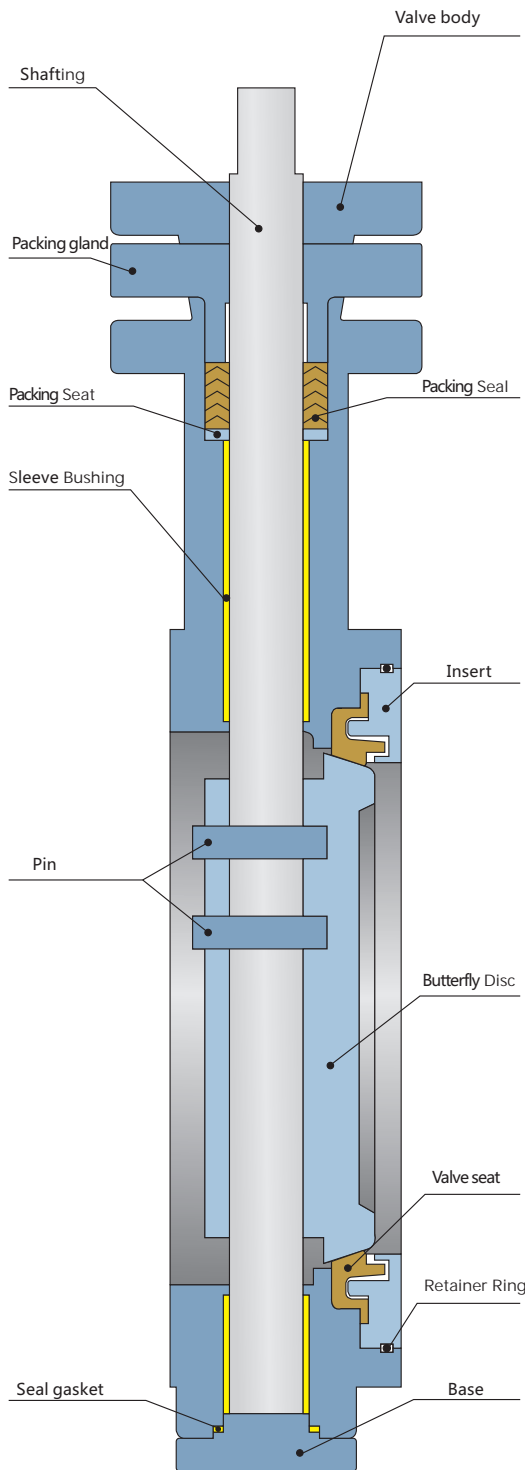




**AT-Pneumatik**

**High performance  
butterfly valve**





NO.	Part Identification	JIS10K\GBPN16\ANSI150LB		
1	Valve body	ASTMA216WCB	ASTM A351CF8	ASTMA351CF8M
2	Shaft	17-4PH	17-4PH	17-4PH
3	Insert	Carbon steel	316	316
4	Valve seat	RPTF PPL		
5	Butterfly plate	ASTM A351CF8	ASTM A351CF8	ASTMA351CF8M
6	Packing gland	ASTMA216WCB	ASTM A351CF8	ASTMA351CF8M
7	Packing Seal	RPTFE or graphlte		
8	Packing pad	316	316	316
9	Sleeve Bushing	316+RPTFE		
10	Shaft collar	316	316	316
11	Pin	17-4PH	17-4PH	17-4PH
12	Base			

#### Standard and specification

API 609	Flange type and clamp type butterfly valve
MSS SP-25	Valve standard marking system
MSS SP-44	Steel pipe flange
MSS SP-55	Quality standard for steel castings
MSS SP-61	Pressure testing of steel valves
MSS SP-69	Terminology for valves and connectors
ANSI B 31.3	Chemical plant and refinery piping
ANSI B 31.8	Gas transportation and distribution pipe system
API 598	Valve inspection and testing
ANSI B 16.10	Face-to-face and end-to-end dimensions of ferite valves
ANSI B 16.5	Pipe flanges and flanged fittings
ANSI B 16.47	NPS26-NPS60 large diameter steel flange
ANSI B 16.34	Flange end and butt welding end steel valves
ANSI B 31.1	Power plant pipes
ANSI B 31.4	Anhydrous ammonia and alcohol,system hydrocarbon transportation
ANSI/FCI 70-2-1991	Control valve seat leakage

