

# DelVal<sup>®</sup> SERIES 51/53

Resilient Seated Butterfly Valves

Wafer & Flanged End

Sizes 26" - 40" / DN 650 - DN 1000

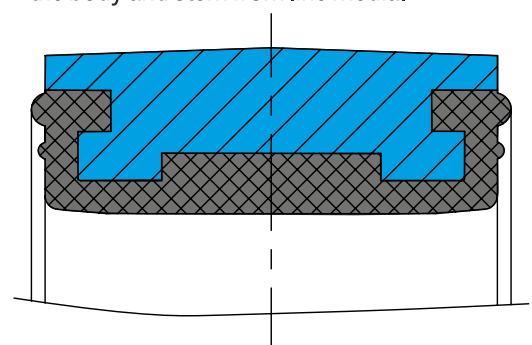
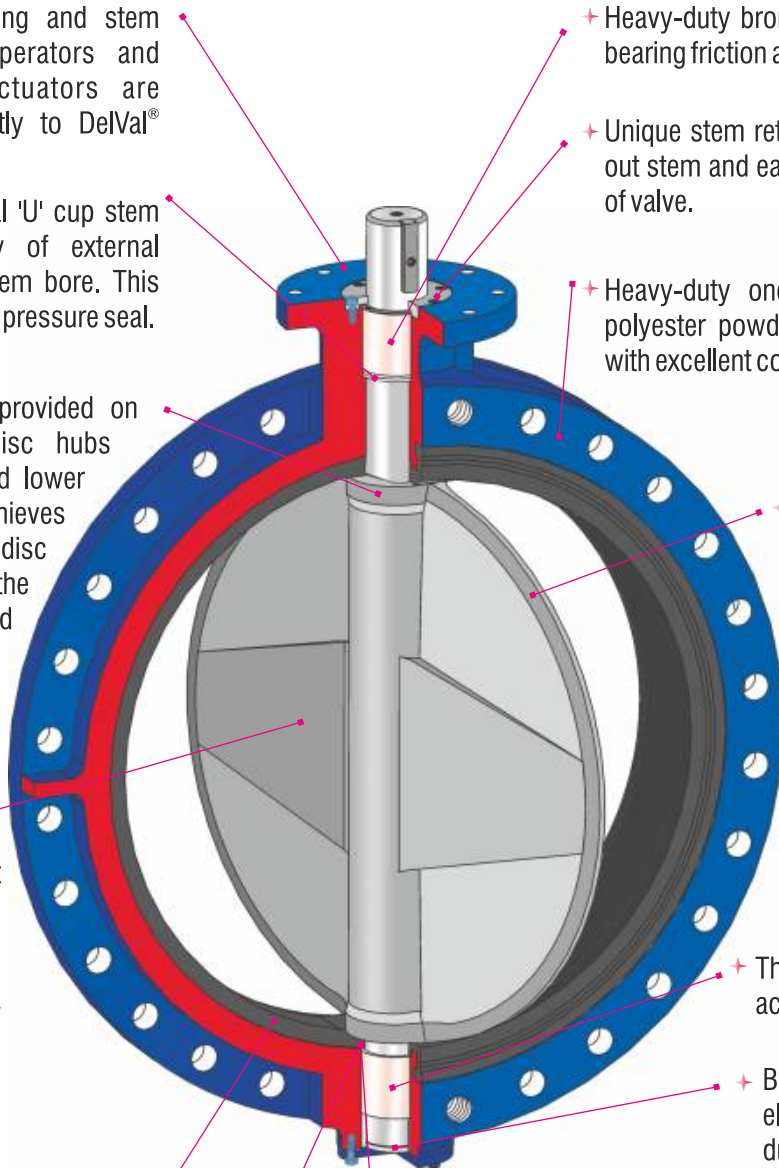


