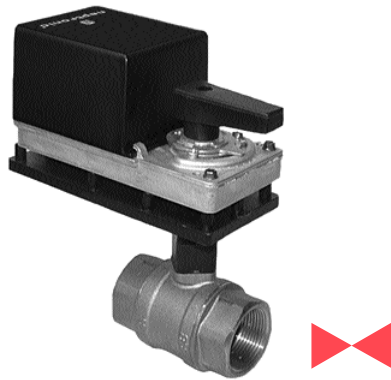




For 2 Way control of hot water or chilled water up to 50%Glycol.

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

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

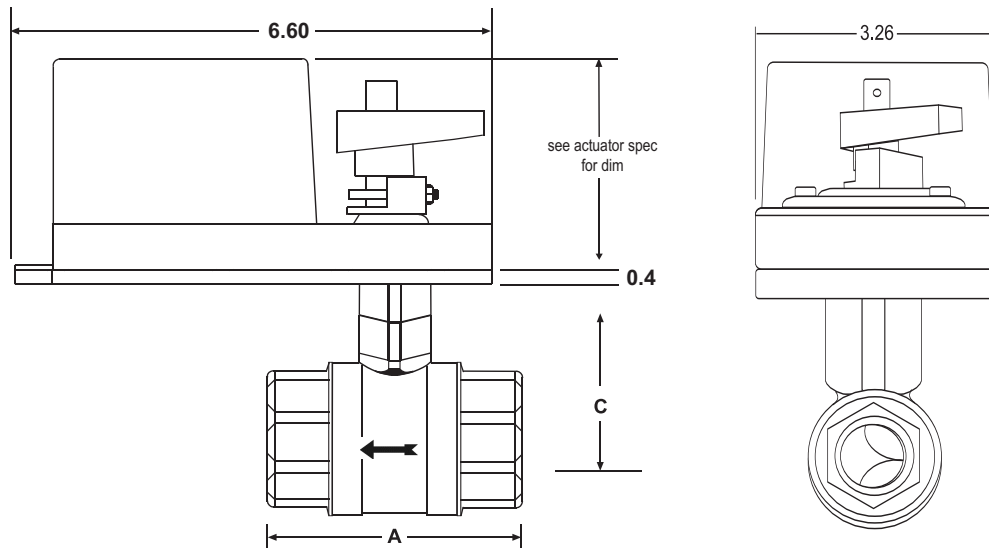
DIMENSIONS

2 WAY CONTOURED PORT BALL VALVES

neptronic®

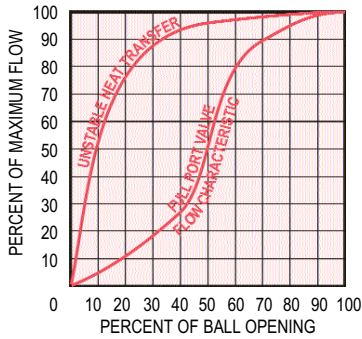


2 Way, NPT Female

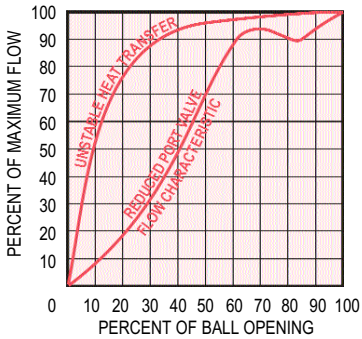


VALVE SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	C
					STANDARD NPT FEMALE	STANDARD EXTENSION
1/2"	0.4	0.3	CP A0004YP1	130	2.37	2.40
1/2"	0.7	0.6	CP A0007YP1	130	2.37	2.40
1/2"	1.4	1.2	CP A0014YP1	130	2.37	2.40
1/2"	2.6	2.2	CP A0026YP1	130	2.37	2.40
1/2"	5	4	CP A0050YP1	130	2.37	2.40
3/4"	10	8	CP 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

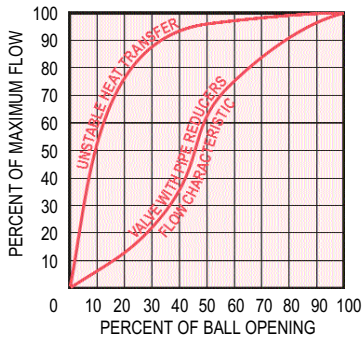
* All dimensions are in Inches.



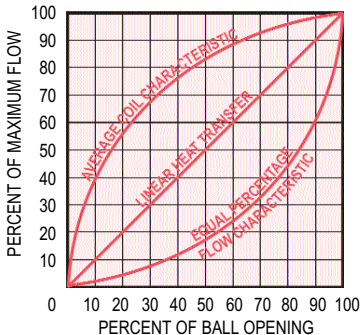
The large Cv rating of **FULL PORT VALVES** is caused by the shape and size of the orifice and results in a distorted flow characteristic, an unstable heat transfer and an “all or nothing” flow. The valve opens quickly and has a very small pressure drop. This is used for 2 position control where a low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



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.

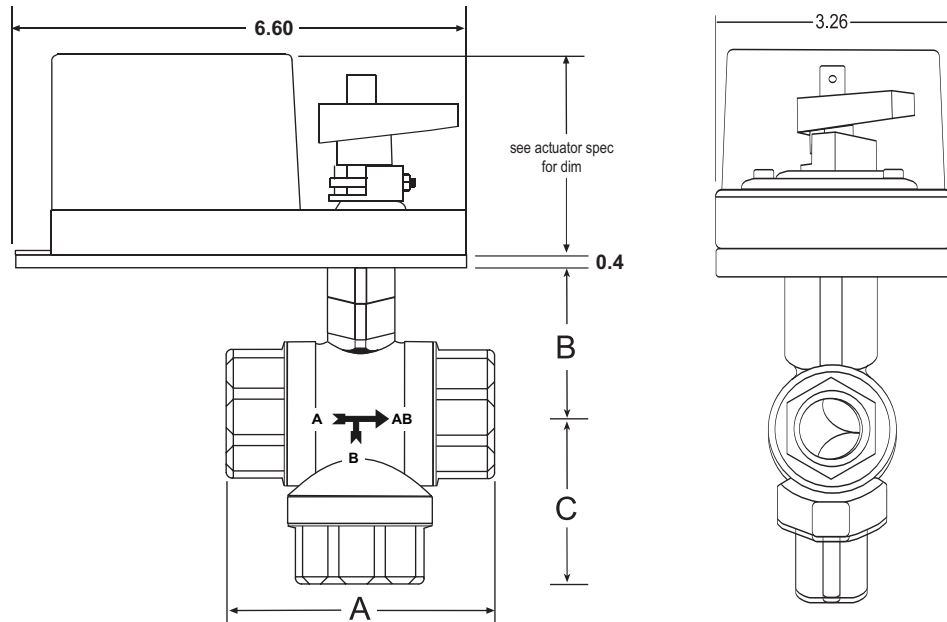
Note: Images include rendering of the permanently attached glass filled polymer as an integral part to the Contoured Port Ball Series Valve.

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

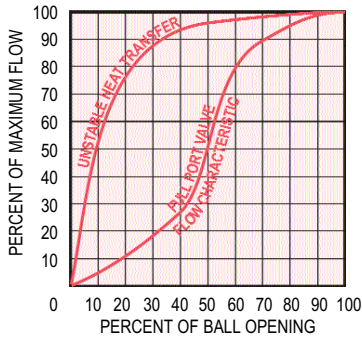


3 Way, NPT Female

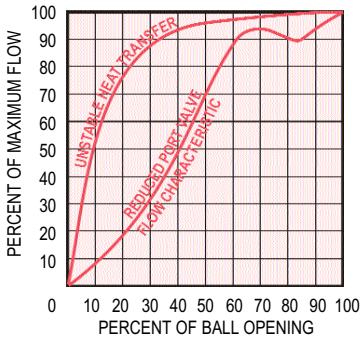


VALVE SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C
1/2"	0.3	0.2	ST A0003YP1	50	2.64	2.51	2.01
1/2"	0.6	0.5	ST A0006YP1	50	2.64	2.51	2.01
1/2"	1.0	0.8	ST A0010YP1	50	2.64	2.51	2.01
1/2"	2.4	2	ST A0024YP1	50	2.64	2.51	2.01
1/2"	4.3	3.7	ST A0043YP1	50	2.64	2.51	2.01
1/2"	8.0	6.9	ST A0080YP1	50	2.64	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

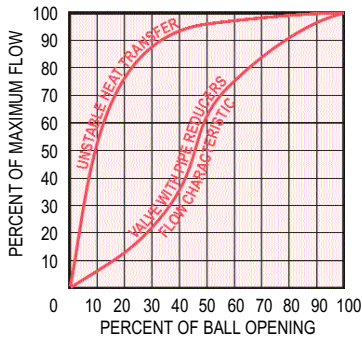
* All dimensions are in Inches.



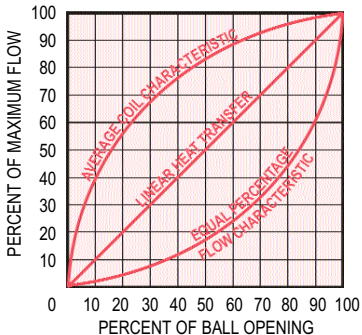
The large Cv rating of **FULL PORT VALVES** is caused by the shape and size of the orifice and results in a distorted flow characteristic, an unstable heat transfer and an “all or nothing” flow. The valve opens quickly and has a very small pressure drop. This is used for 2 position control where a low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

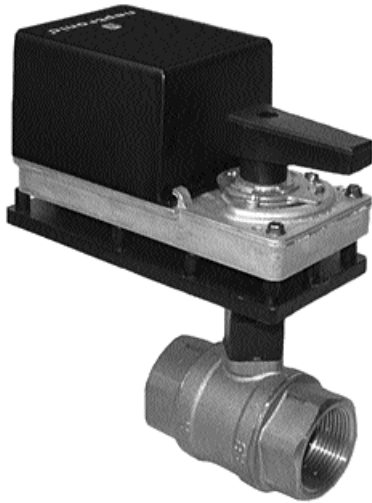
DESCRIPTION & SPEC

2 WAY FULL PORT BALL VALVES

neptronic®



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



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.

