

SERIES 56 / 57

Resilient Seated Butterfly Valves
for Higher Pressure Applications

Wafer, Lug Body



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STANDARD FEATURES

Quality & Performance

DelVal Flow Controls provides a wide range of quality products with the reliability you can count on. All Series 56 /57 valves are manufactured in ISO 9001 certified facilities with a robust quality management system and according to API 609 and BS EN 593 standards.

Design Construction and Features

1. Stem Connection

Stem connection is available in standard DelVal sizes.

2. Top Plate Drilling

The top flange is drilled as per ISO 5211 to accommodate direct mounting of a wide range of actuators and manual operators.

3. Heavy Duty Body

Heavy duty one-piece body with two layers of hard, zinc phosphate epoxy coating with semi-gloss finish for excellent corrosion resistance.

4. Locating Lug

Ribbed wafer body from 2" to 10" and four locating holes on wafer bodies in sizes 12" and larger. Standard construction ensures installation between ASME Class 150/Class 125 flanges.

5. Disc

High strength disc with polished edge and hubs. 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 resistance to greases, oils, fuels, hydraulic fluids, water, alkalis and many organic solvent.

6. Seat

2" to 24" valves are constructed with cartridge seat by permanently bonding a resilient elastomer to a rigid backing ring. This gives advantages of bonded seat while also replaceable. Seat is slip-fitted into the body, no need of special tools.

For sizes larger than 26" and onward, valve seat is in-situ molded which provides complete isolation of flowing media from the body. The seat also features face o-rings which eliminates the use of flange gaskets.

7. Disc - Seat Sealing

Precision machined radius on the upper and lower disc hubs presses against upper and lower seat sealing faces to achieve primary sealing between disc and seat.

8. Secondary Seal

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

9. Disc - Stem Connection

Dry stem journal reduces potential for leakage. Stem with close tolerance square or double-D drive eliminates the need of disc screws and taper pins.

10. Stem Retention System

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

11. Bearings

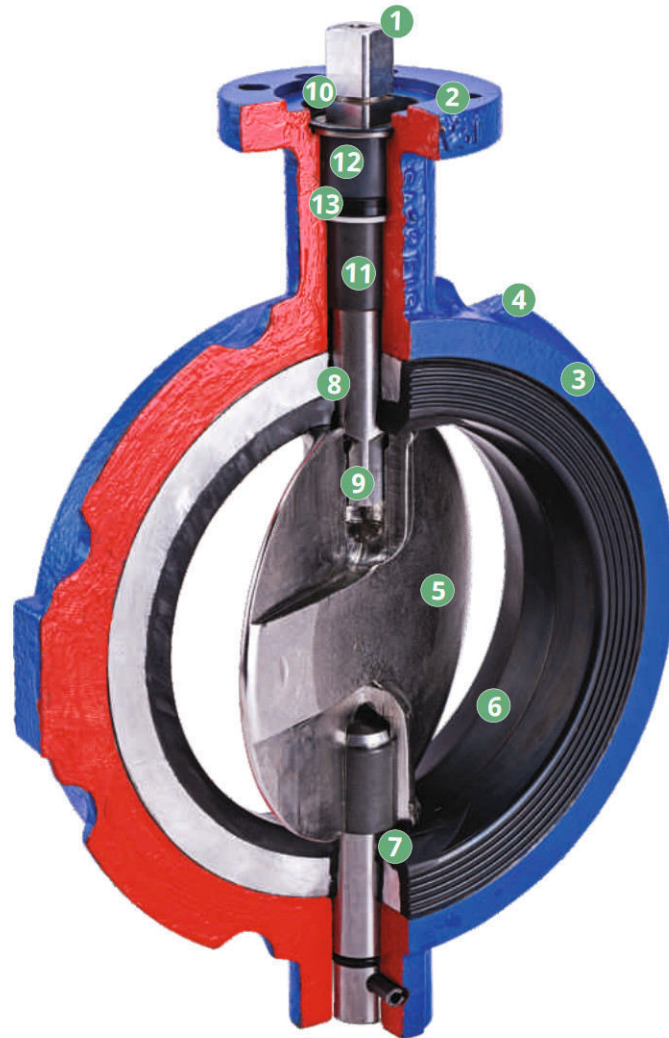
The drive and non-drive end stem "Bear-G" bearings are made of high compressive strength polymers, which provide rigid stem support, reduce friction, and isolate stem from valve body.

