



# Titan Flow Control, Inc.

Your pipeline to the future!

## BF75E-CI

Wafer Style > Cast Iron

## BF76E-DI

Lug Style > Ductile Iron

Designed in accordance with:  
MSS-SP-67 & API 609

Size Range: 2" ~ 24"



## Resilient Seated Butterfly Valves Wafer Type Cast Iron > Lug Type Ductile Iron

### Design Features

#### > Universal Mounting Flange

The cast-in actuator flange is universally designed in accordance with ISO 5211 standard dimensions. The mounting flange can accommodate all types of operators such as: 10-position handle kits, gear operators, electric actuators, and pneumatic actuators. For actuators, Titan FCI may provide both direct mount and bracket mount designs. Please contact Titan FCI about your specific automation requirements.

#### > Extended Neck

The extended neck provides clearance for 2" of piping insulation. Also, it elevates mounted actuators for easier access. Stem extensions are available to further elevate the operating location of the valve. Please contact factory for additional information.

#### > Installation Locating Holes

Model BF75E-CI is a wafer style, one-piece body construction with four cast-in alignment holes that aid in centering the valve body to existing ASME B16.10 flanges during installation. Model BF76E-DI is lug style with tapped lugs in accordance with ASME B16.42 Class 150 specifications. Both Lug and Wafer Style valves are compatible with ASME 125/150 bolting patterns.

#### > One-Piece Through Stem Design

The one-piece, Square stem design offers exceptionally high strength, stability, dependability and accurate disc positioning. Sizes 2" through 24" are equipped with Square end stems.

#### > Applicable Standards

Butterfly valves are designed in accordance with ASME/ASME Class 125/150 lb class flanges as well as MSS-SP-25, MSS-SP-67, and API 609 specifications. All valves are 100% hydrostatically tested in both directions in compliance with API 598 to ensure a bubble-tight seal.



> 290 Corporate Drive > Lumberton, NC 28358  
> PO Box 7408  
> 910-735-0000 T > 910-738-3848 F

[www.titanfci.com](http://www.titanfci.com)

[titan@titanfci.com](mailto:titan@titanfci.com)

## BILL OF MATERIALS <sup>(1)</sup>

No.	PART	BF75E-CI WAFER STYLE	BF76E-DI LUG STYLE
1	Stem	T-410 SS	T-410 SS
2	Bushing	PTFE	PTFE
3	O-Ring	EPDM <sup>(2)</sup> or Buna-N	EPDM <sup>(2)</sup> , Buna-N or Viton <sup>(5)</sup>
4	Taper Pin <sup>(3)</sup>	T-410 SS	316 SS
5	Disc	Al. Bronze or Nickel Plated DI or CF8M T-316 SS	
6	Seat <sup>(4)</sup>	EPDM <sup>(2)</sup> or Buna-N	EPDM <sup>(2)</sup> , Buna-N or Viton <sup>(5)</sup>
7	Body	Cast Iron	Ductile Iron
8	Locking Plate	Carbon Steel	Carbon Steel
9	Bolts	Carbon Steel	Carbon Steel
10	Nuts	Carbon Steel	Carbon Steel
11	Lever / Gear OP <sup>(5)</sup>	Malleable Cast Iron	

## TECHNICAL NOTES

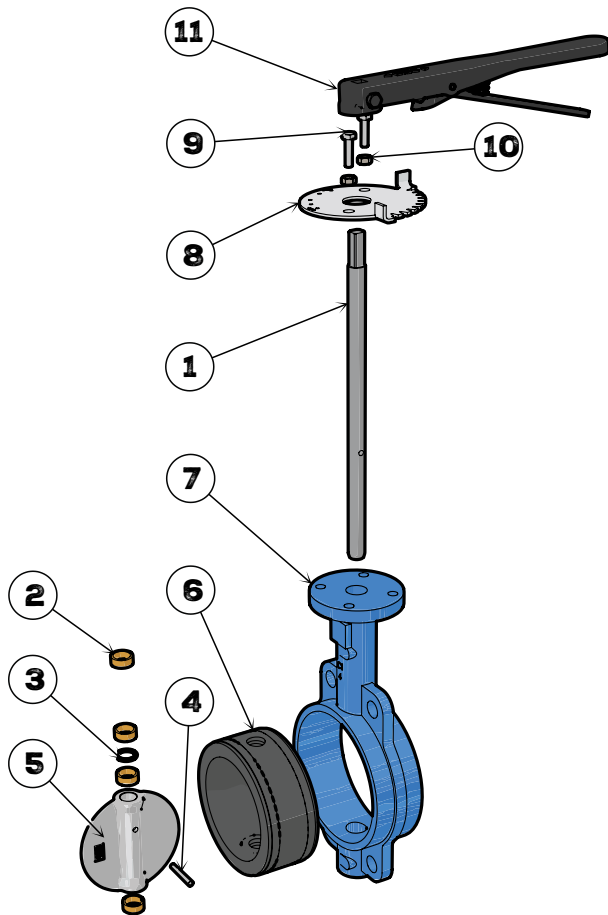
- Valves are designed to comply with MSS SP-67 Type 1
- Valves are tested to comply with API 598
- Bolting pattern conforms to Cast Iron ASME B16.1 Class 125 and Ductile Iron ASME B16.42 Class 150 <sup>(1)</sup>
- Top flange drilling conform to ISO 5211
- Maximum working pressure is 200 PSI for sizes 2" through 12"
- All Sizes 2" through 12" have Square end stems
- Valves can be made silicone free upon request
- Not recommended for steam service (consult factory)

- Bolting pattern for Cast Iron ASME Class 125 and Ductile Iron Class 150 are identical. Pressure ratings are not identical. Valves 2" ~ 12" have a maximum working pressure of 200 PSI and 14" ~ 48" have a maximum working pressure of 150 PSI.

