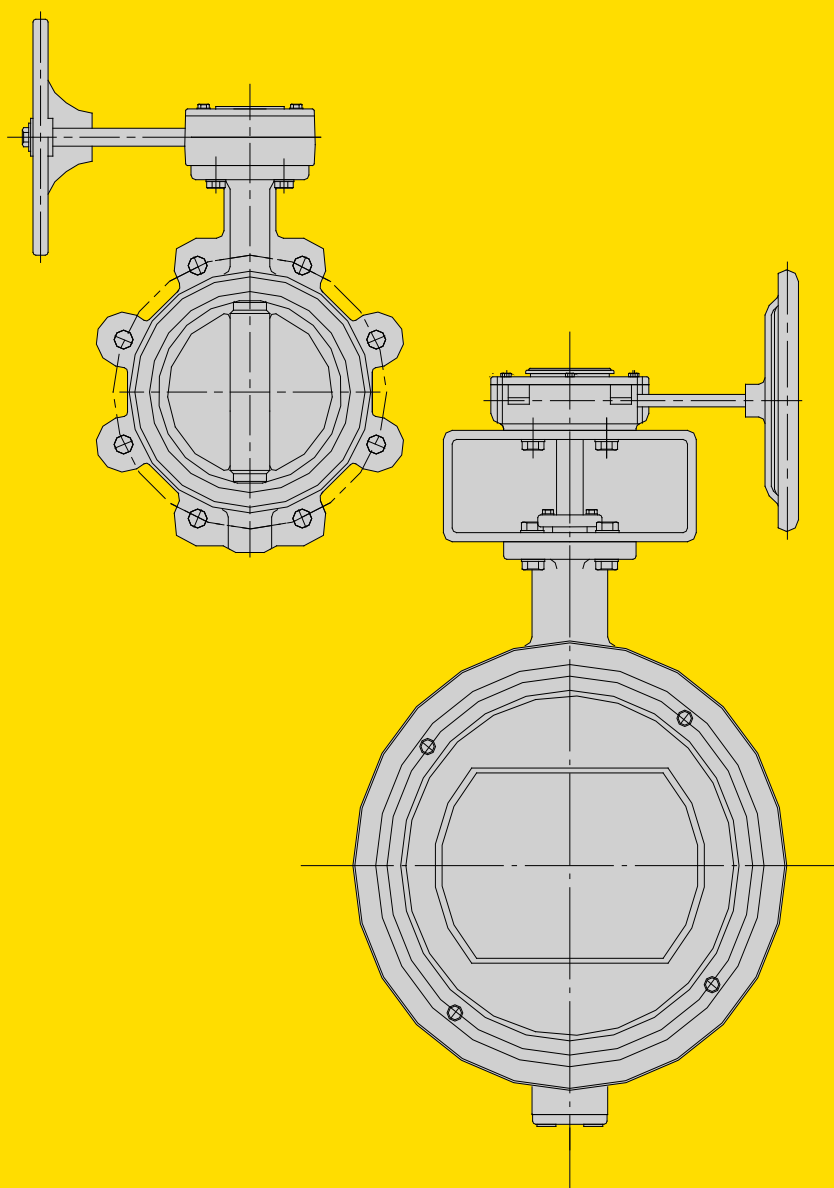


BUTTERFLY VALVES ALC-3



NOMINAL PRESSURE

ANSI Class 150-600

PN 10-100

NOMINAL SIZE

2"-80"

DN 50-2000

MATERIALS

Cast Iron

Carbon Steel

Low Alloy Steel

Stainless Steel

CONNECTIONS

Wafer

Lugged

Flanged

Butt Weld

DESIGN

Eccentric

Double Eccentric

Triple Eccentric



AXELVALVES ALC-3 Butterfly valves are manufactured to the highest quality and standards. Built to customer requirements for special applications and severe service conditions.

APPLICATIONS

POWER

OIL & GAS

PETROCHEMICAL

CHEMICAL

MARINE

PULP & PAPER

CRYOGENICS

MINING

CONSTRUCTION

FEATURES

ALC-3 butterfly valves are manufactured by using high quality cast and forged materials to guarantee a superior performance.

- » An extensive range of body and trim options.
- » Special trims and materials are available for specific requirements.
- » Full range of packing and bearing designs to suit various temperatures and fluids, even severe service applications.

