

JFS

BEIJING JOINT FLOW SYSTEM CO.



BUTTERFLY VALVE

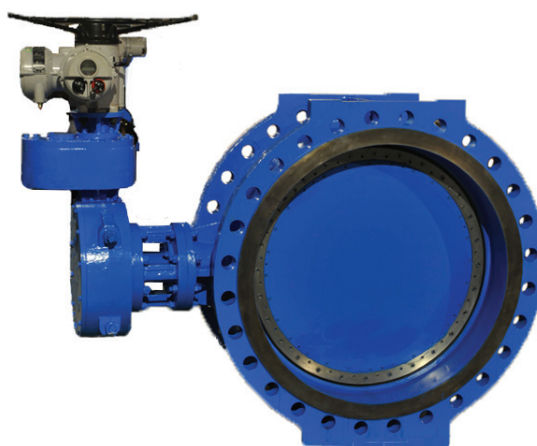


DOUBLE ECCENTRIC BUTTERFLY VALVE

The double eccentric butterfly valves are designed in double offset structure, soft sealing face, as a device to shut-off or regulate the flow and installed in industrial pipelines to handle the medium of water, oil and air, applied to water plant, power plant, petroleum, metallurgy, chemical industry, construction, municipal engineering and etc.

FEATURE

- Low head loss.
- Suitable for throttling service.
- Double eccentric disc provides low-friction torque, rapid open-close, excellent operation.
- Double eccentric seat provides low-friction, wear resistance and long life service.
- Horizontal shaft for standard, vertical shaft mounting as optional.
- The resilient sealing ring encapsulated in the disc is fully adjustable and replaceable.
- Standard SS304 for body seat ring and retaining ring, other materials are as optional.
- Worm gear operator for standard, other types of operation are available on request.



STANDARD

Design and Manufacture	API 609B/AWWA C504/EN 593/BS 5155/DIN 3354
Inspection and Testing	API 598/ISO 5208
Face to Face Dimension	ISO 5752/EN 558/BS 5155/DIN 3202/ASME B16.10
Flange Dimension	ASME B16.5/ASME B16.47/ASME B16.1/AWWA C207/ISO 7005/EN 1092

*More standard specifications are available on request.

TEST DATA

Nominal Diameter DN (mm)	100~3000	100-2400	100-1600	100-1200	4"-60"	4"-24"	4"-24"
Nominal Pressure PN (MPa)	0.6	1.0	1.6	2.5	150(lb)	300(lb)	600(lb)
Hydraulic Shell Test Pressure (MPa)	0.9	1.5	2.4	3.75	3.0	7.5	16.5
Hydraulic Seal Test Pressure (MPa)	0.66	1.1	1.76	2.75	2.2	5.5	12.1
Temperature (°C)	-29~80						

*More test specifications are available on request.

DOUBLE ECCENTRIC BUTTERFLY VALVE

FLOW COEFFICIENT (Valve Opening 90°)

The flow coefficient Kv is the flow in m ³ /h of water, at an average temperature of 20°C, crossing the valve with creating a head loss of 1 bar.			
The relation between Cv and Kv is : Cv= 1.16 Kv			
Head loss	Kv	Non Compressible fluid	Gas
$\Delta p < \frac{P_1}{2}$ $\left(\frac{P_2 > \frac{P_1}{2}}{\Delta p > \frac{P_1}{2}} \right)$ $\left(\frac{P_2 < \frac{P_1}{2}}{\Delta p > \frac{P_1}{2}} \right)$	Kv	$= \frac{Q}{31,6} \sqrt{\frac{\rho_1}{\Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{\rho_N \cdot T}{\Delta p \cdot P_2}}$ $= \frac{2 Q_N}{514 \cdot P_1} \sqrt{\rho_N \cdot T}$
Kv: Flow Coefficient of the valve Q: Flow in m ³ /h Δp: Headloss in the valve in bar P ₁ : Upstream pressure in bar P ₂ : Downstream pressure in bar		Q _N : Flow in normal conditions (0°C, 760 mm Hg) m ³ /h T: Temperature of the fluid in °K ρ ₁ : Volumic weight of the fluid (kg/m ³) ρ _N : Volumic weight in normal conditions	

