

BF-V

Butterfly Valve Grooved Ends

Series 23/24

Electric 24 VAC - NEMA 2

Description

The BF-V Series 23/24 electric actuated valve assemblies are rated NEMA 2 for indoor use. These assemblies are available in 2-way and 3-way configurations 2" - 6", in non-spring and spring return types. Two way assemblies are complete with ductile iron grooved end valves, EPDM seat, and mounted with a mounting kit to an electric actuator. Three way assemblies are complete with (2) ductile iron grooved end valves, EPDM seat, mounted on a ductile iron tee with linkage kit to an electric actuator for use in either mixing or diverting applications.

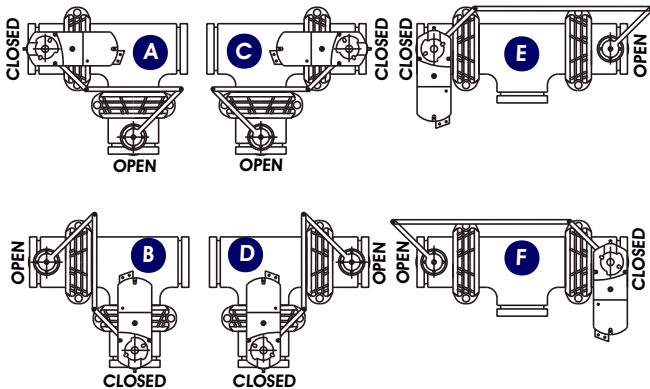
Operation

Valve assemblies with NEMA 2 electric actuators are powered by 24 VAC voltage (120 VAC spring). Each actuator is controlled by either on/off, modulating or floating commands. All actuators contain either current limiting circuitry, or microprocessor overload protection. The brushless DC motors provide continuous rotary power for accurate, automatic, valve positioning. Factory mounted, tested, and calibrated, these assemblies provide reliable valve positioning for temperature control.

Actuator Performance

- Housing protection NEMA 2 (indoor applications) limited resistance to small amounts of falling dirt and water
- Agency approved listings C.S.A., CE, UL and ISO 9001
- Power supply 24 VAC 50/60 Hz (Spring 120 VAC)
- Controls available are on/off, modulating or floating
- Manual override capabilities standard on each actuator
- Visual position indicator that confirms valve travel
- Approximate running time 2 minutes for full 90° travel
- Noise level: .45 DB maximum
- Operating temperature -40°F to +120°F
- Electrical connection 3FT, 18 gauge appliance cable with 1/2" connection
- Series 23 non-spring, Series 24 spring return
- 2 year limited warranty

Assembly Configurations



Reducing Tees Available P.O.A.

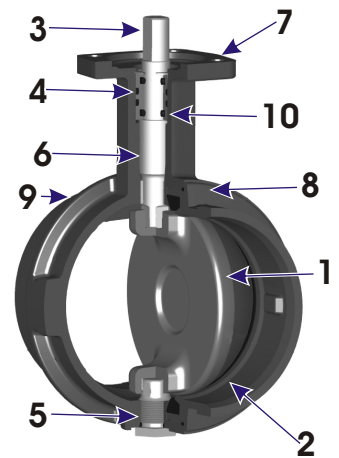


Valve Performance

- 2-way and 3-way assemblies 2" through 6"
- Grooved ends permit installation with couplings
- Narrow profile disc design has high flow coefficient
- Pressure responsive rubber seat design
- Multiple o-ring stem seal prevents leakage of stem
- Seal cartridge allows for easy servicing
- Upper and lower bearings reduce torque
- Rectangular drive eliminates fasteners
- Maximum seat temperature EPDM -30°F to 230°F
- Maximum valve body rating 300 psi
- Bi-directional, bubble tight close off
- Easy and economical installation of valve assemblies

