

# SERIES 40 / 41

## Industrial Split Body Thermoplastic Seated Butterfly Valves

Wafer, Lug Body



[delvalflow.com](http://delvalflow.com)

1-833-DELVAL1



# STANDARD FEATURES

## Quality & Performance

**DelVal Flow Controls** provides a wide range of quality products with the reliability you can count on. All Series 40/41 valves are manufactured in ISO 9001 certified facilities with a robust quality management system and according to BS EN 593 standard.

## Design Construction and Features

### 1. Stem Connection

Stem connection available in standard DelVal sizes.

### 2. Top Plate Drilling

Top plate drilled to fit ISO 5211 dimensions. All handles, gear operators and pneumatic DelTorq actuators are designed to mount directly to DelVal valves.

### 3. Heavy Duty Body

Heavy duty, split body with extended neck for 2" piping insulation. Standard coating is two layers of hard, zinc phosphate epoxy coating with semi-gloss finish for excellent corrosion resistance.

### 4. Locating Lug

Two flange locating holes for sizes up to 12" and four flange locating holes from size 14" to 24" on wafer type valves for easy alignment of valve during installation. They meet ASME CL 125/150 or other international drilling standards.

### 5. Disc-Stem

One-piece disc-stem in high strength design. Available in stainless steel and other alloy steel (thin profile, with polished edge and hubs).

### 6. Disc-Stem 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 stem.

### 7. Seat

Unique heavy duty seat design virtually eliminates any seat movement during the seating and unseating of the disc. The wide sealing surface guarantees a leak free sealing and serves as flange gaskets.

### 8. Stem Seal

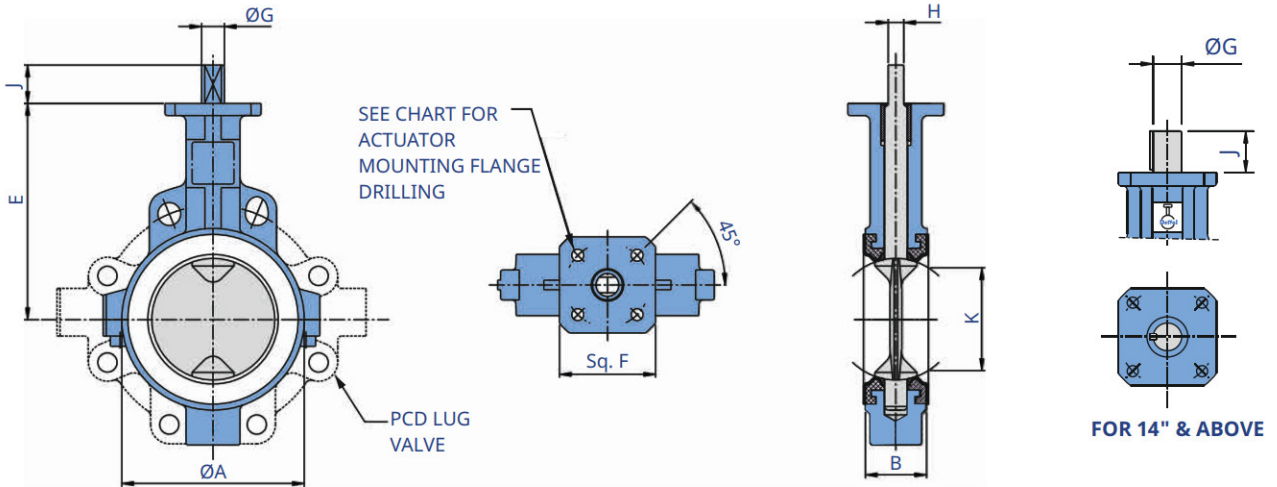
Bi-directional 'U' cup stem seal.



