



NINGBO VALVE FACTORY

Check Valve



Since Professional We Can Do Better

COMPANY PROFILE

Ningbo Valve Factory was founded as a valve manufacturer in 1959, Geographically, it is located in Ningbo, a seaport at the Delta area of Yangtze River, East China Sea. It takes us around 15 minutes by flight or 3 hours by bus from Shanghai to Ningbo. Company now covers an area over 30, 000 square meters and there are around 250 people at work.

Valve Production and Design

For decades we have been exploring our own valve engineering and learning other new techniques and designs in use we discovered all over the world, so far, we have succeeded a lot, some valves manufactured in our company have already equaled even exceeded the technical standard in western industrialized countries. To make sure product quality and delivery, we give tight control to the whole valve production from material selection, primary processing such as forging and casting, heat treatment, forming and so forth to final finishing processes.

How are we working with overseas customers?

We are committed to supply outstanding and professional services directly to intended customers all around the world, to delight our customers through our promise to continuous improvement in the design, engineering, and manufacture of products that set the standard for quality and value, we let partner gain from trade with NVF in the long run.

1. We are producing mechanical valves according to CAD or real sample provided by customers.
2. We design mechanical valves for customer who is able to tell us the specific application of the valves or standard that the valve should follow.
3. Selecting those valves carried in this catalogue or on our web site.

APPLICATIONS

The valve are used in a broad spectrum of market sectors, including refining, chemical processing, power generation, marine, pulp and paper, petroleum production, and gas processing.

Applications include process liquids, process gases, flue gas, cryogenics, steam, condensate, petroleum products, thermal fluid, and water.





Body –To–Bonnet Joint

Stainless steel+flexible graphite wounded gasket is used for Class 150 and Class 300 check valve; Stainless steel +flexible graphite wounded gasket is used for Class600 check valve, and joint gasket is also optional for Class 600 check valve; Ring joint gasket is used for Class 900 check valve; Pressurized seal design is used for Claass1500 ~ Class2500 check valves.

Seat

For carbon steel check valve, the seat is usually forged steel. The sealing surface of the seat is spray welded with hard alloy Specified by the customer. Renewable threaded seat is used for $NPS \leq 10$ check valves, and welded on seat can be also optional if being requested by the customer. Welded on seat is used for $NPS \geq 12$ carbon steel gate valves. For stainless steel check Valve, intergral seat is usually adopted, or to weld hard alloy directly integrally. Threaded or welded on seat is also optional for stainless steel check valve if being requested by the customer.

Reliable seat seal

Design and Manufacture:Cast steel check valve to BS1868,ASME B16.34 and API 6D;Forged steel check valve to API 602.

Inspection and Test:API598 or API 6D.

End flange dimension:ASME B 16.5(for $NPS \leq 24$);

ASME B16.47 series B、API 605 or ASME B16.47 seriesA、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.

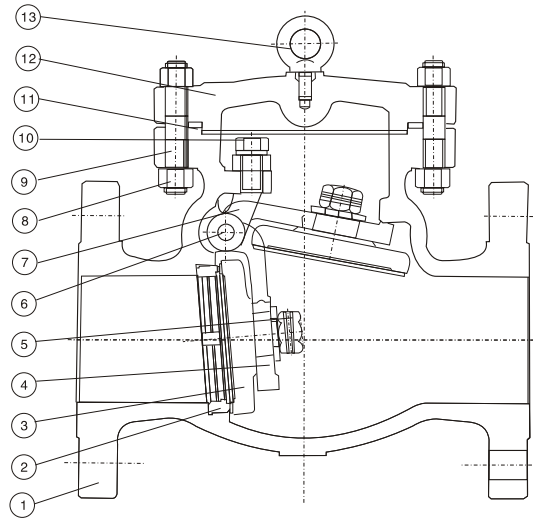
Pressure–temperature ratings:ASME B16.34.

Wall thickness dimension:API600 and Bs1868.

Body and Bonnet Connection

The body and bonnet of Class 150 ~ Class900 check valves are usually with studs and nuts. And the body and bonnet of Class 1500 ~ Class2500 check valves are usually of pressurized seal .