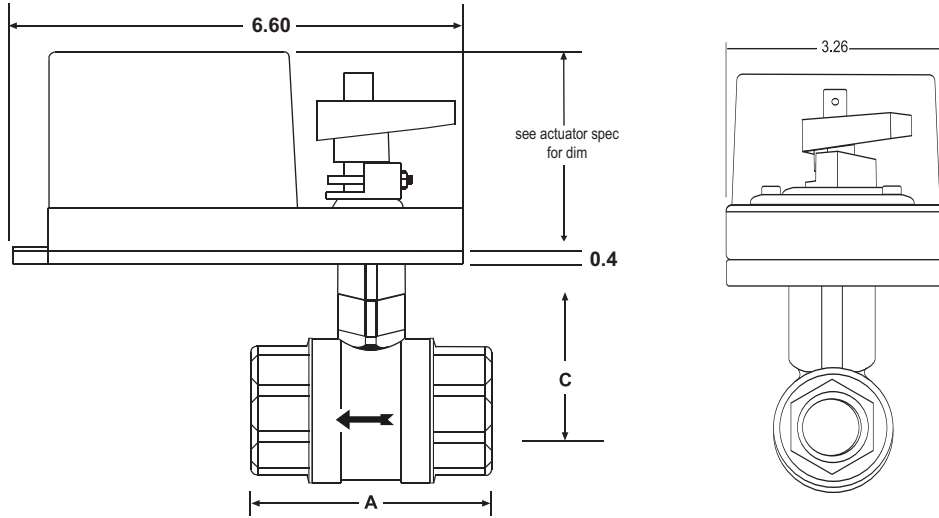
Valve sizing ranges from 1/2 inch to 3 inches with a Close-Off pressure of 100 PSIG. These low profile, compact units are able to be installed with ease in the often tight, restricted areas found in unit ventilators, fan coils, terminal reheat coils and larger air handlers.

Specifications

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



2 Way, NPT Female



VALVE SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	C
1/2"	12	10	FP A0120YP1 / FP A0120YS1	130	2.37	2.40
3/4"	29	25	FP B0290YP1 / FP B0290YS1	130	2.64	2.52
1"	54	46	FP C0540YP1 / FP C0540YS1	100	3.05	2.62
1-1/4"	102	88	FP D1020YP1 / FP D1020YS1	100	3.60	2.88
1-1/2"	172	148	FP E1720YP1 / FP E1720YS1	100	3.70	3.36
2"	266	230	FP F2660YP1 / FP F2660YS1	100	4.41	3.57
2-1/2"	202	174	FP G2020YP1 / FP G2020YS1	100	4.70	3.57
3"	145	125	FP H1450YP1 / FP H1450YS1	100	5.02	3.57

* All dimensions are in Inches.

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.

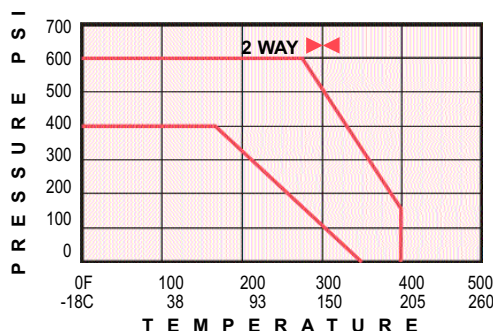


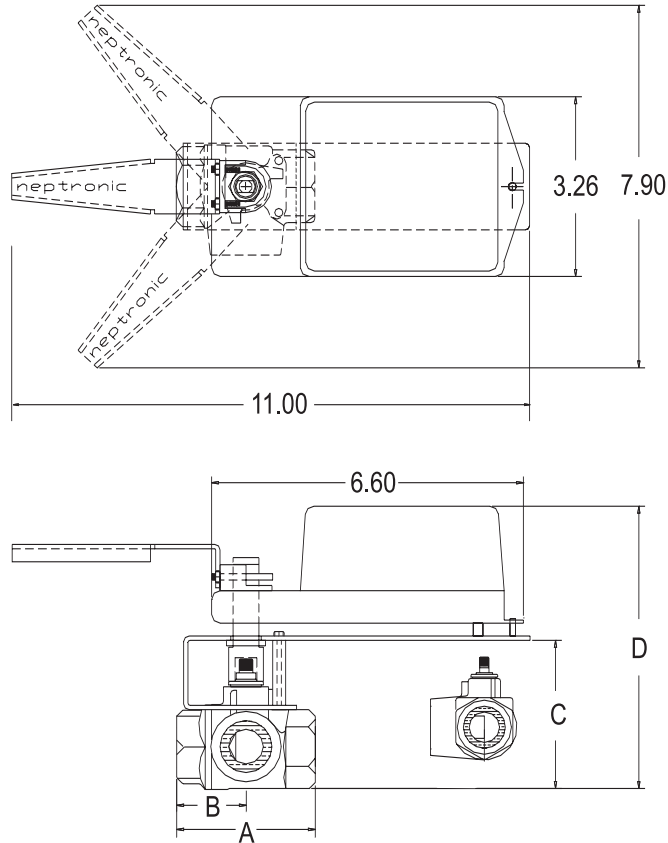
FIG. 1 PRESSURE vs. TEMPERATURE

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



BT/BM Actuated Valve Assembly



**B SERIES
 2 WAY
 VALVE
 ASSEMBLY**

SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C	D
1/2"	2	1	SB A0020XS1	150	2.20	1.12	3.20	6.45
1/2"	4	3	SB A0040XS1	150	2.20	1.12	3.20	6.45
1/2"	15	13	FP A0150XS1	150	2.20	1.12	3.20	6.45
3/4"	30	25	SB B0300XS1	150	3.00	1.50	3.50	6.75

* All dimensions are in Inches.



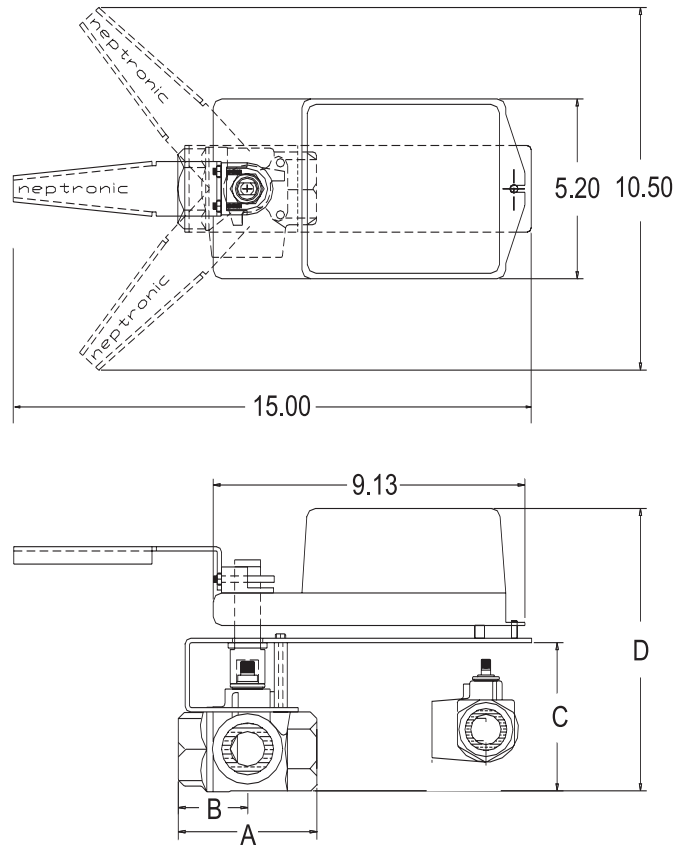

DIMENSIONS - INDUSTRIAL BALL VALVES

3/4"- 1-1/2" TT/TM ACTUATOR VALVE ASSEMBLY

neptronic®



TT/TM Actuated Valve Assembly

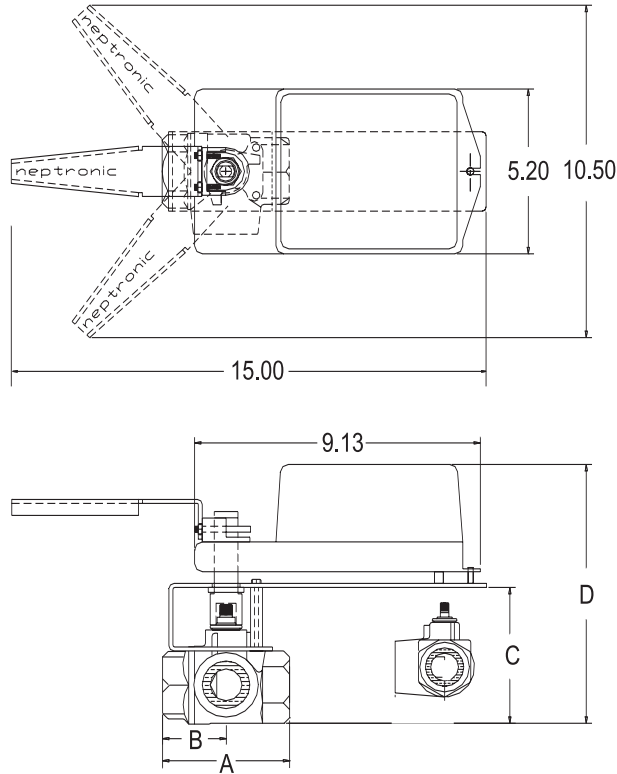
**T SERIES
2 WAY
VALVE
ASSEMBLY**

SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C	D
3/4"	51	44	FP B0510XS1	300	3.12	1.56	3.80	7.55
1"	43	37	SB C0430XS1	300	3.37	1.68	4.00	7.75
1"	68	58	FP C0680XS1	300	3.62	1.81	4.30	8.05
1-1/4"	48	41	SB D0480XS1	300	4.00	2.00	4.40	8.15
1-1/4"	125	108	FP D1250XS1	150	4.25	2.12	4.80	8.55
1-1/2"	84	72	SB E0840XS1	150	4.37	2.18	4.70	8.45

* All dimensions are in Inches.



