

Durco[®] TX3 Triple Offset Butterfly Valve

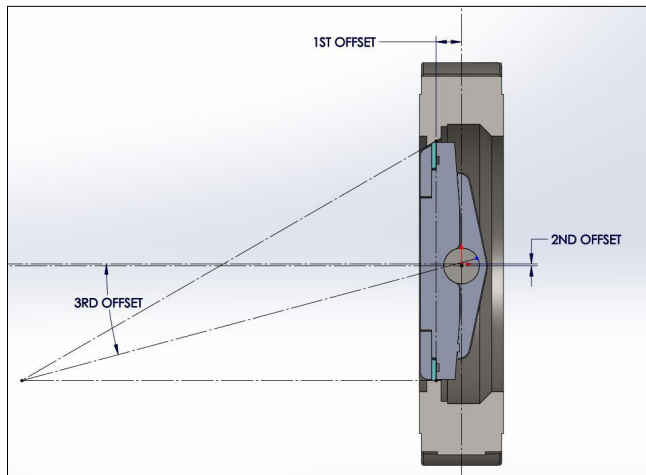


Contents

Bubble-tight shutoff with low torque	3
About triple offset valve technology	3
Specifications	3
Features and benefits	4
Sealing system	4
Laminated seal ring	4
Packing and bearings	5
End connections, flanges and bolting	5
Parts list and standard materials of construction	6
NPS 3 to 24: Double flanged dimensions — metric	8
NPS 3 to 24: Double flanged dimensions — U.S.	9
NPS 3 to 24: Lug and wafer dimensions — metric	10
NPS 3 to 24: Lug and wafer dimensions — U.S.	11
NPS 3 to 24: Topworks dimensions — metric	12
NPS 3 to 24: Topworks dimensions — U.S.	13
NPS 30 to 60: Double flanged Series A flanged dimensions — metric	14
NPS 30 to 60: Double flanged Series A flanged dimensions — U.S.	15
NPS 30 to 60: Double flanged Series B flanged dimensions — metric	16
NPS 30 to 60: Double flanged Series B flanged dimensions — U.S.	17
NPS 30 to 60: Lug Series A dimensions — metric	18
NPS 30 to 60: Lug Series A dimensions — U.S.	19
NPS 30 to 60: Lug Series B dimensions — metric	20
NPS 30 to 60: Lug Series B dimensions — U.S.	21
NPS 30 to 60: Topworks dimensions — metric	22
NPS 30 to 60: Topworks dimensions — U.S.	23
NPS 3 to 24: Flow coefficients	24
NPS 30 to 60: Flow coefficients	24
Durco TX3 valve model code (ordering information)	25

Bubble-tight shutoff with low torque

The Durco TX3 triple offset butterfly valve from Flowserve offers excellent shutoff capabilities, with the low torque and reduced wear benefits of a triple offset design. The laminated seal ring, in conjunction with the triple offset geometry, results in a design that can provide bi-directional, bubble-tight shutoff.



About triple offset butterfly valve technology

Durco TX3 triple offset butterfly valves feature a special sealing mechanism, comprised of contacts of an inclined and conical body seat with laminated seal ring. As a result, the friction and abrasion between the sealing elements (i.e., seal ring and body seat) are eliminated. The unique feature of this design is that it provides low torque, broad sealing and tight shutoff.

Single offset

The rotation axis of the disc is moved back from the sealing surfaces of the body seat. The purpose of this offset is to have a continuous sealing surface on the seal ring and body seat.

Double offset

The rotation axis of the disc is moved away from the center line of the valve body. The purpose of this offset is to lift the disc and seal ring quickly off and away from the body seat while decreasing the friction during operation.

Triple offset

The virtual conic axis, extended from the sealing surfaces of the body seat, is inclined from the rotation axis of the disc. The purpose of this offset is to eliminate friction, galling and wear generated at the sealing surface during operation and provide bubble-tight shutoff on high pressure and temperature.

Specifications

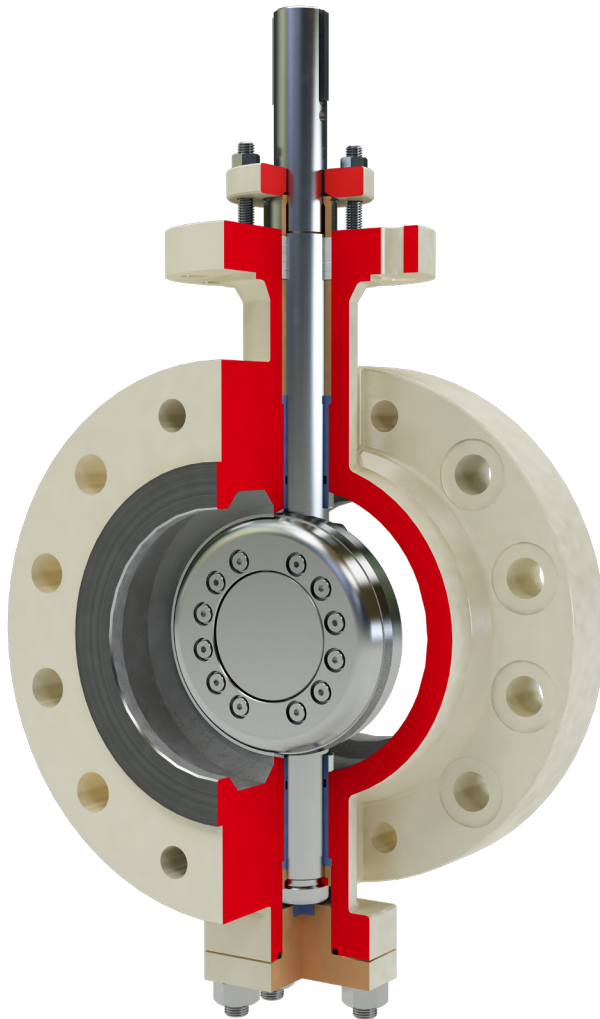
The Durco TX3 triple offset butterfly valve meets a number of industry standards for performance:

Product specifications

Design Standards	ASME B16.34, API 609
Sizes	NPS 3 to 60
Pressure Classes	ANSI class 150, 300, 600, 900, 1500
End Connections	Lugged, wafer, double flanged (long and short), butt-weld (cryogenic)
Face-to-face	API 609 (lug and wafer), B16.10 (long pattern), API 609 and ISO 5752 (short pattern)
Operating Temperature	Standard: -50°C to 427°C (-58°F to 800°F) High temperature to 820°C (1,500°F) Cryogenic: to -196°C (-320°F)
Leakage Rates	API 598 and ISO 5208
Fire Safety	API 607, ISO 10497
Fugitive Emissions	ISO 15848

Features and benefits

- Triple offset design — eliminates wear associated with sealing surface contact and maintains sealing integrity during high cycle
- Laminated graphite or metal-to-metal sealing provides robust performance in a wide range of harsh and difficult services
- Robust, anti-blowout shaft meets requirements of API 609
- Bi-directional, tight shutoff
- Low-operating torque for compact, cost-effective actuation
- Meets industry standards for design, fire safety and fugitive emissions



Sealing system

Durco TX3 triple offset valves operate using a camming action, which reduces the possibility of galling or scratching on the sealing surfaces between the sealing elements (i.e., disc and seat). It also reduces the possibility of jamming between the sealing elements, which can happen with valves that rely on single-point sealing.

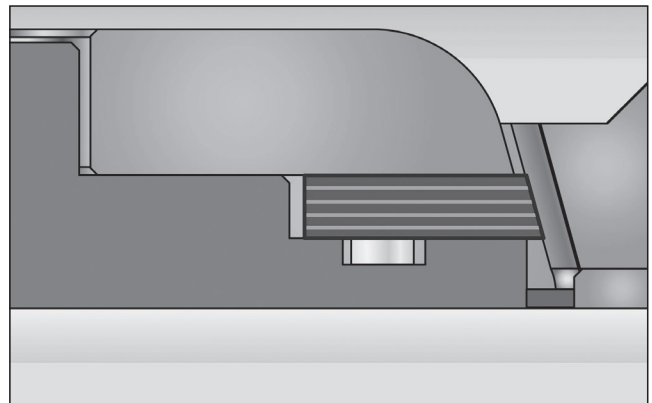
The sealing surfaces of the Durco TX3 valve disc have different angles in all points. The Durco TX3 valve has an elliptical sealing system. The sealing surfaces of an elliptical sealing system are completely in contact at the final position only, and upon opening, all contact points are released immediately from the seat ring. This mechanism provides bubble-tight shutoff.

The Durco TX3 triple offset butterfly valve is a torque-seated valve, utilizing the torque provided by the operator to create a seal, rather than by positioning of the disc. This provides a robust, positive means for shutoff, particularly for high-pressure and/or high-temperature applications.

Laminated seal ring

The laminated seal ring is composed of alternating layers of metal and graphite. The laminated seal ring of a Durco TX3 valve provides bubble-tight shutoff, even in gas applications. Each individual layer performs an independent sealing and is unaffected by the damages to other layers. The elements of the laminated metal plate can be offered with various metals, including 316SS, duplex, Inconel®, Monel® and Hastelloy®, depending on the application.

Additionally, for high-temperature and more severe applications, a solid metal seal ring is available. The solid metal seal ring is also used for cryogenic applications.



® Hastelloy is a registered trademark of Haynes International.

® Inconel is a registered trademark of the International Nickel Co., Inc.

® Monel is a registered trademark of International Nickel Co.

Packing and bearings

The Durco TX3 butterfly valve uses proven packing designs to provide trouble-free stem seal performance for a variety of applications. Material options include PTFE for optimum leakage control, while graphite provides fire-safe protection. Options include single and double packing sets, purge ports and spring loading for high-cycle or high-temperature swing services.

A robust bearing design provides solid shaft support to maximize service life and valve performance. Materials are offered to provide corrosion resistance in a variety of harsh chemical services.

End connections, flanges and bolting

The Durco TX3 butterfly valve is offered in several standard end connections to meet a variety of industry standards and customer applications. Lug, wafer and double-flanged styles are offered as standard. Face to face dimensions for all styles will meet the API 609 standard.

Bearings

Bearing Material	Recommended Shaft Materials
316 SS Nitrided	410 SS, XM-19 (Nitronic 50), 17-4PH, Monel, Inconel, F6a Class 4
Alloy 6, 316 Alloy 6	410 SS, XM-19 (Nitronic 50), Inconel, Monel, F6a Class 4

The standard 316 SS bearing with Nitride treatment is compatible with all shaft materials and will work acceptably in most applications. For special applications where a customer's application or specifications demand a more durable bearing, a solid Alloy 6 or Alloy 6-overlaid 316 SS bearing is available.

Note: Valves with shaft diameters 38.1 mm (1.5 in.) or smaller must use a solid Alloy 6 bearing; overlay is not possible on these sizes of bearings.

