

Design

WOKO cast steel check valves are designed and manufactured to provide maximum service life and dependability. All check valves meet the design requirements of American Petroleum Institute standard API600 & 6D, BS EN 13709 and generally conform to American Society of Mechanical Engineers standard ASME B16.34. Valves are available in a complete range of body/cover materials and trims.

Rang of Materials

Standard body/cover materials include nine grades of carbon, low alloy and stainless steels, for special applications they can be supplied in other grades of alloy and stainless steel, there's a full range of trim materials to match any service optional packing and gasket materials are available for a full range of service conditions.

Available Modifications For Cast Steel Valves

Trim changes

End connection modifications

Packing and gasket changes

Operator mounting

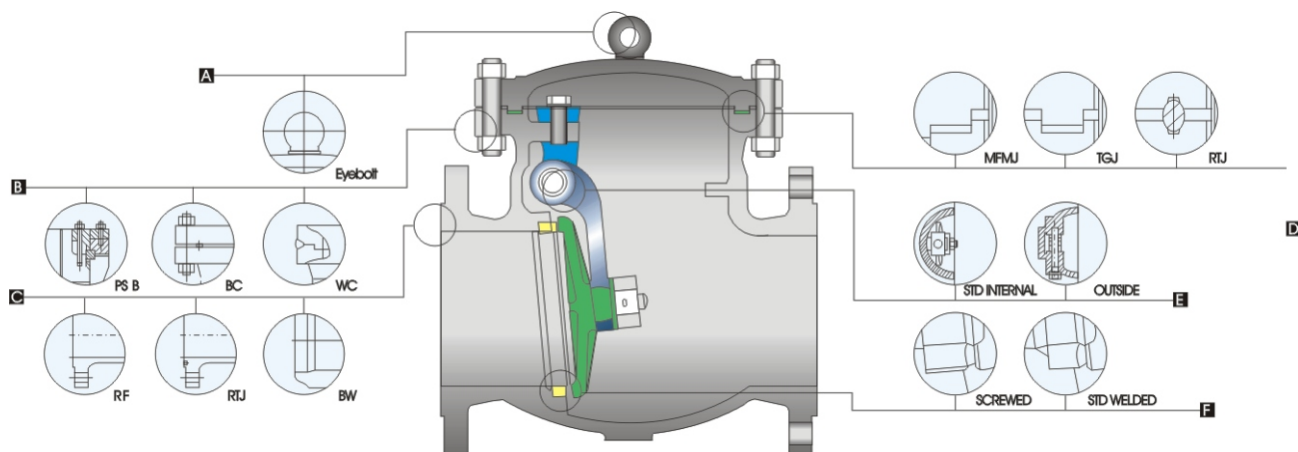
Handwheel extensions

Pressure equalizing

Customer specified coatings

Weld end bore changes

Oxygen & chlorine cleaning & packaging



A Eyebolt

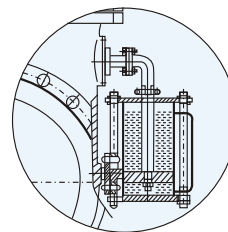
For 150Lb–8", 300Lb–8", 600Lb–6", 900Lb/1500Lb/2500Lb–4" & over.

B BC

Bolted cover, welded cover and pressure seal bonnet in services requiring frequent cycling or with high pressure/temperature variations.

C End Connections

A choice of flanged, RTJ flanged or butt welding end for piping flexibility.



D Body-to-Cover Joint

A male and female joint or tongue and groove joint is used 150Lb to 600Lb valves. Ring joint is used in the body to cover connection in 900Lb & higher rated valve.s

E Outside Lever And Weight

All external hinge pin swing check valves 12" and smaller are available with an optional outside lever and weight, internal hinge available with all swing check valves.

F Seat Rings

Separate heavy duty, full ported rings for easy maintenance. Screwed or welded connection into body.

HCU weighted mechanical accumulator

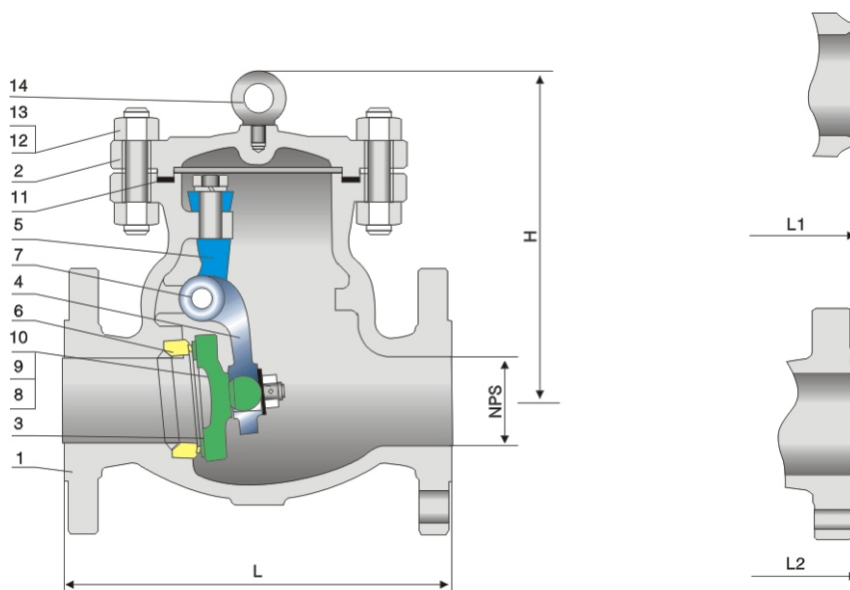
This design can be used to either dampen or assist closing of the check valve disc depending on orientation. by using the hydraulic control unit to buffer action the disc, the valve opens at lower flow rates.

