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Design of disc

Gate valves with $NPS \geq 2$ are of wedge flexible gate; Gate valves with $NPS < 2$ are of wedge solid gate.

Body and bonnet connection

The body and bonnet of Class 150-Class 900 gate valves are usually connected with studs and nuts; And the body and bonnet of Class 1500-Class 2500 gate valves are usually of pressurized seal design.

Gasket of Cover Flange

Carbon steel or stainless steel +flexible graphite combined gasket is used for Class 150 gate valve; Stainless steel+flexible graphite wounded gasket is used for Class 300 gate valve; stainless steel+flexible graphite wounded gasket is used for class 600 gate valve, and ring joint gasket is also optional for Class 600 gate valve; Ring joint gasket is used for class 900 gate valve; pressurized seal design is used Class 1500-Class 2500 gate valve.

Actuation

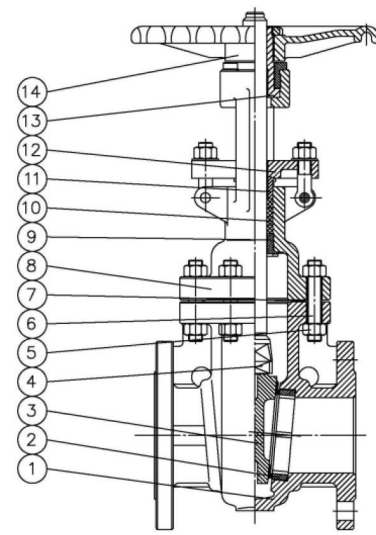
Hand wheel or gear box is usually used for gate valve actuation. Chain wheel and electric actuator can be also used for gate valve actuation if being requested by the customers.

Seat

For carbon steel gate valve, the seat is usually forged steel. The sealing surface of the seat is spray welded with hard alloy specified by the customer. Welded an seat is used for $NPS 1/2-2$, Renewable, threaded seat is used for $NPS \leq 8$ gate valves, and welded on seat can be also optional if being requested by the customer. Welded on seat is used for $NPS > 8$ carbon steel gate valves. For stainless steel gate valve Integral seat is usually adopted, or to weld hard alloy directly integrally, Threaded or welded on seat is also optional for stainless steel gate valve if being requested by the customer.,if the customer have any other request about the seat please kindly advise before placing the order.

Back seating design

All of our gate valves have the back seating design. In most cases, the carbon steel gate valve is fitted with a renewable back seat. For stainless steel gate valve, the back seat is machined directly in the bonnet or is machined after welding.



STANDARD MATERIAL TO API 600

Trim Code	Seat Ring Surface Part No.2	Wedge Surface Part NO.3	Stem Part NO.4	Backseat Part No.9
1	F6	F6	F6	F6
2	F304	F304	F304	F304
5	Stellite	stellite	F6	F6
8	Stellite	F6	F6	F6
9	Monel	Monel	Monel	Monel
10	F316	F316	F316	F316
13	Alloy 20	Alloy 20	Alloy 20	Alloy 20

Standards

Design and Manufacture	API 600, API6D, JIS B2073-2083
Inspection and Test	API598, API6D, JIS B2003, API600
End Flange dimension	ASME B16.5, JIS B2212-2214
End Flange dimension	ASME B16.47 A, MSS SP-44
End Flange dimension	ASME B16.47 B, API605
BW end dimension	ASME B16.25
Face to face	ASME B16.10, JISB2002
Pressure -temperature ratings	ASME B16.34

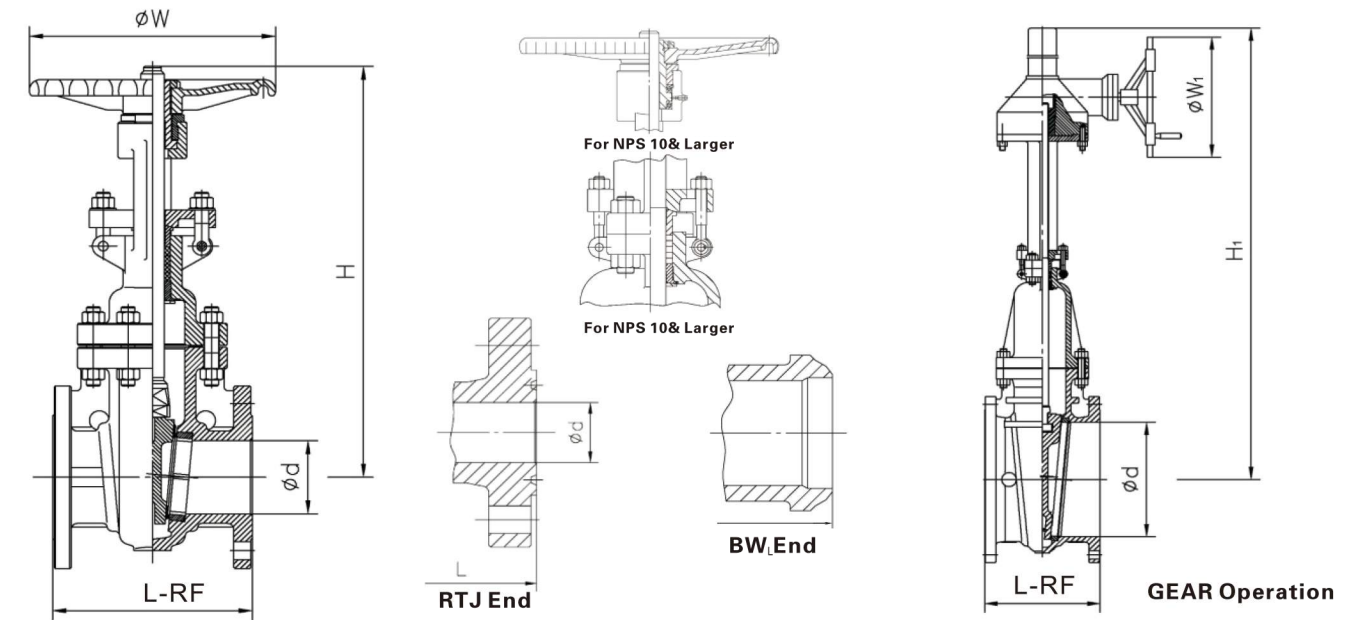
Note: Usually, trim2 and trim10 are not adopted because the sealing face would be destroyed easily.

Standard Material specifications

Parts name	Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM				
1 Body	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351CF3	A351CF3M	
8 Bonnet	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351CF3	A351CF3M	
6 Bolts	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8	
5 Nuts	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8	
11 Gland	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L	
12 Gland Flange	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	
2 Disc	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	
7 Gasket	SS Spiral Wound W/graphite, or SS Spiral Wound W/PTFE, or Reinforced PTFE										
10 Packing	Braided graphite, or Die-formed graphite ring or PTFE										
13 Stem Nut	Copper alloy or A439 D2										
14 Hand wheel	Ductile iron or Carbon steel										

Noted: 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.

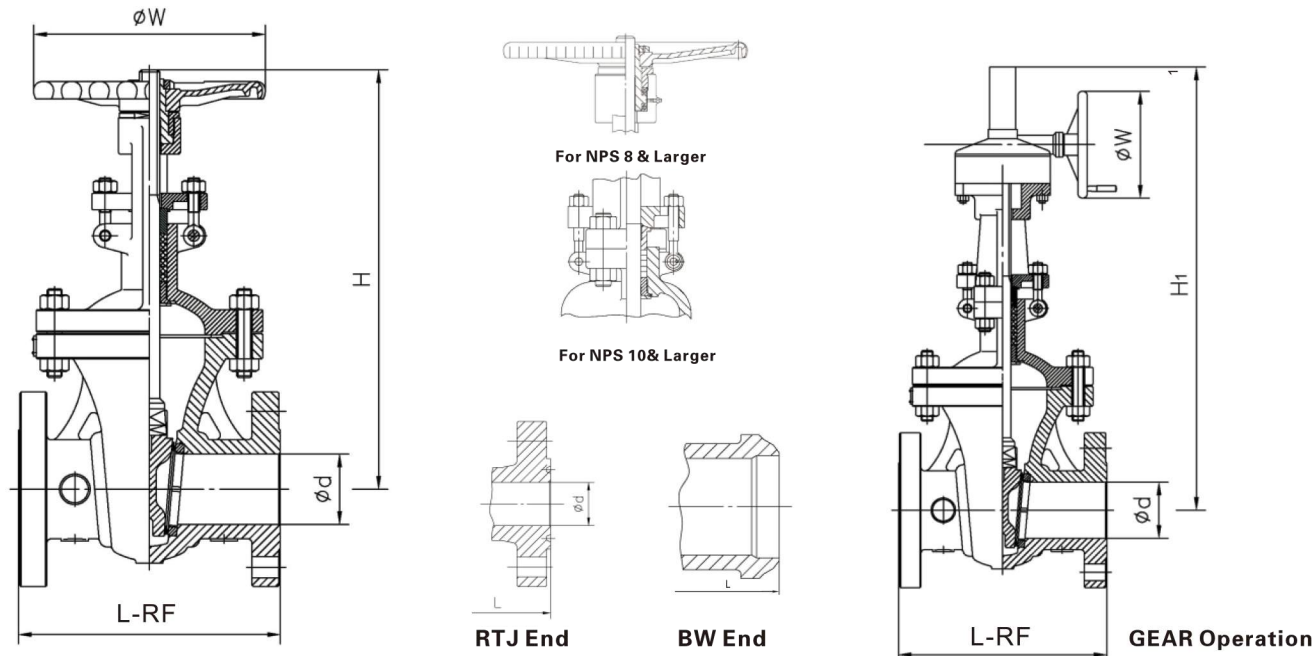
Class 150 & JIS 10K Gate Valve



Class	Size		Dimensions(mm)							Weight (Kg)		
	NPS	DN	L			d	H	H1	W	W1	H.W	G.O
			RF	RTJ	BW							
150 10K	1/2	15	108	119	108	14	218	-	120	-	4	-
	3/4	20	117	130	117	19	190	-	120	-	5	-
	1	25	127	140	127	25	256	-	140	-	7	-
	1 1/4	32	140	153	140	31	268	-	180	-	10	-
	1 1/2	40	165	178	165	38	326	-	200	-	15	-
	2	50	178	191	216	30	340	-	200	-	20	-
	2 1/2	65	191	203	241	63	365	-	200	-	23	-
	3	80	203	216	283	76	410	-	250	-	36	-
	4	100	229	241	305	100	485	-	280	-	54	-
	5	125	254	267	381	127	520	-	280	-	62	-
	6	150	267	279	403	150	595	795	300	310	82	104
	8	200	292	305	419	200	755	1015	360	310	136	150
	10	250	330	343	457	250	895	1210	400	310	196	215
	12	300	356	368	502	300	1040	1405	450	460	299	315
	14	350	381	394	572	336	1145	1535	500	460	381	451
	16	400	406	419	610	387	1333	1780	500	460	536	597
	18	450	432	445	660	438	1420	1900	600	460	608	651
	20	500	457	470	711	488	1635	2220	700	530	827	863
	24	600	508	521	813	590	1862	2557	800	530	1202	1357
	26	650	559	-	864	633	-	2680	-	530	1281	1550
28	700	610	-	914	684	-	2890	-	530	-	1880	
30	750	610	-	914	735	-	3110	-	600	-	2300	
32	800	711	-	965	779	-	3280	-	600	-	2550	
34	850	711	-	1016	830	-	3500	-	600	-	2950	
36	900	711	-	1016	874	-	3640	-	600	-	3390	
40	1000	812.8	-	1067	-	-	4200	-	1000	-	3042	
48	1200	1067	-	1168	-	-	5020	-	1000	-	5520	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

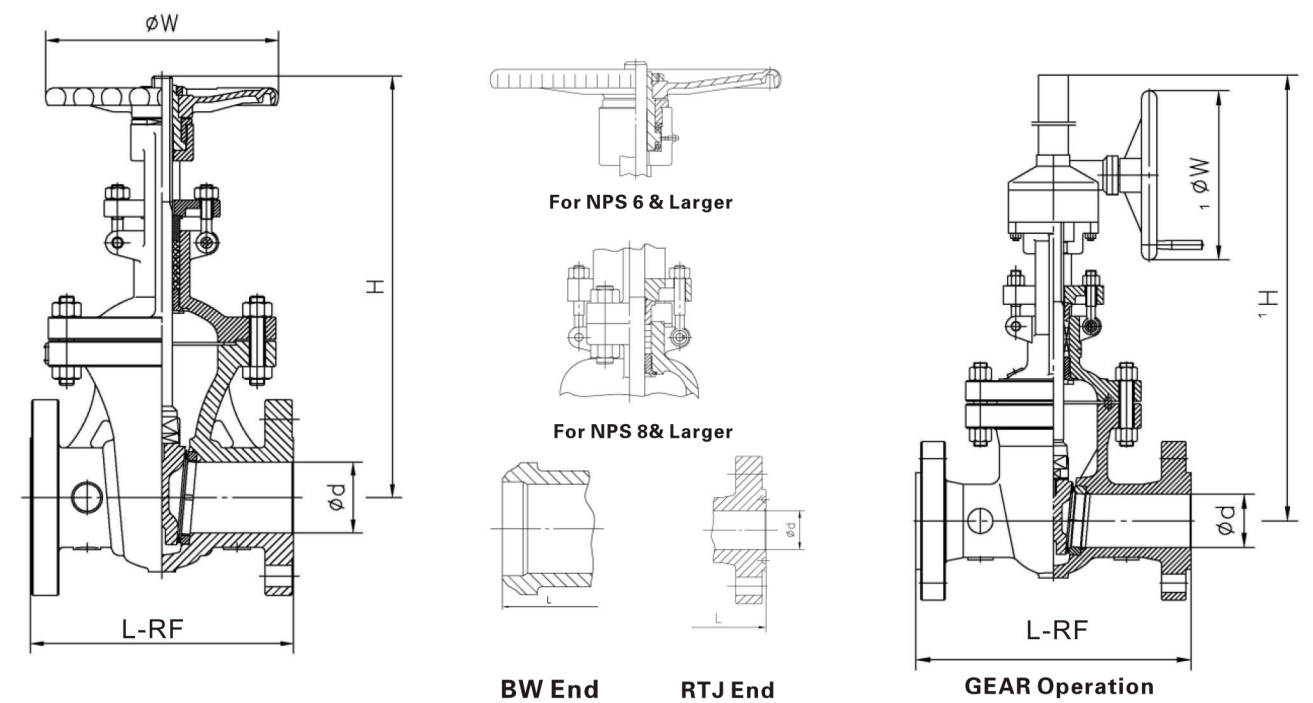
Class 300 & IS 20K Gate Valve



Class	Size		Dimensions (mm)								Weight (Kg)	
	NPS	DN	L			d	H	H1	W	W1	H.W	G.O
			RF	RTJ	BW							
300 20K	1/2	15	140	151	140	14	198	-	120	-	6	-
	3/4	20	152	165	152	19	215	-	140	-	7	-
	1	25	165	178	165	25	220	-	160	-	8.5	-
	1 1/4	32	178	191	178	31	306	-	180	-	15	-
	1 1/2	40	190	203	190	38	342	-	200	-	18	-
	2	50	216	232	216	50	364	-	200	-	26	-
	2 1/2	65	241	257	241	63	385	-	200	-	36	-
	3	80	283	298	283	76	460	-	250	-	55	-
	4	100	305	321	305	100	540	650	280	310	67	100
	5	125	381	397	381	127	548	750	300	310	99	126
	6	150	403	419	403	150	649	835	350	310	147	186
	8	200	419	435	419	200	798	1030	400	310	228	235
	10	250	457	473	457	250	940	1255	450	460	332	416
	12	300	502	518	502	300	1129	1460	500	460	512	502
	14	350	762	778	762	336	1195	1585	600	460	715	756
	16	400	838	854	838	387	1340	1830	500	460	850	965
	18	450	914	930	914	431	1503	2000	650	460	1100	1224
	20	500	991	1010	991	482	1625	2175	750	530	1300	1400
	24	600	1143	1165	1143	584	1965	2620	900	530	2200	2385
	26	650	1245	1270	1245	633	-	2850	-	600	-	3000
28	700	1346	1372	1346	684	-	3080	-	600	-	3300	
30	750	1397	1422	1397	735	-	3180	-	600	-	3550	
32	800	1524	1553	1524	779	-	3300	-	600	-	4400	
34	850	1626	1654	1626	830	-	3550	-	600	-	5200	
36	900	1727	1756	1727	874	-	3760	-	600	-	6050	
40	1000	1956	-	-	-	-	4340	-	1000	-	8100	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

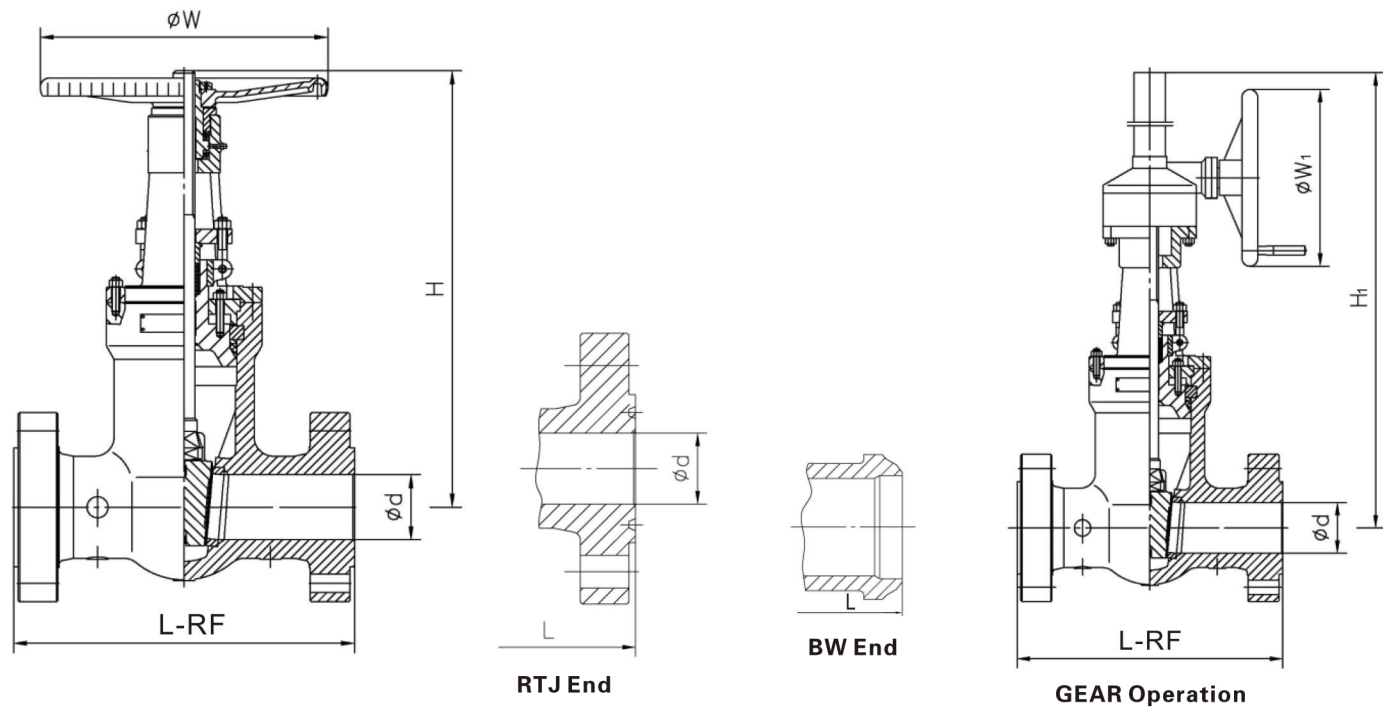
Class 600 & Class 900 Gate Valve



Class	Size		Dimensions (mm)								Weight (Kg)	
	NPS	DN	L			d	H	H1	W	W1	H.W	G.O
			RF	RTJ	BW							
600	2	50	292	295	292	50	380	-	200	-	37	-
	2 1/2	65	330	333	330	63	420	-	250	-	50	-
	3	80	356	359	356	76	500	585	280	310	82	87
	4	100	432	435	432	100	575	695	300	310	142	134
	5	125	508	511	508	127	700	790	350	310	175	227
	6	150	559	562	559	150	750	900	450	460	245	286
	8	200	660	664	660	199	850	1110	500	460	423	472
	10	250	787	791	787	247	1005	1300	650	460	682	657
	12	300	838	841	838	298	1130	1650	700	460	932	893
	14	350	889	892	889	326	1270	1750	900	530	1177	1318
	16	400	991	994	991	374	1365	1900	900	530	1513	1720
	18	450	1092	1095	1092	419	-	2020	-	600	-	1980
	20	500	1194	1200	1194	463	-	2172	-	600	-	2460
	24	600	1397	1407	1397	558	-	2650	-	600	-	3650
900	2	50	368	371	368	47	500	-	280	-	70	-
	2 1/2	65	419	422	419	57	450	-	280	-	110	-
	3	80	381	384	381	72	505	-	300	310	140	167
	4	100	457	460	457	98	575	625	350	310	178	227
	5	125	559	562	559	125	630	740	400	310	258	285
	6	150	610	613	610	146	795	900	500	460	358	396
	8	200	737	740	737	190	885	1000	650	460	550	627
	10	250	838	841	838	238	1035	1130	700	530	1000	1100
	12	300	965	968	965	282	1180	1520	900	530	1215	1310
	14	350	1029	1038	1029	311	1350	1600	900	530	1600	1665
	16	400	1130	1140	1130	355	1890	2100	900	600	2150	2330
	18	450	1219	-	-	400	-	2232	-	800	-	3000
20	500	1321	-	-	444	-	2435	-	800	-	3800	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

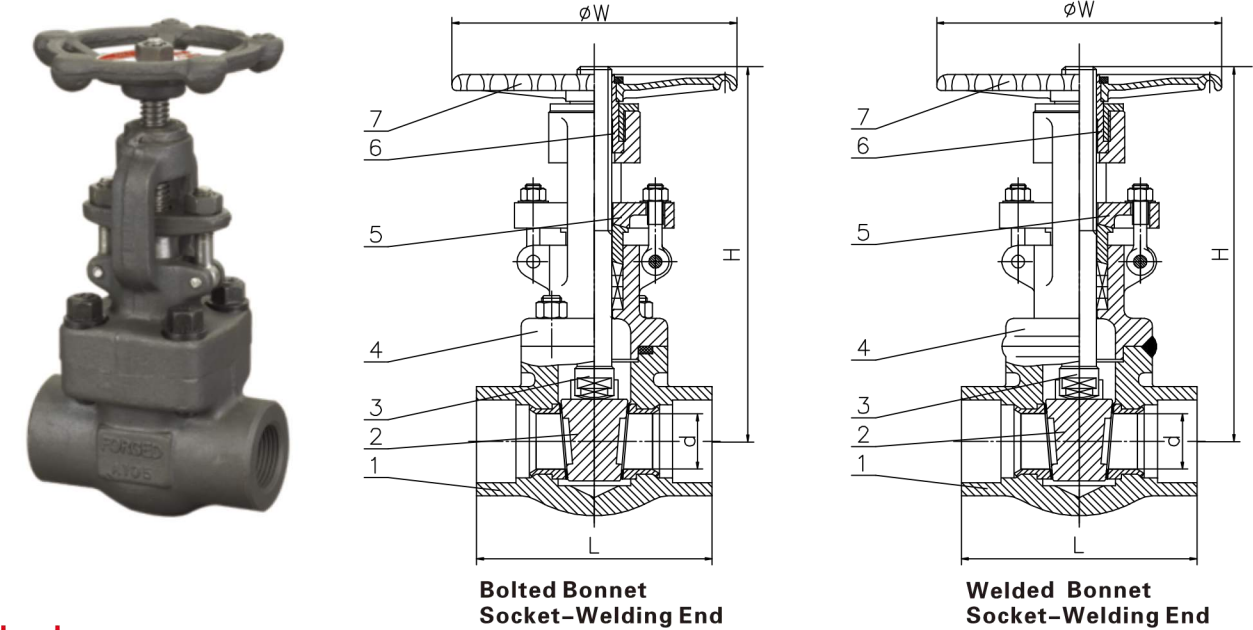
Class 1500 & Class 2500 Gate Valve



Class	Size		Dimensions (mm)									Weight (Kg)	
	NPS	DN	L				d	H	H ₁	W	W ₁	H.W	G.O
			RF	RTJ	BW (BB)	BW (PSB)							
1500	2	50	368	371	368	216	47	430	-	280	-	70	-
	2½	65	419	422	419	254	57	490	-	300	-	110	-
	3	80	470	473	470	305	69	540	680	350	310	175	202
	4	100	546	549	546	406	92	650	810	400	310	270	300
	5	125	673	676	673	483	125	780	920	450	310	378	405
	6	150	705	711	705	559	136	835	1035	500	460	520	575
	8	200	832	841	832	711	177	925	1180	750	530	820	915
	10	250	991	1000	991	864	222	1230	1525	900	600	1560	1750
2500	2	50	451	454	451	279	38	490	580	280	310	100	130
	2½	65	508	514	508	330	47	580	630	300	310	150	180
	3	80	578	584	578	368	57	630	765	350	310	245	275
	4	100	673	683	673	457	72	725	850	400	310	390	420
	5	125	794	807	794	533	96	900	960	500	460	550	580
	6	150	914	927	914	610	111	1040	1100	600	530	780	835
	8	200	1022	1038	1022	762	146	1150	1150	750	460	1260	1355
	10	250	1270	1292	1270	914	184	1400	1460	900	600	2380	2565
	12	300	1422	1445	1422	1041	218	-	1660	-	600	-	3250

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

Class 150 ~ Class 1500 Forged steel Gate Valve

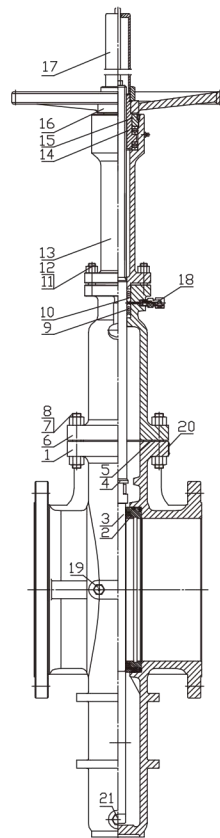
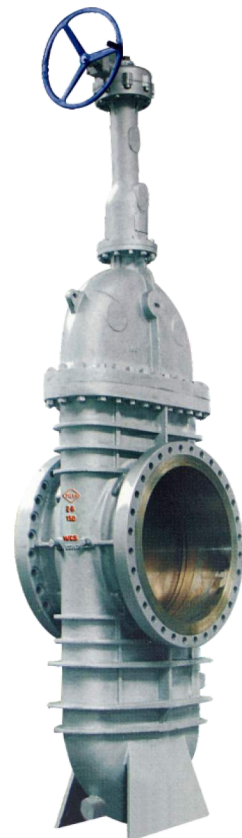


Standards

Design and Manufacture	API 602
Inspection and Test	API 598
Socket-weld dimension	ASME B16.11
End threads dimension	ASME B1.20.1
Pressure-temperature ratings	ASME B16.34.

Part Name	Material			
1 Body	ASTM A105	ASTM A182 F304	ASTM A182 F316	
2 Disc	ASTM A105	ASTM A182 F304	ASTM A182 F316	
3 Stem	ASTM A182 F6	ASTM A182 F304	ASTM A182 F316	
4 Bonnet	ASTM A105	ASTM A182 F304	ASTM A182 F316	
5 Gland Flange	ASTM A105	ASTM A182 F304	ASTM A182 F316	
6 Stem Nut	ASTM A276 410			
7 Handwheel	ASTM A197			

Class	Size		Dimensions (mm)				NPT	Weight (kg)
	NPS	DN	L	d	H	W		
150-800	½"	15	79	13	153	100	½"	2.0
	¾"	20	92	13	153	100	¾"	2.2
	1"	25	111	18	185	125	1"	3.6
	1¼"	32	120	29	222	160	1¼"	6.2
	1½"	40	120	29	240	160	1½"	6.2
	2"	50	140	36.5	279	180	2"	9.7
900-1500	½"	15	92	13	181	125	½"	3.5
	¾"	20	111	13	181	125	¾"	4.0
	1"	25	120	18	218	160	1"	6.0
	1¼"	32	120	24	237	160	1¼"	7.0
	1½"	40	140	29	274	180	1½"	10.8
2500	2"	50	160	36.8	319	200	2"	15.5
	½"	15	150	14	284	160	½"	10.0
	¾"	20	150	14	284	160	¾"	12.8
	1"	25	170	19	327	200	1"	22.5
	1¼"	32	200	25	374	250	1¼"	31.7
	1½"	40	200	28	377	250	1½"	33.0
	2"	50	250	35	434	300	2"	38.0

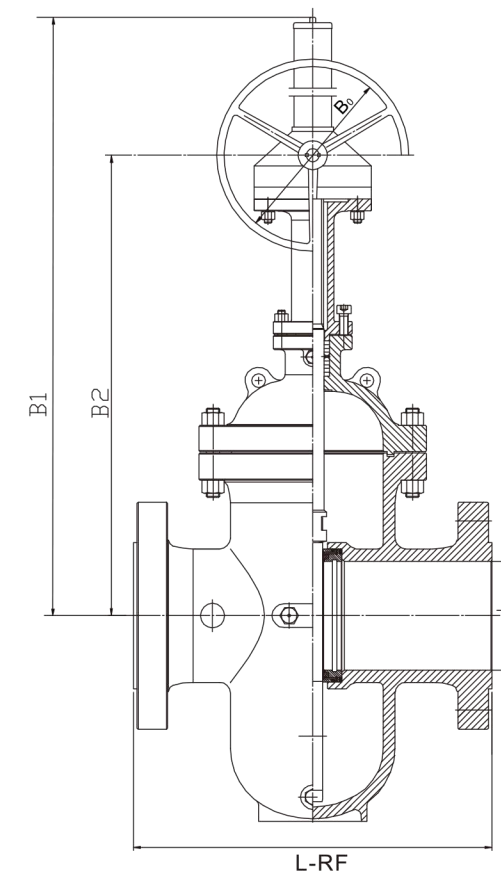
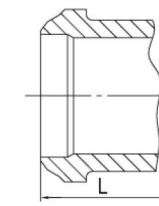
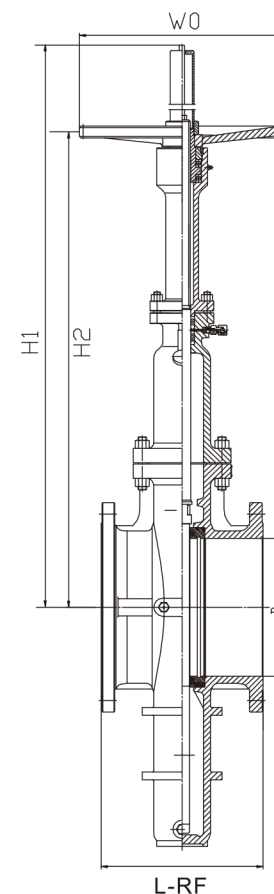


