

GV-NPT

Series 24

Globe Valve, Bronze Body, NPT Ends

24 VAC, NEMA 2 - Spring Return

Description

The GV Series 24 electric assemblies are available in spring return two-way and three-way configurations 1/2" - 2". Two-way assemblies are complete with bronze bodies, brass plug, EPDM O-ring, and mounted with a spring return NEMA 2 electric actuator. Three-way mixing assemblies are complete with bronze bodies, brass plug, and mounted with a spring return NEMA 2 electric actuator. Three-way diverting assemblies are complete with bronze bodies, stainless plug, and mounted with a spring return NEMA 2 electric actuator.

Operation

Valve assemblies with NEMA 2 electronic actuators are powered by 24 VAC low voltage. Each actuator is controlled by either on/off, floating or modulating commands. All actuators contain either current limiting circuitry, or microprocessor overload protection. The brush-less DC motors provide continuous rotary power for accurate, automatic, valve positioning. Series 24 spring return actuators are equipped with a manual override for manual valve positioning upon loss of power. All valve assemblies are factory mounted, tested, and calibrated.

Actuator Performance

Housing protection NEMA 2, indoor applications, spring return
Agency approved listings C.S.A., CE, UL and ISO 9001
Power supply 24 VAC 50/60 Hz, 120 VAC optional
Controls available are on/off, floating or modulating
Manual override capabilities standard on each actuator
Visual position indicator which confirms valve travel
Approximate running time: 90 sec. open, 15 sec. spring close
Noise level: .45 DB maximum / Operating Temp: -40°F to +120°F
Electrical connection: 3 FT, 18 gauge plenum cable
2 year warranty

Standard Valve Specifications

2-way Specifications

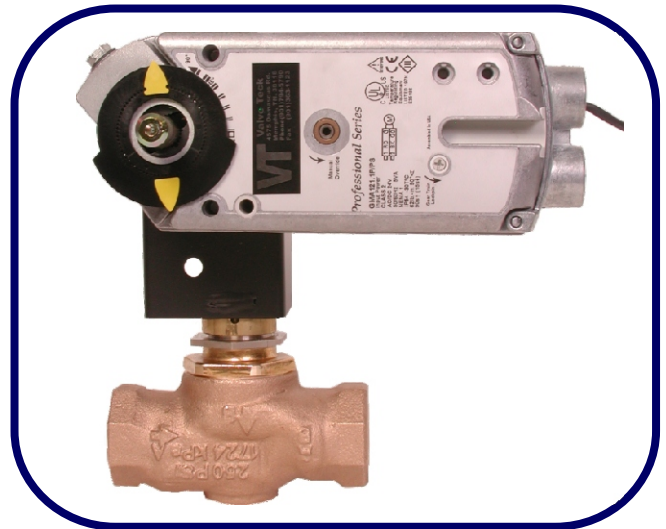
Service: Chilled or Hot Water, 50% Glycol, Steam 35 psi max.
Flow Type: Equal Percentage
Stem Up: A to AB Open
ANSI Class: 250 (up to 400 psi below 150°F)
Leakage ANSI Class IV
Media Temp. Range: 20°F to 250°F (-7°C to 120°C)
Maximum Differential: Water 35 psi, Steam 20 psi

3-Way Mixing Specifications

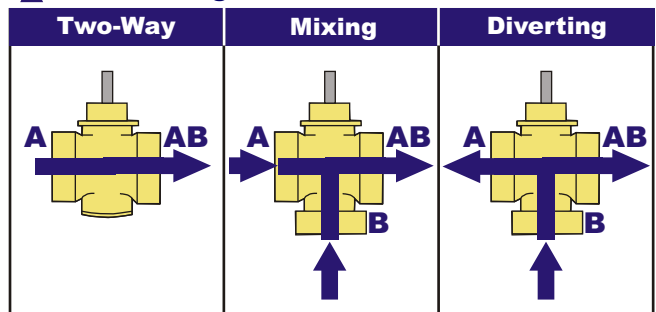
Service: Chilled or Hot Water, 50% Glycol
Flow Characteristic: Linear
Stem Up: B to AB Open
ANSI Class: 250 (up to 400 psi below 150°F)
Leakage ANSI Class III
Media Temp. Range: 20°F to 300°F (-7°C to 149°C)
Maximum Differential: Water 35 psi

