK](#)

MVSC1 - Accessories						
Part No.	Mfg. Part No.	Description	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
100015093000001	MVSC1-150-5P	Mindman blanking plate, plated steel. For use with MVSC1-150 series manifolds. Mounting screws included.	PDF	PDF	\$2.00	0.03
100018091000002	MVSC1-180-3P	Mindman blanking plate, plated steel. For use with MVSC1-180-3 series manifolds. Mounting screws included.	PDF	PDF	\$2.00	0.03
100018093000004	MVSC1-180-5P	Mindman blanking plate, plated steel. For use with MVSC1-180-5 series manifolds. Mounting screws included.		PDF	\$2.00	0.04
MVSC150-SK	N/A	Mindman seal kit, replacement. For use with MVSC1-150 series manifolds. Includes (4) gaskets and (8) screws.	N/A	N/A	\$6.25	0.03
MVSC180-3-SK		Mindman seal kit, replacement. For use with MVSC1-180-3 series manifolds. Includes (4) gaskets and (8) screws.			\$7.75	0.04
MVSC180-5-SK		Mindman seal kit, replacement. For use with MVSC1-180-5 series manifolds. Includes (4) gaskets and (8) screws.			\$6.25	0.05





MVSC - Series Solenoid Valves

The MVSC-220, MVSC-300, and MVSC-460 series are industrial solenoid valves designed for versatile pneumatic control applications with NPT threading. These series offer progressive flow capacities with 1/4", 3/8", and 1/2" port sizes to accommodate various system requirements. Available in 3-way and 4-way configurations with single and double solenoid options, plus specialized center position types (closed, pressure, exhaust) for enhanced control flexibility and support both 24 VDC and 110 VAC power options.



Part No. [100222015324006](#)

Features

- Scalable flow capacity: Three size options (220/300/460) provide a variety of effective orifices for applications ranging from compact systems to high-flow requirements
- Versatile control configurations: 3-way normally closed and 4-way options including single solenoid, double solenoid, plus center position variants (closed/pressure/exhaust) for precise application matching
- Fast response times: 30-50 ms actuation across the series with operating pressure ranges from 29-116 psi for reliable pneumatic control
- NPT threading with LED indication: All models feature NPT ports for North American standards compatibility and solenoid connectors with built-in LED indicators for instant valve status monitoring



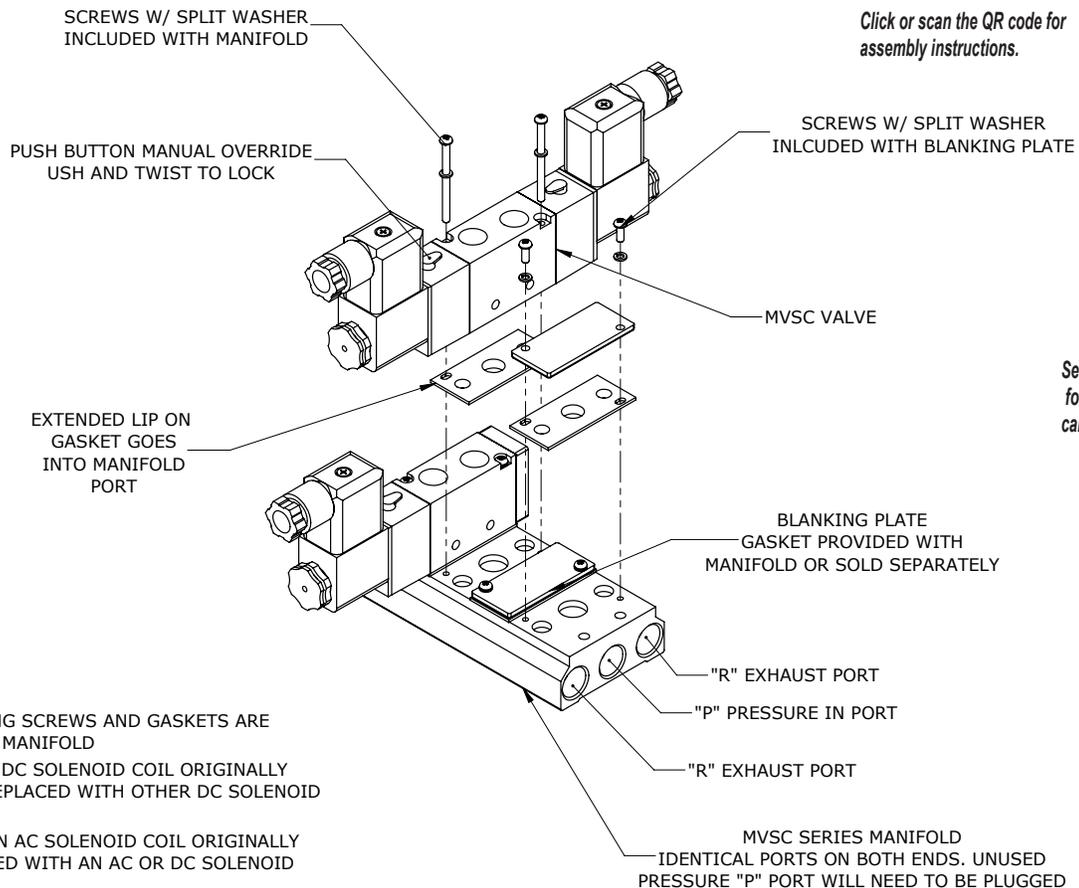
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Part No. [100246016524003](#)



Part No. [100246017324004](#)



Click or scan the QR code for assembly instructions.

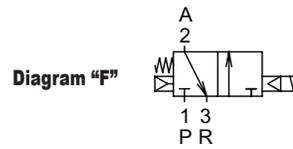
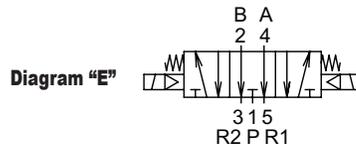
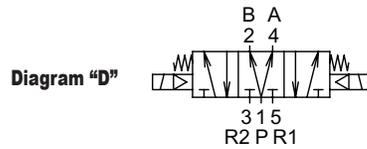
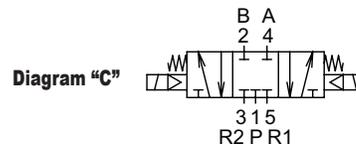
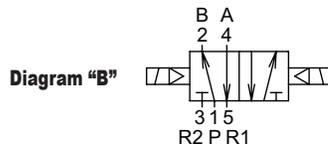
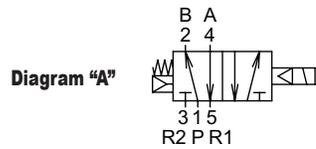


See www.AutomationDirect.com for a wide variety of fitting and cable options

- VALVE MOUNTING SCREWS AND GASKETS ARE SUPPLIED WITH MANIFOLD
- VALVES WITH A DC SOLENOID COIL ORIGINALLY CAN ONLY BE REPLACED WITH OTHER DC SOLENOID COILS.
- VALVES WITH AN AC SOLENOID COIL ORIGINALLY CAN BE REPLACED WITH AN AC OR DC SOLENOID COIL.



MVSC - Series Solenoid Valves

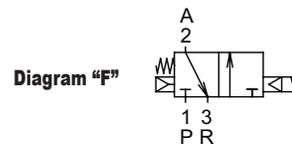
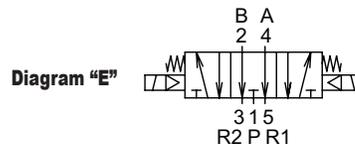
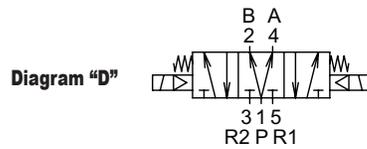
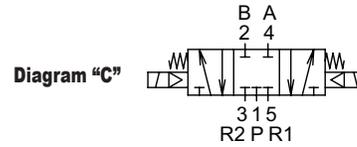
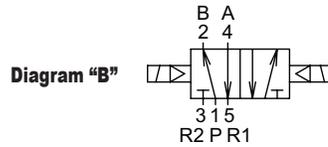
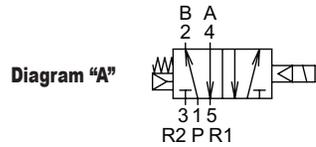


MVSC Series Solenoid Valves										
Part No.	100222033324004	100222033524003	100222015324006	100222015524004	100222016324002	100222016524003	100222017324001	100222018324001	100222019324004	
Mfg. Part No.	MVSC-220-3E1-NC-DC24-L-NPT	MVSC-220-3E1-NC-AC110-L-NPT	MVSC-220-4E1-DC24-L-NPT	MVSC-220-4E1-AC110-L-NPT	MVSC-220-4E2-DC24-L-NPT	MVSC-220-4E2-AC110-L-NPT	MVSC-220-4E2C-DC24-L-NPT	MVSC-220-4E2P-DC24-L-NPT	MVSC-220-4E2R-DC24-L-NPT	
Price	\$31.00	\$31.00	\$31.00	\$31.00	\$49.00	\$49.00	\$82.00	\$85.00	\$82.00	
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF	
Weight (lb)	0.44	0.43	0.48	0.48	0.74	0.73	0.79	0.79	0.79	
Manufacturer Specs	PDF									
Valve Type	3-port (3-way)			5-port (4-way)						
Positions	2			3						
Pneumatic Diagram	F		A			B		C	D	E
Operating Voltage	24 VDC	110 VAC	24 VDC	110 VAC	24 VDC	110 VAC	24 VDC	24 VDC	24 VDC	
Power Rating	2W	4.4 VA	2W	4.4 VA	2W	4.4 VA	2W	2W	2W	
Electrical Connection	11mm DIN style wiring plug									
Valve Configuration	N.C.		N/A				Center closed	Center pressure	Center exhaust	
Acting	Single solenoid spring return				Double solenoid					
Inlet Port Size	1/4" FNPT			1/4" FNPT						
Outlet Port Size	1/4" FNPT			(2) 1/4" FNPT						
Exhaust	1/4" FNPT			(2) 1/8" FNPT						
Flow (Cv)	1	1	1	1	1	1	0.89	0.89	0.89	
Media	Filtered air without lubrication; lubrication, if used, must be continuous									
Min. Operating Pressure	29 psi						44 psi			
Max. Operating Pressure	116 psi									
Temperature	23 to 122 °F (-5 to +50 °C)									
Lubrication	ISO VG32 or equivalent									
Life Cycle	10 Million cycles									

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC - Series Solenoid Valves

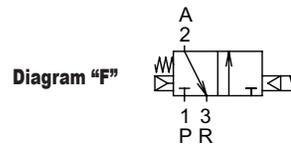
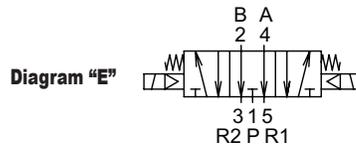
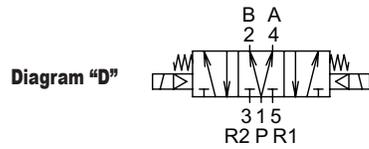
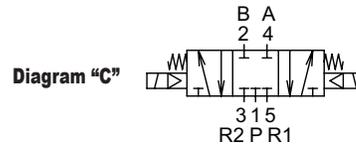
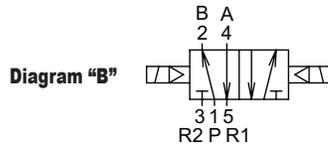
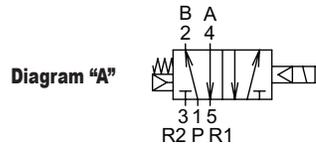


MVSC Series Solenoid Valves								
Part No.	100222019524002	100230033324003	100230033524003	100230015324005	100230015524004	100230016324003	100230016524003	100230017324003
Mfg. Part No.	MVSC-220-4E2R-AC110-L-NPT	MVSC-300-3E1-NC-DC24-L-NPT	MVSC-300-3E1-NC-AC110-L-NPT	MVSC-300-4E1-DC24-L-NPT	MVSC-300-4E1-AC110-L-NPT	MVSC-300-4E2-DC24-L-NPT	MVSC-300-4E2-AC110-L-NPT	MVSC-300-4E2C-DC24-L-NPT
Price	\$85.00	\$44.00	\$44.00	\$43.00	\$43.00	\$61.00	\$62.00	\$109.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	0.78	0.77	0.76	0.76	0.76	1.06	1.06	1.19
Manufacturer Specs	PDF		PDF					
Valve Type	5-port (4-way)	3-port (3-way)		5-port (4-way)				
Positions	3	2			3			
Pneumatic Diagram	E	F		A		B		C
Operating Voltage	110 VAC	24 VDC	110 VAC	24 VDC	110 VAC	24 VDC	110 VAC	24 VDC
Power Rating	4.4 VA	2W	4.4 VA	2W	4.4 VA	2W	4.4 VA	2W
Electrical Connection	11mm DIN style wiring plug							
Valve Configuration	Center exhaust	N.C.		N/A			Center closed	
Acting	Double solenoid	Single solenoid spring return				Double solenoid		
Inlet Port Size	1/4" FNPT	3/8" FNPT		3/8" FNPT				
Outlet Port Size	(2) 1/4" FNPT	3/8" FNPT		(2) 3/8" FNPT				
Exhaust	(2) 1/8" FNPT	3/8" FNPT		(2) 3/8" FNPT				
Flow (Cv)	0.89	1.67	1.67	1.94	1.94	1.94	1.94	1.39
Media	Filtered air without lubrication; lubrication, if used, must be continuous							
Min. Operating Pressure	44 psi	29 psi					44 psi	
Max. Operating Pressure	116 psi							
Temperature	23 to 122 °F (-5 to +50 °C)							
Lubrication	ISO VG32 or equivalent							
Life Cycle	10 Million cycles							

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC - Series Solenoid Valves

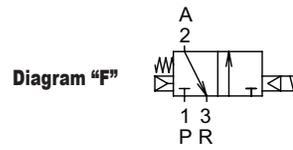
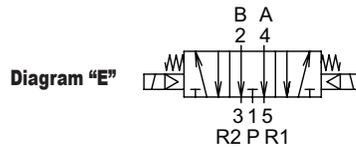
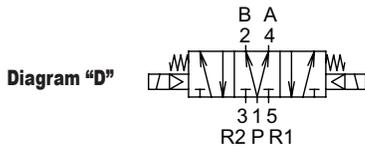
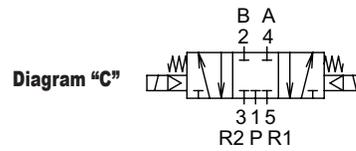
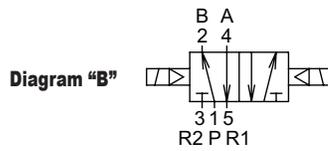
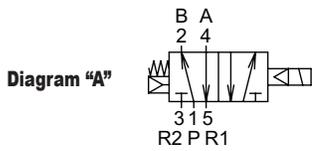


MVSC Series Solenoid Valves								
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Mfg. Part No.	MVSC-300-4E2C-AC110-L-NPT	MVSC-300-4E2P-DC24-L-NPT	MVSC-300-4E2P-AC110-L-NPT	MVSC-300-4E2R-DC24-L-NPT	MVSC-300-4E2R-AC110-L-NPT	MVSC-460-3E1-NC-DC24-L-NPT	MVSC-460-3E1-NC-AC110-L-NPT	MVSC-460-4E1-DC24-L-NPT
Price	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$57.00	\$60.00	\$57.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	1.19	1.19	1.19	1.20	1.18	0.78	0.77	0.83
Manufacturer Specs	PDF					PDF		
Valve Type	5-port (4-way)					3-port (3-way)		5-port (4-way)
Positions	3					2		
Pneumatic Diagram	C	D		E		F		A
Operating Voltage	110 VAC	24 VDC	110 VAC	24 VDC	110 VAC	24 VDC	110 VAC	24 VDC
Power Rating	4.4 VA	2W	4.4 VA	2W	4.4 VA	2W	4.4 VA	2W
Electrical Connection	11mm DIN style wiring plug							
Valve Configuration	Center closed	Center pressure		Center exhaust		N.C.		N/A
Acting	Double solenoid					Single solenoid spring return		
Inlet Port Size	3/8" FNPT					1/2" FNPT		1/2" FNPT
Outlet Port Size	(2) 3/8" FNPT					1/2" FNPT		(2) 1/2" FNPT
Exhaust	(2) 3/8" FNPT					1/2" FNPT		(2) 1/2" FNPT
Flow (Cv)	1.39	1.39	1.39	1.39	1.39	3.33	3.33	2.78
Media	Filtered air without lubrication; lubrication, if used, must be continuous							
Min. Operating Pressure	44 psi					29 psi		
Max. Operating Pressure	116 psi							
Temperature	23 to 122 °F (-5 to +50 °C)							
Lubrication	ISO VG32 or equivalent							
Life Cycle	10 Million cycles							

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC - Series Solenoid Valves



MVSC Series Solenoid Valves																		
Part No.	100246015524004		100246016324004		100246016524003		100246017324004		100246017524002		100246018324001		100246018524002		100246019324002			
Mfg. Part No.	MVSC-460-4E1- AC110-L-NPT		MVSC-460-4E2- DC24-L-NPT		MVSC-460-4E2- AC110-L-NPT		MVSC-460-4E2C- DC24-L-NPT		MVSC-460-4E2C- AC110-L-NPT		MVSC-460-4E2P- DC24-L-NPT		MVSC-460-4E2P- AC110-L-NPT		MVSC-460-4E2R- DC24-L-NPT			
Price	\$57.00		\$84.00		\$84.00		\$111.00		\$111.00		\$115.00		\$115.00		\$115.00			
Drawing Link	PDF		PDF		PDF		PDF		PDF		PDF		PDF		PDF			
Weight (lb)	0.82		1.12		1.11		1.26		1.24		1.26		1.25		1.25			
Manufacturer Specs	PDF																	
Valve Type	5-port (4-way)																	
Positions	2						3											
Pneumatic Diagram	A			B			C			D			E					
Operating Voltage	110 VAC			24 VDC			110 VAC			24 VDC			110 VAC			24 VDC		
Power Rating	4.4 VA			2W			4.4 VA			2W			4.4 VA			2W		
Electrical Connection	11mm DIN style wiring plug																	
Valve Configuration	N/A						Center closed						Center pressure			Center exhaust		
Acting	Single solenoid spring return			Double solenoid														
Inlet Port Size	1/2" FNPT																	
Outlet Port Size	(2) 1/2" FNPT																	
Exhaust	(2) 1/2" FNPT																	
Flow (Cv)	2.78		2.78		2.78		1.67		1.67		1.67		1.67		1.67			
Media	Filtered air without lubrication; lubrication, if used, must be continuous																	
Min. Operating Pressure	29 psi						44 psi											
Max. Operating Pressure	116 psi																	
Temperature	23 to 122 °F (-5 to +50 °C)																	
Lubrication	ISO VG32 or equivalent																	
Life Cycle	10 Million cycles																	

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC - Valve Manifolds



Part No. [100222093024002](#)

MVSC manifolds fit MVSC valves. Available in 2 to 8 stations with blanking plates sold separately.

Features

- Made from aluminum
- All manifolds include valve mounting screws and gaskets

Screws and gaskets included with manifolds.



Part No. [100246091084001](#)



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

MVSC - Valve Manifolds								
Part No.	Mfg. Part No.	Number of Stations	Inlet Port Size	Exhaust Port Size	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
100222091024002	MVSC-220-3B2-NPT	2	(2) 1/4" FNPT	(2) 1/4" FNPT	PDF	PDF	\$17.50	0.45
100222091044002	MVSC-220-3B4-NPT	4				PDF	\$30.50	0.71
100222091064001	MVSC-220-3B6-NPT	6				PDF	\$43.00	0.97
100222091084002	MVSC-220-3B8-NPT	8				PDF	\$56.00	1.25
100222093024002	MVSC-220-5B2-NPT	2	(4) 1/4" FNPT	(4) 1/4" FNPT		PDF	\$12.50	0.44
100222093044002	MVSC-220-5B4-NPT	4				PDF	\$23.00	0.72
100222093064002	MVSC-220-5B6-NPT	6				PDF	\$36.00	1.02
100222093084002	MVSC-220-5B8-NPT	8				PDF	\$48.00	1.31

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC - Valve Manifolds

MVSC - Valve Manifolds								
Part No.	Mfg. Part No.	Number of Stations	Inlet Port Size	Exhaust Port Size	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
100230091024001	MVSC-300-3B2-NPT	2	(2) 3/8" FNPT	(2) 3/8" FNPT	PDF	PDF	\$19.00	0.68
100230091044001	MVSC-300-3B4-NPT	4				PDF	\$35.00	1.21
100230091064001	MVSC-300-3B6-NPT	6				PDF	\$52.00	1.73
100230091084001	MVSC-300-3B8-NPT	8				PDF	\$66.00	2.26
100030093024002	MVSC-300-5B2-NPT	2		(4) 3/8" FNPT		PDF	\$17.00	0.54
100030093044001	MVSC-300-5B4-NPT	4				PDF	\$34.00	0.95
100030093064002	MVSC-300-5B6-NPT	6				PDF	\$51.00	1.37
100030093084001	MVSC-300-5B8-NPT	8				PDF	\$68.00	1.78
100246091024002	MVSC-460-3B2-NPT	2	(2) 1/2" FNPT	(2) 1/2" FNPT	PDF	PDF	\$27.00	0.82
100246091044002	MVSC-460-3B4-NPT	4				PDF	\$49.00	1.46
100246091064001	MVSC-460-3B6-NPT	6				PDF	\$71.00	2.10
100246091084001	MVSC-460-3B8-NPT	8				PDF	\$92.00	2.73
100246093024002	MVSC-460-5B2-NPT	2		(4) 1/2" FNPT		PDF	\$24.00	0.84
100246093044002	MVSC-460-5B4-NPT	4				PDF	\$36.00	1.49
100246093064001	MVSC-460-5B6-NPT	6				PDF	\$52.00	2.19
100246093084001	MVSC-460-5B8-NPT	8				PDF	\$66.00	2.83

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVSC - Accessories

Part No. [100222093000007](#)Part No. [100246091000002](#)Part No. [MVSE300-5-SK](#)

MVSC - Accessories						
Part No.	Mfg. Part No.	Description	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
100222091000003	MVSC-220-3P	Mindman blanking plate, plated steel. For use with MVSC-220-3 series manifolds. Mounting screws included.	PDF	PDF	\$2.00	0.04
100222093000007	MVSC-220-5P	Mindman blanking plate, plated steel. For use with MVSC-220-5 series manifolds. Mounting screws included.		PDF	\$2.00	0.05
100230091000003	MVSC-300-3P	Mindman blanking plate, plated steel. For use with MVSC-300-3 series manifolds. Mounting screws included.	PDF	PDF	\$2.00	0.07
100030093000005	MVSC-300-5P	Mindman blanking plate, plated steel. For use with MVSC-300-5 series manifolds. Mounting screws included.		PDF	\$2.00	0.09
100246091000002	MVSC-460-3P	Mindman blanking plate, plated steel. For use with MVSC-460-3 series manifolds. Mounting screws included.	PDF	PDF	\$2.00	0.07
100246093000004	MVSC-460-5P	Mindman blanking plate, plated steel. For use with MVSC-460-5 and MVSE-500-5 series manifolds. Mounting screws included.		PDF	\$2.00	0.19
MVSC220-3-SK	N/A	Mindman seal kit, replacement. For use with MVSC-220-3 series manifolds. Includes (4) gaskets and (8) screws.	N/A	N/A	\$7.75	0.05
MVSC220-5-SK		Mindman seal kit, replacement. For use with MVSC-220-5 series manifolds. Includes (4) gaskets and (8) screws.			\$6.25	0.05
MVSC300-3-SK		Mindman seal kit, replacement. For use with MVSC-300-3 series manifolds. Includes (4) gaskets and (8) screws.			\$7.75	0.10
MVSC300-5-SK		Mindman seal kit, replacement. For use with MVSC-300-5 series manifolds. Includes (4) gaskets and (8) screws.			\$7.75	0.10
MVSC460-3-SK		Mindman seal kit, replacement. For use with MVSC-460-3 series manifolds. Includes (4) gaskets and (8) screws.			\$12.50	0.10
MVSC460-5-SK		Mindman seal kit, replacement. For use with MVSC-460-5 series manifolds. Includes (4) gaskets and (8) screws.			\$9.50	0.10
MVSE300-5-SK		Mindman seal kit, replacement. For use with MVSE-300-5 series manifolds. Includes (12) O-rings, (8) lock washers and (8) screws.			\$6.50	0.05
MVSE500-5-SK		Mindman seal kit, replacement. For use with MVHB-500-5 series manifolds. Includes (4) gaskets and (8) screws.			\$9.50	0.11

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).


