

DESCRIPTION & SPEC INDUSTRIAL BALL VALVES

neptronic®

For 2 Way control of hot water or chilled water up to 50% Glycol & 15 PSI saturated steam.



Description

The **Industrial Ball Valve Series** are actuated **Ball Valves** that provide digital or analog control of hot water, chilled water containing up to 50% glycol or 15 PSI steam. Each unit is comprised of a rotary actuator and linkage assembly coupled to the valve body that offers, high pressure differential Close-Off. The standard full port design is less restrictive providing high flow characteristics with low pressure drops.

Valve sizes range from 1/2 inch to 3 inches with a maximum valve body rating of 600 PSIG for a two way. 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.

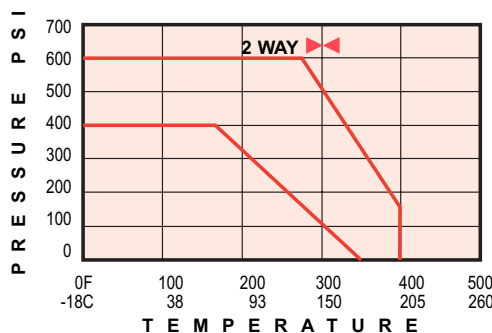


FIG. 1 PRESSURE vs. TEMPERATURE

Specifications

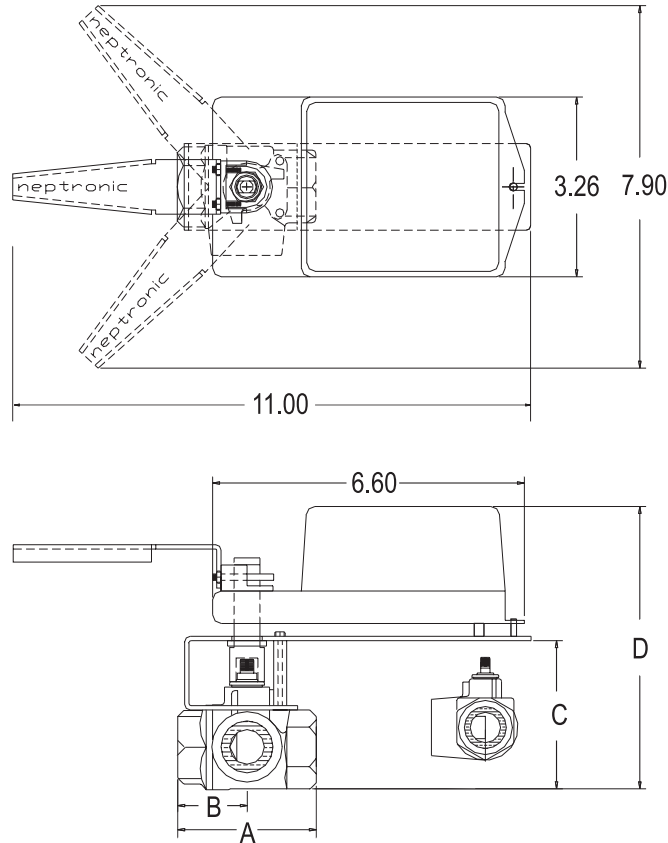
Valve Flow Type:	2 Way: Equal Percentage,
Service:	Hot water, chilled water, glycol up to 50%, 15 PSIG, saturated steam. (Optional: 150 PSIG saturated steam)
Static Pressure & Temperature:	(Refer to Fig. 1)
Maximum Working Pressure:	2 Way: 600 PSIG WOG
Body:	Bronze
Ball & Stem:	Stainless Steel
Stem Seals:	Composite of reinforced Teflon & EPDM "O" rings
Seats:	Reinforced Teflon
End Connections:	Standard NPT Female

DIMENSIONS - INDUSTRIAL BALL VALVES

neptronic® 1/2"- 3/4" BT/BM ACTUATOR VALVE ASSEMBLY



BT/BM Actuated Valve Assembly



**BT/BM
2 WAY
VALVE
ASSEMBLY**

VALVE MODEL PREFIX	SIZE	A	B	C	D
SB A0020XS1	1/2"	2.20	1.12	3.20	6.45
SB A0040XS1	1/2"	2.20	1.12	3.20	6.45
FP A0150XS1	1/2"	2.20	1.12	3.20	6.45
SB B0300XS1	3/4"	3.00	1.50	3.50	6.75

