



## Lined Valve Expert



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We focus on Details  
We Make Different  
FVFT Brand, that can be trust.

FVFT Technology Founded in year 2010, we specialize in Manufacturing Various Lined Valves&Fittings, Including PTFE/PFA/FEP Lined Valve and Ceramic Lined Valve, as well as standard and customized fittings. The products are widely used in modern anti-corrosion engineering fields such as Lithium Battery, petroleum, chemical industry, pharmacy, printing and dyeing, electrical engineering, ship building, metallurgy, military industry, semiconductor chemistry, electronic phosphoric acid, Etc.

Our Principle: Pragmatic, Creative and Excellent.

FVFT Brand that you can trust.

FVFT Product Line:

Lined Valves (Lined Butterfly Valve, Lined Ball Valve, Lined Diaphragm Valve Etc.)

Lined Pipe&Fittings (Y-Type Strainer, Sight Glass, Elbow, Tee, Reducer, Expansion Joint, Pipe Etc.)

Ceramic Lined Valve (Ceramic Lined Butterfly Valve, Ceramic Lined Ball Valve, Ceramic Lined Diaphragm Valve Etc.)

Ceramic Lined Fitting (Y-Type Strainer, Sight Glass, Elbow, Tee, Reducer, Expansion Joint, Pipe Etc.)

Plastic Valve&Fitting (Plastic Globe Valve, Plastic Check Valve, Plastic Y-Type Strainer Etc.)



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# Processing



# Stockage



# Inspection







# Butterfly Valve Series

## Product Description

The valve body of Lined Butterfly valve adopts split combination. It is convenient for assembly and sealing adjustment. When the valve works, only the valve seat and the fluorine lined plastic butterfly plate are in contact with the medium. The inner surface of the valve body passage is smooth, the fluid resistance is small, the CV value is high, the flow capacity is strong, the torque is moderate, and the zero leakage of the medium is completely achieved. The valve is small in volume, light in weight, compact in structure, quick in opening and closing, beautiful in appearance, reasonable in process, reliable in performance, light in operation and long in service life.

- Lining material: PTFE, FEP, PFA, GXPO etc.
- Connection type: Wafer, Flange, Lug etc.
- Operation methods: Manual, Worm Gear, Electric, and Pneumatic.

## Lined Butterfly Valve

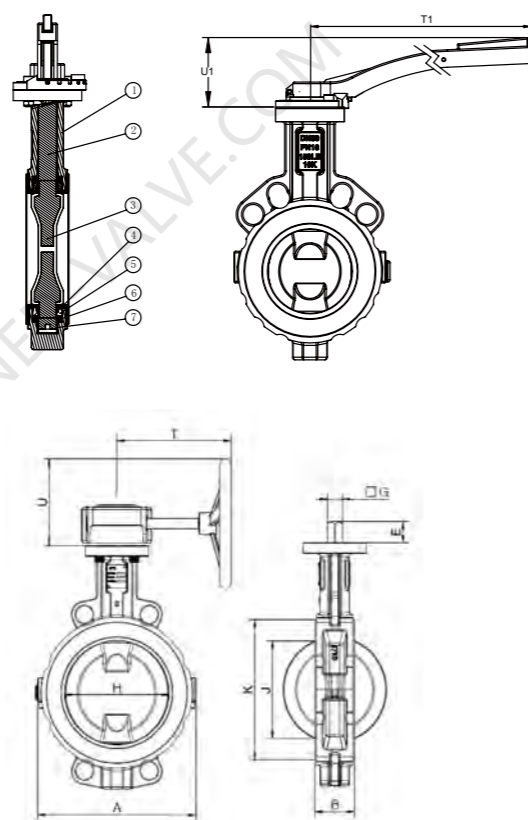




## Lined Butterfly Valve Wafer Type

### Technical Specification

Design & Manufacture Standard	API 609 / DIN EN1092 / JIS B2032
Face-to-face Standard	ASME B16.10 / DIN EN558-1 / JIS B2002
Flange Standard	ASME B16.5 / DIN 2532 / JIS B2212
Inspection and Test Standard	API 598