- BOM represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
- EPDM is sulfur cured.
- Sizes 8" through 24" valves have two pins (Part number four).
- Seat is phenolic backed cartridge.
- Viton Seat is only available on Lug style B76E. Contact Factory for other material options on BF75E wafer style.
- Size 2-6" come with Lever. Size 8-12" come with a Gear Operator.

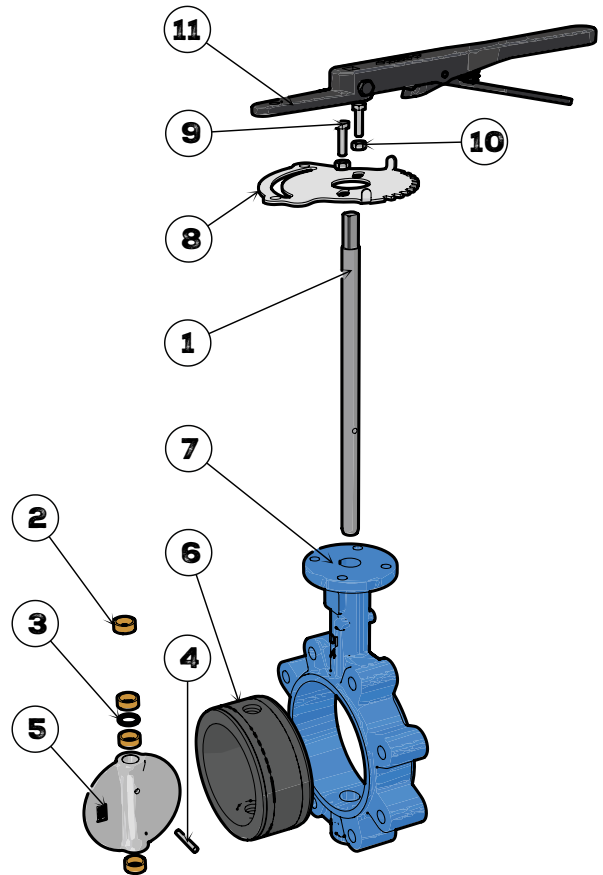
## BF 75E & BF 76E > Sizes: 2" ~ 12"

### BF 75E Wafer Style



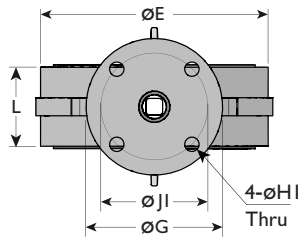
Exploded View

### BF 76E Lug Style

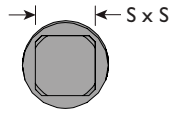


Exploded View

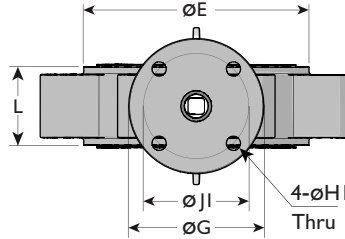
**BF 75E & BF 76E > Sizes: 2" ~ 12"**



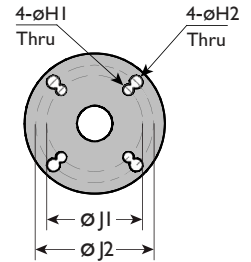
**Top View 2" ~ 6"**  
ISO F07  
BF 75E ~ Wafer Style



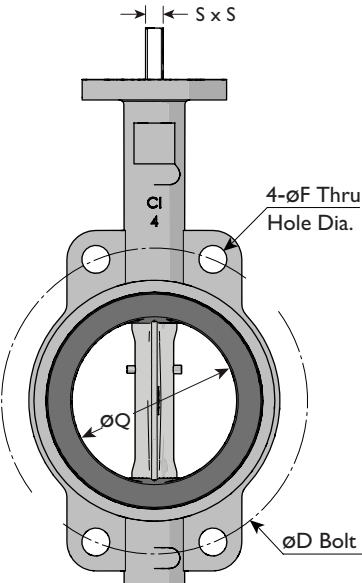
**SQ. Stem ~ All Sizes**  
BF 75 ~ BF76



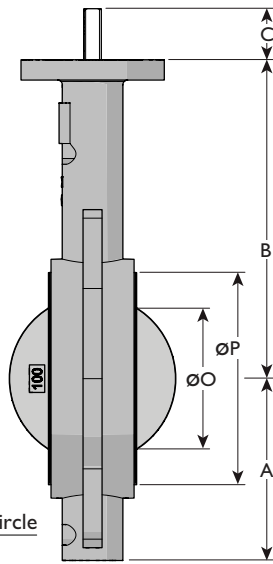
**Top View 2" ~ 6"**  
ISO F07  
BF 76E ~ Lug Style



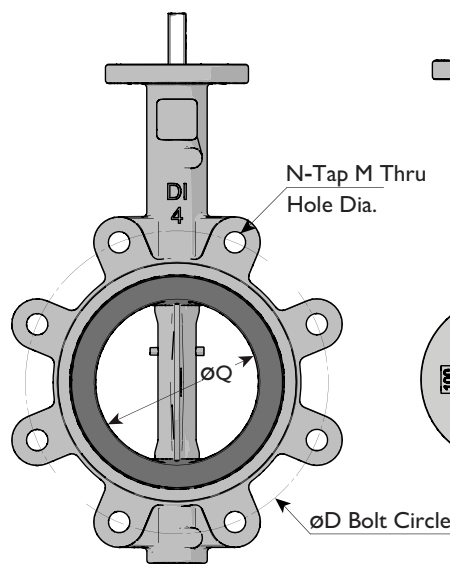
**Top View 8" ~ 12"**  
ISO F10/F12  
BF 75E Wafer ~ BF 76E Lug