Packing options

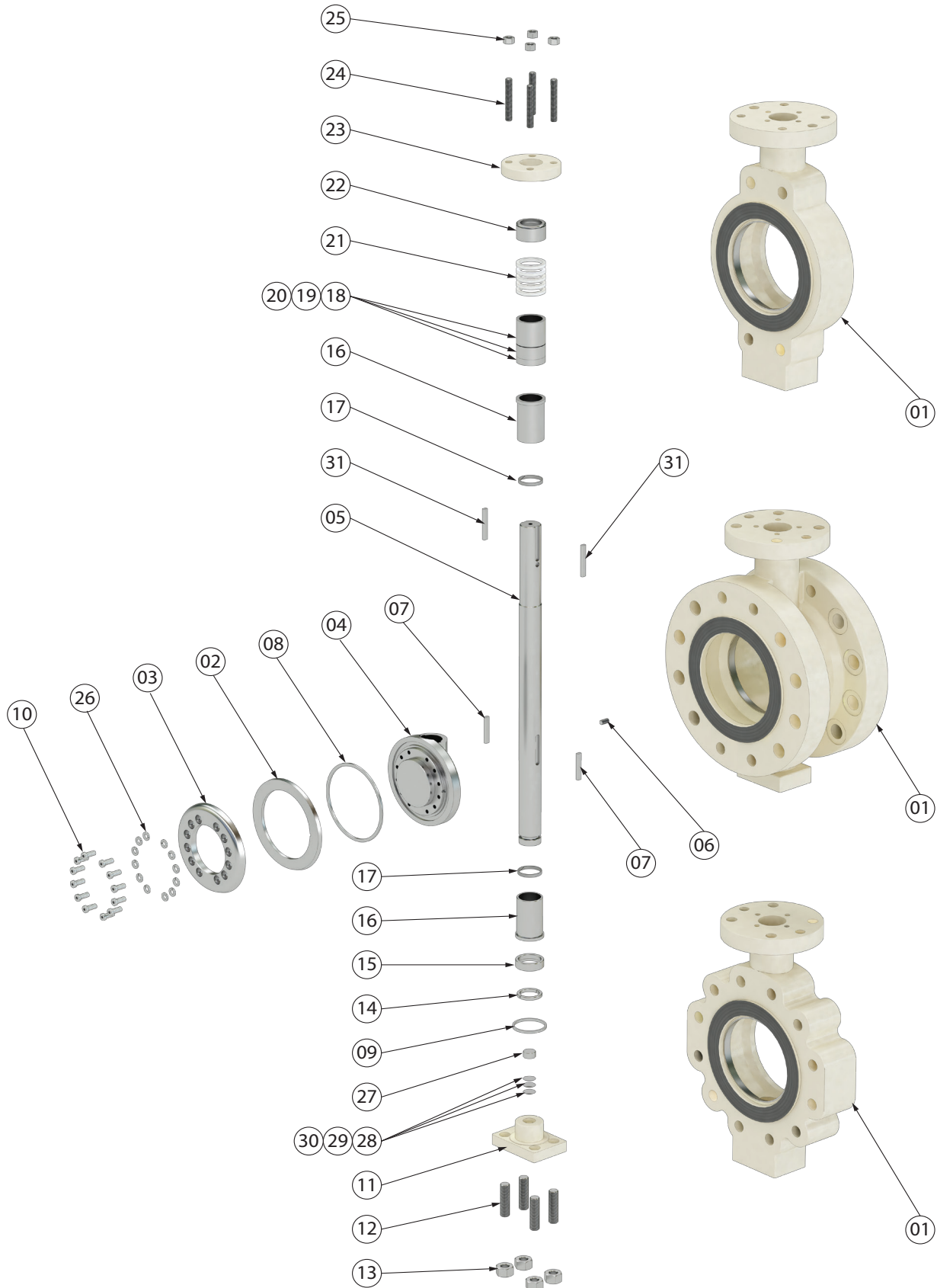
Packing System	Packing Description	Maximum Pressure		Max. Temp		Options Availability	Certification
		psi	bar	°C	°F		
Graphite Rib-Braided	Braided Graphite rings	4,400	300	-196 to 650	-320 to 1,200	Single/Twin/ Live Loading	API 607
Braided PTFE	Virgin braided PTFE	4,000	276	-100 to 204	-148 to 400	Single/Twin/ Live Loading	-

Note: Cryogenic stem extension required for temperatures below -51°C (-60°F). Higher temperature limits can be achieved with stem extensions. Consult factory for details. Graphite rib packing is limited to 450°C (842°F) in oxidizing service.

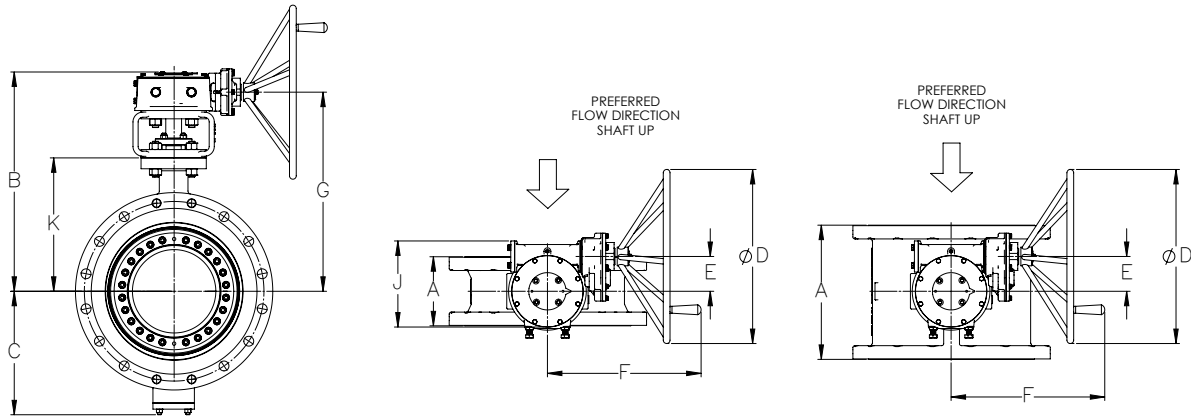
Parts list and standard materials of construction

Part		Materials of Construction by Temperature Limit			
		-29°C to 400°C (-20°F to 752°F)		- 50°C to 427°C (-58°F to 800°F)	
Item Number	Description	CS (non-NACE)	CS (NACE)	SS (non-NACE)	SS (NACE)
1	Body	ASTM A216 Gr WCB	ASTM A216 Gr WCB	ASTM A351 Gr CF8M	ASTM A351 Gr CF8M
1a	Body Seat	Alloy 21	Alloy 21	Alloy 21	Alloy 21
2	Seal Ring	S31803 + Graphite	S31803 + Graphite	S31803 + Graphite	S31803 + Graphite
3	Seal Retainer	ASTM A516 Gr 70	ASTM A516 Gr 70	316 SS	316 SS
4	Disc	ASTM A216 Gr WCB	ASTM A216 Gr WCB	ASTM A351 Gr CF8M	ASTM A351 Gr CF8M
5	Shaft	F6a Class 4	XM-19	XM-19	XM-19
6	Disc Pin	Gr B8-8 Cl 2	Gr B8M-8M Cl 1	Gr B8-8 Cl 2	Gr B8M-8M Cl 1
7, 31	Keys	F6a Class 4	XM-19	XM-19	XM-19
8	Seal Gasket	316L SS + Graphite	316L SS + Graphite	316L SS + Graphite	316L SS + Graphite
9	Bottom Flange Gasket	316L SS + Graphite	316L SS + Graphite	316L SS + Graphite	316L SS + Graphite
10	Retainer Screws	ASTM A193 Gr B8 Cl 2	ASTM A193 Gr B8M Cl 1	ASTM A193 Gr B8 Cl 2	ASTM A193 Gr B8M Cl 1
11	Bottom Flange	ASTM A216 Gr WCB or A105	ASTM A216 Gr WCB or A105N	ASTM A351 Gr CF8M or 316 SS	ASTM A351 Gr CF8M or 316 SS
12	Bottom Flange Stud	ASTM A193 Gr B7 Oxide Coated	ASTM A193 Gr B7M Oxide Coated	ASTM A193 Gr B8 Cl 2	ASTM A193 Gr B8M Cl 1
13	Bottom Flange Nut	ASTM A194 Gr 2H Oxide Coated	ASTM A194 Gr 2HM Oxide Coated	ASTM A194 Gr 8	ASTM A194 Gr 8M
14, 15, 16, 27	Bearings	SS316 + Nitriding	SS316 + Nitriding	SS316 + Nitriding	SS316 + Nitriding
17	Bearing Seal (optional)	Graphite	Graphite	Graphite	Graphite
18, 19, 20	Spacers	316 SS	316 SS	316 SS	316 SS
21	Packing	Graphite	Graphite	Graphite	Graphite
22	Packing Follower	316 SS	316 SS	316 SS	316 SS
23	Gland Flange	Gr 70 or A105	Gr 70 or A105N	316 SS	316 SS
24	Packing Stud	ASTM A193 Gr B7 Oxide Coated	ASTM A193 Gr B7M Oxide Coated	ASTM A193 Gr B8 Cl 2	ASTM A193 Gr B8M Cl 1
25	Packing Nut	ASTM A194 Gr 2H Oxide Coated	ASTM A194 Gr 2HM Oxide Coated	ASTM A194 Gr 8	ASTM A194 Gr 8M
26	Washer	316 SS	316 SS	316 SS	316 SS
28, 29, 30	Shim	316 SS	316 SS	316 SS	316 SS

Durco® TX3 Triple Offset Butterfly Valve



NPS 3 to 24: Double flanged dimensions — metric



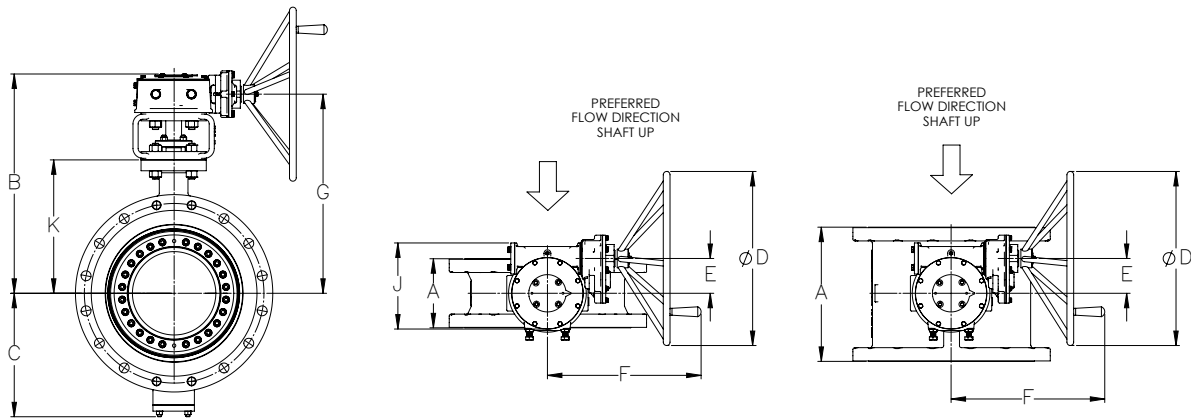
Notes: Flange dimensions per B16.5. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions. Consult factory for pressure classes 900 and 1,500.

ASME Class 150 (mm)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, kg	
	Short	Long									Short	Long
3	114	203	304	153	200	42	268	259	132	138	24	27
4	127	229	346	158	200	42	268	300	132	160	36	39
6	140	267	355	187	200	42	268	309	132	185	44	52
8	152	292	482	221	300	14	375	430	192	273	78	94
10	165	330	539	257	300	14	375	487	192	305	118	148
12	178	356	581	314	400	83	421	529	217	343	149	178
14	190	381	649	343	500	28	442	587	257	378	204	226
16	216	406	688	381	630	43	487	622	287	410	276	310
18	222	432	707	397	560	112	496	641	287	429	322	371
20	229	457	768	455	560	153	559	687	373	474	441	506
24	267	508	898	535	710	182	608	812	427	569	867	944

ASME Class 300 (mm)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, kg	
	Short	Long									Short	Long
3	114	282	379	153	200	42	268	334	132	194	34	39
4	127	305	352	171	200	42	268	306	132	173	46	55
6	140	403	459	213	400	57	336	413	160	260	76	93
8	152	419	524	263	400	27	404	472	235	292	125	153
10	165	457	588	297	500	28	442	526	257	324	175	215
12	178	502	639	368	560	112	496	573	287	362	245	304
14	190	762	697	398	630	153	578	616	373	404	373	517
16	216	838	738	441	630	153	578	654	373	442	440	644
18	222	914	791	467	710	182	608	704	427	488	565	805
20	229	991	886	497	710	182	608	799	427	537	778	1,131
24	267	1,143	1034	587	710	230	698	934	530	635	1,272	1,769

ASME Class 600 (mm)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, kg	
	Short	Long									Short	Long
3	180	356	318	164	350	57	326	271	160	151	40	43
4	190	432	425	197	300	13	375	374	192	210	80	84
6	210	559	514	245	500	28	442	452	257	269	149	175
8	230	660	575	303	710	43	492	510	287	311	228	278
10	250	787	662	365	630	153	579	581	373	356	368	476
12	270	838	700	397	710	182	608	613	427	384	484	644
14	290	889	749	447	710	182	608	663	427	414	583	763
16	310	991	861	460	800	230	708	762	530	500	826	1,087
18	330	1,092	953	511	800	230	708	853	530	553	985	1,347
20	350	1,194	1,066	570	900	280	763	944	639	626	1,542	2,034
24	390	1,397	1,189	706	900	280	763	1,068	639	692	2,170	3,182

NPS 3 to 24: Double flanged dimensions – U.S.