Standards

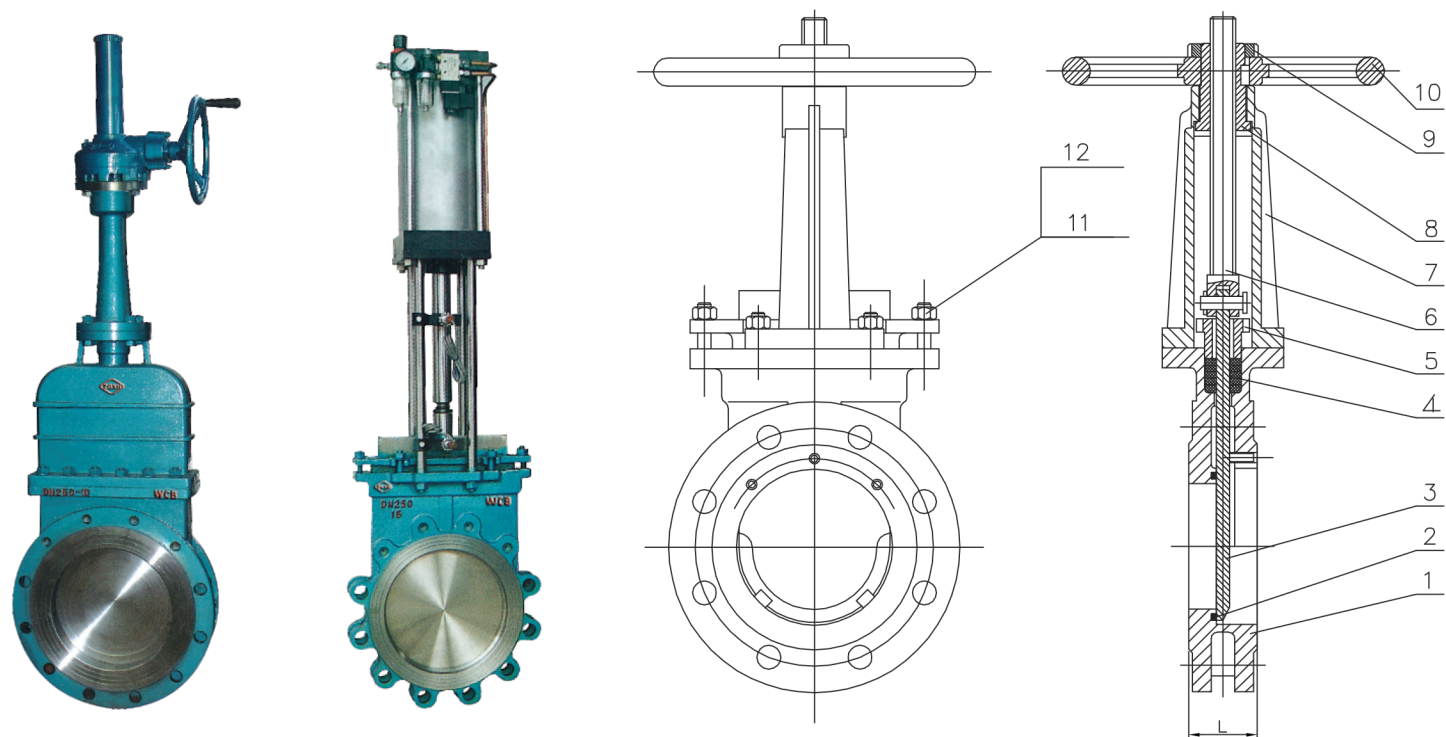
Design Standard: API 6D, ASME B 16.34
 Face to Face: ASTM B 16.10, API 6D
 End flanges Dimensions: ASME B 16.5, MSS SP44
 Inspection and Test: API 598, API 6D

Parts and material list

Part Name		Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM			
1	Body	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Seat	A105+PTFE				SS+PTFE					
3	Slab	A105+ENP	A105+ENP	A105+ENP	A105+ENP	A105+ENP	A105+ENP	A182 F304	A182 F316	A182 F304L	A182 F316L
4	Stem	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A276 304	A276 316	A276 304L	A276 316L
5	Gasket	Graphite+304, SS spiral Wound, PTFE, Reinforced PTFE, etc.									
6	Bonnet	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
7	Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
8	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8
9	Packing	Reinforced Graphite or PTFE									
10	Sealing Shroud	A276 420	A276 420	A276 420	A276 420	A276 420	A276 420	A276 304	A276 316	A276 304L	A276 316L
11	Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
12	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8
13	Yoke	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
14	Stem nut	Copper Alloy or A439 D2									
15	Gland	A105	A105	A105	A105	A105	A105	A182 F304	A182 F316	A182 F304L	A182 F316L
16	Handwheel	Ductile iron or Carbon steel									
17	Stem Protector	Carbon Steel									
18	Position Indicator	SS304 or SS316									
19	Injection Fitting	SS304 or SS316									
20	Scutcheon	ICr18Ni9Ti, SS304 or SS316									
21	Spring	SS302, SS304 or Ss316									



Size		Class 150								Class 300							
		Dimensions(mm)										Dimensions(mm)					
NPS	DN	L		Hand-operated			Gear-operated			L		Hand-operated		Gear-operated			
		RF	BW	H ₁	H ₂	W	B ₁	B ₂	B ₀	RF	BW	H ₁	H ₂	W	B ₁	B ₂	B ₀
1	25	127	127	360	250	180	-	-	-	165	165	370	260	180	-	-	-
1½	40	165	165	410	290	250	-	-	-	190	190	420	300	250	-	-	-
2	50	178	216	450	315	250	-	-	-	216	216	458	325	250	-	-	-
2½	65	190	241	550	420	300	-	-	-	241	241	555	420	300	-	-	-
3	80	203	283	610	428	300	-	-	-	283	283	615	430	300	-	-	-
4	100	229	305	700	494	300	770	650	310	305	305	710	500	300	770	650	310
6	150	267	403	895	625	350	965	800	310	403	403	900	625	350	965	800	310
8	200	292	419	1130	784	350	1200	960	310	419	419	1135	790	350	1200	960	310
10	250	330	457	1290	937	400	1360	1090	310	457	457	1401	1040	400	1360	1090	310
12	300	356	502	1480	1080	450	1560	1200	310	502	502	1580	1150	450	1560	1200	310
14	350	381	572	1660	1283	500	1740	1350	460	762	762	-	-	-	1740	1350	460
16	400	406	610	1850	1417	500	1930	1540	460	838	838	-	-	-	1930	1540	460
18	450	432	660	2080	1489	600	2160	1700	460	914	914	-	-	-	2160	1700	460
20	500	457	711	2300	1672	700	2420	1850	460	991	991	-	-	-	2420	1850	460
24	600	508	813	2680	2012	800	2800	2120	460	1143	1143	-	-	-	2800	2120	460
28	700	610	914	3080	2250	800	3200	2460	460	1346	1346	-	-	-	3200	2460	460
32	800	660	965	3491	2550	1000	3640	2800	460	1524	1524	-	-	-	3640	2800	460
36	900	711	1016	3897	2850	1000	4050	3080	600	1727	1727	-	-	-	4050	3080	600

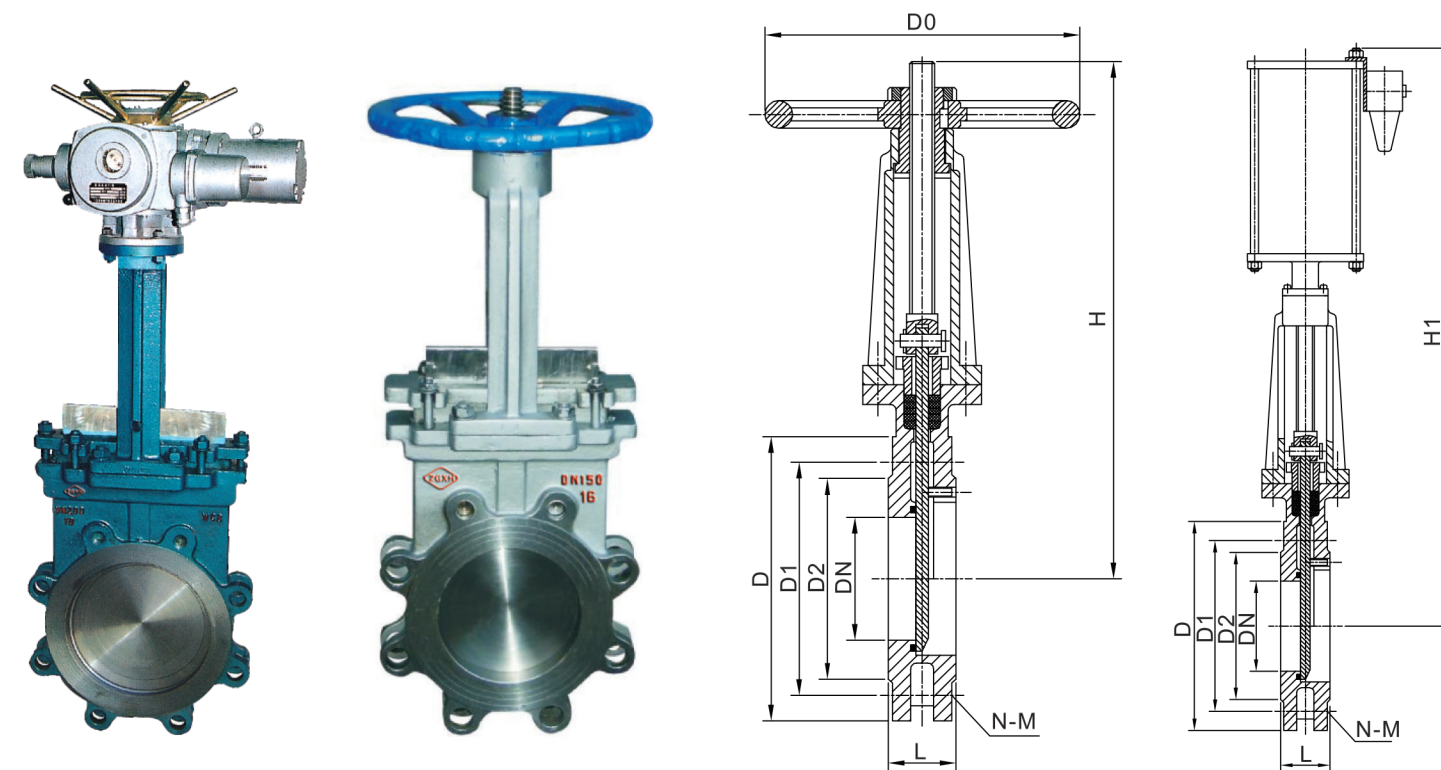


Standards

Design standard: JB/T8691, MSS SP-81.
 Face to Face dimension: GB/T15188.2, TAPPI TIS 405.8.
 Flanged ends dimension: ANSI B 16.5, GB/T79-94.
 Inspect and Test: MSS SP-81, GB/T13927.
 Available with lever, chain, gear, electric, air and hydraulic actuation.

Parts and material list

Part Name		Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM			
		A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
1	Body	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Seat	PTFE or NBR									
3	Knife	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
4	Packing	Flexible Graphite+SS, PTFE									
5	Packing Flange	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
6	Stem	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
7	Yoke	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
8	Stem Nut	Copper Alloy or A439 D2									
9	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8
10	Handwheel	Ductile Iron or Carbon Steel									
11	Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
12	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8



Class	Size		Dimensions (mm)							Weight (kg)
	DN	NPS	L	D	D ₁	D ₂	H/H ₁	N-M	D ₀	
150	50	2	43	152	120.5	92	285/335	4-19	180	8
	80	3	46	190	152.5	127	315/395	4-19	220	12
	100	4	52	229	190.5	157	365/465	8-19	220	14
	125	5	56	254	216	186	400/530	8-22	230	22
	150	6	56	279	241.5	216	475/630	8-22	280	29
	200	8	60	343	298.5	270	540/750	8-22	360	38
	250	10	68	406	362	324	630/900	12-25	360	66
	300	12	78	483	432	381	780/1120	12-25	400	100
	350	14	78	533	476	413	885/1260	12-29	400	119
	400	16	102	597	540	470	990/1460	16-29	400	195
	450	18	114	635	578	533	1100/1600	16-32	530	285
	500	20	127	699	635	584	1200/1800	20-32	530	389
	600	24	154	813	749.5	692	1450/2300	20-35	600	529
	700	28	165	837	795	762	1700/2500	40-22	600	790
	800	32	190	941	900	864	2000/2800	48-22	680	850
	900	36	203	1057	1010	972	2300/3100	44-25	680	900
1000	40	216	1175	1121	1080	2500/3400	44-29	700	1050	
1200	48	254	1392	1335	1289	2800/3600	44-32	800	1300	

Noted: For the knife gate valve, the maximum pressure is 1.6 Mpa. The flange of valves can be PN6, PN10, PN16 according to the customer's request.



Cast Steel Trunnion Ball Valve



Forged Steel Trunnion Ball Valve



Floating Ball Valve

Steel ball valve

Ball valve is suitable for using on various kinds of pipelines of Class 150 to Class 2500 to turn on or off the pipeline medium. Our steel ball valve have two types: floating ball valve and trunnion ball valve, Floating ball valve usually Class 150Lb~600Lb,Size1/2-8". The Operation types include worm gear, manual, pneumatic or electric actuators.

Ball valve design construction and specifications

Our cast steel ball valve conform to API 608, API 16D, ANSI B16.34 and BS5351. Each is tested according to API598, API6D and Marking is per MSS-SP-25.

Construction as follows

- Full Bore/Reduced bore
- Turn 90 degree opening or close
- Detachable seat PTFE/RPTFE
- Bolted cover/welded cover

- Reliable seat seal
- Fire safe design
- Reliable stem seal
- Anti-static device
- Wrong operation prevention

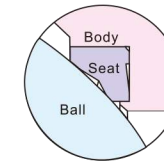
Standards and specification

Design & manufacture: API6D, API608, ASME B16.34, ANSI AWWA C507 MSS SP-72 AWWAC507, MSS SP-72, BS 5351, BS 6364, BFCI 70-2, ISO 5211, NACE MR0175.
 Connection ends: ASME B16.5, ASME B16.47, API 605, MSS SP-44, ISO7005-1, JIS B2238, BS12627, ASME B16.25, ASME B16.11, BS 12760.
 Face to face dimension: ASME B16.10, ISO 5752, BS 558, BS 12982
 Testing & inspection: API598, API 6D, API 607, API 6FA, BS 6755, BS 12569, MSS SP-82, MSS SP-60
 Normal pressure or rating: Class 150~Class2500, JIS10K~20K, PN10~PN420
 Normal diameter or bore: NPS1/2~NPS10, DN15~DN250
 Applicable temperature: -196°C-540°C
 Operation type: Manual, worm gear, pneumatic, electric

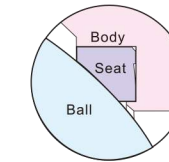
Construction and features of floating ball valve

Reliable seat seal

The structure design of elastic sealing ring has been adopted for floating ball valves. When the pressure of medium is low, the contact area between valve seat insert and ball is relatively small, thus providing high sealing load to ensure dependable seating seal. When the pressure of medium is high, the contact area between valve seat insert and ball is relatively large, so that valve seat insert can endure the considerable medium thrust and without any damage.



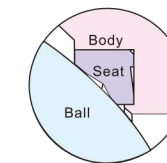
At lower medium pressure



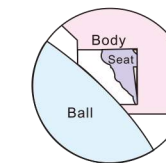
At higher medium pressure

Fire safe design

In case of fire, the non-metal material parts such as seat sealing ring of PTFE, stem back seat gasket, gland packing and the sealing gasket between body and bonnet might be damaged due to the high temperature. As shown in the figure, our specially designed structure of secondary metal to metal seal is provided to effectively prevent both internal and external leakage of the valve. This design can meet requirement of API607.



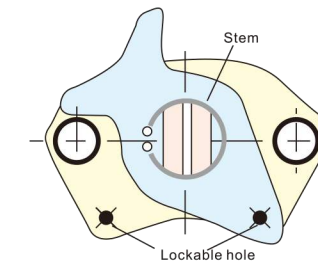
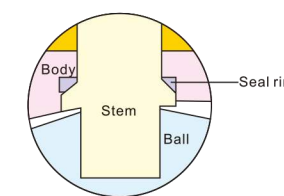
Before fire



After fire

Anti blowout stem

The Anti-blowout design has been adopted for the stem to ensure that even if the pressure in the body cavity risen accidentally and the packing flange becomes invalid, the stem may not be blown out by medium. To prevent these possibilities, The stem is designed with a backseat, being assembled from underneath. The sealing force against the back seats higher as the medium pressure. becomes higher. So the stem can be assured under variable medium pressure.



Wrong operation prevention

To prevent the ball valve from wrong operation. The fully opened or closed position of valve can be locked up, especially when are mounted outdoors or when valves are not allowed to be opened or closed by technical process.

Anti static device

As required by customers, an anti static device can be placed on the valve to derive the electric charge is accumulated on the ball form the static channel between the ball and stem, or between the stem and valve body.

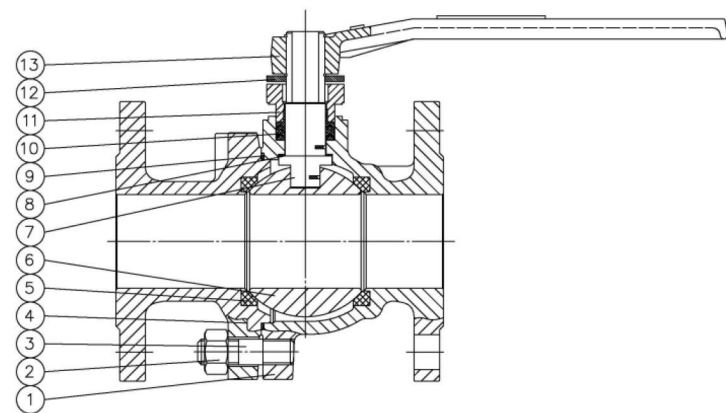


Standards compliance

Design and Manufacture: API 608, API 6D, BS5351
 Face to face (end to end): ANSI B 16.10, API 6D, JIS B 2002
 Flanged connection: ANSI B16.5, JIS B2212-2214
 Fire-safe: API 607, API 6 FA
 Butt welded end: ANSI B16.25
 Test and inspection: API 598, API 6D, JIS B2003

Floating ball valve

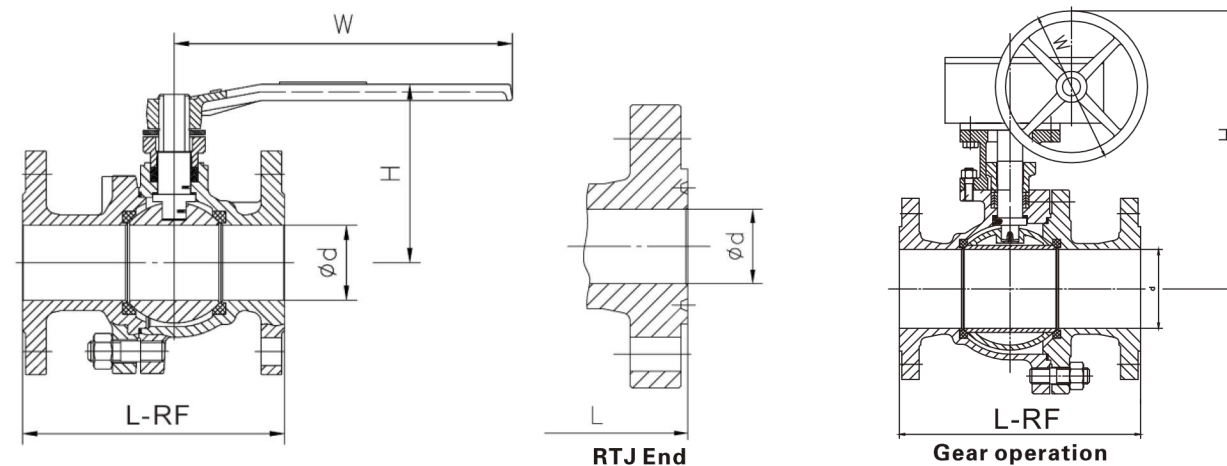
Bolted bonnet, Two-piece Body, floating Ball
 Full or Reduced bore, Anti Blowout stem.
 Fire safe and Anti static
 Stainless steel ball
 ASTM A216 WCB, A351 CF8, A351 CF8M,
 A351 CF3, A351 CF3M, A351 CN7M



Parts and material list

Parts No	Parts name	Material				
		WCB/13Cr	WCB/304	WCB/316	CF8/304	CF8M/316
1	Body	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M
10	Packing	PTFE	PTFE	PTFE	PTFE	PTFE
11	Gland flange	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M
12	Stop collar	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel
13	Lever	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel
8	Thrust washer	PTFE	PTFE	PTFE	PTFE	PTFE
7	Stem	ASTM A182 F6a	ASTM A182 F304	ASTM A182 F316	ASTM A182 F304	ASTM A182 F316
6	Ball	ASTM A182 F6a	ASTM A182 F304	ASTM A182 F316	ASTM A182 F304	ASTM A182 F316
5	Seat	Reinforced PTFE	Reinforced PTFE	Reinforced PTFE	Reinforced PTFE	Reinforced PTFE
9	Gasket	PTFE	PTFE	PTFE	PTFE	PTFE
2	Body nut	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8M
3	Body bolting	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7	ASTM A193 B8	ASTM A193 B8M
4	Closure	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M

Noted; the chart above only lists out some common composition of steel ball valve parts, we may provide other different parts material composition according to the customer's request or the actual valve working condition.



Main size and weight

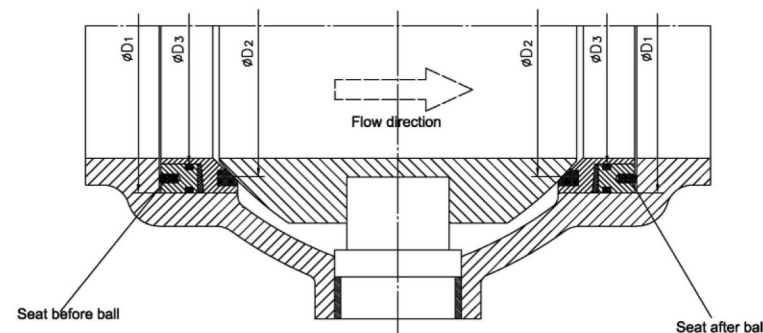
Class	Size		d	Dimensions (mm)						Weight (kg)	
	DN	NPS		L		W		H		Hand wheel	Gear box
				RF	RTJ	Hand wheel	Gear box	Hand wheel	Gear box		
150 10k	15	1/2	13	108	119	140	-	85	-	3	-
	20	3/4	19	117	130	140	-	90	-	3.2	-
	25	1	25	127	140	150	-	99	-	3.5	-
	32	1 1/4	32	140	153	180	-	105	-	5	-
	40	1 1/2	38	165	178	300	-	165	-	6	-
	50	2	49	178	191	350	-	140	-	11	-
	65	2 1/2	62	190	203	350	-	180	-	13.5	-
	80	3	75	203	216	500	-	235	-	19	-
	100	4	100	229	242	500	305	250	380	29	53
	125	5	127	356	369	800	305	280	405	49	79
300 20k	150	6	150	394	407	800	305	310	460	65	102
	200	8	201	457	470	1000	305	350	550	115	185
	250	10	252	533	546	-	400	-	706	-	280
	15	1/2	13	140	151	140	-	85	-	3	-
	20	3/4	19	152	165	140	-	90	-	5	-
	25	1	25	165	178	150	-	99	-	6	-
	32	1 1/4	32	178	191	180	-	105	-	8	-
	40	1 1/2	38	190	203	200	-	126	-	11	-
	50	2	49	216	232	250	-	142	-	16	-
	65	2 1/2	62	241	257	300	-	165	-	23	-
600	80	3	74	283	299	350	-	178	-	30	52
	100	4	100	305	321	500	305	230	330	47	76
	125	5	127	381	397	800	305	280	380	74	124
	150	6	150	403	419	800	305	310	420	107	163
	200	8	201	502	518	1000	305	350	480	153	267
	15	1/2	13	165	164	140	-	79	560	5	-
	20	3/4	19	190	190	140	-	83	-	7	-
	25	1	25	216	216	200	-	114	-	9	-
	32	1 1/4	32	229	229	200	-	120	-	13	-
	40	1 1/2	38	241	241	250	-	125	-	17	-
900	50	2	49	292	295	300	-	156	-	25	-
	65	2 1/2	62	330	333	350	-	172	-	42	-
	80	3	74	356	359	500	305	220	370	56	76
	100	4	100	432	435	650	305	250	400	85	123
	15	1/2	13	216	216	150	-	98	-	9	-
	20	3/4	19	229	229	150	-	105	-	13	-
	25	1	25	254	254	200	-	110	-	16	-
	32	1 1/4	32	279	279	250	-	120	-	24	-
	40	1 1/2	38	305	305	250	-	125	-	31	-
	50	2	49	368	371	350	-	160	-	45	-
1500	15	1/2	13	216	216	182	-	98	-	10	-
	20	3/4	19	229	229	250	-	125	-	14	-
	25	1	25	254	254	250	-	130	-	17	-
	32	1 1/4	32	279	279	300	-	155	-	25	-
	40	1 1/2	38	305	305	350	-	180	-	33	-
50	2	49	368	371	450	-	225	-	48	-	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

Construction and features of trunnion ball valve

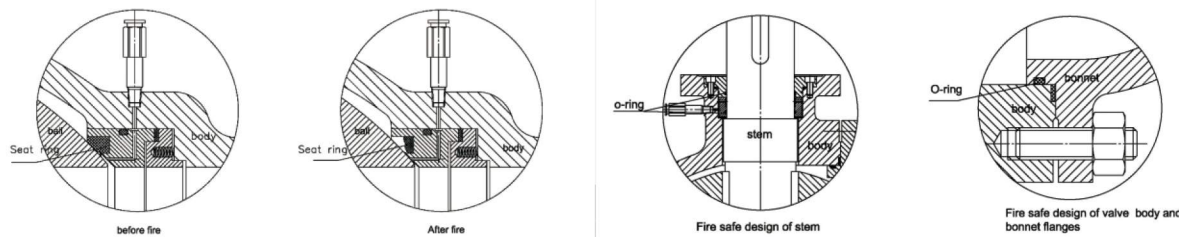
Seating structure

According to some special working conditions and customer's requirement, we provide the trunnion ball valve with the Bi-sealing design structure i.e. seat sealing in front of the ball and seat sealing behind the ball, thus the reliable sealing of the valve is ensured because the valve can perform normally even if one of the effective sealing designs becomes lost due to the abnormal condition.



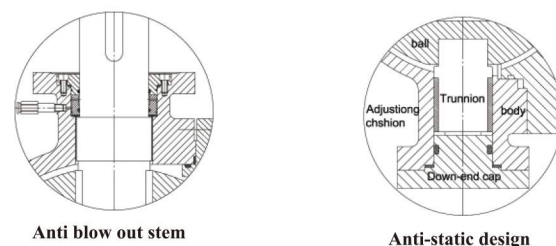
Fire safe design

In case of fire, the non-metal material parts such as seat sealing ring of PTFE, o-ring for the stem, and sealing gasket for body and bonnet, might be damaged due to high temperature. As showed in the figure, our special design structure of secondary metal to metal or the graphite seal is provided for the trunnion ball valve to effectively prevent both internal and external leakage of the valve. This design can meet the requirement of API 1607



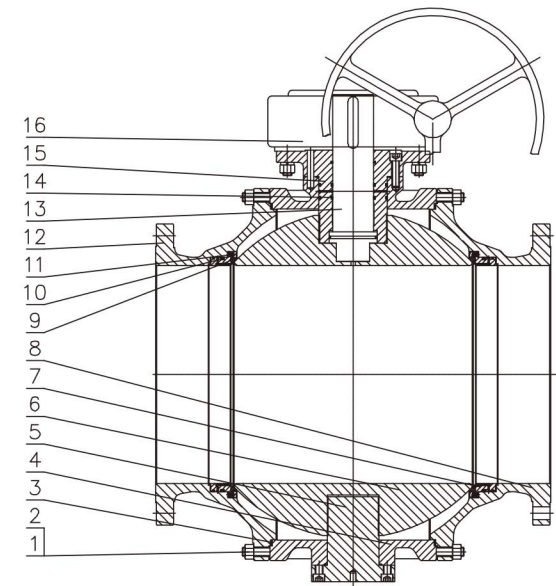
Anti blowout stem

Anti blowout structure is provided with for the stem, which is positioned by the up-end cap and screw, being guaranteed not to be blown-out by the medium even if even if at abnormal risen pressure in the cavity.



Anti-static design

The ball of the trunnion ball valve gets closed with each other through trunnion, adjusting cushion, and down-end cap, the passage of static electricity thus forms together with the valve, which may lead the static electricity caused by sparks generated by friction between the ball and seat during on and off performance to the ground to prevent the possible of fire or explosion



Class 150~1500 cast steel Trunnion ball valve

Bolted cover, Two-piece or three-piece Body,
Anti Blowout stem.
Fire safe and Anti static
ASTM A216 WCB,A351 CF8,A351 CF8M,
A351 CF3,A351 CF3M,A351 CN7M

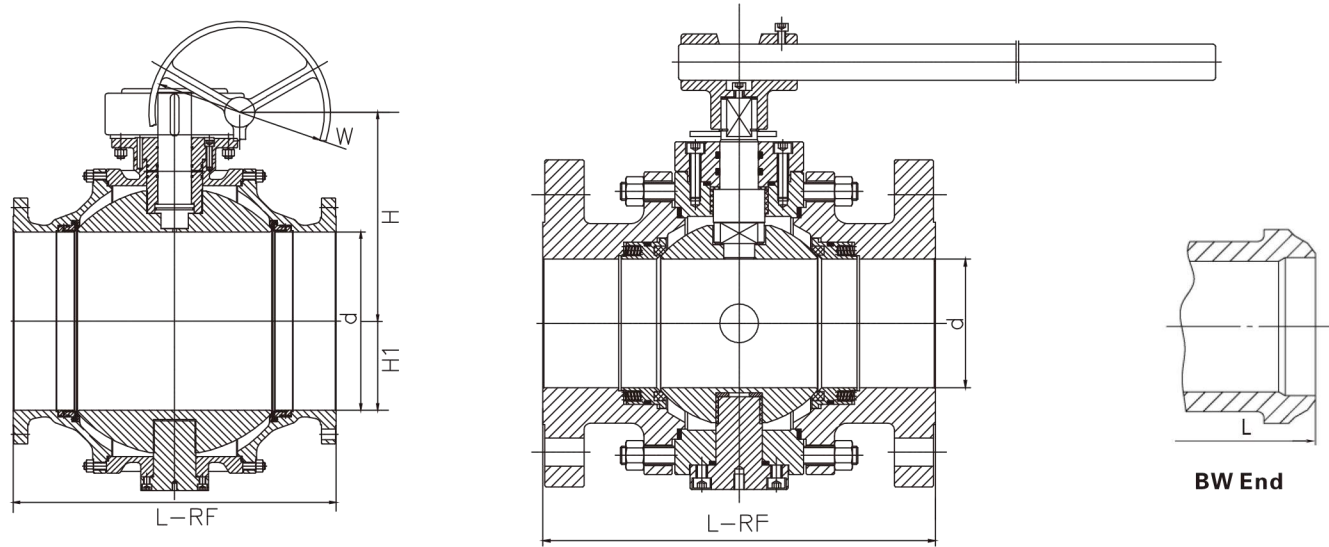
Standards compliance

Design and Manufacture: API 6D, API 608
Face to face(end to end):API 6D, JIS B2002
Flanged connection:ANSIB16.5, JIS B2212-2214
Fire-safe:API607,API6FA
Butt welded and:ANSIB16.25
Test and inspection:API6D,API598,JIS B2003

Parts and material list

Parts No.	Parts name	WCB/13Cr	WCB/304	WCB/316	CF8/304	CF8M/316
4	Body	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M
10	O ring	Viton	Viton	Viton	Viton	Viton
13	Stem	ASTM A182 F6a	ASTM A182 F304	ASTM A182 F316	ASTM A182 F304	ASTM A182 F316
15	Gland	ASTM A105	ASTM A105	ASTM A105	ASTM A182 F304	ASTM A182 F316
16	Gear	Carbon steel/Gray iron	Carbon steel/Gray iron	Carbon steel/Gray iron	Carbon steel/Gray iron	Carbon steel/Gray iron
6	Ball	ASTM A182 F6a	ASTM A182 F304	ASTM A182 F316	ASTM A182 F304	ASTM A182 F316
9	Seat	Reinforced PTFE	Reinforced PTFE	Reinforced PTFE	Reinforced PTFE	Reinforced PTFE
14	O ring	Viton	Viton	Viton	Viton	Viton
7	Seat ring	ASTM A105	ASTM A105	ASTM A105	ASTM A182 F304	ASTM A182 F316
11	Spring	SS304 or inconel 750	SS304 or inconel 750	SS316 or inconel 750	SS304 or inconel 750	SS316 or inconel 750
1	Body bolting	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7	ASTM A193 B8	ASTM A193 B8
2	Body nut	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8
8	Cover	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M
3	Gasket	PTFE	PTFE	PTFE	PTFE	PTFE
5	Low trunnion	ASTM A105	ASTM A105	ASTM A105	ASTM A182 F304	ASTM A182 F316
12	Cover	ASTM A216 WCB	ASTM A216 WCB	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M

Noted: the chart above only lists out some common composition of steel ball valve parts, we may provide other different parts material composition according to the customer's request or the actual valve working condition.