### Operation

- Lever
- Worm Gear
- Pneumatic
- Electric

### Material List of Main Parts

No.	Part Name	Material					
1	Body	ASTM A395	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Stem	2Cr13	2Cr13	SS304	17-4PH	SS304	17-4PH
3	Disc	ASTM A395	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF8M
4	V ring	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
5	Pusher	SS304	SS304	SS304	SS304	SS304	SS304
6	Washer	SS304	SS304	SS304	SS304	SS304	SS304
7	Bearing	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE
Seat & Lining		PTFE PFA FEP					

## Lined Butterfly Valve Wafer Type

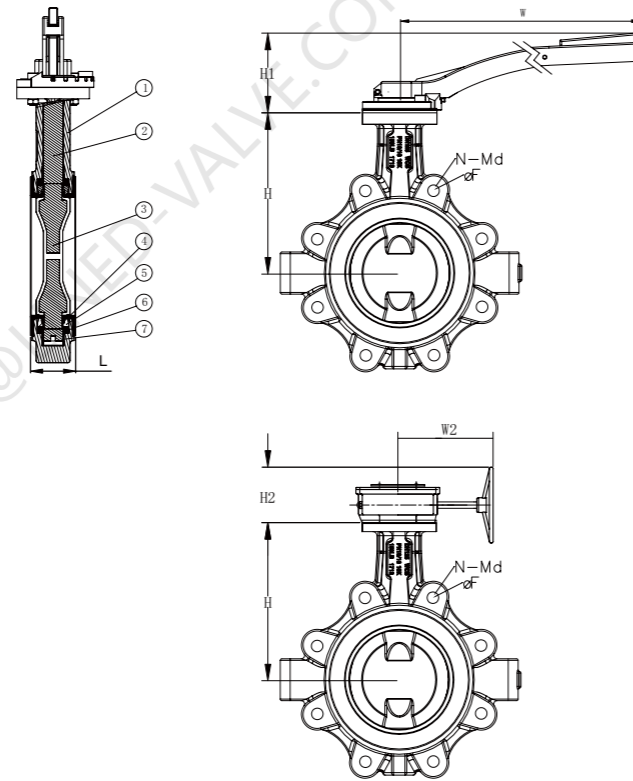
### DIMENSIONS PN10 / PN16 / 150LB / 10K

DN	NPS	A	B	E	G	H	J	K	T	T1	U	U1	ISO 5211
40	1-1/2	91	33	13	11	40.5	23.5	78	160	200	95	76	F05
50	2	102	43	13	11	50.5	26.5	89.5	160	200	95	76	F05
65	2-1/2	118	46	13	11	65.5	46.5	104.5	160	200	95	76	F05
80	3	135	46	13	11	79.5	65	121.5	160	200	95	76	F05
100	4	158	52	16	14	98.5	84	144	160	260	127	85	F07
125	5	184	56	19	17	120.5	107	168.5	160	350	127	102	F07
150	6	214	56	19	17	146.5	136	196.5	160	350	127	102	F07
200	8	270	60	24	22	195.5	186	251.5	215	-	153	-	F10
250	10	330	68	24	22	245.5	236	305.5	225	-	185	-	F10
300	12	384	78	29	27	292.5	282	354.5	325	-	248	-	F12
350	14	448	78	29	27	343.5	334	408.5	325	-	248	-	F12
400	16	510	102	38	36	392	378.5	459	230	-	217	-	F14
450	18	602	114	38	36	446	431	516	230	-	217	-	F14
500	20	657	127	38	36	489	472	569	335	-	285	-	F16
600	24	766	154	48	46	588	567	669	335	-	285	-	F16
700	28	906	165	57	55	699.5	679	780	385	-	310	-	F25

## Lined Butterfly Valve Lug Type

### Technical Specification

Design & Manufacture Standard	API 609 / DIN EN1092 / JIS B2032
Face-to-face Standard	ASME B16.10 / DIN EN558-1 / JIS B2002
Flange Standard	ASME B16.5 / DIN 2532 / JIS B2212
Inspection and Test Standard	API 598



### Operation

- Lever
- Worm Gear
- Pneumatic
- Electric

### Material List of Main Parts

No.	Part Name	Material					
1	Body	ASTM A395	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Stem	2Cr13	2Cr13	SS304	17-4PH	SS304	17-4PH
3	Disc	ASTM A395	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF8M
4	V ring	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
5	Pusher	SS304	SS304	SS304	SS304	SS304	SS304
6	Washer	SS304	SS304	SS304	SS304	SS304	SS304
7	Bearing	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE
Seat & Lining		PTFE PFA FEP					

