



# Pneumatic Directional Control Solenoid Valves – AVS-5 Series

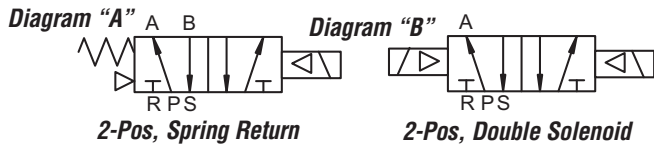


AVS-5211

AVS-5221



Stacked solenoids shown mounted on optional manifold



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" or 3/8" NPT with flow coefficients (Cv) from 0.67 to 0.89. 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.

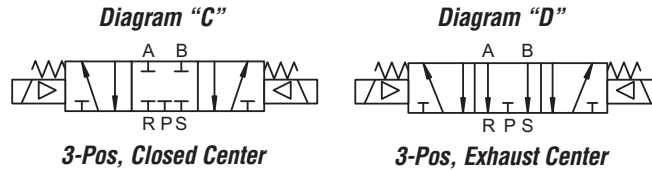
## Features

- Body ported, 5-port (4-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; 3-position, double solenoid center closed or center exhaust
- 24VDC or 120VAC solenoid coils
- DIN style wiring connector with LED indication
- Single valve or multiple manifold mounted valve applications
- Locking manual operator
- 2 year warranty



AVS-5 (5-port, 2-position) Series Specifications																		
Model	AVS-5211-24D	AVS-5211-120A	AVS-5221-24D	AVS-5221-120A	AVS-5212-24D	AVS-5212-120A	AVS-5222-24D	AVS-5222-120A	AVS-5312-24D	AVS-5312-120A	AVS-5322-24D	AVS-5322-120A	AVS-5313-24D	AVS-5313-120A	AVS-5323-24D	AVS-5323-120A		
Price	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->	<-->		
Weight (lbs)	0.5	0.5	0.8	0.8	0.5	0.5	0.8	0.8	0.8	0.8	1.0	1.0	0.7	0.7	1.0	1.0		
Valve Type	5 port 2 position																	
Acting	Internally Piloted																	
Diagram	A			B			A			B			A			B		
Port Size	In/Out/Exhaust=1/8"				In/Out=1/4", Exhaust=1/8"				In/Out/Exhaust=1/4"				In/Out=3/8", Exhaust=1/4"					
Orifice Size	14mm <sup>2</sup> (Cv=0.78)				16mm <sup>2</sup> (Cv=0.89)				25mm <sup>2</sup> (Cv=1.4)				30mm <sup>2</sup> (Cv=1.68)					
Fluid	Air (to be filtered by 40µ filter element)																	
Nom Pressure	20-115Psi, (0.15-0.8MPa), (1.5-8.0 bar)																	
Voltage	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 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: 2.5W   AC: 3.5 VA; continuous duty (100% ED)																	
Max Freq	5 cycles/sec																	
Insulation	B class																	
Min Response	0.05 sec																	
Temperature	-5-60°C (23-140°F)																	
Lubrication	Not Required																	
Protection	IP65 (DIN40050)																	
Connection	DIN Terminal or Grommet																	
Body	Aluminum Alloy																	
Agency Approvals	Solenoid CE marked; RoHS																	

# Pneumatic AVS Directional Control Solenoid Valves – AVS-5 Series



AVS-5 (5-port, 3-position) Series Specifications																
Model	AVS-523C1-24D	AVS-523C1-120A	AVS-523E1-24D	AVS-523E1-120A	AVS-523C2-24D	AVS-523C2-120A	AVS-523E2-24D	AVS-523E2-120A	AVS-533C2-24D	AVS-533C2-120A	AVS-533E2-24D	AVS-533E2-120A	AVS-533C3-24D	AVS-533C3-120A	AVS-533E3-24D	AVS-533E3-120A
Price	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->	<--->
Weight (lbs)	0.9	0.8	0.9	0.9	0.9	0.8	0.9	0.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Valve Type	5 port 3 position															
Acting	Internally Piloted															
Diagram	C		D		C		D		C		D		C		D	
Port Size	In/Out/Exhaust=1/8"				In/Out=1/4", Exhaust=1/8"				In/Out/Exhaust=1/4"				In/Out=3/8", Exhaust=1/4"			
Orifice Size	12mm <sup>2</sup> (Cv=0.67)								18mm <sup>2</sup> (Cv=1.0)							
Fluid	Air (to be filtered by 40µ filter element)															
Nom Pressure	20–115Psi, (0.15–0.8MPa), (1.5–8.0 bar)															
Voltage	24 VDC double solenoid	120 VAC double solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC double solenoid	120 VAC double solenoid	24 VDC double solenoid	120 VAC double solenoid
Power Consumption	DC: 2.5W   AC: 3.5 VA; continuous duty (100% ED)															
Max Freq	3 cycles/sec															
Insulation	B class															
Min Response	0.05 sec															
Temperature	-5–60°C (23–140°F)															
Lubrication	Not Required															
Protection	IP65 (DIN40050)															
Connection	DIN Terminal or Grommet															
Body	Aluminum Alloy															
Agency Approvals	Solenoid CE marked; RoHS															