Standards

Design and Manufacture : BS1868 or API 6D
 Inspection and Test : API 598 or API 6D
 End flange dimension : ASME B16.5;
 ASME B16.47A、MSS SP -44;
 ASME B16.47B、API 605

BW end dimension : ASME B16.25

Face to face (end to end) : ASME B16.10

Pressure-temperature ratings : ASME B 16.34

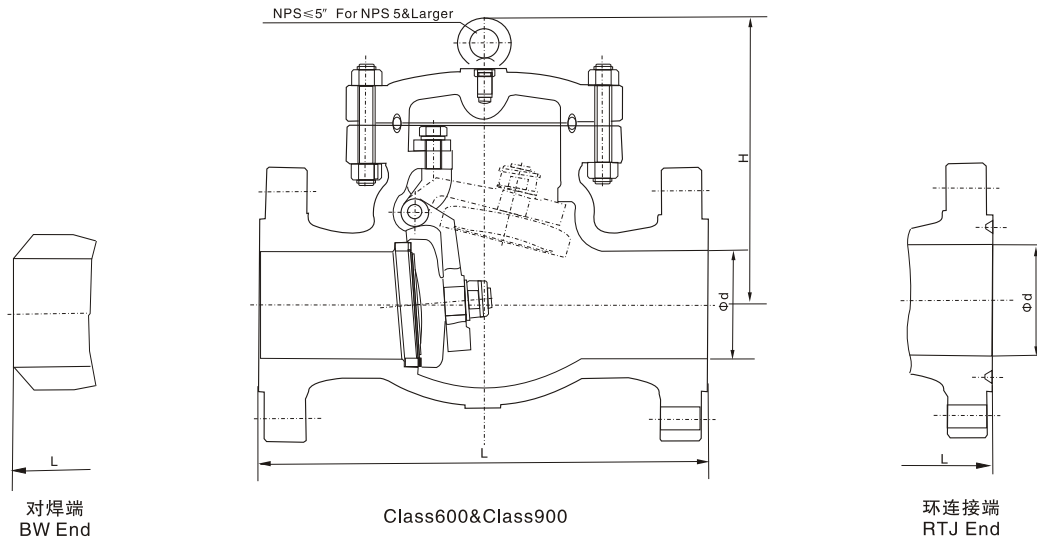
Wall thickness dimension : API600 and BS 1868

Part and material list

Parts Number	Parts name	Materials				
		WCB/Trim 1	WCB/Trim 5	WCB/Trim 8	CF8/304	CF8M/316
1	Body	ASTM A216WCB	ASTM A216WCB	ASTM A216WCB	ASTM A351 CF8	ASTM A351 CF8M
2	Seat ring	A105+13Cr	A105+STL	A105+STL	ASTM A182 304	ASTM A182 316
3	Disc	ASTM A216+13Cr	ASTM A216+STL	ASTM A216+13Cr	ASTM A351 CF8	ASTM A351 CF8M
4	Racker	ASTM A216WCB	ASTM A216WCB	ASTM A216WCB	ASTM A351 CF8	ASTM A351 CF8M
5	Nut	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8M
6	Arm pin	ASTM A182F6a	ASTM A182F6a	ASTM A182F6a	ASTM A182F304	ASTM A182F316
7	Yoke	ASTM A216WCB	ASTM A216WCB	ASTM A216WCB	ASTM A351 CF8	ASTM A351 CF8M
8	Bonnet nut	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8M
9	Bonnet bolt	ASTM A193B7	ASTM A193B7	ASTM A193B7	ASTM A193B8	ASTM A193B8M
10	Bolt	ASTM A193B7	ASTM A193B7	ASTM A193B7	ASTM A193B8	ASTM A193B8M
11	Gasket	304 Graphite	304 Graphite	304 Graphite	304 Graphite	304 Graphite
12	Bonnet	ASTM A216WCB	ASTM A216WCB	ASTM A216WCB	ASTM A351 CF8	ASTM A351 CF8M
13	Eye bolt	ASTM A181	ASTM A181	ASTM A181	ASTM A181	ASTM A181

