

# **Global Series Butterfly Valves**

# **Designed For Direct Mount Automation**

Models: Wafer 75 Cast Iron Ductile Iron Size Range: 2" thru 24" Pressure Rating: 2" to 24" : 200 PSI 14" to 24" ISO PSI

# Design Features

- Ease of Automation
- Low Torque Operation
- Wafer Body Features Four Alignment Lugs
- Collapsable Dove Tail Design Booted Seat
- 2 Piece Stem Design
- High Quality Body Coating for Excellent Corrosion Resistance
- 10 Position Locking Handle 2 " 8"
- One piece body with extended neck allows clearance for flanges and up to 2 1/2 inch of insulation.
- High strength, square drive (2" 12") ensures a positive shaft to disc connection.
- Square drive ofers direct ISO mounting of gear operator and automation equipment
- Disc floats inside the seat for positive sealing and extended seat life.
- No pins or bolts exposed to flow.
- Offset shaft retainers mechanically retain the shaft in the body ensuring a blow out proof stem design.

## Ordering Codes Example

Model	Body	Disc	Stem	Seat	Operator	Size	
Lug	Ductile Iron	304 SS	420 SS	EPDM	Lever	4"	
75	DI	<b>S</b> 4	S2	E	L	100	

Max-Seal Global Series Valves Are Bidirectional Bubble Tight.

# Design/Performance

Accurate and smooth machined profile of disc edge requires minimal deformation of the resilient elastomer liner to achieve a positive seal. The low deformation results in low torque, less wear of the seat liner and increased operational life.

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# Max Seal Inc > Engineering & Technical Data





Front View BF 75 > Wafer Style



Side View Wafer & Lug Style



Top View 2" ~ 6" . Wafer & Lug Style



Top View 8" Only Wafer & Lug Style

	BILL OF MATERIALS (1)												
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> or Buna-N										
4	Pin (3)	T-410 SS	T-410 SS										
5	Disc	Bronze or Nickel Plated	DI or CF8M T-316 SS										
6	Seat (4)	EPDM <sup>(2)</sup> or Buna-N	EPDM <sup>(2)</sup> or Buna-N										
7	Body	Cast Iron	Ductile Iron										
8	Set Screw (5)	Carbon Steel	Carbon Steel										

BOM represents standard materials. Equivalent or better materials may be 1. substituted at the manufacturer's discretion.

2 EPDM is sulfur cured.

Sizes 8" through 24" valves have two pins (Part number four).

Seat is phenolic backed cartridge.

5. Part number eight (Set Screw) is optional and only applies to Lug Style valves when customer specifies valve for dead-end service. Part number eight is not included on standard valves.

#### **TECHNICAL NOTES**

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

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 (1)

Top flange drilling conform to ISO 5211

Maximum working pressure is 200 PSI for sizes 2" through 12'

Sizes 2" through 6" have double 'D' style stems

Sizes 8" and larger have round style stems

Valves can be made silicone free upon request

Not recommended for steam service (consult factory)

Bolting pattern for Cast Iron ANSI Class 125 and Ductile Iron Class 150 1. 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. Pressure ratings are lower for dead-end service.

WEIGHT DATA <sup>(1)</sup>												
SIZE	<b>2</b> Ib kg	2.5 D Ib Ig kg		<b>4</b> Ib kg	5 Ib kg	<b>6</b> Ib kg	8 Ib kg					
Wafer	7.5	8.5	9.2	12.7	14.5	17.5	42.5					
Style	3.4	3.9	4.2	5.8	6.6	7.9	19.3					
Lug	8.5	11.5	11.0	16.0	20.0	26.5	49.5					
Style	3.9	5.2	5.0	7.3	9.1	12.0	22.5					