- Company Info.
- PLCs
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- AC Drives
- AC Motors
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- Motor Controls
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors
- Pressure Sensors
- Temp. Sensors
- Pushbuttons/ Lights
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- Appendix
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# Pneumatic Directional Control Solenoid Valves – AVS-5 Series

## Dimensions

**AVS-5211,  
AVS-5212**

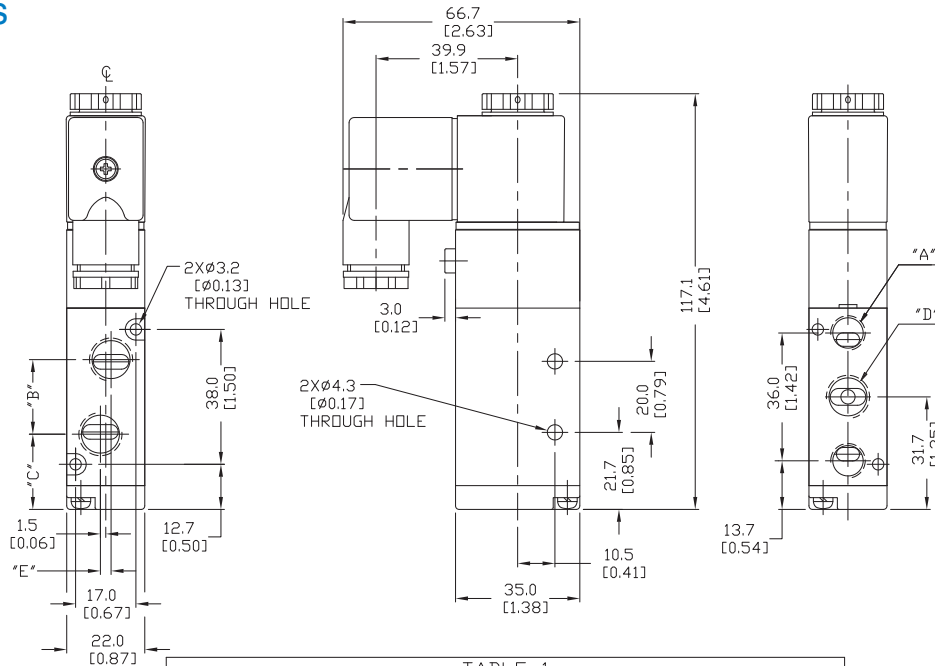


TABLE 1

PART NUMBER	DIM 'A'	QTY DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'	QTY DIM 'D'	DIM 'E'
AVS-5211-24D	1/8-28	5	18.0 [0.71]	22.7 [0.89]	N/A	N/A	DN Ç
AVS-5211-120A	1/8-28	5	18.0 [0.71]	22.7 [0.89]	N/A	N/A	DN Ç
AVS-5212-24D	1/8-28	2	21.0 [0.83]	21.2 [0.83]	1/4-19	3	3.0 [0.12]
AVS-5212-120A	1/8-28	2	21.0 [0.83]	21.2 [0.83]	1/4-19	3	3.0 [0.12]