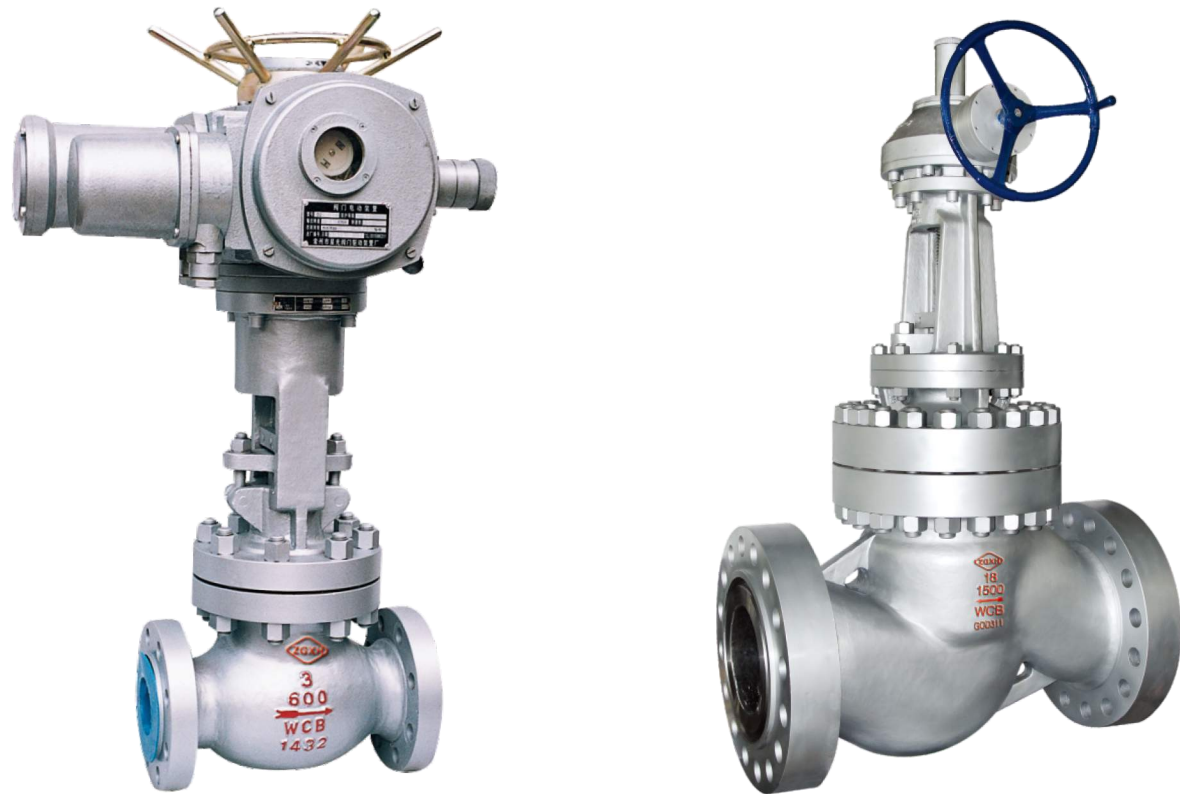


Class	Size		Dimensions (mm)					Weight (kg)	
	DN	NPS	L		d	H	H ₁		W
			RF	BW					
150 10k	100	4	229	305	100	250	135	300	60
	125	5	356	381	127	260	165	300	80
	150	6	394	457	150	285	193	400	101
	200	8	457	521	201	325	240	400	166
	250	10	533	559	252	370	293	500	283
	300	12	610	635	303	415	340	500	463
	350	14	686	762	334	455	372	600	622
	400	16	762	838	385	500	415	600	900
	450	18	864	914	436	540	462	600	1150
	500	20	914	991	487	590	511	600	1360
300 20k	600	24	1067	1143	589	680	601	600	2514
	650	26	1143	1245	633	800	700	600	3200
	700	28	1245	1346	684	960	780	700	4000
	750	30	1295	1397	735	1200	830	700	4800
	800	32	1372	1524	779	1380	870	700	5800
	900	36	1524	1727	874	1650	970	700	8000
	100	4	305	305	100	205	140	300	70
	125	5	381	381	127	260	170	300	95
	150	6	403	457	150	285	192	400	128
	200	8	502	521	201	325	246	400	234
300 20k	250	10	568	559	252	370	303	500	403
	300	12	648	635	303	415	348	500	602
	350	14	762	762	334	455	378	600	803
	400	16	838	838	385	500	429	600	1273
	450	18	914	914	436	540	518	600	1450
	500	20	991	991	487	590	540	600	1700
	600	24	1143	1143	589	690	650	600	3100
	650	26	1245	1245	633	800	750	700	4500
	700	28	1346	1346	684	960	800	700	6000
	750	30	1397	1397	735	1200	860	700	7500
300 20k	800	32	1524	1524	779	1380	900	800	9000
	900	36	1727	1727	874	1650	1020	800	12000

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.



Class	Size		Dimensions (mm)						Weight (kg)	
	DN	NPS	L			d	H	H ₁		W
			RF	RTJ	BW					
600	50	2	292	295	292	49	140	94	300	32
	65	2½	330	333	330	62	155	115	300	47
	80	3	356	359	356	74	190	136	300	68
	100	4	432	435	432	100	220	152	300	106
	125	5	508	511	508	127	245	180	300	170
	150	6	559	562	559	150	300	209	400	241
	200	8	660	664	660	201	345	263	600	444
	250	10	787	791	787	252	405	312	600	668
	300	12	838	841	838	303	445	354	600	1050
	350	14	889	892	889	334	505	389	600	1317
900	400	16	991	994	991	385	580	440	700	1800
	450	18	1092	1095	1092	436	700	530	700	2400
	500	20	1194	1200	1194	487	890	560	700	3000
	600	24	1397	1407	1397	538	1050	670	800	5400
	50	2	368	371	368	49	170	98	300	45
	65	2½	419	422	419	62	195	120	300	55
	80	3	381	384	381	74	220	140	350	94
	100	4	457	460	457	100	245	162	350	141
	125	5	559	562	559	127	305	188	400	230
	150	6	610	613	610	150	335	213	400	325
1500	200	8	737	740	737	201	370	270	600	580
	250	10	838	841	838	252	475	322	600	850
	300	12	965	968	965	303	590	360	700	1330
	350	14	1029	1038	1029	322	700	400	700	1660
	400	16	1130	1140	1130	372	850	460	800	2280
	40	1½	305	305	305	38	280	100	300	44
	50	2	368	371	368	49	320	113	300	67
	65	2½	419	422	419	64	340	125	300	80
	80	3	470	473	470	74	385	138	300	130
	100	4	546	549	546	100	415	171	300	192
2500	125	5	673	676	673	125	480	200	400	335
	150	6	705	711	705	144	580	222	400	475
	200	8	832	841	832	192	584	280	400	820
	250	10	991	1000	991	239	650	340	500	1320
	300	12	1130	1146	1130	287	700	370	600	2050
	40	1½	384	387	384	38	290	105	300	72
	50	2	451	454	451	42	320	120	300	104
	65	2½	508	514	508	52	350	130	300	140
	80	3	578	584	578	62	400	150	300	202
	100	4	673	683	673	87	425	180	400	305
2500	125	5	794	807	794	100	500	210	400	530
	150	6	914	927	914	131	590	230	500	760
	200	8	1022	1038	1022	179	610	290	500	1200
	250	10	1270	1292	1270	223	660	350	600	2080



The features of globe valve

Bolted Bonnet; Outside Screw and Yoke; Rising stems; Metallic seating surfaces.

Body and Bonnet Connection

The body and bonnet of Class150~Class900 globe valves are usually with studs And nuts. And the body and bonnet of Class 1500~Class2500 globe valve are usually of pressure seal design.

Gasket of Cover Flange

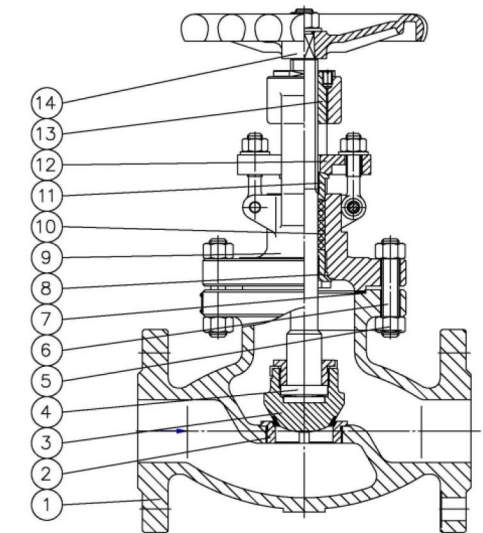
Stainless steel+flexible graphite wounded gasket is used for Class 150 and Class300 globe valve. Stainless steel+flexible graphite wounded gasket is used for Class600,and ring joint gasket is also optional for Class600.Ring joint gasket is used for Class900 globe valve. Pressure seal design is used for Class 1500~Class2500 globe valve.

Actuation

Hand wheel, impact hand wheel&gear box is usually used for globe valve actuation. Chain wheel and electric actuator can be also used for globe valve actuation if being requested by the customers.

Seat

For carbon steel globe valve, the seat is usually forged steel. The sealing surface of the seat is spray welded with hard alloy specified by the customer .the seat have two type: welded on seat and integral seal, For stainless globe valve, integral seat is usually adopted, or to weld hard alloy directly integrally. If the customer have any other request about the seat, please kindly advise before placing the order.



STANDARD MATERIAL TO API600

Trim Code	Seat Ring Surface Part No.2	Wedge Surface Part NO.3	Stem Part NO.4	Backseat Part No.8
1	F6	F6	F6	F6
2	F304	F304	F304	F304
5	Stellite	Stellite	F6	F6
8	Stellite	F6	F6	F6
9	Monel	Monel	Monel	Monel
10	F316	F316	F316	F316
13	Alloy 20	Alloy 20	Alloy 20	Alloy 20

Standards

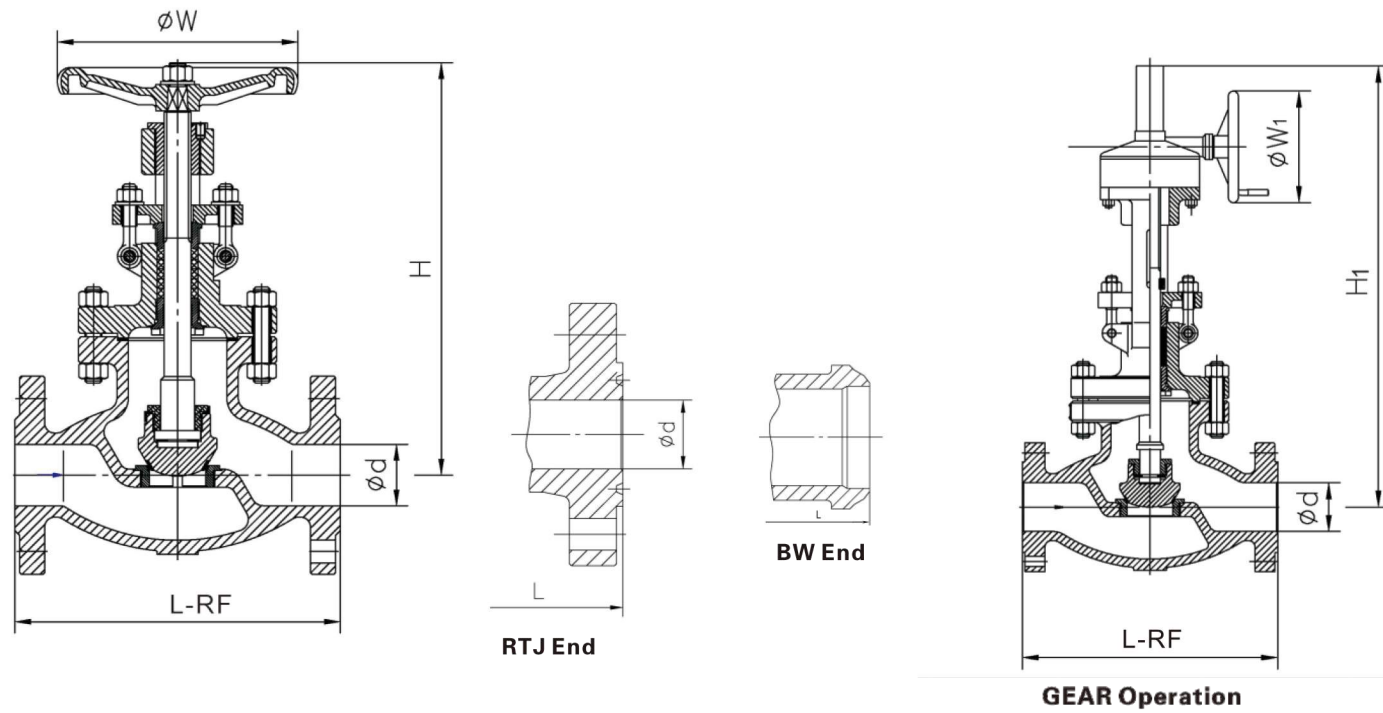
Design and Manufacture	BS 1873 and ASME B16.34
Inspection and Test	API598
End Flange dimension	ASME B16.5
BW end dimension	ASME B16.25
Socket-weld dimension	ASME B16.11
Face to Face	ASME B16.10
Pressure -temperature ratings	ASME B16.34

Parts and material list

Part Name	Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM			
1 Body	A216WCB	A352LCB	A217WC1	A217WC6	A217WC9	A217C5	A351CF8	A351CF8M	A351CF3	A351CF3M
9 Bonnet	A216WCB	A352LCB	A217WC1	A217WC6	A217WC9	A217C5	A351CF8	A351CF8M	A351CF3	A351CF3M
6 Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
5 Nut	A194 2H	A194 2H	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8
11 Gland	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	304	316	304L	316L
12 Gland Flange	A216WCB	A352 LCB	A217WC1	A217WC6	A217WC9	A217C5	A351CF8	A351CF8M	A351CF3	A351CF3M
3 Disc	A216WCB	A352 LCB	A217WC1	A217WC6	A217WC9	A217C5	A351CF8	A351CF8M	A351CF3	A351CF3M
7 Gasket	SS Spiral Wound W/graphite,or SS Spiral Wound W/PTFE, or Reinforced PTFE									
10 Packing	Braided graphite or Die-formed graphite ring or PTFE									
13 Stem Nut	Copper alloy or A439 D2									
14 Hand Wheel	Ductile iron or Carbon steel									

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

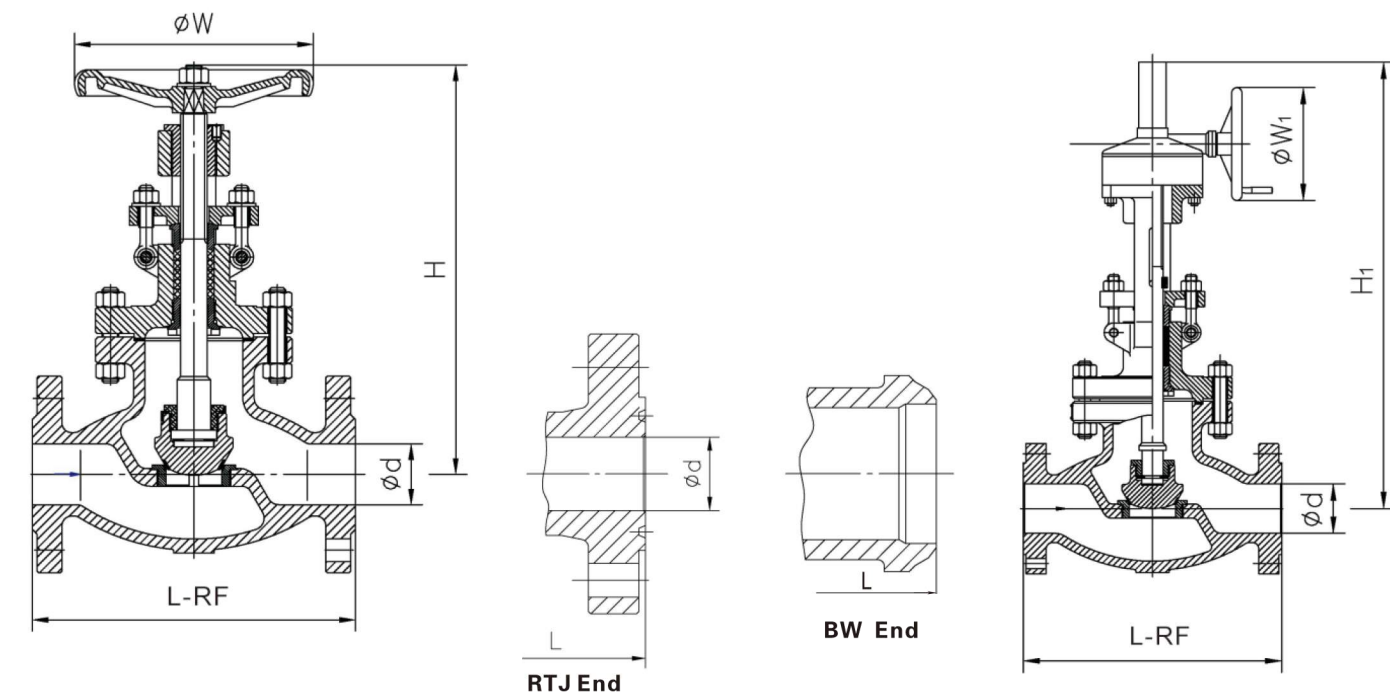
Class 150 & JIS 10K Globe Valve



Class	Size		Dimensions(mm)								Weight (Kg)	
	NPS	DN	L			d	H	H1	W	W1	H.W	G.O
			RF	RTJ	BW							
150	1/2	15	108	119	108	13	185	-	100	-	4	-
	3/4	20	117	130	117	19	190	-	100	-	4.5	-
	1	25	127	140	127	25	211	-	100	-	5.5	-
	1 1/4	32	140	152	140	32	220	-	135	-	8.5	-
	1 1/2	40	165	178	165	38	240	-	135	-	12	-
	2	50	203	216	203	51	328	-	200	-	18	-
	2 1/2	65	216	229	216	64	360	-	250	-	26	-
	3	80	241	254	241	76	373	-	280	-	43	-
	4	100	292	305	292	102	400	-	300	-	54	-
	5	125	356	369	356	127	435	-	350	-	71	-
	6	150	406	419	406	152	528	556	350	310	95	114
	8	200	495	508	495	203	680	658	400	310	160	158
	10	250	622	635	622	254	775	805	450	460	299	259
	12	300	698	711	698	305	880	955	500	460	373	378
	14"	350	787	800	787	337	-	1100	-	460	-	640
	16"	400	914	927	914	387	-	1175	-	460	-	920
20"	500	978	991	978	488	-	1450	-	600	-	1650	
24"	600	1295	1308	1295	590	-	1690	-	600	-	2200	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

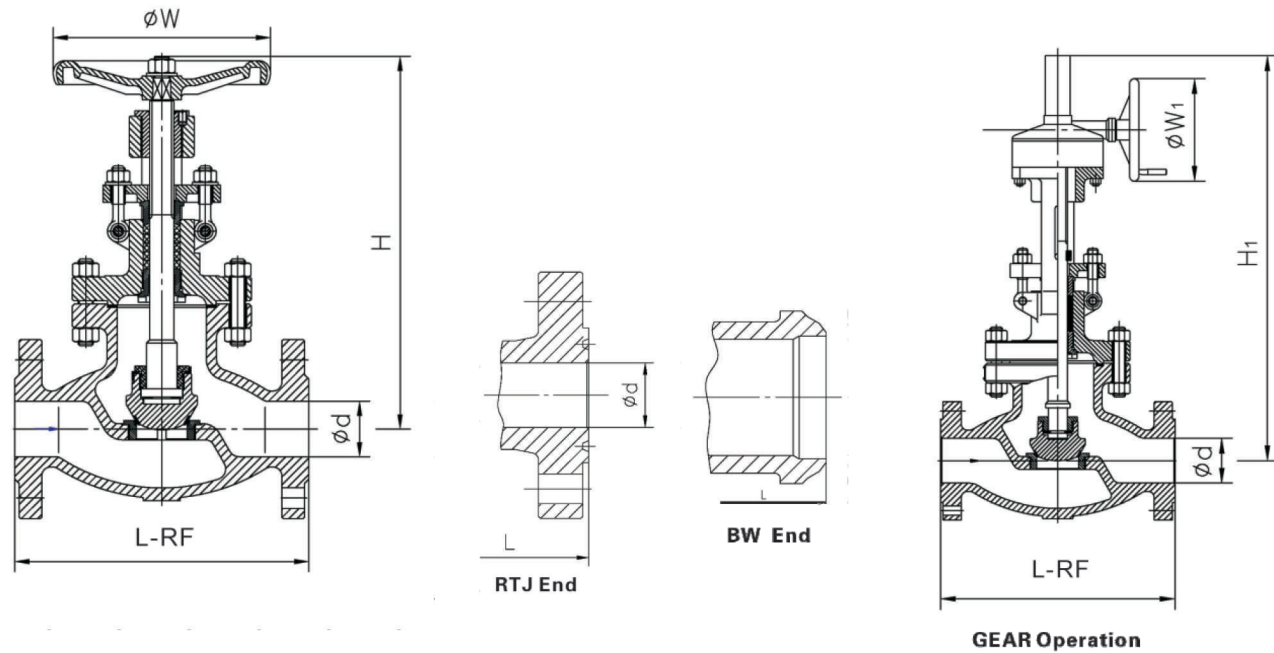
Class 300 & JIS 20K Cast Steel Globe Valve



Class	Size		Dimensions(mm)								Weight (Kg)	
	NPS	DN	L			d	H	H1	W	W1	H.W	G.O
			RF	RTJ	BW							
300	1/2	15	152	164	152	13	184	-	120	-	5	-
	3/4	20	178	191	178	19	226	-	160	-	6.5	-
	1	25	203	216	203	25	233	-	160	-	9	-
	1 1/4	32	216	229	216	32	253	-	160	-	12	-
	1 1/2	40	229	241	229	38	273	-	160	-	16	-
	2	50	267	283	267	51	346	-	200	-	29	-
	2 1/2	65	292	308	292	64	390	-	250	-	44	-
	3	80	318	333	318	76	403	-	280	-	59	-
	4	100	356	371	356	102	474	-	350	-	87	-
	5	125	400	416	400	127	540	-	350	-	181	-
	6	150	444	460	444	152	635	690	450	310	162	177
	8	200	559	575	559	203	870	950	550	460	281	389
	10	250	622	638	622	254	950	990	600	460	355	409
	12	300	711	727	711	305	1030	1155	700	460	575	635
	14	350	838	-	-	336	-	1155	-	600	-	880
	16	400	864	-	-	387	-	1325	-	600	-	1300
18	450	977	-	-	431	-	1473	-	720	-	1600	
20	500	1016	-	-	482	-	1574	-	720	-	2100	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

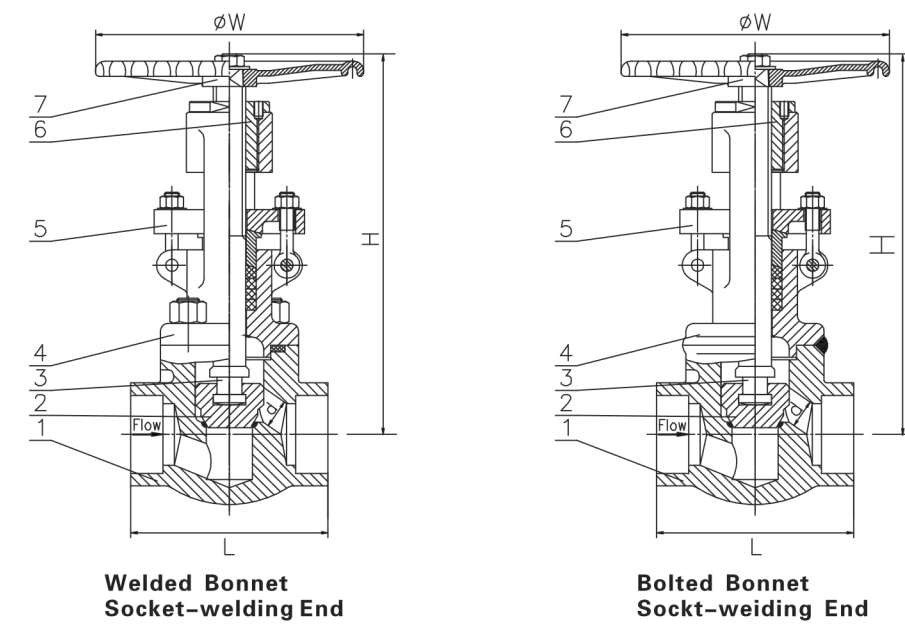
Class 600 & Class 1500 Globe Valve



Class	Size		Dimensions(mm)								Weight (Kg)		
	NPS	DN	L			d	H	H ₁	W	W ₁	H.W	G.O	
			RF	RTJ	BW								
600	2	50	292	295	292	51	360	-	250	-	35	-	
	2½	65	330	333	330	64	410	-	280	-	42	-	
	3	80	356	359	356	76	465	-	280	-	66	-	
	4	100	432	435	432	102	545	575	400	310	117	148	
	5	125	508	511	508	127	625	660	500	310	243	208	
	6	150	559	562	559	152	785	975	550	460	263	334	
	8	200	660	664	660	200	930	1120	650	460	469	544	
	10	250	787	791	787	248	-	1219	-	600	-	875	-
900	12	300	838	841	838	298	-	1570	-	600	-	1280	-
	2	50	368	371	368	48	480	-	350	-	55	-	
	2½	65	419	422	419	57	520	-	350	-	68	-	
	3	80	381	384	381	73	564	630	400	310	113	128	
	4	100	457	460	457	98	685	720	450	310	179	210	
1500	5	125	559	562	559	127	780	840	550	460	270	325	
	6	150	610	613	610	146	950	1015	650	460	429	480	
	8	200	737	740	737	190	1050	-	700	-	815	-	
	2	50	368	371	368	48	505	-	350	-	137	-	
1500	2½	65	419	422	419	57	550	-	400	-	141	-	
	3	80	470	473	470	70	630	765	450	310	261	320	
	4	100	546	549	546	92	808	890	460	310	336	397	
	6	150	705	711	705	137	930	1020	610	530	966	1035	
	8	200	832	841	832	178	1140	1230	610	530	1210	1280	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

Class 150 ~ Class 1500 Forged Globe Valve



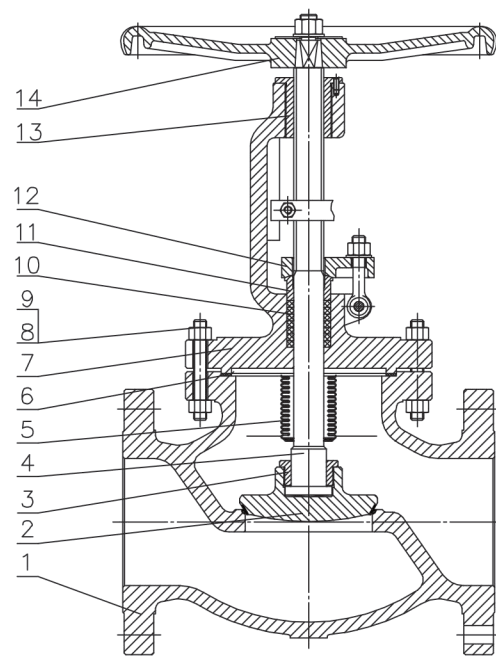
Standards

Deign and Manufacture	API602.
Inspection and Test	API598.
Socket-weld dimension	ASME B16.11
End threads dimension	ASME B1.20.1
Pressure-temperature ratings	ASME B16.34.

Parts and material list

Part Name	Material		
1 Body	ASTM A105	ASTM A182 F304	ASTM A182 F316
2 Disc	ASTM A105	ASTM A182 F304	ASTM A182 F316
3 Stem	ASTM A182 F6	ASTM A182 F304	ASTM A182 F316
4 Bonnet	ASTM A105	ASTM A182 F304	ASTM A182 F316
5 Gland Flange	ASTM A105	ASTM A182 F304	ASTM A182 F316
6 Stem Nut	ASTM A276 410		
7 Handwheel	ASTM A197		

Class	Size		Dimensions (mm)				NPT	Weight (kg)
	NPS	DN	L	d	H	W		
150-800	½"	15	79	10	158	100	½"	2.0
	¾"	20	92	13	158	100	¾"	2.2
	1"	25	111	17.5	192	125	1"	2.5
	1¼"	32	120	23	227	160	1¼"	5.5
	1½"	40	152	28.5	240	160	1½"	7.0
900-1500	2"	50	172	35	279	180	2"	11.5
	½"	15	92	10	187	125	½"	3.5
	¾"	20	111	13	187	125	¾"	4.0
	1"	25	120	17.5	227	160	1"	6.3
	1¼"	32	152	23	242	160	1¼"	8.0
2500	1½"	40	172	28.5	278	180	1½"	12.5
	2"	50	220	35	325	200	2"	19.5
	½"	15	150	11	293	160	½"	10.8
	¾"	20	150	11	293	160	¾"	12.0
	1"	25	170	14	344	200	1"	13.5
	1¼"	32	200	16	383	250	1¼"	18.5
1½"	40	200	25	383	250	1½"	22.0	
2"	50	250	28	442	300	2"	37.0	



Standards

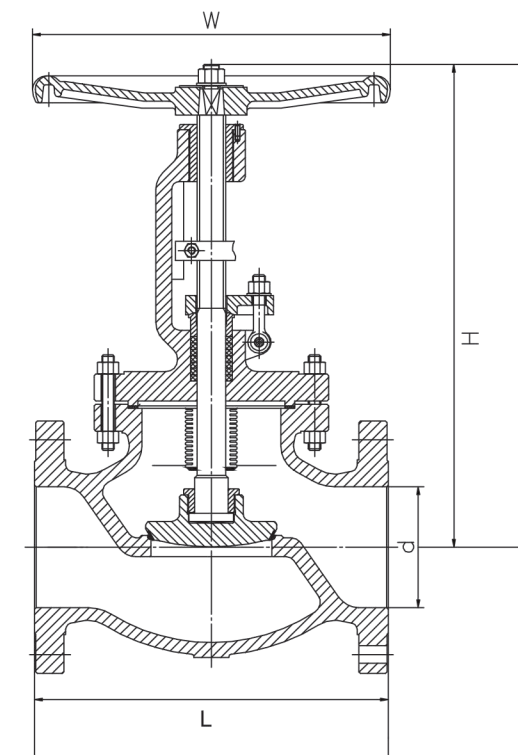
Design Standard	BS 1873
Face to Face	ASTM B 16.10
End flanges Dimensions	ASME B 16.5
Inspection and Test	API598.

Structure Feature

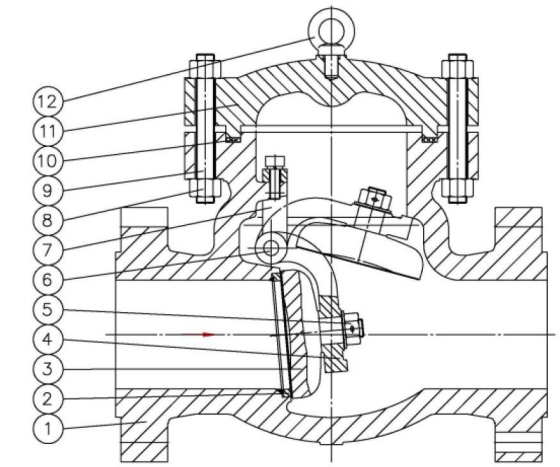
1. Double seal, more reliable performance;
2. Stem lift position indication, more intuitive;
3. Small flow resistance, low pressure drop.

Parts and material list

Part Name		Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM			
1	Body	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Disc	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
3	Disc Cover	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
4	Stem	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
5	Bellows Seal	A182 F304	A182 F304	A182 F304	A182 F304	A182 F304	A182 F304	A182 F304	A182 F316	A182 F304L	A182 F316L
7	Bonnet	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
8	Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8M	A193 B8	A193 B8M
9	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8	A194 8M
11	Gland	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
12	Gland Flange	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
6	Gasket	Flexible Graphite+SS or PTFE									
10	Packing	Flexible Graphite or PTFE									
13	Stem Nut	Copper Alloy or A439 D2									
14	Handwheel	Ductile Iron or Carbon Steel									



Size		Class 150					Class 300				
		Dimensions (mm)				Wt (kg)	Dimensions (mm)				Wt (kg)
NPS	DN	L	d	H	W	H.W	L	d	H	W	H.W
1/2	15	108	13	241	120	4	152	13	241	120	6
3/4	20	117	19	241	140	5	178	19	241	140	7
1	25	127	25	241	140	6	203	25	283	140	10
1 1/4	32	140	32	280	180	10	215	32	320	180	15
1 1/2	40	165	38	286	200	13	229	38	322	200	20
2	50	203	51	368	220	18	267	51	399	220	25
2 1/2	65	216	64	387	260	30	292	64	438	260	30
3	80	241	76	400	280	35	318	76	450	280	52
4	100	292	102	457	300	55	356	102	584	300	88
5	125	356	127	520	320	75	400	127	610	320	115
6	150	406	152	609	340	104	444	152	660	340	160
8	200	495	203	698	400	200	559	203	762	400	259
10	250	622	254	762	450	300	622	254	850	450	420
12	300	698	305	876	450	390	711	305	1085	450	595
14	350	787	337	990	450	610	762	336	1187	450	876



The features of check valve

Bolted Bonnet, Swing and lift disc; Metallic seating surfaces. Bolted cover and pressure seal cover swing and lift disc, Threaded or welded seat ring.

