

**CHECK
VALVE
SERIES**

KEY VALVES UK LTD

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● Standards Compliance

Design and Manufacture; Cast steel check valve to BS 1868, ASME B16.34 and API 6D;
 Forged steel check valve to API 602.
 Inspection and Test: API 598 or API 6D.
 End flange dimension: ASME B16.5 (for NPS ≤24) ;
 ASME B 16.47 series B、 API 605 or ASME B16.47 series A、 MSS SP-44(for NPS > 24) .
 BW end dimension: ASME B16.25.
 Socket-weld dimension: ASME B16.11.
 Face to face and end to end: ASME B16.10.
 Pressure-temperature ratings : ASME B16.34.
 Wall thickness dimension: API 600 and BS 1868.

● Flanged & Butt-Welding Ends Swing Check Valves Products Design Features

Flanged & Butt-Welding Ends Swing Check Valves are used in pipes under pressures between Class 150~900Lb, working temperatures between 29-570°C, They are used in industries include oil, chemistry, pharmaceutical, fertilizer, and power generation to prevent the backward flux of the media.

Main structural features:

1. Rational structure, reliable sealing, excellent performance, pretty appearance.
2. Co-radix alloy welded sealing surface, anti-wearing, erosion-proof abrasion-proof, and longer use life.
3. Inside-set bolt-bearing structure reduces leakage and reliable use.
4. Under pressures 16.0Mpa, Class1500, the valve belly, self-tightening structure offers a tighter offers a tighter sealing for a higher medium pressure.
5. Different parts materials and different sizes for flange, butt-welding are available for sensible combination according to different working facts and customers' requirements.

● The Features of Check Valve

Bolted Bonnet;
 Swing and lift disc;
 Metallic seating surfaces.

● Flanged Ends Piston-lift Type Check Valve Products Design Features

Flanged ends piston-lift type check valve are used in pipes under nominal pressures between ,Class 150~ 900. working temperatures between -46~ 550.

They are used in industries include oil, chemistry, pharmaceutical, fertilizer, and power generation to prevent the backward flux of the media. Main structural features:

1. Rational structure, reliable sealing, excellent performance, pretty appearance.
2. Co hard alloy welded sealing surface of the valve discs and seats, which is wearing, erosion proof, abrasion proof and long-lived.
3. Different parts materials and different sizes for flange & gasket-welding are available for sensible combination according to different working facts and customer's requirements.



Check Valve

● Products Performance Specification

Pressure grade		Class150~ 900
Test pressure (MPa)	Shell test	1.5 × PN
	Sealing test	1.1 × PN
Working temperature		-46°C~ + 570°C
Working Medium		Water, oil, natural gas, corrosive medium, etc.



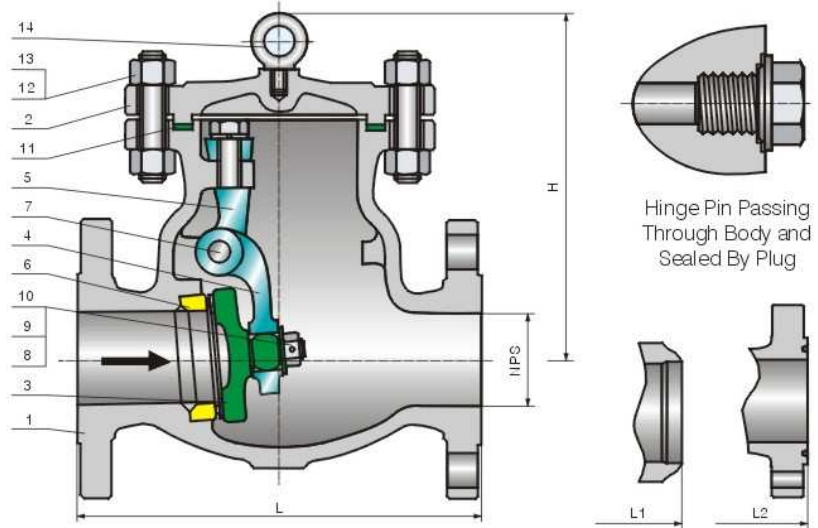
Cast Steel Swing Check Valve

● Design Description

- BB, Bolted bonnet,
- Swing type, Anti-rotation disc
- Renewable seat rings
- Non-penetrate disc shaft
- Horizontal or vertical service
- Flanged or butt welding ends

