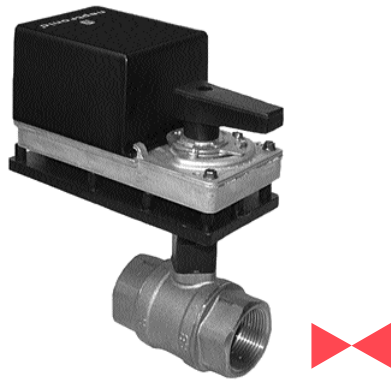




**For 2 Way control of hot water or chilled water up to 50%Glycol.**

**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 3 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.

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

**Specifications**

<b>Valve Flow Type:</b>	Equal Percentage
<b>Static Pressure &amp; Temperature:</b>	360 PSI, -22°F to +250°F (-30°C to +121°C)
<b>Differential:</b>	35 PSIG Maximum
<b>Maximum Close-Off Pressure:</b>	100 PSIG Maximum (130 PSIG max. for 1/2" and 3/4")
<b>Body:</b>	Forged Brass ASTM B283
<b>Ball &amp; Stem:</b>	Nickel Plated Brass & Brass, Respectively, or Stainless Steel
<b>Flow Contoured Insert:</b>	Glass Filled Polymer
<b>Stem Seals:</b>	EPDM "O" Rings
<b>Seat:</b>	Reinforced Teflon Seals with EPDM "O" Rings
<b>End Connections:</b>	Standard NPT

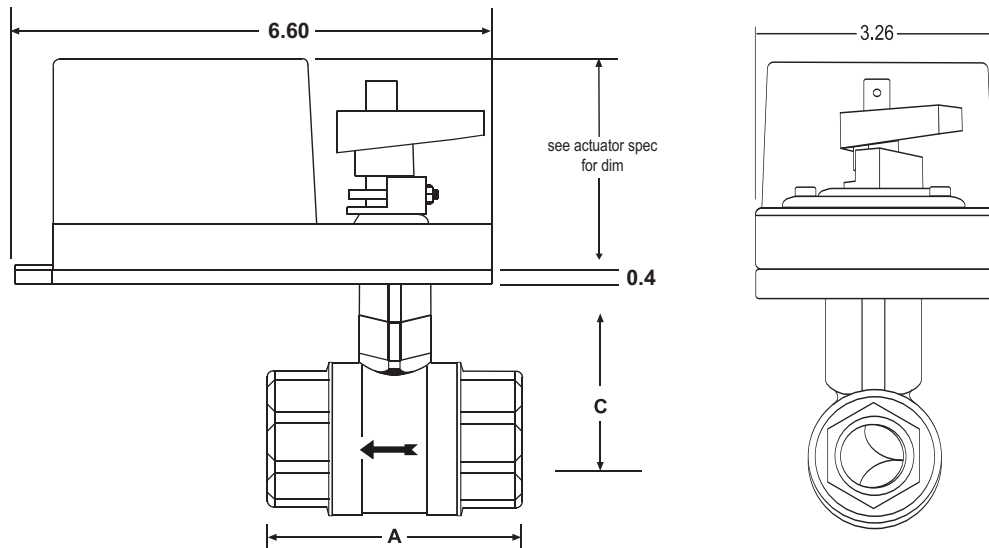
# DIMENSIONS

## 2 WAY CONTOURED PORT BALL VALVES

**neptronic®**

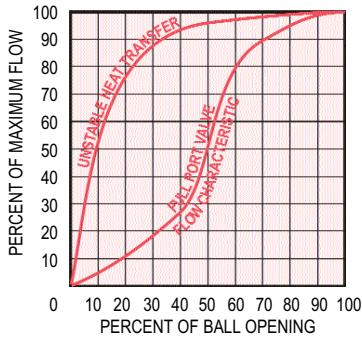


2 Way, NPT Female

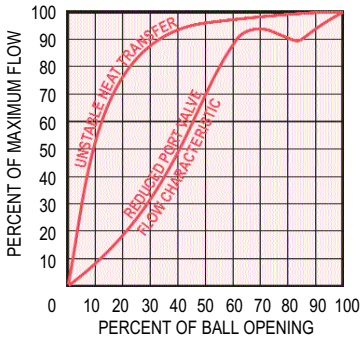


VALVE SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	C
					STANDARD NPT FEMALE	STANDARD EXTENSION
1/2"	0.4	0.3	CP A0004YP1	130	2.37	2.40
1/2"	0.7	0.6	CP A0007YP1	130	2.37	2.40
1/2"	1.4	1.2	CP A0014YP1	130	2.37	2.40
1/2"	2.6	2.2	CP A0026YP1	130	2.37	2.40
1/2"	5	4	CP A0050YP1	130	2.37	2.40
3/4"	10	8	CP B0100YP1	130	2.64	2.52
1"	16	13	CP C0160YP1	100	3.05	2.62
1-1/4"	26	22	CP D0260YP1	100	3.60	2.88
1-1/2"	41	35	CP E0410YP1	100	3.70	3.36
2"	71	61	CP F0710YP1	100	4.41	3.57
2-1/2"	101	87	CP G1010YP1	100	4.70	3.57
3"	124	107	CP H1240YP1	100	5.02	3.57

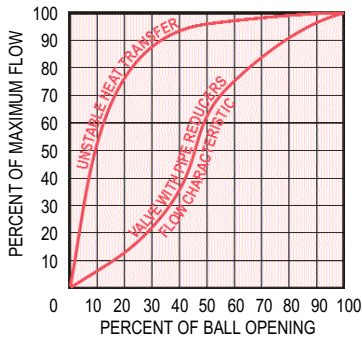
\* All dimensions are in Inches.



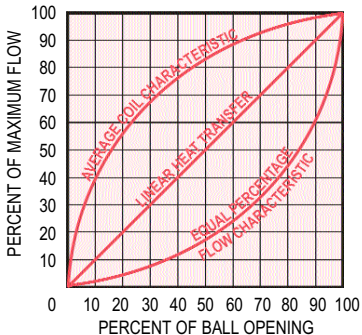
The large Cv rating of **FULL PORT VALVES** is caused by the shape and size of the orifice and results in a distorted flow characteristic, an unstable heat transfer and an “all or nothing” flow. The valve opens quickly and has a very small pressure drop. This is used for 2 position control where a low 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.