3-Way Diverting Specifications

Service: Chilled or Hot Water, 50% Glycol
Flow Type: Diverting
Stem Up: B to AB Open
ANSI Class: 250 (up to 400 psi below 150°F)
Leakage ANSI Class III
Media Temp. Range: 20°F to 300°F (-7°C to 149°C)
Maximum Differential: Water 35 psi



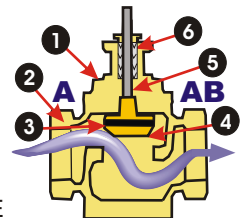
Flow Arrangement



Standard Valve Construction

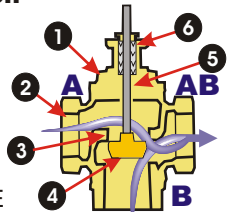
2-Way Construction

- 1 Body: Bronze
- 2 Connection: NPT
- 3 Seat: EPDM O-Ring
- 4 Plug: Brass
- 5 Stem: Stainless Steel
- 6 Packing: Spring Loaded PTFE



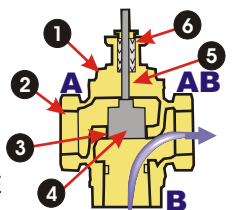
3-Way Mixing Construction

- 1 Body: Bronze
- 2 Connection: NPT
- 3 Seat: Bronze
- 4 Plug: Brass
- 5 Stem: Stainless Steel
- 6 Packing: Spring Loaded PTFE



3-Way Diverting Construction

- 1 Body: Bronze
- 2 Connection: NPT
- 3 Seat: Bronze
- 4 Plug: Stainless
- 5 Stem: Stainless Steel
- 6 Packing: Spring Loaded PTFE



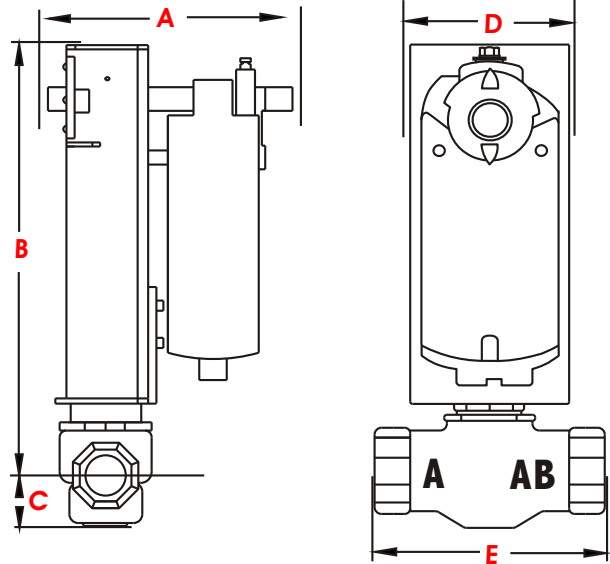
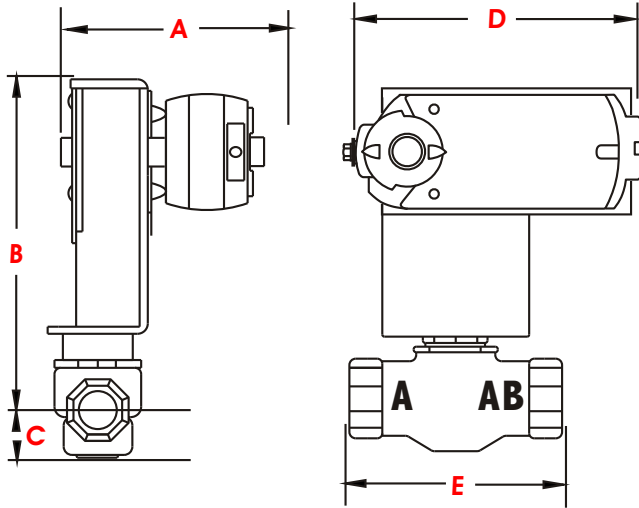
GV Series 24

2-Way / NPT Ends

Dimensional Data

A1 Drawing Number

A2 Drawing Number



2-Way Standard Assembly, Bronze Body, Brass Plug, On/Off (For Stainless Plug change last B to S, see page 4 for part number info.)
Modulating Service Change Last O to E in Model Number, For Accessories See page 4, Wiring under "Electrical Section" Series 24.

