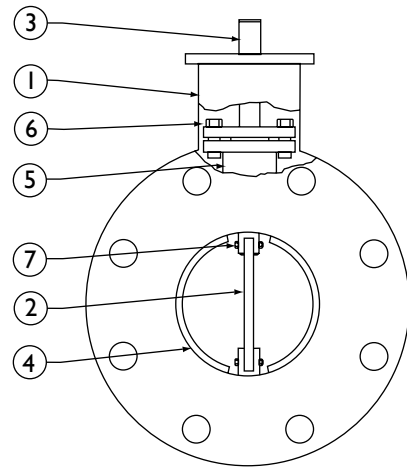


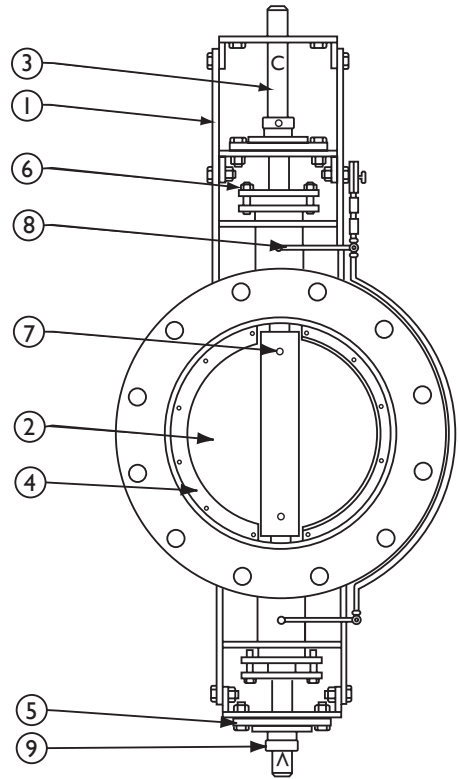
### Material Specifications - IFC Series BDC

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	

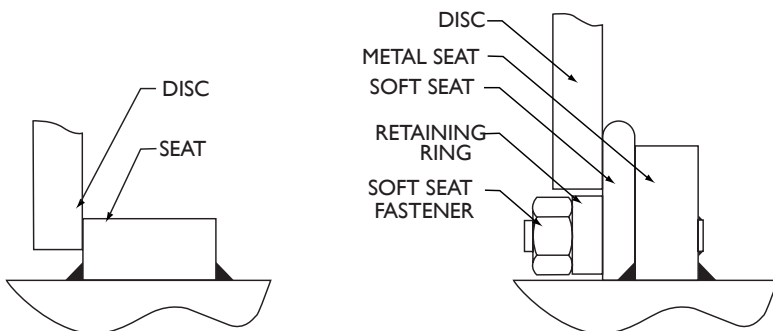


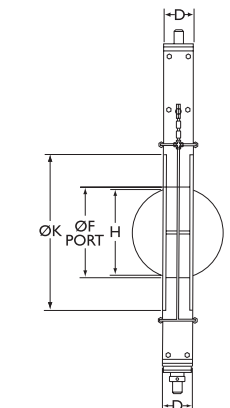
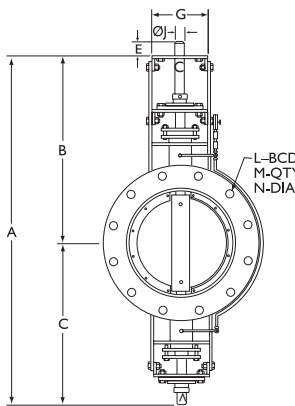
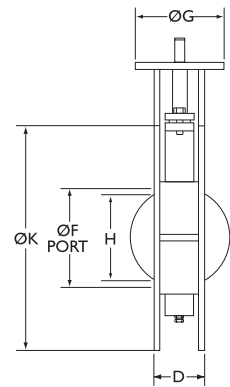
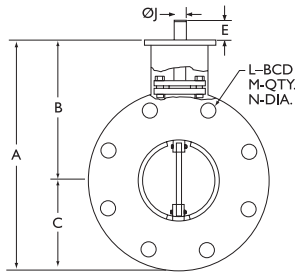
### Material Specifications - IFC Series BDI