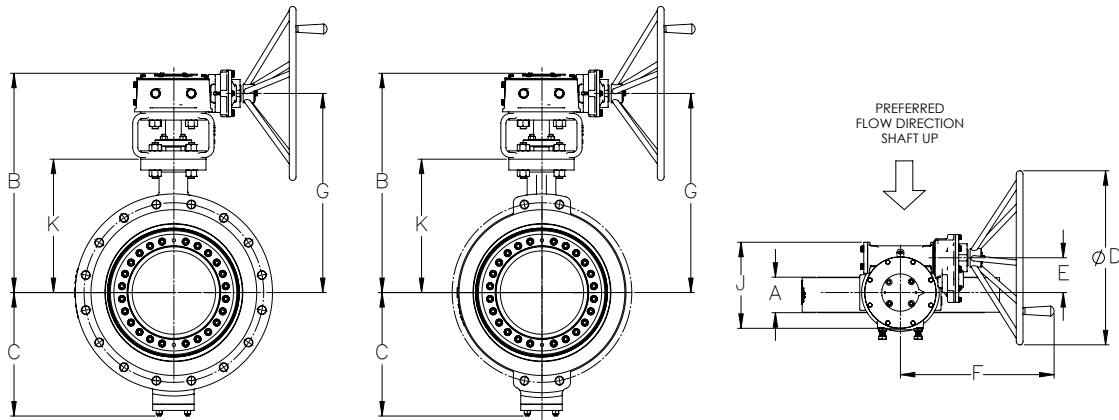
Notes: Flange dimensions per B16.5. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions. Consult factory for pressure classes 900 and 1,500.

ASME Class 150 (in.)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, lbs	
	Short	Long									Short	Long
3	4.50	8.00	11.98	6.02	7.87	1.65	10.57	10.18	5.20	5.43	53	60
4	5.00	9.00	13.61	6.23	7.87	1.65	10.57	11.80	5.20	6.31	79	85
6	5.50	10.50	13.98	7.37	7.87	1.65	10.57	12.17	5.20	7.30	98	115
8	6.00	11.50	18.96	8.69	11.81	0.54	14.75	16.94	7.56	10.75	172	206
10	6.50	13.00	21.21	10.13	11.81	0.54	14.75	19.19	7.56	12.00	260	327
12	7.00	14.00	22.86	12.37	15.75	3.27	16.56	20.84	8.56	13.50	328	392
14	7.50	15.00	25.54	13.50	19.69	1.12	17.40	23.10	10.12	14.90	449	497
16	8.50	16.00	27.07	15.00	24.80	1.71	19.17	24.47	11.29	16.15	608	682
18	8.75	17.00	27.82	15.64	22.05	4.41	19.53	25.22	11.29	16.90	710	818
20	9.00	18.00	30.24	17.93	22.05	6.03	21.99	27.03	14.69	18.66	972	1,116
24	10.50	20.00	35.34	21.07	27.95	7.17	23.92	31.96	16.81	22.39	1,912	2,081

ASME Class 300 (in.)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, lbs	
	Short	Long									Short	Long
3	4.50	11.12	14.93	6.02	7.87	1.65	10.57	13.13	5.20	7.63	74	86
4	5.00	12.00	13.86	6.75	7.87	1.65	10.57	12.05	5.20	6.81	102	121
6	5.50	15.88	18.09	8.38	15.75	2.24	13.23	16.25	6.28	10.25	167	205
8	6.00	16.50	20.62	10.37	15.75	1.05	15.89	18.60	9.27	11.51	275	337
10	6.50	18.00	23.14	11.69	19.69	1.12	17.40	20.70	10.12	12.75	386	474
12	7.00	19.75	25.17	14.49	22.05	4.41	19.53	22.57	11.29	14.25	540	670
14	7.50	30.00	27.44	15.66	24.80	6.02	22.74	24.27	14.69	15.90	822	1,141
16	8.50	33.00	29.05	17.37	24.80	6.02	22.74	25.76	14.69	17.39	971	1,420
18	8.75	36.00	31.16	18.37	27.95	7.17	23.92	27.73	16.81	19.20	1,245	1,775
20	9.00	39.00	34.87	19.56	27.95	7.17	23.92	31.44	16.81	21.16	1,715	2,493
24	10.50	45.00	40.72	23.12	27.95	9.06	27.47	36.79	20.86	25.00	2,805	3,899

ASME Class 600 (in.)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, lbs	
	Short	Long									Short	Long
3	7.09	14.00	12.52	6.45	13.78	2.24	12.84	10.68	6.28	5.93	88	95
4	7.48	17.00	16.75	7.76	11.81	0.50	14.75	14.71	7.56	8.27	177	185
6	8.27	22.00	20.25	9.65	19.69	1.12	17.40	17.81	10.12	10.61	328	387
8	9.06	26.00	22.63	11.92	27.95	1.71	19.37	20.07	11.29	12.25	502	613
10	9.84	31.00	26.07	14.38	24.80	6.02	22.78	22.87	14.69	14.00	812	1,048
12	10.63	33.00	27.57	15.63	27.95	7.17	23.92	24.14	16.81	15.11	1,067	1,420
14	11.42	35.00	29.49	17.60	27.95	7.17	23.92	26.10	16.81	16.28	1,286	1,683
16	12.20	39.00	33.89	18.12	31.50	9.06	27.86	30.00	20.86	19.67	1,820	2,398
18	12.99	43.00	37.52	20.12	31.50	9.06	27.86	33.58	20.86	21.79	2,171	2,970
20	13.78	47.00	41.96	22.43	35.43	11.04	30.03	37.15	25.15	24.63	3,400	4,484
24	15.35	55.00	46.83	27.78	35.43	11.04	30.03	42.03	25.15	27.25	4,785	7,015

NPS 3 to 24: Lug and wafer dimensions – metric



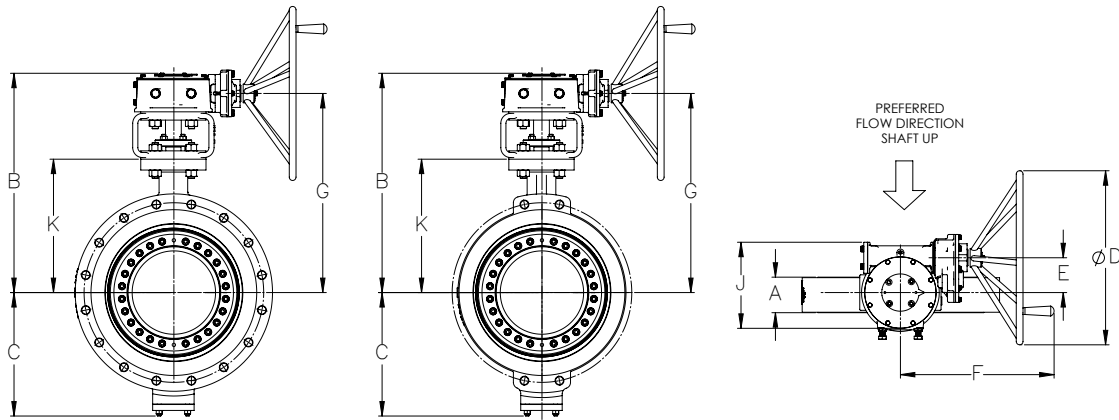
Notes: Flange dimensions per B16.5. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions. Consult factory for pressure classes 900 and 1,500.

ASME Class 150 (mm)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, kg	
	Lug	Wafer									Lug	Wafer
3	48	48	304	153	200	42	268	259	132	138	18	15
4	54	54	346	158	200	42	268	300	132	160	29	23
6	57	57	355	187	200	42	268	309	132	185	37	29
8	64	64	482	221	300	14	375	430	192	273	69	59
10	71	71	539	257	300	14	375	487	192	305	103	86
12	81	81	581	314	400	83	421	529	217	343	134	108
14	92	92	649	343	500	28	442	587	257	378	190	154
16	102	102	688	381	630	43	487	622	287	410	256	210
18	114	114	707	397	560	112	496	641	287	429	301	247
20	127	127	768	455	560	153	559	687	373	474	425	350
24	154	154	898	535	710	182	608	812	427	569	855	745

ASME Class 300 (mm)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, kg	
	Lug	Wafer									Lug	Wafer
3	48	48	379	153	200	42	268	334	132	194	28	24
4	54	54	352	171	200	42	268	306	132	173	35	27
6	59	59	459	213	400	57	336	413	160	260	59	49
8	73	73	524	263	400	27	404	472	235	292	104	87
10	83	83	588	297	500	28	442	526	257	324	149	123
12	92	92	639	368	560	112	496	573	287	362	206	166
14	117	117	697	398	630	153	578	616	373	404	351	283
16	133	133	738	441	630	153	578	654	373	442	412	331
18	149	149	791	467	710	182	608	704	427	488	542	440
20	159	159	886	497	710	182	608	799	427	537	752	622
24	181	181	1,034	587	710	230	698	934	530	635	1,246	1,048

ASME Class 600 (mm)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, kg	
	Lug	Wafer									Lug	Wafer
3	54	54	318	164	350	57	326	271	160	151	26	34
4	64	64	425	197	300	13	375	374	192	210	55	47
6	78	78	514	245	500	28	442	452	257	269	109	93
8	102	102	575	303	710	43	492	510	287	311	179	151
10	117	117	662	365	630	153	579	581	373	356	305	256
12	140	140	700	397	710	182	608	613	427	384	411	356
14	155	155	749	447	710	182	608	663	427	414	509	430
16	178	178	861	460	800	230	708	762	530	500	746	630
18	200	200	953	511	800	230	708	853	530	553	894	753
20	216	216	1,066	570	900	280	763	944	639	626	1,422	1,246
24	232	232	1,189	706	900	280	763	1,068	639	692	1,939	1,689

NPS 3 to 24: Lug and wafer dimensions – U.S.



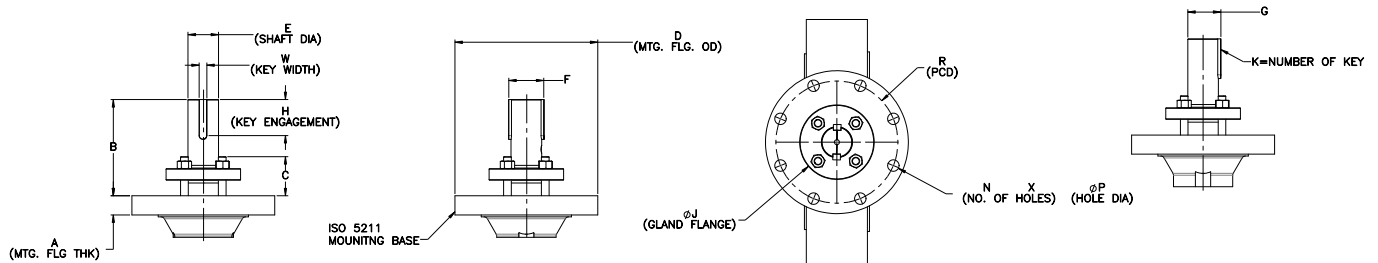
Notes: Flange dimensions per B16.5. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions. Consult factory for pressure classes 900 and 1,500.

ASME Class 150 (in.)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, lbs	
	Lug	Wafer									Lug	Wafer
3	1.88	1.88	11.98	6.02	7.87	1.65	10.57	10.18	5.20	5.43	39	34
4	2.12	2.12	13.61	6.23	7.87	1.65	10.57	11.80	5.20	6.31	65	51
6	2.25	2.25	13.98	7.37	7.87	1.65	10.57	12.17	5.20	7.30	82	63
8	2.50	2.50	18.96	8.69	11.81	0.54	14.75	16.94	7.56	10.75	152	129
10	2.81	2.81	21.21	10.13	11.81	0.54	14.75	19.19	7.56	12.00	226	190
12	3.19	3.19	22.86	12.37	15.75	3.27	16.56	20.84	8.56	13.50	296	238
14	3.62	3.62	25.54	13.50	19.69	1.12	17.40	23.10	10.12	14.90	418	339
16	4.00	4.00	27.07	15.00	24.80	1.71	19.17	24.47	11.29	16.15	565	463
18	4.50	4.50	27.82	15.64	22.05	4.41	19.53	25.22	11.29	16.90	664	545
20	5.00	5.00	30.24	17.93	22.05	6.03	21.99	27.03	14.69	18.66	938	771
24	6.06	6.06	35.34	21.07	27.95	7.17	23.92	31.96	16.81	22.39	1,890	1,642

ASME Class 300 (in.)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, lbs	
	Lug	Wafer									Lug	Wafer
3	1.88	1.88	14.93	6.02	7.87	1.65	10.57	13.13	5.20	7.63	62	53
4	2.12	2.12	13.86	6.75	7.87	1.65	10.57	12.05	5.20	6.81	78	59
6	2.31	2.31	18.09	8.38	15.75	2.24	13.23	16.25	6.28	10.25	131	108
8	2.88	2.88	20.62	10.37	15.75	1.05	15.89	18.60	9.27	11.51	229	192
10	3.25	3.25	23.14	11.69	19.69	1.12	17.40	20.70	10.12	12.75	329	272
12	3.62	3.62	25.17	14.49	22.05	4.41	19.53	22.57	11.29	14.25	455	366
14	4.62	4.62	27.44	15.66	24.80	6.02	22.74	24.27	14.69	15.90	774	625
16	5.25	5.25	29.05	17.37	24.80	6.02	22.74	25.76	14.69	17.39	908	730
18	5.88	5.88	31.16	18.37	27.95	7.17	23.92	27.73	16.81	19.20	1,194	970
20	6.25	6.25	34.87	19.56	27.95	7.17	23.92	31.44	16.81	21.16	1,657	1,372
24	7.12	7.12	40.72	23.12	27.95	9.06	27.47	36.79	20.86	25.00	2,746	2,311