Applicable Standards:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES, ISO 14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598/API 6D

Design description:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES, ISO 14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598/API 6D



Standard Material Specifications

No	Part Name	ASTM Material							
		Carbon steel	1.25Cr–0.5Mo	2.25Cr–1Mo	304 Type	316 Type	304L Type	316L Type	20 Alloy
1	Body	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
2	Bonnet	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
3	Disc	WCB+13Cr*1	A217 WC6+HF	A217 WC9+HF	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
4	Hinge	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
5	Arm	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
6	Sear Ring	A105+13Cr*1	A182 F11+HF	A182 F22+HF	NA				NA
7	Hinge Pin	A276 410	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20–Alloy
8	Disc Washer	Carbon steel	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20–Alloy
9	Disc Nut	Carbon steel	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20–Alloy
10	Disc Nut Pin	304 SS	304 SS	304 SS	304 SS	316 SS	304L SS	316L SS	20–Alloy
11A	Bonnet Gasket	304+graphite	304+graphite	304+graphite	304+graphite	316+graphite	304+graphite	316L+graphite	316+graphite
11B	Ring Gasket	Soft steel	A182 F304	A182 F304	A182 F316	A182 F316	A182 F304L	A182 F316L	20–Alloy
12	Bonnet Bolt	A193 B7	A193 B7	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8	A193 B8
13	Bonnet Nut	A194 2H	A194 7	A194 7	A194 8	A194 8	A194 8	A194 8	A194 8
14	Eyebolt	Carbon steel	Carbon steel	Carbon steel	Carbon steel+Zn				Carbon steel+Zn
*1	PN≥600 CLASS seal face will be HF								
*2	PTFE Optional								
NA	Integral with vessel								

Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement

Main Outline Dimensions & Weight Class 150Lb

NPS DN	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	26 650	28 700	30 750	36 900	in mm
L/L1 (RF/BW)	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	51.00	57.00	60.00	77.00	in
	203	216	241	292	356	495	622	699	787	864	978	978	1295	1295	1448	1524	1956	mm
L2 (RTJ)	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	—	—	—	—	in
	216	229	254	305	368	508	635	711	800	876	991	991	1308	—	—	—	—	mm
H	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	37.00	37.00	38.62	48.00	in
	152	165	175	204	293	353	390	432	475	525	582	627	883	940	940	980	1220	mm
wt(kg)	14	20	25	40	71	118	177	263	353	542	632	855	970	1600	1600	1990	2760	RF/RTJ
	10	12	17	29	57	96	143	227	295	468	552	755	831	1420	1420	1760	2230	BW

Main Outline Dimensions & Weight Class 300Lb

NPS DN	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	26 650	28 700	30 750	36 900	in mm
L/L1 (RF/BW)	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	53.00	59.00	62.75	82.00	in
	267	292	318	356	445	533	622	711	838	864	978	1016	1346	1346	1499	1594	2083	mm
L2 (RTJ)	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	54.00	60.00	63.75	—	in
	283	308	333	371	460	549	638	727	854	879	994	1035	1368	1372	1524	1619	—	mm
H	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	35.88	37.00	38.62	48.00	in
	152	165	175	204	292	353	390	432	475	525	582	627	883	910	940	980	1220	mm
wt(kg)	16	23	29	46	82	136	204	302	405	625	730	985	1115	1465	1840	2290	3180	RF/RTJ
	11	13	18	31	61	103	155	245	315	503	593	812	895	1205	1525	1895	2395	BW

Main Outline Dimensions & Weight Class 600Lb

NPS DN	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	in mm
L/L1 (RF/BW)	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	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	mm
L2 (RTJ)	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	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	mm
H	7.50	8.00	8.75	10.00	14.50	17.50	19.25	21.38	23.38	25.75	28.75	31.00	43.50	in
	190	205	222	255	368	445	490	540	595	655	730	785	1105	mm
wt(kg)	24	35	44	70	125	207	310	460	615	945	1105	1495	1695	RF/RTJ
	16	19	26	44	87	147	220	350	452	720	845	1160	1280	BW

Main Outline Dimensions & Weight Class 900Lb

NPS DN	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	in mm
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	–	in
	368	419	381	457	610	737	838	965	1029	1130	1219	1321	–	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	–	in
	371	422	384	460	613	740	841	968	1038	1140	1232	1334	–	mm
H	9.50	10.00	11.00	12.50	18.12	22.00	24.00	26.50	29.38	32.00	33.50	38.75	–	in
	240	256	278	320	460	560	610	675	745	815	850	985	–	mm
wt(kg)	37	54	68	109	195	321	481	711	956	1468	1870	2316	–	RF/RTJ
	21	25	34	58	115	194	290	461	597	950	1210	1533	–	BW

Main Outline Dimensions & Weight Class 1500Lb

NPS DN	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L/L1 (RF/BW)	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	54.50	in
	368	419	470	546	705	832	991	1130	1257	1384	mm
L2 (RTJ)	14.62	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	55.38	in
	371	422	473	549	711	841	1000	1146	1276	1407	mm
H	9.50	10.00	13.00	14.75	18.88	23.50	26.00	29.12	30.88	32.88	in
	240	256	330	375	480	595	660	740	785	835	mm
wt(kg)	40	63	70	115	250	470	740	1100	1410	1600	RF/RTJ
	29	47	49	84	152	310	470	710	910	1100	BW

Main Outline Dimensions & Weight Class 2500Lb

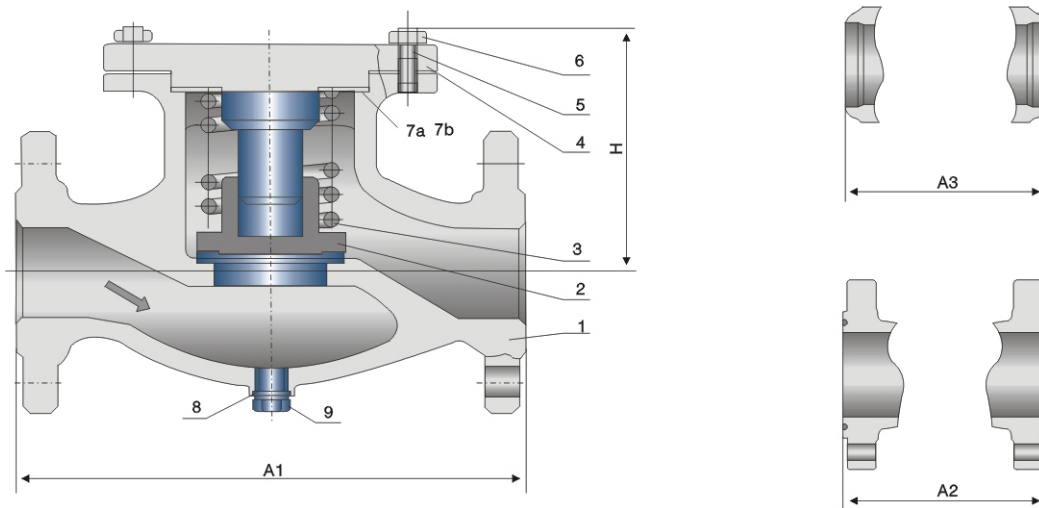
NPS DN	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L/L1 (RF/BW)	17.75	20.00	22.75	26.50	36.00	40.25	50.00	56.00	–	–	in
	451	508	578	673	914	1022	1270	1422	–	–	mm
L2 (RTJ)	17.88	20.25	23.00	26.88	36.50	40.88	50.88	56.88	–	–	in
	454	514	584	683	927	1038	1292	1445	–	–	mm
H	10.75	13.25	13.75	15.12	19.50	24.62	28.00	35.62	–	–	in
	275	335	350	385	495	625	712	905	–	–	mm
wt(kg)	50	76	85	165	460	900	1300	1800	–	–	RF/RTJ
	35	55	68	115	225	580	860	1150	–	–	BW

