



# 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



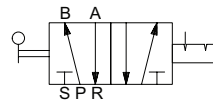
See [www.AutomationDirect.com](http://www.AutomationDirect.com) for a wide variety of fitting options



Side View

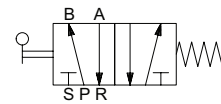
**Toggle Style Hand Lever Valve**

Diagram "A"



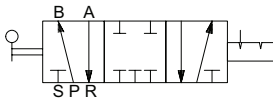
5-Port, 2-Pos. Toggle Detented

Diagram "B"



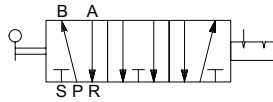
5-Port, 2-Pos. Spring Return

Diagram "C"



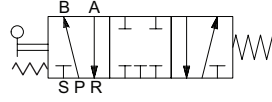
5-Port, 3-Pos. Center Closed Detented

Diagram "D"



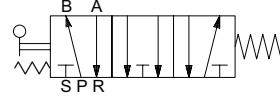
5-Port, 3-Pos. Center Exhaust Detented

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	<a href="#">AVS-527D1-HL</a>	<a href="#">AVS-537D2-HL</a>	<a href="#">AVS-527I1-HL</a>	<a href="#">AVS-528DC1-HL</a>	<a href="#">AVS-528DE1-HL</a>	<a href="#">AVS-538DC1-HL</a>	<a href="#">AVS-538DE1-HL</a>	<a href="#">AVS-528C1-HL</a>	<a href="#">AVS-528E1-HL</a>	<a href="#">AVS-538C1-HL</a>	<a href="#">AVS-538E1-HL</a>	<a href="#">AVS-537E-HL</a>
Price												
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



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a wide variety of fitting options

## Push-Pull Valves

Diagram "A"



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

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



# Pneumatic Directional Control – Manual Valves



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**Rotary Style Hand Lever Valve**

Diagram "A"

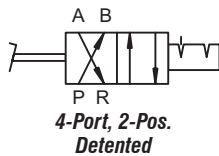
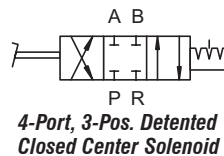


Diagram "B"



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

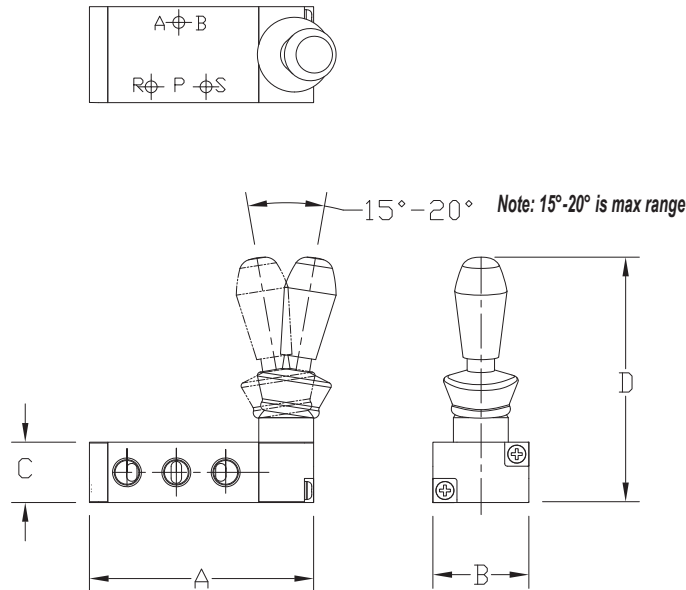


# Pneumatic Directional Control - Manual Valve Dimensions

## Dimensions

mm [inches]

Figure 11



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

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# Pneumatic Directional Control – Manual Valve Dimensions

## Dimensions

mm [inches]

