

High Performance Lined Butterfly Valve

Patent No.: ZL201420018183.5
ZL201430041568.9

※Product Description

- The lined butterfly valves bi-directional flow is possible at maximum operating pressure. Since the valve port corresponds to the piping diameter, a high flow capacity is guaranteed.
- It features ease of maintenance, repeatable on-off, long life durability.
- The concentric design is commonly used in the power generation, brewing, water and food industries and suitable for both gaseous and liquid service. Typically applied in chemical/petrochemical process, food and beverage, and pulp and paper etc.
- Lining material: PTFE, PFA, FEP, GXPO etc.
- Connection type: wafer, flange, lug etc.
- Operation methods: manual, worm gear, electric, pneumatic and hydraulic actuator.
- Youfumi lined butterfly valves are available as per the needs of applications in additional sizes and other than standard materials.



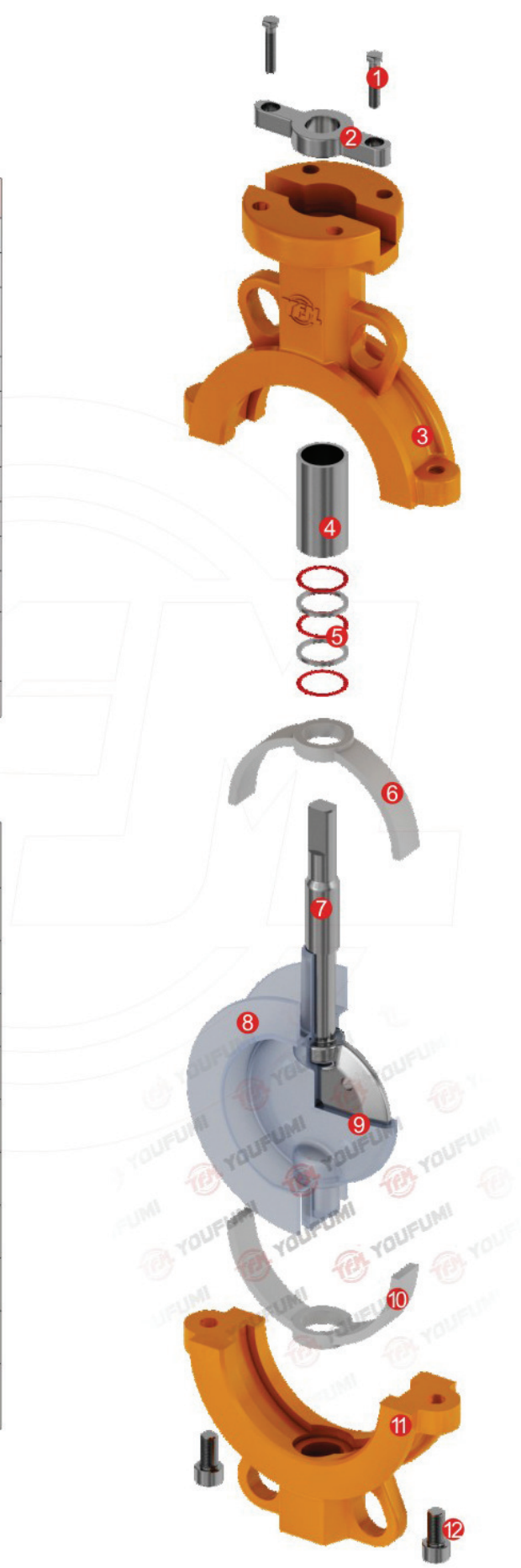
※ Material Specification

No.	Name	Material		
1	Bolt	A193 B7	A320 B8	A193 B8M
2	Plate	A351 CF8		
3	Upper body	A216 WCB	A351 CF8 A351 CF8M	A351 CF3 A351 CF3M
4	Steel sleeve	SS304		
5	O-ring	VITON, VITON+PFA		
6	Elastomer backing	Silicone rubber, VITON		
7	Stem	SS410 SS420 17-4PH		
8	Seat	PFA FEP		
9	Disc	SS304/SS316+Lining material		
10	Elastomer backing	Silicone rubber, VITON		
11	Downside body	A216 WCB	A351 CF8 A351 CF8M	A351 CF3 A351 CF3M
12	Body bolt	A193 B7	A320 B8	A193 B8M

