

BF-HP

Series 81

Butterfly Valve - High Performance

Pneumatic - Double Acting 80 psi

Description

The BF-HP Series 81 pneumatic non-spring return assemblies are available in 2-way and 3-way configurations 2" - 24". Two way assemblies are complete with full lugged bodies in carbon or stainless, stainless disc and shaft, RTFE seats, and mounted with a mounting kit to an pneumatic actuator. Three way assemblies are complete with (2) lugged valves mounted on a carbon steel tee with linkage kit to an pneumatic actuator for use in either mixing or diverting applications. These two and three way assemblies are suitable for indoor or outdoor applications.

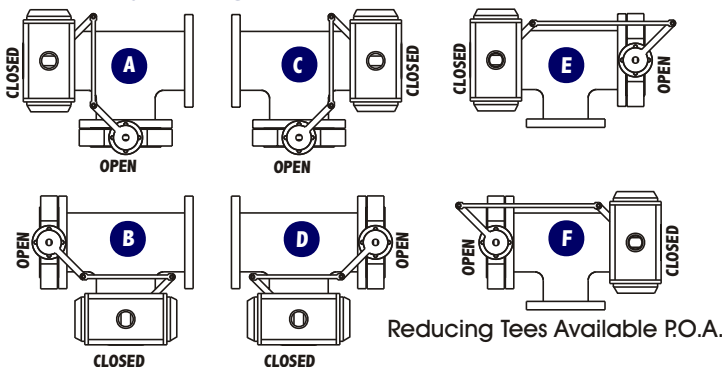
Operation

Valve assemblies with pneumatic high pressure actuators are energized when air is supplied to port (A). The air forces the pistons away from each other, which then rotates the valve 90° to the next position. When air is supplied to port (B) it forces the pistons in, which returns the valve to the start position. On loss of air supply the actuator fails in place. Factory mounted, tested, and calibrated, these assemblies provide accurate and automatic valve positioning for temperature control.

Actuator Performance

- Housing protection corrosion resistant weatherproof with a hard anodized finish
- Supply pressure minimum 80 psi, maximum 150 psi
- Operating media is clean dry air or non corrosive gas
- Compact and efficient rack and pinion design
- Travel stops for stroke adjustment
- Linear torque output through 90° stroke
- Square female input shaft allows for easy field rotation of actuator to conform to tight areas
- Permanently lubricated rack and pinion
- Namur drilling permits direct mounting of solenoid valves
- Spring return fails to preset position, open or closed
- Position indicator confirms valve travel
- Controls are on/off and modulating 4-20 ma, 3-15psi
- 2-year warranty

Assembly Configurations

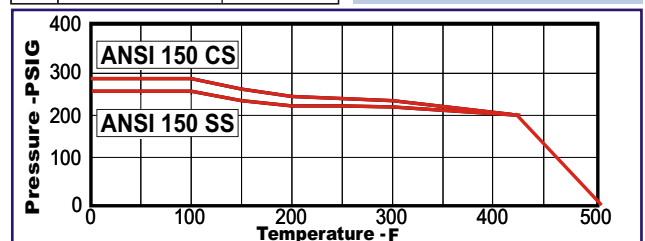
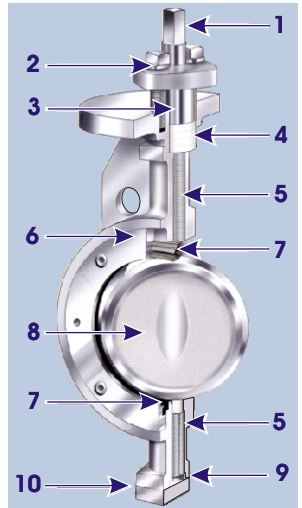


Valve Performance

- 2-way and 3-way assemblies 2" - 24"
- Valves comply with MSS-SP-68 and API-609, for industry standard face to face requirements
- Carbon by stainless or all stainless construction
- RTFE seat assures Bi-directional bubble tight close
- Bearings used to align shaft and lower friction factor
- Overtravel disc stop, prevents overrun of the disc
- Low profile disc edge allows maximum flow
- 360° spherical disc edge for equal percentage