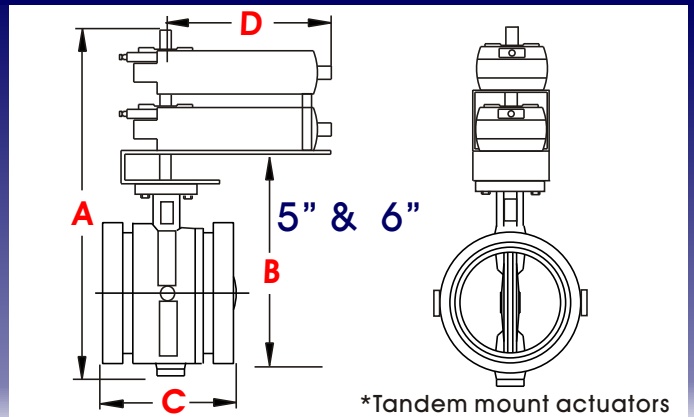
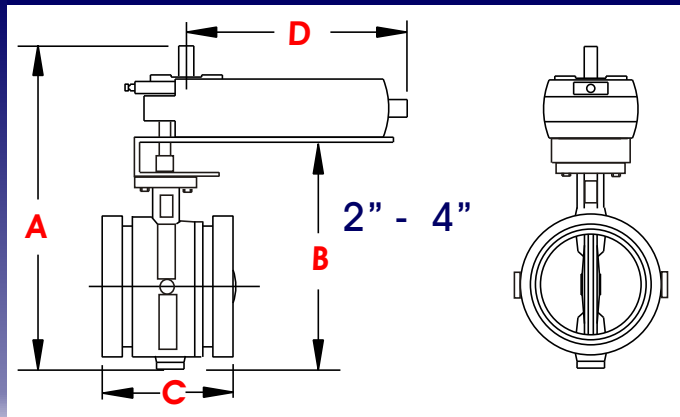
Standard Valve Construction

Item	Description	Materials
1	DISC	DUCTILE IRON
2	SEAT	EPDM
3	DRIVE HUB	STAINLESS
4	STEM O-RING	EPDM
5	BEARING	FIBERGLASS
6	STEM	STAINLESS
7	ISO FLANGE	DUCTILE IRON
8	ENDS	GROOVED
9	BODY	DUCTILE IRON
10	CARTRIDGE	BRASS



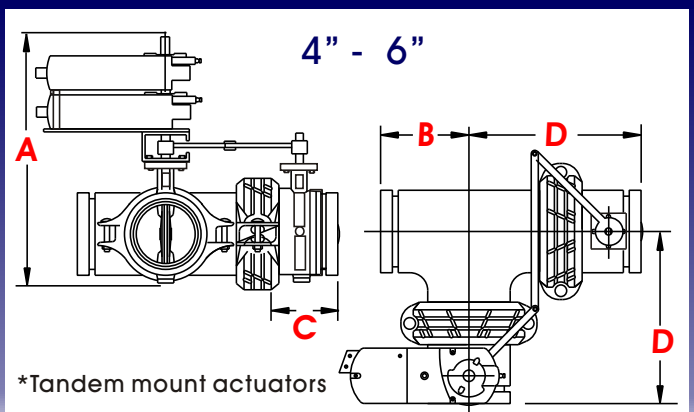
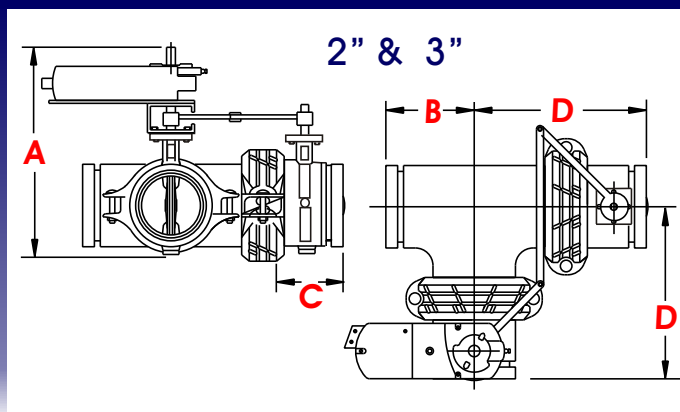
Non-Spring Return

Dimensional Data



2-Way Standard Assembly, Ductile Iron Disc, EPDM Seat, On/Off-Floating Control. Modulating Service Change Last O to E in Model Number, For Accessories See page 4, Wiring under "Actuator Section" Series 23.

