

UV516

Univals double eccentric disc design of high-performance butterfly valves are available in wafer and lug designs for end service for ANSI class 150 and 300 pressure class applications. The high-performance butterfly valve is available in a range of materials and seat combinations suitable for service in a wide variety of applications and abrasive services. The result is a valve with a longer service life.

Features

- Offset shaft and eccentric disc design.
- Blow-out proof and Anti-static device.
- Bi-directional long term tightness.
- Excellent wear resistance and extended life cycle.
- Lower operational torque.
- No seat/disc contact in the open or intermediate position.
- Eliminates wear points at top and bottom of disc.

Technical Data

Normal diameter or bore:
NPS 3"~NPS 24", DN80~DN600.
Normal pressure or rating:
ASME Class 150~Class 300.
Material: Cast Steel, Stainless Steel.
Applicable temperature: -29°C~210°C .

Design

Design & manufacture: API 609, ASME B16.34
Face to face dimension: API 609, ISO 5752.
Connection ends: ASME B16.5, ASME B16.47.
Testing & inspection: API 598, ANSI FCI-70-2.
Fire Test Design.

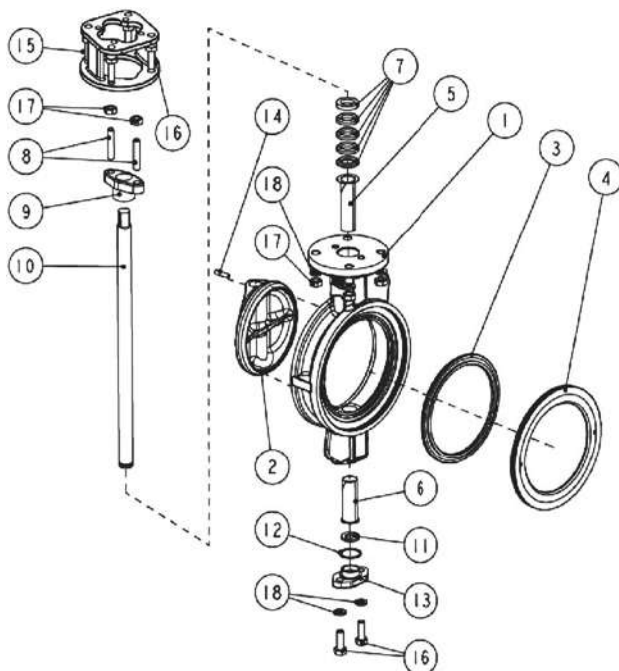
UNIVALS SOFT SEATED BUTTERFLY VALVE



Applications

- Power.
- Chemical.
- Hydrogen.
- Steam.
- Pulp and Paper.
- Oil and Gas.
- Oxygen Service.
- Refinery.
- Steel Mill.
- LNG.

Exploded View



Material Parts List

Item	Part Description	Materials
1	Body	ASTM A216 Gr. WCB / ASTM A351 Gr. CF8M
2	Disc	ASTM A351 Gr. CF8M
3	Seat	PTFE or RPTFE
4	Retainer	ASTM A351 Gr. CF8M
5	Bushing	PTFE + 316SS
6	Bushing	PTFE + 316SS
7	Gland packing	PTFE / GRAPHITE
8	Stud	ASTM A193 Gr. B8
9	Gland	ASTM A351 Gr. CF8M
10	Stem	A564 Gr. 630
11	Thrust ring	A240 Gr. 316
12	Seal	PTFE / GRAPHITE
13	Bottom cover	ASTM A216 Gr. WCB / ASTM A351 Gr. CF8M
14	Pin	A182 Gr. F316
15	Yoke	ASTM A216 Gr. WCB
16	Bolt	A193 Gr. B8
17	Nut	A194 Gr. 8
18	Washer	ASTM A240 Gr.304