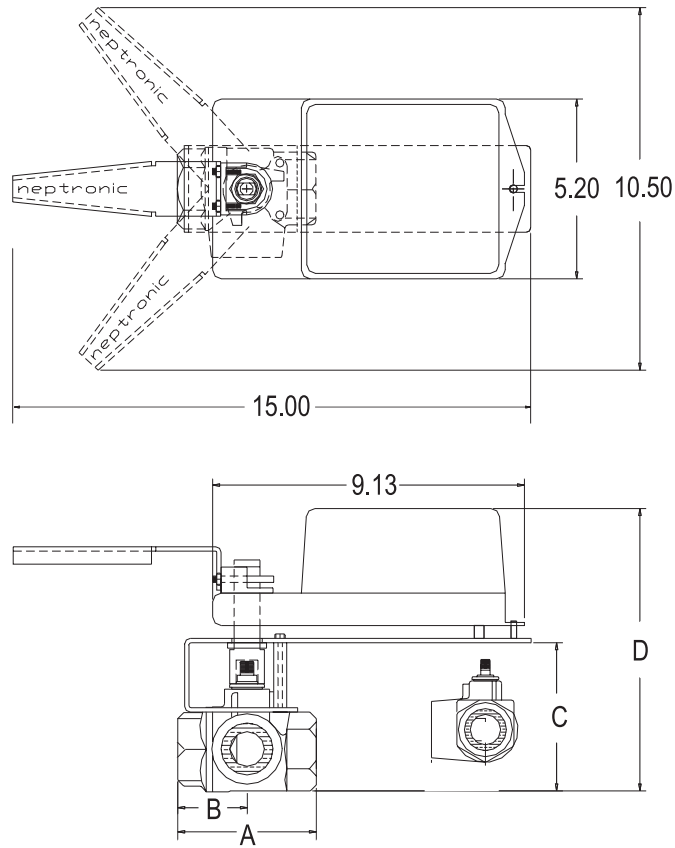
* All dimensions are in Inches.

DIMENSIONS - INDUSTRIAL BALL VALVES

3/4"- 1-1/2" TT/TM ACTUATOR VALVE ASSEMBLY **neptronic**[®]



TT/TM Actuated Valve Assembly



TT/TM 2 WAY VALVE ASSEMBLY

VALVE MODEL PREFIX	SIZE	A	B	C	D
FP B0510XS1	3/4"	3.12	1.56	3.80	7.55
SB C0430XS1	1"	3.37	1.68	4.00	7.75
FP C0680XS1	1"	3.62	1.81	4.30	8.05
SB D0480XS1	1-1/4"	4.00	2.00	4.40	8.15
FP D1250XS1	1-1/4"	4.25	2.12	4.80	8.55
SB E0840XS1	1-1/2"	4.37	2.18	4.70	8.45

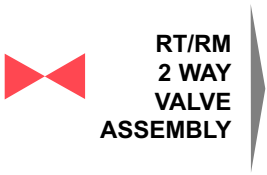
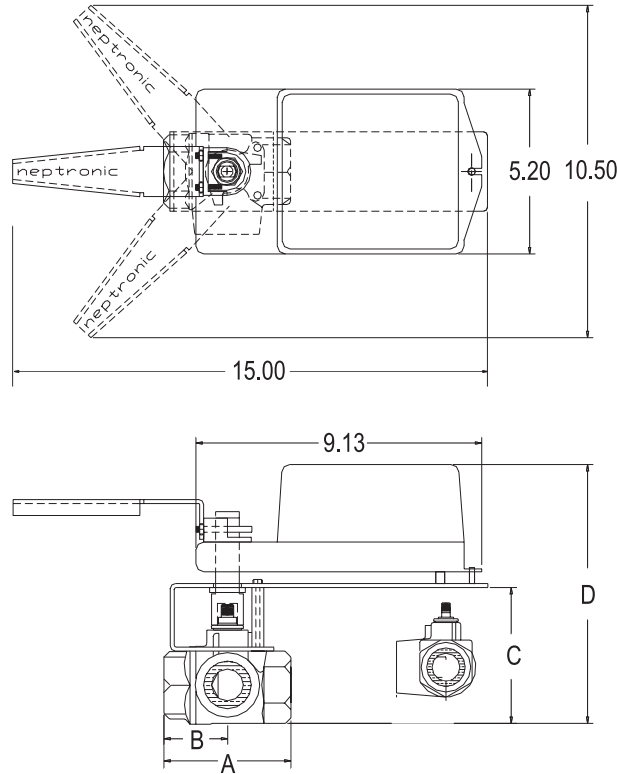
* All dimensions are in Inches.

