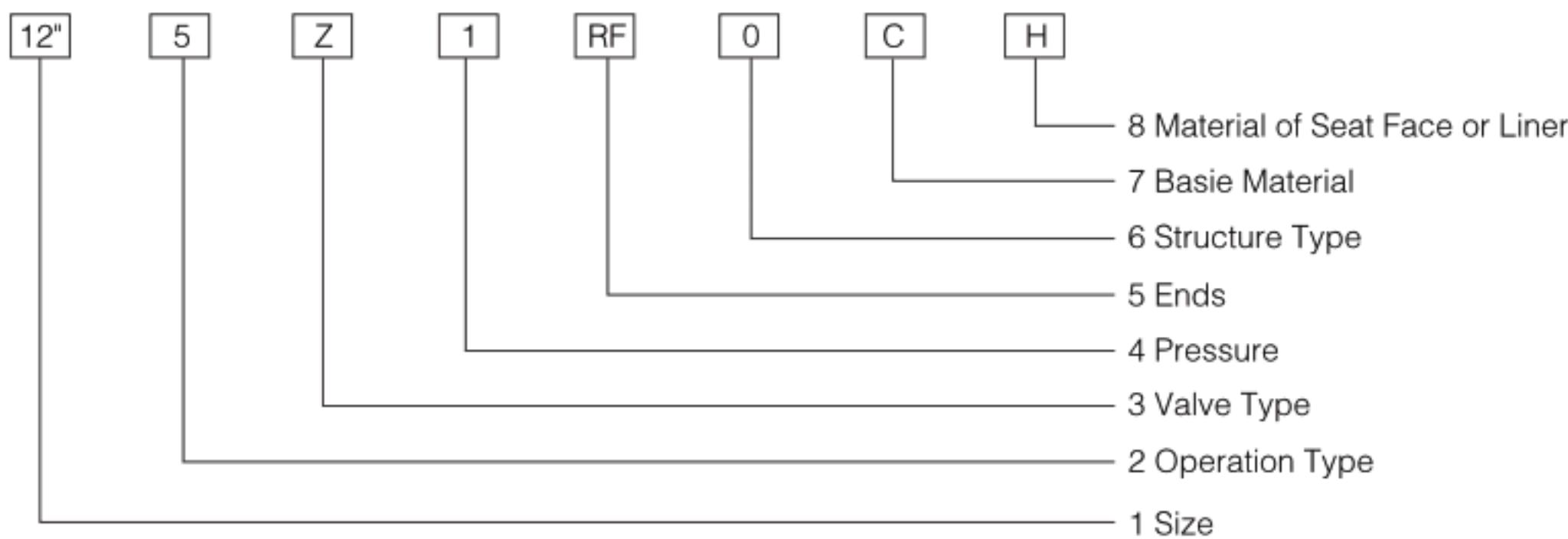


Butterfly Valve Figure Number System

1	Size	The inch series is expressed with xxin; the metric series is expressed with xx, with the unit mm omitted					
2	Operation Type	1– Bare Stem	3–Worm Gear Operated	6**–Air Operated	7□–Hydraulic Operated	9–Electric Operated	Hand Operated (omit)
3	Valve Type	D– Butterfly valve DTF– Aeration Butterfly Valve			DH– Check Butterfly Valve Ds– Flexible Butterfly Valve	DK– Vacuum Butterfly Valve	
4	Pressure	0a–PN6	0b–PN2.5	0–PN10	1–PN16 Class150	2–PN25	3–Class3000
		4–PN40 Class400	6–PN64 Class600	9–Class900	10–PN100	1a–Class125	2a–Class250
5	Ends	RF– Raised Face	FF– Flat Face	MFM– Male and Female Face	RJ– Ring Joint	BW– Butt-weld	WS–Wafer with 4 lugs WL–Wafer with no lug WF–Single Reinforcement Wafer Type WU–Unthreaded Hole Wafer Type LL–Full Lug Screw Wafer Type LU–U–U Screw Wafer Type
6	Structure Type	1– Middle Eccentric Struccture	2– Single Eccentric Struccture	3– Double Eccentric Struccture	4– Veriable Eccentric Struccture	5– Three Eccentric Struccture	
7	Basie Material	C–WCB	C–C5	C6–WC6	C9–WC9	BL–LCB	CL–LCC
		8–CF8	8M–CF8M	3–CF3	3M–CF3M	ML–MONEL	H–IRON
8	*Material of Seat Face or Liner	H– Cr13S.S		E– 18–8S.S		F–PTFE	
		D– Nitriding Steel		M– Monel Alloy		X– Rubber	

- Note:
1. Use "W" to express seat sealing surface material which is processed directly by valve body.
 2. When the materials of sealing surface are different, use low hardness material symbol to express.
 3. Special requirements not shown, should be indicated in the purchase order.
 4. The models listed in the sample book have no reference to pressure, sizes and valve material symbols, they are to be decided by users.
 5. **6S Spring Return, 6A Air Operated Control.
 6. B–Pressure Retaining Type, Q–Full Pressure Type, S–Locked Type.
 7. PN < 0.25MPa, Omit Pressure.



For Example

6"-3D1RF5CH

Butterfly valve, 6", Worm Gear Operated, ANSI Class150, RF Flange Ends, Triple eccentric stricture, Body & Disc Cast Steel WCB, 13Cr face Seat.

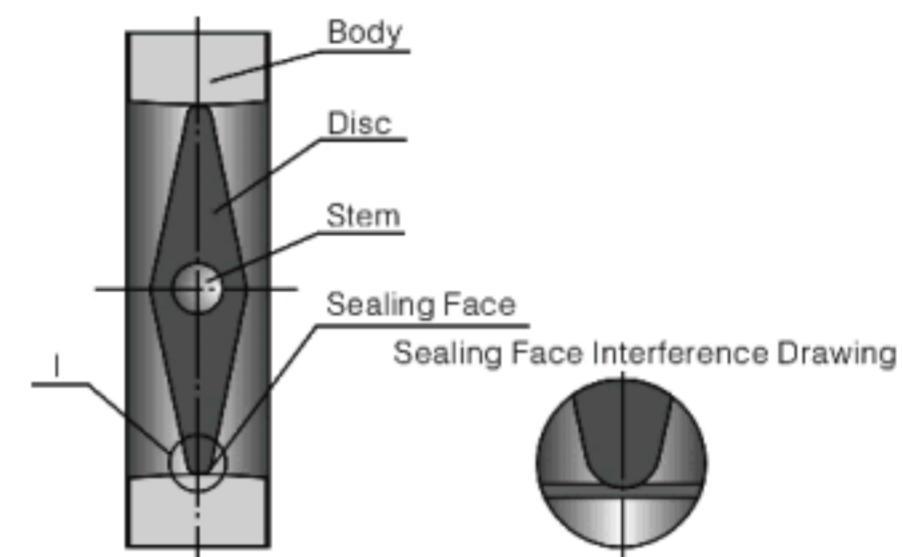
150–3D1RF5CH

Butterfly valve, DN150 PN16, Worm Gear Operated, RF Flange Ends, Triple eccentric stricture, Body & Disc Cast Steel WCB, 13Cr face Seat.

Our butterfly valves are structured to centered seal, single eccentric seal, double eccentric seal, triple eccentric seal and variable eccentric seal. The sealing principles of these structures are stated as following.

1. Sealing Principle of Centered Seal Butterfly Valve

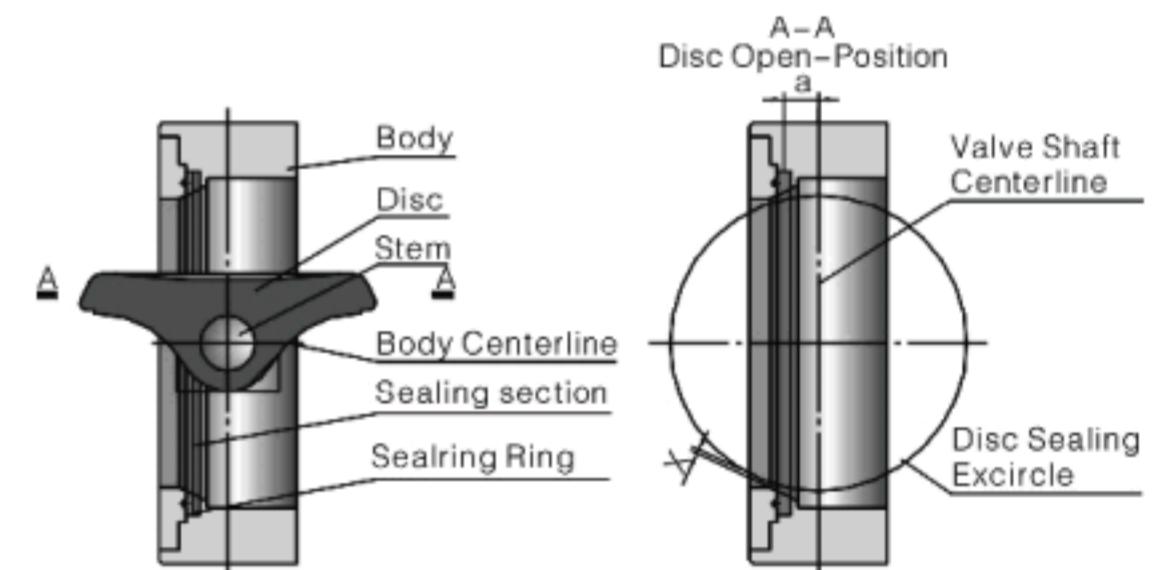
With the disc seal center of butterfly valve and rotation center of stem overlapped, sealing load will be produced between the sealing faces of seat and disc under certain magnitude of interference, thus to ensure effective seal of valve. Lined with rubber on body, this structure is applicable for medium and small-bore butterfly valves. Due to the deformation under extrusion, during the process of opening and closing, disc is always under extrusion. So, the upper and lower valve shafts are seriously extruded, which can be bad to the service life of valve. And, the open-close moment of valve is relatively high. The defect is that disc and seat are always under extrusion, scratch, high resistance and serious abrasion. To overcome extrusion and scratch and to ensure good seal, seat basically uses rubber or PTFE, or other elastic materials. However, temperature can be a problem. This is why butterfly valves are, conventionally, not resistant to high temperature.



Sealing Structure of Centered Seal Butterfly Valve

2. Sealing Principle of Single Eccentric Seal Butterfly Valve

The rotation center of disc (namely center of valve shaft) and the sealing section of disc form up an 'a' eccentric, making disc sealing face gradually disengaged from seat sealing face during the process of open and close. Once the disc turns to $15^\circ \sim 25^\circ$, the disc sealing face will be completely disengaged from the seat sealing face. Once fully opened, a gap 'X' will be formed up between the two sealing faces, making the relative mechanical wear and extrusion between the two sealing faces greatly lowered during the process of open and close, thus to ensure the seal of butterfly valve. However, as the scratch between disc and seat doesn't disappear during the whole process of open and close, they are almost similar to concentric butterfly valves in the area of application, this is why they have not been popularly used.

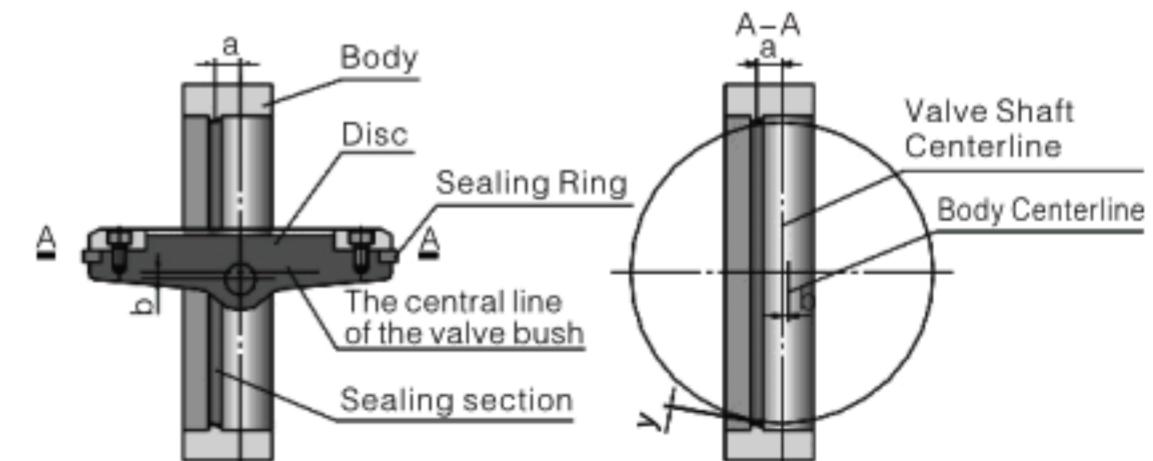


Sealing Structure of Single Eccentric Seal Butterfly Valve

3. Sealing Principle of Double Eccentric Seal Butterfly Valve

The rotation center of disc (namely the center of valve shaft) and the centerline of body form up a 'b' eccentric on the base of single eccentric butterfly valve, making the sealing face of disc disengaged from seat sealing face more quickly than single eccentric seal butterfly valves during the process of open and close. Once disc turns to $8^\circ \sim 12^\circ$, the disc sealing face will be completely disengaged from the seat sealing face. Once fully opened, a gap 'Y' will be formed up between the two sealing faces. This type of butterfly valves are designed to have greatly lowered the mechanical wear and extrusion deformation between the two sealing faces, making the sealing performance of butterfly valve much better.

The characteristic of this structure is to make stem axis not only deviated from the center of disc, but also the center of the body. The effect of double eccentric is that, when valve has been opened, disc can be quickly disengaged from seat, thus to greatly eliminate the unnecessary excessive extrusion and scratch between the disc and seat, reduce opening resistance, lower the abrasion and improve the service life of seat. As scratch has been greatly lowered, metal seat can be used for double eccentric butterfly valve, so that butterfly valves are able to be used in high temperature fields. However, as its seal is positioned sealing construction, i.e. the sealing faces disc and seat is lineal contact, disc extruding seat to produce elastic deformation, thus to effect the sealing performance. This has high requirement on close position, especially for those with metal seat, and is given poor pressure endurance. This is why butterfly valves are, conventionally, not resistant to high temperature and leakage.

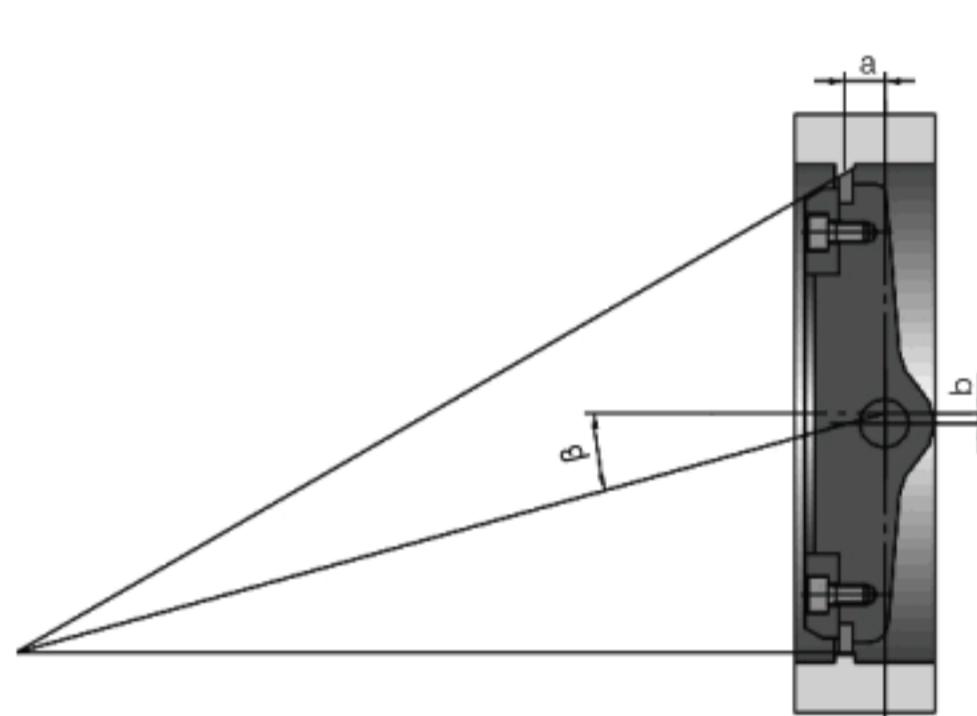


Sealing Structure of Double Eccentric Seal Butterfly Valve

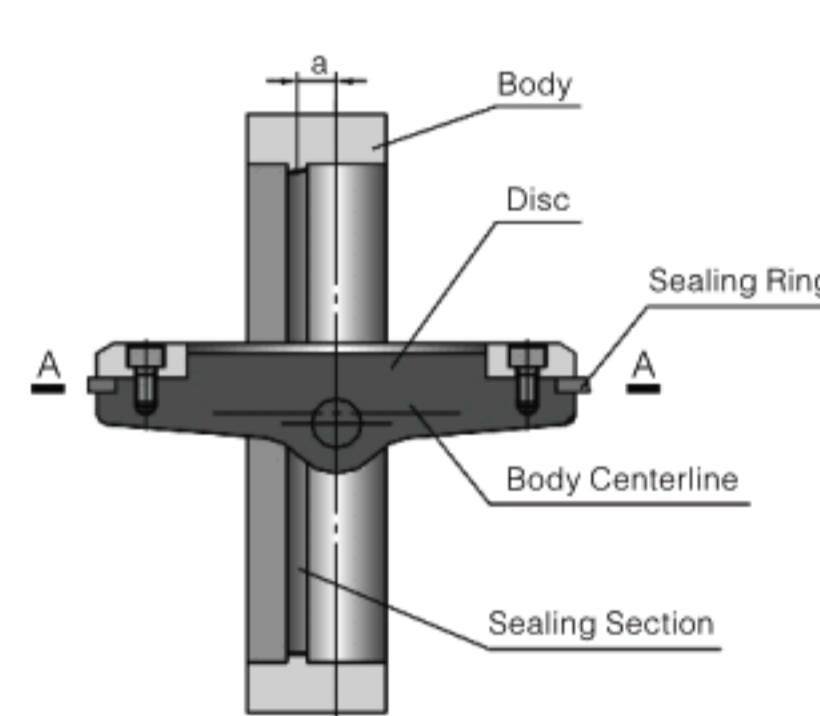
4. Sealing Principle of Triple Eccentric Seal Butterfly Valve

A β eccentric is formed up between the centerline of seat and the centerline of body on the base of double eccentric butterfly valve, making disc sealing face immediately disengaged from seat sealing face upon the opening of butterfly valve, and in close contact with the seat sealing face upon closing. When fully opened, a gap 'Y', which is the same as that in double eccentric seal butterfly valve, is formed up between the two sealing faces. The design of this type of valves has thoroughly eliminated the mechanical wear and scratch between the two sealing faces, making the sealing performance and service lift of butterfly valves greatly improved. When valve is closed, with sealing ring under the extrusion of body sealing face and disc, two upward elastic deformations are produced. The sealing face is fallen under outward tension at long shaft and inward compressive stress at short shaft. The long and short shafts produce elastic deformation of different directions, thus to maximizing the sealing force between the sealing faces of valve.

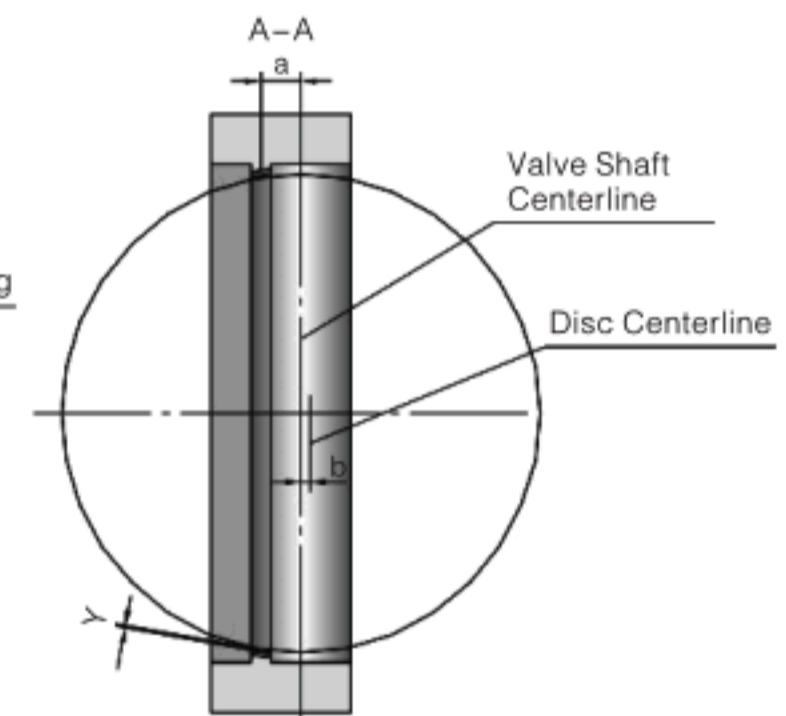
This distinctive eccentric combination not only uses cam effect, but also eliminates friction completely, thus to ensure no friction between seat and sealing ring on disc during the 90° stroke of valve, a perfect solution to clear away the possibilities of abrasion and leakage.



Close State Diagram of Triple Eccentric Seal Butterfly Valve



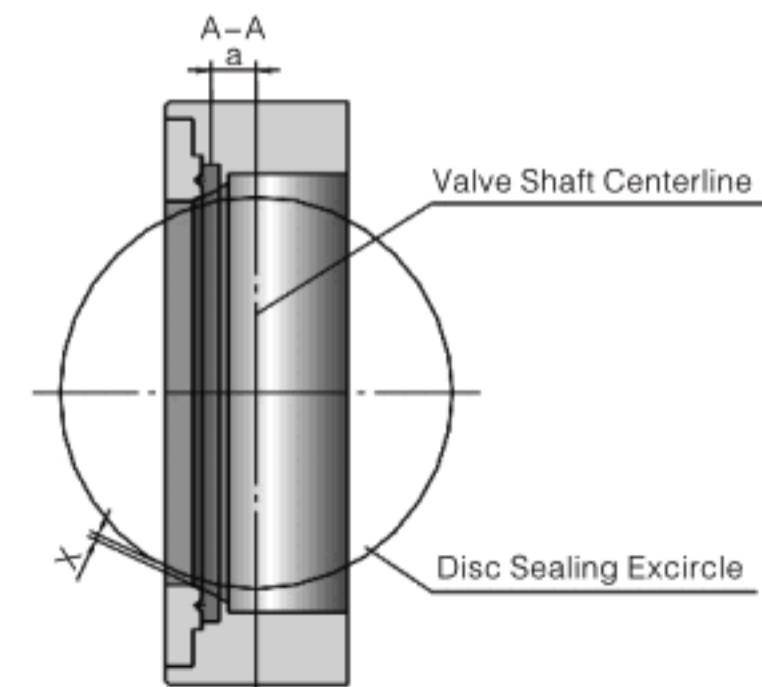
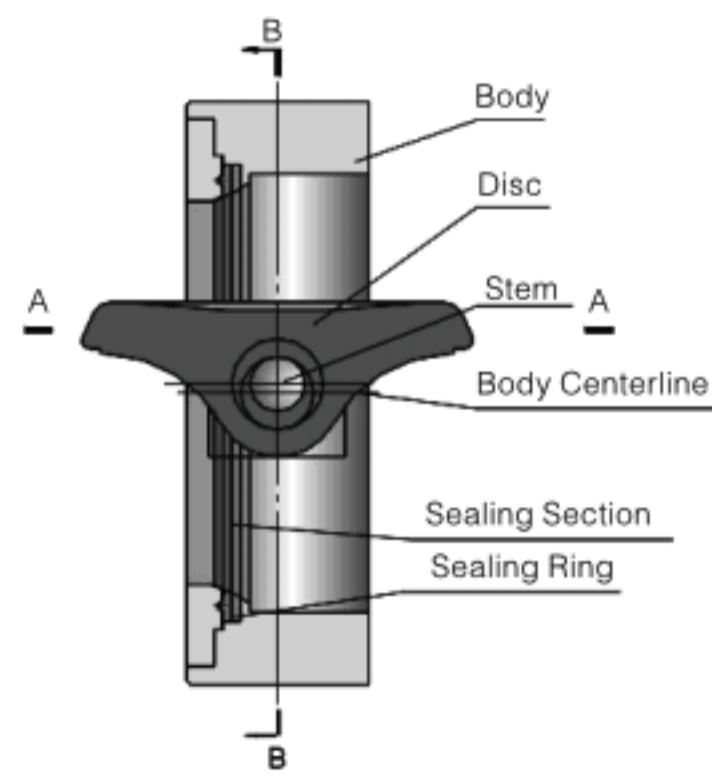
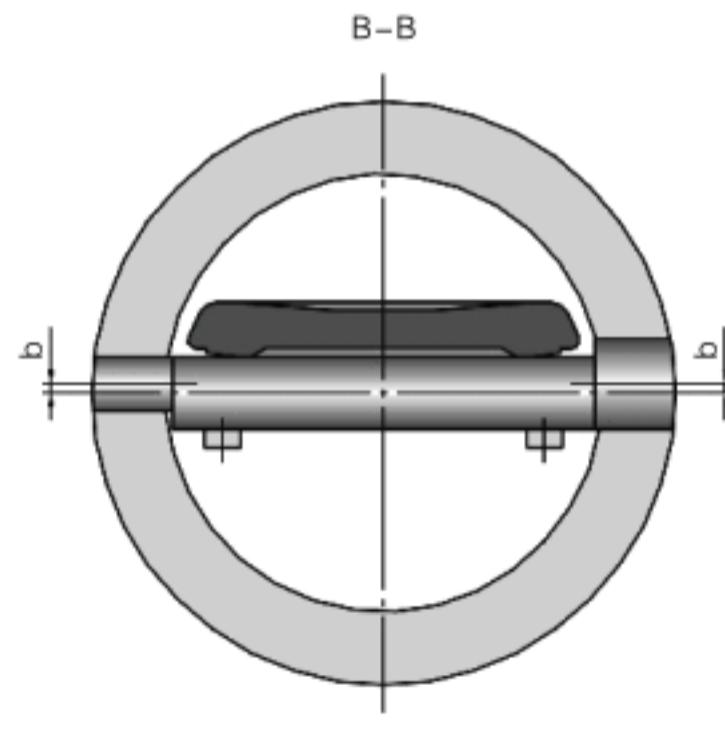
Open State Diagram of Triple Eccentric Seal Butterfly Valve



Sealing Principle of Triple Eccentric Seal Butterfly Valve

5. Sealing Principle of Variable Eccentric Seal Butterfly Valve

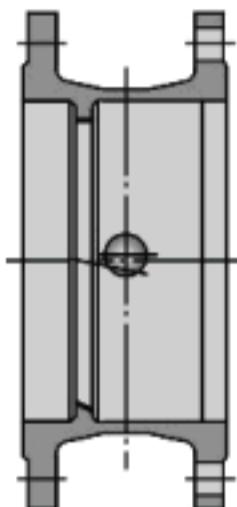
The distinctive feature of variable eccentric butterfly valve is that, the stem shaft where disc is mounted is a three-segment eccentric shaft. The two ends of the three-segment stem shaft are concentric, while the centerline of the middle segment is deviated from the axial lines of the two ends by a center-to-center distance. Disc is just mounted on the middle segment. This eccentric structure forms up a double eccentric shape when disc is completely opened, and a single eccentric shape when disc is turned to be closed. Under the force of eccentric shaft, when tending to be closed, disc will move somewhat toward the sealing conical surface of the seat, and then engaged to perform dependable sealing. When seat sealing face is abraded after a period of service, adjust the driving mechanism to make the close position of disc forward for some degrees, in this way to set up a new sealing state.



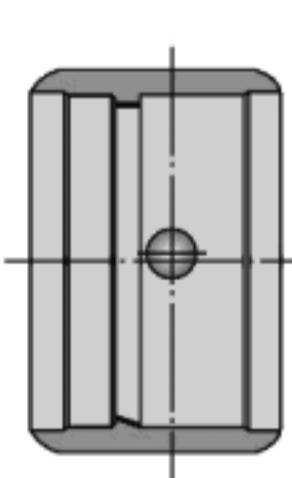
Sealing Structure of Variable Eccentric Seal Butterfly Valve

Butterfly valves are used to open and close (seal type) or adjust the medium flow in pipes in the fields of foodstuff, drinks, chemical, industrial water treatment, high-rise constructions, water supply and drainage etc.. They are mainly structured as following.

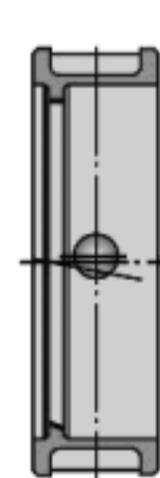
1. Simple structure, small sizes, light weight and low installation dimensions. According to the types of body connection, they are basically classified to wafer type (including lug wafer type), flanged and welded.



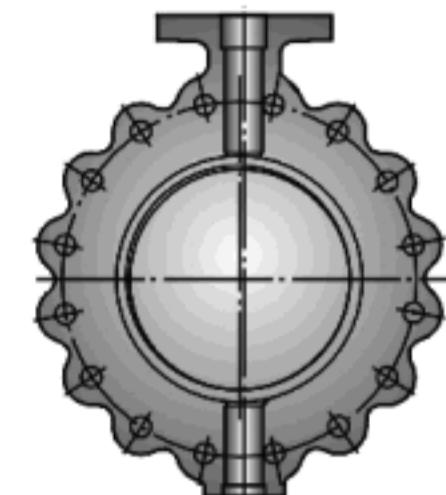
Flanged Connection



Butt-welded Connection



Wafer Connection

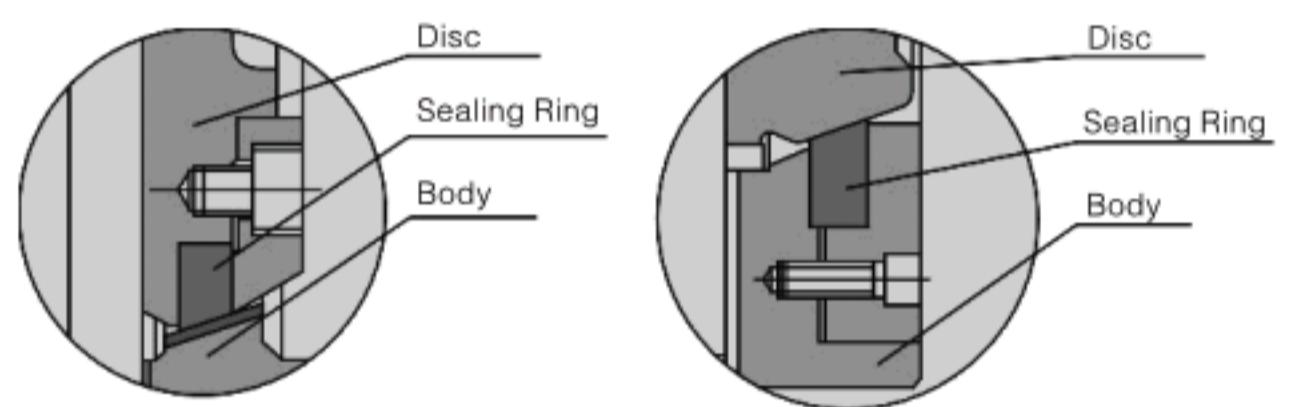


Lug Wafer Connection

2. Sealing materials may be soft hard, placed on body or disc, to meet different working conditions, and to effect good seal and long lift.

1) Soft sealing structure (see fig. right), is applicable for single and double eccentric butterfly valves, pressure rating \leq CLASS 600. Centered sealing structure is applicable for pressure rating \leq CLASS 250. Sealing ring (PTFE) is placed on the valve body to feature the following.