12. Bushing

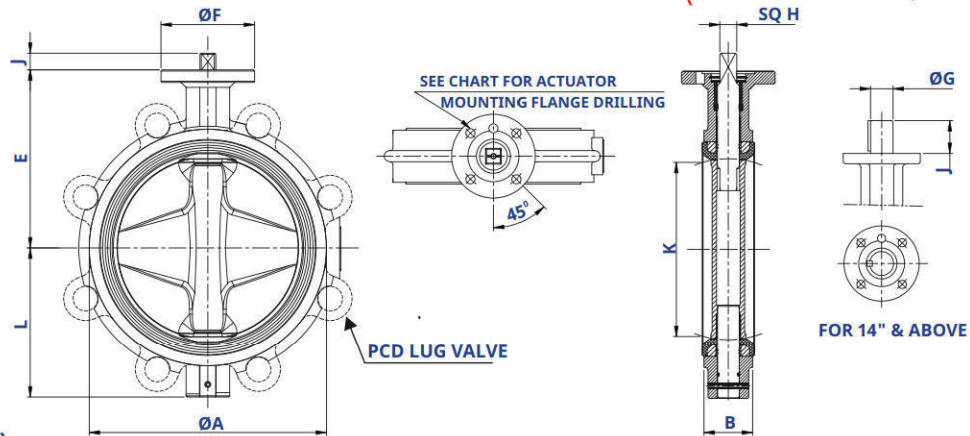
Heavy duty bushing absorbs the forces acting on the disc-stem assembly due to line pressure.

13. Stem Seal

Bi-directional 'U' cup stem seal.



DIMENSIONS AND WEIGHTS (WAFER / LUG)



Dimensions (mm)