**AVS-5221,  
AVS-5222**

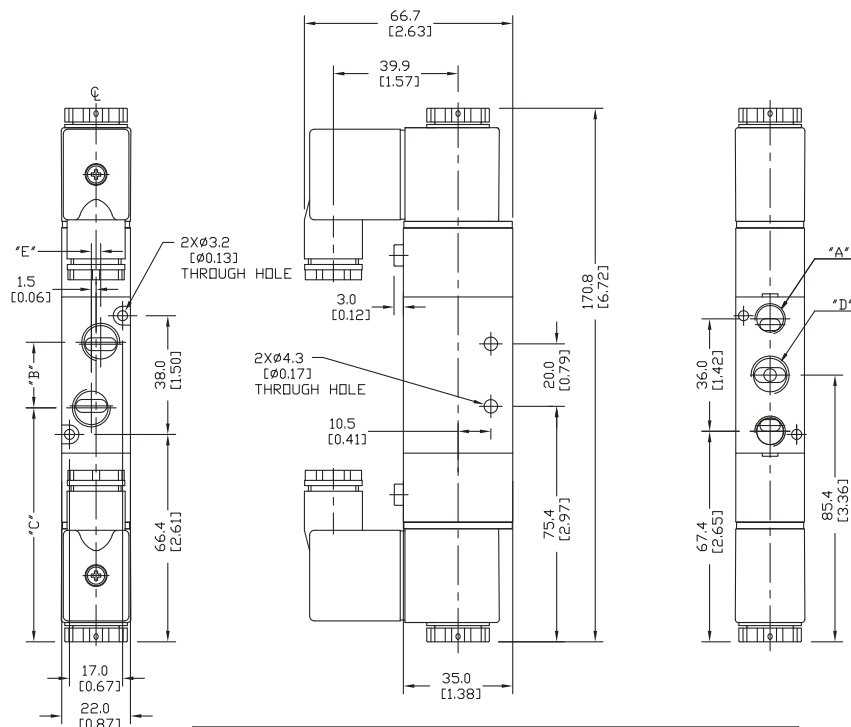


TABLE 1

PART NUMBER	DIM 'A'	QTY DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'	QTY DIM 'D'	DIM 'E'
AVS-5221-24D	1/8-28	5	18.0 [0.71]	76.4 [3.01]	N/A	N/A	DN Ç
AVS-5221-120A	1/8-28	5	18.0 [0.71]	76.4 [3.01]	N/A	N/A	DN Ç
AVS-5222-24D	1/8-28	2	21.0 [0.83]	74.9 [2.95]	1/4-19	3	3.0 [0.12]
AVS-5222-120A	1/8-28	2	21.0 [0.83]	74.9 [2.95]	1/4-19	3	3.0 [0.12]

Dimensions in mm [inches]

# Pneumatic Directional Control Solenoid Valves – AVS-5 Series

## Dimensions

**AVS-5312,  
AVS-5313**

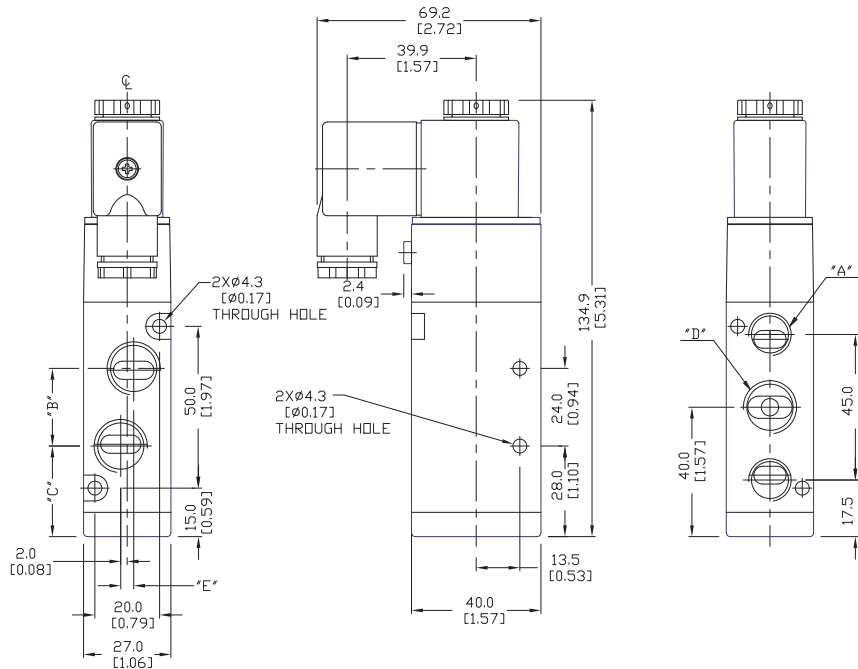


TABLE 1

PART NUMBER	DIM 'A'	QTY DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'	QTY DIM 'D'	DIM 'E'
AVS-5312-24D	1/4-19	5	22.0 [0.87]	29.0 [1.14]	N/A	N/A	DN $\varnothing$
AVS-5312-120A	1/4-19	5	22.0 [0.87]	29.0 [1.14]	N/A	N/A	DN $\varnothing$
AVS-5313-24D	1/4-19	2	24.0 [1.10]	28.0 [1.10]	3/8-19	3	4.0 [0.16]
AVS-5313-120A	1/4-19	2	24.0 [1.10]	28.0 [1.10]	3/8-19	3	4.0 [0.16]

