



High-New Technology Enterprise of China, National valve standard authorized unit

DESIGN: CHINA-L-BRAND, INC.

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Note: Wuzhou reserves all the rights.



Check valve series

High-New Technology Enterprise of China, National valve standard authorized unit



About Wuzhou



www.wuzhou-valve.com

High-New Technology Enterprise of China, National valve standard authorized unit

The company was established in 1978, which is a technological professional valve manufacturer. Presently it covers 121800m² including building space of 86900m², and owns 586 employees involving 82 senior & intermediate technicians. Also it developed CAD & CAM designing and ERP Planned Administration System of Enterprise's Resource. In addition, the company is in possession of fixed assets of RMB 380,000,000.00 Yuan (about USD 48,717,848.00) with advanced equipments such as processing center, numerical machine-tools and metal-machining facility, valve comprehensive performance test equipments consisting of physicochemical inspection NDE facility and spectral analysis, and has ability of fugitive emission test. It is a council unit of China Valve Association, Zhejiang Provincial High & new-tech Enterprise, Key High & new-tech Industrialized Unit of Zhejiang Province and Technology Advanced Enterprise. The company has acquired ISO 9001 certificate (the current version is ISO 2000) from DNV (Det Norske Veritas), ISO14001 Certificate of Environment Management System Certification, OHSAS Occupational Health and Safety Management System API-6D certificate issued by

American Petroleum Institute and CE certificate issued by TUV. Moreover, it is the pointing supply member unit of China Petrochemical Group Material Equipment Co., China Petroleum & Natural Gas Group Co., and Shanghai Baoshan Iron & steel plant. The hard-sealed high temp serial ball valves won the international invention Unika Gold Prize, national patent and was authorized as Grade I advanced products and National key project products by National Science & technology Ministry, the variable eccentric butterfly valve won the Gold prize of patent new products and the gate & globe valves have been approved as GradeI products by National Technology Surveillance Bureau.

The company provides high & medium pressure ball valves, butterfly valves, parallel gate valves, gate valves, globe valves, check valves and power station valves for petroleum, chemical engineering, metallurgy, light industry, power station, city building, water supply system, oil transportation, gas feeding, natural gas and long distance transportation pipes projects. In addition, the company supplies over 1000 sorts (8 main categories) of non-standard and special valves, some of whose parts are imported from other countries. The products diameter range is NPS 1/2" -120", the nominal pressure range is Class150-2500, and the operating temp. range is -320F -1380F. The valve material contains carbon steel, brass, stainless steel, heat-resist alloy steel, Monel, low-temp steel and other special steels. The driving device includes lever operator, electric driving,

pneumatic driving, gear transmission, worm wheel and worm handle transmission, air-liquid driving, electric-liquid driving and computer program controlled device etc. Our products are very popular in the whole nation and exported to America, Europe, Africa, Mid-east area and Singapore etc. The company holds "Quality first, Customer utmost and honesty base" as its management policy while it sets "Usability, creditability and reliability" as its target. Wuzhou Co. will welcome customers from domestic & abroad with first-rate brand, favorable prices and excellent after-sale service.



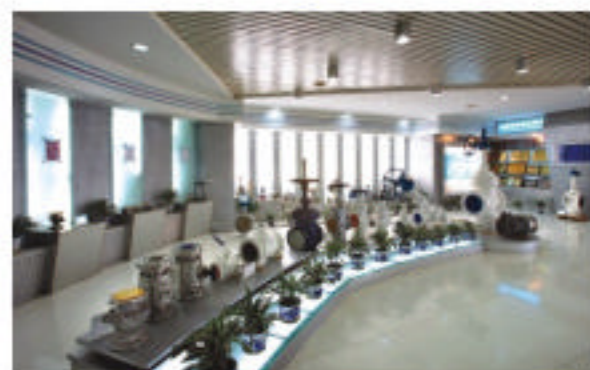
Human resource

The enterprise's development bases on talented person. The talented person is the support for enterprise's development, is ultimate guarantee to keep enterprise impregnable. Wuzhou Pays great attention to introduce and train talented person, attach importance to inspire and develop talented person. It still insists the principle of both ability and integrity for many years, selects middle age and youth knowledge, ability, enterprise and work spiritual cadres with high political responsibility sense and historical urgency sense, enrich all levels of management. Wuzhou has held large scale talented person training meeting successively for many times, developed talented person training project in the enterprise. In the talented person resources development, omnidirectionally trains century talented person team correspond with development in every effort, multi-level, multi-channel, and the multi-patterns.



The enterprise carries out comprehensive informative source planning management system ERP completely.

Brace up national manufacturing industry is the hot topic in nowadays. At present, our state's manufacturing industry is facing austere position, the general level has great distance with developed countries. It has become one of keys to restrict 21 centuries' economic development. Meanwhile, internationalization market competition is fierce and fiercer, many of our national manufacturing industries come across unprecedented difficulty. Exerting modern information technique to change and upgrade manufacturing industry is the developing road which with the situation of our country. Nowadays, the world has entered into informative times and stride to knowledge economic times. Taking information technology as leading high-tech to provide great support for manufacturing industries' development, and to impel the manufacturing industries' reform and the development. In recent years, Wuzhou Valve Company was experiencing span type development, already comprehensively implement synthesis informative resources plan management system ERP. Using modern information technology to transform and promote valve manufacturing industry combine informative and industrialization, further transit to modernization, realizes span type development in the short time to enhance productive forces.



Advanced Manufacturing Instruments Create Perfect Quality



Own high precise numerical control lathe and processing center, advanced equipments and testing instruments, polish technology and strict & perfect quality managing system, collect the science & technology team with professional technique elite and leading level, take full advantage of new technique new technology and new material to ensure stability and credibility of products. The quality of products is sourced from advanced manufacturing method and excellent consciousness source from continuous innovation.

As Wenzhou and even national big-size valve enterprise, Wuzhou Valve takes quality as the life of company, ensures advanced and credible quality of products through adopting advanced producing technique and technology, perfect producing and testing equipments.

1. Make use of advanced plasma overlaying welding to ensure seal performance and use life.
2. Make use of perfect equipment to do heat treatment to components to make sure use life and performance.
3. Adopt computer control equipment to ensure veracity and speed of pressure test.
4. Adopt advanced production line to make sure the quality of batch at the meanwhile of improving producing efficient.



Take strict testing as guarantee, improve grade as object



Chemical analysis



PMI Testing



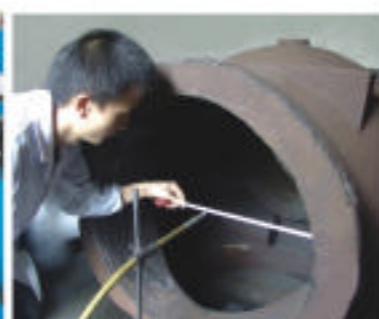
Digital pressure testing



Fugitive Emission testing



Pressure Testing



X-Ray Testing

Wuzhou does strict test to every product. The high responsibility of checker is dissolved to every component, plus the most advanced testing equipment and strict scientific management to make every

product endure customers' picking. Wuzhou human promises every product leaving factory is eligible. That is the secret of salable for Wuzhou product.

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Check Valve Series

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Standard Product Type



Cast valves

Valve Type & Class(lb)	Size(in, mm)																							
	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	28 700	30 750	32 800	36 900	40 1000	42 1100	48 1200	56 1400	60 1500		
Swing check bolted cover	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	2500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Swing check Pressure seal	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	2500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Wafer double disc	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
900		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
1500		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2500		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wafer Lift check	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Forged valves

Valve Type & Class(lb)	Size(in, mm)																
	1/2 15 ^h	1/4 20 ^m	1 25 ⁿ	1 1/2 10 ⁿ	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600
Swing check	800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Piston check Lift	800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Piston check Pressure seal	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Y-Type	800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Model illustration



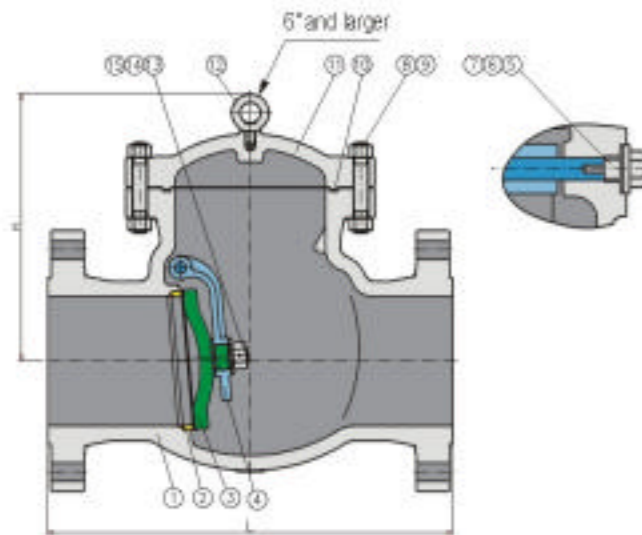
Cast valves

Item	Significance	Code and instruction	
1	Function	H-with damper N-NACE Ignore this item due to no function requested	
2	Type	H	
3	Driving	Check valve don't have driving operation	
4	Connection end	7-wafer type, 7J-wafer type, Ring Type Joint, 4-flanged type, 4J-flanged type	
5	Structure	1-Lift type, 6-dual plate swing type	
6	Sealing face material	H-13Cr/13Cr, W-body material, Y-SS/hard face alloy, MMonel, E-hard face alloy/hard face alloy, A-No. 20 alloy, T-bronze alloy, X-butadiene-acrylonitrile rubber, F-PTFE, S-Witon, K-EPCDM, G-silicone rubber	
7	Pressure Class	Nominal pressure (European standard)	8-PN0.6Mpa, 10-PN1.0Mpa, 16-PN1.6Mpa, 25-PN2.5Mpa, 40-PN4.0Mpa, 63-PN6.3Mpa, 100-PN10.0Mpa, 160-PN16.0Mpa, 250-PN25.0Mpa,
		Nominal pressure (American standard)	20-PN2.0Mpa, 50-PN5.0Mpa, 110-PN11.0Mpa, 150-PN15.0Mpa, 260-PN26.0Mpa, 420-PN42.0Mpa,
		Class	A1-Class150, A3-Class300, A4-Class400, A6-Class600, A8-Class900, A15-Class1500, A25-Class2500
		JIS K	K1-JIS 10K, K2-JIS 20K
8	Body material	C-WCB, A105, C6-WCB, F11, C9-WCB, F22, CL-LCB, LF1, P8-CF8, 304, P3-CF3, 304L, R8-CF8M, 316, R3-CF3M, 316L, P-ZG1Cr18Ni9Ti, 1Cr18Ni9Ti, R-ZG1Cr18Ni12Mo2Ti, 1Cr18Ni12Mo2Ti, Ti-Ti and Ti alloy, T-bronze and bronze alloy	
9	Trim	Ignore this item since there is no special request for customer P8-304, P3-304L, R8-316, R3-316L, M-Monel, A-No. 20 alloy, T-bronze alloy, Ti-Ti and Ti alloy	
10	Spring	P8-304, P3-304L, R8-316, R3-316L, N6-Inconel 600, N7-Inconel 750	
11	Added mark	Usually ignore this item L-PN1.0-PN4.0Mpa Long pattern wafer type piston check valve D-PN16.0Mpa Pressure, UseGB/T 9112-9124, HG 20592-20614, Flanged standard of DIN 2543-2548 check valve T-Use lug wafer type dual plate swing check valve	