DIMENSIONS - INDUSTRIAL BALL VALVES

neptronic® 1-1/2"- 3" RT/RM ACTUATOR VALVE ASSEMBLY



RT/RM Actuated Valve Assembly



VALVE MODEL PREFIX	SIZE	A	B	C	D
FP E1770XS1	1-1/2"	4.75	2.37	5.30	9.05
SB F1080XS1	2"	4.68	2.34	5.10	8.85
FP F3890XS1	2"	5.37	2.65	5.90	9.65
FP G5030XS1	2-1/2"	6.50	3.25	7.00	10.75
SB H3700XS1	3"	6.75	3.37	7.10	10.85

* All dimensions are in Inches.

Model Selection Tables

In Table 1, the various models listed designate the size, type, flow rate and close off pressure of each valve as well as the actuator group to be used. Select the appropriate valve model. Choose the actuator model from Table 2 based upon the group indicated in Table 1 and the system requirements. The actuator model is added as a suffix to the valve model selected to form a complete actuated valve model. Refer to the formula in Table 3.

TABLE 1: VALVE SELECTION

SB - 2 way reduced port

SIZE	FLOW Cv	VALVE MODEL	MAXIMUM CLOSE OFF		
			ACTUATOR SERIES		
			BT/BM	TT/TM	RT/RM
1/2"	2	SB A0020XS1	150PSI		
1/2"	4	SB A0040XS1	150PSI		
3/4"	30	SB B0300XS1	150PSI		
1"	43	SB C0430XS1		300PSI	
1-1/4"	48	SB D0480XS1		300PSI	
1-1/2"	84	SB E0840XS1		150PSI	
2"	108	SB F1080XS1			150PSI
3"	370	SB H3700XS1			75PSI

TABLE 1: VALVE SELECTION

FP - 2 way full port

SIZE	FLOW Cv	VALVE MODEL	MAXIMUM CLOSE OFF		
			ACTUATOR SERIES		
			BT/BM	TT/TM	RT/RM
1/2"	15	FP A0150XS1	150PSI		
3/4"	51	FP B0510XS1		300PSI	
1"	68	FP C0680XS1		300PSI	
1-1/4"	125	FP D1250XS1		150PSI	
1-1/2"	177	FP E1770XS1			300PSI
2"	389	FP F3890XS1			150PSI
2-1/2"	503	FP G5030XS1			75PSI

TABLE 2: ACTUATOR SELECTION

ACTUATOR CAPABILITY	ACTUATOR MODELS					
50 in.lb. TORQUE	BT000	BT020	BT060	BT080	BM000	BM060
180 in.lb. TORQUE	TT000	TT020	TT060	TT080	TM000	TM060
360 in.lb. TORQUE	RT000	RT020	RT060	RT080	RM000	RM060
CONTROL SIGNAL	2 Pos. 3 Pt. Fltng.	2 Pos. 3 Pt. Fltng.	2 Pos. 3 Pt. Fltng.	2 Pos. 3 Pt. Fltng.	2 Position 3 Pt. Fltng. 2-10VDC 4-20mA PWM	2 Position 3 Pt. Fltng. 2-10VDC 4-20mA PWM
FEEDBACK	No	No	No	No	Conditioned	Conditioned
ENERDRIVE SYSTEM	No	No	Yes	Yes	No	Yes
AUXILIARY SWITCHES	No	Yes	No	Yes	No	No

TABLE 2: ACTUATOR SELECTION

FORMULA:	BALL VALVE	+	ACTUATOR	=	ACTUATED VALVE
Specification Requirements :	1-1/4 inch Line size, 2 Way 48 Cv, 300 PSIG Close Off, Bronze 600 WOG, S.S. Trim NPT Female	+	2-10 VDC Control Signal 4-20mA Output Feedback Fail Safe	=	Modulating 1-1/4 inch 2 Way Ball valve, NPT Female Fail Safe and Feedback
Selected from the Tables :	SB D0480XS1	+	TM060	=	SB D0480XS1 TM060