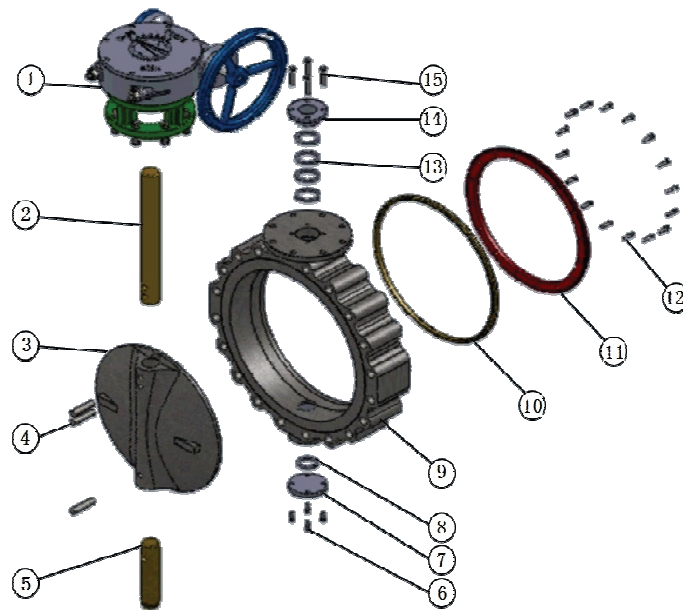
SHAFT TORQUE (safety factor not included)

DN (mm)	NPS (inch)	Torque (N.m)				
		0.6 MPa	1.0 MPa	1.6 MPa	2.5 MPa	150 lb
100	4	33	47	66	105	79
150	6	79	111	159	247	191
200	8	152	214	307	459	369
250	10	254	360	519	768	625
300	12	390	555	804	1178	969
350	14	559	801	1164	1710	1407
400	16	765	1102	1608	2368	1945
450	18	1010	1462	2140	3156	2592
500	20	1296	1885	2769	4096	3358
600	24	2097	3062	4511	6685	5476
700	28	3039	4472	6622	9849	8055
800	32	4209	6235	9275	13153	11302
900	36	5500	8198	12246	18317	14944
1000	40	7404	11053	16526	26189	32560
1200	48	11733	17684	26609	42095	30892
1400	56	17390	26424	39975	/	49009
1600	64	24576	37598	57132	/	/
1800	72	34484	52753	/	/	/
2000	80	44093	67634	/	/	/
2200	88	56837	87621	/	/	/
2400	96	71772	111140	/	/	/

*More torque specifications are available on request.