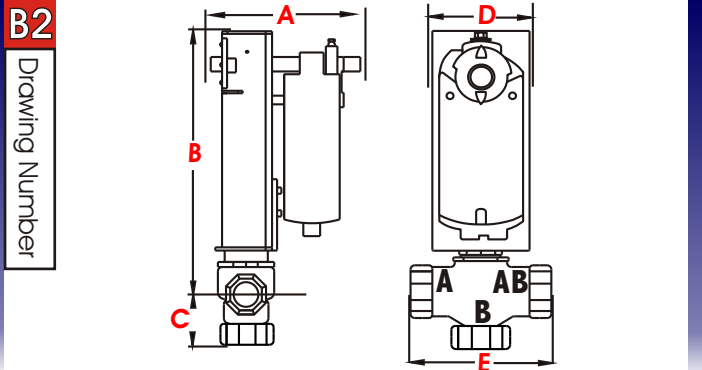
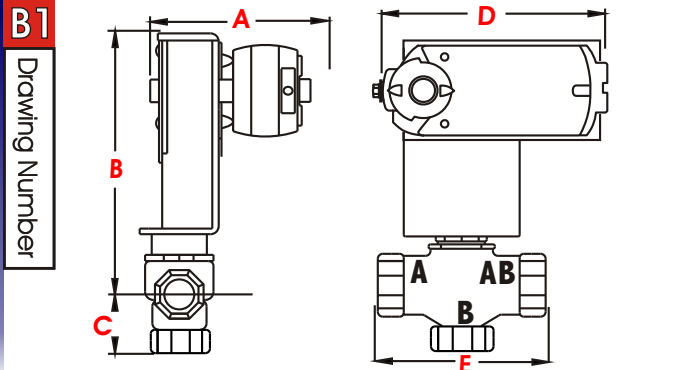
Assembly Specification			Speed		VA Rating		24 Series operator		Drawing Number	Assembly Dimensions (Inches)						
Size in	C _v	Model Number	Close Psi	Wt. lb	Open (sec.)	Close (sec.)	on/off	mod.		on/off	mod.	A	B	C	D	E
1/2"	0.4	GV21ANB24O	250	7	90	15	5	5	GMA121	GMA161	A1	6.0	7.0	1 ¹¹ / ₁₆	8 ¹ / ₂	3 ¹ / ₁₆
1/2"	1.3	GV21BNB24O	250	7	90	15	5	5	GMA121	GMA161	A1	6.0	7.0	1 ¹¹ / ₁₆	8 ¹ / ₂	3 ¹ / ₁₆
1/2"	2.2	GV21CNB24O	250	7	90	15	5	5	GMA121	GMA161	A1	6.0	7.0	1 ¹¹ / ₁₆	8 ¹ / ₂	3 ¹ / ₁₆
1/2"	4.4	GV21DNB24O	250	7	90	15	5	5	GMA121	GMA161	A1	6.0	7.0	1 ¹¹ / ₁₆	8 ¹ / ₂	3 ¹ / ₁₆
3/4"	5.5	GV22ANB24O	250	8	90	15	5	5	GMA121	GMA161	A1	6.0	7.0	1 ¹¹ / ₁₆	8 ¹ / ₂	3 ⁵ / ₈
3/4"	7.5	GV22BNB24O	250	8	90	15	5	5	GMA121	GMA161	A1	6.0	7.0	1 ¹¹ / ₁₆	8 ¹ / ₂	3 ⁵ / ₈
1"	10	GV23ANB24O	180	9	90	15	5	5	GMA121	GMA161	A1	6.0	8.0	1 ¹ / ₈	8 ¹ / ₂	4 ⁵ / ₈
1"	14	GV23BNB24O	180	9	90	15	5	5	GMA121	GMA161	A1	6.0	8.0	1 ¹ / ₈	8 ¹ / ₂	4 ⁵ / ₈
1 ¹ / ₄ "	20	GV24ANB24O	120	10	90	15	5	5	GMA121	GMA161	A1	6.0	8.0	1 ³ / ₈	8 ¹ / ₂	4 ⁵ / ₈
1 ¹ / ₄ "	20	GV24BNB24O	200	12	90	15	9	9	GCA121	GCA151	A2	6.0	14.0	1 ³ / ₈	4.0	4 ⁵ / ₈
1 ¹ / ₂ "	28	GV25ANB24O	100	11	90	15	5	5	GMA121	GMA161	A1	6.0	8.0	1 ¹ / ₂	8 ¹ / ₂	5 ³ / ₈
1 ¹ / ₂ "	28	GV25BNB24O	140	13	90	15	9	9	GCA121	GCA151	A2	6.0	14.0	1 ¹ / ₂	4.0	5 ³ / ₈
2"	40	GV26ANB24O	40	12	90	15	5	5	GMA121	GMA161	A1	6.0	8.0	1 ⁹ / ₁₆	8 ¹ / ₂	6 ¹ / ₈
2"	40	GV26BNB24O	80	14	90	15	9	9	GCA121	GCA151	A2	6.0	14.0	1 ⁹ / ₁₆	4.0	6 ¹ / ₈