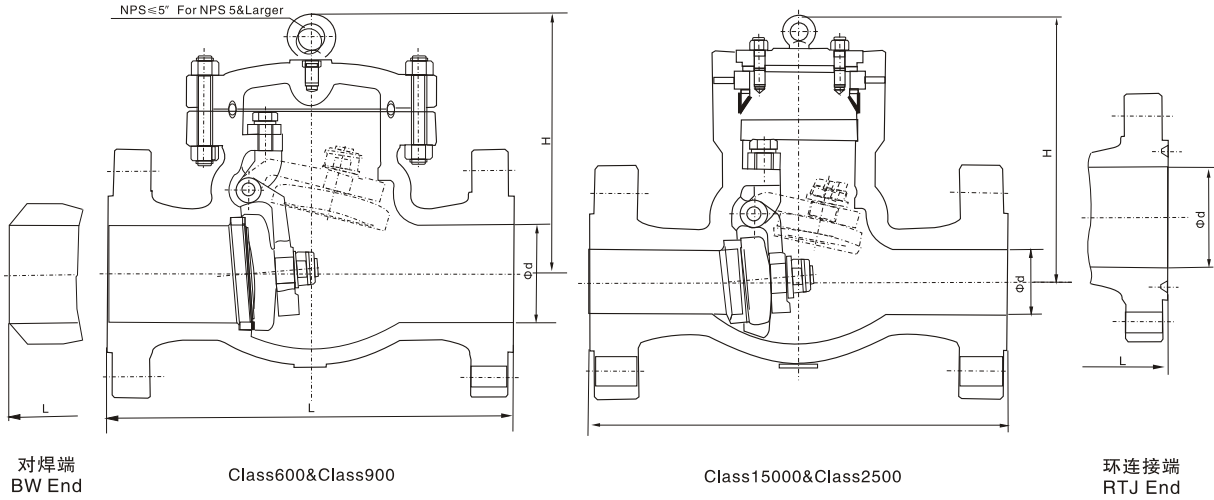
Note: The chart above only lists out some common composition of steel gate valve parts. We may provide other different parts material composition according to the customer's request or the actual valve working condition.

Class 150~Class 300 Cast Steel Swing Check Valve



Size口径		Class 150						Class 300					
NPS	DN	Dimensions (mm)					Weight (kg)	Dimensions (mm)					Weight (kg)
		L			d	H		L			d	H	
		RF	RTJ	BW				RF	RTJ	BW			
2	50	203	216	203	51	132	15	267	283	267	51	144	20
2 1/2	65	216	229	216	64	147	20	292	308	292	64	169	35
3	80	241	254	241	76	176	27	318	333	318	76	210	40
4	100	292	305	292	102	198	45	356	371	356	102	260	61
5	125	330	343	330	127	255	58	400	416	400	127	295	80
6	150	356	368	356	152	320	69	445	460	445	152	326	130
8	200	495	508	495	203	380	131	533	549	533	203	380	190
10	250	622	635	622	254	440	219	622	638	622	254	440	296
12	300	699	711	699	305	480	321	711	727	711	305	520	450
14	350	787	800	787	337	530	380	838	854	838	337	540	640
16	400	864	876	864	387	580	560	864	879	864	387	588	850
1	450	978	991	978	438	618	630	978	994	978	438	670	1030
20	500	978	991	978	489	657	770	1016	1035	1016	489	720	1330
24	600	1295	1308	1295	591	760	960	1346	1368	1346	591	850	1950
26	650	1295	-	1295	633	840	1250	1346	1372	1346	633	920	2300
28	700	1448	-	1448	684	920	1580	1499	1524	1499	684	1150	2600
30	750	1524	-	1524	735	980	1950	1594	1619	1594	735	1260	3200

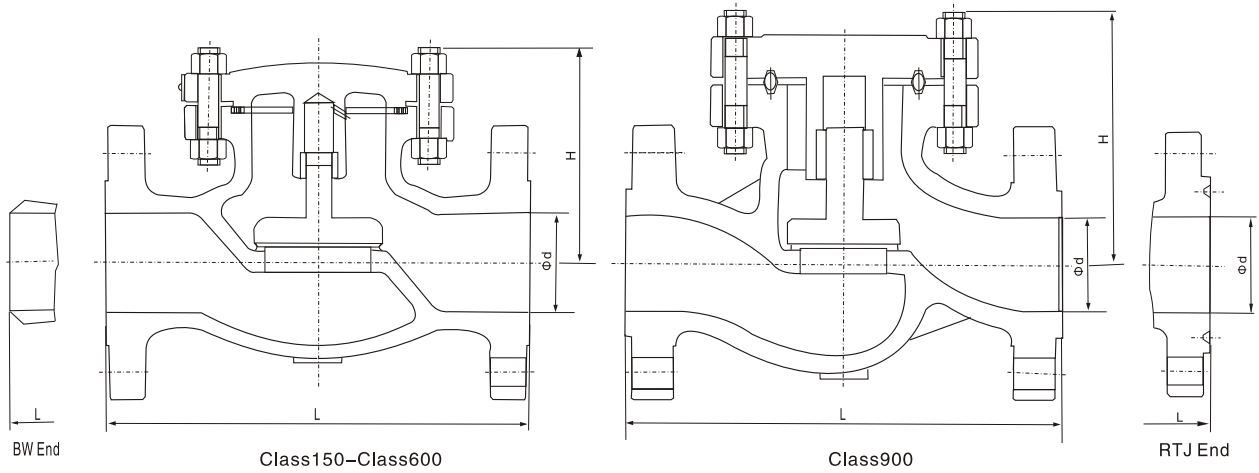
Class 600~Class 2500 Cast Steel Swing Check Valve