Cast Steel Bolted Cover Check Valve

Class 150

Bolted cover, swing type

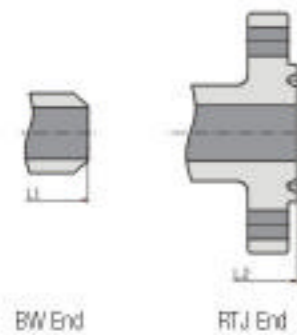


Parts list

No:	Parts	Material
1	Body	ASTM A216 Gr WCB
2	Seat ring	ASTM A105+STL No.6
3	Disc	ASTM A216 Gr WCB+13Cr
4	Hinge	ASTM A216 Gr WCB
5	Hinge pin	ASTM A276 410
6	Washer	ASTM A276 410
7	Plug	ASTM A276 410
8	Cover bolt	ASTM A193 Gr B7
9	Cover nut	ASTM A194 Gr 2H
10	Gasket	304S.S. Jacketed Graphite
11	Cover	ASTM A216 Gr WCB
12	Eye bolt	C.S.
13	Pin	ASTM A276 410
14	Nut	304S.S.
15	Washer	ASTM A276 410

Features

- Face to face and end to end dimension: ASME B16.10
- Flange dimension:
24" and smaller valves: ASME B16.5
28" and larger valves: ASME B 16.47 series A
- Wall thickness:
24" and smaller to API 600
28" and larger to manufacturer's standard
- B. W. End to ASME B16.25



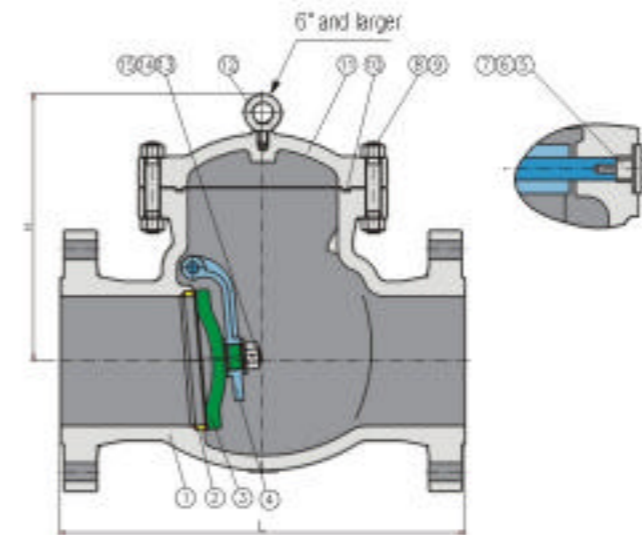
Dimensions and weights

Valve Size	in.	1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24	30	36	40	42	48	56	60
L-L1 (RF-BW)	in.	6.5	8	8.5	9.5	11.5	13	14	19.5	24.5	27.5	31	34	38.5	38.5	51	60	77	67.8	72.0	85.8	90.6	94.5
	mm	165	203	216	241	292	330	356	495	622	698	787	864	978	978	1295	1524	1956	1721	1829	2190	2300	2400
L2(RTJ)	in.	7.0	8.5	9	10	12	13.5	14.5	20	25	28	31.5	34.5	39	39	51.5	60.5	77.5	67.8	72.0	85.8	90.6	94.5
	mm	178	216	229	254	305	343	368	508	635	711	800	877	991	991	1308	1537	1969	1721	1829	2190	2300	2400
H	in.	6.69	6.88	7	7.5	8.63	9.25	12.75	15.13	17.63	21.25	22	24.63	25.63	26.63	34.63	45.25	53.13	46.9	48.4	62.3	75.2	90.4
	mm	170	175	178	191	219	235	324	384	448	540	559	626	651	676	880	1140	1340	1190	1230	1583	1910	2295
WT(Kg)	RF	18	20	24	35	55	64	96	160	245	345	510	660	850	1050	1450	2350	3050	4320	4700	5780	8320	11830
	BW	12	14	17	26	37	52	90	133	213	294	440	568	750	920	1270	2250	3150	3880	4200	4890	7410	9400

Cast Steel Bolted Cover Check Valve

Class 300

Bolted cover, swing type

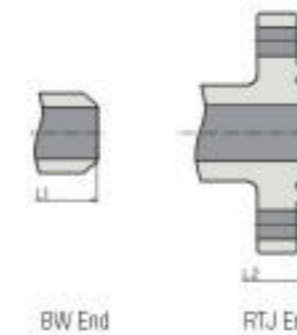


Parts list

No:	Parts	Material
1	Body	ASTM A216 Gr WCB
2	Seat ring	ASTM A105+STL No.6
3	Disc	ASTM A216 Gr WCB+13Cr
4	Hinge	ASTM A216 Gr WCB
5	Hinge pin	ASTM A276 410
6	Washer	ASTM A276 410
7	Plug	ASTM A276 410
8	Cover bolt	ASTM A193 Gr B7
9	Cover nut	ASTM A194 Gr 2H
10	Gasket	304S.S. Jacketed Graphite
11	Cover	ASTM A216 Gr WCB
12	Eye bolt	C.S.
13	Pin	ASTM A276 410
14	Nut	304S.S.
15	Washer	ASTM A276 410

Features

- Face to face and end to end dimension: ASME B16.10
- Flange dimension:
24" and smaller valves: ASME B16.5
28" and larger valves: ASME B 16.47 series A
- Shell wall thickness:
24" and smaller to API 600
28" and larger to manufacturer's standard
- B. W. End to ASME B16.25



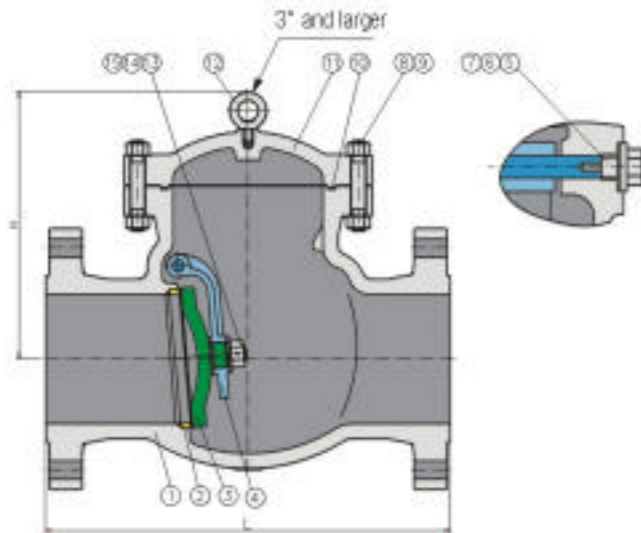
Dimensions and weights

Valve Size	in.	1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24	30	36	40	42	48	56	60
L-L1 (RF-BW)	in.	9.5	10.5	11.5	12.5	14	15.75	17.5	21	24.5	28	33	34	38.5	40	53	62.75	82	82.0	90.7	95.8	90.5	94.5
	mm	241	267	292	318	356	400	444	533	622	711	838	864	978	1016	1345	1594	2063	2063	2350	2190	2300	2400
L2(RTJ)	in.	10	11.12	12.12	13.15	14.62	16.37	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	63.75	83.11	82	90.7	95.8	90.5	94.5
	mm	254	283	308	334	371	416	460	549	638	727	854	879	994	1035	1369	1619	2111	2063	2350	2190	2300	2400
H	in.	7.4	7.75	8	8.75	10.88	11.83	13.25	16.25	19.25	22.13	23.5	25.38	29.88	33.63	37	50	60.63	64.6	60.0	62.5	96.5	104.5
	mm	188	197	203	222	276	295	337	413	464	562	597	645	759	854	940	1270	1540	1640	1580	2350	2450	2650
WT(Kg)	RF	31	35	37	60	82	110	155	268	388	485	740	950	1200	1350	2200	3400	5000	6050	6400	7500	13525	14590
	BW	28	32	35	50	65	70	128	220	270	400	555	800	970	1070	1790	2650	4000	4800	6300	6832	12800	14000