Mindman Spare Coils


Mindman spare coils fit MVDC and MVSC valves. Coils on 110 VAC valves can be replaced with either AC or DC coils. Coils on 24 VDC valves can only be replaced with DC coils.

Part No. [200222000200001](#)

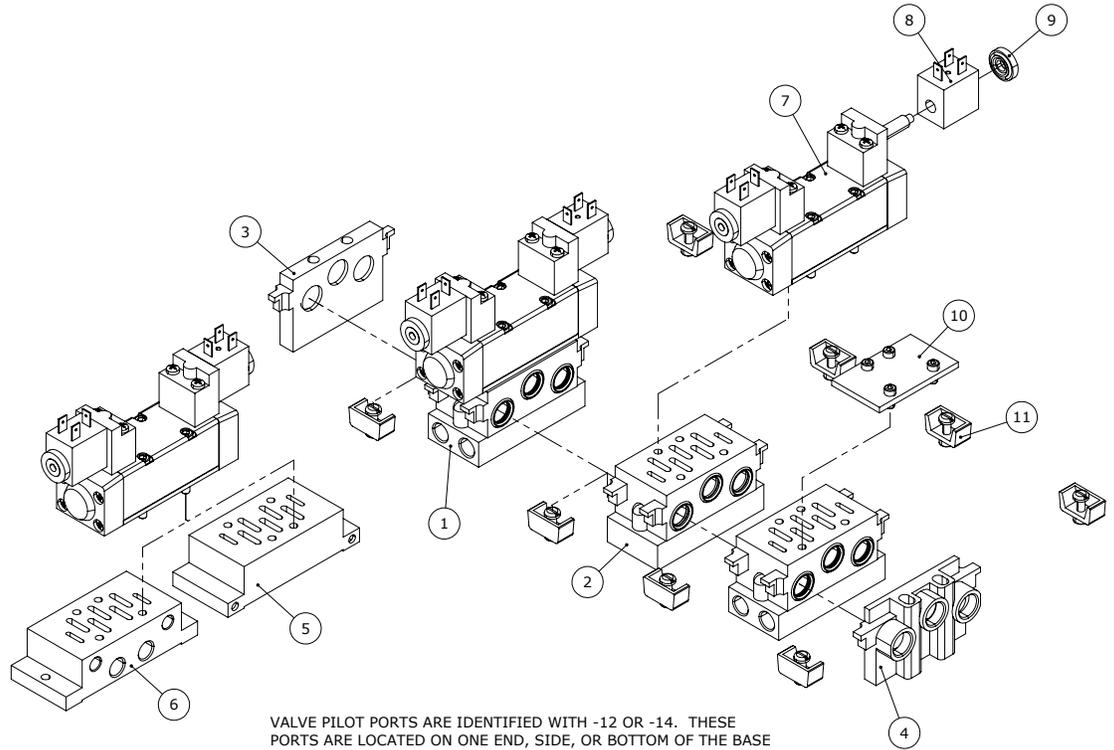
Spare Coils						
Part No.	Mfg. Part No.	Description	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
200222000200001	N/A	Mindman solenoid coil, 12 VDC, 2.5W, 11mm DIN style wiring plug. For use with MVDC and MVSC series solenoid valves.	PDF	PDF	\$9.50	0.13
200222000300001		Mindman solenoid coil, replacement, 24 VDC, 2W, 11mm DIN style wiring plug. For use with MVDC and MVSC series solenoid valves.		PDF	\$9.50	0.14
200222000400001		Mindman solenoid coil, 24 VAC, 5.4 VA, 11mm DIN style wiring plug. For use with MVDC and MVSC series solenoid valves.		PDF	\$9.50	0.14
200222000500001		Mindman solenoid coil, replacement, 110 VAC, 4.4 VA, 11mm DIN style wiring plug. For use with MVDC and MVSC series solenoid valves.		PDF	\$9.50	0.13



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.

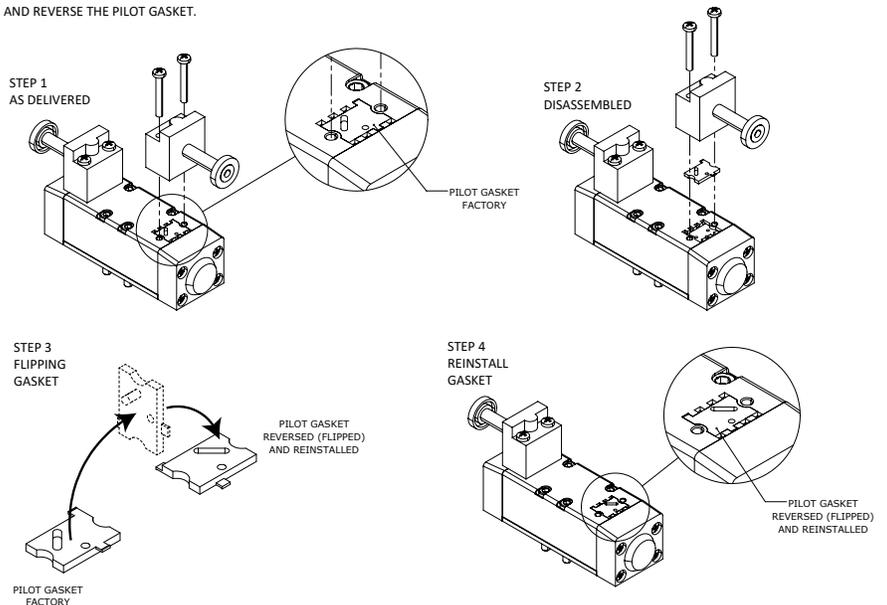
ISO 5599 Manifolds/ Bases/Valves	
1	Manifold Side Orientation
2	Manifold Bottom Orientation
3	Manifold Blind End Plate
4	Manifold Inlet
5	Stand Alone Base Bottom Orientation
6	Stand Alone Base Side Orientation
7	Solenoid Valve
8	Solenoid Coil
9	Coil Nut
10	Manifold Blank Plate
11	Manifold Attaching Kit



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

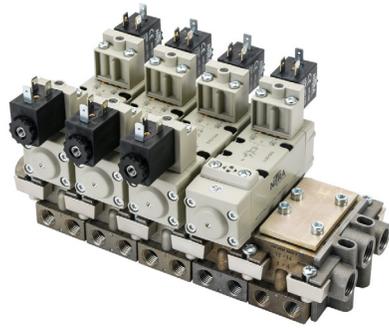
- Determine if bottom or side ports are needed.
- Join manifold sections with included clamps.
- Add inlet plate(s) and blind end plate (if needed).
- Install valves on the manifold sections. Blanking plates are available for unused stations.
- Install solenoid coils in desired voltage.
- Connect solenoids 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					12 mm				
Sonic Conductance (C)	250 NI/min • bar (36.5 scfm/psi)					657.14 NI/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 NI/min (24.7 scfm)					1800 NI/min (63.6 scfm)				
Flow Rate at 6 bar @ delta-P 1 bar (87 psi @ delta-P 15 psi)	1100 NI/min (38.8 scfm)					2700 NI/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	22 mm Form B in Accordance with EN 175301-803-B (11 mm pin width)									
Max. Coil Nut Torque	1 Nm / 9 lb-in									
Approvals	N/A									



ISO 5599 Solenoid Valves

ISO 5599 Valve Diagrams

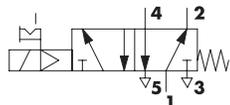


Diagram "A"

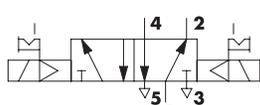


Diagram "B"

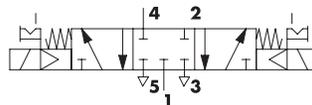


Diagram "C"

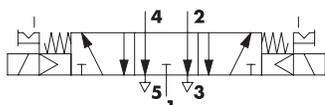


Diagram "D"

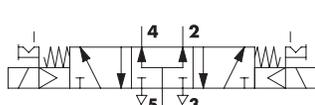
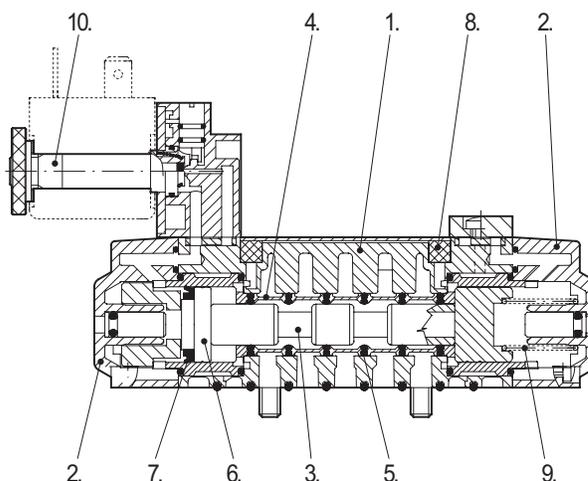


Diagram "E"

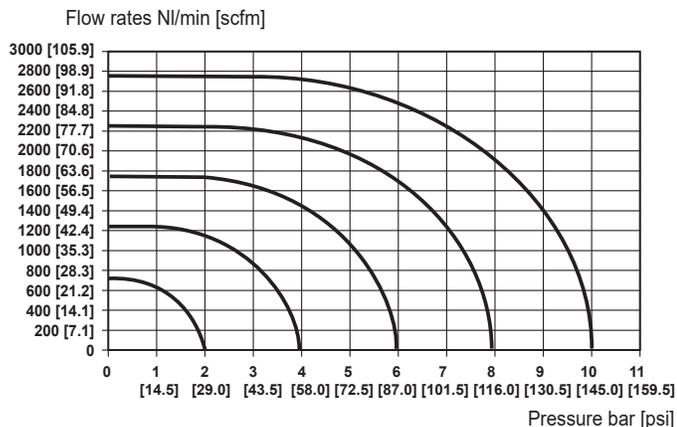
ISO 5599 Valve Components

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

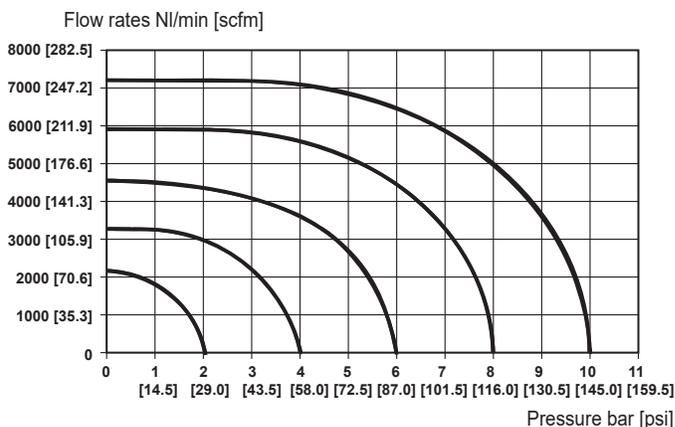


ISO 5599 Valve Flow Charts

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



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



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.

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



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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
	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
	HM-2N		1/2 in female NPT			0.45	\$15.50	PDF
	HM-2SG		G3/8 female BSPP	Side		0.69	\$35.50	PDF
	HM-2SN		3/8 in female NPT			0.69	\$35.50	PDF
	HM-2BG		3/8 in female NPT	Bottom		1.11	\$35.50	PDF
	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
	HM-2B	NITRA blind end, aluminum alloy. For use with ISO 5599/1 size 2 manifolds.	0.29	\$10.00	PDF
	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
	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 11 mm DIN style connector



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



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

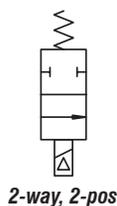


Process Pipeline Solenoid Valves

DVD-2A Series

Part No. **DVD-2AC3A-24D**

Valve
Symbol



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 230 psi. 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
- 24 VDC, 24 VAC, or 120 VAC solenoids
- DIN style wiring connector



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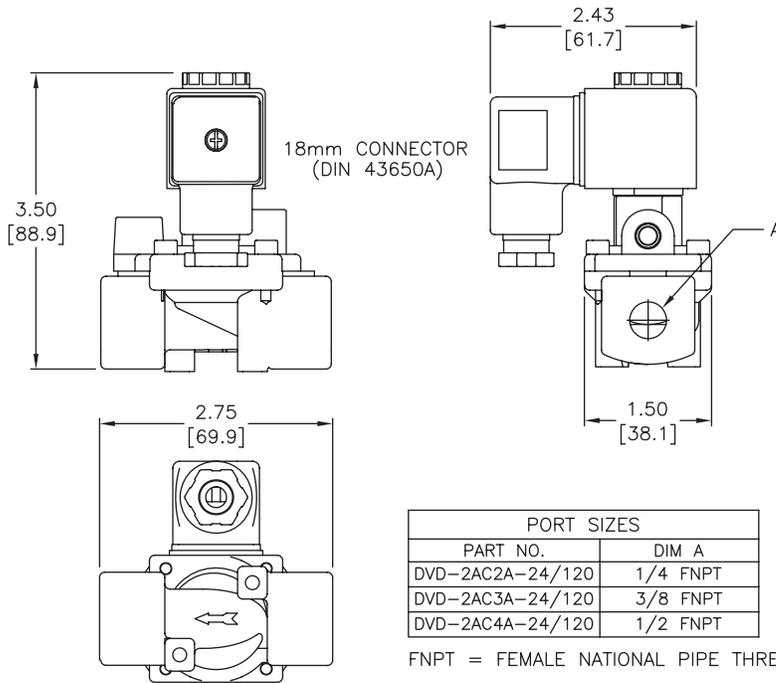
DVD-2A Series Solenoid Valve Specifications									
Model	DVD-2AC2A-24D	DVD-2AC2A-24A	DVD-2AC2A-120A	DVD-2AC3A-24D	DVD-2AC3A-24A	DVD-2AC3A-120A	DVD-2AC4A-24D	DVD-2AC4A-24A	DVD-2AC4A-120A
Price	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00
Weight (lbs)	1.1	1.1	1.1	1.1	1.1	1.1	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%)	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz
Inrush AC	–	10.5 VA		–	10.5 VA		–	10.5 VA	
Power Consumption	10 W	8 VA		10 W	8 VA		10 W	8 VA	
Max Freq	12.5 Hz								
Insulation	Class F (continuous duty)								
Min Response	20–80 ms complete cycle								
Temperature	Max fluid 194 °F (90 °C); Ambient 14 to 122 °F (-10 to +50 °C)								
Lubrication	Not required								
Protection	NEMA Type 4								
Connection	18 mm 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.	\$10.50	0.1

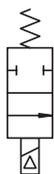


Part No. DVD-1VSEAL



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
- 24 VDC, 24 VAC, or 120 VAC 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	\$58.00	\$58.00	\$58.00	\$58.00	\$58.00	\$58.00	\$58.00	\$58.00	\$58.00	\$122.00	\$122.00	\$122.00	\$122.00
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%)	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	120 VAC 50/60 Hz	24 VDC	120 VAC 50/60 Hz
Inrush AC	-	10 VA		-	10 VA		-	10 VA		-	8 VA	-	8 VA
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
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 to 122 °F [-10 to +50 °C]												
Lubrication	Not required												
Protection	NEMA Type 4												
Connection	11 mm DIN terminal									18 mm 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

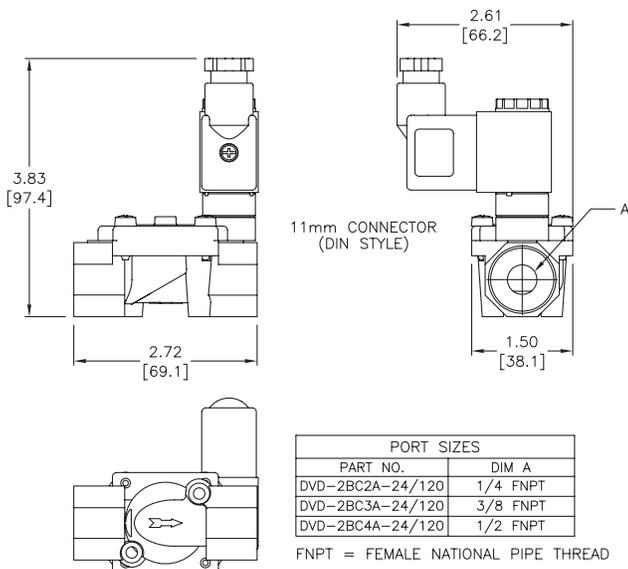


Process Pipeline Solenoid Valves DVD-2B Series

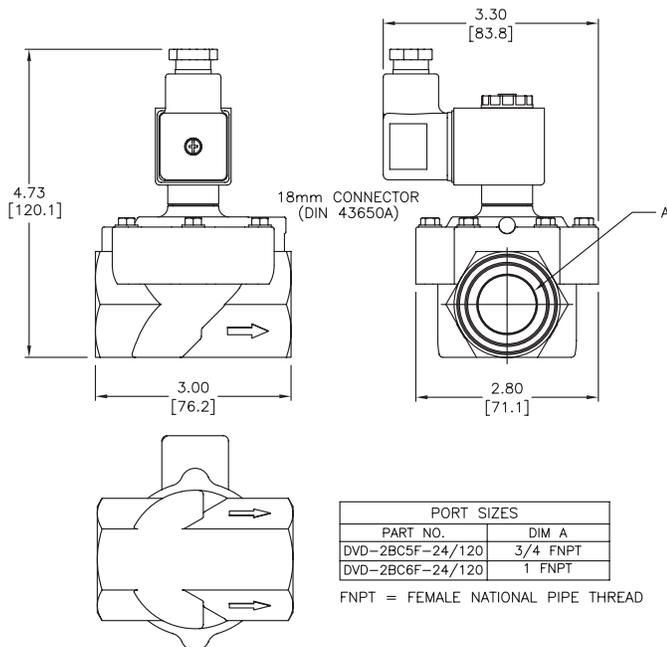
Dimensions

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.	\$10.50	0.1
DVD-3VSEAL	Seal kit, replacement, Viton, for DVD-2BC5F or DVD-2BC6F series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.	\$29.00	0.6



Part No. DVD-2VSEAL



Part No. DVD-3VSEAL



Process Pipeline Solenoid Valves

DVP-2C & DVP-3C Series

Part No. **DVP-2CC1C-24A**

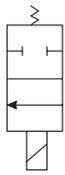
The NITRA™ DVP-2C and DVP-3C Series valves can be stacked into a multiple output bank of solenoid valves. The DVP-2C and 3C valves feature a fully encapsulated coil, spring compensated plunger seats for long life, and a miniature stackable composite valve body. The advantage to this design

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.

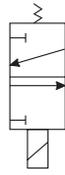
Features

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

Valve Symbols



2-way, 2-pos, NC



3-way, 2-pos, NC



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



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	\$29.50	\$29.50	\$29.50	\$29.50	\$29.50	\$29.50
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 (± 10%)	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz
Inrush AC	-	10 VA		-	10 VA	
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 to 122 °F [-10 to +50 °C]					
Lubrication	Not required					
Protection	NEMA Type 4					
Connection	11 mm 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.

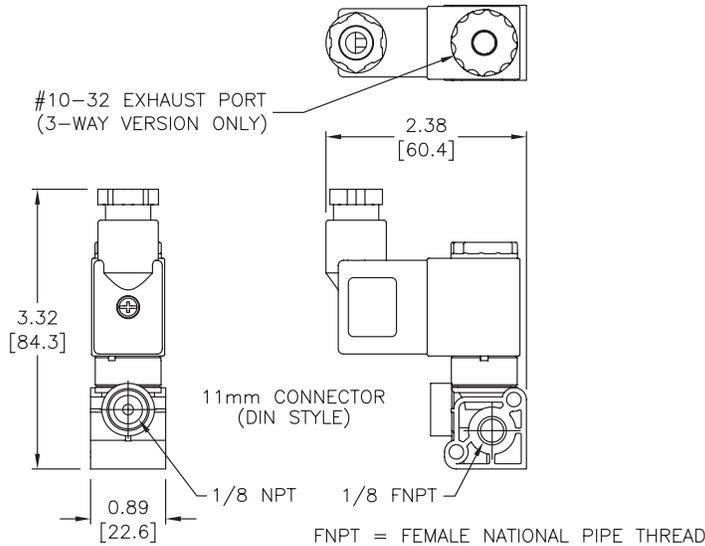


Process Pipeline Solenoid Valves

DVP-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)
<u>DVP-2BKT</u>	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.	\$5.75	0.1
<u>DVP-3BKT</u>	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.	\$7.75	0.1
<u>DVP-4BKT</u>	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.	\$9.50	0.1
<u>DVP-5BKT</u>	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.	\$11.50	0.1
<u>DVP-6BKT</u>	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.	\$14.00	0.1



Part No. DVP-4BKT



Process Pipeline Solenoid Valves

DVP-2B & DVP-3B Series

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

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.