TECHNICAL STANDARDS

Design: API 609, BS 5155, MSS SP68

Pressure Testing: API 598, BS 6755 Part 1, FCI 70-2

Wall Thickness: ANSI B16.34

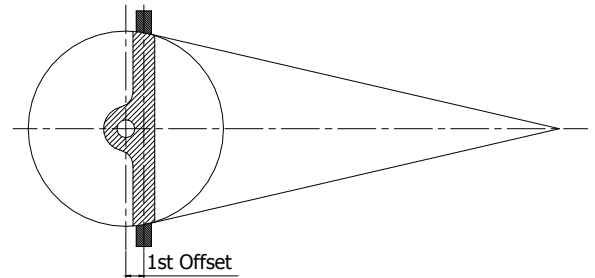
Face to Face Dimensions: BS5155, API 609, DIN 3202, ISO 5752

Quality Assurance: ISO 9001

Fire-safe: API 607 5th Edition

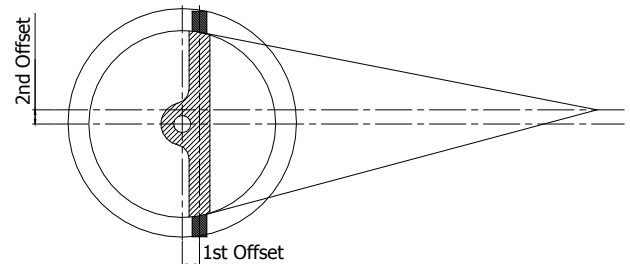
ECCENTRIC

- » The centre of rotation is moved back from the centre line of the valve disc.
- » The seat and seal are designed conically and on centre.
- » This design relies on a frictional, interference seal and so is applicable only to soft seated valves.



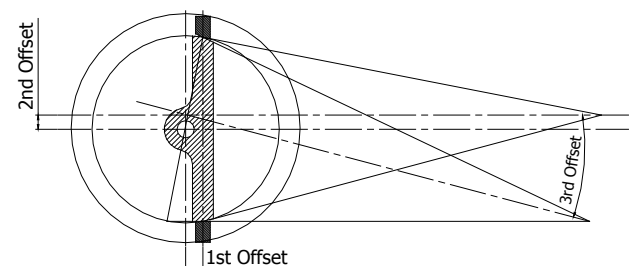
DOUBLE ECCENTRIC

- » The centre of rotation is moved back from the centre line of the valve body.
- » The seat and seal design remains conical and on centre.
- » The design again relies on a frictional, interference seal. But the length of rotation over which this friction occurs is reduced, allowing a larger range of process resistant seat materials to be used.
- » However, these materials must be relatively soft to prevent jamming.

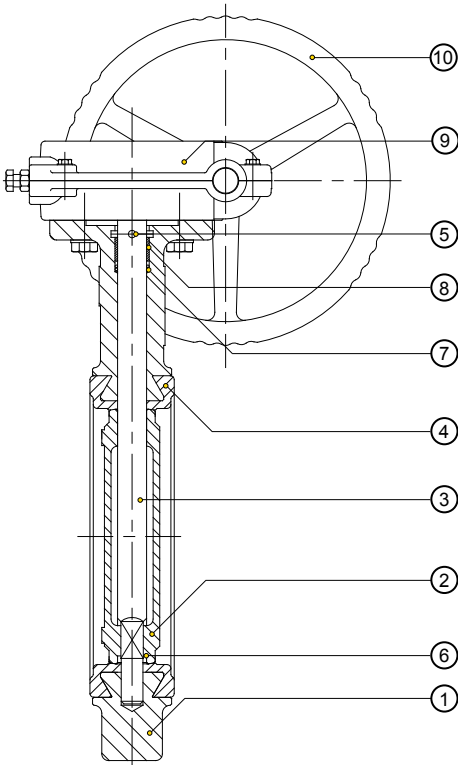


TRIPLE ECCENTRIC

- » The centre of the cone is rotated away from the valve centre line resulting in an ellipsoidal profile and providing the third offset.
- » With this geometry, seat seal interference is completely eliminated ensuring long sealing lift.
- » The result is a torque seated, process pressure aided FRICTIONLESS seal.
- » The geometry allows the body seat to be used as the closed limit stop, aiding operator adjustment.
- » The Triple Offset design is ideally suited for metal seated valves providing bubble tight performance for high temperature, high pressure and fire safe applications.