Valve Size		ØA	*B	E	L	ØF	Top Flange Drilling			Sq. H	ØG	J	Key Size	K	Lug Bolting Data			App. Weight (kg)	
Inch	DN						PCD	No. of Holes	Hole Dia.						PCD	No. of Holes	Threads UNC/UN - 2B	Wafer (Series 56)	Lug (Series 57)
2	50	96	43	115	78	90	70	4	10	14	----	16	----	32.6	120.6	4	5/8-11 UNC	2.5	3.5
2.5	65	108	46	125	80	90	70	4	10	14	----	16	----	48.2	139.7	4	5/8-11 UNC	3.3	3.8
3	80	126	46	130	85	90	70	4	10	14	----	16	----	63.0	152.4	4	5/8-11 UNC	3.6	4.0
4	100	154	52	152	105	90	70	4	10	14	----	16	----	84.2	190.5	8	5/8-11 UNC	6.0	8.0
5	125	195	56	165	129	90	70	4	10	17	----	19	----	117.3	215.9	8	3/4-10 UNC	7.0	11.0
6	150	216	56	180	140	90	70	4	10	17	----	19	----	135.9	241.3	8	3/4-10 UNC	12.0	14.0
8	200	272	60	230	175	150	102/125	4	12/14	19	----	21	----	186.1	298.4	8	3/4-10 UNC	22.5	24.0
10	250	327	68	255	216	150	102/125	4	12/14	22	----	24	----	236.4	362.0	12	7/8-9 UNC	24.0	30.0
12	300	387	78	285	240	150	125	4	14	27	----	29	----	282.6	431.8	12	7/8-9 UNC	37.0	45.0
14	350	430	78	340	280	210	165	4	22	----	40.0	51	12.00 x 8.00	315.7	476.2	12	1-8 UNC	60.0	69.5
16	400	487	102	360	310	210	165	4	22	----	40.0	51	12.00 x 8.00	367.3	539.8	16	1-8 UNC	75.0	97.0
18	450	540	114	390	347	210	165	4	22	----	50.0	64	12.00 x 10.00	421.6	577.8	16	1 1/8-8 UN	115.0	151.0
20	500	600	127	430	390	210	165	4	22	----	50.0	64	12.00 x 10.00	471.0	635.0	20	1 1/8-8 UN	156.0	178.0
24	600	711	154	495	461	210	165	4	22	----	63.5	102	15.88 x 15.88	572.7	749.3	20	1 1/4-8 UN	195.0	245.0
26	650	745	165	555	465	300	254	8	18	----	63.5	102	15.88 x 15.88	589.0	806.4	24	1 1/4-8 UN	272.0	377.0
28	700	776	165	580	495	300	254	8	18	----	76.2	102	19.05 x 19.05	651.0	863.6	28	1 1/4-8 UN	305.0	389.0
30	750	835	165	595	530	350	298	8	22	----	76.2	102	19.05 x 19.05	698.0	914.4	28	1 1/4-8 UN	373.0	493.0
32	800	872	190	670	568	350	298	8	22	----	76.2	102	19.05 x 19.05	852.0	977.9	28	1 1/2-8 UN	403.0	597.0
36	900	990	203	705	645	350	298	8	22	----	88.9	134	22.23 x 15.88	870.0	1085.8	32	1 1/2-8 UN	607.0	956.0
40	1000	1100	216	782	726	415	356	8	33	----	101.6	134	25.40 x 19.05	952.0	1200.2	36	1 1/2-8 UN	829.0	971.0
42	1050	1100	251	815	726	415	356	8	33	----	101.6	134	25.40 x 19.05	1020	1257.3	36	1 1/2-8 UN	860.0	1150.0
44	1100	1200	251	845	738	415	356	8	33	----	101.6	134	25.40 x 19.05	1070	1314.4	40	1 1/2-8 UN	950.0	1270.0
48	1200	1293	276	915	830	415	356	8	33	----	110.0	150	28.00 x 16.00	1120.0	1422.4	44	1 1/2-8 UN	1212.0	2053.0

Dimensions (Inch)