Pressure / Temperature Rating

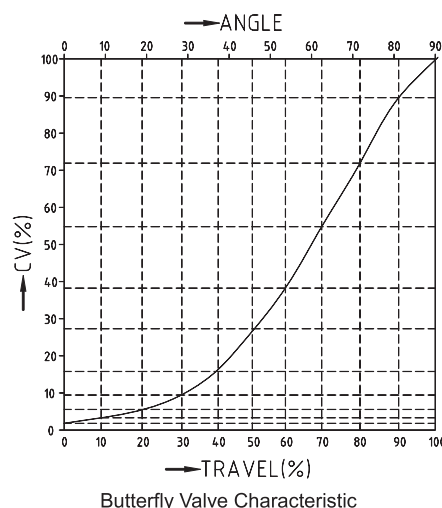
Maximum working pressure by Class, in bar				
Temp. °C	ASME Class 150		ASME Class 300	
	ASTM A216	ASTM A 351	ASTM A216	ASTM A 351 Gr.
-29 to 38	19.6	19.0	51.5	49.6
100	17.7	16.2	46.6	42.2
150	15.8	14.8	45.2	38.5
200	13.8	13.7	43.8	35.7
250	12.1	12.1	41.7	33.4

Maximum working pressure rating of the valve in accordance with ASME B 16.34

Flow Data

Cv tables of double offset butterfly valves at valve 90° fully open for ANSI150, 300Lb

Valve Size		ANSI 150	ANSI 300
Inch	mm	Cv	Cv
3"	80	260	250
4"	100	420	415
6"	150	1200	1180
8"	200	2000	1700
10"	250	3100	2630
12"	300	4750	4030
14"	350	5850	4965
16"	400	8300	6789
18"	450	10400	9048
20"	500	13800	11300
24"	600	22500	18900



Torque Values

Double offset Butterfly valves are designed as low torque valves. The torque table is a guide for actuator selection. Actuator selection which be done considering factor of safety depending upon service condition, generally selecting a higher size actuator.

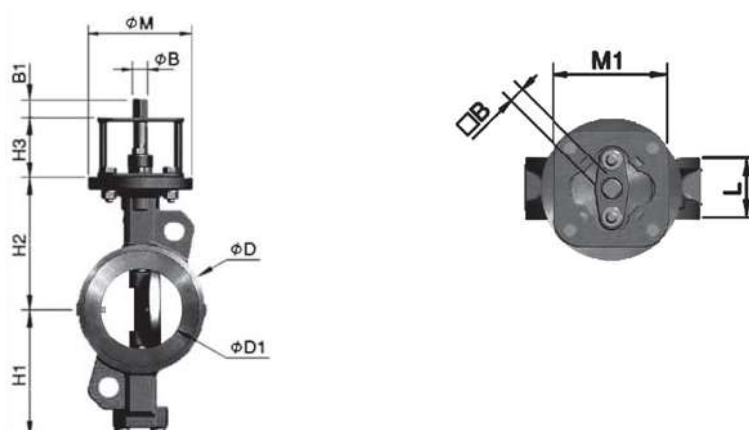
Size	Standard PTFE Seat Torque in Nm					Fire Safe Seat Torque in Nm				
	Differential pressure (bar) for ANSI 150Lb									
Inch	5bar	10bar	15bar	20bar	25bar	5bar	10bar	15bar	20bar	25bar
3"	29	37	44	51	59	61	76	92	107	127
4"	41	51	61	77	85	88	103	118	140	162
6"	83	103	118	147	176	191	229	268	293	333
8"	114	147	166	204	242	235	294	353	421	480
10"	211	261	309	394	489	320	420	480	571	647
12"	294	374	539	625	828	470	549	686	862	1009
14"	539	784	980	1176	1323	659	833	990	1196	1421
16"	686	980	1176	1372	1568	963	1264	1506	1686	1882
18"	963	1225	1470	1666	1911	1056	1358	1705	2084	2646
20"	1411	1764	2058	2470	2822	1385	1806	2167	2917	3410
24"	1680	2205	2660	3045	3225	1617	2223	2778	3778	4704