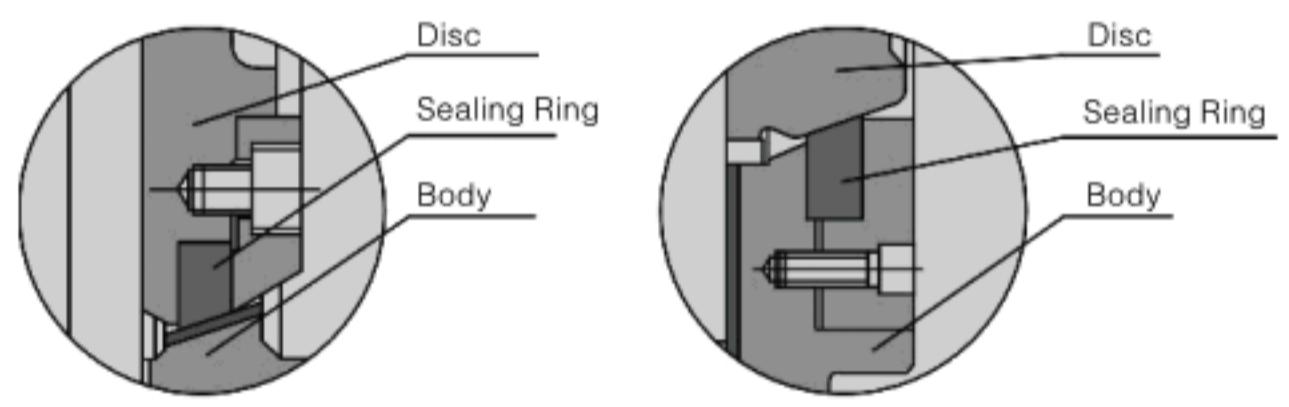
- a) To effect dependable seal with no need of accessorial sealing ring or metal bracing ring.
- b) Bidirectional leakproof seal.
- c) Little maintenance and long service lift.



Soft Sealing Structure

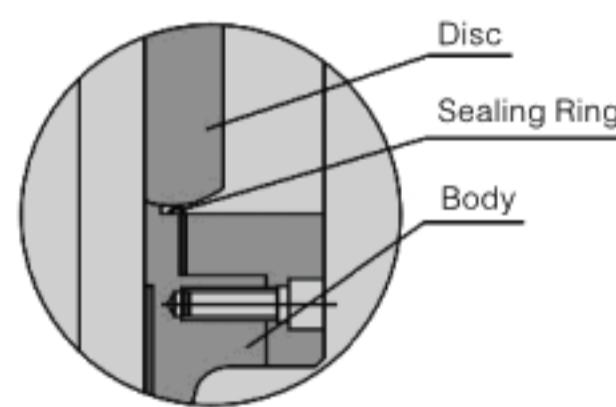
- 2) Multilayer Hard Seal Structure (See fig. right)

Multilayer hard seal structure is applicable for single, double and triple eccentric butterfly valves, pressure rating \leq CLASS 600. And, triple eccentric butterfly valve can maintain two-way leak-tightness. Multilayer sealing ring is composite of stainless steel and nonmetal material. The nonmetal material can be flexible graphite, PTFE or nonasbestos material etc. according to the actual working conditions.



Multilayer Hard Seal Structure

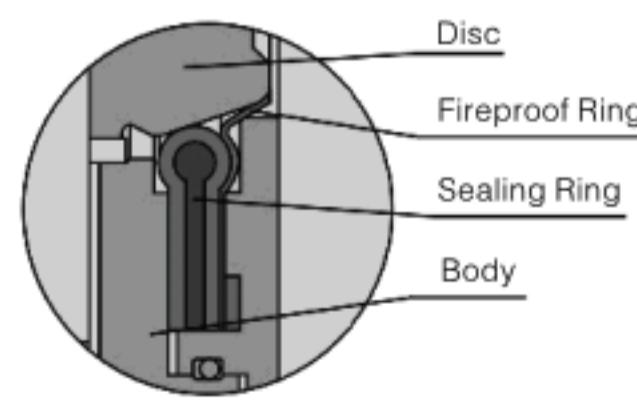
3) Elastic ring hard seal structure (see fig. right) is of the structure of J-type metal sealing ring. It is applicable for single and double eccentric butterfly valves, pressure rating \leq CLASS 300. Provided with fireproof structure to adapt to conditions with great temperature changes, it is featured by outstanding seal, long service life and easy workmanship.



Elastic Ring Hard Seal Structure

3. Fireproof butterfly valves (see fig. Right) can stop the expansion of fire. Once the sealing seat of butterfly valve is on fire, the stainless Steel sealing ring will act to make butterfly valve immediately sealed.

4. When butterfly valve is fully opened, flow resistance is low. When partially opened, it may carry out sensitive flow control.



Soft Seal Fireproof Structure

5. Low driving moment, easy and quick operation.

Design characteristics of resilient seated butterfly

Connecting Flange of Drive:

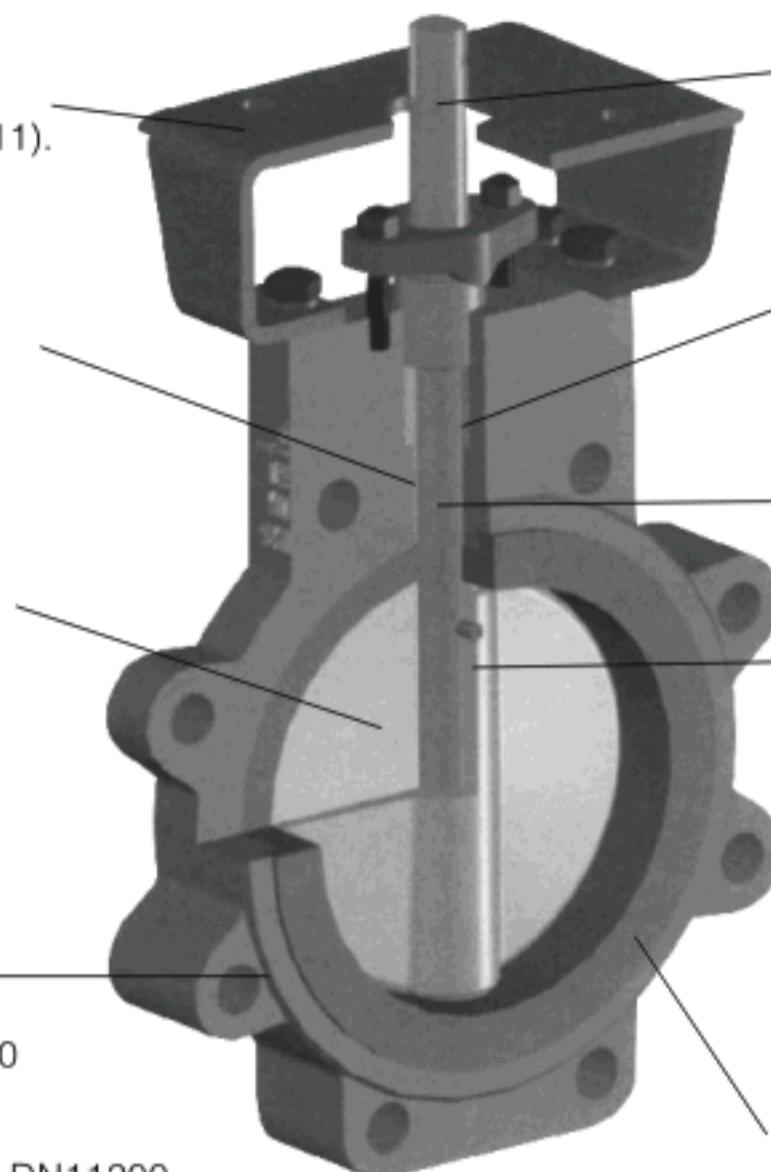
Applicable for manual, worm gear, electric and pneumatic connection devices (2"~24" to ISO5211).

Bushing: used as valve stem support, positive shaft correction and brake support. There are bushings of low friction coefficient at the two ends of stem to reduce the frictional force of stem and open-close torque of valve.

Disc: streamlined design of disc, the upper and lower stem ends in close contact with the seat to avoid medium leaking from the stem surface. Accurate disc excircle in precise match with the seat to ensure low open-close moment of valve and long service life of seat under the state of sealed. The shape of disc differs from the type of connection to the stem, and the flow coefficient of valve is closely associated with the structural type of disc.

Valve body, classified to the following according to structural types:

1. WS-four-lug shaftless body, applicable for DN50~DN600.
2. WL-lugless body, applicable for DN50~DN300
3. WF-single reinforcement body, applicable for DN550~DN1200.
4. WU-Unthreaded body, applicable for DN700~DN11200.
5. LL-lug wafer body, applicable for DN500~DN600.
6. LU-U screw body, applicable for DN700~DN1200.
7. TH-threaded body, applicable for DN50~DN150.
8. GR-clamped body, applicable for DN650~DN300.



Connection Structure of Stem Head:

According to the difference in driving mechanism, there may be key connected, opposite flat or square (flat or square applicable for 2"~24")

Stem seal: sealing material may be soft graphite, PTFE or rubber (O-ring) according to working conditions and medium.

Stem: for DN≤24", stem is one-shaft structure; for DN>24", stem is segmental (upper and lower shafts) structure. Stem and disc are connected by pin to guarantee the accurate position of disc switch.

Pin: to guarantee vibration protection, and the connection between shaft and disc, there are three types of connection between stem and disc.

1. Taper pin connection, applicable for DN50~DN1200.
2. Semi-shaft pinless connection, applicable for DN50~DN600.
3. Total-shaft pinless connection, applicable for DN50~DN300.

Seat: nonexpansion ,resistance against expansion and breakage. Pressure mould soft sealing material. The dovetail groove on the seat in contact with the body to ensure the seal between the seat and body, and that the just replace the seat directly, thus to improve the service lift of valve.

The structural types of our butterfly valve seat;

1. Dovetail Seat
2. Cylindrical Seat
3. Shoe-type Seat
4. Vulcanized Seat

Structural Type of Body



WS Four-lug Body



LU-U Screw Body



GR-Clamped Body



LL-Lug Wafer Body



WL-Lugless Body



TH-Threaded Body

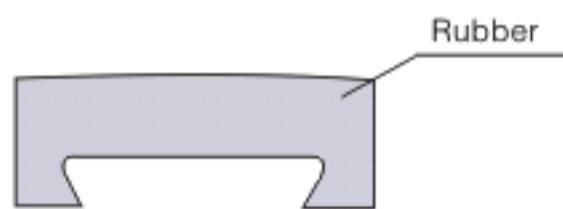


WU-Unthreaded Hole Body

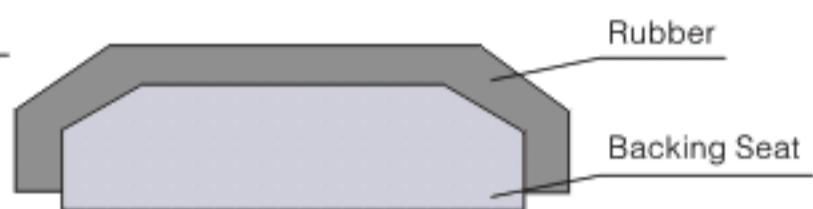


WF-Single Reinforcement Body

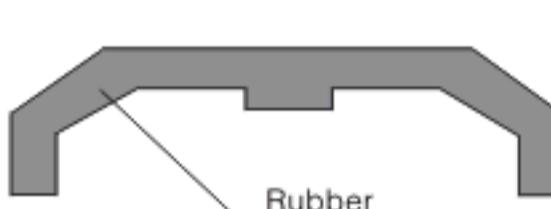
Y-Dovetail Seat



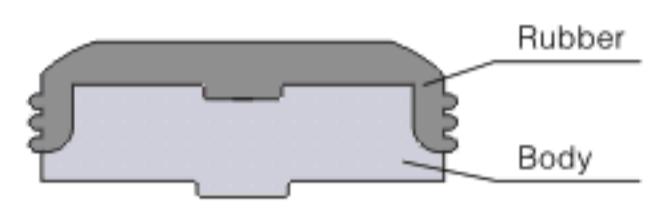
L-Cylindrical Seat



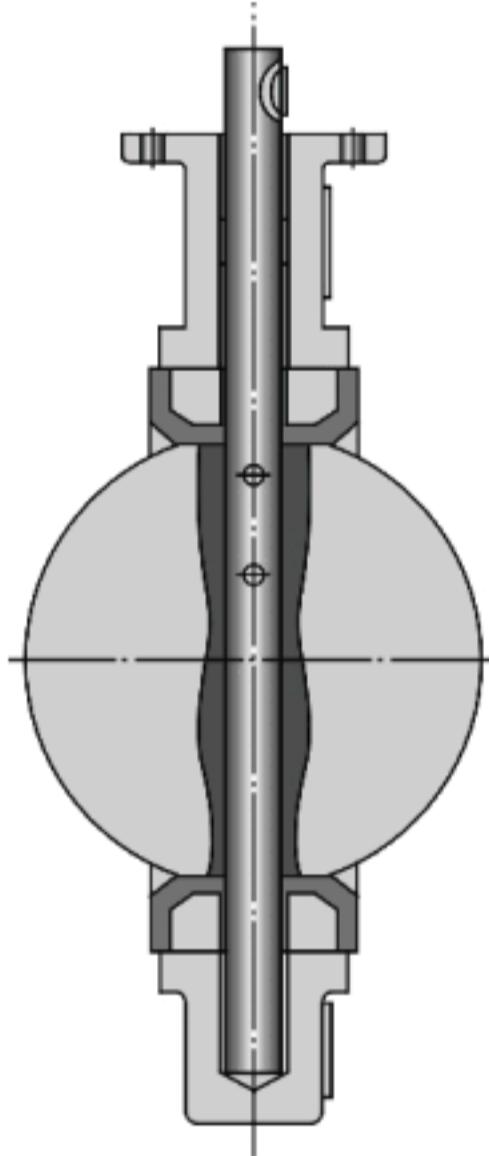
B-shoe-type Seat



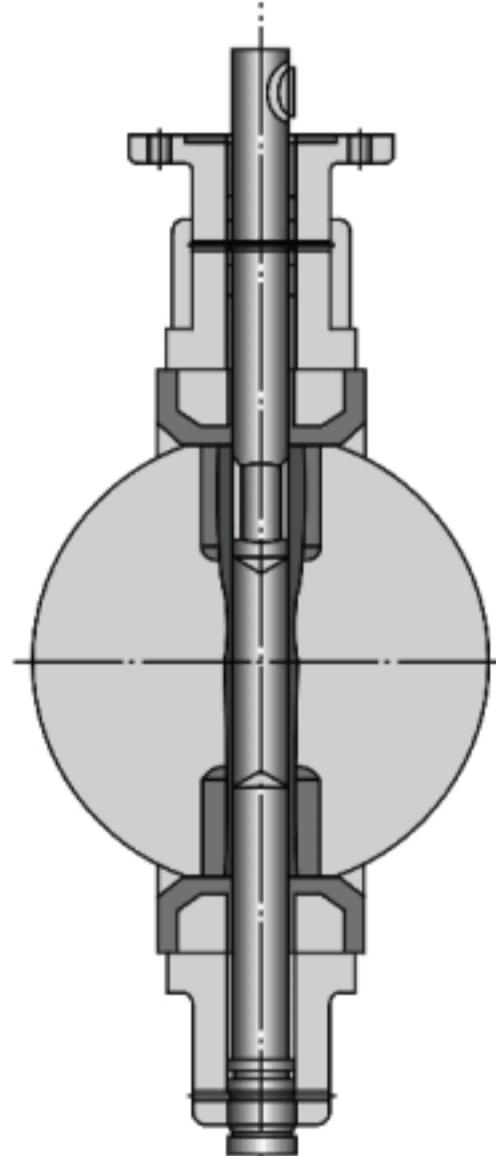
V-Vulcanized seat



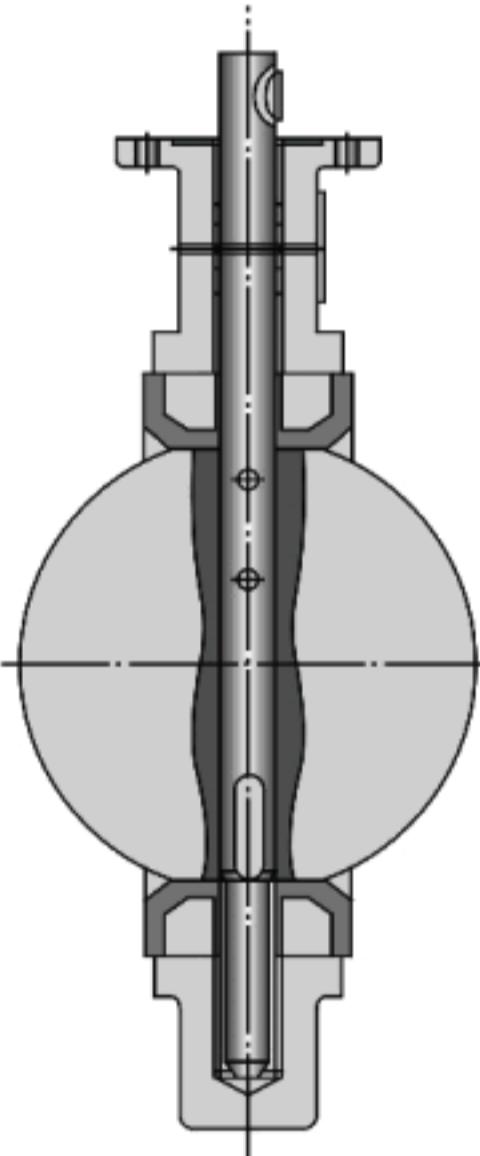
Connection Structure between Disc and valve shaft



C-Taper pin connection applicable
for DN50~DN1200.

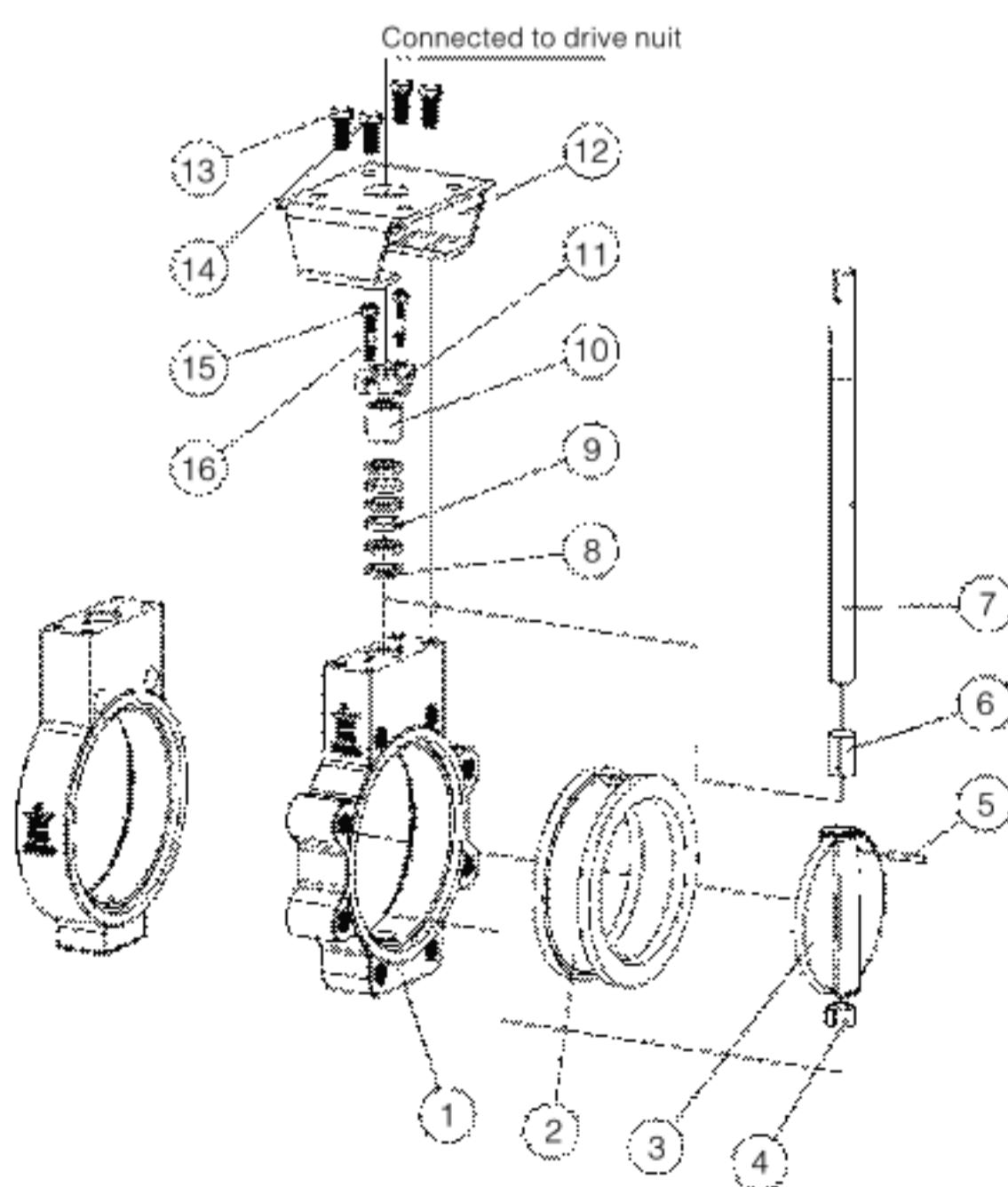


S-Semi-shaft pinless connection
applicable for DN50~DN600.



T-Total-shaft pinless connection
applicable for DN50~DN300.

Structural Explosion Diagram of Centered Seal Butterfly Valve



Materials list

NO.	Part Name	Materials	Opptional Materials
1	Body	Cast Iron	Ductile Iron
2	Seat	NBR or EPDM	Neoprene, VITON, PTFE
3	Disc	Ductile Iron	Aluminum Bronze, SS, Monel
4	Bushing	PTFE	Luberized Bronze
5	Pin	-	Monel
6	Bushing	PTFE	Luberized Bronze
7	Stem	-	316, Monel
8	Packing Seat	-	-
9	Packing	Graphite	
10	Packing Bushing	-	SS
11	Gland	Carbon Steel	SS
12	Yoke	Carbon Steel	-
13	Bolts	-	SS
14	Gasket	Carbon Steel	SS
15	Stud	-	SS
16	Nut	-	SS

1. Pressure and temperature rating of casing material referred to Appendix F
2. Chemical compositions and mechanical property of casing material referred to Appendix G
3. Trim materials and recommended service coverage referred to Appendix E

Technical Specification

Design Standard		API609, MSS SP-67		
Pressure-Temperature Rating		API609		
Face-Face		API609		
Flange Ends		ASME B16.1/B16.5/B16.47/BS4504		
Inspection & Test		API598		
Nominal Pressure (MPa)		CLASS 125	CLASS 150	CLASS 250
Test Pressure (MPa)	Shell Test	1.55	2.94	3.11
	High Pressure Seal Test	1.13	2.16	2.28
	Low Pressure Seal Test	0.6	0.6	0.6
Applicable Temperature		-10°C~120°C Different raw material for different work temperature		
Applicable Medium		Water, oil, gas and other causticity medium (Different raw material for different medium)		

Resilient Seated Butterfly Product Line

Size (mm)	Pressure		
	CLASS 125	CLASS 150	CLASS 250
2"	●/△/★/☆	●/△/★/☆	●/△/★/☆
2 1/2"	●/△/★/☆	●/△/★/☆	●/△/★/☆
3"	●/△/★/☆	●/△/★/☆	●/△/★/☆
4"	●/△/★/☆	●/△/★/☆	●/△/★/☆
5"	●/△/★/☆	●/△/★/☆	●/△/★/☆
6"	●/△/★/☆	●/△/★/☆	●/△/★/☆
8"	△/★/☆	△/★/☆	△/★/☆
10"	△/★/☆	△/★/☆	△/★/☆
12"	△/★/☆	△/★/☆	△/★/☆
14"	△/★/☆	△/★/☆	△/★/☆
16"	△/★/☆	△/★/☆	△/★/☆
18"	△/★/☆	△/★/☆	△/★/☆
20"	△/★/☆	△/★/☆	△/★/☆
24"	△/★/☆	/	/
28"	△/★/☆	/	/
30"	△/★/☆	/	/
32"	△/★/☆	/	/
36"	△/★/☆	/	/
40"	△/★/☆	/	/
42"	△/★/☆	/	/
48"	△/★/☆	/	/

Note: ● stands for handle operated valves; ☆ stands for gearbox operated valves; △ stands for air operated valves;

★ stands for electrically operated valves; / stands for no option of this.

Those not covered in the table can be custom made to users' requirements.

Resilient Seated Butterfly Torques (NM)

Size (mm)	Pressure				
	50PSI	100PSI	150PSI	200PSI	285PSI
2"	16	17	18	19	20
2 1/2"	22	24	25	26	28
3"	30	31	33	35	37
4"	42	45	49	52	58
5"	65	71	76	82	91
6"	99	107	115	123	136
8"	167	176	186	195	211
10"	277	295	313	331	363
12"	440	464	488	512	553
14"	586	618	649	680	734
16"	1241	1307	1373	1439	1551
18"	1576	1660	1744	1827	1970
20"	1660	1749	1837	1926	2076
24"	3360	3539	3718	3896	4200
28"	3752	4213	4581	-	-
30"	4488	4903	5317	-	-
32"	5128	5548	6031	-	-
36"	6462	6878	7360	-	-
40"	7787	8366	8925	-	-
42"	7880	8432	9023	-	-
48"	10801	11732	12554	-	-

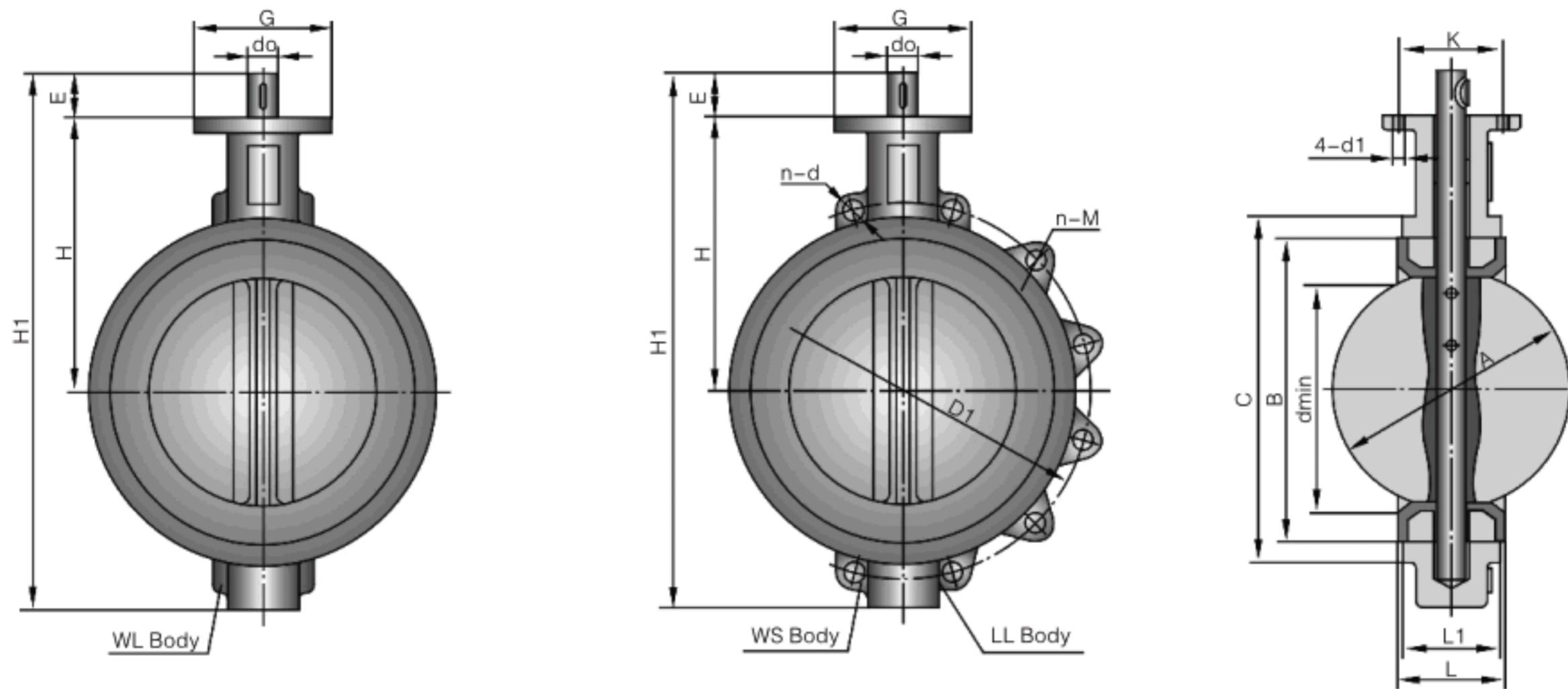
Flow Coefficients (Cv Values)

The flow coefficient of valve is closely associated with the structure of disc. We produce the following two types of commonly used disc structure, used for reference to choose the flow coefficient of valve.

Table of Flow Coefficient of Taper Pin Connection Disc and Total-shaft Pinless Butterfly Valves

Size (mm) NPS	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	0.06	3	7	15	27	44	70	105	115
2 1/2"	0.10	6	12	25	45	75	119	178	196
3"	0.20	9	18	39	70	116	183	275	302
4"	0.30	17	36	78	139	230	364	546	600
5"	0.50	29	61	133	237	392	620	930	1022
6"	0.80	34	95	153	257	422	706	1154	1579
8"	2	56	154	251	422	693	1158	1892	2165
10"	3	87	238	385	654	1073	1794	2931	3353
12"	4	153	417	681	1145	1879	3142	5132	5827
14"	6	183	500	816	1372	2252	3765	6150	7037
16"	8	271	740	1208	2031	3333	5573	9104	10416
18"	11	318	867	1417	2382	3909	6535	10676	12215
20"	14	415	1133	1851	3112	5107	8538	13948	15959
24"	22	541	1482	2421	4069	6678	11165	18240	20869
28"	36	1813	3639	6636	10000	19449	22768	34898	49500
30"	37	2080	4406	9546	17010	28147	44545	66818	73426
32"	45	2387	4791	8736	13788	20613	31395	48117	38250
36"	260	3050	6730	12740	20220	32500	52500	79600	87500
40"	284	4183	8395	15307	24159	36166	55084	84425	119750
42"	350	4095	9040	17108	27150	43640	70500	106890	117500
48"	455	5365	11840	22400	30600	51200	92300	140000	154000

For sizes and classes not shown, please contact our Sales Department



Structure of Taper Pin Connection Butterfly Valve (DN50~DN300)

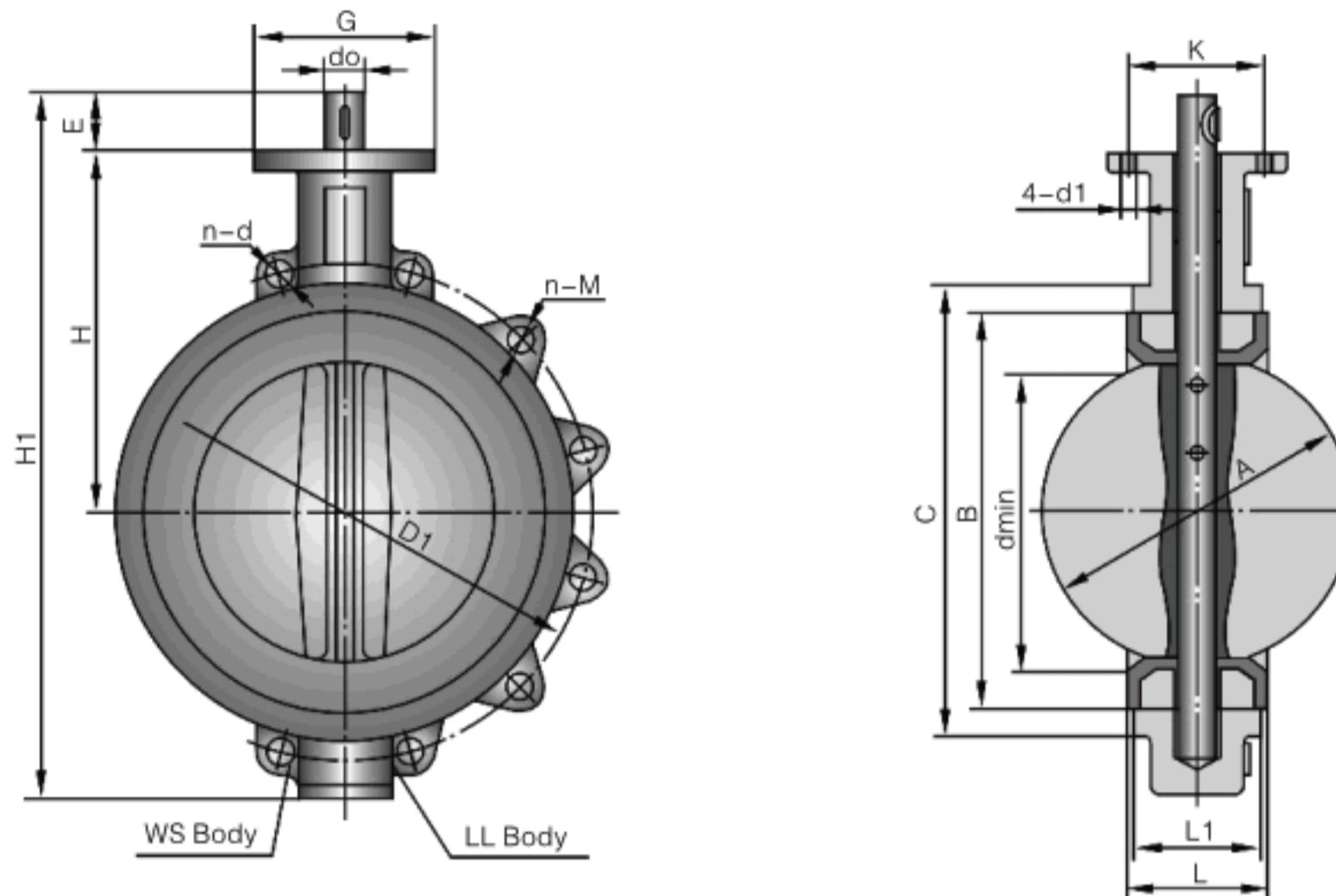
Main Outline Dimensions

Size	NPS	2	2½	3	4	5	6	8	10	12
L ₁		43	46	46	52	56	56	60	68	78
L		47	50	50	56	60	60	64	72	82
A		53	64.5	78.8	104	123.3	156	202.5	250.5	301.6
B		76	89	104	135	159	189	238.5	292	345
C		89	108	120	150	181	208	260	320	375
d _{min}		32.3	46.1	64.4	86.3	110.6	134.8	192.4	241.7	291.8
D ₁	CLASS 125	120.5	139.5	152.5	190.5	216	241.5	298.5	362	432
	CLASS 150	106.5	125.5	144.5	176.5	211.5	246.5	303.5	357.5	418
n-d	CLASS 125	4-19	4-19	4-19	8-19	8-22	8-22	8-22	12-25	12-25
	CLASS 150	8-19	8-22	8-22	8-22	8-22	12-22	12-25	+16-29	16-32
n-M	CLASS 125	4-5/8	4-5/8	4-5/8	8-5/8	8-3/4	8-3/4	8-3/4	12-7/8	12-7/8
	CLASS 150	8-5/8	8-3/4	8-3/4	8-3/4	8-3/4	12-3/4	12-7/8	16-1	16-1 1/8
E		32	32	32	32	32	32	45	45	45
H	Long neck	161	175	181	200	213	226	260	292	337
	Short neck	100	113	124	152	152	165	205	253	277
H ₁	Long neck	273	296	308	346	372	397	480	540	624
	Short neck	212	234	251	298	311	336	425	495	564
do		12.7	12.7	12.7	15.9	19.0	19.0	22.2	28.6	31.7
K		50	50	50	70	70	70	102	102	102
G		78	78	78	92	92	92	125	125	140

Note: Dimensions for mounting flange above mentioned conform BS4504, and top mounting conform to ISO5211. When required, standards from other countries or any special requirements are also available.

