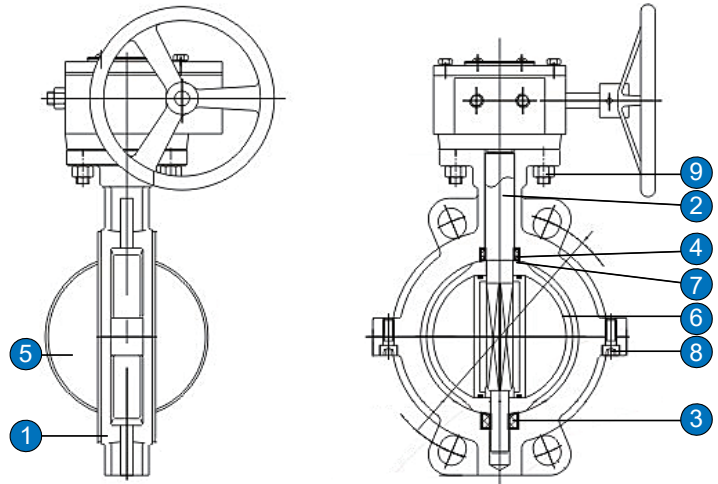


# LINED BUTTERFLY VALVE

PTFE-Lined Butterfly Valve  
 DN40-DN500 | 1½"-20"

**MODEL: KKY-L81**

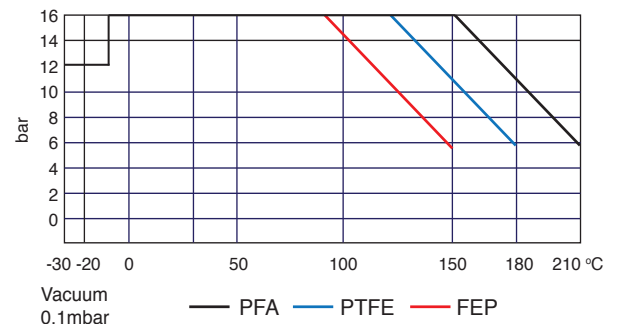
- » **Body Material**  
ASTM CF8M, CF8, CF3,CF3M, WCB
- » **Size Range**  
DN: 40 - 500  
NPS: 1½" - 20"
- » **Pressure Rating**  
PN10\*, PN16\*,  
CL150, JIS10K
- » **End Connection**  
Wafer, Double Flanged, Lug
- » **Lining Material**  
PTFE, PFA, FEP, PO



## Materials List:

NO	Name	Material		
1	Body	A216 WCB	A351 CF8 / A351 CF8M	A351 CF3 / A351 CF3M
2	Stem	2Cr13(SS420), SS410, 17-4PH		
3	Shaft sleeve	SS304		
4	O-ring	VITON, VITON+FEP, VITON+PFA		
5	Disc	A216 WCB+Lining	CF8, CF8M+Lining	CF3, CF3M+Lining
6	Seat	PTFE, RPTFE, PFA, FEP, PO		
7	Elastomer Backing	Silicone rubber, VITON		
8	Body bolt	A193 B7	A320 B8	A193 B8M
9	Bolt	A193 B7	A320 B8	A193 B8M

## Pressure Temperature Curve

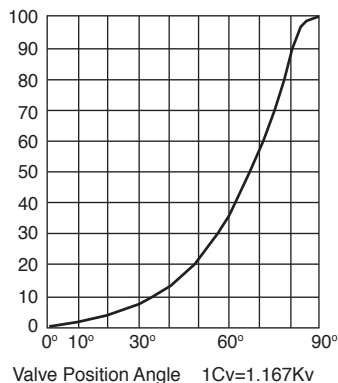


## Technical Specification:

<b>Design Standard</b>	Manufacturer Std.	API 609	
<b>Face-to-face Standard</b>	EN 558 S20/S13	ASME B16.10	
<b>Flange Standard</b>	EN 1092-1	ASME B16.5, JIS B2220	
<b>Inspection and Test Standard</b>	See below*		
<b>Nominal Diameter</b>	DN40-DN500	1½"-20"	
<b>Nominal Pressure (MPa)</b>	1.0	1.6	CLASS 150
<b>Pressure Test (MPa)</b>	Shell Test	1.5	1.5
	High Pressure Sealing	1.1	1.1
	Low Pressure Sealing	0.6	0.6
<b>Temperature Range (°C)</b>	PTFE: -30~180, PFA: -30~200, FEP:-30~150, PO:-10~80		
<b>Applicable Medium</b>	Strong corrosive medium i.e. hydrochloric acid, Nitric acid, Hydrofluoric acid, Liquid chlorine, Sulphuric Acid and Aqua regia etc.		