ASME Class 600 (in.)												
Size	A Face-to-face		B	C	Ø D	E	F	G	J	K	Weight, lbs	
	Lug	Wafer									Lug	Wafer
3	2.12	2.12	12.52	6.45	13.78	2.24	12.84	10.68	6.28	5.93	57	76
4	2.50	2.50	16.75	7.76	11.81	0.50	14.75	14.71	7.56	8.27	121	104
6	3.06	3.06	20.25	9.65	19.69	1.12	17.40	17.81	10.12	10.61	250	205
8	4.00	4.00	22.63	11.92	27.95	1.71	19.37	20.07	11.29	12.25	394	333
10	4.62	4.62	26.07	14.38	24.80	6.02	22.78	22.87	14.69	14.00	673	564
12	5.50	5.50	27.57	15.63	27.95	7.17	23.92	24.14	16.81	15.11	906	785
14	6.12	6.12	29.49	17.60	27.95	7.17	23.92	26.10	16.81	16.28	1,123	949
16	7.00	7.00	33.89	18.12	31.50	9.06	27.86	30.00	20.86	19.67	1,645	1,388
18	7.88	7.88	37.52	20.12	31.50	9.06	27.86	33.58	20.86	21.79	1,970	1,659
20	8.50	8.50	41.96	22.43	35.43	11.04	30.03	37.15	25.15	24.63	3,300	2,748
24	9.13	9.13	46.83	27.78	35.43	11.04	30.03	42.03	25.15	27.25	4,345	3,723

NPS 3 to 24: Topworks dimensions – metric



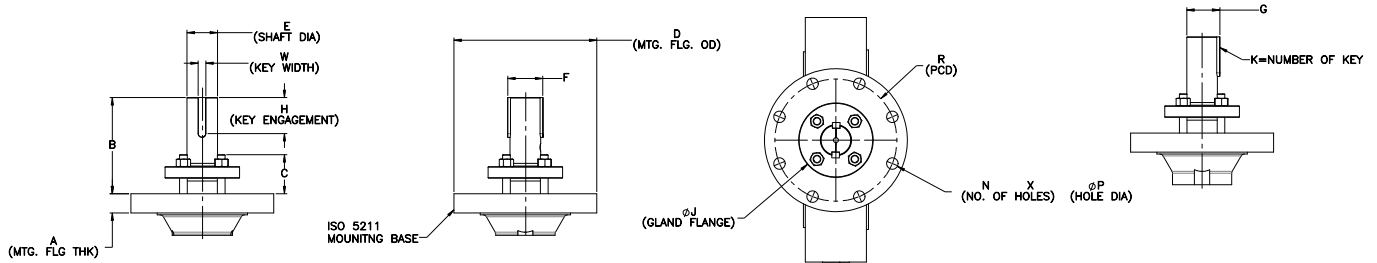
Consult factory for pressure classes 900 and 1,500.

ASME Class 150 (mm)															
Size	ISO Pattern	A	B	C	D	E	F	G	K	H	W	J	N	P	R
3	F07	21	111	38	90	16	-	17	1	30	5	76	4	8	70
4	F10	16	132	47	125	19	-	20	1	37	5	84	4	11	102
6	F10	19	118	47	125	19	-	20	1	30	5	84	4	11	102
8	F12	25	159	57	150	29	33	-	2	45	6	92	4	13	125
10	F14	28	188	63	175	32	36	-	2	45	6	102	4	17	140
12	F14	28	194	76	175	38	43	-	2	61	10	104	4	17	140
14	F16	35	216	76	210	38	43	-	2	65	10	114	4	21	165
16	F16	35	235	73	210	45	50	-	2	75	10	114	4	21	165
18	F16	35	234	80	210	51	59	-	2	61	13	118	4	21	165
20	F25	32	254	73	300	57	66	-	2	86	13	152	8	17	254
24	F25	35	273	102	300	70	79	-	2	89	16	178	8	17	254

ASME Class 300 (mm)															
Size	ISO Pattern	A	B	C	D	E	F	G	K	H	W	J	N	P	R
3	F10	19	130	47	125	19	-	20	1	30	5	84	4	11	102
4	F10	16	130	47	125	22	-	24	1	37	5	84	4	11	102
6	F12	25	154	60	150	29	33	-	2	51	6	92	4	13	125
8	F14	29	185	60	175	35	40	-	2	47	8	104	4	17	140
10	F16	35	216	73	210	38	43	-	2	64	10	114	4	21	165
12	F16	35	234	76	210	45	50	-	2	75	10	114	4	21	165
14	F25	35	232	79	300	57	65	-	2	73	13	156	8	17	254
16	F25	32	254	86	300	64	73	-	2	76	16	172	8	17	254
18	F30	35	269	95	350	70	79	-	2	89	16	178	8	21	298
20	F30	35	316	105	350	76	87	-	2	111	19	216	8	21	298
24	F35	51	337	112	415	89	102	-	2	105	22	235	8	31	356

ASME Class 600 (mm)															
Size	ISO Pattern	A	B	C	D	E	F	G	K	H	W	J	N	P	R
3	F10	21	114	47	125	22	-	24	1	35	5	76	4	11	102
4	F14	28	165	70	175	27	-	29	1	45	6	92	4	17	140
6	F14	29	185	73	175	38	43	-	2	65	10	98	4	17	140
8	F16	35	213	73	210	45	50	-	2	75	10	118	4	21	165
10	F25	36	260	89	300	57	66	-	2	73	13	156	8	17	254
12	F25	32	272	95	300	60	69	-	2	89	16	165	8	17	254
14	F30	38	303	101	350	70	79	-	2	103	16	178	8	21	298
16	F30	38	322	117	350	76	87	-	2	111	19	216	8	21	298
18	F35	51	356	124	415	89	102	-	2	105	22	235	8	31	356
20	F40	64	388	130	475	102	117	-	2	119	25	248	8	37	406
24	F40	64	472	167	475	121	139	-	2	152	32	286	8	37	406

NPS 3 to 24: Topworks dimensions – U.S.



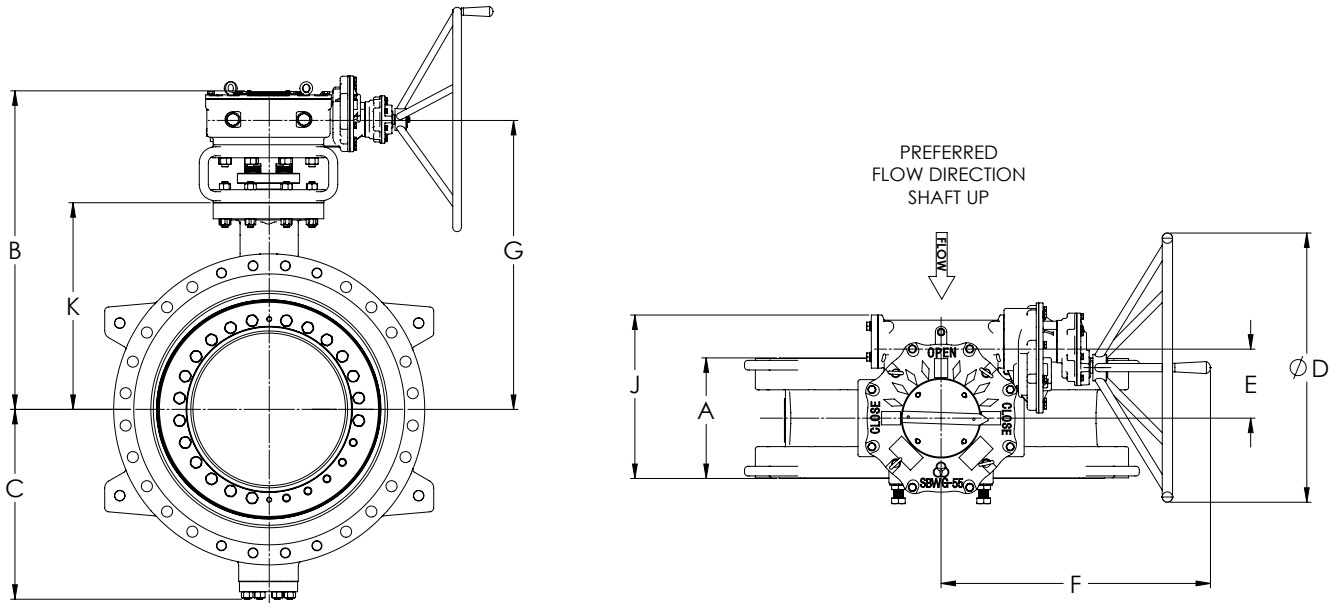
Consult factory for pressure classes 900 and 1,500.

ASME Class 150 (in.)															
Size	ISO Pattern	A	B	C	D	E	F	G	K	H	W	J	N	P	R
3	F07	0.81	4.38	1.50	3.54	0.63	-	0.67	1	1.19	0.19	2.96	4	0.33	2.76
4	F10	0.63	5.21	1.84	4.92	0.75	-	0.80	1	1.47	0.19	3.29	4	0.41	4.02
6	F10	0.76	4.63	1.87	4.92	0.75	-	0.80	1	1.19	0.19	3.29	4	0.41	4.02
8	F12	1.00	6.25	2.25	5.91	1.13	1.29	-	2	1.75	0.25	3.63	4	0.51	4.92
10	F14	1.12	7.38	2.50	6.89	1.25	1.42	-	2	1.75	0.25	4.00	4	0.67	5.51
12	F14	1.12	7.63	3.00	6.89	1.50	1.70	-	2	2.38	0.38	4.10	4	0.67	5.51
14	F16	1.38	8.50	3.00	8.27	1.50	1.70	-	2	2.56	0.38	4.50	4	0.83	6.50
16	F16	1.38	9.25	2.86	8.27	1.75	1.96	-	2	2.94	0.38	4.50	4	0.83	6.50
18	F16	1.38	9.22	3.15	8.27	2.00	2.32	-	2	2.38	0.50	4.63	4	0.83	6.50
20	F25	1.25	10.00	2.87	11.81	2.25	2.58	-	2	3.38	0.50	6.00	8	0.67	10.00
24	F25	1.38	10.75	4.00	11.81	2.75	3.12	-	2	3.50	0.63	7.00	8	0.67	10.00

ASME Class 300 (in.)															
Size	ISO Pattern	A	B	C	D	E	F	G	K	H	W	J	N	P	R
3	F10	0.76	5.13	1.87	4.92	0.75	-	0.80	1	1.19	0.19	3.29	4	0.41	4.02
4	F10	0.63	5.13	1.87	4.92	0.88	-	0.93	1	1.47	0.19	3.29	4	0.41	4.02
6	F12	1.00	6.04	2.37	5.91	1.13	1.29	-	2	2.00	0.25	3.63	4	0.51	4.92
8	F14	1.13	7.30	2.37	6.89	1.38	1.59	-	2	1.83	0.31	4.10	4	0.67	5.51
10	F16	1.37	8.50	2.87	8.27	1.50	1.70	-	2	2.50	0.38	4.50	4	0.83	6.50
12	F16	1.38	9.19	3.00	8.27	1.75	1.96	-	2	2.94	0.38	4.50	4	0.83	6.50
14	F25	1.38	9.13	3.12	11.81	2.25	2.57	-	2	2.88	0.50	6.13	8	0.67	10.00
16	F25	1.25	10.00	3.38	11.81	2.50	2.86	-	2	3.00	0.63	6.75	8	0.67	10.00
18	F30	1.38	10.59	3.75	13.78	2.75	3.12	-	2	3.50	0.63	7.00	8	0.83	11.73
20	F30	1.38	12.42	4.12	13.78	3.00	3.40	-	2	4.38	0.75	8.50	8	0.83	11.73
24	F35	2.00	13.25	4.39	16.34	3.50	4.02	-	2	4.12	0.88	9.25	8	1.22	14.02