※ Technical Specification

Design & Manufacture Standard	HG/T3704, GB/T 12238	API 608		
Face-to-face Dimension	HG/T 3704, GB/T 12221	ASME B16.10		
Flange Standard	HG/T 20592, GB/T 9119	ASME B16.5 JIS B2220		
Inspection & Test Standard	GB/T 13927, JB/T 9092	API 598		
Nominal Diameter	DN50-DN500	2"-20"		
Nominal pressure (MPa)	1.0	1.6	150Lb	
Pressure Test (MPa)	Shell Test	1.5	1.5	1.5
	High pressure sealing	1.1	1.1	1.1
	Low pressure sealing	0.6	0.6	0.6
Temperature Range (°C)	PFA: -30~200		FEP: -30~150	
Applicable Medium	Strong corrosive medium i.e. hydrochloric acid, Nitric acid, Hydrofluoric acid, Liquid chlorine, Sulfuric Acid and Aqua regia etc.			

Note: Test standard refers general valve standard, high pressure should be customized for processing.

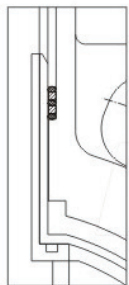


High Performance Lined Butterfly Valve

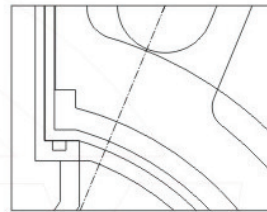
※ Note

The disc should be opened from angle 5-10° if not working.
 The valve should be stocked indoor, and the prior temperature range is 0-25°C(40-80°F).
 If stock in house, the valve should open and close every three month.
 To make sure no heavy loading on valve when transported and being stocked.
 It is better to install lined butterfly valve in vertical position and make the actuator directly installed in the upside of butterfly valve, generally no inversion installed.
 Lined butterfly valve when connected to check valve or pump, an expansion joint will be needed to make sure the adjacent equipment won't be affected.
 When install the lined butterfly valve, the pipe should focus on center, and it will lead the disc external diameter impacting the inner diameter of pipe, causing the damage of disc edge, resulting in the torque increasing and causing leaking.

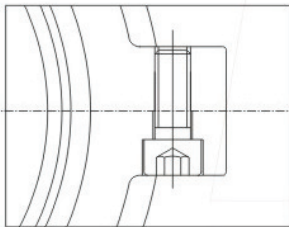
※ Structure Features



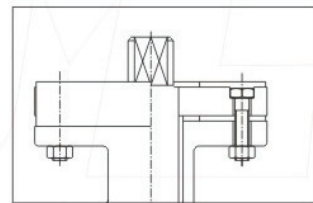
Both the disc and the shaft are lined by PFA/FEP. The shaft and the seal components are protected by PFA/FEP from the flow medium, and the bottom shaft also fully lined, assures optimum corrosion resistance and eliminates a potential path.



The in-line resilient seat assembly assures optimum pressure distribution of the body liner to the disc assembly, providing tight sealing under all operating conditions. The wider seal-band provides a broader sealing area.

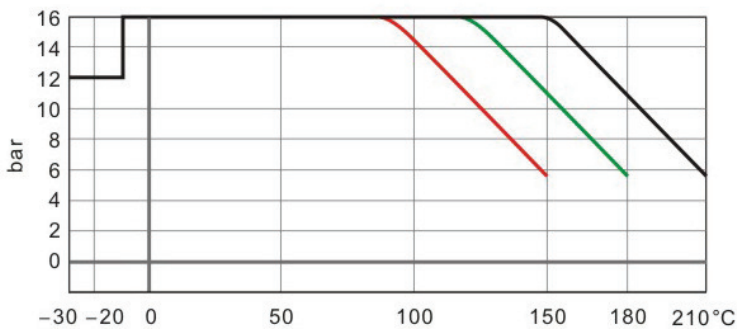


The body is splitted and connected by hexagonal screw. When the valve operated long time, the fluorine plastic worn or shrinks, regulate the inner hexagonal screw, tighten the sealing and to achieve the equal effect of new valve (1-3mm reserved for regulation).



ISO 5211 actuation mounting pad ensures robust performance, while providing compact system design. Moreover, benefit of live loaded stem sealing system is atmospheric sealing integrity and no manual adjustment over the life of the valve.