Applicable Standards:

- STEEL CHECK VALVES, BS EN 13709/API 600, JIS
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10, JIS
- END FLANGES, ASME B16.5, JIS
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Design description:

- BB, BOLTED BONNET
- LOOSE DISC, CHOICE OF PLUG OR BALL
- RENEWABLE SEAT RING
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS



Standard Material Specifications

No	Part Name	ASTM Material							
		Carbon steel	1.25Cr-0.5Mo	2.25Cr-1Mo	304 Type	316 Type	304L Type	316L Type	20 Alloy
1	Body	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
2	Disc	WCB+13Cr*1	A217 WC6+HF	A217 WC9+HF	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
3	Spring	Si-Mn steel	Cr-V steel	Cr-V steel	A313 304	A313 316	Inconel 750	Inconel 750	Inconel 750
4	Bonnet	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
5	Bonnet Nut	A194 2H	A194 7	A194 7	A194 8	A194 8M	A194 8	A194 8M	A194 8M
6	Bonnet Bolt	A193 B7	A193 B7	A193 B16	A193 B8	A193 B8M	A193 B8	A193 B8M	A193 B8M
7A	Bonnet Gasket	304+graphite	304+graphite	304+graphite	304+graphite	316+graphite	304L+graphite	316L+graphite	316+graphite
7B	Ring Gasket	Soft steel	A182 F304	A182 F304	A182 F304	A182 F316	A182 F304L	A182 F316L	20-Alloy
8	Plug Gasket	Copper	Soft steel	Soft steel	304 SS	316 SS	304L SS	316L SS	20-Alloy
9	Treaded Plug	A193 B7	A193 B7	A193 B16	304SS	316 SS	304L SS	316L SS	20-Alloy
*1	PN≥600 CLASS seal face will be HF								
NA	Integral with vessel								

Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement

Main Outline Dimensions & Weight Class 150Lb

NPS DN	1½ 40	2 50	2½ 65	3 80	4 100	5 125	6 150	8 200	10 250	12 300	in mm
A1	6½	8	8½	9½	11½	14	16	19½	24½	27½	in
A3	165	203	216	241	229	356	406	495	622	699	mm
A2	7 178	8½ 216	9 229	10 254	12 305	14½ 368	16½ 419	20 508	25 635	28 711	in mm
H	4¾ 121	4⅞ 124	6 152	6¼ 159	6¾ 172	7⅝ 194	8⅝ 219	10⅞ 276	12¾ 324	14⅜ 365	in mm
Weight(kg)	RF	26	37	55	62	95	121	165	309	441	lbs.
		12	17	25	28	43	55	75	140	200	kg
	BW	20	31	46	53	86	110	152	295	419	lbs.
		9	14	21	24	39	50	69	134	190	kg

Main Outline Dimensions & Weight Class 300Lb

NPS DN	1½ 40	2 50	2½ 65	3 80	4 100	5 125	6 150	8 200	10" 250	12" 300	in mm
A1	9	10½	11½	12½	14	15¾	17½	22	24½	28	in
A3	228	267	292	318	396	400	444	559	622	711	mm
A2	9½ 241	11⅛ 283	12⅛ 308	13⅛ 333	14⅝ 371	16¾ 416	18⅛ 460	22⅝ 575	25⅛ 638	28⅝ 727	in mm
H	4¾ 121	4⅞ 124	6 152	6¼ 159	6¾ 172	7⅝ 194	8⅝ 219	10⅞ 276	12¾ 324	14⅜ 365	in mm
Weight(kg)	RF	26	37	62	79	101	148	194	384	562	lbs.
		12	14	28	36	46	67	88	174	255	kg
	BW	20	31	55	68	90	137	183	346	463	lbs.
		9	14	25	31	41	62	83	157	210	kg

Main Outline Dimensions & Weight Class 600Lb

NPS DN	2 50	2½ 65	3 80	4 100	5 125	6 150	8 200
A1	292	330	356	432	508	559	660
A2	295	333	359	435	511	562	664
A3	292	330	356	432	508	559	660
d	51	64	76	102	125	152	200
H	152	167	178	215	240	279	328
Weight(kg)	32	45	68	98	155	230	300

Main Outline Dimensions & Weight Class 900Lb

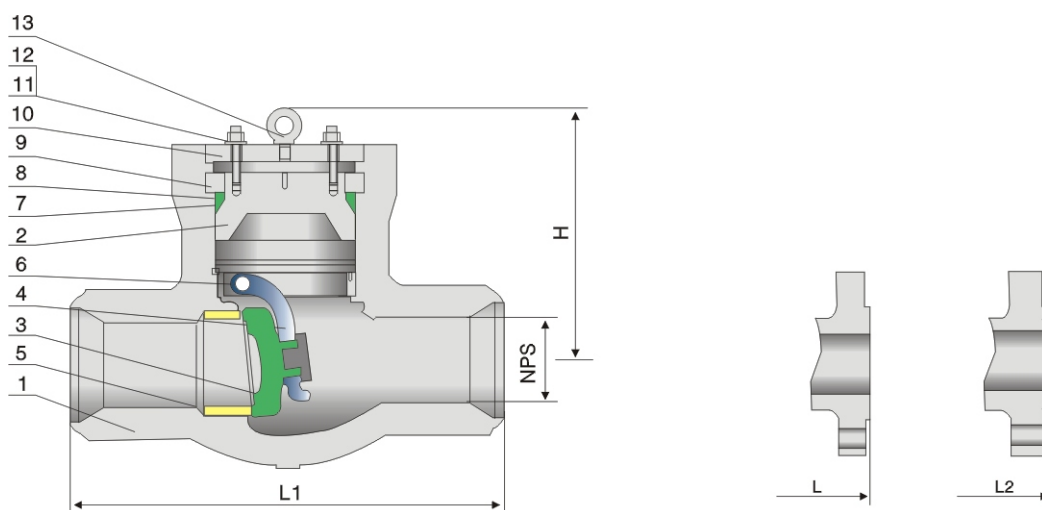
NPS DN	2 50	2½ 65	3 80	4 100	5 125	6 150	8 200
A1	368	419	381	457	559	610	737
A2	371	422	384	460	562	613	740
A3	368	419	381	457	559	610	737
d	50	64	74	100	125	150	200
H	180	220	235	270	300	350	400
Weight(kg)	50	65	88	140	210	300	390