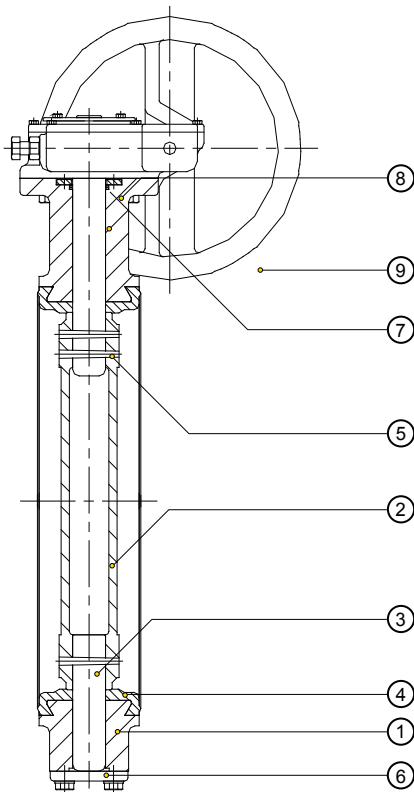
BUTTERFLY VALVES / ALC-3 ECCENTRIC TYPE



MATERIAL SPECIFICATION - UP TO DN 300

NO	PART	MATERIAL	ASTM
1	Body	Cast Iron	A126-B
		Ductile Iron	A-536-65-45-12
2	Disc	Ductile Iron	A-536-65-45-12
		Stainless Steel	A351 CF8
			A351 CF8M
		Bronze	B62
3	Stem	Stainless Steel	A182 F410
			A182 F304
			A182 F316
4	Seal	Nitrile	-
		EPDM	-
		Neoprene (CR)	-
		Silicon	-
		Hypalon (CSM)	-
	Viton	-	
5	Retaining Pin	Stainless Steel	A182 F304
6	Bottom Bush	Bronze	B62
7	O-Ring	Nitrile	-
8	Upper Bush	Delrin (Acetal)	-
9	Gear Box	Cast Iron	A126-B
10	Hand Wheel	Cast Iron	A126-B

Other materials and material combinations available on request.

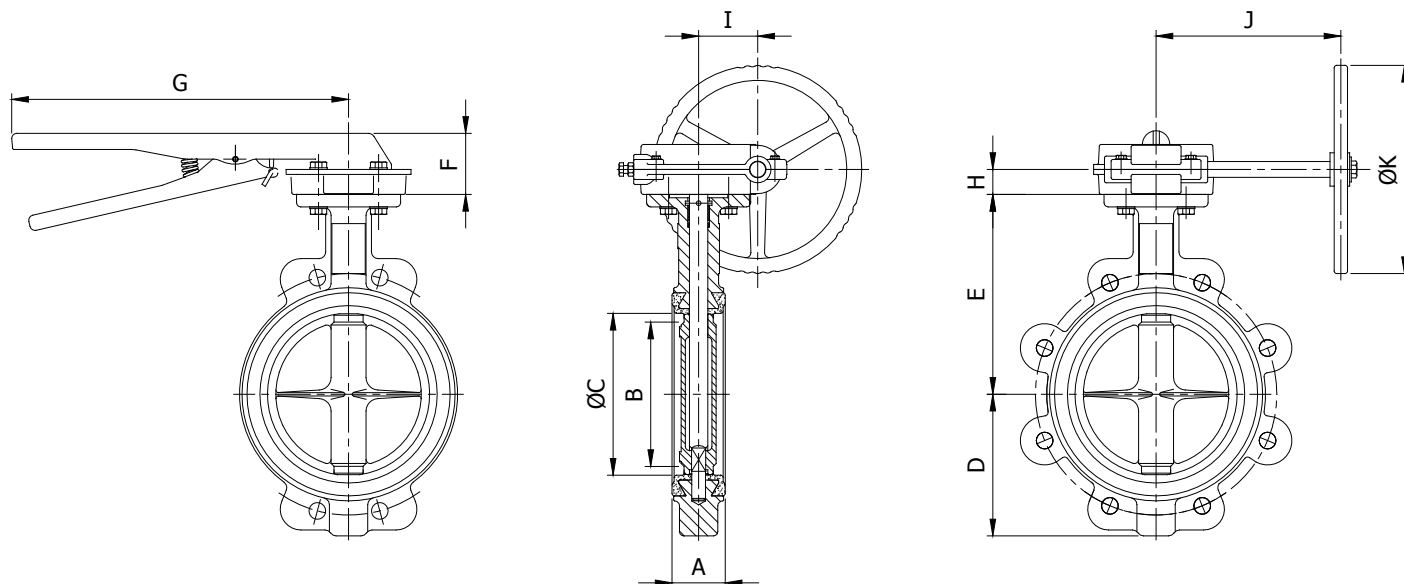


MATERIAL SPECIFICATION - DN 350 AND LARGER

NO	PART	MATERIAL	ASTM
1	Body	Cast Iron	A126-B
		Ductile Iron	A-536-65-45-12
2	Disc	Ductile Iron	A-536-65-45-12
		Stainless Steel	A351 CF8
			A351 CF8M
		Bronze	B62
3	Stem	Stainless Steel	A182 F410
			A182 F304
			A182 F316
4	Seal	Nitrile	-
		EPDM	-
		Neoprene (CR)	-
		Silicon	-
		Hypalon (CSM)	-
	Viton	-	
5	Taper Pin	Stainless steel	A182 F316
6	Bottom Cover	Cast Iron	A126-B
7	O-Ring	Nitrile	-
8	Gear Box	Cast Iron	A126-B
9	Hand Wheel	Cast iron	A126-B

Other materials and material combinations available on request.