Figure 12

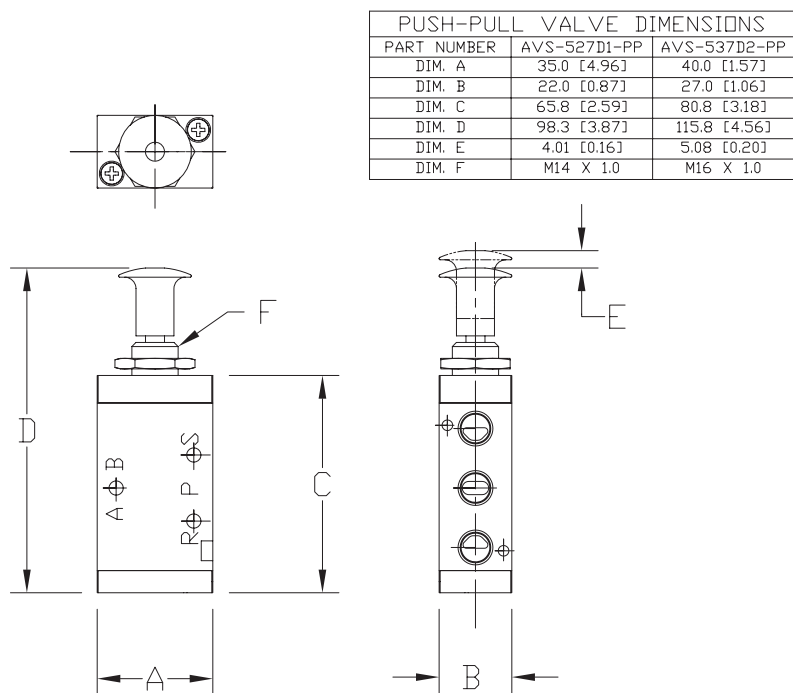
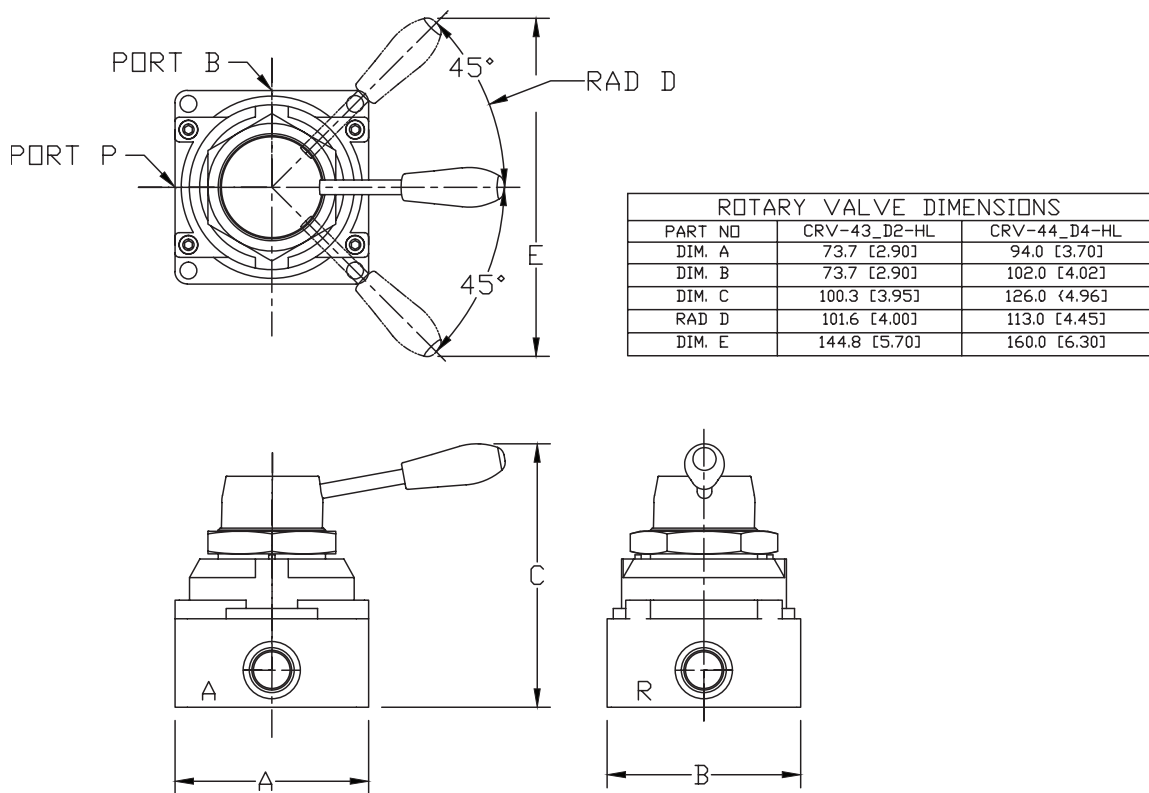


Figure 13



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