Body and Bonnet Connection

The body and bonnet of Class150-Class900 check valves are usually with studs and nuts. And the body and bonnet of Class1500-Class2500 check valves are usually of pressurized seal design

Gasket

Stainless steel + flexible graphite wounded gasket is used for Class150 and Class300 check valve; Stainless steel + flexible graphite wounded gasket is used for Class600 check valve, and joint gasket is also optional for Class600 check valve; Ring joint gasket is used for Class900 check valve; Pressurized seal design is used for Class1500-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. Welded on seat is used of NPS 1/2-2 Renewable threaded seat is used for NPS ≤ 8 check valves, and welded on seat can be also optional if being requested by the customer. Welded on seat is used for NPS > 8 carbon steel check valves. For stainless steel check valve, integral 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. If the customers have any other request about the seat, please kindly advise before placing the order.

STANDARD MATERIAL TO API600

Trim Code	Seat Ring Surface Part No.2	Disc Surface Part NO.3	Hing pin Part No.6
1	F6	F6	F6
2	F304	F304	F304
5	Stellite	Stellite	F6
8	Stellite	F6	F6
9	Monel	Monel	Monel
10	F316	F316	F316
13	Alloy 20	Alloy 20	Alloy 20

Standards

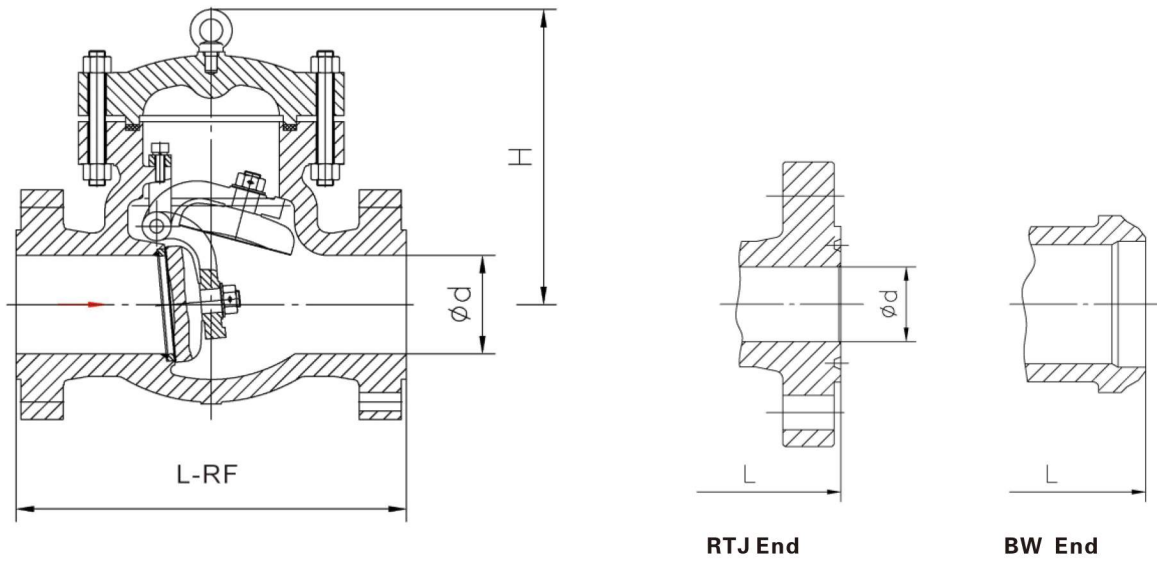
Design and Manufacture	BS 1868-1873, ASME B16.34, API6D
Inspection and Test	API598, API6D
End Flange dimension	ASME B16.5
End Flange dimension	ASME B16.47A、MSS SP-44
End Flange dimension	ASME B16.47B、API605
BW end dimension	ASME B16.25
Face to face	ASME B16.10
Pressure -temperature ratings	ASME B16.34
Wall thickness dimension	API600 and BS 1868

STANDARD MATERIAL SPECIFICATIONS

Parts Name		Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM			
		A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
1	BODY	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
11	COVER	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
3	DISC	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
4	Hinge	A216 WCB	A352LCB	A217WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
9	Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
8	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8
5	Disc Nut	A194 2H	410	410	410	410	410	304	316	304L	316L
10	Gasket	SS Spiral Wound W/graphite, or SS Spiral Wound W/PTFE, of Reinforced PTFE									
12	Eye bolt	Steel									
7	Yoke	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M

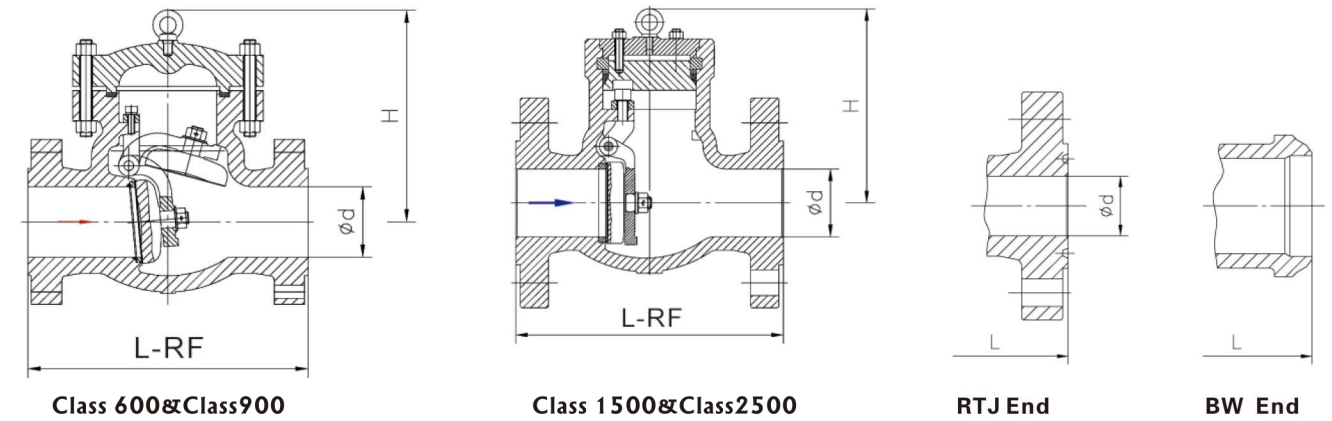
Noted: The chart above only lists out some common composition of steel check valve parts. We may provide other different parts material composition according to the customer's request or the actual valve working condition.

Class 150 & Class300 Swing Check Valve



Size		Class150 Dimensions(mm)					Class300 Dimensions(mm)						
		L			d	H	Weight (Kg)	L			d	H	Weight (Kg)
NPS	DN	R F	RTJ	BW				R F	RTJ	BW			
2	50	203	216	203	51	138	14	267	283	267	51	150	22
2½	65	216	229	216	64	160	19	292	308	292	64	178	35
3	80	241	254	241	76	172	24	318	333	318	76	223	44
4	100	292	305	292	102	245	43	356	371	356	102	255	57
5	125	330	343	330	127	260	59	400	416	400	127	280	80
6	150	356	368	356	152	280	72	445	460	445	152	310	120
8	200	495	508	495	203	347	124	533	549	533	203	355	194
10	250	622	635	622	254	390	196	622	638	622	254	445	290
12	300	699	711	699	305	435	330	711	727	711	305	485	450
14	350	787	800	787	337	465	417	838	854	838	337	515	587
16	400	864	876	864	387	525	503	864	879	864	387	560	761
18	450	978	991	978	438	580	630	978	994	978	432	620	1030
20	500	978	991	978	489	615	791	1016	1035	1016	483	685	1191
24	600	1295	1308	1295	591	710	960	1346	1368	1346	584	760	1892
26	650	1295	-	1295	633	840	1250	1346	1372	1346	633	850	2300
28	700	1448	-	1448	684	920	1580	1499	1524	1499	684	920	2600
30	750	1524	-	1524	735	980	1950	1594	1619	1594	735	1150	3200
32	800	1727	-	1727	779	1016	2800	1727	-	1727	779	1260	3700
36	900	1956	-	1956	874	1092	3200	2083	-	2083	874	1390	4300

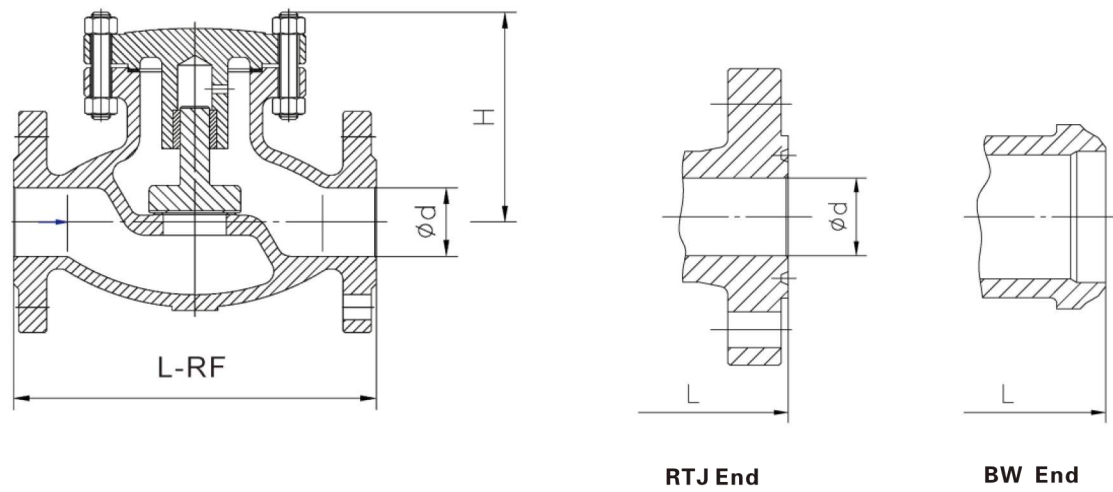
Class 600-Class2500 Swing Check Valve



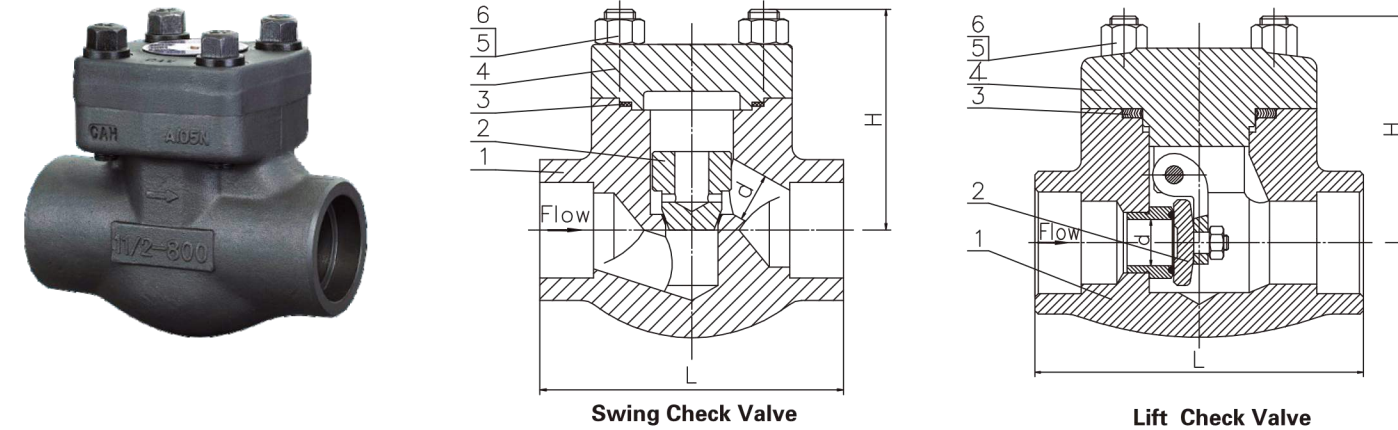
Size		Class600 Dimensions(mm)						Class900 Dimensions(mm)					
		L			d	H	Weight (Kg)	L			d	H	Weight (Kg)
NPS	DN	R F	RTJ	BW				R F	RTJ	BW			
2	50	292	295	292	51	170	26	368	371	368	51	183	72
2½	65	330	333	330	64	178	35	419	422	419	64	220	75
3	80	356	359	356	76	225	59	381	384	381	73	280	102
4	100	432	435	432	102	275	99	457	460	457	98	315	134
5	125	508	511	508	127	320	155	559	562	559	127	360	200
6	150	559	562	559	152	385	208	610	613	610	146	390	354
8	200	660	664	660	200	445	357	737	740	737	190	460	514
10	250	787	791	787	248	500	561	838	841	838	238	540	754
12	300	838	841	838	298	570	752	965	968	965	283	640	818
14	350	889	892	889	327	590	889	1029	1038	1029	311	680	1180
16	400	991	994	991	375	650	1285	1130	1140	1130	356	780	1909
18	450	1092	1095	1092	419	778	1800	1219	1232	1219	400	845	2500
20	500	1194	1200	1194	464	970	2150	1321	1334	1321	444	1050	2960
24	600	1397	1407	1397	559	1100	3200	1549	1568	1549	533	1200	4600

Size		Class1500 Dimensions(mm)						Class2500 Dimensions(mm)					
		L			d	H	Weight (Kg)	L			d	H	Weight (Kg)
NPS	DN	R F	RTJ	BW				R F	RTJ	BW			
2	50	368	371	368	48	265	67	451	454	451	38	285	93
2½	65	419	422	419	57	240	75	508	514	508	48	305	100
3	80	470	473	470	70	303	188	578	584	578	57	350	196
4	100	546	549	546	92	340	210	673	683	673	73	410	410
5	125	673	676	673	127	380	294	794	807	794	96	490	440
6	150	705	711	705	137	430	473	914	927	914	111	540	868
8	200	832	841	832	178	500	634	1022	1038	1022	146	620	970
10	250	991	1000	991	222	605	1140	1270	1292	1270	184	705	1700
12	300	1130	1146	1130	264	785	1939	1422	1445	1422	219	855	2080
14	350	1257	1276	1257	289	830	2000	-	-	-	-	-	-
16	400	1384	1407	1384	330	950	2700	-	-	-	-	-	-
18	450	1537	1559	1537	371	1080	3960	-	-	-	-	-	-
20	500	1664	1686	1664	416	1145	4400	-	-	-	-	-	-

Class 150-Class900 Lift Check Valve



Class 150-Class1500 Forged Steel Check Valve



Size		Class150 Dimensions(mm)						Class300 Dimensions(mm)					
		L			d	H	Weight (Kg)	L			d	H	Weight (Kg)
NPS	DN	R F	RTJ	BW				R F	RTJ	BW			
1/2	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	283	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

Standards

Design and Manufacture	API 602.
Inspection and Test	API 598.
Socket-weld dimension	ASME B16.11.
End threads dimension	ASME B1.20.1.
Pressure-temperature ratings	ASME B16.34.

Parts and material list

Part Name		Material		
1	Body	ASTM A105	ASTM A182 F304	ASTM A182 F316
2	Disc	ASTM A105	ASTM A182 F304	ASTM A182 F316
3	Gasket	Graphite+SS304	Graphite+SS316	Graphite+SS316
4	Bonnet	ASTM A105	ASTM A182 F304	ASTM A182 F316
5	Bolt	A193 B7	A193 B8	A193 B8
6	Nut	A194 2H	A194 8	A194 8

Size		Class600 Dimensions(mm)						Class900 Dimensions(mm)					
		L			d	H	Weight (Kg)	L			d	H	Weight (Kg)
NPS	DN	FR	RTJ	BW				FR	RTJ	BW			
2	50	292	295	292	51	152	32	368	371	368	48	180	50
2 1/2	65	330	333	330	64	167	45	419	422	419	57	200	65
3	80	356	359	356	76	178	68	381	384	381	73	235	88
4	100	432	435	432	102	215	98	457	460	457	98	270	140
5	125	508	511	508	125	240	155	559	562	559	125	300	210
6	150	559	562	559	152	279	230	610	613	610	146	350	300
8	200	660	664	660	200	328	300	737	740	737	190	400	390

Class	Size		Piston Check Valve					Swing Check Valve				
	NPS	DN	Dimensions(mm)			NPT	Weight (Kg)	Dimensions(mm)			NPT	Weight (Kg)
			L	d	H			L	d	H		
150-800	1/2"	15	79	10	54.5	1/2"	1.4	79	13	54.5	1/2"	1.3
	3/4"	20	92	13	54.5	3/4"	1.9	92	13	54.5	3/4"	1.7
	1"	25	111	17.5	72	1"	2.6	111	18	72	1"	2.4
	1 1/4"	32	120	23	81	1 1/4"	4.2	120	24	81	1 1/4"	4.0
	1 1/2"	40	152	28.5	94	1 1/2"	5.3	120	29	94	1 1/2"	5.1
	2"	50	172	35	112	2"	9.0	140	36.8	112	2"	8.8
900-1500	1/2"	15	92	10	73	1/2"	2.4	92	13	73	1/2"	2.2
	3/4"	20	111	13	73	3/4"	2.9	111	13	73	3/4"	2.7
	1"	25	120	17.5	84	1"	4.6	120	18	84	1"	4.4
	1 1/4"	32	152	23	97	1 1/4"	6.5	120	24	97	1 1/4"	6.3
	1 1/2"	40	172	28.5	115	1 1/2"	10.5	140	29	115	1 1/2"	10.3
	2"	50	220	35	132	2"	15.5	160	36.8	132	2"	15.3
2500	1/2"	15	150	11	102	1/2"	7.8	-	-	-	-	-
	3/4"	20	150	14	102	3/4"	8.5	-	-	-	-	-
	1"	25	170	19	107	1"	12.0	-	-	-	-	-
	1 1/4"	32	200	25	128	1 1/4"	18.2	-	-	-	-	-
	1 1/2"	40	200	28	128	1 1/2"	19.5	-	-	-	-	-
	2"	50	250	35	143	2"	27.0	-	-	-	-	-

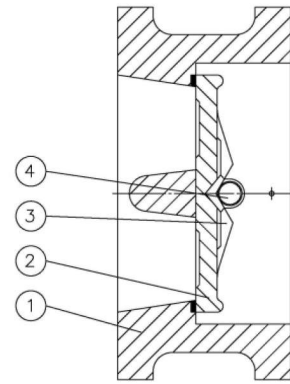
Wafer Type Swing Check Valve



Single Plate Check Valve



Dual Plate Check Valve



Dual Plate Check Valve

Standards

- 1、 Design and manufacture: API 594、 API 6D;
- 2、 Face to Face: API 594、 API 6D; DIN 3202;
- 3、 Pressure-temperature ratings:ASME B 16.34;
- 4、 Inspection and test: API 598、 API 6D;
- 5、 End flange dimension: ASME B16.5、 ASME B16.47、 API605、 MSS SP-44、 ISO7005-1、 DIN2543-2548、

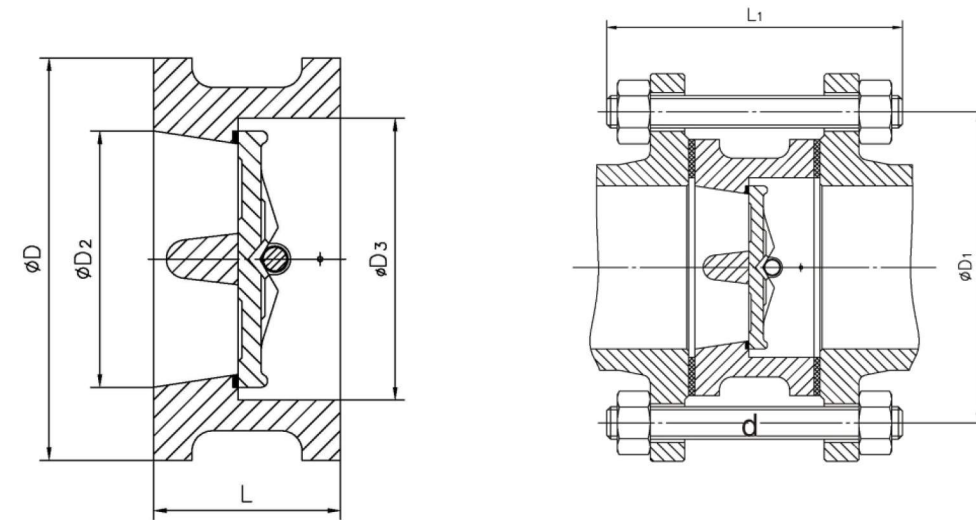
Structure features

- 1、 It is short in face to face dimensions,being 1/4-1/8 times that of traditional flange type check valve
- 2、 It is impact in volume size and light in weight of about 1/4-1/20 times that of traditional flange type check valve.
- 3、 The disc closes quickly with less water hammer pressure.
- 4、 It is convenient in installation, being available for use on level or vertical pipelines.
- 5、 Flow passage is fluent with less flow resistance.
- 6、 It acts sensitively with good sealing effect.
- 7、 Disc travel is short with less impact force caused by valve closing.
- 8、 It is impact in integral structure with nice outline view.
- 9、 It is longer for service life with high reliability.

Materials for main parts

Part Name		Material							
1	Body	A216WCB	A352LCB	A217WC6	A217WC9	A217C5	A217C12	A351CF8	A351CF8M
2	Disc	A351CF8	A351CF8	A217WC6	A217WC9	A217C5	A217C12	A351CF8	A351CF8M
4	Stem	A182F6a	A182F304	A182F304	A182F304	A182F304	A182F304	A182F304	A182F316
3	Spring	Stainles steel/inconel							

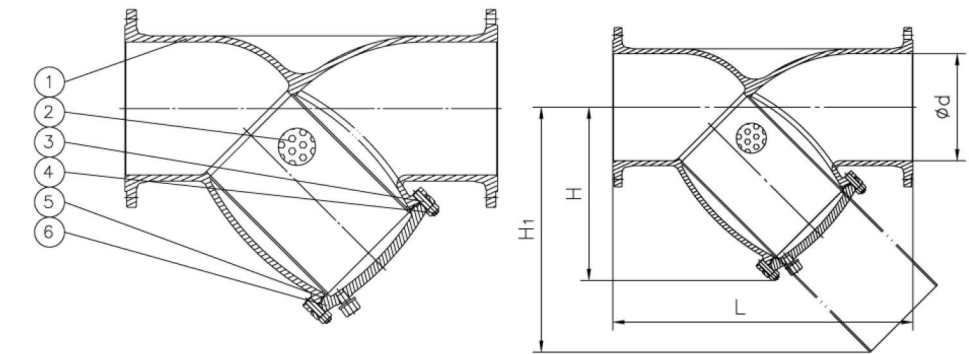
Noted: The chart above only lists out some common composition of wafer type steel swing check valve parts. We may provide other different parts material composition according to the customer's request or the actual valve working condition



Class	Size		Dimensions(mm)				Weight (kg)	Pipeline flanges					
	NPS	DN	L	D	D ₂	D ₃		D ₁	Number of bolts	d		L ₁	
									In	mm	RF	RTJ	
150	2	50	60	103	51	56	2	120.5	4	5/8	M16	140	155
	2 1/2	65	67	122	65	73	3	139.5	4	5/8	M16	150	165
	3	80	73	135	80	88	4	152.5	4	5/8	M16	160	175
	4	100	73	173	102	108	6	190.5	8	5/8	M16	170	185
	5	125	86	195	127	132	8	216.0	8	3/4	M20	190	205
	6	150	98	220	152	160	13	241.5	8	3/4	M20	205	220
	8	200	127	277	203	210	25	298.5	8	3/4	M20	240	255
	10	250	146	337	254	266	39	362.0	12	7/8	M24	270	285
	12	300	181	407	305	310	54	432.0	12	7/8	M24	310	325
	14	350	184	448	350	355	80	476.0	12	1	M27	325	340
	16	400	191	512	400	405	117	540.0	16	1	M27	340	355
	18	450	203	547	450	455	138	578.0	16	1 1/8	M30	365	380
	20	500	219	604	500	505	163	635.0	20	1 1/8	M30	385	400
	24	600	222	715	600	605	331	749.5	20	1 1/4	M33	405	420
	28	700	305	773	700	700	380	795.5	40	3/4	M20	455	-
	30	750	305	824	746	750	425	846.0	44	3/4	M20	455	-
32	800	305	878	796	800	560	900.0	48	3/4	M20	460	-	
36	900	368	983	898	910	640	1009.5	44	7/8	M24	540	-	
42	1050	432	1142	1050	1055	960	1171.5	48	1	M27	625	-	
48	1200	524	1302	1200	1205	1400	1335.0	44	1 1/8	M30	740	-	
300	2	50	60	110	51	58	3	127.0	8	5/8	M16	155	175
	2 1/2	65	67	128	65	73	4	149.0	8	3/4	M20	175	195
	3	80	73	147	80	88	6	168.5	8	3/4	M20	190	210
	4	100	73	179	102	108	8	200.0	8	3/4	M20	195	215
	5	125	86	214	127	132	15	235.0	8	3/4	M20	215	235
	6	150	98	249	152	160	18	270.0	12	3/4	M20	230	250
	8	200	127	305	203	210	31	330.0	12	7/8	M24	280	300
	10	250	146	359	254	266	51	387.5	16	1	M27	315	335
	12	300	181	420	305	310	77	451.0	16	1 1/8	M30	365	385
	14	350	222	483	350	355	117	514.5	20	1 1/8	M30	410	430
	16	400	232	537	400	405	190	571.5	20	1 1/4	M33	435	455
	18	450	264	594	450	455	200	628.5	24	1 1/4	M33	475	495
	20	500	292	652	500	505	265	686.0	24	1 1/4	M33	510	535
	24	600	318	772	600	608	410	813.0	24	1 1/2	M39	560	585
	30	750	368	882	735	740	660	921.0	36	1 3/8	M36	650	-
	36	900	483	1044	873	880	1020	1089.0	32	1 5/8	M42	800	-
42	1050	568	1196	1035	1045	1540	1244.5	36	1 3/4	M45	920	-	
48	1200	629	1365	1179	1190	2260	1416.0	40	1 7/8	M48	1010	-	

Class	Size		Dimensions(mm)				Weight (kg)	Pipeline flanges					
	NPS	DN	L	D	D2	D3		D1	Number of bolts	d		L1	
										In	Mm	R F	RTJ
600	2	50	60	110	51	58	4	127.0	8	5/8	M16	175	180
	2 1/2	65	67	128	65	73	5	149.0	8	3/4	M20	195	200
	3	80	73	147	80	88	8	168.5	8	3/4	M20	210	215
	4	100	79	191	102	108	11	216.0	8	7/8	M24	235	240
	5	125	105	239	127	136	20	267.0	8	1	M27	280	285
	6	150	136	264	152	162	26	292.0	12	1	M27	320	325
	8	200	165	318	200	212	55	349.0	12	1 1/8	M30	370	375
	10	250	213	398	250	266	95	432.0	16	1 1/4	M33	440	445
	12	300	229	455	305	312	140	489.0	20	1 1/4	M33	460	465
	14	350	273	490	337	355	223	527.0	20	1 3/8	M36	520	525
	16	400	305	562	387	400	360	603.0	20	1 1/2	M39	575	580
	18	450	362	610	438	450	395	654.0	20	1 5/8	M42	650	655
20	500	368	680	489	500	518	724.0	24	1 5/8	M42	670	680	
24	600	438	786	591	600	836	838.0	24	1 7/8	M48	780	790	
900	2	50	70	140	51	58	8	165.0	8	7/8	M24	225	230
	2 1/2	65	83	162	65	73	11	190.5	8	1	M27	250	255
	3	80	83	165	80	90	14	190.5	8	7/8	M24	240	245
	4	100	102	204	102	108	20	235.0	8	1 1/8	M30	285	290
	5	125	110	245	127	136	30	279.5	8	1 1/4	M33	310	315
	6	150	159	286	150	162	42	317.5	12	1 1/8	M30	365	370
	8	200	206	356	200	212	84	393.5	12	1 3/8	M36	440	445
	10	250	241	432	250	266	145	470.0	16	1 3/8	M36	490	495
	12	300	292	495	305	312	220	533.5	20	1 3/8	M36	560	565
	14	350	356	518	337	355	350	559.0	20	1 1/2	M39	645	655
	16	400	384	572	387	400	470	616.0	20	1 5/8	M42	685	695
	18	450	451	635	438	450	605	686.0	20	1 7/8	M48	790	805
20	500	451	695	487	496	820	749.5	20	2	M52	810	825	
24	600	495	835	591	600	1050	901.5	20	2 1/2	M64	945	965	
1500	2	50	70	140	51	58	8	165.0	8	7/8	M24	225	230
	2 1/2	65	83	162	65	73	11	190.5	8	1	M27	250	255
	3	80	83	172	80	90	19	203.0	8	1 1/8	M30	270	275
	4	100	102	207	102	108	26	241.5	8	1 1/4	M33	310	315
	5	125	110	252	127	136	51	292.0	8	1 1/2	M39	370	375
	6	150	159	280	150	162	68	317.5	12	1 3/8	M36	430	440
	8	200	206	350	200	212	130	393.5	12	1 5/8	M42	510	520
	10	250	248	433	254	266	210	482.5	12	1 7/8	M48	600	610
	12	300	305	518	305	312	384	571.5	16	2	M52	695	715
	14	350	356	576	337	355	550	635.0	16	2 1/4	M56	775	800
	16	400	384	639	387	400	635	705.0	16	2 1/2	M64	850	880
	2500	2	50	70	143	42	48	10	171.5	8	1	M27	255
2 1/2		65	83	166	52	58	18	197.0	8	1 1/8	M30	290	305
3		80	86	194	62	68	26	228.5	8	1 1/4	M33	320	330
4		100	105	232	88	94	40	273.0	8	1 1/2	M39	370	380
5		125	110	277	100	106	59	324.0	8	1 3/4	M45	420	435
6		150	159	315	150	162	90	368.5	8	2	M52	515	530
8		200	206	385	180	186	150	438.0	12	2	M52	600	620
10		250	254	474	225	232	240	539.5	12	2 1/2	M64	750	775
12		300	305	547	266	272	440	619.0	12	2 3/4	M70	855	885

Class 150 ~ Class 300 & JIS 10K - JIS 20K Y Strainer



Standards

Design and Manufacture: 1381873 ASME B16.34
 Face to Face Dimensions: ANSI B16.10
 Flanged Ends Dimensions: ANSI B16.5
 BW end dimension: ASME B16.25
 Pressure-temperature ratings: ASME B16.34
 Test & Inspect: API 598

Percentage open area

Even the mesh " is same:
 open area not always same
 due to the diameter of wire.
 The details of wire as follows:

A: Number of Wire
 B: Diameter of Wire
 C: Width of Opening
 D: Percentage of OPEN AREA

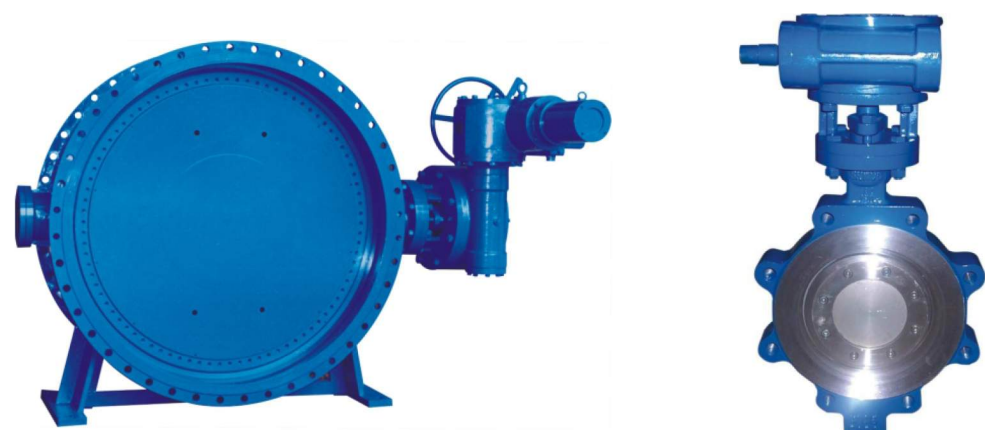
MESH	A SWG	B m/m	C m/m	D %
5	20	0.914	4.166	67.3
10	22	0.711	1.829	51.8
20	28	0.356	0.914	51.8
30	32	0.274	0.572	45.7
40	36	0.193	0.442	48.4
50	37	0.172	0.336	43.6
60	38	0.152	0.271	41.0
80	40	0.122	0.195	37.8
100	42	0.102	0.152	35.8
120	43	0.092	0.119	31.8
150	45 1/2	0.066	0.103	37.1
180	46 1/2	0.053	0.088	38.9
200	47	0.051	0.076	35.8
250	48	0.040	0.062	37.7
300	48	0.039	0.044	27.6

Parts and material list

Part Name	Material		
1 Body	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M
2 Screen	ASTM 182 F304	ASTM 182 F304	ASTM 182 F316
3 Bonnet Bolt	ASTM 193 B7	ASTM 193 B8	ASTM 193 B8
4 Bonnet Nut	ASTM 194 2H	ASTM 194 8	ASTM 194 8
5 Gasket	Graphite+SS304	Graphite+SS304	Graphite+SS316
6 Bonnet	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M

Size		Class 150				Class 300				Class 600			
		Dimensions (mm)			Wt (kg)	Dimensions (mm)			Wt (kg)	Dimensions (mm)			Wt (kg)
NPS	DN	L	H	H1	W.H	L	H	H1	W.H	L	H	H1	W.H
1/2	15	108	67	92	2	152	70	95	3	-	-	-	-
3/4	20	117	73	105	2	178	80	110	4	-	-	-	-
1	25	127	87	117	3	203	115	135	5	-	-	-	-
1 1/4	32	140	100	138	4	216	105	142	7	-	-	-	-
1 1/2	40	165	120	155	5	229	128	155	9	-	-	-	-
2	50	203	145	185	13	267	152	184	16	292	210	350	19
2 1/2	65	216	170	220	15	292	185	236	20	330	-	-	-
3	80	241	190	250	18	318	204	266	24	356	260	430	40
4	100	292	245	340	22	356	265	335	30	432	310	510	51
5	125	356	290	400	42	400	280	386	50	508	-	-	-
6	150	406	325	450	50	444	335	460	70	559	385	520	161
8	200	495	370	500	91	559	420	595	115	660	455	620	243
10	250	622	455	635	205	622	500	710	270	787	505	635	463
12	300	699	525	735	297	711	575	781	380	838	660	780	765
14	350	787	610	885	394	838	650	938	520	889	720	990	998
16	400	914	800	1160	570	914	740	1055	608	991	840	1120	1230
18	450	978	965	1365	680	-	-	-	-	-	-	-	-
20	500	978	1100	1550	830	-	-	-	-	-	-	-	-

Construction and feature of triple offset metal seal butterfly valve



Principle Of Operation

Our Triple Offset Butterfly Valve provides a bi-directional bubble tight shut-off. This geometry ensures that the disc seal contacts the body seat only at the final shut-off position without rubbing or galling, providing a torque generated resilient seal with sufficient "wedging" to ensure a uniform seal contact.