ECCENTRIC - WAFER AND LUGGED TYPE

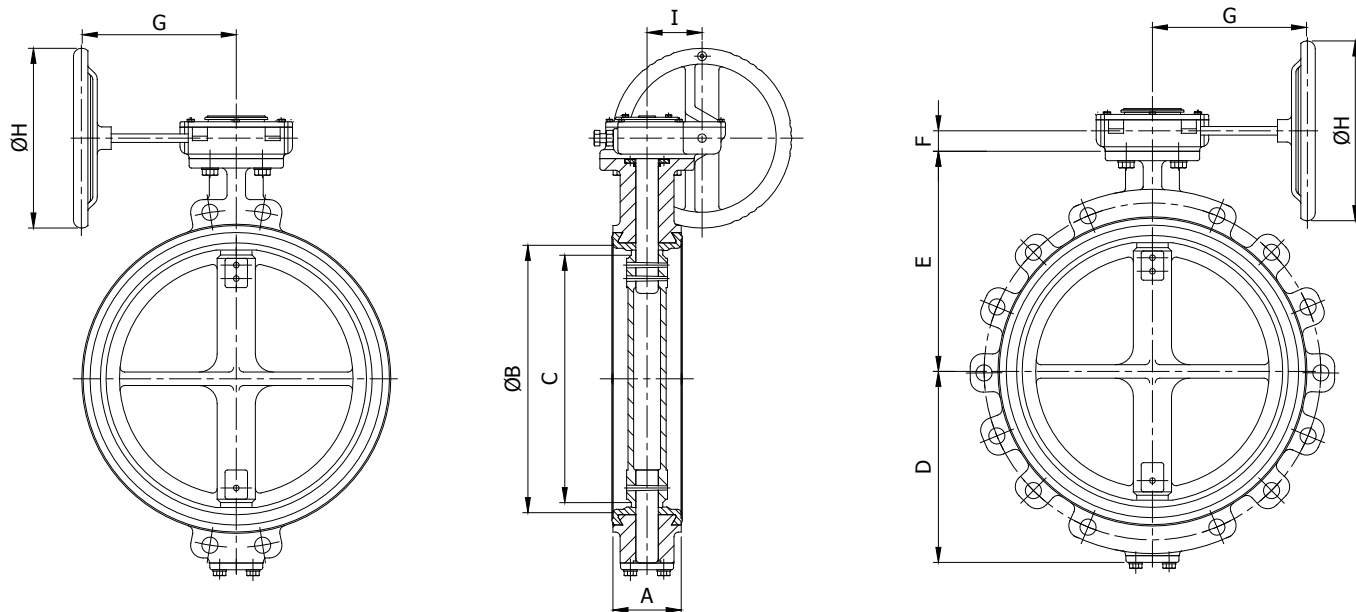


Measurements in mm.

SIZE - UP TO DN 300

DIMENSIONS		SIZE								
		50	65	80	100	125	150	200	250	300
		2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
A		43	46	46	52	56	56	60	68	78
B		36	55	66	89	102	137	184	236	286
C		57	70	82	104	127	150	194	247	297
D		85	90	98	107	125	140	170	207	244
E		143	155	162	181	197	210	240	286	309
F		30	30	30	30	30	30	33	33	33
G		200	200	200	260	260	260	355	355	355
H		28	28	28	28	28	28	30	30	30
I		45	45	45	45	45	45	71	71	71
J		125	125	125	125	125	125	230	230	230
K		150	150	150	150	150	150	250	250	250
Weight kg Lever operated	Wafer	3,9	4,7	4,9	6,8	9	10	17	25	37
	Lug	4,4	5,2	6	9,2	11	12	21	30	49
Weight kg Gear operated	Wafer	7,2	8	8,2	9,6	11,7	12,6	22	30	42
	Lug	7,7	8,5	9,2	12	14	15	26	35	53