Note: All Stainless Trim Valves have the Same Cv as The Brass Trim Valves Above, With Exception to the 1" Cv of 14. This valve has a Cv of 12.

GV Series 24

Mixing / NPT Ends

Dimensional Data

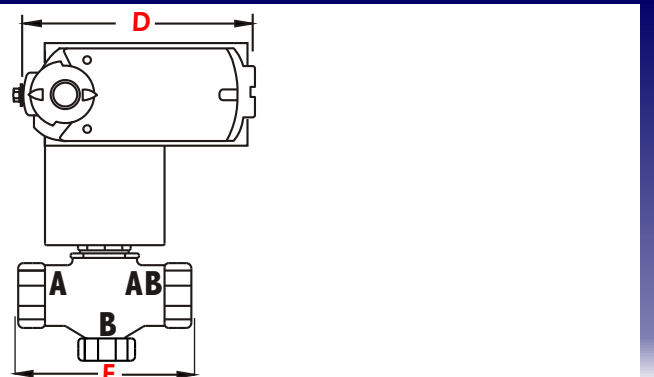
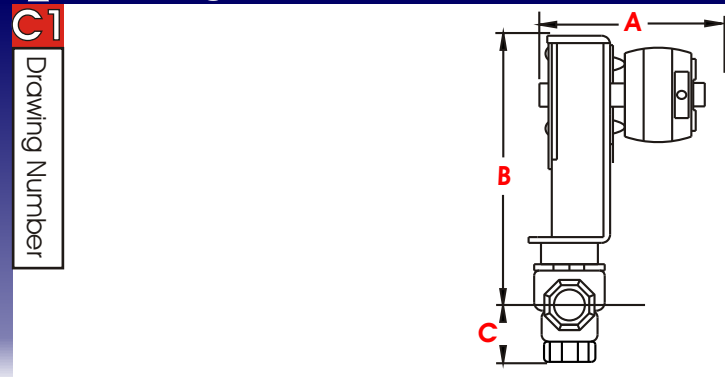


3-Way Mixing Standard Assembly, Bronze Body, Brass Plug, On/Off.

Modulating Service Change Last O to E in Model Number, For Accessories See page 4, Wiring under "Electrical Section" Series 24.

Assembly Specification					Speed		VA Rating		24 Series operator		Drawing Number	Assembly Dimensions (Inches)				
Size in	C _v	Model Number	Close Psi	Wt. lb	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.		A	B	C	D	E
1/2"	2.2	GVM1ANB24O	250	7	90	15	5	5	GMA121	GMA161	B1	6.0	7.0	1 ³ / ₈	8 ¹ / ₂	3 ¹ / ₁₆
1/2"	4.4	GVM1BNB24O	250	7	90	15	5	5	GMA121	GMA161	B1	6.0	7.0	1 ³ / ₈	8 ¹ / ₂	3 ¹ / ₁₆
3/4"	7.5	GVM2ANB24O	250	8	90	15	5	5	GMA121	GMA161	B1	6.0	7.0	1 ¹ / ₁₆	8 ¹ / ₂	3 ⁵ / ₈
1"	14	GVM3ANB24O	180	9	90	15	5	5	GMA121	GMA161	B1	6.0	7.0	1 ⁹ / ₁₆	8 ¹ / ₂	4 ⁵ / ₈
1 1/4"	20	GVM4ANB24O	120	10	90	15	5	5	GMA121	GMA161	B1	6.0	8.0	1 ⁵ / ₈	8 ¹ / ₂	4 ⁵ / ₈
1 1/2"	28	GVM5ANB24O	75	12	90	15	5	5	GMA121	GMA161	B1	6.0	8.0	1 ⁹ / ₁₆	8 ¹ / ₂	5 ³ / ₈
1 1/2"	28	GVM5BNB24O	140	14	90	15	9	9	GCA121	GCA151	B2	6.0	14.0	1 ⁹ / ₁₆	4.0	5 ³ / ₈
2"	41	GVM6ANB24O	40	16	90	15	5	5	GMA121	GMA161	B1	6.0	8.0	1 ⁷ / ₈	8 ¹ / ₂	6 ¹ / ₈
2"	41	GVM6BNB24O	80	18	90	15	9	9	GCA121	GCA151	B2	6.0	14.0	1 ⁷ / ₈	4.0	6 ¹ / ₈