Center Line Sealing Butterfly Valve
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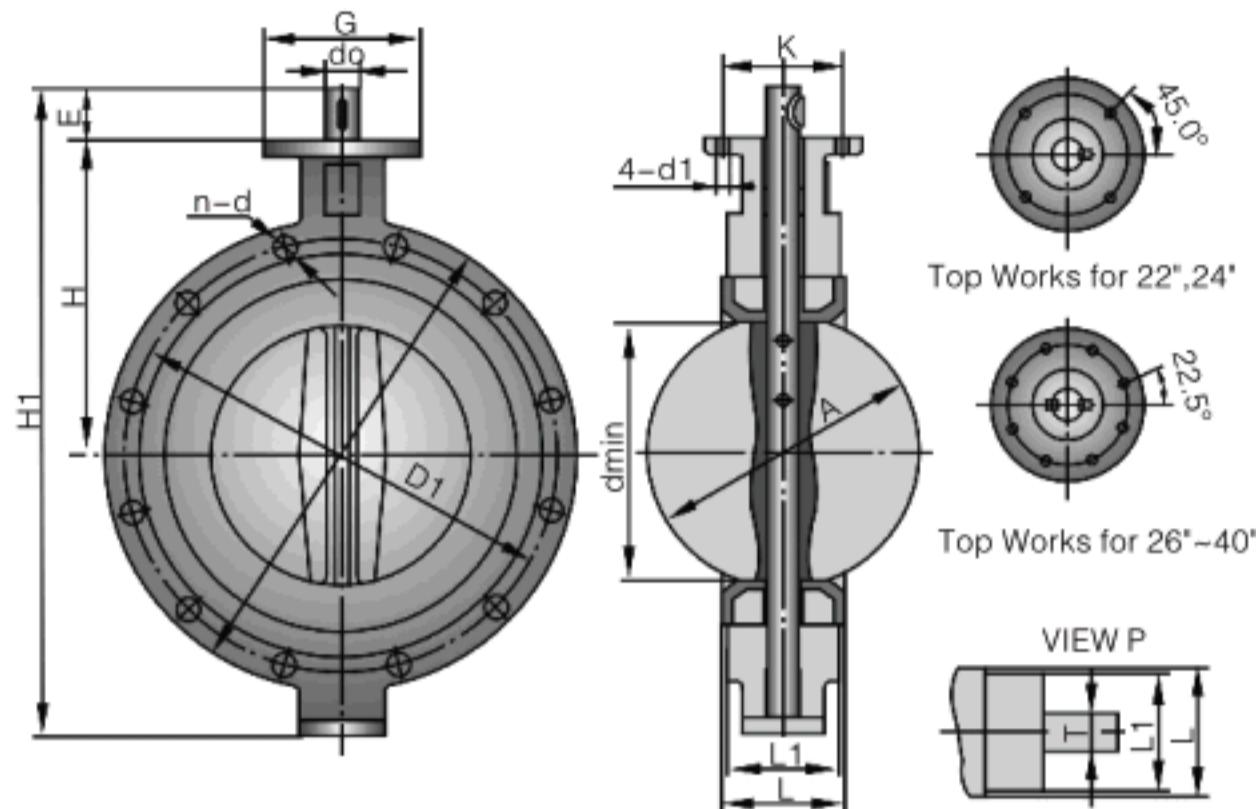
Structure of Taper Pin Connection Butterfly Valve (DN350~DN600)

Main Outline Dimensions

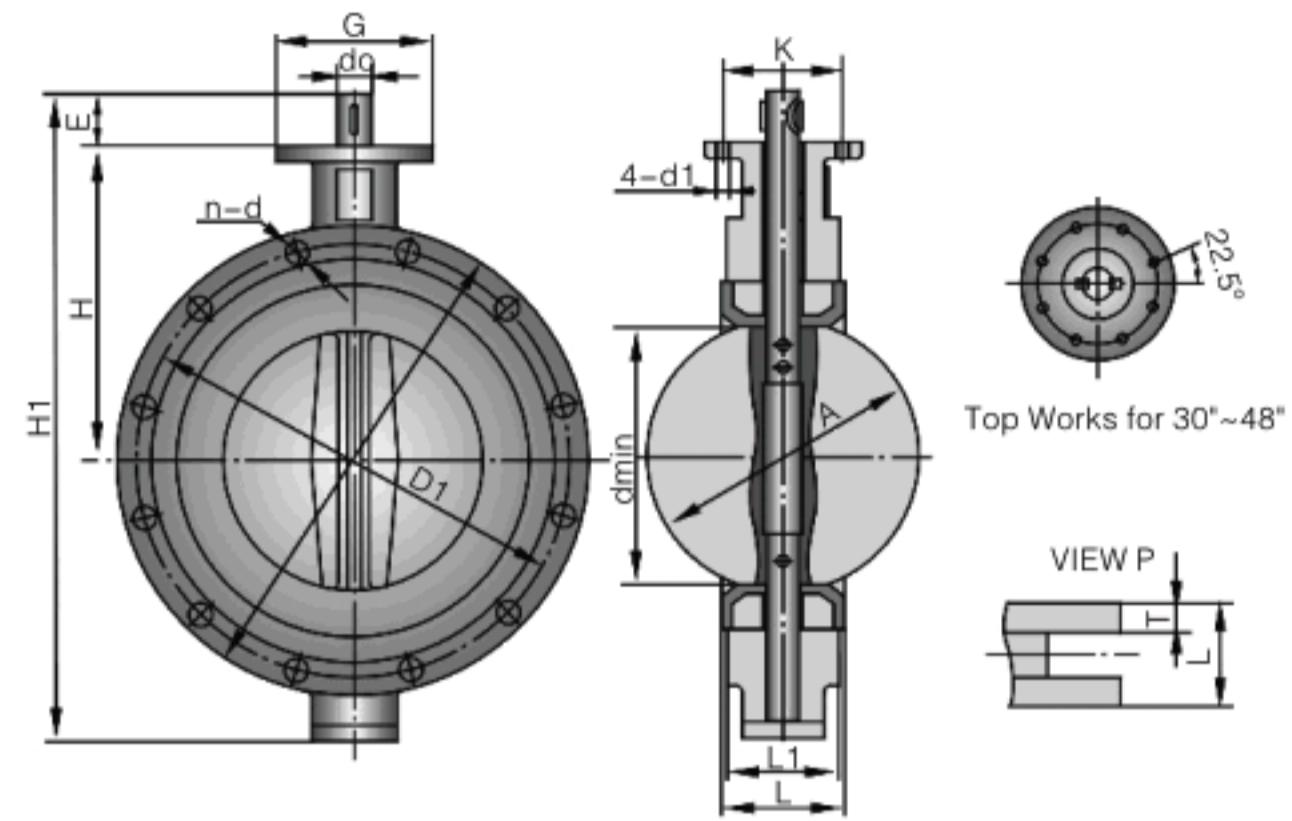
Size	NPS	14	16	18	20	24
L ₁		76.5	85.7	104.6	130.3	151.4
L		80	90	109	135	156
A		333.3	389.6	440.5	491.6	592.5
B		375.1	439.5	490.5	535.4	654
C		405	470	521	565	693
d _{min}		322	379.1	426.8	472.7	571.6
D ₁	CLASS 125	476	540	578	635	749.5
	CLASS 150	481.5	535	592.5	649.5	768.5
n-d	CLASS 125	12-29	16-29	16-32	20-32	20-35
	CLASS 150	20-32	20-35	24-35	24-35	24-41
n-M	CLASS 125	12-1	16-1	16-11/8	20-11/8	20-11/4
	CLASS 150	20-11/8	20-11/4	24-11/8	24-11/4	24-11/2
E	CLASS 125	45	72	72	82	82
	CLASS 150	45	72	72	82	82
		368	400	422	480	562
H ₁	CLASS 125	680	781	822	916	1103
	CLASS 150	680	781	822	916	1103
D _o	CLASS 125	42.9	50.6	54	63.4	75
	CLASS 150	42.9	50.6	54	63.4	75
K		102	140	140	140	165
G		140	197	197	197	276

Note: Dimensions for mounting flange above mentioned conform BS4504, and top mounting conform to ISO5211. When required, standards from other countries or any special requirements are also available.

Main Outline Dimensions



Structure of Single Flange
Butterfly Valve (DN550~DN1000)



Structure of U-type
Butterfly Valve (DN750~DN1200)

Single Flange Butterfly Valve

Valve size	L	L ₁	D	D ₁	dmin	n-d	G	K	n-d ₁	do	T	H	H ₁	E	Weight (kg)
NPS															
22	156	151.4	745	680	529.9	20-33	276	165	4-22	51	30	537	972	66	175
24	156	151.4	824	725	571.6	20-31	276	165	4-22	51	30	562	1021	66	188
26	171	165	845	780	625.9	24-33	300	254	8-18	64	30	591	1063	66	271
28	169	163	895	840	675.6	24-31	300	254	8-18	64	30	624	1144	66	284
32	195	188	1015	950	772.1	24-34	300	254	8-18	64	30	672	1263	66	368
34	211	203	1070	1000	796.2	28-33	300	254	8-18	75	47	695	1294	118	685
40	224	216	1230	1160	940.5	28-37	300	254	8-18	85	50	800	1521	141	864

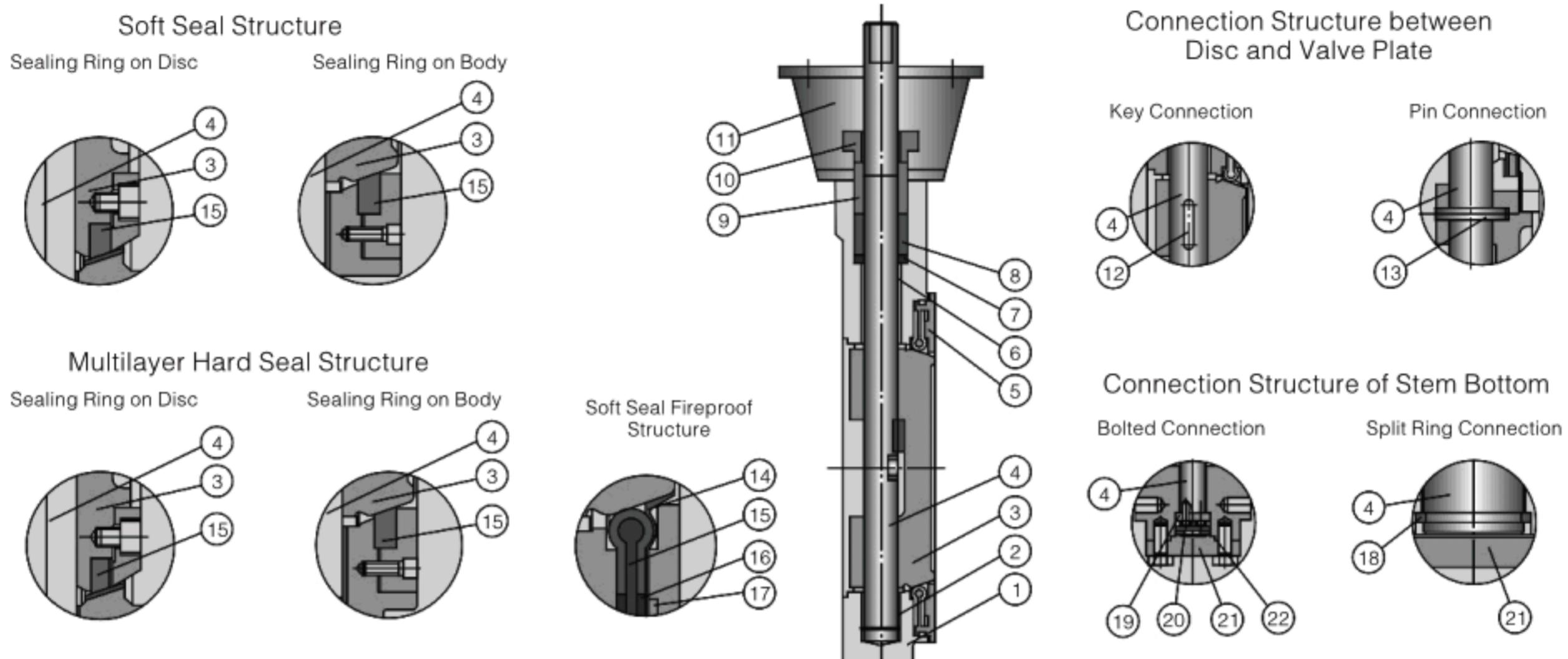
Note: Dimensions for mounting flange above mentioned conform BS4504 PN10, and top mounting conform to ISO5211. When required, standards from other countries or any special requirements are also available.

U-Section Butterfly Valve

Valve size	L	L ₁	D	D ₁	dmin	n-d	G	K	n-d ₁	do	T	H	H ₁	E	Weight (kg)
NPS															
30	173	167	984	914.4	725.5	28-1 ¹ / ₄	300	200	8-18	64	54	54	1286	66	367
36	211	203	1168	1085.8	840.5	32-1 ¹ / ₅	300	200	8-18	75	61	61	1494	118	591
42	261	251	1346	1257.3	999	36-1 ¹ / ₂	300	200	8-18	95	67	67	1785	150	811
48	266	276	1511	1422.4	1126.6	44-1 ¹ / ₂	350	200	8-22	105	70	70	1955	150	1823

Note: Dimensions for mounting flange above mentioned conform ANSI B16.1 CLASS 125, and top mounting conform to ISO5211. When required, standards from other countries or any special requirements are also available.

Design characteristics of singe eccentric butterfly valve



Materials list

NO.	Part Name	Materials	Optional Materials
1	Body	Cast Steel	SS, Monel
2	Bushing	PTFE+Bronze	Luberized Bronze
3	Disc	Cast Steel	SS, Monel
4	Stem	SS	316, Monel
5	Retainer Flange	Carbon Steel	SS, Monel
6	Bushing	PTFE+Bronze	Luberized Bronze
7	Packing Seat	SS	SS, Monel
8	Packing	Graphite	PTFE
9	Packing Bushing	SS	SS
10	Gland	Carbon Steel	SS
11	Yoke	Carbon Steel	-
12	Key	SS	SS, Monel
13	Pin	SS	Monel
14	Metalseat tongue	SS	SS
15	Seal Ring	PTFE+SS	NBR/SS+Graphite
16	Gasket	Graphite	
17	Gasket	Graphite	
18	Half ring	SS	SS, Monel
19	Limit Bland	-	
20	Bolts	-	SS
21	Cover	Carbon Steel	SS, Monel
22	Gasket	Graphite+SS	-

1. Pressure and temperature rating of casing material referred to Appendix F

2. Chemical compositions and mechanical property of casing material referred to Appendix G

3. Trim materials and recommended service coverage referred to Appendix E

Technical Specification

Design Standard		API609	
Pressure-Temperature Rating		API609, ASME B16.34	
Face-Face		API609, ISO5752, ASME B16.10	
Flange Ends		ASME B16.5/B16.47	
Inspection & Test		API598	
Nominal Pressure (MPa)		CLASS 150	CLASS 300
Test Pressure (MPa)	Shell Test	2.93	7.58
	High Pressure Seal Test	2.07	5.52
	Low Pressure Seal Test	0.6	0.6
Applicable Temperature	-196°C~550°C Different raw material for different work temperature		
Applicable Medium	Water, oil, gas and other causticity medium (Different raw material for different medium)		

Single Eccentric Butterfly Valve Product Line

Size (mm)	Pressure	
	NPS	
2"	●/☆	●/☆
2 1/2"	●/★/☆	●/★/☆
3"	●/★/☆	●/★/☆
4"	●/★/☆	●/★/☆
5"	●/★/☆	●/★/☆
6"	△/★/☆	△/★/☆
8"	△/★/☆	△/★/☆
10"	△/★/☆	△/★/☆
12"	△/★/☆	△/★/☆
14"	△/★/☆	△/★/☆
16"	△/★/☆	△/★/☆
18"	△/★/☆	△/★/☆
20"	△/★/☆	△/★/☆
24"	△/★/☆	△/★/☆
28"	/	/
30"	△/★/☆	/
32"	/	/
36"	△/★/☆	/
40"	/	/
42"	△/★/☆	/
48"	△/★/☆	/

Note: ● stands for handle operated valves; ☆ stands for gearbox operated valves; △ stands for air operated valves;
 ★ stands for electrically operated valves; / stands for no option of this.
 Those not covered in the table can be custom made to users' requirements.

Single Eccentric Butterfly Valve Torques (NM)

Size(mm)	Pressure								
	100PSI	200PSI	285PSI	300PSI	400PSI	500PSI	600PSI	700PSI	740PSI
2"	/	/	29	/	/	/	/	/	/
2 1/2"	29	31	33	34	36	41	45	47	49
3"	34	37	39	42	46	51	55	60	62
4"	47	53	58	70	79	88	97	106	110
5"	65	76	86	115	132	151	169	186	193
6"	97	113	126	161	188	214	241	287	278
8"	164	193	217	313	368	422	477	532	554
10"	222	274	318	480	572	664	756	848	885
12"	290	390	475	667	790	913	1035	1158	1207
14"	491	684	849	1117	1372	1627	1882	2137	2239
16"	628	876	1087	1340	1643	1946	2248	2550	2671
18"	816	1142	1423	1734	2118	2502	2885	3269	3422
20"	1098	1544	1926	2314	2842	3369	3897	4424	4635
24"	1673	2384	2983	3131	3840	4549	5258	5967	6251
30"	2942	3986	4873	5708	6888	8067	9347	10426	10898
36"	4786	6589	8121	9789	11877	13965	16052	18141	18976
42"	7837	10928	13558	/	/	/	/	/	/
48"	12433	17409	21638	/	/	/	/	/	/
54"	17558	24269	29977	/	/	/	/	/	/
60"	25790	35310	43397	/	/	/	/	/	/

Flow Coefficients (Cv Values)

The flow coefficient of valve is closely associated with the structure of disc. We produce the following two types of commonly used disc structure, used for reference to choose the flow coefficient of valve.

The table below is the flow coefficient of single eccentric butterfly valve with disc at different opening, used for reference to choose valve flow coefficient. Cv means the American gallons of +60° F(+16°C) water flowing through the valve per minute under 1 pound/inch² (0.006894757MPa) pressure drop.

Size(mm)	Disc degrees open (Class 150)							
	20	30	40	50	60	70	80	90
2½"	8	17	31	46	66	82	97	103
3"	14	31	54	81	115	144	169	180
4"	31	66	117	175	250	312	367	400
5"	54	114	201	302	429	536	630	670
6"	85	180	317	476	677	846	995	1058
8"	174	371	654	981	1395	1744	2049	2180
10"	300	638	1125	1688	2401	3001	3526	3751
12"	440	936	1651	2477	3523	4403	5174	5504
14"	523	1110	1959	2939	4180	5225	6139	6531
16"	659	1401	2473	3709	5276	6594	7748	8243
18"	886	1883	3323	4985	7089	8862	10412	11077
20"	1066	2266	3998	5998	8530	10662	12528	13328
24"	1554	3302	5828	8741	12432	15540	18260	19425

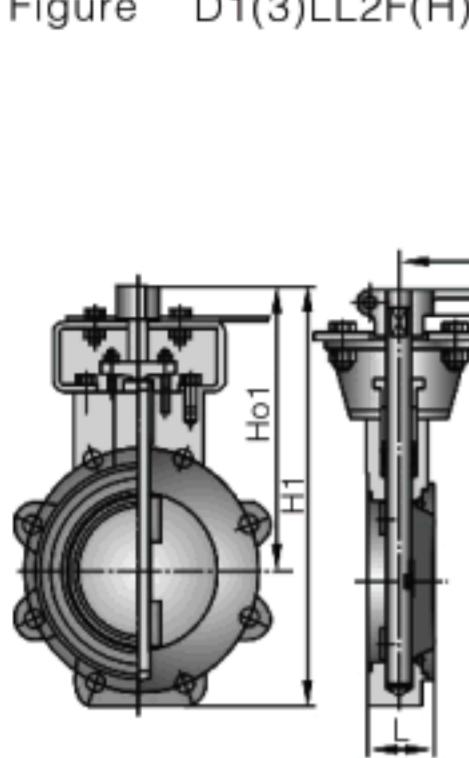
Size(mm)	Disc degrees open (Class 300)							
	20	30	40	50	60	70	80	90
2½"	8	17	31	46	66	82	97	103
3"	14	31	54	81	115	144	169	180
4"	31	66	117	176	250	312	367	400
5"	54	114	201	302	429	536	630	670
6"	85	180	317	476	677	846	995	1058
8"	174	371	654	981	1395	1744	2049	2180
10"	268	570	1005	1508	2145	2681	3150	3351
12"	399	849	1498	2247	3196	3995	4693	4993
14"	428	910	1606	2409	3426	4282	5032	5353
16"	609	1295	2285	3428	4876	6094	7161	7618
18"	848	1730	2983	4504	6303	7594	8379	8855
20"	1029	2175	3658	5580	7730	9090	9597	11300
24"	1290	2629	4534	6847	9580	11542	12738	15520

For sizes and classes not shown, please contact our Sales Department.

Single Eccentric Wafer Butterfly Valve
ZHEJIANG SEDELON VALVE CO.,LTD.

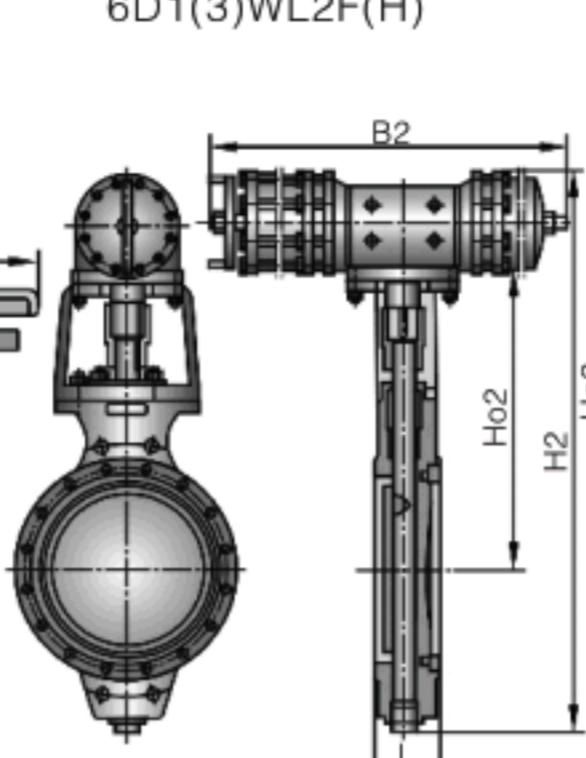
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Figure D1(3)LL2F(H)



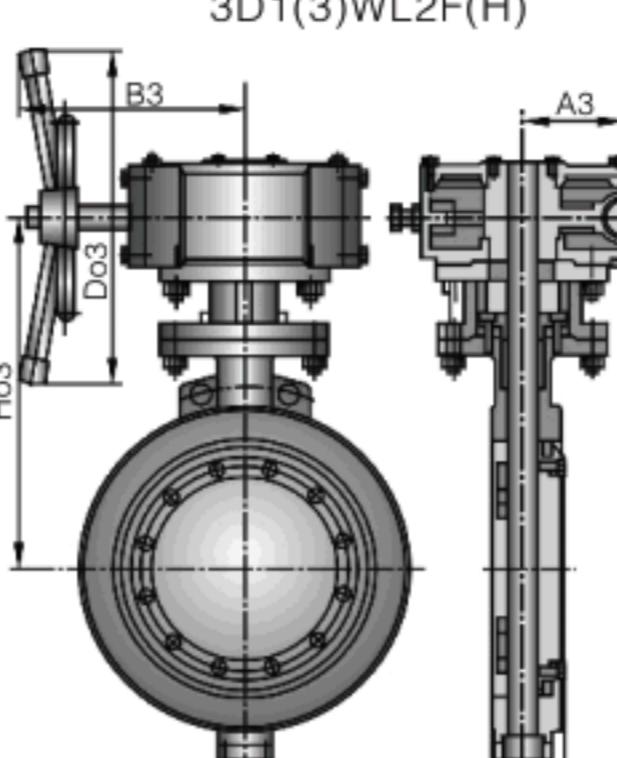
Manual Lug Wafer
Butterfly Valve

6D1(3)WL2F(H)



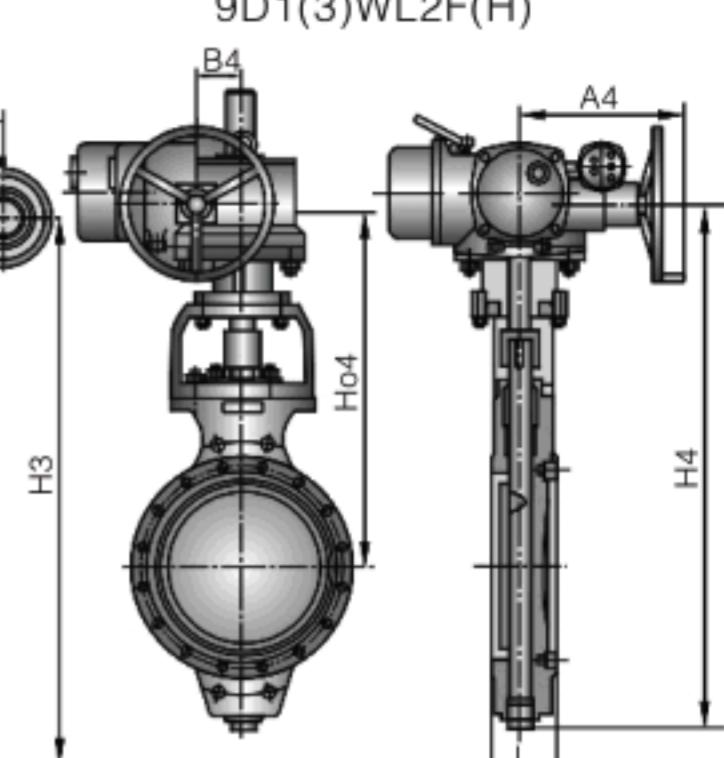
Pneumatic Wafer
Butterfly Valve

3D1(3)WL2F(H)



Worm Gear Driven Wafer
Butterfly Valve

9D1(3)WL2F(H)



Electric Wafer Butterfly Valve

Main Outline Dimensions

CLASS 150

NPS	L	Manual			Pneumatic			Worm gear actuation					Electric				Weight(kg)	
		H1	H01	B1	H2	H02	B2	H3	H03	B3	A3	D03	H4	H04	B4	A4	WF	WL
2"	45	262	187	180	—	—	—	287	176	106	50	160	—	—	—	—	3.7	5
2½"	48	267	193	200	—	—	—	294	179	140	63	160	—	—	—	—	4.3	5.6
3"	49	295	218	250	—	—	—	320	185	140	63	160	513	263	178	180	5	6
4"	54	329	239	270	—	—	—	342	195	140	63	160	535	282	178	180	7.7	11
5"	57	369	261	300	—	—	—	365	209	140	63	300	563	293	178	180	9.1	13.6
6"	58	398	275	350	—	—	—	415	243	140	63	300	602	322	178	180	13.6	15.9
8"	64	—	—	—	690	323	275	510	263	150	84	400	745	296	235	370	20	21.8
10"	71	—	—	—	750	355	275	567	295	150	84	400	805	325	235	370	32	41
12"	81	—	—	—	955	475	378	665	342	200	108	600	883	365	235	370	50	57.6
14"	92	—	—	—	1032	513	378	739	385	200	108	600	965	408	235	370	61	83
16"	102	—	—	—	1182	598	530	825	430	240	152	600	1033	443	235	370	83	113
18"	114	—	—	—	1265	635	530	910	469	240	152	800	1120	485	235	370	106	138
20"	127	—	—	—	1335	667	530	990	500	300	168	800	1186	518	235	370	145	188
24"	154	—	—	—	1642	830	680	1210	618	320	192	800	1380	625	235	370	229	318
30"	167	—	—	—	1823	1245	680	1453	875	512	279	400	1583	1005	245	515	420	513
36"	184	—	—	—	2145	1329	860	1775	939	512	279	400	1905	1089	245	515	739	857
42"	222	—	—	—	2360	1456	860	1980	1086	512	279	400	2120	1216	360	540	1123	1225
48"	254	—	—	—	2535	1564	1080	2165	1194	570	368	600	2235	1324	360	540	1277	1399

CLASS 300

2"	45	262	179	230	—	—	—	287	176	106	50	160	—	—	—	—	3.6	5
2½"	48	269	193	260	—	—	—	294	179	140	63	160	—	—	—	—	4.2	5.5
3"	49	293	198	290	—	—	—	320	185	140	63	160	513	263	178	180	5.4	7.7
4"	54	310	203	320	—	—	—	342	195	140	63	160	535	282	178	180	7.7	10.9
5"	57	352	225	350	—	—	—	365	209	140	63	300	563	293	178	180	9.1	13.6
6"	59	380	235	380	—	—	—	415	243	140	63	300	602	322	178	180	13.6	22.2
8"	73	—	—	—	750	368	275	510	263	150	84	400	745	296	235	370	23.6	36
10"	83	—	—	—	909	442	378	567	295	150	84	400	805	325	235	370	40	52
12"	92	—	—	—	1075	535	530	665	342	200	108	600	883	365	235	370	69.4	90
14"	117	—	—	—	1158	572	530	739	385	200	108	600	965	408	235	370	129	147
16"	133	—	—	—	1230	610	530	825	430	240	152	600	1033	443	235	370	152	182
18"	149	—	—	—	1462	736	680	910	469	240	152	800	1120	485	235	370	178	234.5
20"	159	—	—	—	1328	765	680	990	500	300	168	800	1186	518	235	370	231	333
24"	181	—	—	—	—	—	—	1210	618	320	192	800	1380	625	235	370	332	463

Note: the weight in the table is that without drive unit. WF is wafer butterfly valve, WL is lug wafer butterfly valve.