**AVS-5322,  
AVS-5323**

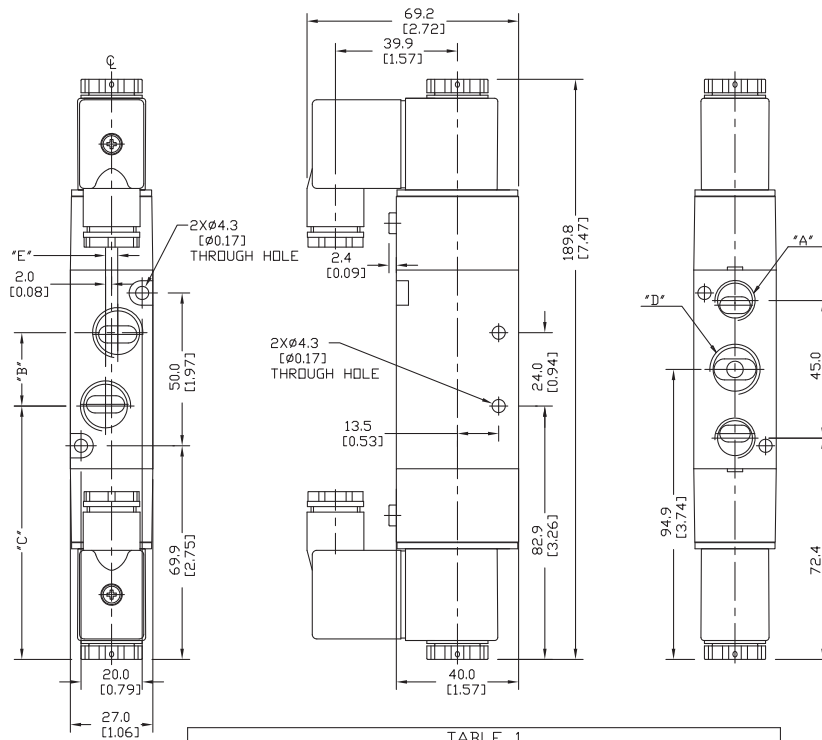


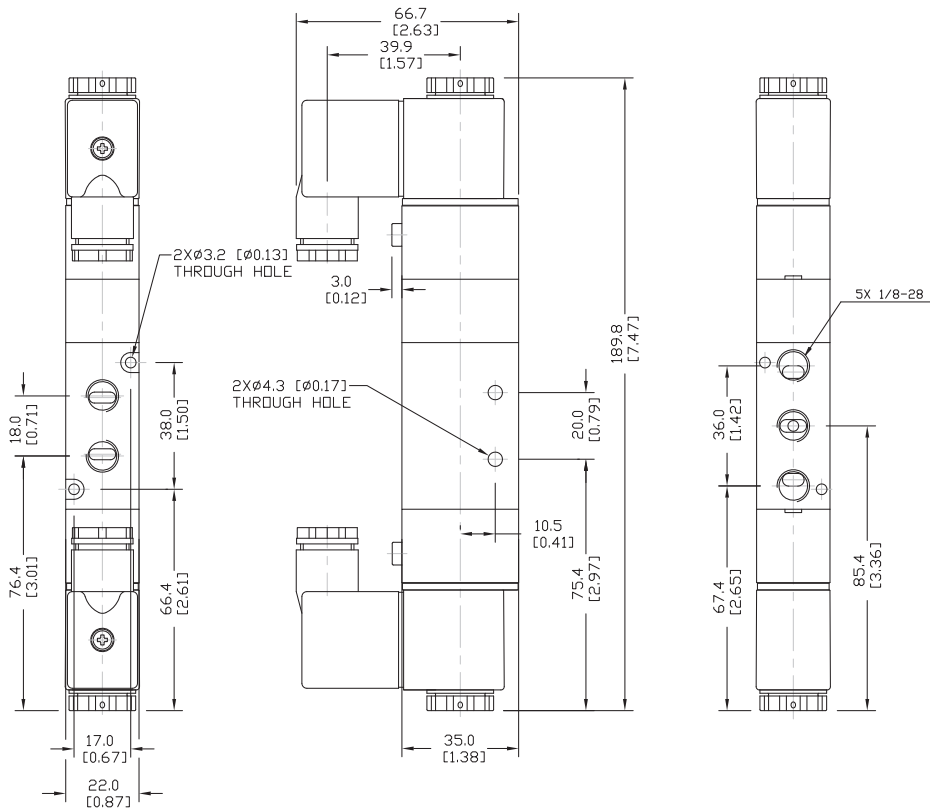
TABLE 1

PART NUMBER	DIM 'A'	QTY DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'	QTY DIM 'D'	DIM 'E'
AVS-5322-24D	1/4-19	5	22.0 [0.87]	83.9 [3.30]	N/A	N/A	DN $\varnothing$