Applicable Standards:

- STEEL CHECK VALVES, API 594/API 6D
- STEEL CHECK VALVES, ISO14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- INSPECTION AND TEST, API 598

Design description

- PSB, PRESSURE SEAL BONNET
- FULLY POT
- RENEWABLE SEAT RINGS
- FLANGED OR BUTTWELDING ENDS



Standard Material Specifications

No	Part Name	ASTM Material							
		Carbon steel	1.25Cr-0.5Mo	2.25Cr-1Mo	304 Type	316 Type	304L Type	316L Type	20 Alloy
1	Body	A216 WCB	A217 WC6	A217 WC9	A351 CF8M	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
2	Bonnet	A216 WCB	A217 WC6	A217 WC9	A351 CF8M	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
3	Disc	WCB+13Cr*1	A217 WC6+HF	A217 WC9+HF	A351 CF8M	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
4	Hinge	A216 WCB	A217 WC6	A217 WC9	A351 CF8M	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
5	Seat Ring	A105+13Cr*1	A182 F11+HF	A182 F22+HF	NA	NA	NA	NA	NA
6	Hinge pin	A276 410	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20-Alloy
7	Bonnet Gasket	304+Graphite	304+Graphite	304+Graphite	304+Graphite	316+Graphite	304L+Graphite	316L+Graphite	316+Graphite
8	Adapter Ring	Soft steel	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L	20-Alloy
9	Retainer	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F304	A182 F304	A182 F304	A182 F304
10	Bonnet Clamp	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8	A351 CF8	A351 CF8	A351 CF8
11	Bonnet Bolt	A193 B7	A193 B7	A193 B6	A193 B8	A193 B8	A193 B8	A193 B8	A193 B8
12	Bonnet Nut	A194 2H	A197 7	A194 7	A194 8	A194 8	A194 8	A194 8	A194 8
13	Eyebolt	Carbon steel	Carbon steel	Carbon steel	Carbon steel+Zn	Carbon steel+Zn	Carbon steel+Zn	Carbon steel+Zn	Carbon steel+Zn
NA	Integral with vessel								
*1	PN>600 class seal face will be HF								

Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement

Main Outline Dimensions & Weight Class 900Lb

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L1 (BW)	8.50 216	10.00 254	12.00 305	14.00 356	20.00 508	26.00 660	31.00 787	36.00 914	39.00 991	43.00 1092	in mm
L (RF)	14.50 368	16.60 419	15.00 381	18.00 457	24.00 610	29.00 737	33.00 838	38.00 965	40.5 1029	44.5 1130	in mm
L2 (RTJ)	14.62 371	16.62 422	15.12 384	18.12 460	24.12 613	29.12 740	33.12 841	38.12 968	40.88 1038	44.88 1140	in mm
H	9.50 240	9.50 240	10.00 255	13.38 340	15.75 400	18.12 460	21.62 550	24.00 610	27.00 685	29.50 750	in mm
wt(kg)	22 44	34 55	38 61	71 116	176 255	485 630	761 940	1125 1433	1345 1710	1490 1820	BW RF/RTJ

Main Outline Dimensions & Weight Class 1500Lb

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	in mm
L1 (BW)	8.50 216	10.00 254	12.00 305	16.00 406	22.00 559	28.00 711	34.00 864	39.00 991	42.00 1067	in mm
L (RF)	14.50 368	16.50 419	18.50 470	21.50 546	27.75 705	32.75 832	39 991	44.5 1130	49.5 1257	in mm
L2 (RTJ)	14.62 371	16.62 422	18.62 473	21.62 549	28.00 711	33.12 842	39.38 1000	45.12 1146	50.25 1276	in mm
H	9.50 240	9.50 240	11.88 300	15.38 390	18.00 455	20.62 525	24.00 610	27.00 685	30.00 760	in mm
wt(kg)	22 44	37 61	45 110	78 155	245 378	530 675	815 1160	1213 1710	1555 2315	BW RF/RTJ

Main Outline Dimensions & Weight Class 2500Lb

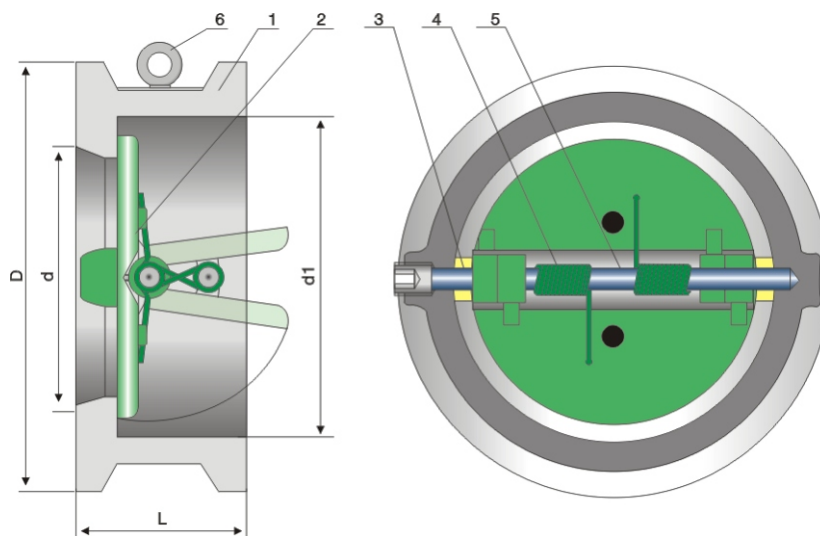
NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	in mm
L1 (BW)	11.00 279	13.00 330	14.50 368	18.00 457	24.00 610	30.00 762	36.00 914	41.00 1041	in mm
L (RF)	17.75 451	20.00 508	22.75 578	26.50 673	36.00 914	40.25 1022	50 1270	56 1422	in mm
L2 (RTJ)	17.88 454	20.50 514	23.00 584	26.88 683	36.50 927	40.88 1038	50.88 1292	56.88 1445	in mm
H	10.25 260	10.25 260	13.75 350	16.12 410	18.88 480	22.38 570	25.25 640	32.00 815	in mm
wt(kg)	55 93	78 130	95 170	182 315	300 618	630 1125	825 1760	1580 2910	BW RF/RTJ