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"	11.25	7.50	3.75	2.00	1.25	3.00	3.00	2.25	0.50	7.50	6.00	4	0.75
75	286	191	95	51	32	76	76	57	13	191	152	4	19
4"	12.75	8.25	4.50	2.00	1.25	4.00	3.63	3.50	0.63	9.00	7.50	8	0.75
100	324	210	114	51	32	102	92	89	16	229	191	8	19
5"	13.75	8.75	5.00	2.25	1.25	5.00	3.63	4.50	0.75	10.00	8.50	8	0.88
125	349	222	127	57	32	127	92	114	19	254	216	8	22
6"	14.75	9.25	5.50	2.25	1.25	6.00	3.63	5.56	0.75	11.00	9.50	8	0.88
150	375	235	140	57	32	152	92	141	19	279	241	8	22
8"	17.25	10.50	6.75	2.50	1.75	8.00	4.5	7.63	0.88	13.50	11.75	8	0.88
200	438	267	171	64	44	203	114	194	22	343	298	8	22
10"	19.75	11.75	8.00	3.00	1.75	10.00	4.50	9.56	1.13	16.00	14.25	12	1.00
250	502	298	203	76	44	254	114	243	29	406	362	12	25
12"	22.75	13.25	9.50	3.50	1.75	12.00	5.50	11.50	1.25	19.00	17.00	12	1.00
300	578	337	241	89	44	305	140	292	32	483	432	12	25
14"	24.75	14.25	10.50	3.50	1.75	14.00	5.50	13.56	1.25	21.00	18.75	12	1.12
350	629	362	267	89	44	356	140	344	32	533	476	12	28
16"	27.25	15.50	11.75	4.00	1.75	16.00	5.50	15.50	1.25	23.50	21.25	16	1.12
400	692	394	298	102	44	406	140	394	32	597	540	16	28
18"	28.75	16.25	12.50	4.25	1.75	18.00	5.50	17.50	1.25	25.00	22.75	16	1.25
450	730	413	318	108	44	457	140	445	32	635	578	16	32
20"	31.25	17.50	13.75	4.88	1.75	20.00	5.50	19.44	1.25	27.50	25.00	20	1.25
500	794	445	349	124	44	508	140	494	32	699	635	20	32
24"	37.38	21.38	16.00	5.94	1.75	24.00	5.50	23.25	1.25	32.00	29.50	20	1.38
600	949	543	406	151	44	610	140	591	32	813	749	20	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"	42.50	22.63	19.88	4.00	1.75	10	8.25	9.19	1.25	16.00	14.25	12	1.00
250	1080	575	505	102	44	254	210	233	32	406	362	12	25
12"	44.50	23.63	20.88	4.00	1.75	12	8.25	11.31	1.25	19.00	17.00	12	1.00
300	1130	600	530	102	44	305	210	287	32	483	432	12	25
14"	46.50	24.63	21.88	4.00	1.75	14	8.25	13.38	1.25	21.00	18.75	12	1.12
350	1181	625	556	102	44	356	210	340	32	533	476	12	28
16"	48.50	25.63	22.8	4.00	1.75	16	8.25	15.50	1.25	23.50	21.25	16	1.12
400	1232	651	581	102	44	406	210	394	32	597	540	16	28
18"	50.50	26.63	23.88	4.00	1.75	18	8.25	17.50	1.25	25.00	22.75	16	1.25
450	1283	676	606	102	44	457	210	445	32	635	578	16	32
20"	52.50	27.63	24.88	4.00	1.75	20	8.25	19.63	1.25	27.50	25.00	20	1.25
500	1334	702	632	102	44	508	210	499	32	699	635	20	32
24"	57.50	30.63	26.88	6.00	1.75	24	8.75	23.25	1.50	32.00	29.50	20	1.38
600	1461	778	683	152	44	610	222	591	38	813	749	20	35
28"	61.50	32.63	28.88	6.00	1.75	28	8.75	23.25	1.50	36.50	34.00	28	1.38
700	1562	829	733	152	44	711	222	591	38	927	864	28	35
30"	63.50	33.63	29.88	6.00	1.75	30	8.75	29.38	1.50	38.75	36.00	28	1.38
750	1613	854	759	153	44	762	222	746	38	984	914	28	35
32"	65.50	34.63	30.88	5.13	1.75	32	8.75	31.50	1.50	41.75	38.50	28	1.62
800	1664	879	784	130	44	813	222	800	38	1060	978	28	41
36"	69.50	36.63	32.88	6.00	1.75	36	8.75	35.50	1.50	46.00	42.75	32	1.62
900	1765	930	835	152	44	914	222	902	38	1168	1086	32	41
40"	73.50	38.63	34.88	6.00	1.75	40	8.75	39.50	1.50	50.75	47.25	36	1.62
1000	1867	981	886	152	44	1016	222	1003	38	1289	1200	36	41
42"	75.50	39.63	35.88	6.00	1.75	42	8.75	41.50	1.50	53.00	49.50	36	1.62
1050	1918	1006	911	152	44	1067	222	1054	38	1346	1257	36	41
48"	82.50	43.63	38.88	8.00	1.75	48	9.25	47.38	2.00	59.50	56.00	44	1.62
1200	2096	1108	987	203	44	1219	235	1203	51	1511	1422	44	41
54"	88.50	46.63	41.88	8.00	1.75	54	9.25	53.50	2.00	66.25	62.75	44	1.88
1350	2248	1184	1064	203	44	1372	235	1359	51	1683	1594	44	48
60"	94.50	49.63	44.8	8.00	1.75	60	9.25	59.50	2.00	73.00	69.25	52	1.88
1500	2400	1260	1140	203	44	1524	235	1511	51	1854	1759	52	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.

### 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)

### 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.

### 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.	DISC POSITION (Degrees)								
	10°	20°	30°	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

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

QL = flow rate of liquid (gal./min.)  
 $\Delta P$  = differential pressure across the valve (psi)  
 g = specific gravity of liquid; water = 1.000

#### Gas Flow

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

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

Qg = flow rate of gas (CFH at STP)  
 $P_2$  = outlet pressure (psia)  
 g = specific gravity of gas; air = 1.000

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