Cast Steel Bolted Cover Check Valve

Class 600

Bolted cover, swing type

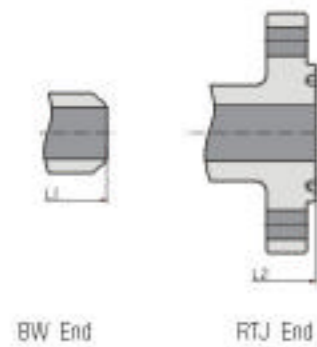


Parts list

No.	Parts	Material
1	Body	ASTM A216 Gr.WCB
2	Seat ring	ASTM A105+STL No.6
3	Disc	ASTM A216 Gr.WCB+13Cr
4	Hinge	ASTM A216 Gr.WCB
5	Hinge pin	ASTM A276 410
6	Washer	ASTM A276 410
7	Plug	ASTM A276 410
8	Cover bolt	ASTM A193 Gr.B7
9	Cover nut	ASTM A194 Gr.2H
10	Gasket	304S.S. Jacketed Graphite
11	Cover	ASTM A216 Gr.WCB
12	Eye bolt	C.S.
13	Pin	ASTM A276 410
14	Nut	304S.S.
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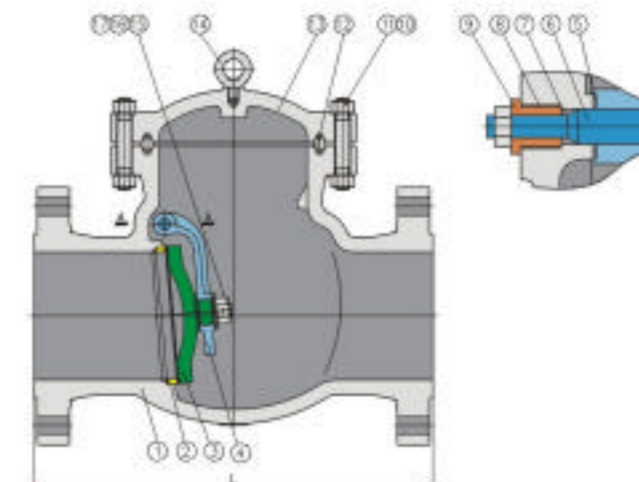
Dimensions and weights

Valve Size	in.	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48	56	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1100	1200	1400	
L-L1 (RF-BW)	in.	115	13	14	17	22	26	31	33	35	39	43	47	55	57	63	65	700	820	92.0	82.6	90.5	106.7	
	mm	292	330	359	432	559	660	787	838	889	991	1092	1194	1387	1446	1600	1651	1776	2083	2337	2100	2300	2540	
L2(RTJ)	in.	11.02	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.5	63.5	65.5	700	820	92.0	82.0	90.5	106.7	
	mm	285	333	359	435	562	663	790	841	892	994	1095	1200	1407	1461	1613	1664	1776	2083	2337	2100	2300	2540	
H	in.	8.25	8.60	10.5	11.75	15	18.75	21.60	22.60	26.38	30.10	35.25	38.38	40.75	46	53.10	56.25	58.3	63.8	68.1	68.1	75.4	80.7	
	mm	210	219	267	299	381	476	549	575	670	765	895	975	1111	1219	1349	1429	1480	1620	1730	1735	1914	2033	
WT(Kg)	RF	40	55	72	100	170	270	420	620	840	1100	1450	1800	2100	3000	3500	4100	5000	6200	8900	8125	10100	13800	31256
	BW	31	45	60	85	225	365	500	715	980	1290	1740	2200	2600	3600	4300	5100	6425	7250	8400	12500	28300		

Cast Steel Bolted Cover Check Valve

Class 900/1500/2500

Bolted cover, swing type

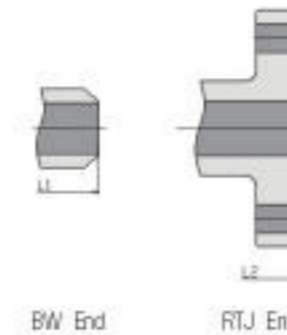


Parts list

No.	Parts	Material
1	Body	ASTM A216 Gr.WCB
2	Seat ring	ASTM A105+STL No.6
3	Disc	ASTM A216 Gr.WCB+13Cr
4	Hinge	ASTM A216 Gr.WCB
5	Washer	ASTM A276 410
6	Arm rod	ASTM A276 410
7	Gasket ring	ASTM A182 F304
8	Plug	ASTM A276 410
9	Push bolt	ASTM A276 410
10	Cover bolt	ASTM A193 Gr.B7
11	Cover nut	ASTM A194 Gr.2H
12	Gasket	Soft Iron
13	Cover	ASTM A216 Gr.WCB
14	Eye bolt	C.S.
15	Pin	ASTM A276 410
16	Nut	304S.S.
17	Washer	ASTM A276 410

Features

- Face to face and end to end dimension: ASME B16.10
- Flange dimension: ASME B16.5
- Wall thickness: API 600
- B. W. end to ASME B16.25

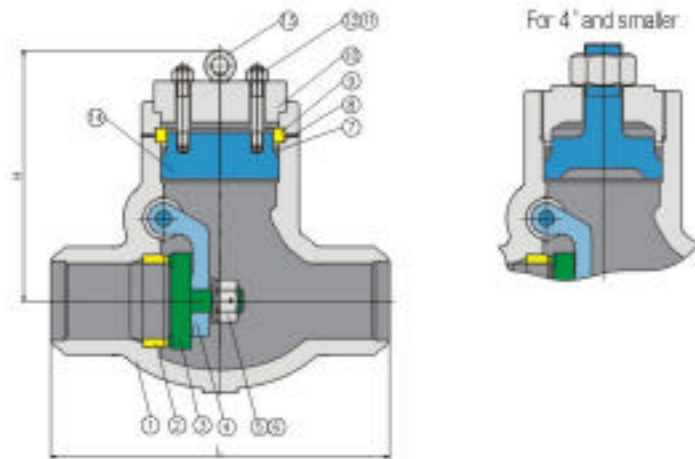


Dimensions and weights

Valve Size	in.	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	800	900	1000	1100	1200	
900lb	L-L1(RF-BW)	in.	14.5	16.5	15	16	24	29	33	38	40.5	44.5	48.0	52.0	61.0	70.0	70.0	80.7	80.7	85.5	102.4	102.4
		mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1780	1780	2050	2050	2160	2600	2600
	L2(RTJ)	in.	14.82	16.82	15.12	18.12	24.12	29.12	33.12	38.12	41.0	44.88	48.5	53.1	61.5	70.0	70.0	80.7	80.7	85.5	102.4	102.4
	mm	371	422	384	460	613	740	841	968	1038	1140	1222	1334	1563	1780	1780	2050	2050	2160	2600	2600	
	H	in.	12.83	13.75	12.83	16	18.88	22.25	25.13	30.5	29.9	29.8	33.0	37.8	45.0	48.8	52.5	55.7	61.5	63.4	85.4	78.1
	mm	321	349	321	406	479	565	664	775	736	756	837	957	1141	1240	1332	1414	1561	1611	1662	1984	
	WT(kg)	RF	70	150	90	150	305	516	810	1120	1723	1832	2220	2800	3600	3875	4250	5130	6800	8300	9013	10876
		BW	50	71	68	113	230	387	632	901	1363	1463	1850	2300	3100	3100	3750	4800	5420	7100	8133	9966
1500lb	L-L1(RF-BW)	in.	14.5	16.5	18.5	21.5	27.75	32.75	38	44.5	49.5	54.5	60.5	65.5	76.5							
		mm	368	419	470	546	705	832	991	1130	1257	138.4	1507	1684	1943							
	L2(RTJ)	in.	14.82	16.82	18.82	21.82	28	33.15	39.4	45.12	50.2	55.4	61.4	66.4	77.8							
	mm	371	422	473	549	711	842	1000	1148	1276	1407	1559	1686	1972								
	H	in.	12.83	13.75	14.38	16.5	20.13	26.75	29.75	33.75	31.3	32.4	36.0	38.8	46.5							
	mm	321	349	365	419	511	680	756	857	795	824	914	985	1180								
	WT(kg)	RF	70	110	170	300	685	1180	1950	2750	3952	2058	2800	3420	4275							
		BW	50	87	135	245	560	965	1480	2180	1388	1542	2400	2610	3710							
2500lb	L-L1(RF-BW)	in.	17.75	20	22.75	26.5	36	40.25	50	56												
		mm	451	508	578	673	914	1022	1270	1422												
	L2(RTJ)	in.	17.87	20.25	23	26.88	36.5	40.87	50.88	56.88												
	mm	454	514	584	683	927	1038	1292	1445													
	H	in.	16.38	16.5	17.38	18.88	20.13	28	33.5	39.38												
	mm	416	419	441	479	511	511	711	851	1000												
	WT(kg)	RF	150	240	350	650	1450	2580	3960	5700												
		BW	120	195	280	540	1200	2200	3150	4550												

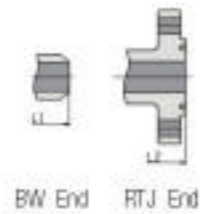
Cast Steel Pressure Seal Check Valve

Class 900/1500/2500
Pressure seal cover, swing type



Features

- End to end dimension and face to face dimension, ASME B16.10
- Flange Dimension ASME B16.5
- Wall thickness: API 600
- B.W. end to ASME B16.25



