



## Three-Way Ball Valves

1/2" to 6" - PVC & Corzan® CPVC



### 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.

### Features

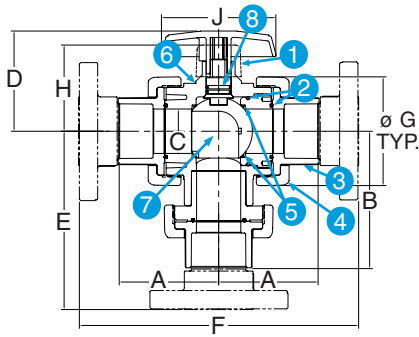
- Integrally molded mounting saddle
- PTFE seats
- FPM seals
- True union end connections

### Options

- Valve safe lockout
- Electric actuators
- Pneumatic actuators
- EPDM seals

Corzan® is a trademark of Noveon, Inc.

# 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 @ 70F
6"*	PVC/CPVC	Flanged	FPM or EPDM	Non-Shock

\* 4" Valve venturied to 6"

## Cv Factors

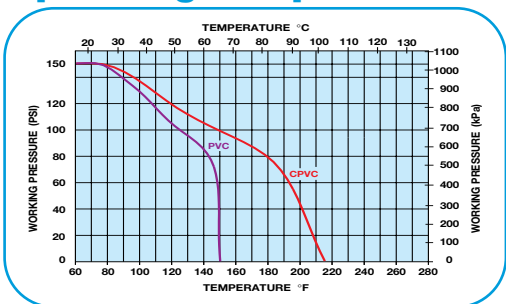
Size	Value	Size	Value
1/2"	3.0	2"	58
3/4"	7.0	3"	190
1"	10	4"	450
1-1/2"	30	6"	340

### Pressure Loss Calculation Formula

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

$\Delta P$  = 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

**HAYWARD**



Hayward Industrial Products, Inc.

One Hayward Industrial Drive, Clemmons, NC 27012  
 Tel: 1-888-429-4635 (1-888-HAYINDL) • Fax: 1-888-778-8410  
 E-mail: hflow@haywardnet.com  
 Web Site: <http://www.haywardindustrial.com>