RT/RM Actuated Valve Assembly

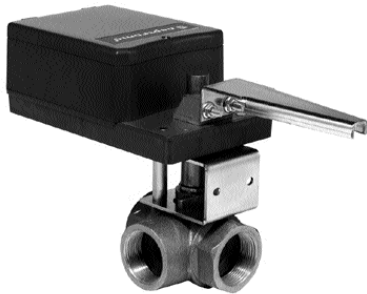
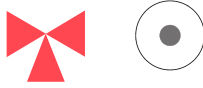


**R SERIES
2 WAY
VALVE
ASSEMBLY**

SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C	D
1-1/2"	177	153	FP E1770XS1	300	4.75	2.37	5.30	9.05
2"	108	93	SB F1080XS1	150	4.68	2.34	5.10	8.85
2"	389	336	FP F3890XS1	150	5.37	2.65	5.90	9.65
2-1/2"	503	435	FP G5030XS1	75	6.50	3.25	7.00	10.75
3"	370	320	SB H3700XS1	75	6.75	3.37	7.10	10.85

* All dimensions are in Inches.

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.

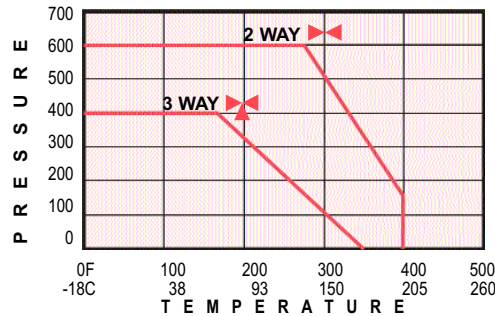


FIG. I PRESSURE vs. TEMPERATURE

Specifications

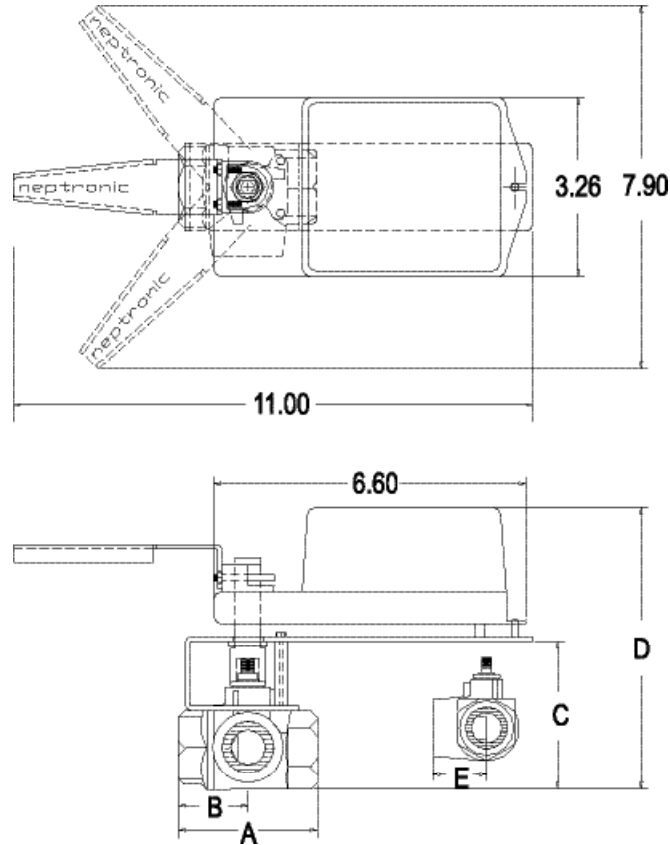
- Valve Flow Type:** **3 Way:** Modified Linear
- Service:** Hot water, chilled water, glycol up to 50%, 15 PSIG, saturated steam. (Optional: 150 PSIG saturated steam)
- Static Pressure & Temperature:** (Refer to Fig. I)
- Maximum Working Pressure:** **3 Way:** 400 PSIG WOG
- Body:** Bronze
- Ball & Stem:** Stainless Steel
- Stem Seals:** Composite of reinforced Teflon & EPDM "O" rings
- Seats:** Reinforced Teflon
- End Connections:** Standard NPT Female

DIMENSIONS - INDUSTRIAL BALL VALVES

neptronic® 1/2"- 3/4" B SERIES ACTUATOR VALVE ASSEMBLY



B Series Actuated Valve Assembly



**B SERIES
3 WAY
VALVE
ASSEMBLY**

SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C	D	E
1/2"	5	4	ST A0048XS1	100	2.25	1.09	3.20	6.45	1.18
3/4"	12	10	ST B0120XS1	100	3.00	1.50	3.60	6.85	1.62

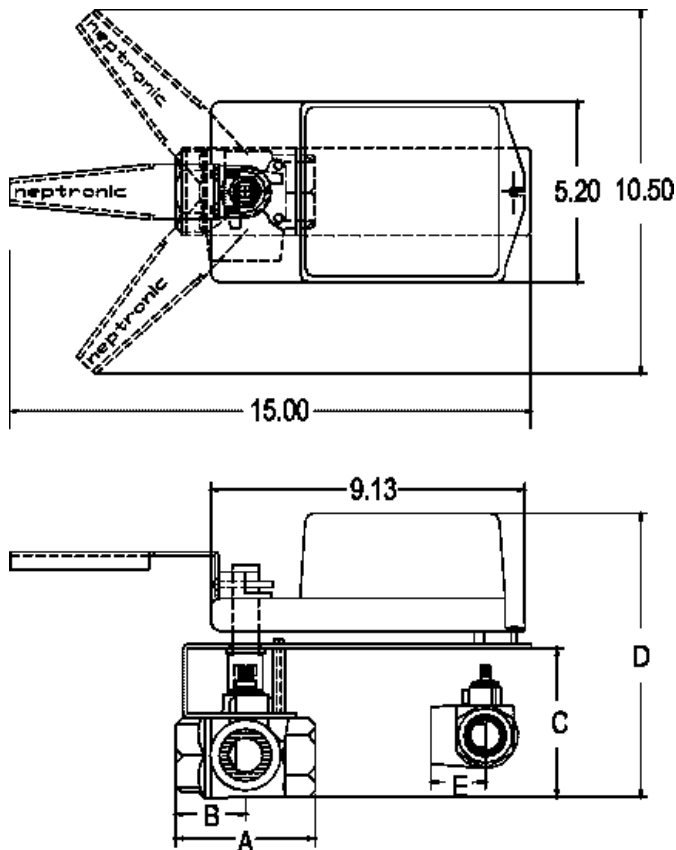
* All dimensions are in Inches.

DIMENSIONS - INDUSTRIAL BALL VALVES

neptronic® 1"- 1-1/2" T SERIES ACTUATOR VALVE ASSEMBLY



T Series Actuated Valve Assembly



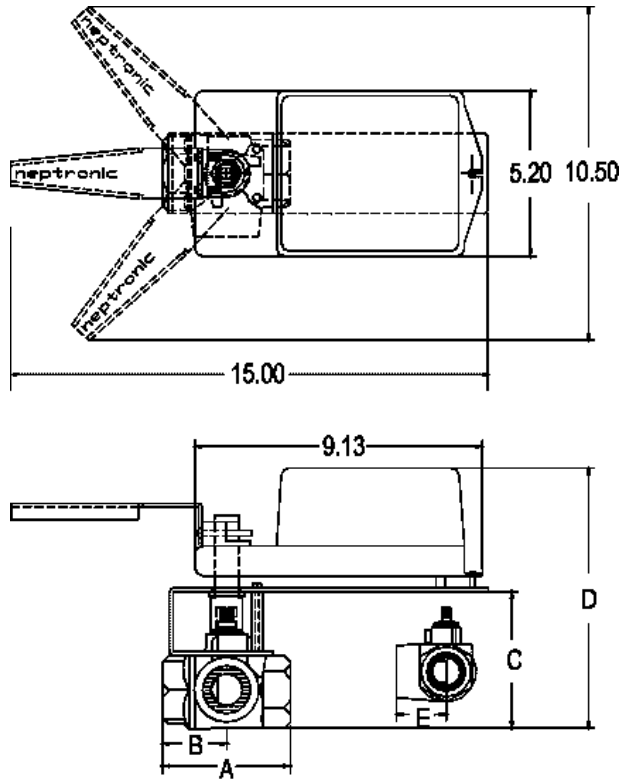
T SERIES
3 WAY
VALVE
ASSEMBLY

SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C	D	E
1"	14	12	ST C0140XS1	300	3.18	1.59	4.00	7.75	1.71
1-1/4"	21	18	ST D0210XS1	300	3.95	1.97	4.30	8.05	2.01
1-1/2"	34	29	ST E0340XS1	150	4.40	2.21	4.70	8.45	2.38

* All dimensions are in Inches.



R Series Actuated Valve Assembly



**R SERIES
3 WAY
VALVE
ASSEMBLY**

SIZE	Cv	Kv	VALVE MODEL PREFIX	CLOSE OFF PSI	A	B	C	D	E
2"	47	40	ST F0470XS1	75	4.69	2.34	5.00	8.75	2.50

* All dimensions are in Inches.



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



Description

The actuated **Butterfly Valve** is comprised of an actuator, linkage and valve body. The valve size and type, Cv ratings and Close-Off pressure determine the type of actuator series used. This correlation is in the Valve Selection Chart.

Valves are Class 125 bubble tight to 200 PSI and are sized from 2 to 12 inches. They feature a cast iron body with aluminum bronze disc and EPDM seat. The patent pending S-shaped disc improves the Cv rating and enhances the flow capacity. The result is minimum turbulence. The unique Touch Seat design (U.S. Patent No. 4,605,201) requires reduced torque to seat the disc. Connections are full lug, drilled and tapped.

Note: Stainless steel disc and Buna-N seating materials are available by special order.

