KOFLOW

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FIGURE NUMBER SYSTEM

Butterfly Valve Figure Number System

1 2 3 4 5 6 7 8

1	Size	Xxin; xx, mm					
2	Operation type	1-Bare Stem	3-Worm Gear Operated	6 **-Air Operated	7□-Hydraulic Operated	9-Electric Operated	Manual Operated (omit)
3	Valve Type	D-Butterfly Valve D_H Check Butterfly Valve D_K Vacuum Butterfly Valve D_{TF}-Aeration Butterfly Valve DS- Expansion Butterfly Valve					
4	Pressure	0a-PN0.25	0b-PN0.6	0-PN1.0	1-PN1.6 class150	2-PN2.5	3-class300
		4-PN4.0 class400	6-PN6.4 class600	9-class900	10-PN10.0	1a-class125	2a-class250
5	Connection Ends	RF-Raised Face	FF-Flat Face	MFM-Male and Female Face	RJ-Ring Joint	BW-Buttweld	WS-Wafe with 4 lugs WL-Wafe with no lug WF- Single Reinforcement Wafer Type WU- Unthreaded Hole Wafer Type LL-Full Lug Screw Wafer Type LU-U-U LU-U-U Screw Wafer Type
6	Structure Type	1-Middle eccentric struccture	2-Single eccentric struccture	3-Double eccentric structure	4-Veriable eccentric struccture	5-eccentric struccture	
7	Basic 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- Cr13 S.S	E-18-8 S.S	R-Mo2Ti S.S	F- F-PTFE		
		D-Nitriding Steel	M-Monel Alloy	Y-Hard Face	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 bedecided 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.

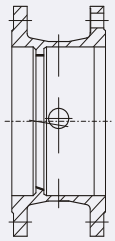
150--3D1RF5CH

Butterfly valve, DN150 PN16, Worm Gear Operated, ANSI CLASS150, RF Flange Ends, Triple eccentric stricture, Body& Disc Cast Steel WCB, 13Cr face Seat.

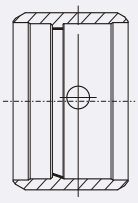
BUTTERFLY VALVE DESIGN FEATURES

Butterfly valves are used to open and close (seal type) or adjust the medium flow in pipes in the fields of food stuff, 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.

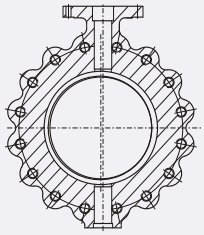


Flanged Connection



Butt-welded Connection

Wafer Connection

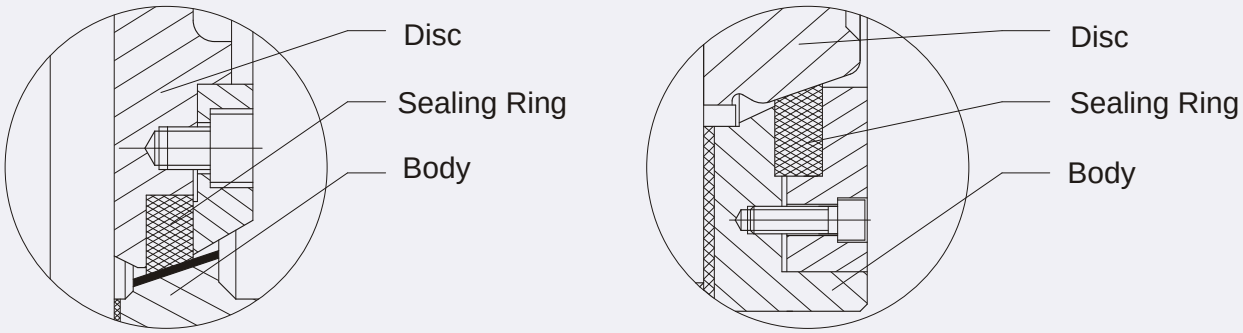


Lug Wafer Connection

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

1) Soft sealing structure (see fig. a), is applicable for singleand double eccentric butterfly valves, pressure rating CLASS600. Centered sealing structure is applicable for pressure ating ≤CLASS 250. Sealing ring (PTFE) is placed on the valve body to feature the following:

