VALTORC

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1 (866) VALTORC

DOUBLE OFFSET HIGH PERFORMANCE BUTTERFLY VALVE

SERIES CS/SS 2000

- BI-DIRECTIONAL BUBBLE-TIGHT SHUTOFF
- DOUBLE OFF-SET CONFIGURATION WITH CONICAL ANGLED DISC
- AVAILABLE IN WAFER OR LUG STYLE
- STOCKED IN CARBON BY STAINLESS AND ALL STAINLESS STEEL CONFIGURATIONS
- ANSI RATED RETAINER RING FOR DEAD END SERVICE
- RATED TO FULL 285 PSI PRESSURE DIFFERENTIAL ON BI-DIRECTIONAL DEAD-END SERVICE
- ISO TOP-WORKS FOR MANUAL OR DIRECT MOUNT ACTUATION
- LOW MAINTENANCE

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Mounting Pad: ISO 5211
End Flange: ANSI B16.5

Wall Thickness: ANSI B16.36

Face to Face: MSS SP-68

Pressure/Temp Rating: ANSI B16.34

Material Rating: ANSI B16.34
Shell/Seat Test: API 598

Body: 420 PSI

Seat Hydro: 304 PSI

Seat Air: 87 PSI

Options

VALTORC offers many options and modifications for valves. These include, but are not limited to: Actuation including chain wheels, square drive nuts, worm-gear operators, and pneumatic and electric operators, control accessories, stem extensions, and custom mounting hardware.

