

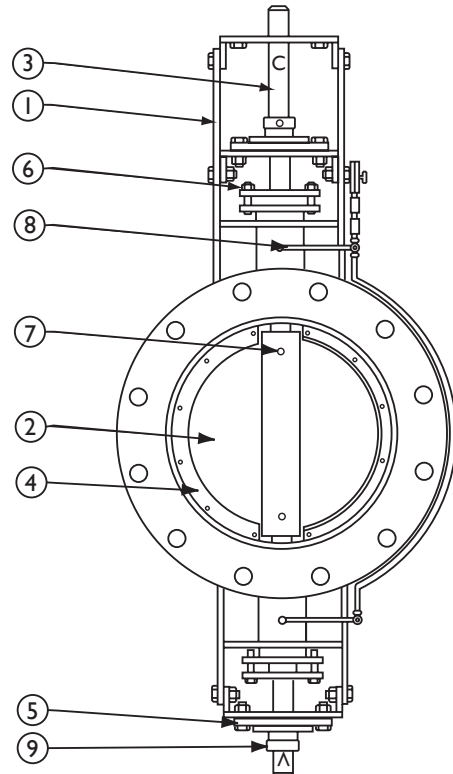
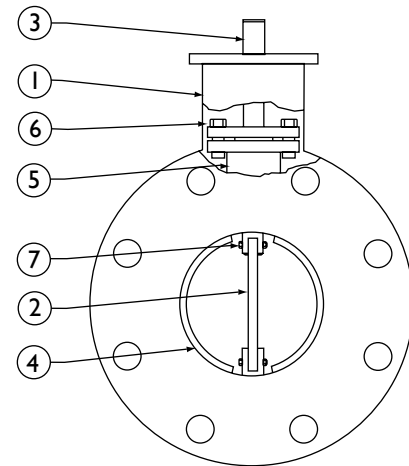
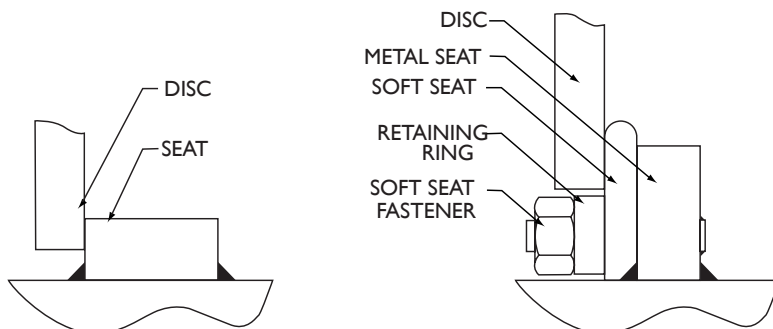
Material Specifications - IFC Series BDC

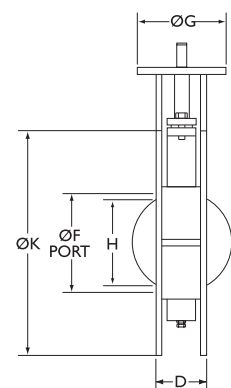
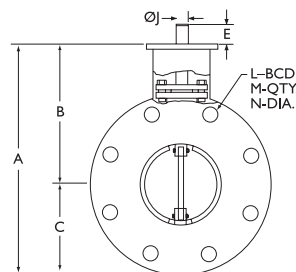
Part No.	Part Name	Description	Material Specifications
1	Body	Carbon Steel	ASTM A36, ASTM A516-70
		Stainless Steel	ASTM A240
2	Disc	Carbon Steel	ASTM A36, ASTM A516-70
		Stainless Steel	ASTM A240
3	Shaft	Stainless Steel	ASTM A479
4	Seat	Buna-N, EPDM, Viton, Fibre, Metal to Metal	
5	Bushings	Meehanite	
6	Packing	Teflon	
7	Pin	Stainless Steel	

Material Specifications - IFC Series BDI

Part No.	Part Name	Description	Material Specifications
1	Body	Carbon Steel	ASTM A36, ASTM A516-70
		Stainless Steel	ASTM A240
2	Disc	Carbon Steel	ASTM A36, ASTM A516-70
		Stainless Steel	ASTM A240
3	Shaft	Stainless Steel	ASTM A479
4	Seat	Buna-N, EPDM, Viton, Fibre, Metal to Metal	
5	Bearing	Set screw type C/W flange	
6	Packing	Graphoil	
7	Pin	Stainless Steel	
8	Purge Assembly	Stainless Steel (Optional)	
9	Stop Collar	Carbon Steel	