VALVE SIZE	Cv at various DISC openings									
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
2"	3	6	11	17	26	42	65	100	140	165
2.5"	5	9	17	31	52	77	115	165	220	250
3"	6	14	25	43	67	97	140	200	285	380
4"	12	20	34	61	105	155	225	340	500	650
5"	13	29	52	97	165	270	425	645	935	1100
6"	19	37	78	140	230	365	605	1010	1510	1790
8"	29	66	140	250	405	675	1070	1620	2500	3300
10"	45	98	210	365	590	985	1560	2360	3700	4820
12"	54	125	265	470	760	1260	2010	3030	4700	6200

BUTTERFLY VALVE Cv CHART

Specifications

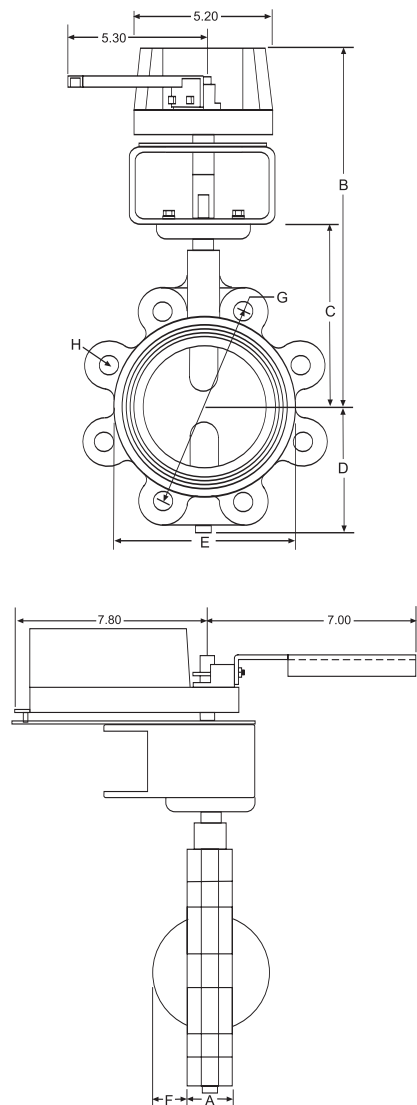
- Valve Flow Type:** **2 Way:** Equal Percentage
- Body:** Cast Iron ASTM A128 Class B
- Disc:** Aluminum Bronze B146-C95200
(or Stainless Steel) ASTM A351 CF8M (Upon request)
- Cartridge Seat:** EPDM (or Buna-N Upon request)
- Upper & Lower Stem Material:** Stainless Steel ASTM A276 Type 420
- Main Bearings:** Teflon
- Ring:** Stainless Steel ASTM A276 Type 304
- “O” Ring:** Buna - N
- Gasket:** Asbestos Free
- Bottom Spacer:** Stainless Steel ASTM A276 Type 403
- Screws, Bolts, Washers & Cover:** Zinc Plated Carbon Steel ASTM A36
- End Connections:** Flanged, ANSI Class 125, Full Lug, Drilled & Tapped

DIMENSIONS - BUTTERFLY VALVES

2"- 6", FULL LUGGED, TT/TM/RT & RM ACTUATORS



2 Way, 2"- 6" with TT/ TM/ RT & RM Actuators



Dimension with a "T" Actuator Series

SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI	DIMENSIONS FOR 2 WAY VALVES							H: LUGS	
					A	B	C	D	E	F	G	NO	SIZE
					2"	165	142	BF F1650WA5	200	1.69	11.39	5.51	2.72
2.5"	250	216	BF G2500WA5	200	1.81	11.79	5.91	3.15	4.59	0.40	5.49	4	5/8-11

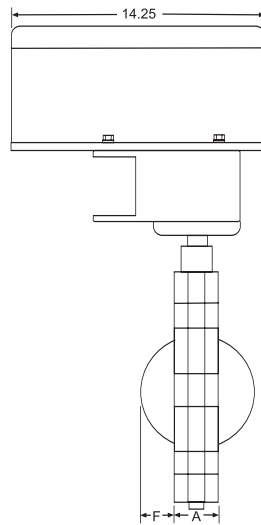
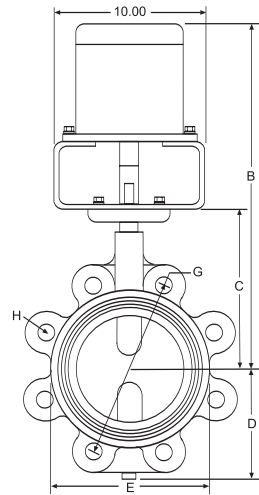
Dimension with a "R" Actuator Series

SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI	DIMENSIONS FOR 2 WAY VALVES							H: LUGS	
					A	B	C	D	E	F	G	NO	SIZE
					3"	380	328	BF H3800WA5	200	1.81	11.98	6.10	3.50
4"	650	562	BF J6500WA5	200	2.05	12.45	6.57	4.53	5.85	0.95	7.50	8	5/8-11
5"	1100	951	BF K1K10WA5	150	2.20	13.24	7.36	5.24	7.07	1.46	8.50	8	3/4-10
6"	1790	1548	BF L1K79WA5	100	2.20	13.83	7.95	5.66	8.22	1.93	9.51	8	3/4-10

* All dimensions are in Inches.



2 Way, 6"- 12" with UT or UM Actuators

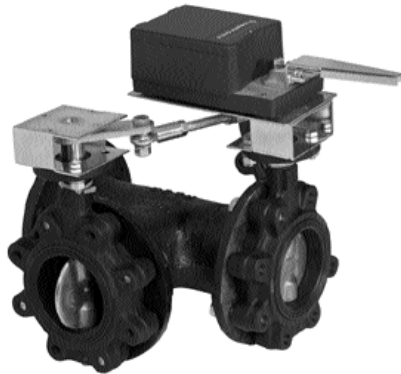


SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI	DIMENSIONS FOR 2 WAY VALVES									
					A	B	C	D	E	F	G	H: LUGS		
												NO	SIZE	
6"	1790	1548	BF L1K79WA5	200	2.20	18.70	7.95	5.66	8.22	1.93	9.51	8	3/4-10	
8"	3300	2854	BF M3K30WA5	200	2.36	19.81	9.06	6.85	10.03	2.76	11.75	8	3/4-10	
10"	4820	4169	BF N4K82WA5	150	2.68	21.77	11.02	8.78	12.31	3.60	14.25	12	7/8-9	
12"	6200	5363	BF P6K20WA5	100	3.07	22.95	12.20	10.24	14.12	4.31	17.01	12	7/8-9	

* All dimensions are in Inches.



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



Description

The actuated **Butterfly Valve** is comprised of an actuator, linkage and valve body. In the case of the 3 Way valves, a cast iron tee is also included. The valve size and type, Cv ratings and Close-Off pressure determine the type of actuator series used. This correlation is in the Valve Selection Chart.

Valves are Class 125 bubble tight to 200 PSI and are sized from 2 to 12 inches. They feature a cast iron body with aluminum bronze disc and EPDM seat. The patent pending S-shaped disc improves the Cv rating and enhances the flow capacity. The result is minimum turbulence. The unique Touch Seat design (U.S. Patent No. 4,605,201) requires reduced torque to seat the disc. Connections are full lug, drilled and tapped.

***Note:** Stainless steel disc and Buna-N seating materials are available by special order.*

Specifications

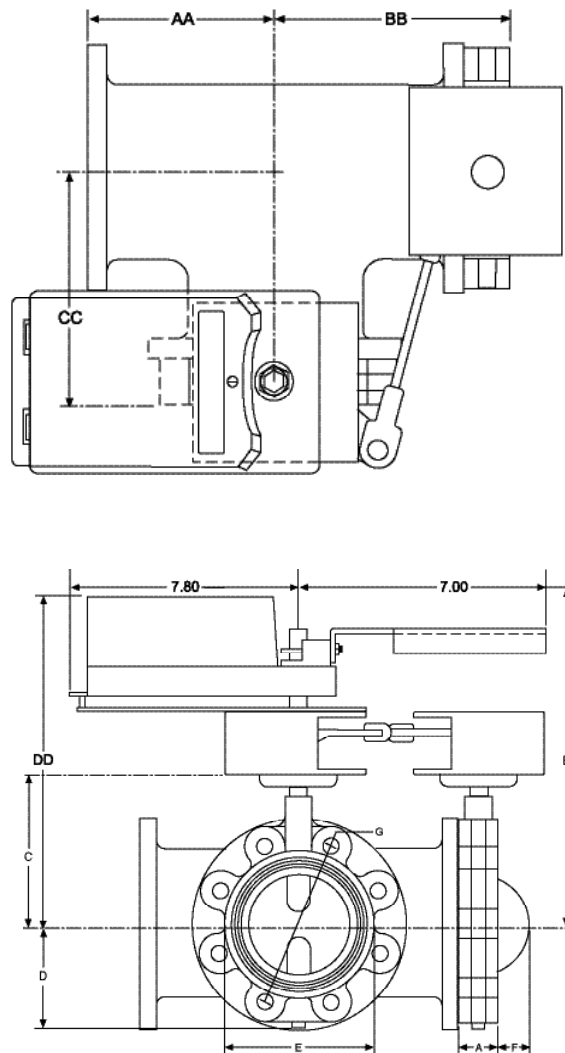
Valve Flow Type:	3 Way: Modified Equal Percentage
Body:	Cast Iron ASTM A128 Class B
Disc:	Aluminum Bronze B146-C95200 (or Stainless Steel) ASTM A351 CF8M (Upon request)
Cartridge Seat:	EPDM (or Buna-N Upon request)
Upper & Lower Stem Material:	Stainless Steel ASTM A276 Type 420
Main Bearings:	Teflon
Ring:	Stainless Steel ASTM A276 Type 304
“O” Ring:	Buna - N
Gasket:	Asbestos Free
Bottom Spacer:	Stainless Steel ASTM A276 Type 403
Screws, Bolts, Washers & Cover:	Zinc Plated Carbon Steel ASTM A36
End Connections:	Flanged, ANSI Class 125, Full Lug, Drilled & Tapped
3 Way Tee:	Cast Iron

DIMENSIONS - BUTTERFLY VALVES

2"- 6", FULL LUGGED, TT/TM/RT & RM ACTUATORS



3 Way, 2"- 6" with TT/ TM/ RT & RM Actuators



Dimension with a "T" Actuator Series

SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI	DIMENSIONS FOR 3 WAY VALVES												
					A	B	C	D	E	F	G	H: LUGS		AA	BB	CC	DD
												NO	SIZE				
2"	52	44	BT F0520WA5	200	1.69	11.39	5.51	2.72	3.69	0.24	4.74	4	5/8-11	4.50	6.19	6.19	11.39
2.5"	104	89	BT G1040WA5	200	1.81	11.79	5.91	3.15	4.59	0.40	5.49	4	5/8-11	5.00	6.81	6.81	11.79

