

3-Way

Pilot & Remote Operated Valves 1/4" - 3/4" NPT



3-Way

General Description:

3-Way Pilot Operated valves are used in general industrial applications and control valve pilot actuation where higher pressures and flows are required. Pilot operated valves require the minimum operating pressure differential specified to ensure proper operation.

Installation

Valves can be mounted in any position. The preferred orientation is with the coil vertical and upright.

Standard Materials of Construction

Please refer to page B40.

Compatible Fluids

Lubricated Air, Inert Gases, Water, Light Oil (300 SSU) and additional fluids compatible with materials of construction, as listed in the product specifications charts.

Use of non-lubricated gaseous media can affect valve life.

Electrical Characteristics:

Standard Voltages:

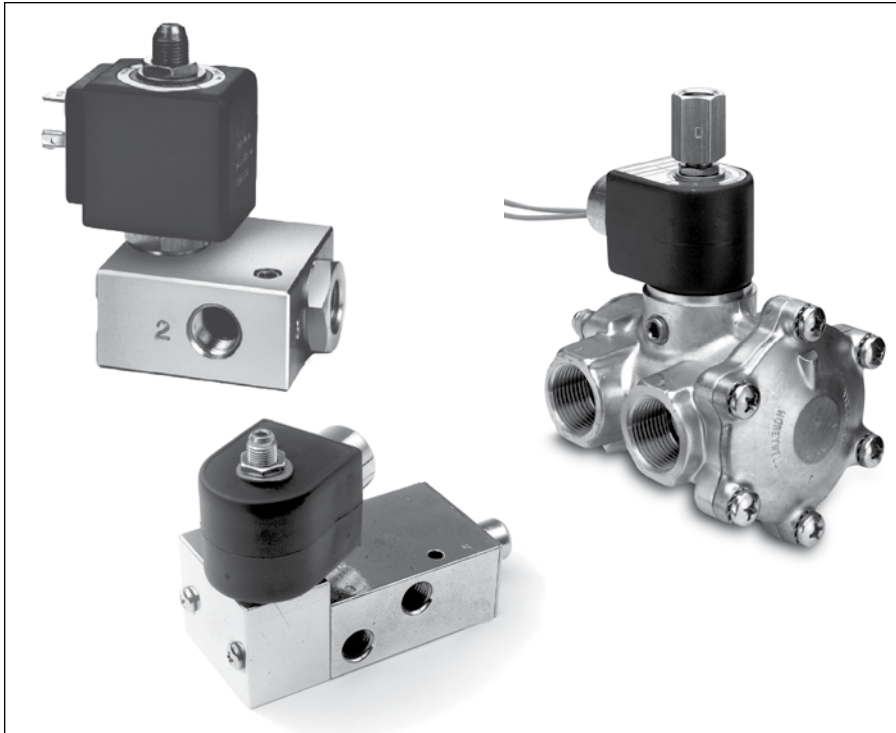
AC -24/60

120/60-110/50

240/60-220/50

DC -12,24 & 120

For other voltages - consult factory



Coil Classification:

Class F Standard - Class H Available

Agency Approvals:

Standard valves with NEMA 4X or explosion proof solenoid enclosures are UL Listed and CSA Certified.

SIL-3 Capable (Models 73317xx, 74317xx). See Certificate in Technical Section Page F20 For additional details, consult factory.

Maximum Ambient Temperature

167° F

Minimum Ambient Temperature

-40°F for Models 73317xx and 74317xx. Dew Point must be more than 7°F below ambient.

Applications:

- Pilot valve actuation of larger control valves
- Oil and gas including off-shore installations
- Single acting spring return cylinder control
- Compressor unloaders
- Turbines

External Piloted 74332xxx

- Controlling Contaminated Fluids
- Controlling Pressures under 10 PSI
- Operating valves on vacuum

Please refer to page B40 for details



3-Way Internal Pilot Operated - Normally Closed - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI				Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number	Reference	
			Min.	Air, Inert Gas	Water	Light Oil					Coil	Valve

AC TECHNICAL SPECIFICATIONS

3/8	3/8	2.10	10	180	180	180	10	185	NBR	73312BN3RNJ0	7	B19
3/8	3/8	2.10	10	180	180	180	10	185	NBR	73312BN3RNJ1	7	B24
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73312BN4UNJ0	7	B19
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73312BN4UNJ1	7	B24
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73312BN52NJ0	7	B25
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73312BN52NJ1	7	B26

DC TECHNICAL SPECIFICATIONS

3/8	3/8	2.10	10	180	180	180	10	185	NBR	73312BN3RNJ0	7	B19
3/8	3/8	2.10	10	180	180	180	10	185	NBR	73312BN3RNJ1	7	B24
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73312BN4UNJ0	7	B19
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73312BN4UNJ1	7	B24
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73312BN52NJ0	7	B25
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73312BN52NJ1	7	B26

3-Way Internal Pilot Operated - Normally Open - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI				Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number	Reference	
			Min.	Air, Inert Gas	Water	Light Oil					Coil	Valve

AC TECHNICAL SPECIFICATIONS

3/8	3/8	2.10	10	180	180	180	10	185	NBR	73322BN3RNJ0	7	B27
3/8	3/8	2.10	10	180	180	180	10	185	NBR	73322BN3RNJ1	7	B28
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73322BN4UNJ0	7	B27
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73322BN4UNJ1	7	B28
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73322BN52NJ0	7	B29
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73322BN52NJ1	7	B20



3-Way

3-Way Internal Pilot Operated - Normally Open - Brass (Continued)

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI				Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number	Reference	
			Min.	Air, Inert Gas	Water	Light Oil					Coil	Valve
DC TECHNICAL SPECIFICATIONS												
3/8	3/8	2.10	10	180	180	180	10	185	NBR	73322BN3RNJ0	7	B27
3/8	3/8	2.10	10	180	180	180	10	185	NBR	73322BN3RNJ1	7	B28
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73322BN4UNJ0	7	B27
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73322BN4UNJ1	7	B28
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73322BN52NJ0	7	B29
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73322BN52NJ1	7	B20

3-Way Internal Pilot Operated - Diverting - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI				Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number	Reference	
			Min.	Air, Inert Gas	Water	Light Oil					Coil	Valve
AC TECHNICAL SPECIFICATIONS												
3/8	3/8	2.10	10	180	180	180	10	185	NBR	73382BN3RNJ1	7	B30
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73382BN4UNJ1	7	B30
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73382BN52NJ1	7	B21
DC TECHNICAL SPECIFICATIONS												
3/8	3/8	2.10	10	180	180	180	10	185	NBR	73382BN3RNJ1	7	B30
1/2	1/2	3.60	10	180	180	180	10	185	NBR	73382BN4UNJ1	7	B30
3/4	3/4	7.30	10	180	180	180	10	185	NBR	73382BN52NJ1	7	B21