## Lined Butterfly Valve Lug Type

### DIMENSIONS

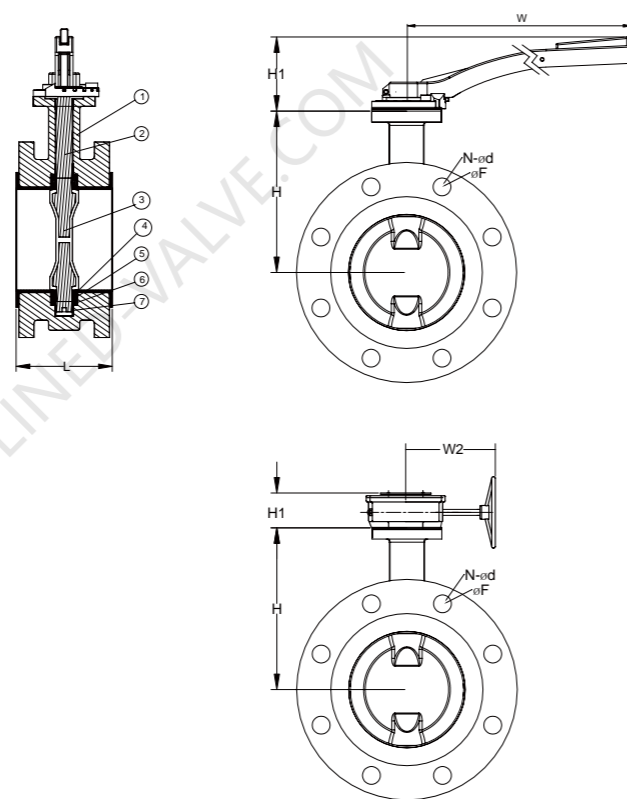
unit:mm

DN	NPS	L	H	H1	H2	W	W2	ISO 5211	PN10		PN16		ANSI 150LB		JIS 10K	
									ΦF	N-Md	ΦF	N-Md	ΦF	N-Md	ΦF	N-Md
40	1-1/2	33	109	76	95	200	160	F05	110	4-M16	110	4-M16	98.5	4-1/2"-13	105	4-M16
50	2	43	134.5	76	95	200	160	F05	125	4-M16	125	4-M16	120.5	4-5/8"-11	120	4-M16
65	2-1/2	46	149	76	95	200	160	F05	145	8-M16	145	8-M16	139.5	4-5/8"-11	140	4-M16
80	3	46	156	76	95	200	160	F05	160	8-M16	160	8-M16	152.5	4-5/8"-11	150	8-M16
100	4	52	179	85	127	260	160	F07	180	8-M16	180	8-M16	190.5	8-5/8"-11	175	8-M16
125	5	56	194	102	127	350	160	F07	210	8-M16	210	8-M16	216	8-3/4"-10	210	8-M20
150	6	56	209	102	127	350	160	F07	240	8-M20	240	8-M20	241.5	8-3/4"-10	240	8-M20
200	8	60	237.5	-	153	-	215	F10	295	8-M20	295	12-M20	298.5	8-3/4"-10	290	12-M20
250	10	68	275	-	185	-	225	F10	350	12-M20	355	12-M24	362	12-7/8"-9	355	12-M22
300	12	78	300	-	248	-	325	F12	400	12-M20	410	12-M24	432	12-7/8"-9	400	16-M22
350	14	78	325	-	248	-	325	F12	460	16-M20	470	16-M24	476	12-1"-8	445	16-M22
400	16	102	365	-	217	-	230	F14	515	16-M24	525	16-M27	540	16-1"-8	510	16-M24
450	18	114	400	-	217	-	230	F14	565	20-M24	585	20-M27	578	16-1 1/8"-8	565	20-M24
500	20	127	444	-	285	-	335	F16	620	20-M24	650	20-M30	635	20-1 1/8"-8	620	20-M30
600	24	154	510	-	285	-	335	F16	725	20-M27	770	20-M33	749.5	20-1-1/4"-8	-	-
700	28	165	553	-	310	-	385	F25	-	-	-	-	863.6	28-1-1/4"-8	-	-