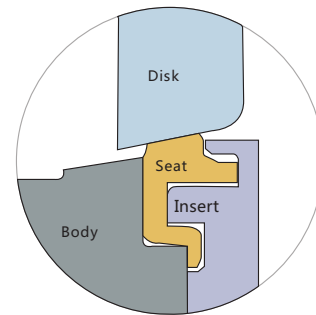
## Seats

High Performance Butterfly valve is according and conform to international standard. Butterfly valve used S-Type seal design to improve the sealing capability, significantly improve the wear and tear properties. Special type of RPTFE, PPL material is being used as seal, which have special characteristics of self compensating properties which the temperature increases resulting to increased the sealing capability.

Special mechanical design of disc and seal give an easy access on the seal, meaning no need to remove the butterfly disc, when necessary to replace the seal, just remove the retainer ring and valve disc insert, then the valve seat can be easily remove and replace.

For Packing seal replacement, a retainer ring must be remove and followed by the seals. The Packing seal is made of U-Cap seal which expand when temperature and pressure increases.

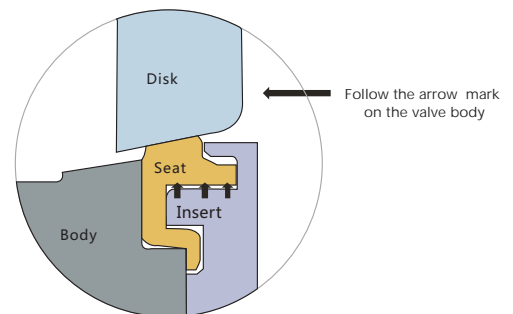
When the valve disc reaches on the butterfly seat seals slightly press, since seal have elastic capability, when the pressure and temperature increase on the valve seat, since seat is S type design, seal expand towards valve disk and body, this give perfect sealing.



## Test

The leak testing procedure followed international standard ANSI/FCI 70-2, where in pass the allowable minimum leakage VI leakage. This design of high performance butterfly valve pass the bubble test under MSS-SP61 procedure or even better than VI level leakage testing.

Always followed the arrow mark on the valve body this indicates the flow direction, improper flow direction may cause leakage.



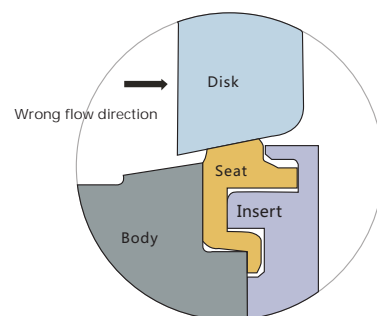
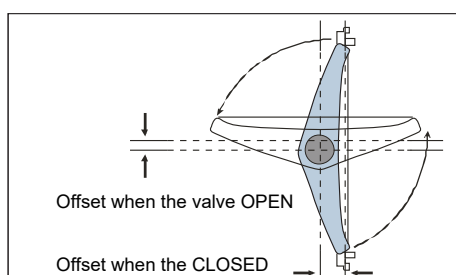
## Design of offset shaft and eccentric butterfly disc

When the butterfly valve is open, the butterfly disk and seal is not in contact meaning the disc is not touching on the seat.

When the valve is closed, the entire butterfly valve disc is in contact with the seat, when the valve is being pressured, valve seat expand against the disc, giving the perfect sealing.

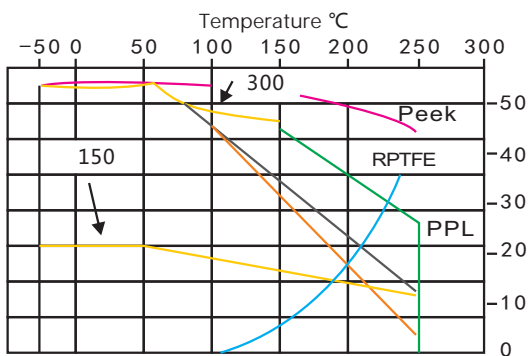
The eccentric design of the butterfly valve, gives an advantage of low torque resulting to smaller pneumatic or motorized actuator size.