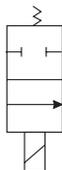
Features

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



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

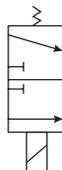
Valve Symbols



2-way, 2-pos, NC



3-way, 2-pos, NC



3-way, 2-pos, Mixing



3-way, 2-pos, Diverting

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	\$29.50		\$29.50		\$29.50		\$31.00		\$31.00		\$31.00	
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	0.08						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 (±10%)	24 VDC		24 VAC 50/60 Hz		120 VAC 50/60 Hz		24 VDC		24 VAC 50/60 Hz		120 VAC 50/60 Hz	
Inrush AC	–		10 VA				–		10 VA			
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 to 122 °F [-10 to +50 °C]											
Lubrication	Not Required											
Protection	NEMA Type 4											
Connection	11 mm 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.

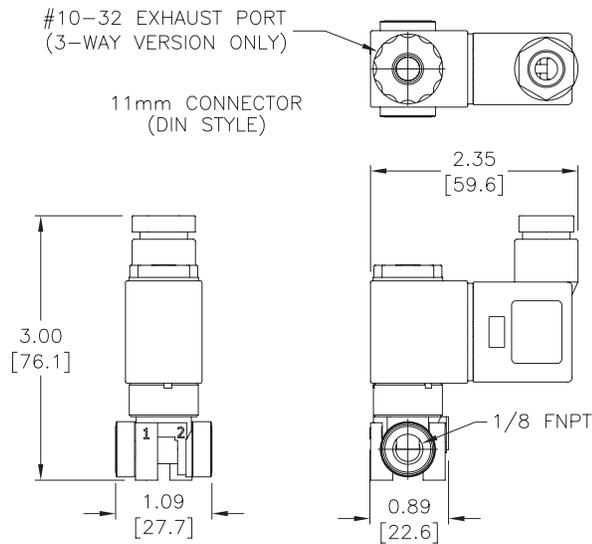


Process Pipeline Solenoid Valves

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

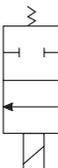
Part No. **DVP-2DC1D-24D**

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 24 VDC, 24 VAC or 120 VAC 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
- 24 VDC, 24 VAC or 120 VAC solenoids
- DIN style wiring connector

Valve Symbols



2-way, 2-pos, NC

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	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00
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%)	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz
Inrush AC	-	26 VA		-	26 VA		-	26 VA	
Power Consumption	10W	11.5 VA		10W	11.5 VA		10W	11.5 VA	
Max Freq	25 Hz								
Insulation	Class F (continuous duty)								
Min Response	16-40 ms								
Temperature	14 to 122 °F [-10 to +50 °C]								
Lubrication	Not Required								
Protection	NEMA Type 4								
Connection	18 mm DIN terminal								
Construction	Glass filled nylon body; Viton seals; Operator Stainless Steel								
Life Cycle	10 million								
Agency Approvals	CE								

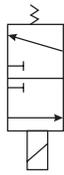
* Check the chemical compatibility of the valve materials with the process media being used.



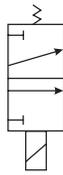
Process Pipeline Solenoid Valves

DVP-2D & DVP-3D Series

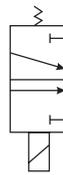
Valve Symbols



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-3DC3F-24D	DVP-3DC3F-24A	DVP-3DC3F-120A
Price	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00	\$53.00
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%)	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz
Inrush AC	-	26 VA		-	26 VA		-	26 VA	
Power Consumption	10 W	11.5 VA		10 W	11.5 VA		10 W	11.5 VA	
Max Freq	25Hz								
Insulation	Class F (continuous duty)								
Min Response	16-40 ms								
Temperature	14 to 122 °F [-10 to +50 °C]								
Lubrication	Not Required								
Protection	NEMA Type 4								
Connection	18 mm 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.

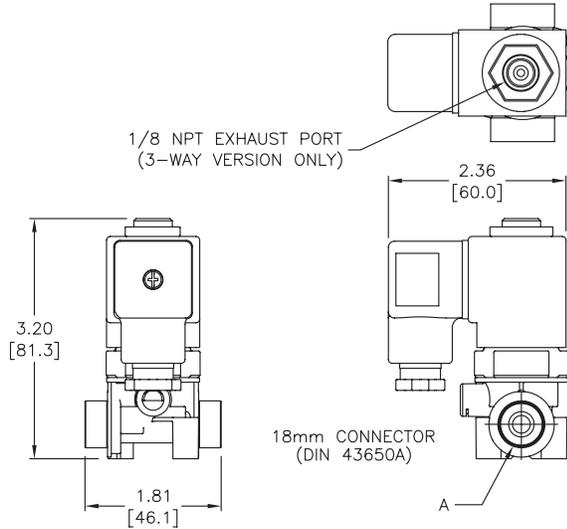


Process Pipeline Solenoid Valves

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



The Nitra DVM-2B Series valves are media separated, dry operator, 2-way, 2-position solenoid operated valves for use with gases or fluids where the metal working components of the valves do not come into contact with the working fluid. Three orifice

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 24 VDC, 24 VAC or 120 VAC are available.

Features

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

Part No. **DVM-2BC2E-24D**

Valve Symbols



2-way, 2-pos, NC



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	\$58.00	\$58.00	\$58.00	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00
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 120 psi [-0.5 to 8.3 bar]	15" Hg (mercury) to 120 psi [-0.5 to 8.3 bar]		15" Hg (mercury) to 45 psi [-0.5 to 3.1 bar]	15" Hg (mercury) to 45 psi [-0.5 to 3.1 bar]	15" Hg (mercury) to 55 psi [-0.5 to 3.8 bar]
Maximum Allowable Back Pressure	20psi regardless of voltage								
Voltage (±10%)	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz
Inrush AC	-	10 VA		-	10.5 VA		-	26 VA	
Power Consumption	6.5 W	8.5 VA		10 W	9 VA		10 W	9 VA	
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 to 131 °F [-10 to +55 °C]			14 to 122 °F [-10 to +50 °C]					
Lubrication	Not required								
Protection	NEMA Type 4								
Connection	11 mm DIN terminal			18 mm 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	<u>DVM-2BC3E-24D</u>	<u>DVM-2BC3E-24A</u>	<u>DVM-2BC3E-120A</u>	<u>DVM-2BC3G-24D</u>	<u>DVM-2BC3G-24A</u>	<u>DVM-2BC3G-120A</u>
Price	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00	\$93.00
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 120 psi [0.04–8.3 bar]	15" vacuum to 120 psi [0.04–8.3 bar]		15" vacuum to 45 psi [0.04–3.1 bar]	15" vacuum to 55 psi [0.04–3.8 bar]	15" vacuum to 45 psi [0.04–3.1 bar]
Maximum Allowable Back Pressure	20psi regardless of voltage					
Voltage (± 10%)	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz	24 VDC	24 VAC 50/60 Hz	120 VAC 50/60 Hz
Inrush AC	–	26 VA		–	26 VA	
Power Consumption	10 W	11.5 VA		10 W	11.5 VA	
Max Freq	38.5 Hz					
Insulation	Class F (continuous duty)					
Min Response	18–26 ms complete cycle					
Temperature	14 to 122 °F [-10 to +50 °C]					
Lubrication	Not required					
Protection	NEMA Type 4					
Connection	18 mm 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.



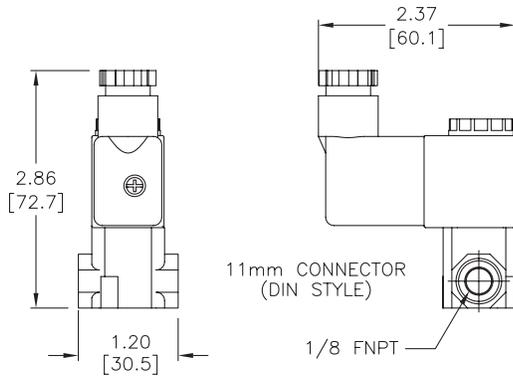
Process Pipeline Solenoid Valves

DVM-2B Series

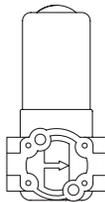
Dimensions

inches [mm]

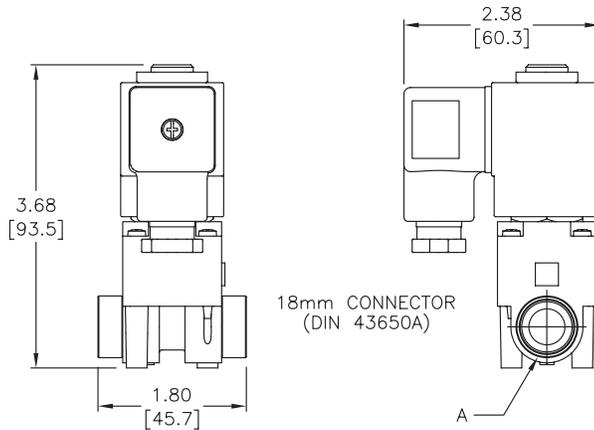
DVM-2BC1B-XX



FNPT = FEMALE NATIONAL PIPE THREAD

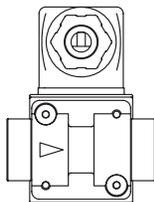


DVM-2BCXX



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



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

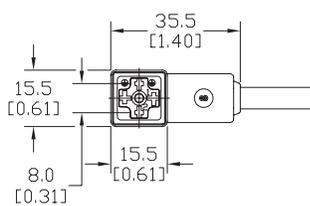
Features

- 8 mm, 9.4 mm, 10 mm, 11 mm and 18 mm square DIN styles
- Fits most popular solenoid valves and sensors
- Suppression and LED indication available in 24 V or 110 V 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)



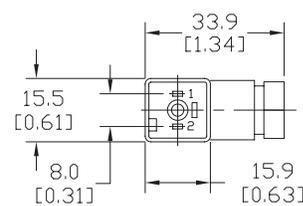
8mm Connectors

Dimensions shown
mm [inches]



Height = 25mm [0.98in]

Connector with Cable



Height = 26mm [1.02]

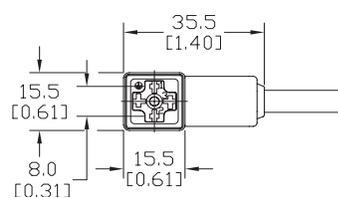
Field Wireable Connector

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 ±20%	max 4 A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2 W)	1	m2.5-0.45 x 25 mm / 0.4 Nm (3.5 in lb)	0.40	CSA (080128-0-000)
SC8-LS24-5	\$20.50										0.65	
SC8-LS110-3	\$20.50	110 ±10%	max 6 A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.20 to 0.24	no	none	7	m2.5-0.45 x 25 mm / 0.5 Nm (4.4 in lb)	0.41	
SC8-LS110-5	\$24.00										0.63	
SC8-3	\$13.50	230	max 6 A	67	18 AWG	0.23	no	none	2	m2.5-0.45 x 25 mm / 0.5 Nm (4.4 in lb)	0.39	none
SC8-0	\$9.25										0.10	
SC8-1	\$18.00										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

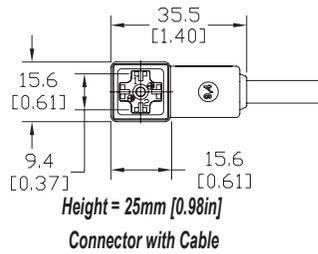
8mm (4-pole) Connectors (per DIN 43650 Form C)												
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC8-5T	\$26.00	230	max 6 A	67	18 AWG	0.26	yes	none	8	m3-0.5 x 42 mm / 0.5 Nm (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

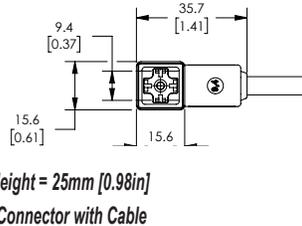
Dimensions shown
mm [inches]



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 4 A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2 W)	1	m3-0.5 x 26 mm / 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 2 W)	7		0.64		
SC9-LS110-3	\$20.50	110 ±10%	max 6 A				no	none	2	m3-0.5 x 26 mm / 0.5 Nm (4.4 in lb)	0.40		none
SC9-LS110-5	\$24.00										0.64		
SC9-3	\$13.50	230	max 6 A				no	none	2	m3-0.5 x 26 mm / 0.5 Nm (4.4 in lb)	0.40	none	
SC9-5	\$19.50										0.64		

9.4mm Connectors

Dimensions shown
mm [inches]

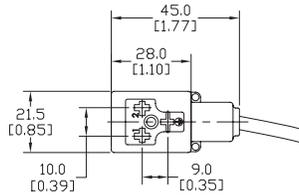


9.4mm (4-pole) Connectors (DIN Style, Form C Industrial)													
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia.	Cable Length	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
7000-94141-6270300	\$22.00	230 VAC/ VDC	max 6 A	IP67	18 AWG	5.6-6.2 mm	9.8ft/3m	no	none	8	m3-0.5 x 26 mm / 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

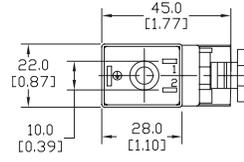
10mm Connectors

Dimensions shown
mm [inches]



Height = 30mm [1.18in]

Connector with Cable



Height = 41mm [1.61in]

Field Wireable Connector

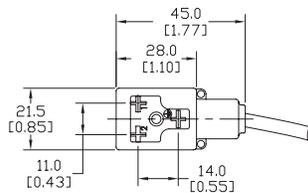
10mm (3-pole) Connectors (per DIN 43650 Form B)

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 4 A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2 W)	10	m3-0.5 x 30 mm / 0.4 Nm (3.5 in lb)	0.43	CSA (080128-0-000)				
SC10-LS24-5	\$20.50										0.68					
SC10-LS110-3	\$20.50	110 ±10%	max 4 A				no	none	3		zener diode (D-Z DO-41 ZY200 2 W)		6	0.43		
SC10-LS110-5	\$24.00													0.68		
SC10-3	\$13.50	230	max 10 A				65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	no	none		4	m3-0.5 x 42 mm / 0.5 Nm (4.4 in lb)	0.43	none
SC10-5	\$19.50														0.68	
SC10-LS24-0	\$12.50	24 ±20%	max 4 A	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 2 W)	4	m3-0.5 x 42 mm / 0.5 Nm (4.4 in lb)	0.07	none				
SC10-LS110-0	\$14.50	110 ±10%	max 1 A								5		mov (SIOV S10 K130)	5	0.07	

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

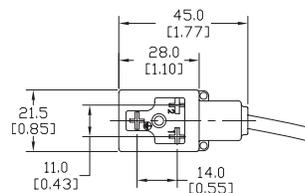
11mm Connectors

Dimensions shown
mm [inches]



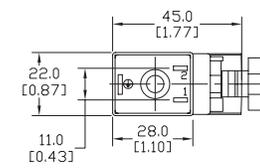
Height = 30mm [1.18in]

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)

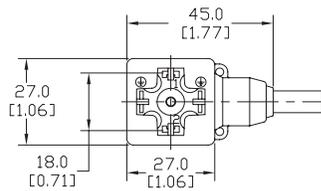
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval				
SC11-LS24-3	\$17.00	24 ±20%	max 4 A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2 W)	10	m3-0.5 x 30 mm / 0.4 Nm (3.5 in lb)	0.44	CSA (080128-0-000)				
SC11-LS24-5	\$20.50										0.67					
SC11-LS110-3	\$20.50	110 ±10%	max 4 A				no	none	3		zener diode (D-Z DO-41 ZY200 2 W)		6	0.44		
SC11-LS110-5	\$24.00													0.67		
SC11-LS24-3R	\$17.00	24 ±20%	max 4 A				67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2 W)		10	m3-0.5 x 30 mm / 0.4 Nm (3.5 in lb)	0.44	CSA (080128-0-000)
SC11-LS24-5R	\$20.50														0.67	
SC11-LS110-3R	\$20.50	110 ±10%	max 4 A	no	none	3	zener diode (D-Z DO-41 ZY200 2 W)	6	0.44							
SC11-LS110-5R	\$24.00								0.67							
SC11-3	\$13.50	230	max 10 A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	no	none	4	m3-0.5 x 42 mm / 0.5 Nm (4.4 in lb)	0.44	none				
SC11-5	\$19.50										0.67					
SC11-LS24-0	\$12.50	24 ±20%	max 4 A	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 2 W)	4	m3-0.5 x 42 mm / 0.5 Nm (4.4 in lb)	0.07	none				
SC11-LS110-0	\$14.50	110 ±10%	max 1 A								5		mov (SIOV S10 K130)	5	0.07	
SC11-0	\$10.50	230	max 10 A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	no	none	9		0.07	none				

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

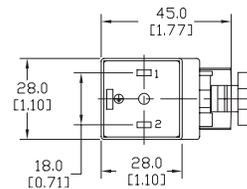
Solenoid Valve Cables and Connectors

18mm Connectors

Dimensions shown
mm [inches]



Height = 30mm [1.18in]
Connector with Cable



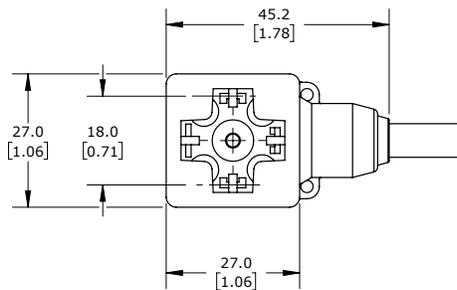
Height = 41mm [1.61in]
Field Wireable Connector

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 4 A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2 W)	7	m3-0.5 x 30 mm / 0.4 Nm (3.5 in lb)	0.44	CSA (080128-0-000)				
SC18-LS24-5	\$22.50										0.69					
SC18-LS110-3	\$20.50	110 ±10%	max 4 A					zener diode (D-Z DO-41 ZY200 2 W)	7		0.44					
SC18-LS110-5	\$24.00						0.69									
SC18-3	\$13.50	230	max 10 A				65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32		no		none	2	0.44	none
SC18-5	\$19.50														0.69	
SC18-LS24-0	\$12.50	24 ±20%	max 4 A	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 2 W)	4	m3-0.5 x 42 mm / 0.5 Nm (4.4 in lb)	0.07	none				
SC18-LS110-0	\$14.50	110 ±10%	max 1 A					mov (SIOV S10 K130)	5		0.07					
SC18-0	\$10.50	230	max 10 A				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 10 A	67	18 AWG	5.6 - 6.2 mm	9.8ft/3m	no	none	8	m3-0.5 x 26 mm / 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

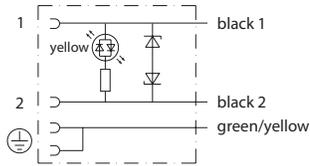


Figure No. 1

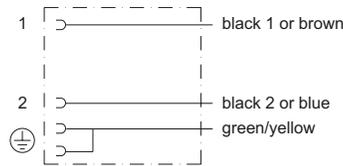


Figure No. 2

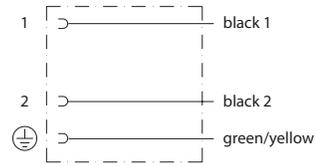


Figure No. 3

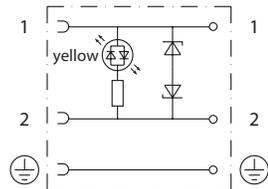


Figure No. 4

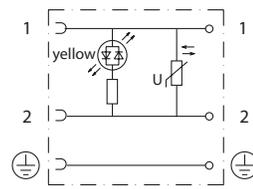


Figure No. 5

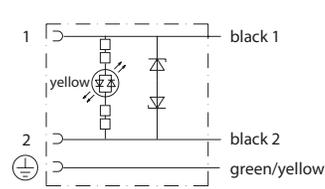


Figure No. 6

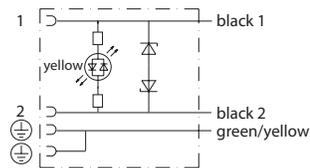


Figure No. 7

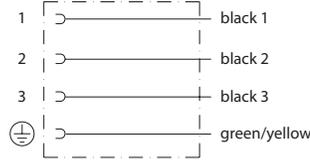


Figure No. 8

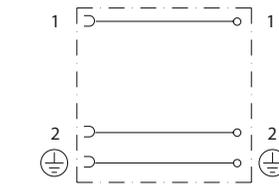


Figure No. 9

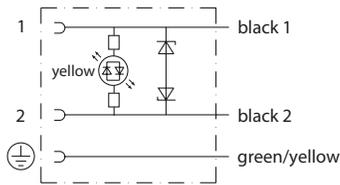


Figure No. 10



Pneumatic GVP Series Miniature Solenoid Valves



Part No. GVP-211C-12D



Part No. GVP-321C-12D

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).