Dimensions and weights

Valve Size	in. mm	2		2 1/2		3		4		6		8		10		12		14		16		
		50	65	80	100	150	200	250	300	350	400	500	600	700	800	900	1000	1100	1200	1300	1400	
900lb	L (BW)	8.5	10	12	14	20	26	31	36	39	43	47	51	55	59	63	67	71	75	79	83	
	L1 (RF)	14.5	16.5	18.5	21.5	27.5	32.5	37.5	42.5	47.5	52.5	57.5	62.5	67.5	72.5	77.5	82.5	87.5	92.5	97.5	102.5	
	L2 (RTJ)	14.62	16.62	18.62	21.62	27.62	32.62	37.62	42.62	47.62	52.62	57.62	62.62	67.62	72.62	77.62	82.62	87.62	92.62	97.62	102.62	
	H	7.4	8.27	9.14	10.01	14.5	20.12	24.17	27.76	28.98	29.76	30.54	31.32	32.10	32.88	33.66	34.44	35.22	36.00	36.78	37.56	38.34
	WT (kg)	48	63	80	122	254	511	808	1448	1723	1832	1941	2050	2159	2268	2377	2486	2595	2704	2813	2922	3031
		RF	33	44	56	84	177	383	703	1128	1353	1463	1573	1683	1793	1903	2013	2123	2233	2343	2453	2563
1500lb	L (BW)	8.5	10	12	14	22	28	34	39	42	47	51	55	59	63	67	71	75	79	83	87	
	L1 (RF)	14.5	16.5	18.5	21.5	27.5	32.5	37.5	42.5	47.5	52.5	57.5	62.5	67.5	72.5	77.5	82.5	87.5	92.5	97.5	102.5	
	L2 (RTJ)	14.62	16.62	18.62	21.62	27.62	32.62	37.62	42.62	47.62	52.62	57.62	62.62	67.62	72.62	77.62	82.62	87.62	92.62	97.62	102.62	
	H	10.43	10.43	10.63	14.57	18.7	22.44	24.8	30.31	31.3	32.44	33.45	34.46	35.47	36.48	37.49	38.50	39.51	40.52	41.53	42.54	43.55
	WT (kg)	58	73	91	128	332	588	1023	1528	1852	2058	2264	2470	2676	2882	3088	3294	3500	3706	3912	4118	4324
		BW	40	51	69	104	228	458	713	1148	1388	1542	1696	1850	2004	2158	2312	2466	2620	2774	2928	3082
2500lb	L (BW)	11	13	14.5	18	24	30	36	41	47	53	59	65	71	77	83	89	95	101	107	113	
	L1 (RF)	17.75	20	22.75	26.5	36	40.25	50	56	62	68	74	80	86	92	98	104	110	116	122	128	
	L2 (RTJ)	17.87	20.25	23	26.88	36.5	40.87	50.88	56.88	62.88	68.88	74.88	80.88	86.88	92.88	98.88	104.88	110.88	116.88	122.88	128.88	
	H	11.02	12	12.2	14.57	19.1	21.42	27.95	31.5	33.5	35.5	37.5	39.5	41.5	43.5	45.5	47.5	49.5	51.5	53.5	55.5	57.5
	WT (kg)	86	113	139	213	548	988	1598	2298	2898	3498	4098	4698	5298	5898	6498	7098	7698	8298	8898	9498	10098
		BW	52	88	108	158	383	638	1198	1723	2248	2773	3298	3823	4348	4873	5398	5923	6448	6973	7498	8023

Forged Steel Swing Check Valve

Class 800/900/1500
Bolted cover, swing type



Structural features

- Bolted bonnet or welded Cover
- Threaded ends or socket welding ends
- Swing type
- Rolled-in seat ring

Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: API 602, BS 5352
- Inspection and test: API 598

Parts list

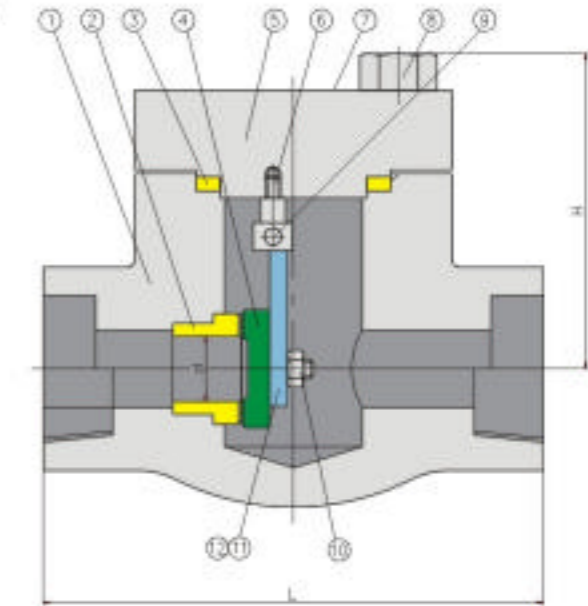
No:	Parts	Material
1	Body	ASTM A105N
2	Seat Ring	A276 410/Steelite Overlay
3	Gasket	304SS Spiral Wound W/Graphite
4	Disc	ASTM A276 420
5	Cover	ASTM A105N
6	Supporter	ASTM A276 304
7	Nameplate	Aluminum
8	Bolt	ASTM A193 Gr B7
9	Hinge Pin	ASTM A276 304
10	Hinge	ASTM A276 420
11	Nut	ASTM A276 304
12	Washer	ASTM A276 304

Dimensions & weights(800lb)

Size(in.)	Dim.(mm)			Wt.(Kg)		
	Conv.	d	L	H	BB	WB
1/2	10	79	61	1.0	0.9	
3/4	13.6	92	78	1.9	1.6	
1	18	111	84	3.9	3.8	
1 1/4	24	120	101	4.5	4.3	
1 1/2	29	120	120	7.3	7.0	
2	36.5	140	133	10.0	9.1	

Dimensions & Weights(900lb/1500lb)

Size(in.)	Dim.(mm)			Wt.(Kg)		
	Conv.	d	L	H	BB	WB
1/2	10	111	79	3.0	2.9	
3/4	13	111	79	3.6	3.2	
1	17.5	120	97	4.3	4.0	
1 1/4	23	120	105	6.1	5.8	
1 1/2	30	140	120	8.8	8.2	
2	35	178	140	12.6	11.5	



Body material available in F304, F316, F304L, F316L, F11, F22, F5

Forged Steel Piston Check Valve

Class 800/900/1500

Structural features

- Bolted bonnet or welded Cover
- Threaded ends or socket welding ends
- Spring loaded disc or piston type disc
- Integral HF seat

Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: API 602, BS 5352
- Inspection and test: API 598

Parts list

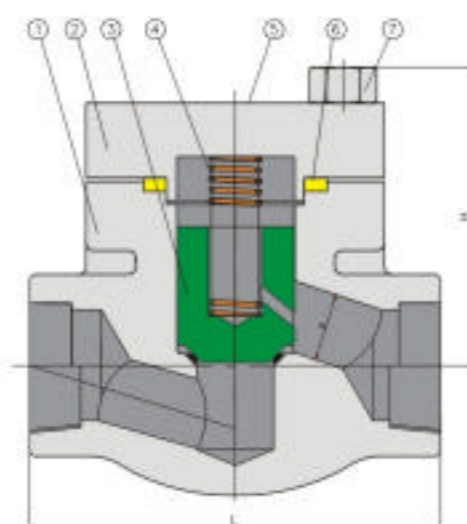
No:	Parts	Material
1	Body	ASTM A105N/Steelite Overlay
2	Cover	ASTM A105N
3	Disc	ASTM A276 420
4	Spring	304SS
5	Nameplate	Aluminum
6	Gasket	304SS Spiral Wound W/Graphite
7	Bolt	ASTM A193 Gr B7



Welded Cover (WC)



Ball Type Disc



Body material available in F304, F316, F304L, F316L, F11, F22, F5

Dimensions & weights(800lb)

Size(in.)		Dim.(mm)			Wt.(Kg)	
Conv.	Std.	d	L	H	BB	WB
3/8		6.4	79	61	1.1	1.0
1/2	3/8	10	79	61	1.2	1.1
3/4	1/2	13	92	65	1.5	1.2
1	3/4	17.5	111	79	3.1	2.9
1 1/4	1	23	120	95	3.9	3.3
1 1/2	1 1/4	30	152	103	5.6	4.9
2	1 1/2	35	172	118	8.9	8.1
	2	46	200	132	12.5	10.9

Dimensions & Weights(900lb/1500lb)

Size(in.)		Dim.(mm)			Wt.(Kg)	
Conv.	d	L	H	BB	WB	
1/2	10	111	79	3.4	3.2	
3/4	13	111	79	3.3	3.1	
1	17.5	120	97	5.5	4.8	
1 1/4	23	152	104	6.0	5.4	
1 1/2	30	172	120	9.2	8.5	
2	35	200	139	12.9	11.2	

Forged Steel Y-Type Piston Check Valve

Class 800



Structural features

- Bolted bonnet or welded Cover
- Threaded ends or socket welding ends
- Integral HF seat

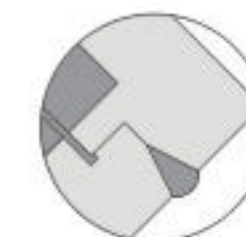
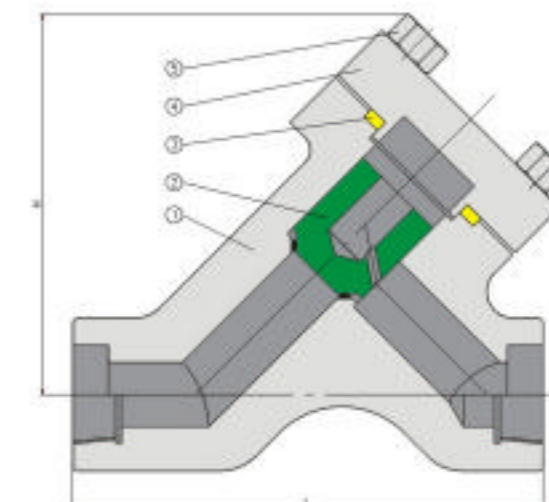
Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: API 602
- Inspection and test: API 598

Parts list

No:	Parts	Material
1	Body	ASTM A105N/Steelite Overlay
2	Disc	ASTM A276 420
3	Gasket	304SS Spiral Wound W/Graphite
4	Cover	ASTM A105N
5	Bolt	ASTM A193 Gr B7

• Body material available in F304, F316, F304L, F316L, F11, F22, F5



Welded Cover (WC)

Dimensions & weights

Size(in.)		Dim.(mm)			Wt.(Kg)	
Conv.	Std.	d	L	H	BB	WB
3/8		6.4	98	85	3.6	3.0
1/2	3/8	9.5	98	85	3.6	3.0
3/4	1/2	12.7	110	95	4.3	3.7
1	3/4	17.5	120	105	7.2	6.5
1 1/4	1	24	140	114	8.8	8.5
1 1/2	1 1/4	29.5	140	114	9.0	8.0
2	1 1/2	35	170	132	11.2	10.9
	2	45.5	200	145	13	12.5

Forged Steel Pressure Seal Piston Check Valve

Class 900/1500/2500

Structural features

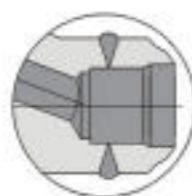
- Pressure-seal Cover
- Socket welding ends and butt-welding ends
- Piston type disc
- Integral HF seat