Size		Class 600						Class 900					
NPS	DN	Dimensions (mm)					Wight (kg)	Dimensions (mm)					Wight (kg)
		L			d	H		L			d	H	
RF	RTJ	BW	RF	RTJ			BW	RF	RTJ	BW			
2	50	292	295	292	51	170	28	368	371	368	51	200	148
2 1/2	65	330	333	330	64	178	40	419	422	419	64	220	75
3	80	356	359	356	76	246	68	381	384	381	76	280	95
4	100	432	435	432	102	290	117	457	460	457	102	320	135
5	125	508	511	508	127	320	155	559	562	559	127	360	200
6	150	559	562	559	152	360	192	610	613	610	152	400	264
8	200	660	664	660	203	430	340	737	740	737	203	480	424
10	250	787	791	787	254	502	515	838	841	838	254	560	730
12	300	838	841	838	305	554	750	965	968	965	305	632	1070
14	350	889	892	889	337	595	890	1029	1038	1029	322	680	1180
16	400	991	994	991	387	680	1303	1130	1140	1130	373	780	1790
18	450	1092	1095	1092	438	778	1800	1219	1232	1219	423	880	2500
20	500	1194	1200	1194	489	970	2150	1321	1334	1321	471	1050	3080
24	600	1397	1407	1397	591	1100	3200	1549	1568	1549	522	1200	4600

Size		Class 1500						Class 2500					
NPS	DN	Dimensions (mm)					Wight (kg)	Dimensions (mm)					Wight (kg)
		L			d	H		L			d	H	
RF	RTJ	BW	RF	RTJ			BW	RF	RTJ	BW			
2	50	368	371	368	51	210	48	451	454	451	42	230	68
2 1/2	65	419	422	419	64	240	75	508	514	508	52	260	100
3	80	470	473	470	76	303	120	578	584	578	62	330	165
4	100	546	549	546	102	340	180	673	683	673	87	370	260
5	125	673	676	673	127	380	294	794	807	794	96	410	440
6	150	705	711	705	144	430	385	914	927	914	131	460	580
8	200	832	841	832	192	500	634	1022	1038	1022	179	530	970
10	250	991	1000	991	239	590	1140	1270	1292	1270	223	620	1700
12	300	1130	1146	1130	287	660	1650	1422	1445	1422	265	690	2600
14	350	1257	1276	1257	315	710	2000	-	-	-	-	-	-
16	400	1384	1407	1384	360	820	2700	-	-	-	-	-	-

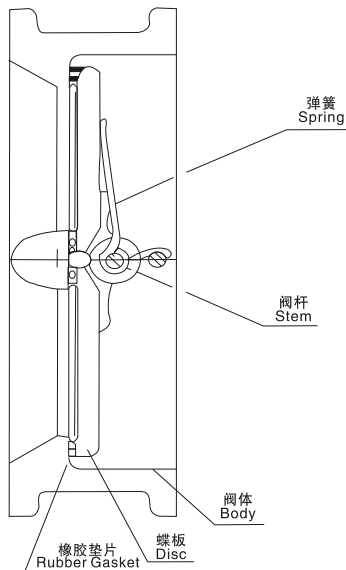
Class150~Class900 Cast Steel Lift Check Valve



Size		Class 150						Class 300					
NPS	DN	Dimensions (mm)					Wight (kg)	Dimensions (mm)					Wight (kg)
		L			d	H		L			d	H	
		RF	RTJ	BW				RF	RTJ	BW			
11/2	15	108	119	108	13	76	3	152	162	152	13	78	5
3/4	20	117	130	117	19	76	4	178	191	178	19	82	6
1	25	127	140	127	25	98	5	203	216	203	25	102	8
1 1/4	32	140	153	140	32	102	7	216	229	216	32	106	11
1 1/2	40	165	178	165	38	115	8	229	242	229	38	118	13
2	50	203	216	203	51	140	15	267	293	267	51	140	26
2 1/2	65	216	229	216	64	162	22	292	308	292	64	164	33
3	80	241	254	241	76	168	28	318	333	318	76	178	50
4	100	292	305	292	102	194	42	356	371	356	102	195	86
5	125	356	368	356	127	210	60	400	416	400	127	223	120
6	150	406	419	406	152	226	75	445	460	445	152	245	180
8	200	495	508	495	203	250	118	533	549	533	203	280	220
10	250	622	635	622	254	275	194	622	638	622	254	336	310
12	300	699	711	699	305	332	320	711	727	711	305	380	510