\*Note: Standards indicated are general standard used as reference, some variations exist. Other standard or tests may be available on request for fee.

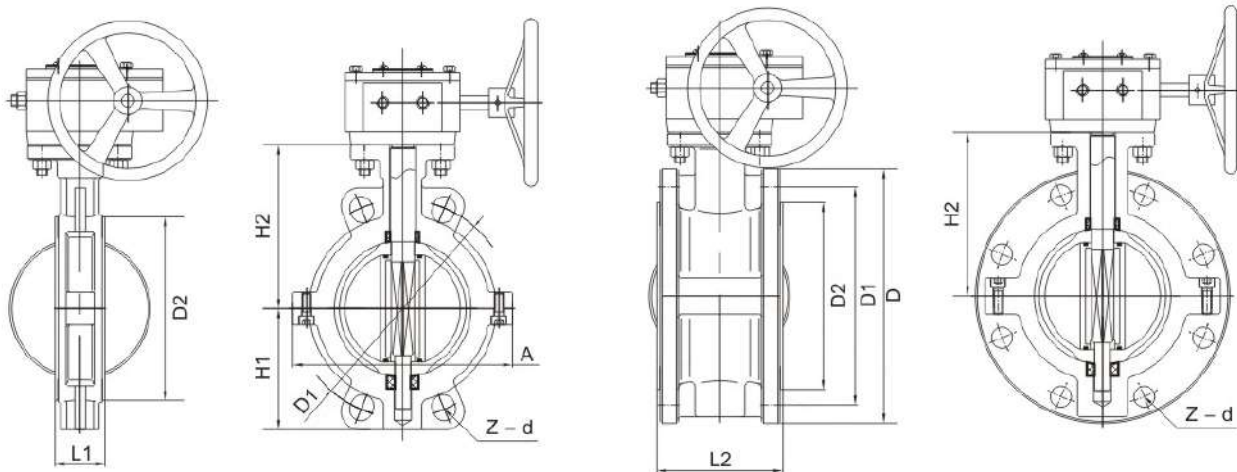
## Flow Characteristic



# LINED BUTTERFLY VALVE

PTFE-Lined Butterfly Valve, Wafer/Double Flanged  
 PN10\*, DN40-DN500 | PN16\*, DN40-DN500

