



# ENTECH CONTROLS

## Resilient Seated Butterfly Valves

Wafer & Lug

Sizes 2"-24" / DN 50 - DN 600



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Heavy duty acetyl bushing absorbs the forces acting on the stem/disc assembly due to line pressure.

Top plate double drilled to fit ISO 5211 dimensions and standard secondary bolt circle dimensions. All handles, gear operators and pneumatic DelTorq actuators are designed to mount directly to DelVal Valves.

Bi-directional 'U' cup stem seal

Two flange locating holes for sizes up to 12" and four flange locating holes from size 14" to 24" for easy alignment of valve during installation. They meet ANSI #125/150 or other world drilling standards.

One piece stem with close tolerance double D drive eliminates the need for disc screws or taper pin.

Double O-rings are molded in both upper and lower journals providing a superior secondary seal.

Unique "Center-Lock" seat design virtually eliminates any seat movement during the seating and un-seating of the disc.

Stem connection available in standard DelVal sizes or optional sizes to match standard secondary top plate drilling.

Unique stem retention system to provide blow-out proof stem and easy assembly and disassembly of valve.

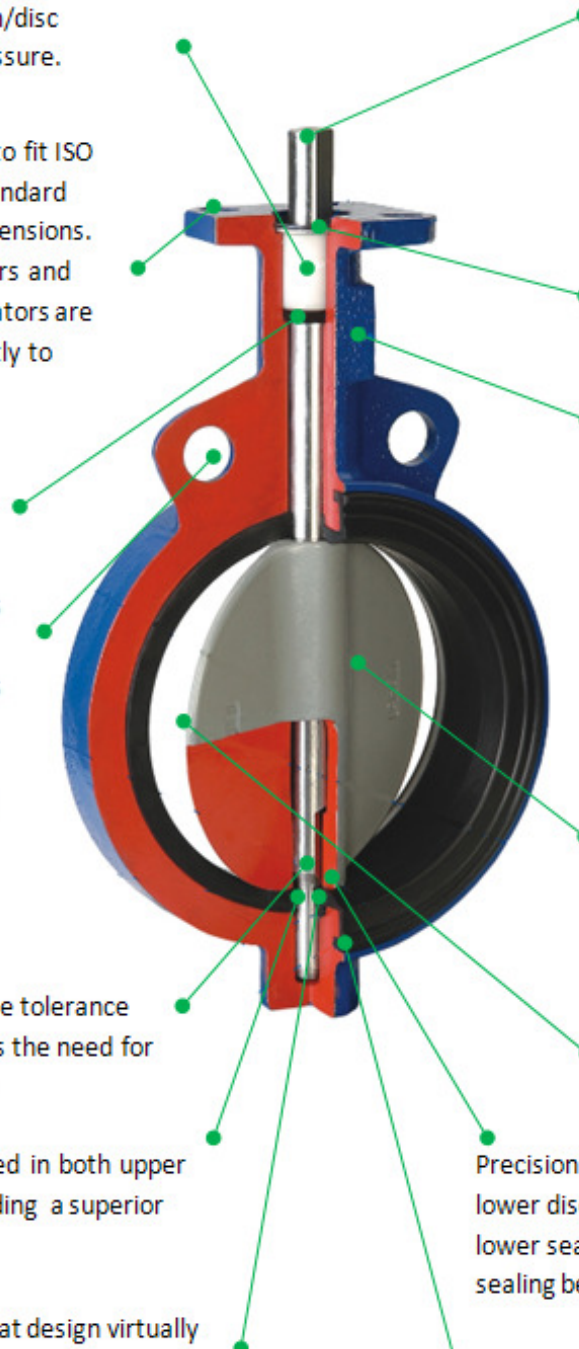
Heavy duty one-piece body with extended neck for 2" piping insulation. Standard coating is two coats of hard, Zinc-rich epoxy for excellent corrosion resistance.

Nylon PA 12 coated disc option ensures excellent corrosion resistance to several chemical media. The hard, non-porous sintered polymer has very low hygroscopicity and is suitable for use in drinking water and non-alcoholic foodstuffs.