The Triple Offset Geometry

OFFSET 1

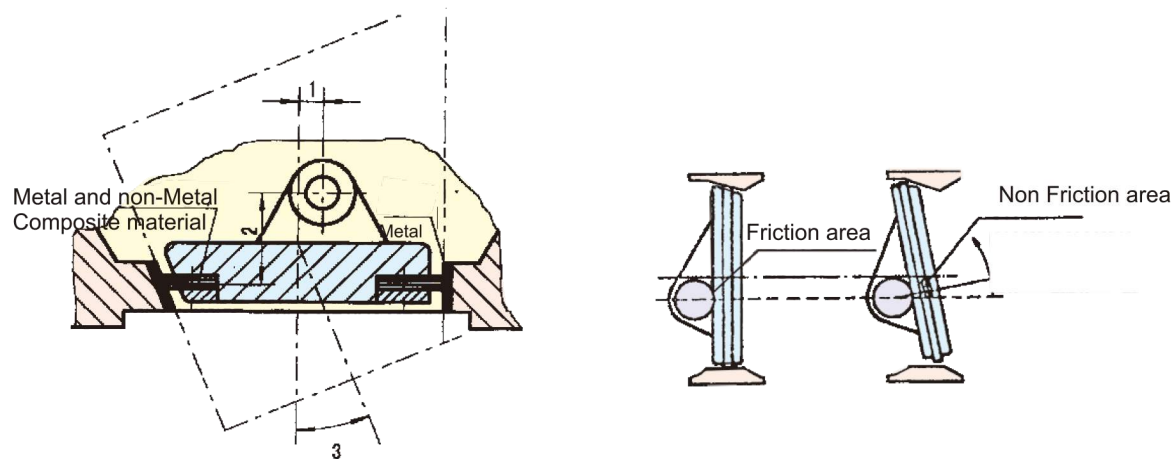
the shaft is offset behind the seat axis to allow complete sealing contact around the entire seat

OFFSET2

the shaft's centerline is offset from the pipe and valve which provides interference opening and closing of the valve

OFFSET3

The seat cone axis is offset from the shaft to eliminate friction during closing and opening and to achieve uniform compressive sealing around the entire seat.



Feature

1. Elastic property of the composite metal sealing ring perform zero leakage.
2. Torque seal to ensure persistent bidirectional zero leakage.
3. The triple offset metal-seated butterfly valve adopts one duo-eccentric structure plus one special oblique-conical elliptic sealing structure, the frictional torque force decreases substantially, a long service life is guaranteed, easy opening or closing is realized.



Standards

Standards Designing Specifications: API 609, ANSI B16.34

Inspection and test: API 598

Flanges Type & Dimensions: ASME B16.5, ASME B16.47

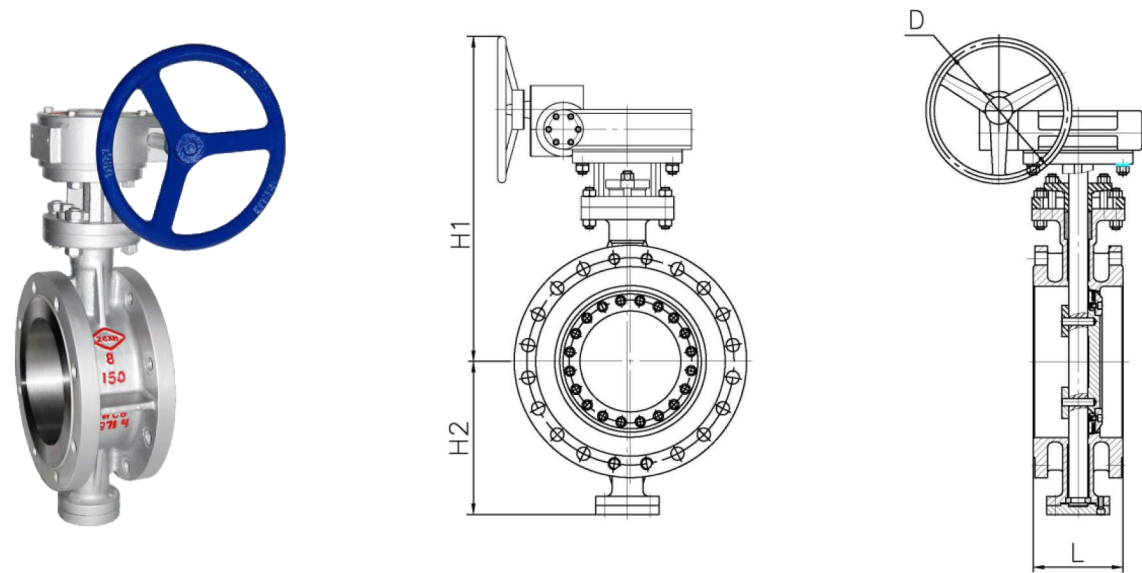
FACE TO FACE Dimensions: API 609

Parts and material list

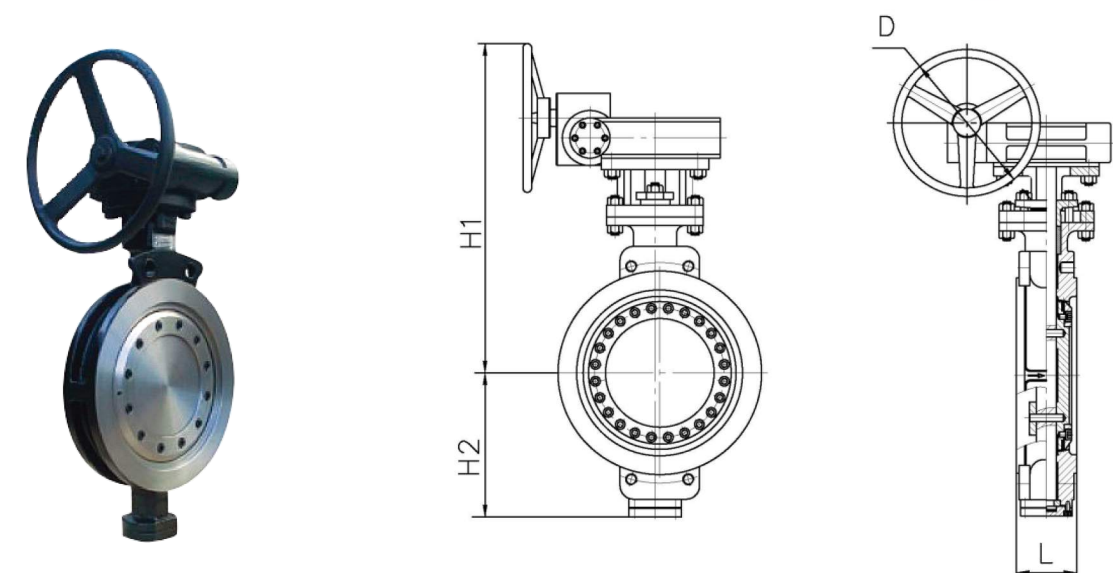
Parts Number	Parts name	Material		
		WCB	CF8	CF8M
1	Cover	ASTM A105	ASTM A182 F304	ASTM A182 F316
2	Bolt	ASTM A193 B7	ASTM A193 B8	ASTM A193 B8
3	Gasket	Graphite	Graphite	Graphite
4	Split Ring	ASTM A182 F6a	ASTM A182 F304	ASTM A182 F316
5	Body	ASTM A216 WCB+13Cr	ASTM A351 CF8	ASTM A351 CF8M
6	Stem	ASTM A182 F6a	ASTM A182 F304	ASTM A182 F304
7	Bushing	Copper alloy	Copper alloy	copper alloy
8	Sealing ring	SS304+Graphite	SS304+Graphite	SS316+Graphite
9	Gland Retainer	ASTM A105	ASTM A182 F304	ASTM A182 F316
10	Bolt	ASTM A193 B7	ASTM A193 B8	ASTM A193 F8
11	Pin	ASTM A276 420	ASTM A276 304	ASTM A276 316
12	Bushing	PTFE+Bronze	Lubricated Bronze	Lubricated Bronze
13	Stem packing	Graphite	Graphite	Graphite
14	Bolt	ASTM A193 B7	ASTM A193 B8	ASTM A193 B8
15	Nut	ASTM A194 2H	ASTM A194 8	ASTM A194 8
16	Gland Flange	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF8M
17	Yoke	ASTM A216 WCB	ASTM A351 CF8	ASTM A315 CF8M
18	Blot	ASTM A193B7	ASTM A193 B8	ASTM A193 B8
19	Nut	ASTM A193 2H	ASTM A194 8	ASTM A194 8
20	Washer	Carbon steel	Carbon	Carbon
21	Gear	Carbon	Carbon	Carbon

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

▶ Class 150&Class300 triple offset flanged butterfly valve



▶ Class 150&Class300 triple offset Wafer butterfly valve

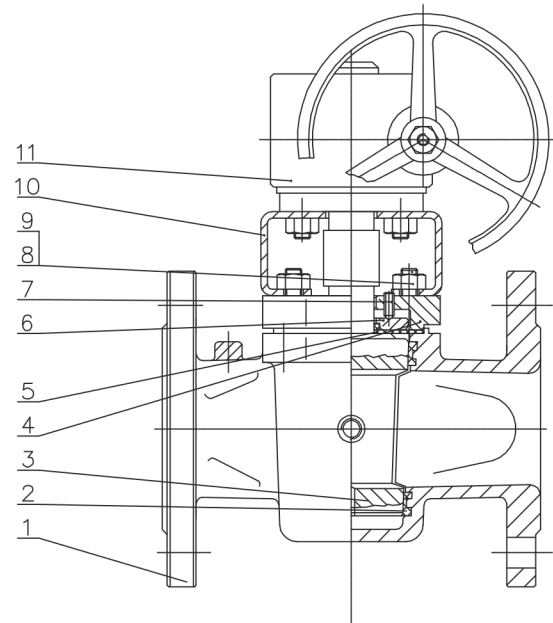
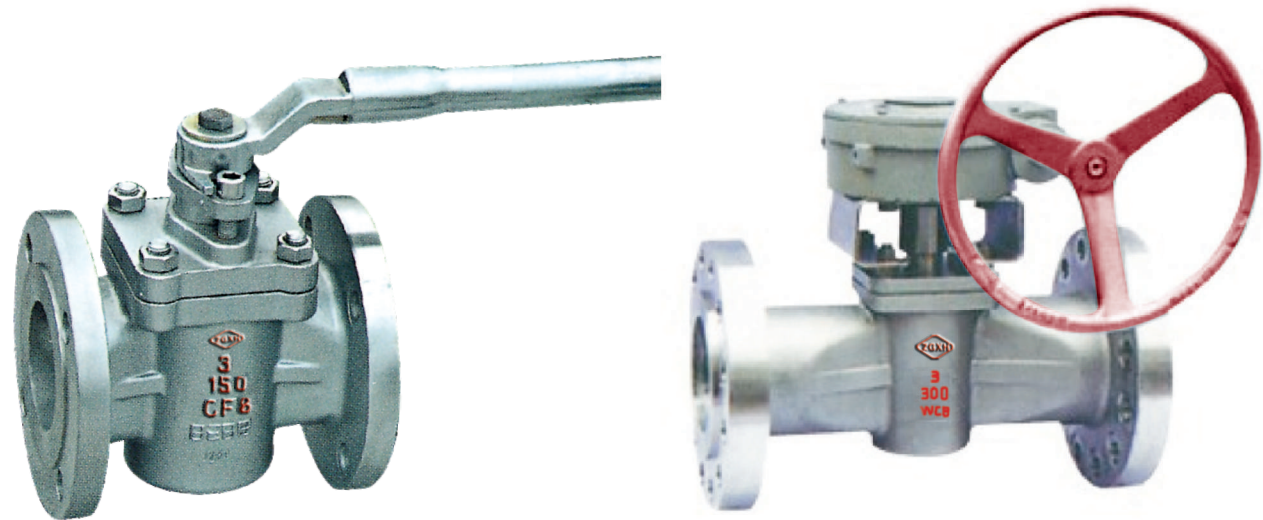


Class	Size		Dimensions(mm)				Weight (kg)
	NPS	DN	L	H1	H2	D	
150	2	50	108	305	115	160	21
	2½	65	112	315	125	160	24
	3	80	114	330	135	160	27
	4	100	127	360	140	160	28
	5	125	140	450	170	280	30
	6	150	140	475	175	280	50
	8	200	152	525	240	280	75
	10	250	165	570	270	280	105
	12	300	178	630	315	320	155
	14	350	190	675	345	350	190
	16	400	216	720	395	350	230
	18	450	222	805	405	350	300
	20	500	229	895	430	400	380
	24	600	267	950	500	400	490
	26	650	267	960	515	400	580
	28	700	292	1030	520	400	660
30	750	308	1080	545	450	740	
32	800	318	1135	620	450	820	
36	900	330	1175	620	450	1100	
40	1000	410	1270	720	500	1430	
44	1100	450	1335	768	500	2200	
300	2	50	150	315	115	500	32
	2½	65	170	325	125	160	39
	3	80	180	340	135	160	42
	4	100	190	435	140	160	45
	5	125	200	475	170	280	48
	6	150	210	510	220	280	80
	8	200	230	520	240	280	120
	10	250	250	625	270	280	168
	12	300	270	670	320	350	248
	14	350	290	765	370	350	304
	16	400	310	840	410	350	368
	18	450	330	910	420	400	480
	20	500	350	980	460	400	608
	24	600	390	1080	540	400	784
	26	650	390	1130	585	450	928
	28	700	430	1175	640	450	1056
30	750	430	1265	700	500	1184	
32	800	470	1300	765	500	1312	
36	900	510	1380	820	500	1760	
40	1000	550	1460	890	500	2288	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

Class	Size		Dimensions(mm)				Weight (kg)
	NPS	DN	L	H1	H2	D	
150	2	50	43	305	105	160	14
	2½	65	46	315	115	160	15
	3	80	48	330	125	160	17
	4	100	54	360	150	160	20
	5	125	57	450	160	280	27
	6	150	57	475	185	280	31
	8	200	64	525	245	280	45
	10	250	71	540	275	280	86
	12	300	81	660	315	320	105
	14	350	92	670	330	350	135
	16	400	102	730	365	350	150
	18	450	114	810	390	350	218
	20	500	127	885	430	400	289
	24	600	154	940	470	400	407
	26	650	165	955	490	400	445
	28	700	165	1050	505	400	470
30	750	190	1050	525	450	590	
32	800	190	1185	580	450	680	
36	900	203	1205	625	450	900	
40	1000	216	1260	685	500	1000	
48	1200	254	1395	790	500	1550	
300	2	50	43	315	115	160	19
	2½	65	46	325	125	160	22
	3	80	48	340	140	160	35
	4	100	54	440	150	280	30
	5	125	57	480	180	280	41
	6	150	59	515	220	280	47
	8	200	73	530	250	280	68
	10	250	83	640	300	350	130
	12	300	92	685	335	350	158
	14	350	117	780	375	350	216
	16	400	133	830	380	400	225
	18	450	149	915	420	400	327
	20	500	159	985	475	400	434
	24	600	181	1085	540	450	610
	26	650	-	-	-	-	-
	28	700	-	-	-	-	-
30	750	-	-	-	-	-	
32	800	-	-	-	-	-	
36	900	-	-	-	-	-	

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.



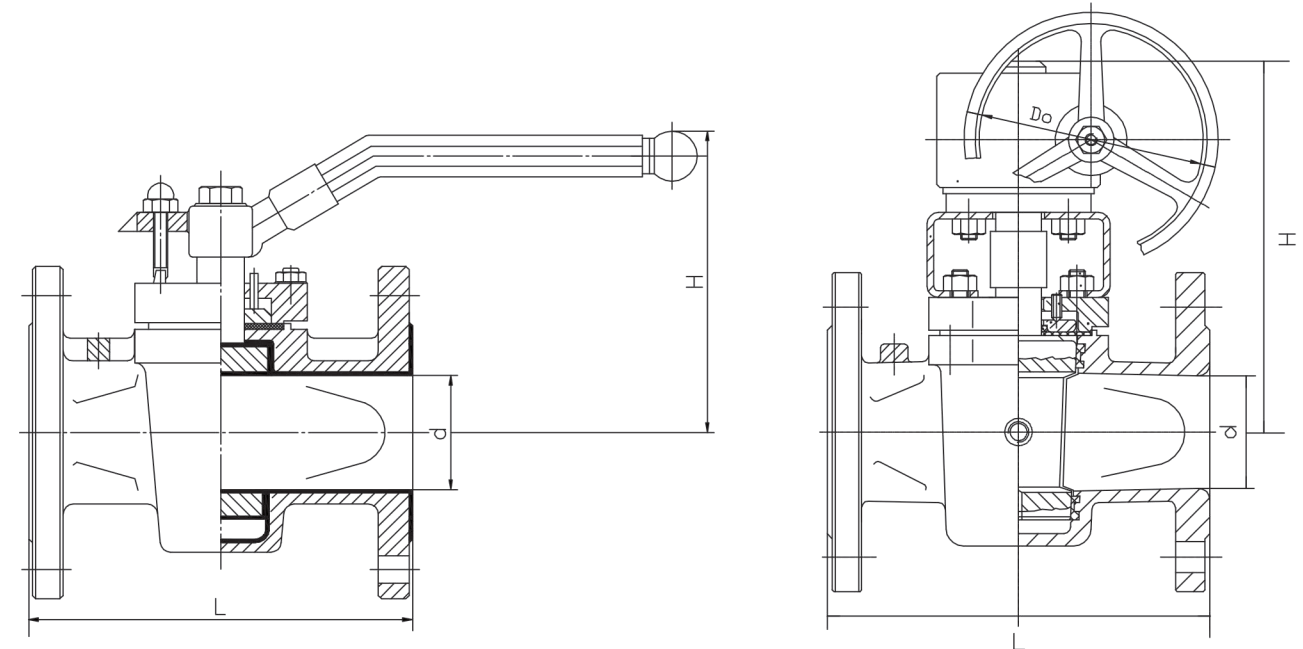
Standards

Design standard	API 599, API 6D
Face to face	ASME B16.10, API 6D
Butt welding end	ASME B 16.25
End flange	ASME B 16.5
Test and Inspection	API 598

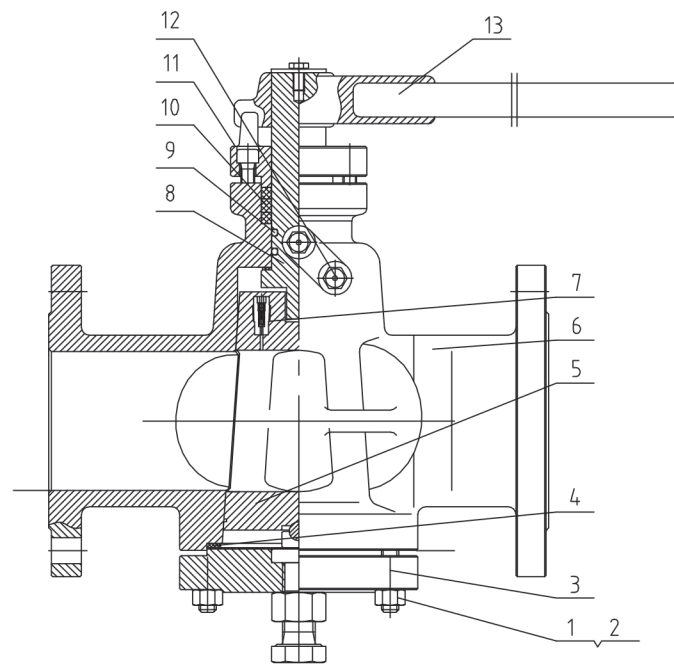
Parts and material list

Part Name		Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM			
1	Body	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Sleeve	PTFE									
3	Plug	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
4	Cover	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
5	Gasket	Flexible Graphite+SS, PTFE									
6	Adjusting gasket	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
7	Adjusting bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
8	Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
9	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8
10	Yoke	A216 WCB	A216 WCB	A216 WCB	A216 WCB	A216 WCB	A216 WCB	A216 WCB	A351 CF8	A351 CF8	A351 CF8
11	Worm	Cast iron or Carbon Steel									

Class 150 & Class 300 Sleeve Soft sealing Plug Valve



Size		Class 150					Class 300				
		Dimensions (mm)				Wt (kg)	Dimensions (mm)				Wt (kg)
NPS	DN	L	d	H	Do	H.W	L	d	H	Do	H.W
1/2	15	108	13	110	175	8.5	140	13	110	175	9.5
3/4	20	117	19	115	175	9.5	152	19	115	175	10.5
1	25	127	25	115	175	10.5	165	25	115	175	12
1 1/4	32	140	32	135	220	12	178	32	135	220	14
1 1/2	40	165	38	140	280	14	190	38	140	280	16
2	50	178	49	150	305	18	216	49	150	305	20
2 1/2	65	190	62	165	350	22	241	62	165	350	24
3	80	203	74	180	405	26	283	74	180	405	29
4	100	229	100	380	300	40	305	100	380	300	53
5	125	254	127	460	300	60	381	127	460	300	75
6	150	267	150	520	320	70	403	150	520	320	85
8	200	292	201	580	320	130	419	201	580	320	185
10	250	330	252	620	350	219	457	252	620	350	230
12	300	356	303	680	380	381	502	303	680	380	390
14	350	381	334	760	450	570	762	334	760	450	550



Standards

Design standard	API 599, API 6D
Face to face	ASME B16.10, API 6D
Butt welding end	ASME B 16.25
End flange	ASME B 16.5
Test and Inspection	API 598

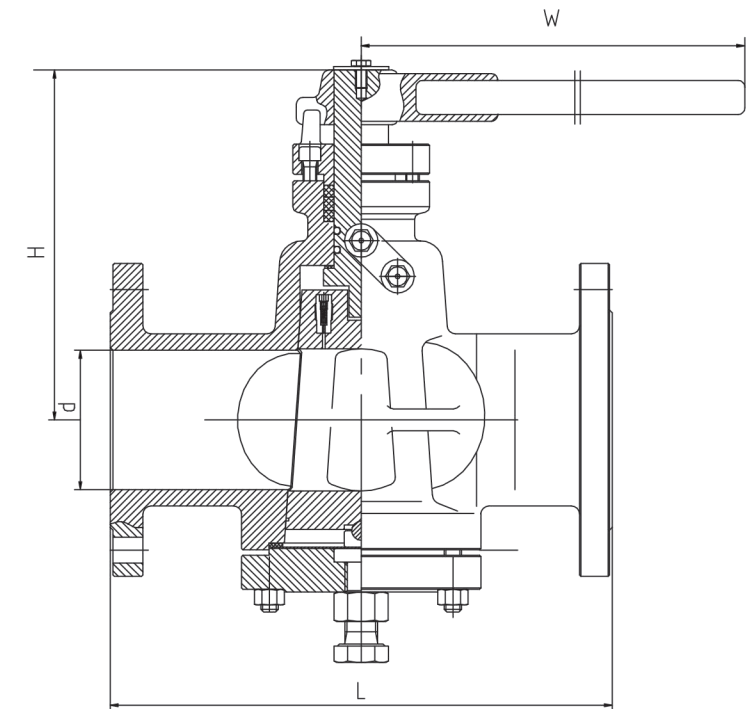
Specifications

Construction type: Pressure Balance;
Inverted Plug Valve
Operator type: Handwheel, Gear Operation

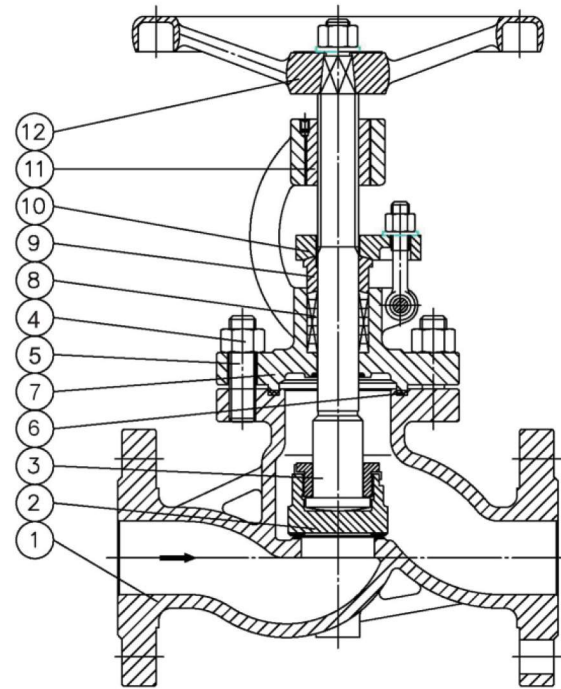
Parts and material list

Part Name		Carbon Steel to ASTM		Alloy Steel to ASTM				Stainless Steel to ASTM			
1	Bolt	A193 B7	A320 L7	A193 B7	A193 B16	A193 B16	A193 B16	A193 B8	A193 B8	A193 B8	A193 B8
2	Nut	A194 2H	A194 4	A194 2H	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8
3	Cover	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
4	Gasket	Flexible Graphite+SS, PTFE									
5	Plug	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
6	Body	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
7	Check Valve	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS
8	Stem	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F6a	A182 F304	A182 F316	A182 F304L	A182 F316L
9	O-ring	NBR or Viton									
10	Packing	Flexible Graphite+SS, PTFE									
11	Gland	A216 WCB	A352 LCB	A217 WC1	A217 WC6	A217 WC9	A217 C5	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
12	Nozzle	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS
13	Wrench	Ductile Iron or Carbon Steel									

Class 150 & Class 300 Inverted Pressure Balance Lubricated Plug Valve



Size		Class 150					Class 300				
		Dimensions (mm)				Wt (kg)	Dimensions (mm)				Wt (kg)
NPS	DN	L	d	H	W	H.W	L	d	H	W	H.W
1/2	15	108	13	180	400	10	140	13	180	400	12
3/4	20	117	19	180	400	12	152	19	180	400	14
1	25	127	25	185	500	14	165	25	185	500	16
1 1/4	32	140	32	200	500	17	178	32	200	600	19
1 1/2	40	165	38	214	600	19	190	38	210	600	21
2	50	178	49	215	600	21	216	49	215	820	24
2 1/2	65	190	62	250	820	29	241	62	250	1000	31
3	80	203	74	270	820	33	283	74	270	1000	36
4	100	229	100	300	300	48	305	100	300	300	61
5	125	254	127	340	300	75	381	127	340	300	86
6	150	267	150	365	320	98	403	150	365	320	130
8	200	292	201	400	320	125	419	201	400	320	190
10	250	330	252	450	350	171	457	252	450	350	255
12	300	356	303	510	380	230	502	303	510	380	380
14	350	381	334	590	380	370	762	334	590	380	560



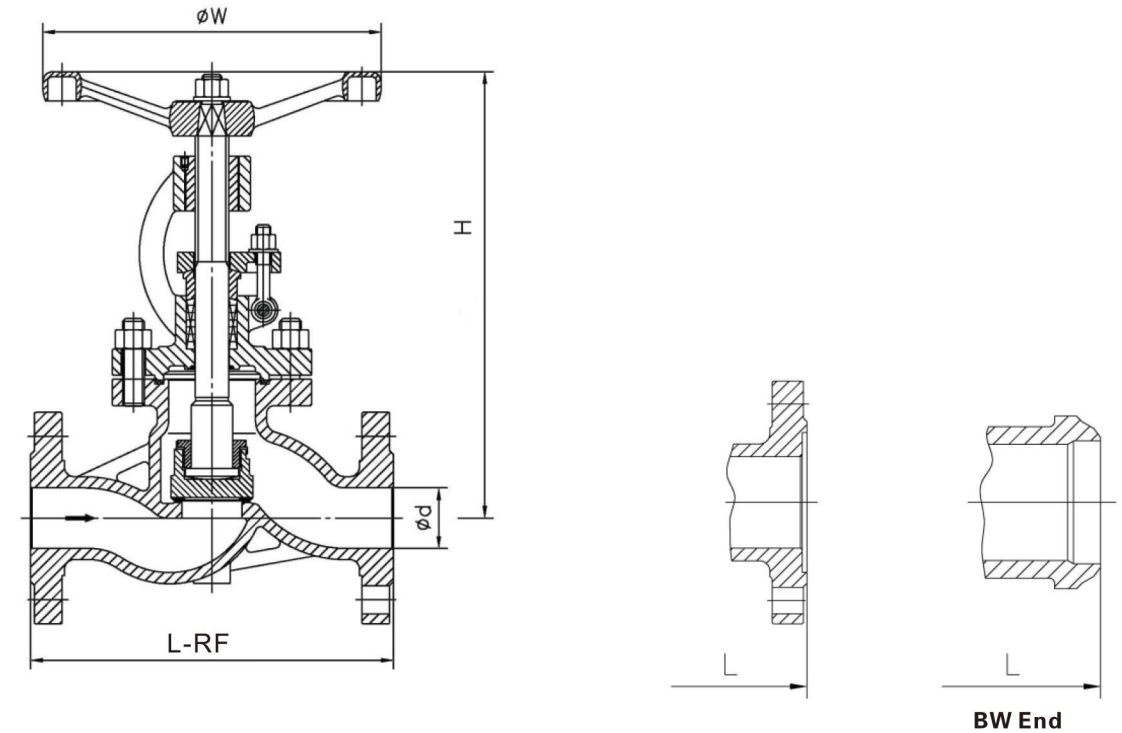
Standards

Design and Manufacture: BS 1873 ,BS EN 558-1
 Face to Face Dimensions: DIN3202, EN 1092-1
 Flange Ends Dimensions: DIN2543,
 DIN2544, DIN2545, DIN2546,
 DIN2547, DIN2548
 Test & Inspect: DIN 3230

Parts and material list

Part Name	Material					
	Trim 1	Trim 8	Trim 5			
1 Body	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408	
2 Disc	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408	
7 Bonnet	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17445 1.4308	DIN 17445 1.4408	
9 Gland	ASTM A182 F6a		ASTM A182 F304	ASTM A182 F316		
10 Gland Flange	DIN 17245 GS-C25		DIN 17445 1.4308	DIN 17445 1.4408		
3 Stem	ASTM A182 F6a		ASTM A182 F304	ASTM A182 F316		
4 Nut	A194 2H		A194 8	A194 8		
5 Bolt	A193 B7		A193 B8	A193 B8		
6 Gasket	SS Spiral Wound W/graphite, or SS Spiral Wound W/PTFE, or Reinforced PTFE					
8 Packing	Braided Graphite or reformed Graphite Ring or PTFE					
11 Stem Nut	Copper alloy or A439 D2					
12 Hand Wheel	Ductile iron or Carbon steel					

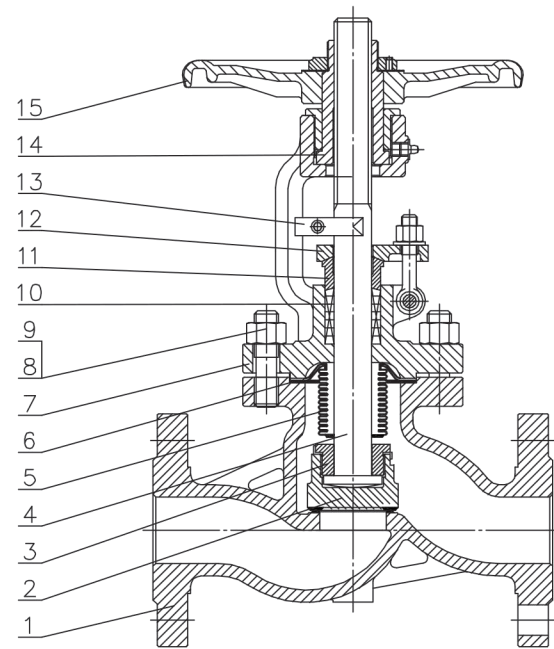
Noted: The chart above only lists out some common composition of steel globe valve parts. We may provide other different parts material composition according to the customer's request or the actual valve working condition



Dimensions																			
PN16 (DIN 3202-F ₁)																			
DN	mm	15	20	25	32	40	50	6.5	80	100	125	150	200	250	300	350	400	450	500
L-RF	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1200	1250
L-BW	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1200	1250
H	mm	190	210	235	235	285	310	340	370	420	480	510	610	770	890	-	-	-	-
W	mm	120	140	160	180	200	200	250	280	300	360	400	400	450	500	-	-	-	-
PN25 (DIN 3202-F ₁)																			
DN	mm	15	20	25	32	40	50	6.5	80	100	125	150	200	250	300	350	400	-	-
L-RF	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	-	-
L-BW	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	-	-
H	mm	190	210	235	235	285	310	340	370	420	480	535	660	790	940	1010	1125	-	-
W	mm	120	140	160	180	200	200	250	280	300	360	400	400	450	500	-	-	-	-
PN40 (DIN 3202-F ₁)																			
DN	mm	15	20	25	32	40	50	6.5	80	100	125	150	200	250	300	350	400	-	-
L-RF	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	-	-
L-BW	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	-	-
H	mm	190	210	235	235	285	310	340	370	420	480	560	725	815	945	1015	1150	-	-
W	mm	120	140	160	180	200	200	250	280	300	360	500	500	-	-	-	-	-	-
PN63 (DIN 3202-F ₂)																			
DN	mm	15	20	25	32	40	50	6.5	80	100	125	150	200	250	300	-	-	-	-
L-RF	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-	-
L-BW	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-	-
W	mm	210	248	275	355	395	450	494	531	588	650	715	813	-	-	-	-	-	-
PN100 (DIN 3202-F ₂)																			
DN	mm	15	20	25	32	40	50	6.5	80	100	125	150	200	250	300	-	-	-	-
L-RF	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-	-
L-BW	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-	-
W	mm	210	248	275	355	395	450	494	531	588	650	715	813	-	-	-	-	-	-

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

Noted: The face to face dimension of BW-end-valve is the same as that of flanged-end-valve.