3-Way External Pilot Operated* - Universal - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI				Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number	Reference	
			Min.	Air, Inert Gas	Water	Light Oil					Coil	Valve

AC TECHNICAL SPECIFICATIONS

3/8	3/8	2.10	0	170	170	170	10	185	NBR	74332BN3RNJ1	7	B31
1/2	1/2	3.60	0	170	170	170	10	185	NBR	74332BN4UNJ1	7	B31
3/4	3/4	7.30	0	170	170	170	10	185	NBR	74332BN52NJ1	7	B32

DC TECHNICAL SPECIFICATIONS

3/8	3/8	2.10	0	170	170	170	10	185	NBR	74332BN3RNJ1	7	B31
1/2	1/2	3.60	0	170	170	170	10	185	NBR	74332BN4UNJ1	7	B31
3/4	3/4	7.30	0	170	170	170	10	185	NBR	74332BN52NJ1	7	B32

*Minimum external pilot pressure must be main line pressure plus 10 psi; 180 psi maximum; 165 psi maximum for vacuum applications.

External Pilot Pressure Valves

When an application requires the separation of the fluid in the main line from the pilot operator, it is necessary to control the pilot externally.

Examples include:

- Controlling contaminated fluids up to 170 PSI
- Controlling pressures below the minimum
- Operating valves on vacuum

For such applications, the following 3-way multipurpose valves are provided with connections for external pressure to operate the pilot. The minimum external pilot pressure required is the main line pressure plus 10 PSI. The maximum external pilot pressure is 180 PSI for pressure applications, and 165 PSI for vacuum applications.

For vacuum service the vacuum line must be connected to the normally open port, and pilot pressure must be connected to the normally closed pilot port.



3/2, 3-Way 2 Position Single Solenoid - In Line - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI		Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number without Manual Override	Pressure Vessel Number with Locking Manual Override	Pressure Vessel Number with Momentary Manual Override	Reference	
			Min.	Air, Inert Gas							Coil	Valve
AC/DC TECHNICAL SPECIFICATIONS												
1/4	11/64	0.55	30	150	10	167	NBR	73317BN2KN00	73317BN2KNM0	73317BN2KN7A	7	B22
1/4	11/64	0.55	30	150	1.5	150	NBR	73317BN2KN00	73317BN2KNM0	73317BN2KN7A	11	B22
1/4	1/4	1.20	30	150	10	167	NBR	73317BN2PN00	73317BN2PNM0	73317BN2PN7A	7	B22
1/4	1/4	1.20	30	150	1.5	150	NBR	73317BN2PN00	73317BN2PNM0	73317BN2PN7A	11	B22
1/4	1/4	1.20	30	150	0.6	150	NBR	73317BN2PN90	-	-	12	B22
1/2	5/8	4.00	30	150	10	167	NBR	73317BN4UN00	-	-	7	B33
1/2	5/8	4.00	30	150	1.5	150	NBR	73317BN4UN00	-	-	11	B33
1/2	5/8	4.00	30	150	0.6	150	NBR	73317BN4UN90	-	-	12	B33

3/2, 3-Way 2 Position Single Solenoid - Brass - External Pilot*

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI		Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number without Manual Override	Pressure Vessel Number with Locking Manual Override	Pressure Vessel Number with Momentary Manual Override	Reference	
			Min.	Air, Inert Gas							Coil	Valve
AC/DC TECHNICAL SPECIFICATIONS												
1/4	11/64	0.55	0	150	10	167	NBR	74317BN2KN00	-	-	7	B34
1/4	11/64	0.55	0	150	1.5	150	NBR	74317BN2KN00	-	-	11	B34
1/4	1/4	1.20	0	150	10	167	NBR	74317BN2PN00	-	-	7	B34
1/4	1/4	1.20	0	150	1.5	150	NBR	74317BN2PN00	-	-	11	B34
1/2	5/8	4.00	30	150	10	167	MBR	74317BN4UN00	-	-	7	B35
1/2	5/8	4.00	30	150	1.5	167	MBR	74317BN4UN00	-	-	11	B35

* External pilot pressure to operate valve must be 30 - 150 psi

* These valves operate at 0 PSI, however a 2 PSI pressure differential is required to actuate the pressure operated quick exhaust poppet.



3/2, 3-Way 2 Position Single Solenoid - In Line - Stainless Steel

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI		Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number without Manual Override	Pressure Vessel Number with Locking Manual Override	Pressure Vessel Number with Momentary Manual Override	Reference	
			Min.	Air, Inert Gas							Coil	Valve

AC/DC TECHNICAL SPECIFICATIONS

1/4	11/64	0.55	30	150	10	167	NBR	73317VN2KN00	-	-	7	B22
1/4	11/64	0.55	30	150	1.5	150	NBR	73317VN2KN00	-	-	11	B22
1/4	11/64	0.55	30	150	0.6	150	NBR	73317VN2KN90	-	-	12	B22
1/4	1/4	1.20	30	150	10	167	NBR	73317VN2PN00	-	-	7	B22
1/4	1/4	1.20	30	150	1.5	150	NBR	73317VN2PN00	-	-	11	B22

3/2, 3-Way 2 Position Single Solenoid - Stainless Steel - External Pilot*

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI		Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number without Manual Override	Pressure Vessel Number with Locking Manual Override	Pressure Vessel Number with Momentary Manual Override	Reference	
			Min.	Air, Inert Gas							Coil	Valve

AC/DC TECHNICAL SPECIFICATIONS

1/4	11/64	0.55	0	150	10	167	NBR	74317VN2KN00	-	-	7	B34
1/4	11/64	0.55	0	150	1.5	150	NBR	74317VN2KN00	-	-	11	B34

*External pilot pressure to operate valve must be 30-150 psi

3-Way Remote Pressure Operated Valves - Universal - Brass, NBR Seals

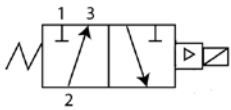
Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI		Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number without Manual Override	Pressure Vessel Number with Locking Manual Override	Pressure Vessel Number with Momentary Manual Override	Reference	
			Min.	Air, Inert Gas							Coil	Valve
3/8	3/8	2.1	0	180	--	185	NBR	75332BN3RN00	-	-	-	B36
1/2	1/2	2.1	0	180	--	185	NBR	75332BN4UN00	-	-	-	B36
3/4	3/4	3.6	0	180	--	185	NBR	75332BN52N00	-	-	-	B36