Applicable Standards:

- STEEL CHECK VALVES, API 594/API 6D
- STEEL CHECK VALVES, ISO 14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, API 594
- 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



Standard Material Specifications

No	Part Name	ASTM Material							
		Carbon steel	1.25Cr-0.5Mo	2.25Cr-1Mo	304 Type	316 Type	304L Type	316L Type	20 Alloy
1	Body	A216 WCB	A217 WC6	A217 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
2	Plate	WCB+13Cr*1	A217 WC6+HF	A217 WC9+HF	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
3	Stop Pin	A276 410	A217 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20-Alloy
4	Back Spring	Si-Mn steel	Cr-V Steel	Cr-V Steel	A313 304	A313 316	Inconel 750	Inconel 750	Inconel 750
5	Hinge Pin	A276 410	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20-Alloy
6	Eyebolt	Carbon steel	Carbon steel	Carbon steel	Carbon steel+Zn	Carbon steel+Zn	Carbon steel+Zn	Carbon steel+Zn	Carbon steel+Zn
	Seat Face	13Cr*1	HF	HF	NA	NA	NA	NA	NA
*1	PN ≥ 600 CLASS seal face will be HF								
NA	Integral with vessel								

Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement

Main Outline Dimensions & Weight Class 150Lb

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	in mm
L	2.38 60	2.62 67	2.88 73	2.88 73	3.88 98	5.00 127	5.75 146	7.12 181	7.25 184	7.50 191	8.00 203	8.62 219	8.75 222	in mm
D	4.00 103	4.88 122	5.38 135	6.75 173	8.62 220	10.88 277	13.25 337	16.00 407	17.62 448	20.12 512	21.50 547	23.75 604	28.12 715	in mm
d	2.00 51	2.50 65	3.25 80	4.00 102	6.00 152	8.00 203	10.00 254	12.00 305	13.75 350	15.75 400	17.75 450	19.75 500	23.62 600	in mm
D1	2.25 56	2.88 73	3.50 88	4.25 108	6.25 160	8.25 210	10.50 266	12.12 310	14.00 355	16.00 405	18.00 455	19.88 505	23.75 605	in mm kg
WT	2	3	4	6	13	25	39	54	80	117	138	163	331	

Main Outline Dimensions & Weight Class 300Lb

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	in mm
L	2.38 60	2.62 67	2.88 73	2.88 73	3.88 98	5.00 127	5.75 146	7.12 181	8.75 222	9.12 232	10.38 264	11.50 292	12.50 318	in mm
D	4.25 110	5.00 128	5.75 147	7.00 179	9.88 249	12.00 305	14.12 359	16.50 420	19.00 483	21.12 537	23.38 594	25.62 652	30.38 772	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	8.00 203	10.00 254	12.00 305	14.00 350	16.00 400	18.00 450	20.00 500	24.00 600	in mm
D1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 160	8.25 210	10.50 266	12.25 310	14.00 355	16.00 405	18.00 455	20.00 505	24.00 608	in mm
WT	3	4	6	8	18	31	51	77	117	190	200	265	410	kg

Main Outline Dimensions & Weight Class 600Lb

NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L	2.38 60	2.62 67	2.88 73	3.12 79	5.38 137	6.50 165	8.38 213	9.00 229	10.75 273	12.00 305	in mm
D	4.38 110	5.00 128	5.75 147	7.50 191	10.38 264	12.50 318	15.62 398	17.88 455	19.25 490	22.12 562	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	7.88 200	9.88 250	12.00 305	13.25 337	15.25 387	in mm
D1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 162	8.38 212	10.50 266	12.25 312	14.00 355	15.75 400	in mm
WT	4	5	8	11	26	55	95	140	223	360	kg

Main Outline Dimensions & Weight Class 900Lb

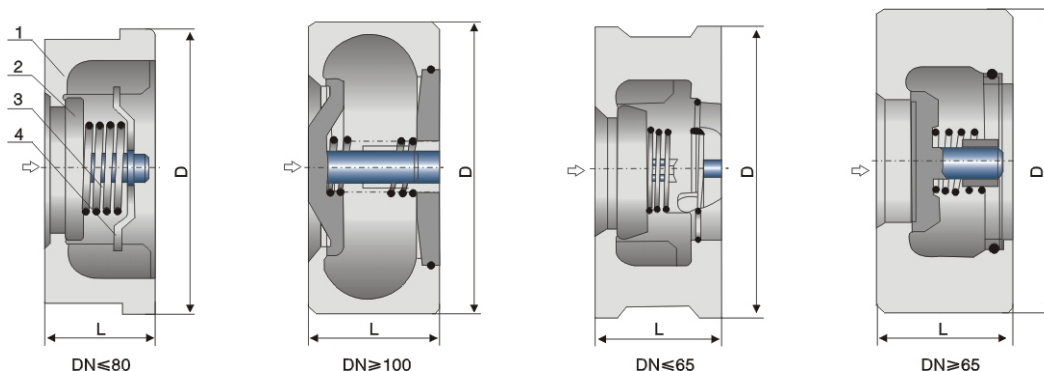
NPS DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	in mm
L	2.75 70	3.25 83	3.25 83	4.00 102	6.25 159	8.12 206	9.50 241	11.50 292	in mm
D	5.50 140	6.38 162	6.50 165	8.00 204	11.25 286	14.00 356	17.00 432	19.50 495	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	7.88 200	9.88 250	12.00 305	in mm
D1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 162	8.38 212	10.50 266	12.25 312	in mm
WT	8	11	14	20	42	84	145	220	kg