Assembly Specification				Speed		VA Rating		23 Series operator		Assembly Dimensions			
Size in DN	Model Number	Close Psi bar	Wt. lb/kg	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.	A	B	C	D
										Inches		Inches	mm
2 50	BF202VE23O	100 7	14 6	150	150	5.5	4.4	GBB131	GBB161	11½ 292	8½ 216	3¼ 83	9 229
2½ 65	BF225VE23O	100 7	15 7	150	150	5.5	4.4	GBB131	GBB161	12½ 318	9½ 241	3¾ 96	9 229
3 80	BF203VE23O	100 7	16 7	150	150	5.5	4.4	GBB131	GBB161	13 330	10 254	3¾ 96	9 229
4 100	BF204VE23O	100 7	21 10	150	150	8.5	9.5	GIB131	GIB161	14 356	11 279	4 5/8 118	9 229
* 5 125	BF205VE23O	50 3.5	32 15	150	150	17.0	19.0	(2)GIB131	(2)GIB161	18½ 470	12½ 318	5 7/8 149	9 229
* 6 150	BF206VE23O	50 3.5	37 17	150	150	17.0	19.0	(2)GIB131	(2)GIB161	19½ 495	13½ 343	5 7/8 149	9 229

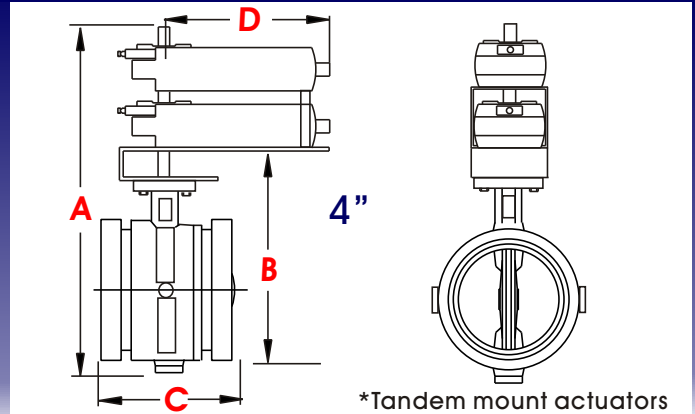
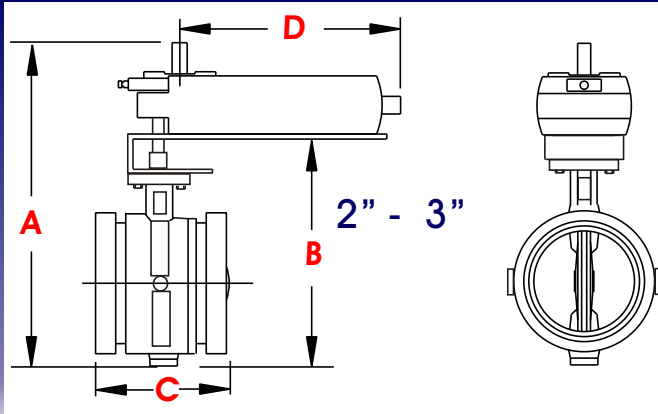


3-Way Standard Assembly, Ductile Iron Disc, EPDM Seat, On/Off-Floating Control. Modulating Service Change Last O to E in Model Number, For Accessories See page 4, Wiring under "Actuator Section" Series 23.