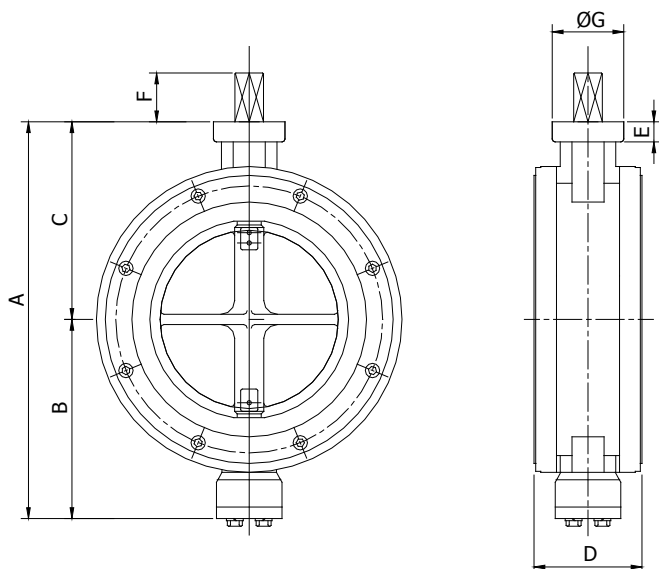
ECCENTRIC - WAFER AND LUGGED TYPE



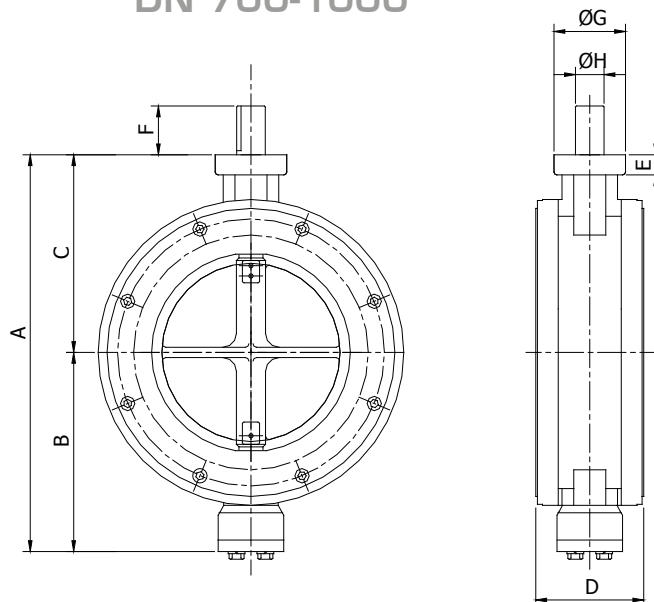
Measurements in mm.

SIZE - DN 350-600					
DIMENSIONS	SIZE				
	350	400	450	500	600
	14"	16"	18"	20"	24"
A	78	102	114	127	154
B	332	387	436	488	581
C	325	378	425	472	564
D	272	295	330	360	430
E	325	355	395	400	490
F	40	40	40	70	70
G	290	290	290	360	360
H	350	350	350	350	350
I	95	95	95	114	114
Weight kg	63	75	95	140	220

DN 300-600



DN 700-1000



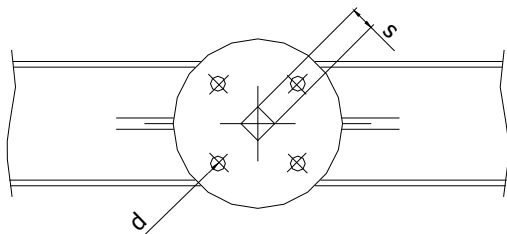
Measurements in mm.

FLANGED - PN 10 - DN 300-600						
DIMENSIONS	SIZE					
	300	350	400	450	500	600
	12"	14"	16"	18"	20"	24"
A	540	620	662	736	790	960
B	240	280	302	346	370	465
C	300	340	360	390	420	495
D	78	78	102	114	127	154
E	18	26	22	25	28	30
F	25	27	27	36	36	46
G	130	150	165	180	185	210
Weight kg	48	53	71	90	115	185

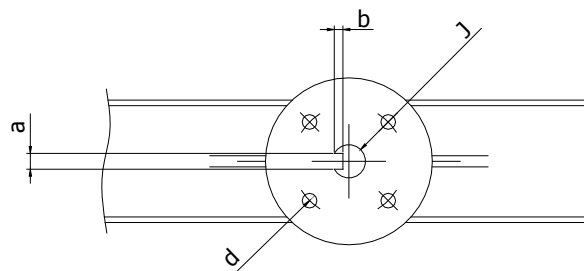
Measurements in mm.

FLANGED - PN 10 - DN 700-1000				
DIMENSIONS	SIZE			
	700	800	900	1000
	28"	32"	36"	40"
A	1110	1245	1380	1500
B	535	625	690	750
C	575	620	690	450
D	165	190	203	216
E	30	35	35	35
F	90	90	116	116
G	300	300	300	300
H	80	80	95	95
Weight kg	350	510	650	820

Up to DN 600



DN 700-1000



Measurements in mm.

TOP FLANGES ACCORDING TO ISO 5211 - UP TO DN 600

DN	S	D	ISO 5211
50	11	50	F05
65	11	50	F05
80	11	50	F05
100	11	50	F05
125	14	70	F07
150	14	70	F07
200	17	70	F07
250	22	102	F10
300	22	102	F10
350	27	125	F12
400	27	125	F12
450	36	140	F14
500	36	140	F14
600	42	165	F16