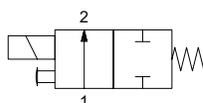
Features

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



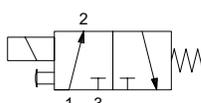
See www.AutomationDirect.com for a wide variety of fitting options

Diagram "A"



2-way, 2-position, Spring Return

Diagram "B"



3-way, 2-position, Spring Return

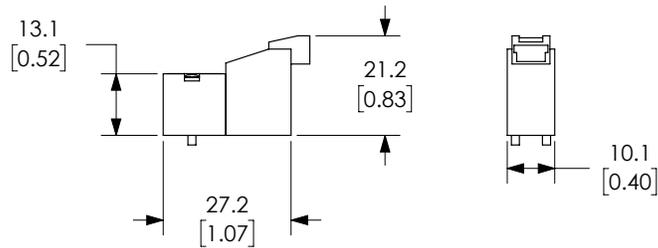
GVP Series Miniature Solenoid Valves							
Models	<u>GVP-211C-12D</u>	<u>GVP-211C-24D</u>	<u>GVP-311C-12D</u>	<u>GVP-311C-24D</u>	<u>GVP-221C-12D</u>	<u>GVP-321C-12D</u>	<u>GVP-321C-24D</u>
Price	\$44.50	\$45.50	\$45.50	\$44.50	\$39.00	\$39.00	\$39.00
Weight (lbs)	0.05				0.1		
Size	10 mm				15 mm		
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 40µ 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	12 VDC	24 VDC	12 VDC	24 VDC	12 VDC	12 VDC	24 VDC
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 to 122 °F (-10 to +50 °C)						
Lubrication	Not Required						
Body	Glass-filled nylon						
Protection	n/a						



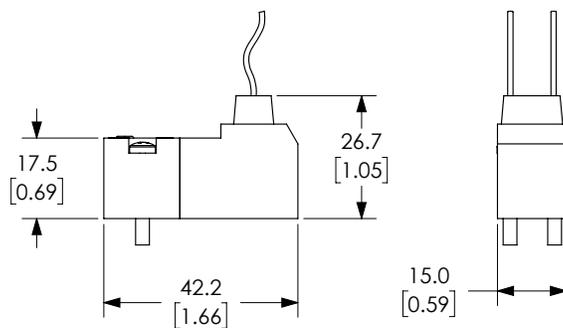
Pneumatic GVP Series Miniature Solenoid Valves

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

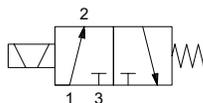


Part No. **GVP-311CL-24D**



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

- 10 mm and 15 mm 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

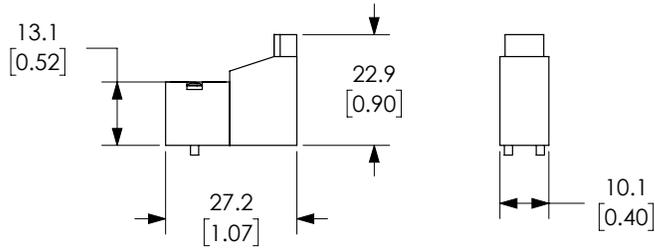
GVP Series Miniature Latching Solenoid Valves		
Model	<u>GVP-311CL-24D</u>	<u>GVP-321CL-12D</u>
Price	\$68.00	\$67.00
Weight (lbs)	0.05	0.1
Size	10 mm	15 mm
Valve Type	3-way, 2-position, Normally Closed	3-way, 2-position, Normally Closed
Acting	Single latching solenoid spring return poppet	
Diagram	A	A
Fluid	Air or Inert Gas (to be filtered by 40 µ 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 15 mm manifolds for operation	
Voltage	24 VDC	12 VDC
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	6 ms (on), 8 ms (off)	
Indication	LED	No LED
Temperature - Operation and Storage	14 to 122 °F (-10 to +50 °C)	
Lubrication	Not Required	
Body	Glass-filled nylon	
Protection	n/a	



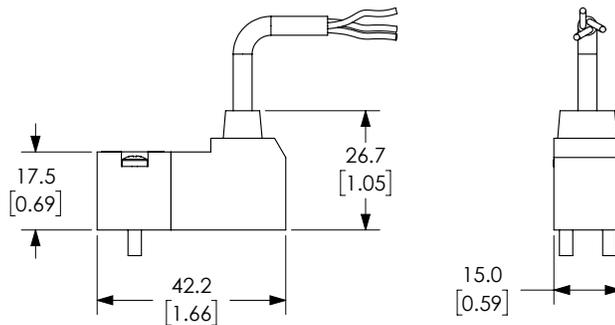
Pneumatic GVP Series Miniature Latching Solenoid Valves

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



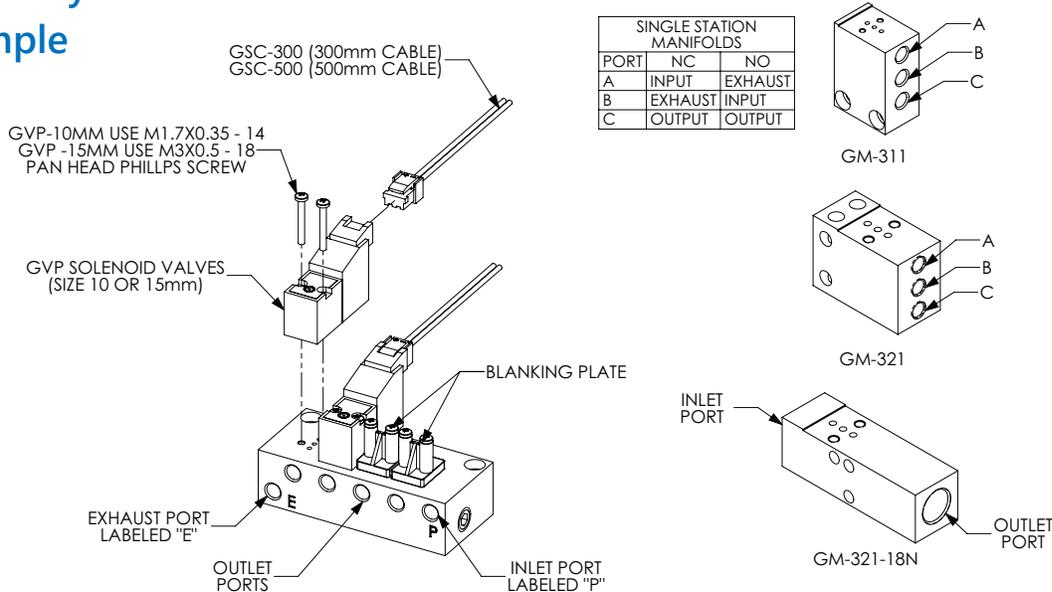
NITRA manifolds designed to work with 10 mm wide GVP series valves.

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



Nitra Pneumatic GVP Series 10 mm 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	\$26.50	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]	\$36.00	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]	\$41.00	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]	\$48.50	0.15

Assembly Example





Pneumatic GVP Series Miniature Solenoid Valve Manifolds



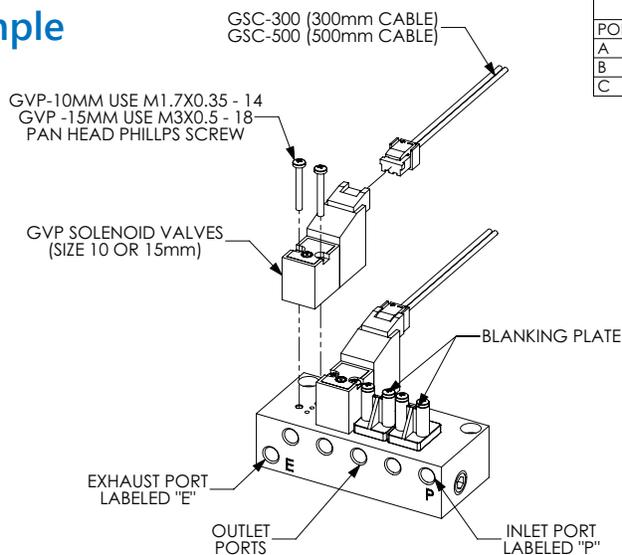
NITRA manifolds designed to work with 15 mm wide GVP series valves.

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

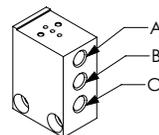


Nitra Pneumatic GVP Series 15 mm Miniature Solenoid Valve Manifolds					
Item	Part No.	Description	A inches [mm]	Price	Weight (lbs)
	<u>GM-321</u>	NITRA pneumatic valve manifold, anodized aluminum, white, rectangular, (1) station, #10-32 female UNF inlet(s), #10-32 female UNF outlet(s), #10-32 female threaded exhaust(s). For use with GVP-22 and GVP-32 series solenoid valves.	N/A	\$26.50	0.05
	<u>GM-322</u>	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]	\$33.50	0.15
	<u>GM-324</u>	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]	\$46.00	0.25
	<u>GM-321-18N</u>	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	\$32.00	0.6

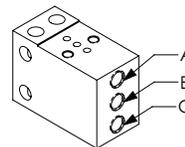
Assembly Example



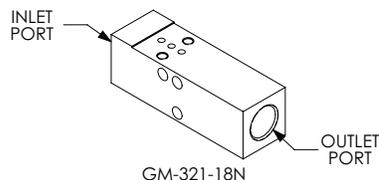
PORT	NC	NO
A	INPUT	EXHAUST
B	EXHAUST	INPUT
C	OUTPUT	OUTPUT



GM-311



GM-321



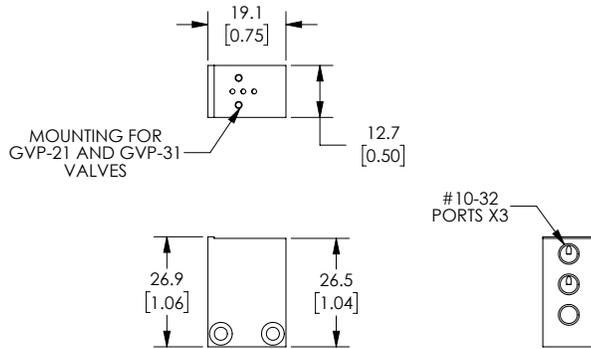
GM-321-18N



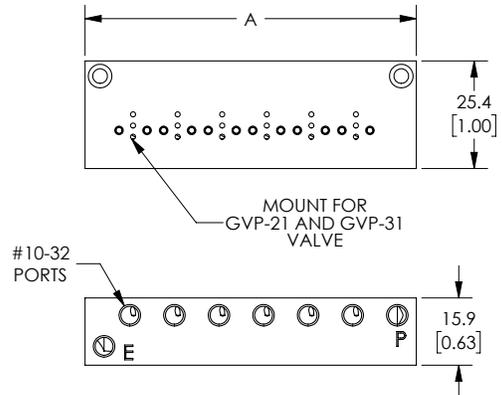
Pneumatic GVP Series Miniature Solenoid Valve Manifolds

Dimensions

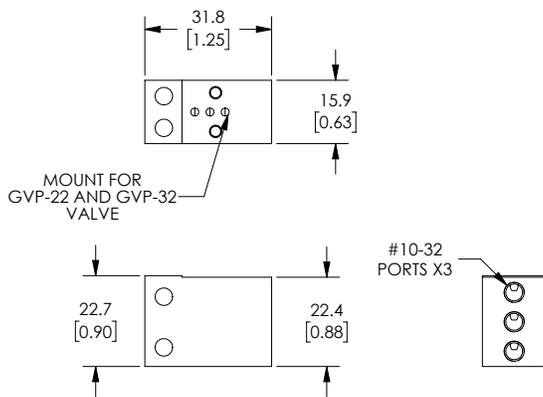
mm [inches]



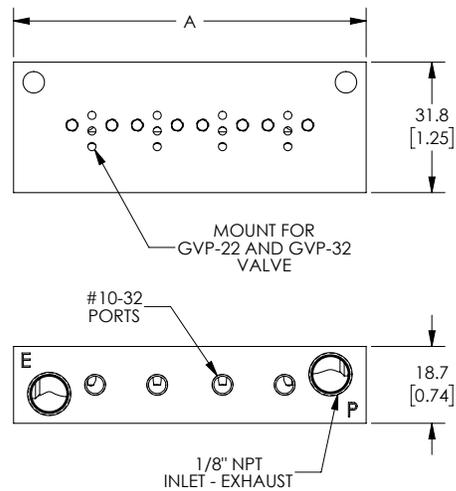
Part No. GM-311



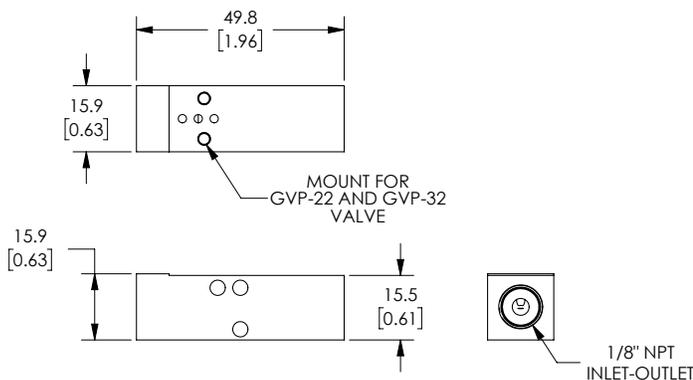
Part No. GM-312, GM-314, GM-316



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.



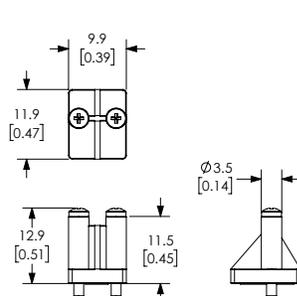
Pneumatic GVP Series Miniature Solenoid Manifold Accessories



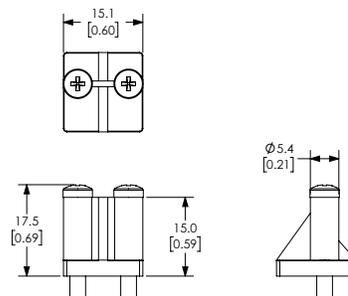
Nitra Pneumatic GVP Series Miniature Solenoid Valve Manifold Accessories				
Item	Part No.	Description	Price	Weight (lbs)
	<u>GM-31BP</u>	NITRA blanking plate, nylon. For use with GM-31 series manifolds. Gasket and mounting screws included.	\$6.25	0.05
	<u>GM-32BP</u>	NITRA blanking plate, nylon. For use with GM-32 series manifolds. Gasket and mounting screws included.	\$6.00	0.05
	<u>GSC-300</u>	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
	<u>GSC-500</u>	NITRA solenoid valve cable, miniature pin plug to pigtail, 19.6in/500mm cable length. For use with GVP series solenoid valves.	\$6.50	0.05

Dimensions

mm [inches]



Part No. **GM-31BP**



Part No. **GM-32BP**

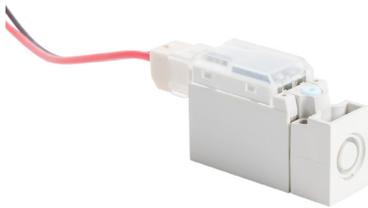
See our website www.AutomationDirect.com for complete Engineering drawings.



MVDY - 10mm Miniature Solenoid Valves



Part No. [103310053340009](#)



Part No. [103310053350003](#)

The MVDY-100 series are ultra-compact direct acting solenoid valves designed for applications requiring extremely fast response times and minimal space. These 3-way, single solenoid valves feature M5×0.8 ports with an effective orifice for precise low-flow control. With exceptional 4ms DC response time and operating pressure up to 102 psi, these valves are ideal for instrumentation, medical equipment, and compact automation systems. Available with RMH-type plug connectors in side-mounted or top-mounted configurations for flexible installation in space-constrained applications.

Features

- Ultra-compact design: With minimal weight and miniature M5×0.8 ports, these valves enable dense valve manifold configurations and integration into space-critical applications
- Exceptional response speed: 4 ms DC response time with 5 Hz maximum operating frequency provides precise, rapid control for high-speed automation and instrumentation
- Manifold capability: Supports up to 8-station manifold assemblies with 10.5mm station spacing for compact multi-valve control systems
- Low power consumption: Standard 1.2W DC operation reduces heat generation and energy costs in multi-valve installations
- Vacuum compatible: R port rated for -26 to 0 in-Hg enables vacuum switching applications in pick-and-place, material handling, and laboratory automation (NOTE: Valve is N.O. in this configuration)

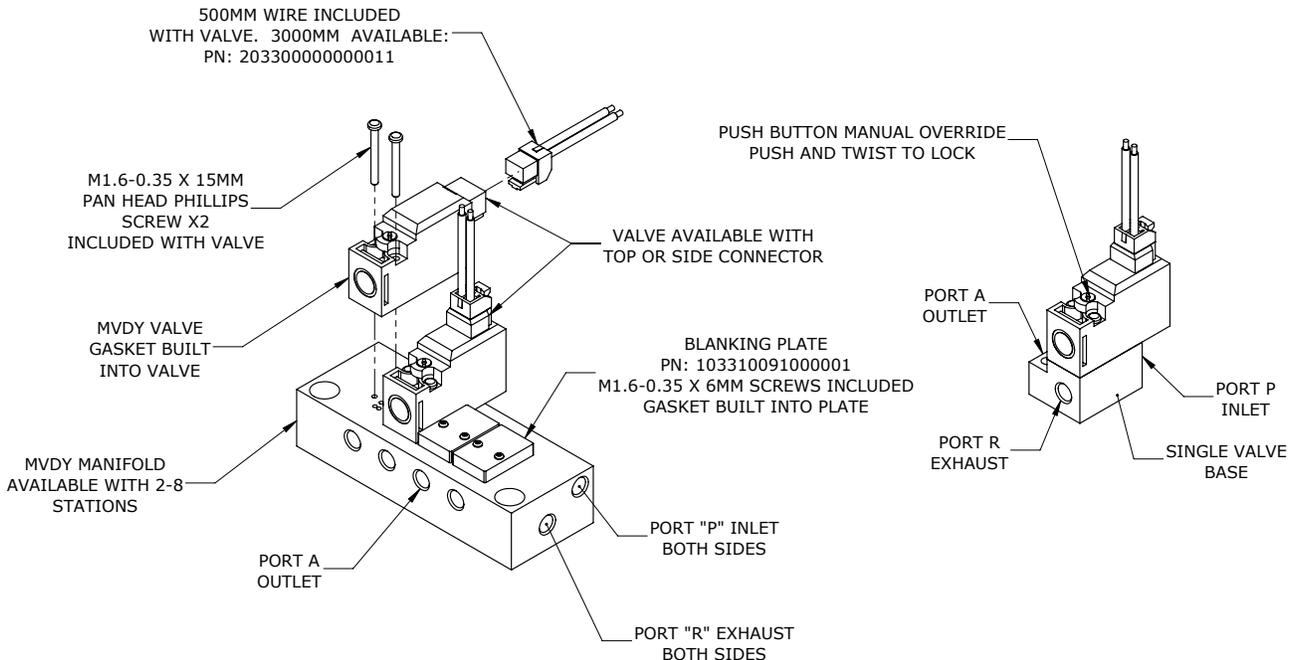
Mounting Methods:

- Direct Base Mounting: Valve mounts to individual 3-port base
- Manifold Mounting: Multiple valves mount side-by-side on manifold with 10.5mm pitch, creating compact multi-station control
- Blocking plates available to cap unused manifold stations

Click or scan the QR code for assembly instructions.



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



WIRING INFORMATION:
CONNECTOR IS JAM RMH STYLE 2-PIN



MVDY - 10mm Miniature Solenoid Valves

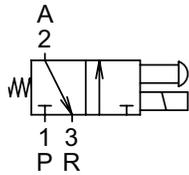


Diagram "A"

MVDC - Stackable Solenoid Valves				
Part No.	103310053340009	103310053350003	103310053240004	103310053250001
Mfg. Part No.	MVDY-100-3E1-DC24-LR	MVDY-100-3E1-DC24-SR	MVDY-100-3E1-DC12-LR	MVDY-100-3E1-DC12-SR
Price	\$32.00	\$32.00	\$33.00	\$33.00
Drawing Link	PDF	PDF	PDF	PDF
Weight (lb)	0.06	0.06	0.06	0.06
Manufacturer Specs	PDF			
Valve Type	3-way			
Positions	2			
Pneumatic Diagram	A			
Operating Voltage	24 VDC		12 VDC	
Power Rating	1.2W			
Electrical Connection	JAM RMH side plug	JAM RMH top plug	JAM RMH side plug	JAM RMH top plug
Valve Configuration	N.C.			
Acting	Single solenoid spring return			
Inlet Port Size	N/A - requires manifold			
Outlet Port Size	N/A - requires manifold			
Exhaust	N/A - requires manifold			
Flow (Cv)	0.02			
Media	Filtered air without lubrication; lubrication, if used, must be continuous			
Min. Operating Pressure	0 psi			
Max. Operating Pressure	102 psi			
Vacuum Use	When using for vacuum, feed vacuum to "R" port "P" port rated for 0-87 psi. "R" port is rated for -26.5 in Hg. Valve is N.O. in this configuration			
Temperature	23 to 122 °F (-5 to 50 °C)			
Lubrication	ISO VG32 or equivalent			

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVDY - 10mm Miniature Solenoid Valve Manifolds and Accessories

The MVDY manifolds and accessories are designed to work specifically with the MVDY miniature solenoid valves. They are made of aluminum and have a maximum operating pressure of 145 psi.



Part No. [103310081010001](#)

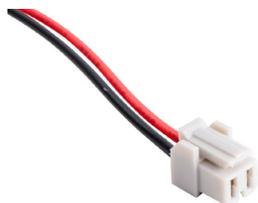


Part No. [103310092041005](#)

10mm Miniature Solenoid Valve Manifolds and Accessories									
Part No.	Mfg. Part No.	Number of Stations	Inlet Port Size	Outlet Port Size	Exhaust Port Size	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
103310081010001	MVDY-100-3B1	1	M5 x 0.8 female ISO	M5 x 0.8 female ISO	M5 x 0.8 female ISO	PDF	PDF	\$8.50	0.02
103310092021002	MVDY-100-3M2	2	(2) M5 x 0.8 female ISO	(2) M5 x 0.8 female ISO	(2) M5 x 0.8 female ISO		PDF	\$20.50	0.09
103310092041005	MVDY-100-3M4	4	(2) M5 x 0.8 female ISO	(4) M5 x 0.8 female ISO	(2) M5 x 0.8 female ISO		PDF	\$31.00	0.13
103310092061002	MVDY-100-3M6	6	(2) M5 x 0.8 female ISO	(6) M5 x 0.8 female ISO	(2) M5 x 0.8 female ISO		PDF	\$41.00	0.18
103310092081002	MVDY-100-3M8	8	(2) M5 x 0.8 female ISO	(8) M5 x 0.8 female ISO	(2) M5 x 0.8 female ISO		PDF	\$51.00	0.21



Part No. [103310091000001](#)



Part No. [203300000000011](#)

10mm Miniature Solenoid Valve Accessories						
Part No.	Mfg. Part No.	Description	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
103310091000001	MVDY-100-3P	Mindman blanking plate, plated steel. For use with MVDY-100 series manifolds. Mounting screws included.	PDF	PDF	\$4.00	0.01
203300000000011	MVDY-100-WDR3	Mindman solenoid valve cable, JAM RMH male to pigtail, straight cable entry, 24 VDC, 24 AWG, 9.8ft/3m cable length. For use with MVDY-100 series miniature solenoid valves.		PDF	\$3.50	0.06



Pneumatic Directional Control Valves – AVS Air Pilot Valves

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.



Single Pilot Valve



Double Pilot Valve

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"



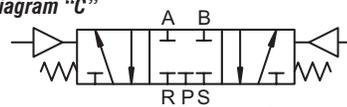
Single Pilot, Spring Return

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-526C2	AVS-5343	AVS-5353	AVS-536C3	AVS-5444	AVS-5454	AVS-546C4
Price	Retired	\$40.50	\$65.00	\$32.50	\$66.00	\$46.50	\$56.00	\$71.00	\$50.00	\$71.00	\$81.00
Weight (lbs)	0.3	0.4	0.5	0.3	0.5	0.5	0.6	0.7	1.1	1.2	1.4
Valve Type	5-port 2-position		5-port 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 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	
Diagram	A	B	C	A	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 to 115 psi (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 to +60 °C (23 to 140 °F)										
Lubrication	Not Required										
Body	Aluminum Alloy										
Drawing Figure	1	2	3	1	3	4	5	6	7	8	9



Pneumatic Directional Control - 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.