Applicable Standards

- STEEL CHECK VALVES, API 594
- STEEL CHECK VALVES, ISO 14313
- END FLANGES, ASME B16.5
- INSPECTION AND TEST, API 598

Design description

- ONE PLECE BODY
- LIFT TYPE
- HORIZONTAL OR VERTICAL SERVICE
- AVAILABLE WITH FLANGED ENDS



Standard Material Specifiactions

NO	Part Name	ASTM Material							
		Carbon steel	1.25Cr-0.5Mo	2.25Cr-1Mo	304 Type	316 Type	304L Type	316L Type	20 Alloy
1	Body	A216 WCB	A216 WC6	A216 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
2	Plate	WCB+13Cr*1	A217 WC6+HF	A217 WC9+HF	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
3	Back Spring	Si+Mn steel	Cr-V Steel	Cr-V Steel	A313 304	A313 316	Inconel 750	Inconel 750	Inconel 750
4	Retain Yoke	A105	A182 F11	A182 F22	304 SS	316 SS	316L SS	316L SS	20-Alloy
	Seat Face	13Cr*1	HF	HF	NA	NA	NA	NA	NA
	Eyebolt	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel+Zn	Carbon Steel+Zn	Carbon Steel+Zn	Carbon Steel+Zn	Carbon Steel+Zn
*1	PN ≥ 600 CLASS seal face will be HF								
NA	Integral with vessel								

Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement

Main Outline Dimension & Weight

PN		Class 150			Class 300			Class 600			Class 900		
DN		Size(mm)		Weight (kg)	Size(mm)		Weight (kg)	Size(mm)		Weight (kg)	Size(mm)		Weight (kg)
in	mm	L	D		L	D		L	D		L	D	
1/2	15	16	47	0.2	25	53	0.23	25	53	0.25	25	63	0.3
3/4	20	19	57	0.3	31.5	65	0.36	31.5	65	0.38	31.5	69	0.4
1	25	22	66	0.45	35.5	72	0.52	35.5	72	0.55	35.5	78	0.6
1 1/4	32	28	75	0.6	40	81	0.75	40	81	0.8	40	88	1.0
1 1/2	40	31.5	85	0.8	45	95	1.1	45	95	1.2	45	98	1.5
2	50	40	103	1.2	56	110	1.95	56	110	2.0	56	142	2.5
2 1/2	65	46	122	2.3	63	129	2.9	63	129	3.0	63	167	4.0
3	80	50	135	3.0	71	148	5.5	71	148	6.0	71	205	8.0
4	100	60	173	7.0	80	180	9.0	80	192	10	80	247	13
5	125	90	196	12	110	215	15	110	240	17	110	288	20
6	150	106	222	15	125	250	20	125	265	22	125	318	25

Main Outline Dimensions & Weight Class 150Lb

DN		Size(mm)					Weight (kg)	Fitting Flange					
mm	in	L	D	D2	D3	D4		PCD D1	Number of Bolt	Length of Bolt d		Length of L1	
										in	mm	RF	RJ
15	1/2	25	46	15	25	25	0.28	60.5	4	1/2	M14	90	—
20	3/4	31.5	56	19	30	30	0.42	70	4	1/2	M14	100	—
25	1	35.5	65	24	36	36	0.56	79.5	4	1/2	M14	105	120
32	1¼	40	74	31	43	43	0.75	89	4	1/2	M14	115	130
40	1½	45	84	39	52	52	1.3	98.5	4	1/2	M14	120	135
50	2	56	103	48	62	62	2.1	120.5	4	5/8	M16	140	155
65	2½	63	122	62	75	75	2.8	139.5	4	5/8	M16	155	170
80	3	71	135	78	90	90	3.6	152.5	4	5/8	M16	165	180
100	4	80	173	95	112	112	4.8	190.5	8	5/8	M16	175	190
125	5	110	195	110	132	132	12	216.0	8	3/4	M20	210	225
150	6	125	220	127	158	158	17	241.5	8	3/4	M20	230	245
200	8	160	277	165	200	208	29	298.5	8	3/4	M20	270	285

Main Outline Dimensions & Weight Class 300Lb

DN		Size(mm)					Weight (kg)	Fitting Flange					
mm	in	L	D	D2	D3	D4		PCD D1	Number of Bolt	Length of Bolt d		Length of L1	
										in	mm	RF	RJ
15	1/2	25	52	15	25	25	0.3	66.5	4	1/2	M14	95	105
20	3/4	31.5	65	19	30	30	0.46	82.5	4	5/8	M16	110	125
25	1	35.5	72	24	36	36	0.6	89	4	5/8	M16	115	130
32	1¼	40	81	31	43	43	0.8	98.5	4	5/8	M16	125	140
40	1½	45	94	39	52	52	1.5	114.5	4	3/4	M20	140	155
50	2	56	110	48	62	62	2.4	127.0	8	5/8	M16	145	170
65	2½	63	128	62	75	75	3.0	149.0	8	3/4	M20	170	190
80	3	71	147	78	90	90	4.0	168.5	8	3/4	M20	185	205
100	4	80	179	95	112	112	5.5	200.0	8	3/4	M20	200	220
125	5	110	214	110	132	132	13	235.0	8	3/4	M20	235	255
150	6	125	249	127	150	158	22	270.0	12	3/4	M20	255	275
200	8	160	305	165	200	208	36	330.0	12	7/8	M24	305	325

Main Outline Dimensions & Weight Class 600Lb

DN		Size(mm)					Weight (kg)	Fitting Flange					
mm	in	L	D	D2	D3	D4		PCD D1	Number of Bolt	Length of Bolt d		Length of L1	
										in	mm	RF	RJ
15	1/2	25	52	15	25	25	0.4	66.5	4	1/2	M14	95	105
20	3/4	31.5	65	19	30	30	0.8	82.5	4	5/8	M16	110	125
25	1	35.5	72	24	36	36	1.0	89	4	5/8	M16	115	130
32	1¼	40	81	31	43	43	1.3	98.5	4	5/8	M16	125	140
40	1½	45	94	39	52	52	1.8	114.5	4	3/4	M20	145	160
50	2	56	110	48	62	62	2.8	127.0	8	5/8	M16	155	170
65	2½	63	128	62	75	75	4	149.0	8	3/4	M20	175	195
80	3	71	147	78	90	90	6	168.5	8	3/4	M20	190	210
100	4	80	191	95	112	112	11	216.0	8	7/8	M24	220	240
125	5	110	239	110	132	132	25	267.0	8	1	M27	265	285
150	6	125	264	127	150	158	32	292.0	12	1	M27	290	310
200	8	160	318	165	200	208	52	349.0	12	1⅝	M30	345	365

