

PREM CHEM CHECK VALVES



PREMIER VALVES (Pty) Ltd

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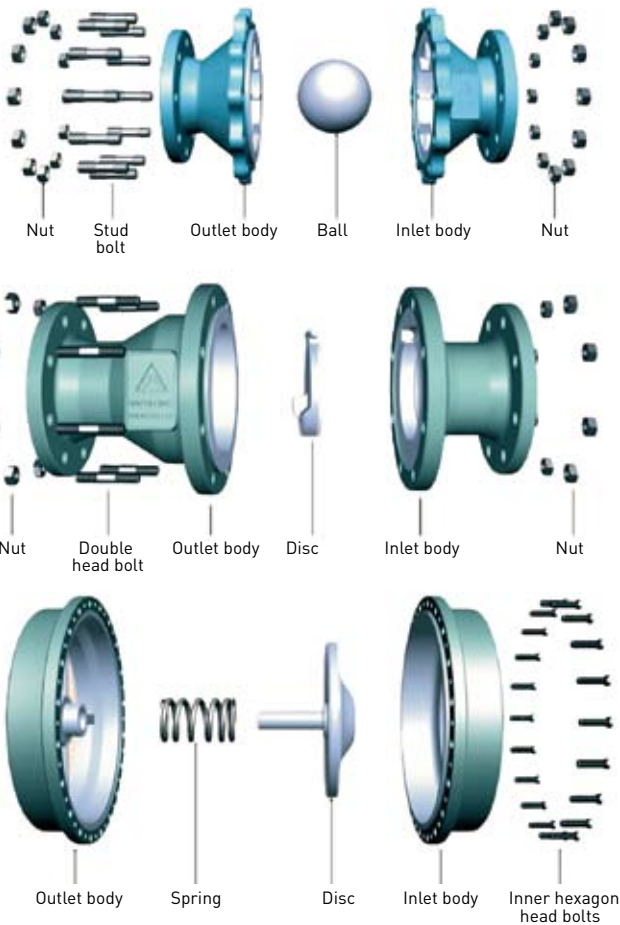
BALL CHECK VALVE



SWING CHECK VALVE



DISC CHECK VALVE



DESIGN STANDARDS:

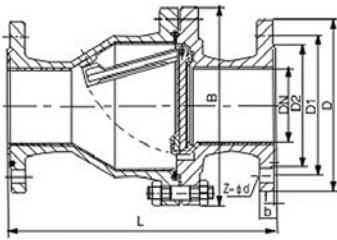
GB13932, GB12235, GB12236, API6D

Check valves come in various designs all with different pressure drops and ability to reduce waterhammer. The Premchem range of check valves is extensive and allows the correct selection for all applications.

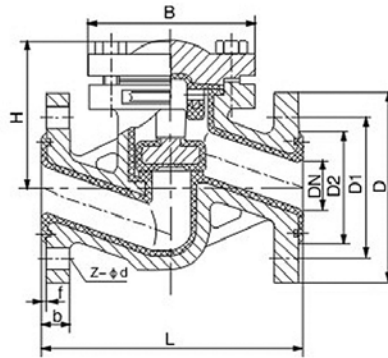
AVAILABLE DESIGN TYPES:

- Swing check
- Ball Check
- Disc check
- Lift check
- Double Door check
- Tilting Disc check





33. H44F₃, F₄₆
Check valve (swing type)



34. H41F₃, F₄₆
Flange type check valve (lift type)

Standard

Design	GB 12235/GB 12236
Face to Face	GB 12221 Short-long series
Flange dimension	JB78/JB79 or according to requirements
Test	GB/T 13927
Symbol	GB 12220
Supply	GB/T 12252

Flange type check valve (Fully lined)

- Basic structure:
 - Swing type, lift type
- Pressure: PN0.6~1.6(MPa)
- Size: DN15~500 (mm)
- Basic model:
 - H41F₃ H41F₄₆ H44F₃ H44F₄₆

Main Parts Material Specifications

Table A14

No.	Name	Grey Cast Iron	Cast Steel	Stainless Steel		Low Carbon Stainless Steel	
		Z	C	P	R	P _L	R _L
1	Body	HT250	WCB	CF8	CF8M	CF3	CF3M
2	Lining/seat	FEP(F ₄₆)		PCTFE(F ₃)	PFA	PO	
3	Disc	1Cr13/35		WCB	1Cr18Ni9/CF8	00Cr17Ni14Mo2/CF3M	
4	Bolt	35	35	1Cr17Ni2	1Cr17Ni2	1Cr18Ni9Ti	1Cr18Ni9Ti
5	Nut	45	45	0Cr18Ni9	0Cr18Ni9	0Cr18Ni9	0Cr18Ni9