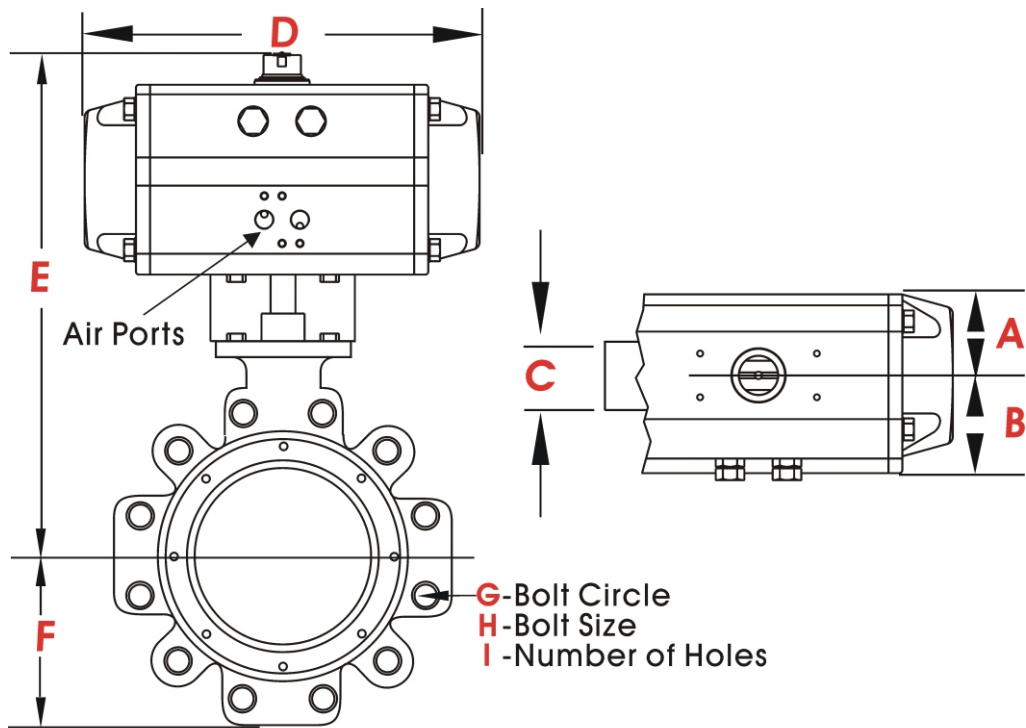
Valve Construction / Temp. & Pressure Limits

Item	Description	Materials
1	Shaft	Stainless
2	Gland Flange	Carbon
3	Gland Ring	Stainless
4	Gland Packing	PTFE
5	Shaft Bearing	RTFE
6	Insert Ring	Stainless
7	Seat	RTFE
8	Disc	Stainless
9	Retainer	Graphite
10	Body	Carbon



2-Way Non-Spring Return

Dimensional Data



Sizes 2" - 24"

Standard Assembly, Carbon Body, Stainless Disc, RTFE Seat, On/Off Double Acting Actuator.
Modulating Service Change Last O to E In Model Number, All S.S Change Last C to S, Accessories See Page 4.