Contact VALTORC with your specific application needs at 1-866-VALTORC

Standards Materials

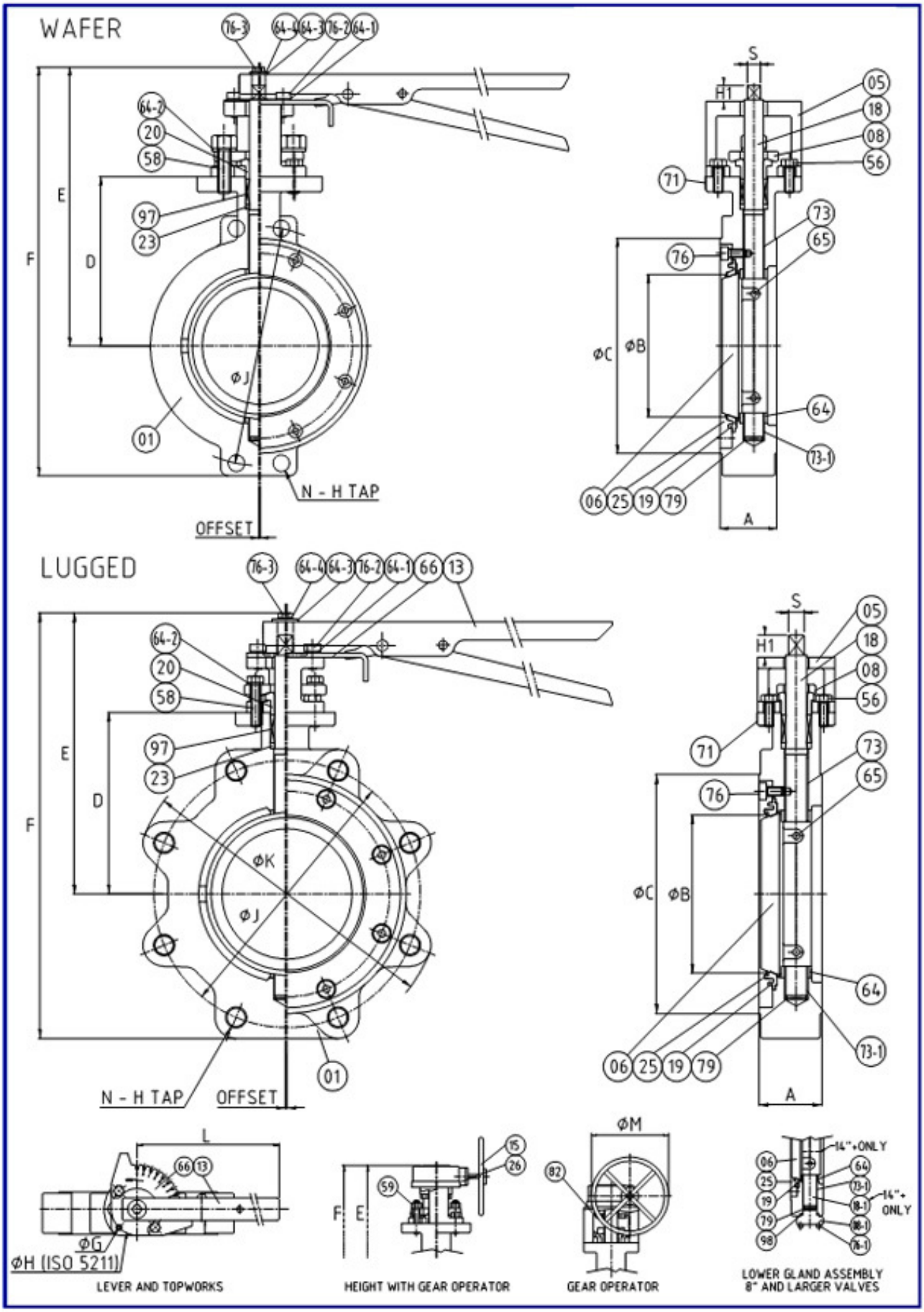
Ref. No.	Description	Material		Qty	Remarks
		CS Body	SS Body		
01	Body	A216 WCB	A351 CF8M	1	
05	Yoke	A216 WCB	A351 CF8	1	
06	Disc	A351 CF8M		1	
08	Upper Gland Flange	A105	A351 CF8	1	
08-1	Lower Gland Flange	A216 WCB	A351 CF8M	1	8 - 24 Inch
13	Lever	A131 Gr. A		1	Cr. Plating
15	Handwheel	A53 Type F		1	8 - 24 Inch
18	Upper Stem	17-4PH		1	UNS S17400
18-1	Lower Stem	17-4PH		1	14 - 24 Inch
19	Seat Ring	RTFE		1	
20	Gland Ring	A276 316		1	
23	Spacer	A276 316		1	
25	Retainer Ring	A105	A351 CF8M	1	
26	Gear Operator			1	8 - 24 Inch
56	Yoke Bolt	A193 B8		1 Set	
58	Gland Bolt	A193 B8		2	
59	Gland Nut	A194 8		2	8 - 24 Inch
64	Disc Washer	A276 316		2	
64-1	Lock Washer	A240 304		2	
64-2	Spring Washer	A240 304		2	
64-3	Plain Washer	A240 304		1	
64-4	Lock Washer	A240 304		1	
65	Disc Pin	17-4PH		2	UNS S17400
66	Stopper	A131 Gr. A		1	Cr. Plating
71	Name Plate	A240 304		1	
73	Upper Stem Bearing	PTFE + Graphite		1	Lubricant Reinforced
73-1	Lower Stem Bearing	PTFE + Graphite		1	Lubricant Reinforced
76	Retainer Ring Bolt	A193 B8M		1 Set	
76-1	Lower Gland Bolt	A193 B8		4	8 - 24 Inch
76-2	Lever Plate Bolt	A193 B8		2	
76-3	Lever Stem Bolt	A193 B8		1	
79	Disc Spring	316SS		1	
82	Gear Operator Bolt	A193 B8		1 Set	8 - 24 Inch
97	Packing	PTFE		1 Set	Chevron Type
98	Lower Flange Gasket	Graphite		1	8 - 24 Inch

Size	Large Body Wafer ‡		
	ØJ	N	H Tap
14	18.75	4	1" - 8 UN
16	21.25	4	1" - 8 UN
18	22.75	4	1-1/8" - 8 UN
20	25.00	4	1-1/8" - 8 UN
24	29.50	4	1-1/4" - 8 UN