Seat Details - IFC Series BDC/BDI



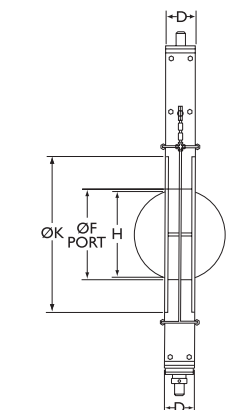
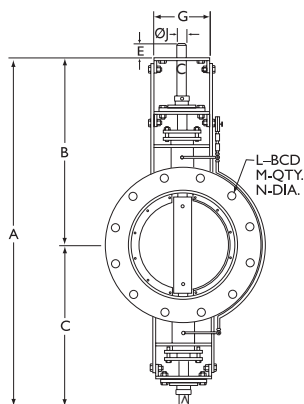


IFC Series BDC Dimensions - Sizes 3" - 24"

Size in (mm)	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)	H in (mm)	J in (mm)	K in (mm)	L in (mm)	M in (mm)	N in (mm)
3" 75	11.25 286	7.50 191	3.75 95	2.00 51	1.25 32	3.00 76	3.00 76	2.25 57	0.50 13	7.50 191	6.00 152	4 19	0.75 19
4" 100	12.75 324	8.25 210	4.50 114	2.00 51	1.25 32	4.00 102	3.63 92	3.50 89	0.63 16	9.00 229	7.50 191	8 19	0.75 19
5" 125	13.75 349	8.75 222	5.00 127	2.25 57	1.25 32	5.00 127	3.63 92	4.50 114	0.75 19	10.00 254	8.50 216	8 22	0.88 22
6" 150	14.75 375	9.25 235	5.50 140	2.25 57	1.25 32	6.00 152	3.63 92	5.56 141	0.75 19	11.00 279	9.50 241	8 22	0.88 22
8" 200	17.25 438	10.50 267	6.75 171	2.50 64	1.75 44	8.00 203	4.5 114	7.63 194	0.88 22	13.50 343	11.75 298	8 22	0.88 22
10" 250	19.75 502	11.75 298	8.00 203	3.00 76	1.75 44	10.00 254	4.50 114	9.56 243	1.13 29	16.00 406	14.25 362	12 25	1.00 25
12" 300	22.75 578	13.25 337	9.50 241	3.50 89	1.75 44	12.00 305	5.50 140	11.50 292	1.25 32	19.00 483	17.00 432	12 25	1.00 25
14" 350	24.75 629	14.25 362	10.50 267	3.50 89	1.75 44	14.00 356	5.50 140	13.56 344	1.25 32	21.00 533	18.75 476	12 28	1.12 28
16" 400	27.25 692	15.50 394	11.75 298	4.00 102	1.75 44	16.00 406	5.50 140	15.50 394	1.25 32	23.50 597	21.25 540	16 28	1.12 28
18" 450	28.75 730	16.25 413	12.50 318	4.25 108	1.75 44	18.00 457	5.50 140	17.50 445	1.25 32	25.00 635	22.75 578	16 32	1.25 32
20" 500	31.25 794	17.50 445	13.75 349	4.88 124	1.75 44	20.00 508	5.50 140	19.44 494	1.25 32	27.50 699	25.00 635	20 32	1.25 32
24" 600	37.38 949	21.38 543	16.00 406	5.94 151	1.75 44	24.00 610	5.50 140	23.25 591	1.25 32	32.00 813	29.50 749	20 35	1.38 35

Notes:

1. Dimensions may be modified to suit customer requirements.
2. Above dimensions are for valves designed for installation between ASME B16.1 Class 125 and ASME B16.5 Class 150 flanges.
3. 14" valves and larger are not suitable for liquid service. Please consult factory.
4. Mounting pad is in accordance with ISO 5211 (Sizes 3" thru 12" only).