Valve Size		ØA	*B	E	L	ØF	Top Flange Drilling			Sq. H	ØG	J	Key Size	K	Lug Bolting Data			App. Weight (lbs)	
Inch	DN						PCD	No. of Holes	Hole Dia.						PCD	No. of Holes	Threads UNC/UN - 2B	Wafer (Series 56)	Lug (Series 57)
2	50	3.78	1.69	4.53	3.07	3.54	2.76	4	0.39	0.55	----	0.63	----	1.28	4.75	4	5/8-11 UNC	5	7
2.5	65	4.25	1.81	4.92	3.15	3.54	2.76	4	0.39	0.55	----	0.63	----	1.89	5.50	4	5/8-11 UNC	7	8
3	80	4.96	1.81	5.12	3.35	3.54	2.76	4	0.39	0.55	----	0.63	----	2.47	6.00	4	5/8-11 UNC	7	8
4	100	6.06	2.06	5.98	4.13	3.54	2.76	4	0.39	0.55	----	0.63	----	3.31	7.50	8	5/8-11 UNC	13	17
5	125	7.68	2.19	6.50	5.08	3.54	2.76	4	0.39	0.66	----	0.75	----	4.61	8.50	8	3/4-10 UNC	15	24
6	150	8.50	2.19	7.09	5.51	3.54	2.76	4	0.39	0.66	----	0.75	----	5.35	9.50	8	3/4-10 UNC	26	30
8	200	10.71	2.38	9.06	6.89	5.90	4.01/4.92	4	0.47/0.55	0.74	----	0.83	----	7.32	11.75	8	3/4-10 UNC	49	52
10	250	12.87	2.69	10.03	8.50	5.90	4.01/4.92	4	0.47/0.55	0.86	----	0.94	----	9.30	14.25	12	7/8-9 UNC	52	66
12	300	15.24	3.06	11.22	9.44	5.90	4.92	4	0.55	1.06	----	1.13	----	11.12	17.00	12	7/8-9 UNC	81	99
14	350	16.93	3.06	13.39	11.02	8.26	6.50	4	0.86	----	1.57	2.00	0.39 x 0.31	12.42	18.75	12	1-8 UNC	132	152
16	400	19.17	4.00	14.17	12.20	8.26	6.50	4	0.86	----	1.57	2.00	0.39 x 0.31	14.46	21.25	16	1-8 UNC	165	213
18	450	21.26	4.50	15.35	13.66	8.26	6.50	4	0.86	----	1.97	2.50	0.47 x 0.39	16.59	22.75	16	1 1/8-8 UN	253	332
20	500	23.62	5.00	16.93	15.35	8.26	6.50	4	0.86	----	1.97	2.50	0.47 x 0.39	18.54	25.00	20	1 1/8-8 UN	343	391
24	600	28.00	6.06	19.48	18.15	8.26	6.50	4	0.86	----	2.50	4.00	0.62 x 0.62	22.54	29.50	20	1 1/4-8 UN	429	539
26	650	29.33	6.50	21.85	18.31	11.81	10.00	8	0.71	----	2.50	4.00	0.62 x 0.62	23.19	31.75	24	1 1/4-8 UN	598	829
28	700	30.55	6.50	22.83	19.49	11.81	10.00	8	0.71	----	3.00	4.00	0.75 x 0.75	25.63	34.00	28	1 1/4-8 UN	671	855
30	750	32.87	6.50	23.43	20.87	13.78	11.73	8	0.86	----	3.00	4.00	0.75 x 0.75	27.48	36.00	28	1 1/4-8 UN	820	1084
32	800	34.33	7.48	26.38	22.36	13.78	11.73	8	0.86	----	3.00	4.00	0.75 x 0.75	33.54	38.50	28	1 1/2-8 UN	886	1313
36	900	38.97	7.99	27.76	25.39	13.78	11.73	8	0.86	----	3.50	5.25	0.88 x 0.62	34.25	42.75	32	1 1/2-8 UN	1335	2103
40	1000	43.30	8.50	30.79	28.58	16.33	14.02	8	1.30	----	4.00	5.25	1.00 x 0.75	37.48	47.25	36	1 1/2-8 UN	1823	2662
42	1050	45.47	9.88	32.09	28.58	16.33	14.02	8	1.30	----	4.00	5.25	1.00 x 0.75	40.15	49.50	36	1 1/2-8 UN	1892	2530
44	1100	47.24	9.88	33.27	29.06	16.33	14.02	8	1.30	----	4.00	5.25	1.00 x 0.75	42.12	51.75	40	1 1/2-8 UN	2090	2794
48	1200	51.97	10.88	35.83	32.68	16.33	14.02	8	1.30	----	4.33	5.51	1.10 x 0.63	44.09	56.00	44	1 1/2-8 UN	2666	4516