Dimensions and weights

Table B33

Size		Standard							Reference		
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-φd	Do	H	W(kg)
PN1.0 (MPa)											
15	½	130	80	55	40	2	12	4-φ12	105	55	4
20	¾	150	90	60	50	2	14	4-φ12	115	58	5
25	1	160	100	75	60	2	14	4-φ12	128	60	6
32	1¼	180	120	90	70	2	16	4-φ14	145	75	7
40	1½	200	130	100	80	3	16	4-φ14	160	82	8
50	2	230	140	110	90	3	16	4-φ14	178	95	10
65	2½	290	160	130	110	3	16	4-φ14	205	105	20
80	3	310	185	150	125	3	18	4-φ18	230	120	25
100	4	350	205	170	145	3	18	4-φ18	255	135	30
125	5	400	235	200	175	3	20	8-φ18	305	158	50
150	6	480	260	225	200	3	20	8-φ18	345	180	65
200	8	495	315	280	255	3	22	8-φ18	415	215	137
250	10	622	370	335	310	3	24	12-φ18	490	240	150
300	12	698	435	395	362	4	24	12-φ23	540	265	185
350	14	787	485	445	412	4	26	16-φ23	585	300	215
400	16	914	535	495	462	4	28	16-φ23	635	360	244
450	18	978	590	550	518	4	28	20-φ23	680	385	276
500	20	978	640	600	568	4	30	20-φ23	740	415	315



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Dimensions and weights

Table B33

Size		Standard							Reference		
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-ød	B	H	W(kg)
15	½	130	95	65	45	2	14	4-ø14	105	55	5
20	¾	150	105	75	55	2	16	4-ø14	115	58	7
25	1	160	115	85	65	2	16	4-ø14	128	60	9
32	1¼	180	135	100	78	2	18	4-ø18	145	75	11
40	1½	200	145	110	85	3	18	4-ø18	160	82	13.5
50	2	230	160	125	100	3	20	4-ø18	178	95	18
65	2½	290	180	145	120	3	20	4-ø18	205	105	22
80	3	310	195	160	135	3	22	4/8-ø18	230	120	28
100	4	350	215	180	155	3	22	8-ø18	255	135	34
125	5	400	245	210	185	3	24	8-ø18	305	158	58
150	6	480	280	240	210	3	24	8-ø23	345	180	72
200	8	495	335	295	265	3	26	8-ø23	415	215	150
250	10	622	390	350	320	3	28	12-ø23	490	240	165
300	12	698	440	400	368	4	28	12-ø23	540	265	190
350	14	787	500	460	428	4	30	16-ø23	585	300	225
400	16	914	565	515	482	4	32	16-ø25	635	360	254
450	18	978	615	656	532	4	32	20-ø25	680	385	285
500	20	978	670	620	585	4	34	20-ø25	740	415	333