Standards

Design and Manufacture: DIN 3356. BS 173
 Face to Face Dimensions: DIN 3202. BS EN 558-1
 Flanged Ends Dimensions: DIN 2543-2545. EN 1092-1
 Test & Inspect: DIN 3230. BS EN 12569

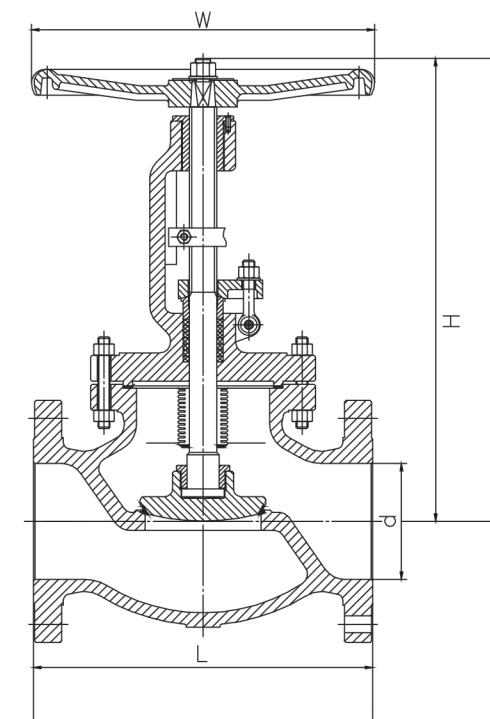
Structure Feature

1. Double seal, more reliable performance;
2. Stem lift position indication, more intuitive;
3. Small flow resistance, low pressure drop.

Parts and material list

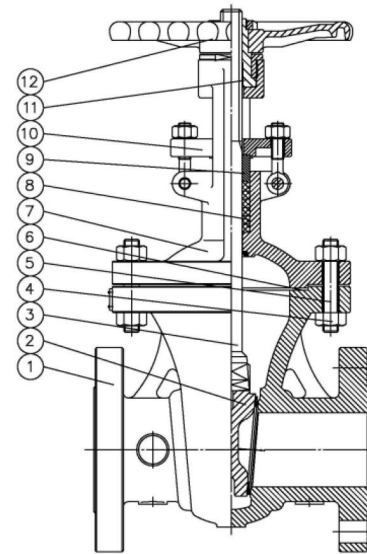
Part Name		Material				
1	Body	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408
2	Disc	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408
7	Bonnet	DIN 17245 GS-C25	DIN 17245 GS-C25	DIN 17245 GS-C25	DIN 17445 1.4308	DIN 17445 1.4408
3	Disc Cover	ASTM A182 F6a			ASTM A182 F304	ASTM A182 F316
4	Stem	ASTM A182 F6a			ASTM A182 F304	ASTM A182 F316
5	Bellows Seal	SS304			SS304	SS316
8	Bolt	ASTM A193 B7			ASTM A194 8	ASTM A194 8
9	Nut	ASTM A194 2H			ASTM A193 B8	ASTM A193 B8
11	Gland	ASTM A182 F6a			ASTM A182 F304	ASTM A182 F316
12	Gland Flange	DIN 17245 GS-C25			DIN 17445 1.4308	DIN 17445 1.4408
13	Guide Block	DIN 17245 GS-C25			DIN 17445 1.4308	DIN 17445 1.4408
6	Gasket	Flexible Graphite+SS, PTFE or Reinforced PTFE				
10	Packing	Braided Graphite or reformed Graphite Ring or PTFE				
14	Stem Nut	Copper Alloy or A439 D2				
15	Handwheel	Ductile Iron or Carbon Steel				

Note: Connection flange of series valve may be manufactured by customer's requirement.



Dimensions

Dimensions															
PN16 (DIN 3202-F1)															
DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
L	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980
H	195	200	220	225	235	250	260	265	370	400	515	550	600	630	680
W	120	120	140	160	160	180	200	220	250	300	350	400	450	500	500
PN25 (DIN 3202-F1)															
DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
L	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980
H	195	200	220	225	235	250	260	265	370	400	515	550	600	630	680
W	120	140	140	160	160	180	200	220	250	300	350	400	450	500	500
PN40 (DIN 3202-F1)															
DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
L-RF	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980
H	195	200	220	225	235	250	260	265	370	400	515	550	600	630	680
W	120	140	140	160	160	180	200	220	250	300	350	400	450	500	500



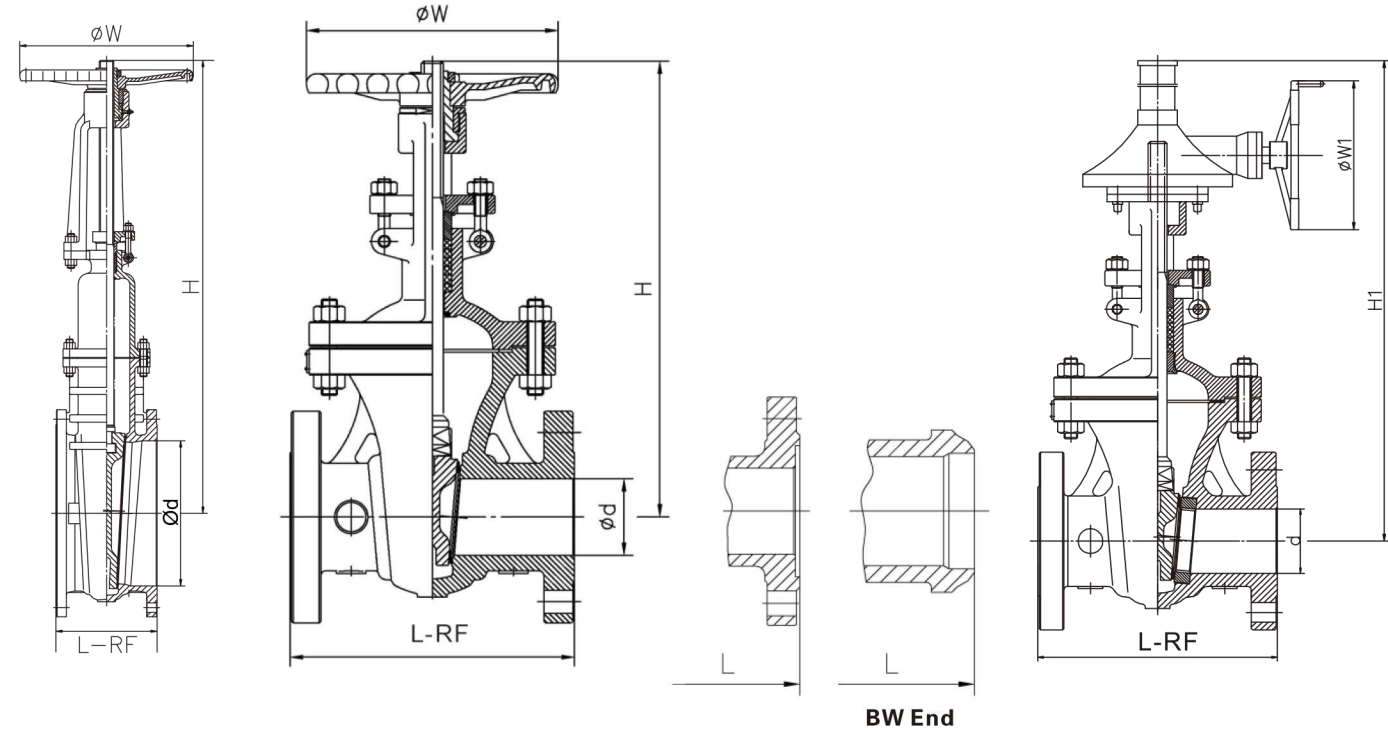
Standards

Design and Manufacture: DIN3352 ,BS EN 1984
 Face to Face Dimensions: DIN3202 ,BS EN 558-1
 Flange Ends Dimensions: DIN2543, EN 1092-1
 DIN2544, DIN2545, DIN2546
 Test & Inspect: DIN 3230, BS EN 12569

Standard Material Specifications

Part Name	Material					
	Trim 1	Trim 8	Trim 5			
1 Body	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408	
2 Wedge	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408	
7 Bonnet	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17445 1.4308	DIN 17445 1.4408	
9 Gland	ASTM A182 F6a		ASTM A182 F304	ASTM A182 F316		
10 Gland Flange	DIN 17245 GS-C25		DIN 17445 1.4308	DIN 17445 1.4408		
3 Stem	ASTM A182 F6a		ASTM A182 F304	ASTM A182 F316		
4 Nut	A194 2H		A194 8	A194 8		
5 Bolt	A193 B7		A193 B8	A193 B8		
6 Gasket	SS Spiral Wound W/graphite, or SS Spiral Wound W/PTFE, or Reinforced PTFE					
8 Packing	Braided Graphite or Dieformed Graphite Ring or PTFE					
11 Stem Nut	Copper alloy or A439 D2					
12 Hand Wheel	Ductile iron or Carbon steel					

Noted: The chart above only list 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

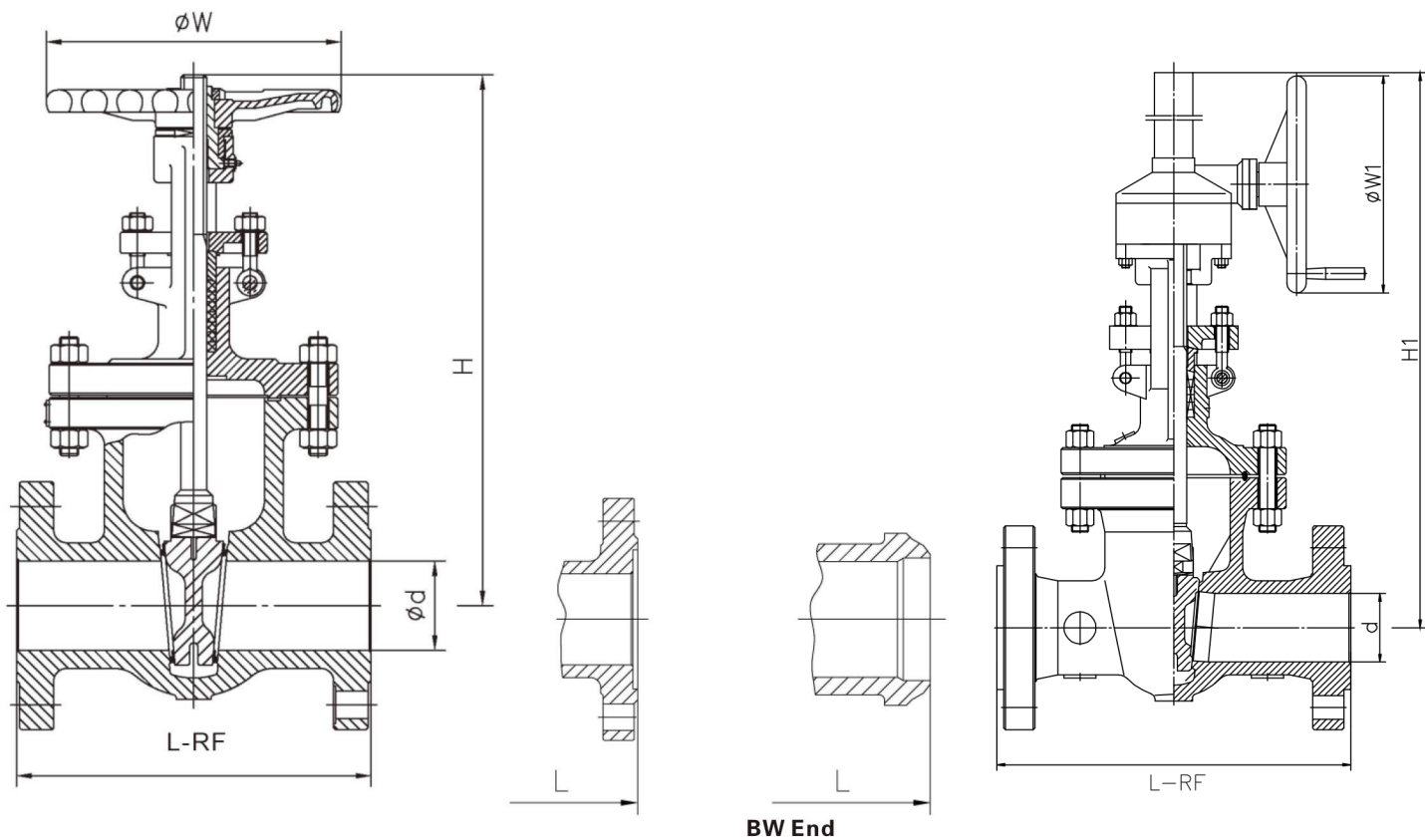


Dimensions																						
PN10 (DIN 3202-F4)																						
DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
L-RF	-	130	140	150	170	180	190	200	210	230	250	270	290	310	330	350	390	430	470	510	550	630
H	-	268	295	305	345	370	445	530	565	725	885	1010	1140	1295	1380	1535	1835	2155	-	-	-	-
H1	-	-	-	-	-	-	-	-	-	965	1220	1365	1545	1755	1890	2085	2435	2925	3275	3670	4220	4845
W	-	180	200	200	200	250	280	280	300	360	400	400	450	500	500	600	700	800	-	-	-	-
W1	-	-	-	-	-	-	-	-	-	310	310	310	310	460	460	460	600	530	530	530	530	600
W(Kg)	-	10	13	18	23	29	38	53	68	108	160	220	275	390	487	563	852	1250	1830	2295	3700	5050
PN16 (DIN 3202-F5)																						
DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
L-RF	160	180	240	250	270	280	300	325	350	400	450	500	550	600	650	700	800	900	1000	1100	1200	1400
H	205	270	305	325	350	415	465	545	610	775	905	1020	1180	1300	1420	1585	1810	-	-	-	-	-
H1	-	-	-	-	-	-	-	-	-	1220	1370	1525	1755	1890	2135	2585	2945	3345	3750	4005	4830	
W	160	180	200	200	200	250	280	300	360	360	400	450	500	500	600	600	680	-	-	-	-	-
W1	-	-	-	-	-	-	-	-	-	310	310	310	460	460	460	600	600	600	600	600	600	600
W(Kg)	10	15	18	23	25	38	45	72	97	169	258	330	470	572	816	1180	1450	1860	2461	3080	3944	6020
PN25 (DIN 3202-F5)																						
DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
L-RF	160	180	240	250	270	280	300	325	350	400	450	500	550	600	650	700	800	900	1000	1100	1200	1400
H	205	270	305	325	350	415	465	545	610	775	905	1020	1180	1300	1420	1585	1810	-	-	-	-	-
H1	-	-	-	-	-	-	-	-	-	1220	1370	1525	1755	1890	2135	2585	2945	3345	3750	4005	4830	
W	160	180	200	200	250	250	250	280	300	350	400	450	500	500	600	600	700	-	-	-	-	-
W1	-	-	-	-	-	-	-	-	-	310	310	310	460	460	460	600	600	600	600	600	600	600
W(Kg)	11	16	18	25	30	42	56	76	108	182	280	352	495	652	925	1250	1560	2030	2558	3870	4960	7558
PN40 (DIN 3202-F7)																						
DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600	700	800	900	-	-	-
L-RF	160	180	240	250	290	310	350	400	450	550	650	750	850	950	1150	1350	1550	1750	1950	-	-	-
H	210	270	323	377	389	418	489	541	630	824	915	1085	1190	1310	1560	1875	-	-	-	-	-	-
H1	-	-	-	-	-	-	-	-	-	1225	1420	1580	1755	2125	2520	2945	3450	3890	-	-	-	-
W	160	180	200	200	250	250	300	300	360	400	450	500	600	600	650	750	-	-	-	-	-	-
W1	-	-	-	-	-	-	-	-	-	310	310	310	460	530	530	600	600	600	-	-	-	-
W(Kg)	11	16	18	25	33	45	59	78	116	225	360	513	710	955	1368	2150	3050	-	-	-	-	-

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.

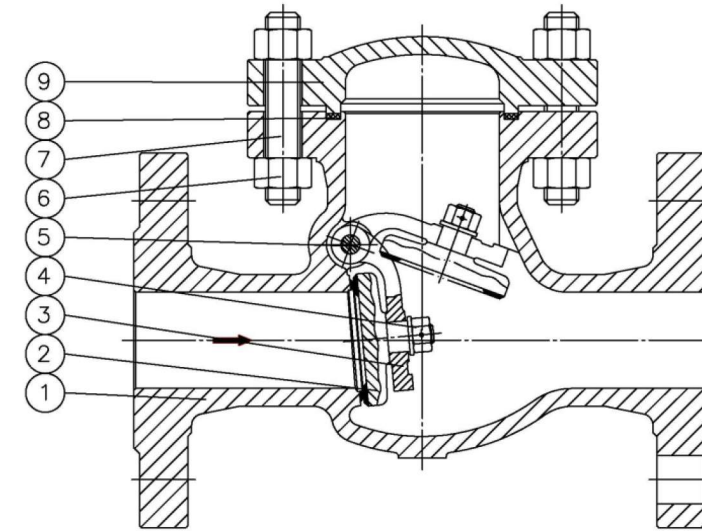
Noted: For Dn ≤ 40, the face to face dimension conform to the F1 series

Noted: The face to face demension of BW-end-valve is the same as that of flanged-end-valve.



Dimensions														
PN63 (DIN 3202-F7)														
DN	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L-RF	240	250	290	310	350	400	450	550	650	750	850	950	1150	1350
H	323	380	410	450	525	605	675	820	975	1115	1235	1385	1500	1690
H1	-	-	-	-	-	-	890	1080	1285	1475	1635	1840	2180	2500
W	180	200	250	250	300	300	360	400	450	500	600	600	-	-
W1	-	-	-	-	-	-	310	310	460	460	460	530	530	530
W(Kg)	22	32	39	53	78	123	176	340	435	560	843	1310	1900	3765
PN100 (DIN 3202-F7)														
DN	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L-RF	240	250	290	310	350	400	450	550	650	750	850	950	1150	1350
H	360	390	415	460	510	625	750	890	1050	1208	-	-	-	-
H1	-	-	-	-	-	-	890	1200	1415	1680	1900	2285	-	-
W	180	200	250	280	300	360	450	500	650	700	-	-	-	-
W1	-	-	-	-	-	-	310	310	460	460	460	530	-	-
W(Kg)	28	42	55	63	101	147	228	449	608	1020	1350	1650	-	-
PN160 (DIN 3202-F8)														
DN	40	50	65	80	100	125	150	200	250	300	-	-	-	-
L-RF	270	300	360	390	450	525	600	750	900	1050	-	-	-	-
H	365	512	560	585	631	670	820	990	-	-	-	-	-	-
H1	-	-	-	-	-	840	955	1235	1500	1725	-	-	-	-
W	250	280	280	300	360	400	500	650	-	-	-	-	-	-
W1	-	-	-	-	-	310	310	460	460	530	-	-	-	-
W(Kg)	50	74	107	120	180	342	410	582	950	1380	-	-	-	-

Noted: We may provide other different actuators according to the customer's request, such as pneumatic, electric, hydraulic actuators, the details of them according to the actual valve working condition.
 Noted: The face to face demension of BW-end-valve is the same as that of flanged-end-valve.



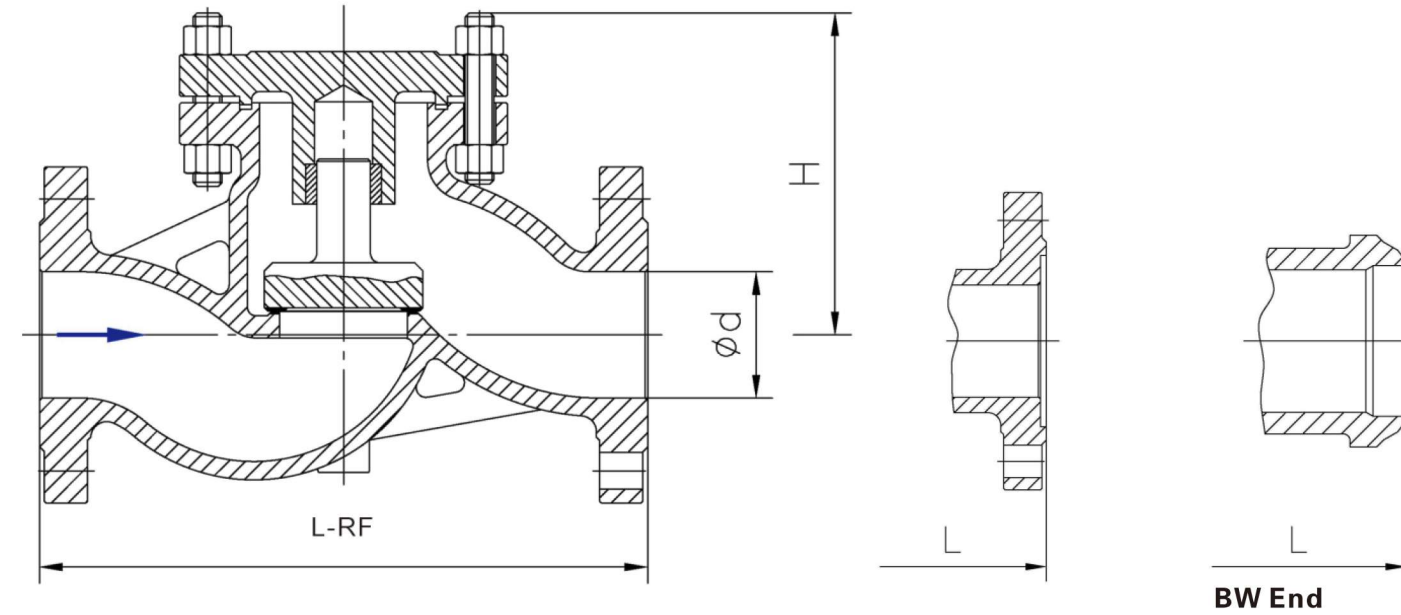
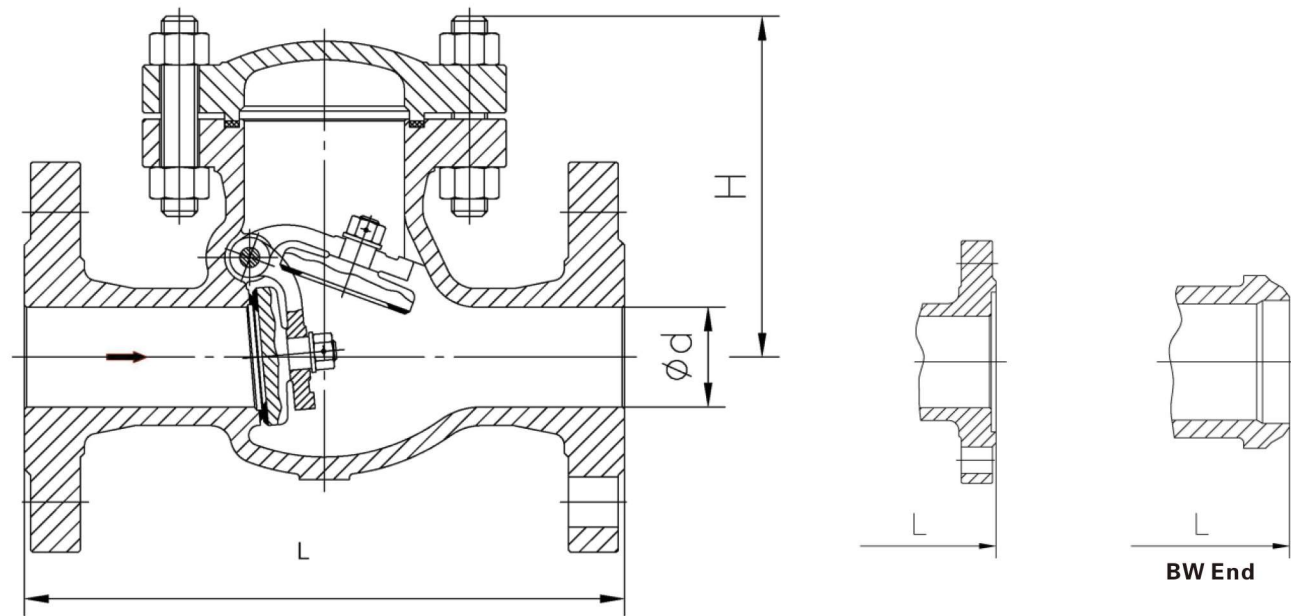
Standards

Design and Manufacture: DIN3840, BS EN 1868
 Face to Face Dimensions: DIN3202, BS EN 558-1
 Flange Ends Dimensions: DIN2543, BS EN 1092-1
 DIN2544, DIN2545, DIN2546, DIN2548
 Test & Inspect: DIN 3230, BS EN 12569

Parts and material list

Part Name	Material					
1 Body	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408	
2 Disc	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+CR13	DIN 17245 GS-C25+STL	DIN 17445 1.4308	DIN 17445 1.4408	
9 Cover	DIN 17245 GS-C25	DIN 17245 GS-C25	DIN 17245 GS-C25	DIN 17445 1.4308	DIN 17445 1.4408	
3 Arm	DIN 17245 GS-C25	DIN 17245 GS-C25	DIN 17245 GS-C25	DIN 17445 1.4308	DIN 17445 1.4408	
5 Pin	ASTM A182 F6a	ASTM A182 F6A	ASTM A182 F6a	ASTM A182 F304	ASTM A182 F316	
6 Nut	ASTM A194 2H			ASTM A194 8	ASTM A194 8	
7 Bolt	ASTM A194 B7			ASTM A193 B8	ASTM A193 B8	
4 Nut	ASTM A194 2H			ASTM A182 F304	ASTM A182 F316	
8 Gasket	SS Spiral Wound W/graphite, or SS Spiral Wound W/PTFE, or Reinforced PTFE					

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

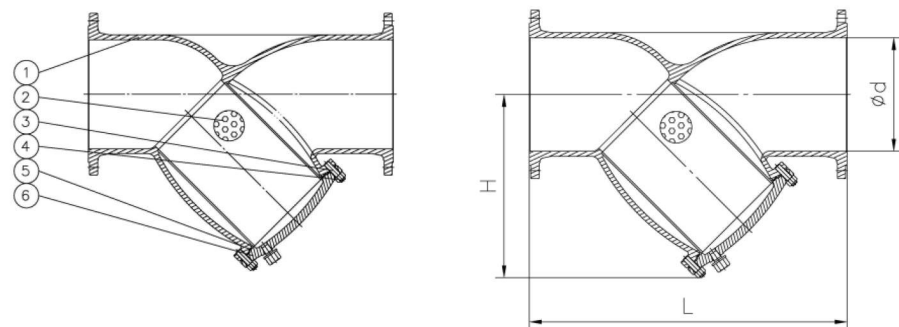


Dimensions																		
PN16 (DIN 3202-F6)																		
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
L	180	200	240	260	300	350	400	500	600	700	800	900	1000	1100	1300	1500	1700	1900
H	129	147	161	178	190	265	285	345	394	420	455	520	565	610	740	895	1240	1450
W(Kg)	13	16	23	31	40	53	80	116	216	316	440	513	582	800	1158	1380	1540	1790
PN25 (DIN 3202-F6)																		
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
L	180	200	240	260	300	350	400	500	600	700	800	900	1000	1100	1300	1500	1700	1900
H	129	147	161	178	190	265	285	345	394	420	455	520	565	610	740	895	1240	1450
W(Kg)	14	20	27	44	55	88	145	213	297	375	495	545	600	815	1200	1400	1620	1830
PN40 (DIN 3202-F1)																		
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
L-RF	200	230	290	310	350	400	480	600	730	850	980	1100	1200	1250	1450	1650	1850	2050
H	135	152	178	185	210	290	310	365	145	480	510	545	595	655	860	-	-	-
W(Kg)	15	22	29	40	46	58	92	168	310	430	558	780	915	1170	1350	-	-	-
PN63 (DIN 3202-F2)																		
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	-	-	-
L	260	300	340	380	430	500	550	650	775	900	1025	1150	1275	1400	1600	-	-	-
H	168	175	192	225	280	2108	335	390	452	520	570	626	695	770	905	-	-	-
W(Kg)	40	48	62	80	114	187	214	329	418	640	911	1130	1320	1693	2015	-	-	-
PN100 (DIN 3202-F2)																		
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	-	-	-
L	260	300	340	380	430	500	550	650	775	900	1025	1150	1275	1400	1600	-	-	-
H	165	183	205	236	272	305	345	398	456	528	600	685	-	-	-	-	-	-
W(Kg)	48	65	73	87	105	192	208	370	668	963	1100	1358	-	-	-	-	-	-

Noted: The face to face demension of BW-end-valve is the same as that of flanged-end-valve.