Assembly Specification				Speed 90°		Air Ports	81 Series Operator	Assembly Dimensions								
Size	Model Number	Close off	Wt.	On/Off	Mod.	NPT	On/Off	inch								
$\frac{\text{in}}{\text{DN}}$		Psi	lb	(sec.)	(sec.)		Mod.	A	B	C	D	E	F	G	H	I
		Bar	Kg					mm								
2 50	BF202QC810	285 20	30 14	0.3	0.3	1/8"	63 DA	1 1/2 38.1	1 7/8 47.6	1 1/4 42.9	6 1/2 165.1	12 1/2 317.5	4 101.6	4 3/4 120.7	5/8 - 11	4
2 1/2 65	BF225QC810	285 20	34 16	0.3	0.4	1/8"	75 DA	1 5/8 41.3	2 1/8 53.9	1 3/4 46.0	8 1/4 209.6	14 355.6	4 101.6	5 1/2 139.7	5/8 - 11	4
3 80	BF203QC810	285 20	37 17	0.3	0.4	1/8"	75 DA	1 5/8 41.3	2 1/8 53.9	1 7/8 47.6	8 1/4 209.6	14 1/4 361.9	4 1/3 109.9	6 152.4	5/8 - 11	4
4 100	BF204QC810	285 20	48 22	0.3	0.4	1/8"	75 DA	1 5/8 41.3	2 1/8 53.9	2 1/8 53.9	8 1/4 209.6	15 381.0	4 3/4 120.7	7 1/2 190.5	5/8 - 11	8
5 125	BF205QC810	285 20	62 28	0.4	0.5	1/8"	88 DA	2 50.8	2 1/3 59.2	2 1/4 57.2	9 3/4 247.7	16 1/2 419.1	6 1/3 160.8	8 1/2 215.9	3/4 - 10	8
6 150	BF206QC810	285 20	70 32	0.4	0.5	1/8"	88 DA	2 50.8	2 1/3 59.2	2 1/4 57.2	9 3/4 247.7	16 3/4 425.4	6 1/3 160.8	9 1/2 241.3	3/4 - 10	8
8 200	BF208QC810	285 20	105 48	0.9	1.2	1/4"	125 DA	2 3/4 69.9	3 1/4 82.6	2 1/2 63.5	13 1/2 342.9	21 1/4 539.8	7 3/4 196.9	11 3/4 298.5	3/4 - 10	8
10 250	BF210QC810	285 20	143 65	0.9	1.2	1/4"	125 DA	2 3/4 69.9	3 1/4 82.6	2 3/4 71.4	13 3/2 342.9	22 1/2 571.5	9 228.6	14 1/4 361.9	7/8 - 9	12
12 300	BF212QC810	285 20	198 90	1.5	1.8	1/4"	160 DA	4 101.6	4 101.6	3 3/4 80.9	17 3/4 450.9	25 635.0	10 3/4 273.0	17 431.8	7/8 - 9	12
14 350	BF214QC810	285 20	301 137	3.2	3.8	1/4"	200 DA	4 101.6	4 1/2 107.9	3 3/8 92.1	21 1/2 546.1	29 1/2 749.3	12 304.8	18 3/4 476.3	1 - 8	12
16 400	BF216QC810	285 20	430 195	5.0	5.0	1/4"	200 DA	4 1/2 114.3	4 3/4 120.7	4 101.6	23 584.2	31 1/2 800.1	13 3/4 349.3	21 1/4 539.8	1 - 8	16
18 450	BF218QC810	285 20	469 213	5.0	5.0	1/4"	500 DA	4 3/4 120.7	4 3/4 120.7	4 1/2 114.3	25 635.0	33 838.2	14 3/4 374.5	22 3/4 577.9	1 1/8 - 8	16
20 500	BF220QC810	285 20	548 249	5.0	5.0	1/4"	600 DA	4 3/4 120.7	4 3/4 120.7	5 127.0	25 635.0	34 1/2 876.3	16 1/2 419.1	25 635.0	1 1/8 - 8	20
24 600	BF224QC810	285 20	821 473	9.0	9.0	1/4"	600 DA	4 3/4 120.7	4 3/4 120.7	6 1/4 153.9	25 635.0	40 1016.0	19 1/2 495.3	29 1/2 749.3	1 1/4 - 8	20

NOTE: Above Actuators Sized for 80psi, Speed Controls Available for different Opening and Closing Times

