



Three-Way Ball Valves

1/2" to 6" - PVC & Corzan® CPVC



Manual Valve

Valve Ready for Actuator Mounting

Features

- Integrally Molded Mounting Saddle
- PTFE Seats
- FPM Seals
- True Union End Connections
- 150 PSI @ 70°F - Non-Shock

Options

- Valve Safe Lockout
- Electric Actuators
- Pneumatic Actuators
- EPDM Seals

Flow Patterns

Hayward Manual Three-Way Ball Valves come standard with a two port "TW" ball allowing for three flow configurations within 180° of rotation. With the bottom port as the inlet, the flow can be directed out the left port, out the right port, or shutoff. Hayward Actuated Three-Way Ball Valves come standard with a three port "NT" ball allowing for two flow configurations within 90° of rotation. With the bottom port as the inlet, the flow can be directed out the left port or right port, there is no shutoff position. A "TW" ball, used with the proper electric actuator, adds what is typically called a "center off position" to the "NT" flow pattern of actuated valves. An optional "TP" ball, used with either manual or actuated valves, allows flow through all ports at the same time or flow shutoff.

True Union Design

This makes these valves very easy to maintain by allowing for easy removal from a piping system without breaking down piping connections. Just unscrew the three assembly nuts and lift the valve body out of the line.

Solid Actuator Mounting Design

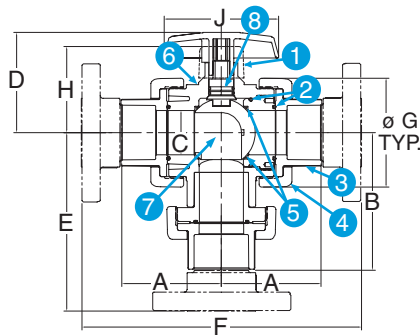
A manual valve can be easily automated. Just remove the handle and install the Actuator/Mounting Kit. The mounting saddle is integrally molded into the valve body. For rock-solid actuator mounting, the valve incorporates a unique design whereby the mounting bracket mounts directly to the valve body. This assures proper alignment of the actuator to the valve without creating any damaging side loads to cause premature stem seal failure.

No Metal, No Corrosion

Hayward all-plastic Three-Way Valves contain no metal parts. The valves will never fail because of corrosion and they do not require painting or epoxy coating to stand up to aggressive environments.



Technical Information



Parts List - Three-Way Valves

1. Mounting Kit (Optional)
2. O-Ring Seals
3. End Connector
4. Assembly Nut
5. Teflon Seats
6. Body
7. Ball
8. Stem

Valve Dimensions - Inches / Millimeters

Size	A	B	C	D	E	F	G	H	J
1/2"	2.30 / 58	3.29 / 84	0.50 / 13	2.94 / 75	3.87 / 98	6.72 / 171	2.25 / 57	2.53 / 64	3.50 / 89
3/4"	2.56 / 65	3.57 / 91	0.75 / 19	2.97 / 75	4.60 / 117	7.50 / 191	2.63 / 67	2.82 / 72	3.50 / 89
1"	2.98 / 76	4.14 / 105	1.00 / 25	3.21 / 82	4.77 / 121	8.50 / 216	3.00 / 76	3.08 / 78	4.00 / 102
1-1/4"	4.39 / 112	5.94 / 151	2.00 / 51	3.63 / 92	5.19 / 132	11.54 / 293	4.00 / 102	3.50 / 89	4.00 / 102
1-1/2"	4.30 / 109	5.87 / 149	2.00 / 51	3.63 / 92	6.00 / 152	11.85 / 301	4.00 / 102	3.50 / 89	4.00 / 102
2"	4.38 / 111	6.00 / 152	2.00 / 51	4.31 / 109	6.75 / 171	12.25 / 311	4.75 / 121	3.95 / 100	5.00 / 127
2-1/2"	5.90 / 150	7.59 / 193	3.00 / 76	7.02 / 178	8.68 / 220	15.92 / 404	6.40 / 163	5.88 / 149	10.50 / 267
3"	5.90 / 150	7.59 / 193	3.00 / 76	7.02 / 178	8.72 / 221	16.00 / 406	6.40 / 163	5.88 / 149	10.50 / 267
4"	7.00 / 178	9.33 / 237	4.00 / 102	8.02 / 204	10.44 / 265	18.88 / 480	8.56 / 217	8.88 / 226	10.50 / 267
6"	n/a	n/a	4.00 / 102	8.02 / 204	11.25 / 286	20.25 / 514	8.56 / 217	8.88 / 226	10.50 / 267

Selection Chart

Size	Material	End Conn.	Seals	Pressure Rating
1/2"-4"	PVC/CPVC	Socket, Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F
6"*	PVC/CPVC	Flanged	FPM or EPDM	Non-Shock

* 4" Valve venturied to 6"

Cv Factors

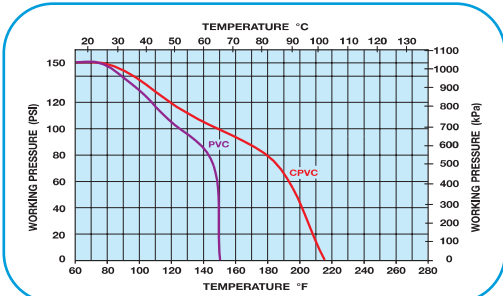
Size	Value	Size	Value
1/2"	3.0	2"	58
3/4"	7.0	3"	190
1"	10	4"	450
1-1/2"	30	6"	340

Pressure Loss Calculation Formula

$$\Delta P = \left[\frac{Q}{Cv} \right]^2$$

ΔP = Pressure Drop
Q = Flow in GPM
Cv = Flow Coefficient

Operating Temp/Pressure



Flow Schematics

Top View		
Flow At	NT Ball	
0°	Port A	Port B
45°	Port A	Port B
No Deadhead		
90°	Port A	Port B
Flow At	TW Ball	
0°	Port A	Port B
90°	Port A	Port B
Center-Off		
180°	Port A	Port B
Flow At	TP Ball	
0°	Port A	Port B
90°	Port A	Port B



Three-Way Lateral Ball Valves

1/2" to 6" - PVC & Corzan® CPVC



Lateral Flow Patterns

Hayward Lateral Valves come standard with a ball that permits the flow to be diverted from the center port to either the left or right ports: there is no Off position.