Standards

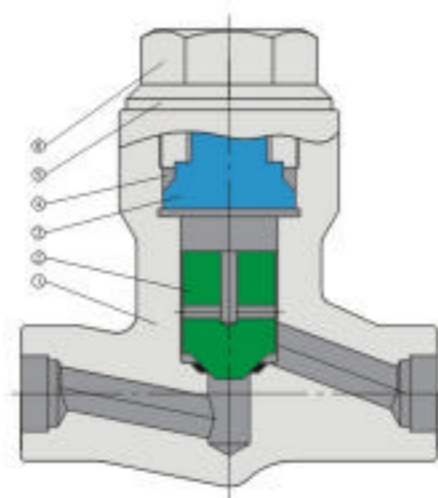
- Socket welding ends: ASME B16.11
- Butt-welding ends: ASME B16.25
- Basic Design: ASME B16.34, API602, BS 5352
- Inspection and test: API 598

Parts list

No.	Parts	Material
1	Body	ASTM A105N/Steel Dierly
2	Disc	ASTM A276 420
3	Cover	ASTM A182 F6a
4	Pressure Ring	Soft Iron
5	Retaining Nut	ASTM A105N
6	P.S. Lock Nut	ASTM A194 Gr.2H



Butt-Welding Ends (BW)



Body material available in F304, F316, F304L, F316L, F11, F22, F5

Dimensions & weights(900lb/1500lb)

Size(in.)	Dim.(mm)				Wt.(Kg)	
	Conv.	d	SW	BW	H	SW
1/2	10	140	216	117	7.5	9.0
3/4	13	140	229	117	7.0	9.5
1	17.5	140	254	117	6.8	11.5
1 1/4	23	178	279	152	18.5	19.8
1 1/2	30	178	305	152	18.1	20.5
2	35	216	368	195	20.3	22.5

Dimensions & Weights(2500lb)

Size(in.)	Dim.(mm)				Wt.(Kg)	
	Conv.	d	SW	BW	H	SW
1/2	10	186	264	117	9.0	10.5
3/4	13	186	273	117	8.6	10.8
1	17.5	186	308	117	8.4	12.5
1 1/4	23	232	349	152	19.5	21.6
1 1/2	30	232	384	152	20.1	22.5
2	35	279	451	195	21.8	25.6

Wafer check valve

Class 800



Use

- The wafer check valve is applicable for several pipelines with nominal pressure PN1.0Mpa-42.0Mpa, Class 150-2500, Nominal size DN15-1200mm, NPS1/2-48 and -196-540°C temperature, and control the medium returned. The valve can be applied for much medium such as water, steam, oil, nitric acid, acetic acid, strong oxidizing property medium and carbamide by selecting different materials.

Standard and specification

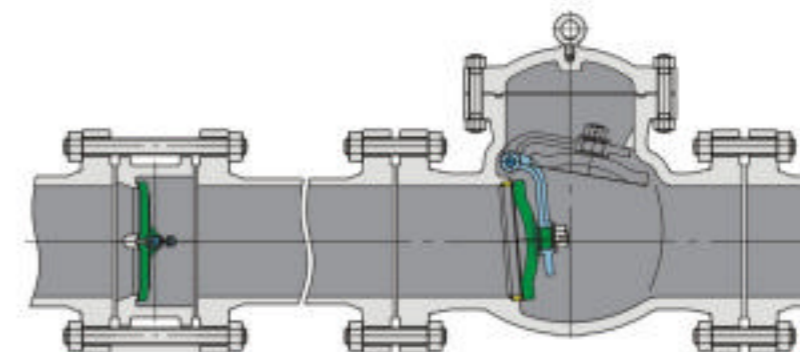
- Design and manufacturing: API 594, API 6D, JB/T 8937,
- Face to face: API 594, API 6D, DIN8202, JB/T 8937,
- Pressure-temperature grade: ANSI B 16.34, DIN 2401, GB/T 9124, HG 20604, HG 20625, SH3406, JB/T 74,
- Inspection and testing: API 598, JB/T 9092,
- Counter flange: JB/T 74-90, GB/T 9112-9124, HS20692-20635, SH 3408, ANSI B18.5, DIN 2543-2548, GB/T 13402, API 805, ASME B16.47.

Structural feature

- Short face to face dimension. Its face to face dimension is only 1/4-1/8 of check valve with traditional flange.
- Small volume and weight; its weight is only 1/4-1/20 of check valve with traditional flange.
- The disc is shut down emergently with small pressure for water hammer.
- Be convenient to be installed at both horizontal and vertical pipeline;
- No obstruction in port and there is small pressure for flow.
- Flexibility for operation with high performance of sealing.
- Short stroke for disc and small impact when closing the valve;
- Integral structure, simple compact and good looking;
- Long use life with high reliability.

Comparison between type H 76 swing check and type H44 swing check valve

Structure	H76 wafer type dual plate swing check	H44 flanged single plate swing check
Water hammer pressure	Small pressure, short stroke for disc, closing with assistant of spring, shut down the valve emergently	huge pressure, long stroke for disc and needs more time to shut down the valve
The water hammer pressure of type H76 valve is only 1/2-1/5 of type H44 valve.		
Dimension and weight	Short face to face dimension, small volume and weight which bring great convenience for installation, delivery, storage and arrangement of pipeline, it also can reduce the cost of producing.	Long face to face dimension, big volume and weight
The face to face dimension of type H76 valve is only 1/4-1/6 of type H44 valve, and its weight of type H76 valve is only 1/4-1/10 of type H44 valve;		
Flow resistance	Small flow resistance, the factor of flow resistance X is 2.6-0.7, however, it will became lower for bigger size of valve.	Small flow resistance, the factor of flow resistance X is 1.3-3, however, the disc can not be fully opened under the working condition of low pressure, consequently the flow resistance will be high and became higher for bigger size of valve.
Installation	It can be installed in horizontal or vertical direction. There is no necessary to use stand support for installation.	It can be installed in horizontal or vertical direction, however, there needs stand support to be used for big size and heavy valve.
Opening pressure	Low opening pressure. The disc can be opened at small differential pressure.	High opening pressure. The disc will be opened only at high differential pressure.
Reliability	The valve is designed integrally with simple compact and small impact when closing valve. The water hamper pressure is small and the valve has long life for use with high reliability.	The huge impact and water hamper pressure will damage the valve when closing the valve.



H76 wafer type dual plate swing check

H44 flanged single plate swing check

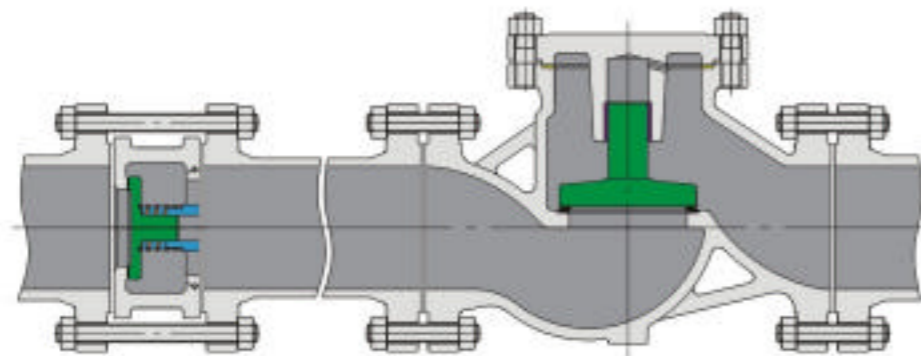
Note: Type H76 check valve is supposed in a bird eye view

Wafer check valve



Comparison between wafer type piston check valve and flanged type piston check valve

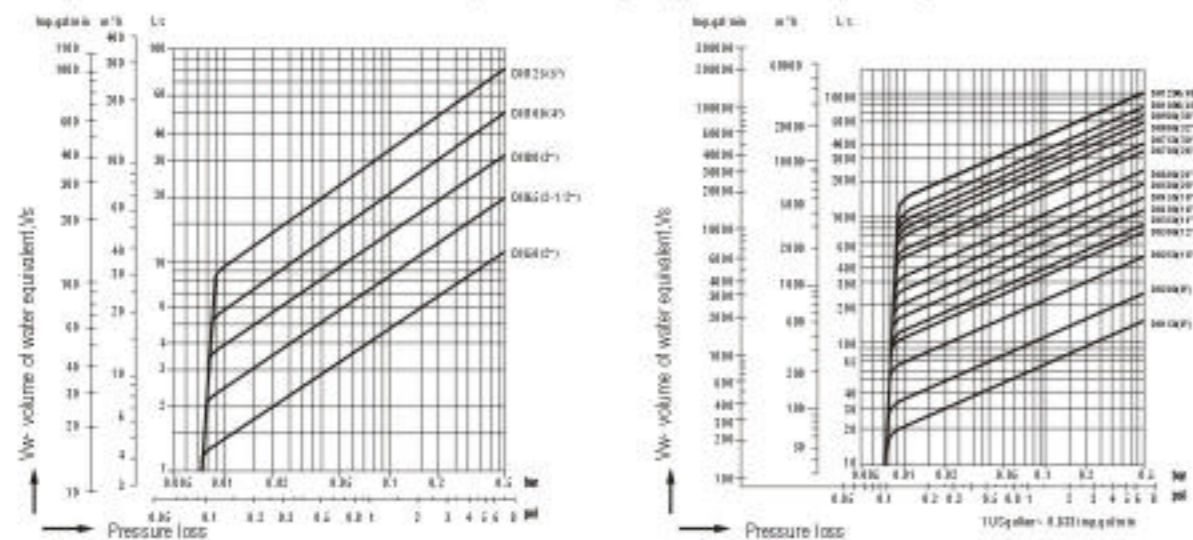
Structure	Type H71 wafer type piston check valve	Type H41 flanged type piston check valve
Water hammer pressure	small pressure, short stroke for disc, closing with assistant of spring, shut down the valve emergently	small pressure, short stroke for disc, closing without assistant of spring
Dimension and weight	Short face to face dimension, small volume and weight which bring great convenience for installation, delivery, storage and arrangement of pipeline, it also can reduce the cost of producing. The face to face dimension of type H71 valve is only 1/4-1/6 of type H41 valve, and its weight of type H71 valve is only 1/7-1/20 of type H41 valve	Long face to face dimension, big volume and weight
Flow resistance	High flow resistance, the factor of flow resistance X is 6.4-2.8	High flow resistance, the factor of flow resistance X is 12-8
Installation	It can be installed in horizontal or vertical direction easily due to light weight	It only can be installed in horizontal and will be difficult for big size valve
Opening pressure	Low opening pressure, the disc can be opened at small differential pressure.	High opening pressure, The disc will be opened only at high differential pressure
Reliability	The valve is designed integrally with simple compact and small impact when closing valve. The water hammer pressure is small and the valve has long life for use with high reliability	Good reliability, however there will be a potential leakage point because of bonnet bolted.