TOP FLANGES ACCORDING TO ISO 5211 - DN 700-1000

DN	J	D	A	B	ISO 5211
700	80	254	22	7	F25
800	80	254	22	7	F25
900	95	254	28	8	F25
1000	95	254	28	8	F25

SHELL TESTING

The body hydraulic test can stand 200% (20 Bar) of full rating

PRESSURE RATING

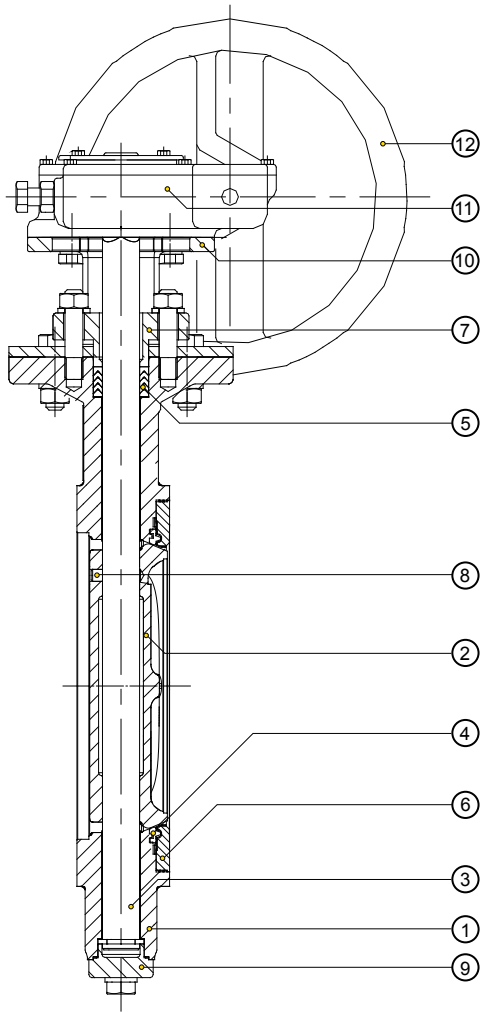
- » Bi-directional bubble tight shut off to 10 Bar, and tested to 110% of full rating
- » Working pressure: 10 Bar (150 psi)
- » Test pressure: 11 Bar (170 psi)

FLANGE

REQUIREMENTS

The valves are designed to suit ANSI 125/150 DIN PN 16 either flat face or raised face.

BUTTERFLY VALVES / ALC-3
DOUBLE ECCENTRIC TYPE

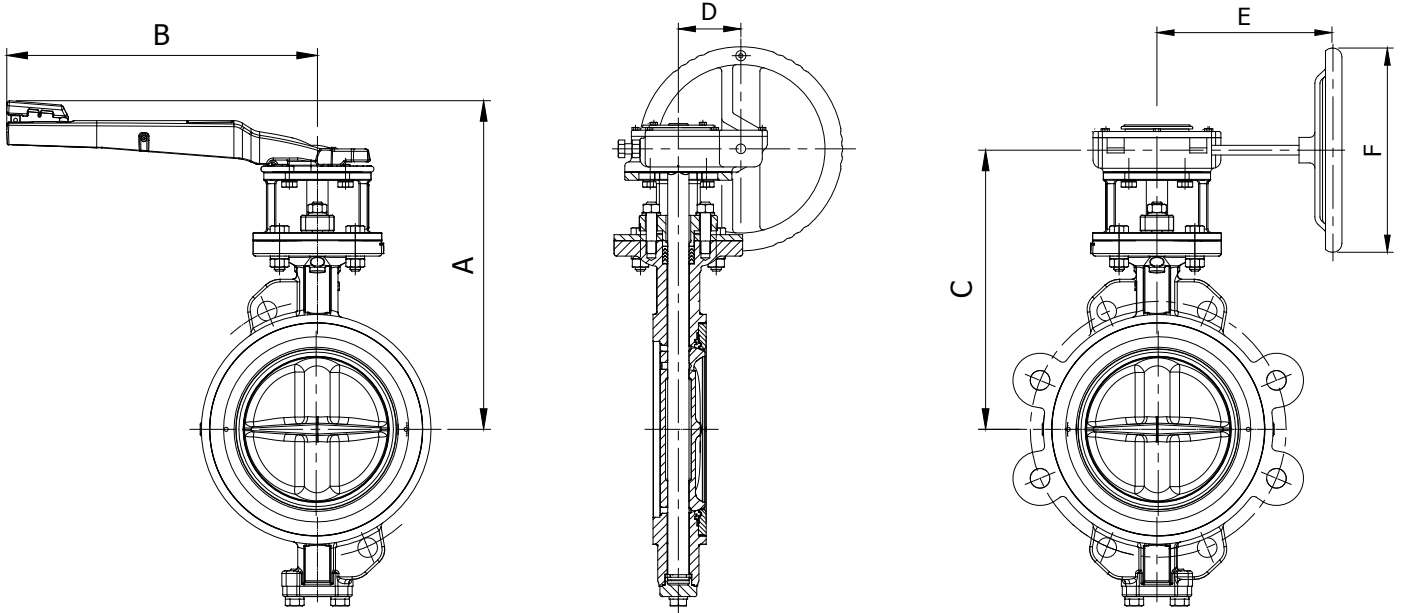


MATERIAL SPECIFICATION

NO	PART	MATERIALS	SPECIFICATION
1	Body	Carbon Steel	A216 WCB
		Stainless Steel	A351 CF8
			A351 CF8M
2	Disc	Stainless Steel	A351 CF8M
			A351 CF3M
			A351 CF8
3	Stem	Stainless Steel	A182 F6a
			A182 F304
			A182 316
			A564 630
			A479 XM-19
4	Teflon Seat	PTFE	-
		PTFE + 15% Glass	-
		PTFE + 15% Graphite	-
5	Gland Packing	PTFE	-
		PTFE + 15% Graphite	-
6	Seat Ring	Stainless Steel	A351 CF8
			A351 CF8M
			A351 CF3M
7	Gland	Stainless Steel	A351 CF8
			A351 CF8M
8	Pin	Stainless Steel	A182 F316
9	Bottom Cover	Stainless Steel	A351 CF8
			A351 CF8M
			A351 CF3M
10	Yoke	Carbon Steel	A216 WCB
		Ductile Iron	A536 65-45-12
		Carbon Steel	A216 WCB
		Stainless Steel	A351 CF8
11	Gearbox	Cast Iron	A126-B
12	Hand Wheel	Cast Iron	A126-B

Other materials and material combinations available on request.

