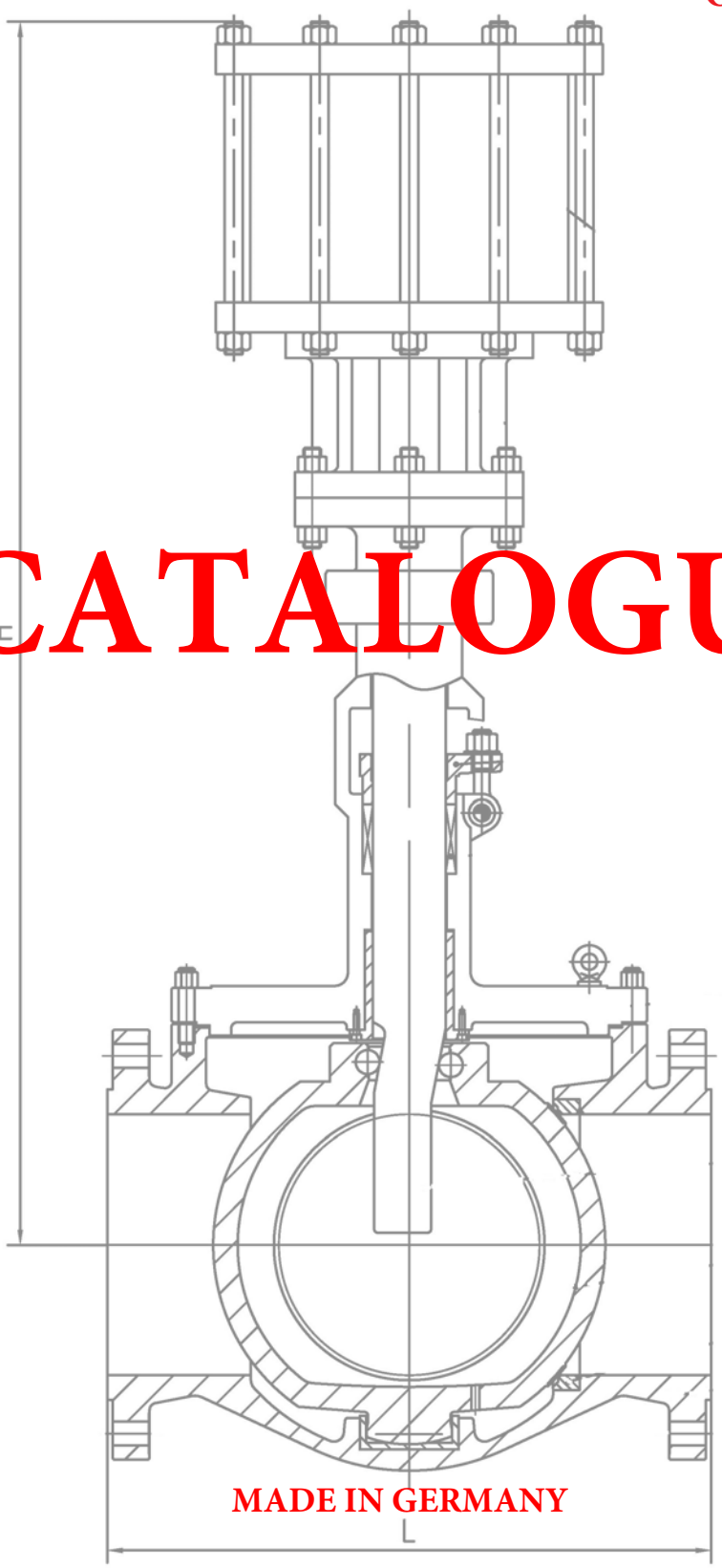
ARMATUREN UNION
GERMANY

OIL & GAS VALVES

CATALOGUE



ARMATUREN UNION GMBH

Erkrather Straße 401 . D-40231 Düsseldorf . sales@armaturen-union.de

www.armaturen-union.de

OIL & GAS VALVES

(chemical, pharmaceutical, food industry, papermaking, water power, electric power, city planning, steel)

Product overview

BALL VALVES

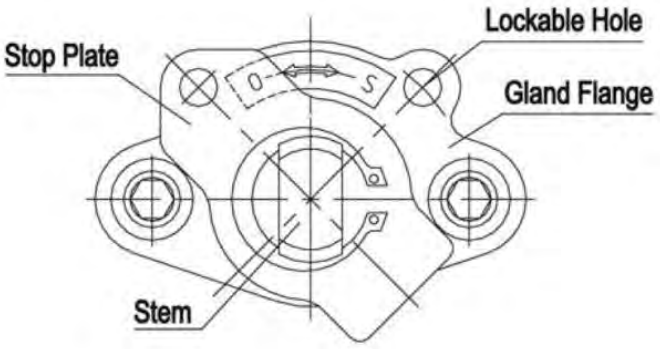
Floating Ball Valves

Ball valves are widely used in such fields such as petroleum refining, chemical industry, papermaking, pharmaceutical industry, food industry, water power, electric power, city planning, steel, etc. Among them the sulphur-resistance serial ball valve is especially applicable for natural gas long-distance transportation features containing sulphurate hydrogen medium, much impurity and serious corroding.

Technical Data

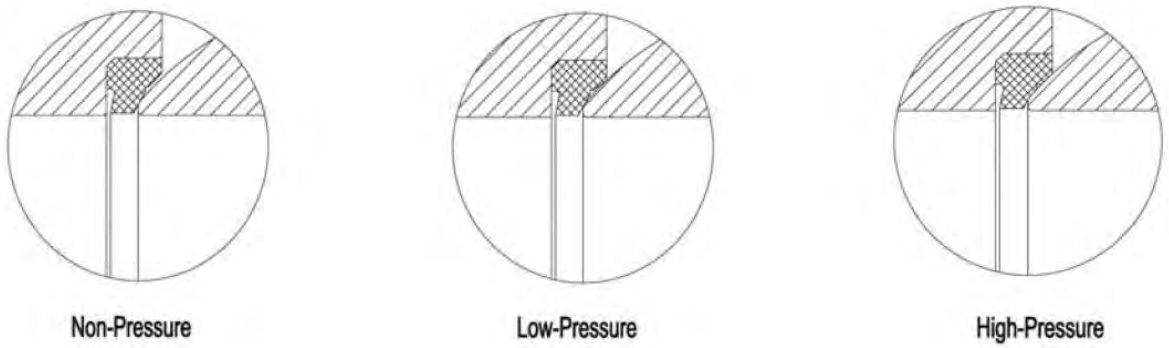
Size: NPS 1-10, DN 25-250
Pressure Ratings: Class150-1500, PN16-100
Body Materials:
ASTM: WCB (A105), CF8 (304), CF3 (304L), CF8M (316), CF3M (316L)
DIN: GS-C25 (St50-2), 1.4308 (1.4301), 1.4306, 1.4408 (1.4401), (1.4435)
Design Standard: DIN3356, API 6D, ASME B16.34
Face to Face: DIN EN 558, ASME B16.10
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208. DIN3230, API 6D, API598
Fire-Safe Design: ISO10497, API 6074, API 6FA
Note: the sizes of serial valve flange and butt-welding dimensions can be designed according to customer's requirement.

Indication of Open and Close Positions



With the indication "O←→S" on the Stop Plate, the opened and closed position can be seen clearly. When the Stop plate is in the 'O' indication, the valve is fully open; on the S indication, the valve is closed. Locking holes are provided in the fully-open or fully-closed position of the valve to realize locking-up motion for safety should some incorrect operations happen to the valve caused by outdoor installation, maloperation by non-staff, or the valve easy of malfunctioning through the unpacking if the handle in the situation with intense vibration.

Sealing Construction of Valve Seat

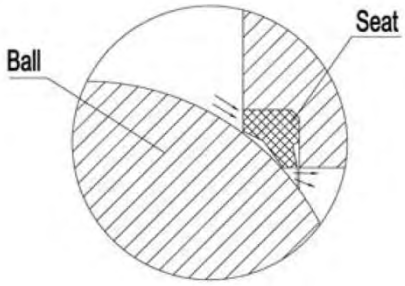


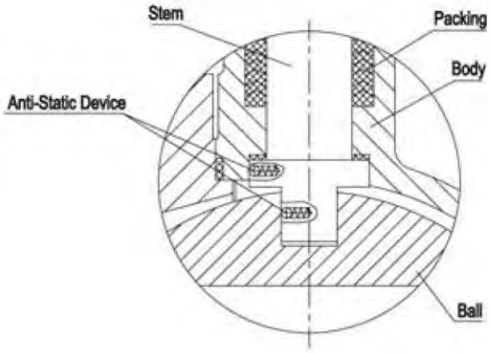
The elastic double-bevel seal ring is specially applied in designing the floating ball valve to reduce friction between ball and seal ring for the reduction of operation physical force. The contact area of the sealing ring against the ball is small when medium pressure is comparably small; therefore the relatively higher specific pressure of sealing would be featured for ensuring the positive sealing; while the area would be correspondingly increasing when the pressure is becoming larger. In this situation the seal ring can hold thrust force from the medium without being damaged, while the positive sealing state would certainly be maintained.

For the ball valve applied in low-pressure, ultra-low pressure or vacuum operating conditions, the specially-designed sealing construction of spring-loading valve seat would maintain the long-term reliable service of the valve, because the pressure from the medium applied itself could not ensure the positive sealing of the seat while the pre-tightening force would be unavoidably weakened after long-term performance.

Auto-Decompressing Construction

The medium in lumen would press the valve seat backwards through its own thrust force to realize auto-decompression for the safety of the body if some abnormal pressure-rise should happen caused by the gasification of the liquid medium detained in the valve pocket from temperature rise.