Assembly Specification				Speed		VA Rating		23 Series operator		Assembly Dimensions			
Size in DN	Model Number	Close Psi bar	Wt. lb/kg	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.	A	B	C	D
										Inches		Inches	mm
2 50	BF302VE23O	100 7	33 15	150	150	5.5	4.4	GBB131	GBB161	11½ 292	3¼ 83	3¼ 83	6½ 165
2½ 65	BF325VE23O	100 7	34 16	150	150	5.5	4.4	GBB131	GBB161	12½ 318	3¾ 96	3¾ 96	7½ 191
3 80	BF303VE23O	100 7	39 18	150	150	5.5	4.4	GBB131	GBB161	13 330	4¼ 108	3¾ 96	8 203
* 4 100	BF304VE23O	100 7	70 32	150	150	17.0	19.0	(2)GIB131	(2)GIB161	17 432	5 127	4 5/8 117	9¾ 248
* 5 125	BF305VE23O	50 3.5	90 41	150	150	17.0	19.0	(2)GIB131	(2)GIB161	18½ 470	5½ 140	5 7/8 149	11½ 292
* 6 150	BF306VE23O	50 3.5	110 50	150	150	17.0	19.0	(2)GIB131	(2)GIB161	19½ 495	6½ 165	5 7/8 149	12½ 318

Spring Return

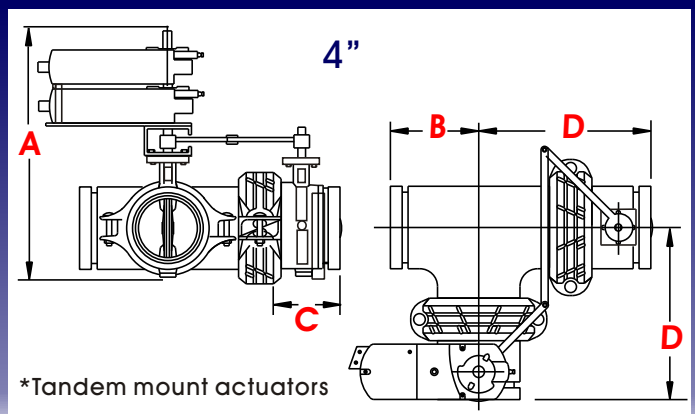
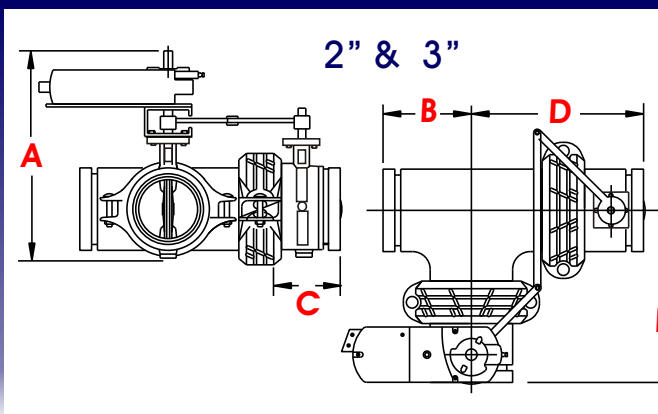
Dimensional Data



2-Way Standard Assembly, Ductile Iron Disc, EPDM Seat, On/Off.

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

Assembly Specification				Speed		VA Rating		24 Series operator		Assembly Dimensions			
Size in DN	Model Number	Close Psi bar	Wt. lb kg	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.	A	B	C	D
2 50	BF202VE24O	100 7	14 6	90	15	8.3	9.5	GCA121	GCA151	11 1/2 292	8 1/2 216	3 1/4 83	9 229
2 1/2 65	BF225VE24O	100 7	15 7	90	15	8.3	9.5	GCA121	GCA151	12 1/2 318	9 1/2 241	3 3/4 96	9 229
3 80	BF203VE24O	100 7	16 7	90	15	8.3	9.5	GCA121	GCA151	13 330	10 254	3 3/4 96	9 229
* 4 100	BF204VE24O	100 7	30 14	90	15	16.6	19.0	(2)GCA121	(2)GCA151	17 432	11 279	4 5/8 117	9 229



3-Way Standard Assembly, Ductile Iron Disc, EPDM Seat, On/Off.