Dimensions																		
PN16 (DIN 3202-F1)																		
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	
L-RF	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	
L-BW	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	
H	mm	77	77	80	85	95	105	120	130	140	155	180	215	260	315			
PN25 (DIN 3202-F1)																		
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	
L-RF	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	
L-BW	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	
H	mm	100	105	120	130	135	149	160	169	194	222	255	305	355	410	-	-	-
PN40 (DIN 3202-F1)																		
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	-	-	-
L-RF	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	-	-	-
L-BW	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	-	-	-
H	mm	100	105	120	130	135	149	160	169	194	225	255	305	360	415	-	-	-
PN63 (DIN 3202-F2)																		
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	-	-	-
L-RF	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-
L-BW	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-
H	mm	100	110	125	140	168	170	188	205	230	240	265	310	-	-	-	-	-
PN100 (DIN 3202-F2)																		
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	-	-	-
L-RF	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-
L-BW	mm	210	230	230	260	260	300	340	380	430	500	550	650	775	900	-	-	-
H	mm	100	110	125	140	170	185	200	235	265	310	350	400	-	-	-	-	-

Noted: The face to face demension of BW-end-valve is the same as that of flanged-end-valve.



Standards

Design and Manufacture: BS1873, BS EN 13709
 Face to Face Dimensions: DIN3202, BS EN 558-1
 Flange Ends Dimensions: DIN2543-2551, BS EN 1092-1
 Test & Inspect: DIN 3230, BS EN 12569

Percentage open area

Even the mesh " " is same: open area not always same due to the diameter of wire. The details of wire as follows:

A: Number of Wire
 B: Diameter of Wire
 C: Width of Opening
 D: Percentage of OPEN AREA

MESH	A SWG	B m/m	C m/m	D %
5	20	0.914	4.166	67.3
10	22	0.711	1.829	51.8
20	28	0.356	0.914	51.8
30	32	0.274	0.572	45.7
40	36	0.193	0.442	48.4
50	37	0.172	0.336	43.6
60	38	0.152	0.271	41.0
80	40	0.122	0.195	37.8
100	42	0.102	0.152	35.8
120	43	0.092	0.119	31.8
150	45 1/2	0.066	0.103	37.1
180	46 1/2	0.053	0.088	38.9
200	47	0.051	0.076	35.8
250	48	0.040	0.062	37.7
300	48	0.039	0.044	27.6

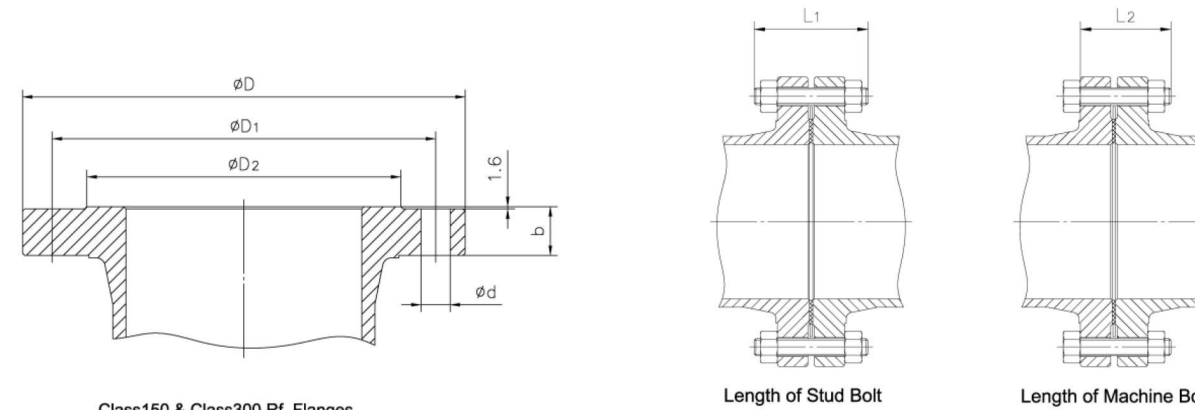
Parts and material list

Part Name	Material
1 Body	DIN 17245 GS-C25 / DIN 17445 1.4308 / DIN 17445 1.4408
2 Screen	ASTM 182 F304 / ASTM 182 F304 / ASTM 182 F316
3 Bonnet Bolt	ASTM 193 B7 / ASTM 193 B8 / ASTM 193 B8
4 Bonnet Nut	ASTM 194 2H / ASTM 194 8 / ASTM 194 8
5 Gasket	Graphite+SS304 / Graphite+SS304 / Graphite+SS316
6 Bonnet	DIN 17245 GS-C25 / DIN 17445 1.4308 / DIN 17445 1.4408

Dimensions																			
PN16 (DIN 3202-F1)																			
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
H	mm	98	103	108	115	140	150	175	205	245	285	335	415	490	570	580	618	730	890
PN25 (DIN 3202-F1)																			
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
H	mm	98	103	108	115	140	150	175	205	245	285	335	415	490	570	580	618	730	890
PN40 (DIN 3202-F1)																			
DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
L	mm	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
H	mm	98	103	108	115	140	150	175	205	245	285	335	415	490	570	580	618	730	890

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

Steel Pipe Flanges ASME B16.5 RF



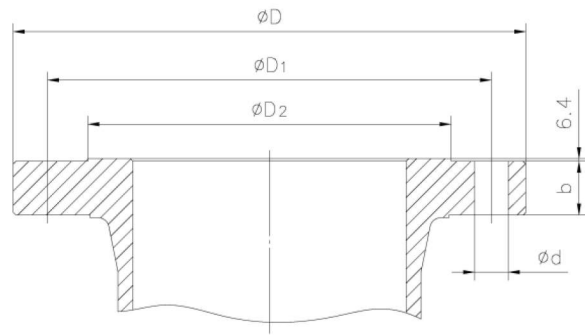
Class150 & Class300 Rf Flanges

Length of Stud Bolt

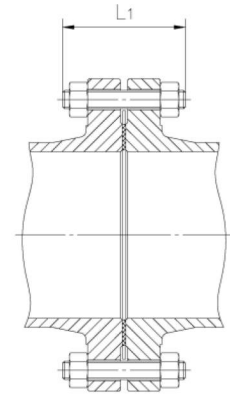
Length of Machine Bolt

Class	Nominal Size		D		D1		D2		b		d		Bolt		L1		L2	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	Number	Diam	in	mm	in	mm
150 PN20	1/2	15	3.50	89	2.38	60.5	1.38	35	0.38	10	0.62	16	4	1/2	2.25	57	2.00	51
	3/4	20	3.88	98	2.75	69.9	1.69	43	0.41	10.5	0.62	15	4	1/2	2.50	64	2.00	51
	1	25	4.25	108	3.12	79.5	2.00	51	0.44	11.5	0.62	15	4	1/2	2.50	64	2.25	57
	1 1/4	32	4.62	117	3.50	88.9	2.50	64	0.50	13	0.62	16	4	1/2	2.75	70	2.25	64
	1 1/2	40	5.00	127	3.88	98.6	2.88	73	0.56	14.5	0.62	16	4	1/2	2.75	70	2.50	70
	2	50	6.00	152	4.75	120.7	3.62	92	0.62	16	0.75	19	4	5/8	3.25	83	2.75	76
	2 1/2	65	7.00	178	5.50	139.7	4.12	105	0.69	18	0.75	19	4	5/8	3.50	89	3.00	76
	3	80	7.50	190	6.00	152.4	5.00	127	0.75	19.5	0.75	19	4	5/8	3.50	89	3.00	76
	4	100	9.00	229	7.50	190.5	6.19	157	0.94	24	0.75	19	8	5/8	3.50	89	3.00	76
	5	125	10.00	254	8.50	215.9	7.31	186	0.94	24	0.88	22	8	3/4	3.75	95	3.25	83
	6	150	11.00	279	9.50	241.5	8.50	216	1.00	26	0.88	22	8	3/4	4.00	102	3.25	83
	8	200	13.50	343	11.75	298.5	10.62	270	1.12	29	0.88	22	8	3/4	4.25	108	3.50	89
	10	250	16.00	406	14.25	362.0	12.75	324	1.19	30.5	1.00	25	12	7/8	4.50	114	4.00	102
	12	300	19.00	483	17.00	431.8	15.00	381	1.25	32	1.00	25	12	7/8	4.75	121	4.00	102
	14	350	21.00	533	18.75	476.3	16.25	413	1.38	35	1.12	29	12	1	5.25	133	4.50	114
	16	400	23.50	597	21.25	540	18.50	470	1.44	37	1.12	29	16	1	5.25	133	4.50	114
18	450	25.00	635	22.75	577.9	21.00	533	1.56	40	1.25	32	16	1 1/8	5.75	146	5.00	127	
20	500	27.50	699	25.00	635.0	23.00	584	1.69	43	1.25	32	20	1 1/8	6.25	159	5.50	140	
24	600	32.00	813	29.50	749.3	27.25	692	1.88	48	1.38	35	20	1 1/4	6.75	171	6.00	152	
300 PN50	1/2	15	3.75	95	2.62	67.0	1.38	35	-	-	0.62	16	4	1/2	2.50	64	2.25	57
	3/4	20	4.62	117	3.25	83.0	1.69	43	-	-	0.75	19	4	5/8	3.00	76	2.50	64
	1	25	4.88	124	3.50	89.0	2.00	51	0.69	18	0.75	19	4	5/8	3.00	76	2.50	64
	1 1/4	32	5.25	133	3.88	99.0	2.50	64	0.75	19.5	0.75	19	4	5/8	3.25	83	2.75	70
	1 1/2	40	6.12	155	4.50	114.0	2.88	73	0.81	21	0.88	22	4	3/4	3.50	89	3.00	76
	2	50	6.50	165	5.00	127.0	3.62	92	0.88	22.5	0.75	19	8	5/8	3.50	89	3.00	76
	2 1/2	65	7.50	191	5.88	149.4	4.12	105	1.00	25.5	0.88	22	8	3/4	4.00	102	3.25	83
	3	80	8.25	210	6.62	168.1	5.00	127	1.12	29	0.88	22	8	3/4	4.25	108	3.50	89
	4	100	10.00	254	7.88	200.2	6.19	157	1.25	32	0.88	22	8	3/4	4.50	114	3.75	95
	5	125	11.00	279	9.25	235.0	7.31	186	1.38	35	0.88	22	8	3/4	4.75	121	4.25	108
	6	150	12.50	318	10.62	269.7	8.50	216	1.44	37	0.88	22	12	3/4	4.75	121	4.25	108
	8	200	15.00	381	13.00	330.2	10.62	270	1.62	41.5	1.00	25	12	7/8	5.50	140	4.75	121
	10	250	17.50	445	15.25	387.4	12.75	324	1.88	48	1.12	29	16	1	6.25	159	5.50	140
	12	300	20.50	521	17.75	450.9	15.00	381	2.00	51	1.25	32	16	1 1/8	6.75	171	5.75	146
	14	350	23.00	584	20.25	514.5	16.25	413	2.12	54	1.25	32	20	1 1/8	7.00	178	6.25	159
	16	400	25.50	648	22.50	571.5	18.50	470	2.25	57.5	1.38	35	20	1 1/4	7.50	191	6.50	165
18	450	28.00	711	24.75	628.7	21.00	533	2.38	60.5	1.38	35	24	1 1/4	7.75	197	6.75	171	
20	500	30.50	775	27.00	685.8	23.00	584	2.50	63.5	1.38	35	24	1 1/4	8.00	203	7.25	184	
24	600	36.00	914	32.00	812.8	27.25	692	2.75	70	1.62	41	24	1 1/2	9.00	229	8.00	203	

Steel Pipe Flanges ASME B16.5 RF

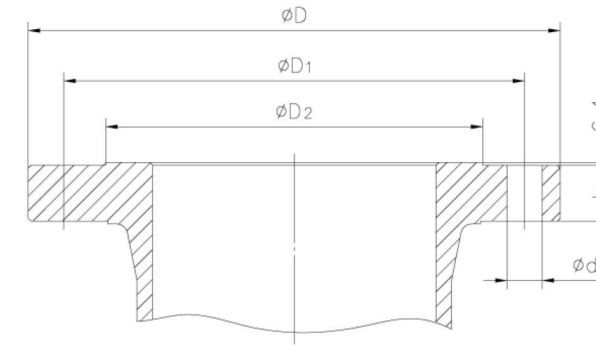


Class600–Class2500 RF Flanges

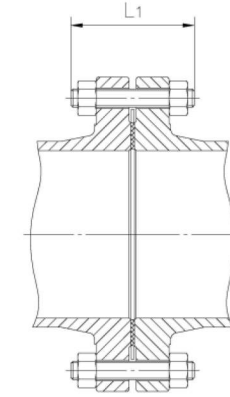


Length of Stud Bolt

Steel Pipe Flanges ASME B16.5 RF



Class600–Class2500 RF flanges

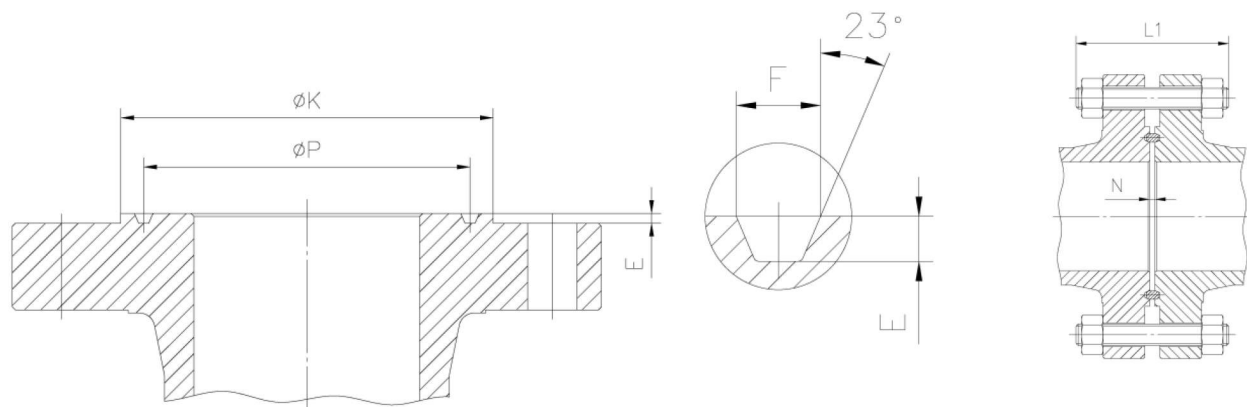


Length of Stud Bolt

Class	Nominal Size		D		D1		D2		b		d		Bolt		L1	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	Number	Diam	in	mm
600 PN110	1/2	15	3.75	95	2.62	66.5	1.38	35	0.56	14	0.62	16	4	1/2	3.00	76
	3/4	20	4.62	117	3.25	82.6	1.69	43	0.62	16	0.75	19	4	5/8	3.50	89
	1	25	4.88	124	3.50	88.9	2.00	51	0.69	18	0.75	19	4	5/8	3.50	89
	1 1/4	32	5.25	133	3.88	98.6	2.50	64	0.81	21	0.75	19	4	5/8	3.75	95
	1 1/2	40	6.12	155	4.50	114.3	2.88	73	0.88	22	0.88	22	4	3/4	4.25	108
	2	50	6.50	165	5.00	127.0	3.62	92	1.00	25	0.75	19	8	5/8	4.25	108
	2 1/2	65	7.50	191	5.88	149.4	4.12	105	1.12	28	0.88	22	8	3/4	4.75	121
	3	80	8.25	210	6.62	168.1	5.00	127	1.25	32	0.88	22	8	3/4	5.00	127
	4	100	10.75	273	8.50	215.9	6.19	157	1.50	38	1.00	25	8	7/8	5.75	146
	5	125	13.00	330	10.50	266.7	7.31	186	1.75	44	1.12	28	8	1	6.50	165
	6	150	14.00	356	11.50	292.1	8.50	216	1.88	48	1.12	29	12	1	6.75	171
	8	200	16.50	419	13.75	349.3	10.62	270	2.19	56	1.25	32	12	1 1/8	7.50	191
	10	250	20.00	508	17.00	431.8	12.75	324	2.50	63.5	1.38	35	16	1 1/4	8.50	216
	12	300	22.00	559	19.25	489.0	15.00	381	2.62	67	1.38	35	20	1 1/4	8.75	222
	14	350	23.75	603	20.75	527.1	16.25	413	2.75	70	1.50	38	20	1 1/4	9.25	235
	16	400	27.00	686	23.75	603.3	18.50	470	3.00	76.5	1.62	41	20	1 1/2	10.00	254
18	450	29.25	743	25.75	654.1	21.00	533	3.25	83	1.75	44	20	1 5/8	10.75	273	
20	500	32.00	813	28.50	723.9	23.00	584	3.50	89	1.75	44	24	1 5/8	11.25	286	
24	600	37.00	940	33.00	838.2	27.25	692	4.00	102	2.00	52	24	1 7/8	13.00	330	
900 PN150	1/2	15	4.75	121	3.25	82.6	1.38	35	0.88	22.5	0.88	22	4	3/4	4.25	108
	3/4	20	5.12	130	3.50	88.9	1.69	43	1.00	25.5	0.88	22	4	3/4	4.50	114
	1	25	5.88	149	4.00	101.6	2.00	51	1.12	29	1.00	25	4	7/8	5.00	127
	1 1/4	32	6.25	159	4.38	111.3	2.50	64	1.12	29	1.00	25	4	7/8	5.00	127
	1 1/2	40	7.00	178	4.88	124.0	2.88	73	1.25	32	1.12	28	4	1	5.50	140
	2	50	8.50	216	6.50	165.1	3.62	92	1.50	38.5	1.00	25	8	7/8	5.75	146
	2 1/2	65	9.62	244	7.50	190.5	4.12	105	1.62	41.5	1.12	28	8	1	6.25	159
	3	80	9.50	241	7.50	190.5	5.00	127	1.50	38.5	1.00	25	8	7/8	5.75	146
	4	100	11.50	292	9.25	235.0	6.19	157	1.75	44.5	1.25	32	8	1 1/8	6.75	171
	5	125	13.75	349	11.00	279.4	7.31	186	2.00	51	1.38	35	8	1 1/4	7.50	191
	6	150	15.00	381	12.50	317.5	8.50	216	2.19	56	1.25	32	12	1 1/8	7.50	191
	8	200	18.50	470	15.50	393.7	10.62	270	2.50	63.5	1.50	39	12	1 3/8	8.75	222
	10	250	21.50	546	18.50	469.9	12.75	324	2.75	70	1.50	39	16	1 3/8	9.25	235
	12	300	24.00	610	21.00	533.4	15.00	381	3.12	79.5	1.50	39	20	1 3/8	10.00	254
	14	350	25.25	641	22.00	558.8	16.25	413	3.38	86	1.62	42	20	1 1/2	10.75	273
	16	400	27.75	705	24.25	616.0	18.50	470	3.50	89	1.75	44	20	1 5/8	11.25	286
18	450	31.00	787	27.00	685.8	21.00	533	4.00	102	2.00	51	20	1 7/8	12.75	324	
20	500	33.75	857	29.50	749.3	23.00	584	4.25	108	2.12	54	20	2	13.75	349	
24	600	41.00	1041	35.50	901.7	27.25	692	5.50	140	2.62	67	20	2 1/2	17.25	438	

Class	Nominal Size		D		D1		D2		b		d		Bolt		L1	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	Number	Diam	in	mm
1500 PN260	1/2	15	4.75	121	3.25	82.6	1.38	35	0.88	22.5	0.88	22	4	3/4	4.25	108
	3/4	20	5.12	130	3.50	88.9	1.69	43	1.00	25.5	0.88	22	4	3/4	4.50	114
	1	25	5.88	149	4.00	101.6	2.00	51	1.12	29	1.00	25	4	7/8	5.00	127
	1 1/4	32	6.25	159	4.38	111.3	2.50	64	1.12	29	1.00	25	4	7/8	5.00	127
	1 1/2	40	7.00	178	4.88	124.0	2.88	73	1.25	32	1.12	28	4	1	5.50	140
	2	50	8.50	216	6.50	165.1	3.62	92	1.50	38.5	1.00	26	8	7/8	5.75	146
	2 1/2	65	9.62	244	7.50	190.5	4.12	105	1.62	41.5	1.12	28	8	1	6.25	159
	3	80	10.50	267	8.00	203.2	5.00	127	1.88	48	1.25	32	8	1 1/8	7.00	178
	4	100	12.25	311	9.50	241.3	6.19	157	2.12	54	1.38	35	8	1 1/4	7.75	197
	5	125	14.75	375	11.50	292.1	7.31	186	2.88	73.5	1.62	41	8	1 1/2	9.75	248
	6	150	15.50	394	12.50	317.5	8.50	216	3.25	83	1.50	38	12	1 3/8	10.25	260
	8	200	19.00	483	15.50	393.7	10.62	270	3.62	92	1.75	44	12	1 5/8	11.50	292
	10	250	23.00	585	19.00	482.6	12.75	324	4.25	108	2.00	51	12	1 7/8	13.25	337
	12	300	26.50	675	22.50	571.5	15.00	381	4.88	124	2.12	54	16	2	14.75	375
	14	350	29.50	750	25.00	635.0	16.25	413	5.25	133.5	2.38	61	16	2 1/4	16.00	406
	16	400	32.50	826	27.75	704.9	18.50	470	5.75	146.5	2.62	67	16	2 1/2	17.50	445
18	450	36.00	914	30.50	774.7	21.00	533	6.38	162	2.88	74	16	2 3/4	19.50	495	
20	500	38.75	985	32.75	831.9	23.00	584	7.00	178	3.12	80	16	3	21.25	540	
24	600	46.00	1168	39.00	990.6	27.25	692	8.00	203.5	3.62	92	16	3 1/2	24.25	616	
2500 PN420	1/2	15	5.25	133	3.50	88.9	1.38	35	1.19	30.5	0.88	22	4	3/4	4.75	121
	3/4	20	5.50	140	3.75	95.3	1.69	43	1.25	32	0.88	22	4	3/4	5.00	127
	1	25	6.25	159	4.25	108.0	2.00	51	1.38	35	1.00	25	4	7/8	5.50	140
	1 1/4	32	7.25	184	5.12	130.0	2.50	64	1.50	38.5	1.12	28	4	1	6.00	152
	1 1/2	40	8.00	203	5.75	146.1	2.88	73	1.75	44.5	1.25	32	4	1 1/8	6.75	171
	2	50	9.25	235	6.75	171.5	3.62	92	2.00	51	1.12	28	8	1	7.00	178
	2 1/2	65	10.50	267	7.75	196.9	4.12	105	2.25	57.5	1.25	32	8	1 1/8	7.75	197
	3	80	12.00	305	9.00	228.6	5.00	127	2.62	67	1.38	35	8	1 1/4	8.75	222
	4	100	14.00	356	10.75	273.1	6.19	157	3.00	76.5	1.62	41	8	1 1/2	10.00	254
	5	125	16.50	419	12.75	323.9	7.31	186	3.62	92.5	1.88	48	8	1 3/4	11.75	298
	6	150	19.00	483	14.50	368.3	8.50	216	4.25	108	2.12	54	8	2	13.50	343
	8	200	21.75	552	17.25	438.2	10.62	270	5.00	127	2.12	54	12	2	15.00	381
	10	250	26.50	675	21.25	539.8	12.75	324	6.50	165.5	2.62	67	12	2 1/2	19.25	489
	12	300	30.00	762	24.38	619.3	15.00	381	7.25	184.5	2.88	73	12	2 3/4	21.25	540

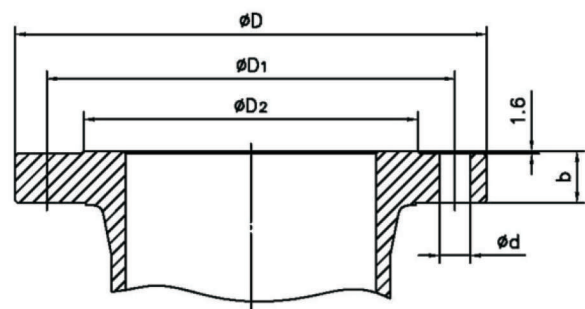
Steel Pipe Flanges ASME B16.5 RTJ



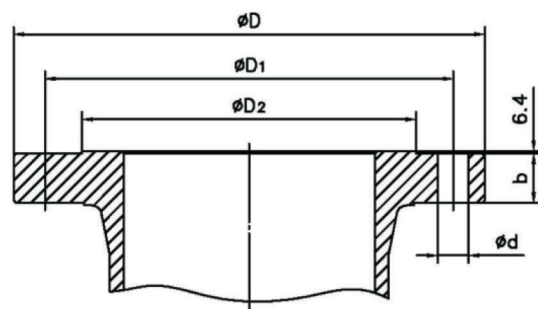
Class	Nominal Size		Ring Number	P		E		F		K		N		L1	
	NPS	DN		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
150	1	25	R15	1.875	47.63	0.25	6.35	0.344	8.74	2.50	64	0.16	4	3.00	76
	1/4	32	R17	2.250	57.15	0.25	6.35	0.344	8.74	2.88	73	0.16	4	3.25	83
	1/2	40	R19	2.562	65.07	0.25	6.35	0.344	8.74	3.25	83	0.16	4	3.25	83
	2	50	R22	3.250	82.55	0.25	6.35	0.344	8.74	4.00	102	0.16	4	3.75	95
	2 1/2	65	R25	4.000	101.60	0.25	6.35	0.344	8.74	4.75	121	0.16	4	4.00	102
	3	80	R29	4.500	114.30	0.25	6.35	0.344	8.74	5.25	133	0.16	4	4.00	102
	4	100	R36	5.875	149.23	0.25	6.35	0.344	8.74	6.75	171	0.16	4	4.00	102
	5	125	R40	6.750	171.45	0.25	6.35	0.344	8.74	7.62	194	0.16	4	4.25	108
	6	150	R43	7.625	193.68	0.25	6.35	0.344	8.74	8.62	219	0.16	4	4.50	114
	8	200	R48	9.750	247.65	0.25	6.35	0.344	8.74	10.75	273	0.16	4	4.75	121
	10	250	R52	12.000	304.80	0.25	6.35	0.344	8.74	13.00	330	0.16	4	5.00	127
	12	300	R56	15.000	381.00	0.25	6.35	0.344	8.74	16.00	406	0.16	4	5.25	133
	14	350	R59	15.625	396.88	0.25	6.35	0.344	8.74	16.75	425	0.12	3	5.75	146
	16	400	R64	17.875	454.03	0.25	6.35	0.344	8.74	19.00	483	0.12	3	5.75	146
	18	450	R68	20.375	517.53	0.25	6.35	0.344	8.74	21.50	546	0.12	3	6.25	159
	20	500	R72	22.000	558.80	0.25	6.35	0.344	8.74	23.50	597	0.12	3	6.75	171
24	600	R76	26.500	673.10	0.25	6.35	0.344	8.74	28.00	711	0.12	3	7.25	184	
300	1	25	R16	2.000	50.80	0.25	6.35	0.344	8.74	2.75	70	0.16	4	3.50	89
	1/4	32	R18	2.375	60.33	0.25	6.35	0.344	8.74	3.12	79	0.16	4	3.75	95
	1/2	40	R20	2.688	68.28	0.25	6.35	0.344	8.74	3.56	90	0.16	4	4.00	102
	2	50	R23	3.250	82.55	0.312	7.92	0.469	11.91	4.25	108	0.22	6	4.00	102
	2 1/2	65	R26	4.000	101.60	0.312	7.92	0.469	11.91	5.00	127	0.22	6	4.50	114
	3	80	R31	4.875	123.83	0.312	7.92	0.469	11.91	5.75	146	0.22	6	4.75	121
	4	100	R37	5.875	149.23	0.312	7.92	0.469	11.91	6.88	175	0.22	6	5.00	127
	5	125	R41	7.125	180.98	0.312	7.92	0.469	11.91	8.25	210	0.22	6	5.25	133
	6	150	R45	8.312	211.12	0.312	7.92	0.469	11.91	9.50	241	0.22	6	5.50	140
	8	200	R49	10.625	269.88	0.312	7.92	0.469	11.91	11.88	302	0.22	6	6.00	152
	10	250	R53	12.750	323.85	0.312	7.92	0.469	11.91	14.00	356	0.22	6	6.75	171
	12	300	R57	15.000	381.00	0.312	7.92	0.469	11.91	16.25	413	0.22	6	7.25	184
	14	350	R61	16.500	419.10	0.312	7.92	0.469	11.91	18.00	457	0.22	6	7.50	191
	16	400	R65	18.500	469.90	0.312	7.92	0.469	11.91	20.00	508	0.22	6	8.00	203
	18	450	R69	21.000	533.40	0.312	7.92	0.469	11.91	22.62	575	0.22	6	8.25	210
	20	500	R73	23.000	584.20	0.375	9.53	0.531	13.49	25.00	635	0.22	6	8.75	222
24	600	R77	27.250	692.15	0.438	11.13	0.656	16.66	29.50	749	0.25	6	10.00	254	