Foot Pedal Valve with Guard

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



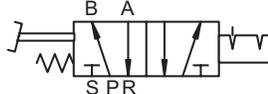
See www.AutomationDirect.com for a wide variety of fitting options

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	Retired	Retired
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 40 µ filter element)	
Min. / Max. Pressure	0-115 psi	
Temperature	-5 to +60 °C (23 to 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.

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



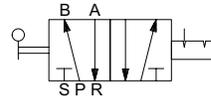
Side View

Toggle Style Hand Lever Valve



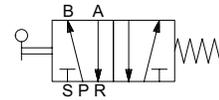
See www.AutomationDirect.com for a wide variety of fitting options

Diagram "A"



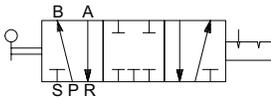
5-Port, 2-Pos. Toggle Detented

Diagram "B"



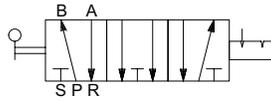
5-Port, 2-Pos. Spring Return

Diagram "C"



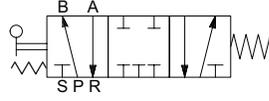
5-Port, 3-Pos. Center Closed Detented

Diagram "D"



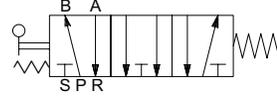
5-Port, 3-Pos. Center Exhaust Detented

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	\$33.00	\$48.00	\$56.00	\$56.00	\$58.00	\$75.00	\$78.00	\$73.00	\$73.00	\$70.00	\$83.00	\$72.00
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 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	Direct Action Hand Lever											
Diagram	A		B	C	D	C	D	E	F	E	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	0-115 psi											
Temperature	-5 to +60 °C (23 to 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	<u>AVS-527D1-PP</u>	<u>AVS-537D2-PP</u>
Price	\$31.00	Retired
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	0-115 psi	
Temperature	-5 to +60 °C (23 to 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"

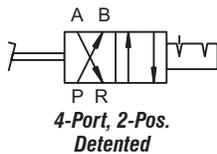
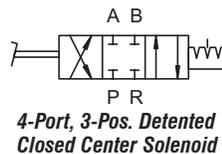


Diagram "B"



Rotary Style Hand Lever Valve Specifications				
Models	<u>CVR-437D2-HL</u>	<u>CVR-438D2-HL</u>	<u>CVR-447D4-HL</u>	<u>CVR-448D4-HL</u>
Price	\$33.50	Retired	\$41.00	\$41.00
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	0-145 psi			
Temperature	-5 to +63 °C (23 to 145 °F)			
Lubrication	Not Required			
Body	Aluminum Alloy			
Drawing Figure	13			

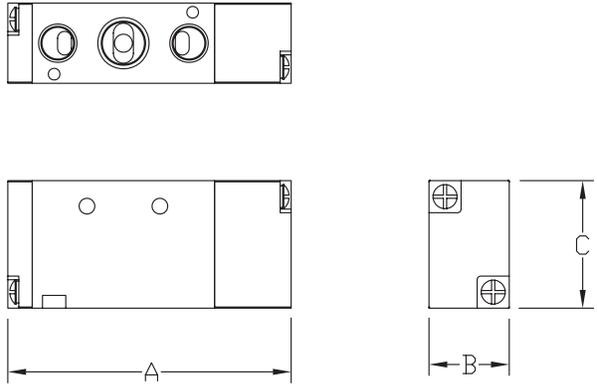


Pneumatic Directional Control – Manual Valve Dimensions

Dimensions

mm [inches]

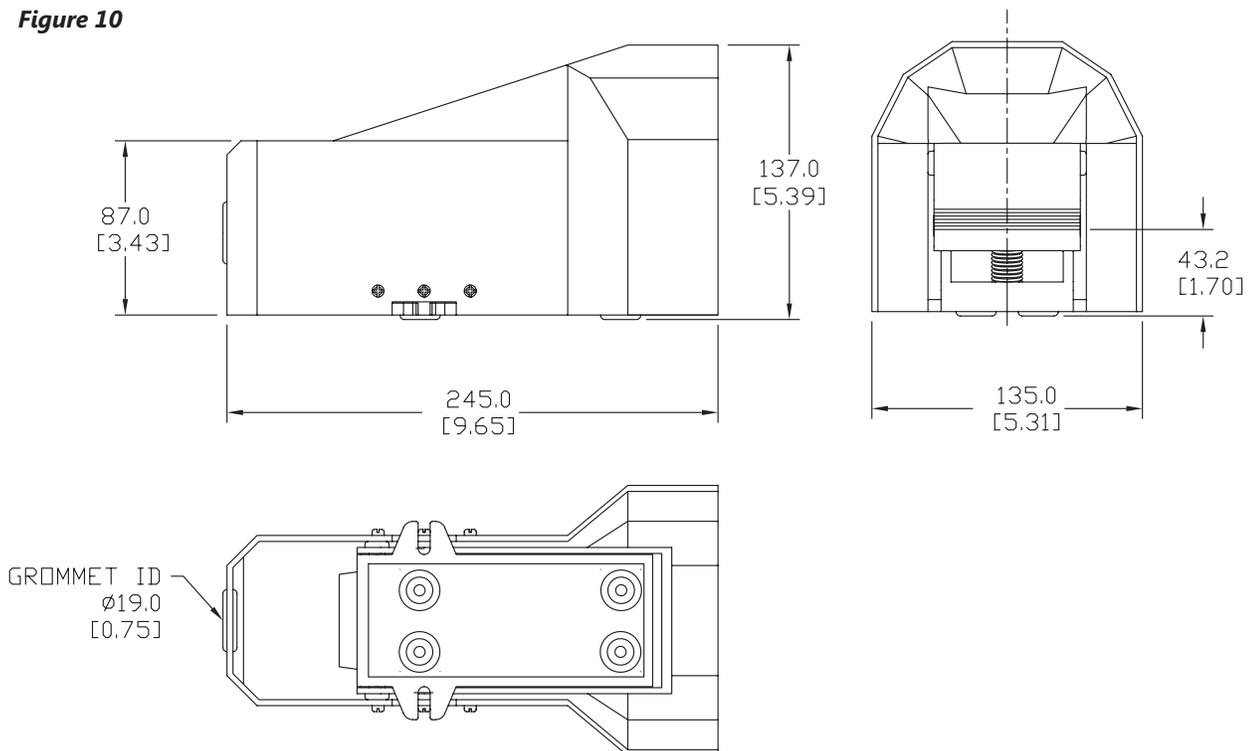
Figures 1-9



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

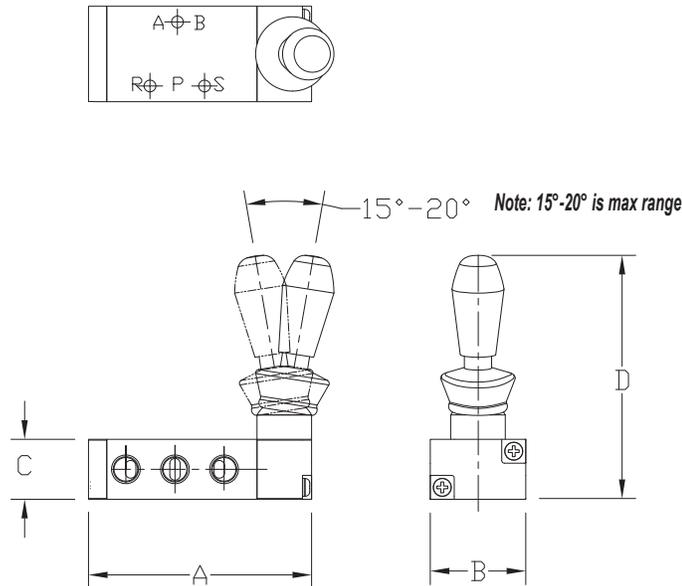


Pneumatic Directional Control - Manual Valve Dimensions

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

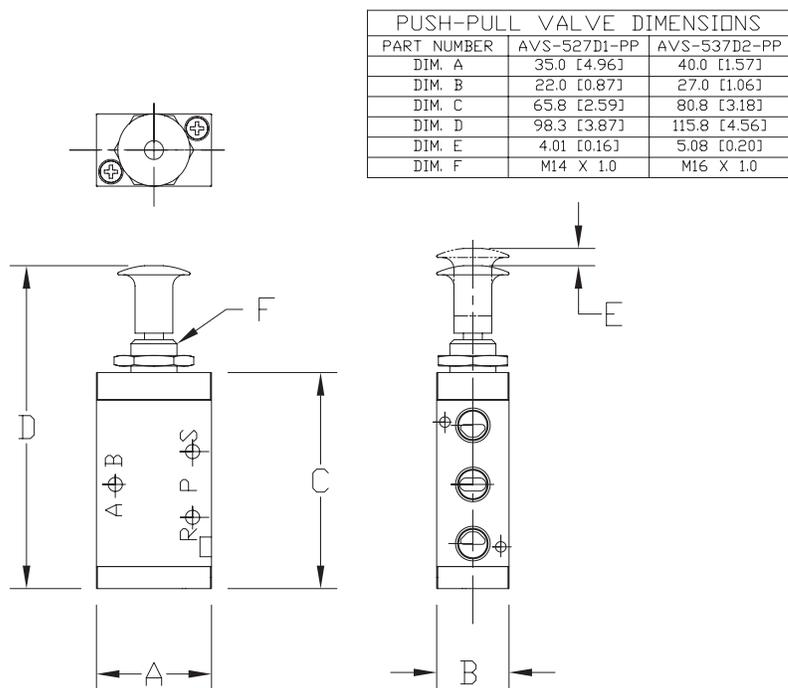
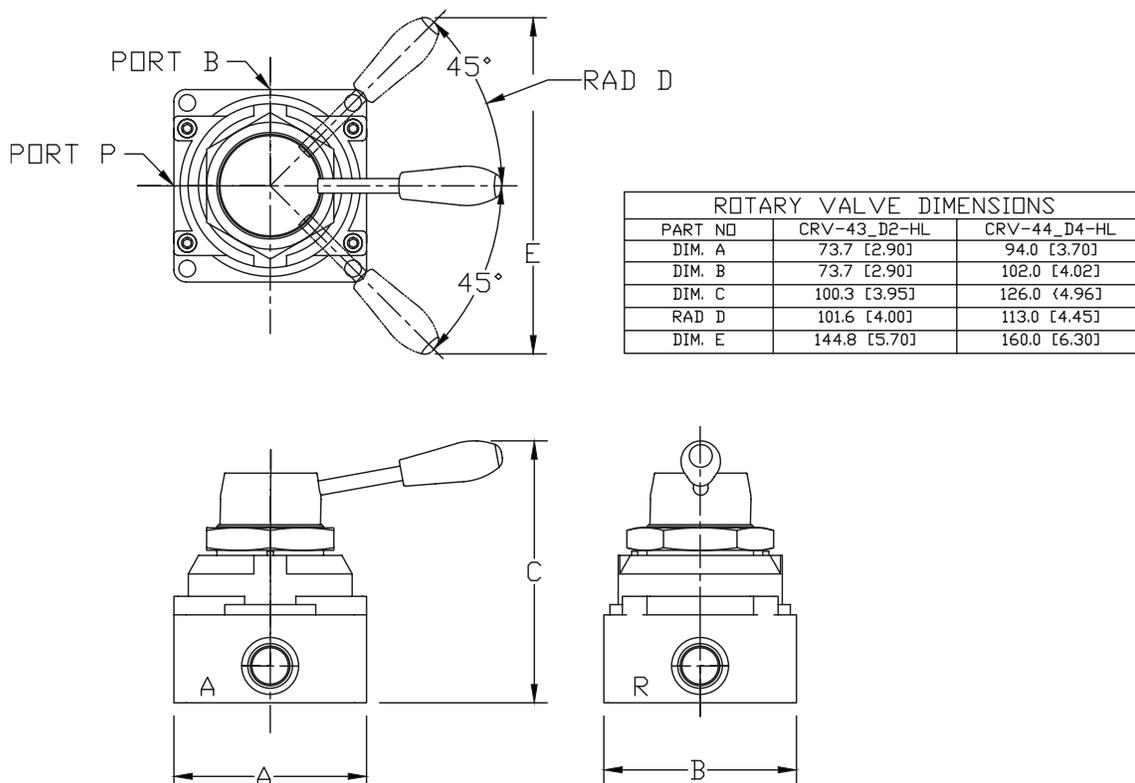


Figure 13



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



MVAA - Air Pilot Valves



Part No. [104018033034006](#)



Part No. [104030017054004](#)

The MVAA series are compact pilot-operated valves designed to work with externally supplied pilot air, eliminating the need for electrical solenoids. Available in four size ranges with 1/8", 1/4", 3/8", and 1/2" ports. Configurations include 3-way and 4-way options with single pilot and double pilot actuation, plus specialized center position variants (closed/pressure/exhaust) for the larger sizes.

Features

- Pilot-operated design: Operates using external pilot air supply, providing flexible control without electrical connections in hazardous or remote locations
- Scalable capacity range: Four size options to accommodate diverse flow requirements from compact to high-capacity applications
- Versatile pilot configurations: Single pilot and double pilot, with specialized center positions available on larger models for enhanced control flexibility
- NPT threading: Standard NPT ports for North American pneumatic systems, with manifold compatibility using MVSC1/MVSC series mounting components for multi-station installations

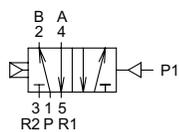


Diagram "A"

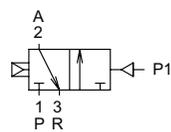


Diagram "B"

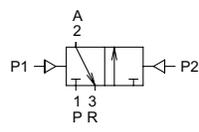


Diagram "C"

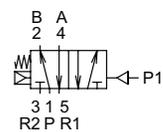


Diagram "D"

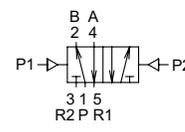


Diagram "E"

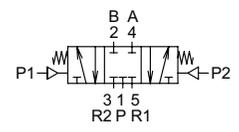


Diagram "F"

MVAA - Air Pilot Valves								
Part No.	104015015021004	104015016021003	104018033034006	104018044034004	104018015034005	104018016034004	104022015044005	104022016044004
Mfg. Part No.	MVAA-150-4A1	MVAA-150-4A2	MVAA-180-3A1-NC-NPT	MVAA-180-3A2-NPT	MVAA-180-4A1-NPT	MVAA-180-4A2-NPT	MVAA-220-4A1-NPT	MVAA-220-4A2-NPT
Price	\$24.00	\$25.00	\$26.00	\$28.00	\$25.00	\$28.00	\$27.00	\$29.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	0.14	0.16	0.17	0.20	0.19	0.22	0.29	0.35
Manufacturer Specs	PDF		PDF			PDF		
Valve Type	5-port (4-way)		3-port (3-way)		5-port (4-way)			
Positions	2							
Pneumatic Diagram	A	E	B	C	A	E	D	E
Valve Configuration	N/A		N.C.		N/A			
Acting	Single air pilot internal pilot return	Double air pilot	Single air pilot internal pilot return	Double air pilot	Single air pilot internal pilot return	Double air pilot	Single air pilot spring return	Double air pilot
Inlet Port Size	M5 x 0.8 female ISO		1/8" FNPT		1/8" FNPT		1/4" FNPT	
Outlet Port Size	(2) M5 x 0.8 female ISO		1/8" FNPT		(2) 1/8" FNPT		(2) 1/4" FNPT	
Exhaust	M5 x 0.8 female ISO		1/8" FNPT		(2) 1/8" FNPT		(2) 1/8" FNPT	
Flow (Cv)	0.21		0.67			1		
Media	Filtered air without lubrication; lubrication, if used, must be continuous							
Min. Operating Pressure	22 psi	0 psi	22 psi	0 psi	22 psi	0 psi		
Max. Operating Pressure	116 psi							
Min. Pilot Pressure	(0.45*Operating Pressure)+15 psi						(0.3*Operating Pressure)+15 psi	
Temperature	23 to 122 °F (-5 to +50 °C)							
Lubrication	ISO VG32 or equivalent							

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).

Mindman MVA - Air Pilot Valves

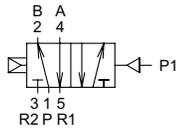


Diagram "A"

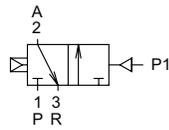


Diagram "B"

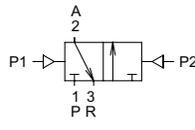


Diagram "C"

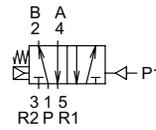


Diagram "D"

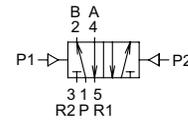


Diagram "E"

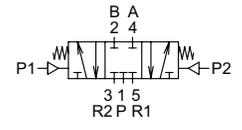


Diagram "F"

MVA - Air Pilot Valves							
Part No.	104022017044004	104030015054005	104030016054004	104030017054004	104046015064005	104046016064004	104046017064004
Mfg. Part No.	MVA-220-4A2C-NPT	MVA-300-4A1-NPT	MVA-300-4A2-NPT	MVA-300-4A2C-NPT	MVA-460-4A1-NPT	MVA-460-4A2-NPT	MVA-460-4A2C-NPT
Price	\$52.00	\$31.00	\$37.00	\$57.00	\$39.00	\$45.00	\$71.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	0.40	0.63	0.77	0.90	0.68	0.82	0.96
Manufacturer Specs	PDF	PDF			PDF		
Valve Type	5-port (4-way)						
Positions	3	2		3	2		3
Pneumatic Diagram	F	D	E	F	D	E	F
Valve Configuration	Center closed	N/A		Center closed	N/A		Center closed
Acting	Double air pilot	Single air pilot spring return	Double air pilot		Single air pilot spring return	Double air pilot	
Inlet Port Size	1/4" FNPT	3/8" FNPT			1/2" FNPT		
Outlet Port Size	(2) 1/4" FNPT	(2) 3/8" FNPT			(2) 1/2" FNPT		
Exhaust	(2) 1/8" FNPT	(2) 3/8" FNPT			(2) 1/2" FNPT		
Flow (Cv)	1	1.94			2.78		
Media	Filtered air without lubrication; lubrication, if used, must be continuous						
Min. Operating Pressure	0 psi						
Max. Operating Pressure	116 psi						
Min. Pilot Pressure	(0.3*Operating Pressure)+15 psi	(0.34*Operating Pressure)+15 psi					
Temperature	23 to 122 °F (-5 to +50 °C)						
Lubrication	ISO VG32 or equivalent						

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVHB - Hand Lever Valves and Manifolds

The MVHB series are manually operated hand lever valves designed for reliable pneumatic control without electrical power requirements. Available in three size ranges 1/4", 3/8", and 1/2" ports, these valves provide for diverse flow applications. All models feature 5-port, 4-way configurations with spring return and detent options, plus specialized center position variants (closed/pressure/exhaust) for enhanced control flexibility, with the MVHB-300 and MVHB-500 also available in vertical mounting configurations.