● Applicable Standards

- Design standard: BS 1868 & ASME B16.34
- Face to face: ASME B16.10
- End flanges: ASME B16.5
- Butt welding ends: ASME B16.25
- Inspection and test: API 598



Class 150~Class 600

● Materials of Parts

Valve Part Name	Carbon Steel		Alloy steel			Stainless Steel			
Body	A216WCB	A352LCB	A217 Wc6	A217 Wc9	A217 C5	A351 Cf8	A351 CF8M	A351 Cf3	A351 CF3M
Bonnet	A216WCB	A352LCB	A217 Wc6	A217 Wc9	A217 C5	A351 Cf8	A351 CF8M	A351 Cf3	A351 CF3M
Stem	A182 F6a	A182 F304	A182 F304	A182 F304	A182 F304	A182 F304	A182 F316	A182 F304	A182 F316L
Stud	A193 B7	A320 L7	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8M	A193 B8	A193 B8M
Nut	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8M	A194 8	A194 8M
Yoke	A216 WCB	A352LCB	A217 Wc6	A127 C5	A351 Cf8	A351 Cf8	A351 Cf8	A351 Cf3	A351 CF3M
Back Seat	A182 F6a	A182 F304	A182 F304	A182 F304	A182 F304	A182 F304	A182 F316	A182 F304L	A182 F316L
Packing Bushing	A276 410	A276 304	A276 304	A276 304	A276 304	A276 304	A276 316	A276 304	A276 316
Packing Plate	A216WCB	A352LCB	A217 Wc6	A217 Wc9	A217 Cs5	A351 Cf8	A351 CF8M	A351 Cf3	A351 CF3M

Cast Steel Swing Check Valve



● Dimensions Data

Class 150

Size	NPS	2	2.5	3	4	6	8	10	12	14	16	18	20	24	30	36
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
L/L1 (RF/BW)	in	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	60.00	77.00
	mm	203	216	241	292	356	495	622	699	787	864	978	978	1295	1524	1956
L2	in	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	51.50	-	-
	mm	216	229	254	305	368	508	635	711	800	876	991	991	1308	-	-
H	in	6.10	6.70	7.09	8.66	10.55	12.20	14.57	16.73	18.70	20.67	22.83	24.72	34.72	38.27	48.00
	mm	155	170	180	220	268	310	370	425	475	525	580	628	882	972	1220

Class 300

Size	NPS	2	2.5	3	4	6	8	10	12	14	16	18	20	24
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1 (RF/BW)	in	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00
	mm	267	292	318	356	445	533	622	711	838	864	978	1016	1346
L2	in	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88
	mm	283	308	333	371	460	549	638	727	854	879	994	1035	1368
H	in	6.89	7.28	7.80	9.25	11.10	13.19	15.15	18.1	20.47	21.81	23.62	26.38	29.53
	mm	175	185	198	235	282	335	385	460	520	554	600	670	750

Class 600

Size	NPS	2	2.5	3	4	6	8	10	12	14	16	18	20	24
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1 (RF/BW)	in	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L2	in	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38
	mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407
H	in	7.16	7.87	8.94	10.24	12.80	15.35	19.29	20.79	22.56	25.98	28.35	29.37	37.80
	mm	182	200	227	260	325	390	490	528	572	660	720	746	960

CLASS 900 and above proposed structure of self-sealing, flange connection For more information contact with the teji