Torque Values

Size	Standard PTFE Seat Torque in Nm				
	Differential pressure (bar) for ANSI 300Lb				
Inch	15bar	20bar	30bar	40bar	50bar
3"	44	51	59	83	101
4"	61	77	91	102	123
6"	125	168	228	272	322
8"	199	248	321	384	455
10"	476	583	764	934	1106
12"	704	852	1067	1234	1456
14"	1132	1368	1658	1981	2270
16"	1524	1712	2102	2461	2912
18"	2053	2242	2803	3406	4031
20"	2322	2477	2956	3480	4188
24"	6047	6197	6890	7191	8510

Dimensions

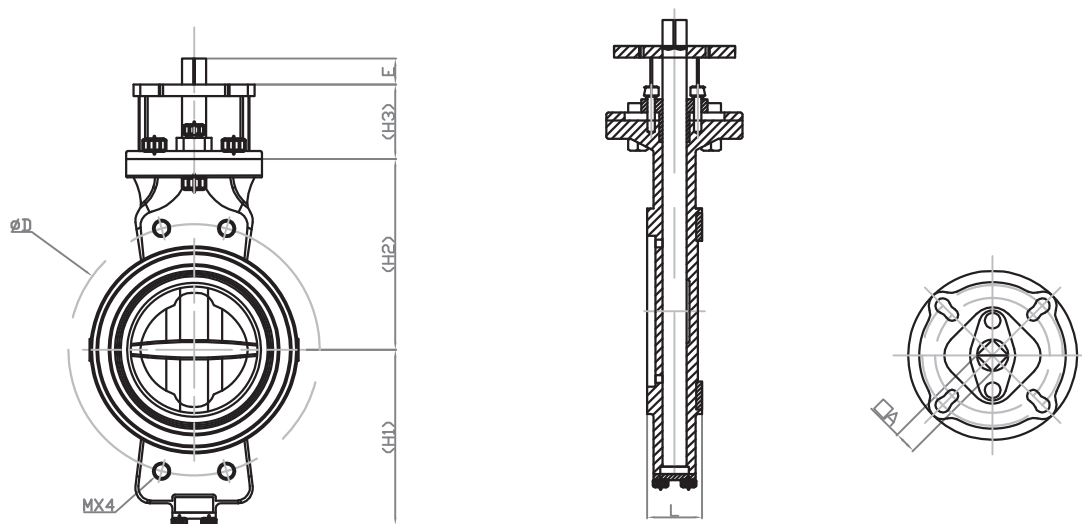
Wafer Type, 3" – 24" (80 – 600mm) ASME Class 150



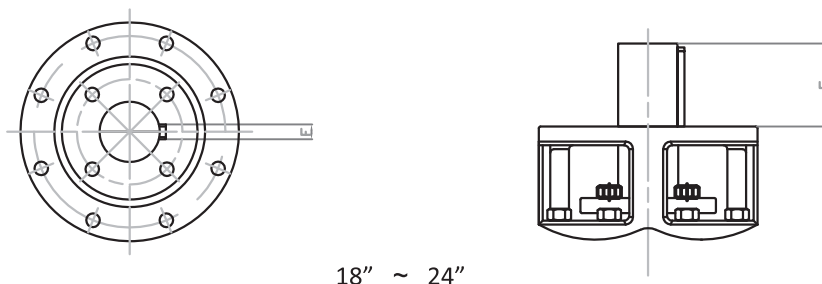
Wafer Approximate Dimensions in mm – ASME 150Lb														
Size		L	ΦD	ΦD1	H1	H2	H3	B1	ΦB	ΦM	□B	M1	ISO 5211	Weight kg
Inch	mm													
3"	80	47	126	78	128	140	70	23	18	125	14	102	F10	7
4"	100	53	153	95	150	157	70	23	18	125	14	102	F10	9
6"	150	56	212	143	176	185	70	23	22	125	17	102	F10	14
8"	200	62	268	188	206	220	80	28	25	150	19	125	F12	22
10"	250	68	326	236	238	260	80	28	28	150	22	125	F12	32
12"	300	78	375	282	269	290	100	37	35	175	27	160	F14	48
14"	350	78/92	416	322	306	326	100	37	36	175	27	160	F14	66
16"	400	102	476	371	342	370	120	47	48	210	36	195	F16	107
18"	450	114	534	418	370	395	120	47	48	210	36	195	F16	130
20"	500	127	588	466	399	430	120	56	60	210	46	195	F16	163
24"	600	154	692	570	455	490	150	56	60	300	46	300	F25	278