Size	A	ØB	D	E	F	ØG	ØH	L	M	K	ØC		ØJ	N	H Tap	S	H1
											Wafer	Lug					
3	1.89	2.83	4.53	8.43	11.30	0.38	2.76 (F07)	9.76	-	7.50	5.22	5.00	6.00	4	5/8" - 11 UNC	0.433	0.630
4	2.13	3.72	5.28	9.17	13.39	0.38	2.76 (F07)	9.76	-	9.00	6.50	6.19	7.50	8	5/8" - 11 UNC	0.433	0.630
5	2.20	4.65	5.91	9.96	14.64	0.38	2.76 (F07)	12.20	-	10.00	7.56	7.31	8.50	8	3/4" - 10 UNC	0.551	0.787
6	2.24	5.55	6.46	10.51	15.65	0.38	2.76 (F07)	12.20	-	11.00	8.58	8.50	9.50	8	3/4" - 10 UNC	0.551	0.787
8*	2.48	7.36	7.62	13.68	21.08	0.50	4.02 (F10)	-	11.81	13.50	10.71	10.62	11.75	8	3/4" - 10 UNC	0.669	0.866
10*	2.80	9.17	10.39	17.20	26.06	0.75	5.51 (F14)	-	17.72	16.00	13.07	12.72	14.25	12	7/8" - 9 UNC	0.866	0.866
12*	3.19	10.94	11.81	19.47	29.92	0.75	5.51 (F14)	-	17.72	19.00	15.28	15.00	17.00	12	7/8" - 9 UNC	1.063	1.142
14*	3.62	12.28	13.23	20.04	31.43	0.75	5.51 (F14)	-	17.72	21.00	16.73	16.25	18.75	12	1" - 8 UN	1.102	2.362
16*	3.98	13.98	14.88	21.69	34.45	0.75	5.51 (F14)	-	17.72	23.50	19.09	18.50	21.25	16	1" - 8 UN	1.339	2.362
18*	4.49	15.69	15.75	25.20	39.02	0.88	6.50 (F16)	-	19.68	25.00	21.46	21.00	22.75	16	1-1/8" - 8 UN	1.535	2.953
20*	5.00	17.68	17.64	26.81	42.07	0.88	6.50 (F16)	-	19.68	27.50	23.62	23.00	25.00	20	1-1/8" - 8 UN	1.732	2.953
24*	6.06	21.18	20.28	29.45	47.74	0.88	6.50 (F16)	-	19.68	32.00	27.76	27.25	29.50	20	1-1/4" - 8 UN	2.008	2.953

* 8" and larger dimensions are standard with gear operator. Gear operators are available for 6" and smaller valves.

‡ Large Body Wafer valves have blind tapped bolt holes at the top and bottom, near the stem. The 'N' quantity is per side of valve.


WAFER
76-3
64-4
64-3
76-2
64-1
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20
58
97
23
E
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D
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01
N - H TAP
OFFSET
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73-1
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A
LUGGED
76-3
64-4
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58
97
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71
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76
ØC
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64
73-1
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A
L
66
13
ØG
ØH (ISO 5211)
LEVER AND TOPWORKS
15
26
59
F
E
HEIGHT WITH GEAR OPERATOR
ØM
82
GEAR OPERATOR
14"+ ONLY
06
25
19
79
98
64
73-1
18-1
76-1
14"+ ONLY
LOWER GLAND ASSEMBLY
8" AND LARGER VALVES