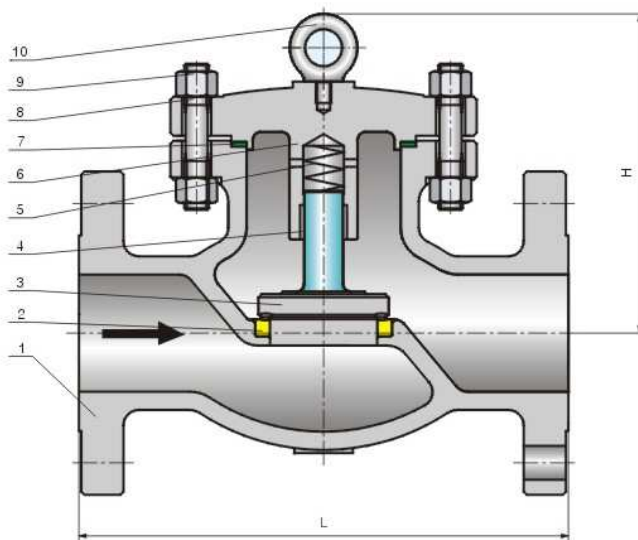
Cast Steel Lift Check Valve

● Design Description

BB, Bolted bonnet
 Swing type, Anti-rotation disc
 Renewable seat rings
 Non-penetrate disc shaft
 Horizontal or vertical service
 Flanged or butt welding ends

● Applicable Standards

Design standard: BS 1868 & ASME B16.34
 Face to face: ASME B16.10
 End flanges: ASME B16.5
 Butt welding ends: ASME B16.25
 Inspection and test: API 598



Class 150 ~ Class 900

● Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Seat ring	A216-WCB/CR13	A217-WC6+HF	A352-LCB+CR13
3	Disc ¹⁾	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Hinge	304	304	304
5	Spring	304	304	304
6	Bonnet	A216-WCB	A217-WC6	A352-LCB
7	Gasket	Spiral wound (Graphite+304)		
8	Bonnet gasket	A193-B7	A193-B16	A320-L7
9	Bonnet stud	A194-2H	A194-4	A194-7
10	Eyebolt ²⁾	Carbon steel		

Note: 1). Spiral wound construction, teflon optional.

2). NPS 6" & Larger.

3). Disc and seat (Integral with body) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Cast Steel Lift Check Valve



Dimensions Data

Class 150

Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	RF	108	117	127	140	165	203	216	241	292	356	406	495	622	699
	BW	108	117	127	140	165	203	216	241	292	356	406	495	622	699
d	in	13	19	25	32	38	51	64	76	102	127	152	203	254	305
H	mm	76	76	98	102	115	140	162	168	194	210	226	250	275	332

Class 300

Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	RF	152	178	203	216	229	267	292	318	356	400	445	559	622	711
	BW	152	178	203	216	229	267	292	318	356	400	445	559	622	711
d	in	13	19	25	32	38	51	64	76	102	127	152	203	254	305
H	mm	78	82	102	106	118	140	164	178	195	223	245	280	336	380

Class 600

Size	NPS	2	2 1/2	3	4	5	6	8
	DN	50	65	80	100	125	150	200
L	RF	292	330	356	432	508	559	660
	BW	292	330	356	432	508	559	660
d	in	51	64	76	102	127	152	200
H	mm	152	167	178	215	240	279	328

Class 900

Size	NPS	2	2 1/2	3	4	5	6	8
	DN	50	65	80	100	125	150	200
L	RF	368	419	381	457	559	610	737
	BW	368	419	381	457	559	610	737
d	in	47	57	73	98	121	146	190
H	mm	180	200	235	270	300	350	400