AVS-5322-120A	1/4-19	5	22.0 [0.87]	83.9 [3.30]	N/A	N/A	DN $\varnothing$
AVS-5323-24D	1/4-19	2	24.0 [0.95]	82.9 [3.26]	3/8-19	3	4.0 [0.16]
AVS-5323-120A	1/4-19	2	24.0 [0.95]	82.9 [3.26]	3/8-19	3	4.0 [0.16]

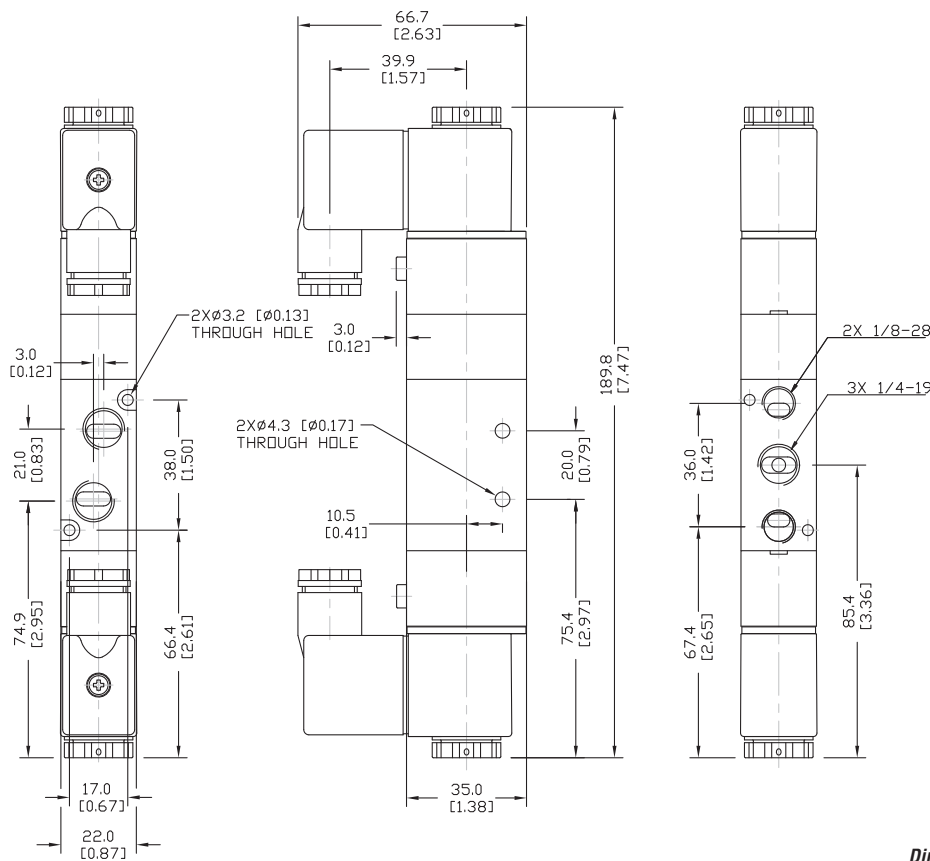
Dimensions in mm [inches]

