

DESCRIPTION & SPEC INDUSTRIAL BALL VALVES

neptronic®

For 3 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.

Valve sizes range from 1/2 inch to 2 inches with a maximum valve body rating of 400 PSIG for a 3 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.

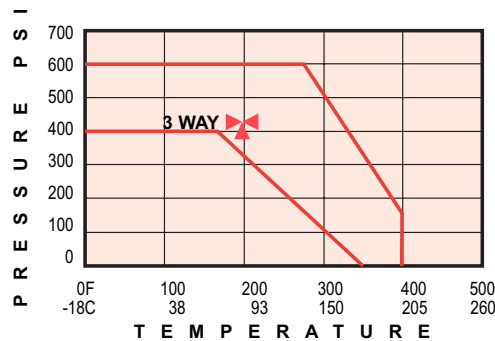


FIG. 1 PRESSURE vs. TEMPERATURE

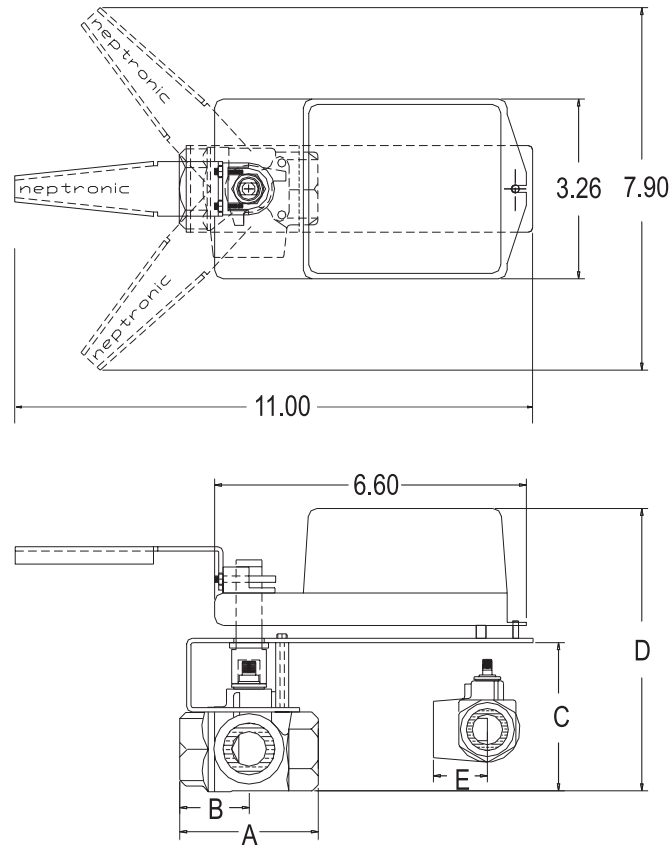
Specifications

Valve Flow Type:	3 Way: Modified Linear
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:	3 Way: 400 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

neptronic® DIMENSIONS - INDUSTRIAL BALL VALVES 1/2"- 3/4" BT/BM ACTUATOR VALVE ASSEMBLY



BT/BM Actuated Valve Assembly



BT/BM 3 WAY VALVE ASSEMBLY

VALVE MODEL PREFIX	SIZE	A	B	C	D	E
ST A0020XS1	1/2"	2.25	1.09	3.20	6.45	1.18
ST A0048XS1	1/2"	2.25	1.09	3.20	6.45	1.18
ST B0120XS1	3/4"	3.00	1.50	3.60	6.85	1.62

* All dimensions are in Inches.