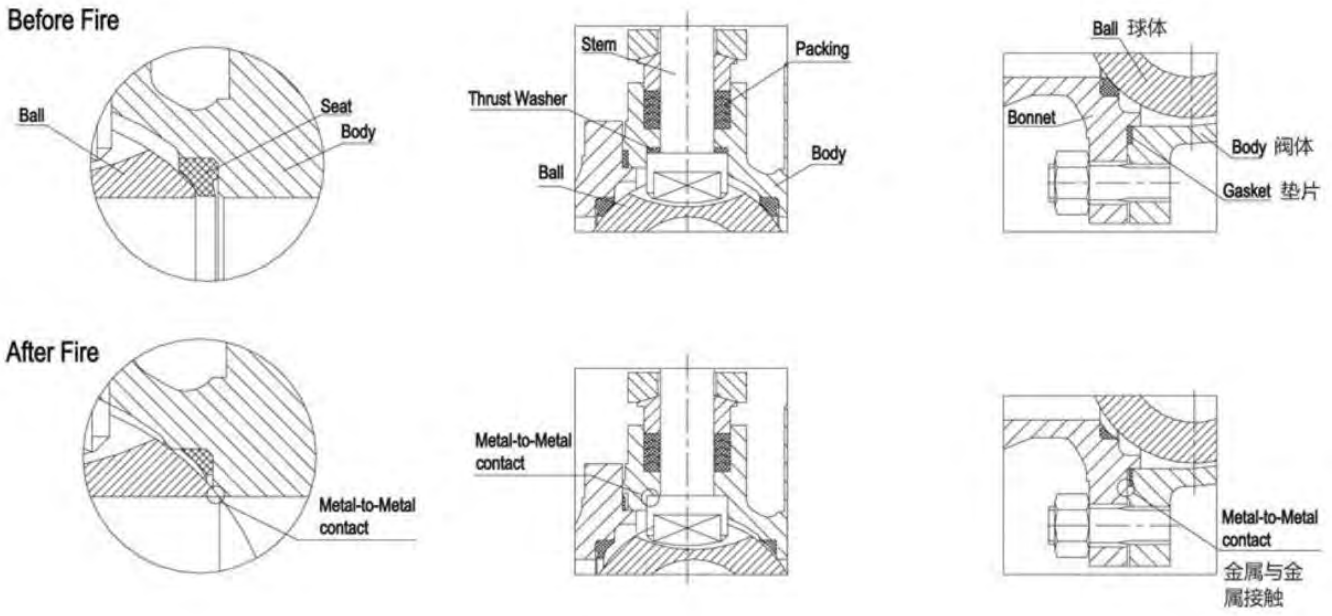




Anti-static Device

The floating ball valve could be designed as anti-static device as required. When static is generated and concentrated on the ball, the spring-loaded pins installed on ball, stem are provided to ensure electrical continuity throughout the valve. The design works to prevent igniting combustible medium by static fire-striking for the system safety.

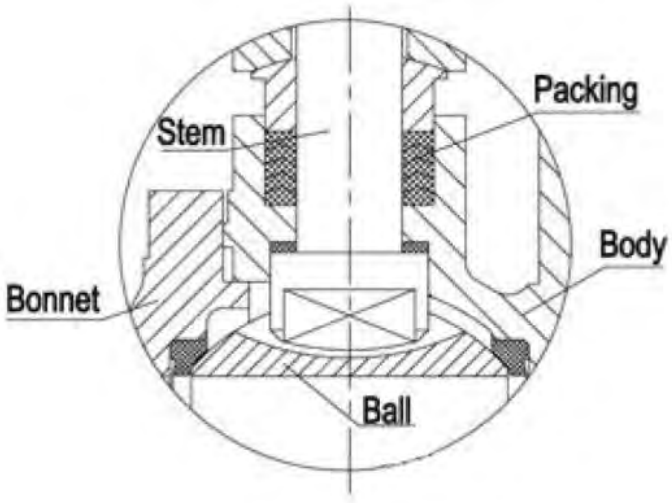
Fire Safe Design



When non-metal sealing material are decomposed or deteriorated by a plant fire, the upstream line pressure pull the ball into contact with the metal seat lip beneath the soft seat to shut off the line fluid to minimize the internal leakage.

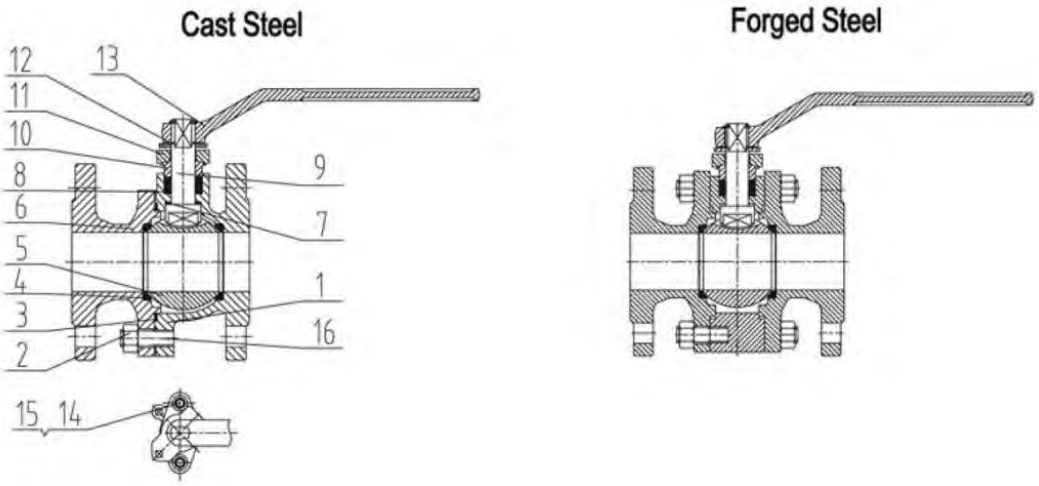
Additionally, the fire safe metal seat can prevent the line pressure erosion on soft seat creep deformation. As required by customers, floating ball valves fire safe is designed and test certified in accordance with API 607, API 6FA and ISO 10497.

Stem anti-blow-out devices



Backward sealing construction with lower-loading and sealing provided with the stem. The sealing force from the backward sealing process would increase in company with the medium pressure inside the valve pocket to maintain the sealing effectiveness of the stem and ensure that the handle rush out if some abnormal lifting pressure should happen. The V-Structure is also associated with the design of the loafing material to effectively transfer both the medium pressure inside the pocket and the locking force on the external gland to the sealing force on the handle.

Floating Ball Valves

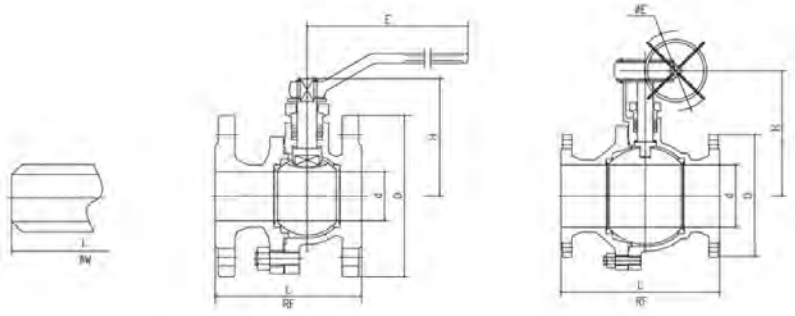


Material Specifications

No.	Part	Materials			
		Carbon Steel		Stainless Steel	
		DIN	ASTM	DIN	ASTM
1	Body	GS-C25/St50-2	A216 WCB/A105	1.4408/1.4401	A351 CF8M/ A182 F316
2	Nut	A194 2H	A194 2H	A194 8M	A194 8M
3	Gasket	PTFE	PTFE	PTFE	PTFE
4	Seat	PTFE	PTFE	PTFE	PTFE
5	Ball	St50-2+ENP	A105+ENP	1.4401	A182 F316
6	Bonnet	GS-C25/St50-2	A216 WCB/A105	1.4408/1.4401	A351 CF8M/ A182 F316
7	Thrust Washer	PTFE	PTFE	PTFE	PTFE
8	Packing	PTFE	PTFE	PTFE	PTFE
9	Stem	X20 Cr13	A182 F6a	1.4401	A182 F316
10	Gland	X20 Cr13	A276 410	1.4401	A276 F316
11	Gland Flange	GS-C25	WCB	1.4408	A351 CF8M
12	Stop Plate	Spring Steel	Spring Steel	Spring Steel	Spring Steel
13	Lever	CS	CS	CS	CS
14	Screw	CS	CS	A193 B8M	A193 B8M
15	Spring Washer	Spring Steel	Spring Steel	Spring Steel	Spring Steel
16	Bolt	A193 B7	A193 B7	A193 B8M	A193 B8M

Note: materials can be selected according to customer's requirement.

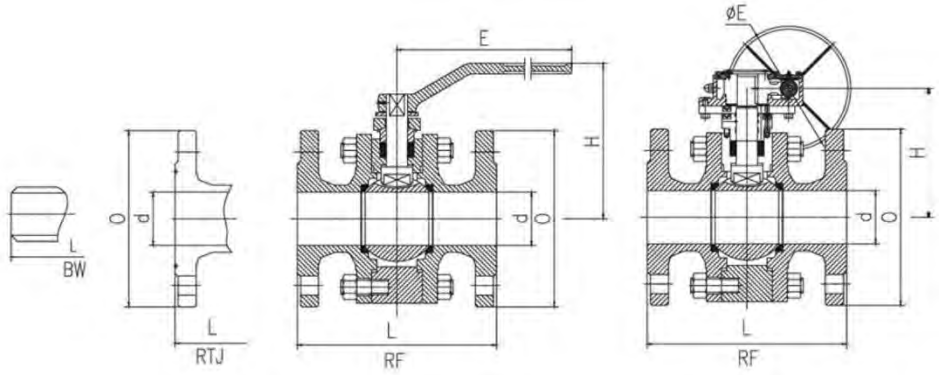
ANSI Cast Steel Floating Ball Valves



Dimensions and Weights Class 150-600

Class	NPS(in)	Dimensions / mm								Weight / kg	
		d	L		O	E		H			
			RF	BW		Manual	Worm Gear	Manual	Worm Gear	Manual	Worm Gear
Class 150	1	25	127	-	110	150	-	100	-	5	-
	1 ¼	32	140	-	115	180	-	103	-	6	-
	1 ½	38	165	190	125	200	-	123	-	8	-
	2	51	178	216	150	250	-	130	-	11	-
	2 ½	64	190	241	180	300	-	163	-	17	-
	3	76	203	282	190	350	-	181	-	23	-
	4	102	229	305	230	500	305	232	380	60	79
	6	152	394	457	280	800	305	307	460	82	102
	8	203	457	521	345	1000	305	350	550	145	185
	10	254	533	559	405	-	400	-	706	-	280
Class 300	1	25	165	-	125	150	-	100	-	6	-
	1 ¼	32	178	-	135	180	-	105	-	8	-
	1 ½	38	190	190	155	220	-	126	-	11	-
	2	51	216	216	165	250	-	140	-	16	-
	2 ½	64	241	241	190	300	-	165	-	24	-
	3	76	282	282	210	350	-	183	330	34	52
	4	102	305	305	255	500	305	235	380	56	76
	6	152	403	457	320	800	305	310	480	125	163
	8	203	502	521	380	1000	305	350	560	222	267
Class 600	1	25	216	216	125	200	-	114	-	9	-
	1 ¼	32	229	229	135	250	-	120	-	13	-
	1 ½	38	241	241	155	250	-	125	-	17	-
	2	51	292	292	165	300	-	156	-	25	-
	2 ½	64	330	330	190	350	-	172	-	42	-
	3	76	356	356	210	500	305	220	370	56	76
	4	102	432	432	275	600	305	250	400	85	123