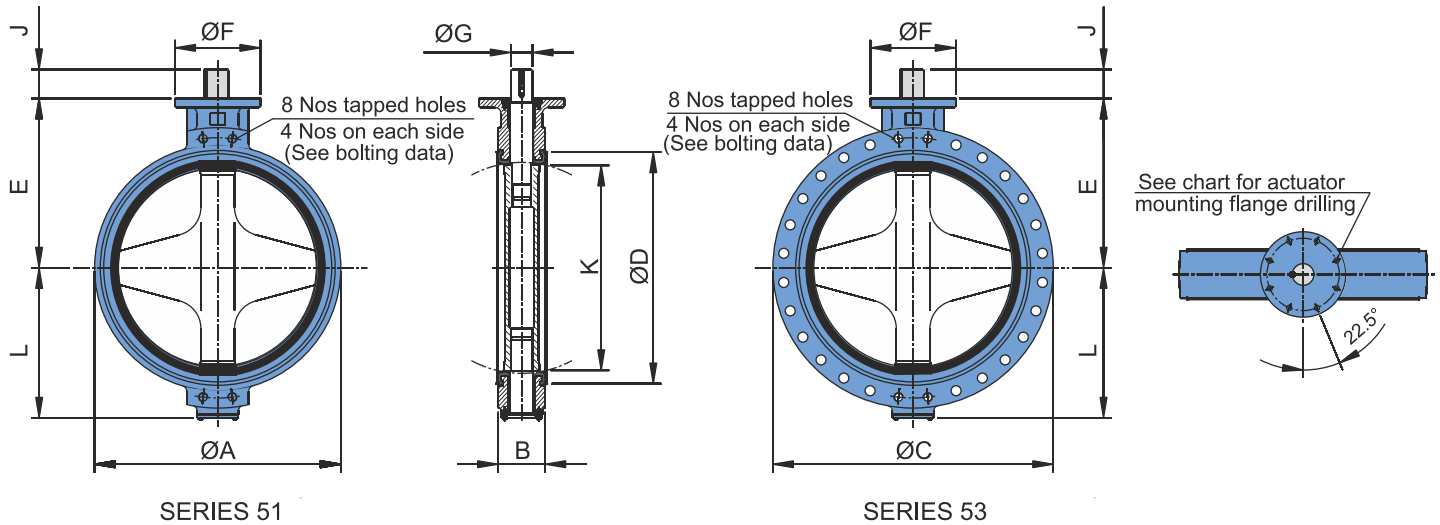
*Leading the Industry with Innovation by Design*

DelVal Flow Controls is pleased to offer top-of-the-line products in pipeline flow control. The DelVal® Series 51 (Wafer Body) and Series 53 (Flanged End) Butterfly Valves have been developed with extensive application, design and manufacturing expertise. These products are produced by employing modern manufacturing practices under a robust quality assurance system. These practices ensure consistent product quality and dependable performance. The DelVal® Series 51/53 Butterfly Valves have been designed to include state-of-the-art features that are described in this bulletin.

## Features

- + ISO 5211 top plate drilling and stem connection. All gear operators and pneumatic DelTorq® actuators are designed to mount directly to DelVal® valves.
- + Self-adjusting bi-directional 'U' cup stem sealing prevents entry of external substances from upper stem bore. This packing acts as the tertiary pressure seal.
- + Precision machined radius provided on the upper and lower disc hubs presses against upper and lower seat sealing faces. This achieves primary sealing between disc and seat which isolates the flowing media from stem and body material at all angles of valve disc seating.
- + 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.
- + Heavy-duty square grooved seat design with molded o-ring seals serves as flange gaskets. EPDM seats are peroxide cured to yield the best elastic properties of the elastomer.
- + Double o-rings are molded in both upper and lower journals providing a superior secondary seal.
- + Heavy-duty bronze sleeve bearing to reduce bearing friction and operating torque.
- + Unique stem retention system provides blow-out stem and easy assembly and disassembly of valve.
- + Heavy-duty one-piece body has an epoxy polyester powder coat of semi-glossy finish with excellent corrosion resistance.
- + High strength disc with hand polished disc edge and hubs for bubble-tight shut off and longer service life.
- + Thick bronze bushing absorbs actuator side thrusts.
- + Bronze vertical thrust bearing eliminates disc displacement due to weight of stem and disc.
- + Unique "Center-LOK®" seat design virtually eliminates any seat movement during the seating and unseating of the disc and isolates the body and stem from line media.