DOUBLE ECCENTRIC BUTTERFLY VALVE

PARTS LIST AND MATERIAL

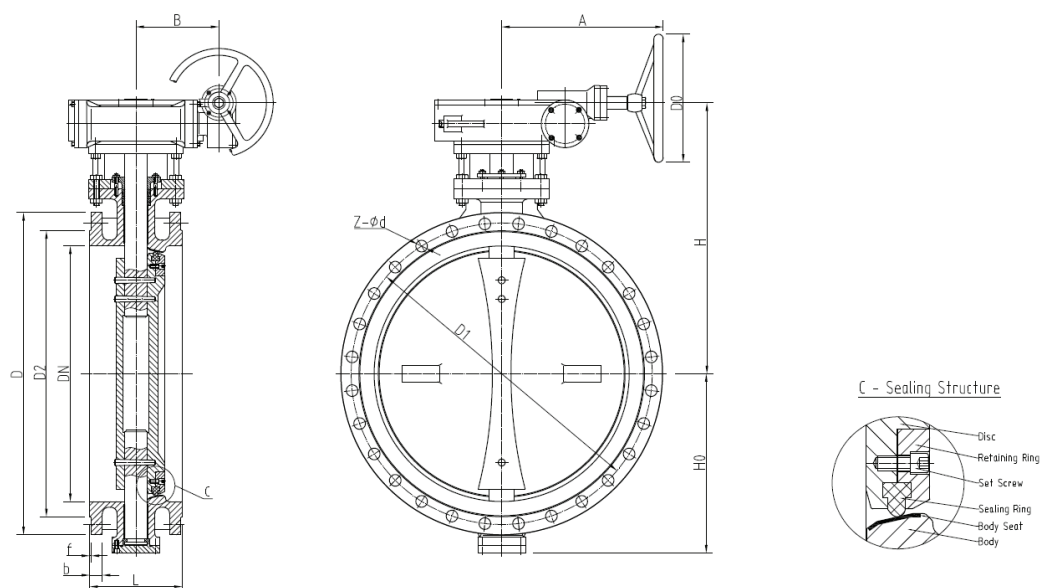


No.	Parts Name	Material
1	Worm Gear	Cast Iron/Ductile Iron/Carbon Steel
2	Upper Shaft	Stainless Steel
3	Disc	Cast Iron/Ductile Iron/Carbon Steel/Stainless Steel
4	Taper Pin	Stainless Steel
5	Below Shaft	Stainless Steel
6	Screw	Carbon Steel/Stainless Steel
7	Bottom Cover	Carbon Steel/Stainless Steel
8	Trust Ring	Carbon Steel/Stainless Steel
9	Body	Cast Iron/Ductile Iron/Carbon Steel/Stainless Steel
10	Sealing Ring	NBR/EPDM/PTFE/VITON
11	Retaining Ring	Carbon Steel/Stainless Steel
12	Set Screw	Carbon Steel/Stainless Steel
13	Packing	NBR/EPDM/PTFE/VITON/Graphite
14	Packing Gland	Ductile Iron/Carbon Steel/Stainless Steel/Bronze
15	Screw	Carbon Steel/Stainless Steel

*More material specifications are available on request.

DOUBLE ECCENTRIC BUTTERFLY VALVE

DIMENSION (Flange Type / DN<1500)



DN (mm)	NPS (inch)	L		H ₀	H	A	B	D ₀	Est. Weight (kg)	
		Short Body	Long Body						Short Body	Long Body
100	4	127	190	120	230	180	50	150	45	60
150	6	140	210	180	275	185	63	305	80	120
200	8	152	230	200	313	185	63	305	100	169
250	10	165	250	260	313	215	80	305	121	203
300	12	178	270	290	420	215	80	406	159	265
350	14	190	290	320	450	215	80	406	222	370
400	16	216	310	352	480	245	125	300	237	396
450	18	222	330	390	543	245	125	300	271	453
500	20	229	350	425	585	245	125	300	300	501
600	24	267	390	485	643	390	202	400	381	635
700	28	292	430	540	737	390	202	500	651	931
800	32	318	470	605	885	427	262	400	792	1132
900	36	330	510	665	975	427	262	400	1034	1478
1000	40	410	550	705	1130	550	325	500	1334	1906
1200	48	470	630	850	1150	550	325	500	1953	2442
1400	56	530	710	1000	1201	600	362	650	2937	3811