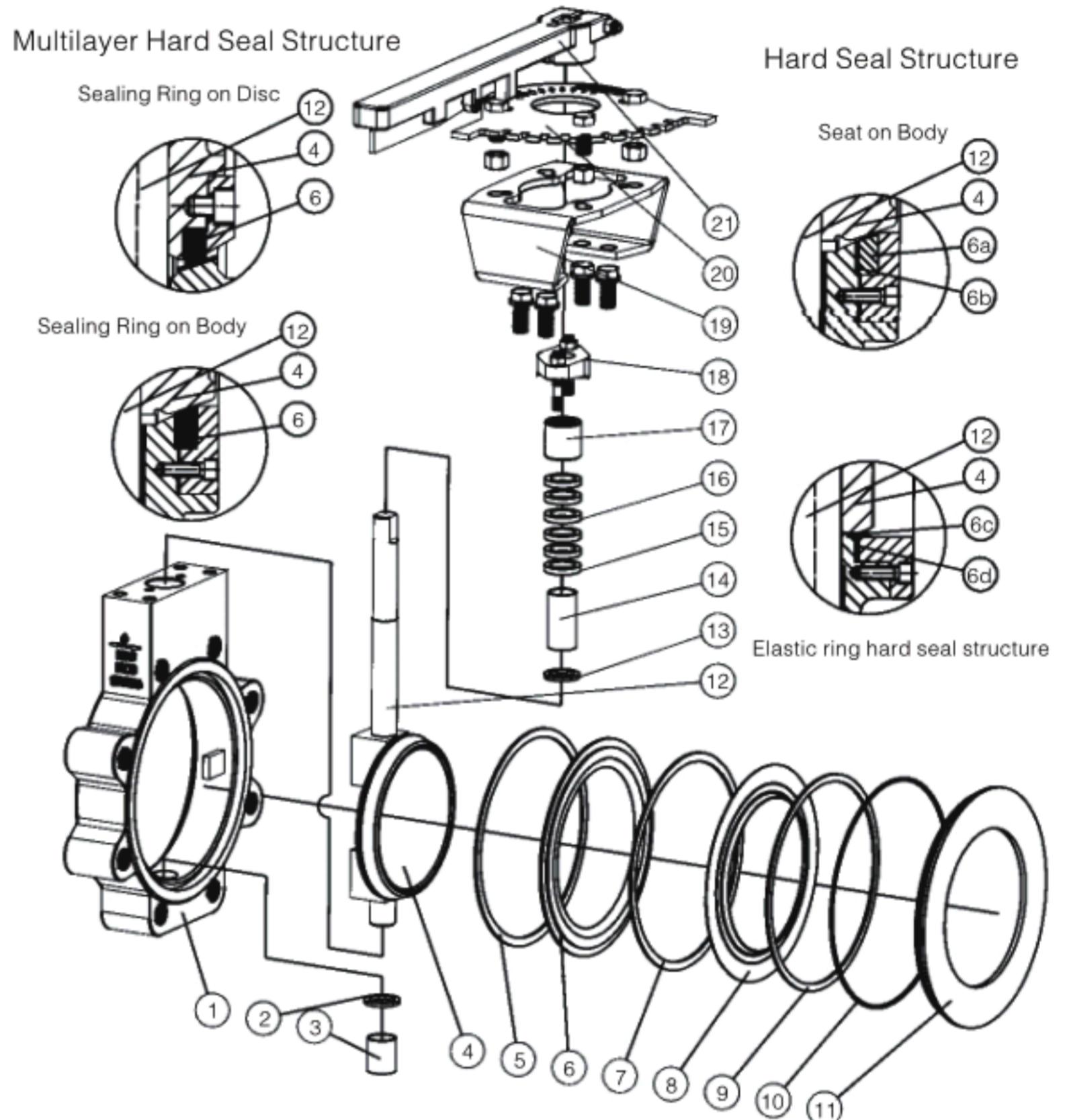
High performance butterfly valve (Wafe)

Generally, high performance butterfly valves are single eccentric or double eccentric. As to double eccentric structure, valve shaft is designed deviated from the centerline of sealing face to form up the first eccentric, and slightly deviated from the centerline of pipe to form up the second eccentric. The eccentrics are to make seat disengaged from sealing ring to lower the friction when disc is opened to approximately 20°.

Soft seal seat, made of TFE, PTFE or RTFE, fireproof construction conforming to API607 fire test, provided with sealing property in case of fire.

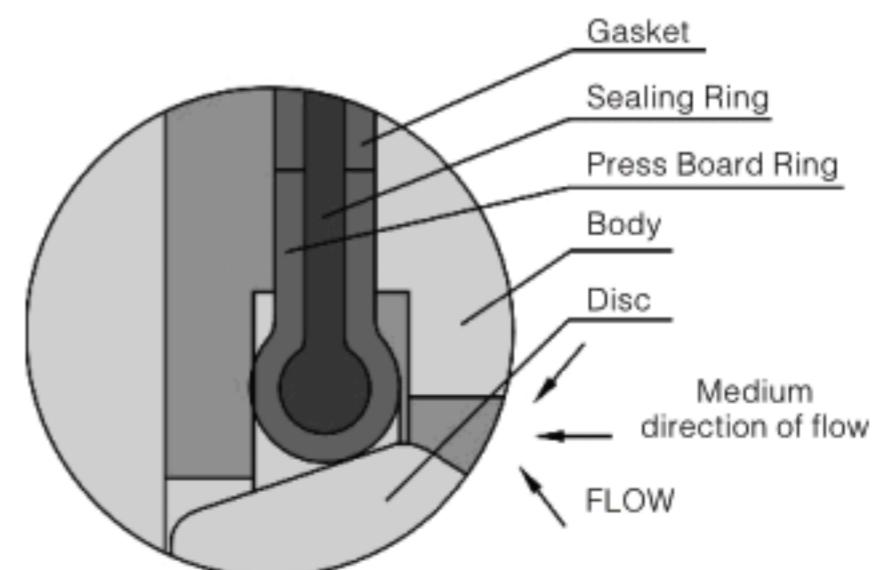
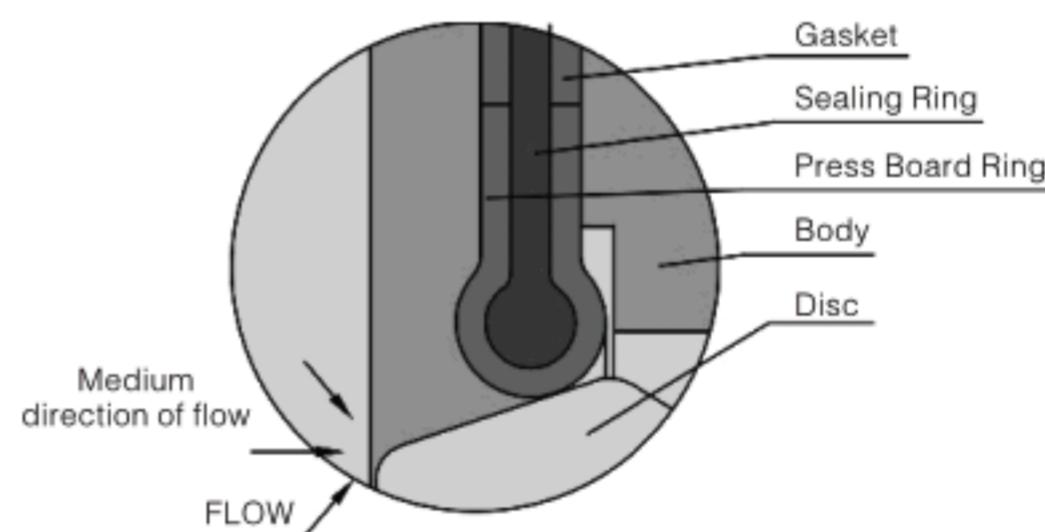
Hard seal structure is provided with intrinsical fireproof property, Two-way leak-proof seal. Seat replaced with no need to take off disc and stem. The upper and lower stems provided with low-friction sleeves to lower the frictional force of stem when valve is opened or closed.

Double eccentric structure to lower the abrasion at the upper and lower ends of seal in case of frequent open and close. The interface between valve and drive unit conforms to ISO5211. Product quality is under rigorous control according to ISO9001.



Principle Of Seat Sealing

1. Disc closed, medium enters from the upstream of seat. Under the force of medium, sealing ring will get close to the sealing face of disc, and the elasticity and deformation of sealing ring will function to guarantee the sealing performance.
2. Disc closed, medium enters from the downstream of seat. Under the extrusion of press board ring, sealing will overcome the acting force of medium and get close to the sealing face of disc, thus to guarantee the sealing performance.



ZHEJIANG SEDELON VALVE CO.,LTD.

Double Eccentric Butterfly Valve

Sedelon®
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Materials list(high performance fire-safe butterfly valve)

NO.	Part Name	Materials	Optional Materials
1	Body	Cast Steel	SS, Monel
2	Spacer	SS	SS, Monel
3	Bushing	PTFE+Bronze	Luberized Bronze
4	Disc	Cast Steel	SS, Monel
5	Gasket	Graphite	Graphite
6	Seal Ring	PTFE/PTFE+SS	SS+Graphite
6a	Seat	Carbon Steel+13Cr	SS, Monel
6b	Gasket	Graphite	Graphite
6c	Seal Ring	SS	-
6d	Gasket	Graphite	Graphite
7	Gasket	Graphite	Graphite
8	Metalseat tongue	SS	-
9	Gasket	Graphite	Graphite
10	Retainer	NBR	FPM
11	Retainer Flange	Carbon Steel	SS, Monel
12	Stem	SS	316, Monel
13	Spacer	SS	SS, Monel
14	Bushing	PTFE+Bronze	Luberized Bronze
15	Packing Seat	SS	SS, Monel
16	Packing	Graphite	PTFE
17	Gland	Carbon Steel	SS
18	Packing Bushing	SS	SS
19	Yoke	Carbon Steel	-
20	Limit Disc	Carbon Steel	SS
21	Lever	Carbon Steel	-

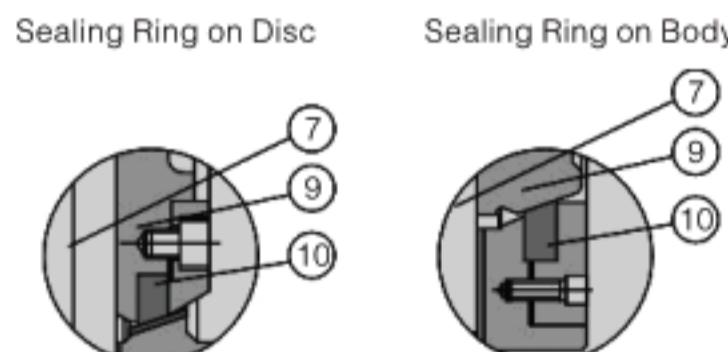
1. Pressure and temperature rating of casing material referred to Appendix F

2. Chemical compositions and mechanical property of casing material referred to Appendix G

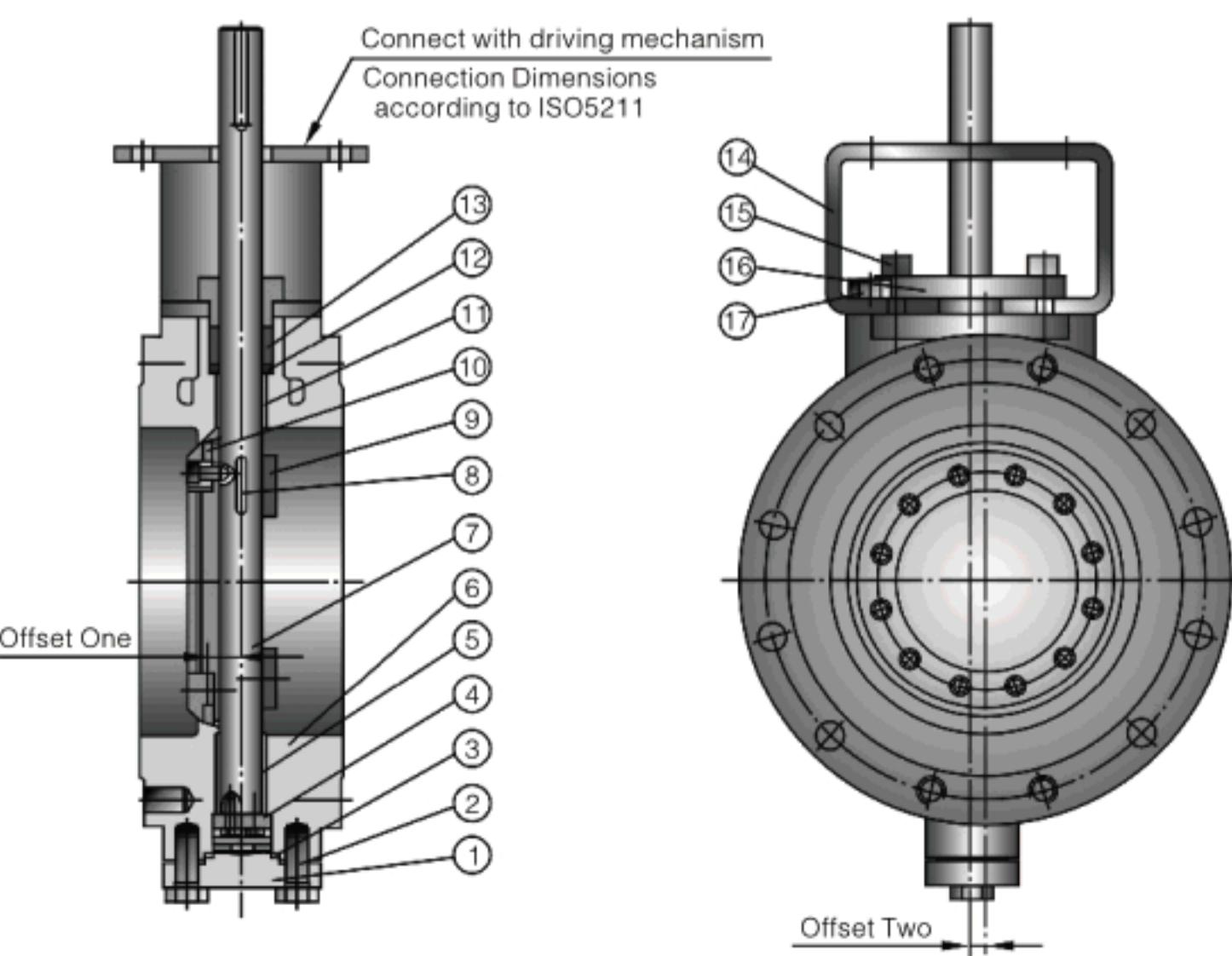
3. Trim materials and recommended service coverage referred to Appendix E

Flange butterfly valve

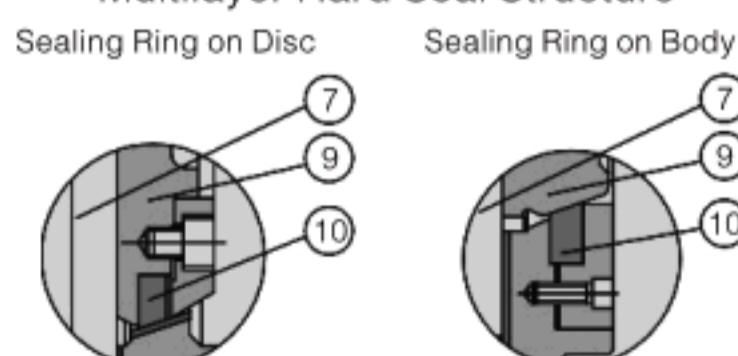
Soft Seal Structure



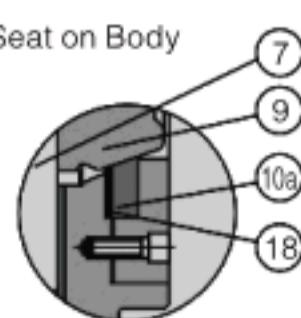
Connect with driving mechanism
Connection Dimensions according to ISO5211



Multilayer Hard Seal Structure



Hard Seal Structure



Materials list(high performance fire-safe butterfly valve)

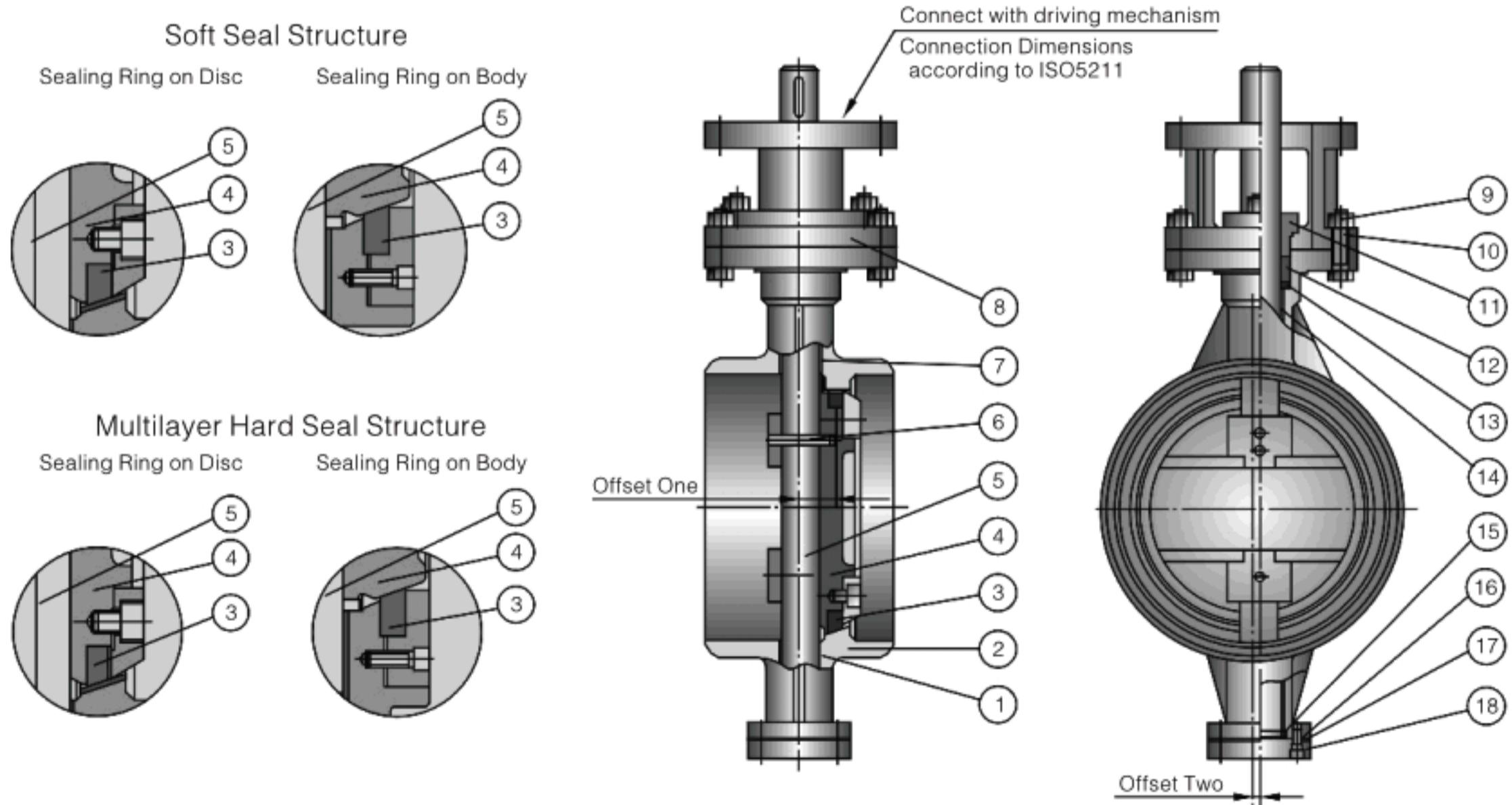
No.	Part Name	Materials	Optional Materials
1	Cover	Carbon Steel	SS, Monel
2	Bolt	Alloy Steel	SS, Monel
3	Gasket	Graphite	Graphite
4	Spacer	SS	SS, Monel
5	Bushing	PTFE+Bronze	Luberized Bronze
6	Body	Cast Steel	SS, Monel
7	Stem	SS	316, Monel
8	Key	SS	SS, Monel
9	Disc	Cast Steel	SS, Monel
10	Seal Ring	PTFE+SS	NBR/SS+Graphite
10a	Seat	Carbon Steel+13Cr	SS, Monel
11	Bushing	PTFE+Bronze	Luberized Bronze
12	Packing Seat	SS	SS, Monel
13	Packing	Graphite	PTFE
14	Yoke	Carbon Steel	-
15	Bolt	Alloy Steel	SS, Monel
16	Gland	Carbon Steel	SS
17	Bolt	Alloy Steel	SS, Monel
18	Gasket	Graphite	Graphite

1. Pressure and temperature rating of casing material referred to Appendix F

2. Chemical compositions and mechanical property of casing material referred to Appendix G

3. Trim materials and recommended service coverage referred to Appendix E

Welding butterfly Valve



Materials list(welding butterfly valve)

No.	Part Name	Materials	Optional Materials
1	Bushing	PTFE+Bronze	Luberized Bronze
2	Body	cast Steel	SS, Monel
3	Seal Ring	PTFE+SS	NBR/SS+Graphite
4	Disc	Cast Steel	SS, Monel
5	Stem	SS	316, Monel
6	Pin	SS	SS, Monel
7	Bushing	PTFE+Bronze	Luberized Bronze
8	Yoke	Carbon Steel	-
9	Nut	Carbon Steel	Alloy Steel, SS
10	Bolt	Alloy Steel	SS, Monel
11	Gland	Carbon Steel	SS
12	Packing	Graphite	PTFE
13	Packing Seat	SS	SS, Monel
14	Bushing	PTFE+Bronze	Luberized Bronze
15	Half Ring	SS	316, Monel
16	Bolt	Alloy Steel	SS, Monel
17	Gasket	Graphite	Graphite
18	Cover	Carbon Steel	SS

1. Pressure and temperature rating of casing material referred to Appendix F

2. Chemical compositions and mechanical property of casing material referred to Appendix G

3. Trim materials and recommended service coverage referred to Appendix E

Expansion Butterfly Valve

Expansion butterfly valve integrates the functions of both flanged butterfly valve and pipe expansion unit, performed not only to throttle, but also to eliminate the internal force produced by temperature difference, namely the effect of expansion. It is used to adjust and cut off the flow of all noncorrosive gas, liquid and semiliquid, as well as solid particle pipes and containers in the industries of electric power, metallurgy, petroleum, chemical, coal gas, heat supply, hydropower, papermaking, textile, medicine, foodstuff, water supply and drainage, energy sources and etc. Mounted randomly at any positions regardless of the types of medium and the direction of flow, it can also be used to adjust the space between the two flanges upon the installation of valve.

1. Original design and distinctive structure.
2. Small sizes and light weight.
3. Labor-saving operation and quick open-close.
4. Adjustable and replaceable seal, dependable sealing, low fluid resistance, and energy conservation.

Technical Specification

Design Standard		API609		
Pressure-Temperature Rating		API609, ASME B16.34		
Face-Face		API609, ISO5752, ASME B16.10		
Flange Ends		ASME B16.5/B16.47		
Inspection & Test		API598		
Nominal Pressure (MPa)		CLASS 150	CLASS 300	CLASS 600
Test Pressure (MPa)	Shell Test	2.93	7.58	15.0
	High Pressure Seal Test	2.07	5.52	11.03
	Low Pressure Seal Test	0.6	0.6	0.6
Applicable Temperature		-196°C~550°C Different raw material for different work temperature		
Applicable Medium		Water, oil, gas and other causticity medium (Different raw material for different medium)		

Double Eccentric Butterfly Valve Product Line

Size(mm)	CLASS 150	CLASS 150	CLASS 150
NPS	●/△/★/☆	●/△/★/☆	●/△/★/☆
2"	●/△/★/☆	●/△/★/☆	●/△/★/☆
2½"	●/△/★/☆	●/△/★/☆	●/△/★/☆
3"	●/△/★/☆	●/△/★/☆	●/△/★/☆
4"	●/△/★/☆	△/★/☆	△/★/☆
5"	●/△/★/☆	△/★/☆	△/★/☆
6"	●/△/★/☆	△/★/☆	△/★/☆
8"	△/★/☆	△/★/☆	△/★/☆
10"	△/★/☆	△/★/☆	△/★/☆
12"	△/★/☆	△/★/☆	△/★/☆
14"	△/★/☆	△/★/☆	/
16"	△/★/☆	△/★/☆	/
18"	△/★/☆	△/★/☆	/
20"	△/★/☆	△/★/☆	/
24"	△/★/☆	△/★/☆	/
28"	★/☆	/	/
30"	★/☆	/	/
32"	★/☆	/	/
36"	★/☆	/	/
40"	★/☆	/	/
42"	★/☆	/	/
44"	★/☆	/	/
48"	★/☆	/	/
52"	★/☆	/	/
56"	★/☆	/	/
60"	/	/	/
64"	/	/	/
72"	/	/	/
80"	/	/	/
88"	/	/	/
96"	/	/	/
104"	/	/	/
112"	/	/	/
120"	/	/	/
128"	/	/	/
136"	/	/	/
144"	/	/	/
152"	/	/	/
160"	/	/	/

Note: ● stands for handle operated valves; ★ stands for gearbox operated valves; △ stands for air operated valves;
 ★ stands for electrically operated valves; / stands for no option of this.
 Those not covered in the table can be custom made to users' requirements.

High Performance Fire-safe Butterfly Valve Torques (NM)

Size(mm)	Pressure									
	100PSI	150PSI	200PSI	285PSI	400PSI	600PSI	740PSI	1000PSI	1200PSI	1480PSI
2"	-	-	-	-	-	-	-	-	-	-
2½"	-	-	-	-	-	-	-	-	-	-
3"	67	-	87	107	116	134	147	179	215	256
4"	71	-	92	113	130	167	198	258	302	371
5"	130	-	169	228	-	-	-	-	-	-
6"	198	-	297	424	453	511	559	606	698	856
8"	463	-	531	593	680	870	1039	1314	1621	1909
10"	610	-	815	1037	1129	1297	1424	2271	2700	3175
12"	936	-	1328	1780	1907	2121	2288	3576	4221	5011
14"	1644	-	1743	1829	2754	3841	4604	5566	6335	7048
16"	1896	-	2145	2306	4576	6489	7828	9457	10767	11976
18"	2813	-	3017	3220	5491	7813	9439	11411	12993	14451
20"	3603	-	3888	4180	7698	11025	13355	16157	18383	20450
24"	5722	-	6168	6547	11784	16948	20495	24766	28190	31365
28"	6542	8022	-	-	-	-	-	-	-	-
30"	11570	10813	12349	13118	25376	37002	45137	-	-	-
32"	-	-	-	-	-	-	-	-	-	-
36"	16213	15139	17422	18292	-	-	-	-	-	-
40"	-	-	-	-	-	-	-	-	-	-
42"	18869	23727	-	-	-	-	-	-	-	-
48"	33251	34121	36505	38618	-	-	-	-	-	-
54"	-	39375	-	-	-	-	-	-	-	-

PTFE Seat Butterfly Valve Torques (NM)

Size(mm)	Pressure									
	100PSI	200PSI	285PSI	300PSI	400PSI	600PSI	740PSI	1200PSI	1480PSI	
2"	-	-	37	-	-	-	-	-	-	-
2½"	31	39	46	47	55	71	82	95	142	
3"	43	54	64	66	77	100	115	133	199	
4"	83	111	134	138	166	222	261	305	333	
5"	125	167	202	208	250	333	391	458	700	
6"	188	250	304	313	375	500	588	687	778	
8"	363	476	572	589	702	929	1087	1268	1409	
10"	602	806	980	1010	1215	1623	1909	2236	2862	
12"	910	1250	1538	1589	1929	2609	3084	3628	4579	
14"	1052	1411	1715	1767	2127	2844	3346	4824	5357	
16"	1317	1758	2133	2199	2640	3522	4139	8202	9124	
18"	1817	2488	3058	3159	3830	5172	6111	9893	11005	
20"	2501	3346	4064	4191	5037	6726	7910	13999	15569	
24"	3496	4698	5719	5900	7102	9505	11188	21467	23885	
28"	-	-	-	-	-	-	-	-	-	
30"	4949	6678	8021	9169	12451	18157	22156	-	-	
32"	-	-	-	-	-	-	-	-	-	
36"	5982	8406	10151	-	-	-	-	-	-	
40"	-	-	-	-	-	-	-	-	-	
42"	9525	12609	16698	-	-	-	-	-	-	
48"	14914	20506	25260	-	-	-	-	-	-	

Flow Coefficients (Cv Values)

Flow coefficient is an index to measure the flow capacity of valve. The more the flow coefficient is, the less the pressure loss upon fluid flowing through the valve. The values of flow coefficient differ from the sizes, types and structures of valves. Valve of different types and specifications should be separately tested to make certain of its value of flow coefficient. for valves of the same structure, the value of flow coefficient differs according to the directions of fluid through the valves. This difference is usually caused by the difference in pressure recovery.

The table below is the flow coefficient of double eccentric butterfly valve, used for reference to choose valve flow coefficient. Cv means the American gallons of +60° F(+16°C) water flowing through the valve per minute under 1 pound/inch²(0.006894757Mpa) pressure drop.

High Performance Butterfly Valve Flow Coefficients

Degree Open		10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C
Size	Pressure									
2"	150	1.5	6	14	25	39	56	76	99	102
	300	1.4	6	13	24	36	52	71	95	100
	600	1.4	5	13	23	35	51	70	90	93
2½"	150	2.2	9	21	37	56	80	110	142	146
	300	2.1	8	19	34	52	75	102	136	143
	600	2.0	8	19	33	51	73	100	130	133
3"	150	3.4	14	32	57	87	125	171	221	228
	300	3.2	13	30	53	81	117	159	212	223
	600	3.1	12	29	52	79	114	156	202	208
4"	150	6.8	27	63	114	171	248	338	437	451
	300	6.2	25	58	104	157	228	310	414	435
	600	5.8	23	54	98	147	213	290	375	387
5"	150	10.8	43	100	180	271	392	535	692	714
	300	9.8	40	92	165	248	361	491	655	688
6"	150	16.5	66	154	278	419	607	827	1070	1103
	300	14.9	60	139	250	377	546	744	992	1041
	600	14.7	59	137	247	372	538	734	950	979
8"	150	30.9	124	289	520	784	1135	1584	2002	2064
	300	27.3	109	255	459	692	1001	1365	1820	1911
	600	26.8	107	250	451	679	983	1341	1734	1788
10"	150	52.8	211	492	886	1336	1934	2638	3411	3517
	300	45.6	183	426	767	1156	1673	2282	3042	3194
	600	41.2	165	384	692	1044	1511	2060	2665	2747
12"	150	72.6	290	677	1219	1838	2660	3628	4690	4837
	300	63.3	253	590	1063	1602	2319	3163	4217	4428
	600	58.4	233	545	981	1479	2140	2918	3774	3891
14"	150	90	392	914	1646	2481	3592	4989	6530	6857
	300	81	326	760	1368	2063	2986	4072	5430	5702
	600	73	292	682	1228	1838	2680	3655	4727	4873
16"	150	132	531	1230	2229	3361	4865	6634	8845	9287
	300	109	435	1015	1827	2755	3988	5438	7850	8243
	600	96	385	899	1619	2423	3533	4818	6231	6424
18"	150	171	684	1596	3873	4332	6270	8550	11270	11400
	300	139	555	1295	2331	3515	5088	6938	9250	9712
20"	150	207	828	1932	3478	5244	7590	10350	13800	14420
	300	158	630	1470	2646	3990	5775	7875	10150	10658
24"	150	315	1260	2940	5292	7890	11550	15750	21000	22050
	300	242	966	2254	4057	6118	8855	12075	16100	16205
30"	150	491	1965	4585	8253	12445	18012	24563	32750	34388
	300	404	1614	3766	6779	10222	14795	20175	26900	28245
36"	150	707	2830	6602	11884	17920	25938	35370	45745	47160
42"	150	963	3851	8987	16176	24392	35304	48143	62264	64190
48"	150	1258	5030	11738	21128	31859	46111	62881	81324	83840

ZHEJIANG SEDELON VALVE CO.,LTD.