DIMENSIONS (Inch)	Valve Size		ØA	ØC	*B	ØD	E	L	ØF	Top Flange Drilling			ØG	J	Keysize	K	Bolting Data		Weights In Lbs.	
	Inches	DN								BC	No. of holes	Hole Dia.					BC	Threads UNC-2B	Wafer (Series 51)	Flanged End (Series 53)
	26	650	29.33	34.25	6.50	27.83	21.85	18.70	11.81	10.00	8	0.71	2.50	4.00	0.62 x 0.62	23.54	31.75	1 1/4-7	581	783
28	700	31.30	36.50	6.50	29.76	22.83	19.37	11.81	10.00	8	0.71	2.50	4.00	0.62 x 0.62	25.69	34.00	1 1/4-7	620	871	
30	750	33.86	38.75	6.50	32.00	23.43	20.78	11.81	10.00	8	0.71	3.00	4.00	0.75 x 0.75	28.23	36.00	1 1/4-7	730	930	
32	800	35.43	41.75	7.48	33.82	26.38	22.24	11.81	10.00	8	0.71	3.00	4.00	0.75 x 0.75	29.76	38.50	1 1/2-6	849	1049	
36	900	40.35	46.00	8.00	38.27	27.76	25.20	13.78	11.73	8	0.82	3.50	5.25	0.88 x 0.62	34.25	42.75	1 1/2-6	1069	1516	
40	1000	44.09	50.75	8.50	41.57	30.79	26.57	13.78	11.73	8	0.82	4.00	5.25	1.00 x 0.75	37.48	47.25	1 1/2-6	1738	2178	

DIMENSIONS (mm)	Valve Size		ØA	ØC	*B	ØD	E	L	ØF	Top Flange Drilling			ØG	J	Keysize	K	Bolting Data		Weights In Kg.	
	Inches	DN								BC	No. of holes	Hole Dia.					BC	Threads UNC-2B	Wafer (Series 51)	Flanged End (Series 53)
	26	650	745	870	165	707	555	475	300	254	8	18	63.5	102	15.88 x 15.88	598	806.45	1 1/4-7	264	356
28	700	795	927	165	756	580	492	300	254	8	18	63.5	102	15.88 x 15.88	651	863.60	1 1/4-7	282	396	
30	750	860	985	165	813	595	528	300	254	8	18	76.2	102	19.05 x 19.05	717	914.40	1 1/4-7	332	423	
32	800	900	1060	190	859	670	565	300	254	8	18	76.2	102	19.05 x 19.05	756	977.90	1 1/2-6	386	477	
36	900	1025	1170	203	972	705	640	350	298	8	21	88.9	134	22.23 x 15.88	870	1085.85	1 1/2-6	486	689	
40	1000	1120	1290	216	1056	782	675	350	298	8	21	101.6	134	25.4 x 19.05	952	1200.15	1 1/2-6	790	990	

\*Face to Face dimension "B", generally conforming to API 609 Category A /BS EN 558-1 Series 20/ ISO 5752Series 20

Cv VALUES	Valve Size		Disc Opening Angle (In Degree)							
	Inch	DN	10°	20°	30°	40°	50°	60°	70°	80°
26	650	278	1096	2705	4757	7759	12121	19167	28611	35264
28	700	286	1309	3011	5379	8536	13695	22258	33907	40598
30	750	416	1607	3855	6936	11158	17566	28717	42467	50744
32	800	528	1947	4527	7813	12508	20253	31947	48473	59094
36	900	732	2684	5753	9568	15045	24669	39184	58676	75992
40	1000	737	2895	6889	11805	19079	30253	50242	73405	86598

Note :- Rated Cv = The volume of water in USgpm that will pass through a given valve opening at a pressure drop of 1 psi.

TORQUE (Lb-Inch)	Valve Size		26"	28"	30"	32"	36"	40"
	Full Rated Pressure Valve ΔP, PSI	50	14691	17364	20090	23762	31241	37037
	100	19488	23364	27285	32878	44029	54649	
	150	24338	29382	34515	41949	56817	72260	
Reduced Disc Dia. ΔP, PSI	50	9408	11204	12965	15532	20727	27302	

TORQUE (Nm)	Valve Size		3.5	7	10	16	25	35
	Full Rated Pressure Valve ΔP, Bar	3.5	1660	1962	2270	2685	3530	4185
	7	2202	2640	3083	3715	4975	6174	
	10	2750	3320	3900	4740	6420	8165	
Reduced Disc Dia. ΔP, Bar	3.5	1063	1266	1465	1755	2342	3085	

# Material of Construction

## Body

- Cast Iron ASTM A126 Class B / IS 210 FG 260
- Ductile Iron ASTM A395 60-40-18
- 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

## Seat

- EPDM - Food Grade
- Buna-N – Food Grade
- Viton® (FKM)
- Silicone

## Operators:

- Gear Operators can be direct mounted to valves for manual operation.
- 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.