**MODEL: KKY-L81**



### PN10\* / PN16\* Dimensions (mm):

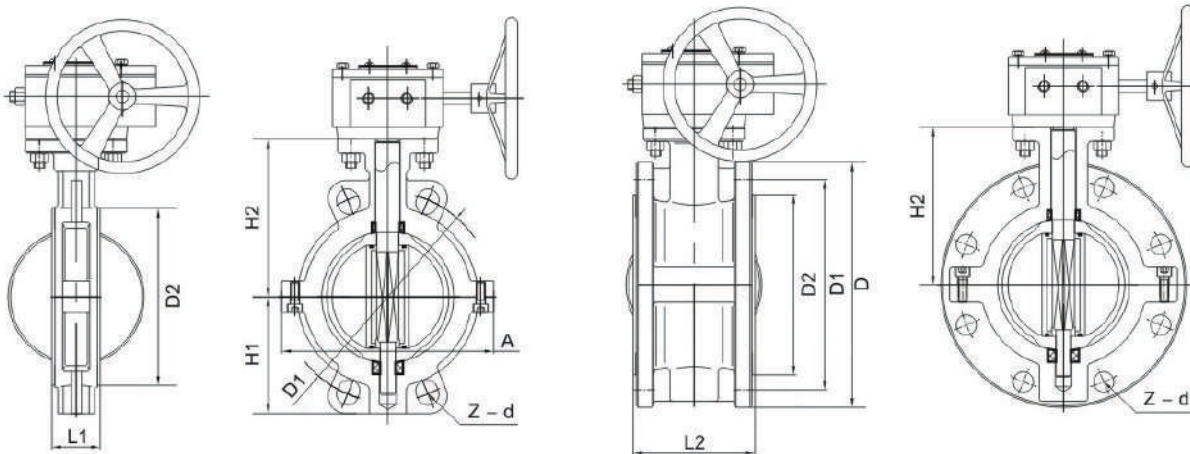
SIZE		L1 Wafer	L2 Flange	PN10*			PN16*			D2	H1	H2	A
DN	IN			D	D1	Z-d	D	D1	Z-d				
40	1½"	40	106	150	110	4-18	150	110	4-18	70	60	90	78
50	2"	43	108	165	125	4-18	165	125	4-18	90	70	112	96
65	2½"	46	112	185	145	4-18	185	145	4-18	110	80	125	112
80	3"	46	114	200	160	8-18	200	160	8-18	130	89	135	130
100	4"	52	127	220	180	8-18	220	180	8-18	148	105.5	142	150
125	5"	56	140	250	210	8-18	250	210	8-18	181	121	165	178
150	6"	56	140	285	240	8-22	285	240	8-22	202	145	180	206
200	8"	60	152	340	295	8-22	340	295	12-22	263	177	228	260
250	10"	68	165	395	350	12-22	405	355	12-26	313	205	278	317
300	12"	78	178	445	400	12-22	460	410	12-26	368	235	295	367
350	14"	78	190	505	460	16-22	520	470	16-26	415	260	341	466
400	16"	102	216	565	515	16-26	580	525	16-30	484	299	390	495
450	18"	114	222	615	565	20-26	640	585	20-30	519	320	442	630
500	20"	127	229	670	620	20-26	715	650	20-33	569	352.5	470	694

\*Note: Some dimensions do not fully conform to EU standards, please be sure to confirm.

# LINED BUTTERFLY VALVE

PTFE-Lined Butterfly Valve, Wafer/Double Flanged  
 CL150, 1½"-20" | JIS10K, DN40-DN500

**MODEL: KKY-L81**



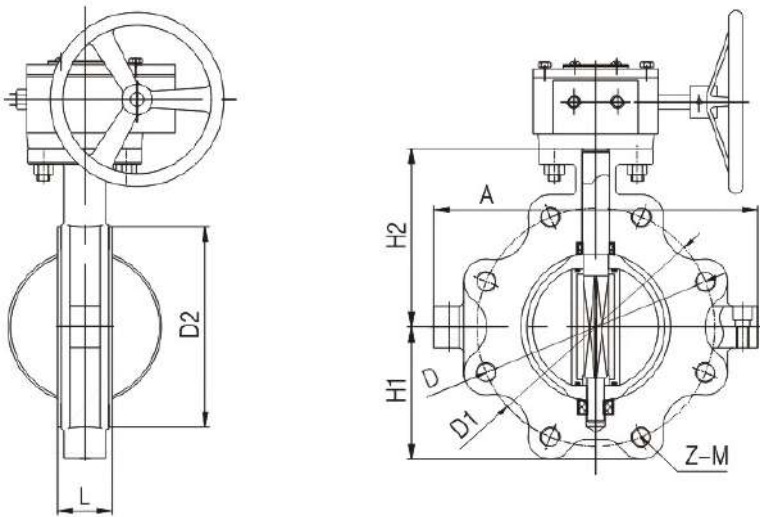
## CL150 / JIS10K Dimensions (mm):