Type H71 wafer piston check valve

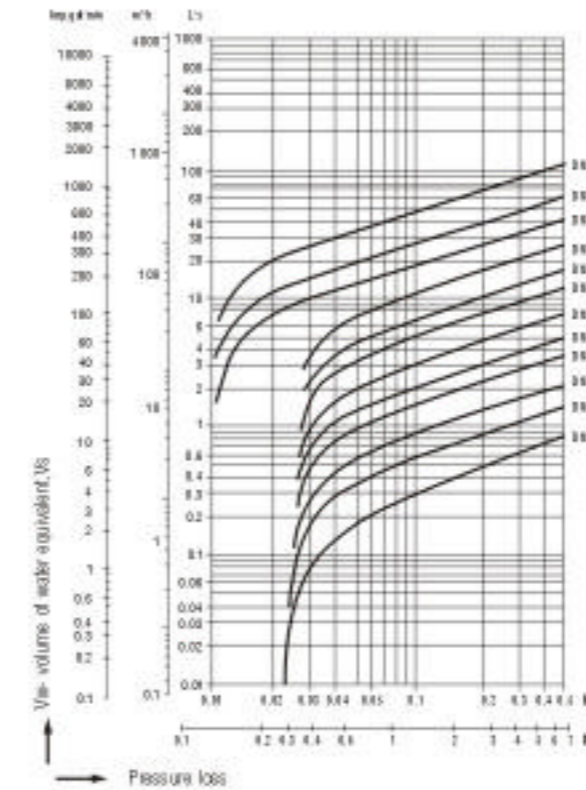
Type H41 flanged piston check valve

Flow mechanical performance: Relation between volume flow and pressure declining for Type H76 wafer dual plate swing check valve



Type and material of wafer check valve and main parameter

Flow mechanical performance: Relation between volume flow and pressure declining for Type H71 piston check valve.

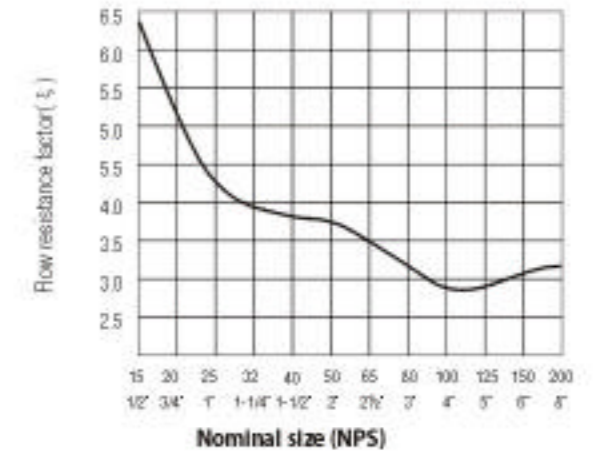


The volume of water equivalent and the volume of real flow shall be calculated as following formula:

$$V_w = \sqrt{\frac{\rho}{1000}} \cdot V$$

In formula: V_w - volume of water equivalent, Vs
 ρ - Flow density, Kg/m³
 V - volume of real flow, Vs

Flow mechanical performance: Flow resistance factor of type H71 wafer piston check valve



Flow mechanical performance: Flow resistance factor of type H71 wafer piston check valve, flow factor and opening pressure

Nominal size	DN	NPS	Flow resistance factor at full opening.	water flow factor at full opening under normal temperature.			direction of flow		
				Kv(m ³ /h)	Cv(U.S)	Cv(U.K)	↑	↓	→
							Approximation of opening pressure. Kpa		
15	15	1/2	6.4	2.6	3.0	2.5	3	2	2.5
20	20	3/4	5.1	6.4	7.5	6.3	3	2	2.5
25	25	1	4.1	12.6	14.8	12.3	3	2	2.5
32	32	1 1/4	4.1	19.7	23.1	19.3	3	2	2.5
40	40	1 1/2	3.8	29.5	34.5	28.9	3	2	2.5
50	50	2	3.5	54.6	63.9	53.5	3	2	2.5
65	65	2 1/2	3.5	85.4	99.9	83.7	3	2	2.5
80	80	3	3.2	128	150	125	3	2	2.5
100	100	4	2.8	244	286	249	3	2	2.5
125	125	5	2.9	375	439	368	3	1	2.2
150	150	6	3.1	522	611	512	3	1	2.2
200	200	8	3.2	915	1070	897	3	1	2.2

Material of wafer type dual plate swing check valve and main parameter

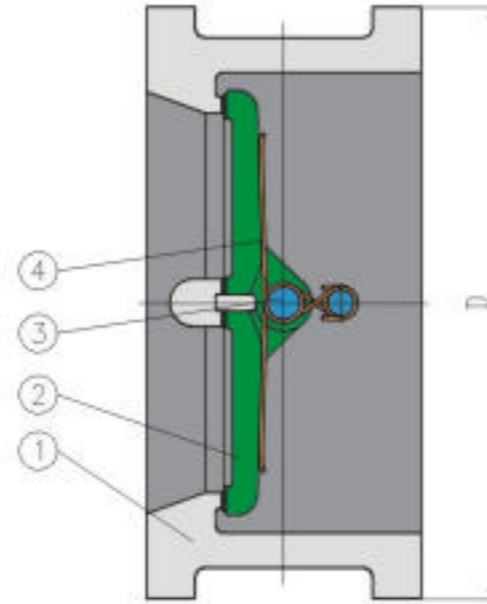
Technical specification

Structural formabon	WAFER-TYPE
Design standard	API 594
Face o face	ASME B16.0
Flanged ends	ASME B16.5
Test & inspection	API 598

Notes: The sizes of serial valve connecting flange can be designed according to customer's requirement.

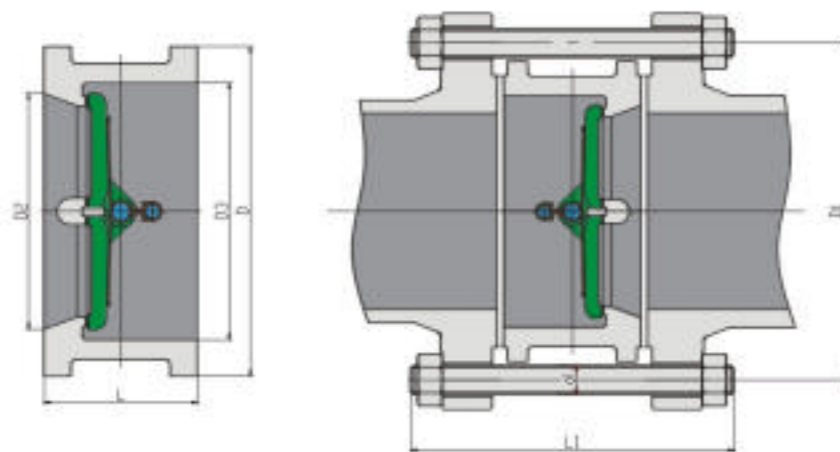
Main parts materials

No.	Name	Material
1	Body	ASTM A216-WCB ASTMA351 - CF8, CF8M, CM8C, CF3, CF3M
2	Disc	ASTM A216-WCB ASTMA351 - CF8, CF8M, CM8C, CF3, CF3M
3	Pin	ASTM A182 Gr.F6a ASTM A182 F22 ASTMA182 - F304, F316, F321, F304L, F316L
4	Spring	AISI 9280, AISI 6150 ASTMA182 - F304, F316, F321, F304L, F316L



Main parts		Material Options							
		WCB(A105)	ZG1Cr18Ni9Ti	CF8 (304)	CF3 (304L)	ZG1Cr18Ni12Mo2Ti	CF8M (316)	CF3M (316L)	
body		WCB(A105)	ZG1Cr18Ni9Ti	CF8 (304)	CF3 (304L)	ZG1Cr18Ni12Mo2Ti	CF8M (316)	CF3M (316L)	
disc		CF8	CF8	CF8	CF3	CF8	CF8M	CF3M	
stem		2Cr13	1Cr18Ni9Ti	0Cr18Ni9	0Cr19Ni10	1Cr18Ni12Mo2Ti	0Cr17Ni12Mo2	0Cr17Ni14Mo2	
spring		0Cr18Ni9	0Cr18Ni9	0Cr18Ni9	0Cr19Ni10	0Cr17Ni12Mo2	0Cr17Ni12Mo2	0Cr17Ni14Mo2	
applicable working condition	applicable medium	Water, steam, oil and so on		nitric acid	strong oxidizing property medium	acetic acid	Carbamide		
	applicable temperature	-29~425		-196~540	-196~425	-196~540	-196~455		

Note: This sheet is only for type selecting, main parts material and applicable working condition of common wafer type check valve, any other requirements or type selecting please refer to the general weaving method for wafer type check valves.