ASME Class 600 (in.)															
Size	ISO Pattern	A	B	C	D	E	F	G	K	H	W	J	N	P	R
3	F10	0.83	4.47	1.87	4.92	0.88	-	0.93	1	1.38	0.19	3.00	4	0.41	4.02
4	F14	1.12	6.50	2.74	6.89	1.06	-	1.14	1	1.75	0.25	3.62	4	0.67	5.51
6	F14	1.13	7.30	2.87	6.89	1.50	1.70	-	2	2.56	0.38	3.88	4	0.67	5.51
8	F16	1.38	8.38	2.87	8.27	1.75	1.96	-	2	2.94	0.38	4.63	4	0.83	6.50
10	F25	1.40	10.25	3.49	11.81	2.25	2.58	-	2	2.88	0.50	6.13	8	0.67	10.00
12	F25	1.25	10.70	3.74	11.81	2.38	2.73	-	2	3.50	0.63	6.50	8	0.67	10.00
14	F30	1.50	11.91	3.99	13.78	2.75	3.12	-	2	4.06	0.63	7.00	8	0.83	11.73
16	F30	1.50	12.66	4.62	13.78	3.00	3.40	-	2	4.38	0.75	8.50	8	0.83	11.73
18	F35	2.00	14.00	4.87	16.34	3.50	4.01	-	2	4.12	0.88	9.25	8	1.22	14.02
20	F40	2.50	15.26	5.12	18.70	4.00	4.62	-	2	4.70	1.00	9.75	8	1.46	15.98
24	F40	2.50	18.59	6.56	18.70	4.75	5.46	-	2	6.00	1.25	11.25	8	1.46	15.98

NPS 30 to 60: Double flanged Series A flanged dimensions — metric



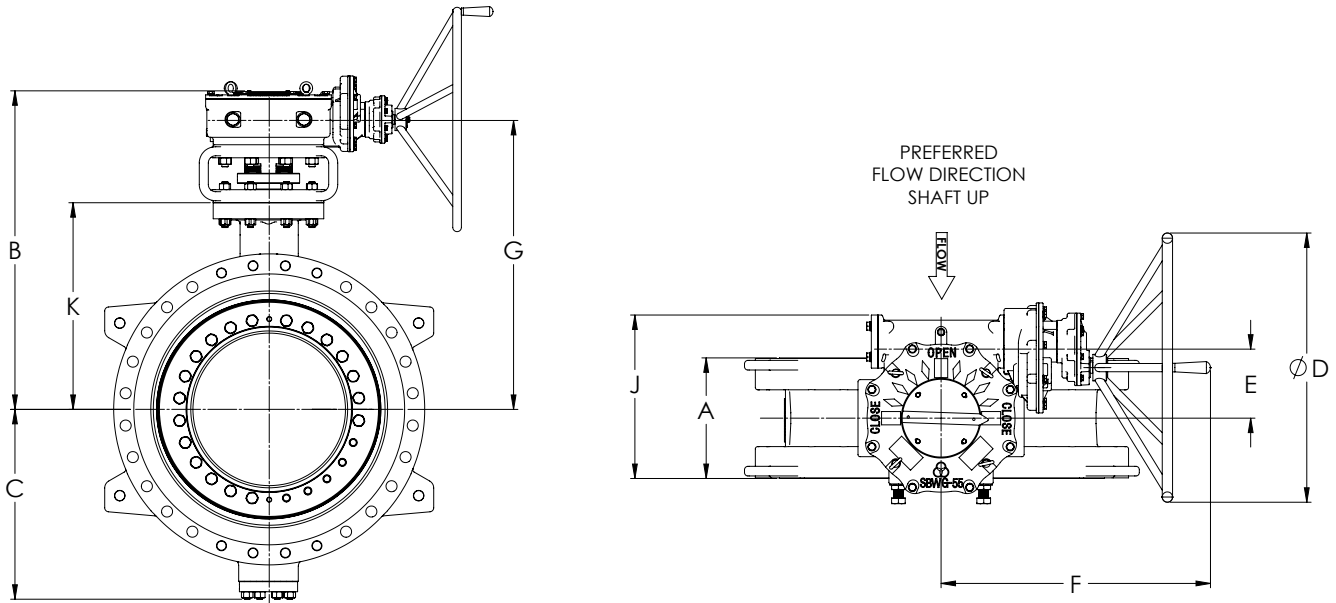
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom).

ASME Class 150 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Short									Short
30	318	1,015	601	710	202	735	933	501	654	1,069
32	318	1,141	627	800	230	801	1,050	573	706	1,370
36	330	1,216	728	800	230	801	1,125	578	762	1,731
42	410	1,414	859	900	281	846	1,303	690	864	2,700
48	470	1,592	963	1,000	326	1,011	1,466	815	1,016	3,907
52	530	1,679	1,005	1,000	326	1,011	1,553	845	1,140	4,653
56	530	1,829	1,060	1,000	379	1,046	1,700	953	1,238	5,199
60	600	1,867	1,187	1,000	379	1,046	1,738	988	1,245	6,248

ASME Class 300 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Short									Short
30	318	1,303	711	1,000	356	1,011	1,177	739	737	2,063
32	318	1,372	756	1,000	356	1,011	1,246	739	828	2,368
36	330	1,419	788	1,000	379	1,046	1,290	853	853	2,986
42	410	1,586	857	1,000	449	1,086	1,440	962	921	3,741
48	470	1,703	1,012	1,000	449	1,086	1,557	992	1,082	5,256
52	530	1,755	1,014	1,000	449	1,086	1,609	1,023	1,140	5,669
56	530	1,984	1,166	1,000	513	1,322	1,796	1,156	1,245	7,979
60	600	2,089	1,222	1,000	513	1,322	1,901	1,191	1,337	9,038

ASME Class 600 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Short									Short
30	450	1,410	796	1,000	379	1,046	1,281	913	826	3,321
36	510	1,541	819	1,000	449	1,086	1,395	1,013	914	5,550
42	570	1,686	905	1,000	513	1,322	1,498	1,176	953	5,162

NPS 30 to 60: Double flanged Series A flanged dimensions – U.S.



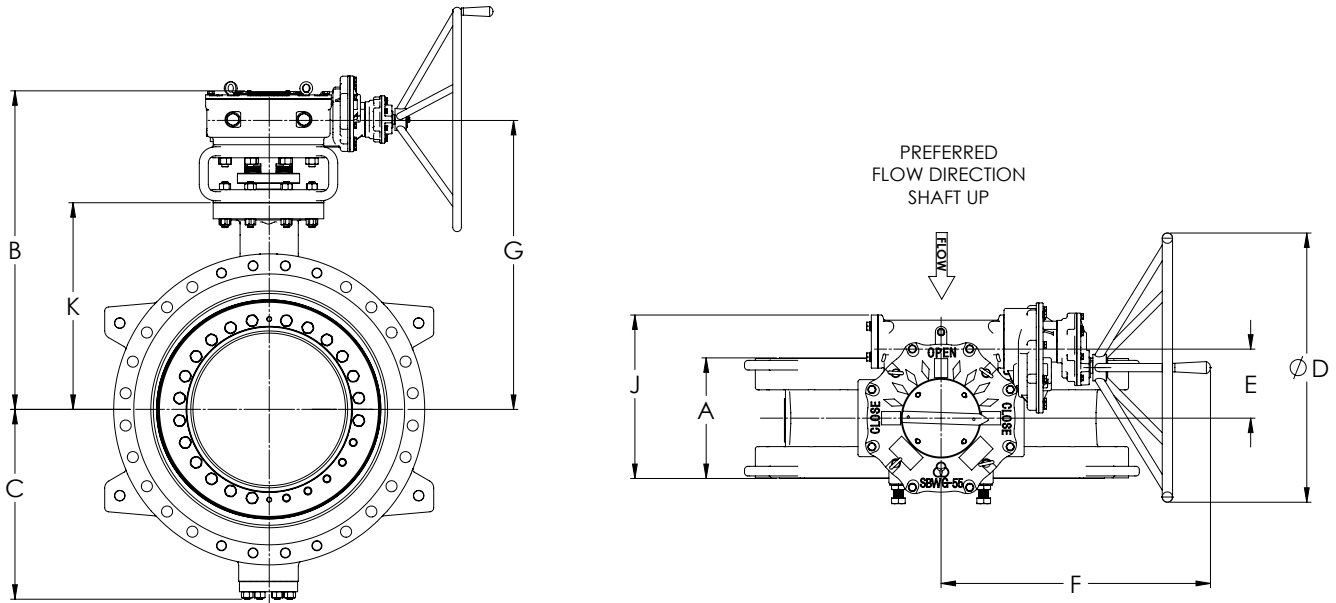
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions.

ASME Class 150 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Short									Short
30	12.52	39.95	23.66	27.95	7.95	28.92	36.72	19.71	25.75	2,358
32	12.52	44.92	24.70	31.50	9.06	31.54	41.34	22.54	27.80	3,021
36	12.99	47.87	28.65	31.50	9.06	31.54	44.29	22.78	30.00	3,817
42	16.14	55.69	33.81	35.43	11.04	33.31	51.32	27.18	34.00	5,953
48	18.50	62.69	37.91	39.37	12.84	39.80	57.72	32.09	40.00	8,613
52	20.87	66.09	39.58	39.37	12.84	39.80	61.12	33.27	44.90	10,259
56	20.87	72.00	41.73	39.37	14.92	41.18	66.92	37.52	48.75	11,463
60	23.62	73.50	46.75	39.37	14.92	41.18	68.42	38.90	49.00	13,774

ASME Class 300 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Short									Short
30	12.52	51.31	28.00	39.37	14.02	39.80	46.35	29.10	29.00	4,548
32	12.52	54.04	29.75	39.37	14.02	39.80	49.07	29.10	32.60	5,220
36	12.99	55.85	31.01	39.37	14.92	41.18	50.77	33.58	33.60	6,582
42	16.14	62.43	33.72	39.37	17.66	42.76	56.68	37.89	36.25	8,247
48	18.50	67.03	39.85	39.37	17.66	42.76	61.28	39.07	42.60	11,588
52	20.87	69.08	39.92	39.37	17.66	42.76	63.33	40.26	44.90	12,497
56	20.87	78.11	45.89	39.37	20.20	52.05	70.71	45.51	49.00	17,591
60	23.62	82.26	48.12	39.37	20.20	52.05	74.86	46.89	52.65	19,925

ASME Class 600 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Short									Short
30	17.72	55.50	31.33	39.37	14.92	41.18	50.42	35.95	32.50	7,321
36	20.08	60.68	32.25	39.37	17.66	42.76	54.93	39.86	36.00	12,235
42	22.44	66.36	35.62	39.37	20.20	52.05	58.96	46.30	37.50	11,381

NPS 30 to 60: Double flanged Series B flanged dimensions — metric



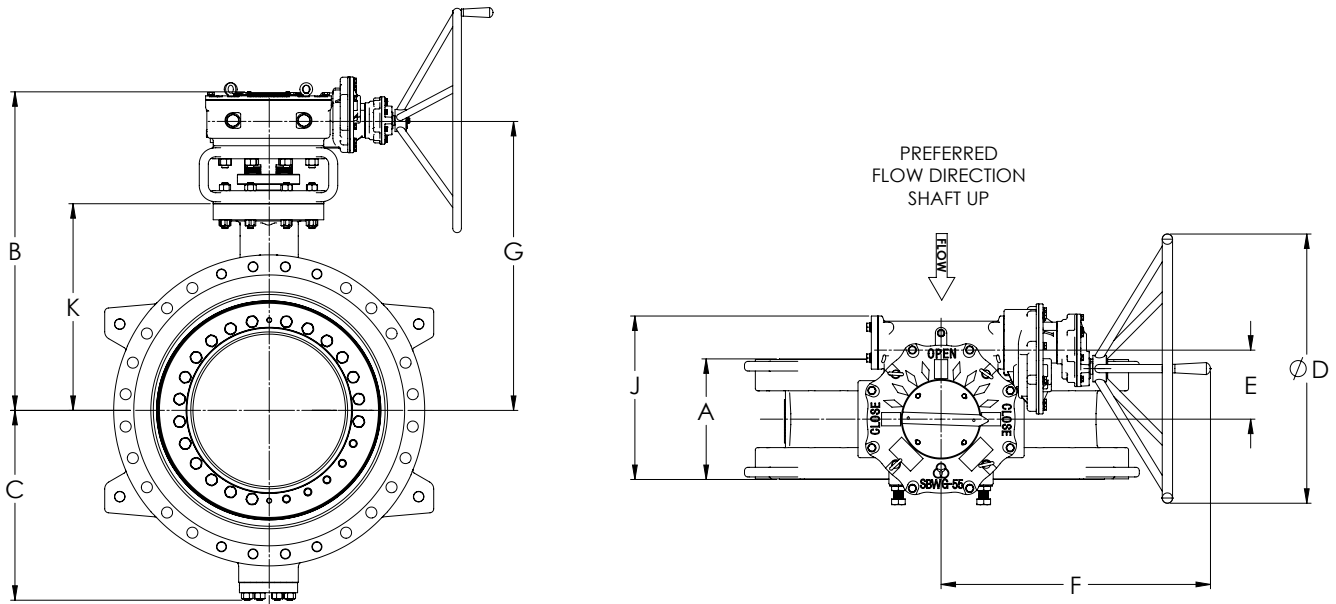
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions.