4575 Damascus Rd.
Memphis, Tn. 38118

VALVES ✦ ACTUATORS ✦ ACCESSORIES

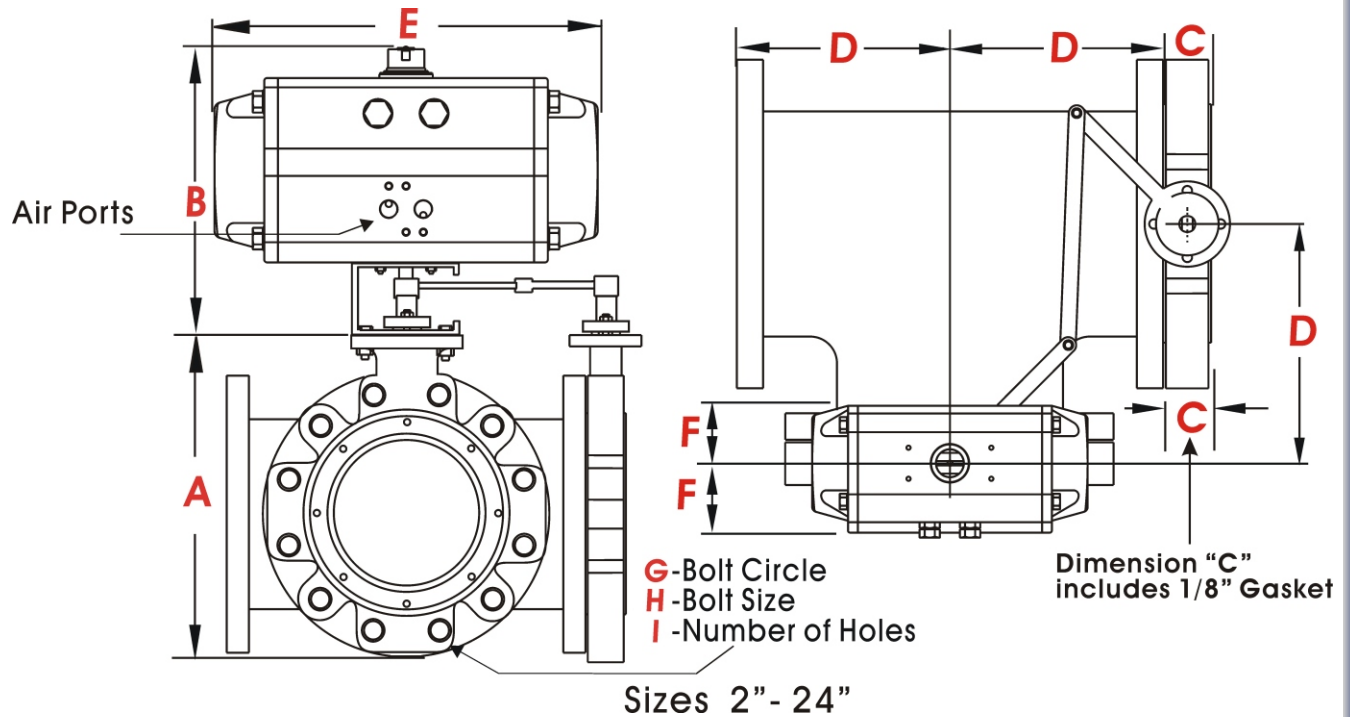
Phone (901)794-5790
Fax (901)363-1123

BF-HP Series 81



3-Way Non-Spring Return

Dimensional Data



Standard Assembly, Carbon Body, Stainless Disc, RTFE Seat, On/Off 120 VAC Motor With Heater and Override Modulating Service Change Last O to E In Model Number, All S.S. Change Last C to S, Accessories See Page 4.

Assembly Specification				Speed 90°		Air Ports	81 Series Operator	Assembly Dimensions								
Size	Model Number	Close off	Wt.	On/Off	Mod.	NPT	On/Off	inch								
in		Psi	lb	(sec.)	(sec.)		Mod.	A	B	C	D	E	F	G	H	I
DN		Bar	Kg				Mod.	mm	mm	mm	mm	mm	mm	mm	mm	mm
2 50	BF302QC810	285 20	56 25	0.3	0.4	1/8"	75 DA	8 203.2	9 228.6	1 3/16 46.0	5 127	8 1/4 209.6	1 7/8 47.6	4 3/4 120.7	5/8 - 11	4
2 1/2 65	BF325QC810	285 20	77 35	0.3	0.4	1/8"	75 DA	9 228.6	9 228.6	1 3/16 49.2	5 3/4 146.1	8 1/4 209.6	1 7/8 47.6	5 1/2 139.7	5/8 - 11	4
3 80	BF303QC810	285 20	86 39	0.3	0.4	1/8"	75 DA	9 1/2 241.3	9 228.6	2 50.8	6 1/8 155.6	8 1/4 209.6	1 7/8 47.6	6 152.4	5/8 - 11	4
4 100	BF304QC810	285 20	137 62	0.4	0.5	1/8"	88 DA	10 3/4 273.1	10 254.0	2 1/4 57.2	7 7/8 180.9	9 3/4 247.7	2 1/2 53.9	7 1/2 190.5	5/8 - 11	8
5 125	BF305QC810	285 20	176 80	0.5	0.7	1/4"	100 DA	13 1/4 336.6	10 254.0	2 1/3 59.3	8 3/8 212.7	10 1/2 266.7	2 1/2 63.5	8 1/2 215.9	3/4 - 10	8
6 150	BF306QC810	285 20	206 94	0.5	0.7	1/4"	100 DA	13 1/2 342.9	10 254.0	2 3/8 60.3	9 1/8 231.8	10 1/2 266.7	2 1/2 63.5	9 1/2 241.3	3/4 - 10	8
8 200	BF308QC810	285 20	330 150	0.9	1.2	1/4"	125 DA	16 1/4 412.8	13 1/2 342.9	2 5/8 66.7	11 279.4	13 1/2 342.9	3 76.2	11 3/4 298.5	3/4 - 10	8
10 250	BF310QC810	285 20	518 235	1.5	1.8	1/4"	135 DA	19 482.6	15 381.0	2 5/16 74.6	12 1/2 317.5	17 3/4 450.9	4 101.6	14 1/4 361.9	7/8 - 9	12
12 300	BF312QC810	285 20	737 335	1.5	1.8	1/4"	160 DA	21 1/2 546.1	15 381.0	3 5/16 84.1	14 1/2 368.3	17 3/4 450.9	4 101.6	17 431.8	7/8 - 9	12
14 350	BF314QC810	285 20	997 453	5.0	5.0	1/4"	200 DA	26 1/4 667.8	16 406.4	3 3/4 95.3	16 406.4	23 584.2	4 1/8 104.8	18 3/4 476.3	1 - 8	12
16 400	BF316QC810	285 20	1369 622	5.0	5.0	1/4"	300 DA	28 711.2	17 431.8	4 1/8 104.8	17 431.8	25 635	4 5/8 117.5	21 1/4 539.8	1 - 8	16
18 450	BF318QC810															
20 500	BF320QC810															
24 600	BF324QC810															