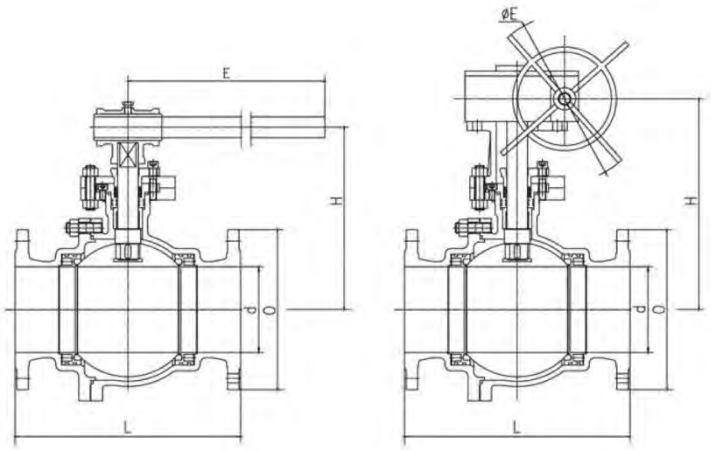
ANSI Forged Steel Floating Ball Valves



Dimensions and Weights Class 150-600

Class	NPS(in)	d	Dimensions / mm								Weight / kg			
			L			O	E		H					
			BW	RF	RTJ		Manual	Worm Gear	Manual	Worm Gear	BW	RF/ RTJ	BW	RF/ RTJ
Class 150	1	25	-	127	-	110	150	-	95	-	7	8	-	-
	1 ¼	32	-	140	-	115	180	-	100	-	9	10	-	-
	1 ½	38	190	165	-	125	200	-	121	-	11	13	-	-
	2	51	216	178	-	150	250	-	130	-	14	18	-	-
	2 ½	64	241	190	-	180	300	-	155	-	21	27	-	-
	3	76	282	203	-	190	350	-	173	-	33	39	-	-
	4	102	305	229	-	230	500	305	225	365	53	60	72	79
	6	152	457	394	-	280	800	305	292	442	176	198	196	208
	8	203	521	457	-	345	1000	305	336	531	286	305	326	345
	10	254	559	533	-	405	-	400	-	685	-	-	345	460
Class 300	1	25	-	165	-	125	150	-	95	-	7	9	410	-
	1 ¼	32	-	178	-	135	180	-	100	-	9	12	-	-
	1 ½	38	190	190	-	155	220	-	121	-	11	15	-	-
	2	51	216	216	-	165	250	-	130	-	14	19	-	-
	2 ½	64	241	241	-	190	300	-	155	-	24	35	-	-
	3	76	282	282	-	210	350	-	173	308	36	48	-	-
	4	102	305	305	-	255	500	305	225	365	58	71	78	91
	6	152	457	403	-	320	800	305	292	442	-	-	206	246
	8	203	521	502	-	380	1000	305	336	531	-	-	336	396
Class 600	1	25	216	216	216	125	200	-	110	-	10	15	-	-
	1 ¼	32	229	229	229	135	250	-	116	-	12	18	-	-
	1 ½	38	241	241	241	155	250	-	121	-	13	20	-	-
	2	51	292	292	295	165	300	-	152	-	16	21	-	-
	2 ½	64	330	330	333	190	350	-	168	-	20	26	-	-
	3	76	356	356	359	210	500	305	216	366	39	51	59	71
	4	102	432	432	435	275	650	305	246	396	68	99	88	119

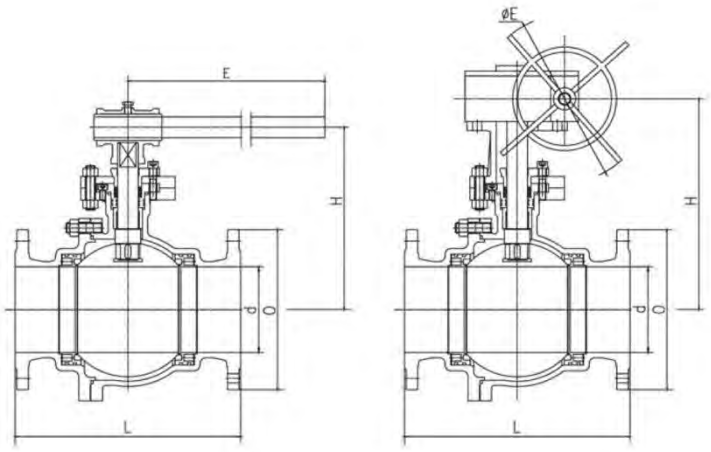
DIN Floating Ball Valves



Dimensions and Weights PN 16-25

Class	NPS(in)	Dimensions / mm							Weight / kg	
		d	L	O	E		H			
					Manual	Worm Gear	Manual	Worm Gear	Manual	Worm Gear
PN 16	25	25	125	115	150	-	99	-	5	-
	32	32	130	140	180	-	105	-	5.5	-
	40	38	140	150	200	-	126	-	7	-
	50	51	150	165	250	-	140	-	9	-
	65	64	170	185	300	-	165	-	13	-
	80	80	180	200	350	-	178	-	18	-
	100	102	190	220	500	305	230	380	38	53
	150	152	350	285	800	305	310	460	82	102
	200	203	400	340	1000	305	350	550	145	185
	250	254	450	405	-	400	-	706	-	280
PN 25	25	25	125	115	150	-	99	-	6	-
	32	32	130	140	180	-	105	-	8	-
	40	38	140	150	200	-	123	-	11	-
	50	51	150	165	250	-	142	-	16	-
	65	64	170	185	300	-	165	-	24	-
	80	80	180	200	350	-	178	-	34	52
	100	102	300	235	500	305	230	320	56	76
	150	152	350	300	800	305	310	400	125	163
	200	203	400	360	1000	305	350	450	222	267
	250	254	450	425	-	400	-	706	-	280

DIN Floating Ball Valves



Dimensions and Weights PN 40-100

Class	NPS(in)	Dimensions / mm							Weight / kg	
		d	L	O	E		H			
					Manual	Worm Gear	Manual	Worm Gear	Manual	Worm Gear
PN 40	25	25	125	115	150	-	99	-	6	-
	32	32	130	140	180	-	105	-	7	-
	40	38	140	150	200	-	126	-	9	-
	50	51	150	165	250	-	140	-	12	-
	65	64	170	185	300	-	165	-	18	-
	80	80	180	200	350	-	178	330	28	-
	100	102	190	235	500	305	230	380	46	76
	150	152	350	300	800	305	310	480	106	135
	200	203	400	375	1000	305	350	560	190	225
PN 63	25	25	160	140	150	-	99	-	8	-
	32	32	180	155	180	-	105	-	12	-
	40	38	200	170	200	-	126	-	14	-
	50	51	230	180	250	-	142	-	18	-
	65	64	290	205	300	-	165	-	28	-
	80	80	310	215	350	-	178	320	40	58
	100	102	350	250	500	305	230	340	65	85
	150	152	400	345	800	305	275	480	140	170
PN 100	25	25	160	140	200	-	114	-	9	-
	32	32	180	155	200	-	120	-	13	-
	40	38	200	170	250	-	125	-	17	-
	50	51	230	195	300	-	156	-	25	-
	65	64	290	220	350	-	172	-	42	-
	80	80	310	230	500	305	220	370	56	76
	100	102	350	265	650	305	250	400	85	123

Floating Ball Valves

Test Pressure Specification

Pressure Shell (Liquid): 1.5 or more times the pressure rating for material at 38° C

Sealing (Liquid): 1.1 or more times the pressure rating for material at 38° C

Low-pressure Sealing (Air): 0.4-0.7 (MPa)

Flow Data

Flow coefficient of serial valves is shown in form. Cv denotes water under 1Lb/in^2 (0.007Mpa) pressure reducing +60° F (+16° C), washing valve USA gpm.

Valve Size		CV (Us gal/min)	
NPS (in)	DN (mm)	Reduced Port	Full Port
½	15	9	-
¾	20	19	50
1	25	45	100
1 ½	0	125	270
2	50	165	490
3	80	350	1160
4	100	550	2200
6	150	765	5100
8	200	1890	9300
10	250	3900	15200
12	300	6700	22400
14	350	5100	26000
16	400	8100	35000
18	450	11000	45000
20	500	16000	58000

Torque Form

DN(mm) / PN	25	40	50	65	80	100	150	200
16	10	16	25	50	65	125	340	485
25	11	18	30	60	80	140	400	680
63	50	80	100	200	300	400	-	-

NPS(in) / Class	1	1 ½	2	2 ½	3	4	6
150	11	16	25	50	65	125	410
300	26	38	60	120	160	280	950
400	50	90	140	240	350	540	-
600	68	130	190	360	460	770	-

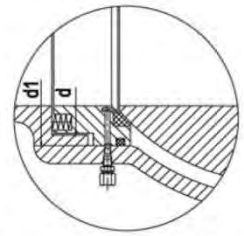
Note: The data in the form is just for reference.

Trunnion Mounted Ball Valves

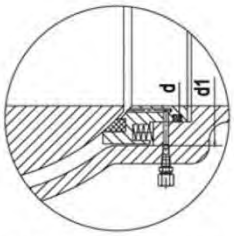
Technical Data

Size: NPS2-60, DN50-1500
Pressure Ratings: Class150-1500, PN16-100
Body Materials:
ASTM: WCB (A105), CF8 (304), CF3 (304L), CF8M (316), CF3M (316L)
DIN: GS-C25 (St50-2), 1.4308 (1.4301), 1.4306, 1.4408 (1.4401), (1.4404)
Design Standard: DIN3356, API 6D, ASME B16.34
Face to Face: DIN EN 558, ASME B16.10
Flanged Ends: ASME B16.25
Test and Inspection: ISO5208, DIN3230, API 6D, API598
Fire-Safe Design: ISO10497, API 6074, API 6FA
Note: the sizes of serial valve flange and butt-welding dimensions can be designed according to customer's requirement.

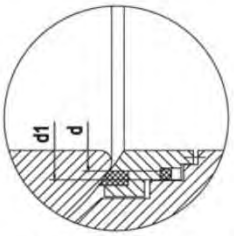
Sealing construction of valve seat



Double-block-and-bleed



Bi-directional sealing

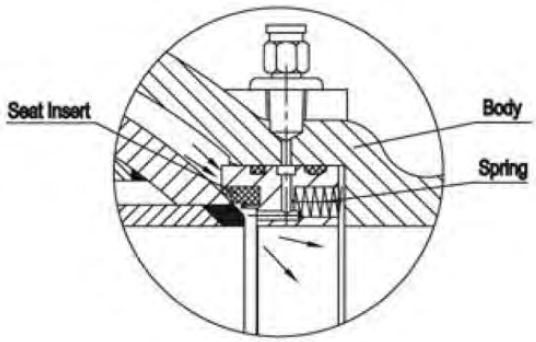


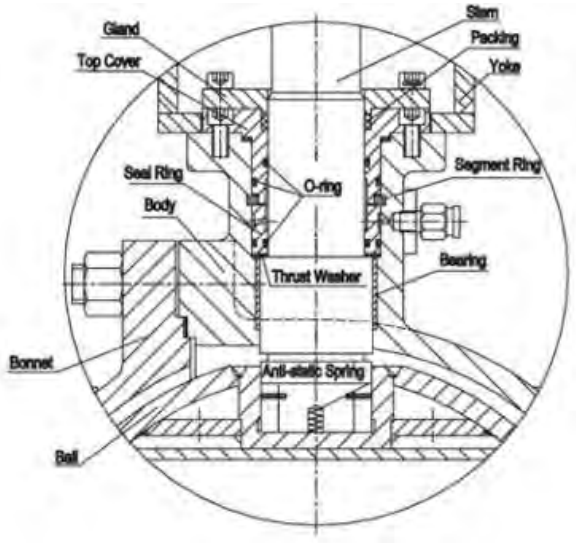
Both seats bi-directional

Trunnion mounted ball valves have all kinds of sealing construction. Our company produce Trunnion mounted ball valve as API6D designed, according to different working condition with different sealing construction.