It is important to follow the flow direction mark on the valve body, for correct flow direction to avoid damage on the seal and leakage. In case maybe wrong flow direction the valve seat may damage and cause permanent leakage, for the reason S type design may move towards the insert or retainer ring, may result for possible breakage of seal.



## Seat Material

Seat material and pressure rating, there are a lot of factor to be considered like temperature, pressure, type of flowing medium and working condition meaning, it is necessary to identify the valve is continuous open or only open for a certain period of time. you may contact our office for seal selction to conform to your requirement.



## Body Body Material

Maximum working pressure will be depending on the valve body material. Working pressure, temperature and medium considerable factor to identify the valve body material. Below table may used as reference, or you may contact our office for us to identify the valve body based on your requirements.

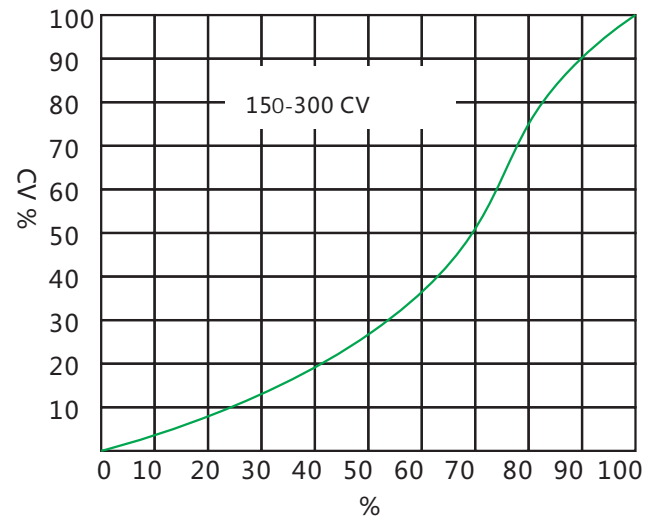
Rated value 150Lb body (bar)					
°C Temperature	Carbon steel	Ductile iron	Stainless steel 316	20# alloy	Monel
-20 to 38	19.7	17.2	19.0	15.8	15.8
93	17.9	16.2	16.5	13.8	13.8
149	15.8	14.8	14.8	12.4	13.1
204	13.8	13.8	13.4	11.0	12.8
260	11.7	11.7	11.7	10.3	11.7
	31	27.6	29.3	24.1	24.1

## Flow parameters

The following table provides a class 150 butterfly valve flow coefficient. Cv value indicates that pressure difference is 1 pounds per inch For 60 ° F (0.07 bar), temperature (15.6 □) per minute through the full open valve Of water flow, the unit for the number of gallons per minute.