## Seat Temperature Range:

Seat Type	Temperature Range	
	Min.	Max.
EPDM	-20° F (-29°C)	302° F (150°C)
Buna-N	0° F (-18°C)	212° F (100°C)
Viton® (FKM)	0° F (-18°C)	392° F (200°C)
Silicone #	-58° F (-50°C)	392° F (200°C)

# Max. pressure rating limited to 6 Barg.  
Viton® is registered trademark of E.I. DuPont.

## Parts List:

Item No.	Part Description	Qty
1	BODY	1
2	DISC	1
*3	SEAT	1
4	STEM	1
*5	'U' CUP SEAL	1
*6	BEARING	2
7	RETAINER CIRCLIP	1
8	RETAINING RING	1
9	SOC. HD. SCREW	6
10	BEARING SPACER	1
*11	THRUST BEARING	1
*12	'O' RING	1
13	BOTTOM PLATE	1
14	WASHER	6
15	HEX. BOLT	6
16	KEY	1
17	SOC. SCREW	1

Note : \* Recommended Spares

## General Design and Manufacturing Standard:

API 609 / BS EN -593

Note : Flanged body construction conforming to 'U' section wafer body as per BS EN-593

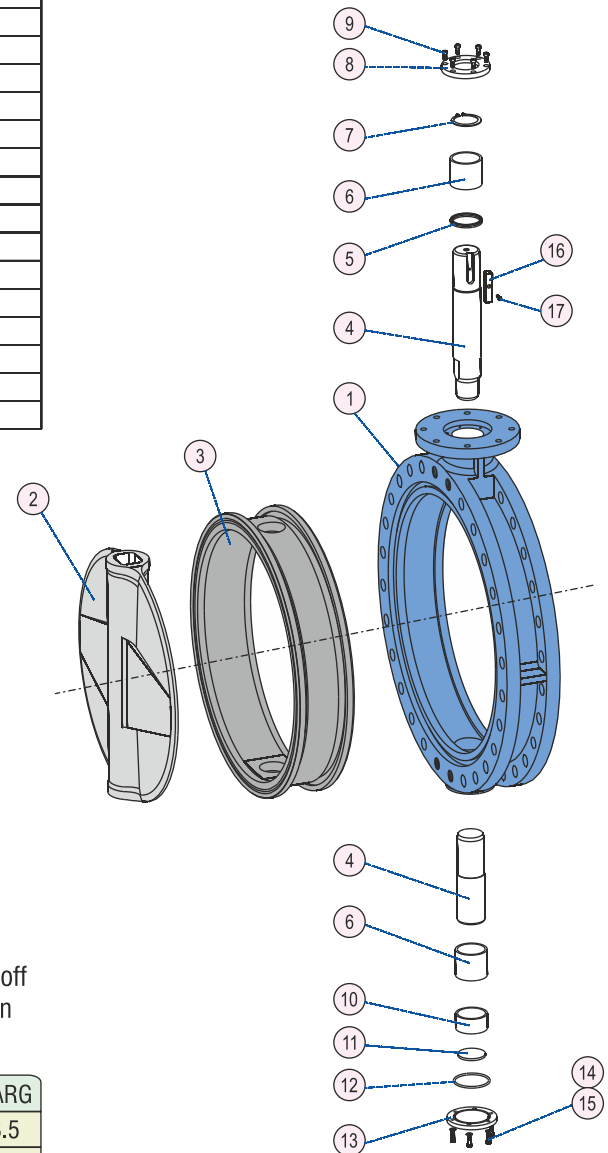
## Testing Standard:

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
26" - 40"	650 - 1000	50	3.5
26" - 40"	650 - 1000	85	6
26" - 40"	650 - 1000	150	10



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