Self-relieving construction

When an abnormal rising of pressure appears n the internal body cavity, the single sealed-structure takes on the function of automatic pressure relieving, while the double-sealed device to the valve body.





Anti-Static Device

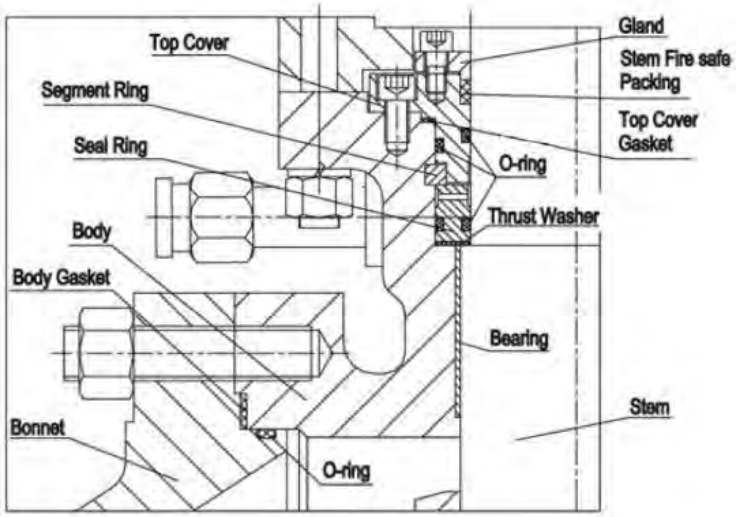
Anti-static device is a standard feature of A-T ball valve. A spring-loaded pin assures the electrical continuity, between ball, stem and body, so as to avoid sparks during turning of the stem to open and close valve, which could be dangerous in case of hazardous area installation.

Anti-Blow-Out Stem

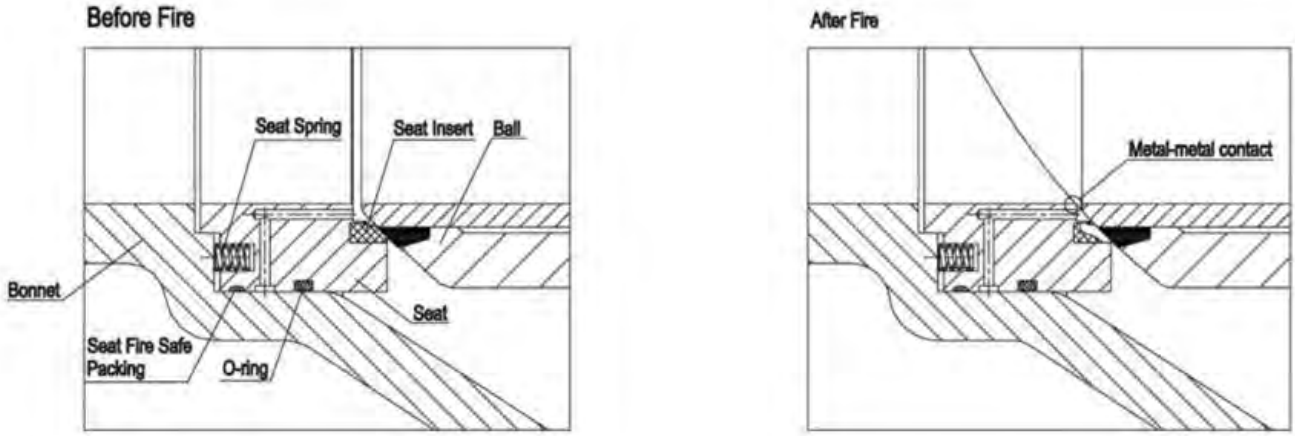
The stem is made separately from the ball. The lower end of the stem is designed with an integral collar to be blow-out proof.

External Leakage Prevention

Leakage from the valve stem area is prevented by double sealing with double O-rings and gland gasket. Leakage through the valve body joint is also blocked by double sealing with O-ring and body gasket. After a fire has deteriorated O-rings, gland gasket, body gasket and stem fire safe packing are the measure that prevents fluid external leakage.

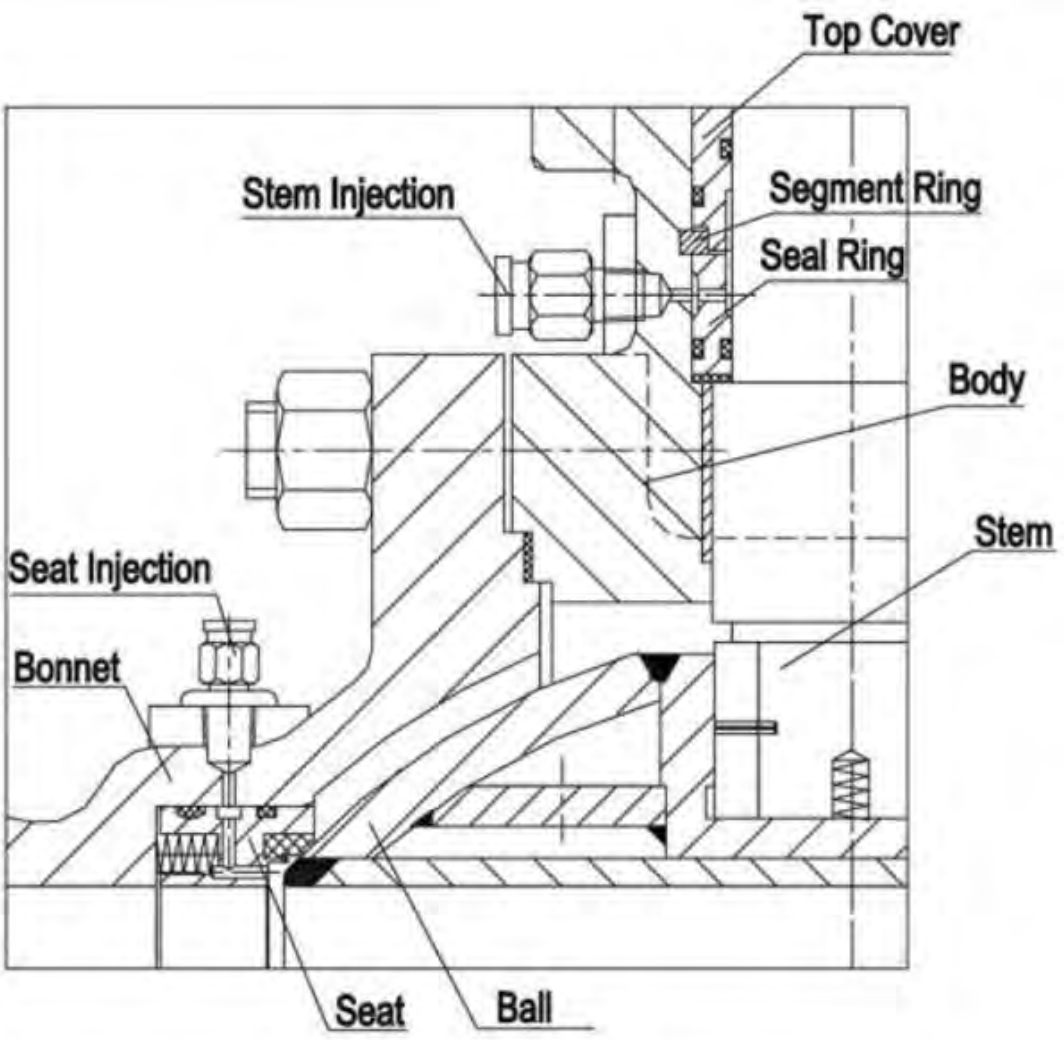


Internal leakage prevention



When non-metal materials such as O-ring, seat insert and spacer are decomposed or deteriorated by fire, the edge of the metal seat preloaded by the seat spring comes into contact with ball to shut off the line fluid to minimize internal leakage through the valve bore.

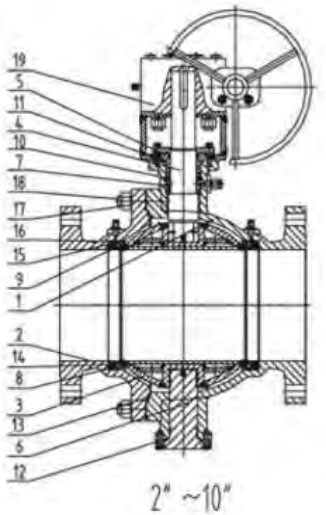
Emergency Sealant Injection System



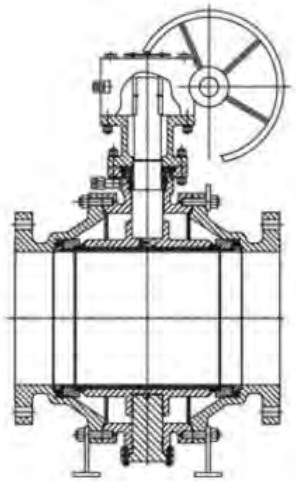
For 6 inch and larger A-T Trunnion mounted ball valves will be installed with sealant injection fittings on both the stem and seats. When the sealing materials (seat sealing or stem o-ring) are damaged or decomposed by fire or other accidental causes, leakage from the seat and stem can be prevented by injection of sealant into these fittings. Fittings also internally installed a second check valve to provide backup sealing.