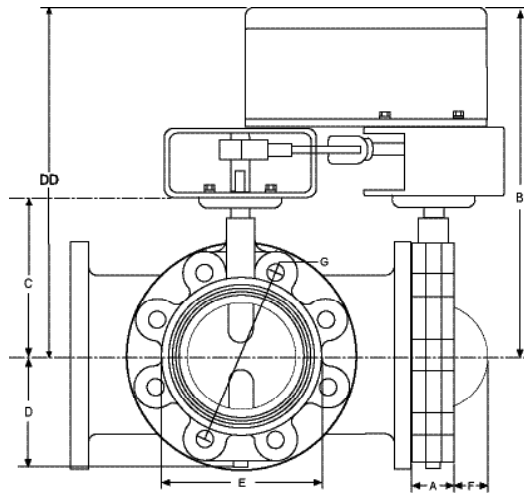
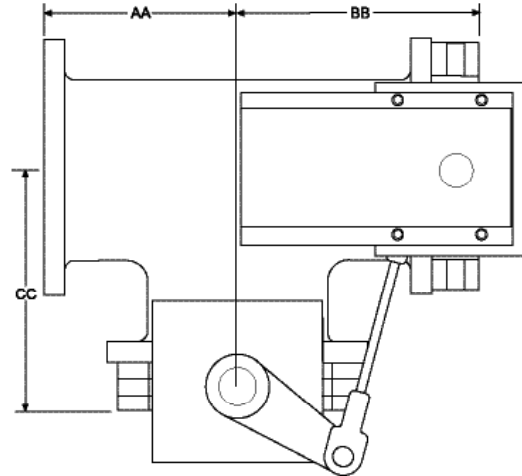
Dimension with a "R" Actuator Series

SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI	DIMENSIONS FOR 3 WAY VALVES												
					A	B	C	D	E	F	G	H: LUGS		AA	BB	CC	DD
												NO	SIZE				
3"	134	115	BT H1340WA5	200	1.81	11.98	6.10	3.50	5.03	0.75	6.00	4	5/8-11	5.50	7.31	7.31	11.98
4"	210	181	BT J2100WA5	200	2.05	12.45	6.57	4.53	5.85	0.95	7.50	8	5/8-11	6.50	8.55	8.55	12.45
5"	330	285	BT K3300WA5	150	2.20	13.24	7.36	5.24	7.07	1.46	8.50	8	3/4-10	7.50	9.70	9.70	13.24
6"	460	397	BT L4600WA5	100	2.20	13.83	7.95	5.66	8.22	1.93	9.51	8	3/4-10	8.00	10.20	10.20	13.83

* All dimensions are in Inches.



3 Way, 6"- 12" with UT or UM Actuators



SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI	DIMENSIONS FOR 3 WAY VALVES												
					A	B	C	D	E	F	G	H: LUGS		AA	BB	CC	DD
												NO	SIZE				
6"	460	397	BT L4600WA5	200	2.20	18.70	7.95	5.66	8.22	1.93	9.51	8	3/4-10	8.00	10.20	10.20	18.70
8"	810	700	BT M8100WA5	200	2.36	19.81	9.06	6.85	10.03	2.76	11.75	8	3/4-10	9.00	11.36	11.36	19.81
10"	1180	1020	BT N1K18WA5	150	2.68	21.77	11.02	8.78	12.31	3.60	14.25	12	7/8-9	11.00	13.68	13.68	21.77
12"	1520	1314	BT P1K52WA5	100	3.07	22.95	12.20	10.24	14.12	4.31	17.01	12	7/8-9	12.00	15.07	15.07	22.95

* All dimensions are in Inches.

DESCRIPTION & SPEC - GLOBE VALVES

1/2"- 2" NPT, AT/AM (LINEAR ACTUATOR)

neptonic



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



Description

The **Linear** actuated **Globe Valves** provide digital or analog control in 2 Way applications, for water or low pressure steam service. Each unit is comprised of a linear actuator that is directly coupled to the valve. The linear actuator delivers a maximum of 100 pounds or 450 Newtons force at rated voltage. The direction of stroke is reversible. Valve sizing ranges from 1/2 inch to 2 inches with a maximum close-off pressure of 250 PSIG.

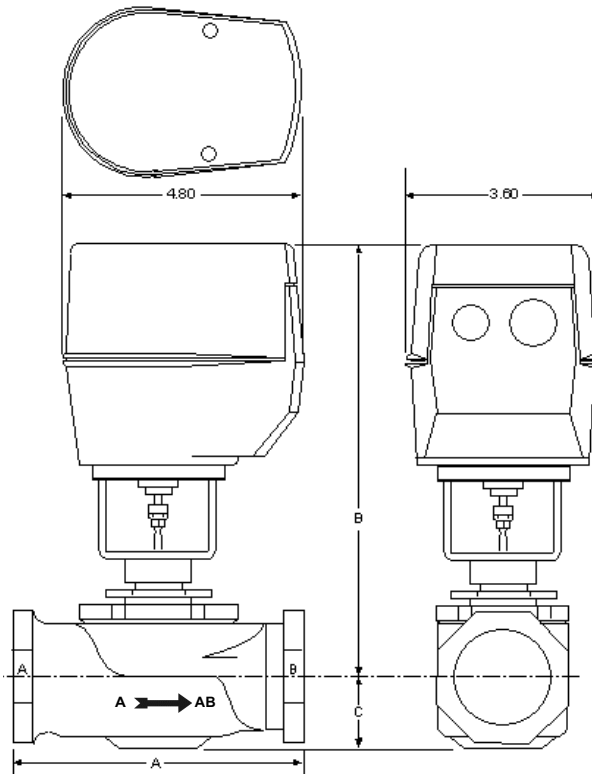
In low pressure **steam** applications, it is necessary to shield the actuator from heat generated by the valve. This is accomplished by an **adapter kit**, the DDSTM. The kit is available separately and factory installed.

Specifications

Valve Flow Type:	2 Way: Equal Percentage
Fluid Temperature:	Water: +40°F to +281°F (+4°C to +138°C) Steam: +230°F (+110°C) Maximum
Static Pressure:	Water: 250 PSIG Maximum
Inlet Pressure:	Steam: 15 PSIG Maximum
Max. Differential Pressure:	Water: 10 PSIG Recommended, (35 PSIG Maximum) Steam: 15 PSIG Maximum
Body & Seat:	Bronze ANSI B16.15 Class 250
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded Teflon Cone
End Connections:	NPT Female Standard



2 Way, 1/2" - 2" NPT with AT Actuators



SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI	VALVE BODY DIMENSION		
					A	B	C
1/2"	0.4	0.3	GS A0004YB1	250	3.00	7.16	1.06
1/2"	1.3	1.1	GS A0013YB1	250	3.00	7.16	1.06
1/2"	2.2	1.9	GS A0022YB1	250	3.00	7.16	1.06
1/2"	4.4	3.8	GS A0044YB1	250	3.00	7.16	1.06
3/4"	5.5	4.7	GS B0055YB1	180	3.63	7.16	1.06
3/4"	7.5	6.4	GS B0075YB1	180	3.63	7.16	1.06
1"	10	8	GS C0100YB1	100	4.63	7.84	1.13
1"	14	12	GS C0140YB1	100	4.63	7.84	1.13
1-1/4"	20	17	GS D0200YB1	65	4.63	7.84	1.38
1-1/2"	28	24	GS E0280YB1	45	5.38	7.91	1.50
2"	40	34	GS F0400YB1	25	6.13	8.16	1.56

* All dimensions are in Inches.

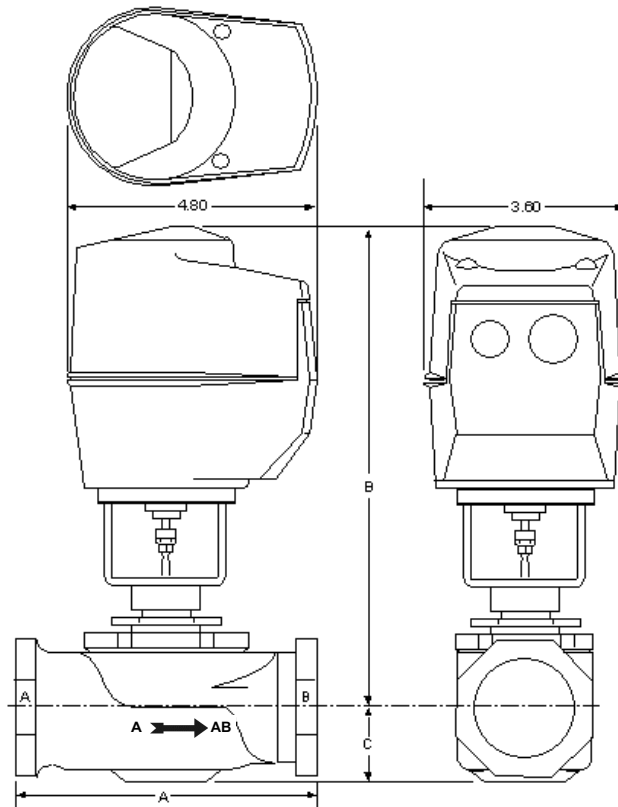
DIMENSIONS - GLOBE VALVES

1/2"- 2" NPT, AM ACTUATOR

neptronic



2 Way, 1/2" - 2" NPT with AM Actuators



SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI	VALVE BODY DIMENSION		
					A	B	C
1/2"	0.4	0.3	GS A0004YB1	250	3.00	8.16	1.06
1/2"	1.3	1.1	GS A0013YB1	250	3.00	8.16	1.06
1/2"	2.2	1.9	GS A0022YB1	250	3.00	8.16	1.06
1/2"	4.4	3.8	GS A0044YB1	250	3.00	8.16	1.06
3/4"	5.5	4.8	GS B0055YB1	180	3.63	8.16	1.06
3/4"	7.5	6.5	GS B0075YB1	180	3.63	8.16	1.06
1"	10	8	GS C0100YB1	100	4.63	8.84	1.13
1"	14	12	GS C0140YB1	100	4.63	8.84	1.13
1-1/4"	20	17	GS D0200YB1	65	4.63	8.84	1.38
1-1/2"	28	24	GS E0280YB1	45	5.38	8.91	1.50
2"	40	34	GS F0400YB1	25	6.13	9.16	1.56

* All dimensions are in Inches.