Check Valve



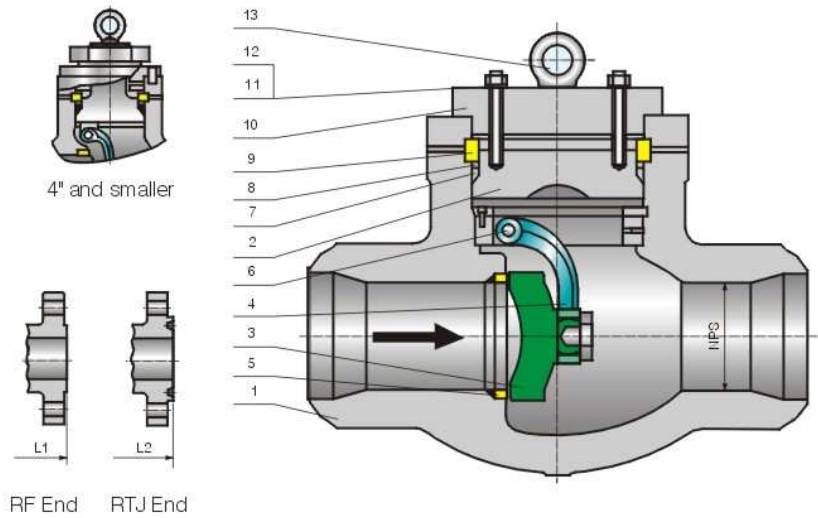
Cast Steel Swing Check Valve (pressure Seal)

Design Description

- PSB, Pressure seal bonnet
- Flexible wedge, fully guided
- Choice of solid or split wedge
- Renewable seat rings
- Forged-head stem
- Rising stem and non-rising handwheel
- Flanged or butt welding ends
- Available with BG(Bevel Gear) operator

Applicable Standards

- Design standard: BS 1868 & ASME B16.34
- Face to face: ASME B16.10
- End flanges: ASME B16.5
- Inspection and test: API 598



Class 900~Class 2500

Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A351-CF3M
2	Bonnet/cap	A216-WCB	A217-WC6	A351-CF3M
3	Disc	A105+HF	A182-F11+HF	A351-CF8M+HF
4	Hinge	A216-WCB	A217-WC6	A351-CF8M
5	Seat ring	A105+HF	A182-F11+HF	A240-316+HF
6	Hinge pin	A276-420	A276-304	A276-316
7	Bonnet gasket*	Steel ring	A304SS Ring	A316SS Ring
8	Adapter ring	Carbon steel	A276-420	A276-316
9	Retainer	Carbon steel	A276-420	A276-316
10	Bonnet clamp	Carbon steel	Alloy steel	Stainless steel
11	Bonnet stud	A193-B7	A193-B7	A193-B8M
12	Bonnet stud nut	A194-2H	A194-2H	A194-8M
13	Eyebolt	Carbon steel		

Note: 1). Graphite optional

2). Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Cast Steel Swing Check Valve (Pressure Seal)



Dimensions Data

Class 900

Size	NPS	2	2 ^{1/2}	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00
	mm	368	419	381	457	610	737	838	965
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12
	mm	371	422	384	460	613	740	841	968
H	in	11.65	11.81	11.81	12.87	17.36	19.76	26.14	30.51
	mm	296	300	300	327	441	502	664	775

Class 1500

Size	NPS	2	2 ^{1/2}	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50
	mm	368	419	470	546	705	832	991	1130
L2 (RTJ)	in	14.62	16.62	18.62	21.62	28.00	33.13	39.38	45.12
	mm	371	422	473	549	711	841	1000	1146
H	in	11.65	11.81	13.43	16.22	20.12	26.77	29.76	33.74
	mm	296	300	341	412	511	680	756	857

Class 2500

Size	NPS	2	2 ^{1/2}	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	17.75	20.00	22.75	26.50	36.00	40.25	50.00	56.00
	mm	451	508	578	673	914	1022	1270	1422
L2 (RTJ)	in	17.87	20.25	23.00	26.88	36.50	40.87	50.88	56.88
	mm	454	514	584	683	927	1038	1292	1445
H	in	16.38	16.50	17.36	18.86	20.12	27.99	33.50	39.37
	mm	416	419	441	479	511	711	851	1000