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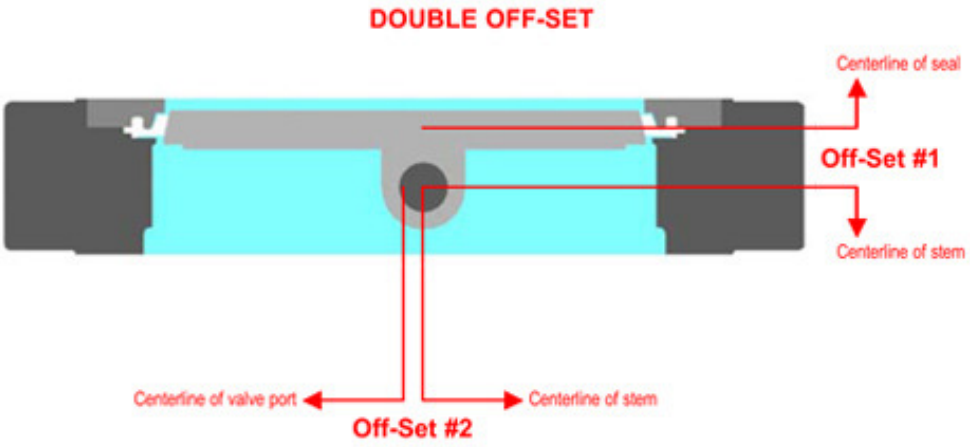
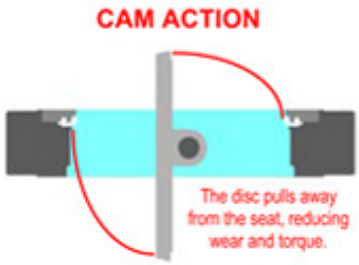
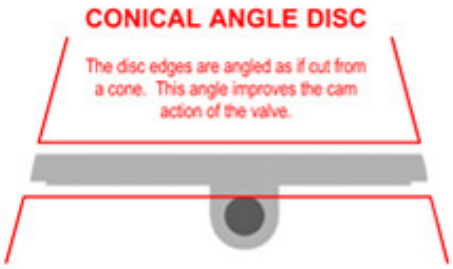
Double Off-Set Design

The valve is designed with two offsets. The first offset is between the seat sealing surface and the centerline of the valve stem, putting the stem behind the sealing surface. Since the stem does not penetrate the sealing surface, there is a complete, uninterrupted, 360° seat seal. The second offset is between the centerline of the valve stem and the centerline of the valve port. This double-offset creates an eccentric seating action that reduces seat wear and torque. The disc cams into the seat for a bubble tight shut-off. The cam action is improved by the conical angle of the valve disc.

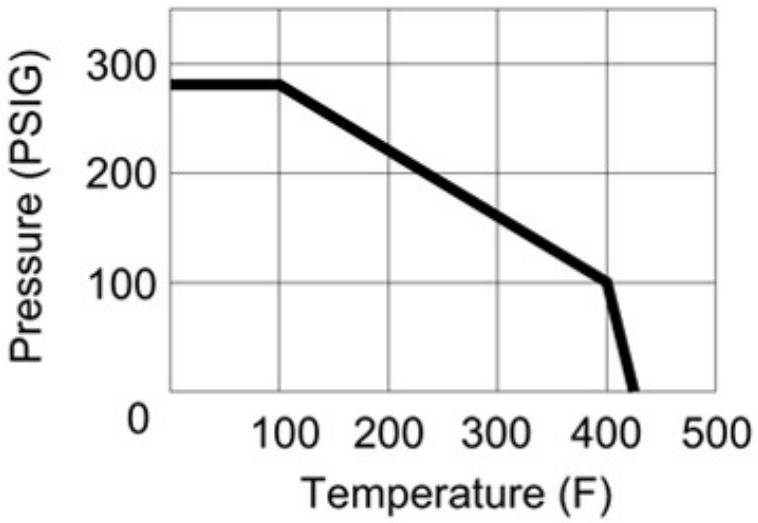






Cv & Weights

Size	Cv	Wt. (Lbs)	
		Lug	Wafer
3	170	27	21
4	400	34	25
5	650	40	31
6	920	46	36
8	2000	79	59
10	3090	99	67
12	4300	152	100
14	5090	209	150
16	6880	356	264
18	9300	475	370
20	11350	533	430
24	18600	1219	953

Torques (In-Lbs)

Size	Differential Pressure	
	150 PSI	285 PSI
3	240	360
4	300	540
5	456	840
6	480	1,020
8	720	1,800
10	1,248	3,240
12	1,944	5,400
14	3,852	7,320
16	5,976	10,800
18	9,324	15,000
20	11,808	18,000
24	19,320	28,800