

# DESCRIPTION & SPEC

## 2 WAY FULL PORT BALL VALVES

neptronic®



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



These actuated ball valves are available with standard NPT female connections or with double union connections and either NPT female or sweat couplings as shown in the photograph above.

### Description

The **Full Port Series** are actuated 2 Way **Ball Valves** that can provide digital or analog control of hot and chilled water systems up to 50% glycol. Each unit is comprised of a rotary actuator and linkage assembly coupled to the valve body that offers high flow and positive Close-Off with low torque.

The standard full port design is less restrictive than other styles, providing high flow characteristics with low pressure drops.

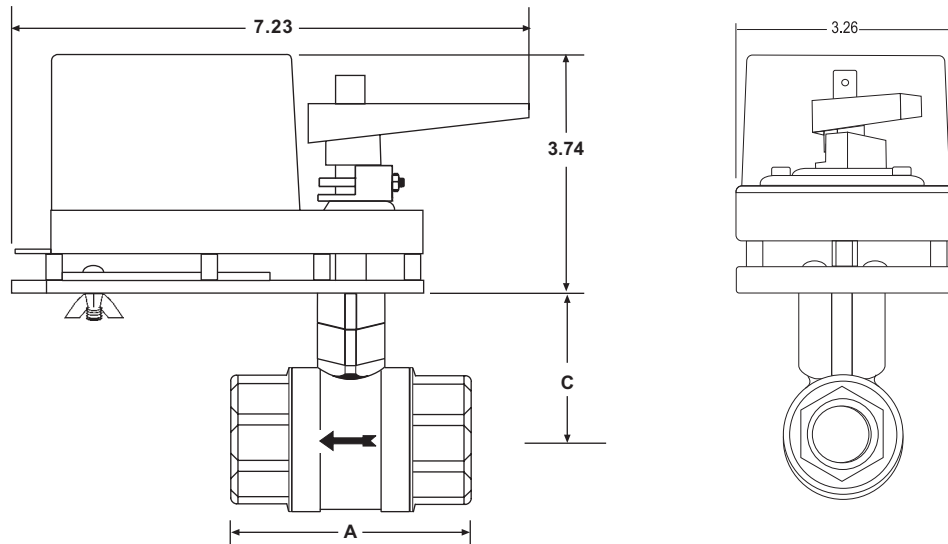
Valve sizing ranges from 1/2 inch to 3 inches with a Close-Off pressure of 100 PSIG. These low profile, compact units are able to be installed with ease in the often tight, restricted areas found in unit ventilators, fan coils, terminal reheat coils and larger air handlers.

### Specifications

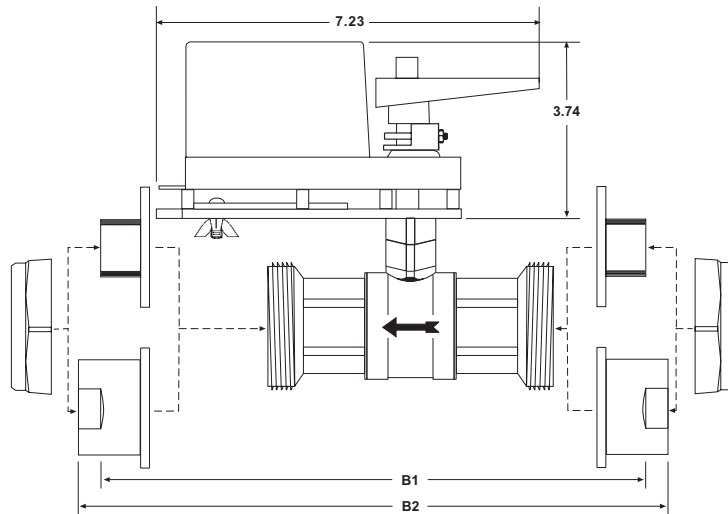
<b>Valve Flow Type:</b>	<b>2 Way:</b> Equal Percentage
<b>Static Pressure &amp; Temperature:</b>	360 PSI, -22°F to +250°F (-30°C to +121°C)
<b>Differential:</b>	35 PSIG Maximum
<b>Maximum Close-Off Pressure:</b>	100 PSIG Maximum
<b>Body:</b>	Forged Brass ASTM B283
<b>Ball &amp; Stem:</b>	Nickel Plated Brass & Brass, Respectively, or Stainless Steel
<b>Stem Seals:</b>	EPDM "O" Rings
<b>Seats:</b>	Reinforced Teflon Seals with EPDM "O" Rings
<b>End Connections:</b>	Standard NPT Female or Double Union
<b>Couplings:</b>	NPT Female or Sweat for Double Union Valves