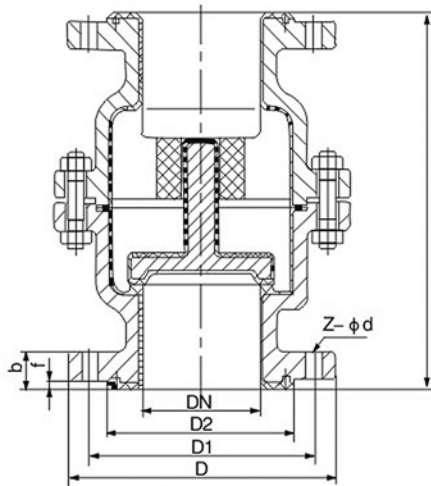
Dimensions and weights

Table B33

Size		Standard							Reference		
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-ød	Do	H	W(kg)
15	½	130	95	65	45	2	14	4-ø14	110	55	6
20	¾	150	105	75	55	2	16	4-ø14	120	58	7.8
25	1	160	115	85	65	2	16	4-ø14	135	60	10
32	1¼	180	135	100	78	2	18	4-ø18	150	75	12.5
40	1½	200	145	110	85	3	18	4-ø18	165	82	14.5
50	2	230	160	125	100	3	20	4-ø18	185	95	19.5
65	2½	290	180	145	120	3	20	4-ø18	210	105	25.5
80	3	310	195	160	135	3	22	8-ø18	235	120	30
100	4	350	215	180	155	3	24	8-ø18	260	135	36
125	5	400	245	210	185	3	26	8-ø18	310	158	62
150	6	480	280	240	210	3	28	8-ø23	350	180	78
200	8	495	335	295	265	3	30	12-ø23	420	215	156
250	10	622	405	355	320	3	32	12-ø25	505	240	172
300	12	698	460	410	375	4	34	12-ø25	560	265	240
350	14	787	520	470	435	4	38	16-ø25	605	300	208
400	16	914	580	525	485	4	40	16-ø30	650	350	265

When flange to PN1.0MPa, DN80, JB78, screw hole Z=4, t other parameter z=8.





35. H42F₃, F₄₆
Type check valve (lift type)

Standard

Design	GB 12235
Face to Face	Q / DFL-04-99
Flange dimension	JB78/JB79 or according to requirements
Test	GB/T 13927
Symbol	GB 12220
Supply	GB/T 12252

Flange type check valve (Fully lined)

- Basic structure: Lift type
- Pressure: PN0.6~2.5(MPa)
- Size: DN15~500 (mm)
- Basic model:
H42F₃ H42F₄₆
- Main material: see chart A14

Dimensions and weights

Table B35

Size		Standard							Reference
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-φd	W(kg)
PN0.6 (MPa)									
15	½	135	80	55	40	2	12	4-φ12	2.5
20	¾	145	90	65	50	2	14	4-φ12	3.5
25	1	155	100	75	60	2	14	4-φ12	4
32	1¼	170	120	90	70	2	16	4-φ14	5
40	1½	183	130	100	80	3	16	4-φ14	6
50	2	185	140	110	90	3	16	4-φ14	8
65	2½	196	160	130	110	3	16	4-φ14	10
80	3	212	185	150	125	3	18	4-φ18	13
100	4	275	205	170	145	3	18	4-φ18	25
150	6	405	260	225	200	3	20	8-φ23	46
200	8	510	315	280	255	3	22	8-φ23	100
250	10	622	370	335	310	3	24	12-φ23	155
300	12	698	435	395	362	4	24	12-φ23	180
350	14	787	485	445	412	4	26	12-φ23	220
400	16	914	535	495	462	4	28	16-φ23	275
450	18	978	590	550	518	4	28	16-φ23	300
500	20	978	640	600	568	4	30	16-φ23	392



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Dimensions and weights

Table B36

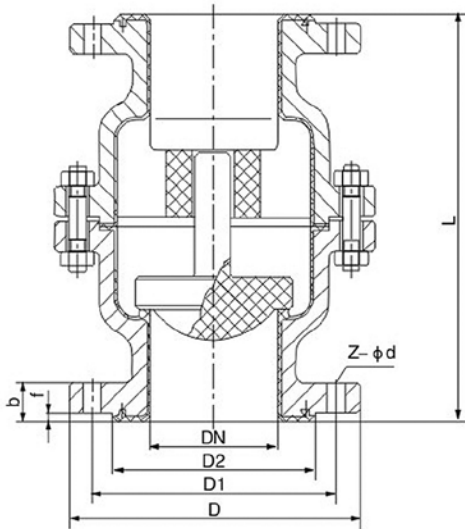
Size		Standard							Reference
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-ød	W(kg)
15	½	135	95	65	45	2	14	4-ø14	2.5
20	¾	145	105	75	55	2	16	4-ø14	3.5
25	1	155	115	85	65	2	16	4-ø14	4
32	1¼	170	135	100	78	2	18	4-ø18	5
40	1½	183	145	110	85	3	18	4-ø18	6
50	2	185	160	125	100	3	20	4-ø18	8
65	2½	196	180	145	120	3	20	4-ø18	10
80	3	212	195	160	135	3	22	4/8-ø18	13
100	4	275	215	180	155	3	22	4-ø18	25
150	6	405	280	240	210	3	24	8-ø23	46
200	8	510	335	295	265	3	26	8-ø23	100
250	10	622	390	350	320	3	28	12-ø23	155
300	12	698	440	400	368	4	28	12-ø23	180
350	14	787	500	460	428	4	30	16-ø23	220
400	16	914	565	515	482	4	32	16-ø25	275
450	18	978	615	565	532	4	32	20-ø25	300
500	20	978	670	620	585	4	34	20-ø25	392