SIZE		L1 Wafer	L2 Flange	CL150			JIS10K			D2	H1	H2	A
DN	IN			D	D1	Z-d	D	D1	Z-d				
40	1½"	40	106	125	98.5	4-16	140	105	4-19	70	60	90	78
50	2"	43	108	150	120.5	4-19	155	120	4-19	90	70	112	96
65	2½"	46	112	180	139.5	4-19	175	140	4-19	110	80	125	112
80	3"	46	114	190	152.5	4-19	185	150	8-19	130	89	135	130
100	4"	52	127	230	190.5	8-19	210	175	8-19	148	105.5	142	150
125	5"	56	140	255	216	8-22	250	210	8-23	181	121	165	178
150	6"	56	140	280	241.5	8-22	280	240	8-23	202	145	180	206
200	8"	60	152	345	298.5	8-22	330	290	12-23	263	177	228	260
250	10"	68	165	405	362	12-25	400	355	12-25	313	205	278	317
300	12"	78	178	485	432	12-25	445	400	16-25	368	235	295	367
350	14"	78	190	535	476	12-29	490	445	16-25	415	260	341	466
400	16"	102	216	595	540	16-29	560	510	16-27	484	299	390	495
450	18"	114	222	635	578	16-32	620	565	20-27	519	320	442	630
500	20"	127	229	700	635	20-32	675	620	20-27	569	352.5	470	694

# LINED BUTTERFLY VALVE

PTFE-Lined Butterfly Valve, Lug  
 PN10\*, DN50-DN500 | PN16\*, DN50-DN500

**MODEL: KKY-L81**



## PN10\* / PN16\* Dimensions (mm):

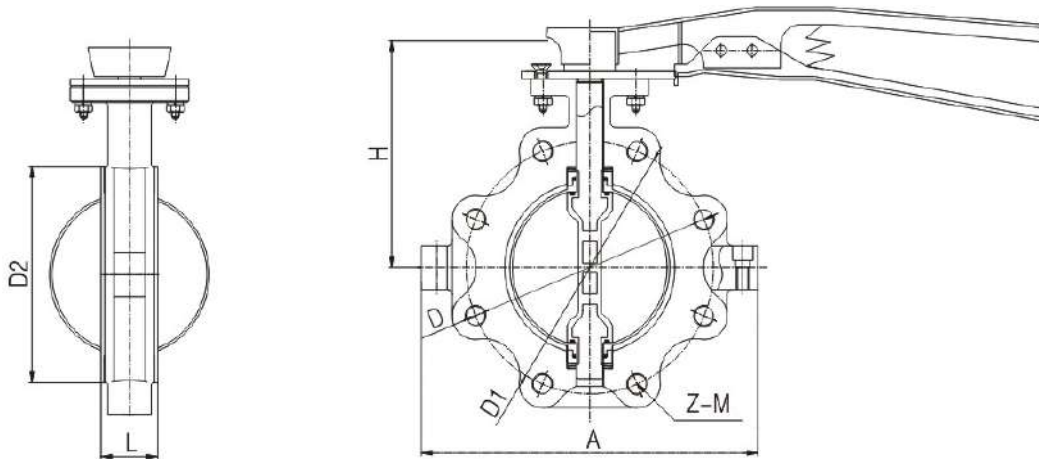
SIZE		L1	PN10*			PN16*			D2	H1	H2	A
DN	IN		D	D1	Z-M	D	D1	Z-M				
50	2"	43	165	125	4-M16	165	125	4-M16	90	70	112	96
65	2½"	46	185	145	4-M16	185	145	4-M16	110	80	125	112
80	3"	46	200	160	8-M16	200	160	8-M16	130	89	135	130
100	4"	52	220	180	8-M16	220	180	8-M16	148	105.5	142	150
125	5"	56	250	210	8-M16	250	210	8-M16	181	121	165	178
150	6"	56	285	240	8-M20	285	240	8-M20	202	145	180	206
200	8"	60	340	295	8-M20	340	295	12-M20	263	177	228	260
250	10"	68	395	350	12-M20	405	355	12-M24	313	205	278	317
300	12"	78	445	400	12-M20	460	410	12-M24	368	235	295	367
350	14"	78	505	460	16-M20	520	470	16-M24	415	260	341	466
400	16"	102	565	515	16-M24	580	525	16-M27	484	299	390	495
450	18"	114	615	565	20-M24	640	585	20-M27	519	320	442	630
500	20"	127	670	620	20-M24	715	650	20-M30	569	352.5	470	694

\*Note: Some dimensions do not fully conform to EU standards, please be sure to confirm.