BUTTERFLY VALVES / ALC-3
DOUBLE ECCENTRIC TYPE



Measurements in mm.

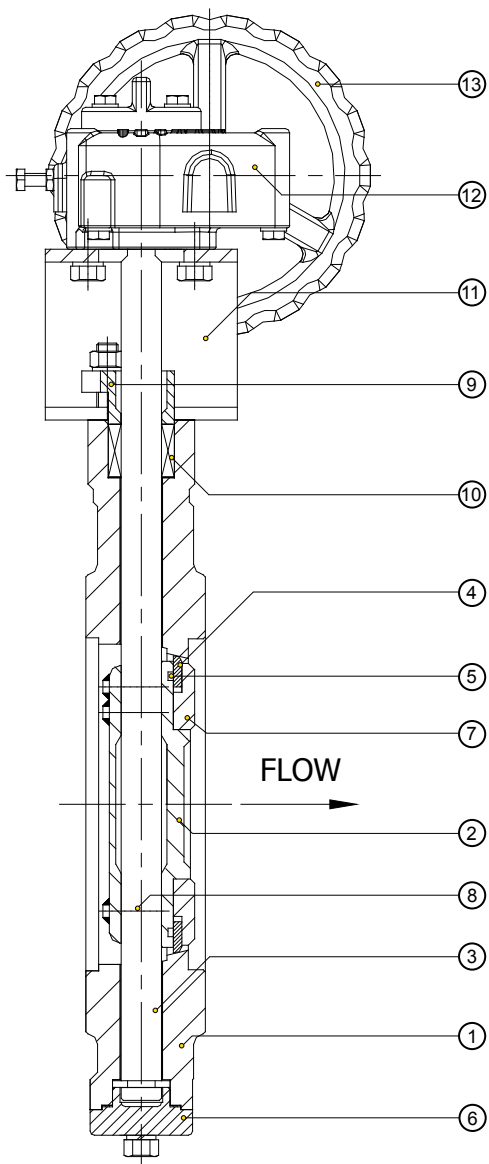
LEVER OPERATED

DIMENSIONS	SIZE						
	65	80	100	125	150	200	
	2,5"	3"	4"	5"	6"	8"	
A	257	282	299	318	333	378	
B	200	250	250	355	355	355	
Weight kg	Wafer	5,2	7,8	9,8	13,6	15,1	23,6
	Lug	6,2	9,3	14,8	19,6	21,1	32,6

GEAR OPERATED

DIMENSIONS	SIZE													
	65	80	100	125	150	200	250	300	350	400	450	500	600	
	2,5"	3"	4"	5"	6"	8"	10	12	14	16	18	20	24	
C	222	247	296,5	281,5	296,5	341	381	443	479	546	571	606	785	
D	41	41	63	63	63	61	61	81	81	123	123	123	160	
E	155	155	195	195	195	232	232	280	280	307	307	307	370	
F	150	150	200	200	200	310	310	400	400	400	400	400	400	
Weight kg	Wafer	7,8	10,3	16,5	19,5	21	31	41	70	88	142	165	198	387
	Lug	8,8	11,8	21,5	25,5	27	40	56	89	103	178	198	265	486