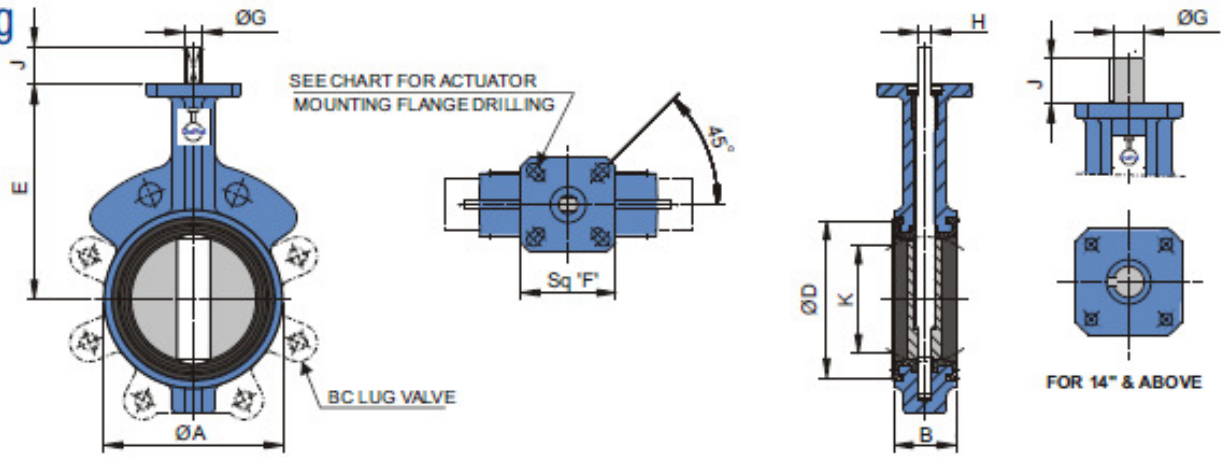
High strength disc with hand polished disc edge and hubs.

Precision machined radius on the upper and lower disc hubs is pressed against upper and lower seat sealing faces for achieving primary sealing between disc and seat.

Heavy duty square-grooved seat design with molded o-ring seals to serve as flange gaskets. EPDM seats are peroxide cured to yield the best elastic properties of the elastomer.



**Entech Controls**



DIMENSIONS (Inch)

Valve Size		ØA	*B	ØD	E	Sq'F	Top Plate Drilling			ØG	H	J	Key Size	K	Lug Bolting Data			Weight in Lbs.	
Inch	DN						BC	No. of Holes	Hole Dia						BC	No. of Holes	Threads UNC-28	Wafer (Series 50)	Lug (Series 52)
2	50	3.58	1.62	2.99	5.51	3.15	2.76/3.25	4	0.39/0.438	0.55	0.39	1.25	---	1.32	4.75	4	5/8-11	5.07	6.79
2 1/2	65	4.13	1.75	3.54	5.98	3.15	2.76/3.25	4	0.39/0.438	0.55	0.39	1.25	---	2.05	5.50	4	5/8-11	5.80	7.91
3	80	4.72	1.75	4.17	6.30	3.15	2.76/3.25	4	0.39/0.438	0.55	0.39	1.25	---	2.70	6.00	4	5/8-11	6.83	8.92
4	100	5.91	2.00	5.20	7.09	3.15	2.76/3.25	4	0.39/0.438	0.63	0.43	1.25	---	3.61	7.50	8	5/8-11	10.87	16.37
5	125	6.89	2.12	6.30	7.56	3.15	2.76/3.25	4	0.39/0.438	0.75	0.51	1.25	---	4.62	8.50	8	3/4-10	13.91	21.56
6	150	8.07	2.12	7.36	8.07	3.15	2.76/3.25	4	0.39/0.438	0.75	0.51	1.25	---	5.50	9.50	8	3/4-10	16.31	25.35
8	200	10.20	2.50	9.45	9.49	4.72	2.76/4.92/5.00	4	0.39/0.55/0.563	0.87	0.63	1.25	---	7.39	11.75	8	3/4-10	28.00	37.92
10	250	12.21	2.50	11.50	10.75	4.72	4.92/5.00	4	0.55/0.563	1.18	0.87	2.00	---	9.31	14.25	12	7/8-9	44.09	61.73
12	300	14.33	3.00	13.58	12.24	4.72	4.92/5.00	4	0.55/0.563	1.18	0.87	2.00	---	11.12	17.00	12	7/8-9	60.85	92.26
14	350	16.34	3.00	15.28	13.62	4.72	4.92/5.00	4	0.55/0.563	1.38	---	2.00	0.39x0.39	12.92	18.75	12	1-8	87.96	122.80
16	400	18.58	4.00	17.40	14.76	4.72	4.92	4	0.55	1.38	---	2.00	0.39x0.39	14.80	21.25	16	1-8	130.51	184.31
18	450	20.67	4.25	19.49	15.98	6.70	6.50	4	0.83	1.97	---	2.50	0.39x0.47	16.59	22.75	16	1 1/8-7	194.45	239.42
20	500	22.83	5.00	21.57	17.24	6.70	6.50	4	0.83	1.97	---	2.50	0.39x0.47	18.61	25.00	20	1 1/8-7	236.78	306.88
24	600	27.24	5.94	25.75	19.49	8.27	6.50	4	0.83	2.50	---	4.00	0.62x0.62	22.55	29.50	20	1 1/4-7	385.81	477.08