Remote Operated Valve Port Connections

Valve Type	Main Line Supply	Remote Control Valve Hookup				3-Way Pilot Valve Hookup		
		Normally Closed Port	Normally Open Port	Common Port	Pilot Inlet Port 1/8" NPT	Normally Closed Port	Normally Open Port	Common Port
Normally Open	0-180 PSIG	Media Exhaust	Media Inlet	Cylinder	Connect to Common Port of 3-Way Pilot	Main Line Pressure +10 PSI Min.	Pilot Exhaust	1/8" NPT Pilot of Remote Control Valve
	Vacuum	Atmosphere	Vacuum	Cylinder		10 PSI Min.	Vacuum	
Normally Closed	0-180 PSIG	Media Inlet	Media Exhaust	Cylinder		Main Line Pressure +10 PSI Min.	Pilot Exhaust	
	Vacuum	Vacuum	Atmosphere	Cylinder		10 PSI Min.	Vacuum	
Directional Control	0-180 PSIG	Media Outlet	Media Outlet	Media Inlet		Main Line Pressure +10 PSI Min.	Pilot Exhaust	
	Vacuum	Inlet	Inlet	Vacuum		10 PSI Min.	Vacuum	

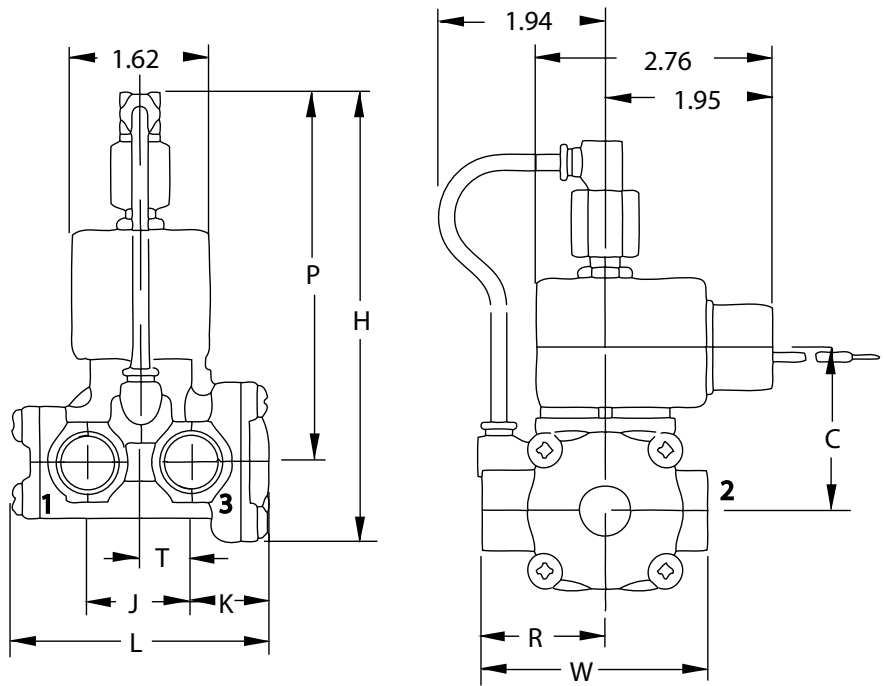


Valve Reference B19



3-Way Normally Closed
Port Identification

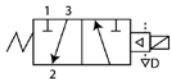
1-Pressure/ 2-Cylinder/ 3-Exhaust



Valve	Dimensions								
	H	P	C	L	W	T	R	J	K
73312BN3RNJ0	5.34	4.41	1.96	2.97	2.62	0.59	1.44	1.22	0.91
73312BN4UNJ0	5.62	4.56	2.08	3.38	3.09	0.69	1.66	1.41	1.06