IFC Series BDI Dimensions - Sizes 10" - 60"

Size in (mm)	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)	H in (mm)	J in (mm)	K in (mm)	L in (mm)	M in (mm)	N in (mm)
10" 250	42.50 1080	22.63 575	19.88 505	4.00 102	1.75 44	10 254	8.25 210	9.19 233	1.25 32	16.00 406	14.25 362	12 25	1.00 25
12" 300	44.50 1130	23.63 600	20.88 530	4.00 102	1.75 44	12 305	8.25 210	11.31 287	1.25 32	19.00 483	17.00 432	12 25	1.00 25
14" 350	46.50 1181	24.63 625	21.88 556	4.00 102	1.75 44	14 356	8.25 210	13.38 340	1.25 32	21.00 533	18.75 476	12 28	1.12 28
16" 400	48.50 1232	25.63 651	22.8 581	4.00 102	1.75 44	16 406	8.25 210	15.50 394	1.25 32	23.50 597	21.25 540	16 28	1.12 28
18" 450	50.50 1283	26.63 676	23.88 606	4.00 102	1.75 44	18 457	8.25 210	17.50 445	1.25 32	25.00 635	22.75 578	16 32	1.25 32
20" 500	52.50 1334	27.63 702	24.88 632	4.00 102	1.75 44	20 508	8.25 210	19.63 499	1.25 32	27.50 699	25.00 635	20 32	1.25 32
24" 600	57.50 1461	30.63 778	26.88 683	6.00 152	1.75 44	24 610	8.75 222	23.25 591	1.50 38	32.00 813	29.50 749	20 35	1.38 35
28" 700	61.50 1562	32.63 829	28.88 733	6.00 152	1.75 44	28 711	8.75 222	23.25 591	1.50 38	36.50 927	34.00 864	28 35	1.38 35
30" 750	63.50 1613	33.63 854	29.88 759	6.00 153	1.75 44	30 762	8.75 222	29.38 746	1.50 38	38.75 984	36.00 914	28 35	1.38 35
32" 800	65.50 1664	34.63 879	30.88 784	5.13 130	1.75 44	32 813	8.75 222	31.50 800	1.50 38	41.75 1060	38.50 978	28 41	1.62 41
36" 900	69.50 1765	36.63 930	32.88 835	6.00 152	1.75 44	36 914	8.75 222	35.50 902	1.50 38	46.00 1168	42.75 1086	32 41	1.62 41
40" 1000	73.50 1867	38.63 981	34.88 886	6.00 152	1.75 44	40 1016	8.75 222	39.50 1003	1.50 38	50.75 1289	47.25 1200	36 41	1.62 41
42" 1050	75.50 1918	39.63 1006	35.88 911	6.00 152	1.75 44	42 1067	8.75 222	41.50 1054	1.50 38	53.00 1346	49.50 1257	36 41	1.62 41
48" 1200	82.50 2096	43.63 1108	38.88 987	8.00 203	1.75 44	48 1219	9.25 235	47.38 1203	2.00 51	59.50 1511	56.00 1422	44 41	1.62 41
54" 1350	88.50 2248	46.63 1184	41.88 1064	8.00 203	1.75 44	54 1372	9.25 235	53.50 1359	2.00 51	66.25 1683	62.75 1594	44 48	1.88 48
60" 1500	94.50 2400	49.63 1260	44.8 1140	8.00 203	1.75 44	60 1524	9.25 235	59.50 1511	2.00 51	73.00 1854	69.25 1759	52 48	1.88 48

Notes:

1. Dimensions may be modified to suit customer requirements.
2. Above dimensions are for valves designed for installation between ASME B16.1 Class 125, ASME B16.5, Class 150 and ASME B16.47 Series A Class 150 flanges.
3. Consult factory for valves to be used on liquid service.
4. Valve top works modified to suit operator.

Standards of Construction

Component	Standard
General Design	ASME Section VIII, Div. I.
Welding	ASME Section IX
Mounting Pad	ISO 5211 (Sizes 3" thru 12", Style DBC Only)
Laying Length	ISO 5752 (Sizes 16" thru 24", Style DBC Only)
Inspection	ANSI/FCI 70-2-1991

Note: Standard valves are supplied with class I shut-off. Valves may be supplied to meet up to class IV shut-off. Please consult factory.