ASME Class 150 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Short									Short
30	318	996	589	710	202	735	914	501	635	862
32	318	1,121	609	800	230	801	1,030	573	686	1,094
36	330	1,216	722	800	230	801	1,125	578	762	1,381
42	410	1,386	829	900	281	846	1,275	690	835	2,236
48	470	1,541	944	1,000	326	1,011	1,415	815	965	3,354
52	530	1,651	966	1,000	326	1,011	1,525	845	1,113	3,875
56	530	1,797	1,026	1,000	379	1,046	1,668	953	1,207	4,247
60	600	1,852	1,177	1,000	379	1,046	1,723	988	1,229	5,170

ASME Class 300 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Short									Short
30	318	1,252	698	1,000	356	1,011	1,126	739	686	1,829
32	318	1,353	736	1,000	356	1,011	1,227	739	809	2,175
36	330	1,393	762	1,000	379	1,046	1,264	853	828	2,703
42	410	1,586	841	1,000	449	1,086	1,440	962	921	3,790
48	470	1,728	1,055	1,000	449	1,086	1,582	992	1,107	5,276
52	530	1,755	1,015	1,000	449	1,086	1,609	1,023	1,140	5,797
56	530	2,009	1,196	1,000	513	1,322	1,821	1,156	1,270	8,169
60	600	2,121	1,257	1,000	513	1,322	1,933	1,191	1,369	9,079

ASME Class 600 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Short									Short
30	450	1,327	710	1,000	379	1,046	1,198	913	743	2,888
36	510	1,541	832	1,000	449	1,086	1,395	1,013	914	4,472
42	570	1,686	905	1,000	513	1,322	1,498	1,176	953	6,146

NPS 30 to 60: Double flanged Series B flanged dimensions – U.S.



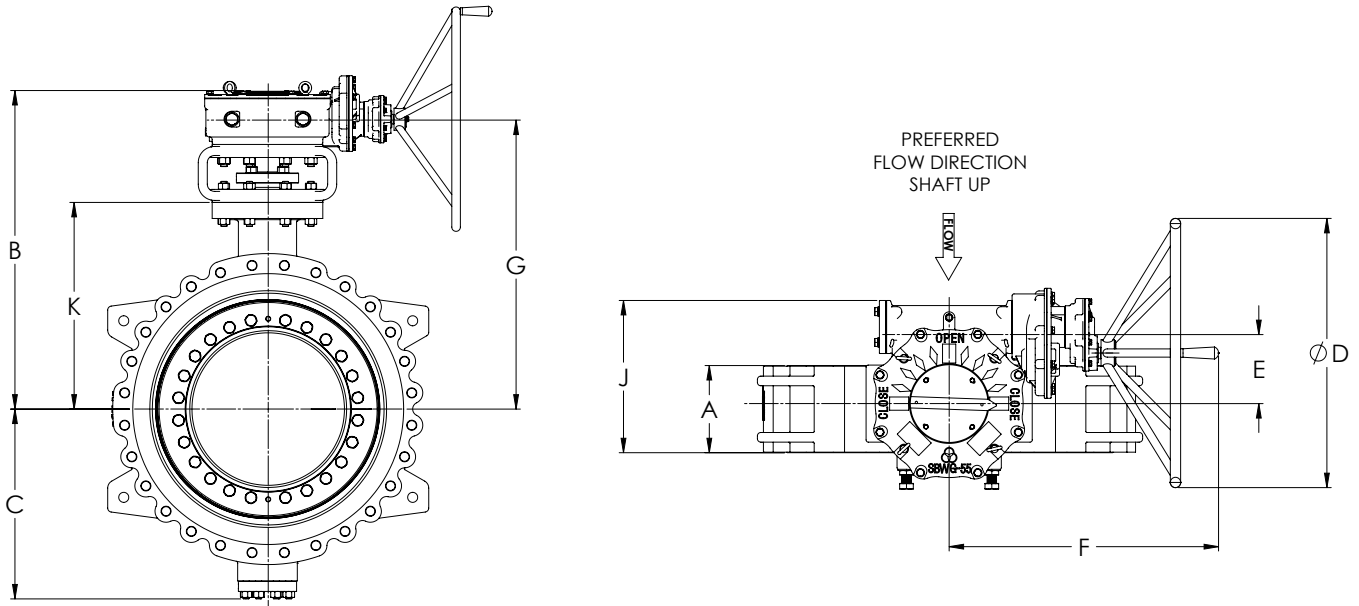
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions.

ASME Class 150 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Short									Short
30	12.52	39.20	23.18	27.95	7.95	28.92	35.97	19.70	25.00	1,900
32	12.52	44.12	23.96	31.50	9.06	31.54	40.54	22.54	27.00	2,411
36	12.99	47.87	28.41	31.50	9.06	31.54	44.29	22.78	30.00	3,045
42	16.14	54.56	32.63	35.43	11.04	33.31	50.19	27.18	32.88	4,929
48	18.50	60.69	37.16	39.37	12.84	39.80	55.72	32.09	38.00	7,394
52	20.87	64.99	38.05	39.37	12.84	39.80	60.02	33.27	43.80	8,542
56	20.87	70.75	40.38	39.37	14.92	41.18	65.67	37.52	47.50	9,362
60	23.62	72.90	46.34	39.37	14.92	41.18	67.82	38.90	48.40	11,397

ASME Class 300 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Short									Short
30	12.520	49.31	27.50	39.37	14.02	39.80	44.35	29.10	27.00	4,031
32	12.500	53.29	29.00	39.37	14.02	39.80	48.32	29.09	31.85	4,796
36	12.990	54.85	30.01	39.37	14.92	41.18	49.77	33.58	32.60	5,959
42	16.140	62.43	33.12	39.37	17.66	42.76	56.68	37.89	36.25	8,356
48	18.500	68.03	41.52	39.37	17.66	42.76	62.28	39.07	43.60	11,632
52	20.870	69.08	39.95	39.37	17.66	42.76	63.33	40.26	44.90	12,781
56	20.866	79.11	47.09	39.37	20.20	52.05	71.71	45.51	50.00	18,010
60	23.622	83.51	49.49	39.37	20.20	52.05	76.11	46.89	53.90	20,015

ASME Class 600 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Short									Short
30	17.720	52.25	27.94	39.37	14.92	41.18	47.17	35.95	29.25	6,366
36	20.079	60.68	32.74	39.37	17.66	42.76	54.93	39.86	36.00	9,859
42	22.440	66.36	35.62	39.37	20.20	52.05	58.96	46.30	37.50	13,549

NPS 30 to 60: Lug Series A dimensions — metric



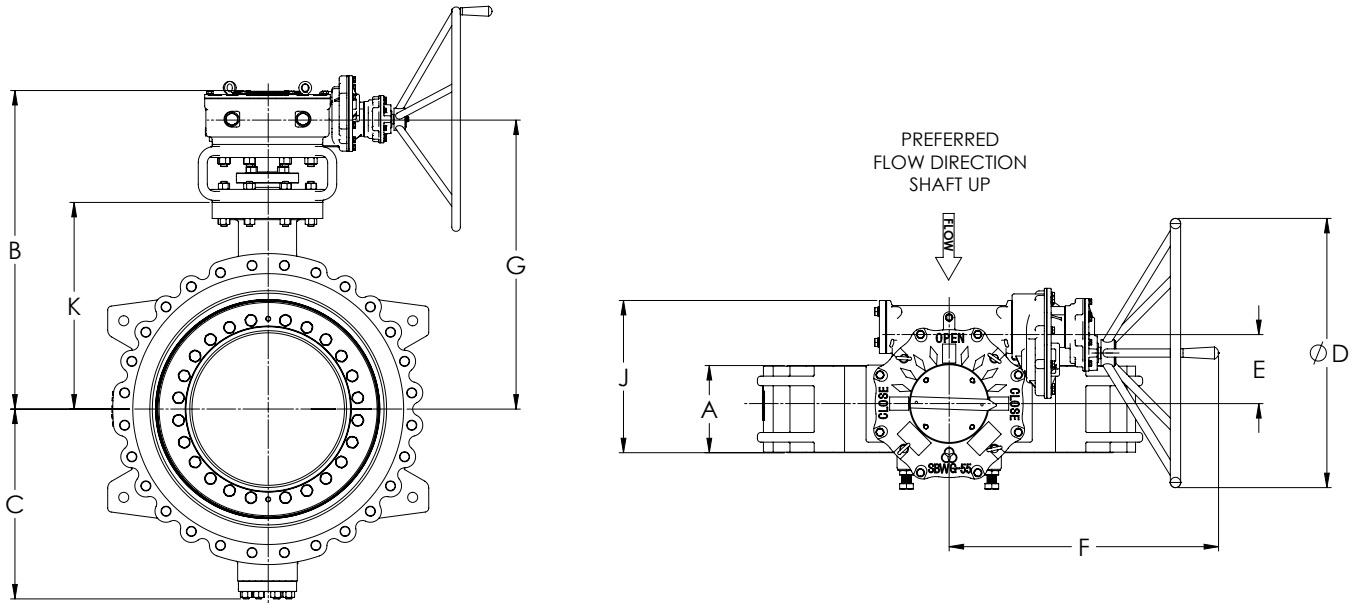
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions.

ASME Class 150 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Lug									Lug
30	230	1,015	601	710	202	735	933	456	654	1,043
32	241	1,141	627	800	230	801	1,050	534	706	1,384
36	266	1,216	728	800	230	801	1,125	547	762	1,731
42	300	1,414	859	900	281	846	1,303	635	864	2,700
48	350	1,592	963	1,000	326	1,011	1,466	755	1,016	4,008
52	370	1,679	1,005	1,000	326	1,011	1,553	765	1,140	4,788
56	390	1,829	1,060	1,000	379	1,046	1,700	883	1,238	5,363
60	410	1,867	1,187	1,000	379	1,046	1,738	893	1,245	6,406

ASME Class 300 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Lug									Lug
30	318	1,303	711	1,000	356	1,011	1,177	739	737	2,256
32	318	1,372	756	1,000	356	1,011	1,246	739	828	2,516
36	330	1,419	788	1,000	379	1,046	1,290	853	853	3,202
42	330	1,586	857	1,000	449	1,086	1,440	922	921	3,711
48	387	1,703	1,012	1,000	449	1,086	1,557	951	1,082	5,103
52	422	1,755	1,014	1,000	449	1,086	1,609	969	1,140	5,195
56	435	1,984	1,166	1,000	513	1,322	1,796	1,108	1,245	7,750
60	450	2,089	1,222	1,000	513	1,322	1,901	1,116	1,337	8,556

ASME Class 600 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Lug									Lug
30	394	1,410	796	1,000	379	1,046	1,281	885	826	3,378
36	394	1,541	819	1,000	449	1,086	1,395	954	914	4,569
42	432	1,686	905	1,000	513	1,322	1,498	1,107	953	5,847

NPS 30 to 60: Lug Series A dimensions – U.S.



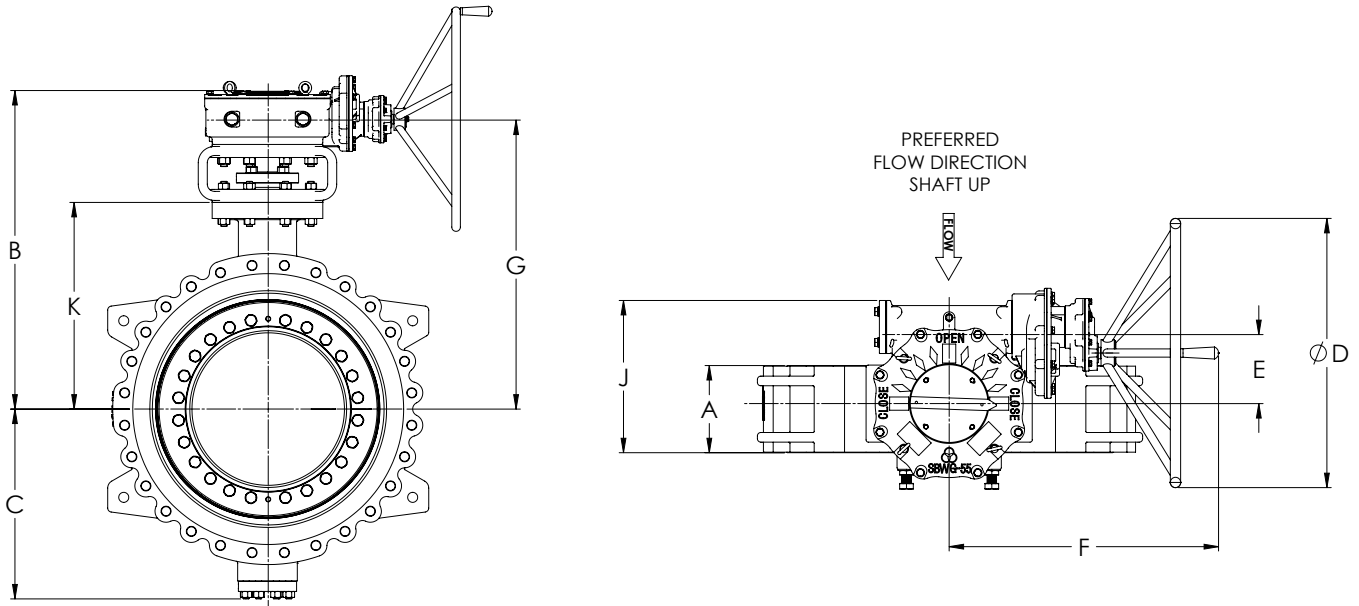
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions.