**2 Way, NPT Female**



**2 Way, Double Union**



VALVE SIZE	A	B1	B2	C
	STANDARD NPT FEMALE	DOUBLE UNION SWEAT	DOUBLE UNION NPT FEMALE	STANDARD EXTENSION
1/2"	2.37	4.45	5.01	2.40
3/4"	2.64	5.61	5.11	2.52
1"	3.05	6.05	7.55	2.62
1-1/4"	3.60	7.36	7.36	2.88
1-1/2"	3.70	7.88	7.76	3.36
2"	4.41	9.16	11.00	3.57
2-1/2"	4.70	N/A	N/A	3.57
3"	5.02	N/A	N/A	3.57

\* All dimensions are in Inches.

**Model Selection Tables**

In Table 1, the various models listed designate the size, type of connections and couplings and the trim of the valves. Select the appropriate valve model. Each may be used with any of the six actuators described in Table 2. Select the appropriate actuator model. The actuator model selected from Table 2, is added as a suffix to the valve model selected from Table 1 to form a complete actuated valve model. Refer to the formula in Table 3.

**TABLE 1: VALVE SELECTION**

VALVE SIZE		VALVE FLOW		FP VALVE MODELS WITH STANDARD TRIM			FP VALVE MODELS WITH STAINLESS STEEL TRIM			TOTAL WEIGHT	
IN.	MM.	Cv	Kv	STANDARD NPT FEMALE CONNECTIONS	DOUBLE UNION CONNECTIONS & NPT FEMALE COUPLINGS	DOUBLE UNION CONNECTIONS & SWEAT COUPLINGS	STANDARD NPT FEMALE CONNECTIONS	DOUBLE UNION CONNECTIONS & NPT FEMALE COUPLINGS	DOUBLE UNION CONNECTIONS & SWEAT COUPLINGS	LB.	KG.
1/2	15	12	10	FP A0120YP1	FP A0120YP2	FP A0120YP3	FP A0120YS1	FP A0120YS2	FP A0120YS3	3.5	1.6
3/4	20	29	25	FP B0290YP1	FP B0290YP2	FP B0290YP3	FP B0290YS1	FP B0290YS2	FP B0290YS3	4.0	1.8
1	25	54	46	FP C0540YP1	FP C0540YP2	FP C0540YP3	FP C0540YS1	FP C0540YS2	FP C0540YS3	5.0	2.3
1-1/4	32	102	87	FP D1020YP1	FP D1020YP2	FP D1020YP3	FP D1020YS1	FP D1020YS2	FP D1020YS3	7.0	3.2
1-1/2	40	172	147	FP E1720YP1	FP E1720YP2	FP E1720YP3	FP E1720YS1	FP E1720YS2	FP E1720YS3	8.5	3.9
2	50	266	228	FP F2660YP1	FP F2660YP2	FP F2660YP3	FP F2660YS1	FP F2660YS2	FP F2660YS3	10.0	4.6
2-1/2	65	202	174	FP G2020YP1	N/A	N/A	FP G2020YS1	N/A	N/A	11	5.0
3	80	145	125	FP H1450YP1	N/A	N/A	FP H1450YS1	N/A	N/A	12	5.5

**TABLE 2: ACTUATOR SELECTION**

ACTUATOR MODELS	BT000S	BT020S	DT060S	DT080S	BM000S	DM060S
CONTROL SIGNAL	2 Position 3 Pt. Floating	2 Position 3 Pt. Floating	2 Position 3 Pt. Floating	2 Position 3 Pt. Floating	2-10VDC 4-20mA	2-10VDC 4-20mA
FEEDBACK	No	No	No	No	No	No
ENERDRIVE SYSTEM	No	No	Yes	Yes	No	Yes
MECH. AUX. SWITCHES	No	Yes	No	Yes	No	No

**TABLE 3: ACTUATED VALVE FORMULA**

FORMULA:	FULL PORT VALVE	+	ACTUATOR	=	ACTUATED VALVE
Specification Requirements :	1-1/2 inch Line Size, 172 Cv Nickle Plated Brass Ball & Stem NPT Female Connections	+	3 Point Floating Control 2 Mechanical Auxiliary Swiches and Fail Safe	=	Digital 1-1/2 inch FP Ball Valve with Enerdrive and Swiches Standard Trim, NPT Female Connections
Selected from the Tables :	FP E1720YP1	+	DT080S	=	FP E1720YP1 DT080S