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

Assembly Specification				Speed		VA Rating		24 Series operator		Assembly Dimensions			
Size in DN	Model Number	Close Psi bar	Wt. lb kg	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.	A	B	C	D
2 50	BF302VE24O	100 7	33 15	90	15	8.3	9.5	GCA121	GCA151	11 1/2 292	3 1/4 83	3 1/4 83	6 1/2 165
2 1/2 65	BF325VE24O	100 7	34 16	90	15	8.3	9.5	GCA121	GCA151	12 1/2 318	3 3/4 96	3 3/4 96	7 1/2 191
3 80	BF303VE24O	100 7	39 18	90	15	8.3	9.5	GCA121	GCA151	13 330	4 1/4 108	3 3/4 96	8 203
* 4 100	BF304VE24O	100 7	70 32	90	15	16.6	19.0	(2)GCA121	(2)GCA151	17 432	5 127	4 5/8 117	9 3/4 248

Engineering / Order Code

Flow Coefficients (C_v) Degrees represent angle of disc opening

Single Valve Assembly

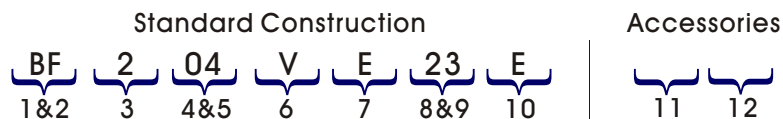
Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	0.06	2	7	14	23	36	60	88	115
2½"	0.16	5	16	30	50	80	140	205	260
3"	0.24	9	26	50	90	140	230	335	440
4"	0.30	16	50	100	160	250	430	750	820
5"	0.58	24	70	140	240	370	620	925	1200
6"	0.93	36	110	220	360	560	940	1400	1800

Three-Way Valve Assembly

Size	10°	20°	30°	40°	45°	50°	60°	70°	80°	90°
2"	88	81	45	27	27	27	45	81	88	115
2½"	205	145	96	80	80	80	96	145	205	260
3"	335	239	166	140	140	140	166	239	335	440
4"	750	480	300	260	260	260	300	480	750	820
5"	925	642	440	380	380	380	440	642	925	1200
6"	1400	976	670	580	580	580	670	976	1400	1800

The flow characteristic of a valve is described as the C_v value. C_v is defined as the max flow of 60°F water expressed in GPM (Gallons per minute) which produces a 1 psi pressure drop across the valve.

Assembly Number



Butterfly Valve Assembly, 2-Way, 4", Grooved Ends, Ductile Iron Body, EPDM Disc, 24 VAC NEMA 2 Non-Spring Actuator, Modulating 2-10 input.

#	ITEM	CODE	DESCRIPTION	#	ITEM	CODE	DESCRIPTION
1 & 2	Series	BF	Butterfly Valve	7	Construction	E	Ductile Iron Body & Disc EPDM Seat
3	Assembly	2 3	2-Way Configuration 3-Way Configuration	8 & 9	Actuator	23 24	Non-Spring 24 VAC Spring Return 24 VAC
4 & 5	Size	02 04 25 05 03 06	2" - 6" Assemblies	10	Controls	O E F	On/Off Electronic 0-10 input Floating
6	Valve Type	V	BF-V Series Grooved Ends	11 & 12	Accessories	A K R V	Aux. switch 2-SPDT POT (add on feedback) Resistor 120 VAC voltage



Please Specify 3-way Configuration
Located On Front Of Brochure