Fire Safe Design

Cast Steel Trunnion Mounted Ball Valves



2" ~10"
NPS2~NPS10



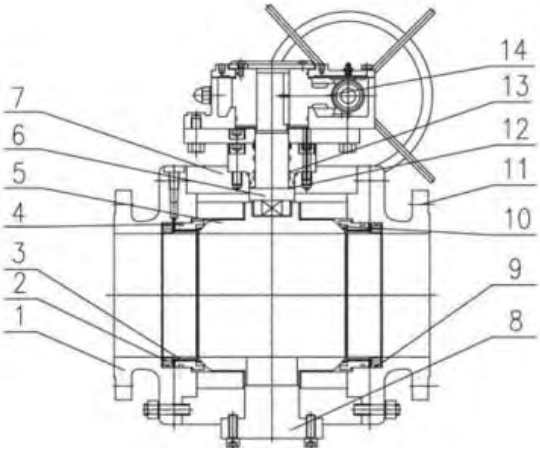
Above 12"
≥NPS12

Material Specifications

No.	Part	Materials			
		Carbon Steel		Stainless Steel	
		DIN	ASTM	DIN	ASTM
1	Body	GS-C25	A216 WCB	1.4408	A351 CF8M
2	Bonnet	GS-C25	A216 WCB	1.4408	A351 CF8M
3	Ball	A105+ENP	A105+ENP	1.4401	A182 F316
4	Stem	X20 Cr13	A182 F6a	1.4401	A182 F316
5	Top Cover	St50-2	A105	1.4401	A182 F304
6	Bottom Cover	St50-2	A105	1.4401	A182 F316
7	Seal Ring	St50-2	A105	1.4301	A182 F304
8	Seat	St50-2+ENP	A105+ENP	1.4408	A182 F316
9	Seat insert	PTFE	PTFE	PTFE	PTFE
10	Segment Ring	X20 Cr13	A276 410	1.4408	A276 316
11	Top Cover Gasket	Graphite+304	Graphite+304	Graphite+304	Graphite+304
12	Bottom Cover Gasket	Graphite+304	Graphite+304	Graphite+304	Graphite+304
13	Gasket	Graphite+304	Graphite+304	Graphite+304	Graphite+304
14	Seat Spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
15	O-Ring	VITON	VITON	VITON	VITON
16	Seat Fire Safe Packing	Graphite+304	Graphite+304	Graphite+304	Graphite+304
17	Nut	A194 2H	A194 2H	A194 8M	A194 8M
18	Bolt	A193 B7	A193 B7	A193 B8M	A193 B8M
19	Actuator	Assembly	Assembly	Assembly	Assembly

Note: materials can be selected according to customer's requirement.

Forged Steel Trunnion Mounted Ball Valves

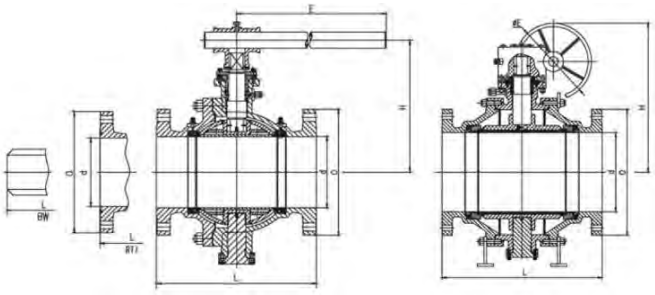


Material Specification

No.	Part	Materials			
		Carbon Steel		Stainless Steel	
		DIN	ASTM	DIN	ASTM
1	Bonnet	St50-2	A105	1.4401	A182 F316
2	Spring	INCONEL X-750	INCONEL X-750	INCONEL X-750	INCONEL X-750
3	Seat	St50-2	A105	1.4401	A182 F316
4	O-Ring	NBR	NBR	NBR	NBR
5	Ball	St50-2+ENP	A105+ENP	1.4401	A182 F316
6	Stem	X20 Cr13	A182 F6a	1.4401	A182 F316
7	Seal Ring	St50-2	A105	1.4301	A182 F316
8	Bottom Cover	St50-2	A105	1.4401	A182 F316
9	Seat Fire Safe Packing	Graphite+304	Graphite+304	Graphite+304	Graphite+304
10	Seat insert	PTFE	PTFE	PTFE	PTFE
11	Body	St50-2	A105	1.4401	A182 F316
12	Thrust Washer	316+PTFE+MoS2	316+PTFE+MoS2	316+PTFE+MoS2	316+PTFE+MoS2
13	Actuator	Assembly	Assembly	Assembly	Assembly

Note: materials can be selected according to customer's requirement.

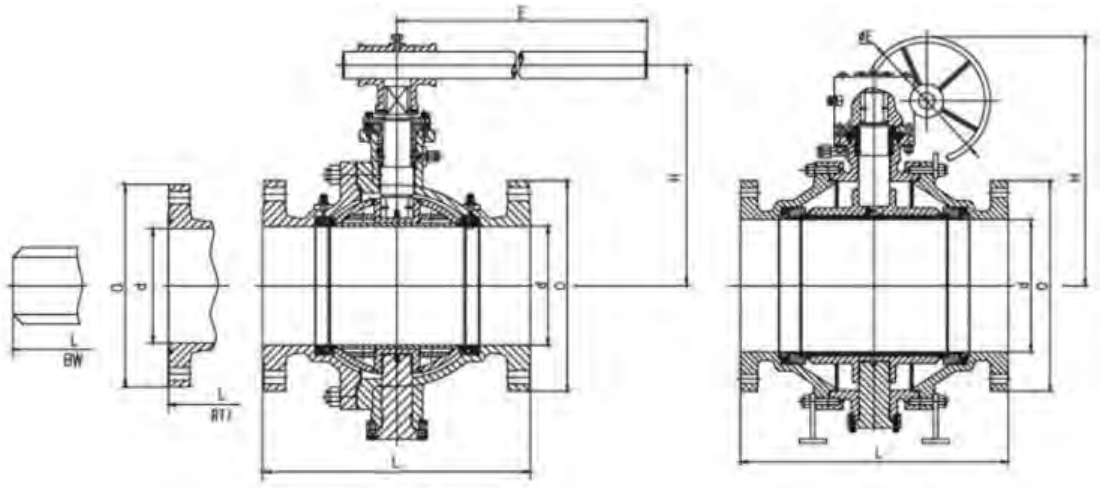
ANSI Cast Steel Trunnion Mounted Ball Valves



Dimensions and Weights Class 150-300

Class	NPS(in)	Dimensions / mm								Weight / kg	
		d	L			O	H	E		FTJ. RF	BW
			RTJ	RF	BW			Manual	Worm Gear		
Class 150	2	51	191	178	216	150	161	610	-	18	20
	3	76	216	203	282	190	189	610	-	28	34
	4	102	242	229	305	230	214	914	-	52	45
	6	152	407	394	457	280	265	914	-	91	102
	8	203	470	457	521	345	319	-	457	194	204
	10	254	546	533	559	405	369	-	457	320	295
	12	305	623	610	635	485	512	-	457	549	199
	14	337	699	684	762	535	537	-	610	603	558
	16	387	775	762	838	595	572	-	610	748	703
	18	438	877	864	914	635	665	-	610	1055	98
	20	489	927	914	991	700	705	-	457	1501	1252
	22	540	1004	991	1092	750	742	-	457	1758	1592
	24	591	1080	1067	1143	815	778	-	457	2069	1932
	26	641	-	1143	1245	870	872	-	610	2903	2540
	28	692	-	1245	1346	927	907	-	610	3266	2948
	30	743	-	1295	1397	984	949	-	610	4309	3992
Class 300	2	51	232	216	216	165	161	610	-	23	20
	3	76	298	282	282	210	189	610	-	36	34
	4	102	321	305	305	255	214	914	-	57	45
	6	152	419	403	457	320	265	914	-	113	102
	8	203	518	502	521	380	319	-	457	206	204
	10	254	584	568	559	445	369	-	610	340	295
	12	305	664	648	635	520	512	-	457	578	499
	14	337	778	762	762	585	537	-	610	621	558
	16	387	854	838	838	650	572	-	610	782	703
	18	438	930	914	914	710	665	-	610	1225	998
	20	489	1010	991	991	775	705	-	457	1542	1252
	22	540	1114	1092	1092	838	742	-	610	1837	1592
	24	591	1165	1143	1143	915	778	-	609	2445	1932
	26	635	1270	1245	1245	972	872	-	610	3005	2540
	28	686	1371	1346	1346	1035	907	-	610	3504	2948
	30	737	1422	1397	1397	1092	949	-	762	4536	3992

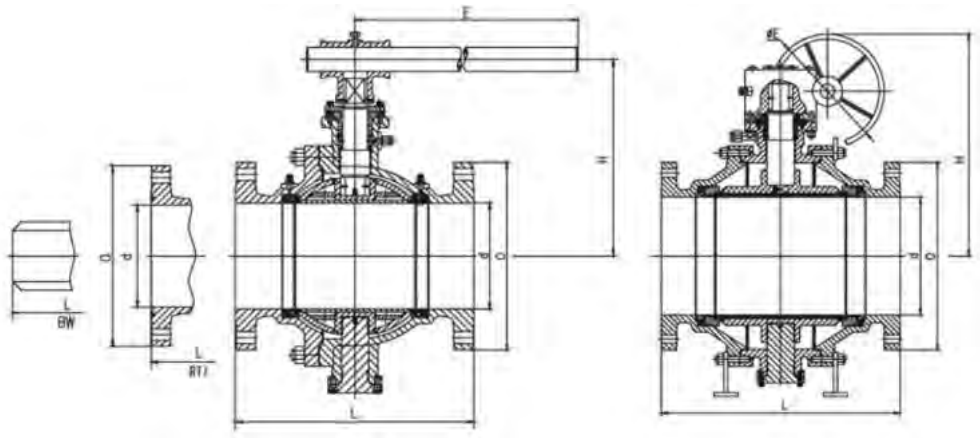
ANSI Cast Steel Trunnion Mounted Ball Valves



Dimensions and Weights Class 600

Class	NPS(in)	Dimensions / mm								Weight / kg	
		d	L			O	H	E		FTJ. RF	BW
			RTJ	RF	BW			Manual	Worm Gear		
Class 600	2	51	295	292	292	165	161	610	-	27	20
	3	76	359	356	356	210	189	610	-	39	34
	4	102	435	432	432	275	214	914	-	75	45
	6	152	562	559	559	355	265	914	-	163	102
	8	200	663	660	660	420	319	-	610	295	204
	10	248	790	787	787	510	369	-	762	454	295
	12	298	841	838	838	560	512	-	457	685	499
	14	327	892	889	889	605	537	-	610	866	558
	16	375	994	991	991	685	629	-	457	1089	803
	18	419	1095	1092	1092	745	664	-	610	1340	998
	20	464	1200	1194	1194	815	762	-	610	1860	1361
	22	511	1305	1295	1295	870	801	-	610	2449	1792
	24	559	1407	1397	1397	940	837	-	762	2971	2155
	26	603	1461	1448	1448	1016	872	-	914	3538	2540
	28	648	1562	1549	1549	1073	1041	-	762	4309	3039
	30	695	1664	1651	1651	1130	1083	-	762	5443	4137
	34	830	1946	1930	1930	1245	1151	-	1067	7269	5579
	36	874	2099	2083	2083	1314	1192	-	1067	8664	7031
	40	976	2170	2080	2170	1321	1408	-	1067	12143	10433
	42	1020	2175	2175	2175	1403	1449	-	1067	13835	11567
	48	1166	2435	2435	2435	1594	-	-	-	-	-