*Face to face dimension 'B' conforms to API 609 category A/B/EN 558 Series 20/ISO 5752 Series 20/MSS SP 27/ASME B16.10.
 Sizes 40" and above will have 2 keys 180 deg. apart.
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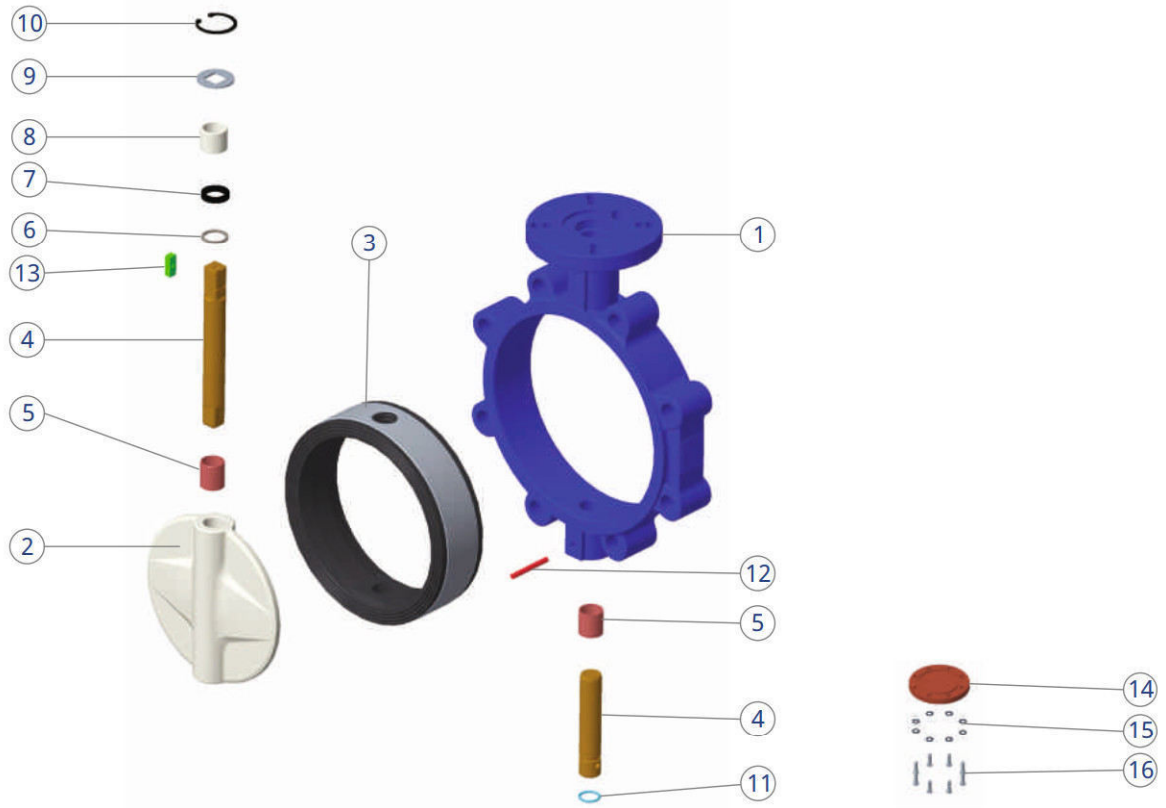
TORQUE DATA (Nm/Lbf-Inch)