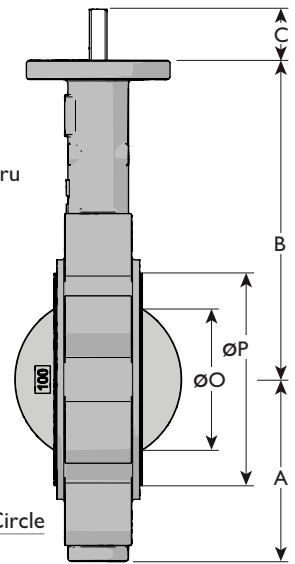
**Front View**  
BF 75E ~ Wafer Style



**Side View**  
BF 75E ~ Wafer Style



**Front View**  
BF 76E ~ Lug Style



**Side View**  
BF 76E ~ Lug Style

**DIMENSIONAL DATA (1)**

SIZE in mm	A in mm	B in mm	C in mm	Ø D in mm	Ø E in mm	F in mm	Ø G in mm	Ø H1 in mm	Ø H2 in mm	Ø J1 in mm	Ø J2 in mm	L in mm	M (2) UNC	N (2) Qty	Ø O (3) in mm	Ø P in mm	Ø Q in mm	S x S in mm
2	2.99	6.38	1.26	4.75	3.46	0.69	3.54	0.37	n/a	2.76	n/a	2.60	5/8 - 11	4	1.26	3.01	2.01	---
50	76	162	32	120.6	88	17.50	90	9.5	n/a	70	n/a	66	---	4	32	76.4	51	9x9
2 1/2	3.50	6.89	1.26	5.50	4.09	0.69	3.54	0.37	n/a	2.76	n/a	2.99	5/8 - 11	4	1.85	3.51	2.47	---
65	89	175	32	139.7	104	17.50	90	9.5	n/a	70	n/a	76	---	4	47	89.1	62.8	9x9
3	3.74	7.13	1.26	6.00	4.65	0.69	3.54	0.37	n/a	2.76	n/a	2.99	5/8 - 11	4	2.56	4.09	3.04	---
80	95	181	32	152.4	118	17.50	90	9.5	n/a	70	n/a	76	---	4	65	104	77.3	9x9
4	4.49	7.87	1.26	7.50	5.91	0.69	3.54	0.37	n/a	2.76	n/a	3.39	5/8 - 11	8	3.54	5.32	4.04	---
100	114	200	32	190.5	150	17.50	90	9.5	n/a	70	n/a	86	---	8	90	135.1	102.5	11x11
5	5.00	8.39	1.26	8.50	6.93	0.81	3.54	0.37	n/a	2.76	n/a	4.13	3/4 - 10	8	4.37	6.26	4.80	---
125	127	213	32	215.9	176	20.60	90	9.5	n/a	70	n/a	105	---	8	111	159.1	121.8	14x14
6	5.47	8.86	1.26	9.50	8.19	0.81	3.54	0.37	n/a	2.76	n/a	5.12	3/4 - 10	8	5.71	7.42	6.00	---
150	139	225	32	241.3	208	20.60	90	9.5	n/a	70	n/a	130	---	8	145	188.5	152.4	14x14
8	6.97	10.24	1.50	11.75	10.16	0.81	5.91	0.45	0.55	4.02	4.92	5.94	3/4 - 10	8	7.60	9.38	7.90	---
200	177	260	38	298.5	258	20.60	150	11.5	14	102	125	151	---	8	193	238.3	200.9	17x17
10	7.99	11.50	1.50	14.25	12.44	0.94	5.91	0.45	0.55	4.02	4.92	5.94	7/8 - 9	12	9.49	11.52	9.80	---
250	203	292	38	362.0	316	23.8	150	11.5	14	102	125	151	---	12	241	292.5	248.9	22x22
12	9.53	13.27	1.50	17.00	14.76	0.94	5.91	0.45	0.55	4.02	4.92	5.94	7/8 - 9	12	11.46	13.55	11.81	---
300	242	337	38	431.8	375	23.8	150	11.5	14	102	125	151	---	12	291	344.2	299.9	22x22

1. Dimensions are for reference only. When required, request certified drawings.

2. Dimensions 'M' and 'N' only are applicable to Lug Style valves. Dimensions 'M' is Unified Inch Screw Thread, coarse pitch series (UNC) per ASME B1.1. 'N' is the number of bolt holes.

3. Dimension 'O' is disc chordal dimension at valve face.



## BILL OF MATERIALS <sup>(1)</sup>

No.	PART	WAFER STYLE	LUG STYLE
1	Stem	T-410 SS	T-410 SS
2	Bushing	PTFE	PTFE
3	O-Ring	EPDM <sup>(2)</sup> or Buna-N	EPDM <sup>(2)</sup> , Buna-N or Viton <sup>(5)</sup>
4	Taper Pin <sup>(3)</sup>	T-410 SS	316 SS
5	Disc	Al. Bronze or Nickel Plated DI or CF8M T-316 SS	
6	Seat <sup>(4)</sup>	EPDM <sup>(2)</sup> or Buna-N	EPDM <sup>(2)</sup> , Buna-N or Viton <sup>(5)</sup>
7	Body	Cast Iron	Ductile Iron
8	End Cap	Cast Iron	Ductile Iron
9	End Cap Bolts	Carbon Steel	Carbon Steel
10	Gear Op Bolts	Carbon Steel	Carbon Steel
11	Gear OP <sup>(6)</sup>	Malleable Cast Iron	