DESCRIPTION & SPEC - GLOBE VALVES

1"- 2" NPT, TT/TM ACTUATOR (MAXI BONNET)

neptronic



Description

The motorized **Globe Valves** respond to a digital or analog control signal. They include robust maxi bonnet linkages, and powerful Neptronic actuators which accurately regulate the flow of hot or chilled water and low pressure steam through coils and heat exchangers of all types. The **Single seat Globe Valves** with SS Stem and Brass Plug have an equal percentage characteristic in the 2 Way models.

Valve Size Selection

2 Way: 1", 1-1/4", 1-1/2" & 2"

Actuator Selection (These actuators for valves listed above)

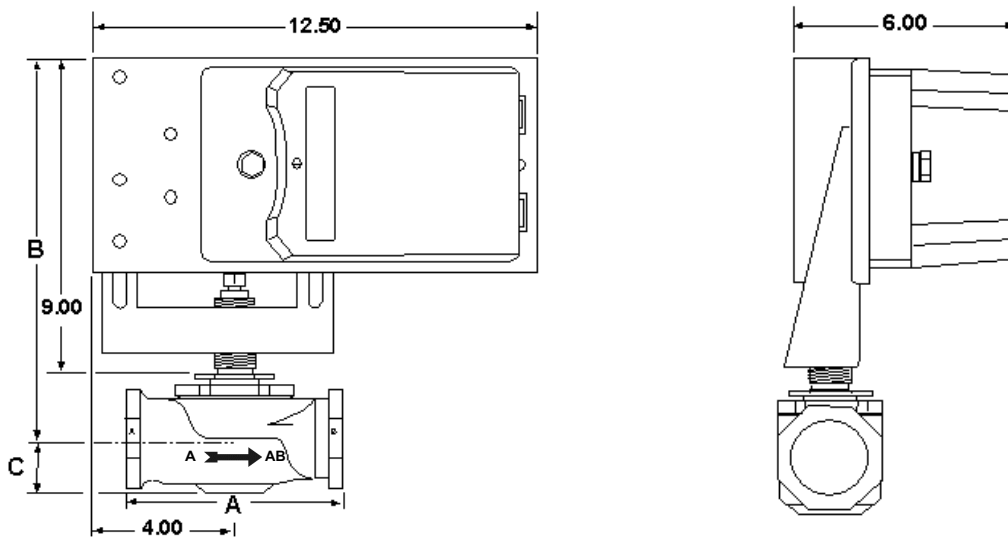
Digital: TT Series
Analog: TM Series
Linkage: Maxi Bonnet

Specifications

Valve Flow Type:	2 Way: Equal Percentage
Fluid Temperature:	Water: +40°F to +281°F (+4°C to +138°C) Steam: +230°F (+110°C) Maximum
Static Pressure:	Water: 250 PSIG Maximum
Inlet Pressure:	Steam: 15 PSIG Maximum
Max. Differential Pressure:	Water: 10 PSIG Recommended (35 PSIG Maximum) Steam: 15 PSIG Maximum
Body & Seat:	Bronze ANSI B16.15 Class 250
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded Teflon Cone
End Connections:	NPT Female Standard



2 Way, 1"- 2" NPT with TT or TM Actuators



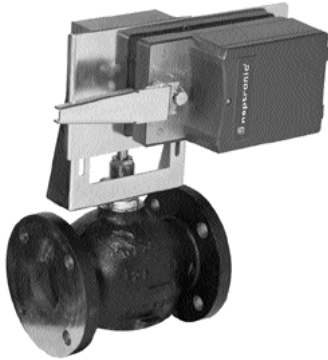
SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI	VALVE BODY DIMENSION		
					A	B	C
1"	10	8	GS C0100YB1	250	4.63	10.94	1.13
1"	14	12	GS C0140YB1	250	4.63	10.94	1.13
1-1/4"	20	17	GS D0200YB1	215	4.63	10.94	1.38
1-1/2"	28	24	GS E0280YB1	150	5.38	11.00	1.50
2"	40	34	GS F0400YB1	84	6.13	11.25	1.56

* All dimensions are in Inches.

DESCRIPTION & SPEC - FLANGED GLOBE VALVES

2-1/2"- 4", ANSI CLASS 125, TT/ TM/ RT & RM ACTUATOR (MAXI BONNET)

neptronic[®]



Description

The combination of electric actuator and **flanged globe valve** provides proportional control of water flow in heating ventilating and air conditioning applications. The **single seat globe valves** with SS Stem and Brass Plug have an equal percentage flow profile in the 2 Way models. The plug configuration is designed to enhance the control of fluid flow across a larger portion of the valve stroke (high rangeability) thus preventing undesirable hunting.

Valve Size Selection

2 Way: 2-1/2" & 3"

Actuator Selection (These actuators for valves listed above)

Digital: TT Series (Lower Close-off and Cost savings)

Analog: TM Series (Lower Close-off and Cost savings)

Linkage: Maxi Bonnet

Valve Size Selection

2 Way: 2-1/2", 3" & 4"

Actuator Selection (These actuators for valves listed above)

Digital: RT Series (High Close-off)

Analog: RM Series (High Close-off)

Linkage: Maxi Bonnet

Specifications

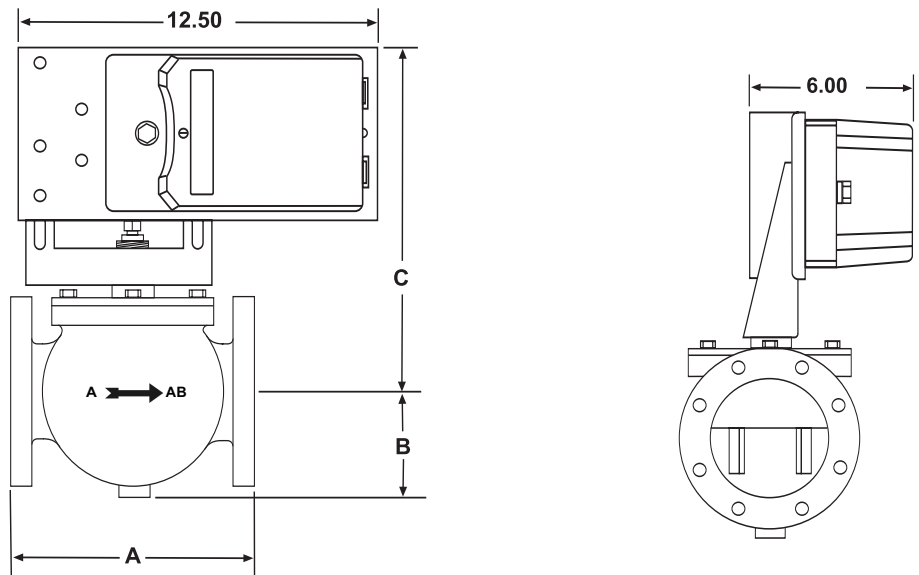
Valve Flow Type:	2 Way: Equal Percentage
Stem Lift:	2-1/2" to 4" Valves: 1" stroke
Maximum Working Temperature:	+281°F (+138°C)
Max. Differential Pressure:	Water: 10 PSIG recommended, (35 PSIG max.) Steam: 15 PSIG Maximum
Maximum Close-Off Pressure:	Refer to Valve Selection Chart (page #39)
Maximum Working Pressure:	175 PSIG up to +150°F Decreasing to 125 PSIG at +281°F
Body:	Cast iron with Black Lacquer Finish ANSI B16.1 Class 125
Seat:	Bronze
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded TFE
End Connections:	Raised Faced Flanges, Class 125

DIMENSIONS - FLANGED GLOBE VALVES

neptronic 2-1/2" - 4", ANSI CLASS 125, TT/ TM/ RT & RM ACTUATOR (MAXI BONNET)



2 Way, 2-1/2" - 4" Single Seat with TT / TM / RT & RM Actuators



VALVE SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI		VALVE DIMENSIONS			FLANGES		BOLT HOLES		BOLTS REQUIRED		
				Actuator Series		A	B	C	THCK	DIAM	DIAM	BHC	QTY	DIAM	LGTH
				T	R										
2-1/2"	56	48	GS G0560WB4	54	108	8.50	3.50	12.63	0.69	7.00	0.75	5.50	4	0.625	2.50
3"	85	73	GS H0850WB4	37	80	9.50	3.75	13.38	0.75	7.50	0.75	6.00	4	0.625	2.50
4"	145	125	GS J1450WB4	-	32	11.50	4.50	14.25	0.94	9.00	0.75	7.50	8	0.625	3.00

* All dimensions are in Inches.

DESCRIPTION & SPEC - FLANGED GLOBE VALVES

4"- 6", ANSI CLASS 125, MM ACTUATOR (ULTRA BONNET)

neptronic



Description

The motorized 2 Way cast iron **Globe Valves** is powered by high torque 24 VAC **MM** actuators with rugged ultra Bonnet linkages for the control of chilled water, hot water or low pressure steam in HVAC systems. The **Single-seat Globe Valves** with SS Stem and Brass Plug have an equal percentage flow characteristic in the 2 Way models. The valve plugs are designed to provide stable control particularly at the critical low flow rates when the plug begins lifting away from the seat.