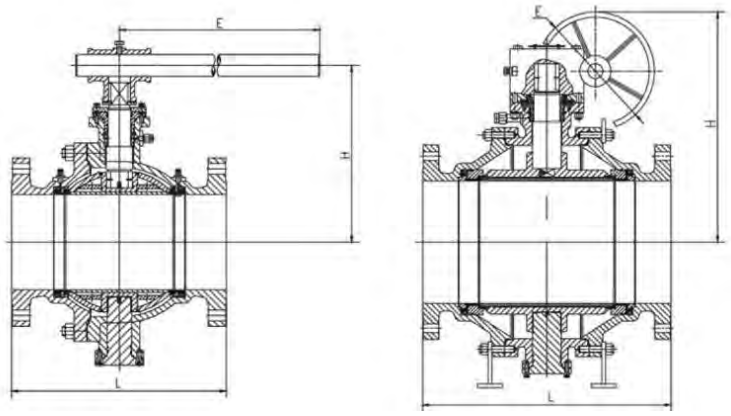
ANSI Cast Steel Trunnion Mounted Ball Valves



Dimensions and Weights Class 900-1500

Class	NPS(in)	Dimensions / mm								Weight / kg	
		d	L			O	H	E		FTJ. RF	BW
			RTJ	RF	BW			Manual	Worm Gear		
Class 900	2	49	371	368	368	165	161	610	-	45	20
	3	74	384	381	381	240	189	914	-	64	54
	4	100	460	457	457	290	248	-	457	113	86
	6	150	613	610	610	380	276	-	610	238	186
	8	201	740	737	737	470	319	-	762	549	268
	10	252	841	838	838	545	470	-	457	601	458
	12	303	968	965	965	610	512	-	610	1021	612
	14	322	1039	1029	1029	640	643	-	610	1424	977
	16	373	1140	1130	1130	705	684	-	610	1814	1111
	18	423	1232	1219	1219	787	724	-	610	2404	1792
	20	471	1334	1321	1321	857	895	-	610	3221	2381
	24	570	1568	1549	1549	1041	970	-	762	4763	2926
	30	712	1902	1880	1880	1232	1083	-	1067	7938	5216
	36	855	2315	2286	2286	1461	1322	-	-	11612	7938
Class 1500	2	49	371	368	368	215	161	610	-	45	20
	3	72	473	470	470	265	189	914	-	82	54
	4	100	549	546	546	310	248	-	457	136	86
	6	144	711	705	705	395	276	-	762	324	186
	8	192	841	832	832	485	512	-	457	703	488
	10	239	1000	991	991	585	505	-	457	907	714
	12	287	1146	1130	1130	675	548	-	610	1474	828
	14	315	1276	1257	1257	750	643	-	610	1905	1157
	16	360	1407	1384	1384	825	684	-	735	2449	1338
	18	371	1499	1447	1537	915	838	-	735	2880	2325
	20	416	1686	1664	1164	985	895	-	735	4200	2733
	24	498	1810	1782	2043	1170	970	-	1219	7370	4264

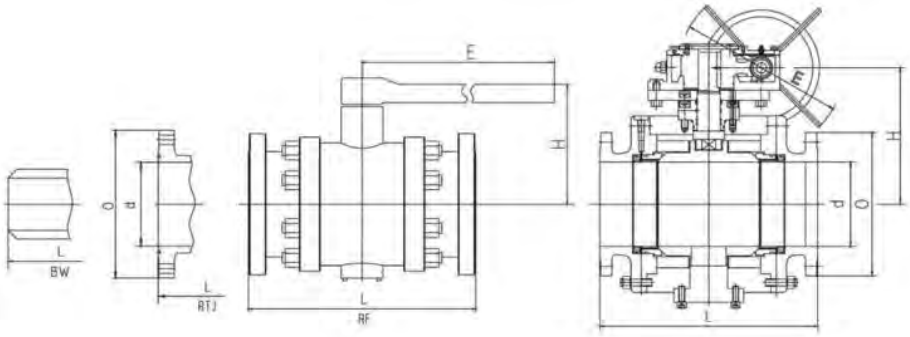
DIN Cast Steel Trunnion Mounted Ball Valves



Dimensions and Weights PN 16-100

PN 16 / PN 25															
DN		50	65	80	100	125	150	200	250	300	350	400	450	500	600	700
L	RF	179	191	203	229	356	394	457	533	610	686	762	846	914	1067	1245
	BW	216	241	283	305	381	457	521	559	635	762	838	914	991	1143	1346
H		107	125	152	178	300	330	398	495	580	625	670	698	840	1050	1100
E		230	400	400	650	1050	1050	600	600	800	800	800	800	800	800	800
Wt(kg)		12	16	22	35	58	74	205	322	460	576	864	1280	1600	3540	4500
PN 40																
DN		50	65	80	100	125	150	200	250	300	350	400	450	500	600	700
L	RF	216	241	283	305	381	403	502	568	648	762	838	914	991	1143	1346
	BW	216	241	283	305	381	457	521	559	635	762	838	914	991	1143	1346
H		107	125	152	178	300	330	398	495	580	625	670	698	840	1050	1100
E		230	400	400	650	1050	1050	600	600	800	800	800	800	800	800	800
Wt(kg)		15	24	30	55	87	118	255	370	533	640	1030	1542	2100	4200	5300
PN 63																
DN		50	65	80	100	150	200	250	300	350	400	500	600	700	-	-
L	RF	292	330	356	406	495	597	673	762	826	902	1054	1232	1397	-	-
H		108	155	197	235	300	374	445	512	550	615	810	1010	1180	-	-
E		600	600	600	600	600	800	800	800	800	800	800	800	800	-	-
Wt(kg)		23	35	49	91	192	355	640	880	1100	1540	2800	5300	5700	-	-
PN 100																
DN		50	65	80	100	150	200	250	300	350	400	500	600	700	-	-
L	RF	292	330	356	432	559	660	787	838	889	991	1194	1397	1579	-	-
H		108	155	197	235	235	374	445	512	550	615	810	1010	1180	-	-
E		600	600	600	600	600	800	800	800	800	800	800	800	800	-	-
Wt(kg)		23	38	55	102	102	290	710	960	1700	1970	3250	5800	6700	-	-

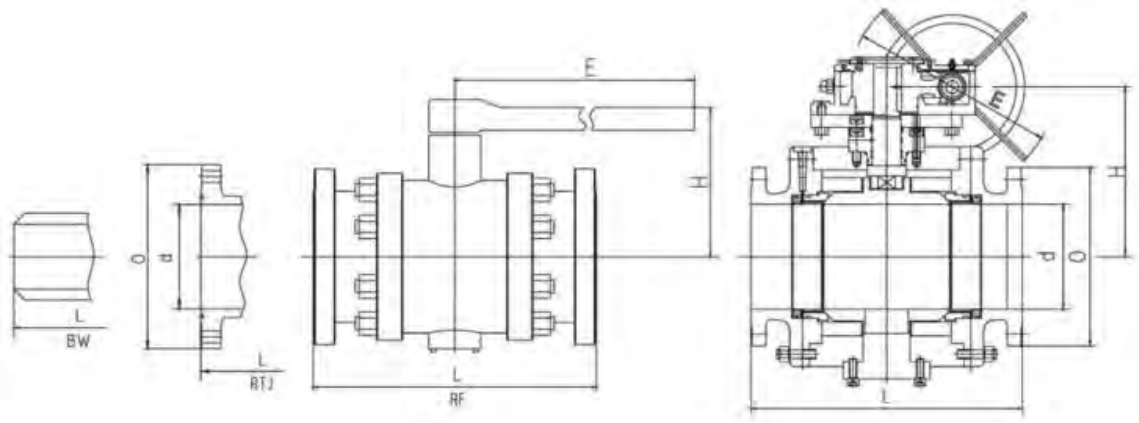
ANSI Forged Steel Trunnion Mounted Ball Valves



Dimensions and Weights Class 150-300

Class	NPS(in)	Dimensions / mm								Weight / kg	
		d	L			O	H	E		RTJ. RF	BW
			RTJ	RF	BW			Manual	Worm Gear		
Class 150	2	51	191	178	216	150	118	320	-	23	17
	3	76	216	203	282	190	114	418	-	43	38
	4	102	242	229	305	230	168	514	-	66	56
	6	152	407	394	457	280	282	-	350	240	200
	8	203	470	457	521	345	319	-	350	390	330
	10	254	546	533	559	405	362	-	350	570	480
	12	305	623	610	635	485	409	-	350	790	660
	14	337	699	686	762	535	448	-	350	980	820
	16	387	775	762	838	595	489	-	350	1170	980
	18	438	877	864	914	635	533	-	350	1640	1370
	20	489	927	914	991	700	573	-	350	2200	1840
	22	540	1004	991	1092	750	647	-	600	2730	2280
	24	591	1080	1067	1143	815	685	-	800	3270	2730
	26	635	-	1143	1245	870	734	-	800	4140	3450
	28	686	-	1245	1346	927	770	-	800	4740	3950
	30	737	-	1295	1397	984	809	370	800	5670	4730
Class 300	2	51	232	216	216	165	118	568	-	28	19
	3	76	298	282	282	210	144	664	-	53	40
	4	102	321	305	305	255	168	-	-	77	58
	6	152	419	403	457	320	282	-	350	250	210
	8	203	518	502	521	380	319	-	350	400	340
	10	254	574	568	559	445	370	-	350	600	500
	12	305	664	648	635	520	417	-	350	820	60
	14	337	778	762	762	585	448	-	350	1030	860
	16	387	854	838	838	650	489	-	350	1220	1020
	18	438	930	914	915	710	568	-	600	1710	1430
	20	489	1010	991	991	775	541	-	800	2310	1930
	22	50	1114	1092	1092	838	649	-	800	2860	2390
	24	591	1165	1143	1143	914	685	-	800	3430	2860
	26	635	1270	1245	1245	972	758	-	600	4340	3620
	28	686	1370	1346	1346	1035	794	-	600	4960	4140
	30	737	1422	1397	1397	1092	833	-	600	5950	4960

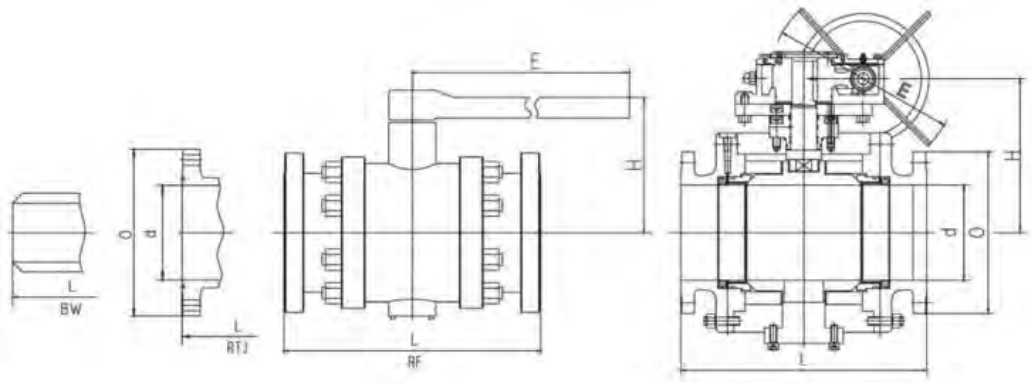
ANSI Forged Steel Trunnion Mounted Ball Valves