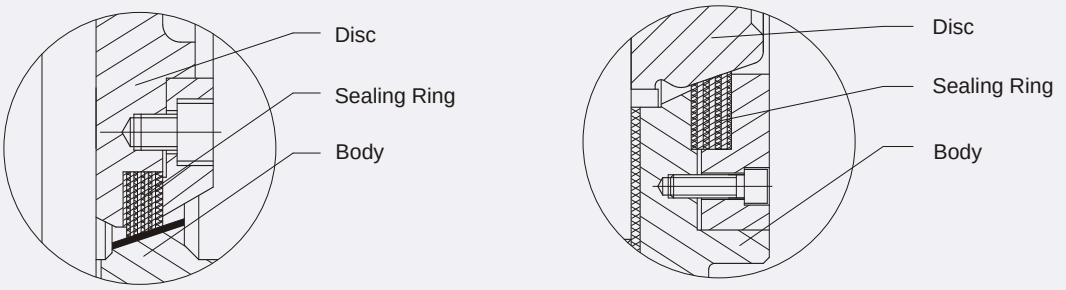
a) To effect dependable seal with no need of accessorial sealingring or metal bracing ring.
b) Bidirectional leakproof seal.
c) Little maintenance and long service life.



Soft Sealing Structure (fig.a)

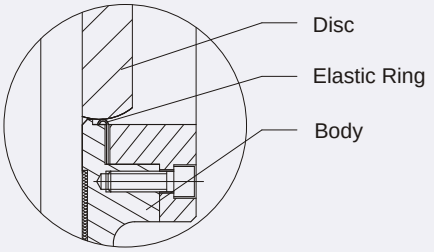
BUTTERFLY VALVE DESIGN FEATURES

2) Multilayer Hard Seal Structure (See fig. b)
Multilayer hard seal structure is applicable for single, double and triple eccentric butterfly valves, pressure rating ≤CLASS600. 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.



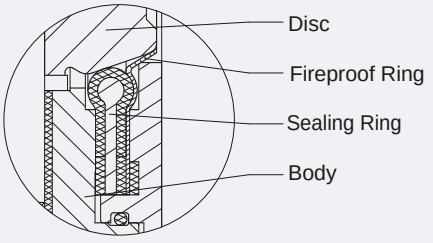
Multilayer Hard Seal Structure (fig.b)

3) Elastic ring hard seal structure (see fig. c) is of the structure of J-type metal sealing ring. It is applicable for single and double eccentric butterfly valves, pressure rating ≤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 (fig.c)

3、Fireproof butterfly valves (see fig. d) 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.



Soft Seal Fireproof Structure (fig.d)

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

5、Low driving moment, easy and quick operation.