## TECHNICAL NOTES

Valves are designed to comply with MSS SP-67 Type 1

Valves are tested to comply with API 598

Bolting pattern conforms to Cast Iron ASME B16.1 Class 125 and Ductile Iron ASME B16.42 Class150 <sup>(1)</sup>

Top flange drilling conform to ISO 5211

Maximum working pressure is 150 PSI for sizes 14" through 24"

All Sizes 14" through 24" have Square end stems

Valves can be made silicone free upon request

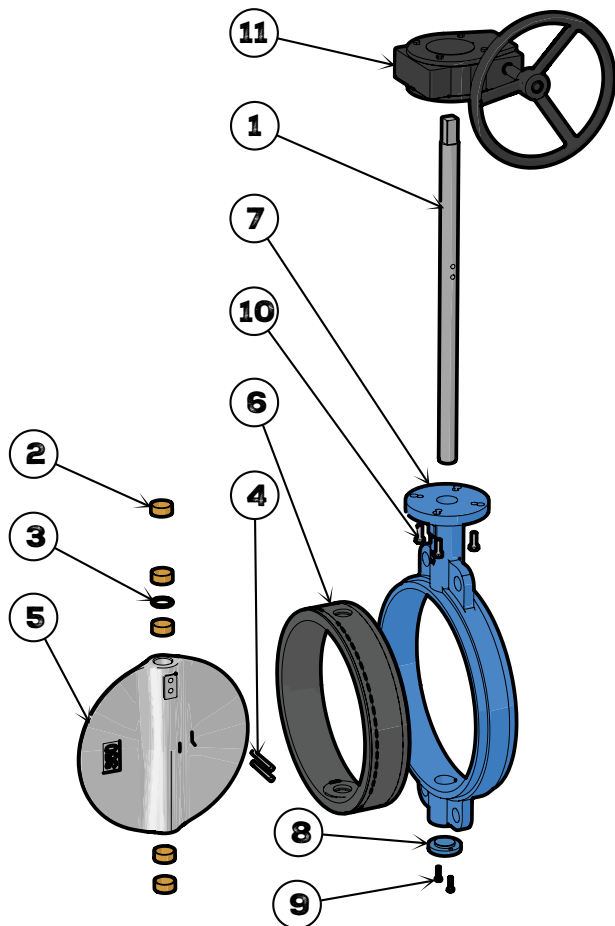
Not recommended for steam service (consult factory)

1. Bolting pattern for Cast Iron ASME Class 125 and Ductile Iron Class 150 are identical. Pressure ratings are not identical. Valves 2" ~ 12" have a maximum working pressure of 200 PSI and 14" ~ 48" have a maximum working pressure of 150 PSI.

- BOM represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
- EPDM is sulfur cured.
- Sizes 8" through 24" valves have two pins (Part number four).
- Seat is phenolic backed cartridge.
- Viton Seat is only available on Lug style B76E.
- Size 14-24" come with a Gear Operator.

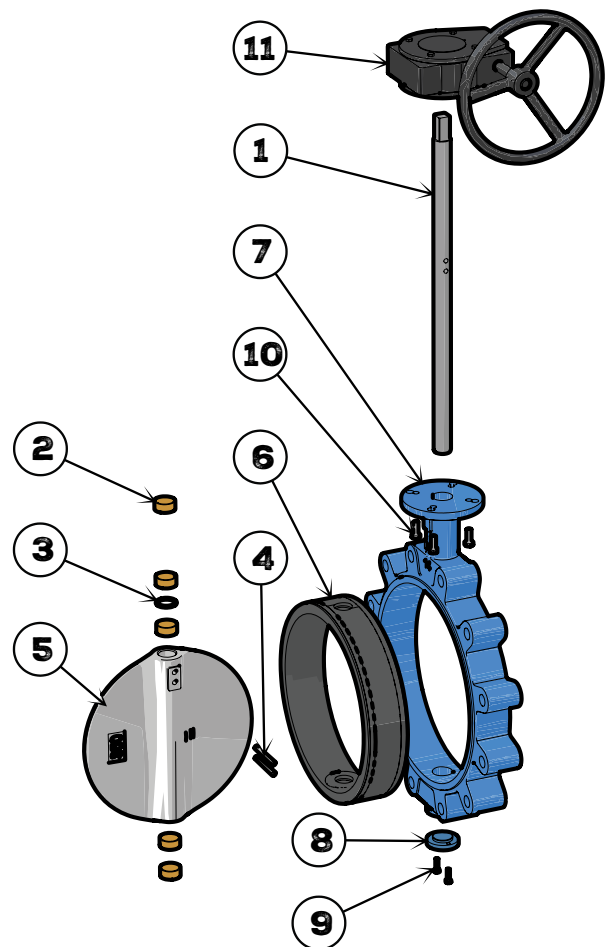
## BF 75E & BF 76E > Sizes: 14" ~ 24"

### BF 75E Wafer Style



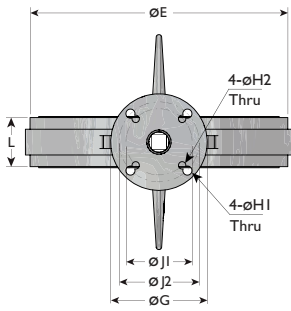
Exploded View

### BF 76E Lug Style

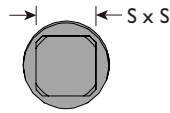


Exploded View

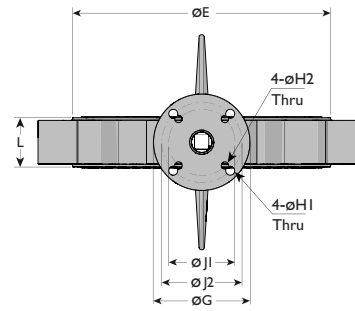
**BF 75E & BF 76E > Sizes: 14" ~ 24"**



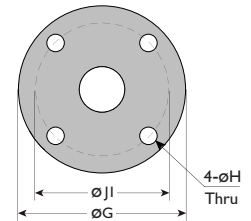
**Top View 14" ISO F10/F12**  
BF 75E ~ Wafer Style