### 9. Bushing

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

# DIMENSIONS AND WEIGHTS (WAFER / LUG)



## Dimensions (mm)

Valve Size		ØA	B*	E	Sq. F	Top Flange Drilling			ØG	H	J	Key Size	K	Lug Bolting Data			App. Weight (kg)	
Inch	DN					PCD	No. of Holes	Hole Dia.						PCD	No. of Holes	Threads UNC - 2B	Wafer (Series 40)	Lug (Series 41)
2	50	91	43	140	80	70	4	10	14.0	10.0	32	-	36.1	120.7	4	5/8 - 11	3.5	4.1
2½	65	106	46	152	80	70	4	10	14.0	10.0	32	-	54.0	139.7	4	5/8 - 11	3.5	4.7
3	80	122	46	160	80	70	4	10	14.0	10.0	32	-	70.5	152.4	4	5/8 - 11	4.0	4.8
4	100	152	52	180	80	70	4	10	19.0	13.0	32	-	92.2	190.5	8	5/8 - 11	5.6	8.8
5	125	176	56	192	100	70 / 102	4	10 / 12	22.0	16.0	32	-	118.9	215.9	8	3/4 - 10	8.2	13.0
6	150	205	56	205	100	70 / 102	4	10 / 12	22.0	16.0	32	-	141.1	241.3	8	3/4 - 10	9.6	15.2
8	200	264	60	241	120	102 / 125	4	12 / 14	24.0	19.0	32	-	187.4	298.5	8	3/4 - 10	16.1	29.8
10	250	315	68	273	120	102 / 125	4	12 / 14	30.0	22.0	51	-	237.7	362.0	12	7/8 - 9	24.8	37.4
12	300	370	78	311	120	125	4	14	35.0	24.0	51	-	283.0	431.8	12	7/8 - 9	35.6	54.6
14	350	415	78	346	120	125	4	14	35.0	-	51	10.00 x 10.00	328.3	476.2	12	1 - 8	49.0	55.7
16	400	472	102	375	120	125	4	14	35.0	-	51	10.00 x 10.00	375.8	539.7	16	1 - 8	59.2	83.6
18	450	525	114	406	170	165	4	21	50.0	-	64	10.00 x 12.00	421.4	577.8	16	1½ - 7	88.2	108.6
20	500	580	127	438	170	165	4	21	50.0	-	64	10.00 x 12.00	472.6	635.0	20	1½ - 7	107.4	139.2
24	600	692	154	495	φ210	165	4	21	63.5	-	102	15.88 x 15.88	572.7	749.3	20	1¼ - 7	175.0	216.4

\*Metric value face to face dimension 'B' conforms to API 609 category A / BS EN 558-1 Series 20 / ISO 5752 Series 20 / MSS SP 27 / ASME B16.10.

## Dimensions (Inch)

Valve Size		ØA	B**	E	Sq. F	Top Flange Drilling			ØG	H	J	Key Size	K	Lug Bolting Data			App. Weight (lbs)	
Inch	DN					PCD	No. of Holes	Hole Dia.						PCD	No. of Holes	Threads UNC - 2B	Wafer (Series 40)	Lug (Series 41)
2	50	3.58	1.69	5.51	3.15	2.76	4	0.39	0.55	0.39	1.25	-	1.42	4.75	4	5/8 - 11	7.72	9.04
2½	65	4.17	1.81	5.98	3.15	2.76	4	0.39	0.55	0.39	1.25	-	2.13	5.50	4	5/8 - 11	8.81	10.36
3	80	4.80	1.81	6.30	3.15	2.76	4	0.39	0.55	0.39	1.25	-	2.78	6.00	4	5/8 - 11	8.38	10.58
4	100	5.98	2.05	7.09	3.15	2.76	4	0.39	0.75	0.51	1.25	-	3.63	7.50	8	5/8 - 11	12.34	19.40
5	125	6.93	2.20	7.56	3.93	2.76 / 4.01	4	0.39 / 0.47	0.87	0.63	1.25	-	4.68	8.50	8	3/4 - 10	18.08	28.66
6	150	8.07	2.20	8.07	3.93	2.76 / 4.01	4	0.39 / 0.47	0.87	0.63	1.25	-	5.56	9.50	8	3/4 - 10	21.16	33.51
8	200	10.39	2.36	9.49	4.72	4.01 / 4.92	4	0.47 / 0.55	0.94	0.75	1.25	-	7.38	11.75	8	3/4 - 10	35.49	65.69
10	250	12.40	2.68	10.75	4.72	4.01 / 4.92	4	0.47 / 0.55	1.18	0.87	2.00	-	9.36	14.25	12	7/8 - 9	54.67	82.44
12	300	14.57	3.07	12.24	4.72	4.92	4	0.55	1.38	0.94	2.00	-	11.14	17.00	12	7/8 - 9	78.47	120.36
14	350	16.34	3.07	13.62	4.72	4.92	4	0.55	1.38	-	2.00	0.39 x 0.39	12.92	18.75	12	1 - 8	108.02	122.80
16	400	18.58	4.00	14.76	4.72	4.92	4	0.55	1.38	-	2.00	0.39 x 0.39	14.80	21.25	16	1 - 8	130.51	184.31
18	450	20.67	4.48	15.98	6.70	6.50	4	0.83	1.97	-	2.50	0.39 x 0.47	16.59	22.75	16	1½ - 7	194.45	239.42
20	500	22.83	5.00	17.24	6.70	6.50	4	0.83	1.97	-	2.50	0.39 x 0.47	18.61	25.00	20	1½ - 7	236.78	306.88
24	600	27.24	6.06	19.49	φ8.27	6.50	4	0.83	2.50	-	4.00	0.62 x 0.62	22.55	29.50	20	1¼ - 7	385.81	477.08