ASME Class 150 (in.)										
Size	A Face-to-face Lug	B	C	Ø D	E	F	G	J	K	Weight, lbs
										Lug
30	9.05	39.95	23.66	27.95	7.95	28.92	36.72	17.97	25.75	2,299
32	9.49	44.92	24.70	31.50	9.06	31.54	41.34	21.03	27.80	3,052
36	10.49	47.87	28.65	31.50	9.06	31.54	44.29	21.53	30.00	3,816
42	11.81	55.69	33.81	35.43	11.04	33.31	51.32	25.02	34.00	5,953
48	13.78	62.69	37.91	39.37	12.84	39.80	57.72	29.73	40.00	8,836
52	14.57	66.09	39.58	39.37	12.84	39.80	61.12	30.12	44.90	10,557
56	15.35	72.00	41.73	39.37	14.92	41.18	66.92	34.76	48.75	11,824
60	16.14	73.50	46.75	39.37	14.92	41.18	68.42	35.16	49.00	14,122

ASME Class 300 (in.)										
Size	A Face-to-face Lug	B	C	Ø D	E	F	G	J	K	Weight, lbs
										Lug
30	12.52	51.31	28.00	39.37	14.02	39.80	46.35	29.10	29.00	4,974
32	12.52	54.04	29.75	39.37	14.02	39.80	49.07	29.10	32.60	5,547
36	12.99	55.85	31.01	39.37	14.92	41.18	50.77	33.58	33.60	7,060
42	12.99	62.43	33.72	39.37	17.66	42.76	56.68	36.32	36.25	8,180
48	15.25	67.03	39.85	39.37	17.66	42.76	61.28	37.45	42.60	11,250
52	16.62	69.08	39.92	39.37	17.66	42.76	63.33	38.13	44.90	11,453
56	17.12	78.11	45.89	39.37	20.20	52.05	70.71	43.64	49.00	17,086
60	17.72	82.26	48.12	39.37	20.20	52.05	74.86	43.94	52.65	18,862

ASME Class 600 (in.)										
Size	A Face-to-face Lug	B	C	Ø D	E	F	G	J	K	Weight, lbs
										Lug
30	15.50	55.50	31.33	39.37	14.92	41.18	50.42	34.84	32.50	7,447
36	15.50	60.68	32.25	39.37	17.66	42.76	54.93	37.57	36.00	10,073
42	17.00	66.36	35.62	39.37	20.20	52.05	58.96	43.58	37.50	12,891

NPS 30 to 60: Lug Series B dimensions — metric



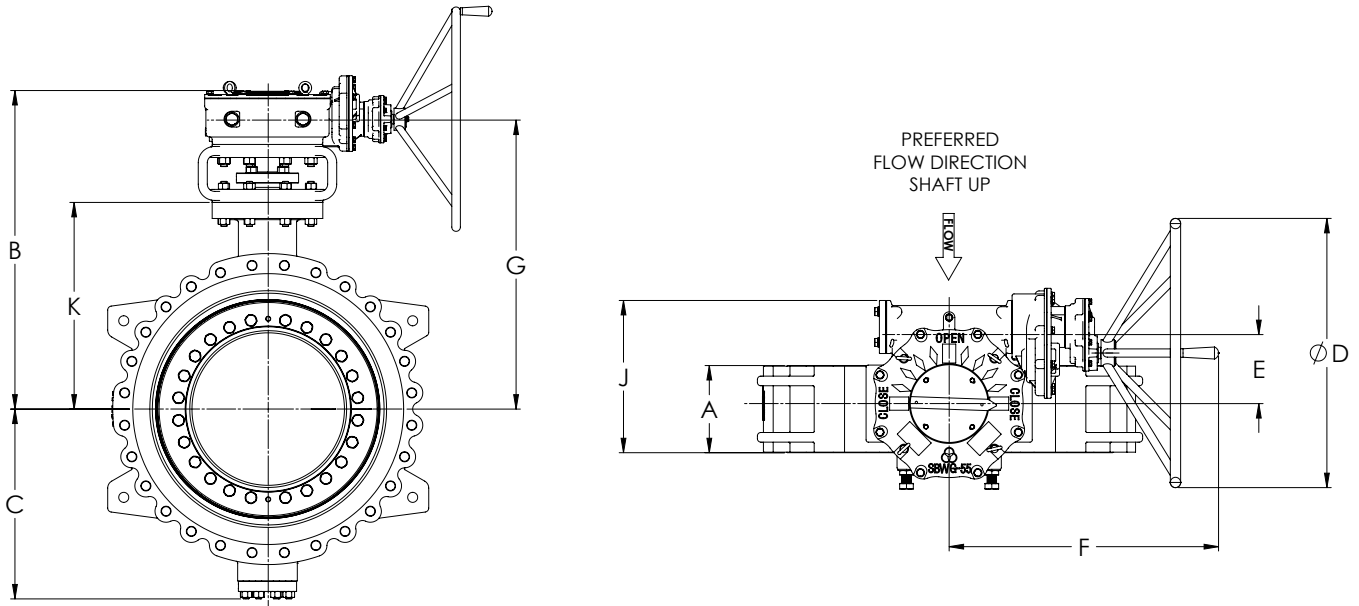
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions.

ASME Class 150 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Lug									Lug
30	230	996	589	710	202	735	914	456	635	891
32	241	1,121	609	800	230	801	1,030	534	686	1,148
36	266	1,216	722	800	230	801	1,125	547	762	1,453
42	300	1,386	829	900	281	846	1,275	635	835	2,281
48	350	1,541	944	1,000	326	1,011	1,415	755	965	3,483
52	370	1,651	966	1,000	326	1,011	1,525	765	1,113	3,971
56	390	1,797	1,026	1,000	379	1,046	1,668	883	1,207	4,407
60	410	1,852	1,177	1,000	379	1,046	1,723	893	1,229	5,202

ASME Class 300 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Lug									Lug
30	318	1,252	698	1,000	356	1,011	1,126	739	686	1,982
32	318	1,353	736	1,000	356	1,011	1,227	739	809	2,301
36	330	1,393	762	1,000	379	1,046	1,264	853	828	2,854
42	330	1,586	841	1,000	449	1,086	1,440	922	921	3,788
48	387	1,728	1,055	1,000	449	1,086	1,582	951	1,107	5,337
52	422	1,755	1,015	1,000	449	1,086	1,609	969	1,140	6,043
56	435	2,009	1,196	1,000	513	1,322	1,821	1,108	1,270	7,935
60	450	2,121	1,257	1,000	513	1,322	1,933	1,116	1,369	9,002

ASME Class 600 (mm)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, kg
	Lug									Lug
30	394	1,327	710	1,000	379	1,046	1,198	913	743	2,952
36	394	1,541	832	1,000	449	1,086	1,395	1,013	914	4,331
42	432	1,686	905	1,000	513	1,322	1,498	1,176	953	5,847

NPS 30 to 60: Lug Series B dimensions – U.S.



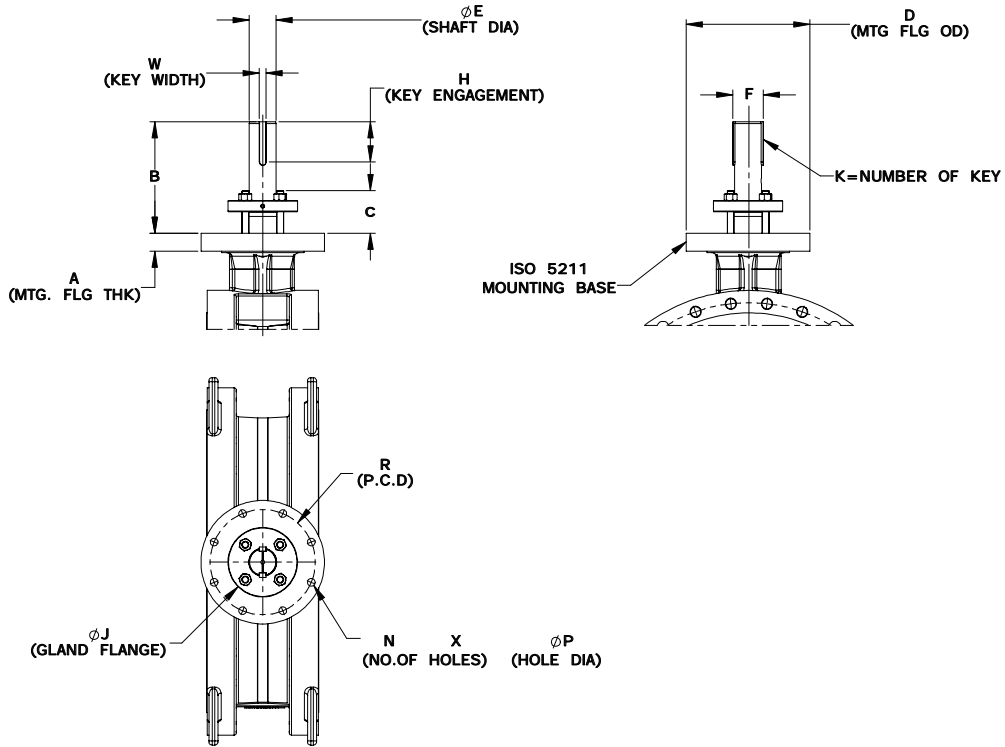
Notes: Flange dimensions per B16.47. Some sizes have tapped holes around the shaft area (top and bottom); consult factory for actual dimensions.

ASME Class 150 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Lug									Lug
30	9.05	39.20	23.18	27.95	7.95	28.92	35.97	17.97	25.00	1,964
32	9.49	44.12	23.96	31.50	9.06	31.54	40.54	21.03	27.00	2,531
36	10.49	47.87	28.41	31.50	9.06	31.54	44.29	21.53	30.00	3,203
42	11.81	54.56	32.63	35.43	11.04	33.31	50.19	25.02	32.88	5,028
48	13.78	60.69	37.16	39.37	12.84	39.80	55.72	29.73	38.00	7,678
52	14.57	64.99	38.05	39.37	12.84	39.80	60.02	30.12	43.80	8,754
56	15.35	70.75	40.38	39.37	14.92	41.18	65.67	34.76	47.50	9,717
60	16.14	72.90	46.34	39.37	14.92	41.18	67.82	35.16	48.40	11,468

ASME Class 300 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Lug									Lug
30	12.52	49.31	27.50	39.37	14.02	39.80	44.35	29.10	27.00	4,371
32	12.52	53.29	29.00	39.37	14.02	39.80	48.32	29.10	31.85	5,074
36	12.99	54.85	30.01	39.37	14.92	41.18	49.77	33.58	32.60	6,292
42	12.99	62.43	33.12	39.37	17.66	42.76	56.68	36.32	36.25	8,352
48	15.25	68.03	41.52	39.37	17.66	42.76	62.28	37.45	43.60	11,766
52	16.62	69.08	39.95	39.37	17.66	42.76	63.33	38.13	44.90	13,323
56	17.12	79.11	47.09	39.37	22.00	52.05	71.71	43.64	50.00	17,494
60	17.72	83.51	49.49	39.37	22.00	52.05	76.11	43.94	53.90	19,847

ASME Class 600 (in.)										
Size	A Face-to-face	B	C	Ø D	E	F	G	J	K	Weight, lbs
	Lug									Lug
30	15.50	52.25	27.94	39.37	14.92	41.18	47.17	35.95	29.25	6,507
36	15.50	60.68	32.74	39.37	17.66	42.80	54.93	39.86	36.00	9,549
42	17.00	66.36	35.62	39.37	21.00	52.05	58.96	46.30	37.50	12,891