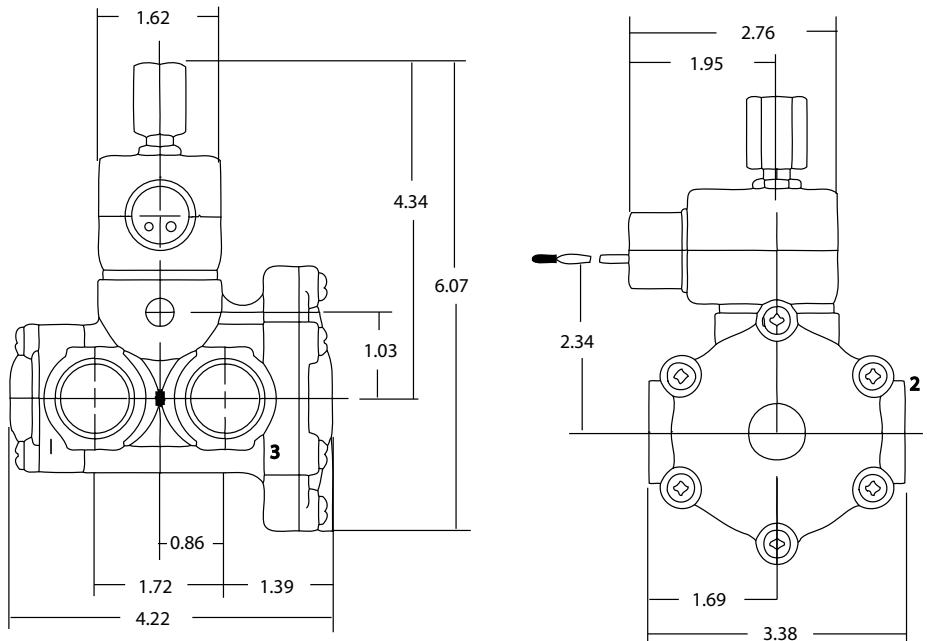
3-Way

Valve Reference B20



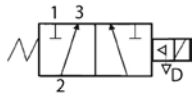
3-Way Normally Open
Port Identification

1-Exhaust/ 2-Cylinder/ 3-Pressure

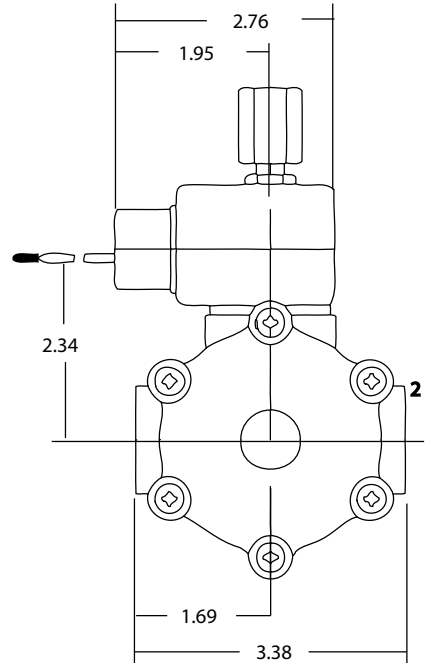
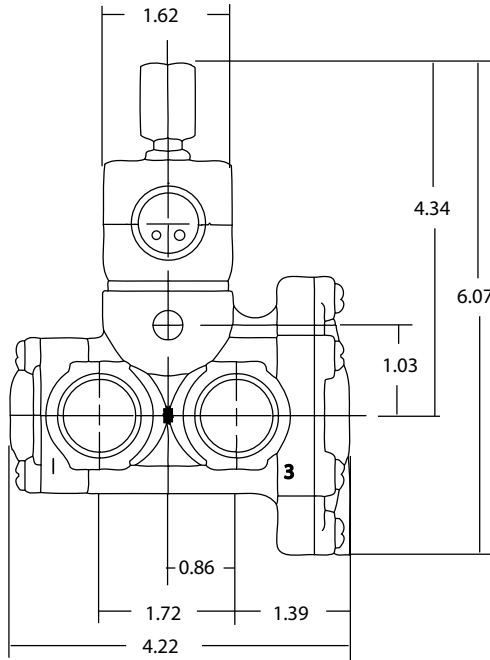


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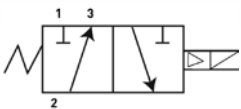
3-Way



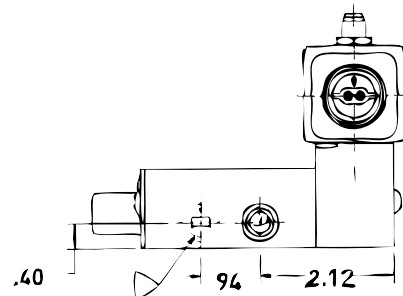
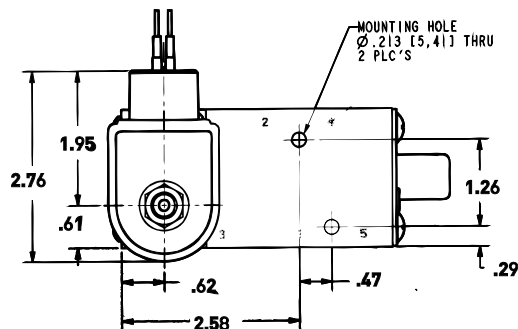
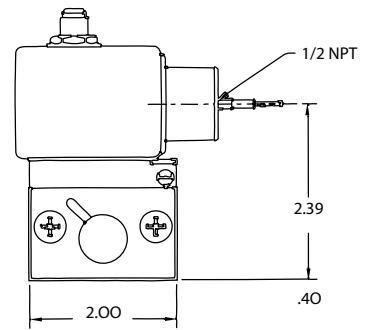
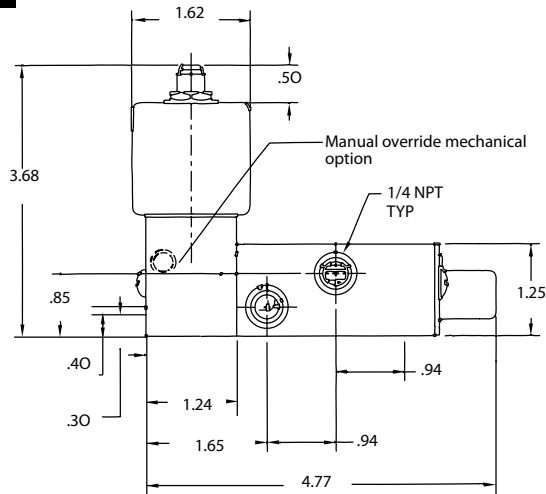
3-Way Diverting
Port Identification
1-NC/ 2-IN/ 3-NO



Valve Reference B22



3-Way Normally Closed
Port Identification
2-Cylinder/ 1-Pressure/ 3-Exhaust

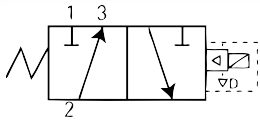


B32

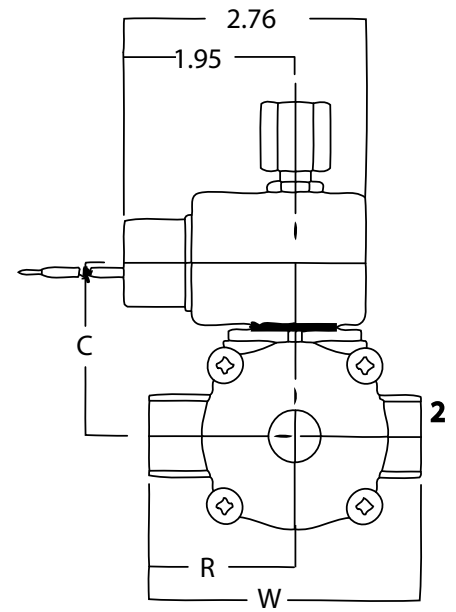
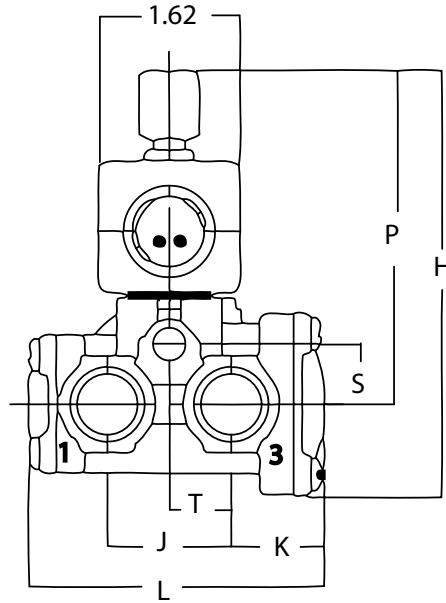
www.comoso.com

Parker Hannifin Corporation
Fluid Control Division
1 800 825 8305 (1 800 Valve05)
www.parker.com/fcd