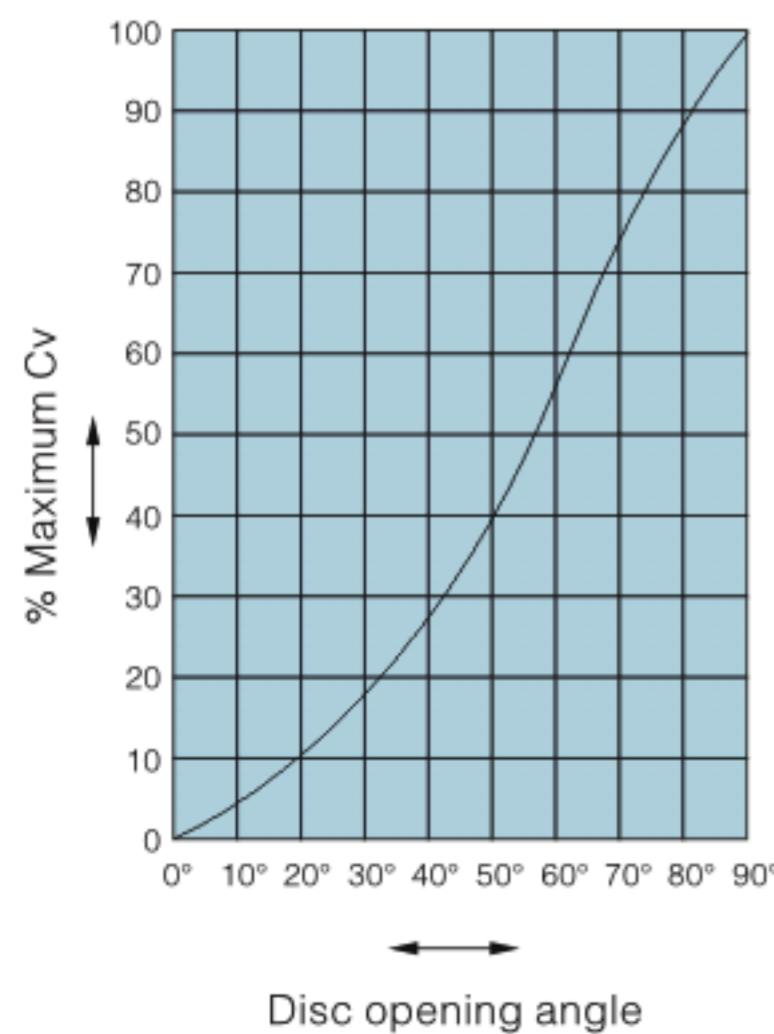
Sedelon®
www.asia-valve.com

Performance specification

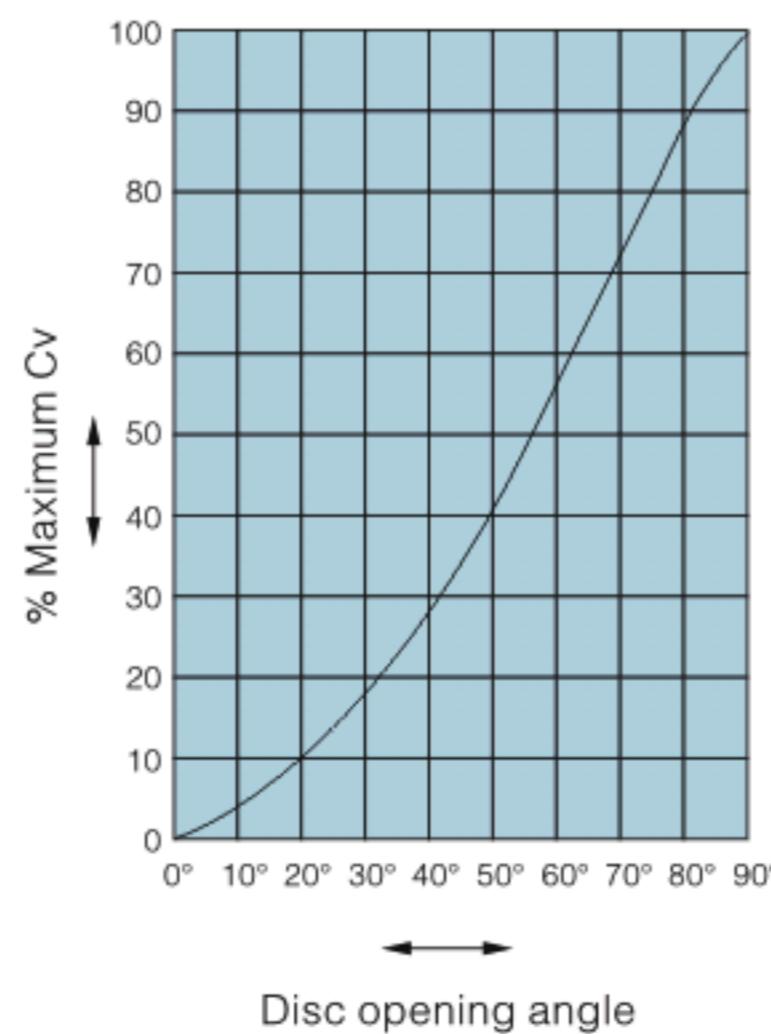
Size (NPS)	CLASS 150
3"	291
4"	413
5"	903
6"	1020
8"	1830
10"	3710
12"	5620
14"	7460
16"	9730
18"	12300
20"	15200
24"	21900
28"	29800
30"	34200
32"	39000
36"	49700
40"	68300
44"	-
48"	-

Note: 1. The butterfly valve with flow coefficient in the table above is soft seal structure, with sealing ring mounted on the disc.
 2. NPS 16" two-piece structure of valve shaft.

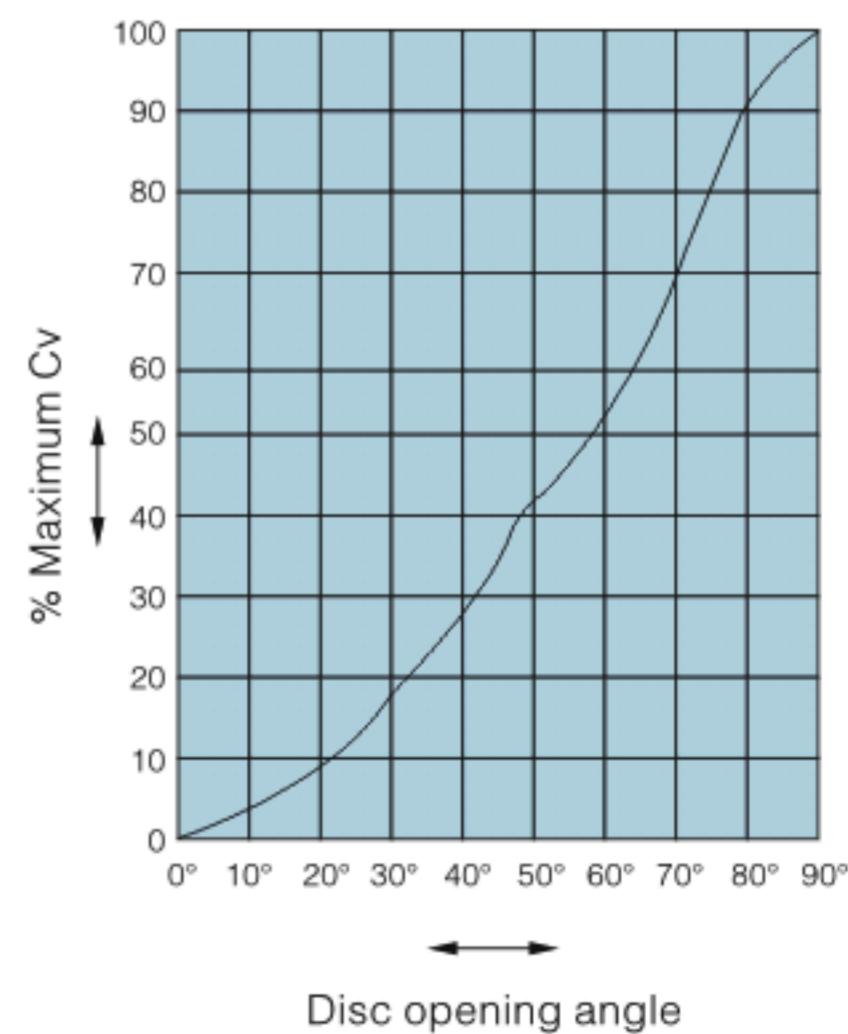
Butterfly Typical Characteristic Curve



Typical Characteristic Curve of High Performance Butterfly Valve



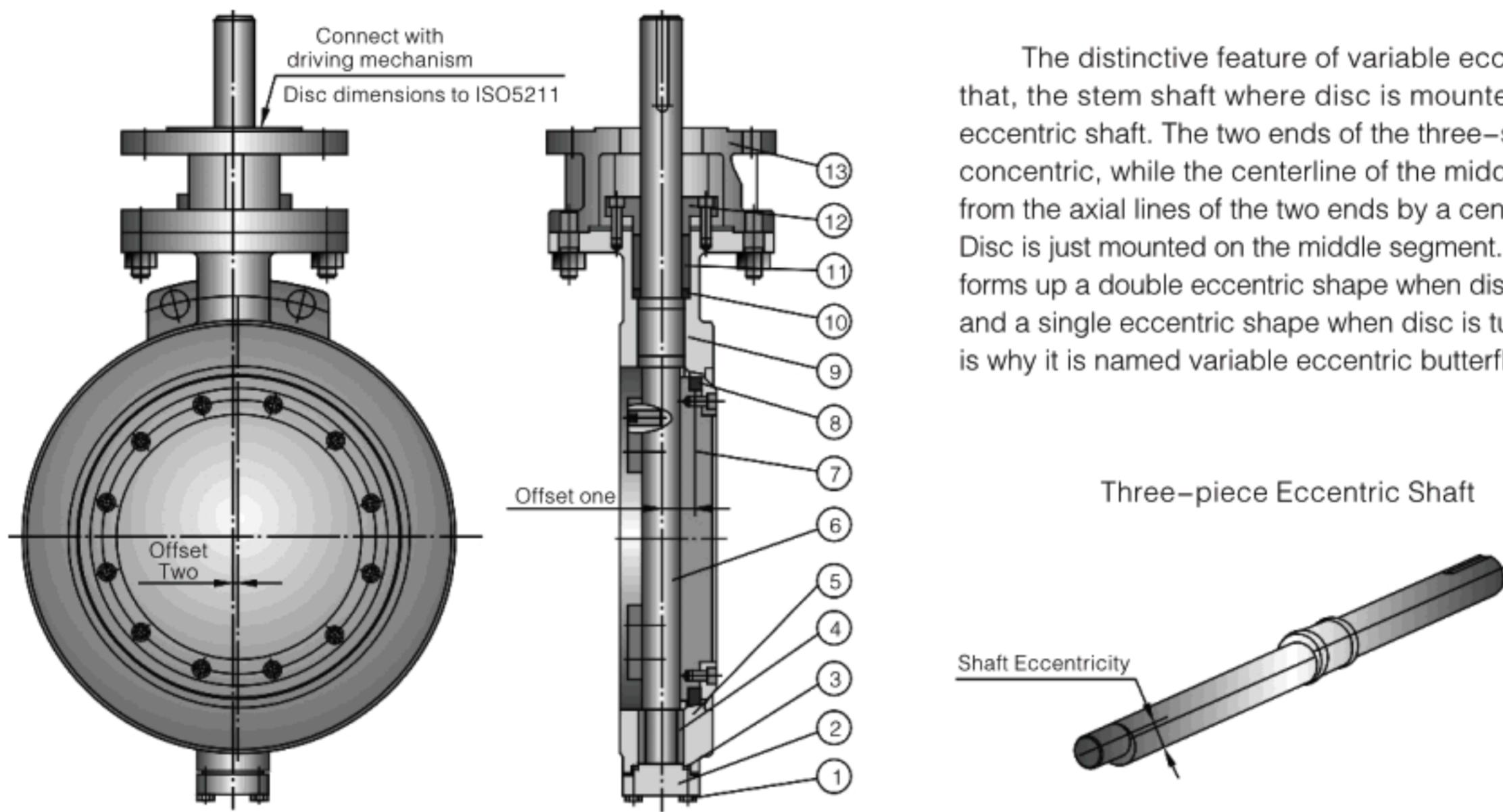
Typical Characteristic Curve of Double Eccentric Soft Butterfly Valve



Typical Characteristic Curve of Double Eccentric Hard Butterfly Valve

For sizes and classes not shown, please contact our Sales Department

Design characteristics of variable eccentric butterfly valve



The distinctive feature of variable eccentric butterfly valve is that, the stem shaft where disc is mounted is a three-segment eccentric shaft. The two ends of the three-segment stem shaft are concentric, while the centerline of the middle segment is deviated from the axial lines of the two ends by a center-to-center distance. Disc is just mounted on the middle segment. This eccentric structure forms up a double eccentric shape when disc is completely opened, and a single eccentric shape when disc is turned to be closed. This is why it is named variable eccentric butterfly valve.

The first eccentric, shaft deviated from the centerline of sealing face.
The second eccentric, shaft deviated from the centerline of pipe and valve.

Working Principle

Under the force of eccentric shaft, when tending to be closed, disc will move somewhat toward the sealing conical surface of the seat, and then engaged to perform dependable sealing.

When seat sealing face is abraded after a period of service, adjust the driving mechanism to make the close position of disc forward for some degrees, in this way to set up a new sealing state. However, the amount of the radial displacement of the stem vertical to the stem cannot exceed 0.5mm. If there is still leakage after adjusted, readjust accordingly. If it is still a failure, troubleshooting measures shall be carried out to the valve.

Materials list (variable eccentric butterfly valve)

No.	Part Name	Materials	Optional Materials
1	Bolt	Carbon Steel	SS
2	Cover	Carbon Steel	SS, Monel
3	Gasket		
4	Bushing	PTFE+Bronze	Luberized Bronze
5	Body	Cast Steel	SS, Monel
6	Stem	SS	316, Monel
7	Disc	Cast Steel	SS, Monel
8	Seal Ring	PTFE+SS	SS+Graphite/NBR
9	Bushing	PTFE+Bronze	Luberized Bronze
10	Packing Seat	SS	SS, Monel
11	Packing	Graphit	PTFE
12	Packing Bushing	SS	SS
13	Yoke	Carbon Steel	-

1. Pressure and temperature rating of casing material referred to Appendix F

2. Chemical compositions and mechanical property of casing material referred to Appendix G

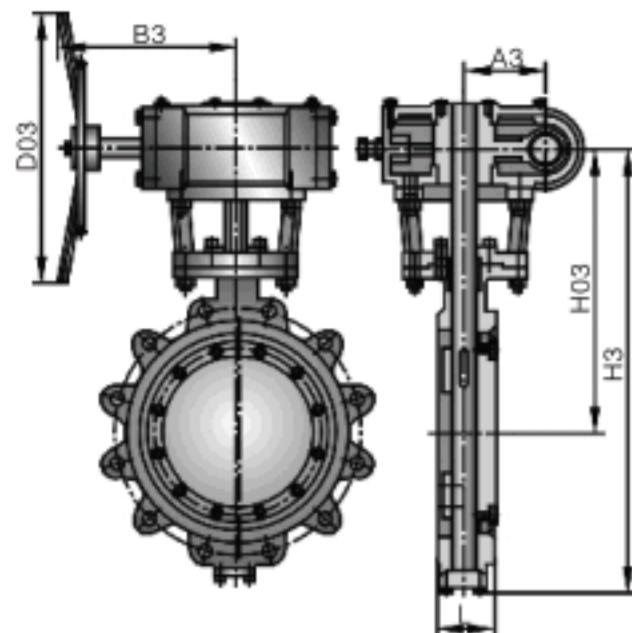
3. Trim materials and recommended service coverage referred to Appendix E

Double Eccentric Wafer Butterfly Valve

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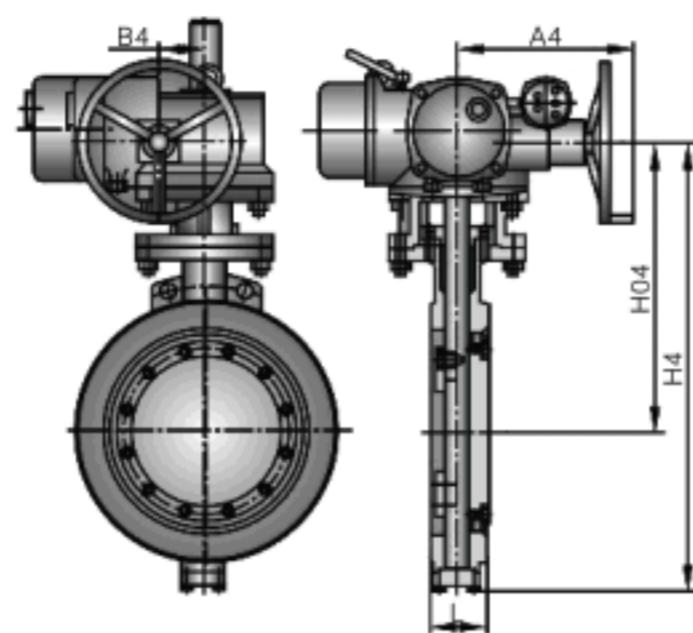
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Figure 3D1(3,6)LL3F(H)



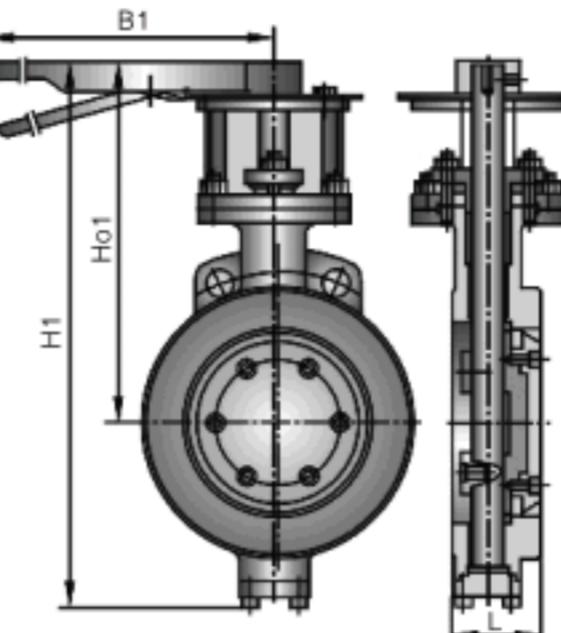
Worm Gear Driven Lug
Wafer Butterfly Valve

9D1(3,6)WL3F(H)



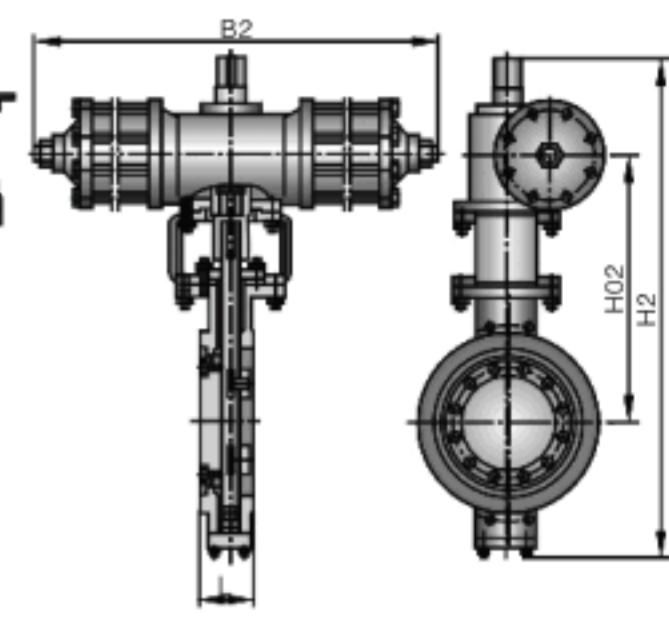
Electric Wafer
Butterfly Valve

D1(3,6)WL3F(H)



Manual Wafer
Butterfly Valve

6D1(3,6)WL3F(H)



Pneumatic Wafer
Butterfly Valve

Main Outline Dimensions

CLASS 150

NPS	L	Manual			Pneumatic			Worm gear actuation					Electric				Weight(kg)	
		H1	H01	B1	H2	H02	B2	H3	H03	B3	A3	D03	H4	H04	B4	A4	WF	WL
2	45	262	187	180	—	—	—	287	176	106	50	160	—	—	—	—	3.7	5
2½	48	267	193	200	—	—	—	294	179	140	63	160	—	—	—	—	4.3	5.6
3	49	295	218	250	—	—	—	320	185	140	63	160	513	263	178	180	5	6
4	54	329	239	270	—	—	—	342	195	140	63	160	535	282	178	180	7.7	11
5	57	369	261	300	—	—	—	365	209	140	63	300	563	293	178	180	9.1	13.6
6	58	398	275	350	—	—	—	415	243	140	6	300	602	322	178	180	13.6	15.9
8	64	—	—	—	690	323	275	510	263	150	84	400	745	296	235	370	20	21.8
10	71	—	—	—	750	355	275	567	295	150	84	400	805	325	235	370	32	41
12	81	—	—	—	955	475	378	665	342	200	108	600	883	365	235	370	50	57.6
14	92	—	—	—	1032	513	378	739	385	200	108	600	965	408	235	370	61	83
16	102	—	—	—	1182	598	530	825	430	240	152	600	1033	443	235	370	83	113
18	114	—	—	—	1265	635	530	910	469	240	152	800	1120	485	235	370	106	138
20	127	—	—	—	1335	667	530	990	500	300	168	800	1186	518	235	370	145	188
24	154	—	—	—	1642	830	680	1210	618	320	192	800	1380	625	235	370	229	318
30	167	—	—	—	1823	1245	680	1453	875	512	279	400	1583	1005	245	515	420	513
36	184	—	—	—	2145	1329	860	1775	939	512	279	400	1950	1089	245	515	739	857
42	222	—	—	—	2360	1456	860	1980	1086	512	279	400	2120	1216	360	540	1123	1225
48	254	—	—	—	2535	1564	1080	2165	1194	570	368	600	2235	1324	360	540	1277	1399

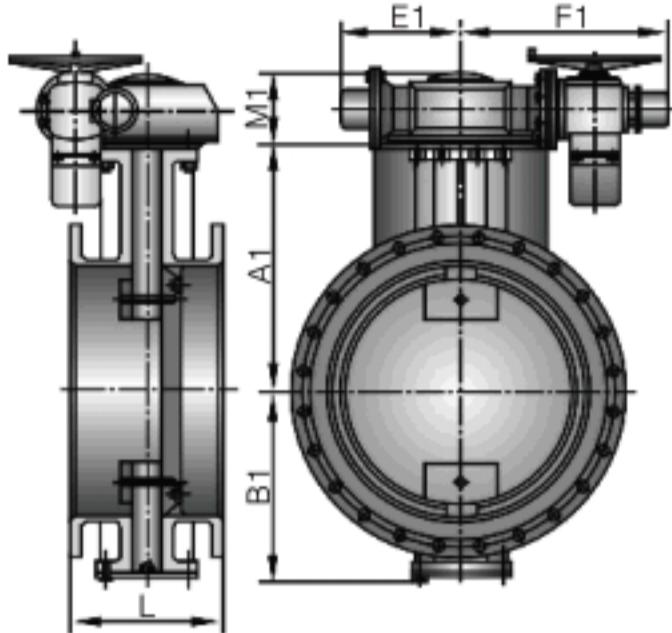
CLASS 300

2	45	262	179	230	—	—	—	287	176	106	50	160	—	—	—	—	3.6	5
2½	48	269	193	260	—	—	—	294	179	140	63	160	—	—	—	—	4.2	5.5
3	49	293	198	290	—	—	—	320	185	140	63	160	513	263	178	180	5.4	7.7
4	54	310	203	320	—	—	—	342	195	140	63	160	535	282	178	180	7.7	10.9
5	57	352	225	350	—	—	—	365	209	140	63	300	563	293	178	180	9.1	13.6
6	59	380	235	380	—	—	—	415	243	140	63	300	602	322	178	180	13.6	22.2
8	73	—	—	—	750	368	275	510	263	150	84	400	745	296	235	370	23.6	36
10	83	—	—	—	909	442	378	567	295	150	84	400	805	325	235	370	40	52
12	92	—	—	—	1075	535	530	665	342	200	108	600	883	365	235	370	69.4	90
14	117	—	—	—	1158	572	530	739	385	200	108	600	965	408	235	370	129	147
16	133	—	—	—	1230	610	530	825	430	240	152	600	1033	443	235	370	152	182
18	149	—	—	—	1462	736	680	910	469	240	152	800	1120	485	235	370	178	234.5
20	159	—	—	—	1328	765	680	990	500	300	168	800	1186	518	235	370	231	333
24	181	—	—	—	—	—	—	1210	618	320	192	800	1380	625	235	370	332	463

CLASS 600

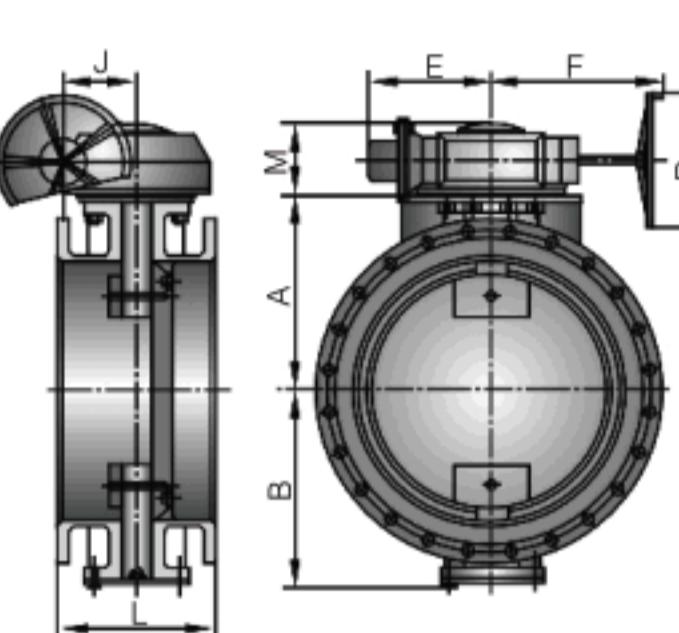
2	45	262	179	230	—	—	—	287	176	106	50	160	—	—	—	—	5	5.9
2½	48	269	193	260	—	—	—	294	179	140	63	160	—	—	—	—	5	5.9
3	64	293	198	290	—	—	—	320	185	140	63	160	513	263	178	180	5.9	8.2
4	64	310	203	320	—	—	—	342	195	140	63	160</td						

Figure 9D1RF3F(X)



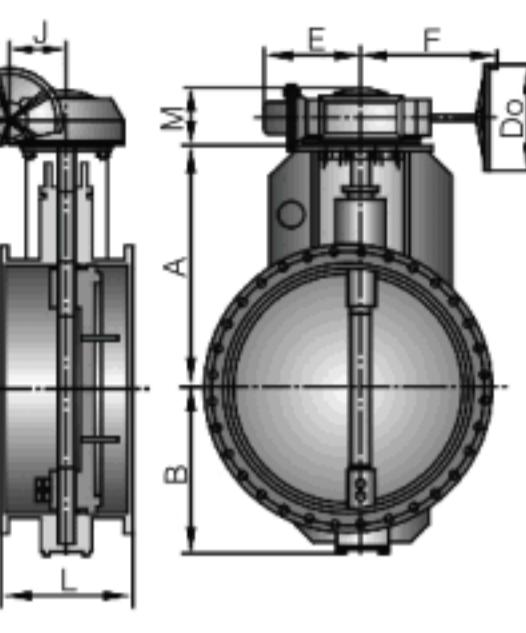
Electric Flanged Connection
Double Eccentric Soft Seal
Butterfly Valve

3D1RF3F(X)



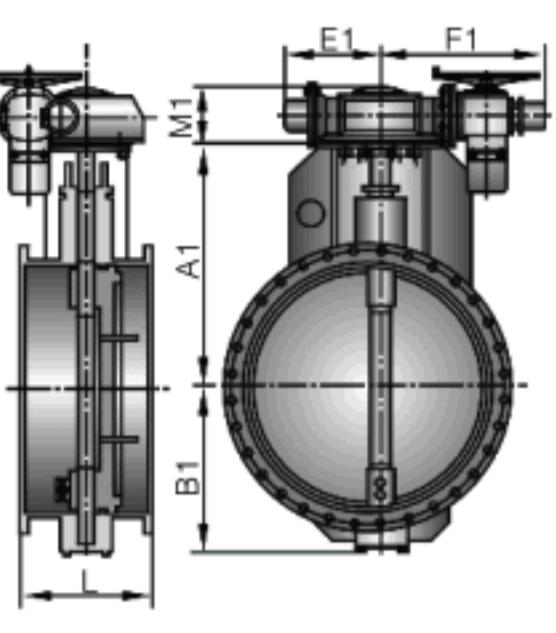
Worm Gear Driven Flange
Connected Double Eccentric
Soft Seal Butterfly Valve

9D1RF3H



Electric Flanged Connection
Double Eccentric Hard
Seal Butterfly Valve

3D1RF3H



Worm Gear Driven Flanged
Connected Double Eccentric
Hard Seal Butterfly Valve

Main Outline Dimensions

CLASS 150

NPS	L	Worm gear actuation							Electric					Weight(kg)	
		A	B	E	F	J	M	Do	A1	B1	E1	F1	M1	Worm gear	Electric
3"	180	158	125	90	205	83	115	200	158	125	90	385	115	48	63
4"	190	163	130	90	205	83	115	200	163	130	90	385	115	53	68
5"	200	173	140	90	205	83	115	200	173	140	90	385	115	58	75
6"	210	185	155	90	205	83	115	200	185	155	90	385	115	65	80
8"	230	218	195	90	205	83	115	250	218	195	90	385	115	90	105
10"	250	260	220	90	205	83	115	250	260	220	90	385	115	135	150
12"	270	295	250	120	250	141	134	250	295	250	120	446	134	160	175
14"	290	336	290	120	250	141	134	250	336	290	120	446	134	230	245
16"	310	360	315	185	265	115	159	315	360	315	185	430	159	310	330
18"	330	393	350	185	265	115	159	315	393	350	185	430	159	400	420
20"	350	428	390	185	265	145	163	315	428	390	185	575	163	490	510
24"	390	489	450	245	400	145	163	315	489	450	245	575	163	710	730
28"	430	559	500	245	400	145	185	315	559	500	245	636	185	980	1000
30"	450	574	550	310	460	191	220	400	574	550	310	636	220	1140	1160
32"	470	619	575	310	460	191	220	400	619	575	310	730	220	1550	1570
36"	510	680	640	410	555	270	255	400	680	640	410	730	255	1800	1820
40"	550	750	695	410	555	270	255	400	750	695	410	730	255	2230	2250
44"	590	800	745	410	55	270	255	400	800	745	410	817	255	2700	2720
48"	630	870	825	520	640	351	320	400	870	825	520	817	320	3010	3030
52"	670	954	895	520	640	351	320	400	954	985	520	817	320	4080	4100
56"	710	1024	965	520	640	351	320	400	1024	965	520	817	320	4470	4490
60"	750	1095	1035	450	785	440	335	630	1095	1035	450	973	335	5080	5130

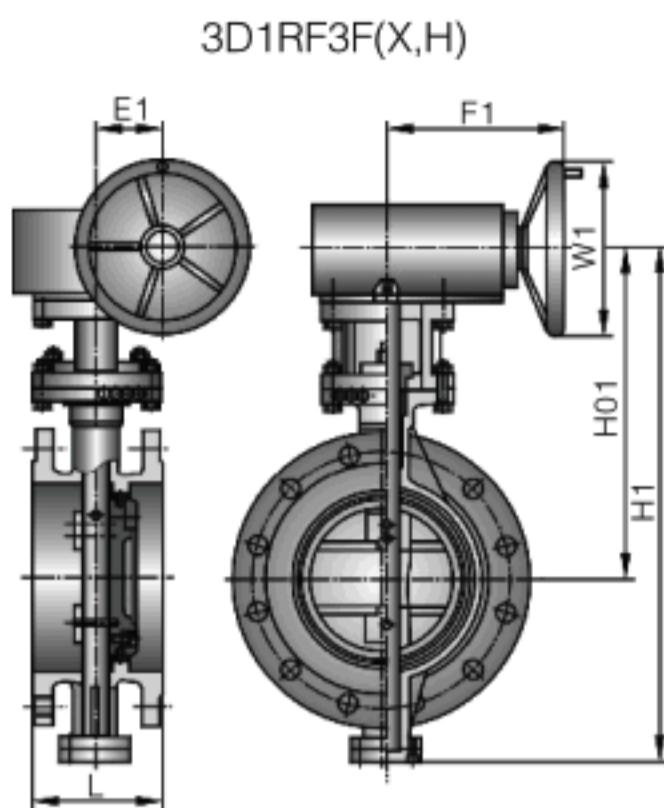
1. The valves in the table are sheet welded.