Upper Pressure Limits (Non-Shock)

Valve Size	M.A.W.P.
3" - 60" (75-1500 mm)	15 psig (Bi-directional)

Note: Valves rated for full vacuum service.

Velocity Limits

Fluids	30 Ft/s (10 m/s)
Gases	200 Ft/s (65 m/s)

Note: For greater velocities consult factory.

Seat Temperature Limits °F (°C)

Seat	Metal	EPDM	Buna-N	Viton	Fibre
Min.	-20 (-28.9)	-20 (-28.9)	0 (-17.8)	0 (-17.8)	-20 (-28.9)
Max.	1200 (649)	250 (121)	212 (100)	400 (204)	1000 (537)

Body Temperature Limits

Body Material	Max. Temperature °F (°C)
Carbon Steel	800 (427)
Stainless Steel 316	1200 (649)

CV Values (US-GPM @ 1 psid)

Size in.	10°	20°	30°	DISC POSITION (Degrees)					
	40°	50°	60°	70°	80°	90°			
2"	1	10	13	34	48	65	80	119	151
2½"	2	14	21	50	72	101	159	228	249
3"	3	18	32	68	101	148	263	369	438
4"	4	30	59	116	176	268	492	606	648
5"	5	46	96	177	273	422	771	1151	1384
6"	6	69	126	232	369	561	1021	1547	1857
8"	14	105	238	528	685	1075	1858	2647	3323
10"	18	165	379	674	1081	1704	2944	4530	5437
12"	32	238	652	1012	1599	2557	4389	6736	8084
14"	36	302	751	1307	2154	3375	5935	8879	10545
16"	48	400	999	1756	2852	4477	7863	11766	13973
18"	62	810	1278	2244	3648	5730	10051	14501	17221
20"	69	635	1592	2793	4541	7138	12531	16817	22356
24"	220	925	2324	3071	8623	10415	17977	27723	32700
30"	330	1452	3684	6439	10479	16488	28454	44860	52912
36"	492	2122	6347	8349	15216	23948	41327	65964	77792
42"	673	2904	7323	12801	20835	32797	54576	84579	102868
48"	890	4040	9609	16792	27336	43033	70481	108791	132801
54"	1150	4130	12205	21326	34718	54658	89519	138240	168749
60"	1470	6351	15111	26501	42981	57671	110829	172384	204484

Method Of Calculating Flow

Liquid Flow

$$Q_L = C_v \sqrt{\frac{\Delta P}{g}}$$

Q_L = flow rate of liquid (gal./min.)
 ΔP = differential pressure across the valve (psi)
 g = specific gravity of liquid: water = 1.000

Gas Flow

For non-critical flow ($\frac{\Delta P}{P_2} < 1.0$)

$$Q_g = 61 C_v \sqrt{\frac{P_2 \Delta P}{g}}$$

Q_g = flow rate of gas (CFH at STP)
 P_2 = outlet pressure (psia)
 g = specific gravity of gas: air = 1.000

	Size In.	16"
	Valve Type	BDC = Damper Butterfly Valve (Commercial) BDI = Damper Butterfly Valve (Industrial)
	Flange Bolt Pattern	150 = ANSI 150 Lb. 300 = ANSI 300 Lb. O = Other (Specify)
	Body Type	W = Wafer Body L = Lug Body
	Body Material	S = Carbon Steel SS4* = 304 Stainless Steel SS6* = 316 Stainless Steel *Add letter L for low carbon grade material
	Disc Material	S = Carbon Steel SS4* = 304 Stainless Steel SS6* = 316 Stainless Steel *Add letter L for low carbon grade material
	Shaft Material	SS4* = 304 Stainless Steel SS6* = 316 Stainless Steel *Add letter L for low carbon grade material
	Shaft Support	M = Upper and lower Meehanite bushings R = Upper and lower External bearings
	Seat Material	M = Metal to Metal B = Buna-N E = EPDM V = Viton F = Fiberflax Tape Inconel Wire Reinforced N = None (Swing Thru Disc)
	Packing Material	T = Teflon G = Graphoil
	Operator	L = Standard 10 Position Lever Assembly LI = Infinite Position Lever Assembly G = Manual Gear E = Electric P = Pneumatic B = Bare
	Options	Please specify
A	B	C
D	E	F
G	H	I
J	K	L