Dimensions

Wafer Type, 6" – 24" (150 – 600mm) ASME Class 300



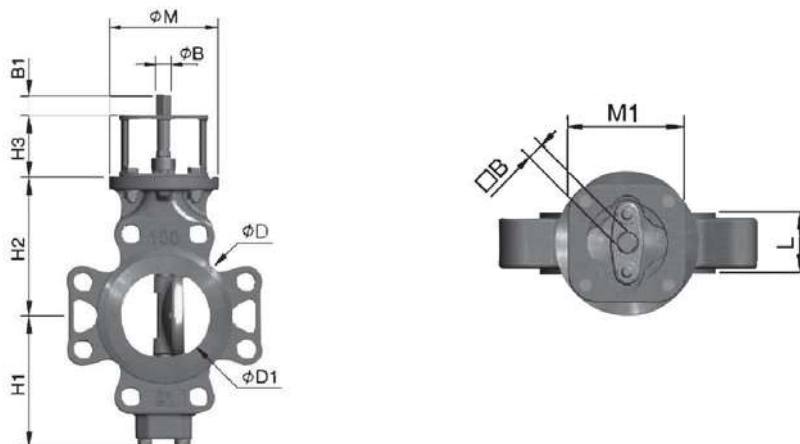
Wafer Approximate Dimensions mm – ASME Class 300												
Size		L	$\Phi D1$	ΦD	H1	H2	H3	E	F	M X 4	$\square A$	Weight kg
Inch	mm											
6"	150	59	162	270	188	205	80	28	-	3/4"-10UNC	19	24
8"	200	73	205	330	234	260	100	28	-	7/8"-9UNC	22	40
10"	250	83	258	387	270	295	100	37	-	1"-8UNC	27	55
12"	300	92	304	451	302	325	100	37	-	1 1/8"-8UNC	27	76
14"	350	117	361	514	335	365	120	47	-	1 1/8"-8UNC	36	112
16"	400	133	410	572	362	400	120	47	-	1 1/4"-8UNC	36	151
18"	450	149	460	629	407	440	150	110	18	1 1/4"-8UNC	-	221
20"	500	159	510	686	439	470	150	110	24	1 1/4"-8UNC	-	291
24"	600	181	610	813	499	540	150	110	25	1 1/2"-8UNC	-	476



18" ~ 24"

Dimensions

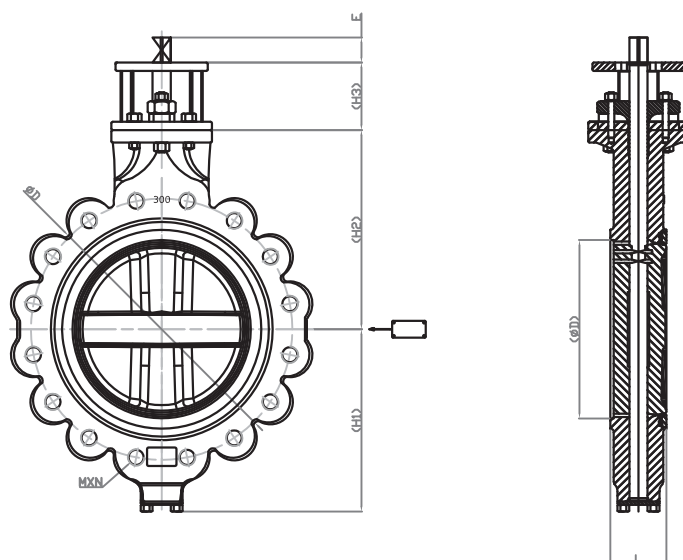
Lug Type 3" – 24" (80 – 600mm) ASME Class 150