Check Valve



Wafer Type Check Valve

● Standards Compliance

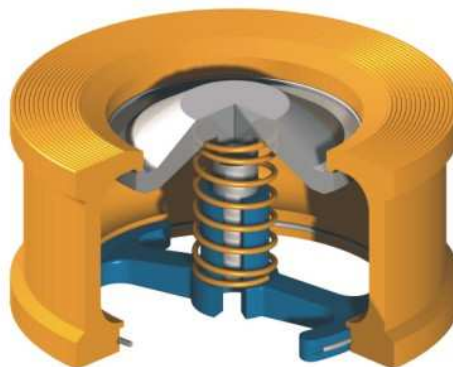
Design and Manufacture: API 594, API 6D
Face to face: API 594, API 6D, DIN 3202
Flanged connection: 2"~24" to
ANSI B16.5 22", 26"~36" to
MSS-SP-44 to API 605 on request
Test and inspection: API 598
Pressure-temperature
Ratings: ASME B 16.34 DIN 2401

● Product Introduction

The wafer flange clamped butterfly check valve is a energy-save product. It is manufactured based on the foreign advanced technology and in accordance with relative international standards. This product is featured by excellent retaining performance, high safety and reliability and low flow resistance. It is suitable for systems in the industries of petrochemical food processing, medicine, textile, paper-making. Water supply, drainage, metallurgy, energy. and light industry, etc, used as a check valve in one way.



Check Valve



Single disc lift type

● Features

1. Small in size, light in weight, compact in structure, easy in maintenance.
2. Two torsion springs are used exerting on each of the pair valve plates. Which close the plates quickly and automatically.
3. The quick-close action prevents the medium from flowing back and eliminates water-hammer effect.
4. This valve is short in length, so that it is rigid and easy to mount.
5. It is easy to install on pipeline which is laid horizontally or vertically.
6. This valve is tightly sealed without leakage under the pressure water test.
7. Safe and reliable in operation, high interference-resistance.
8. The connection dimensions of flanges accord with the standards of GB4216-84 GB4216.5-84.
9. The face to face dimensions are in accordance with ISO5752-82.

The stem of the valve should be perpendicular to the horizontal level when the valve is mounted on horizontal pipeline. For vertical installation the direction of flow should be downward.

Butterfly Dual-plate Cast Steel Check Valve

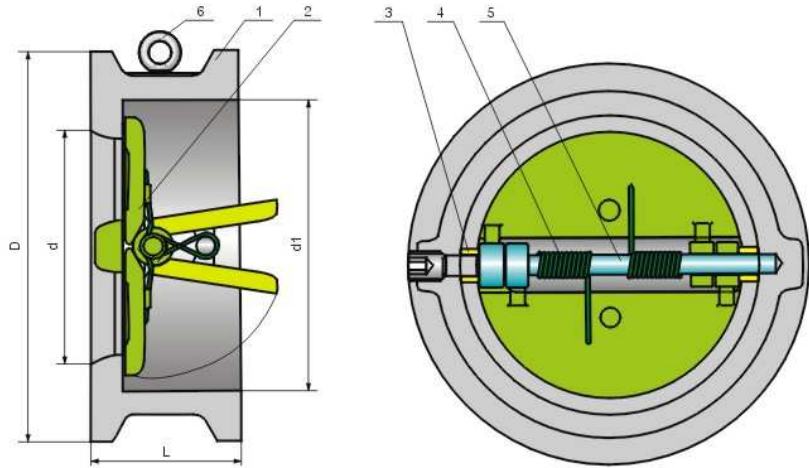


● Applicable Standards

Design and Manufacture: API 594/API 6D
 Design and Manufacture: ISO 14313
 Pressure-temperature ratings: ASME B 16.34
 Face to face: ASME B 16.10
 End flanges: ASME B16.5
 Inspection and test: API 598/API 6D