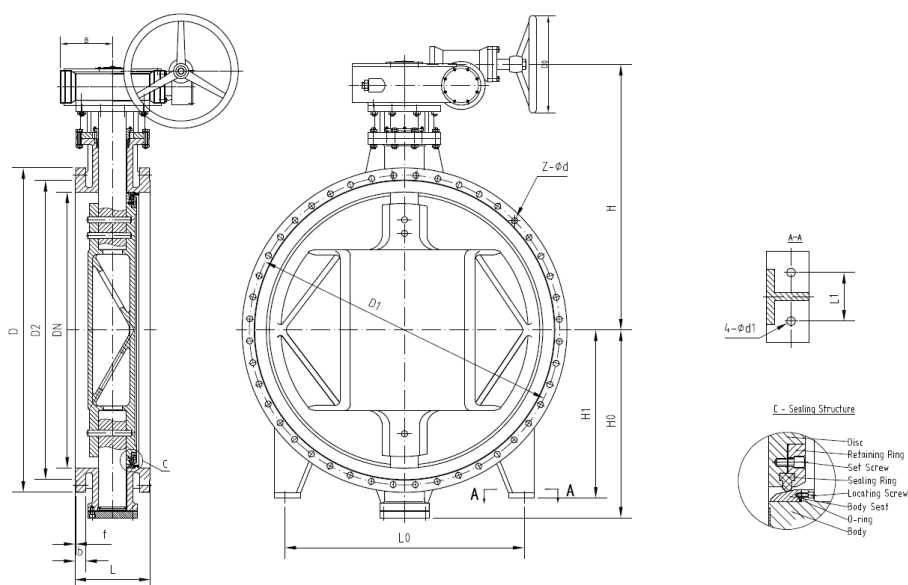
*Face to face dimensions (L) herein are according to EN 558/ISO 5752 series 13 (Short Body) and series 14 (Long Body).

*Flange dimensions (D, D₁, D₂, Z-d, b, f) refer to Catalogue of Accessory: Series 8 – Flange.

*More dimension specifications are available on request.

DOUBLE ECCENTRIC BUTTERFLY VALVE

DIMENSION (Flange Type / DN > 1500)



DN (mm)	NPS (inch)	L		H ₀	H	B	D ₀	H ₁	L ₀	L ₁	d ₁	Est. Weight (kg)	
		Short Body	Long Body									Short Body	Long Body
1600	64	600	790	1080	1630	395	650	100	1000	180	41	4276	5346
1800	72	670	870	1215	1750	395	650	110	1100	190	41	5150	6438
2000	80	760	950	1350	1850	580	650	120	1200	240	43	6460	8075
2200	88	800	1000	1600	1980	580	650	130	2200	330	43	9100	13000
2400	96	850	1100	1750	2120	580	650	136	2400	330	45	10710	15300
2600	104	900	1200	1880	2230	620	650	150	2600	400	45	13760	17200
2800	112	950	1300	1980	2400	620	650	161	2800	400	48	14280	20400
3000	120	1000	1400	2080	2600	620	650	169	3000	470	48	18200	26000

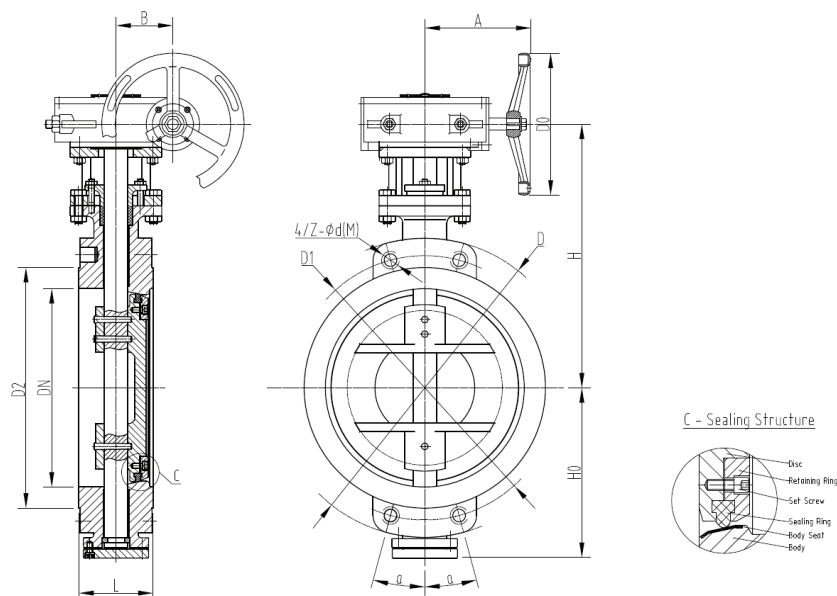
*Face to face dimensions (L) herein are according to EN 558/ISO 5752 series 13 (Short Body) and series 14 (Long Body).