Dimensions Available Upon Request

NOTE: Above Actuators Sized for 80psi, Speed Controls Available for different Opening and Closing Times

4575 Damascus Rd.
Memphis, Tn. 38118

VALVES ✦ ACTUATORS ✦ ACCESSORIES

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

Flow Coefficients (C_v) Degrees represent angle of disc opening Single Valve Assembly

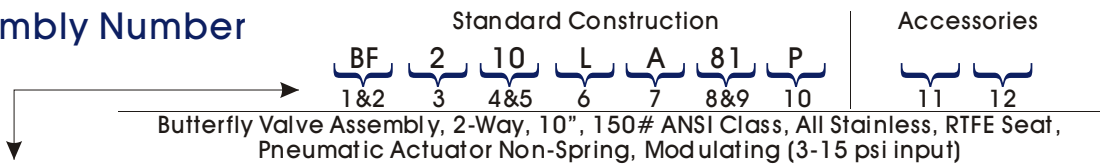
Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	02	06	13	20	30	43	72	81	92
2 1/2"	03	11	21	33	50	71	117	132	150
3"	05	18	36	57	86	122	203	230	260
4"	09	32	64	101	152	216	360	405	460
5"	15	53	106	167	251	357	595	670	760
6"	23	81	161	253	380	540	897	1015	1150
8"	42	147	295	462	695	987	1640	1850	2100
10"	64	225	450	705	1056	1505	2496	2816	3200
12"	94	330	660	1035	1551	2210	3666	4136	4700
14"	116	406	815	1276	1915	2726	4525	5105	5800
16"	160	560	1120	1760	2640	3760	6240	7040	8000
18"	210	735	1470	2310	3465	4935	8190	9240	10,500
20"	280	980	1960	3080	4620	6580	10,920	12,320	14,000
24"	420	1470	2940	4620	6930	9870	16,380	18,480	21,000

Three-Way Valve Assembly

Size	10°	20°	30°	40°	45°	50°	60°	70°	80°	90°
2"	83	78	56	51	51	51	56	78	83	92
2 1/2"	135	129	92	83	83	83	92	129	135	150
3"	235	221	158	143	143	143	158	221	235	260
4"	414	392	280	253	253	253	280	392	414	460
5"	685	648	463	418	418	418	463	648	685	760
6"	1038	978	701	633	633	633	701	978	1038	1150
8"	1892	1787	1282	1157	1157	1157	1282	1787	1892	2100
10"	2880	2721	1955	1761	1761	1761	1955	2721	2880	3200
12"	4230	3996	2870	2586	2586	2586	2870	3996	4230	4700
14"	5221	4931	3541	3191	3191	3191	3541	4931	5221	5800
16"	7200	6800	4880	4400	4400	4400	4880	6800	7200	8000
18"	9450	8925	6405	5775	5775	5775	6405	8925	9450	10,500
20"	12,600	11,900	8540	7700	7700	7700	8540	11,900	12,600	14,000
24"	18,900	17,850	12,810	11,550	11,550	11,550	12,810	17,850	18,900	21,000

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



#	ITEM	CODE	DESCRIPTION	#	ITEM	CODE	DESCRIPTION
1 & 2	Series	BF	Butterfly Valve	7	Construction	C	Carbon Body, S.S. Disc and Shaft RTFE Seats
3	Assembly	2 3	2-Way Configuration 3-Way Configuration			A	Stainless Body, Disc/Shaft RTFE Seats
4 & 5	Size	02 25 to 24	2" - 24" Assemblies	8 & 9	Actuator	81	Non-Spring Return
6	ANSI Class	Q T	150 # Class 300 # Class	10	Controls	O E P	On/Off Electronic 0-10 or 4-20 Pneumatic 3-15 input
				11 & 12	Accessories	S L C Q	EP Solenoid Valve Limit Switch w/ Visual EP w/ Limit Switch Limit Switch w/ Feedback

Please Specify 3-way Configurations Located On Front Of Brochure