Valve Reference B24



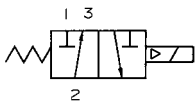
3-Way Normally Closed
Port Identification
1-Pressure/ 2-Cylinder/ 3-Exhaust



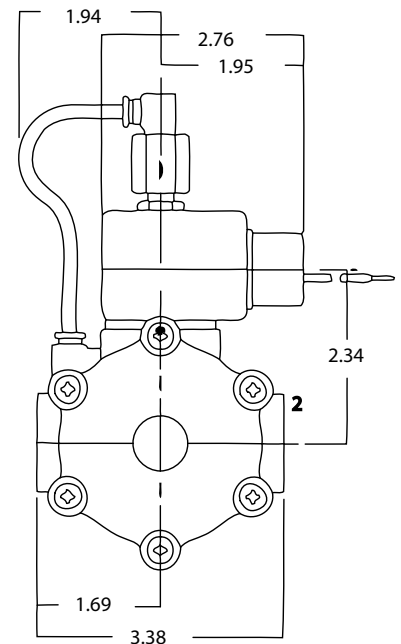
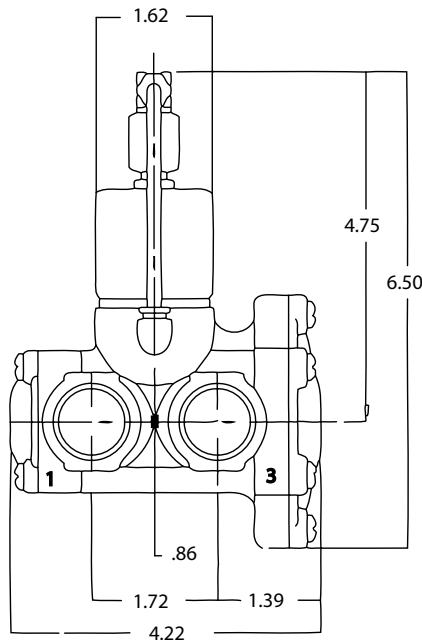
Valve	Dimensions									
	H	P	C	L	W	S	T	R	J	K
73312BN3RNJ1	4.89	3.98	1.96	2.97	2.62	0.65	0.59	1.44	1.22	0.91
73312BN4UNJ1	5.10	4.08	2.08	3.38	3.09	0.78	0.69	1.66	1.44	1.06

3-Way

Valve Reference B25

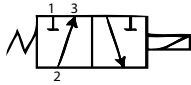


3-Way Normally Closed
Port Identification
1-Pressure/ 2-Cylinder/ 3-Exhaust

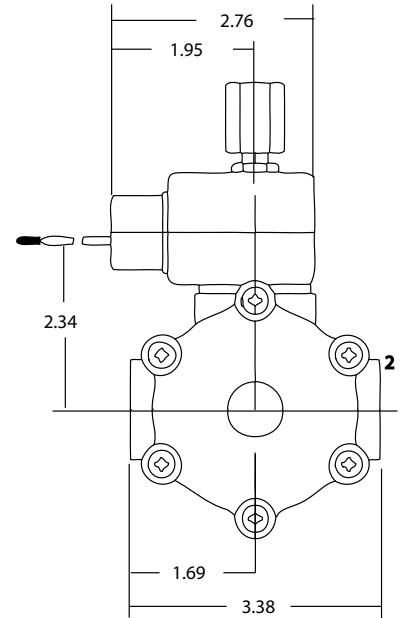
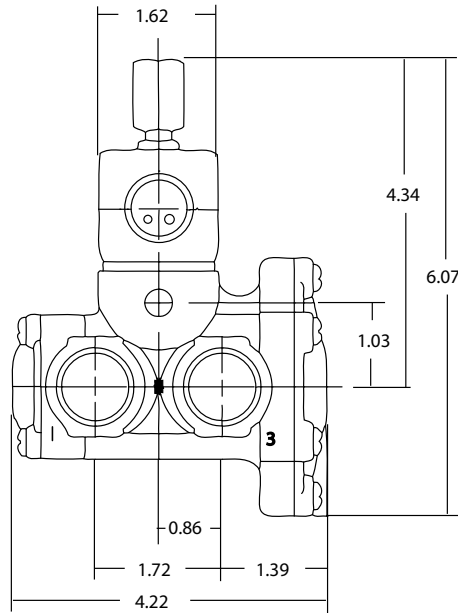


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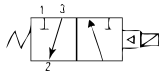
3-Way



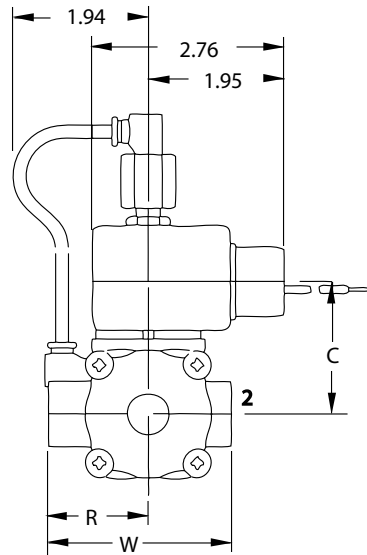
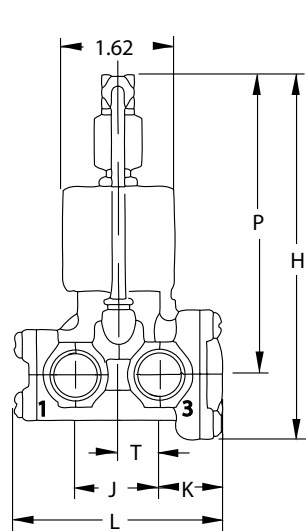
3-Way Normally Closed
Port Identification
1-Pressure/ 2-Cylinder/ 3-Exhaust



Valve Reference B27



3-Way Normally Open
Port Identification
1-Exhaust/ 2-Cylinder/ 3-Pressure



Valve	Dimensions								
	H	P	C	L	W	T	R	J	K
73322BN3RNJ0	5.34	4.41	1.96	2.97	2.62	0.59	1.44	1.22	0.91
73322BN4UNJ0	5.62	4.56	2.08	3.38	3.09	0.69	1.66	1.41	1.06