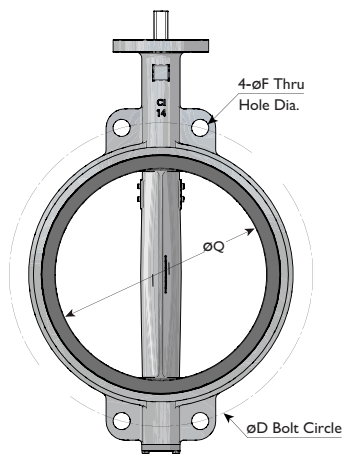
**SQ. Stem ~ All Sizes**  
BF 75 ~ BF76



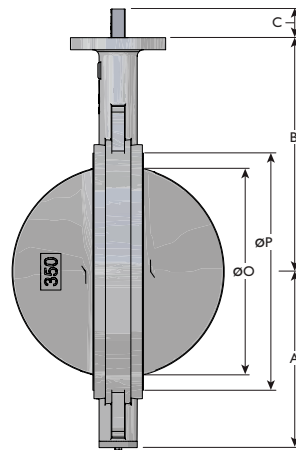
**Top View 14" ISO F10/F12**  
BF 76E ~ Lug Style



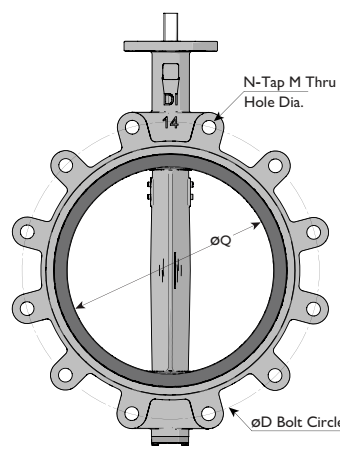
**Top View 16" ~ 24" ISO F16**  
BF 75E Wafer ~ BF 76E Lug



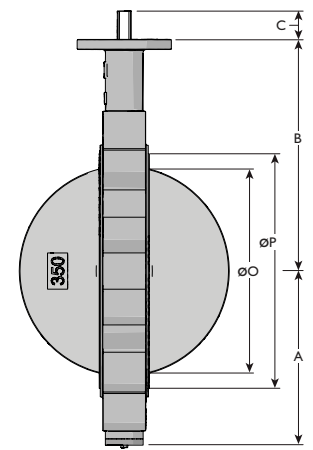
**Front View**  
BF 75E ~ Wafer Style



**Side View**  
BF 75E ~ Wafer Style



**Front View**  
BF 76E ~ Lug Style



**Side View**  
BF 76E ~ Lug Style

**DIMENSIONAL DATA (1)**

SIZE	A	B	C	Ø D	Ø E	F	Ø G	Ø H1	Ø H2	Ø J1	Ø J2	L	M (2)	N (2)	Ø O (3)	Ø P	Ø Q	S x S
in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	UNC	Qty	in mm	in mm	in mm	in mm
14	11.02	14.49	1.77	18.75	15.75	1.06	5.91	0.45	0.55	4.02	4.92	2.99	1 - 8	12	12.80	14.78	13.06	- - -
350	280	368	45	476	400	27.0	150	11.5	14	102	125	76	- - -	12	325	375.3	331.7	22 x 22
16	12.20	15.75	2.01	21.25	18.31	1.06	8.27	n/a	0.87	6.50	n/a	3.39	1 - 8	16	14.96	17.30	15.26	- - -
400	310	400	51	540	465	27.0	210	n/a	22	165	n/a	86	- - -	16	380	439.5	387.5	27 x 27
18	13.58	16.61	2.01	22.75	20.39	1.25	8.27	n/a	0.87	6.50	n/a	4.13	1 1/8 - 7	16	16.85	19.31	17.26	- - -
450	345	422	51	578	518	31.80	210	n/a	22	165	n/a	105	- - -	16	428	490.5	438.4	27 x 27
20	14.88	18.86	2.52	25.00	22.20	1.25	8.27	n/a	0.87	6.50	n/a	5.12	1 1/8 - 7	20	18.66	21.08	19.28	- - -
500	378	479	64	635	564	31.80	210	n/a	22	165	n/a	130	- - -	20	474	535.4	489.6	27 x 27
24	18.11	22.13	2.76	29.50	27.00	1.37	8.27	n/a	0.87	6.50	n/a	5.94	1 1/4 - 7	20	22.64	25.76	23.23	- - -
600	460	562	70	749.3	686	34.9	210	n/a	22	165	n/a	151	- - -	20	575	654.4	590.1	36 x 36

1. Dimensions and weights are for reference only. When required, request certified drawings.
2. Dimensions 'M' and 'N' only are applicable to Lug Style valves. Dimensions 'M' is Unified Inch Screw Thread, coarse pitch series (UNC) per ASME B1.1. 'N' is the number of bolt holes.
3. Dimension 'O' is disc chordal dimension at valve face.