*Flange dimensions (D, D₁, D₂, Z-d, b, f) refer to Catalogue of Accessory: Series 8 – Flange.

*More dimension specifications are available on request.

DOUBLE ECCENTRIC BUTTERFLY VALVE

DIMENSION (Wafer Type)



DN (mm)	NPS (inch)	L	H ₀	H	A	B	D ₀	Est. Weight (kg)
400	16	102	352	480	245	125	300	102
450	18	114	390	543	245	125	300	126
500	20	127	425	585	245	125	300	160
600	24	154	485	643	390	202	400	243
700	28	165	540	737	390	202	5000	369
800	32	190	605	885	427	262	400	498
900	36	203	665	975	427	262	400	642
1000	40	216	705	1130	550	325	500	851
1200	48	254	850	1150	550	325	500	1107
1400	56	279	1000	1201	600	362	650	1568

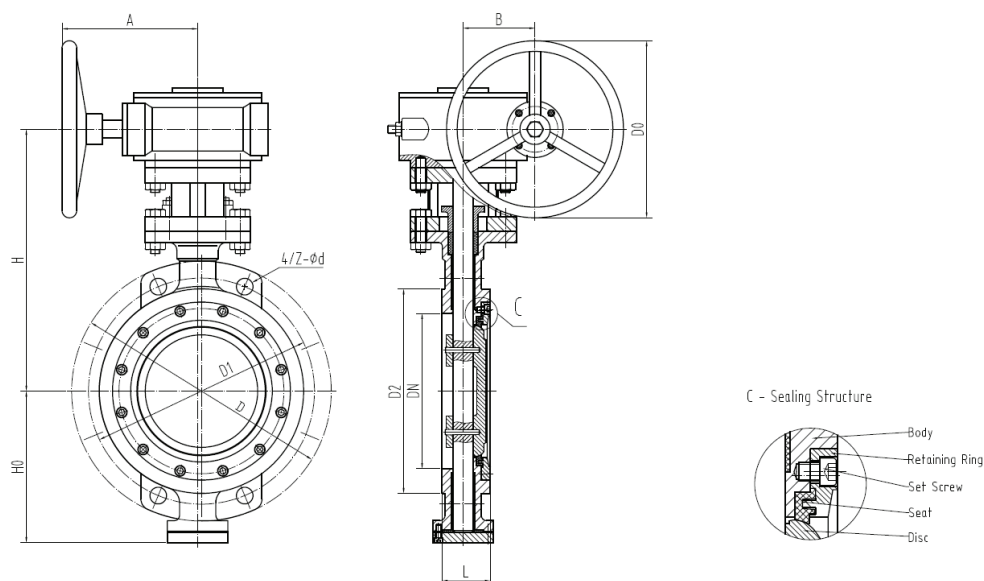
*Face to face dimensions (L) herein are according to EN 558/ISO 5752 series 20.

*Flange dimensions (D, D₁, D₂, Z-d) refer to Catalogue of Accessory: Series 8 – Flange.

*More dimension specifications are available on request.

DOUBLE ECCENTRIC BUTTERFLY VALVE

DIMENSION (Wafer type / High Performance)



DN (mm)	NPS (inch)	L			H ₀	H	A	B	D ₀	Est. Weight (kg)
		(150lb)	(300lb)	(600lb)						
100	4	54	54	64	95	235	180	50	150	17
150	6	57	59	78	125	275	185	63	305	26
200	8	64	73	102	145	305	185	63	305	35
250	10	71	83	117	200	350	215	80	305	42
300	12	81	92	140	215	400	215	80	406	68
350	14	92	117	155	255	460	215	80	406	121
400	16	102	133	178	315	475	245	125	300	136
450	18	114	149	200	381	550	245	125	300	198
500	20	127	159	216	420	600	245	125	300	216
600	24	154	181	232	489	680	390	242	400	467
700	28	165			502	815	390	242	5000	650
800	32	190			975	920	420	262	400	950
900	36	203			1075	1020	420	262	400	1239
1000	40	216			1175	1120	550	325	500	1785
1200	48	254			1405	1340	550	325	500	1956