BUTTERFLY VALVES / ALC-3 TRIPLE ECCENTRIC TYPE

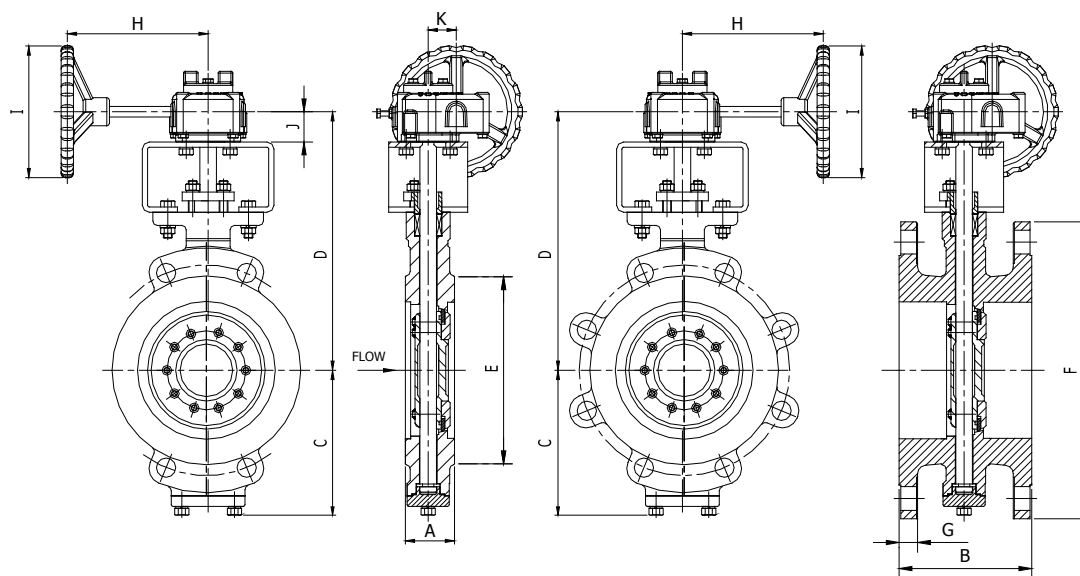


MATERIAL SPECIFICATION

NO.	NAME	MATERIAL	ASTM
1	Body	Cast Steel	A216 WCB
		Stainless steel	A351 CF8
			A351 CF8M
2	Disc	Cast Steel	A216 WCB
		Stainless steel	A351 CF8
			A351 CF8M
3	Stem	Stainless Steel	A182 F304
4	Disc Edge	Stainless Steel	A182 F304
			A182 F316
5	Gasket	Graphite	-
6	Bottom Cover	Cast Steel	A216 WCB
		Stainless Steel	A351 CF8
			A351 CF8M
7	Seat Ring	Cast Steel	A216 WCB
		Stainless steel	A351 CF8
			A351 CF8M
8	Pin	Stainless steel	A182 F316
9	Gland	Stainless steel	A351 CF8
			A351 CF8M
10	Gland Packing	PTFE + Graphite	-
		Graphite	-
11	Yoke	Stainless steel	A240 304
12	Gear Box	Cast Iron	A126-B
13	Hand Wheel	Cast Iron	A126-B

Other materials and material combinations available on request.

BUTTERFLY VALVES / ALC-3 TRIPLE ECCENTRIC TYPE



Measurements in mm.

CLASS 150

DIMENSIONS	SIZE											
	80	100	125	150	200	250	300	350	400	450	500	600
	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
A	47	53	56	56	62	69	79	92	102	114	127	154
B	180	190	200	210	230	250	270	290	310	330	350	390
C	111	130	142	155	187	218	257	285	314	335	388	422
D	248	267	287	292	324	355	440	455	475	514	546	666
E	125	155	185	215	265	325	382	415	470	530	585	692
F	191	229	254	279	243	406	483	535	597	635	700	813
G	24	24	24	25,5	29	30,5	31,7	35	36,5	40	43	47,6
H	165	165	165	165	165	165	165	165	165	345	345	384
I	150	150	150	150	200	310	400	400	400	400	400	400
J	32	32	32	32	32	32	34	37	37	46	46	65
K	50	50	50	50	50	50	60	84	84	123	123	160

CLASS 300

DIMENSIONS	SIZE											
	80	100	125	150	200	250	300	350	400	450	500	600
	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
A	48	54	56	61	75	85	94	117	133	149	159	181
B	180	190	200	210	230	250	270	290	310	330	350	390
C	142	164	177	193	230	262	301	338	370	396	435	506
D	257	279	292	310	348	400	447	480	503	566	663	747
E	135	160	195	230	275	345	395	440	495	560	615	720
F	210	254	280	318	381	445	521	584	648	711	775	915
G	29	32	35	37	41,5	46	51	54	57,5	60,5	63,5	70
H	165	165	165	165	165	165	165	165	345	345	384	420
I	150	150	200	200	310	400	400	400	400	400	400	600
J	32	32	32	32	37	37	37	37	46	46	60	90
K	50	50	50	50	84	84	84	84	123	123	165	215

TESTING

According to ISO 5208 or API598.

DESIGN AND DIMENSIONS

- » According to Standards:
ANSI, API, BS, DIN, GOST

MATERIALS

ALC-3 valves are available in a wide variety of materials. Ranging from the common carbon and stainless steels to low- and high temperature carbon steel, the nickel alloys Hastelloy, Inconel, Monel, etc. Please inquire for further information.

PNEUMATIC AND ELECTRIC ACTUATORS

Axelvalves can supply ALC-3 valves with any manual operator the customer desires. If actuated valves are required, Axelvalves can offer a wide selection of high quality electric and pneumatic actuators for the complete range of ALC-3 butterfly valves. Please inquire for more information.

STEM EXTENSIONS

All valves in the ALC-3 range are available with stem extensions for underground service. Chain wheel operators are available on request.

ADJOINING FLANGES

On request Axelvalves can supply adjoining flanges, gaskets and bolts for mounting of the valves. Flanges, gasket and bolts are available in a large variety of materials and sizes.

Valves are designed to suit ANSI, DIN and GOST flanges. Male and female, ring joints and other connection types are available on request.

AVAILABLE ON REQUEST

- » Bare Shaft
- » Lever Operated
- » Gear Operated
- » Electric Operated
- » Pneumatic Operated
- » Stem Extension
- » Butt Weld Connection
- » Special Dimensions

Please note, this is a condensed catalogue.

For further information, contact AXELVALVES.

Subject to change without prior notice.