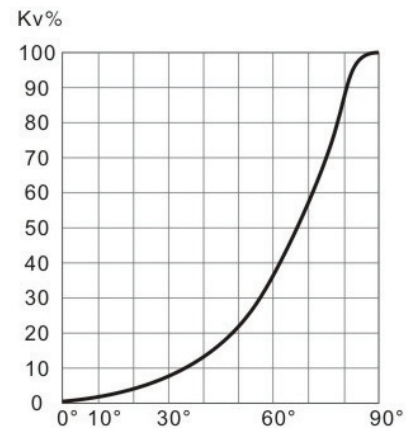
※ Pressure-Temperature Curve



Vacuum
0.1mbar

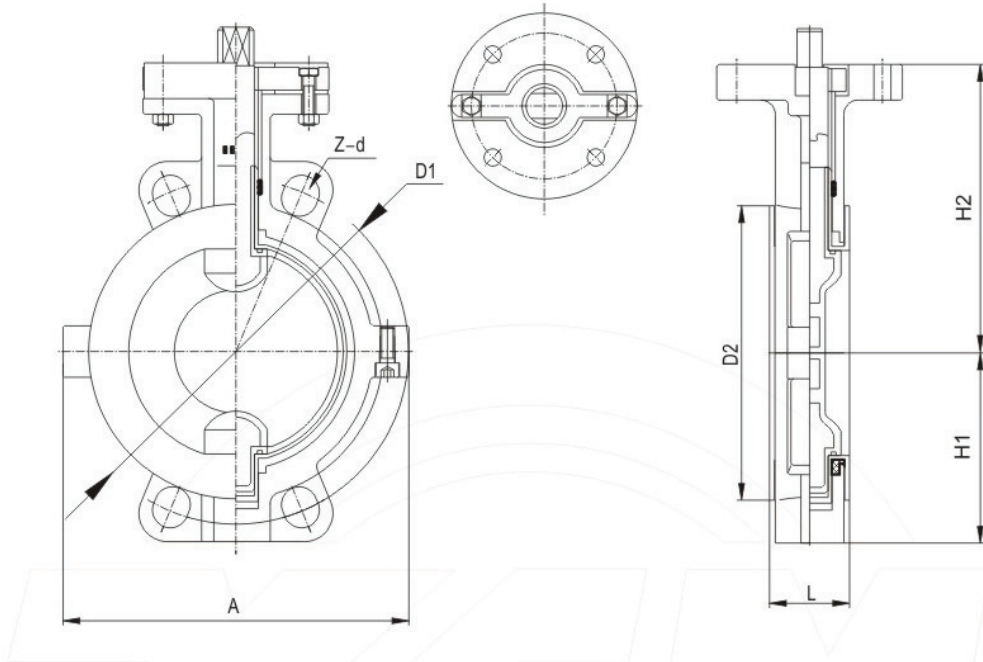
Note: — PFA — PTFE — FEP

※ Flow Characteristic



Valve Position Angle 1Cv=1.167Kv

High Performance Lined Butterfly Valve



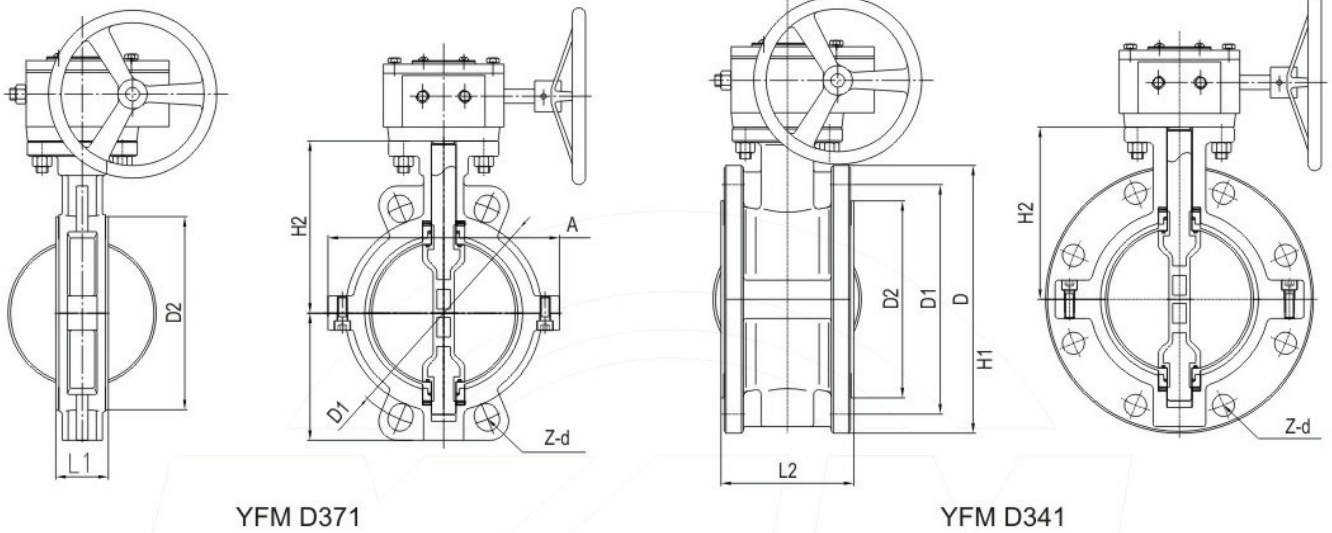
HG/T 20592/ASME B16.5

Unit:mm

DN	NPS	L	PN10		PN16		Class150		D2	H1	H2	A
			D1	Z-d	D1	Z-d	D1	Z-d				
50	2	43	125	4-18	125	4-18	120.5	4-19	94	70	112	130
65	2 1/2	46	145	4-18	145	4-18	139.5	4-19	110	80	125	150
80	3	46	160	8-18	160	8-18	152.5	4-19	128	89	135	160
100	4	52	180	8-18	180	8-18	190.5	8-19	150	105.5	142	180
125	5	56	210	8-18	210	8-18	216	8-22	180	121	165	215
150	6	56	240	8-22	240	8-22	241.5	8-22	205	145	180	242
200	8	60	295	8-22	295	12-22	298.5	8-22	260	177	228	295
250	10	68	350	12-22	355	12-26	362	12-25	310	205	278	356
300	12	78	400	12-22	410	12-26	432	12-25	365	235	295	405
350	14	78	460	16-22	470	16-26	476	12-29	425	260	341	466
400	16	102	515	16-26	525	16-30	540	16-29	476	299	390	495
450	18	114	565	20-26	585	20-30	578	16-32	520	320	442	630
500	20	127	620	20-26	650	20-33	635	20-32	566	352.5	470	670

Note: for more size please consult factory.