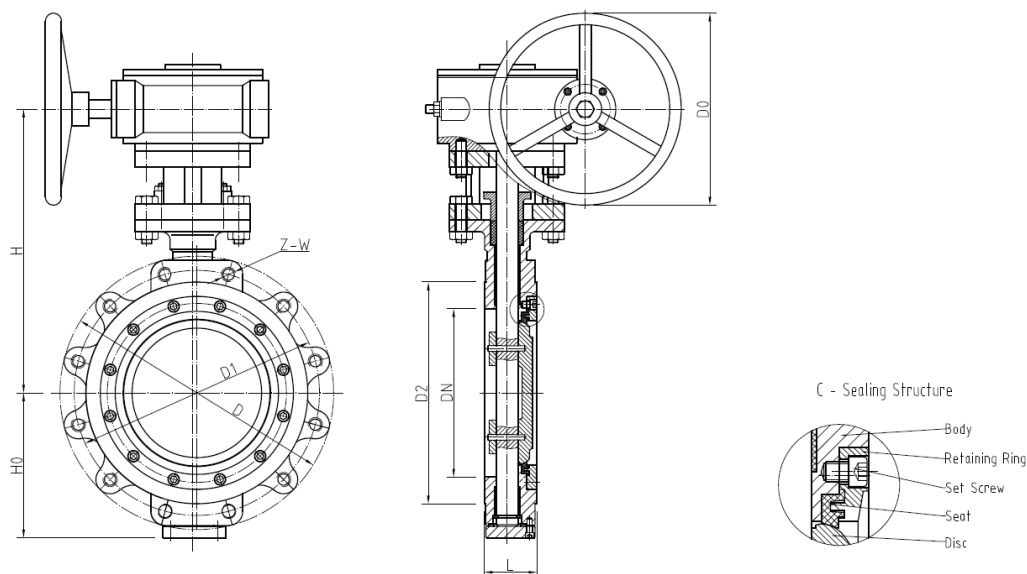
*Face to face dimensions (L) herein are according to ASME B16.10.

*Flange dimensions (D, D₁, D₂, Z-d) refer to Catalogue of Accessory: Series 8 – Flange.

*More dimension specifications are available on request.

DOUBLE ECCENTRIC BUTTERFLY VALVE

DIMENSION (Lug type / High Performance)



DN (mm)	NPS (inch)	L			H ₀	H	A	B	D ₀	Est. Weight (kg)
		(150lb)	(300lb)	(600lb)						
100	4	54	54	64	95	235	180	50	150	38
150	6	57	59	78	125	275	185	63	305	48
200	8	64	73	102	145	305	185	63	305	90
250	10	71	83	117	200	350	215	80	305	114
300	12	81	92	140	215	400	215	80	406	148
350	14	92	117	155	255	460	215	80	406	183
400	16	102	133	178	315	475	245	125	300	215
450	18	114	149	200	381	550	245	125	300	266
500	20	127	159	216	420	600	245	125	300	337
600	24	154	181	232	489	680	390	242	400	511
700	28	165			502	815	390	242	5000	905
800	32	190			975	920	420	262	400	1221
900	36	203			1075	1020	420	262	400	1576
1000	40	216			1175	1120	550	325	500	2090
1200	48	254			1405	1340	550	325	500	2227

*Face to face dimensions (L) herein are according to ASME B16.10.

*Flange dimensions (D, D₁, D₂, Z-d) refer to Catalogue of Accessory: Series 8 – Flange.

*More dimension specifications are available on request.