**WEIGHT DATA (1)**

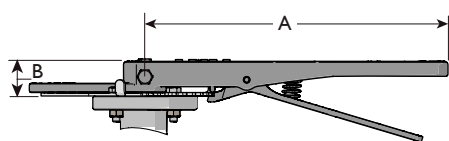
SIZE	2	2.5	3	4	5	6	8	10	12	14	16	18	20	24
	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb
	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg
Wafer Style	7.5	8.5	9.2	12.7	14.5	17.5	42.5	54.0	88.2	98.0	162.0	188.0	341.8	529.2
Lug Style	3.4	3.9	4.2	5.8	6.6	7.9	19.3	24.5	40.0	44.5	73.5	85.3	155.0	240.0
Lug Style	8.5	11.5	11.0	16.0	20.0	26.5	49.5	80.0	110.0	130.0	220.0	232.0	322.0	522.0
	3.9	5.2	5.0	7.3	9.1	12.0	22.5	36.3	49.9	59.0	99.8	105.2	146.1	236.8

1. Weights for 2" ~ 8" include lever.

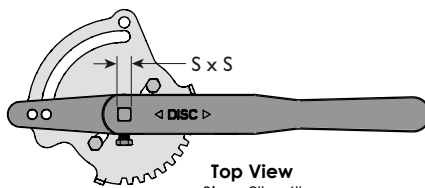


Valve Handles Sizes: 2" ~ 12"

BF 76E Lug Style

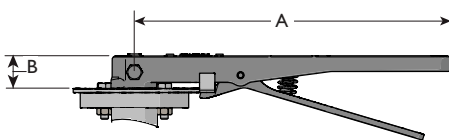


Side View  
Sizes 2" ~ 6"

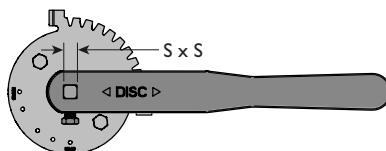


Top View  
Sizes 2" ~ 6"

BF 75E Wafer Style



Side View  
Sizes 2" ~ 12"



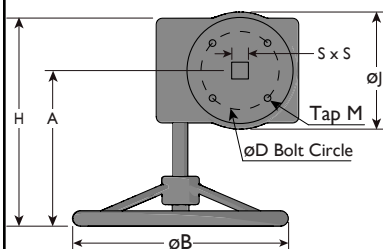
Top View  
Sizes 2" ~ 12"

DIMENSIONAL DATA (1)				
SIZE in mm	A in mm	B in mm	S x S in mm	Weight lb kg
2 ~ 3	10.51	1.26	- - -	3.00
50 ~ 75	267	32	9 x 9	1.36
4	10.51	1.26	- - -	3.00
100	267	32	11 x 11	1.36
5 ~ 6	10.51	1.26	- - -	3.00
125 ~ 150	267	32	14 x 14	1.36
8	14.02	1.50	- - -	5.00
200	356	38	17 x 17	2.27
10	14.02	1.50	- - -	5.00
250	356	38	22 x 22	2.27
12	14.02	1.50	- - -	5.00
300	356	38	22 x 22	2.27

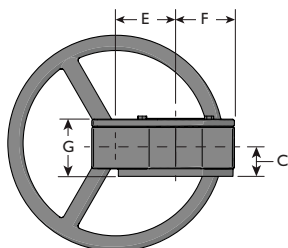
Notes:

1. Dimensions and weights are for reference only. When required, request certified drawings.
2. Handles and mounting plates have holes drilled in them which can be used to lock the valve in the open or closed position.
3. Lock Plate Standard on BF76E Size 2" ~ 6".

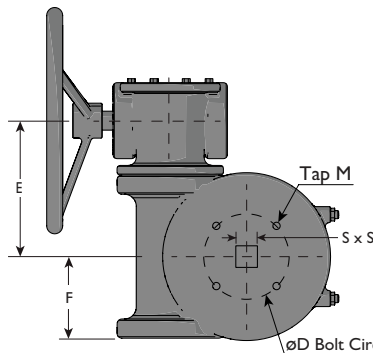
Gear Operators Sizes: 2" ~ 24"



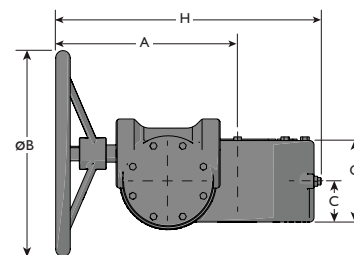
Top View  
Sizes 2" ~ 18"



Back View  
Sizes 2" ~ 18"



Back View  
Sizes 20" ~ 24"



Top View  
Sizes 20" ~ 24"