DIMENSIONAL DATA (1) M (2) SIZE В С D H1 H2 J2 N (2) O (3) Q w А E G J1 L Ρ Deg. in UNC in Qty in mm 2 2.99 1.26 0.50 0.69 0.37 3.54 2.76 2.01 0.37 6.38 4.75 45 n/a n/a 1.65 5/8 - 11 4 1.26 3.01 120.65 90 9.5 50 9.5 76 n/a n/a  $2^{1/2}$ 3.50 6.89 1.26 0.50 5.50 0.69 45 0.37 n/a 3.54 2.76 n/a 1.77 5/8 - 11 4 1.85 3.51 2.47 0.37 139.7 95 90 70 45 4 47 89 1 62.8 9.5 65 n/a 3 3.74 7.13 1.26 0.50 6.00 0.69 45 0.37 n/a 3.54 2.76 n/a 1.77 5/8 - 11 4 2.56 4.09 3.04 0.37 12.7 9.5 4 9.5 80 95 181 152.4 n/a 90 70 n/a 45 65 104 4 4 9 7 87 1.26 0.63 7 50 0.69 22.5 0.37 3 54 2.76 2 05 5/8 - 11 8 3 54 5 32 4 04 0 4 4 4 n/a n/a 100 114 15.<mark>9</mark> 190.5 9.5 n/a 90 n/a 8 90 5.00 8.39 0.75 8.50 0.81 22.5 .037 2.76 3/4 - 10 8 4.37 6.26 4.80 0.50 5 1.26 n/a 3.54 n/a 2.13 125 19.1 215.9 9.5 90 8 121.8 213 n/a n/a 6 5.47 8.86 1.26 0.75 9.50 0.81 22.5 0.37 n/a 3.54 2.76 n/a 2.20 3/4 - 10 8 5.71 7.42 6.00 0.50 150 19.1 241.3 9.5 n/a 90 70 8 145 152.4 12.7 0.55 8 6.97 10.24 1.75 0.87 11.75 0.81 22.5 0.45 5.91 4.02 4.92 2.36 3/4 - 10 8 7.60 9.38 7.91 0.63 200 298.45 14 238.3 200.9 15.9

Dimensions and weights are for reference only. When required, request certified drawings. Weights for 2" ~ 8" include lever.

Dimensions 'M' and 'N' only are applicable to Lug Style valves. Dimensions 'M' is Unified Inch Screw Thread, coarse pitch series (UNC) per ANSI B1.1. 'N' is the number of bolt holes. Dimension 'O' is disc chordal dimension at valve face.



## Max Seal Inc > Engineering & Technical Data

## BF 75 & BF 76 > Sizes: 10" ~ 24"



BF 75 > Wafer Style



Front View BF 76 > Lug Style





Top View 16" ~ 24" Wafer & Lug Style



Top View 10" ~ 14" Wafer & Lug Style

BILL OF MATERIALS (1)											
No.	PART	WAFER STYLE	LUG STYLE								
1	Stem	T-410 SS	T-410 SS								
2	Bushing	PTFE	PTFE								
3	Body	Cast Iron	Ductile Iron								
4	O-Ring	EPDM <sup>(2)</sup> or Buna-N	EPDM <sup>(2)</sup> or Buna-N								
5	Seat (3)	EPDM <sup>(2)</sup> or Buna-N	EPDM <sup>(2)</sup> or Buna-N								
6	Pin	T-410 SS	T-410 SS								
7	Disc	Bronze or Nickel Plated	DI or CF8M T-316 SS								
8	End Cap (4)	Cast Iron	Cast Iron								
9	Bolt (4)	Carbon Steel	Carbon Steel								
10	Key (5)	Carbon Steel	Carbon Steel								
11	Set Screw (6)	Carbon Steel	Carbon Steel								
1. BOM r	1. BOM represents standard materials. Equivalent or better materials may be										

substituted at the manufacturer's discretion.