2. The stem of NPS≥24" soft seal valve is two-piece type; that of hard seal valve is one-piece type.

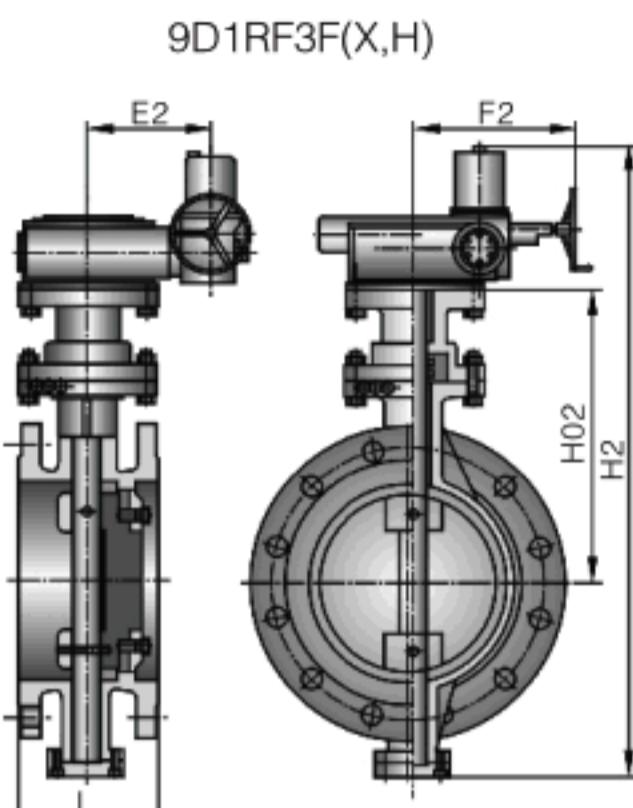
3. The valve sizes in the table conform to ASME 16.5 and ASME B16.47A series.

ZHEJIANG SEDELON VALVE CO.,LTD.

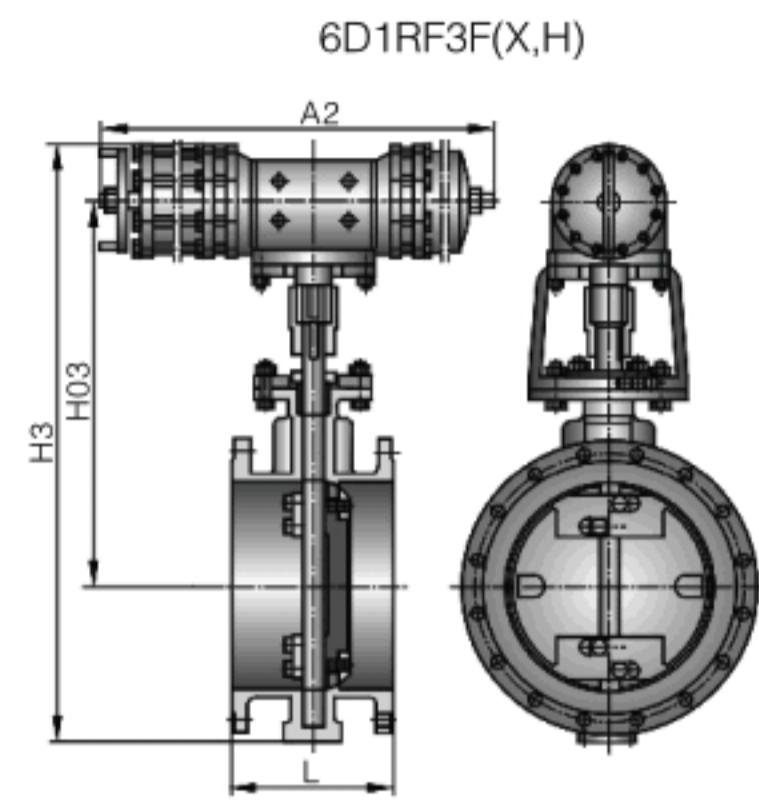
Figure



Worm Gear Driven Flanged Butterfly Valve



Electric Flanged Butterfly Valve



Pneumatic Flanged Butterfly Valve

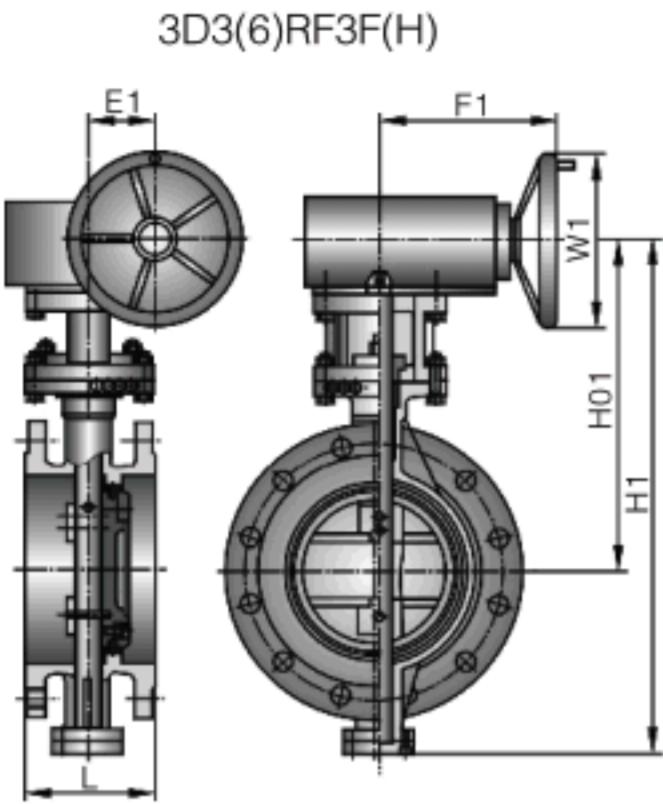
Main Outline Dimensions

CLASS 150

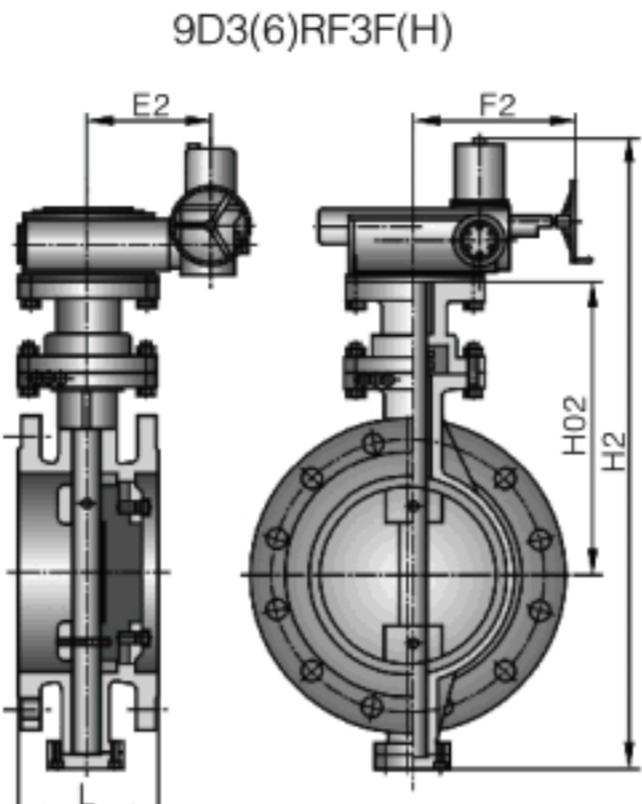
NPS	L*	Worm gear actuation					Electric				Pneumatic			Weight(kg)		
		H1	H01	E1	F1	W1	H2	H02	E2	F2	H3	H03	A3	Worm gear	Electric	Pneumatic
3"	180	320	185	63	140	160	513	263	180	178	-	-	-	47	63	-
4"	190	342	195	63	140	160	535	282	180	178	-	-	-	62	68	-
5"	200	365	209	63	140	300	563	293	180	178	-	-	-	71	75	-
6"	210	415	243	63	140	300	602	322	180	178	-	-	-	83	80	-
8"	230	510	263	84	150	400	745	296	370	235	690	323	275	115	105	115
10"	250	567	295	84	150	400	805	325	370	235	750	355	275	158	150	210
12"	270	665	342	108	200	600	883	365	370	235	955	475	378	233	175	250
14"	290	739	385	108	200	600	965	408	370	235	1032	513	378	265	245	330
16"	310	825	430	152	240	600	1033	443	370	235	1182	598	530	387	330	400
18"	330	910	469	152	240	800	1120	485	370	235	1265	635	530	454	420	480
20"	350	990	500	168	300	800	1186	518	370	235	1335	667	530	503	510	560
24"	390	1210	618	192	320	800	1380	625	370	235	1642	830	680	730	745	770
26"	410	1341	701	238	437	400	1541	687	515	245	1711	859	680	769	785	845
28"	430	1475	746	238	437	400	1587	745	515	245	1782	910	680	831	1000	950
30"	450	1572	815	238	437	400	1650	777	515	245	1856	942	680	907	1160	1020
32"	470	1600	875	238	437	400	1717	810	515	245	1920	975	680	1190	1570	1100
34"	490	1728	899	368	550	400	1874	872	540	360	-	-	-	1299	1700	-
36"	510	1823	937	368	550	600	1870	875	540	360	-	-	-	1463	1820	-
40"	550	1900	965	368	550	600	2030	965	540	360	-	-	-	2112	2250	-
42"	570	1963	1092	430	785	600	2052	987	540	360	-	-	-	2217	2275	-
44"	590	2199	1148	430	785	600	2078	1022	540	360	-	-	-	2485	2720	-
46"	610	2210	1178	430	785	600	2127	1065	540	360	-	-	-	2558	2600	-
48"	630	2275	1213	430	785	600	2188	1100	540	360	-	-	-	2992	3030	-
52"	670	2390	1257	430	785	600	2214	1150	565	385	-	-	-	4080	4100	-
54"	690	2406	1319	550	865	800	2270	1260	565	385	-	-	-	4275	4300	-
56"	710	2430	1355	550	865	800	2328	1325	565	385	-	-	-	4470	4490	-
60"	750	2563	1562	550	865	800	2530	1515	565	385	-	-	-	5080	5130	-

*(300Lb\600Lb) structural length to ISO5752 14 series.

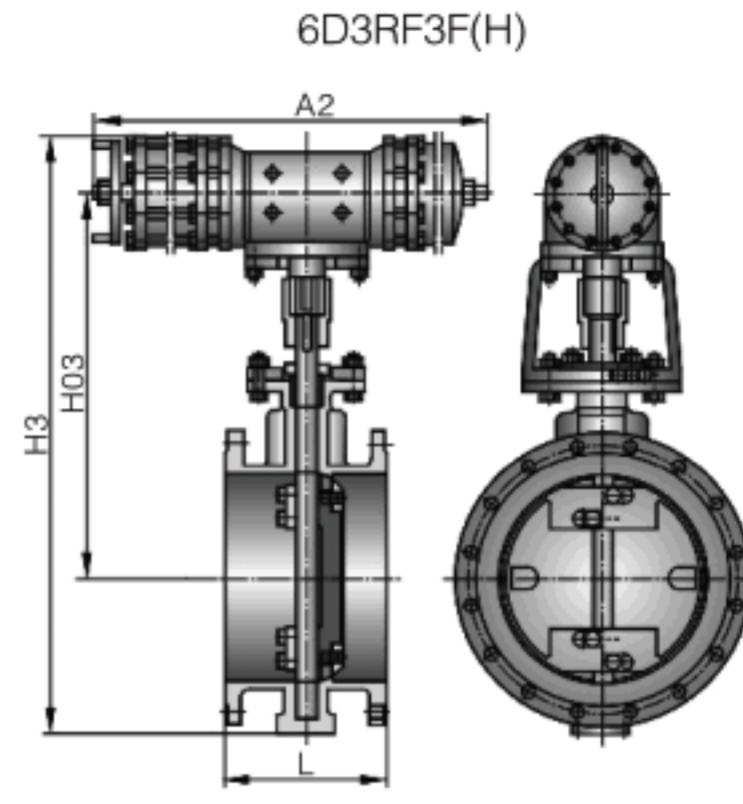
Figure



Worm Gear Driven Flanged Butterfly Valve



Electric Flanged Butterfly Valve



Pneumatic Flanged Butterfly Valve

Main Outline Dimensions

CLASS 300

NPS	L*	Worm gear actuation				Electric				Pneumatic			Weight(kg)		
		H1	H01	E1	F1	H2	H02	E2	F2	H3	H03	A3	Worm gear	Electric	Pneumatic
3"	180	395	241	63	63	530	242	180	178	-	-	-	44	64	-
4"	190	355	205	63	63	552	204	180	178	-	-	-	58	76	-
5"	200	378	215	63	63	580	214	180	178	-	-	-	72	87	-
6"	210	430	260	84	84	610	259	180	178	-	-	-	82	100	-
8"	230	523	273	84	84	755	310	370	235	750	368	275	142	160	-
10"	250	600	315	108	108	816	340	370	235	909	442	378	205	225	-
12"	270	693	362	108	108	912	390	370	235	1075	535	530	318	338	-
14"	290	772	405	152	152	980	425	370	235	1158	572	530	379	399	-
16"	310	862	440	168	168	1057	460	370	235	1230	610	530	537	553	-
18"	330	960	525	192	192	1140	525	370	235	1462	736	680	628	644	-
20"	350	1158	603	237	237	1243	556	515	245	1328	765	680	869	885	-
24"	390	1320	693	237	237	1420	653	817	351	-	-	-	1133	1149	-
26"	410	1447	875	269	269	1642	800	817	351	-	-	-	1506	-	-
28"	430	1538	959	351	351	1812	904	817	351	-	-	-	2040	-	-
30"	450	1607	1095	351	351	1906	963	817	351	-	-	-	2304	-	-
32"	470	1721	1129	351	351	2021	1054	817	351	-	-	-	2636	-	-
34"	490	1790	1162	351	351	2089	1087	817	351	-	-	-	2915	-	-
36"	510	1862	1261	429	429	2327	1161	973	440	-	-	-	3636	-	-
40"	550	1986	1342	429	429	2451	1242	973	440	-	-	-	3797	-	-
42"	570	2100	1385	429	429	2515	1285	973	440	-	-	-	4172	-	-
44"	590	2175	1436	429	429	2565	1311	973	440	-	-	-	4468	-	-
46"	610	2219	1506	429	429	2609	1331	973	440	-	-	-	5116	-	-
48"	630	2303	1570	399	399	2697	1374	973	440	-	-	-	5406	-	-

CLASS 600

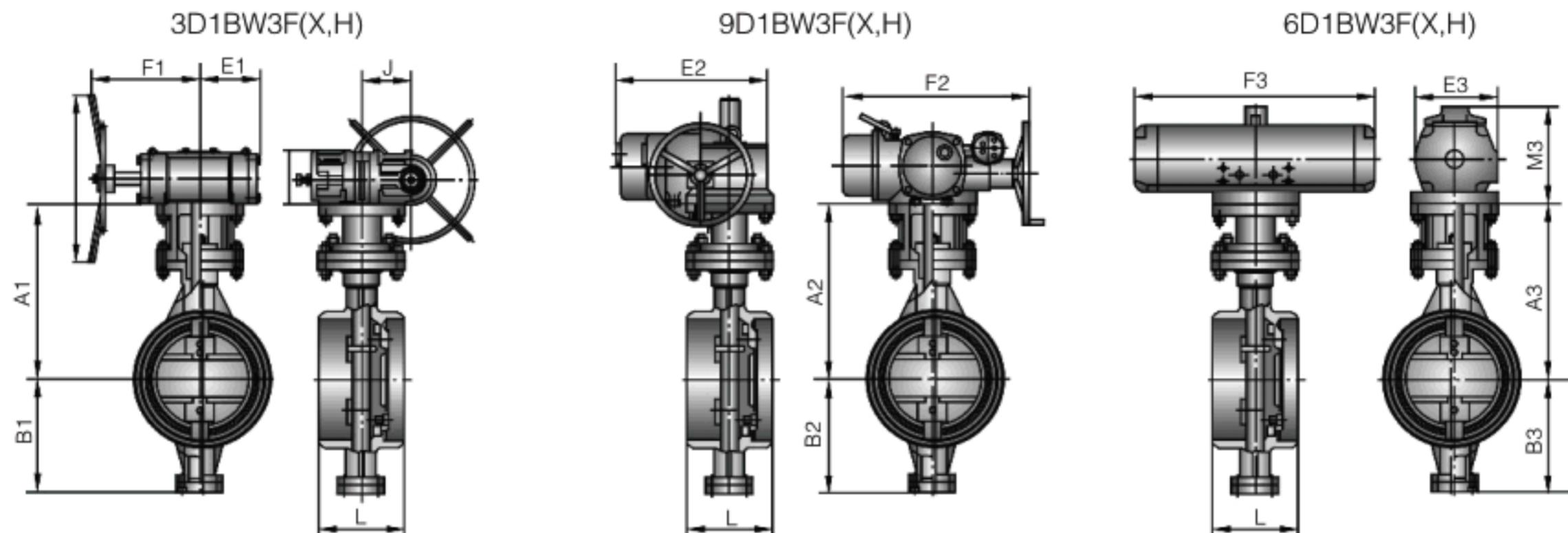
3"	180	500	250	63	63	606	295	180	178	-	-	-	82	79	-
4"	190	595	340	63	63	650	358	180	178	-	-	-	125	96	-
5"	200	680	395	108	108	695	371	180	178	-	-	-	165	154	-
6"	210	730	423	152	152	713	387	180	178	-	-	-	191	172	-
8"	230	855	445	168	168	1055	417	370	235	-	-	-	247	248	-
10"	250	1002	536	192	192	1172	465	370	235	-	-	-	413	308	-
12"	270	1150	614	237	237	1392	546	515	245	-	-	-	576	467	-
14"	290	1200	674	237	237	1475	579	515	245	-	-	-	664	585	-
16"	310	1345	823	237	237	1557	643	540	360	-	-	-	971	807	-
18"	330	1397	841	269	269	1625	673	540	360	-	-	-	1117	1003	-
20"	350	1430	978	350	350	1679	701	540	360	-	-	-	1639	1139	-
24"	390	1582	1069	350	350	1834	775	540	360	-	-	-	2082	1767	-

Double Eccentric Welding Butterfly Valve

ZHEJIANG SEDELON VALVE CO.,LTD.

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Figure



Worm Gear Driven Butt-welded Butterfly Valve

Electric Butt-welded Butterfly Valve

Pneumatic Butt-welded Butterfly Valve

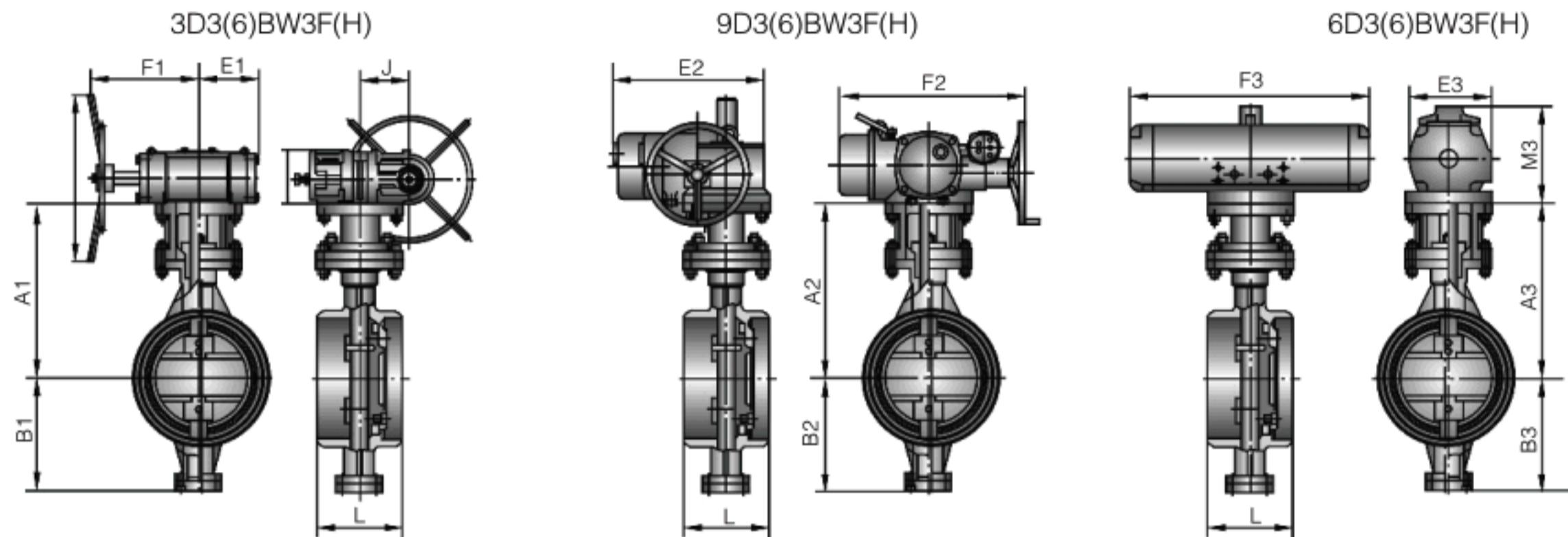
Main Outline Dimensions

CLASS 150

NPS	L	Worm gear actuation							Electric				Pneumatic					Weight(kg)		
		A1	B1	M1	E1	F1	J	D01	A2	B2	E2	F2	A3	B3	E3	F3	M3	Worm gear	Electric	Pneumatic
3"	180	295	135	115	84	198	84	200	295	135	513	467	295	135	115	344	140	48	55	-
4"	190	305	155	115	84	198	84	200	305	155	513	467	305	155	115	344	140	53	58	-
5"	200	322	167	115	84	198	84	200	322	167	513	467	322	167	126	390	175	58	63	-
6"	210	366	170	115	94	211	84	250	366	170	525	475	366	170	150	450	187	65	65	-
8"	230	396	198	134	117	267	145	250	396	198	580	470	396	198	280	762	270	90	85	-
10"	250	429	231	134	175	254	114	315	429	231	635	560	429	231	330	900	305	135	120	-
12"	270	483	269	159	175	254	114	315	483	269	705	560	483	269	405	1182	385	160	156	-
14"	290	498	297	159	239	404	145	315	498	297	765	615	498	297	405	1182	385	230	212	-
16"	310	579	333	163	239	404	145	315	579	333	825	615	579	333	405	1182	385	310	295	-
18"	330	630	366	163	239	404	191	315	630	366	875	820	630	366	445	1292	410	400	370	-
20"	350	655	394	163	300	465	191	400	655	394	930	820	655	394	445	1292	410	490	460	-
24"	390	744	452	185	300	465	191	400	744	452	1040	820	744	452	500	1442	465	710	640	-
26"	410	762	462	185	300	465	191	400	762	462	1100	820	762	462	500	1442	465	-	-	-
28"	430	790	511	185	300	465	191	400	790	511	1155	945	790	511	630	1865	500	980	1000	-
30"	450	815	536	220	300	559	269	400	815	536	1225	945	815	536	630	1865	500	1140	1160	-
32"	470	875	577	220	300	559	269	400	874	577	1275	945	874	577	630	1865	500	1550	1570	-
36"	510	899	602	255	300	559	269	400	899	602	1375	1145	899	602	-	-	-	1800	1820	-
40"	550	1064	696	255	300	559	269	400	1064	696	1490	1145	1064	696	-	-	-	2230	2250	-
42"	570	1092	721	255	300	559	335	400	1092	721	1550	1335	1092	721	-	-	-	2460	2456	-
44"	590	1148	731	255	300	572	335	400	1148	731	1600	1335	1148	731	-	-	-	2700	2720	-
46"	610	1179	762	320	300	572	335	400	1179	762	1655	1335	1179	762	-	-	-	-	-	-
48"	630	1270	800	320	300	572	335	400	1270	800	1715	1370	1270	800	-	-	-	3010	3030	-
52"	670	1314	850	320	425	572	365	500	1314	850	1835	1370	1314	850	-	-	-	4080	4100	-
54"	690	1355	870	320	425	635	365	500	1355	870	1920	1425	1355	870	-	-	-	-	-	-
56"	710	1384	895	320	425	635	365	500	1384	895	2005	1425	1384	895	-	-	-	4470	4490	-
60"	750	1504	1025	355	425	635	365	500	1504	1025	2115	1425	1504	1025	-	-	-	5080	5130	-

Structural length to ISO5752 14 series.

Figure



Worm Gear Driven Butt-welded Butterfly Valve

Electric Butt-welded Butterfly Valve

Pneumatic Butt-welded Butterfly Valve

Main Outline Dimensions

CLASS 300

NPS	L	Worm gear actuation							Electric				Pneumatic					Weight(kg)		
		A1	B1	M1	E1	F1	J	D01	A2	B2	E2	F2	A3	B3	E3	F3	M3	Worm gear	Electric	Pneumatic
3"	180	295	132	114	84	198	84	200	295	132	467	513	295	132	126	390	175	51	—	—
4"	190	358	150	114	84	198	84	200	358	150	467	513	358	150	150	450	187	66	—	—
5"	200	365	167	168	117	267	145	250	365	167	467	513	365	167	280	762	270	87	—	—
6"	210	389	188	163	175	254	114	315	389	188	564	523	389	188	330	900	305	110	—	—
8"	230	417	221	163	175	254	114	315	417	221	615	544	417	221	405	1182	385	198	—	—
10"	250	465	252	185	239	404	145	315	465	252	615	544	465	252	405	1182	385	227	—	—
12"	270	546	290	185	239	404	145	315	546	290	823	513	546	290	405	1182	385	386	—	—
14"	290	579	318	221	300	465	191	400	579	318	823	513	579	318	445	1292	410	429	—	—
16"	310	642	368	221	300	465	191	400	642	368	945	513	642	368	445	1292	410	624	—	—
18"	330	673	396	221	300	465	191	400	673	396	945	544	673	396	500	1442	465	745	—	—
20"	350	701	422	254	300	559	269	400	701	422	945	544	701	422	500	1442	465	856	—	—
24"	390	775	495	254	399	559	269	400	775	495	945	544	775	495	630	1865	500	1321	—	—
26"	410	800	518	305	399	648	269	400	800	518	945	544	800	518	630	1865	500	1400	—	—
28"	430	904	559	305	510	648	351	400	904	559	1158	826	904	559	630	1865	500	1980	—	—
30"	450	963	594	305	510	648	351	400	963	594	1158	826	963	594	—	—	—	2217	—	—
32"	470	1054	617	305	510	648	351	400	1054	617	1158	826	1054	617	—	—	—	2548	—	—
34"	490	1087	653	305	510	648	351	400	1087	653	1158	826	1087	653	—	—	—	2895	—	—
36"	510	1161	676	368	615	805	429	630	1161	676	1420	1039	1161	676	—	—	—	3568	—	—
40"	550	1242	719	368	615	805	429	630	1242	719	1420	1039	1242	719	—	—	—	3640	—	—
42"	570	1285	739	368	615	805	429	630	1285	739	1420	1039	1285	739	—	—	—	4028	—	—
44"	590	1310	764	368	615	805	429	630	1310	764	1420	1039	1310	764	—	—	—	4398	—	—
46"	610	1331	787	368	615	805	429	630	1331	787	1420	1039	1331	787	—	—	—	5004	—	—
48"	630	1374	833	434	765	965	399	630	1374	833	1730	1039	1374	833	—	—	—	5318	—	—

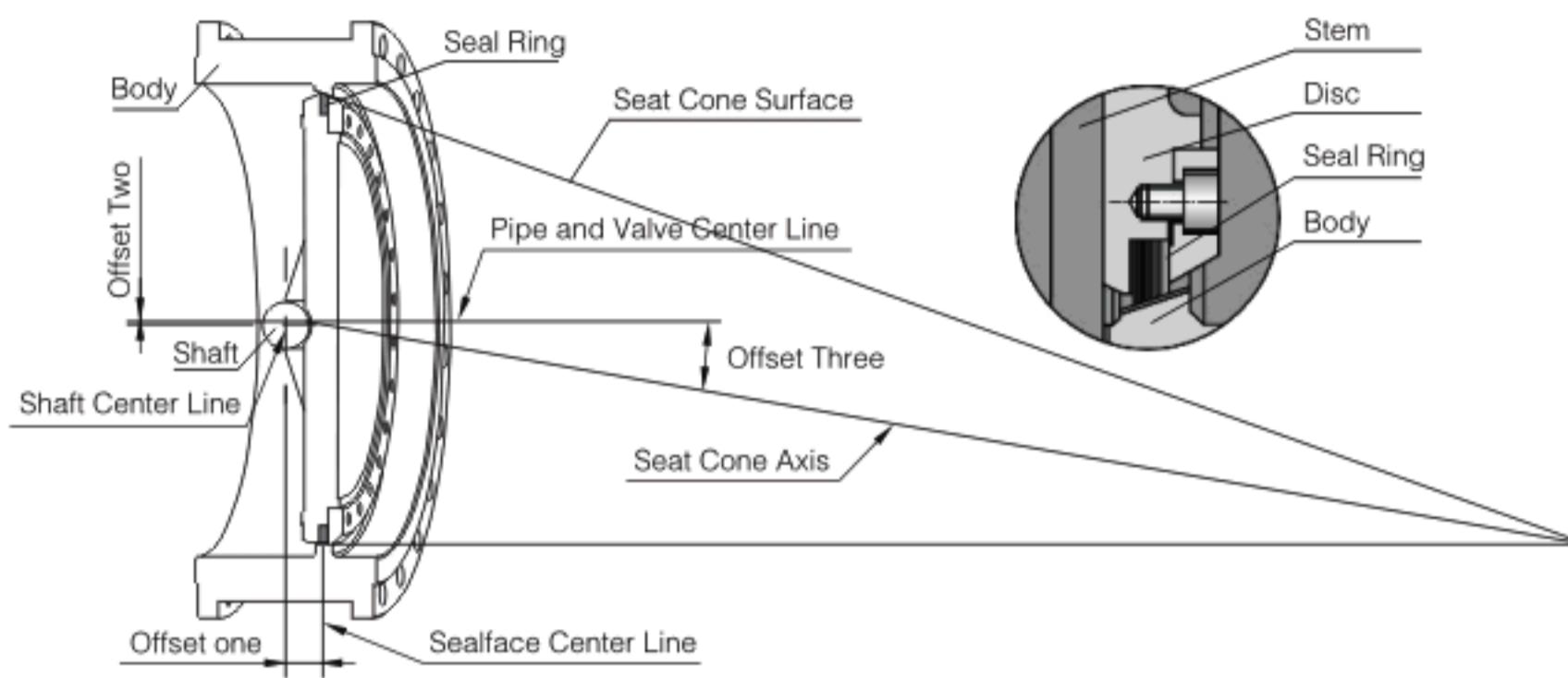
CLASS 600

3"	180	343	127	135	94	211	81	250	343	127	564	523	343	127	330	900	305	75	—	—
4"	190	371	160	170	152	267	145	250	371	160	615	544	371	160	405	1182	385	117	—	—
5"	200	388	178	163	175	254	114	315	388	178	615	544	388	178	405	1182	385	154	—	—
6"	210	401	196	163	175	254	114	315	401	196	823	513	401	196	405	1182	385	186	—	—
8"	230	447	221	163	175	254	114	315	447	221	823	513	447	221	445	1292	410	235	—	—
10"	250	544	290	185	239	404	145	400	544	290	945	513	544	290	445	1292	410	398	—	—
12"	270	610	307	220	300	465	191	400	610	307	945	544	610	307	500	1442	465	554	—	—
14"	290	640	330	220	300	465	191	400	640	330	945	544	640	330	500	1442	465	654	—	—
16"	310	701	391	254	400	559	269	400	701	391	945	544	701	391	630	1865	500	935	—	—
18"	330	716	406	254	400	559	269	400	716	406	945	544	716	406	630	1865	500	1085	—	—
20"	350	828	452	305	510	645	351	400	828	452	1158	826	828	452	630	1865	500	1610	—	—
24"	390	920	513	305	510	645	351	400	920	513	1158	826	920	513	—	—	—	1998	—	—

Structural length to ISO5752 14 series.