● Design Description

One piece body
 Butterfly swing type
 Dual-plate disc, long-pattern
 Renewable split disc
 Horizontal or vertical service
 Wafer ends
 Available with flanged ends



150Lb~ 900Lb

● Materials of Parts

NO.	Part name	ASTM Material		
		Carbon steel	18Cr-9Ni-2Mo	Carbon steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Plate	A216-WCB+CR13	A351-CF8M+HF	A352-LCB+CR13
3	Stop pin	A276-420	A276-304	A276-420
4	Back spring	A313-304	A313-316	A313-304
5	Hinge pin	A276-420	A276-304	A276-420
6	Eyebolt*	Carbon steel		

Note: 1). NPS 8" & Large;

Check Valve



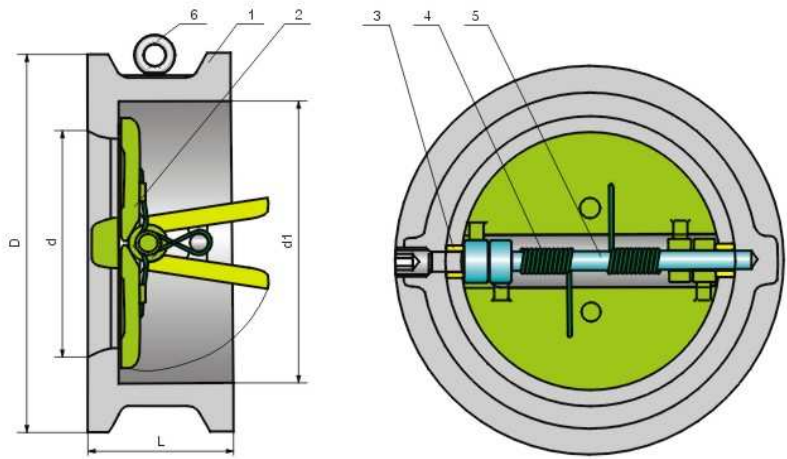
Dual-plate Cast Steel Check Valve

● Applicable Standards

Design and Manufacture: API 594/API 6D
 Design and Manufacture: ISO 14313
 Pressure and temperature: ASME B 16.34
 Face to face: ASME B 16.10
 End flanges: ASME B16.5
 Inspection and test: API 598/API 6D

● Design Description

One piece body
 Butterfly swing type
 Dual-plate disc, long-pattern
 Renewable split disc
 Horizontal or vertical service
 Wafer ends
 Available with flanged ends



150Lb~300Lb

● Dimensions Data

150Lb

Size	in	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L	in	2.38	2.62	2.88	2.88	3.88	5.00	5.75	7.12	7.25	7.50	8.00	8.62	8.75
	mm	60	67	73	73	98	127	146	181	184	191	203	219	222
D	in	4.00	4.88	5.38	6.75	8.62	10.88	13.25	16.00	19.62	20.12	21.50	23.75	28.12
	mm	103	122	135	173	220	277	337	407	448	512	547	604	715
d	in	2.00	2.50	3.25	4.00	6.00	8.00	10.00	12.00	13.75	15.75	17.75	19.75	23.62
	mm	51	65	80	102	152	203	254	305	350	400	450	500	600
d1	in	2.25	2.88	3.50	4.25	6.25	8.26	10.50	12.12	14.00	16.00	18.00	19.88	23.75
	mm	56	73	88	108	160	210	266	310	356	405	455	505	605
WT	Kg	2	3	4	6	13	25	39	54	80	117	138	163	331

300Lb

L	in	2.38	2.62	2.88	2.88	3.88	5.00	5.75	7.12	8.75	9.12	10.38	11.50	12.50
	mm	60	67	73	73	98	127	146	181	222	232	264	292	318
D	in	4.25	5.00	5.75	7.00	9.88	12.00	14.12	16.50	19.00	21.12	23.38	25.62	30.38
	mm	110	128	147	179	249	305	359	420	483	537	594	652	772
d	in	2.00	2.50	3.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	24.00
	mm	51	65	80	102	152	203	254	305	350	400	450	500	600
d1	in	2.25	2.88	3.50	4.25	6.38	8.25	10.50	12.25	14.00	16.00	18.00	20.00	24.00
	mm	58	73	88	108	160	210	266	310	355	405	455	505	608
WT	Kg	3	4	6	8	18	31	51	77	117	190	200	265	410