Part No. **106122017044003**

Features

- Manual operation: Hand lever actuation eliminates electrical power requirements, ideal for emergency shutoff, remote locations, or applications requiring manual override control
- Versatile mounting options: MVHB-220 can be panel-mounted (M); MVHB-300/500 offered in both standard and vertical (V) configurations for flexible installation requirements
- Vertical models can be mounted on available manifolds for 2 or 4 position assemblies
- Spring return and detent operation: Choose between automatic spring return for momentary control or detent position for sustained operation without holding the lever
- Center position control: Specialized variants (closed/pressure/exhaust center) provide precise three-position control for applications requiring neutral state functionality or system pressurization

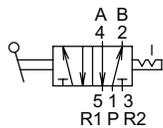


Diagram "A"

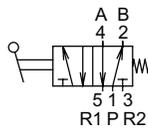


Diagram "B"

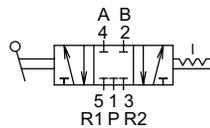


Diagram "C"

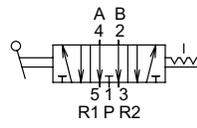


Diagram "D"

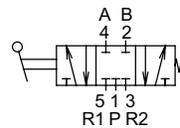


Diagram "E"

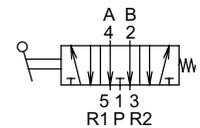


Diagram "F"

MVHB - Hand Lever Valves										
Part No.	106122015044005		106122015144004		106122017044003		106122017144004		106122019044002	
Mfg. Part No.	MVHB-220-4TV-M-NPT		MVHB-220-4TV-SP-M-NPT		MVHB-220-4TV-C-M-NPT		MVHB-220-4TV-SP-M-NPT		MVHB-220-4TVR-M-NPT	
Price	\$39.00		\$42.00		\$42.00		\$51.00		\$42.00	
Drawing Link	PDF		PDF		PDF		PDF		PDF	
Weight (lb)	0.45		0.45		0.52		0.57		0.51	
Manufacturer Specs	PDF						PDF			
Valve Type	5-port (4-way)									
Positions	2		3					2		
Pneumatic Diagram	A	B	C	E	D	F	A	B		
Valve Configuration	N/A		Center closed			Center exhaust		N/A		
Operator	90 deg hand lever									
Acting	Detented	Spring return	Detented	Spring return to center from right or left	Detented	Spring return to center from right or left	Detented	Spring return		
Inlet Port Size	1/4" FNPT						3/8" FNPT			
Outlet Port Size	(2) 1/4" FNPT						(2) 3/8" FNPT			
Exhaust	(2) 1/8" FNPT						(2) 3/8" FNPT			
Flow (Cv)	1		0.89				1.89			
Media	Filtered air without lubrication; lubrication, if used, must be continuous									
Min. Operating Pressure	0 psi									
Max. Operating Pressure	116 psi						174 psi			
Temperature	23 to 140 °F (-5 to +60 °C)									
Lubrication	ISO VG32 or equivalent									

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVHB - Hand Lever Valves and Manifolds



Part No. **106130019054001**



Part No. **106130017154003**



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

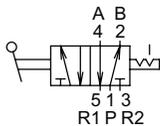


Diagram "A"

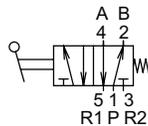


Diagram "B"

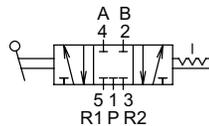


Diagram "C"

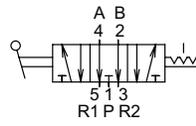


Diagram "D"

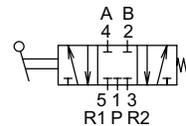


Diagram "E"

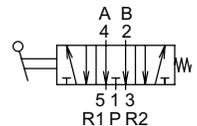


Diagram "F"

MVHB - Hand Lever Valves								
Part No.	106130017054002	106130017154002	106130019054001	106130019154003	106130015254001	106130015454001	106130017054003	106130017154003
Mfg. Part No.	MVHB-300-4TVC-NPT	MVHB-300-4TVC-SP-NPT	MVHB-300-4TVR-NPT	MVHB-300-4TVR-SP-NPT	MVHB-300V-4TV-NPT	MVHB-300V-4TV-SP-NPT	MVHB-300V-4TVC-NPT	MVHB-300V-4TVC-SP-NPT
Price	\$61.00	\$66.00	\$61.00	\$66.00	\$55.00	\$55.00	\$61.00	\$66.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	1.09	1.23	1.08	1.23	1.01	1.01	1.09	1.24
Manufacturer Specs	PDF							
Valve Type	5-port (4-way)							
Positions	3				2		3	
Pneumatic Diagram	C	E	D	F	A	B	C	E
Valve Configuration	Center closed		Center exhaust		N/A		Center closed	
Operator	90 deg hand lever				Vertical hand lever			
Acting	Detented	Spring return to center from right or left	Detented	Spring return to center from right or left	Detented	Spring return	Detented	Spring return to center from right or left
Inlet Port Size	3/8" FNPT							
Outlet Port Size	(2) 3/8" FNPT							
Exhaust	(2) 3/8" FNPT							
Flow (Cv)	1.89							
Media	Filtered air without lubrication; lubrication, if used, must be continuous							
Min. Operating Pressure	0 psi							
Max. Operating Pressure	174 psi							
Temperature	23 to 140 °F (-5 to +60 °C)							
Lubrication	ISO VG32 or equivalent							

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVHB - Hand Lever Valves and Manifolds

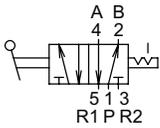


Diagram "A"

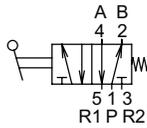


Diagram "B"

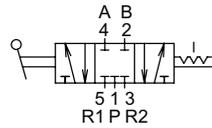


Diagram "C"

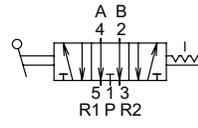


Diagram "D"

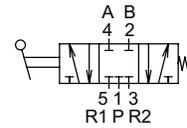


Diagram "E"

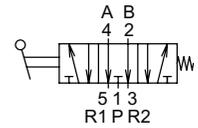


Diagram "F"

MVHB - Hand Lever Valves

Part No.	106130019154004		106130019154005		106150015064003		106150015164002		106150017064002		106150017164008		106150019064001		106150019164002	
Mfg. Part No.	MVHB-300V-4TVR-NPT		MVHB-300V-4TVR-SP-NPT		MVHB-500-4TV-NPT		MVHB-500-4TV-SP-NPT		MVHB-500-4TVC-NPT		MVHB-500-4TVC-SP-NPT		MVHB-500-4TVR-NPT		MVHB-500-4TVR-SP-NPT	
Price	\$61.00		\$66.00		\$63.00		\$63.00		\$68.00		\$69.00		\$68.00		\$69.00	
Drawing Link	PDF		PDF		PDF		PDF		PDF		PDF		PDF		PDF	
Weight (lb)	1.08		1.23		1.11		1.11		1.11		1.27		1.11		1.26	
Manufacturer Specs	PDF				PDF											
Valve Type	5-port (4-way)															
Positions	3				2				3							
Pneumatic Diagram	D		F		A		B		C		E		D		F	
Valve Configuration	Center exhaust				N/A				Center closed				Center exhaust			
Operator	Vertical hand lever				90 deg hand lever								90 deg hand lever			
Acting	Detented		Spring return to center from right or left		Detented		Spring return		Detented		Spring return to center from right or left		Detented		Spring return to center from right or left	
Inlet Port Size	3/8" FNPT				1/2" FNPT											
Outlet Port Size	(2) 3/8" FNPT				(2) 1/2" FNPT											
Exhaust	(2) 3/8" FNPT				(2) 1/2" FNPT											
Flow (Cv)	1.89				2.28											
Media	Filtered air without lubrication; lubrication, if used, must be continuous															
Min. Operating Pressure	0 psi															
Max. Operating Pressure	174 psi															
Temperature	23 to 140 °F (-5 to +60 °C)															
Lubrication	ISO VG32 or equivalent															

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVHB - Hand Lever Valves and Manifolds

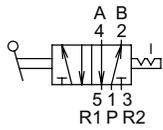


Diagram "A"

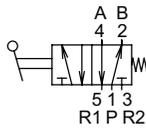


Diagram "B"

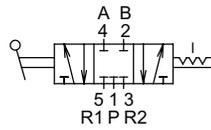


Diagram "C"

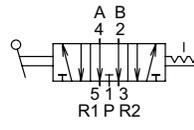


Diagram "D"

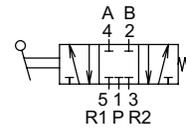


Diagram "E"

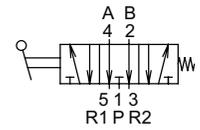


Diagram "F"

MVHB - Hand Lever Valves						
Part No.	106150015064004	106150015164003	106150017164009	106150017164010	106150019064002	106150019164003
Mfg. Part No.	MVHB-500V-4TV-NPT	MVHB-500V-4TV-SP-NPT	MVHB-500V-4TVC-NPT	MVHB-500V-4TVC-SP-NPT	MVHB-500V-4TVR-NPT	MVHB-500V-4TVR-SP-NPT
Price	\$63.00	\$63.00	\$68.00	\$69.00	\$68.00	\$69.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	1.11	1.11	1.11	1.27	1.11	1.26
Manufacturer Specs	PDF					
Valve Type	5-port (4-way)					
Positions	2		3			
Pneumatic Diagram	A	B	C	E	D	F
Valve Configuration	N/A		Center closed		Center exhaust	
Operator	Vertical hand lever					
Acting	Detented	Spring return	Detented	Spring return to center from right or left	Detented	Spring return to center from right or left
Inlet Port Size	1/2" FNPT					
Outlet Port Size	(2) 1/2" FNPT					
Exhaust	(2) 1/2" FNPT					
Flow (Cv)	2.28					
Media	Filtered air without lubrication; lubrication, if used, must be continuous					
Min. Operating Pressure	0 psi					
Max. Operating Pressure	174 psi					
Temperature	23 to 140 °F (-5 to +60 °C)					
Lubrication	ISO VG32 or equivalent					

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVHB - Hand Lever Valve Manifolds and Accessories

MVSE manifolds fit MVHB vertical lever manual valves. Available in 2 or 4 stations.



Part No. [100430093024001](#)



Part No. [100430093000001](#)



Assembly example shown.



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

MVHB - Hand Lever Valve Manifolds								
Part No.	Mfg. Part No.	Number of Stations	Inlet Port Size	Exhaust Port Size	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
100430093024001	MVSE-300-5B2-NPT	2	(2) 3/8" FNPT	(4) 3/8" FNPT	PDF	PDF	\$18.00	0.51
100430093044001	MVSE-300-5B4-NPT	4				PDF	\$29.00	0.89
100450093024001	MVSE-500-5B2-NPT	2	(2) 1/2" FNPT	(4) 1/2" FNPT	PDF	PDF	\$27.00	0.84
100450093044001	MVSE-500-5B4-NPT	4				PDF	\$44.00	1.50

MVHB - Hand Lever Manifold Accessories						
Part No.	Mfg. Part No.	Description	Manufacturer Technical Specifications	Drawing Link	Price	Weight (lb)
100430093000001	MVSE-300-5P	Mindman blanking plate, plated steel. For use with MVSE-300-5 series manifolds. Mounting screws included.	PDF	PDF	\$3.00	0.09
100246093000004	MVSC-460-5P	Mindman blanking plate, plated steel. For use with MVSC-460-5 and MVSE-500-5 series manifolds. Mounting screws included.	PDF	PDF	\$2.00	0.19

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVHD - Push-Pull Valves



Part No. [106322000034002](#)



Part No. [106322000044002](#)

The MVHD-220 series are compact panel-mounted push-pull hand valves designed for manual pneumatic control in space-constrained applications. Available in 3-way and 4-way configurations with 1/4" NPT ports, these valves feature an 18 mm² effective orifice and operate across 0 to 116 psi pressure range. The ergonomic push-pull actuator design allows for single-handed operation through a compact ø14.5mm panel mounting hole, with both momentary spring return and latching detent options available.

Features

- Compact panel mounting: Requires only ø14.5mm panel cutout with M14×1.5 threading for quick installation in control panels, operator stations, or equipment interfaces
- Push-pull operation: Ergonomic single-motion actuation provides intuitive control with minimal effort, ideal for applications requiring frequent manual valve operation
- Spring return and detent options: Standard models offer automatic spring return for momentary control, while detent versions provide maintained position operation without holding
- Versatile configurations: 3-way models available in normally closed (N.C.); 4-way models provide complete 5-port directional control for double-acting cylinders

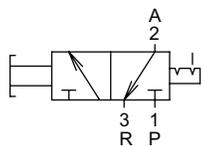


Diagram "A"

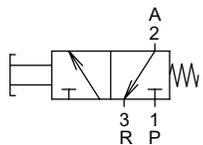


Diagram "B"

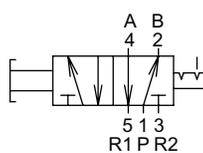


Diagram "C"

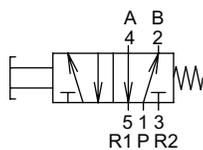


Diagram "D"



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

MVHD - Push-Pull Valves				
Part No.	106322000034002	106322000034003	106322000044002	106322000044003
Mfg. Part No.	MVHD-220-3P-NC-NPT	MVHD-220-3P-NC-SP-NPT	MVHD-220-4P-NPT	MVHD-220-4P-SP-NPT
Price	\$33.00	\$33.00	\$33.00	\$33.00
Drawing Link	PDF	PDF	PDF	PDF
Weight (lb)	0.38	0.38	0.42	0.42
Manufacturer Specs	PDF			
Valve Type	3-port (3-way)		5-port (4-way)	
Positions	2			
Pneumatic Diagram	A	B	C	D
Valve Configuration	N.C.		N/A	
Operator	Push-pull knob			
Acting	Detented	Spring return	Detented	Spring return
Inlet Port Size	1/4" FNPT			
Outlet Port Size	1/4" FNPT		(2) 1/4" FNPT	
Exhaust	1/4" FNPT		(2) 1/8" FNPT	
Flow (Cv)	1		1	
Media	Filtered air without lubrication; lubrication, if used, must be continuous			
Min. Operating Pressure	0 psi			
Max. Operating Pressure	116 psi			
Temperature	23 to 122 °F (-5 to +50 °C)			
Lubrication	ISO VG32 or equivalent			

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).

Mindman MVHC - Rotary Valves

Part No. [10622000034004](#)Part No. [10623000064005](#)

The MVHC series are robust rotary hand lever valves designed for panel-mounted manual pneumatic control with 4-port (4-way) directional operation. Available in three body sizes (200/300/400) with port sizes ranging from 1/8" to 3/4" FNPT, providing a wide range of flow capacity requirements. Operating across 7 to 145 psi pressure range, the rotary design offers three position options: closed center, exhaust center, or 2-position control for precise pneumatic system management.

Features

- Rotary panel mounting: Panel-mounted design provides secure installation with included mounting nut for professional control panel integration
- Three control configurations: Closed center, exhaust center, and 2-position options enable precise application matching for various pneumatic control requirements
- Scalable flow capacity: Three body sizes accommodate port configurations from 1/8" to 3/4" for applications from compact instrumentation to high-flow industrial systems
- Available with side ports

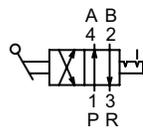


Diagram "A"

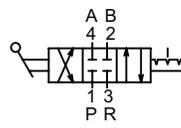


Diagram "B"

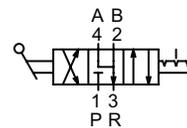


Diagram "C"



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

MVHC - Rotary Valves						
Part No.	106220200034002	10622000034004	106220100034003	106220200044006	106220000044006	106220100044005
Mfg. Part No.	MVHC-202-4H-6A-M-NPT	MVHC-200-4H-6A-M-NPT	MVHC-201-4H-6A-M-NPT	MVHC-202-4H-8A-M-NPT	MVHC-200-4H-8A-M-NPT	MVHC-201-4H-8A-M-NPT
Price	\$33.00	\$33.00	\$33.00	\$33.00	\$33.00	\$33.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	0.79	0.78	0.78	0.77	0.77	0.77
Manufacturer Specs	PDF					
Valve Type	4-port (4-way)					
Positions	2	3		2	3	
Pneumatic Diagram	A	B	C	A	B	C
Valve Configuration	N/A	Center closed	Center exhaust	N/A	Center closed	Center exhaust
Operator	Rotary lever					
Acting	Detented					
Inlet Port Size	1/8" FNPT			1/4" FNPT		
Outlet Port Size	(2) 1/8" FNPT			(2) 1/4" FNPT		
Exhaust	1/8" FNPT			1/4" FNPT		
Flow (Cv)	0.39			0.39		
Media	Filtered air without lubrication; lubrication, if used, must be continuous					
Min. Operating Pressure	7 psi					
Max. Operating Pressure	145 psi					
Temperature	23 to 140 °F (-5 to +60 °C)					
Lubrication	ISO VG32 or equivalent					

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).

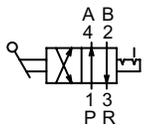

Mindman MVHC - Rotary Valves


Diagram "A"

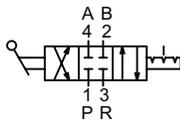


Diagram "B"

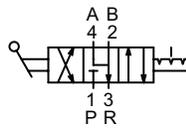


Diagram "C"

MVHC - Rotary Valves						
Part No.	106230200054005	106230000054006	106230200064002	106230000064005	106240200074002	106240000074005
Mfg. Part No.	MVHC-302-4H-10A-M-NPT	MVHC-300-4H-10A-M-NPT	MVHC-302-4H-15A-M-NPT	MVHC-300-4H-15A-M-NPT	MVHC-402-4H-20A-M-NPT	MVHC-400-4H-20A-M-NPT
Price	\$40.00	\$40.00	\$40.00	\$40.00	\$52.00	\$52.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	1.33	1.32	1.29	1.29	2.58	2.57
Manufacturer Specs	PDF					
Valve Type	4-port (4-way)					
Positions	2	3	2	3	2	3
Pneumatic Diagram	A	B	A	B	A	B
Valve Configuration	N/A	Center closed	N/A	Center closed	N/A	Center closed
Operator	Rotary lever					
Acting	Detented					
Inlet Port Size	3/8" FNPT		1/2" FNPT		3/4" FNPT	
Outlet Port Size	(2) 3/8" FNPT		(2) 1/2" FNPT		(2) 3/4" FNPT	
Exhaust	3/8" FNPT		1/2" FNPT		3/4" FNPT	
Flow (Cv)	1.61		1.83		3.94	
Media	Filtered air without lubrication; lubrication, if used, must be continuous					
Min. Operating Pressure	7 psi					
Max. Operating Pressure	145 psi					
Temperature	23 to 140 °F (-5 to +60 °C)					
Lubrication	ISO VG32 or equivalent					

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).

Mindman MVHS - Slide Valves

Part No. [106600000044001](#)Part No. [106600000074001](#)

The MVHS series are compact inline hand slide valves designed for simple manual on/off pneumatic control in portable and field applications. Available in four sizes with NPT threading from 1/4" to 3/4", these lightweight valves provide effective orifices for diverse flow requirements. Operating across 7-145 psi pressure range, the intuitive slide mechanism offers quick, single-handed actuation for 3-port, 2-position directional control in a compact, inline-mounted package.

Features

- Compact inline design: Lightweight construction with straight-through flow path enables space-efficient installation directly in pneumatic lines without panel mounting
- Simple slide operation: Intuitive push-pull slide mechanism provides quick, effortless single-handed actuation for on/off control in field or temporary applications
- Scalable flow capacity: Four size options from 1/4" to 3/4" accommodate applications from instrumentation to high-flow industrial requirements
- Wide pressure range: 7-145 psi operating range enables use in both low-pressure instrumentation and standard industrial pneumatic systems

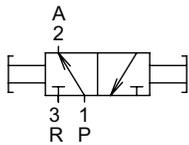


Diagram "A"

MVHS - Slide Valves				
Part No.	106600000044001	106600000054001	106600000064001	106600000074001
Mfg. Part No.	MVHS-8A-NPT	MVHS-10A-NPT	MVHS-15A-NPT	MVHS-20A-NPT
Price	\$11.00	\$12.50	\$20.00	\$28.50
Drawing Link	PDF	PDF	PDF	PDF
Weight (lb)	0.11	0.14	0.33	0.37
Manufacturer Specs	PDF			
Valve Type	2-port (3-way)			
Positions	2			
Pneumatic Diagram	A			
Operator	Hand slide			
Inlet Port Size	1/4" FNPT	3/8" FNPT	1/2" FNPT	3/4" FNPT
Outlet Port Size	1/4" male NPT	3/8" male NPT	1/2" male NPT	3/4" male NPT
Exhaust	Vent hole			
Flow (Cv)	1.69	1.79	3.53	4.74
Media	Filtered air without lubrication; lubrication, if used, must be continuous			
Min. Operating Pressure	7 psi			
Max. Operating Pressure	145 psi			
Temperature	23 to 140 °F (-5 to +60 °C)			
Lubrication	ISO VG32 or equivalent			

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).

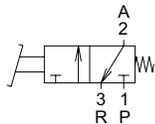
Part No. [107023003044001](#)Part No. [107024000444002](#)

Diagram "A"

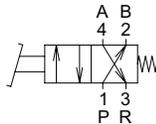


Diagram "B"

The MVFA series are industrial foot pedal valves designed for hands-free pneumatic control in manufacturing and assembly operations. Available in 3-way normally closed (MVFA-230) and 4-way (MVFA-240) configurations with 1/4" FNPT ports and 8 mm² effective orifice, these valves operate across 29-102 psi pressure range for reliable hands-free actuation. Optional features include protective cover for heavy-duty environments and locking mechanism for sustained operation without continuous foot pressure.

Features

- Hands-free operation: Foot pedal actuation enables operators to keep both hands free for assembly, material handling, or equipment operation tasks
- Protective guard option: Optional metal guard cover (P suffix) prevents accidental actuation from dropped objects or inadvertent contact, critical for safety in busy work areas
- Mechanical lock feature: Lock option (L suffix) maintains the pedal in actuated position for sustained air flow without continuous foot pressure, ideal for extended operation cycles
- Robust industrial design: Heavy-duty construction with optional protection ensures reliable performance in demanding factory floor environments



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

MVFA - Foot Valves								
Part No.	107023003044001		107023003444001		107023003044101		107023003444101	
Mfg. Part No.	MVFA-230-8A-NPT		MVFA-230-8A-L-NPT		MVFA-230-8A-P-NPT		MVFA-240-8A-PL-NPT	
Price	\$36.50		\$40.00		\$54.00		\$59.00	
Drawing Link	PDF		PDF		PDF		PDF	
Weight (lb)	1.66		1.71		3.35		3.40	
Manufacturer Specs	PDF							
Valve Type	3-port (3-way)				4-port (4-way)			
Positions	2							
Pneumatic Diagram	A				B			
Valve Configuration	N.C.				N/A			
Operator	Non-locking foot pedal	Locking foot pedal	Non-locking foot pedal	Locking foot pedal	Non-locking foot pedal	Locking foot pedal	Non-locking foot pedal	Locking foot pedal
Foot Guard	None		Yellow steel		None		Yellow steel	
Acting	Spring return							
Inlet Port Size	1/4" FNPT							
Outlet Port Size	1/4" FNPT							
Exhaust	1/4" FNPT				(2) 1/4" FNPT			
Flow (Cv)	0.44							
Media	Filtered air without lubrication; lubrication, if used, must be continuous							
Min. Operating Pressure	29 psi							
Max. Operating Pressure	102 psi							
Temperature	23 to 140 °F (-5 to +60 °C)							
Lubrication	ISO VG32 or equivalent							

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



Pneumatic Pushbuttons, 22 mm

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 22.5 mm hole, just like electrical pushbuttons.