DIMENSIONAL DATA (1)														
SIZE in mm	A in mm	Ø B in mm	C in mm	Ø D in mm	E in mm	F in mm	G in mm	H in mm	Ø J in mm	S x S in mm	M in mm	Weight lb kg	Torque lb-in N-m	Ratio
2 ~ 3	7.01	5.91	1.50	2.76	1.77	2.09	2.44	9.06	4.13	- - -	- - -	8.82	1505	24:1
50 ~ 75	178	150	38	70	45	53	62	230	105	9 x 9	M6	4.00	170	
4	7.01	5.91	1.50	2.76	1.77	2.09	2.44	9.06	4.13	- - -	- - -	8.82	1505	24:1
100	178	150	38	70	45	53	62	230	105	11 x 11	M8	4.00	170	
5 ~ 6	7.01	5.91	1.50	2.76	1.77	2.09	2.44	9.06	4.13	- - -	- - -	8.82	1505	24:1
125 ~ 150	178	150	38	70	45	53	62	230	105	14 x 14	M8	4.00	170	
8	8.38	11.14	1.57	4.02	2.20	2.83	3.11	10.25	5.67	- - -	- - -	17.64	6638	30:1
200	213	283	40	102	56	72	79	260	144	17 x 17	M10	10.00	750	
10	8.38	11.14	1.57	4.02	2.20	2.83	3.11	10.25	5.67	- - -	- - -	17.64	6638	30:1
250	213	283	40	102	56	72	79	260	144	17 x 17	M10	10.00	750	
12 ~ 14	8.03	11.14	1.71	4.02	2.79	3.03	2.95	10.75	6.00	- - -	- - -	22.05	10621	50:1
300 ~ 350	204	283	43.5	102	71	77	75	273	154	22 x 22	M10	10.00	1200	
16	10.71	15.16	2.70	6.50	4.62	5.11	3.94	13.79	8.66	- - -	- - -	50.71	22127	80:1
400	272	385	68.5	165	117	130	100	350	220	27 x 27	M20	23.00	2500	
18	10.71	15.16	2.70	6.50	4.62	5.11	3.94	13.79	8.66	- - -	- - -	50.71	22127	80:1
450	272	385	68.5	165	117	130	100	350	220	27 x 27	M20	23.00	2500	
20	9.84	11.14	3.70	6.50	6.69	4.01	4.40	14.37	- - -	- - -	- - -	80.47	26552	532:1
500	250	283	94	165	170	102	112	365	- - -	27 x 27	M20	36.50	3000	
24	11.53	15.16	3.76	6.50	8.46	5.41	4.52	17.12	- - -	- - -	- - -	129	35403	640:1
600	293	385	95.6	165	215	137.5	115	435	- - -	27 x 27	M20	58.50	4000	

1. Dimensions and weights are for reference only. When required, request certified drawings.



## Butterfly Valve Seating and Unseating Valve Torque Ratings

Valve Sizes		Full Rated Pressure Ratings (Torque for psi is expressed as in-lb, Torque for MPa is expressed as N-m)										Correction Factors
in	mm	50 psi	0.4 MPa	100 psi	0.6 MPa	150 psi	1.0 MPa	200 psi	1.4 MPa	250 psi	1.6 MPa	
2	50	99	10	105	14	111	14	117	13	121	15	The following guidelines may be used to estimate torque values for other types of service.  <b>For Dry Service:</b> Multiply by 160%  <b>For Lubricated Service:</b> Multiply by 85%  <b>For Actuator Sizing:</b> First apply the correction factor for the type of service then use the additional correction factors  Multiply by 150% (Single Valve Application) Multiply by 200% (Three way applications)
2.5	65	150	15	163	21	175	23	189	21	196	24	
3	80	206	20	219	28	232	30	243	27	250	30	
4	100	289	28	322	42	357	46	389	43	410	50	
5	125	422	41	481	62	540	70	597	66	643	78	
6	150	598	58	690	90	782	102	874	97	935	114	
8	200	1059	103	1182	154	1306	170	1429	159	1517	185	
10	250	1670	163	1872	243	2074	269	2275	253	2403	292	
12	300	2568	250	2794	363	3023	392	3248	361	3401	414	
14	350	2639	257	3069	399	3500	454	3964	441	4267	519	
16	400	4260	415	4879	634	5500	714	5987	666	6280	764	
18	450	6287	612	7243	940	8199	1065	9183	1022	9817	1195	
20	500	8360	814	9180	1192	10000	1298	10859	1208	11409	1389	
24	600	15427	1502	16813	2183	18200	2363	18728	2084	19155	2332	
30	750	27313	2660	29407	3818	31500	4090	33530	3731	34844	4241	
36	900	54667	5323	57034	7405	59399	7712	61793	6877	63351	7711	
42	1050	82460	8030	86034	11170	89600	11633	---	---	---	---	
48	1200	108015	10518	112704	14633	117376	15239	122101	13588	125177	15236	

The above torques are for reference only. They were calculated from test data using clean, wet fluids (i.e. water) at ambient temperatures during on/off service. During actual service, hydrodynamic torque may meet or exceed the above listed seating and unseating torques. Therefore, hydrodynamic torque must be considered during system design to ensure proper valve and actuator selection. As always, a Titan FCI application engineer is ready to assist with valve and actuator selection.

## Pressure Ratings (Bidirectional)

2" ~ 12"	200 psig	14 bar
14" ~ 24"	150 psig	10 bar

Butterfly Valve is mated between two flanges for bidirectional service and the disc is in the closed position.

## Flow Rate Limits (On/Off Service)

Fluids	20 ft/sec	6 m/sec
Gases	175 ft/sec	54 m/sec

This table lists velocity limits for on/off services only. Additionally, for throttling service, the flow velocity should not exceed 20 ft/sec for liquids and 175 ft/sec for gases.

## Seat Material Temperature Ratings

Buna-N	+10 ~ 180 °F	-12 ~ 82 °C
EPDM	-30 ~ 225 °F	-34 ~ 107 °C
Viton	-20 ~ 400 °F	-29 ~ 204 °C

This table lists the theoretical temperature limits for elastomers. During actual service, hardening of the elastomer may cause the torque to exceed the structural limits of the valve.