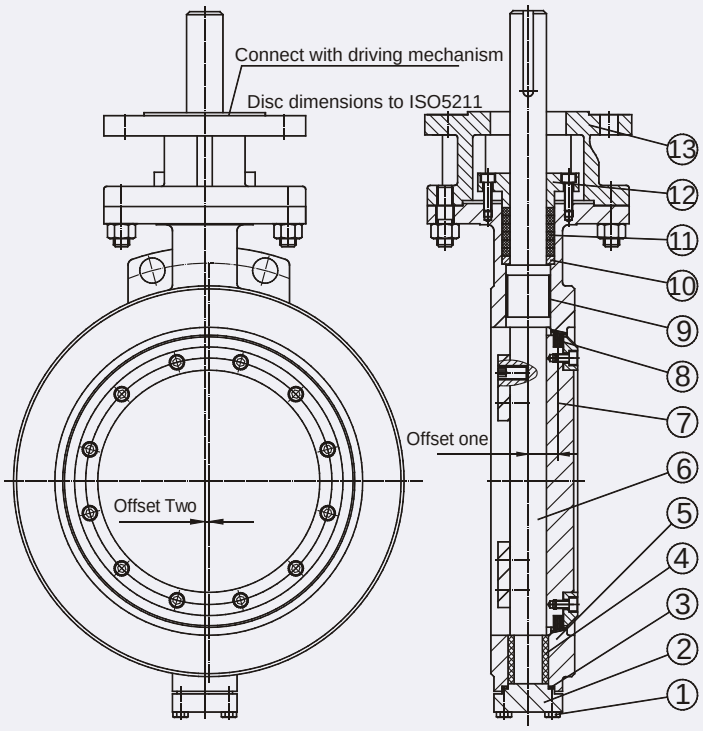
VARIBLE ECCENTRIC BUTTERFLY VALVE

Sealing Principle of Varible Eccentric Butterfly Valve

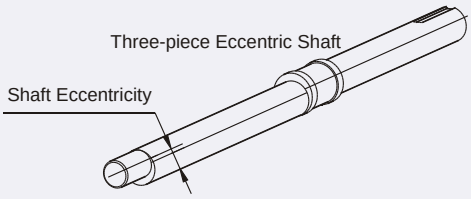
Under the force of eccentric shaft, when tending to be closed, disc will move somewhat toward the sealing conical surface of the seat, and then engaged to perform dependable sealing.

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.

Structural Diagram of varible 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.

Variable Eccentric Butterfly Valve(Materials list)

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	Graphite	PTFE
12	Packing Bushing	SS	SS
13	Yoke	Carbon Steel	-

VARIBLE ECCENTRIC BUTTERFLY VALVE

Type of Body Connection

The connection between body and pipe of variable eccentric butterfly valve can be double flanged, wafered and lug wafered.

Moment of Variable Eccentric Butterfly Valve \ Flow Coefficient \Overall Connection Dimensions (Refer to double eccentric butterfly valve)

Variable Eccentric t Butterfly Valve Product Line

Size (mm)		Pressure					
DN	NPS	PN0.1MPa	PN0.2MPa	PN0.6MPa	PN1.0MPa	PN1.6MPa	PN2.5MPa
50	2"	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆
65	2-1/2"	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆
80	3"	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆
100	4"	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆
125	5"	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆
150	6"	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆	●/△/★/☆
200	8"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆
250	10"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆
300	12"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆
350	14"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆
400	16"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆
450	18"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	/
500	20"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	/
600	24"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	/
700	28"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	/
800	32"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	/
900	36"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	/
1000	40"	△/★/☆	△/★/☆	△/★/☆	△/★/☆	△/★/☆	/
1200	48"	△/★/☆	△/★/☆	△/★/☆	/	/	/
1400	56"	△/★/☆	△/★/☆	△/★/☆	/	/	/
1500	60"	△/★/☆	△/★/☆	△/★/☆	/	/	/
1600	64"	△/★/☆	△/★/☆	△/★/☆	/	/	/
1800	72"	△/★/☆	△/★/☆	△/★/☆	/	/	/
2000	80"	△/★/☆	△/★/☆	△/★/☆	/	/	/

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.

Technical Specification

Design Standard		GB/T12238					
Pressure-Temperature Rating		GB/T12224					
Face-Face		GB/T12221					
Flange Ends		GB/T9113 、JB/T79					
Inspection &Test		JB/T9092 、GB/T13927					
NorminalPressure(MPa)		0.1	0.25	0.6	1.0	1.6	2.5
Test Pressure	Shell Test	0.2	0.4	0.9	1.5	2.4	3.75
	High Pressure Seal Test	0.11	0.275	0.66	1.1	1.76	2.75
Applicable Temperature		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.