Size and weight of wafer type dual plate swing check valve

Pressure	Size		Dimensions				Weight (Kg)	Flange matched with pipeline(only for reference)					
	NPS	DN	L	D	D3	D2		diameter of bolt hole (D1)	Qty of bolt	Diameter of bolt(d)		Length of bolt(L1)	
										in	mm	R F	RTJ
Class 150 PN2.0Mpa	2	50	60	103	56	51	2	120.5	4	5/8	M16	140	155
	2 1/2	65	67	122	73	65	3	139.5	4	5/8	M16	150	165
	3	80	73	135	88	80	4	152.5	4	5/8	M16	160	175
	4	100	73	173	108	102	6	190.5	8	5/8	M16	170	185
	5	125	86	195	132	127	8	216.0	8	3/4	M20	190	205
	6	150	98	220	160	152	13	241.5	8	3/4	M20	205	220
	8	200	127	277	210	203	25	298.5	8	3/4	M20	240	255
	10	250	146	337	266	254	39	362.0	12	7/8	M24	270	285
	12	300	181	407	310	305	54	432.0	12	7/8	M24	310	325
	14	350	184	448	355	350	80	476.0	12	1	M27	325	340
	16	400	191	512	405	400	117	540.0	16	1	M27	340	355
	18	450	203	547	455	450	138	578.0	16	1 1/8	M30	365	380
	20	500	219	604	505	500	163	635.0	20	1 1/8	M30	385	400
	24	600	222	715	605	600	331	749.5	20	1 1/4	M33	405	425
	28	700	305	773	700	700	380	795.5	40	3/4	M20	455	-
	30	750	305	824	750	746	425	846.0	44	3/4	M20	455	-
	32	800	305	878	800	796	560	900.0	48	3/4	M20	460	-
	36	900	368	983	910	898	640	1009.5	44	7/8	M24	540	-
42	1050	432	1142	1055	1050	960	1171.5	48	1	M27	625	-	
48	1200	524	1302	1205	1200	1400	1135.0	44	1 1/2	M30	740	-	
Class 300 PN5.0Mpa	2	50	60	110	58	51	3	127.0	8	5/8	M16	155	175
	2 1/2	65	67	128	73	65	4	149.0	8	3/4	M20	175	195
	3	80	73	147	88	80	6	168.5	8	3/4	M20	190	210
	4	100	73	179	108	102	8	200.0	8	3/4	M20	195	215
	5	125	86	214	132	127	15	235.0	8	3/4	M20	215	235
	6	150	98	249	160	152	18	270.0	12	3/4	M20	230	250
	8	200	127	305	210	203	31	330.0	12	7/8	M24	280	300
	10	250	146	359	266	254	51	387.5	16	1	M27	315	335
	12	300	181	420	310	305	77	451.0	16	1 1/8	M30	365	385
	14	350	222	483	355	350	117	514.5	20	1 1/8	M30	410	430
	16	400	232	537	405	400	190	571.5	20	1 1/4	M33	435	455
	18	450	264	594	455	450	200	628.5	24	1 1/4	M33	475	495
	20	500	292	652	505	500	265	686.0	24	1 1/4	M33	510	535
	24	600	318	772	608	600	410	813.0	24	1 1/2	M39	560	585
	30	750	368	882	740	735	660	921.0	36	1 1/2	M36	650	-
	36	900	483	1044	880	873	1020	1089.0	32	1 1/2	M42	800	-
	42	1050	568	1196	1045	1035	1540	1244.5	36	1 1/4	M45	920	-
	48	1200	629	1365	1190	1179	2260	1416.0	40	1 1/2	M48	1010	-

Size and weight of wafer type dual plate swing check valve

Pressure	Size		Dimensions				Flange matched with pipeline(only for reference)						
	NPS	DN	L	D	D3	D2	Weight (Kg)	diameter of bolt hole (D1)	Qty of bolt	Diameter of bolt(d)		Length of bolt(L1)	
										in	mm	R F	RTJ
Class 600 PN1.0Mpa	2	50	60	110	58	51	4	127.0	8	5/8	M16	175	180
	2 1/2	56	67	128	73	65	5	149.0	8	3/4	M20	195	200
	3	80	73	147	88	80	8	168.5	8	3/4	M20	210	215
	4	100	79	191	108	102	11	216.0	8	7/8	M24	235	240
	5	125	105	239	136	127	20	267.0	8	1	M27	280	285
	6	150	136	264	162	152	26	292.0	12	1	M27	320	325
	8	200	165	318	212	200	55	349.0	12	1 1/4	M30	370	375
	10	250	213	398	268	250	95	432.0	16	1 1/4	M33	440	445
	12	300	229	455	312	305	140	489.0	20	1 1/4	M33	460	465
	14	350	273	490	355	337	223	527.0	20	1 1/4	M36	520	525
	16	400	305	562	400	387	360	608.0	20	1 1/2	M39	575	580
	18	450	362	610	450	438	395	654.0	20	1 1/2	M42	650	655
20	500	368	680	500	489	518	724.0	24	1 1/2	M42	670	680	
24	600	438	788	600	591	836	838.0	24	1 1/2	M48	780	790	
Class 900 PN5.0Mpa	2	50	70	140	58	51	8	165.0	8	7/8	M24	225	230
	2 1/2	65	83	162	73	65	11	190.5	8	1	M27	250	255
	3	80	83	165	90	80	14	190.5	8	7/8	M24	240	245
	4	100	102	204	108	102	20	235.0	8	1 1/4	M30	285	290
	5	125	110	245	136	127	30	279.5	8	1 1/4	M33	310	315
	6	150	159	286	162	150	42	317.5	12	1 1/4	M30	365	370
	8	200	206	356	212	200	84	393.5	12	1 1/2	M36	440	445
	10	250	241	432	266	250	145	470.0	16	1 1/2	M36	490	495
	12	300	292	495	312	305	220	533.5	20	1 1/2	M36	560	565
	14	350	358	518	355	337	350	559.0	20	1 1/2	M39	645	655
	16	400	384	572	400	387	470	616.0	20	1 1/2	M42	685	695
	18	450	451	635	450	438	605	686.0	20	1 1/2	M48	790	805
20	500	451	695	498	487	820	749.5	20	2	M52	810	825	
24	600	495	835	600	591	1050	901.5	20	2 1/2	M64	945	965	
Class 1500 PN26.0Mpa	2	50	70	140	58	51	8	165.0	8	7/8	M24	225	230
	2 1/2	65	83	162	73	65	11	190.5	8	1	M27	250	255
	3	80	83	172	90	80	19	203.5	8	1 1/4	M30	270	275
	4	100	102	207	108	102	26	241.5	8	1 1/4	M33	310	315
	5	125	110	252	136	127	51	292.5	8	1 1/2	M39	370	375
	6	150	159	280	162	150	68	317.5	12	1 1/2	M36	430	440
	8	200	206	350	212	200	130	393.5	12	1 1/2	M42	510	520
	10	250	248	433	266	254	210	482.5	12	1 1/2	M48	600	610
	12	300	305	518	312	305	384	571.5	16	2	M52	695	715
	14	350	356	576	355	337	550	635.5	16	2 1/4	M56	775	800
	16	400	384	639	400	387	635	705.0	16	2 1/2	M64	850	880
	Class 2500 PN42.0Mpa	2	50	70	143	48	42	10	171.5	8	1	M27	255
2 1/2		65	83	166	58	52	18	197.0	8	1 1/4	M30	290	305
3		80	86	194	68	62	26	228.5	8	1 1/4	M33	320	330
4		100	105	232	94	88	40	273.0	8	1 1/2	M39	370	380
5		125	110	277	106	100	59	324.0	8	1 1/4	M45	420	435
6		150	159	315	162	150	90	368.5	8	2	M52	515	530
8		200	206	385	186	180	150	438.0	12	2	M52	600	620
10		250	254	474	232	225	240	539.5	12	2 1/2	M64	750	775
12		300	305	547	272	266	440	619.0	12	2 1/4	M70	855	885

Material of wafer lift type check valve and main parameter

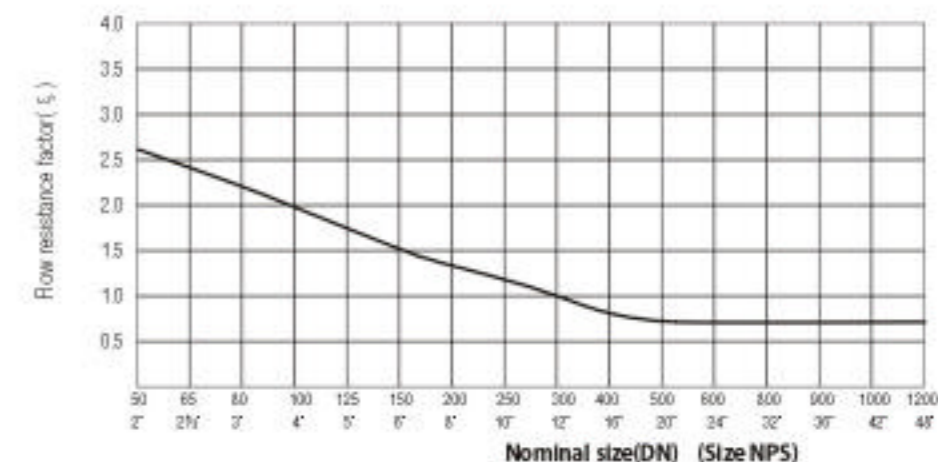


The volume of water equivalent and the volume of real flow shall be calculated as following formula:

$$Vw = \sqrt{\frac{D}{1000}} \cdot V$$

In formula: Vw- volume of water equivalent, Vs
Flow density, Kg/m³
V- volume of real flow, Vs

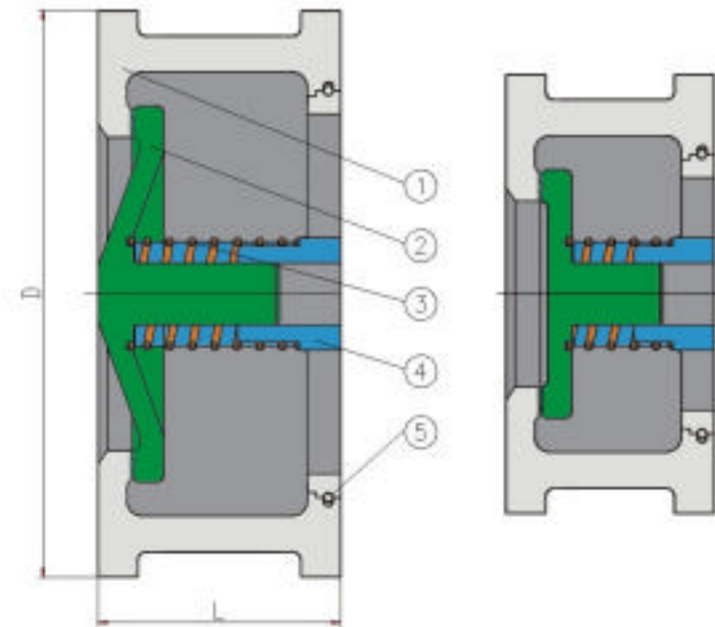
Flow mechanical performance: Flow resistance factor of type H71 water piston check valve