# LINED BUTTERFLY VALVE

PTFE-Lined Butterfly Valve, Lug  
CL150, 2"-20" | JIS10K, DN50-DN500

**MODEL: KKY-L81**



## CL150 / JIS10K Dimensions (mm):

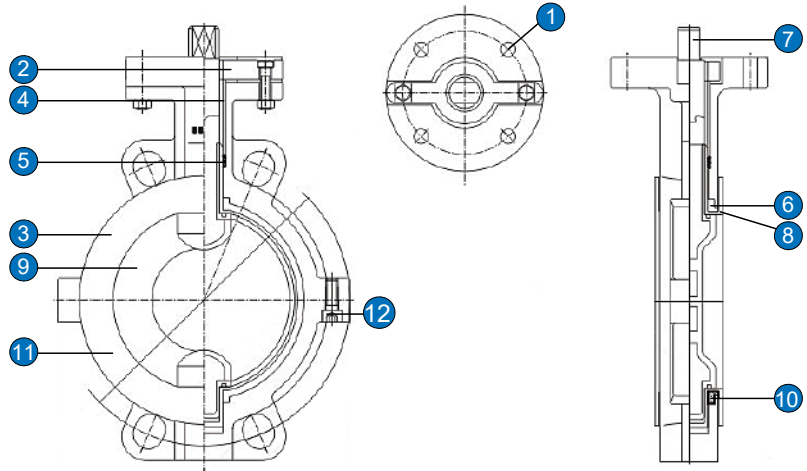
SIZE		L1	CL150			JIS10K			D2	H1	H2	A
DN	IN		D	D1	Z-M	D	D1	Z-M				
50	2"	43	150	120.5	4-M16	155	120	4-M16	90	70	112	96
65	2½"	46	180	139.5	4-M16	175	140	4-M16	110	80	125	112
80	3"	46	190	152.5	4-M16	185	150	8-M16	130	89	135	130
100	4"	52	230	190.5	8-M16	210	175	8-M16	148	105.5	142	150
125	5"	56	255	216	8-M20	250	210	8-M20	181	121	165	178
150	6"	56	280	241.5	8-M20	280	240	8-M20	202	145	180	206
200	8"	60	345	298.5	8-M20	330	290	12-M20	263	177	228	260
250	10"	68	405	362	12-M24	400	355	12-M22	313	205	278	317
300	12"	78	485	432	12-M24	445	400	16-M22	368	235	295	367
350	14"	78	535	476	12-M27	490	445	16-M22	415	260	341	466
400	16"	102	595	540	16-M27	560	510	16-M24	484	299	390	495
450	18"	114	635	578	16-M30	620	565	20-M24	519	320	442	630
500	20"	127	700	635	20-M30	675	620	20-M24	569	352.5	470	694

# LINED BUTTERFLY VALVE

High Performance PFA-Lined Butterfly Valve, Wafer/Double Flanged  
DN50-DN2000 | 2"-56"

**MODEL: KKY-81HP**

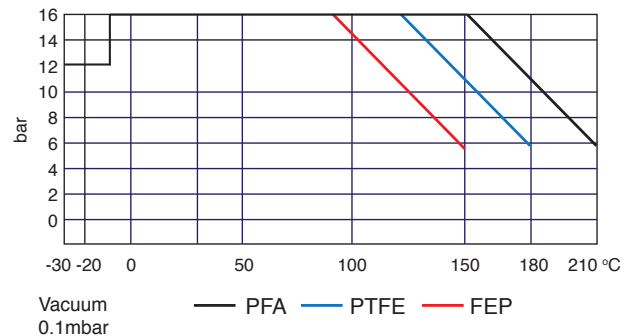
- » **Body Material**  
ASTM CF8M, CF8, CF3,CF3M, WCB
- » **Size Range**  
DN: 50-2000  
NPS: 2" - 56"
- » **Pressure Rating**  
PN10\*, PN16\*,  
CL150, JIS10K
- » **End Connection**  
Wafer, Double Flanged, Lug
- » **Lining Material**  
PTFE, PFA, FEP, PO