Valve Size Selection

2 Way: 4", 5" & 6"

Actuator Selection (These actuators for valves listed above)

Analog: MM Series

Linkage: Ultra Bonnet

Specifications

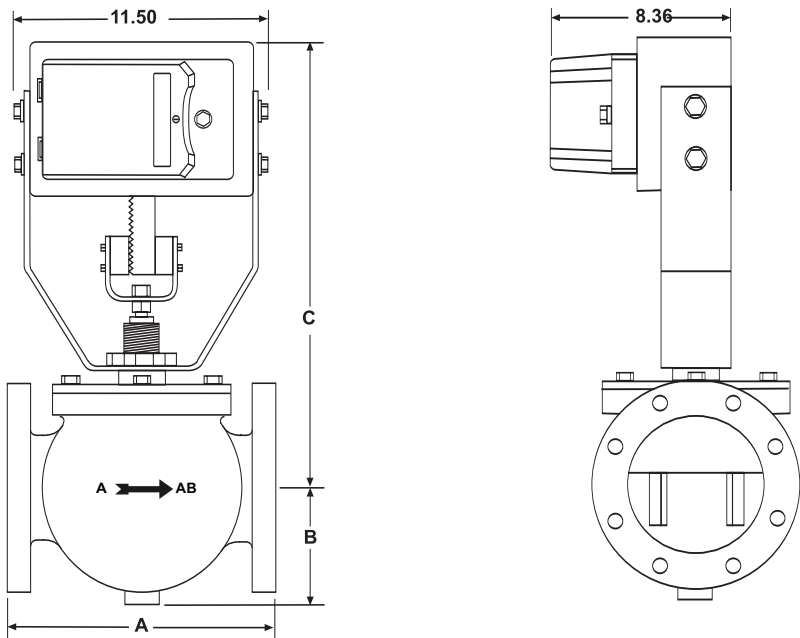
Valve Flow Type:	2 Way: Equal Percentage
Stem Lift:	4" Valves: 1" Stroke 5" & 6" Valves: 1-1/2" Stroke
Maximum Working Temperature:	+281°F (+138°C)
Max. Differential Pressure:	Water: 10 PSIG recommended, (35 PSIG max.) Steam: 15 PSIG Maximum
Maximum Close-Off Pressure:	Refer to Valve Selection Chart (page #40)
Maximum Working Pressure:	175 PSIG up to +150°F Decreasing to 125 PSIG at +281°F
Body:	Cast iron with Black Lacquer Finish ANSI B16.1 Class 125
Seat:	Bronze
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded TFE
End Connections:	Raised Faced Flanges, Class 125

DIMENSIONS - FLANGED GLOBE VALVES

neptronic 4"- 6", ANSI CLASS 125, MM ACTUATOR (ULTRA BONNET)



2 Way, 4"- 6" Single Seat with MM Actuators



VALVE SIZE	Cv	Kv	2 WAY VALVE MODELS	CLOSE OFF PSI	VALVE DIMENSIONS			FLANGES		BOLT HOLES		BOLTS REQUIRED		
					A	B	C	THCK	DIAM	DIAM	BHC	QTY	DIAM	LGTH
4"	145	125	GS J1450WB4	110	11.50	4.50	20.38	0.94	9.00	0.75	7.50	8	0.625	3.00
5"	235	203	GS K2350WB4	80	13.00	5.00	23.88	0.94	10.00	0.88	8.50	8	0.750	3.00
6"	350	302	GS L3500WB4	50	14.00	5.50	24.50	1.00	11.00	0.88	9.50	8	0.750	3.25

* All dimensions are in Inches.

DESCRIPTION & SPEC - GLOBE VALVES

1/2"- 2" NPT, AT/AM (LINEAR ACTUATOR)

neptronic



For 3 Way control of hot water or chilled water, up to 50% Glycol & 15 PSI saturated steam.



Description

The **Linear** actuated **Globe Valves** provide digital or analog control in 3 Way applications, for water or low pressure steam service. Each unit is comprised of a linear actuator that is directly coupled to the valve. The linear actuator delivers a maximum of 100 pounds or 450 Newtons force at rated voltage. The direction of stroke is reversible. Valve sizing ranges from 1/2 inch to 2 inches with a maximum close-off pressure of 250 PSIG.

Valve specifications are for standard stock; data sheets for valves with different characteristics, such as 3 Way diverting, stainless steel seats and plugs or threaded or sweat fittings, are available upon request.

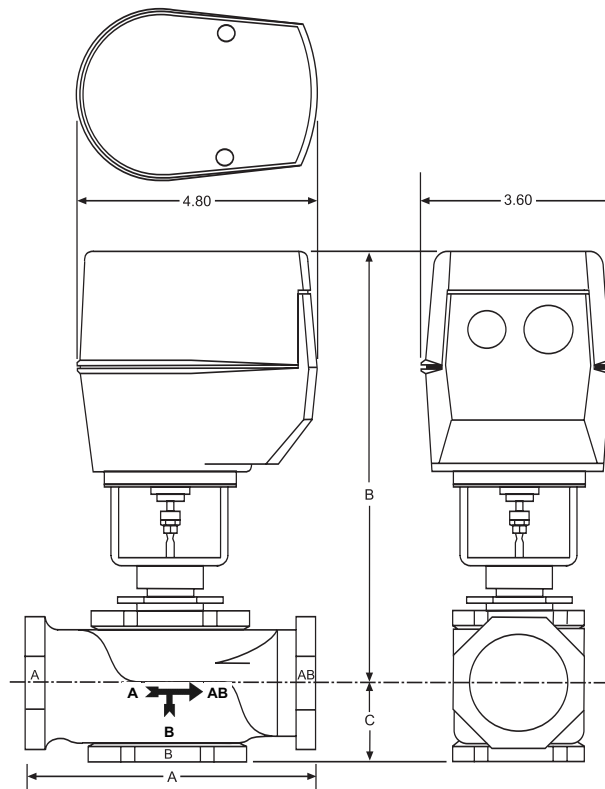
In low pressure **steam** applications, it is necessary to shield the actuator from heat generated by the valve. This is accomplished by an **adapter kit**, the DDSTM. The kit is available separately and factory installed.

Specifications

Valve Flow Type:	3 Way: Linear
Fluid Temperature:	Water: +40°F to +281°F (+4°C to +138°C) Steam: +230°F (+110°C) Maximum
Static Pressure:	Water: 250 PSIG Maximum
Inlet Pressure:	Steam: 15 PSIG Maximum
Max. Differential Pressure:	Water: 10 PSIG Recommended, (35 PSIG Maximum) Steam: 15 PSIG Maximum
Body & Seat:	Bronze ANSI B16.15 Class 250
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded Teflon Cone
End Connections:	NPT Female Standard



3 Way , 1/2" - 2" NPT with AT Actuators



SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI	VALVE BODY DIMENSION		
					A	B	C
1/2"	2.2	1.9	GM A0022YB1	250	3.00	7.16	1.38
1/2"	4.4	3.8	GM A0044YB1	250	3.00	7.16	1.38
3/4"	7.5	6.4	GM B0075YB1	180	3.63	7.16	1.69
1"	14	12	GM C0140YB1	100	4.63	7.22	1.56
1-1/4"	20	17	GM D0200YB1	65	4.63	7.47	1.63
1-1/2"	28	24	GM E0280YB1	45	5.38	7.59	1.63
2"	41	35	GM F0410YB1	25	6.13	7.66	1.88

* All dimensions are in Inches.

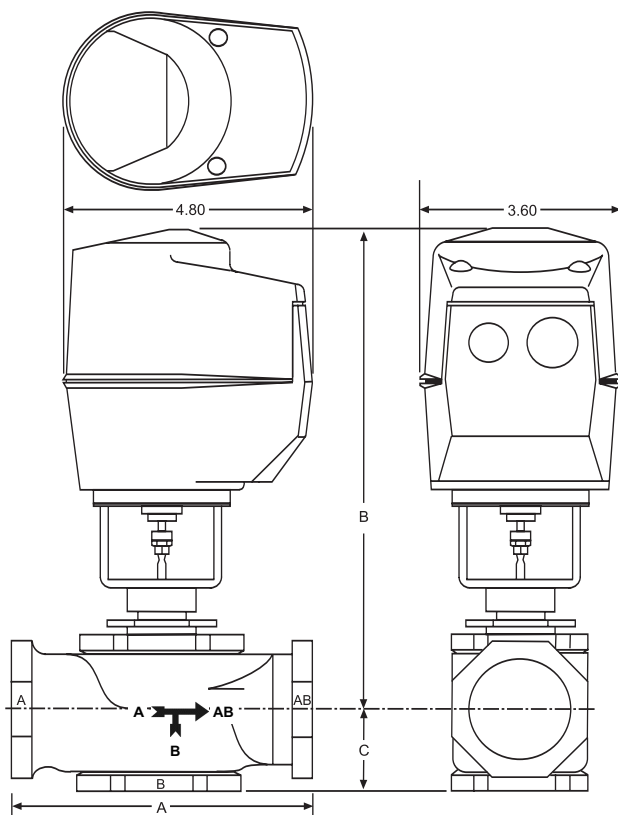
DIMENSIONS - GLOBE VALVES

1/2"- 2" NPT, AM ACTUATOR

neptronic



3 Way , 1/2" - 2" NPT with AM Actuators



SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI	VALVE BODY DIMENSION		
					A	B	C
1/2"	2.2	1.9	GM A0022YB1	250	3.00	8.16	1.38
1/2"	4.4	3.8	GM A0044YB1	250	3.00	8.16	1.38
3/4"	7.5	6.4	GM B0075YB1	180	3.63	8.16	1.69
1"	14	12	GM C0140YB1	100	4.63	8.22	1.56
1-1/4"	20	17	GM D0200YB1	65	4.63	8.47	1.63
1-1/2"	28	24	GM E0280YB1	45	5.38	8.59	1.63
2"	41	35	GM F0410YB1	25	6.13	8.66	1.88

* All dimensions are in Inches.

DESCRIPTION & SPEC - GLOBE VALVES

1"- 2" NPT, TT/TM ACTUATOR (MAXI BONNET)

neptronic



Description

The motorized **Globe Valves** respond to a digital or analog control signal. They include robust maxi bonnet linkages, and powerful Neptronic actuators which accurately regulate the flow of hot or chilled water and low pressure steam through coils and heat exchangers of all types. The **Single seat Globe Valves** with SS Stem and Brass Plug have an equal percentage characteristic in the 3 Way mixing and diverting models.