PFA/FEP Lined Butterfly Valve



YFM D371

YFM D341

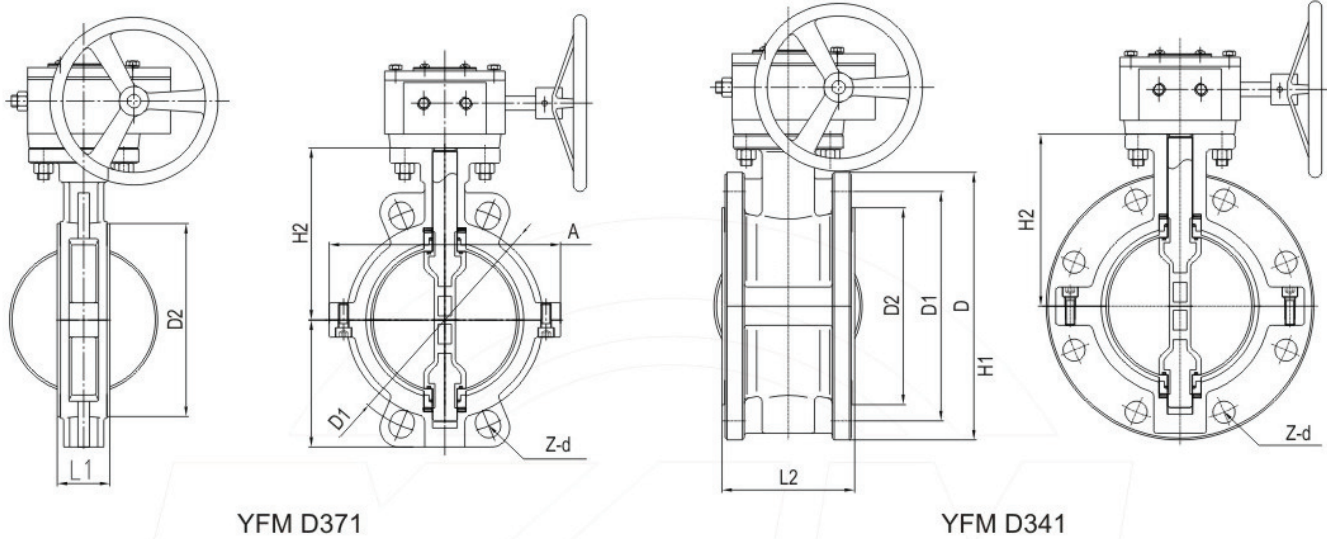
HG/T 20592

Unit:mm

DN	NPS	L1 Wafer	L2 Flange	PN10			PN16			D2	H1	H2	A
				D	D1	Z-d	D	D1	Z-d				
50	2	43	108	165	125	4-18	165	125	4-18	94	70	112	130
65	2 1/2	46	112	185	145	8-18	185	145	8-18	110	80	125	150
80	3	46	114	200	160	8-18	200	160	8-18	128	90	135	160
100	4	52	127	220	180	8-18	220	180	8-18	150	105	142	180
125	5	56	140	250	210	8-18	250	210	8-18	180	120	165	215
150	6	56	140	285	240	8-22	285	240	8-22	205	133	180	242
200	8	60	152	340	295	8-22	340	295	12-22	260	172	228	295
250	10	68	165	395	350	12-22	405	355	12-26	310	205	278	356
300	12	78	178	445	400	12-22	460	410	12-26	365	235	295	405
350	14	78	190	505	460	16-22	520	470	16-26	425	260	341	466
400	16	102	216	565	515	16-26	580	525	16-30	476	290	390	495
450	18	114	222	615	565	20-26	640	585	20-30	520	320	442	630
500	20	127	229	670	620	20-26	715	650	20-33	566	355	470	670
600	24	154	267	780	725	20-30	840	770	20-36	685	420	520	825
700	28	165	292	895	840	24-30	910	840	24-36	770	500	590	895
800	32	190	318	1015	950	24-33	1025	950	24-39	875	550	650	1015
900	36	203	330	1115	1050	28-33	1125	1050	28-39	980	580	645	1115
1000	40	216	410	1230	1160	28-36	1255	1170	28-42	1080	780	670	1230
1200	48	254	470	1455	1380	32-39	1485	1390	32-48	1280	870	775	1455
1400	56	279	530	1675	1590	36-42	1685	1590	36-48	1480	980	875	1675
1600	64	318	600	1915	1820	40-48	1930	1820	40-56	1690	1100	980	1915
1800	72	356	670	2115	2020	44-48	2130	2020	44-56	1890			2115
2000	80	406	760	2325	2230	48-48	2345	2230	48-62	2090			2325

Note: for more size please consult factory.

PFA/FEP Lined Butterfly Valve



YFM D371

YFM D341

ASME B16.5 /JIS B2220

Unit:mm

DN	NPS	L1 Wafer	L2 Flange	ANSI 150Lb			JIS 10K			D2	H1	H2	A
				D	D1	Z-d	D	D1	Z-d				
50	2	43	108	150	120.5	4-19	155	120	4-19	94	70	112	130
65	2 1/2	46	112	180	139.5	4-19	175	140	4-19	110	80	125	150
80	3	46	114	190	152.5	4-19	185	150	8-19	128	90	135	160
100	4	52	127	230	190.5	8-19	210	175	8-19	150	105	142	180
125	5	56	140	255	216	8-22	250	210	8-23	180	120	165	215
150	6	56	140	280	241.5	8-22	280	240	8-23	205	133	180	242
200	8	60	152	345	298.5	8-22	330	290	12-23	260	172	228	295
250	10	68	165	405	362	12-25	400	355	12-25	310	205	278	356
300	12	78	178	485	432	12-25	445	400	16-25	365	235	295	405
350	14	78	190	535	476	12-29	490	445	16-25	425	260	341	466
400	16	102	216	595	540	16-29	560	510	16-27	476	290	390	495
450	18	114	222	635	578	16-32	620	565	20-27	520	320	442	630
500	20	127	229	700	635	20-32	675	620	20-27	566	355	470	670
600	24	154	267	815	749.5	20-35	795	730	24-33	685	420	520	825
700	28	165	292	927	864	24-35	905	840	24-33	770	500	590	927
800	32	190	318	1060	978	28-35	1020	950	28-33	875	550	650	1060
900	36	203	330	1168	1086	28-35	1120	1050	28-33	980	580	645	1168
100	40	216	410	1289	1200	28-41				1080	780	670	1289
1200	48	254	470	1500	1422	32-41				1280	870	775	1500
1400	56	279	530	1746	1651	36-41				1480	980	875	1746