\*\* Face to face dimension "B" generally conforms to API 609 Category A/BS EN 558-1 Series 20/ISO 5752 Series 20/MSS SP67/ ASME B 16.10.

## Torque Data (Nm)

Valve Size	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	
Pressure ΔP, Bar	10	16	26	40	52	70	98	170	260	420	635	873	1230	1535	2446

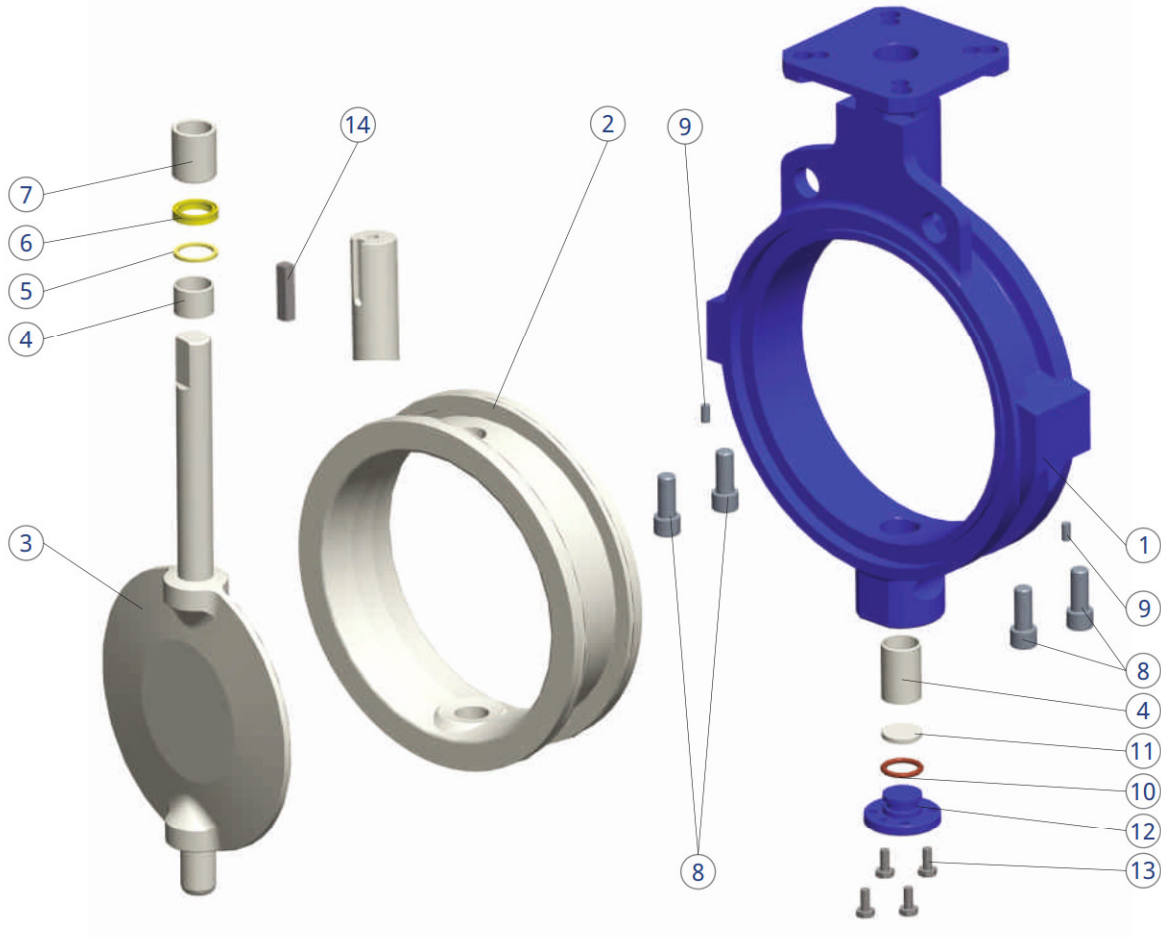
## Torque Data (Lbf-Inch)