## Dimensions

**AVS-523C1,  
AVS-523E1**



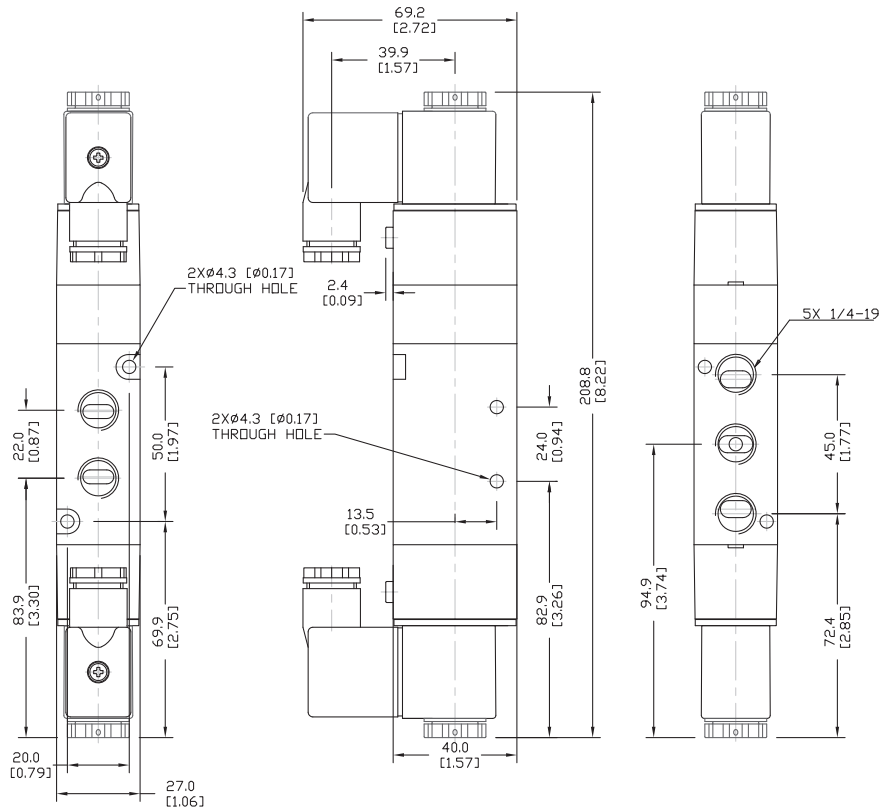
**AVS523C2,  
AVS523E2**



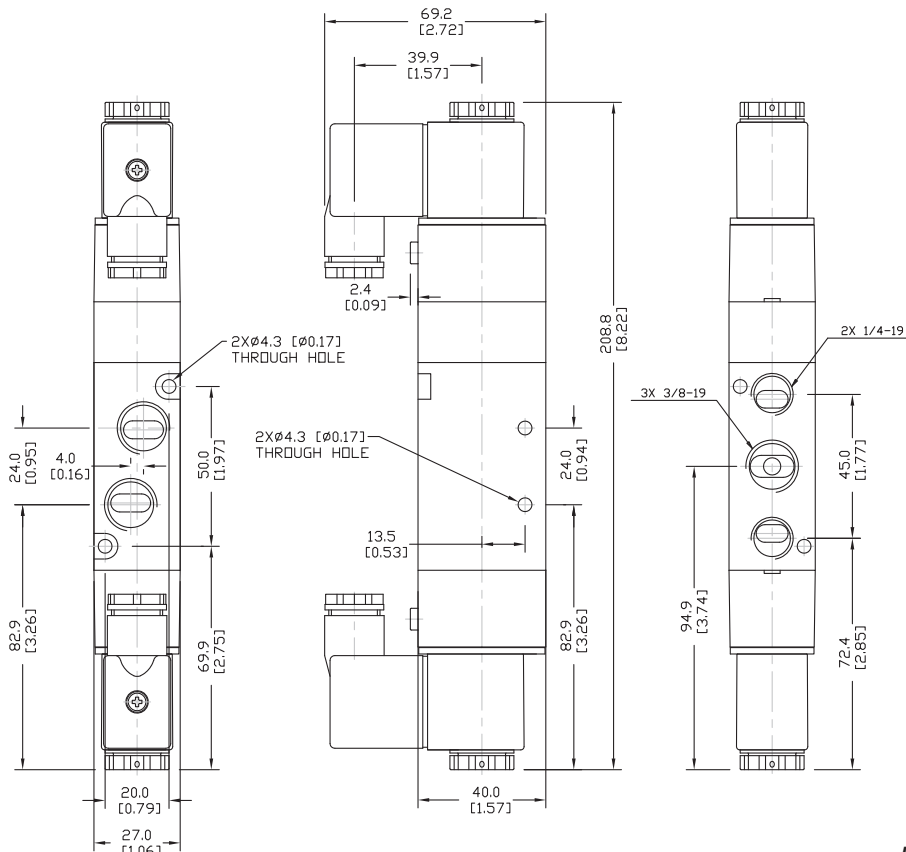
Dimensions in mm [inches]