Butterfly Dual-plate Cast Steel Check Valve

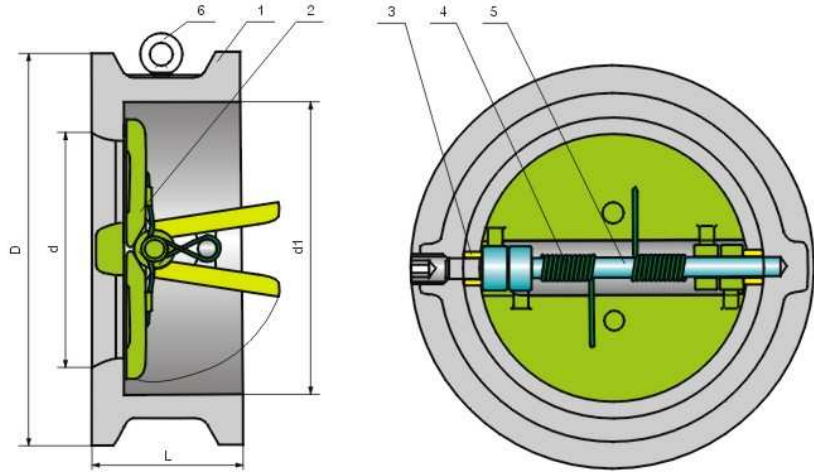


● Applicable Standards

Steel check valves: API 594/API 6D
 Steel check valves: ISO 14313
 Steel valves: ASME B 16.34
 Face to face: ASME B 16.10
 End flanges: ASME B16.5
 Inspection and test: API 598/API 6D

● Design Description

One piece body
 Butterfly swing type
 Dual-plate disc, long-pattern
 Renewable split disc
 Horizontal or vertical service
 Wafer ends
 Available with flanged ends



600Lb~900Lb

● Dimensions Data

600Lb

Size	in	2	2 1/2	3	4	6	8	10	12	14	16
	mm	50	65	80	100	150	200	250	300	350	400
L	in	2.38	2.62	2.88	3.12	5.38	6.50	8.38	9.00	10.75	12.00
	mm	60	67	73	79	137	165	213	229	273	305
D	in	4.38	5.00	5.75	7.50	10.38	12.50	15.62	17.88	19.25	22.12
	mm	111	128	147	191	264	318	398	455	490	562
d	in	2.00	2.50	3.00	4.00	6.00	7.88	9.88	12.00	13.25	15.25
	mm	51	65	80	102	152	200	250	305	337	387
d1	in	2.25	2.88	3.50	4.25	6.38	8.38	10.50	12.25	14.00	15.75
	mm	58	73	88	108	162	212	266	312	355	400
WT	Kg	4	5	8	11	26	55	95	140	223	360

900Lb

L	in	2.75	3.25	3.25	4.00	6.25	8.12	9.50	11.50	-	-
	mm	70	83	83	102	159	206	241	292	-	-
D	in	5.50	6.38	6.50	8.00	11.25	14.00	17.00	19.50	-	-
	mm	140	162	165	204	286	356	432	495	-	-
d	in	2.00	2.50	3.00	4.00	6.00	7.88	9.88	12.00	-	-
	mm	51	65	80	102	152	200	250	305	-	-
d1	in	2.25	2.88	3.50	4.25	6.38	8.38	10.50	12.25	-	-
	mm	58	73	88	108	162	212	266	312	-	-
WT	Kg	8	11	14	20	42	84	145	220	-	-

Check Valve