Valve Size Selection

3 Way: 1", 1-1/4", 1-1/2" & 2"

Actuator Selection (These actuators for valves listed above)

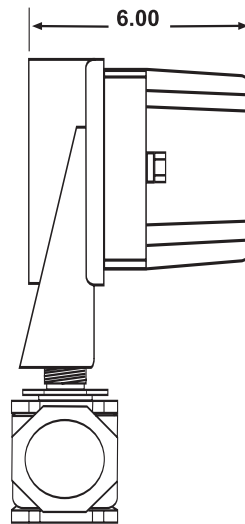
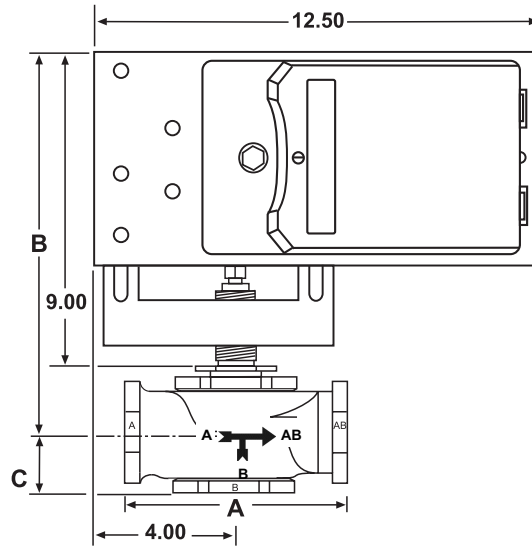
Digital: TT Series
Analog: TM Series
Linkage: Maxi Bonnet

Specifications

Valve Flow Type:	3 Way: Linear
Fluid Temperature:	Water: +40°F to +281°F (+4°C to +138°C) Steam: +230°F (+110°C) Maximum
Static Pressure:	Water: 250 PSIG Maximum
Inlet Pressure:	Steam: 15 PSIG Maximum
Max. Differential Pressure:	Water: 10 PSIG Recommended (35 PSIG Maximum) Steam: 15 PSIG Maximum
Body & Seat:	Bronze ANSI B16.15 Class 250
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded Teflon Cone
End Connections:	NPT Female Standard



3 Way, 1" - 2" NPT with TT or TM Actuators



SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI	VALVE BODY DIMENSION		
					A	B	C
1"	14	12	GM C0140YB1	250	4.63	10.31	1.56
1-1/4"	20	17	GM D0200YB1	215	4.63	10.56	1.63
1-1/2"	28	24	GM E0280YB1	150	5.38	10.69	1.63
2"	41	35	GM F0410YB1	84	6.13	10.75	1.88

* All dimensions are in Inches.

DESCRIPTION & SPEC - FLANGED GLOBE VALVES

2-1/2"- 4", ANSI CLASS 125, TT/ TM/ RT & RM ACTUATOR (MAXI BONNET)

neptronic[®]



Description

The combination of electric actuator and **flanged globe valve** provides proportional control of water flow in heating ventilating and air conditioning applications. The **single seat globe valves** with SS Stem and Brass Plug have an equal percentage flow profile in the 3 Way mixing and diverting models. The plug configuration is designed to enhance the control of fluid flow across a larger portion of the valve stroke (high rangeability) thus preventing undesirable hunting.

Valve Size Selection

3 Way: 2-1/2" & 3"

Actuator Selection (These actuators for valves listed above)

Digital: TT Series (Lower Close-off and Cost savings)

Analog: TM Series (Lower Close-off and Cost savings)

Linkage: Maxi Bonnet

Valve Size Selection

3 Way: 2-1/2", 3" & 4"

Actuator Selection (These actuators for valves listed above)

Digital: RT Series (High Close-off)

Analog: RM Series (High Close-off)

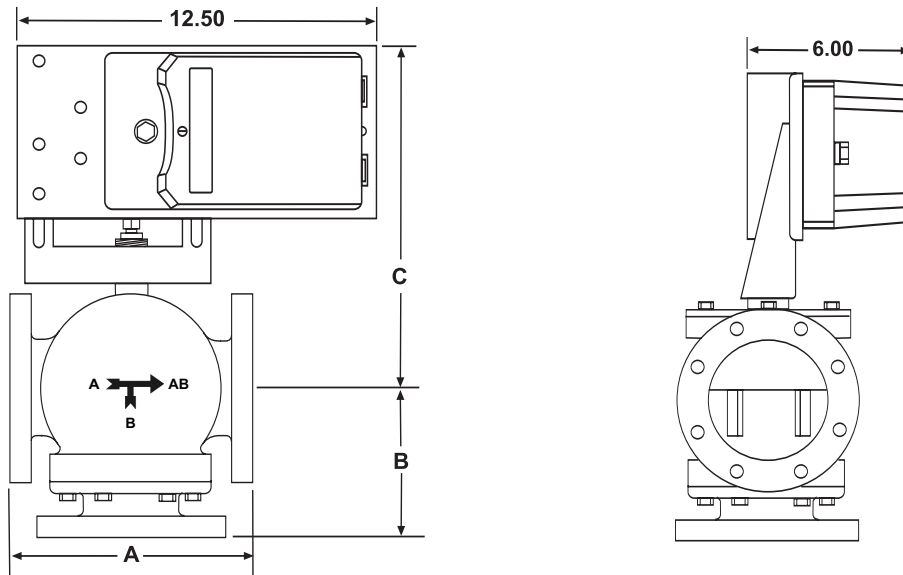
Linkage: Maxi Bonnet

Specifications

Valve Flow Type:	3 Way: Linear
Stem Lift:	2-1/2" to 4" Valves: 1" stroke
Maximum Working Temperature:	+281°F (+138°C)
Max. Differential Pressure:	Water: 10 PSIG recommended, (35 PSIG max.) Steam: 15 PSIG Maximum
Maximum Close-Off Pressure:	Refer to Valve Selection Chart (page #39)
Maximum Working Pressure:	175 PSIG up to +150°F Decreasing to 125 PSIG at +281°F
Body:	Cast iron with Black Lacquer Finish ANSI B16.1 Class 125
Seat:	Bronze
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded TFE
End Connections:	Raised Faced Flanges, Class 125



3 Way, 2-1/2" - 4" Single Seat with TT / TM / RT & RM Actuators



VALVE SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI		VALVE DIMENSIONS			FLANGES		BOLT HOLES		BOLTS REQUIRED		
				ACTUATOR SERIES		A	B	C	THCK	DIAM	DIAM	BHC	QTY	DIAM	LGTH
				T	R										
2-1/2"	74	64	GM G0740WB4	54	108	8.50	5.38	12.63	0.69	7.00	0.75	5.50	4	0.625	2.50
3"	101	87	GM H1010WB4	37	80	9.50	6.38	12.88	0.75	7.50	0.75	6.00	4	0.625	2.50
4"	170	147	GM J1700WB4	-	32	11.50	8.50	13.50	0.94	9.00	0.75	7.50	8	0.625	3.00

* All dimensions are in Inches.

DESCRIPTION & SPEC - FLANGED GLOBE VALVES

4" - 6", ANSI CLASS 125, MM ACTUATOR (ULTRA BONNET)

neptronic



Description

The motorized 3 Way cast iron **Globe Valves** are powered by high torque 24 VAC **MM** actuators with rugged ultra Bonnet linkages for the control of chilled water, hot water or low pressure steam in HVAC systems. The **Single-seat Globe Valves** with SS Stem and Brass Plug have a linear characteristic in the 3 Way mixing and diverting models. The valve plugs are designed to provide stable control particularly at the critical low flow rates when the plug begins lifting away from the seat.

Valve Size Selection

3 Way: 4", 5" & 6"

Actuator Selection (These actuators for valves listed above)

Analog: MM Series

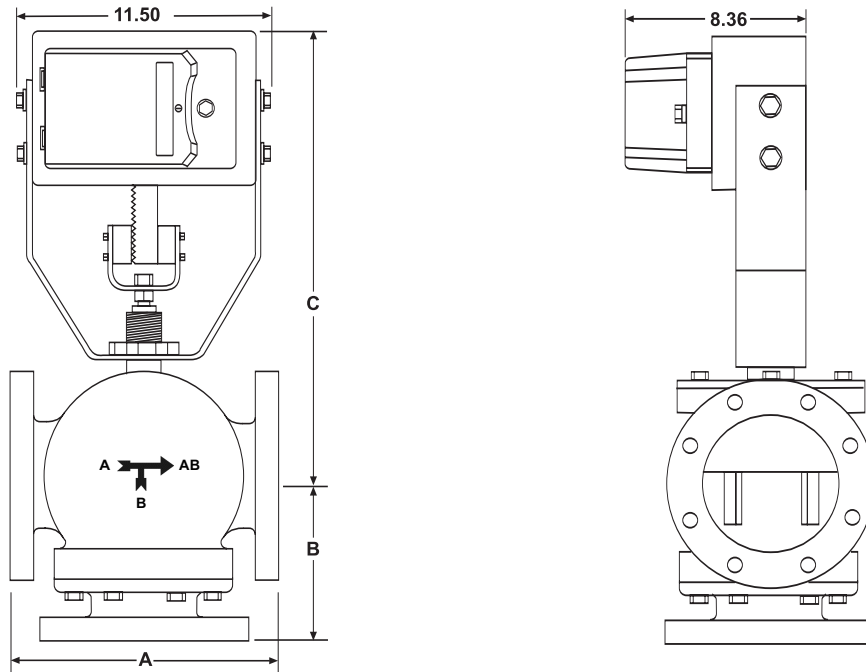
Linkage: Ultra Bonnet

Specifications

Valve Flow Type:	3 Way: Linear
Stem Lift:	4" Valves: 1" Stroke 5" & 6" Valves: 1-1/2" Stroke
Maximum Working Temperature:	+281°F (+138°C)
Max. Differential Pressure:	Water: 10 PSIG recommended, (35 PSIG max.) Steam: 15 PSIG Maximum
Maximum Close-Off Pressure:	Refer to Valve Selection Chart (page #40)
Maximum Working Pressure:	175 PSIG up to +150°F Decreasing to 125 PSIG at +281°F
Body:	Cast iron with Black Lacquer Finish ANSI B16.1 Class 125
Seat:	Bronze
Stem:	Stainless Steel
Plug:	Brass
Packing:	Spring Loaded TFE
End Connections:	Raised Faced Flanges, Class 125



3 Way, 4"- 6" Single Seat with MM Actuators



VALVE SIZE	Cv	Kv	3 WAY VALVE MODELS	CLOSE OFF PSI	VALVE DIMENSIONS			FLANGES		BOLT HOLES		BOLTS REQUIRED		
					A	B	C	THCK	DIAM	DIAM	BHC	QTY	DIAM	LGTH
4"	170	147	GM J1700WB4	110	11.50	8.50	19.63	0.94	9.00	0.75	7.50	8	0.625	3.00
5"	290	250	GM K2900WB4	80	13.00	8.75	22.50	0.94	10.00	0.88	8.50	8	0.750	3.00
6"	390	337	GM L3900WB4	50	14.00	9.75	23.50	1.00	11.00	0.88	9.50	8	0.750	3.25

* All dimensions are in Inches.