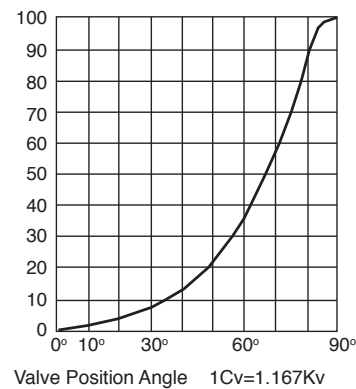
## Materials List:

NO	Name	Material		
1	Bolt	A193 B7	A320 BB	A193 B8M
2	Gland	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		
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 BB	A193 B8M

## Pressure Temperature Curve



## Flow Characteristic



## Technical Specification:

<b>Design Standard</b>	Manufacturer Std.	API 609	
<b>Face-to-face Standard</b>	EN 558 S20/S13	ASMEB16.10	
<b>Flange Standard</b>	EN 1092-1	ASMEB16.5, JIS B2220	
<b>Inspection and Test Standard</b>	See below*		
<b>Nominal Diameter</b>	DN50-DN2000	2"-56"	
<b>Nominal Pressure (MPa)</b>	1.0	1.6	CLASS 150
<b>Hressure Test (MPa)</b>	<b>Shell Test</b>	1.5	1.5
	<b>High Pressure Sealing</b>	1.1	1.1
	<b>Low Pressure Sealing</b>	0.6	0.6
<b>Temperature Range (°C)</b>	PFA: -30~200, FEP:-30~150		
<b>Applicable Medium</b>	Strong corrosive medium i.e. hydrochloric acid, Nitric acid, Hydrofluoric acid, Liquid chlorine, Sulfuric Acid and Aqua regia etc.		

\*Note: Standards indicated are general standard used as reference, some variations exist. Other standard or tests may be available on request for fee.

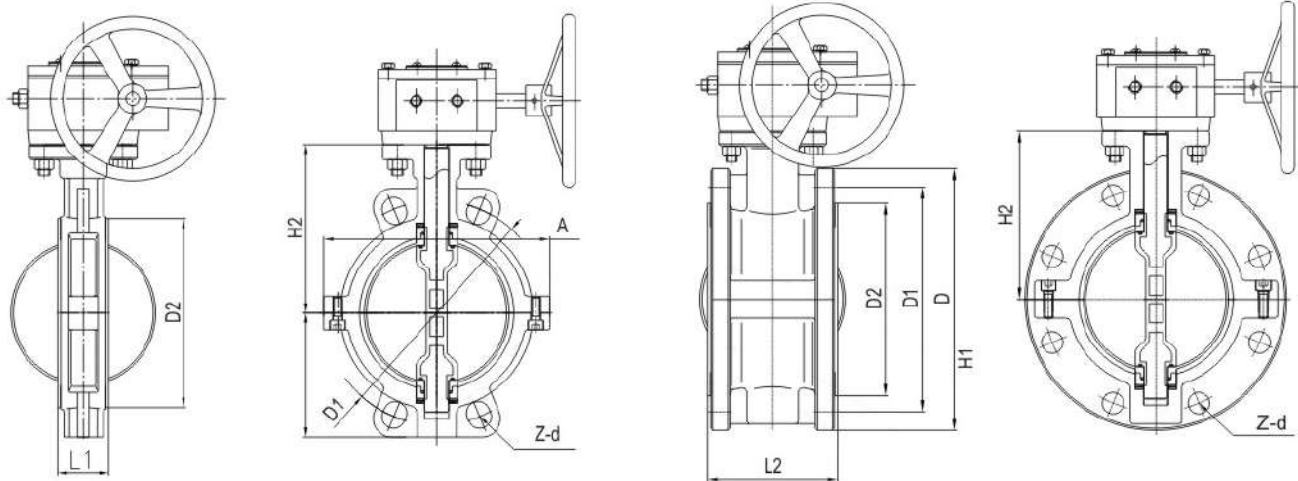


# LINED BUTTERFLY VALVE

High Performance PFA-Lined Butterfly Valve, Wafer/Double Flanged

PN10\*, DN50-DN2000 | PN16\*, DN50-DN2000

**MODEL: KKY-81HP**



## PN10\* / PN16\* Dimensions (mm):

SIZE		L1	L2	PN10*			PN16*			D2	H1	H2	A
DN	IN	Wafer	Flange	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	2½"	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