Butterfly Valve C<sub>v</sub> Flow Coefficient Values (GPM @ 1 ΔP)

Valves Sizes		Angle of Valve Disc Rotation									
in	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°	
2	50	0.06	3	7	15	27	44	70	105	115	
2.5	65	0.10	6	12	25	45	75	119	178	196	
3	80	0.20	9	18	39	70	116	183	275	302	
4	100	0.30	17	36	78	139	230	364	546	600	
5	125	0.50	29	61	133	237	392	620	930	1022	
6	150	0.80	45	95	205	366	605	958	1437	1579	
8	200	2	89	188	408	727	1202	1903	2854	3136	
10	250	3	151	320	694	1237	2049	3240	4859	5340	
12	300	4	234	495	1072	1911	3162	5005	7507	8250	
14	350	6	338	715	1549	2761	4568	7230	10844	11917	
16	400	8	464	983	2130	3797	6282	9942	14913	16388	
18	450	11	615	1302	2822	5028	8320	13168	19752	21705	
20	500	14	791	1647	3628	6465	10698	16931	25396	27908	
24	600	22	1222	2587	5605	9989	16528	26157	39236	43116	
30	750	37	2080	4406	9546	17010	28147	44545	66818	73246	
36	900	260	3050	6730	12740	20220	32500	52500	79600	87500	
40	1000	313	3665	8089	15942	2429	39056	63093	95660	105154	
42	1050	350	4095	9040	17108	27150	43640	70500	106890	117500	
48	1200	455	5365	11840	22400	30600	51200	92300	140000	154000	

This chart can be used as a guide only due to the numerous variations of flow conditions that may occur during actual service.

C<sub>v</sub> Equation For Liquids

$$C_v = Q * \sqrt{\frac{G}{\Delta P}}$$

C<sub>v</sub> = Flow Coefficient  
 G = Specific Gravity of liquid at 60 °F  
 Q = Flow rate in U.S. gallons per minute (GPM)  
 ΔP = Pressure drop in pounds per square inch (PSI)

The Flow Coefficient (designated as C<sub>v</sub>) is a physical measurement that specifies the number of gallons per minute (GPM) that can pass through a piping component, at room temperature, and create a one (1) psi differential (ΔP) across the piping component.

## HOW TO ORDER

Series	Code	Body Material	Code	Stem Material	Code	Disc Material	Code	Seat Material	Code	Actuator	Code
200 PSI Wafer Type	BF75E	Cast Iron *	CI	Stainless Steel * Type 410	R	Nickle Plated * Ductile Iron	D	Buna-N *	B	Bare Stem	O
200 PSI Lug Type	BF76E	Ductile Iron *	DI	Stainless Steel Type 316	S	Aluminum * Bronze	B	EPDM *	E	10 Position Handle	L
		Carbon Steel	CS			Stainless Steel * Type 316	S	Viton*	V	Infinite Handle	I
		Stainless Steel	SS			Special	X	Teflon	T	Gear Operator	G
								Special	X	Chain Wheel	C
										Actuated	A

## Notes:

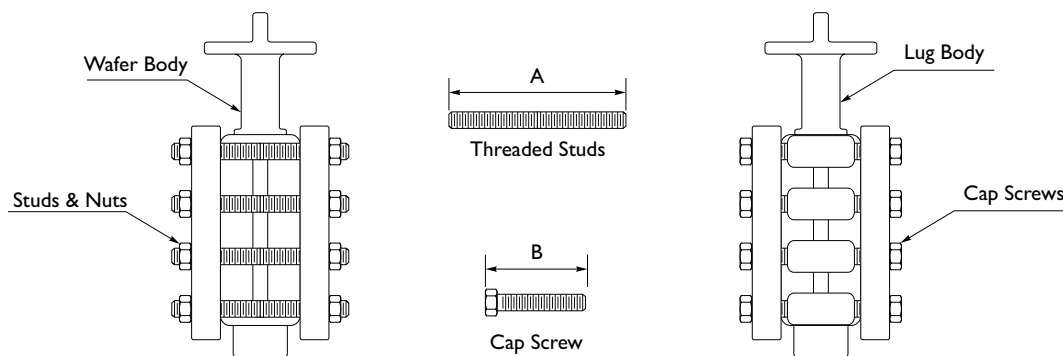
1. Not all configurations are readily available. Please contact factory. (\*) Denotes standard materials.
2. Other seat materials can be provided. Please contact factory.
3. Other body materials can be provided. Please contact factory.

## ORDERING EXAMPLE:

**PART NUMBER:** 8.0-BF76E-DI-R-S-V-G

**DESCRIPTION:** 8" Lug Style Butterfly Valve, Ductile Iron Body, 410 Stainless Steel Stem, Stainless Steel Disc, Viton Seat, and Gear Operator

## Flange Bolting Information

WAFFER STYLE FLANGE BOLT DATA - WITH THREADED STUDS <sup>(1)</sup>

Valve Size	Quantity Per Valve	Bolt Size	Stud Bolt Length "A"
2	4	5/8" - 11	4.75
2.5	4	5/8" - 11	5.25
3	4	5/8" - 11	5.25
4	8	5/8" - 11	5.5
5	8	3/4" - 10	6
6	8	3/4" - 10	6
8	8	3/4" - 10	6.5
10	12	7/8" - 9	7
12	12	7/8" - 9	7.75
14	12	1" - 8	8.25
16	16	1" - 8	8.75
18	16	1 1/8" - 7	10
20	20	1 1/8" - 7	11
24	20	1 1/4" - 7	12.75

1. Flange bolting information is in accordance with ASME 16.5 Class 150 specifications.

LUG STYLE FLANGE BOLT DATA - WITH CAP SCREWS <sup>(1)</sup>

Valve Size	Quantity Per Valve	Bolt Size	Cap Screw Length "B"
2	8	5/8" - 11	1.25
2.5	8	5/8" - 11	1.5
3	8	5/8" - 11	1.5
4	16	5/8" - 11	1.75
5	16	3/4" - 10	1.75
6	16	3/4" - 10	1.75
8	16	3/4" - 10	2
10	24	7/8" - 9	2.25
12	24	7/8" - 9	2.5
14	24	1" - 8	2.75
16	32	1" - 8	3
18	32	1 1/8" - 7	3.5
20	40	1 1/8" - 7	4
24	40	1 1/4" - 7	4.75

1. Flange bolting information is in accordance with ASME 16.5 Class 150 specifications.