Main Outline Dimensions & Weight Class 900Lb

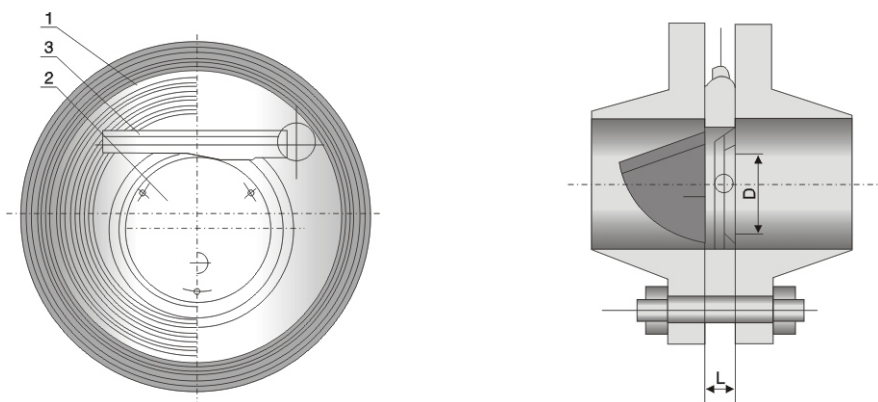
DN		Size(mm)					Weight (kg)	Fitting Flange					
mm	in	L	D	D2	D3	D4		PCD D1	Number of Bolt	Length of Bolt d		Length of L1	
										in	mm	RF	RJ
15	1/2	25	62	15	25	25	0.6	82.5	4	3/4	M20	125	140
20	3/4	31.5	69	19	30	30	0.9	89.0	4	3/4	M20	135	150
25	1	35.5	77	24	36	36	1.2	101.5	4	7/8	M24	155	170
32	1¼	40	87	31	43	43	1.5	111.0	4	7/8	M24	160	175
40	1½	45	97	39	52	52	2.0	124.0	4	1	M27	175	190
50	2	56	140	48	62	62	5.5	165.0	8	7/8	M24	195	210
65	2½	63	162	62	75	75	7.5	190.5	8	1	M27	215	230
80	3	71	165	78	90	90	8	190.5	8	7/8	M24	210	225
100	4	80	204	95	112	112	14	235.0	8	1⅝	M30	245	260
125	5	110	245	110	132	132	27	279.5	8	1¼	M33	290	310
150	6	125	286	127	150	158	41	317.5	12	1⅝	M30	310	325
200	8	160	356	165	200	208	76	393.5	12	1⅝	M36	375	390

Applicable Standards

- STEEL CHECK VALVES, API 594/API 6D
- STEEL CHECK VALVES, ISO 14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, MANUFACTURE STANDARD
- END FLANGES, ASME B16.5
- INSPECTION AND TEST, API 598/API 6D

Design Description

- ONE PLECE BODY
- BUTTERFLY SWING TYPE
- SINGLE DISC, SHORT-PATTERN
- RENEWABLE SPLIT DISC
- HORIZONTAL OR VERTICAL SERVICE
- WAFER ENDS



Standard Material Specifications

NO	Part Name	ASTM Material							
		Carbon steel	1.25Cr-0.5Mo	2.25Cr-1Mo	304 Type	316 Type	304L Type	316L Type	20 Alloy
1	Body	A216 WCB	A216 WC6	A216 WC9	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
2	Plate	WCB+13Cr*1	A217 WC6+HF	A217 WC9+HF	A351 CF8	A351 CF8M	A351 Cf3	A351 CF3M	A351 CN7M
3	Stop Pin	A276 410	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20-Alloy
	Hinge Pin	A276 410	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20-Alloy
	Seat Face	13Cr*1	HF	HF	NA	NA	NA	NA	NA
	Eyebolt	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel+Zn	Carbon Steel+Zn	Carbon Steel+Zn	Carbon Steel+Zn	Carbon Steel+Zn
*1	PN ≥ 600 CLASS seal face will be HF								
	NA Integral with vessel								

Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement

Main Outline Dimension & Weight

PN		Class 150			Class 300			Class 600			Class 900		
DN		Size(mm)		Weight (kg)	Size(mm)		Weight (kg)	Size(mm)		Weight (kg)	Size(mm)		Weight (kg)
in	mm	L	D		L	D		L	D		L	D	
1/2	15	16	47	0.2	25	53	0.23	25	53	0.25	25	63	0.3
3/4	20	19	57	0.3	31.5	65	0.36	31.5	65	0.38	31.5	69	0.4
1	25	22	66	0.45	35.5	72	0.52	35.5	72	0.55	35.5	78	0.6
1 1/4	32	28	75	0.6	40	81	0.75	40	81	0.8	40	88	1.0
1 1/2	40	31.5	85	0.8	45	95	1.1	45	95	1.2	45	98	1.5
2	50	40	103	1.2	56	110	1.95	56	110	2.0	56	142	2.5
2 1/2	65	46	122	2.3	63	129	2.9	63	129	3.0	63	167	4.0
3	80	50	135	3.0	71	148	5.5	71	148	6.0	71	205	8.0
4	100	60	173	7.0	80	180	9.0	80	192	10	80	247	13
5	125	90	196	12	110	215	15	110	240	17	110	288	20
6	150	106	222	15	125	250	20	125	265	22	125	325	25

Main Outline Dimensions & Weight Class 150Lb

DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	in mm
L	2.38 60	2.62 67	2.88 73	2.88 73	3.88 98	5.00 127	5.75 146	7.12 181	7.25 184	7.50 191	8.00 203	8.62 219	8.75 222	in mm
D	4.00 103	4.88 122	5.38 135	6.75 173	8.62 220	10.88 277	13.25 337	16.00 407	17.62 448	20.12 512	21.50 547	23.75 604	28.12 715	in mm
d	2.00 51	2.50 65	3.25 80	4.00 102	6.00 152	8.00 203	10.00 254	12.00 305	13.75 350	15.75 400	17.75 450	19.75 500	23.62 600	in mm
d1	2.25 56	2.88 73	3.50 88	4.25 108	6.25 160	8.25 210	10.20 266	12.12 310	14.00 355	16.00 405	18.00 455	19.88 505	23.75 605	in mm
Weight(kg)	2	3	4	6	13	25	39	54	80	117	138	163	331	