LUG Approximate Dimensions mm – ASME Class 150														
Size		L	ΦD	$\Phi D1$	H1	H2	H3	B1	ΦB	ΦM	$\square B$	M1	ISO 5211	Weight kg
Inch	mm													
3"	80	47	126	78	128	140	70	23	18	125	14	102	F10	9
4"	100	53	153	95	150	157	70	23	18	125	14	102	F10	14
6"	150	56	212	143	176	185	70	23	22	125	17	102	F10	20
8"	200	62	268	188	206	220	80	28	25	150	19	125	F12	31
10"	250	68	326	236	238	260	80	28	28	150	22	125	F12	47
12"	300	78	375	282	269	290	100	37	35	175	27	160	F14	67
14"	350	78/92	416	322	306	326	100	37	36	175	27	160	F14	81
16"	400	102	476	371	342	370	120	47	48	210	36	195	F16	143
18"	450	114	534	418	370	395	120	47	48	210	36	195	F16	163
20"	500	127	588	466	399	430	120	56	60	210	46	195	F16	230
24"	600	154	692	570	455	490	150	56	60	300	46	300	F25	377

Dimensions

Lug Type 6" – 24" (150 – 600mm) ASME Class 300



LUG Approximate Dimensions mm – ASME Class 300											
Size		L	ΦD1	ΦD	H1	H2	H3	E	MX	□A	Weight kg
Inch	mm										
6"	150	59	162	270	188	205	80	28	3/4"-10UNCX12	19	24
8"	200	73	205	330	234	260	100	28	3/4"10UNCX12	22	40
10"	250	83	258	387	270	295	100	37	7/8"-9UNCX16	27	55
12"	300	92	304	451	302	325	100	37	7/8"-9UNCX16	27	76
16"	400	133	410	572	362	400	120	47	1"-8UNCX20	36	151
24"	600	181	610	813	499	540	150	110	1 1/2"-8UNCX24	-	476

How to Order

To specify butterfly valves. Simply determine the proper size, body type, and material, use figure numbers of to ensure prompt and accurate of your order. A detailed description must accompany any special orders.

Example of butterfly type: 516F-L0815CAPTG17L

	1.	2.	3.	4.	5.	6.	7	8
516F	L	08	15	C	A	PT	17	L

	Model		
516S	Standard soft seat		
516F	Fire safe seat		
1.	Connection		
W	Wafer Type		
L	Lug Type		
2.	Valve Size		
03	3"(80mm)	14	14"(350mm)
04	4"(100mm)	16	16"(400mm)
06	6"(150mm)	18	18"(450mm)
08	8"(200mm)	20	20"(500mm)
10	10"(250mm)	24	24"(600mm)
12	12"(300mm)		
3.	Body Class		
15	ASME 150 / PN20		
30	ASME 300 / PN50		
4.	Body/Gland Material		
C	WCB/CF8	S	CF8M/CF8M
X	Special material on request		

5.	Disc Material
A	A351 Gr. CF8M
Y	Special material on request
6.	Seat Material
PT	PTFE
RP	PTFE + 15% Graphite
RG	PTFE + 15% Galss
7.	Stem Material
17	A564 Gr.630(17-4PH)
19	XM-19
36	Special material on request
8.	Option
L	Low emission
O	Oxygen Service Oil Free

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