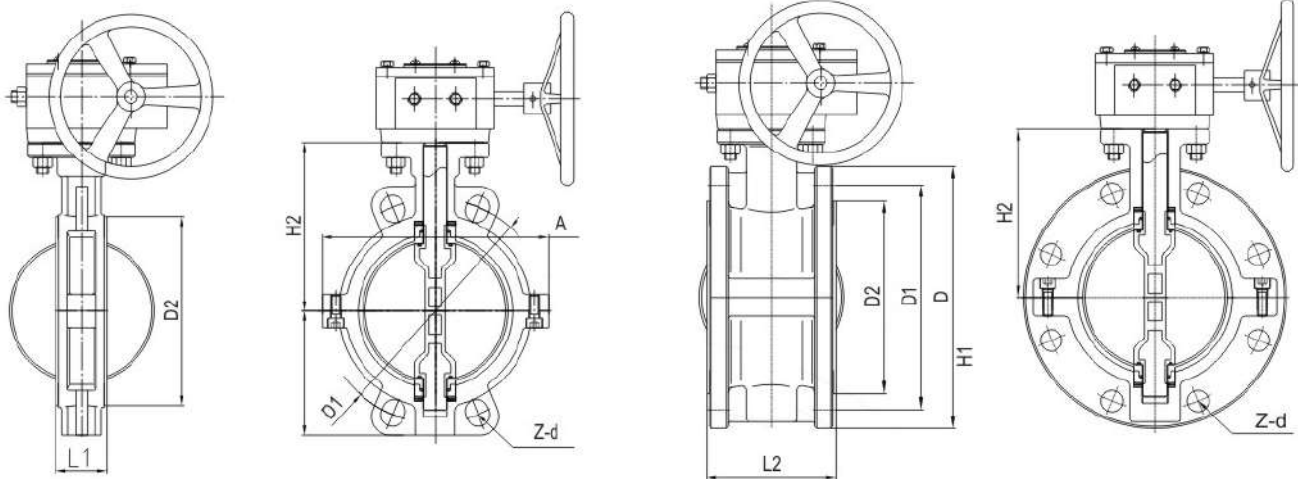
\*Note: Some dimensions do not fully conform to EU standards, please be sure to confirm.

# LINED BUTTERFLY VALVE

High Performance PFA-Lined Butterfly Valve

CL150, 2"-56" | JIS10K, DN50-DN900

**MODEL: KKY-81HP**



## CL150 / JIS10K Dimensions (mm):

SIZE		L1	L2	CL150			JIS10K			D2	H1	H2	A
DN	IN	Wafer	Flange	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	2½"	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	2&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
1000	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



# LINED VALVE

## Fluorine Plastic Performance

Performance	Item		PTFE	PVDF	FEP	PFA	PO	PE	PP
			F4	F2	F46	PFA	PO	PE	PP
Physical Performance	Specific Gravity	g/cm3	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	0.04	≤0.01	≤0.01	0.005	0.005	0.005
	Shrinkage rate of finished product	%	1~5	2.0	2~5	1~5	1~2	1~2	1~2
	Embrittlement coefficient	10-5/K	10~12	8.5~15.3	8.3~10.5	8.3~12	-	-	-
	Embrittlement temperature T1	°C	-180~-195	-62	-260	-180~-195	-40	-40	-20
	Hot resistance T2	°C	260	150	204	260	100	100	100
	Recommend working temperature T3	°C	≤180	≤100	≤150	≤200	≤85	≤85	≤85
Mechanical Performance	Hardness	SOSIXO	D50-65	D80	(R45)	D50-65	D40	D40	D40
	Friction coefficient f	-	0.06	0.14-0.17	0.06-0.11	0.06-0.11	-	-	-
	Tensile strength $\sigma_b$	MPa	13.7-24.5	45-48.3	20.0-24.5	14-28	≥10	6.9-14	7.5-14
	Bending strength $\sigma_w$	MPa	10.7-13.7	-	-	15-28	-	-	-
	Compression strength $\sigma_y$	MPa	111	68.6	-	111	-	-	-
	Impact strength $\sigma_k$	KJ/m2	16	19.7	Continuous	1 +	-55	45	50
	Ultimate elongation $\Delta\lambda$	%	250-350	30-300	250-270	300-500	480	300-600	600-700
	Breakdown voltage v	KV/mm	25~40	10.2	40	25~40	-	-	-
Processing Performance	Compression molding		Good	Good	Good	Good	Good	Good	Good
	Injection molding		-	Good	Good	Good	Good	Good	Good
	Lamination		Good	Good	Good	Good	Good	Good	Good
	Lamination		Good	Good	Good	Good	Good	Good	Good