Diverting / NPT Ends



3-Way Diverting Standard Assembly, Bronze Body, Stainless Plug, On/Off.

Modulating Service Change Last O to E in Model Number, For Accessories See page 4, Wiring under "Electrical Section" Series 24.

Assembly Specification					Speed		VA Rating		24 Series operator		Drawing Number	Assembly Dimensions (Inches)				
Size in	C _v	Model Number	Close Psi	Wt. lb	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.		A	B	C	D	E
1/2"	4.4	GVD1ANS24O	250	7	90	15	5	5	GMA121	GMA161	C1	6.0	7.0	1 ³ / ₈	7.0	3 ¹ / ₁₆
3/4"	7.5	GVD2ANS24O	250	8	90	15	5	5	GMA121	GMA161	C1	6.0	7.0	1 ¹ / ₁₆	7.0	3 ⁵ / ₈
1"	15	GVD3ANS24O	250	9	90	15	5	5	GMA121	GMA161	C1	6.0	8.0	1 ⁹ / ₁₆	7.0	4 ⁵ / ₈
1 1/4"	20	GVD4ANS24O	250	10	90	15	5	5	GMA121	GMA161	C1	6.0	8.0	1 ⁵ / ₈	7.0	4 ⁵ / ₈
1 1/2"	28	GVD5ANS24O	250	12	90	15	5	5	GMA121	GMA161	C1	6.0	8.0	1 ⁹ / ₁₆	7.0	5 ³ / ₈
2"	40	GVD6ANS24O	250	16	90	15	5	5	GMA121	GMA161	C1	6.0	8.0	1 ⁷ / ₈	7.0	6 ¹ / ₈

GV-NPT Series 24



Engineering / Order Code

Water Capacity Sizing Table in Gallons Per Minute, GPM

C _v	Size		Pressure Drop Across Valve									
	In	DN	1 psi	2 psi	3 psi	4 psi	5 psi	6 psi	7 psi	8 psi	9 psi	10 psi
0.4	1/2"	15	0.4	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
1.3	1/2"	15	1.3	1.8	2.3	2.6	2.9	3.2	3.4	3.7	3.9	4.1
2.2	1/2"	15	2.2	3.1	3.8	4.4	4.9	5.4	5.8	6.2	6.6	7.0
4.4	1/2"	15	4.4	6.2	7.6	8.8	9.8	10.8	11.6	12.4	13.2	13.9
5.5	3/4"	20	5.5	7.8	9.5	11	12	13	15	16	17	17
7.5	3/4"	20	7.5	11	13	15	17	18	20	21	23	24
10	1"	25	10	14	17	20	22	24	26	28	30	32
12	1"	25	12	17	21	24	27	29	32	34	36	38
14	1"	25	14	20	24	28	31	34	37	40	42	44
15	1"	25	15	21	26	30	34	37	40	42	45	47
20	1-1/4"	32	20	28	35	40	45	49	53	57	60	63
28	1-1/2"	32	28	40	48	56	63	69	74	79	84	89
40	2"	50	40	57	69	80	89	98	106	113	120	126
41	2"	50	41	58	71	82	92	100	108	116	123	130

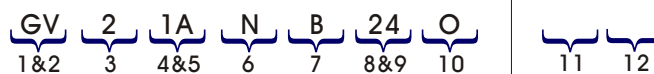
Saturated Steam Capacity Sizing Table in Pounds Per Hour (2-Way valves only)