Valve Size	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	
Pressure ΔP, PSI	150	142	230	354	460	620	867	1505	2301	3717	5620	7726	10886	13585	21647

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

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# STANDARD MATERIALS OF CONSTRUCTION



## Part List

Item	Description	*Standard Material	
		CI/DI	CS/SS
1	Body	ASTM A126 Class B ASTM A395 60-40-18	ASTM A216 WCB ASTM A351 CF8M/CF8
**2	Seat	PTFE Lined EPDM	
3	Disc + Stem	ASTM A351 CF8M/CF8 (One piece investment cast disc-stem 2" to 12") ASTM A995 Gr. 4A/5A/6A (One piece investment cast disc-stem 2" to 12") ASTM A351 CF8M/CF8+ASTM A479 SS410/SS316 SH (One piece disc-Stem 14" to 24") ASTM A995 Gr. 4A/5A/6A + A479 SS316 SH/S31803 (One piece disc-Stem 14" to 24")	
**4	Sleeve Bearing	-	Bear-G
**5	Bearing Spacer	-	Polyacetal
**6	U-Cup Seal	NBR (BUNA-N)	

\*\*Recommended spares.

\*Other materials may be available on request.

Item	Description	*Standard Material	
		CI/DI	CS/SS
**7	Stem Bushing	Polyacetal	
8	Socket Head Cap Screw	ISO 3506 A2-70	
9	Dowel Pin	BS970 EN8	
**10	'O' Ring	NBR (BUNA-N) (24")	NBR (BUNA-N)
11	Thrust Bearing (24")	Phosphor Bronze BS1400 PB4	-
12	Bottom Cover	Carbon Steel IS 2062 Gr.B (24") ASTM A240 SS304/SS316 (24")	ASTM A479 Type SS410 Steel/ASTM A240 SS304/SS316 Carbon Steel IS 2062 Gr.B
13	Hex Head Bolt	ISO 3506 A2-70 (24")	ISO 3506 A2-70
14	Key (14" to 24")	BS970 EN8	

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

## Standards and Specifications

DelVal Series 40/41 Butterfly Valves are designed and manufactured to meet the requirements of the following general industry standards:

**Design:** Full compliance to BS EN 593, general compliance to API 609, MSS SP 67

**Face to Face:** BS EN 558 Series 20, API 609 Category-A, ISO 5752 Series 20, MSS SP 67

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

**Flange Standard:** ASME B16.5 Class 150, Other International Standards

**Body Style:** Split Body

**\*Temp Range:** -29°C to 130°C  
-20°F to 266°F

**Size Range:** 2" to 24"

**Applications:** Mild Chemical, Food and Pharmaceutical Industry

## Seat Temperature Limits

Seat Type	*Temperature Limits	
	Lower Limit	Upper Limit
PTFE - Lined EPDM	-20°F (-29°C)	266°F (130°C)

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

### PTFE Advantages and Applications :

PTFE is a superior material for use in highly corrosive applications. It is inert to most chemicals at high temperatures and pressures. It also has a low coefficient of friction. PTFE is ideal for use in the chemical industry, in processes with hazardous fluids, in the food and beverage industry, pharmaceutical facilities, electronics production plants and other industries where the media must not come in contact with any organic or metallic materials.

## Pressure Rating

Inch	DN	PSIG	BARG
2" to 24"	50 to 600	150	10

### 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 operation without a downstream flange installed, the dead-end pressure ratings is 75 psi.

## Operator Information



Valves up to size 6" 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



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