## Lined Butterfly Valve Flange Type

### Technical Specification

Design & Manufacture Standard	API 609 / DIN EN1092 / JIS B2032
Face-to-face Standard	ASME B16.10 / DIN EN558-1 / JIS B2002
Flange Standard	ASME B16.5 / DIN 2532 / JIS B2212
Inspection and Test Standard	API 598



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- Lever
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3	Disc	ASTM A395	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF8M
4	V ring	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
5	Pusher	SS304	SS304	SS304	SS304	SS304	SS304
6	Washer	SS304	SS304	SS304	SS304	SS304	SS304
7	Bearing	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE	SS304+PTFE
Seat & Lining		PTFE PFA FEP					

## Lined Butterfly Valve Flange Type

### DIMENSIONS

unit:mm

DN	NPS	L	H	H1	H2	W	W2	ISO 5211	PN10		PN16		ANSI 150LB		JIS 10K	
									ΦF	N-Φd	ΦF	N-Φd	ΦF	N-Φd	ΦF	N-Φd
40	1-1/2	106	109	76	95	200	160	F05	110	4-Φ18	110	4-Φ18	98.5	4-Φ16	105	4-Φ19
50	2	108	134.5	76	95	200	160	F05	125	4-Φ18	125	4-Φ18	120.5	4-Φ18	120	4-Φ19
65	2-1/2	112	149	76	95	200	160	F05	145	8-Φ18	145	8-Φ18	139.5	4-Φ18	140	4-Φ19
80	3	114	156	76	95	200	160	F05	160	8-Φ18	160	8-Φ18	152.5	4-Φ18	150	8-Φ19
100	4	127	179	85	127	260	160	F07	180	8-Φ18	180	8-Φ18	190.5	8-Φ18	175	8-Φ19
125	5	140	194	102	127	350	160	F07	210	8-Φ18	210	8-Φ18	216	8-Φ22	210	8-Φ23
150	6	140	209	102	127	350	160	F07	240	8-Φ22	240	8-Φ22	241.5	8-Φ22	240	8-Φ23
200	8	152	237.5	-	153	-	215	F10	295	8-Φ22	295	8-Φ22	298.5	8-Φ22	290	12-Φ23
250	10	165	275	-	185	-	225	F10	350	12-Φ22	355	12-Φ26	362	12-Φ26	355	12-Φ25
300	12	178	300	-	248	-	325	F12	400	12-Φ22	410	12-Φ26	432	12-Φ26	400	12-Φ25
350	14	190	325	-	248	-	325	F12	460	12-Φ22	470	12-Φ26	476	12-Φ30	445	12-Φ25
400	16	216	365	-	217	-	230	F14	515	12-Φ26	525	12-Φ30	540	12-Φ30	510	12-Φ27
450	18	222	400	-	217	-	230	F14	565	12-Φ26	585	12-Φ30	-	-	-	-
500	20	229	444	-	285	-	335	F16	620	12-Φ26	650	12-Φ33	-	-	-	-
600	24	267	510	-	285	-	335	F16	725	12-Φ30	770	12-Φ36	-	-	-	-



### Fluorine Plastic Performance

Performance	Item	Name Code Unit	PTFE	PCTFE	PVDF	RE.	PFA	GXPO	PE	PP
			F4	F3	F2	F46	PFA	GXPO	PE	PP
Physical Performance	Specific Gravity	g/cm <sup>3</sup>	2.1~2.2	2.1~2.2	1.76	2.1~2.2	2.1~2.2	0.92	0.92	0.92
	Water absorption	%	0.001~0.005	≤ 0.005	0.04	≤ 0.01	≤ 0.01	0.005	0.005	0.005
	Shrinkage rate of finished product	%	1~5	1~2.5	2.0	2~5	1~5	1~2	1~2	1~2
	Embrittlement coefficient	10 <sup>-5</sup> /K	10-12	4.5-7.0	8.5-15.3	8.3~10.5	8.3-12	-	-	-
	Embrittlemen temperature T1	°C	-180~-195	-180~-195	-62	-260	-180~-195	-40	-40	-20
	Hot resistance T2	°C	260	120-190	150	204	260	100	100	100
	Recommend working temperature T3	°C	≤ 180	≤ 120	≤ 100	≤ 150	≤ 200	≤ 85	≤ 85	≤ 85