Inch	DN	Differential Pressure (ΔP)											
		Undercut Disc		Standard Disc						Oversized Disc			
		PN 3.5/50 Psi		PN 6/87 Psi		PN 10/150 Psi		PN 12/175 Psi		PN 16/230 Psi		PN 20/285 Psi	
		Nm	Lbf-Inch	Nm	Lbf-Inch	Nm	Lbf-Inch	Nm	Lbf-Inch	Nm	Lbf-Inch	Nm	Lbf-Inch
2	50	---	---	8	72	9	80	10	91	17	150	31	275
2.5	65	---	---	14	124	16	142	17	150	22	195	40	355
3	80	---	---	16	142	20	177	22	197	32	283	58	514
4	100	15	133	29	256	31	271	32	279	45	398	81	738
5	125	21	187	44	393	48	426	50	443	65	575	117	1036
6	150	30	267	62	545	66	582	70	620	110	974	132	1168
8	200	70	623	110	977	122	1083	128	1133	210	1859	252	2231
10	250	87	771	179	1586	198	1756	208	1841	319	2823	383	3390
12	300	142	1259	302	2677	337	2987	355	3146	468	4142	562	4974
14	350	244	2159	398	3527	450	3980	-	-	690	6106	863	7639
16	400	297	2627	500	4428	585	5178	-	-	925	8187	1156	10231
18	450	412	3649	822	7273	989	8756	-	-	1192	10550	1490	13188
20	500	484	4285	954	8441	1144	10126	-	-	1506	13329	1883	16666
24	600	734	6500	1410	12482	1760	15576	-	-	3029	26809	3786	33509
26	650	1063	9408	2202	19488	2750	24338	-	-	4200	37173	-	-
28	700	1266	11204	2640	23364	3320	29382	-	-	6204	54910	-	-
30	750	1465	12965	3083	27285	3900	34515	-	-	7493	66318	-	-
32	800	1755	15532	3715	32878	4740	41949	-	-	8782	77728	-	-
36	900	2342	20727	4975	44029	6420	56817	-	-	12142	107465	-	-
40	1000	3085	27302	6175	54649	8165	72260	-	-	16122	142691	-	-
42	1050	4317	38208	8475	75010	11300	100013	-	-	18838	166730	-	-
44	1100	4995	44209	9797	86710	13368	118316	-	-	21553	190760	-	-
48	1200	6328	56007	12430	110014	16950	150020	-	-	26984	238828	-	-

Note: Above torques are for clean media and do not contain any safety factor for the actuator sizing of other condition exist, a service factor should be applied. Please consult DelVal for specific service factor.

STANDARD MATERIALS OF CONSTRUCTION

2" to 24" Wafer & Lug



Part List

Item	Description	*Standard Material	
		CI/DI/CS	SS
1	Body	CI ASTM A126 Class B CI IS 210 FG 260 DI ASTM A395 60-40-18 ASTM A216 WCB	ASTM A351 CF8/CF8M/CF3M
2	Disc	ASTM A536 65-45-12+ Nylon 12 Coated ASTM A536 65-45-12+ Aroxy Coated ASTM A216 WCB+Nylon 12 Coated ASTM A216 WCB+Aroxy Coated ASTM A351 CF8M/CF3M ASTM A995 4A/5A/6A NAB ASTM A148 C95800	ASTM A351 CF8M/CF3M ASTM A995 4A/5A/6A NAB ASTM A148 C95800
**3	Seat (Molded cum Replaceable)	EPDM NBR (BUNA-N) Viton (FKM) *Silicone ^PTFE+EPDM (up to 12")	
4	Stem (Upper/ Lower)	ASTM A479 SS410-L2 ASTM A564 17-4 PH Type 630 ASTM A182 F51/F55 ASTM A479 SS316	

Item	Description	*Standard Material	
		CI/DI/CS	SS
**5	Sleeve Bearing	Bear-G	
**6	Packing Support	RPTFE	
**7	Stem Seal (Double U-cup)	NBR (BUNA-N)	
**8	Stem Bushing	RPTFE	
9	Stem Retainer	ASTM A240 SS304	
**10	Retainer Circlip	ASTM A684 Gr. 1070	ASTM A313 SS302
**11	O-Ring	NBR (BUNA-N)	
**12	Spring Dowel Pin	ASTM A684 Gr. 1074	ASTM A313 SS302
13	Key (14 to 24")	BS 970 EN8	
14	Bottom Plate (24")	ASTM A516 Gr. 70	ASTM A240 SS304
15	Punch Washer (24")	ASTM A240 SS304	
16	Hex Hd. Screw (24")	ISO 3506 A2-70	

*Silicone seat configuration applicable up to PN6 rating only.

*Other materials may be available on request.

