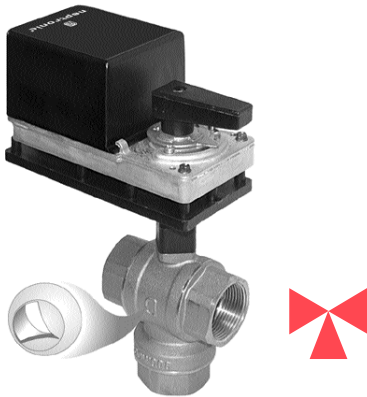




For 3 Way control of hot water or chilled water up to 50%Glycol.

Description



The **Contoured Port Series** are actuated **Ball Valves** that can provide digital or analog control of hot and chilled water systems containing up to 50% glycol. Each unit is comprised of a rotary actuator and linkage assembly coupled to a valve body that offers positive close off and low torque. The **Contoured Port Ball**, incorporates an integral permanently attached glass filled polymer to achieve a wide range of Cv's by offering a variety of orifices.

Valve sizes range from 1/2 inch to 2-1/2 inches with a Close-Off pressure of 100 PSIG. These low profile, compact units can be installed with ease in the often tight, restricted areas found in unit ventilators, fan coils, terminal reheat coils and larger air handlers.

The three way valve is specifically designed for throttling service and operates in a vertical plane much like a globe valve.

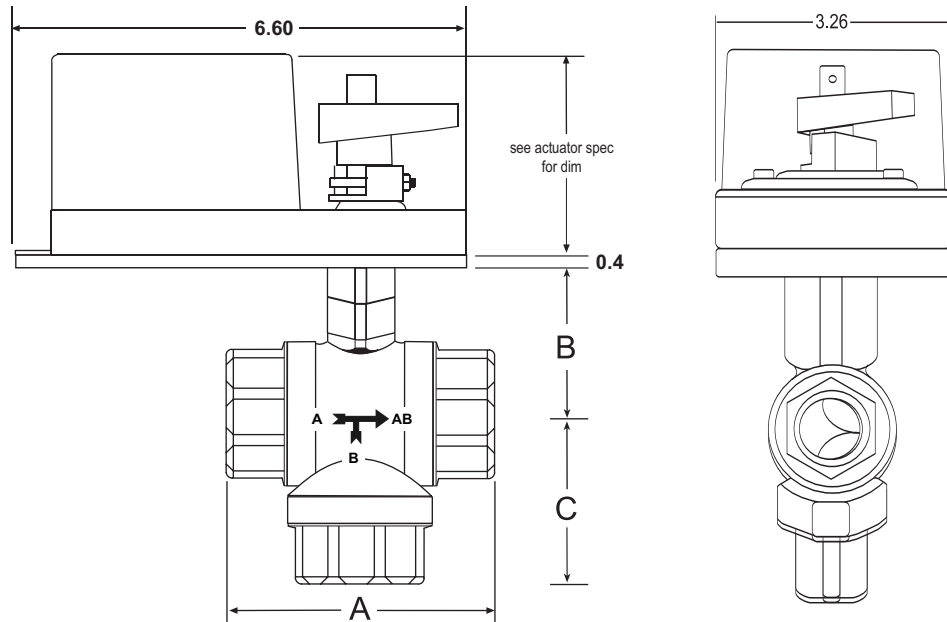
Note: Images include rendering of the permanently attached glass filled polymer as an integral part to the Contoured Port Ball Series Valve.

Specifications

Valve Flow Type:	Modified Linear (Mixing)
Static Pressure & Temperature:	360 PSI, -22°F to +250°F (-30°C to +121°C)
Differential:	35 PSIG Maximum
Maximum Close-Off Pressure:	40 PSIG Maximum (50 PSIG max. for 1/2", 3/4" and 1")
Body:	Forged Brass ASTM B283
Ball & Stem:	Nickel Plated Brass & Brass
Flow Contoured Insert:	Glass Filled Polymer
Stem Seals:	EPDM "O" Rings
Seat:	Reinforced Teflon Seals with EPDM "O" Rings
End Connections:	NPT Female