Flow mechanical performance: Flow resistance factor of type H71 wafer piston check valve, flow factor and opening pressure

Nominal size		Flow resistance factor at full opening, ζ	water flow factor at full opening under normal temperature.			direction of flow	
DN	NPS		Kv(m ³ /h)	Cv(U.S)	Cv(U.K)	↑ Approximation of opening pressure, Kpa	→
50	2	2.6	63	74	62	2	1
65	2 1/2	2.4	109	128	107	2	1
80	3	2.3	172	201	169	2	1
100	4	2.0	289	338	283	2	1
125	5	1.8	476	557	466	2	1
150	6	1.5	750	878	735	2	1
200	8	1.3	1432	1875	1403	2	1
250	10	1.2	2330	2726	2283	2	1
300	12	1.0	3676	4301	3602	2	1
350	14	0.9	5274	6171	5169	2	1
400	16	0.8	7306	8548	7160	3	1
450	18	0.8	9248	10616	9061	3	1
500	20	0.8	11415	13356	11187	3	1
600	24	0.7	17573	20560	17222	3	1
700	28	0.7	23919	27985	23441	4	1
750	30	0.7	27458	32126	26909	4	1
800	32	0.7	31241	36552	30616	4	1
900	36	0.7	39539	46261	38748	4	1
1000	40	0.7	48814	57112	47838	4	1
1050	42	0.7	53817	62966	52741	4	1
1200	48	0.7	70292	82242	68888	4	1

Material of wafer lift type check valve and main parameter



Technical specification

Structural formation	WAFFER-TYPE
Design standard	API 594
Face to face	ASME B16.0
Flanged ends	ASME B16.5
Test & inspection	API 598

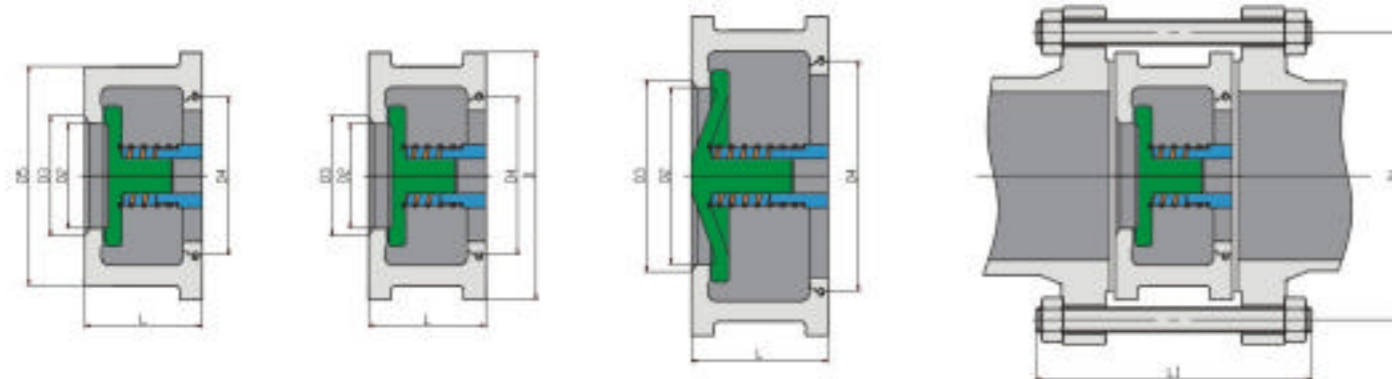
Notes: The sizes of serial valve connecting flange can be designed according to customer's requirement.

Main parts materials

No.	Accessory name	Material
1	Body	ASTM A216-WCB ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
2	Disc	ASTM A216-WCB ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
3	Spring	AISI 9290, AISI 6150 ASTM A182-F304, F316, F321, F304L, F316L
4	Plate	ASTM A216-WCB ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
5	Lock ring	AISI 9290, AISI 6150 ASTM A182-F304, F316, F321, F304L, F316L

Main parts	body	WCB(A105)	ZG1Cr18Ni9Ti	CF8 (304)	CF3 (304L)	ZG1Cr18Ni12Mo2Ti	CF8M (316)	CF3M (316L)
disc	CF8	CF8	CF8	CF3	CF8	CF8M	CF3M	
stem	ZCr13	1Cr18Ni9Ti	0Cr18Ni9	0Cr18Ni10	1Cr18Ni12Mo2Ti	0Cr17Ni12Mo2	0Cr17Ni14Mo2	
spring	0Cr18Ni9	0Cr18Ni9	0Cr18Ni9	0Cr18Ni10	0Cr18Ni12Mo2	0Cr17Ni12Mo2	0Cr17Ni14Mo2	
applicable working condition	applicable medium	Water, steam, oil and so on	nitric acid	strong oxidizing property medium	acetic acid		Carbamide	
applicable temperature		-20~425	-196~540	-196~425	-196~540		-196~425	

Note: This sheet is only for type selecting, main parts material and applicable working condition of common wafer type check valve, any other requirements or type selecting please refer to the general weaving method for wafer type check valves.



DN < 100

DN > 125

Size and weight of wafer lift type check valve

Pressure	Size		Dimensions					Weight (Kg)	Flange matched with pipeline(only for reference)					
	NPS	DN	L	D	D2	D3	D4		diameter of bolt hole (D1)	Qty of bolt	Diameter of bolt(d)		Length of bolt(L1)	
											in	mm	RF	RTJ
Class 150 PN2.0Mpa	1/2	15	25	46	15	25	25	0.28	60.5	4	1/2	M14	90	-
	3/4	20	31.5	56	19	30	30	0.42	70	4	1/2	M14	100	-
	1	25	35.5	65	24	36	36	0.56	79.5	4	1/2	M14	105	120
	1 1/4	32	40	74	31	43	43	0.75	89	4	1/2	M14	115	130
	1 1/2	40	45	84	39	52	52	1.3	98.5	4	1/2	M14	120	135
	2	50	56	103	48	62	62	2.0	120.5	4	5/8	M16	140	155
	2 1/2	65	63	122	62	75	75	2.8	139.5	4	5/8	M16	155	170
	3	80	71	135	76	90	90	3.6	152.5	4	5/8	M16	165	180
	4	100	80	173	95	112	112	4.8	190.5	8	5/8	M16	175	190
	5	125	110	195	110	125	132	12	216.0	8	3/4	M20	210	225
Class 300 PN5.0Mpa	6	150	125	220	127	150	158	17	241.5	8	3/4	M20	230	245
	8	200	160	277	165	200	208	29	298.5	8	3/4	M20	270	285
	1/2	15	25	52	15	25	25	0.3	66.5	4	1/2	M14	95	105
	3/4	20	31.5	65	19	30	30	0.46	82.5	4	5/8	M16	110	125
	1	25	35.5	72	24	36	36	0.6	89	4	5/8	M16	115	130
	1 1/4	32	40	81	31	43	43	0.8	98.5	4	5/8	M16	125	140
	1 1/2	40	45	94	39	52	52	1.5	114.5	4	3/4	M20	140	155
	2	50	56	110	48	62	62	2.4	127.0	8	5/8	M16	145	170
	2 1/2	65	63	128	62	75	75	3.0	149.0	8	3/4	M20	170	190
	3	80	71	147	76	90	90	4.0	168.5	8	3/4	M20	185	205
Class 600 PN11.0Mpa	4	100	80	179	95	112	112	5.5	200.0	8	3/4	M20	200	220
	5	125	110	214	110	125	132	13	235.0	8	3/4	M20	235	255
	6	150	125	249	127	150	158	22	270.0	12	3/4	M20	255	275
	8	200	160	305	165	200	208	38	330.0	12	7/8	M24	305	325
	1/2	15	25	52	15	25	25	0.4	66.5	4	1/2	M14	95	105
	3/4	20	31.5	65	19	30	30	0.8	82.5	4	5/8	M16	110	125
	1	25	35.5	72	24	36	36	1.0	89.0	4	5/8	M16	115	130
	1 1/4	32	40	81	31	43	43	1.3	98.5	4	5/8	M16	125	140
	1 1/2	40	45	94	39	52	52	1.8	114.5	4	3/4	M20	145	160
	2	50	56	110	48	62	62	2.8	127.0	8	5/8	M16	155	170
Class 900 PN15.0Mpa	2 1/2	65	63	128	62	75	75	4	149.0	8	3/4	M20	175	195
	3	80	71	147	76	90	90	6	168.5	8	3/4	M20	190	210
	4	100	80	191	95	112	112	11	216.0	8	7/8	M24	220	240
	5	125	110	239	110	125	132	25	267.0	8	1	M27	265	285
	6	150	125	364	127	150	158	32	292.0	12	1	M27	290	310
	8	200	160	318	165	200	208	52	349.0	12	1 1/4	M30	345	365
	1/2	15	25	62	15	25	25	0.6	82.5	4	3/4	M20	125	140
	3/4	20	31.5	69	19	30	30	0.9	89.0	4	3/4	M20	135	150
	1	25	35.5	77	24	36	36	1.2	101.5	4	7/8	M24	155	170
	1 1/4	32	40	87	31	43	43	1.5	111.0	4	7/8	M24	160	175
Class 900 PN15.0Mpa	1 1/2	40	45	97	39	52	52	2.0	124.0	4	1	M27	175	190
	2	50	56	140	48	62	62	5.5	165.0	8	7/8	M24	195	210
	2 1/2	65	63	162	62	75	75	7.5	190.5	8	1	M27	215	230
	3	80	71	165	78	90	90	8	190.5	8	7/8	M24	210	225
	4	100	80	204	95	112	112	14	235.0	8	1 1/4	M30	245	260
	5	125	110	245	110	125	132	27	279.5	8	1 1/4	M30	290	310
	6	150	125	296	127	150	158	41	317.5	12	1 1/4	M30	310	325
	8	200	160	356	165	200	208	76	393.5	12	1 1/4	M36	375	390

Note: 1, The size will be different complying with different standard, so the diameter of flange bolt d and bolt length L1 are only for reference.

2, RF means for raised face flange, and RJ means ring joint flange.