Solid Actuator Mounting Design

For rock-solid actuator mounting, the valve incorporates a unique design whereby the mounting bracket mounts directly to the valve body. This assures proper alignment of the actuator to the valve without creating any damaging side loads to cause premature stem seal failure.

No Metal, No Corrosion

Hayward all-plastic Lateral Valves contain no metal parts. The valves will never fail because of corrosion and they do not require painting or epoxy coating to stand up to aggressive environments.

Features

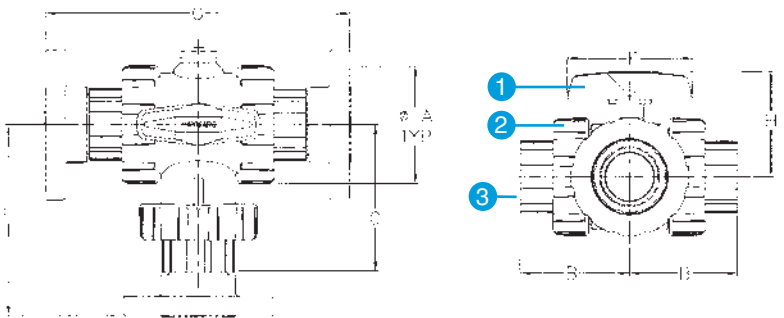
- Simplifies Lateral Connections
- Replaces Valve/Tee Connection Combinations
- Quick, Easy to Install
- True Union End Connections
- Replacement for Zero Dead-leg Valves
- PTFE Seats, FPM Seals

Options

- Valve Safe Lockout
- EPDM Seals



Technical Information



Parts List - Three-Way Lateral Valves

1. Handle
2. Assembly Nut
3. End Connector

Dimensions - Inches / Millimeters

Valve Size	A	B	C	E	F	G	H
1/2"	2.25 / 57.15	2.30 / 58.42	3.29 / 83.57	3.50 / 96.52	3.87 / 98.3	6.72 / 170.69	1.70 / 43.18
3/4"	2.63 / 66.8	2.56 / 65.02	3.57 / 90.68	3.50 / 96.52	4.60 / 116.84	7.50 / 190.5	2.93 / 74.42
1"	3.00 / 76.2	2.98 / 75.69	4.14 / 105.16	4.00 / 101.6	4.77 / 121.16	8.50 / 215.9	3.23 / 82.04
1-1/4"	4.75 / 120.65	4.39 / 111.51	5.94 / 150.88	4.00 / 101.6	5.19 / 131.83	11.54 / 293.12	4.19 / 106.43
1-1/2"	4.75 / 120.65	4.30 / 109.22	5.87 / 149.10	4.00 / 101.6	6.00 / 152.4	11.85 / 300.99	4.19 / 106.43
2"	4.75 / 120.65	4.38 / 111.25	6.00 / 152.40	5.00 / 127	6.75 / 171.45	12.25 / 311.15	4.19 / 106.43
2-1/2"	6.40 / 162.56	5.90 / 149.86	7.59 / 192.79	10.50 / 266.7	8.68 / 220.47	15.92 / 404.37	5.35 / 135.89
3"	6.40 / 162.56	5.90 / 149.86	7.59 / 192.79	10.50 / 266.7	8.72 / 221.49	16.00 / 406.4	5.35 / 135.89
4"	8.56 / 217.42	7.00 / 177.8	9.33 / 236.98	10.50 / 266.7	10.44 / 265.18	18.88 / 217.42	6.85 / 173.99
6"	8.56 / 217.42	n/a	n/a	10.50 / 266.7	11.25 / 285.75	20.25 / 514.35	6.85 / 173.99

Selection Chart

Size	Material	End Conn.	Seals	Pressure Rating
1/2"-4"	PVC/CPVC	Socket, Threaded or Flanged	FPM or EPDM	150 PSI @ 70°F
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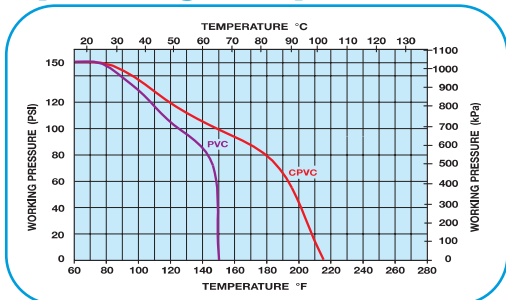
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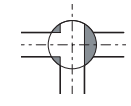
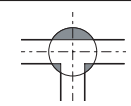
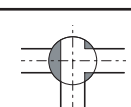
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ΔP = Pressure Drop
Q = Flow in GPM
Cv = Flow Coefficient

Operating Temp/Pressure



Flow Schematics

Top View	
Flow At	NT Ball - Standard
0°	 <p>Port A Port B</p> <p>Port C</p>
90°	 <p>Port A Port B</p> <p>Port C</p> <p>Top drawing rotated 90° to left</p>
180°	 <p>Port A Port B</p> <p>Port C</p> <p>Top drawing rotated 180°</p>