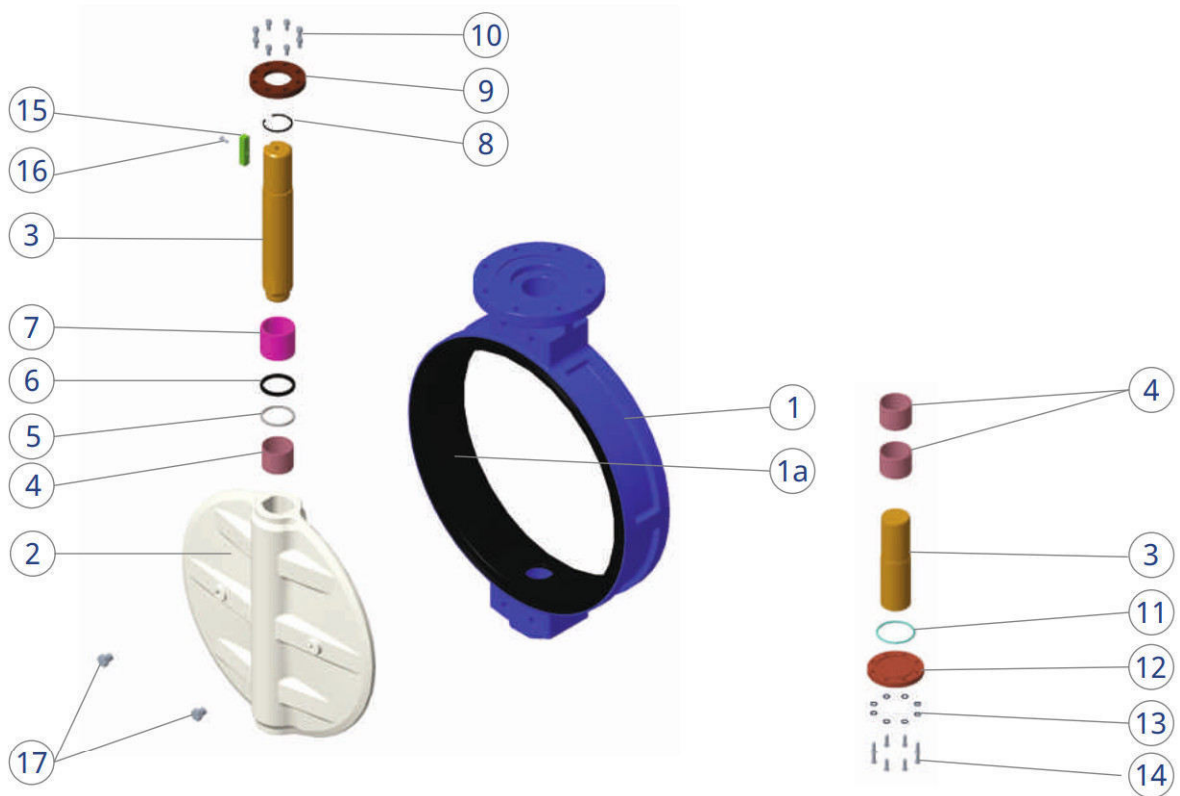
**Recommended Spares.

^PTFE + EPDM seat configuration applicable up to PN16 rating only.

CI = Cast Iron, DI = Ductile Iron, CS = Carbon Steel, SS = Stainless Steel

STANDARD MATERIALS OF CONSTRUCTION

26" to 48" Wafer & Lug



Part List

Item	Description	*Standard Material	
		CI/DI/CS	SS
1	Body	CI ASTM A126 CLASS B CI IS 210 FG 260 DI ASTM A395 60-40-18 ASTM A216 WCB	ASTM A351 CF8/CF8M/CF3M
1a	Seat (In-Situ Molded)	EPDM NBR (BUNA-N) Viton (FKM) #Silicone	
2	Disc	ASTM A216 WCB +Nylon 12 Coated ASTM A216 WCB+Aroxy Coated ASTM A351 CF8M/CF3M ASTM A995 4A/5A/6A NAB ASTM A148 C95800	ASTM A351 CF8M/CF3M ASTM A995 4A/5A/6A NAB ASTM A148 C95800
3	Stem (Upper/ Lower)	ASTM A479 SS410-L2 ASTM A564 17-4 PH Type 630 ASTM A182 F51/F55 ASTM A479 SS316	