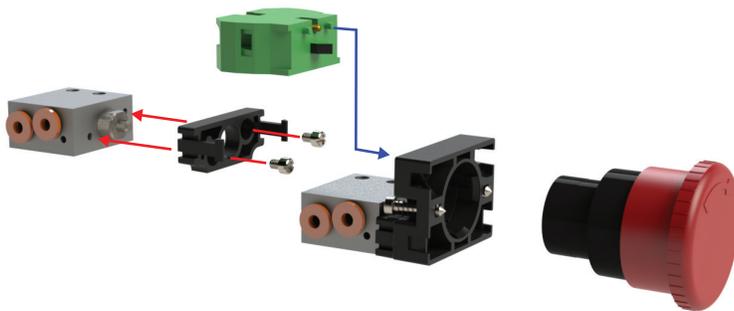
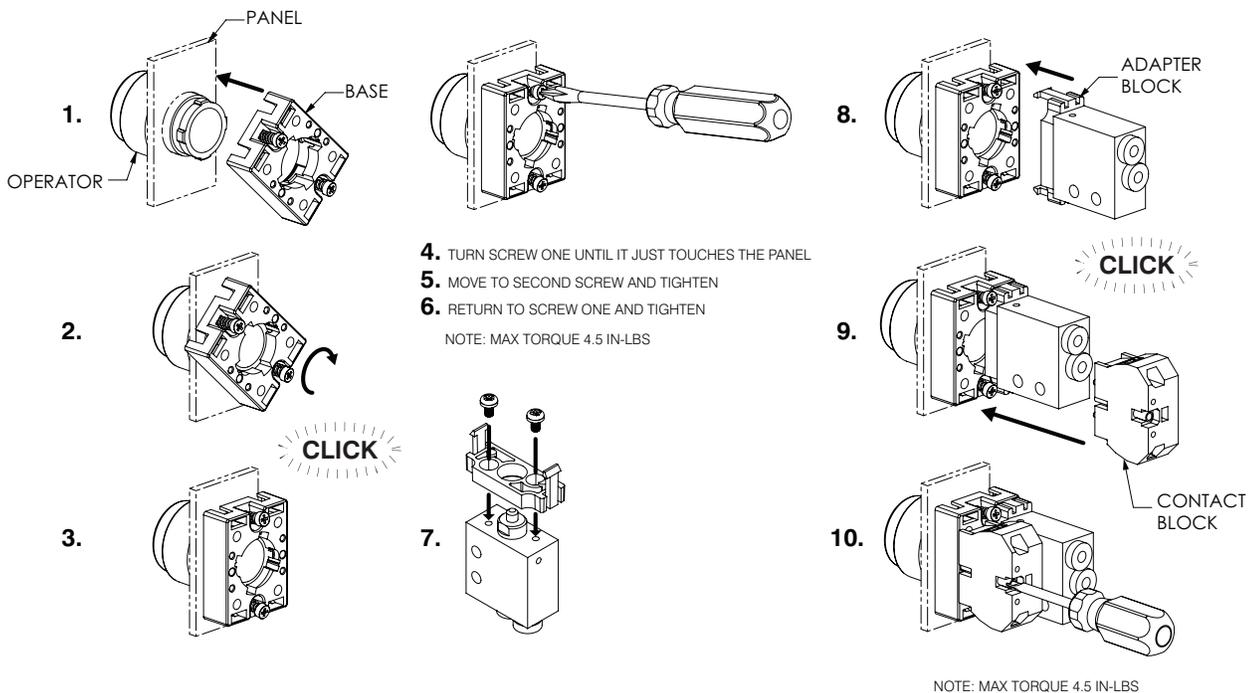
Features

- 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, 22 mm

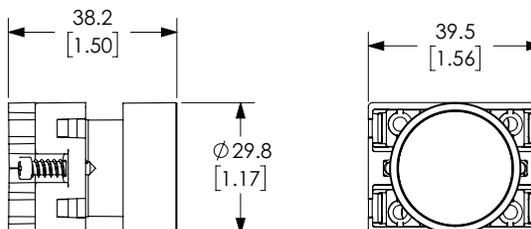
Momentary flush pushbuttons with protective plastic ring (30 mm diameter actuator)



ECP3100

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

Dimensions mm [inches]



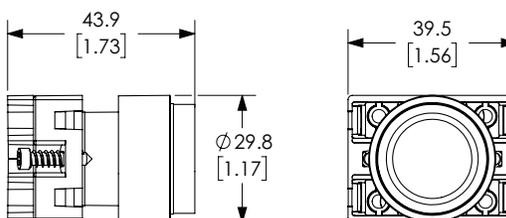
Momentary extended pushbuttons with protective plastic ring (30mm diameter actuator)



ECP3110

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

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



ECP3131



ECP3133



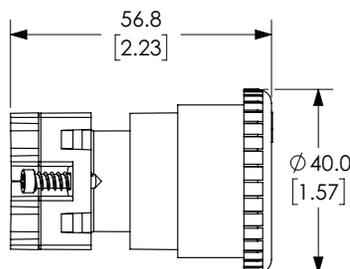
ECP3138

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

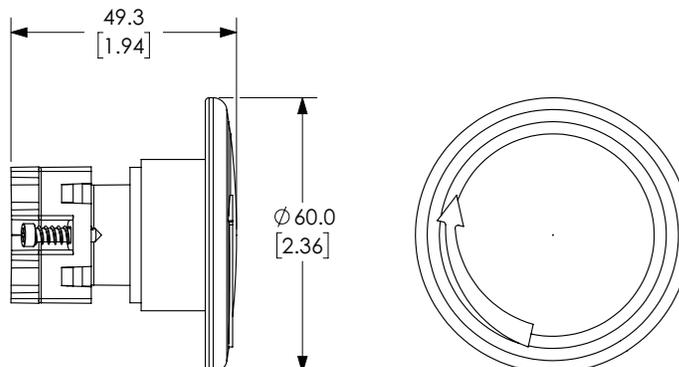
Dimensions

mm [inches]

40mm Versions



60mm Versions



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



Pneumatic Pushbuttons, 22 mm Key Operated & Double Headed

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



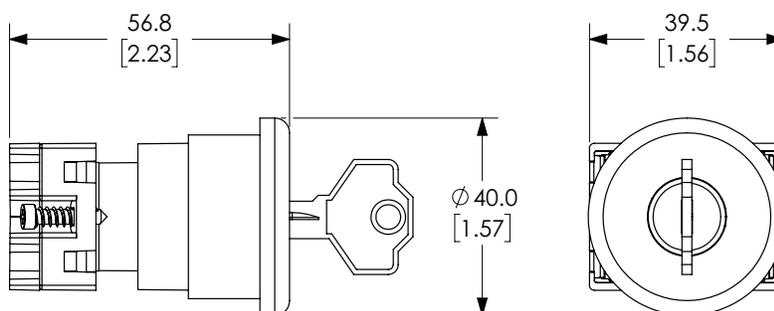
ECP3141

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



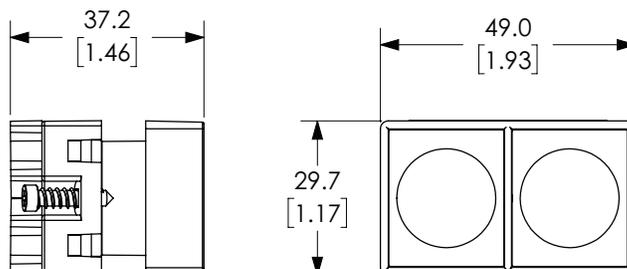
ECP3150



ECP3152

Part Number	Color	Description	Weight (lbs)	Price
ECP3150	Green/Red	NITRA pneumatic pushbutton, IP65, 22 mm, 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, 22 mm, 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, 22 mm Lever

Knob selector switches



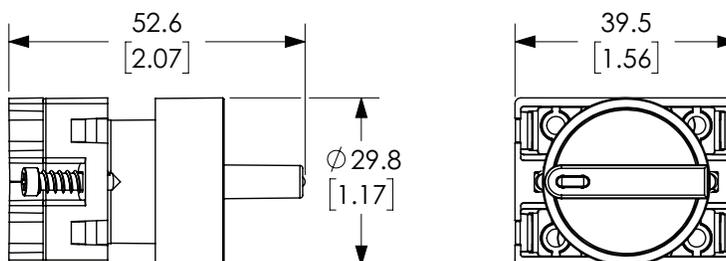
ECP3300

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



ECP3320

Dimensions mm [inches]



Long lever selector switches



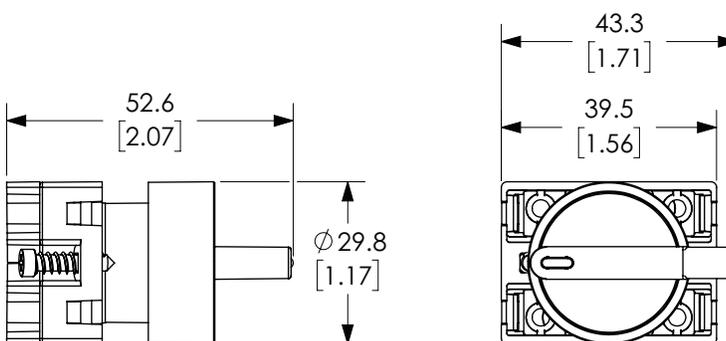
ECP3350

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



ECP3370

Dimensions mm [inches]



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



Pneumatic Key Selector Switches, 22 mm

Key selector switches



ECP3420

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

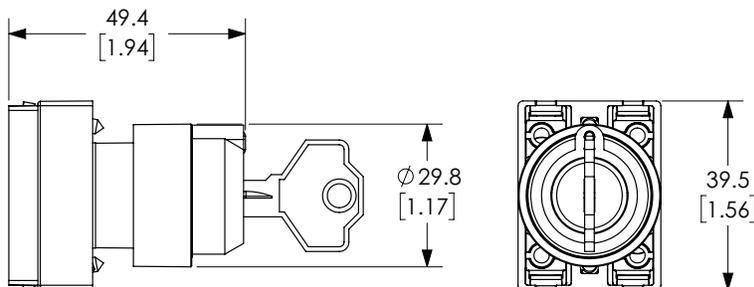


Note: Keyed switches come with two keys. All plastic 22 mm keyed switches are keyed the same. Replacement keys are available. Order part no. ECX1067-2 (pkg. of 2). Keys for plastic 22 mm keyed switches are not compatible with Cutler-Hammer key switches.



ECP3470

Dimensions mm [inches]



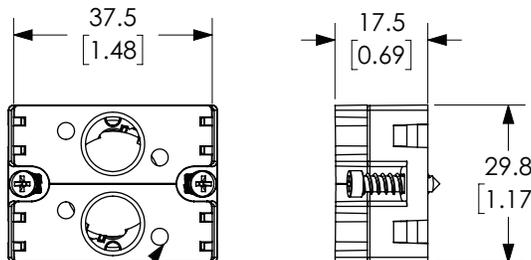
Pneumatic switch accessory - support base with adapters



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]



M3 THRU HOLE SCREWS INCLUDED

Note: base sold as three piece kit.

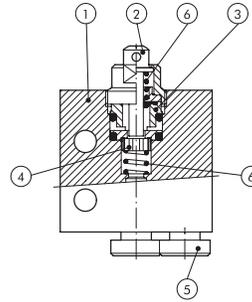
See our website www.AutomationDirect.com for complete Engineering drawings.



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" [4 mm] push-to-connect ports located on side or end

Valve Symbols

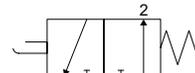


Diagram "A"

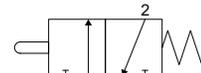


Diagram "B"

Specifications				
Models	<i>EVP-CA-PL</i>	<i>EVP-AA-PL</i>	<i>EVP-CS-PL</i>	<i>EVP-AS-PL</i>
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 5/32 in (4 mm)		Side ports 5/32 in (4 mm)	
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 to 140 °F (-10 to +60 °C)			
Lubrication	Not Required			
Body	Aluminum			
Protection	IP65			

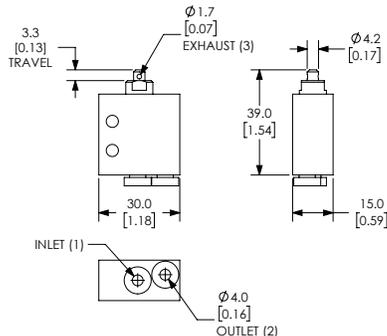


EVP-CA-PL

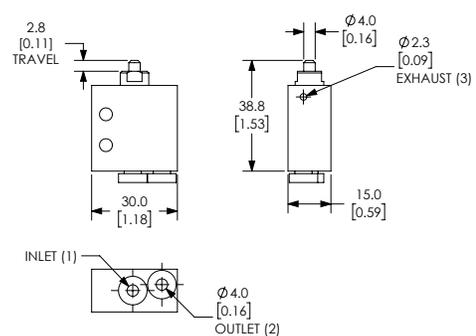


EVP-CS-PL

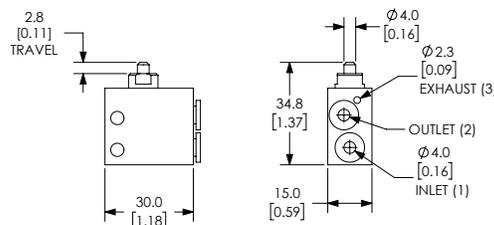
Dimensions mm [inches]



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" [4 mm] push-to-connect ports located on side or end



EVP-CA-R



EVP-AS-R

Valve Symbols

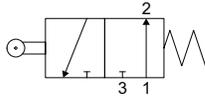


Diagram "C"

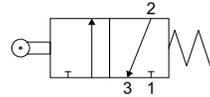
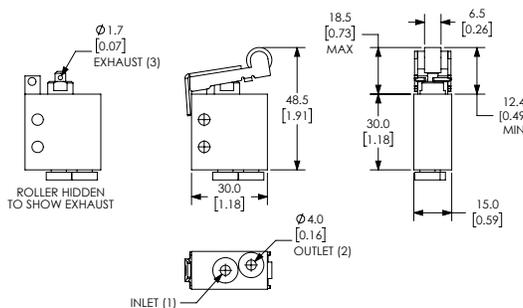


Diagram "D"

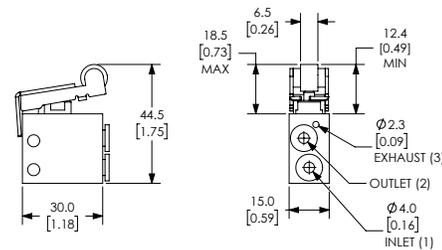
Specifications				
Models	<i>EVP-CA-R</i>	<i>EVP-AA-R</i>	<i>EVP-CS-R</i>	<i>EVP-AS-R</i>
Price	\$28.00	\$28.00	\$26.00	\$28.50
Weight (lbs)	0.1	0.1	0.1	0.1
Valve Type	2-port (3-way) 2-position			
Acting	Metal plunger with metal roller, normally closed, spring return	Metal plunger with metal roller, 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 5/32 in (4 mm)		Side ports 5/32 in (4 mm)	
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 to 140 °F (-10 to +60 °C)			
Lubrication	Not Required			
Body	Aluminum			
Protection	IP65			

Dimensions

mm [inches]



EVP-CA-R / EVP-AA-R



EVP-CS-R / EVP-AS-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" [4 mm] push-to-connect ports located on side or end



Valve Symbol

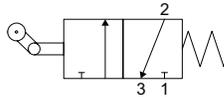


Diagram "E"

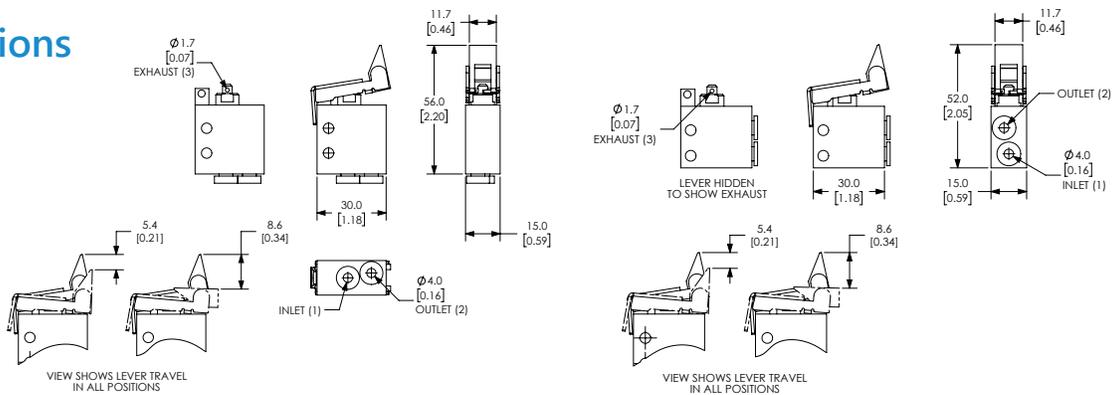
EVP-CA-T



EVP-CS-T

Specifications		
Models	<i>EVP-CA-T</i>	<i>EVP-CS-T</i>
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 5/32 in (4 mm)	Side ports 5/32 in (4 mm)
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 to 140 °F (-10 to +60 °C)	
Lubrication	Not Required	
Body	Aluminum	
Protection	IP65	

Dimensions mm [inches]



EVP-CA-T

EVP-CS-T

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" [4 mm] push-to-connect ports located on side or end
- Fits 1/2" diameter hole in panel



Valve Symbol

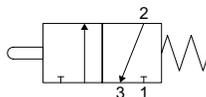


Diagram "B"

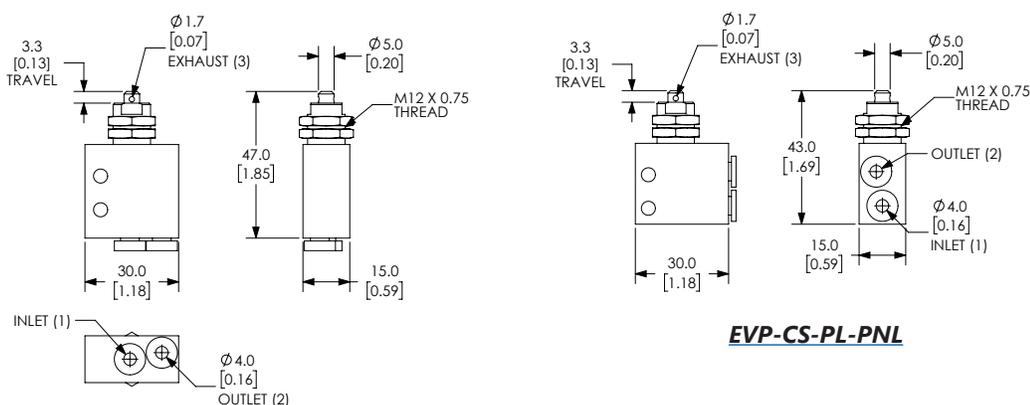
EVP-CA-PL-PNL



EVP-CS-PL-PNL

Specifications		
Models	EVP-CA-PL-PNL	EVP-CS-PL-PNL
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 5/32 in (4 mm)	Side ports 5/32 in (4 mm)
Flow (Cv)	0.13	0.13
Fluid	Air (to be filtered by 40µ filter element)	
Min. / Max. Pressure	7.25 to 145 psi (0.5 to 10 bar)	
Temperature	14 to 140 °F (-10 to +60 °C)	
Lubrication	Not Required	
Body	Aluminum	
Protection	IP65	

Dimensions mm [inches]



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

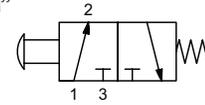


Pneumatic Manual Valves

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.

Diagram "A"



3-port, 2-position



Part No. GVP-3C2P-PB



Part No. GVP-3C1M2P-PB



Part No. GVP-3C1F-PB

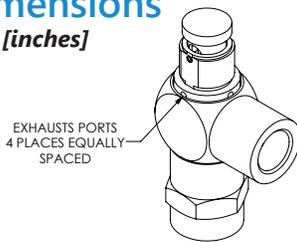
- Swivel output port
- High flow
- Poppet design contributes to product life
- Made in USA



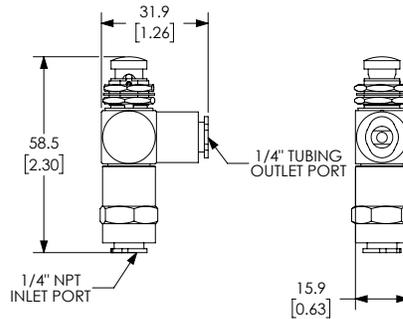
Specifications			
Models	<u>GVP-3C2P-PB</u>	<u>GVP-3C1M2P-PB</u>	<u>GVP-3C1F-PB</u>
Price	\$39.50	\$38.00	\$34.00
Weight (lbs)	0.1	0.1	0.1
Valve Type	3-port (3-way) 2-position		
Acting	Pushbutton, normally closed, spring return, through panel mount		
Diagram	A	A	A
Port Size	90-degree ports, 1/4in tube 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 to +160 °F (-51 to +71 °C)		
Lubrication	Not Required		
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Stainless Steel, Nylon, Acetal Copolymer, Buna-N		
Protection	IP65		

Dimensions mm [inches]

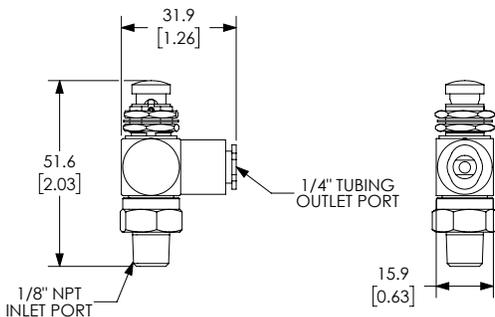
Note: For panel mounting
 • Maximum thickness 0.25"
 • Diameter Ø 0.484 thru



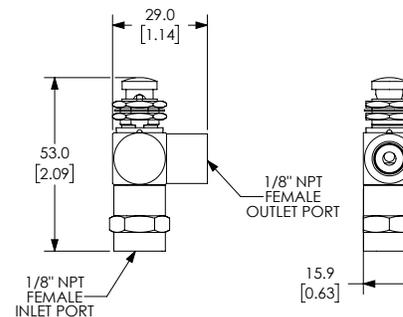
TYPICAL EXHAUST ON GVP- VALVES
 LOCK NUTS AND WASHERS NOT SHOWN FOR CLARITY



Part No. GVP-3C2P-PB



Part No. GVP-3C1M2P-PB



Part No. GVP-3C1F-PB

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

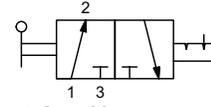


Pneumatic Manual Valves

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.