Size		Class 600						Class 900					
NPS	DN	Dimensions (mm)					Wight (kg)	Dimensions (mm)					Wight (kg)
		L			d	H		L			d	H	
		RF	RTJ	BW				RF	RTJ	BW			
2	50	292	295	292	51	152	32	368	371	368	50	180	50
2 1/2	65	330	333	330	64	167	45	419	422	419	64	200	65
3	80	356	359	356	76	178	68	381	384	381	74	235	88
4	100	432	435	432	102	215	98	457	460	457	100	270	140
5	125	508	511	508	125	240	155	559	562	559	125	300	210
6	150	559	562	559	152	379	230	610	613	610	150	350	300
8	200	660	664	660	200	328	300	737	740	737	200	400	390

Standards compliance



Design and Manufacture :ANSI B16.34,API 6D

Face to face :API 6D

Flanged connection :2" ~ 24" ANSI B16.5 22",26" ~ 36"

MSS-SP-44 API 605 on request

Test and inspection :API 6D

Shell test :150Lb 450 PSI 300Lb 1125 PSI

Seat test :150Lb 315 PSI(Hydrostatic)80PSI

(Air) 300Lb 815 PSI

Product introduction

The wafer flange clamped butterfly check valve is a energy-save product .It is manufactured based 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.

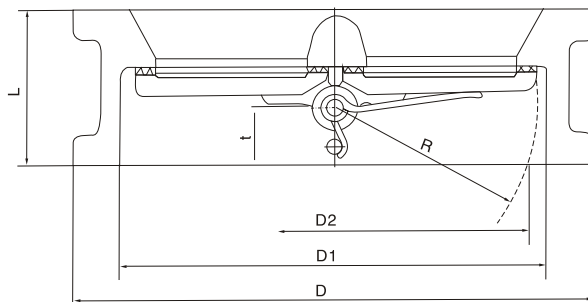
Features

- 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 laid horizontally or vertically.
- 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 GB12221-89. ISO 5752-82.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.

CLASS 150 ~ CLASS300 Butterfly swing check valve

Materials for main parts

Part	WCB	A352LCB	A217 WC 6	A217 WC 9	A217 C 5	A217 C 12	A351 CF 8	A351 CF 8M
Body	A216 WCB	A352LCB	A217 WC 6	A217 WC 9	A217 C 5	A217 C 12	A351 CF 8	A351 CF 8M
Disc	A351 CF 8	A351 CF 8	A182 F 11	A182 F 22	A217 C 5	A217 C 12	A182 F 304	A182 F 316
Stem	A182 F 304	A182 F 304	A182 F 304	A182 F 304	A182 F 304	A182 F 304	A182 F 304	A182 F 316
Spring	Stainless steel							
Rubber Gasket	EPDM-46 ~ +121 Neoprene-50 ~ +150 NBR-35 ~ +113 Fluororabber-23 ~ +150							



Mooverall & structure dimension & weight

Size		D	D1	D2	L	R	t	Weight (kg)
mm	inch							
50	2"	107	65	43.3	43	28.8	19	1.5
65	2.5"	127	80	60.2	46	36.1	20	2.4
80	3"	142	94	66.4	64	43.4	28	3.6
100	4"	162	117	90.8	64	52.8	27	5.7
125	5"	192	145	116.9	70	65.7	30	7.3
150	6"	213	170	144.6	76	78.6	31	9.0
200	8"	273	224	198.2	89	104.4	33	17
250	10"	323	265	233.7	114	127	50	26
300	12"	378	310	283.9	114	148.3	43	42
350	14"	438	360	332.9	127	172.4	46	55
400	16"	439	410	381.0	140	197.4	52	75
450	18"	555	450	419.9	152	217.8	58	101 (107)
500	20"	594	505	467.8	152	241	58	111
600	24"	690	624	572.6	178	295.4	73	172
700	28"	800	720	680	29	354	98	219