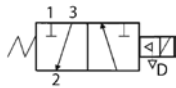


B34

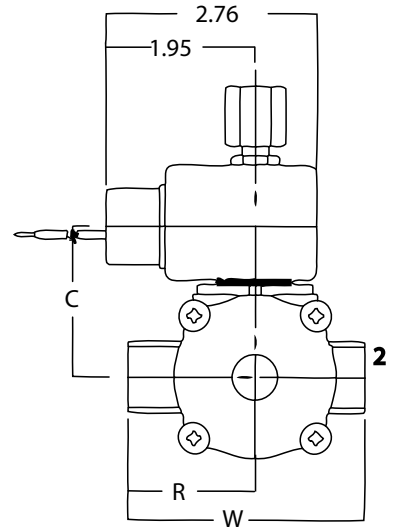
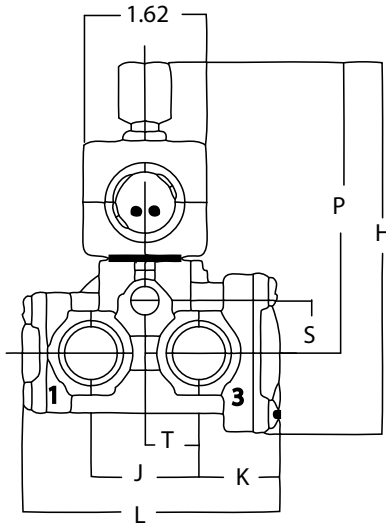
www.comoso.com

Parker Hannifin Corporation
Fluid Control Division
1 800 825 8305 (1 800 Valve05)
www.parker.com/fcd

Valve Reference B28



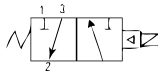
3-Way Normally Open
Port Identification
1-Exhaust/ 2-Cylinder/ 3-Pressure



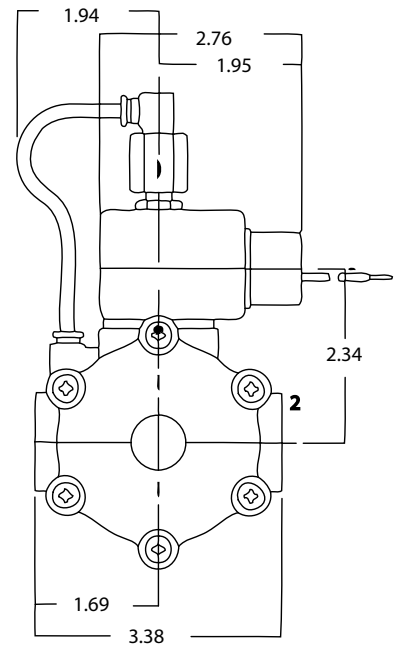
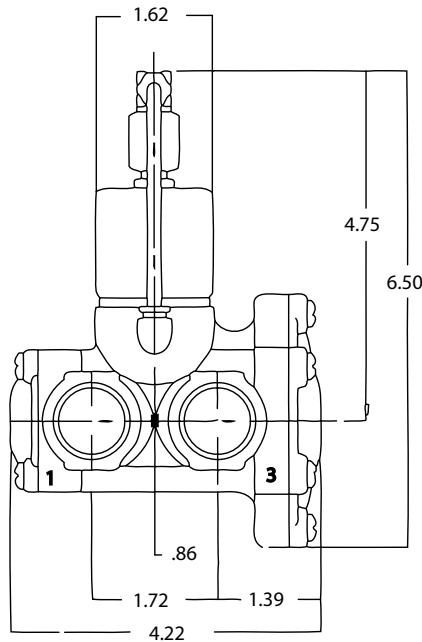
Valve	Dimensions									
	H	P	C	L	W	S	T	R	J	K
73322BN3RNJ1	4.98	3.98	1.96	2.97	2.62	0.65	0.59	1.44	1.22	0.91
73322BN4UNJ1	5.10	4.08	2.08	3.38	3.09	0.78	0.69	1.66	1.44	1.06

3-Way

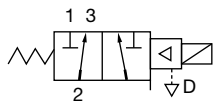
Valve Reference B29



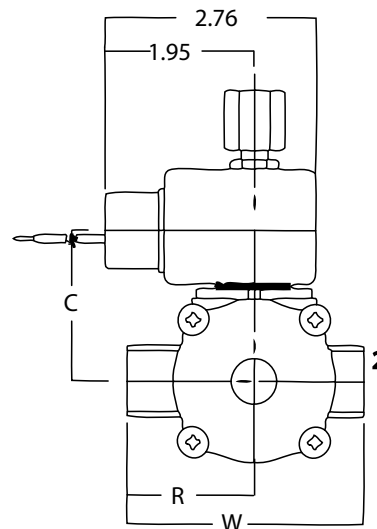
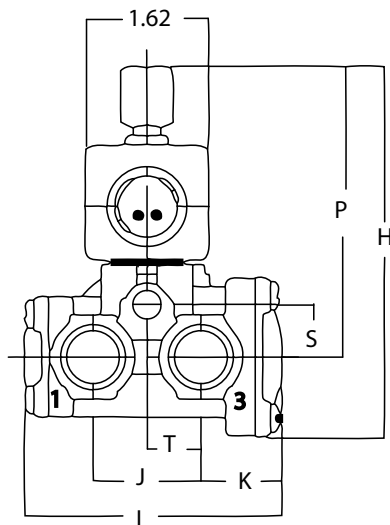
3-Way Normally Open
Port Identification
1-Exhaust/ 2-Cylinder/ 3-Pressure



Valve Reference B30

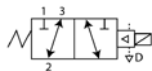


3-Way Diverting
Port Identification
1-NC/ 2-IN/ 3-NO

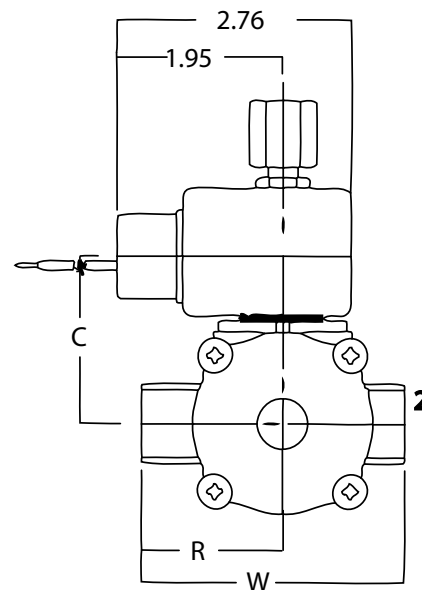
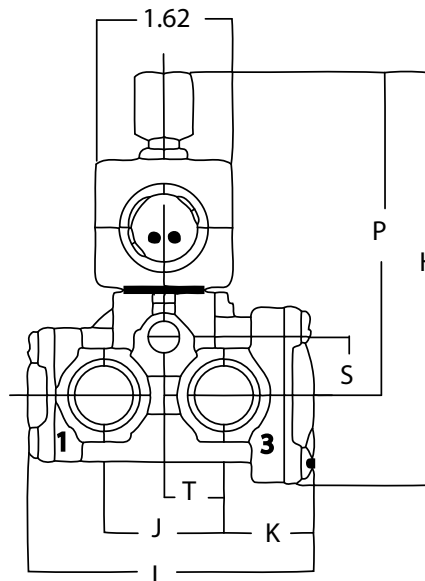