Size		Standard							Reference
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-ød	W(kg)
15	½	135	95	65	45	2	14	4-ø14	2.5
20	¾	145	105	75	55	2	16	4-ø14	3.5
25	1	155	115	85	65	2	16	4-ø14	4
32	1¼	170	135	100	78	2	18	4-ø18	5
40	1½	183	145	110	85	3	18	4-ø18	6
50	2	185	160	125	100	3	20	4-ø18	8
65	2½	196	180	145	120	3	20	4-ø18	10
80	3	212	195	160	135	3	22	8-ø18	13.5
100	4	275	215	180	155	3	24	4-ø18	28.5
150	6	405	280	240	210	3	28	8-ø23	48
200	8	510	335	295	265	3	30	8-ø23	105
250	10	622	405	355	320	3	32	12-ø25	165
300	12	698	460	410	375	4	34	12-ø25	195
350	14	787	520	470	435	4	38	16-ø25	238
400	16	914	580	525	485	4	40	16-ø30	295

Size		Standard							Reference
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-ød	W(kg)
15	½	135	95	65	45	2	16	4-ø14	3
20	¾	145	105	75	55	2	16	4-ø14	4
25	1	155	115	85	65	2	16	4-ø14	5
32	1¼	170	135	100	78	2	18	4-ø18	8.5
40	1½	183	145	110	85	3	18	4-ø18	9.8
50	2	185	160	125	100	3	20	4-ø18	17

When flange to PN1.0MPa, DN80, JB78, screw hole Z=4, t other parameter z=8.





35. H40F₃, F₄₆
New type check valve (lift type)

Standard

Design	GB 12235
Face to Face	Q/DFL-05-99
Flange dimension	JB78 or according to requirements
Test	GB/T 13927
Symbol	GB 12220
Supply	GB/T 12252

Flange type check valve

- Basic structure: Lift type
- Pressure: PN0.6~1.0 (MPa)
- Size: DN25~150 (mm)
- Basic model:
H40F₃ H40F₄₆
- Main material: see chart A14

Dimensions and weights

Table B37

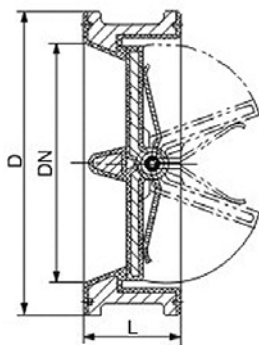
Size		Standard							Reference	
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-φd	W(kg)	
PN0.6 (MPa)										
25	1	155	100	75	60	2	14	4-φ12	6	
40	1½	183	130	100	80	3	16	4-φ14	10	
50	2	185	140	110	90	3	16	4-φ14	14	
65	2½	196	160	130	110	3	16	4-φ14	18	
80	3	212	185	150	125	3	18	4-φ18	21	
100	4	275	205	170	145	3	18	4-φ18	40	
150	6	405	260	225	200	3	20	8-φ18	90	

Size		Standard							Reference	
Dn (mm)	NPS (inch)	L	D	D ₁	D ₂	f	b	Z-φd	W(kg)	
PN1.0 (MPa)										
25	1	155	115	85	65	2	16	4-φ14	6.8	
40	1½	183	145	110	85	3	18	4-φ18	11.5	
50	2	185	160	125	100	3	20	4-φ18	15	
65	2½	196	180	145	120	3	20	4-φ18	20	
80	3	212	195	160	135	3	22	4/8-φ18	23	
100	4	275	215	180	155	3	22	8-φ18	44	
150	6	405	280	240	210	3	24	8-φ23	95	



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37. H76F₃, F₄₆
New type check valve (lift type)

Flange type check valve (Fully lined)

- Basic structure: Double door swing type
- Pressure: PN0.6~4.0 (MPa)
ANSI 150~300lb
- Size: DN25~1200 (mm)
NPS 2~48
- Basic model:
H76F₃ H76F₄₆ H76F/P (SS disc)

Standard

Design	JB/T 8937/API 594
Face to Face	GB/t 15188.2/API 594 (J5/J7 Series)
Flange dimension	JB78/ANSI B16.5/API 605 or according to requirements
Test	API 598
Symbol	MSS SP-25
Supply	GB/T 12225/API 594