Item	Description	*Standard Material	
		CI/DI/CS	SS
4	Sleeve Bearing	Bear-G	
5	Packing Support	RPTFE	
6	Stem Seal (Double U-cup)	NBR (BUNA-N)	
7	Stem Bushing	Phosphorous Bronze	
8	Retainer Circlip	ASTM A684 Gr. 1070	ASTM A313 SS302
9	Retaining Ring	ASTM A516 Gr. 70	ASTM A240 SS304
10	Soc. Hd. Screw	ISO 3506 A2-70	
11	O-Ring	NBR (BUNA-N)	
12	Bottom Plate	ASTM A516 Gr. 70	ASTM A240 SS304
13	Punch Washer	ASTM A240 SS304	
14	Hex Hd. Screw	ISO 3506 A2-70	
15	Key	BS 970 EN8	
16	Hex Hd. Bolt	ISO 3506 A2-70	
17	Plug	ISO 3506 A2-70	

#Silicone seat configuration applicable up to PN6 rating only.

*Other materials may be available on request.

CI = Cast Iron, DI = Ductile Iron, CS = Carbon Steel, SS = Stainless Steel

Standards and Specifications

DelVal Series 56/57 Butterfly Valves are designed and manufactured to meet the requirements of the following industry standards:

Design: API 609, BS EN593, MSS SP 67

Face to Face: API 609 Category-A, BS EN558 Series 20,
ISO 5752 Series 20, MSS SP 67, ASME B16.10

Testing: API 598, BS EN 12266-1, MSS SP 67

Flange Standard: ASME B16.5 Class 150, ASME B16.47 Class 150
Series A & B, Other International Standards

Body Style: One-Piece

***Temp Range:** -29°C to 200°C
-20°F to 390°F

Size Range: 2" to 48"

Seat Temperature Limits

Seat Type	*Temperature Limits	
	Lower Limit	Upper Limit
EPDM	-20°F (-29°C)	302°F (150°C)
NBR (BUNA-N)	0°F (-18°C)	212°F (100°C)
Viton® (FKM)	0°F (-18°C)	390°F (200°C)
#Silicone	-58°F (-50°C)	390°F (200°C)
^PTFE + EPDM	-20°F (-29°C)	266°F (130°C)

Pressure Rating

Inch	DN	PSIG	BARG
2" to 12"	50 to 300	175	12.0
2" to 24"	50 to 600	285	20.0
2" to 48"	50 to 1200	230	16.0
2" to 48"	50 to 1200	150	10.0
2" to 48"	50 to 1200	87	6.0
2" to 48"	50 to 1200	50	3.5

^PTFE + EPDM seat configuration is available up to NPS 12"/DN 300 and applicable rating up to PN16.

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*Temperature range shall be the lesser of the seat temperature or disc coating temperature.

#Silicone seat configuration applicable up to PN6 rating only.

End-of-Line Service

Lug body valves may be used in end-of-line service with downstream piping removed.

2" to 24" (DN 50 to DN 600) lug type butterfly valves are suitable for pressure up to PN10/150 Psi and 26" to 48" (DN 650 to DN 1200) up to PN16/230 Psi with downstream piping removed.

Operator Information



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-lock can also be provided to prevent unauthorized operation.



Valves of all sizes can be direct mounted with gear operators for manual operation. Gear operators can also be attached with chain-wheel operators to open or close valves located on pipelines at high elevations.



All valves can be direct mounted with pneumatic actuators or electric actuators and accessories for complete on-off automation or modulating control. Valves can be mounted with manual overrides.

100% TESTING 100% SERIALIZATION



CERTIFICATES



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