Valve	Dimensions									
	H	P	C	L	W	S	T	R	J	K
73382BN3RNJ1	4.89	3.98	1.96	2.97	2.62	0.65	0.59	1.44	1.22	0.91
73382BN4UNJ1	5.10	4.08	2.08	3.38	3.09	0.78	0.69	1.66	1.44	1.06

Valve Reference B31



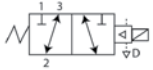
3-Way Universal
Pressure can be applied at
either port.



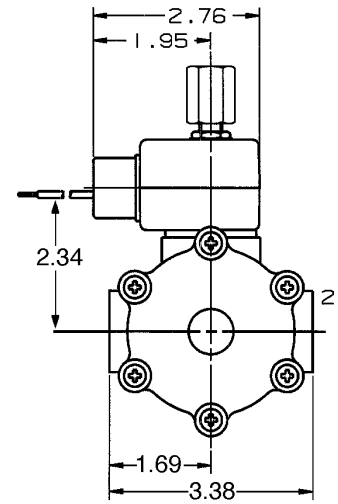
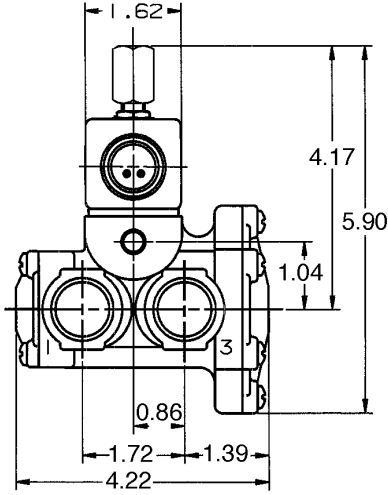
Valve	Dimensions									
	H	P	C	L	W	S	T	R	J	K
74332BN3RNJ1	4.72	3.79	1.96	2.97	2.62	0.65	0.59	1.44	1.22	0.91
74332BN4UNJ1	4.93	3.91	2.08	3.38	3.09	0.78	0.69	1.66	1.44	1.06



Valve Reference B32

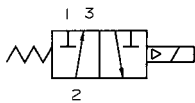
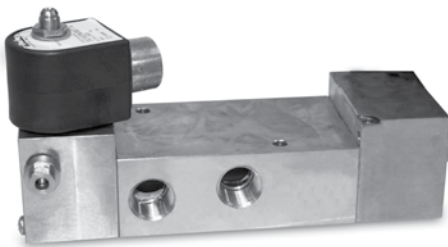


3-Way Universal
Pressure can be applied at either port.

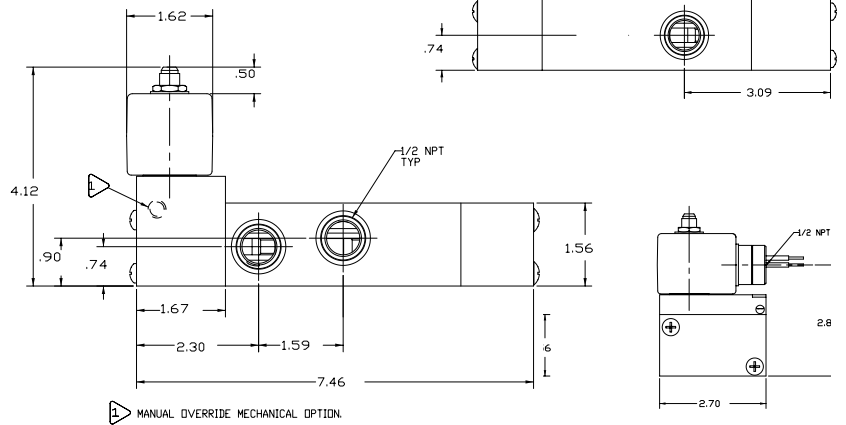
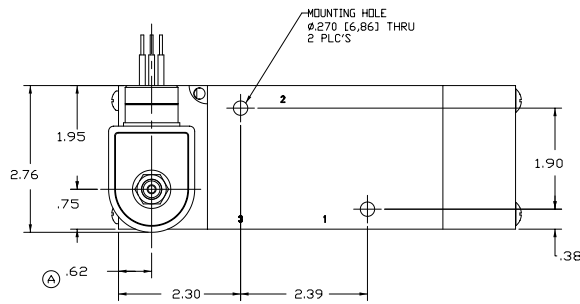