Design Characteristics of Triple Offset Butterfly Valve

The Triple Offset Geometry



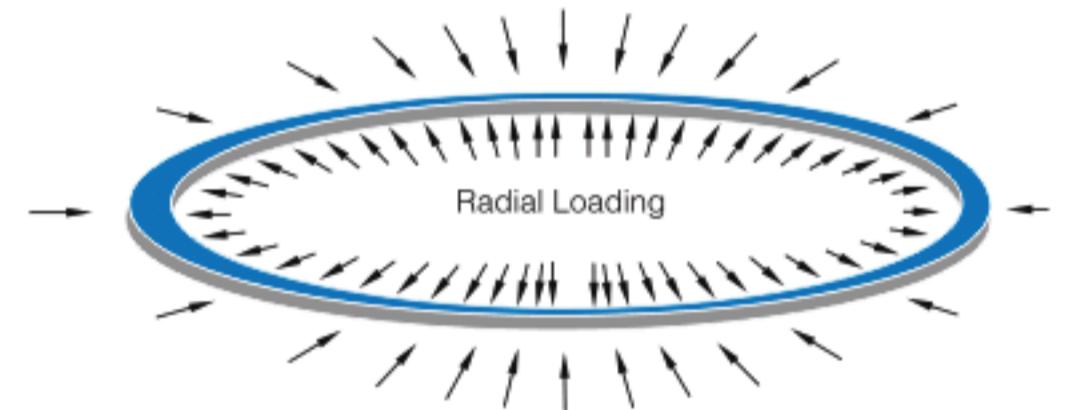
The first eccentric, shaft deviated from the centerline of sealing face.

The second eccentric, shaft deviated from the centerline of pipe and valve.

The third eccentric, the distinctive included angle between oblique taper angle of eccentric seat and centerline of pipe, thus making theseat completely disengaged from the sealing ring during the whole process of open and close. This structure not only uses cam effect, but also eliminates the possibility of abrasion and leakage.

The zero leakage of our triple eccentric butterfly valve is implemented by the composite stainless steel sealing ring mounted on the disc.

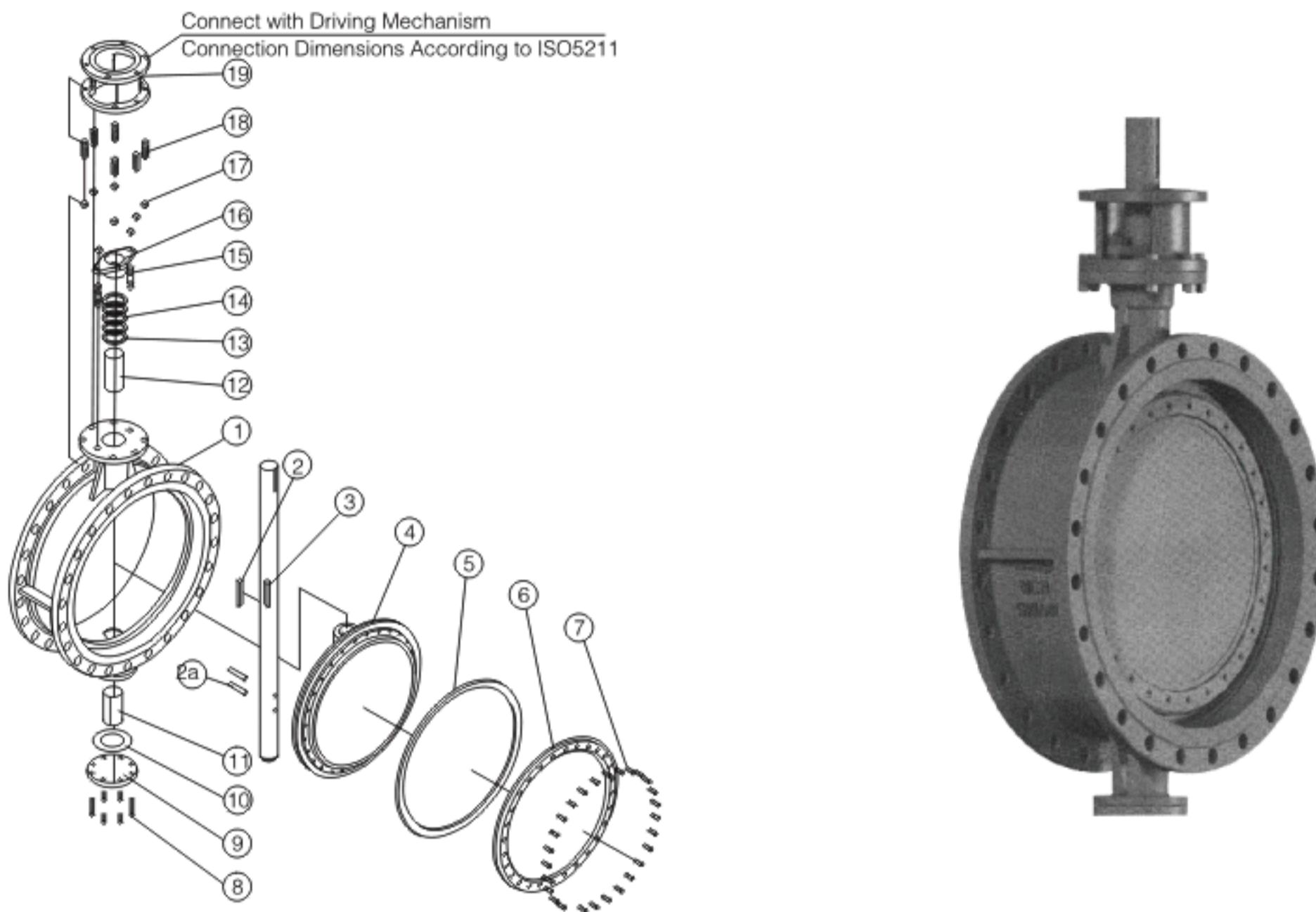
Zero leakage is implemented by the elastic sealing ring mounted on the disc. The elasticity of sealing ring (see fig. right) is produced by its radial compression and flexibility. The contact surface between the sealing ring and seat is an oblique cone. The contact angle between them gives slight 'wedge effect', making the sealing ring producing flexibility and radial compression. The even contact between the seat and sealing ring, and the elasticity of sealing ring makes the load on the seat even, thus to perform closest cutoff by the lowest torque. The elasticity produced by the torque makes the valve closely cut off, regardless of the flow direction or pressure of medium.



Characteristic

- Elastic property of composite metal sealing ring to perform zero leakage.
- Torque seal to ensure persistent two-way zero leakage.
- The design of right-angled rotation with zero friction is implemented by the distinctive triple eccentric principle. It eliminates the friction between the seat and sealing ring in 90° rotation.
- STL one-piece hard-surface seat may adapt to many working conditions, which is featured by long service life and easy maintenance.
- One-piece cast (sheet welded) body, face-to-face dimensions conforming to ISO5752, ASME B16.10 and API609, replacement to high performance butterfly valves and other types of valves, easy and flexible installation.
- Intrinsically fireproof property thanks to allmetal structure and leak-tight performance.
- Anti-blowout stem for high dependability, completely conforming to API609.
- The valve position indicator on the stem and the flange mounted at the top are in favor of the indication of disc position.
- The stem of triple eccentric butterfly valve is a shaft, stem and disc are connected by key or pin-key combination.

Triple Offset Butterfly Valve Structural Drawing



Materials List (Triple Offset Butterfly Valve)

No.	Part Name	Materials	Optional Materials
1	Body	Cast Steel	SS, Monel
2	Key	SS	SS, Monel
2a	Pin	SS	Monel
3	Stem	SS	316, Monel
4	Disc	Cast Steel	SS, Monel
5	Seal Ring	PTFE+SS	SS+Graphite
6	Retainer Flange	Carbon Steel	SS, Monel
7	Bolt	B7	SS
8	Bolt	B7	SS
9	Cover	Carbon Steel	SS, Monel
10	Gasket	Graphite	Graphite
11	Bushing	PTFE+Bronze	Graphite
12	Bushing	PTFE+Bronze	Luberized Bronze
13	Packing Seat	SS	Luberized Bronze
14	Packing	Graphite	SS, Monel
15	Bolt	B7	PTFE
16	Packing Bushing	SS	SS
17	Nut	2H	SS
18	Bolt	B7	SS
19	Yoke	Carbon Steel	-

Remarks: 1. Pressure and temperature rating of shell material referred to Appendix F.
2. Chemical composition and mechanical properties of shell material referred to Appendix G.
3. Rated temperature of valve seat referred to Appendix E.

Type of body connection. The connection between triple eccentric butterfly valve body and pipe can be double flanged, wafer and lug wafer.

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Triple Offset Butterfly Valve

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Technical Specification

Design Standard		API609		
Pressure-Temperature Rating		API609、ASME B16.34		
Face-Face		API609、ISO5752、ASME B16.10		
Flange Ends		ASME B16.5\B16.47		
Inspection & Test		API598		
Test Pressure (MPa)	Norminal Pressure(MPa)	150	300	600
	Shell Test	2.93	7.58	15.0
	High Pressure Seal Test	2.07	5.52	11.03
	Low Pressure Seal Test	0.6		
Applicable Temperature		-46°C ~ 550°C Different raw material for different work temperature		
Applicable Medium		Water, oil, gas and other causticity medium (Different raw material for different medium)		

Note: The experimental value of pressure in the table is subject to the pressure and temperature rating of WCB.

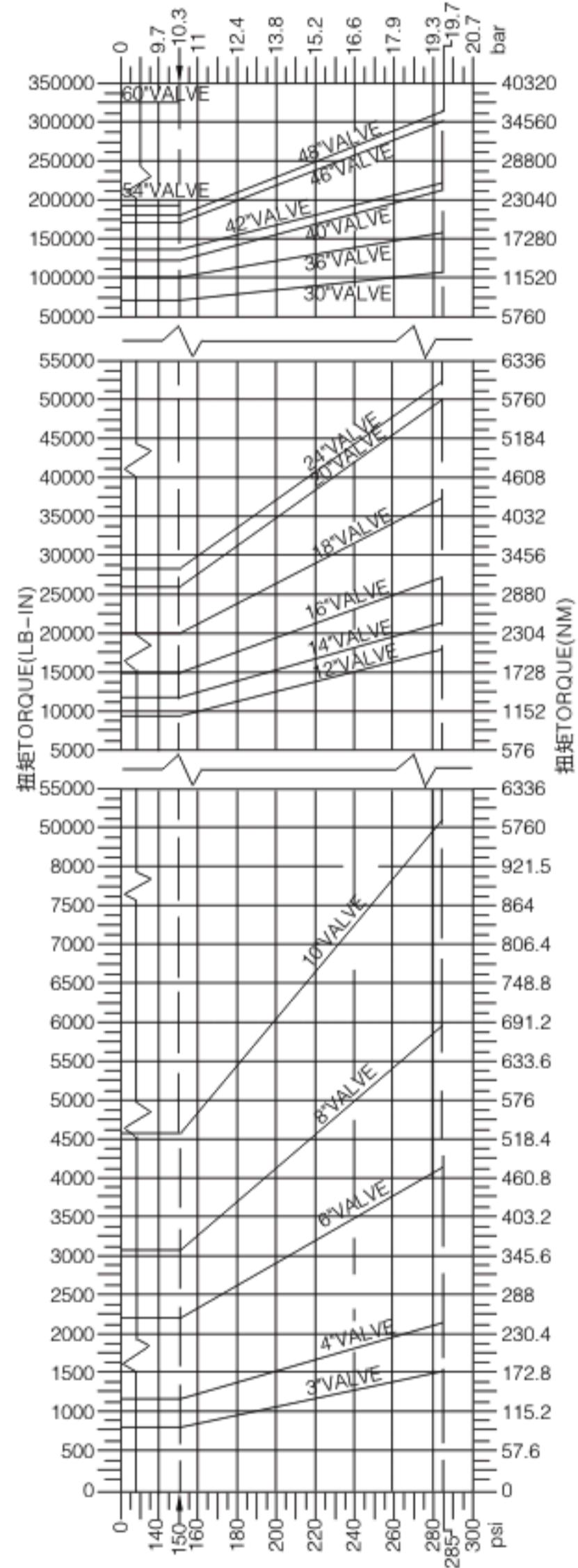
Triple Offset Butterfly Valve Product Line

Size(mm)	Pressure			
	NPS	Class150	Class300	Class600
2"		△/★/☆	△/★/☆	△/★/☆
2½"		△/★/☆	△/★/☆	△/★/☆
3"		△/★/☆	△/★/☆	△/★/☆
4"		△/★/☆	△/★/☆	△/★/☆
5"		△/★/☆	△/★/☆	△/★/☆
6"		△/★/☆	△/★/☆	△/★/☆
8"		△/★/☆	△/★/☆	△/★/☆
10"		△/★/☆	△/★/☆	△/★/☆
12"		△/★/☆	△/★/☆	△/★/☆
14"		△/★/☆	△/★/☆	△/★/☆
16"		△/★/☆	△/★/☆	△/★/☆
18"		△/★/☆	△/★/☆	△/★/☆
20"		△/★/☆	△/★/☆	△/★/☆
24"		△/★/☆	△/★/☆	△/★/☆
28"		△/★/☆	/	/
30"		△/★/☆	/	/
32"		△/★/☆	/	/
36"		△/★/☆	/	/
40"		△/★/☆	/	/
42"		△/★/☆	/	/
48"		△/★/☆	/	/
56"		△/★/☆	/	/
60"		△/★/☆	/	/
64"		/	/	/
72"		/	/	/
80"		/	/	/
88"		/	/	/
96"		/	/	/
104"		/	/	/
112"		/	/	/
120"		/	/	/

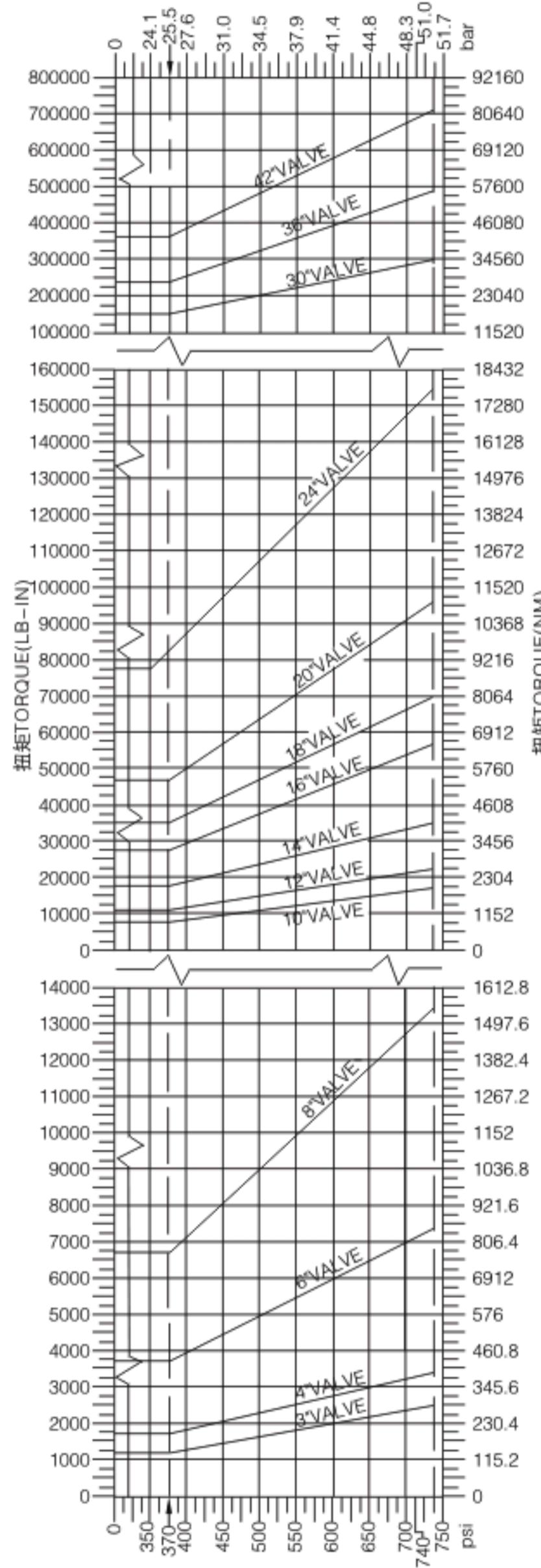
Note: ●Stands for handle operated valves △Stands for gearbox operated valves ★Stands for air operated valves
/ Stands for no option of this Those not covered in the table can be custom made to users' requirements. ★ Stands for electrically operated valves

Reference Moment Diagram of Triple Eccentric Butterfly Valve

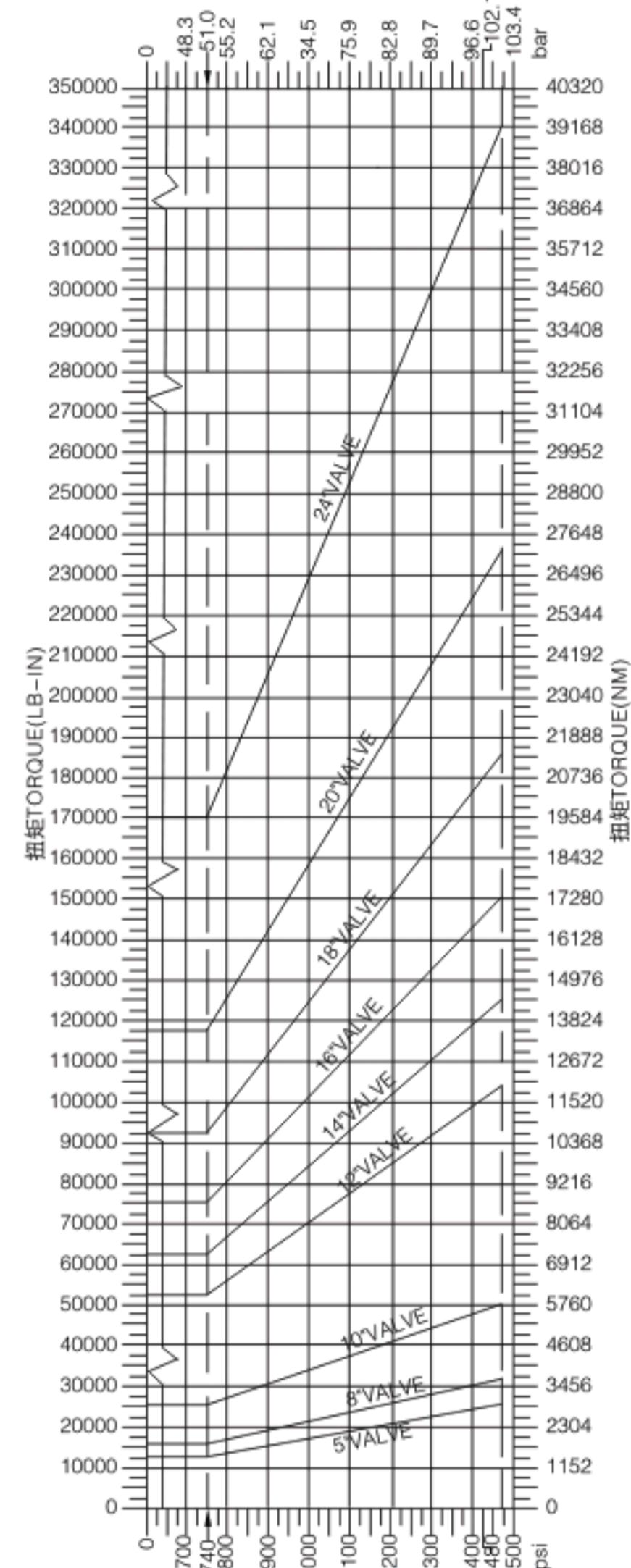
The following graphic torque is used for reference to choose the actuators of ANSI valves. According to the property of medium, trims and open–close frequency of valve shall be considered as extra factors.



Class 150



Class 300



Class 600

Triple Offset Butterfly Valve Torques (NM)

Size(mm) NPS	Pressure		
	285PSI	740PSI	1480PSI
2"	-	-	-
2 1/2"	69	123	213
3"	174	271	460
4"	250	395	834
5"	283	548	979
6"	473	825	2938
8"	674	1503	3616
10"	983	1887	5649
12"	2022	2508	11863
14"	2520	4158	14123
16"	3175	6271	17061
18"	4239	7864	21015
20"	5531	10361	26551
24"	6011	17559	38415
28"	-	-	-
30"	12654	33105	-
32"	-	-	-
36"	18078	52877	-
40"	24179	-	-
42"	24857	80219	-
48"	36155	-	-

Flow Coefficients (Cv Values)

Flow coefficient is an index to measure the flow capacity of a valve. A higher value of flow coefficient means less pressure loss of fluid passing through the valve. The value of flow coefficient varies according to the dimensions, type and structure of valve. Valves of different types and specifications shall be tested separately to make sure of their values of flow coefficient. Regarding valves of the same structure, flow coefficient varies according to the flow direction of fluid through the valve. Generally, these differences are caused by different pressure recoveries.

The table below is the flow coefficient of double eccentric butterfly valve. used for reference to choose valve flow coefficient. 'Cv' stands for the American gallons flowing through the valve per minute under 1 pound/inch² (0.006894757MPa) pressure drop +60° F(+16°C) water.

Triple Offset Butterfly Valve Torques (NM)

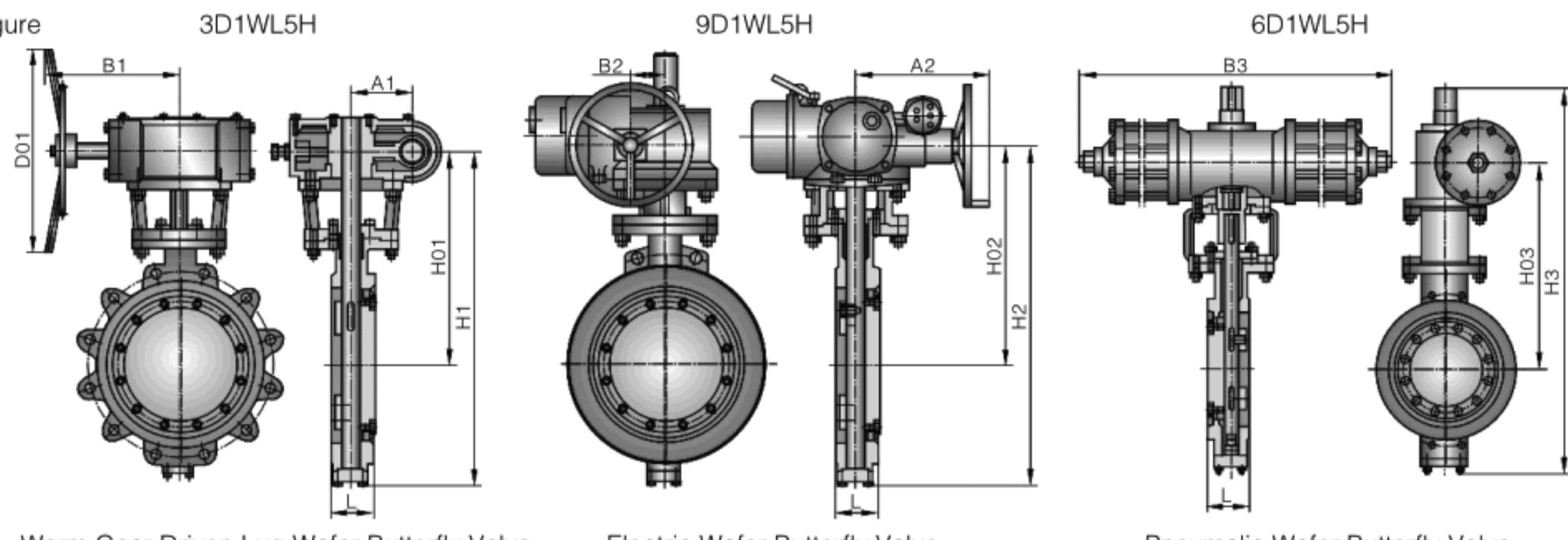
Size(mm) NPS	Pressure		
	Class150	Class300	Class600
2"	93	93	52
2½"	133	133	78
3"	188	188	120
4"	343	343	228
5"	400	400	346
6"	930	868	744
8"	1812	1678	1450
10"	2750	2500	2125
12"	3900	3510	2730
14"	5515	4942	4217
16"	8440	7596	6487
18"	11285	10394	8874
20"	14092	12965	11071
24"	20587	18962	16188
28"	-	-	-
30"	33700	29600	-
32"	-	-	-
36"	50470	42700	-
40"	64000	-	-
42"	71100	58100	-
48"	95740	-	-
54"	120750	-	-
56"	-	-	-
60"	147000	-	-

For sizes and classes not shown, please contact our Sales Department

Triple Offset Wafer Butterfly Valve
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Figure



Worm Gear Driven Lug Wafer Butterfly Valve

Electric Wafer Butterfly Valve

Pneumatic Wafer Butterfly Valve

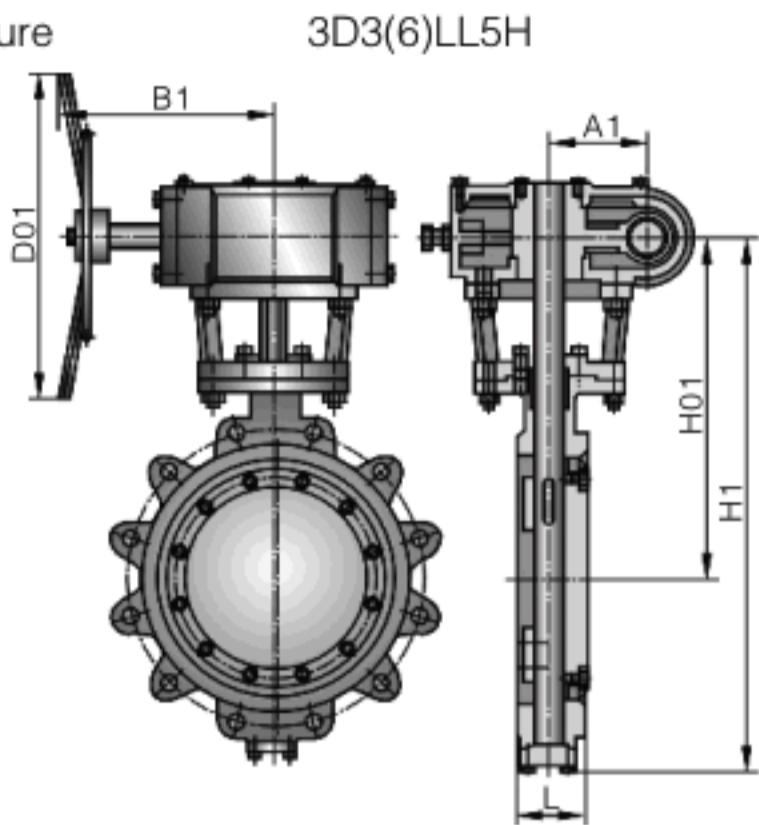
Main Outline Dimensions & Weight

CLASS 150

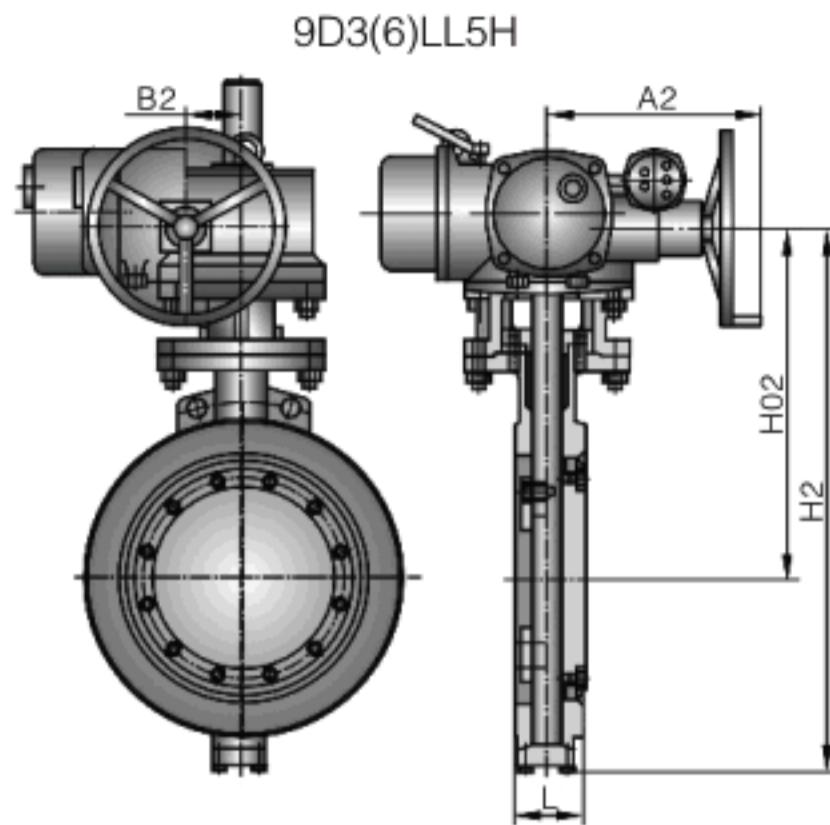
NPS	L	Pneumatic			Worm gear actuation					Electric				Weight (kg)	
		H ₃	H ₀₃	B ₃	H ₁	H ₀₁	B ₁	A ₁	D ₀₁	H ₂	H ₀₂	B ₂	A ₂	WF	WL
3"	49	-	-	-	320	185	140	63	160	513	263	178	180	9	9
4"	54	-	-	-	342	195	140	63	160	535	282	178	180	11	14
5"	57	-	-	-	365	209	140	63	300	563	293	178	180	15	18
6"	58	-	-	-	415	243	140	63	300	602	322	178	180	17	20
8"	64	690	323	275	510	263	150	84	400	745	296	235	370	25	31
10"	71	750	355	275	567	295	150	84	400	805	325	235	370	40	49
12"	81	955	475	378	665	342	200	108	600	883	365	235	370	61	79
14"	92	1032	513	378	739	385	200	108	600	965	408	235	370	82	107
16"	102	1182	598	530	825	430	240	152	600	1033	443	235	370	123	150
18"	114	1265	635	530	910	469	240	152	800	1120	485	235	370	150	182
20"	127	1335	667	530	990	500	300	168	800	1186	518	235	370	204	253
24"	154	1642	830	680	1210	618	320	192	800	1380	625	235	370	300	398
30"	167	1823	1245	680	1453	875	512	279	400	1583	1005	245	515	454	490
36"	184	2145	1329	860	1775	939	512	279	400	1905	1089	245	515	762	771
40"	217	2235	1488	860	1857	1005	512	279	400	2010	1110	360	540	975	1179
42"	222	2360	1456	860	1980	1086	512	279	400	2120	1216	360	540	1234	1338
46"	254	2445	1505	1080	2070	1110	570	368	600	2175	1260	360	540	1451	1724
48"	254	2535	1564	1080	2165	1194	570	368	600	2235	1324	360	540	1678	1928
54"	305	-	-	-	2382	1477	630	425	800	2412	1503	445	628	2223	2631
64"	333	-	-	-	2684	1617	630	425	800	2699	1687	445	628	2903	3447

Note: The weight in the table is that without drive unit. WF is wafer butterfly valve, and WL is lug wafer butterfly valve.