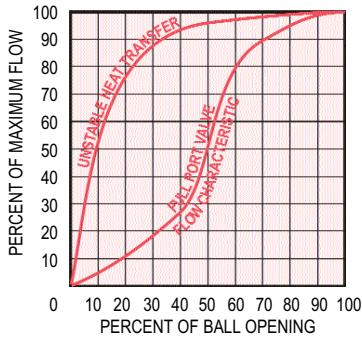


3 Way, NPT Female

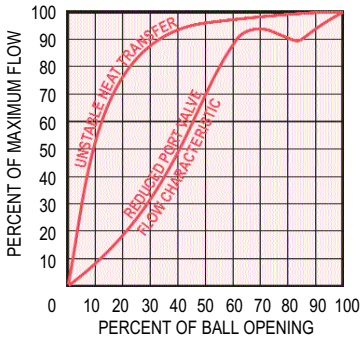


VALVE SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C
1/2"	0.3	0.2	ST A0003YP1	50	2.64	2.51	2.01
1/2"	0.6	0.5	ST A0006YP1	50	2.64	2.51	2.01
1/2"	1.0	0.8	ST A0010YP1	50	2.64	2.51	2.01
1/2"	2.4	2	ST A0024YP1	50	2.64	2.51	2.01
1/2"	4.3	3.7	ST A0043YP1	50	2.64	2.51	2.01
1/2"	8.0	6.9	ST A0080YP1	50	2.64	2.51	2.01
3/4"	3.8	3.2	ST B0038YP1	50	2.64	2.51	2.00
3/4"	12.6	10.9	ST B0126YP1	50	2.64	2.51	2.00
1"	8.6	7.4	ST C0086YP1	50	3.00	3.01	2.42
1"	22	19	ST C0220YP1	50	3.00	3.01	2.42
1-1/4"	12.7	10.9	ST D0127YP1	40	3.60	3.26	3.00
1-1/4"	34	29	ST D0340YP1	40	3.60	3.26	3.00
1-1/2"	23.5	20.3	ST E0235YP1	40	4.00	3.76	3.30
1-1/2"	61	52	ST E0610YP1	40	4.00	3.76	3.30
2"	38	32	ST F0380YP1	40	5.00	5.01	3.80
2"	108	93	ST F1080YP1	40	5.00	5.01	3.80
2-1/2"	74	64	ST G0740YP1	40	5.00	5.01	3.80
2-1/2"	99	85	ST G0990YP1	40	5.00	5.01	3.80

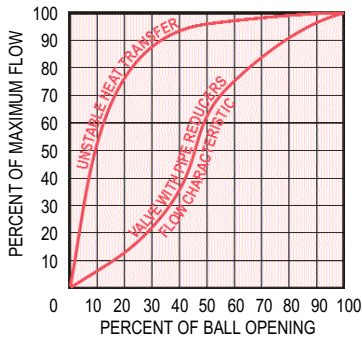
* All dimensions are in Inches.



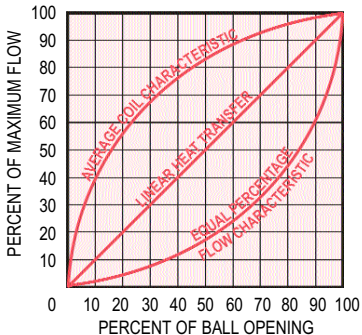
The large Cv rating of **FULL PORT VALVES** is caused by the shape and size of the orifice and results in a distorted flow characteristic, an unstable heat transfer and an “all or nothing” flow. The valve opens quickly and has a very small pressure drop. This is used for 2 position control where a low pressure drop is desirable. It is not recommended for proportional control.



Using the **REDUCED PORT VALVE** results in a smaller opening through the ball and gives a smaller Cv with a higher pressure differential yet the flow characteristic is still distorted. A stable control under these conditions will be difficult to achieve.



PIPE REDUCERS reduce the Cv due to the piping geometry but this also distorts the characteristic. As in the full and reduced port ball valves, pipe reducers cause unstable heat output that increases far too quickly as the valve opens.



The **NEPTRONIC SOLUTION** is the **CONTOURED PORT BALL VALVE**. The characterized “V” style port allows for a more gradual equal percentage curve that is controllable for the full stroke of the valve. This results in a high rangeability and a greater turn down ratio for more accurate flow control.

As you can see in the graph at the left, the equal percentage characteristic of the **CONTOURED PORT BALL VALVE** mirrors the average coil characteristic resulting in linear heat transfer.