Main Parts Material Specifications

Table A15

No.	Name	Grey Cast Iron	Cast Steel	Stainless Steel		Low Carbon Stainless Steel	
		Z	C	P	R	P _L	R _L
1	Body	HT250	WCB	CF8	CF8M	CF3	CF3M
2	Lining	FEP(F ₄₆)		PCTFE(F ₃)	PFA	PO	
3	Discs	1Cr13/35	WCB	1Cr18Ni9/CF8	00Cr17Ni14Mo2/CF3M		
4	Teflon lined spring	50CrV/LineFEP (F ₄₆)	1Cr18Ni9Ti/LineFEP (F ₄₆)		00Cr17Ni14Mo2/LineFEP (F ₄₆)		

Dimensions and weights

Table B39

Size		Standard			Reference			Standard			Reference		
Dn (mm)	NPS (inch)	L	D	W(kg)	L	D	W(kg)	L	D	W(kg)	L	D	W(kg)
		PN0.6 (MPa)/ANSI 150lb			PN1.0 (MPa)/ANSI 150lb			PN1.6 (MPa)/ANSI 150lb					
50	2	60	90/92	2	60	100/92	2	60	100/92	2.5			
65	2½	66	110/105	3	66	120/105	3	66	120/105	3.5			
80	3	73	125/127	4	73	135/127	4	73	135/127	4.5			
100	4	73	145/157	6	73	155/157	6	73	155/157	7			
150	6	98	200/216	11.5	98	210/216	11.5	98	210/216	13			
200	8	127	255/270	18	127	265/270	18	127	265/270	21			
250	10	146	310/324	28	146	320/324	28	146	320/324	32			
300	12	181	362/381	45	181	368/381	45	181	375/381	48			
350	14	184	412/413	70	184	428/413	70	184	435/413	73			
400	16	191	462/470	98	191	482/470	98	191	485/470	104			
450	18	203	518/533	145	203	532/533	145	203	545/533	155			
500	20	219	568/584	168	219	585/584	168	219	608/584	185			
600	24	222	670/692	278	222	685/692	278	222	718/692	300			
750	30	305	813	380	305	813	380	305	813	420			
900	36	368	980/972	590	368	998/972	590	368	998/972	645			
1050	42	432	1130	680	432	1130	680	432	1130	680			
1200	48	524	1295/1289	788	524	1325/1289	788	524	1325/1289	790			



Dimensions and weights

Table B40

Size		Standard		Reference	Standard		Reference
Dn (mm)	NPS (inch)	L	D	W(kg)	L	D	W(kg)
		PN2.5 (MPa)/ANSI 300lb			PN4.0 (MPa)/ANSI 300lb		
50	2	60	100/92	3	60	100/92	3.5
65	2½	66	120/105	4	66	120/105	4.5
80	3	73	135/127	5	73	135/127	5.5
100	4	73	160/157	8	73	160/157	9
150	6	98	218/216	14	98	218/216	16
200	8	127	278/270	25	127	282/270	28
250	10	146	332/324	35	146	345/324	40
300	12	181	390/381	52	181	408/381	58
350	14	222	448/413	78	222	465/413	85
400	16	232	505/470	120	232	535/470	135
450	18	264	555/533	165	264	560/533	180
500	20	292	610/584	195	292	612/584	215
600	24	317	718/692	320	317	730/692	338

For L, PN0.6~1.6MPa is equal to ANSI150lb, when PN2.5~4.0Mpa is equal to ANSI300lb.

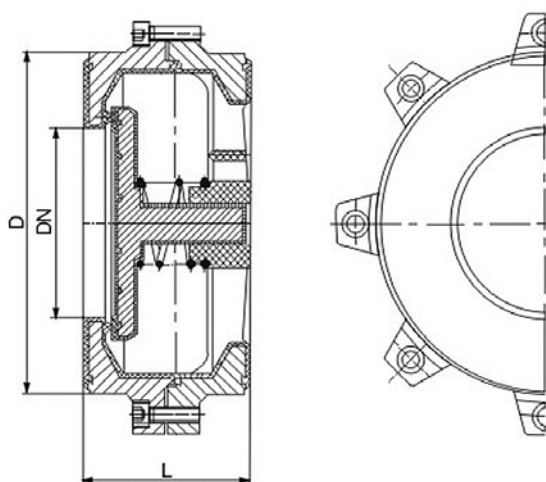
For D, PN2.5~4.0Mpa

For D, PN2.5~4.0Mpa



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38. H72F₄₆
Wafer check valve (Disc type)