Dimensions and Weights Class 600

Class	NPS(in)	Dimensions / mm								Weight / kg	
		d	L			O	H	E		RTJ. RF	BW
			RTJ	RF	BW			Manual	Worm Gear		
Class 600	2	51	295	292	292	165	118	430	-	27	20
	3	76	359	356	356	210	144	668	-	59	42
	4	102	435	432	432	275	168	764	-	101	72
	6	152	562	559	559	355	282	-	350	310	260
	8	200	663	660	660	420	327	-	350	500	420
	10	248	790	787	787	510	370	-	350	740	620
	12	298	841	838	838	560	419	-	350	1030	860
	14	327	892	889	889	605	448	-	350	1270	1060
	16	375	994	991	991	685	524	-	600	1520	1270
	18	419	1095	1092	1092	745	570	-	800	2130	1780
	20	464	1200	1194	1194	815	604	-	800	2880	2400
	22	511	1305	1295	1295	870	673	-	600	3570	2980
	24	559	1407	1397	1397	940	709	-	600	4280	3570
	26	603	1461	1448	1448	1016	782	-	600	5430	4530
	28	648	1562	1549	1549	1073	818	-	600	6210	5180
	30	695	1664	1651	1651	1130	857	-	600	7450	6210
	32	779	1794	1778	1778	1194	896	-	600	8470	7060
	34	830	1946	1930	1930	1245	944	-	600	10360	8640
	36	874	2099	2083	2083	1314	981	-	600	12080	10070
	40	976	2170	2080	2170	1321	1066	-	600	15420	12850
	42	1020	2175	2175	2175	1403	1138	-	1200	18180	15150
	48	1166	2435	2435	2435	1594	1297	-	-	25260	21050

ANSI Forged Steel Trunnion Mounted Ball Valves



Dimensions and Weights Class 900-1500

Class	NPS(in)	Dimensions / mm								Weight / kg	
		d	L			O	H	E		RTJ. RF	BW
			RTJ	RF	BW			Manual	Worm Gear		
Class 900	2	49	371	368	368	215	125	560	-	59	35
	3	74	384	381	381	240	155	910	-	85	72
	4	100	460	457	457	290	243	-	600	177	160
	6	150	613	610	610	380	316	-	350	390	330
	8	201	740	737	737	470	350	-	350	640	540
	10	252	841	838	838	545	392	-	350	960	800
	12	303	968	965	965	610	440	-	350	1330	1110
	14	322	1039	1029	1029	641	499	-	600	1640	1370
	16	373	1140	1130	1130	705	541	-	800	1980	1650
	18	423	1232	1219	1219	785	598	-	8500	2770	2310
	20	471	1334	1321	1321	855	666	-	800	3740	3120
	22	522	-	-	-	-	717	-	800	4640	3870
	24	570	1568	1549	1549	1040	778	-	800	5660	4640
	26	712	-	-	-	1086	827	-	800	7050	5880
	28	855	-	-	-	1168	869	-	800	8070	6730
Class 1500	2	49	371	368	368	215	125	610	-	58	33
	3	72	473	470	470	265	188	-	300	109	81
	4	100	549	546	546	310	237	-	600	181	160
	6	144	711	705	705	395	355	-	350	460	390
	8	192	842	832	832	485	402	-	350	760	640
	10	239	1001	991	991	585	467	-	350	1150	960
	12	287	1146	1130	1130	675	498	-	350	1590	1330
	14	315	1276	1257	1257	750	609	-	600	1960	1640
	16	360	1406	1384	1384	825	670	-	800	2370	1980
	18	371	1499	1477	1537	915	701	-	800	3820	2770
	20	416	1686	1664	1664	985	860	-	600	4480	3740
	22	457	-	-	-	-	927	-	600	5560	4640
	24	498	1810	1782	2043	1170	973	-	600	6670	5560

Trunnion Mounted Ball Valves

Test Pressure Specification

Pressure Shell (Liquid): 1.5 or more times the pressure rating for material at 38° C

Sealing (Liquid): 1.1 or more times the pressure rating for material at 38° C

Low-pressure Sealing (Air): 0.4-0.7 (MPa)

Flow Data

Flow coefficient of serial valves is shown in form. CV denotes water under 1Lb/in^2 (0.007Mpa) pressure reducing +60° F (+16° C), washing valve USA gpm.

DIN Torque Form

DN(mm) / PN	50	65	80	100	150	200	250	300	350	400	500	600	700	800
16	25	50	65	125	340	485	810	1310	1910	2860	5860	8920	13320	24000
25	30	60	80	140	400	680	1140	1870	2740	4150	7800	13210	19830	35420
40	50	100	150	250	585	996	1690	2800	4110	6300	12000	20380	30670	55200
63	100	200	300	400	890	1500	2560	4290	6320	9750	18660	31820	48020	86830
100	190	360	460	770	1980	3280	5250	7200	9860	14500	29000	42500	58000	82000

ANSI Torque Form

DN(mm) / PN	2	2 ½	3	4	6	8	10	12	14	16	20	24	28	32
150	25	55	80	125	400	700	1100	1750	2600	3900	7500	10500	14500	21000
300	60	120	160	280	950	1550	2000	3300	5000	7500	14400	19600	28200	29800
600	190	360	460	770	1980	3280	5250	7200	9860	14500	29000	42500	58000	62000

Note: The data in the form is just for reference.

Trunnion Mounted Ball Valves

Full Port Trunnion Mounted Ball Valve Flow Coefficient CV

NPS (in)	Cv (Us gal/min)					
	Class 150	Class 300	Class 600	Class 900	Class 1500	Class 2500
2	404	406	360	321	321	204
3	1050	1021	937	906	816	456
4	2120	2096	1800	1750	1602	1014
6	5040	5074	4577	4383	3638	2508
8	9318	9337	8949	8476	7005	5276
10	14857	14857	14586	14139	11356	8377
12	21681	21802	21802	21186	16931	12247
14	26813	26915	26915	23393	20535	-
16	36022	36099	36099	33470	27586	-
18	46640	46685	46685	43882	36312	-
20	58870	58870	58870	54886	46038	-
24	86891	86891	86891	81230	68563	-
26	101050	101050	101050	95758	83399	-
28	118648	118648	118648	112050	97847	-
30	137799	137799	137799	128960	115180	-
36	198954	198954	198954	198910	-	-
40	250510	250510	250510	-	-	-
42	274200	274200	274200	-	-	-
46	330680	330680	330680	-	-	-
48	360840	360840	360840	-	-	-
56	492570	492570	492570	-	-	-

Method of calculating flow

The flow coefficient CV of a value is the flow rate of water (gallons/minute) through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through the valve from the Cv, use the following formulas:

CV=2 qv (G/□p)
In formula Cv-Flow Coefficient (us gal/min)
qv-Volume flow (us gal/min)
ذp-pressure drop (1bf/in2)
G-opposite density of water=1

ذp= ξ(u2p/2)
In formula ذp-pressure drop (1bf/in2)
ξ-Resistance Value
p-Liquid Density (kg/mm3)
u-Liquid Average Flow Velocity inside Pipe (mm/s)

High Performance Ball Valves

Sealing materials are made of heat resistant materials, these valves are ideal for heated abrasive service which conventional soft seated ball cannot perform in due to its limitation of heat resistance and mechanical properties.

Seating Material

13Cr seats with nitriding coated and 17-7 PH seat spring. Maximum working temperature is 450° C. Rigid construction and full metallic contact between ball and seat. Ideal for high abrasive and throttling service.

High Temperature Service

Conventional soft seated material is limited up to temperature 200° C as it may soften, degrade or melt in high temperature while high performance valve provides a greatly extended range of temperature up to 450° C.

Unconditional fire safe provision

Because A-T high performance ball valve sealing components (seats, ball, gasket and packing) are made of all hard faced metal or graphite which is extremely heat resistant, so that it is unconditional fire safe design. Also conventional anti-static device is not required because of inter-component electric conductivity.

Sealing and torque performance

A-T high performance ball valve can meet soft seated leakage criteria for fluid service. Advanced seat design offers low operation torque at full pressure rating. It is suitable for high temperature steam or gas service.

High Performance Floating Ball Valves

Test Pressure Specification

Pressure Shell (Liquid): 1.5 or more times the pressure rating for material at 38° C

Sealing (Liquid): 1.1 or more times the pressure rating for material at 38° C

Low-pressure Sealing (Air): 0.4-0.7 (MPa)

Technical Data

Size: NPS 1-8

Pressure Ratings: Class150-300

Body Materials:

ASTM: WCB (A105), CF8 (304), CF3 (304L), CF8M (316), CF3M (316L)

DIN: GS-C25 (St50-2), 1.4308 (1.4301), 1.4306, 1.4408 (1.4401), (1.4435)

Design Standard: API 6D, ASME B16.34

Face to Face: ASME B16.10

Butt-Welding Ends: ASME B16.25

Test and Inspection: ISO5208. DIN3230, API 6D, API598

Drive Means: Manual, Electric Actuator, Pneumatic, Actuator

Note: the sizes of serial valve flange dimension can be designed according to customer's requirement.