NPS 30 to 60: Topworks dimensions – metric

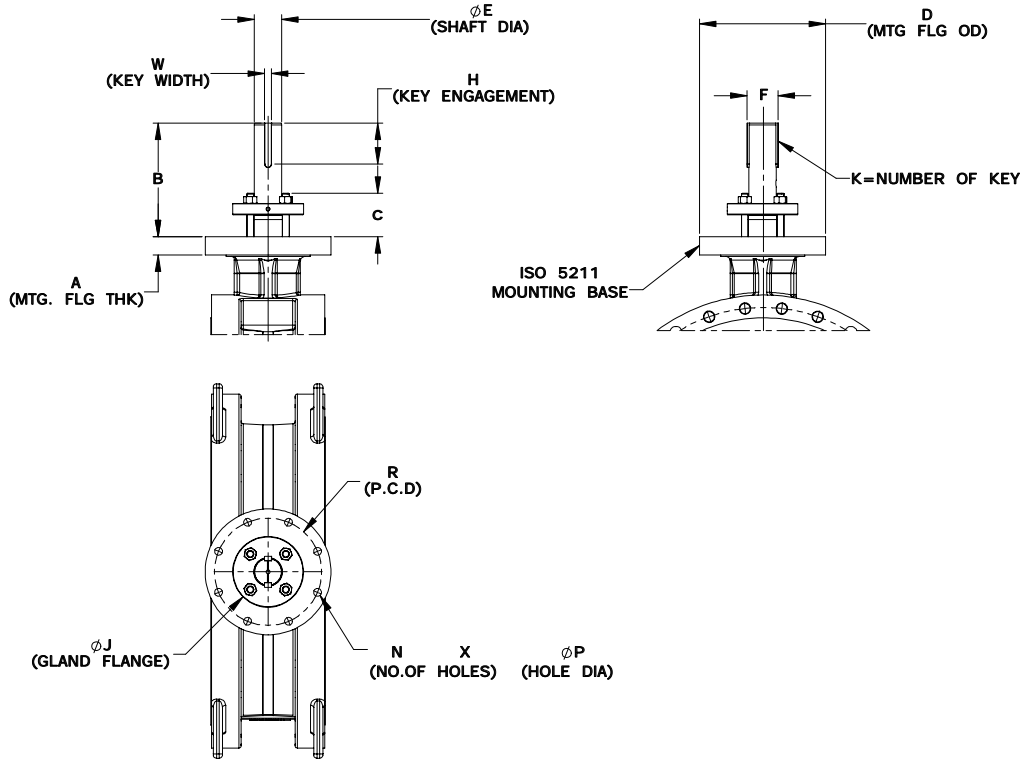


ASME Class 150 (mm)														
Size	ISO Pattern	A	B	C	D	E	F	K	H	W	J	N	P	R
30	F30	51	297	115	350	76	86	2	114.30	19	197	8	22	298
32	F35	53	343	130	415	83	93	2	123.95	19	203	8	32	356
36	F35	51	369	141	415	89	102	2	127.00	22	260	8	32	356
42	F40	83	484	197	475	108	124	2	162.05	25	292	8	38	406
48	F48	79	486	175	560	121	139	2	181.10	32	305	12	38	483
52	F48	83	454	152	560	127	145	2	190.50	32	298	12	38	483
56	F48	70	511	162	560	140	158	2	209.55	32	337	12	38	483
60	F48	83	543	210	560	140	158	2	209.55	32	318	12	38	483

ASME Class 300 (mm)														
Size	ISO Pattern	A	B	C	D	E	F	K	H	W	J	N	P	R
30	F35	54	455	157	415	108	124	2	162	25	268	8	32	356
32	F40	76	441	162	475	114	131	2	171	25	273	8	38	406
36	F48	64	469	159	560	127	145	2	191	32	298	12	38	483
42	F48	57	564	206	560	140	158	2	210	32	343	12	38	483
48	F60	79	547	181	686	171	204	2	257	44	356	20	38	603
52	F60	83	556	171	686	184	217	2	276	44	356	20	38	603
56	F60	83	629	203	686	197	228	2	295	51	406	20	38	603
60	F60	83	670	206	686	210	241	2	314	51	406	20	38	603

ASME Class 600 (mm)														
Size	ISO Pattern	A	B	C	D	E	F	K	H	W	J	N	P	R
30	F48	95	508	191	560	133	152	2	203	32	349	12	38	483
36	F60	89	537	194	686	152	173	2	229	38	356	20	38	603
42	F60	89	636	219	686	168	200	2	252	44	381	20	38	603

NPS 30 to 60: Topworks dimensions – U.S.



ASME Class 150 (in.)														
Size	ISO Pattern	A	B	C	D	E	F	K	H	W	J	N	P	R
30	F30	2.00	11.71	4.51	13.79	3.00	3.40	2	4.50	0.75	7.75	8	0.85	11.73
32	F35	2.10	13.49	5.13	16.35	3.25	3.66	2	4.88	0.75	8.00	8	1.25	14.02
36	F35	2.00	14.54	5.55	16.35	3.50	4.01	2	5.00	0.88	10.25	8	1.25	14.02
42	F40	3.25	19.06	7.74	18.70	4.25	4.88	2	6.38	1.00	11.50	8	1.50	15.98
48	F48	3.10	19.15	6.87	22.00	4.75	5.46	2	7.13	1.25	12.00	12	1.50	19.00
52	F48	3.25	17.87	6.00	22.00	5.00	5.72	2	7.50	1.25	11.75	12	1.50	19.00
56	F48	2.75	20.11	6.37	22.00	5.50	6.22	2	8.25	1.25	13.25	12	1.50	19.00
60	F48	3.25	21.39	8.25	22.00	5.50	6.22	2	8.25	1.25	12.50	12	1.50	19.00

ASME Class 300 (in.)														
Size	ISO Pattern	A	B	C	D	E	F	K	H	W	J	N	P	R
30	F35	2.13	17.92	6.18	16.35	4.25	4.88	2	6.38	1.00	10.55	8	1.25	14.00
32	F40	3.00	17.37	6.38	18.70	4.50	5.14	2	6.75	1.00	10.75	8	1.50	16.00
36	F48	2.50	18.48	6.25	22.00	5.00	5.71	2	7.50	1.25	11.75	12	1.50	19.00
42	F48	2.25	22.19	8.12	22.00	5.50	6.22	2	8.25	1.25	13.50	12	1.50	19.00
48	F60	3.10	21.54	7.12	27.00	6.75	8.02	2	10.13	1.75	14.00	20	1.50	23.75
52	F60	3.25	21.91	6.75	27.00	7.25	8.54	2	10.87	1.75	14.00	20	1.50	23.75
56	F60	3.25	24.77	7.99	27.00	7.75	8.98	2	11.62	2.00	16.00	20	1.50	23.75
60	F60	3.25	26.39	8.12	27.00	8.25	9.50	2	12.37	2.00	16.00	20	1.50	23.75

ASME Class 600 (in.)														
Size	ISO Pattern	A	B	C	D	E	F	K	H	W	J	N	P	R
30	F48	3.75	20.00	7.50	22.00	5.25	5.97	2	8.00	1.25	13.75	12	1.50	19.00
36	F60	3.50	21.13	7.62	27.00	6.00	6.81	2	9.00	1.50	14.00	20	1.50	23.75
42	F60	3.50	25.00	8.62	27.00	6.63	7.89	2	9.93	1.75	15.00	20	1.50	23.75

NPS 3 to 24: Flow coefficients

Size	Class 150, Rated Cv		Class 300, Rated Cv		Class 600, Rated Cv	
	Shaft Upstream	Shaft Downstream	Shaft Upstream	Shaft Downstream	Shaft Upstream	Shaft Downstream
3	132	132	132	132	132	132
4	228	223	228	223	220	220
6	800	800	650	650	590	587
8	1,411	1,317	1,310	1,310	1,081	1,040
10	2,630	2,630	2,430	2,430	1,720	1,720
12	3,808	3,520	3,673	3,445	2,650	2,623
14	5,240	5,240	4,750	4,750	4,070	4,070
16	7,120	7,120	6,360	6,360	4,757	4,477
18	9,180	9,180	8,420	8,420	7,475	7,475
20	11,368	11,329	10,550	10,550	9,830	9,830
24	17,680	17,680	15,800	15,200	12,750	12,750

NPS 30 to 60: Flow coefficients

Size	Class 150, Rated Cv		Class 300, Rated Cv		Class 600, Rated Cv	
	Series A	Series B	Series A	Series B	Series A	Series B
30	30,726	23,638	26,426	23,556	20,100	15,136
32	31,490	30,348	27,958	23,486	-	-
36	39,266	35,340	41,724	35,418	29,485	27,356
42	-	-	-	-	38,698	38,698
48	82,573	61,725	61,725	69,900	-	-
52	101,983	83,169	71,619	68,992	-	-
56	123,321	98,750	91,488	95,111	-	-
60	153,058	148,520	98,225	113,796	-	-

Durco TX3 valve model code (ordering information)

	Valve Size	-	Model	-	Body Style	End Connection Option	Pressure Class	-	Body Material	Disc Material	Shaft Material	Bearing Material	Packing Style	Packing Material	Seal Ring	Body Seat Surface	-	Operator	Options (two digits)
NPS 3	03	-		-				-											N5 NACE MR0175
NPS 4	04	-		-				-											O ₂ O ₂ cleaned
NPS 6	06	-		-				-											CL Cl cleaned
NPS 8	08	-		-				-											CR Cryogenic stem extension
NPS 10	10	-		-				-											TS Travel stop arrangement
NPS 12	12	-		-				-									1		Enclosed gear
NPS 14	14	-		-				-									Z		Bare stem
NPS 16	16	-		-				-											
NPS 18	18	-		-				-									N		Alloy 21 hardfaced
NPS 20	20	-		-				-									S		Alloy 6 hardfaced
NPS 24	24	-		-				-							H				Laminated duplex 31803/Graphite
NPS 30	30	-		-				-							W				Laminated Inconel/Graphite
NPS 32	32	-		-				-							J				Laminated Monel/Graphite
NPS 36	36	-		-				-							K				Laminated Hastelloy/Graphite
NPS 42	42	-		-				-							9				304 SS (hardface)
NPS 48	48	-		-				-							1				316 SS (hardface)
NPS 52	52	-		-				-							R				XM19 (hardface)
NPS 56	56	-		-				-							6				Hastelloy
NPS 60	60	-		-				-							G				Graphite rib braid (fire-safe)
	Standard		TX3					-							B				Braided PTFE
	Flanged (short)				F			-					1						Single set
	Flanged (long)				G			-					2						Double set
	Lug				L			-					3						Live-loaded single set
	Wafer				W			-					4						Live-loaded double set
	Buttweld				B			-					5						Double set ported for vacuum
	Flat face				F			-					1						316 SS/Nitrided
	RTJ				R			-					2						316 SS/MBDP
	Schedule 40 BW				4			-					B						316 SS/Alloy 6
	Schedule 80 BW				8			-					S						Alloy 6
	Class150				1			-					4						410 SS
	Class 300				3			-					R						XM 19
	Class 600				6			-					1						17-4PH
	Class 900				9			-					N						Inconel 718
	Class 1500				5			-					3						Monel
						WCB			B				F						F6A class 4
						WCC			A	B									WCB (ENP)
						LCC			C	A									WCC (ENP)
						CF8M			1	C									LCC (ENP)
						CF3M			L	1									CF8M
						Inconel			N	L									CF3M
						CE3MN			M	N									Inconel
						Monel			3	M									CE3MN
						Hastelloy C			6	3									Monel
						Alloy 20			2	6									Hastelloy C
																			Alloy 20

Example:

08-TX3-F03-B1412GHN-1N5

Refers to an 8 in. Durco TX3 triple offset butterfly valve, with short flange, raised face, Class 300, carbon steel (WCB) body, stainless (CF8M) disc, stainless (410) shaft, 316 SS Nitrided bearing, double set Graphite packing, laminated duplex 31803/Graphite seal ring, Alloy 21 overlay seat surface, gear operator, with special materials meeting NACE MR0175 requirements.



Flowserve Corporation
5215 North O'Connor Blvd.
Suite 700
Irving, Texas 75039-5421 USA
Telephone: +1 937 890 5839

VATB000333-00 (EN/AQ) May 2022

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

©2022 Flowserve Corporation. All rights reserved. This document contains registered and unregistered trademarks of Flowserve Corporation. Other company, product, or service names may be trademarks or service marks of their respective companies.