Standard

Design	JB/T 8937/API 594
Face to Face	GB/T 15188.2/API 594 (J17/J18 Series)
Flange dimension	JB78/ANSI B16.5 or according to requirements
Test	API 598
Symbol	MSS SP-25
Supply	API 594/GB/T 12225

Flange type check valve

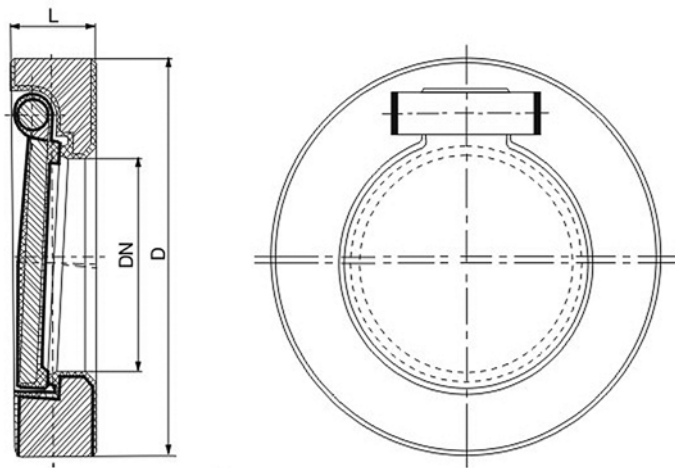
- Basic structure: Disc type
- Pressure: PN0.6~2.5 (MPa) ANSI 125lb~300lb
- Size: DN15~300 (mm) NPS2~24
- Basic model: H72F₃ H72F₄₆
- Main material: see chart A15

Dimensions and weights

Table B41

Size		Standard		Reference	Standard		Reference	Standard		Reference
Dn (mm)	NPS (inch)	L	D	W(kg)	L	D	W(kg)	L	D	W(kg)
		PN0.6 (MPa)			PN1.0/1.6 (MPa)			PN2.5 (MPa)		
15	½	25	40	0.8	25	45	1.0	25	45	1.2
20	¾	31.5	50	1.0	31.5	55	1.4	31.5	55	1.6
25	1	35.5	60	1.4	35.5	65	2.7	35.5	65	3.0
32	1¼	40	70	2.5	40	78	3.6	40	78	4.5
40	1½	45	80	3.2	45	85	4.2	45	85	5.0
50	2	56	90	4.0	56	100	5.6	56	100	6.2
65	2½	63	110	5.2	63	120	6.4	63	120	7
80	3	71	125	6.4	71	135	8.2	71	135	8.5
100	4	80	145	8.5	80	155	9.5	80	160	10.2
125	5	90	175	9.2	90	185	12.8	90	188	13.5
150	6	106	200	13	106	210	14.8	106	218	15.6
200	8	140	255	16	140	265	20	140	278	22
250	10	200	310	21	200	320	23.5	200	332	26
300	12	250	362	27	250	368	30	250	390	35
Size		ANSI 125lb			ANSI 150lb			ANSI 300lb		
50	2	54	92	5.6	60	92	5.6	60	92	6.5
65	2½	60	105	6.4	67	105	6.4	67	105	7.5
80	3	67	127	8.2	73	127	8.2	73	127	9
100	4	67	157	9.5	73	157	9.5	73	157	11
150	6	95	216	14.8	98	216	14.8	98	216	17
200	8	127	270	20	127	270	20	127	270	25
250	10	140	324	23.5	146	324	23.5	146	324	29
300	12	181	381	30	181	381	30	181	381	38
350	14	184	413	34	184	413	34	222	413	47
400	16	191	470	40	191	470	40	232	470	51
450	18	203	533	48	203	533	48	264	533	62
500	20	213	584	59	219	584	59	292	584	71
600	24	222	692	78	222	692	78	318	692	83





39. H74F₃, F₄₆
Wafer type check valve (Single disc swing type)

Standard

Design	JB/T 8937
Face to Face	Q/DFL-06-99 As per API 609 butterfly valve
Flange dimension	JB78/ANSI B16.5 or according to requirements
Test	API 598/GB 13927
Symbol	MSS SP-25/GB 12220
Supply	ANSI B16.34/GB/T 12225