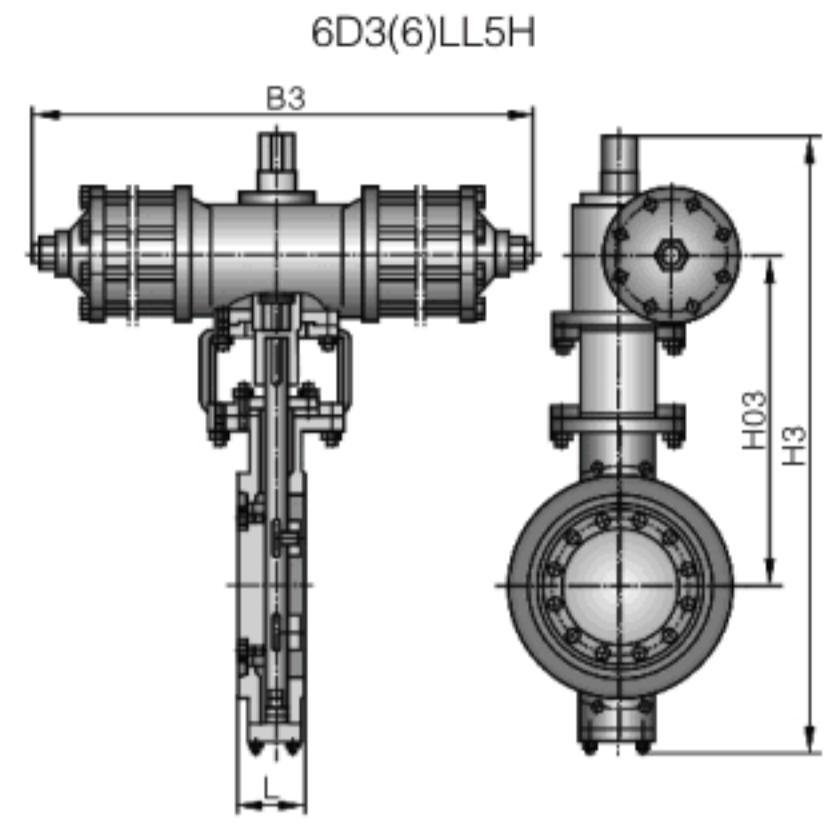
Figure



Worm Gear Driven Lug Wafer Butterfly Valve



Electric Wafer Butterfly Valve



Pneumatic Wafer Butterfly Valve

Main Outline Dimensions & Weight

CLASS 300

NPS	L	Pneumatic			Worm gear actuation					Electric				Weight (kg)	
		H ₃	H ₀₃	B ₃	H ₁	H ₀₁	B ₁	A ₁	D ₀₁	H ₂	H ₀₂	B ₂	A ₂	WF	WL
3"	49	—	—	—	320	185	140	63	160	513	263	178	180	13.5	15.5
4"	54	—	—	—	342	195	140	63	160	535	282	178	180	18	21
5"	57	—	—	—	365	209	140	63	300	563	293	178	180	24	28
6"	59	—	—	—	415	243	140	63	300	602	322	178	180	28	34
8"	73	750	368	275	510	263	150	84	400	745	296	235	370	49	60
10"	83	909	442	378	567	295	150	84	400	805	325	235	370	68	88
12"	92	1075	535	530	665	342	200	108	600	883	365	235	370	109	117
14"	117	1158	572	530	739	385	200	108	600	965	408	235	370	186	207
16"	133	1230	610	530	825	430	240	152	600	1033	443	235	370	264	308
18"	149	1462	736	680	910	469	240	152	800	1120	485	235	370	297	408
20"	159	1328	765	680	990	500	300	168	800	1186	518	235	370	363	468
24"	181	—	—	—	1210	618	320	192	800	1380	625	235	370	454	748
30"	254	—	—	—	1937	1180	512	279	600	1516	716	360	540	816	1338
36"	305	—	—	—	2198	1298	570	368	600	1669	794	360	540	1429	2154
42"	324	—	—	—	2318	1358	570	368	600	1914	914	360	540	2155	2427

CLASS 600

6"	78	—	—	—	415	243	140	63	300	602	322	178	180	45	56
8"	102	750	368	275	510	263	150	84	400	745	296	235	370	70	94
10"	117	909	442	378	567	295	150	84	400	805	325	235	370	103	141
12"	140	1075	535	530	665	342	200	108	600	883	365	235	370	149	201
14"	155	1158	572	530	739	385	200	108	600	965	408	235	370	243	333
16"	178	1230	610	530	825	430	240	152	600	1033	443	235	370	318	401
18"	200	—	—	—	910	469	240	152	800	1120	485	235	370	431	575
20"	216	—	—	—	990	500	300	168	800	1186	518	235	370	472	708
24"	232	—	—	—	1210	618	320	192	800	1380	625	235	370	826	1061

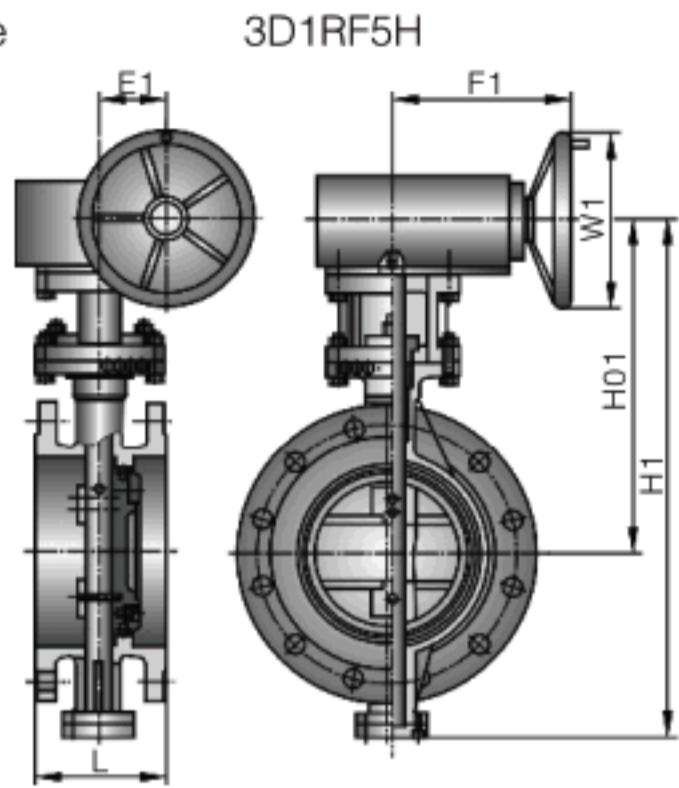
Note: The weight in the table is that without drive unit. WF is wafer butterfly valve, and WL is lug wafer butterfly valve.

Triple Offset Flange Butterfly Valve

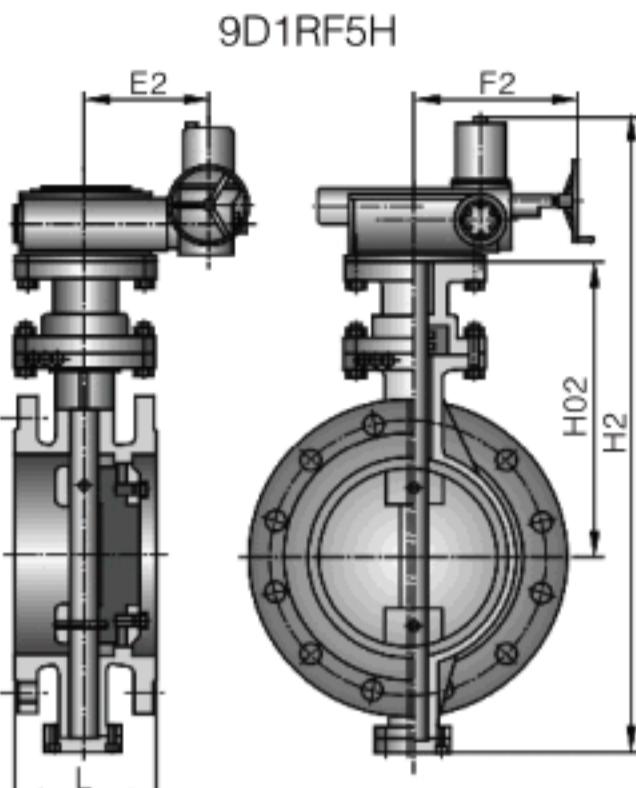
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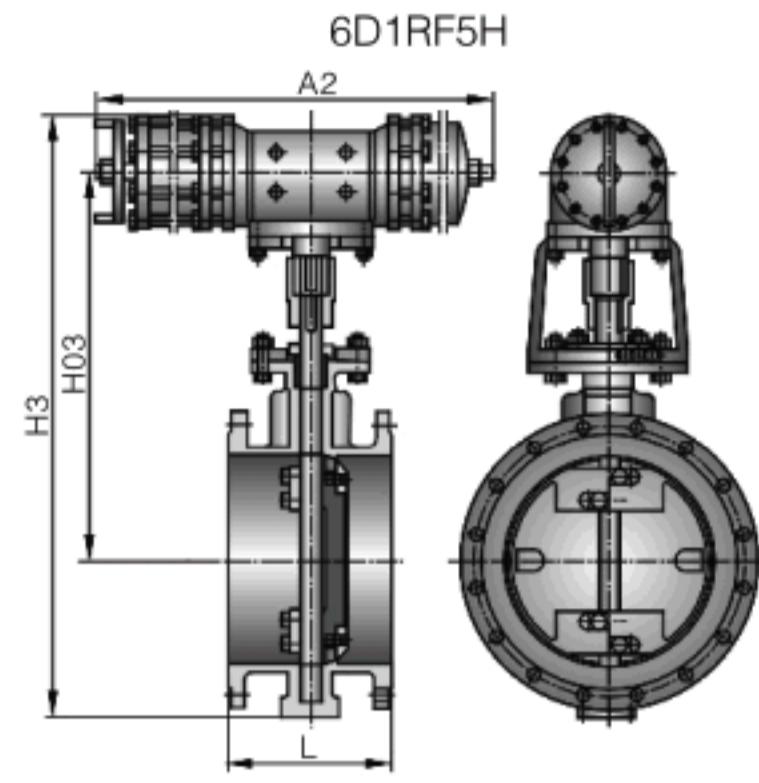
Figure



Worm Gear Driven Flanged Butterfly Valve



Electric Flanged Butterfly Valve



Pneumatic Flanged Butterfly Valve

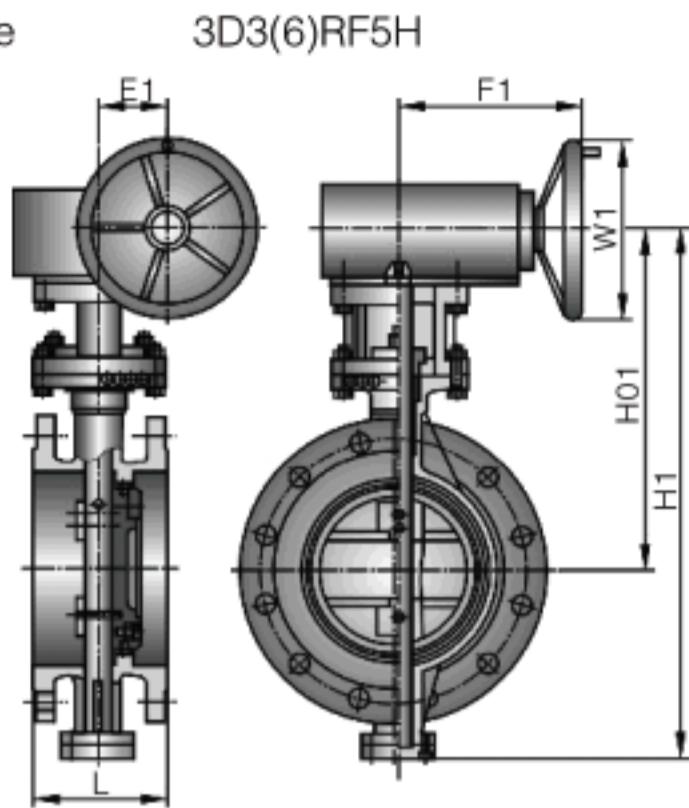
Main Outline Dimensions & Weight

CLASS 150

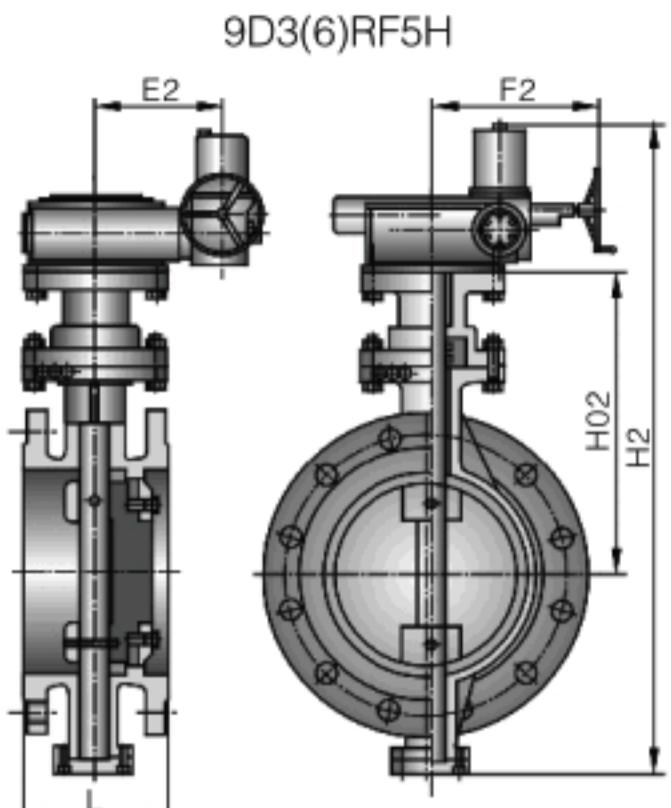
NPS	L	Worm gear actuation					Electric				Pneumatic			Weight (kg)
		H ₁	H ₀₁	E ₁	F ₁	W ₁	H ₂	H ₀₂	E ₂	F ₂	H ₃	H ₀₃	A ₃	
3"	114	472	350	50	203	203	513	263	180	178	-	-	-	15.4
4"	127	520	386	60	191	203	535	282	180	178	-	-	-	23
5"	140	580	395	60	215	250	563	293	180	178	-	-	-	29
6"	140	653	475	67	289	305	602	322	180	178	-	-	-	33
8"	152	773	565	67	308	460	745	296	370	235	690	323	275	50
10"	165	880	640	86	346	460	805	325	370	235	750	355	275	73
12"	178	989	711	111	403	610	883	365	370	235	955	475	378	108
14"	190	1044	760	60	601	356	965	408	370	235	1032	513	378	143
16"	216	1142	826	60	605	457	1033	443	370	235	1182	598	530	186
18"	222	1228	887	60	652	610	1120	485	370	235	1265	635	530	234
20"	229	1337	959	60	805	762	1186	518	370	235	1335	667	530	277
24"	267	1554	1109	103	763	762	1380	625	370	235	1642	830	680	408
28"	292	1456	956	245	400	315	1587	745	515	245	1711	859	680	653
30"	308	1541	991	310	460	400	1650	777	515	245	1782	910	680	816
32"	318	1611	1036	310	460	400	1717	810	515	245	1856	942	680	914
36"	330	1743	1103	410	480	400	1870	875	540	360	1920	975	680	1157
40"	410	1868	1173	410	480	400	2030	965	540	360	-	-	-	1610
44"	450	1968	1223	410	480	400	2078	1022	540	360	-	-	-	2160
48"	470	2145	1320	520	640	400	2188	1100	540	360	-	-	-	2359
52"	490	2300	1405	520	640	400	2214	1150	565	385	-	-	-	2720
56"	530	2440	1475	520	640	400	2328	1325	565	385	-	-	-	3353
60"	570	2594	1559	450	785	630	2530	1515	565	385	-	-	-	3629

Note: Structural length of valves in the table: 300Lb, to ISO5752 13 series; 600Lb, to ISO5752 14 series.

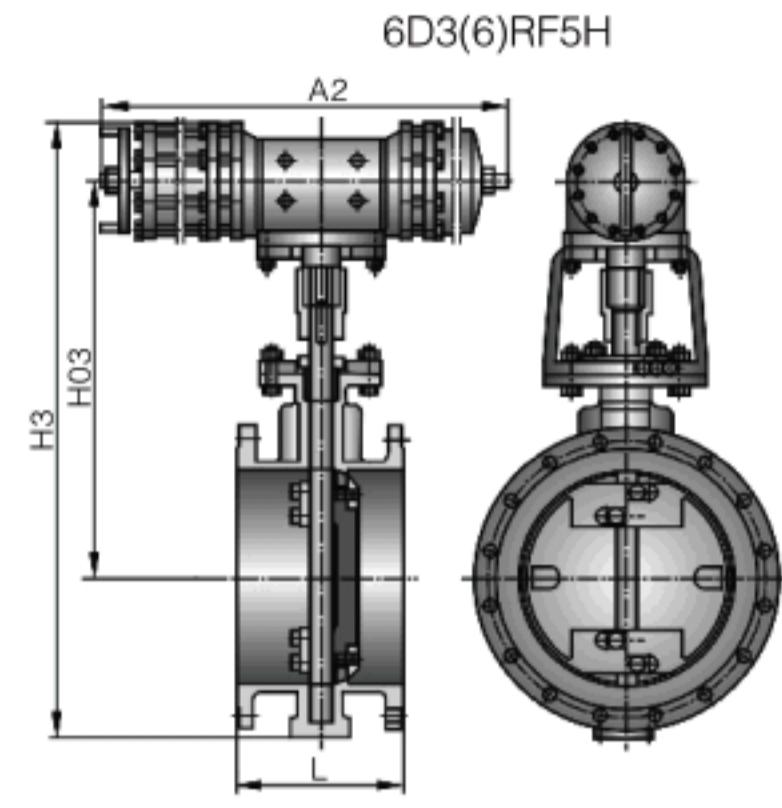
Figure



Worm Gear Driven Flanged Butterfly Valve



Electric Flanged Butterfly Valve



Pneumatic Flanged Butterfly Valve

Main Outline Dimensions & Weight

CLASS 300

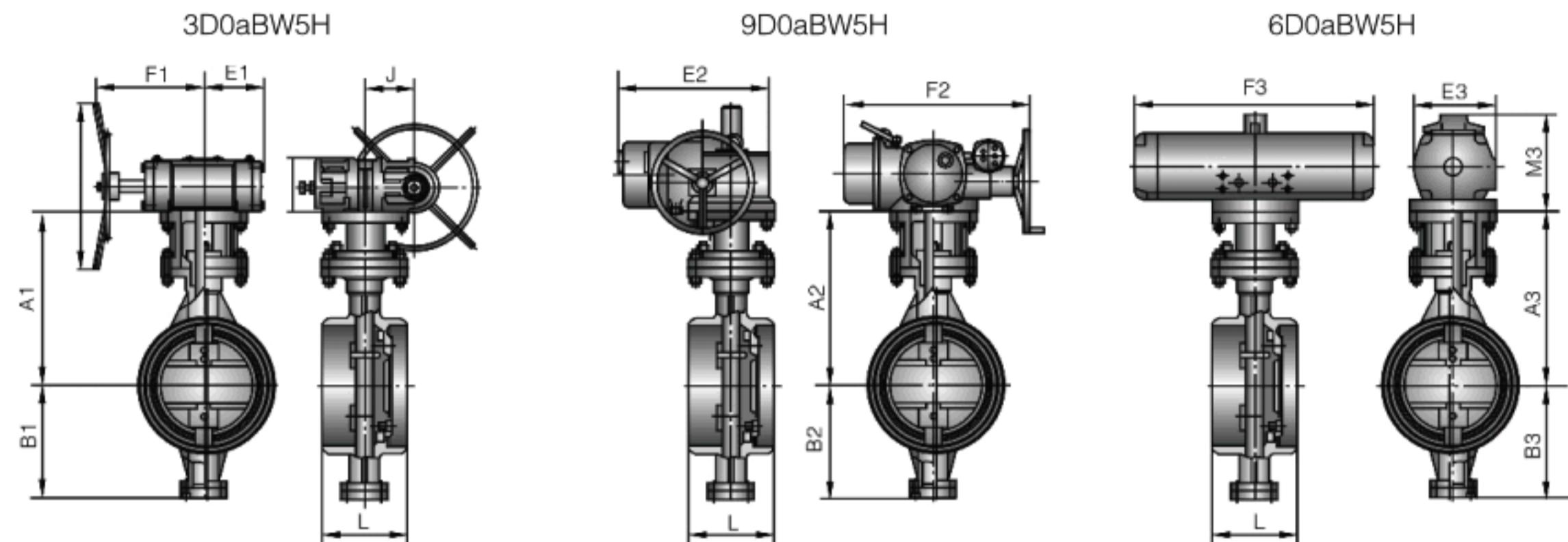
DN	L	Worm gear actuation					Electric				Pneumatic			Weight(kg)		
		H1	H01	E1	F1	W1	H2	H02	E2	F2	H3	H03	A3	Worm gear	Electric	Pneumatic
2"	108	365	237	35	169	152	407	237	180	178	—	—	—	19	27	—
3"	114	378	253	73	229	152	530	253	180	178	—	—	—	29	43	—
4"	127	421	274	73	229	305	552	274	180	178	—	—	—	39	51	—
5"	140	482	312	73	229	305	580	312	180	178	—	—	—	48	58	—
6"	140	543	351	108	254	305	610	351	180	178	—	—	—	54	67	—
8"	152	628	392	108	254	305	755	392	370	235	750	368	275	84	107	—
10"	165	855	480	133	305	610	816	480	370	235	909	442	378	118	150	—
12"	178	812	515	133	305	610	912	515	370	235	1075	535	530	170	225	—
14"	191	885	555	194	356	610	980	555	370	235	1158	572	530	231	266	—
16"	216	951	590	194	356	356	1057	590	370	235	1230	610	530	299	369	—
18"	225	1106	636	194	356	356	1140	636	370	235	1462	736	680	390	429	—
20"	229	1308	685	194	356	356	1243	685	515	245	1328	765	680	499	590	—
24"	267	1445	934	165	686	686	1420	934	817	351	—	—	—	726	766	—
28"	292	1495	1039	165	686	686	1812	1039	817	351	—	—	—	1360	—	—
30"	292	1535	1060	165	686	686	1906	1060	817	351	—	—	—	1429	—	—
32"	318	1575	1120	165	686	686	2021	1120	817	351	—	—	—	1757	—	—
36"	330	1605	1190	165	686	686	2327	1190	973	440	—	—	—	2223	—	—
40"	410	1755	1234	165	686	686	2451	1234	973	440	—	—	—	2531	—	—
42"	430	2100	1385	429	805	903	2515	1385	973	440	—	—	—	2781	—	—
44"	450	2175	1436	429	805	903	2565	1436	973	440	—	—	—	2979	—	—
48"	470	2303	1570	399	965	903	2697	1570	973	440	—	—	—	3602	—	—

CLASS 600

3"	180	541	414	63	140	250	606	295	180	178	—	—	—	82	79	—
4"	190	607	447	63	140	250	650	358	180	178	—	—	—	125	96	—
5"	200	680	395	108	200	250	695	371	180	178	—	—	—	165	154	—
6"	210	686	490	152	240	315	743	387	180	178	—	—	—	191	172	—
8"	230	757	536	168	300	315	1055	417	370	235	—	—	—	247	248	—
10"	250	867	641	192	320	315	1172	465	370	235	—	—	—	413	308	—
12"	270	1034	727	237	368	400	1392	546	515	245	—	—	—	576	467	—
14"	290	1087	757	237	368	400	1475	579	515	245	—	—	—	664	585	—
16"	310	1216	825	237	368	400	1557	643	540	360	—	—	—	971	807	—
18"	330	1240	840	269	559	400	1625	673	540	360	—	—	—	1117	1003	—
20"	350	1330	978	350	645	400	1679	701	540	360	—	—	—	1639	1139	—
24"	390	1583	1070	350	645	400	1834	775	540	360	—	—	—	2082	1767	—

Note: Structural length of valves in the table: 300Lb, to ISO5752 13 series; 600Lb, to ISO5752 14 series.

Figure



Worm Gear Driven Butt-welded Butterfly Valve

Electric Butt-welded Butterfly Valve

Pneumatic Butt-welded Butterfly Valve

Main Outline Dimensions & Weight

CLASS150

DN	L	Worm gear actuation							Electric				Pneumatic					Weight(kg)		
		A1	B1	M1	E1	F1	J	D01	A2	B2	E2	F2	A3	B3	E3	F3	M3	Worm gear	Electric	Pneumatic
3"	114	295	135	115	84	198	84	200	295	135	513	467	295	135	115	344	140	32	37	-
4"	127	305	155	115	84	198	84	200	305	155	513	467	305	155	115	344	140	35	39	-
5"	140	322	167	115	84	198	84	200	322	167	513	467	322	167	126	4390	175	39	42	-
6"	140	366	170	115	94	211	84	250	366	170	525	475	366	170	150	450	187	43	43	-
8"	152	396	198	134	117	267	145	250	396	198	580	470	396	198	280	762	270	60	57	-
10"	165	429	231	134	175	254	114	315	429	231	635	560	429	231	330	900	305	90	80	-
12"	178	483	269	159	175	254	114	315	483	269	705	560	483	269	405	1182	385	107	104	-
14"	190	498	297	159	239	404	145	315	498	297	765	615	498	297	405	1182	385	153	141	-
16"	216	579	333	163	239	404	145	315	579	333	825	615	579	333	405	1182	385	207	197	-
18"	222	630	366	163	239	404	191	315	630	366	875	820	630	366	445	1292	410	267	247	-
20"	229	655	394	163	300	465	191	400	655	394	930	820	655	394	445	1292	410	327	307	-
24"	267	744	452	185	300	465	191	400	744	452	1040	820	744	452	500	1442	465	473	427	-
28"	292	790	511	185	300	465	191	400	790	511	1155	945	790	511	630	1865	500	653	667	-
30"	308	815	536	220	300	559	269	400	815	536	1225	945	815	536	630	1865	500	760	773	-
32"	318	874	577	220	300	559	269	400	874	577	1275	945	874	577	630	1865	500	1033	1047	-
36"	330	899	602	255	300	559	269	400	899	602	1375	1145	899	602	-	-	-	1200	1213	-
40"	410	1064	696	255	300	559	269	400	1064	696	1490	1145	1064	696	-	-	-	1487	1500	-
42"	430	1092	721	255	300	559	335	400	1092	721	1550	1335	1092	721	-	-	-	1640	1637	-
44"	450	1148	731	255	300	572	335	400	1148	731	1600	1335	1148	731	-	-	-	1800	1813	-
48"	470	1270	800	320	300	572	335	400	1270	800	1715	1370	1270	800	-	-	-	2007	2020	-
52"	490	1314	850	320	425	635	365	500	1314	850	1835	1370	1314	850	-	-	-	2720	2733	-
56"	530	1384	895	320	425	635	365	500	1384	895	2005	1425	1384	895	-	-	-	2980	2993	-
60"	570	1504	1025	355	425	635	365	500	1504	1025	2115	1425	1504	1025	-	-	-	3387	3420	-

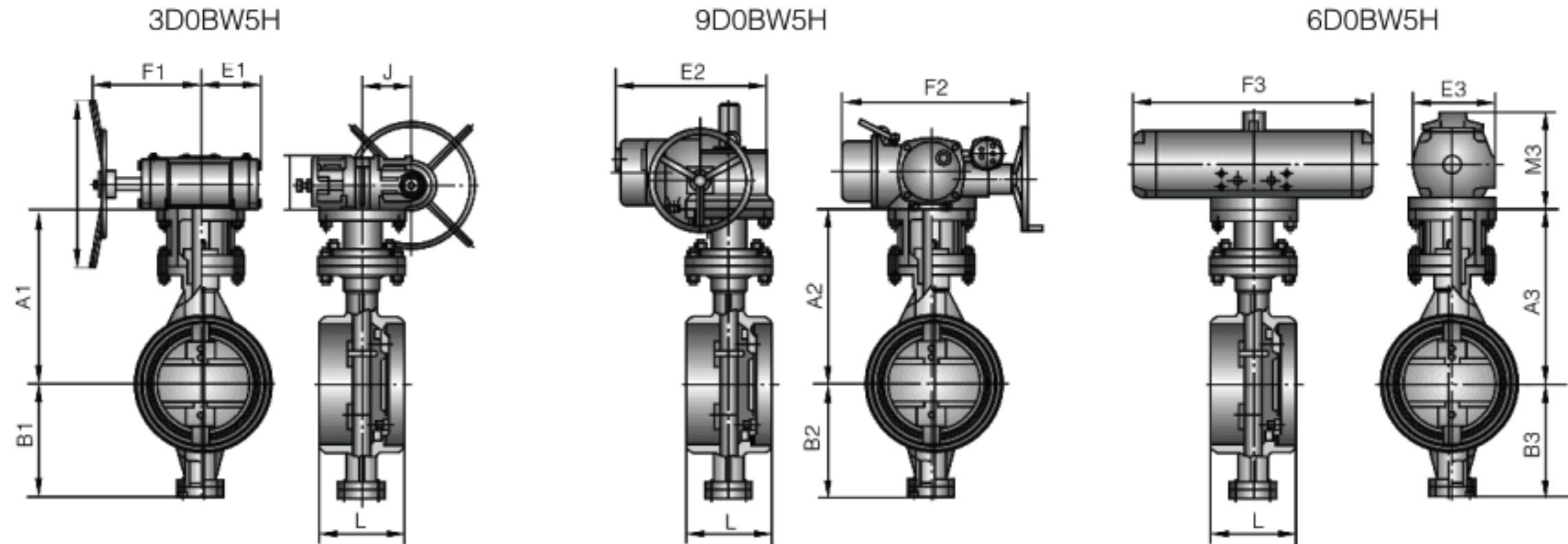
Note: 1. The structural length of valve to ISO5752 14 series.

2. Welding groove to GB/T12224 specifications.

Triple Offset Flange Butterfly Valve

ZHEJIANG SEDELON VALVE CO., LTD.

Figure



Worm Gear Driven Butt-welded Butterfly Valve

Electric Butt-welded Butterfly Valve

Pneumatic Butt-welded Butterfly Valve

Main Outline Dimensions & Weight

CLASS300

DN	L	Worm gear actuation							Electric				Pneumatic					Weight(kg)		
		A1	B1	M1	E1	F1	J	D ₀₁	A ₂	B ₂	E ₂	F ₂	A ₃	B ₃	E ₃	F ₃	M ₃	Worm gear	Electric	Pneumatic
3"	114	295	132	114	84	198	84	200	295	132	467	513	295	132	126	390	175	34	—	—
4"	127	358	150	114	84	198	84	200	358	150	467	513	358	150	150	450	187	44	—	—
5"	140	365	167	168	117	267	145	250	365	167	467	513	365	167	280	762	270	58	—	—
6"	140	389	188	163	175	254	114	315	389	188	564	523	389	188	330	900	305	73	—	—
8"	152	417	221	163	175	254	114	315	417	221	615	544	417	221	405	1182	385	132	—	—
10"	165	465	252	185	239	404	145	315	465	252	615	544	465	252	405	1182	385	151	—	—
12"	178	546	290	185	239	404	145	315	546	290	823	513	546	290	405	1182	385	257	—	—
14"	190	579	318	221	300	465	191	400	579	318	823	513	579	318	445	1292	410	286	—	—
16"	216	642	368	221	300	465	191	400	642	368	945	513	642	368	445	1292	410	416	—	—
18"	222	673	396	221	300	465	191	400	673	396	945	544	673	396	500	1442	465	497	—	—
20"	229	701	422	254	300	559	269	400	701	422	945	544	701	422	500	1442	465	571	—	—
24"	267	775	495	254	399	559	269	400	775	495	945	544	775	495	630	1865	500	881	—	—
28"	292	904	559	305	510	648	351	400	904	559	1158	826	904	559	630	1865	500	1320	—	—
30"	308	963	594	305	510	648	351	400	963	594	1158	826	963	594	—	—	—	1478	—	—
32"	318	1054	617	305	510	648	351	400	1054	617	1158	826	1054	617	—	—	—	1699	—	—
36"	330	1161	676	368	615	805	429	630	1161	676	1420	1039	1161	676	—	—	—	2379	—	—
40"	410	1242	719	368	615	805	429	630	1242	719	1420	1039	1242	719	—	—	—	2427	—	—
42"	430	1285	739	368	615	805	429	630	1285	739	1420	1039	1285	739	—	—	—	2685	—	—
44"	450	1310	764	368	615	805	429	630	1310	764	1420	1039	1310	764	—	—	—	2932	—	—
48"	470	1374	833	434	765	965	399	630	1374	833	1730	1069	1374	833	—	—	—	3545	—	—

CLASS600

3"	180	343	127	135	94	211	81	250	343	127	564	523	343	127	330	900	305	75	—	—
4"	190	371	160	170	152	267	145	250	371	160	615	544	371	160	405	1182	385	117	—	—
5"	200	388	178	163	175	254	114	315	388	178	615	544	388	178	405	1182	385	154	—	—
6"	210	401	196	163	175	254	114	315	401	196	823	513	401	196	405	1182	385	186	—	—
8"	230	447	221	163	175	254	114	315	447	221	823	513	447	221	445	1292	410	235	—	—
10"	250	544	290	185	239	404	145	315	544	290	945	513	544	290	445	1292	410	398	—	—
12"	270	610	307	220	300	465	191	400	610	307	945	544	610	307	500	1442	465	554	—	—
14"	290	640	330	220	300	465	191	400	640	330	945	544	640	330	500	1442	465	654	—	—
16"	310	701	391	254	400	559	269	400	701	391	945	544	701	391	630	1865	500	935	—	—
18"	330	716	406	254	400	559	269	400	716	406	945	544	716	406	630	1865	500	1085	—	—
20"	350	828	452	305	510	645	351	400	828	452	1158	826	828	452	630	1865	500	1610	—	—
24"	390	920	513	305	510	645	351	400	920	513	1158	826	920	513	—	—	—	1998	—	—

Note: 1. The structural length of valve to ISO5752 14 series.

2. Welding groove to GB/T12224 specifications.