### Flow coefficient (Cv)

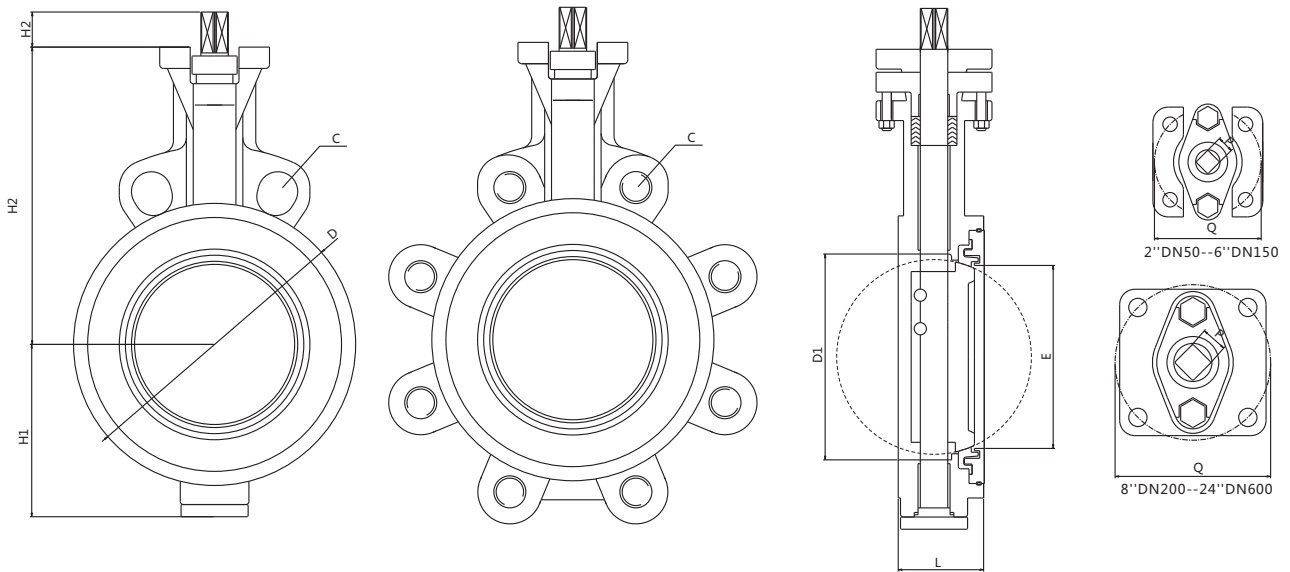
Size		Valve opening			
DN	NPS	30°	45°	60°	90°
50	2	17	33	54	83
65	2 ½	36	69	112	175
80	3	52	101	164	255
100	4	94	182	295	460
125	5	147	285	462	722
150	6	240	465	756	1180
200	8	455	883	1440	2240
250	10	743	1450	2350	3660
300	12	1150	2230	3610	5640
350	14	1440	2790	4520	7060
400	16	1910	3700	6010	9390
450	18	2500	4850	7880	12300
500	20	3110	6030	9800	15300
600	24	4650	9030	14700	22900



To confirm cv value of the valve at the middle position:

1. Look for the percentage of the maximum Cv value from the curve
2. Multiply the percentage of the maximum Cv value from the curve by the CV value from the flow data sheet






**JIS10K\GBPN16\ANSI150LB**

size		Approximatesize ( mm)												
NPS	DN	H1	H2	H3	L	D	D1	E	P	M	C			
											10K	PN16	150LB	
2"	50	65	138	16	43	96	48	40	11	F07	120	125	120.5	
2.5"	65	75	148	16	46	119	64	60	11	F07	140	145	139.5	
3"	80	82	168	18	46	132	82	76	11	F07	150	160	152.5	
4"	100	92	180	18	52	156	102	95	11	F07	175	180	190.5	
5"	125	115	202	21	56	186	122	115	14	F07	210	210	216	
6"	150	126	225	21	56	216	148	142	14	F10	240	240	241.5	
8"	200	165	265	25	64	268	197	189	17	F10	290	295	298.5	
10"	250	235	315	28	71	324	243	238	22	F12	355	355	362	
12"	300	258	342	32	78	381	295	282	27	F12	432	410	400	
14"	350	295	375	38	92	413	325	318	27	F14	455	470	476	
16"	400	315	410	60	102	470	372	365	36	F17	510	525	540	
18"	450	370	442	60	114	533	421	415	36	F16	565	585	578	
20"	500	398	458	70	127	580	470	458	42	F16	620	650	635	
24"	600	475	558	80	154	688	569	550	46	F16	730	770	749.5	

Products range...



The logo for AT-Pneumatik features a stylized 'A' and 'T' intertwined. The 'A' is a light gray triangle with a white circle inside, and the 'T' is a light gray rectangle. The text 'AT-Pneumatik' is written in a bold, black, serif font, with the 'AT' part overlapping the graphic.

**AT-Pneumatik**

The logo for ALL-TECHNIK & Components, Incorporated features a stylized 'A' and 'T' intertwined. The 'A' is a blue triangle with a white circle inside, and the 'T' is a light gray rectangle. The text 'ALL-TECHNIK' is written in a bold, black, serif font, with the 'AT' part overlapping the graphic. Below it, '& Components, Incorporated' is written in a smaller, black, sans-serif font.

**ALL-TECHNIK**  
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