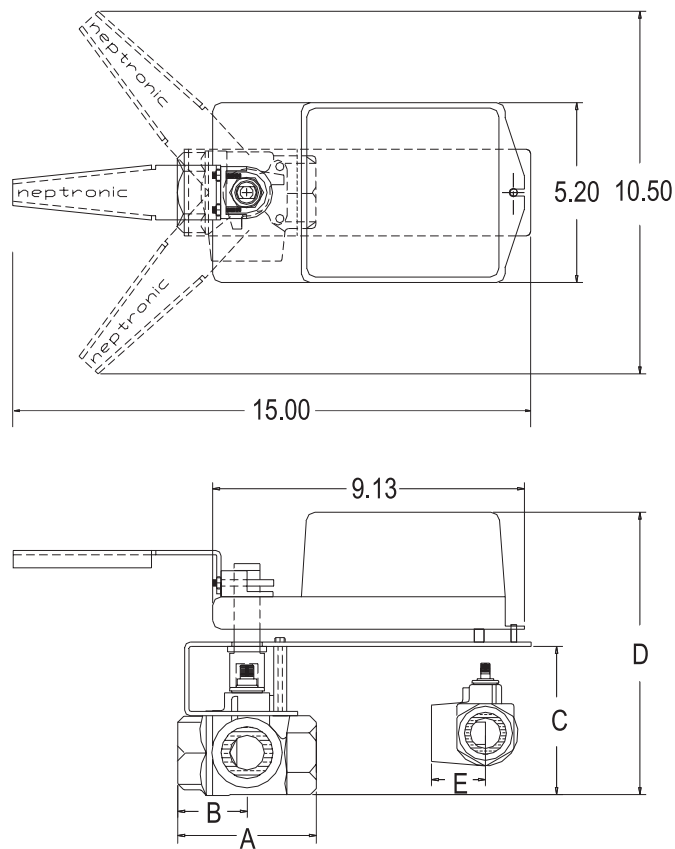
DIMENSIONS - INDUSTRIAL BALL VALVES

1"- 1-1/2" TT/TM ACTUATOR VALVE ASSEMBLY

neptronic®



TT/TM Actuated Valve Assembly



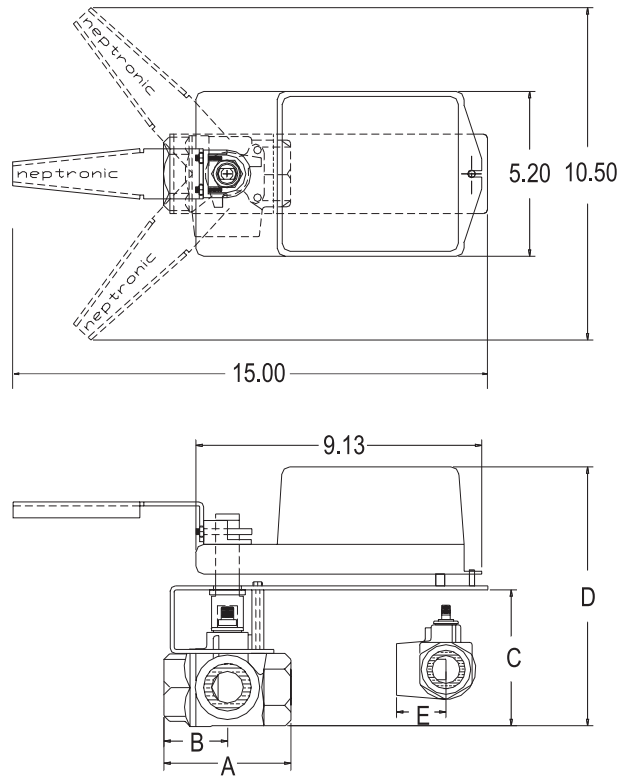
TT/TM
3 WAY
VALVE
ASSEMBLY

VALVE MODEL PREFIX	SIZE	A	B	C	D	E
ST C0140XS1	1"	3.18	1.59	4.00	7.75	1.71
ST D0210XS1	1-1/4"	3.95	1.97	4.30	8.05	2.01
ST E0340XS1	1-1/2"	4.40	2.21	4.70	8.45	2.38

* All dimensions are in Inches.



RT/RM Actuated Valve Assembly



**RT/RM
3 WAY
VALVE
ASSEMBLY**

VALVE MODEL PREFIX	SIZE	A	B	C	D	E
ST F0470XS1	2"	4.69	2.34	5.00	8.75	2.50

* 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

ST - 3 way ball valve

SIZE	FLOW	VALVE MODEL	MAXIMUM CLOSE OFF		
			ACTUATOR SERIES		
INE	Cv		BT/BM	TT/TM	RT/RM
1/2"	2	ST A0020XS1	100PSI		
1/2"	4.8	ST A0048XS1	100PSI		
3/4"	12	ST B0120XS1	100PSI		
1"	14	ST C0140XS1		300PSI	
1-1/4"	21	ST D0210XS1		300PSI	
1-1/2"	34	ST E0340XS1		150PSI	
2"	47	ST F0470XS1			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, 3 Way 21 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 3 Way Ball valve, NPT Female Fail Safe and Feedback
Selected from the Tables :	ST D0210XS1	+	TM060	=	ST D0210XS1 TM060