Main Outline Dimensions & Weight Class 300Lb

DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	18 450	20 500	24 600	in mm
L	2.38 60	2.62 67	2.88 73	2.88 73	3.88 98	5.00 127	5.75 146	7.12 181	8.75 222	9.12 232	10.38 264	11.50 292	12.50 318	in mm
D	4.25 110	5.00 128	5.75 147	7.00 179	9.88 249	12.00 305	14.12 359	16.50 420	19.00 483	21.12 537	23.38 594	25.62 652	30.38 772	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	8.00 203	10.00 254	12.00 305	14.00 350	16.00 400	18.00 450	20.00 500	24.00 600	in mm
d1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 160	8.25 210	10.50 266	12.25 310	14.00 355	16.0 405	18.00 455	20.00 505	24.00 608	in mm
Weight(kg)	3	4	6	8	18	31	51	77	117	190	200	265	410	

Main Outline Dimensions & Weight Class 600Lb

DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L	2.38 60	2.62 67	2.88 73	3.12 79	5.38 137	6.50 165	8.38 213	9.00 229	10.75 273	12.00 305	in mm
D	4.38 110	5.00 128	5.75 147	7.50 191	10.38 264	12.50 318	15.62 398	17.88 455	19.25 490	22.12 562	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	7.88 200	9.88 250	12.00 305	13.25 337	15.25 387	in mm
d1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 162	8.38 212	10.50 266	12.25 312	14.00 355	15.75 400	in mm
Weight(kg)	4	5	8	11	25	55	95	140	223	360	

Main Outline Dimensions & Weight Class 900Lb

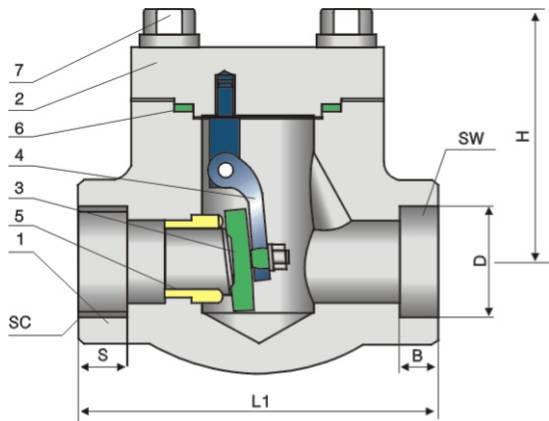
DN	2 50	2½ 65	3 80	4 100	6 150	8 200	10 250	12 300	14 350	16 400	in mm
L	2.75 70	3.25 83	3.25 83	4.00 102	6.25 159	8.12 206	9.50 241	11.50 292	— —	— —	in mm
D	5.50 140	6.38 162	6.50 165	8.00 204	11.25 286	14.00 356	17.00 432	19.50 495	— —	— —	in mm
d	2.00 51	2.50 65	3.00 80	4.00 102	6.00 152	7.88 200	9.88 250	12.00 305	— —	— —	in mm
d1	2.25 58	2.88 73	3.50 88	4.25 108	6.38 162	8.38 212	10.50 266	12.25 312	— —	— —	in mm
Weight(kg)	8	11	14	20	42	84	145	220	— —	— —	

Applicable Standards:

- STEEL CHECK VALVES, API 602
- STEEL VALVES, ASME B16.34
- FACE TO FACE, MANUFACTURER STANDARD
- FACE TO FACE, FLANGED, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- SOCKET-WELDING ENDS, ASME B16.11
- SCREWED ENDS, ASME B1.20.1
- INSPECTION AND TEST, API 598

Design description

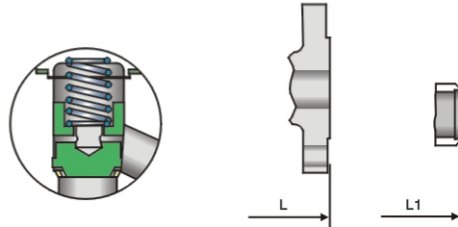
- BOLTED COVER
- CHOICE OF WB, WELDED COVER
- SEAT RINGS TYPE
- SEAT RINGS INTEGRAL WITH BODY OF LIFT
- HORIZONTAL OR VERTICAL SERVICE
- SW, SOCKET-WELDING ENDS
- SC, SCREWED ENDS
- BW, BUTTWELDING ENDS
- FLANGED ENDS



Materials of parts

No	Part Name	C-Si	ASTM Material 16Cr-12Ni-2Mo	1 1/4Cr-1/2Mo-Si
1	Body	A105	A182-F316	A182-F11
2	Cover	A105	A182-F316	A182-F11
3	Disc	A182-F6a	A182-F316	A182-F6A+HF
4	Hinge	A276-410	A276-316	A276-410
5	Seat	A276-410	A182-F316	A276-410+HF
6	Gasket ²⁾	Graphite+304	Graphite+316	Graphite+304
7	Stud	A193-B7	A193-B8M	A193-B16

Note: 1) lift type check valve seat ring integral with body.
2) spiral wound construction.



Main Outline Dimensions & Weight

NPS DN	Unit	L ¹⁾	L(Flanged Ends)			d	SW		SC	H	WT ²⁾ (kg)	
			150Lb	300Lb	600Lb		D	B	NPT	S		
3/8	in	3.12	4.00	6.00	6.50	0.354	0.693	0.378	3/8	0.540	2.40	3.8/2.8
10	mm	79	102	152	165	9	17.6	9.6		13.6	61	
1/2	in	3.12	4.25	6.00	6.50	0.354	0.858	0.378	1/2	0.535	2.40	5.6/3.4
15	mm	79	108	152	165	10	21.8	9.6		13.6	61	
3/4	in	3.62	4.62	7.00	7.50	0.512	1.067	0.500	3/4	0.547	2.40	7.8/4.7
20	mm	92	117	178	190	13	27.1	12.7		13.9	61	
1	in	4.38	5.00	8.00	8.50	0.689	1.331	0.500	1	0.681	3.07	12.5/9.2
25	mm	111	127	203	216	17.5	33.8	12.7		17.3	78	
1 1/4	in	4.75	5.50	8.50	9.00	0.906	1.677	0.500	1 1/4	0.709	3.31	17/10.5
32	mm	120	140	216	229	23	42.6	12.7		18	84	
1 1/2	in	4.75	6.50	9.00	9.50	1.142	1.917	0.500	1 1/2	0.724	10.25	23.5/13.3
40	mm	120	165	229	241	30	48.7	12.7		18.4	3.98	
2	in	5.50	8.00	10.50	11.50	1.378	2.406	0.626	2	0.756	4.72	38.8/18.9
50	mm	140	203	267	292	35	61.1	15.9		19.2	120	