Mechanical Performance	Hardness	SOSIXO	D50-65	D74-78	D80	(R45)	D50-65	D40	D40	D40
	Friction coefficient f	-	0.06	0.3~0.4	0.14~0.17	0.06~0.01	0.06~0.01	-	-	-
	Tensile strength σ <sub>b</sub>	Mpa	13.7-24.5	31.3-39.2	45~48.3	20.0~24.5	14~28	≥ 10	6.9~14	7.5~14
	Bending strength σ <sub>w</sub>	Mpa	10.7-137	53.9-68.6	-	-	15~28	-	-	-
	Compression strength σ <sub>y</sub>	Mpa	111	80.3-50.9	68.6	-	111	-	-	-
	Impact strength σ <sub>k</sub>	KJ/M <sup>2</sup>	16	12.7~16.6	19.7	No breakage	1+	-55	45	50
	Ultimate elongation Δλ	%	250~350	30~190	30~300	250~270	300~500	480	300~600	600~700
	Breakdown voltage v	KV/mm	25~40	19.7	10.2	40	24~40	-	-	-

Processing Performance	compression molding	Good	Good	Good	Good	Good	Good	Good	Good
	Injection molding	-	Good	Good	Good	Good	Good	Good	Good
	Lamination	Good	Good	Good	Good	Good	Good	Good	Good
	Layer	Good	Good	Good	Good	Good	Good	Good	Good

### Fluorine Plastic Performance

Corrosion Resistance Performance (only for Reference)	Medium	Concentration (%)	Temperature °C	PTFE	PCTFE	PVDF	FEP	PFA	GXPO	PE	PP
	Sulfuric acid	10~98	Normal temperature ~100	A	A~B	A~B	A	A	Concentration ≤ 50%	Concentration ≤ 60%	A
Ntric acid	5~98	Normal temperature ~100	A	A	A	A	A	Concentration ≤ 30%	Concentration ≤ 60%	A	
Hydrochloric acid	10~38	Normal temperature ~100	A	A	A	A	A	Concentration ≤ 38%	Concentration ≤ 60%	A~B	
Acetic acid	10~100	Normal temperature ~100	A	A~B	A~B	A	A	Concentration ≤ 10%	Concentration ≤ 60%	A	
Chromic acid	50~100	Normal temperature ~70	A	A~B	A~B	A	A	Concentration ≤ 30%	Concentration ≤ 20%	A	
phosphoric acic	50~85	Normal temperature ~100	A~B	D	D	A~B	A~B	Concentration ≤ 85%	Concentration ≤ 80%	A	
Trichloromethan	100	Normal temperature	C	B	B	C	C	X	X	X	
Coppersulfate	15	Normal temperature	A	C	C	A	A	Concentration ≤ 90%	Concentration ≤ 80%	A	
Diethy ether	100	Normal temperature	B	C	C	B	B	X	X	X	
Ethyl acetate	100	Normal temperature	B	A	A	B	B	X	X	X	
Petrol	100	Normal temperature	A	A~B	A~B	A	A	X	X	X	
Hydrogen peroxide	3~30	Normal temperature	A	A	A	A	A	Concentration ≤ 30%	Concentration ≤ 60%	A	
Nitrobenzene	100	Normal temperature	A	A~B	A~B	A	A	X	X	X	
Superalkali	10~50	Normal temperature ~100	A	A	A	A	A	Concentration ≤ 80%	Concentration ≤ 60%	A	
Sodium Hypochlorite	-	70	A	B	B	A	A	Concentration ≤ 80%	Concentration ≤ 60%	A~B	
Hydroxyl acid	40~99	-10~30	A~B	B	B	A~B	A~B	Concentration ≤ 80%	Concentration ≤ 60%	A~B	
Oleum	20	Normal temperature	A	B	B	A	A	X	X	X	
Acrylonitrile	-	Normal temperature	B	C	C	B	B	-	-	-	
Aniline	100	Normal temperature	B	B	B	B	B	Concentration ≤ 60%	Concentration ≤ 20%	B	
Benzene	100	Normal temperature	B	C	C	B	B	X	X	X	
Butyl acetate	100	Normal temperature	B	C	C	B	B	Concentration ≤ 60%	Concentration ≤ 20%	B	
Tetrachloromethane	Reagent grade	Normal temperature	B	C	C	B	B	X	X	X	