Class	Nominal Size		Ring Number	P		E		F		K		N		L1	
	NPS	DN		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
600	1	25	R16	2.000	50.80	0.250	6.35	0.344	8.74	2.75	70	0.16	4	3.50	89
	1/4	32	R18	2.375	60.33	0.250	6.35	0.344	8.74	3.12	79	0.16	4	3.75	95
	1/2	40	R20	2.688	68.28	0.250	6.35	0.344	8.74	3.56	90	0.16	4	4.25	108
	2	50	R23	3.250	82.55	0.312	7.92	0.469	11.91	4.25	108	0.19	5	4.25	108
	2 1/2	65	R26	4.000	101.60	0.312	7.92	0.469	11.91	5.00	127	0.19	5	4.75	121
	3	80	R31	4.875	123.83	0.312	7.92	0.469	11.91	5.75	146	0.19	5	5.00	127
	4	100	R37	5.875	149.23	0.312	7.92	0.469	11.91	6.88	175	0.19	5	5.75	146
	5	125	R41	7.125	180.98	0.312	7.92	0.469	11.91	8.25	210	0.19	5	6.50	165
	6	150	R45	8.312	211.12	0.312	7.92	0.469	11.91	9.50	241	0.19	5	6.75	171
	8	200	R49	10.625	269.88	0.312	7.92	0.469	11.91	11.88	302	0.19	5	7.75	197
	10	250	R53	12.750	323.85	0.312	7.92	0.469	11.91	14.00	356	0.19	5	8.50	216
	12	300	R57	15.000	381.00	0.312	7.92	0.469	11.91	16.25	413	0.19	5	8.75	222
	14	350	R61	16.500	419.10	0.312	7.92	0.469	11.91	18.00	457	0.19	5	9.25	235
	16	400	R65	18.500	469.90	0.312	7.92	0.469	11.91	20.00	508	0.19	5	10.00	254
	18	450	R69	21.000	533.40	0.312	7.92	0.469	13.49	22.62	575	0.19	5	10.75	273
	20	500	R73	23.000	584.20	0.375	9.53	0.531	26.97	25.00	635	0.19	5	11.50	292
24	600	R77	27.250	692.15	0.438	11.13	0.656	8.74	29.50	749	0.22	6	13.25	337	
900	1	25	R16	2.000	50.80	0.250	6.35	0.344	8.74	2.81	71	0.16	4	5.00	127
	1/4	32	R18	2.375	60.33	0.250	6.35	0.344	8.74	3.19	81	0.16	4	5.00	127
	1/2	40	R20	2.688	68.28	0.250	6.35	0.344	11.91	3.62	92	0.16	4	5.50	140
	2	50	R24	3.750	95.25	0.312	7.92	0.469	11.91	4.88	124	0.12	3	5.75	146
	2 1/2	65	R27	4.250	107.95	0.312	7.92	0.469	11.91	5.38	137	0.12	3	6.25	159
	3	80	R31	4.875	123.83	0.312	7.92	0.469	11.91	6.12	155	0.16	4	5.75	146
	4	100	R37	5.875	149.23	0.312	7.92	0.469	11.91	7.12	181	0.16	4	6.75	171
	5	125	R41	7.125	180.98	0.312	7.92	0.469	11.91	8.50	216	0.16	4	7.50	191
	6	150	R45	8.312	211.12	0.312	7.92	0.469	11.91	9.50	241	0.16	4	7.75	197
	8	200	R49	10.625	269.88	0.312	7.92	0.469	11.91	12.12	308	0.16	4	8.75	222
	10	250	R53	12.750	323.85	0.312	7.92	0.469	11.91	14.25	362	0.16	4	9.25	235
	12	300	R57	15.000	381.00	0.312	7.92	0.469	11.91	16.50	419	0.16	4	10.00	254
	14	350	R62	16.500	419.10	0.438	11.13	0.656	16.66	18.38	467	0.16	4	11.00	279
	16	400	R66	18.500	469.90	0.438	11.13	0.656	16.66	20.62	524	0.16	4	11.50	292
	18	450	R70	21.000	533.40	0.500	12.70	0.781	19.84	23.38	594	0.19	5	13.25	337
	20	500	R74	23.000	584.20	0.500	12.70	0.781	19.84	25.50	648	0.19	5	14.25	362
24	600	R78	27.250	692.15	0.625	15.88	1.062	26.97	30.38	772	0.22	6	18.00	457	
1500	1	25	R16	2.000	50.80	0.250	6.35	0.344	8.74	2.81	71	0.16	4	5.00	127
	1/4	32	R18	2.375	60.33	0.250	6.35	0.344	8.74	3.19	81	0.16	4	5.00	127
	1/2	40	R20	2.688	68.28	0.250	6.35	0.344	8.74	3.62	92	0.16	4	5.50	140
	2	50	R24	3.750	95.25	0.312	7.92	0.469	11.91	4.88	124	0.12	3	5.75	146
	2 1/2	65	R27	4.250	107.95	0.312	7.92	0.469	11.91	5.38	137	0.12	3	6.25	159
	3	80	R35	5.375	136.53	0.312	7.92	0.469	11.91	6.62	168	0.12	3	7.00	178
	4	100	R39	6.375	161.93	0.312	7.92	0.469	11.91	7.62	194	0.12	3	7.75	197
	5	125	R44	7.625	193.68	0.312	7.92	0.469	11.91	9.00	229	0.12	3	9.75	248
	6	150	R46	8.312	211.12	0.375	9.52	0.531	13.49	9.75	248	0.12	3	10.50	267
	8	200	R50	10.625	269.88	0.438	11.13	0.656	16.66	12.50	318	0.16	4	12.75	324
	10	250	R54	12.750	323.85	0.438	11.13	0.656	16.66	14.62	371	0.16	4	13.50	343
	12	300	R58	15.000	381.00	0.562	14.27	0.906	23.01	17.25	438	0.19	5	15.25	387
	14	350	R63	16.500	419.10	0.625	15.88	1.062	26.97	19.25	489	0.22	6	16.75	425
	16	400	R67	18.500	469.90	0.688	17.48	1.188	30.18	21.50	546	0.31	8	18.50	470
	18	450	R71	21.000	533.40	0.688	17.48	1.188	30.18	24.12	613	0.31	8	20.75	527
	20	500	R75	23.000	584.20	0.688	17.48	1.188	33.32	26.50	673	0.38	10	22.25	565
24															

Steel Pipe Flanges ASME B 16.47 Series A & MSS SP 44 RF



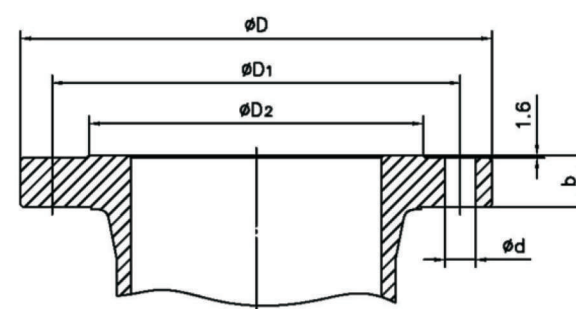
Class 150&Class 300 RF Flanges



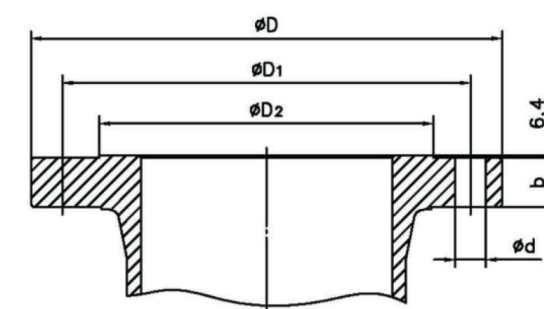
Class 600&Class 900 RF Flanges

Class	Nominal Size		D		D1		D2		b		d		Bolt	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	Number	Diam
150	26	650	34.25	870	31.75	806.5	29.50	749	2.69	68.5	1.38	35	24	1/4
	28	700	36.50	927	34.00	863.6	31.50	800	2.81	71.5	1.38	35	28	1/4
	30	750	38.75	984	36.00	914.4	33.75	857	2.94	75	1.38	35	28	1/4
	32	800	41.75	1060	38.50	977.9	36.00	914	3.19	81.5	1.62	41	28	1/2
	34	850	43.75	1111	40.50	1028.7	38.00	965	3.25	83	1.62	41	32	1/2
	36	900	46.00	1168	42.75	1085.9	40.25	1022	3.56	90.5	1.62	41	32	1/2
	38	950	48.75	1238	45.25	1149.4	42.25	1073	3.44	87.5	1.62	41	32	1/2
	40	1000	50.75	1289	47.25	1200.2	44.25	1124	3.56	90.5	1.62	41	36	1/2
	42	1050	53.00	1346	49.50	1257.3	47.00	1194	3.81	97	1.62	41	36	1/2
	48	1200	59.50	1511	56.00	1422.4	53.50	1359	4.25	108	1.62	41	44	1/2
	54	1350	66.25	1683	62.75	1593.9	59.50	1511	4.75	121	1.88	48	44	3/4
	56	1400	68.75	1746	65.00	1651.0	62.00	1575	4.88	124	1.88	48	48	3/4
60	1500	73.00	1854	69.25	1759.0	66.00	1676	5.19	132	1.88	48	52	3/4	
300	26	650	38.25	972	34.50	876.3	29.50	749	3.12	79.5	1.75	44	28	5/8
	28	700	40.75	1035	37.00	939.8	31.50	800	3.38	86	1.75	44	28	5/8
	30	750	43.00	1092	39.25	997.0	33.75	857	3.62	92	1.88	48	28	3/4
	32	800	45.25	1149	41.50	1054.1	36.00	914	3.88	99	2.00	51	28	7/8
	34	850	47.50	1207	43.50	1104.9	38.00	965	4.00	102	2.00	51	28	7/8
	36	900	50.00	1270	46.00	1168.4	40.25	1022	4.12	105	2.12	54	32	2
	38	950	46.00	1168	43.00	1092.2	40.50	1029	4.25	108	1.62	41	32	1/2
	40	1000	48.75	1238	45.50	1155.7	42.75	1086	4.50	114.5	1.75	44	32	5/8
	42	1050	50.75	1289	47.50	1206.5	44.75	1137	4.69	119.5	1.75	44	32	5/8
	48	1200	57.75	1467	54.00	1371.6	51.25	1302	5.25	133.5	2.00	51	32	7/8
	54	1350	64.75	1645	61.00	1546.7	58.00	1424	5.81	147.5	2.25	58	32	1 1/8
	60	1500	71.75	1823	68.00	1721.8	65.00	1546	6.37	161.5	2.50	64	32	1 1/8
600	26	650	40.00	1016	36.00	914.4	29.50	749	4.25	108	2.00	51	28	1 1/8
	28	700	42.25	1073	38.00	965.2	31.50	800	4.38	111.5	2.12	54	28	2
	30	750	44.50	1130	40.25	1022.4	33.75	857	4.50	114.5	2.12	54	28	2
	32	800	47.00	1194	42.50	1079.5	36.00	914	4.62	117.5	2.38	60	28	2 1/4
	34	850	49.00	1245	44.50	1130.3	38.00	965	4.75	121	2.38	60	28	2 1/4
	36	900	51.75	1314	47.00	1193.8	40.25	1022	4.88	124	2.62	67	28	2 1/2
900	26	650	42.75	1080	37.50	952.5	29.50	749	5.50	140	2.88	73	20	2 3/4
	28	700	46.00	1168	40.25	1022.4	31.50	800	5.62	143	3.12	79	20	3

Steel Pipe Flanges ASME B 16.47 Series B & API 605 RF

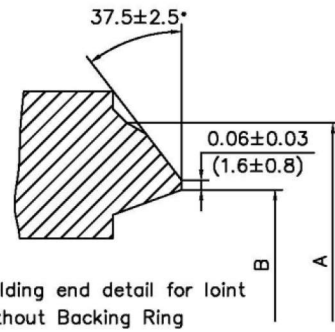


Class 150&Class 300 RF Flanges

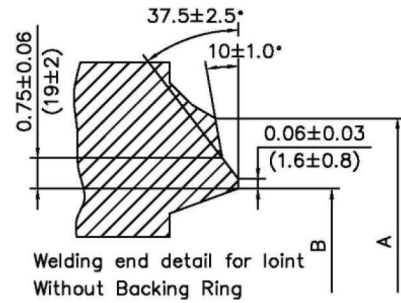


Class 600&Class 900 RF Flanges

Class	Nominal Size		D		D1		D2		b		d		Bolt	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	Number	Diam
150	26	650	30.94	786	29.31	744.5	28.00	711	1.62	41.5	0.88	22	36	3/4
	28	700	32.94	837	31.31	795.3	30.00	762	1.75	44.5	0.88	22	40	3/4
	30	750	34.94	887	33.31	846.1	32.00	813	1.75	44.5	0.88	22	44	3/4
	32	800	37.06	941	35.44	900.2	34.00	864	1.81	46	0.88	22	48	3/4
	34	850	39.56	1005	37.69	957.3	36.25	921	1.94	49.5	1.00	25	40	7/8
	36	900	41.62	1057	39.75	1009.7	38.25	972	2.06	52.5	1.00	25	44	7/8
	38	950	44.25	1124	42.12	1069.8	40.25	1022	2.12	54	1.12	28	40	1
	40	1000	46.25	1175	44.12	1120.6	42.50	1080	2.19	56	1.12	28	44	1
	42	1050	48.25	1226	46.12	1171.4	44.50	1130	2.31	59	1.12	28	48	1
	48	1200	54.81	1392	52.56	1335.0	50.75	1289	2.56	64.5	1.25	32	44	1 1/8
	54	1350	61.00	1549	58.75	1492.3	56.75	1441	2.81	71.5	1.25	32	56	1 1/8
	56	1400	63.00	1600	60.75	1543.1	58.75	1492	2.88	73.5	1.25	32	60	1 1/8
60	1500	67.94	1726	65.44	1662.2	63.00	1600	3.00	76.5	1.38	35	52	1 1/4	
300	26	650	34.12	867	31.62	803.1	29.00	737	3.50	89	1.38	35	32	1 1/4
	28	700	36.25	921	33.75	857.3	31.00	787	3.50	89	1.38	35	36	1 1/4
	30	750	39.00	991	36.25	920.8	33.25	845	3.69	94	1.50	38	36	1 3/8
	32	800	41.50	1054	38.50	977.9	35.50	902	4.06	103.5	1.62	41	32	1 1/2
	34	850	43.62	1108	40.62	1031.7	37.50	953	4.06	103.5	1.62	41	36	1 1/2
	36	900	46.12	1171	42.88	1089.2	39.75	1010	4.06	103.5	1.75	44	32	1 5/8
	38	950	48.12	1222	44.88	1140.0	41.75	1060	4.38	111.5	1.75	44	36	1 5/8
	40	1000	50.12	1273	46.88	1190.8	43.88	1115	4.56	116	1.75	44	40	1 5/8
	42	1050	52.50	1334	49.00	1244.6	46.00	1168	4.69	119.5	1.88	48	36	1 3/4
	48	1200	59.50	1511	55.75	1416.1	52.25	1327	5.06	129	2.00	51	40	1 7/8
	54	1350	66.50	1683	63.00	1598.5	59.00	1496	5.62	141.5	2.25	58	40	2
	60	1500	73.50	1854	70.00	1778.0	66.00	1676	6.18	153.5	2.50	64	40	2 1/8
600	26	650	35.00	889	31.75	806.5	28.62	727	4.38	111.5	1.75	44	28	1 5/8
	28	700	37.50	953	34.00	863.6	30.88	784	4.56	116	1.88	48	28	1 3/4
	30	750	40.25	1022	36.50	927.1	33.12	841	4.94	125.5	2.00	51	28	1 7/8
	32	800	42.75	1086	38.75	984.3	35.25	895	5.12	130.5	2.12	54	28	2
	34	850	45.75	1162	41.50	1054.1	37.50	953	5.56	141.5	2.38	60	24	2 1/4
	36	900	47.75	1213	43.50	1104.9	39.75	1010	5.75	146.5	2.38	60	28	2 1/4
900	26	650	40.25	1022	35.50	901.7	30.00	762	5.31	135	2.62	67	20	2 1/2
	28	700	43.50	1105	38.25	971.6	32.25	819	5.81	148	2.88	73	20	2 3/4



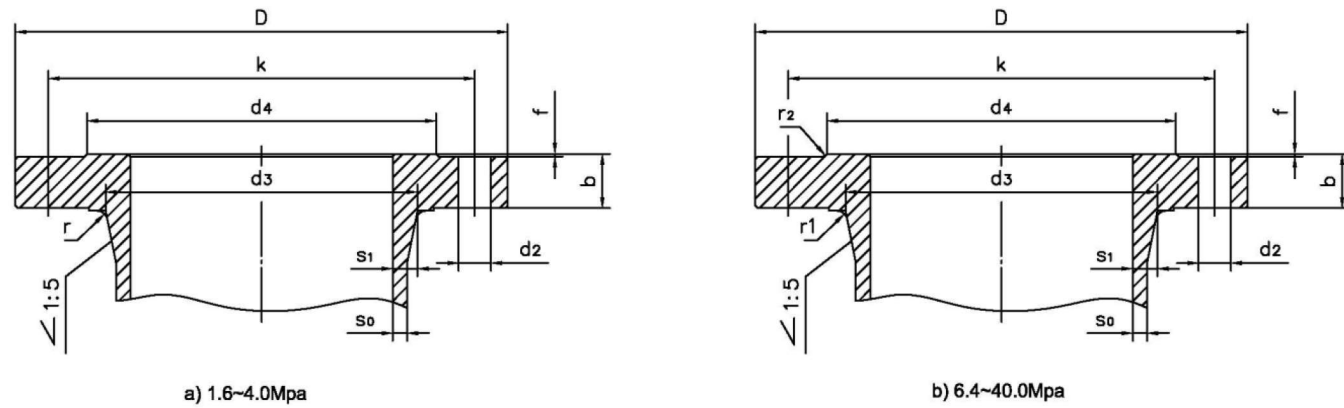
Welding end detail intended for use on 0.88in(22mm) and thinner nominal wall thicknesses



Note 1 Internal surface may be as formed or machined for dimension b at root contour within the envelope shall be in accordance with section

Nominal Pipe Size		Schedule Number or Wall	Outside Diameter				Nominal Inside Diameter		Machined Inside Diameter		Nominal Wall Thickness	
NPS	DN		Forging or Process mould A		Moulded steel Valve, A		B		C		T	
			inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
1/2	50	40	2.88	73	2.96	75	2.469	62.7	2.479	62.97	0.203	5.2
		80					2.323	59.0	2.351	59.72	0.276	7.0
		160					2.125	54.0	2.178	55.32	0.375	9.5
		XXS					1.771	45.0	1.868	47.45	0.552	14.0
		40					3.068	77.9	3.081	78.26	0.216	5.5
3	80	80	3.5	88.9	3.59	91	2.900	73.7	2.934	74.52	0.300	7.6
		160					2.624	66.6	2.692	68.38	0.438	11.1
		XXS					2.300	58.4	2.409	61.19	0.600	15.2
		40					4.026	102.3	4.044	102.72	0.237	6.0
		80					3.826	97.2	3.869	98.27	0.337	8.6
4	100	120	4.5	114.3	4.62	117	3.624	92.0	3.692	93.78	0.438	11.1
		160					3.438	87.3	3.530	89.66	0.531	13.5
		XXS					3.152	80.1	3.279	83.29	0.674	17.1
		40					5.047	128.2	5.070	128.78	0.258	6.6
		80					4.813	122.3	4.866	123.60	0.375	9.5
5	125	120	5.56	141.3	5.69	144	4.563	115.9	4.647	118.03	0.500	12.7
		160					4.313	109.6	4.428	112.47	0.625	15.9
		XXS					4.063	103.2	4.209	106.91	0.750	19.1
		40					6.065	154.1	6.094	154.79	0.280	7.1
		80					5.761	146.3	5.828	148.03	0.432	11.0
6	150	120	6.62	168.3	6.78	172	5.501	139.7	5.600	142.24	0.562	14.3
		160					5.187	131.7	5.326	135.28	0.719	18.3
		XXS					4.897	124.4	5.072	128.83	0.864	21.9
		40					7.981	202.7	8.020	203.71	0.322	8.2
		60					7.813	198.5	7.873	199.97	0.406	10.3
8	200	80	8.62	219.1	8.78	223	7.625	193.7	7.709	195.81	0.500	12.7
		100					7.437	188.9	7.544	191.62	0.594	15.1
		120					7.187	182.5	7.326	186.08	0.719	18.3
		140					7.001	177.8	7.163	181.94	0.812	20.6
		XXS					6.875	174.6	7.053	179.15	0.875	22.2
10	250	160	10.75	273	10.94	278	6.813	173.1	6.998	177.75	0.906	23.0
		40					10.020	254.5	10.070	255.78	0.365	9.3
		60					9.750	247.2	9.834	249.78	0.500	12.7
		80					9.562	242.9	9.670	245.62	0.594	15.1
		100					9.312	236.5	9.451	240.06	0.719	18.3
12	300	120	12.75	323.8	12.97	329	9.062	230.2	9.232	234.49	0.844	21.4
		140					8.750	222.3	8.959	227.56	1.000	25.4
		160					8.500	215.9	8.740	222.00	1.125	28.6
		STD					12.000	304.8	12.053	306.15	0.375	9.5
		40					11.938	303.2	11.999	304.77	0.406	10.3

Nominal Pipe Size		Schedule Number or Wall	Outside Diameter				Nominal Inside Diameter		Machined Inside Diameter		Nominal Wall Thickness							
NPS	DN		Forging or Process Mould A		Moulded steel Valve, A		B		C		T							
			inch	mm	inch	mm	inch	mm	inch	mm	inch	mm						
14	350	STD	14.00	355.6	14.25	362.0	13.250	336.6	13.303	337.90	0.375	9.5						
		40					13.124	333.3	13.192	335.08	0.438	11.1						
		XS					13.000	330.2	13.084	332.33	0.500	12.7						
		60					12.812	325.4	12.920	328.17	0.594	15.1						
		80					12.500	317.5	12.646	321.21	0.750	19.1						
		100					12.124	308.0	12.318	312.88	0.938	23.8						
		120					11.812	300.0	12.044	305.92	1.094	27.8						
		140					11.500	292.1	11.771	298.98	1.250	31.8						
		160					11.188	284.2	11.498	292.05	1.406	35.7						
		16					400	STD	16.00	406.4	16.25	412.8	15.250	387.4	15.303	388.70	0.375	9.5
40	15.000		381.0	15.084	383.13	0.500		12.7										
60	14.688		373.1	14.811	376.20	0.656		16.7										
80	14.312		363.5	14.482	367.84	0.844		21.4										
100	13.938		354.0	14.155	359.54	1.031		26.2										
120	13.562		344.5	13.826	351.18	1.219		31.0										
140	13.124		333.3	13.442	341.43	1.438		36.5										
160	12.812		325.4	13.170	334.52	1.594		40.5										
18	450		STD	18.00	457.2	18.28		464.3					17.250	438.2	17.303	439.5	0.375	9.5
			XS										17.000	431.8	17.084	433.93	0.500	12.7
		40	16.876				428.7		16.975	431.17	0.562	14.3						
		60	16.500				419.1		16.646	422.81	0.750	19.1						
		80	16.124				409.5		16.318	414.48	0.938	23.8						
		100	15.688				398.5		15.936	404.77	1.156	29.4						
		120	15.250				387.4		15.553	395.05	1.375	34.9						
		140	14.876				377.9		15.225	386.72	1.562	39.7						
		160	14.438				366.7		14.842	376.99	1.781	45.2						
		20	500				STD		20.00	508.0	20.31	515.9	19.250	489.0	19.303	490.30	0.375	9.5
XS	19.000			482.6	19.084	484.73	0.500	12.7										
40	18.812			477.8	18.920	480.57	0.594	15.1										
60	18.376			466.8	18.538	470.87	0.812	20.6										
80	17.938			455.6	18.155	461.14	1.031	26.2										
100	17.438			443.0	17.717	450.01	1.281	32.5										
120	17.000			431.8	17.334	440.28	1.500	38.1										
140	16.500			419.1	16.896	429.16	1.750	44.5										
160	16.062			408.0	16.513	419.43	1.969	50.0										
22	550			STD	22.00	558.8	22.34	567.4					21.250	539.8	21.303	541.10	0.375	9.5
		XS	21.000	533.4					21.084	535.53	0.500	12.7						
		60	20.250	514.4					20.428	518.87	0.875	22.2						
		80	19.750	501.7					19.990	507.75	1.125	28.6						
		100	19.250	489.0					19.553	496.65	1.375	34.9						
		120	18.750	476.3					19.115	485.52	1.625	41.3						
		140	18.250	463.6					18.678	474.42	1.875	47.6						
		160	17.750	450.9					18.240	463.30	2.215	54.0						
		24	600	STD					24.00	609.6	24.38	619.3	23.250	590.6	23.303	591.90	0.375	9.5
				XS									23.000	584.2	23.084	586.33	0.500	12.7
30	22.876			581.1	22.975	583.57	0.562	14.3										
40	22.624			574.6	22.755	577.98	0.688	17.5										
60	22.062			560.4	22.263	565.48	0.969	24.6										
80	21.562			547.6	21.826	554.38	1.219	31.0										
100	20.938			531.8	21.280	540.51	1.531	38.9										
120	20.376			517.6	20.788	528.02	1.812	46.0										
140	19.876			504.9	20.350	516.89	2.062	52.4										
160	19.312			490.5	19.857	507.37	2.344	59.5										



PN2.5MPa steel pipe flange (BS EN 1092-1:2005)

DN	Flange			Flange Neck				Raised face		Bolt		
	D	b	k	So	d ₃	S ₁ _(max)	r	d ₄	f	Number	Size	d ₂
10~150	For DN ≤ 150 the Size conform to DIN2545 4.0 MPa											
175	330	28	280	12	217	21	8	248	3	12	M24	26
200	360	30	310	12	246	23	8	278	3			
250	425	32	370	14	298	24	10	335	3	16	M27	30
300	485	34	430	15	352	26	10	395	4			
350	555	38	490	16	408	29	10	450	4	20	M30	33
400	620	40	550	18	460	30	10	505	4			
500	730	44	660	21	566	33	12	615	4	24	M33	36
600	845	46	770	23	670	35	12	720	5			
700	960	50	875	24	776	38	12	820	5	28	M36	39
800	1085	54	990	26	882	41	15	930	5			
900	1185	58	1090	27	988	44	15	1030	5	32	M39	42
1000	1320	62	1210	29	1094	47	18	1140	5			
1200	1530	70	1420	32	1306	53	18	1350	5	36	M45	48
1400	1755	76	1640	34	1514	57	18	1560	5			
1600	1975	84	1860	37	1726	63	20	1780	5	40	M52	56
1800	2195	90	2070	40	1963	68	20	1985	5			
2000	2425	96	2300	43	2144	72	20	2210	5	44	M56	62
										48	M64	70

PN1.6MPa Steel Pipe Flange (BS EN 1092-1:2005)

DN	Flange			Flange Neck				Raised face		Bolt		
	D	b	k	So	d ₃	S ₁ _(max)	r	d ₄	f	Number	Size	d ₂
10~50	For DN ≤ 50, the Size Conform to DN 2545 4.0MPa											
65	185	18	145	8	93	14	5	122	3	4	M16	18
80	200	20	160	8.5	110	15	5	138	3	8		
100	220	20	180	9.5	130	15	5	158	3			
125	250	22	210	10	159	17	6	188	3			
150	285	22	240	11	184	17	6	212	3	12	M20	22
(175)	315	24	270	12	211	18	6	242	3			
200	340	24	295	12	236	18	6	268	3	16	M24	26
250	405	26	355	14	290	20	8	320	3			
300	460	28	410	15	342	21	8	378	4	20	M27	30
350	520	30	470	16	396	23	8	438	4			
400	580	32	525	18	448	24	10	490	4	24	M30	33
500	715	36	650	21	554	27	10	610	4			
600	840	40	770	23	660	30	10	725	5	28	M33	36
700	910	42	840	24	760	30	12	795	5			
800	1025	42	950	26	864	32	12	900	5	32	M36	39
900	1125	44	1050	27	966	33	12	1000	5			
1000	1255	46	1170	29	1070	35	12	1115	5	36	M39	42
1200	1485	52	1390	32	1278	39	15	1330	5			
1400	1685	58	1590	34	1488	44	15	1530	5	40	M45	48
1600	1930	64	1820	36	1696	48	18	1750	5			
1800	2130	68	2020	39	1902	51	18	1950	5	44	M52	56
2000	2345	70	2230	41	2106	53	18	2150	5			
2200	2555	74	2440	43	2312	56	18	2360	6	48	M56	62
										52		

PN4.0 MPa steel pipe flange (BS EN 1092-1:2005)

DN	Flange			Flange Neck				Raised face		Bolt		
	D	b	k	So	d ₃	S ₁ _(max)	r	d ₄	f	Number	Size	d ₂
10	90	16	60	6	30	10	4	40	2	4	M12	14
15	95	16	65	6	37	11	4	45	2			
20	105	18	75	6.5	44	12	5	58	2			
25	115	18	85	7	53	14	5	68	2			
32	140	18	100	7	60	14	5	78	2	8	M16	18
40	150	18	110	7.5	68	14	5	88	2			
50	165	18	125	8	80	15	5	102	2			
65	185	22	145	8.5	99	17	6	122	2			
80	200	24	160	9	116	18	6	138	2	12	M20	22
100	235	24	190	10	136	18	6	162	2			
125	270	26	220	11	165	20	8	188	2	16	M24	26
150	300	28	250	12	192	21	8	218	2			
(175)	350	32	295	13	223	24	10	260	2	20	M27	30
200	375	34	320	14	252	26	10	285	2			
250	450	38	385	16	308	29	10	345	2	24	M30	33
300	515	42	450	17	364	32	12	410	2			
350	580	46	510	19	420	35	12	465	2	28	M33	36
400	660	50	585	21	476	38	12	535	2			
(450)	685	50	610	21	526	38	12	560	2	32	M36	39
500	755	52	670	21	578	39	15	615	2			
600	890	60	795	24	690	45	15	735	2	36	M39	42
700	995	64	900	27	796	48	18	840	2			
800	1140	72	1030	30	908	54	18	960	2	40	M45	48
900	1250	76	1140	33	1014	57	18	1070	2			
1000	1360	80	1250	36	1120	60	20	1180	2	44	M52	56
1200	1575	88	1460	42	1332	66	20	1380	2			
1400	1795	98	1680	47	1548	74	20	1600	2	48	M56	62
1600	2025	108	1900	54	1762	81	20	1815	2			

PN6.3 Mpa steel pipe flange (BS EN 1092-1:2005)

DN	Flange			Flange Neck				Raised face			Bolt		
	D	b	k	So	d3	S1 (max)	r	d4	f	r2	Number	Size	d2
10~25	For DN 10 -DN25 the Size conform to DIN2548 16.0 MPa												
32	For DN 32 the Size conform to DIN2547 10.0 MPa												
40	For DN 40 the Size conform to DIN2548 16.0 MPa												
50	180	26	135	10	90	20	5	102	3	1.5	4	M20	22
65	205	26	160	10	105	20	5	122	3	1.5	8		
80	215	28	170	11	122	21	5	138	3	1.5		M27	30
100	250	30	200	12	146	23	5	162	3	1.5	M30		
125	295	34	240	13	177	26	6	188	3	1.5		12	M33
150	345	36	280	14	204	27	6	218	3	1.5	16		
(175)	375	40	310	15	235	30	8	260	3	1.5		M39	42
200	415	42	345	16	264	32	8	285	3	1.5	20		
250	470	46	400	19	320	35	8	345	3	1.5		24	M52
300	530	52	460	21	378	39	10	410	4	2	28		
350	600	56	525	23	434	42	10	465	4	2		32	M64
400	670	60	585	26	490	45	12	535	4	2	M72X6		
500	800	68	705	31	602	51	12	615	4	2			
600	930	76	820	35	714	57	15	735	4	2			
700	1045	84	935	40	826	63	15	840	4	2			
800	1165	92	1050	45	938	69	18	960	4	2			
900	1285	98	1170	50	1046	74	18	1070	4	2			
100	1415	108	1290	55	1162	81	18	1180	4	2			
1200	1665	126	1530	64	1390	95	18	1380	4	2			

PN10.0 Mpa steel pipe flange (BS EN 1092-1:2005)

DN	Flange			Flange Neck				Raised face			Bolt		
	D	b	k	So	d3	S1 (max)	r	d4	f	r2	Number	Size	d2
10~25	For DN 10 -DN25 the Size conform to DIN2548 16.0 MPa												
32	155	24	110	12	63	15	6	75	3	1.5	4	M20	22
40~100	For DN 40 -DN100 the Size conform to DIN2548 16.0 MPa												
125	315	40	250	16	185	30	6	188	3	1.5	8	M30	33
150	355	44	290	18	216	33	6	218	3	1.5	12		
(175)	385	48	320	20	247	36	8	260	3	1.5		16	M36
200	430	52	360	21	278	39	8	285	3	1.5	20		
250	505	60	430	25	340	45	8	345	3	1.5		24	M64
300	585	68	500	29	402	51	10	410	4	2			
350	655	74	560	32	460	55	10	465	4	2			
400	715	78	620	36	518	59	12	535	4	2			
500	870	94	760	44	630	70	15	615	4	2			
600	990	104	875	51	740	78	15	735	4	2			
700	1145	120	1020	59	860	90	18	840	4	2			

PN16.0MPa steel pipe flange (BS EN 1092-1:2005)

DN	Flange				Flange neck				Raised Face			Bolt		
	db	D	b	k	So	d3	S1	r	d4	f	r2	Number	Size	d2
10	10	100	20	70	10	40	15	4	40	2	1	4	M12	14
15	15	105	20	75	10	45	15	4	45	2	1			
25	25	140	24	100	10	61	18	4	68	2	1			
40	40	170	28	125	10	82	21	4	88	3	1.5			
50	50	195	30	145	10	96	23	4	102	3	1.5	8	M24	26
65	70	220	34	170	11	118	24	5	122	3	1.5			
80	80	230	36	180	12	128	24	5	138	3	1.5			
100	97	265	40	210	14	150	25	5	162	3	1.5			
125	130	315	44	250	16	184	29.5	6	188	3	1.5	12	M30	33
150	153	355	50	290	18	224	37	6	218	3	1.5			
(175)	171	390	54	320	19	250	37.5	8	260	3	1.5			
200	194	430	60	360	21	288	44	8	285	3	1.5			
250	239	515	68	430	31	346	48	8	345	3	1.5	16	M33	36
300	286	585	78	500	36	414	57	10	410	4	2			
													M39	42

Pressure Test and Specification(ANSI and DIN)

Nominal Pressure	Shell test		Water seal test		Air seal test	
	MPa	Lbf/in ²	MPa	Lbf/in ²	MPa	Lbf/in ²
150	3.1	450	2.2	315	0.5~0.7	60-100
300	7.8	1125	5.6	815		
600	15.3	2225	11.2	1630		
900	23.1	3350	16.8	2440		
1500	38.4	5575	28.1	4080		
2500	64.6	9367	47.4	6873		
1.6	2.4		1.76		0.5~0.7	
2.5	3.75		2.75			
4.0	6.0		4.4			
6.3	9.6		7.04			
10.0	15.0		11.0			
16.0	240		17.6			