\*Face to face dimension "B" generally conforming to API 609 Category A/BS EN 558-1 Series 20/ISO 5752 Series 20 / MSS SP 67 / ASME B 16.10

DIMENSIONS (mm)

Valve Size		ØA	**B	ØD	E	Sq'F	Top Plate Drilling			ØG	H	J	Key Size	K	Lug Bolting Data			Weight in Kg.	
Inch	DN						BC	No. of Holes	Hole Dia						BC	No. of Holes	Threads UNC-28	Wafer (Series 50)	Lug (Series 52)
2	50	91	43	76	140	80	70/82.5	4	10/11	14	10	32	---	33.5	120.7	4	5/8-11	2.30	3.08
2 1/2	65	105	46	90	152	80	70/82.5	4	10/11	14	10	32	---	52.1	139.7	4	5/8-11	2.63	3.59
3	80	120	46	106	160	80	70/82.5	4	10/11	14	10	32	---	68.5	152.4	4	5/8-11	3.10	4.05
4	100	150	52	132	180	80	70/82.5	4	10/11	16	11	32	---	91.7	190.5	8	5/8-11	4.93	7.42
5	125	175	56	160	192	80	70/82.5	4	10/11	19	13	32	---	117.3	215.9	8	3/4-10	6.31	9.78
6	150	205	56	187	205	80	70/82.5	4	10/11	19	13	32	---	139.7	241.3	8	3/4-10	7.40	11.50
8	200	259	60	240	241	120	70/125/127	4	10/14/14.3	22	16	32	---	187.6	298.5	8	3/4-10	12.70	17.20
10	250	310	68	292	273	120	125/127	4	14/14.3	30	22	51	---	236.4	362.0	12	7/8-9	20.00	28.00
12	300	364	78	345	311	120	125/127	4	14/14.3	30	22	51	---	282.4	431.8	12	7/8-9	27.60	41.85
14	350	415	78	388	346	120	125/127	4	14/14.3	35	---	51	10x10	328.3	476.2	12	1-8	39.90	55.70
16	400	472	102	442	375	120	125	4	14	35	---	51	10x10	375.8	539.7	16	1-8	59.20	83.60
18	450	525	114	495	406	170	165	4	21	50	---	64	10x12	421.4	577.8	16	1 1/8-7	88.20	108.60
20	500	580	127	548	438	170	165	4	21	50	---	64	10x12	472.6	635.0	20	1 1/8-7	107.40	139.20
24	600	692	154	654	495	Ø210	165	4	21	63.5	---	102	15.88x15.88	572.7	749.3	20	1 1/4-7	175.00	216.40

\*\* Metric valve face to face dimension "B" conforms to API 609 Category A / BS EN 558-1 Series 20 / ISO 5752 Series 20 / MSS SP 67 / ASME B 16.10

TORQUE (Lbf-Inch)

Valve Size	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	
Full Rated Pressure Valve ΔP, PSI	50	62	106	115	241	360	484	878	1409	2366	3064	3684	5795	6741	9601
	100	72	124	142	256	393	545	977	1586	2677	3527	4428	7273	8441	12482
	150	80	142	177	271	426	582	1083	1756	2987	3980	5178	8756	10126	15576
	175	91	150	197	279	443	620	1133	1841	3146	---	---	---	---	---
Reduced Disc Dia. ΔP, PSI	50	---	---	---	133	187	267	623	771	1259	2159	2627	3649	4285	6500