Diagram "A"



3-port, 2-position



Part No. GVP-3C2P-TD

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



Part No. GVP-3C1M2P-TD



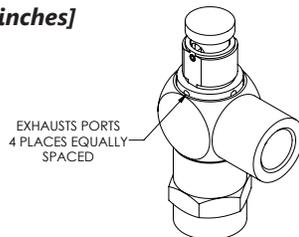
Part No. GVP-3C1F-TD

Specifications			
Models	<u>GVP-3C2P-TD</u>	<u>GVP-3C1M2P-TD</u>	<u>GVP-3C1F-TD</u>
Price	\$41.00	\$42.00	\$40.00
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 to +160 °F (-51 to +71 °C)		
Lubrication	Not Required		
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Stainless Steel, Nylon, Acetal Copolymer, Buna-N		
Protection	IP65		

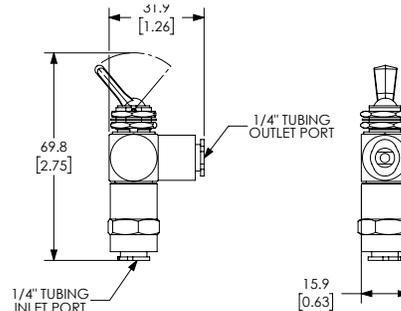
Dimensions

mm [inches]

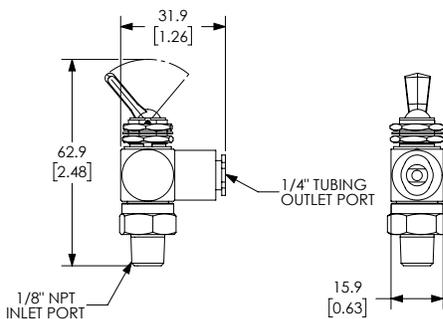
Note: For panel mounting
 • Maximum thickness 0.25"
 • Diameter Ø 0.484 thru



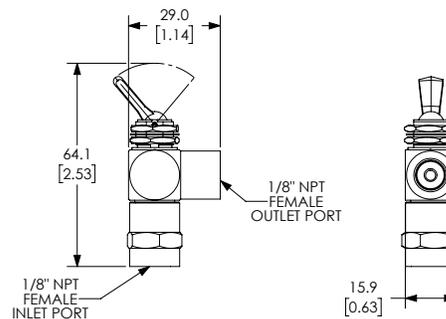
TYPICAL EXHAUST ON GVP- VALVES
 LOCK NUTS AND WASHERS NOT SHOWN FOR CLARITY



Part No. GVP-3C2P-TD



Part No. GVP-3C1M2P-TD



Part 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-3COF-TD-SS



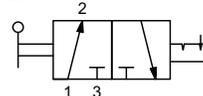
Part No. GVS-3COF-PB-SS

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

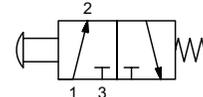


Diagram "A"



3-port, 2-position

Diagram "B"

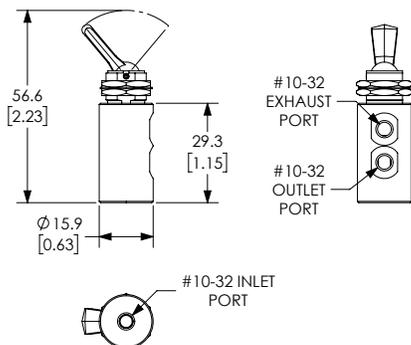


3-port, 2-position

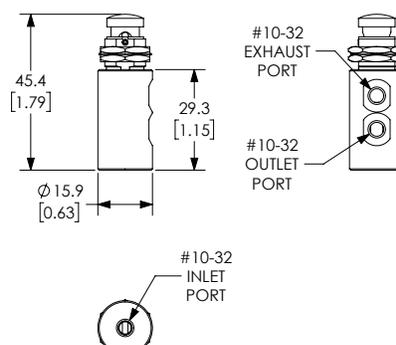
Specifications		
Models	<u>GVS-3COF-TD-SS</u>	<u>GVS-3COF-PB-SS</u>
Price	\$45.00	\$43.50
Weight (lbs)	0.1	0.1
Valve Type	3-port (3-way) 2-position	
Acting	Toggle style actuator, normally closed, detented, through panel mount	Pushbutton, normally closed, spring return, through panel mount
Diagram	A	B
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 40µ filter element)	
Min. / Max. Pressure	26" Hg to 125 psi (-0.8 to 8.62 bar)	
Temperature	-20 to +160 °F (-51 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-3COF-TD-SS



Part No. GVS-3COF-PB-SS

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



Pneumatic Manual Valves

Aluminum Single Stem Style



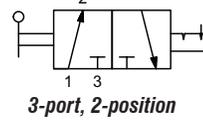
Part No. GVS-3C1F-TD

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

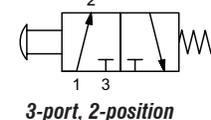


Diagram "A"



3-port, 2-position

Diagram "B"



3-port, 2-position



Part No. GVS-3C1F-PB



Part No. GVS-3CS1F-TD

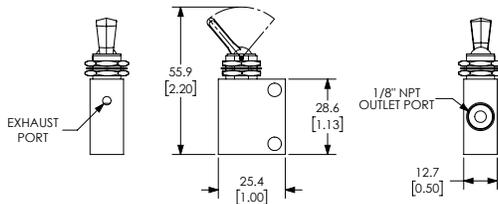


Part No. GVS-3CS1F-PB

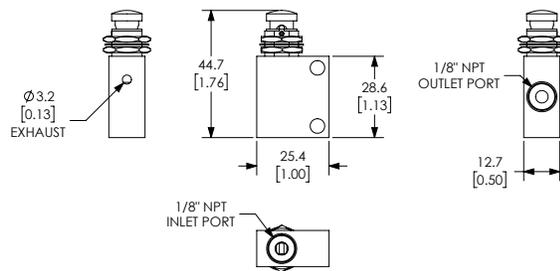
Specifications				
Models	<u>GVS-3C1F-TD</u>	<u>GVS-3C1F-PB</u>	<u>GVS-3CS1F-TD</u>	<u>GVS-3CS1F-PB</u>
Price	\$31.50	\$27.50	\$40.00	\$38.00
Weight (lbs)	0.05	0.05	0.1	0.1
Valve Type	3-port (3-way) 2-position			
Acting	Toggle style actuator, normally closed, detented, through panel mount	Pushbutton, 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 to +160 °F (-51 to +71 °C)			
Lubrication	Not Required			
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N			
Protection	IP65			

Dimensions

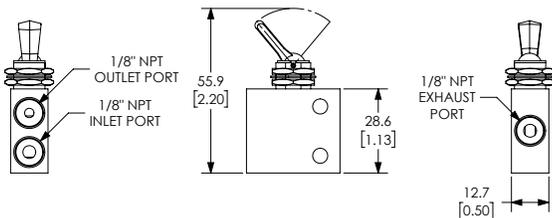
Note: For panel mounting
 · Maximum thickness 0.25"
 · Diameter Ø 0.484 thru



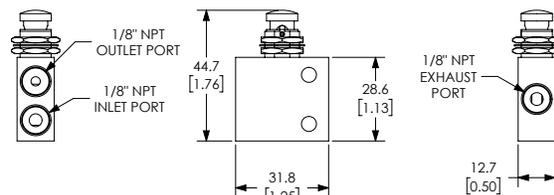
Part No. GVS-3C1F-TD



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"

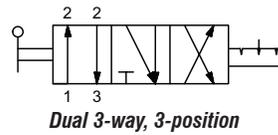


Diagram "B"

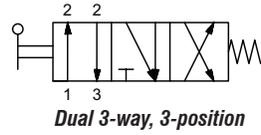


Diagram "C"

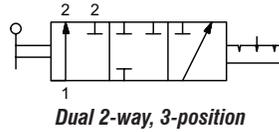
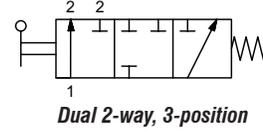


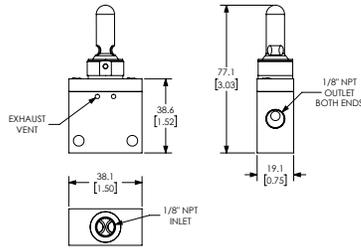
Diagram "D"



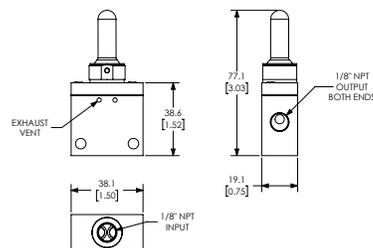
Specifications				
Models	GVS-331F-TD	GVS-331F-TM	GVS-231F-TD	GVS-231F-TM
Price	\$71.00	\$71.00	\$71.00	\$75.00
Weight (lbs)	0.3	0.3	0.3	0.3
Valve Type	Dual 3-way, 3-position, center exhaust		Dual 2-way, 3-position, center closed	
Acting	Toggle style actuator, detented, through panel mount	Toggle style, 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 to +160 °F (-51 to +71 °C)			
Lubrication	Not Required			
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N			
Protection	IP65			

Dimensions mm [inches]

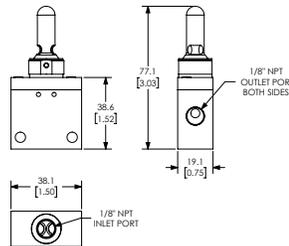
Note: For panel mounting
 • Maximum thickness 0.25"
 • Diameter Ø 0.781 thru



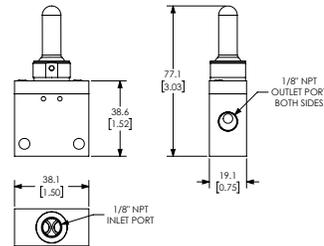
Part No. [GVS-331F-TD](#)



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



Part No. [GVS-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



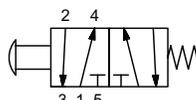
Part No. **GVS-520F-PB**

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

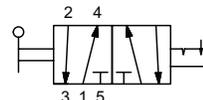


Diagram "A"



5-port, 2-position

Diagram "B"



5-port, 2-position



Part No. **GVS-520F-TD**



Part No. **GVS-521F-PB**



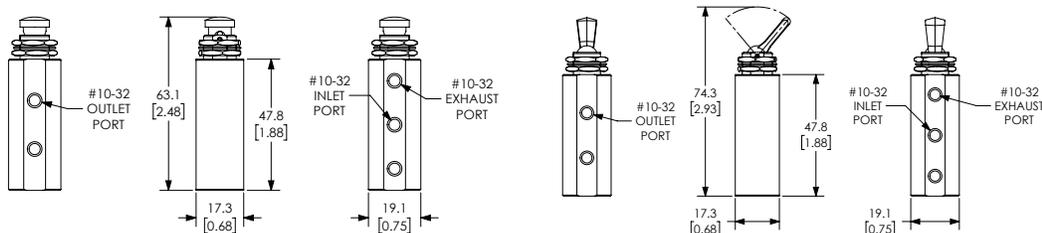
Part No. **GVS-521F-TD**

Specifications				
Models	GVS-520F-PB	GVS-520F-TD	GVS-521F-PB	GVS-521F-TD
Price	\$34.00	\$36.00	\$39.50	\$41.00
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 40µ filter element)			
Min. / Max. Pressure	0 to 125 psi (0 to 8.62 bar)			
Temperature	-20 to +160 °F (-51 to +71 °C)			
Lubrication	Not Required			
Body	Aluminum/ Anodize, Brass/ Electroless Nickel, Acetal, Stainless Steel, Nylon, Brass, Buna-N			
Protection	IP65			

Dimensions

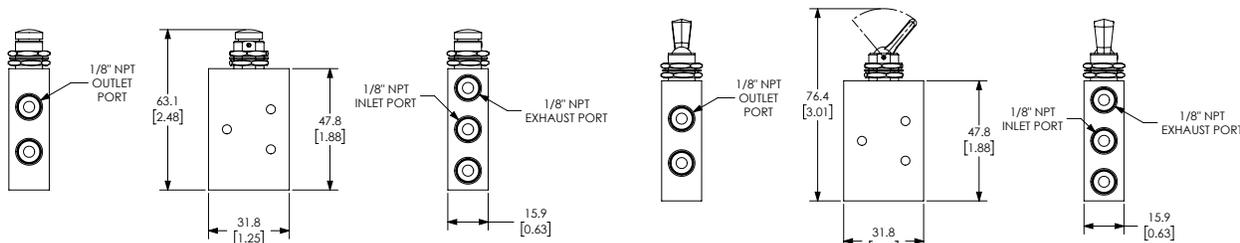
mm [inches]

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.

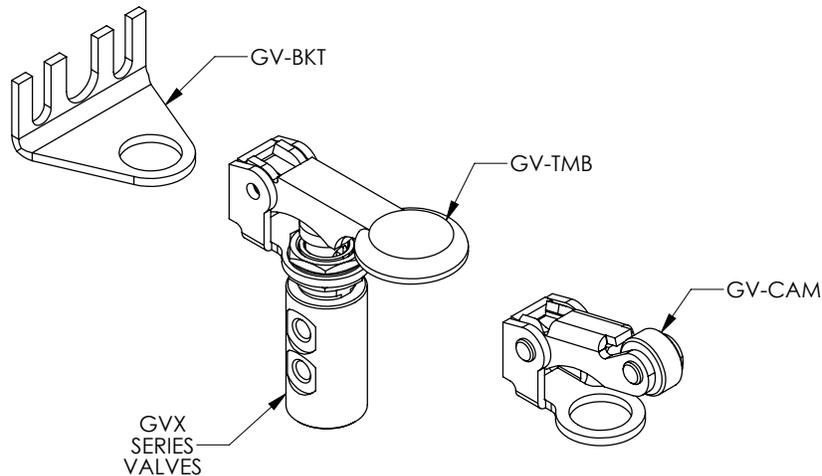


GVP and GVS Series Pneumatic Valve Accessories



Nitra Pneumatic GVP and GVS Series Pneumatic Valve Accessories				
Item	Part No.	Description	Price	Weight (lbs)
	<u>GV-BKT</u>	NITRA 90 degree mounting bracket, plated steel. For use with all GVP and GVS valves.	\$3.50	0.5
	<u>GV-CAM</u>	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.	\$16.00	0.5
	<u>GV-TMB</u>	NITRA thumb actuator, plated steel, for use with all GVP and GVS valves.	\$15.00	0.5

Assembly Example



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



MVHA - Miniature Round Valves

The MVHA series are ultra-lightweight, miniature hand-operated valves designed for space-critical pneumatic control applications. Available in 2-way (MVHA-2), 3-way (MVHA-3), and 4-way/5-port (MVHA-4) configurations, these compact valves operate across 0-130 psi with effective orifices for precise low-flow control. All series offer V-toggle for 80° lever operation or P-type push button for panel mounting via M12×0.8 threading, with the MVHA-4 additionally featuring a PP double push button option for independent positive control of both valve positions.



Part No. [106002101021007](#)



Part No. [106004005021007](#)



Part No. [106004205021001](#)

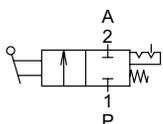


Diagram "A"

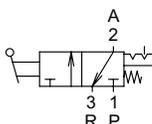


Diagram "B"

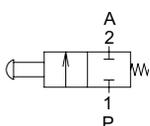


Diagram "C"

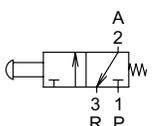


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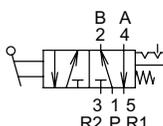


Diagram "E"

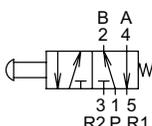


Diagram "F"

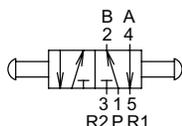


Diagram "G"

Features

- Ultra-lightweight design: Minimal weight with M5×0.8 ports, ideal for portable equipment, medical devices, and densely packed control panels
- Versatile port configurations: 2-way for simple on/off control, 3-way for single-acting directional control, or 4-way/5-port for complete double-acting cylinder control
- Multiple actuation options: V-toggle provides tactile 80° lever control; P-type offers compact push button operation; PP double push button (4-way only) enables independent control of extend/retract positions
- Compact panel mounting: Push button models feature M12×0.8 threading for secure installation with minimal panel space requirements, perfect for operator interfaces and control stations

MVHA - Miniature Round Valves							
Part No.	106002001021004	106002101021007	106003003021013	106003103021013	106004005021007	106004105021008	106004205021001
Mfg. Part No.	MVHA-2V	MVHA-2P	MVHA-3V	MVHA-3P	MVHA-4V	MVHA-4P	MVHA-4PP
Price	\$28.00	\$27.00	\$28.00	\$27.00	\$28.00	\$26.00	\$28.00
Drawing Link	PDF	PDF	PDF	PDF	PDF	PDF	PDF
Weight (lb)	0.09	0.09	0.09	0.09	0.16	0.16	0.18
Manufacturer Specs	PDF				PDF		
Valve Type	2-port (2-way)		2-port (3-way)		5-port (4-way)		
Positions	2						
Pneumatic Diagram	A	C	B	D	E	F	G
Valve Configuration	N/A	N.C.	N/A	N.C.	N/A	N/A	N/A
Operator	Toggle style actuator	Pushbutton	Toggle style actuator	Pushbutton	Toggle style actuator	Pushbutton	Double pushbutton
Acting	Detented	Spring return	Detented	Spring return	Detented	Spring return	N/A
Inlet Port Size	R1/8 male BSPT				M5 x 0.8 female ISO		
Outlet Port Size	M5 x 0.8 female ISO				(2) M5 x 0.8 female ISO		
Exhaust	N/A		Vent hole				
Flow (Cv)	0.1				0.11		
Media	Filtered air without lubrication; lubrication, if used, must be continuous						
Min. Operating Pressure	0 psi						
Max. Operating Pressure	130 psi						
Temperature	23 to 140°F (-5 to +60°C)						
Lubrication	ISO VG32 or equivalent						

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



MVHA - Miniature Square Valves

The MVHA-31 and MVHA-41 series are compact, manually operated hand valves designed for space-efficient pneumatic control with NPT threading. The 3-way MVHA-31 series provides directional control for single-acting cylinders, while the 4-way MVHA-41 series offers full double-acting cylinder control with separate exhaust ports. Both series operate across 0-130 psi and feature multiple actuation options: V-toggle for 80° lever operation, single push button (P), and double push button (PP - MVHA-41 only) for independent positive control of both valve positions.



Part No. [106031103034001](#)



Part No. [106041005034001](#)



Part No. [106041205034001](#)

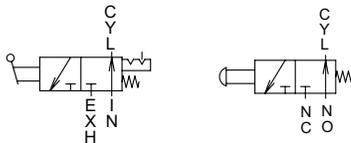


Diagram "A"

Diagram "B"

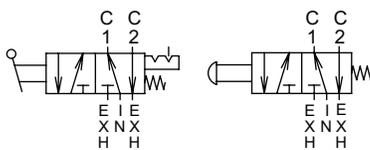


Diagram "D"

Diagram "E"

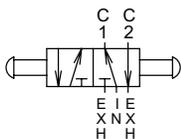


Diagram "F"



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

Features

- Compact panel-mounted design: Push button models (31P/41P/41PP) feature M12×0.8 threading for secure panel installation, with 41PP offering dual M12×0.8 threads for side-by-side mounting flexibility
- Multiple actuation styles: V-toggle provides tactile 80° lever control with clear position indication; P-type single push button offers momentary vertical actuation; PP double push button enables independent extend/retract control
- Enhanced flow capacity: MVHA-31 for single-acting applications; MVHA-41 for faster double-acting cylinder speeds and higher flow requirements
- Separate exhaust ports: MVHA-41 series features independent exhaust ports for individual A and B side venting, enabling silencer installation or exhaust flow control for speed regulation
- (2) M5x0.8 slotted plugs are provided with the MVHA-41 valves. These can serve as simple flow controls on the exhaust

MVHA - Miniature Square Valves					
Part No.	106031103034001	106031103034001	106041005034001	106041105034002	106041205034001
Mfg. Part No.	MVHA-31V-NPT	MVHA-31P-NPT	MVHA-41V-NPT	MVHA-41P-NPT	MVHA-41PP-NPT
Price	\$36.00	\$34.00	\$41.00	\$41.00	\$48.00
Drawing Link	PDF	PDF	PDF	PDF	PDF
Weight (lb)	0.14	0.13	0.17	0.16	0.18
Manufacturer Specs	PDF		PDF		
Valve Type	3-port (3-way)		5-port (4-way)		
Positions	2				
Pneumatic Diagram	A	B	C	D	E
Valve Configuration	N/A	N.O./N.C.	N/A	N/A	N/A
Operator	Toggle style actuator	Pushbutton	Toggle style actuator	Pushbutton	Double pushbutton
Acting	Detented	Spring return	Detented	Spring return	N/A
Inlet Port Size	1/8" FNPT				
Outlet Port Size	1/8" FNPT		(2) 1/8" FNPT		
Exhaust	1/8" FNPT		(2) M5 x 0.8 female ISO		
Flow (Cv)	0.25		0.31		
Media	Filtered air without lubrication; lubrication, if used, must be continuous				
Min. Operating Pressure	0 psi				
Max. Operating Pressure	130 psi				
Temperature	23 to 140 °F (-5 to +60 °C)				
Lubrication	ISO VG32 or equivalent				

For additional details see manufacturer's technical specifications, manuals and inserts (where applicable).



Exhaust Silencers

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

Features

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



SBC Series

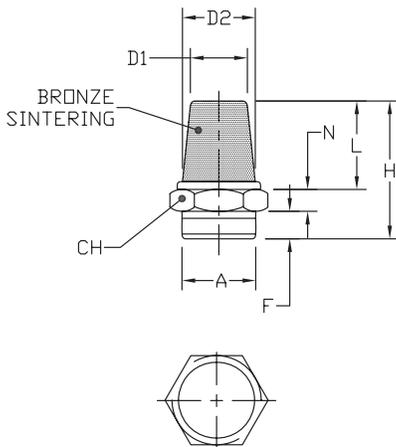


SBF Series



SPL Series

SBC Silencers

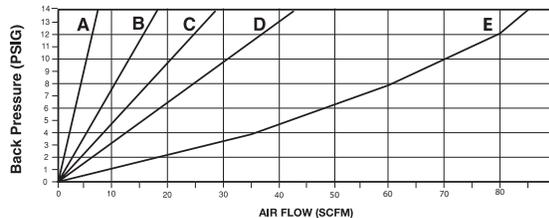


NITRA™ Bronze Cone Silencers											
Inch Sizes - dimensions in inches [mm]											
Part No.	Price	A	CH	D1	D2	F	H	L	N	Package Weight (lb)	Qty. per pack
SBC-18N	\$3.50	MNPT 1/8	0.47 [12.0]	0.32 [8.0]	0.28 [7.0]	0.24 [6.0]	0.94 [24.0]	0.55 [14.0]	0.16 [4.0]	0.01	2
SBC-14N	\$4.75	MNPT 1/4	0.63 [16.0]	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]											
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	2
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

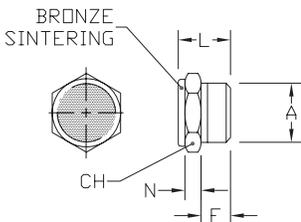
Bronze Cone Silencers

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



Noise Elimination = > 20db
Filtered Element = 40 micron

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	
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	\$7.50	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	
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		

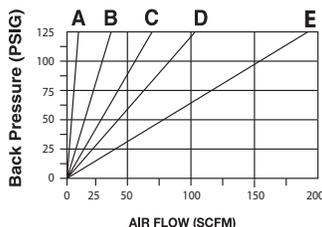


Exhaust Silencers

Flow Characteristics

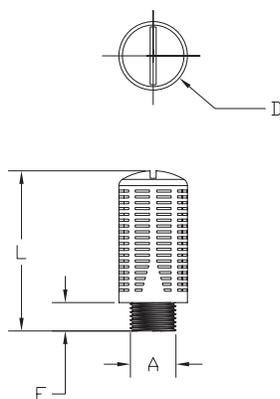
Bronze Flat Silencers

- 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



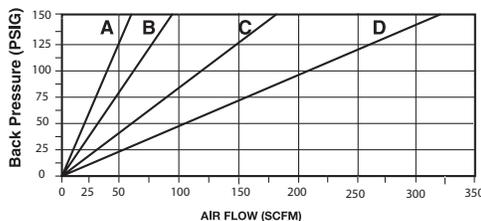
Note: SPL series plastic exhaust silencers have a maximum pressure of 80 PSI (5.5 bar).

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