Inlet pressure	2#		5#		10#		15#		20#		25#		30#		35#	
	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.
C _v	10% of P1 ΔP=0.2	80% of P1 ΔP=1.6	10% of P1 ΔP=0.5	80% of P1 ΔP=0.4	10% of P1 ΔP=0.1	80% of P1 ΔP=0.8	10% of P1 ΔP=1.5	80% of P1 ΔP=1.2	10% of P1 ΔP=0.2	42% of P1 ΔP=1.4	10% of P1 ΔP=2.5	42% of P1 ΔP=1.6	10% of P1 ΔP=0.3	42% of P1 ΔP=1.8	10% of P1 ΔP=3.5	42% of P1 ΔP=2.0
0.4	0.2	06	3.7	9.2	06	14	7.8	18	10	20	12	23	13	26	15	29
1.3	07	20	12	30	18	44	26	40	32	66	38	76	44	85	50	95
2.2	12	33	21	52	32	76	43	96	53	112	64	129	74	145	84	161
4.4	23	66	41	104	66	154	86	194	107	225	127	257	148	289	168	322
5.5	30	81	51	131	80	191	107	240	133	281	159	321	185	362	210	402
7.5	41	111	70	179	110	260	146	328	182	383	217	438	252	493	286	548
10	54	147	93	238	146	347	194	437	243	511	289	584	336	658	381	731
12	65	177	112	285	175	416	234	525	291	617	347	705	403	794	458	883
14	76	206	130	333	204	485	273	612	340	719	405	823	470	927	534	1030
20	109	295	186	475	292	694	390	874	485	1028	579	1176	671	1324	763	1472
28	153	413	260	666	409	971	546	1224	679	1439	810	1646	940	1853	1068	2061
40	218	590	372	951	584	1387	780	1749	970	2055	1157	2351	1342	2647	1526	2944
41	223	605	381	975	599	1422	800	1793	995	2107	1186	2410	1376	2714	1564	3017

When sizing steam valves, different pressure drops are used depending on if the control valve is on/off or modulating. All inlet pressure columns have two sub columns. The left sub column is for on/off control and the right sub column is for modulating control. For on/off control, always use a minimum of 10% of inlet pressure (psig). The modulating control pressure drop takes into account the compressibility of high or low pressure steam for precision control. For modulating with less than 15 psig steam, it is best to use 80% of gauge inlet pressure. For higher pressure steam greater than 15 psig, it is best to use 42% of the absolute inlet pressure. To size the steam valve, determine the inlet steam pressure. If it falls between two numbers select the larger of the two. Follow either the on/off or modulating sub columns down until you see the closest number to the required #/hr of steam. Again, if it falls between two numbers pick the larger of the two. Follow the row to the far left to obtain the C_v of the valve that will pass the desired #/hr of steam.

Assembly Number

Standard Construction



Globe Valve Assembly, 2-Way, 1/2" Cv=0.4, NPT Ends, Bronze Body, Brass Plug, Non-Spring Return, 24 VAC, NEMA 2 Actuator, On/Off Control.

#	ITEM	CODE	DESCRIPTION	#	ITEM	CODE	DESCRIPTION				
1 & 2	Series	GV	Globe Valve	6	Valve Type	N	NPT Threaded Ends				
3	Assembly	2	2-Way Configuration	7	Construction	B	Bronze Body-Brass Plug				
		M	3-Mixing			S	Bronze Body-Stainless Plug				
		D	3-Diverging								
4 & 5	Size	1 ■	1/2" ■ = A, B, C, D	8 & 9	Actuator	24	Spring Return 24 VAC				
		2 ■	3/4" ■ = A, B, C, D			10	Control	O	On/Off		
		3 ■	1" ■ = A, B, C, D					E	Modulating 0-10 or 4-20		
		4 ■	1 1/4" ■ = A, B, C, D					11 & 12	Accessories	A	Auxiliary 2-SPDT
		5 ■	1 1/2" ■ = A, B, C, D							6	6 FT. Cable Extension
		6 ■	2" ■ = A, B, C, D							V	120 VAC voltage
		7 ■	2 1/2" ■ = A, B, C, D							F	Floating
		8 ■	3" ■ = A, B, C, D								

3-way Stem Arrangements Are Located On Front Of Brochure

4575 Damascus Rd.
Memphis, Tn. 38118

VALVES ★ ACTUATORS ★ ACCESSORIES

Phone (901)794-5790
Fax (901)363-1123