TORQUE (Nm)

Valve Size	3.5	7	12	13	27	41	55	99	159	267	346	416	655	762	1085
Full Rated Pressure Valve ΔP, Bar	7	8	14	16	29	44	62	110	179	302	398	500	822	954	1410
	10	9	16	20	31	48	66	122	198	337	450	585	989	1144	1760
	12	10	17	22	32	50	70	128	208	355	---	---	---	---	---
	15	11	19	24	35	53	73	132	218	368	---	---	---	---	---
Reduced Disc Dia. ΔP, Bar	3.5	---	---	---	15	21	30	70	87	142	244	297	412	484	734

# Material of Construction

## Body

- ◊ Cast Iron ASTM A126 Class B
- ◊ Ductile Iron ASTM A536 Grade 65-45-12
- ◊ Carbon steel ASTM A 216 WCB

## Disc

- ◊ Nylon 12 Coated Ductile Iron ASTM A536 Grade 65-45-12
- ◊ DI ASTM A 536 Grade 65-45-12 + Aroxy coated
- ◊ 316 Stainless Steel ASTM A351 Grade CF8M

## Stem

- ◊ 410 Stainless Steel ASTM A479 Type 410
- ◊ 316 Stainless Steel ASTM A276 Type 316
- ◊ Carbon steel BS 970
- ◊ ASTM A564 17-4-PH TYPE 630

## Seat

- ◊ EPDM - Food Grade
- ◊ Buna-N - Food Grade
- ◊ White Buna-N - Food Grade
- ◊ Viton® / FKM - Food Grade
- ◊ Silicone

## General Design and Manufacturing

Standard: API 609 / BS EN -593

Testing Standard: API 598 / BS EN 12266-1

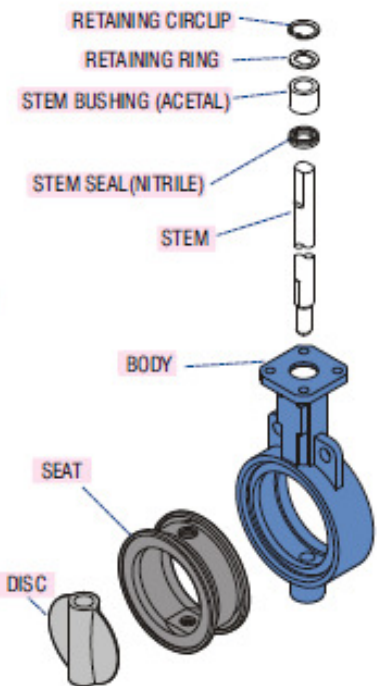
### Pressure Rating:

For bi-directional bubble tight shut off and full vacuum service with disc in the closed position.

Inch	DN	PSIG	BARG
2" - 12"	50-300	175	12
2" - 24"	50-600	150	10
2" - 24"	50-600	50	3.5
* 2" - 12"	50-300	230	16
* 2" - 12"	50-300	285	Class 150

\*Optional, contact factory for details.

**Dead-End Service :** Without a downstream flange installed, the dead-end pressure ratings are equal to the values stated above.



## Seat Temperature Range:

Seat Type	Temperature Range	
	Min.	Max.
EPDM	-13° F (-25°C)	302° F (150°C)
BUNA-N	-13° F (-25°C)	212° F (100°C)
White BUNA-N	-13° F (-25°C)	212° F (100°C)
Viton®/ FKM	23° F (-5°C)	392° F (200°C)
Silicone	-58° F (-50°C)	356° F (180°C)

Viton® is registered trademark of E.I. DuPont.

# Operators



Valves up to size 12" can be supplied with lever handles for manual operation. Optional accessories for hand-lever operation can be provided for various flow control requirements. Pad locking can also be provided for preventing unauthorized operation.



Valves up to size 24" can be direct mounted with gear operators for manual operation. Gear operators can also be attached with chain-wheel operators for opening or closing valves located on pipelines at high elevations.



All valves can be direct mounted with pneumatic actuators or electric actuators and accessories for complete automation options such as fail open/close & positioner controlled. Valves can be mounted with manual overrides.

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## Entech Controls

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