# LINED VALVE

## Fluorine Plastic Performance

### Corrosion Resistance performance (theoretical reference)

Medium	Concentration (%)	Temperature (°C)	PTFE	PVDF	FEP	PFA	PO	PE	PP
Sulfuric acid	10~98	Normal temperature ~100	A	A~B	A	A	Concentration ≤50%	Concentration ≤60%	A
Nitric acid	5~98	Normal temperature ~100	A	A	A	A	Concentration ≤30%	Concentration ≤60%	A
Hydrochloric acid	10~38	Normal temperature ~100	A	A	A	A	Concentration ≤38%	Concentration ≤60%	A~B
Acetic acid	10~100	Normal temperature ~100	A	A~B	A	A	Concentration ≤10%	Concentration ≤60%	A
Chromic acid	50~100	Normal temperature ~70	A	A~B	A	A	Concentration ≤30%	Concentration ≤20%	A
Phosphoric acid	50~85	Normal tempera- ture~100	A~B	D	A~B	A~B	Concentration ≤85%	Concentration ≤80%	A
Trichloroethane	100	Normal temperature	C	B	C	C	X	X	X
Copper-sulfate	15	Normal temperature	A	C	A	A	Concentration ≤90%	Concentration ≤80%	A
Diethyl ether	100	Normal temperature	B	C	B	B	X	X	X
Ethyl acetate	100	Normal temperature	B	A	B	B	X	X	X
Petrol	100	Normal temperature	A	A~B	A	A	X	X	X
Hydrogen peroxide	3~30	Normal temperature	A	A	A	A	Concentration ≤30%	Concentration ≤60%	A
Nitrobenzene	100	Normal temperature	A	A~B	A	A	X	X	X
Superalkali	10-50	Normal tempera- ture~100	A	A	A	A	Concentration ≤80%	Concentration ≤60%	A
Sodium Hypochlorite	-	70	A	B	A	A	Concentration ≤80%	Concentration ≤60%	A~B
Hydroxyl acid	40~99	-10~30	A~B	B	A~B	A~B	Concentration ≤80%	Concentration ≤60%	A~B
Oleum	20	Normal temperature	A	B	A	A	X	X	X
Acrylonitrile	-	Normal temperature	B	C	B	B	-	-	-
Aniline	100	Normal temperature	B	B	B	B	Concentration ≤60%	Concentration ≤20%	B
Benzene	100	Normal temperature	B	C	B	B	X	X	X
Butyl acetate	100	Normal temperature	B	C	B	B	Concentration ≤60%	Concentration ≤20%	B
Tetrachloromethane	Reagent grade	Normal temperature	B	C	B	B	X	X	X

Data indicated are theoretical value for reference. Depending on valve type and DN size, temperature limitation may be reduced accordingly.

A = Excellent, B = Good, C = OK, D = Poor

Many factors influence corrosion rating such as temperature fluctuation, concentration and aeration of fluids, high velocity or abrasions in the fluid steam, etc. The physical properties of material are affected differently by each corrosive media and sometimes it is inevitable one property is sacrificed for gain in another property. The corrosion data is provided as a comprehensive theoretical guide indicating the possible range, user must consider all parameters and exercise sound engineering judgment in material selection.