3-Way

Valve Reference B33

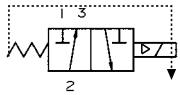


3-Way Normally Closed
Port Identification
2-Cylinder / 1-Pressure/ 3-Exhaust

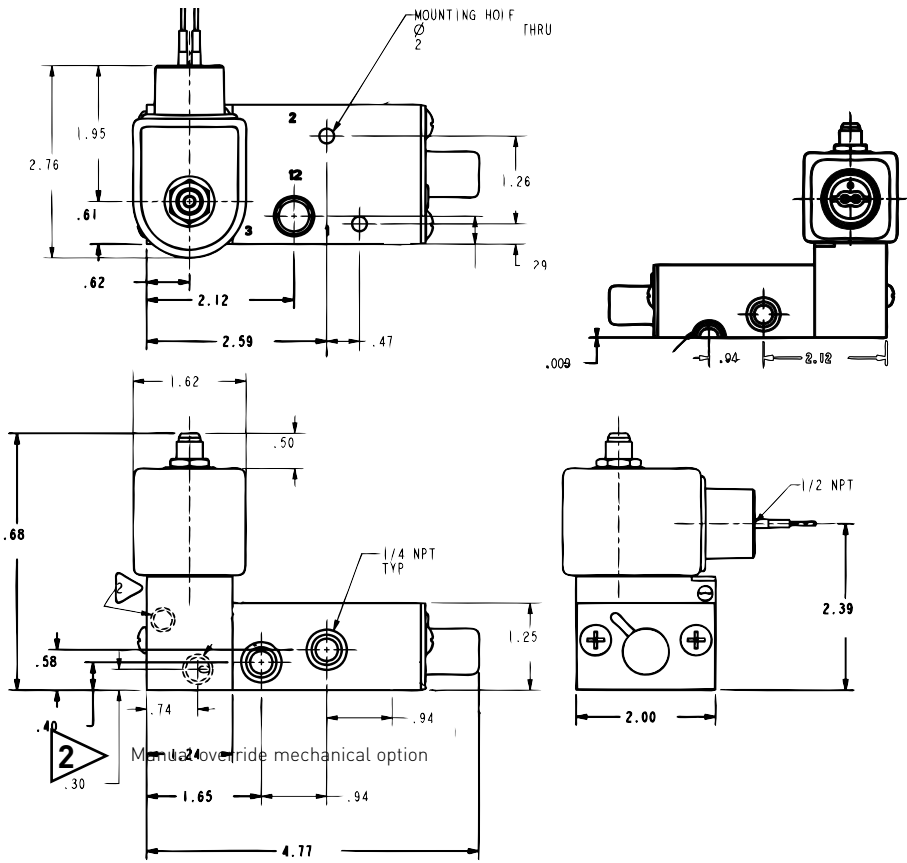


Valve Reference B34

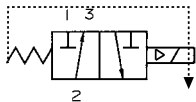
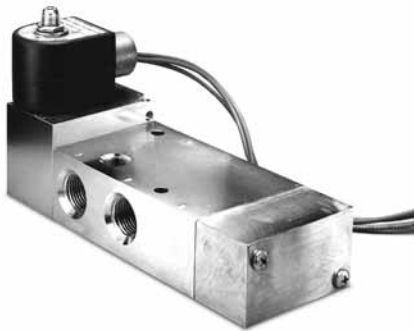
3-Way



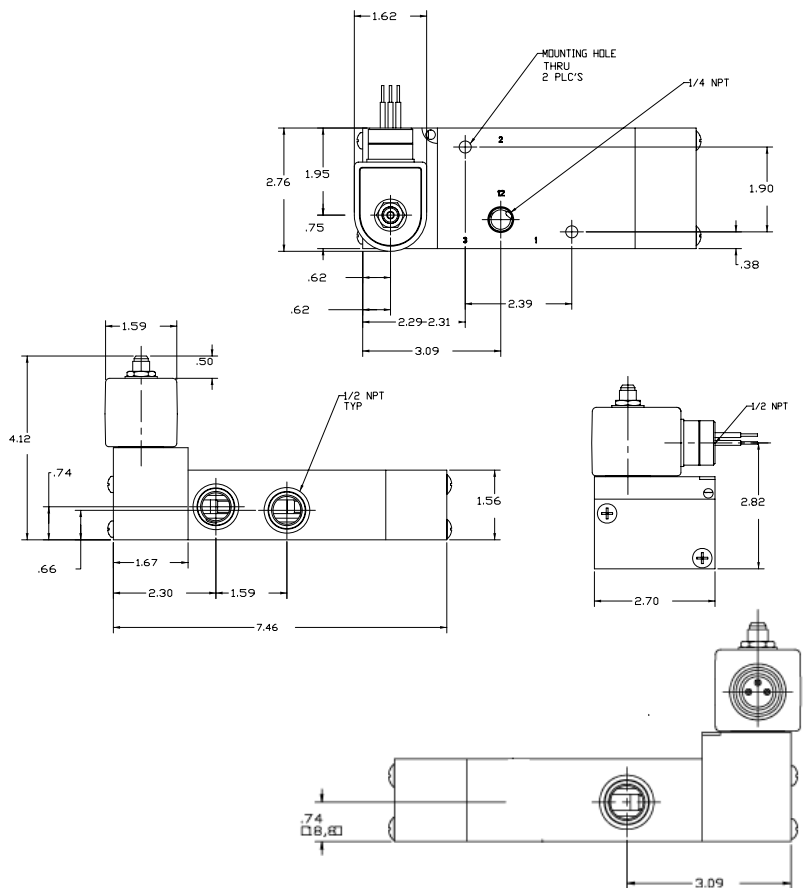
3-Way Normally Closed
Port Identification
1-Pressure/ 2-Cylinder/ 3-Exhaust



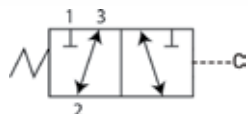
Valve Reference B35



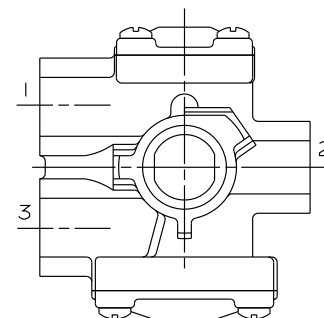
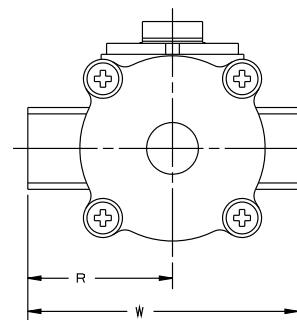
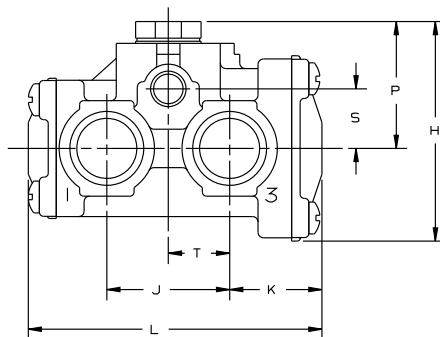
3-Way Normally Closed
1-Pressure/ 2-Cylinder/ 3-Exhaust



Valve Reference B36



Port Identification
 Normally Closed: 1-press/2-cylinder/3-Exh.
 Normally Open: 3 - press/2- cylinder/3 - Exh.
 Directional Control: 2 - press/3 - N.O./1 - N.C.



3-Way

Valve	Dimension								
	H	P	L	W	S	T	R	J	K
**75332BN3RN00	2.42	1.49	2.97	2.62	.65	.59	1.44	1.22	.91
**75332BN4UN00	2.3	1.61	3.38	3.09	.78	.69	1.66	1.41	1.06
*75332BN52N00	3.60	1.87	4.22	3.38	1.03	.86	1.69	1.72	1.39

* 6-Bolt cover pattern as shown in photo
 ** 4-bolt cover pattern as shown in dimensional drawings