## Dimensions

**AVS-533C2,  
AVS-533E2**



**AVS533C3,  
AVS533E3**



Dimensions in mm (inches)



# Pneumatic Direction Control Solenoid Valve Manifolds and Accessories



**AM Series Manifolds**

Pneumatic Directional Control Solenoid Valve Series Accessories			
Part No.	Price	Description	Weight (lbs)
<b>AM-522</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 2-station, for use with AVS-52 series directional control valves. Valve mounting screws and gaskets included.	0.5
<b>AM-524</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 4-station, for use with AVS-52 series directional control valves. Valve mounting screws and gaskets included.	0.9
<b>AM-526</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 6-station, for use with AVS-52 series directional control valves. Valve mounting screws and gaskets included.	1.2
<b>AM-528</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 8-station, for use with AVS-52 series directional control valves. Valve mounting screws and gaskets included.	1.5
<b>AM-52BP</b>	<--->	NITRA pneumatic blanking plate for use with AM-52 series manifolds. Mounting screws provided.	0.1
<b>AM-532</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 2-station, for use with AVS-53 series directional control valves. Valve mounting screws and gaskets included.	0.8
<b>AM-534</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 4-station, for use with AVS-53 series directional control valves. Valve mounting screws and gaskets included.	1.4
<b>AM-536</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 6-station, for use with AVS-53 series directional control valves. Valve mounting screws and gaskets included.	1.9
<b>AM-538</b>	<--->	NITRA pneumatic valve manifold, 5-port (4-way), 8-station, for use with AVS-53 series directional control valves. Valve mounting screws and gaskets included.	2.5
<b>AM-53BP</b>	<--->	NITRA pneumatic blanking plate for use with AM-53 series manifolds. Mounting screws provided.	0.1
<b>AVP-31BKT</b>	<--->	NITRA pneumatic individual mounting bracket for use with AVP-31 series directional control valves.	0.1
<b>AVP-31KIT</b>	<--->	NITRA (tm) pneumatic stacking screw kit for use with AVP-31 directional control valves. One kit is required for each additional AVP-31 valve added to the stack.	0.1