- 2 EPDM is sulfur cured.
- Seat is phenolic backed cartridge on sizes 10" ~ 14" Seat is aluminum backed cartridge on sizes 16" ~24" 3.
- 5.
- Sizes 10" 12" do not have End Cap (#8) or Bolt (#9). Sizes 10" 12" have US Standard keys. Sizes 14" 24" have metric keys. Part number eleven (Set Screw) is optional and only applies to Lug Style valves when customer specifies valve for dead-end service. 6.

#### **TECHNICAL NOTES**

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

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 (1)

#### Top flange drilling conform to ISO 5211

Max working pressure Sizes 2" ~ 12" is 200 PSI Sizes 14" ~ 48" is 150 PSI  $^{(1)}$ 

Sizes 8" and larger have round style stems

Valves can be made silicone free upon request

- Not recommended for steam service (consult factory)
- Bolting pattern for Cast Iron Class 125 and Ductile Iron Class 150 are identical. 1. Pressure ratings are not identical. Valves 2" ~ 12" have a max working pressure of 200 PSI and 14" ~ 48" have a max working pressure of 150 PSI. Pressure ratings are lower for dead-end service (See page six)

WEIGHT DATA (1)												
SIZE	<b>10</b> Ib kg	<b>12</b> Ib kg	<b>14</b> Ib kg	<b>16</b> Ib kg	<b>18</b> Ib kg	<b>20</b> Ib kg	<b>24</b> Ib kg					
Wafer	54.0	88.2	98.0	162.0	188.0	341.8	529.2					
Style	24.5	40.0	44.5	73.5	85.3	155.0	240.0					
Lug	80.0	110.0	130.0	220.0	232.0	322.0	522.0					
Style	36.3	49.9	59.0	99.8	105.2	146.1	236.8					

DIMENSIONAL DATA (1)																			
SIZE	А	В	С	D	E	F	G	H1	H2	I	J1	J2	L	M <sup>(2)</sup>	N <sup>(2)</sup>	O <sup>(3)</sup>	Р	Q	SxU
in	in	in mm	in	in mm	in	in mm	Deg.	in mm	in mm	in mm	in mm	in mm	in	UNC	Qty	in	in	in	in
11111	111111	111111	111111	111111	111111	111111		111111	111111	111111	111111	111111	111111			mm	111111	111111	111111
10	7.99	11.50	1.50	1.13	14.25	0.94	15	0.55	0.45	5.91	4.02	4.92	2.60	7/8 - 9	12	9.49	11.52	9.80	
250	203	292	38	28.6	361.95	23.80		14	11.5	150	102	125	66		12	241	292.5	248.9	8 x 36.2 <sup>(4)</sup>
12	9.53	13.27	1.87	1.25	17.00	0.94	15	0.55	0.45	5.91	4.02	4.92	2.99	7/8 - 9	12	11.46	13.55	11.81	
300	242	337	47	31.8	431.8	23.80		14	11.5	150	102	125	76		12	291	344.2	299.9	8 x 36.2 <sup>(4)</sup>
14	11.02	14.49	1.77	1.25	18.75	1.06	15	0.55	0.45	5.91	4.02	4.92	2.99	1 - 8	12	12.80	14.78	13.06	
350	280	368	45	31.8	476.25	27.0		14	11.5	150	102	125	76		12	325	375.3	331.7	8 x 36.2 <sup>(4)</sup>
16	12.20	15.75	1.77	1.31	21.25	1.06	11.25	0.87	n/a	8.27	6.50	n/a	3.39	1 - 8	16	14.96	17.30	15.26	
400	310	400	45	33.3	539.75	27.0		22	n/a	210	165	n/a	86		16	380	439.5	387.5	10 x 50
18	13.58	16.61	2.01	1.50	22.75	1.25	11.25	0.87	n/a	8.27	6.50	n/a	4.13	1 1/8 - 7	16	16.85	19.31	17.26	
450	345	422	51	38.1	577.85	31.80		22	n/a	210	165	n/a	105		16	428	490.5	438.4	10 x 50
20	14.88	18.86	2.52	1.63	25.00	1.25	9	0.87	n/a	8.27	6.50	n/a	5.12	1 1/8 - 7	20	18.66	21.08	19.28	
500	378	479	64	41.3	635	31.80		22	n/a	210	165	n/a	130		20	474	535.4	489.6	10 x 50
24	18.11	22.13	2.76	2.00	29.50	1.37	9	0.87	n/a	8.27	6.50	n/a	5.94	1 1/4 - 7	20	22.64	25.76	23.23	
600	460	562	70	50.8	749.3	34.9		22	n/a	210	165	n/a	151		20	575	654.4	590.1	16 x 56