Wafer type check valve (Fully lined)

- Basic structure: Single disc swing type
- Pressure: PN0.6~2.5 (MPa) ANSI 150lb~300lb
- Size: DN40~500 (mm) NPS_{1/2}~20
- Basic model:
H74F₃ H74F₄₆
- Main material: see chart A15

Dimensions and weights

Table B42

Size		Standard		Reference	Standard		Reference	Standard		Reference
Dn (mm)	NPS (inch)	L	D	W(kg)	L	D	W(kg)	L	D	W(kg)
		PN0.6 (MPa)			PN1.0/1.6 (MPa)			PN2.5 (MPa)/ANSI 300lb		
40	1½	33	80	1.0	33	85/73	1.2	33	73	1.4
50	2	43	90	1.1	43	100/92	1.3	43	92	1.5
65	2½	46	110	1.3	46	120/105	1.6	46	105	2.0
80	3	46	125	2.5	46	135/127	3.0	46	127	3.8
100	4	52	145	4.8	52	155/157	5.4	52	157	6.3
150	6	56	200	6.5	56	210/216	7.8	56	216	8.8
200	8	60	255	8	60	265/270	10	60	270	12
250	10	68	310	15	68	320/324	18	68	324	20
300	12	78	362	25	78	368/381	30	78	381	32
350	14	78	412	36	78	428/413	41	78	413	45
400	16	102	462	46	102	482/470	55	102	470	60
450	18	114	518	68	114	532/533	78	114	533	85
500	20	127	568	81	127	585/584	90	127	584	98

ANSI150lb is equal to PN1.6, ANSI300lb is equal to PN2.5.



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Characteristics

Tilting Disc swing check valves are popular in the following applications:

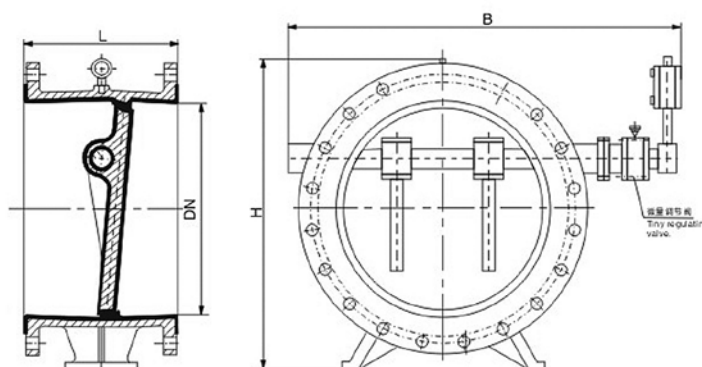
- Large sizes where the cost of Tilting disc check valves are reasonable
- Tilting disc check valve are better than normal swing check valves in reducing waterhammer due to the counterweight
- Low headloss
- Short face to face dimensions

Standard

PN	PN≤2.5MPa ANSI 150lb
Design	GB 13932
Face to Face	GB 12221 (Butterfly check valve)
Flange dimension	JB78/JB79 / ANSI B16.5
Test	GB/T 13927/API 598

Flanged type tilting disc check valve

- Pressure: PN1.0~2.5 (MPa) ANSI 150lb
- Size: DN200~1400 (mm) NPS 8~56
- Basic model:
H48Po HH48Po



40. HH48Po
Tilting disc non-slam check valve

Design parameters

Type	PN (MPa)	Test pressure (MPa)		(Mpa) working pressure	Medium temp.	Suitable medium
		Shell	Seat			
H48Po HH48Po	1.0	1.5	1.1	1.0	≤80	Water, seawater, raw water and corrosive me- dium
	1.6	2.4	1.76	1.6		
	2.5	3.75	2.75	2.5		

Material specifications

Table A16

Name	Body	Disc	Stem	Lining	Cushioning device
Material	WCB/PO	WCB/PO	2Cr13/PO	PO	Assembly

Dimensions

Table B43

Dn (mm)	Size		
	L	H	B
200	230	550	600
250	250	630	700
300	270	690	740
350	290	780	800
400	310	860	870
450	330	910	920
500	350	980	1000

Dn (mm)	Size		
	L	H	B
600	390	1070	1250
700	430	1220	1360
800	470	1320	1480
900	510	1430	1580
1000	550	1550	1700
1200	630	1800	1950
1400	710	1980	2175