**AM-52BP**



**AVP-31BKT**



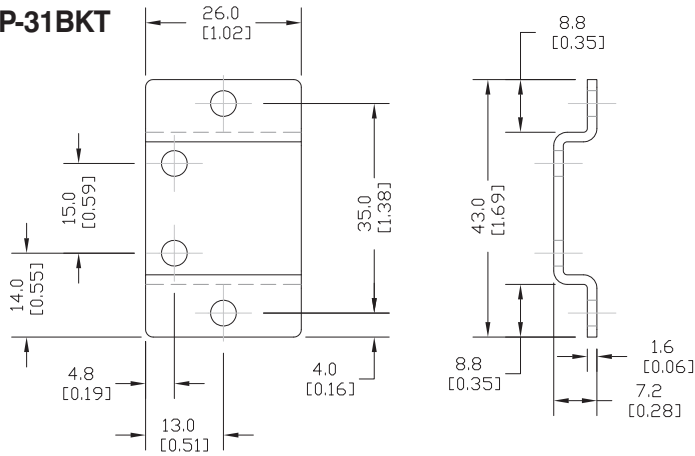
**AVP-31KIT**



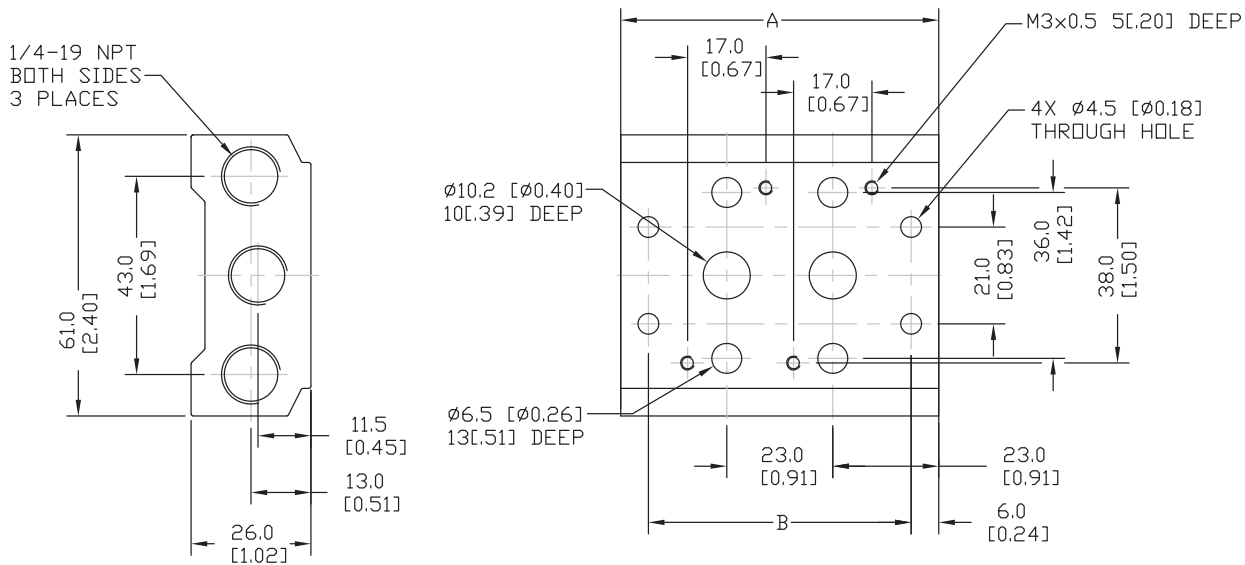
# Pneumatic Direction Control Solenoid Valve Manifolds and Accessories

## Dimensions

### AVP-31BKT



### AM 52 Series Manifolds

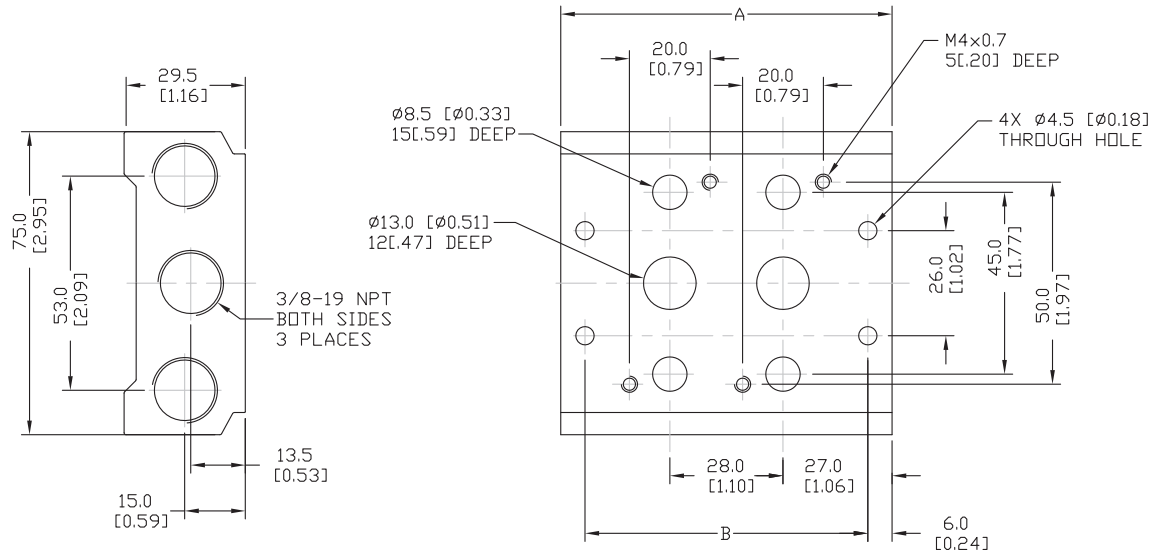


MANIFOLD	A	B
AM-522	69[2.7]	57[2.2]
AM-524	115[4.5]	103[4.1]
AM-526	161[6.3]	149[5.9]
AM-528	207[8.1]	195[7.7]

Dimensions in mm [inches]



## AM 53 Series Manifolds



MANIFOLD	A	B
AM-532	82[3.2]	70[2.8]
AM-534	138[5.4]	126[5.0]
AM-536	194[7.6]	182[7.2]
AM-538	250[9.8]	238[9.4]

Dimensions in mm [inches]