Dimensions and weights are for reference only. When required, request certified drawings. Weights for 10° - 24° include gear operator. Dimensions 'M' and 'N' only are applicable to Lug Style valves. Dimension 'M' is Unified Inch Screw Thread, coarse pitch series (UNC) per ANSI B1.1. 'N° is number of bolt holes. Dimension 'O' is disc chordal dimension at valve face. Sizes 10° through 14° have a Woodruff Mounting Key. Contact factory for additional mounting dimensions and information for these sizes.





# **Resilient Seated Butterfly Valves**

#### **Performance Series**

**Built for Heavy Duty Applications Ductile Iron Body** Disc: Nylon Coated 316SS or Bronze Disc Seat: EPDM / Buna / Viton ISO 5211 Top Flange

Size Range: 2"-24" Pressure: 200 WOG

#### **ISO Series**

This series is in full compliance with ISO 5211 Low Torque - Direct Mount Automation Design Ductile Iron Body / 316 SS Disc Die Cast Aluminum Handle Seat: EPDM / Viton / Buna / PTFE / Specials

Size Range: 1½"-24" Pressure: 200 WOG





### **Chem-Tek Series**

Designed for Corrosive Environments 316 Stainless Steel Standard Body Special Duplex / Alloy 20 Seat: EPDM / Buna / PTFE / Viton ISO 5211 Direct Mount 4 Drilled & Tapped Lugs, Ideal for Precise Alignment

Size Range: 2"-12" Pressure: 150 WOG

### **Chem-Flo Series**

Built for Highly Corrosive Media **Ductile Iron Body** Optional Stainless Steel Body Wafer and Lug Available Disc: 316SS or 316SS / PTFE Lined Seat: PTFE 2-Piece Body Design ISO 5211 / Direct Mount

Size Range: 2"–24" Pressure: 175 WOG

53 Model Semi-Lug



53 Model Semi-Lug





# **High Performance Butterfly Valves**

## **HP** Series

**Fire Safe - Fire Pro Series** 

Wafer and Lug Type Built to ANSI & API standards Eccenctric Double Offset Design

Both Types ANSI Class 150 / Class 300 Standard Material SS316 **OR CS-WCB** Special Duplex SS / Alloy 20 17 - 4PH Shaft **Adjustable Stem Packing** with Gear or Actuator Mounted **Optional Valve Seats Available** ISO 5211 Top Flange

Size Range: 2"–48" Pressure Classes: 150 / 300

Wafer Type Class 150: Model BW630 Class 300: Model BW730

Lug Type Class 150: Model BL630 Class 300: Model BL730

# Triple Offset Butterfly Valves Hi-Tek Series

Triple Offset Butterfly Valves are designed for extreme temperatures, extreme pressures, and your toughest application challenges.

**Triple Offset Butterfly Valves feature** standard metal seats, robust laminated disc seats, and unique graphite stem bearing seals for long service life.

#### **Design Features**

Full Flanged End Wafer Type Lug Type Butt Weld **Metal Seats Class VI Shut-Off** 

Size Range: 3"-48" **Pressure Classes:** 150/300/600/900



Wafer Type Class 150



Lug Type Class 300

### **Hi-Tek Series**



**Triple Offsets** 



Lug Type