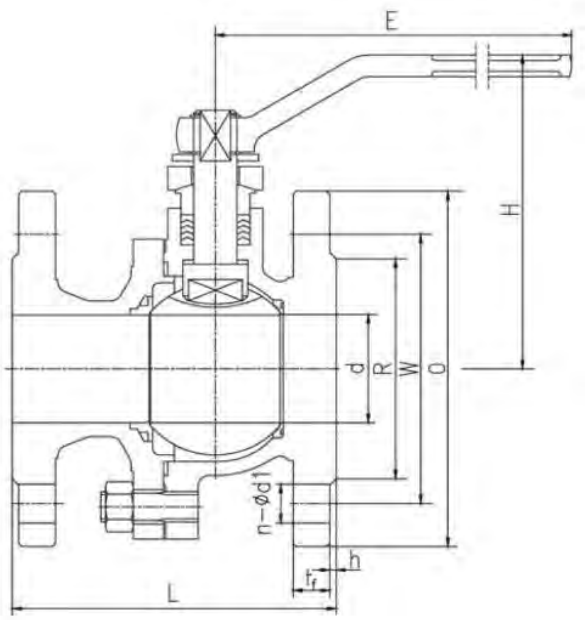
Torque Form

Class / PN(in)	150	300
1	33	33
1 ½	66	72
2	130	140
2 ½	200	265
3	290	340
4	780	980
6	1500	1780
8	4350	4985

Material Specifications

Parts	Materials	
	Carbon Steel	Stainless Steel
Bonnet	A216 WCB	A351 CF8M
Body	A216 WCB	A351 CF8M
Ball	St50-2+Cr	St50-2+Cr
Stem	A182 F6a	A182 F316
Seat Insert	A182 F6a	A182 F316
Packing	PTFE/Flexible Graphite	PTFE/Flexible Graphite
Spring	INCONEL X-750	INCONEL X-750
Bolt	A193 B7	A193 B8M
Nut	A194 2H	A194 8M

High Performance Floating Ball Valves



Dimensions and Weights Class 150-300

Class	NPS(in)	Dimensions / mm										Weight / kg
		d	L	O	W	R	tf	h	n-φd1	E	H	
Class 150	1	25	127	110	79.4	50.8	9.6	2	4-φ16	200	95	6
	1 ½	38	165	125	98.4	73	12.7	2	4-φ16	250	124	11
	2	51	178	150	120.7	92.1	14.3	2	4-φ19	300	136	14
	2 ½	64	190	180	139.7	104.8	15.9	2	4-φ19	350	157	23
	3	76	203	190	152.4	127	17.5	2	4-φ19	360	169	30
	4	102	229	230	190.5	157.2	22.3	2	8-φ19	400	250	53
	6	152	394	280	241.3	215.9	23.9	2	8-φ19	800	310	130
	8	203	457	345	298.5	269.9	27	2	8-φ22	1000	388	202
Class 300	1	25	165	125	88.9	50.8	15.9	2	4-φ19	200	95	6
	1 ½	38	190	155	114.3	73	19.1	2	4-φ22	300	124	11
	2	51	216	165	127	92.1	20.7	2	8-φ19	350	136	14
	2 ½	64	241	190	149.2	104.8	23.9	2	8-φ22	400	157	23
	3	76	282	210	168.3	127	27	2	8-φ22	450	169	30
	4	102	305	155	200	157.2	30.2	2	8-φ22	600	250	58
	6	152	403	320	269.9	215.9	35	2	8-φ22	900	310	137
	8	203	502	380	330.2	269.9	39.7	2	12-φ25.5	1000	388	220

Top Entry Ball valves

The top entry Trunnion supported design and unique seat retraction technique gives the convenient of inline repair or replaces valve internal components without dismantling it from the pipe line.
Each ball seat shuts off the line fluid independently on the upstream and downstream side, so this series ball valves are suitable for double block and bleed applications. Secondary sealant injection system for stem and seat is provided for emergency stop of accidental seat or stem leakage.
They are applied to chemical engineering, oil, natural gas, metallurgy, pharmacy, food industry environment protection and city building industries, etc.

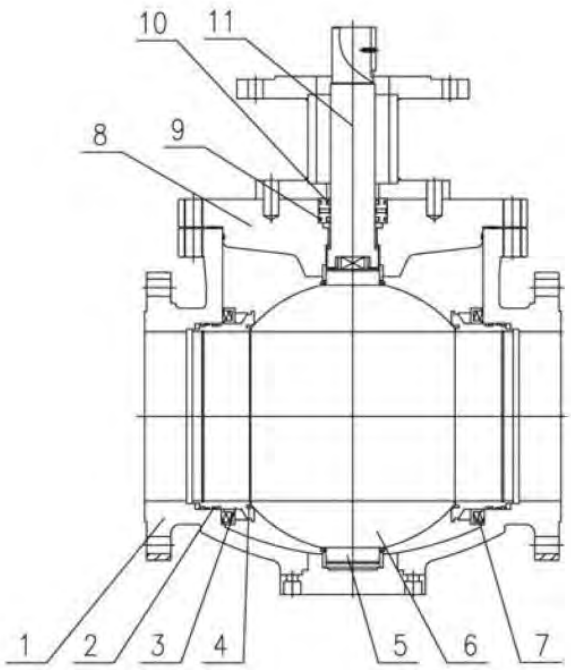
Test Pressure Specification

Pressure Shell (Liquid): 1.5 or more times the pressure rating for material at 38° C
Sealing (Liquid): 1.1 or more times the pressure rating for material at 38° C
Low-pressure Sealing (Air): 0.4-0.7 (MPa)

Technical Data

Size: NPS 2-36
Pressure Ratings: Class150-1500
Body Materials:
ASTM: WCB (A105), CF8 (304), CF3 (304L), CF8M (316), CF3M (316L)
DIN: GS-C25 (St50-2), 1.4308 (1.4301), 1.4306, 1.4408 (1.4401), (1.4404)
Design Standard: DIN3356, API 6D, ASME B16.34
Face to Face: DIN EN 558, ASME B16.10
Flanged Ends: DIN EN 1092, ASME B16.5
Butt-welding Ends: ASME B16.25
Test and Inspection: ISO5208. DIN3230, API 6D, API598
Note: the sizes of serial valve flange and butt-welding dimensions can be designed according to customer's requirement.

Top Entry Ball Valves

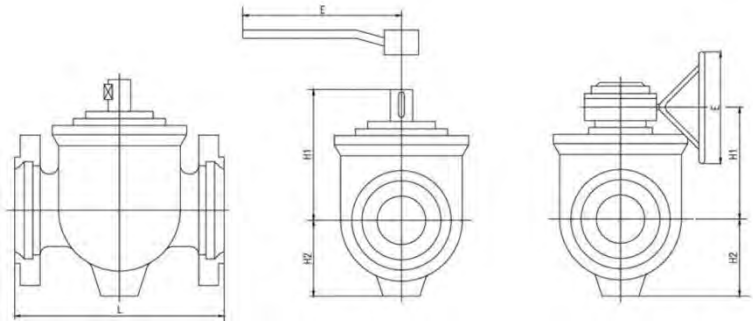


Material Specifications

No.	Part	Materials			
		Carbon Steel		Stainless Steel	
		DIN	ASTM	DIN	ASTM
1	Body	GS-C25	A216 WCB	1.4408	A351 CF8M
2	O-Ring O	NBR	NBR	NBR	NBR
3	Seat	St50-2	A105	1.4401	A182 F316
4	Seat insert	PTFE	PTFE	PTFE	PTFE
5	Stem	X20Cr13	A182 F6a	1.4401	A182 F316
6	Ball	St50-2+ENP	A105+ENP	1.4401	A182 F316②
7	Spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
8	Cover	GS-C25	A216 WCB	1.4408	A351 CF8M
9	O-ring O	NBR	NBR	NBR	NBR
10	O-ring O	NBR	NBR	NBR	NBR
11	Stem	X20Cr13	A182 F6a	1.4401	A182 F316

Note: materials can be selected according to customer's requirement.

ANSI Top Entry Ball Valves



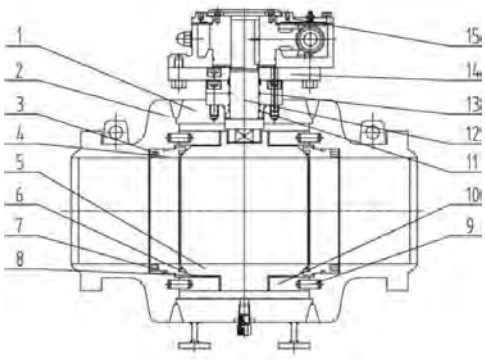
Dimensions and Weights Class 600-1500

Class	NPS(in)	Dimensions / mm								Weight / kg
		d	L			H1	H2	E		
			RF	BW	RTJ			Manual	Worm Gear	
Class 600	2	51	292	292	295	195	110	400	-	45
	3	76	356	356	359	240	110	750	-	80
	4	102	432	432	435	280	175	1000	-	150
	6	152	59	59	562	305	195	-	300	248
	8	200	660	660	663	400	280	-	300	438
	10	248	787	787	790	435	285	-	500	601
	12	298	838	838	841	440	320	-	600	625
	14	327	889	889	892	505	340	-	600	1230
	16	375	991	991	994	590	410	-	600	1535
	18	419	1092	1092	1095	700	445	-	600	2135
	20	464	1194	1194	1200	775	510	-	600	2640
	24	559	1397	1397	1407	840	640	-	600	3960
Class 900	2	49	368	368	371	200	120	750	-	52
	3	74	381	381	384	240	130	1000	-	87
	4	100	457	457	460	280	175	1500	-	160
	6	150	610	610	613	350	220	-	300	385
	8	201	737	737	740	390	260	-	400	560
	10	252	838	838	841	480	310	-	600	820
	12	303	965	965	968	538	410	-	600	1125
Class 1500	2	49	368	368	371	205	120	750	-	60
	3	72	470	470	473	210	125	1000	-	115
	4	100	546	546	549	245	160	-	300	194
	6	144	705	705	711	335	255	-	400	580
	8	192	832	832	842	427	340	-	500	752
	10	239	991	991	1001	502	381	-	600	1195
	12	287	1130	1130	1146	533	438	-	600	2170

Fully Welded Ball Valves

Technical Data

Pressure Ratings: Class150-1500
Design Standard: API 6D, ASME B16.34
Face to Face: ASME B16.10
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208. DIN3230, API 6D, API598
Note: the sizes of serial valve butt-welding dimensions can be designed according to customer's requirement.

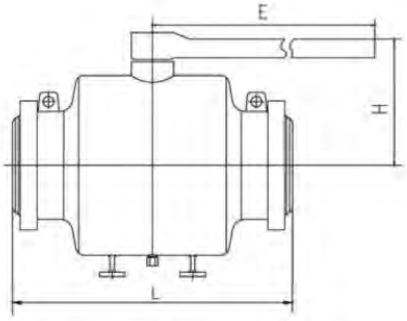


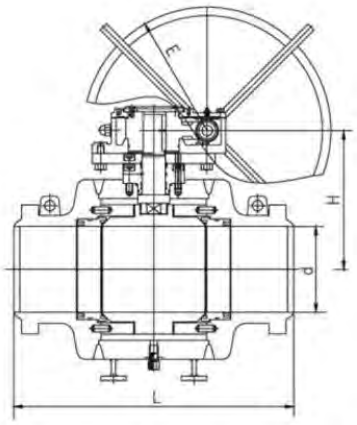
Material Specifications

No.	Parts	Materials	
		Carbon Steel	Stainless Steel
1	Body	A105	A182 F316
2	Bonnet	A105	A182 F316
3	Spring	Inconel X-750	Inconel X-750
4	Seat	A105	A182 F316
5	Ball	A105+ENP	A182 F316+ENP
6	Seat Insert	PTFE	PTFE
7	O-Ring	NBR	NBR
8	Bearing	Steel+PTFE	Steel+PTFE
9	Pin	ANSI 1045	A182 F304
10	Trunnion Support	A105	A182 F316
11	O-Ring	NBR	NBR
12	Stem	A182 F6a	A182 F316
13	O-Ring	NBR	NBR
14	Top Cover	A105	A182 F316
15	Actuator	Assembly	Assembly

Note: materials can be selected according to customer's requirement.

ANSI Fully Welded Ball Valves

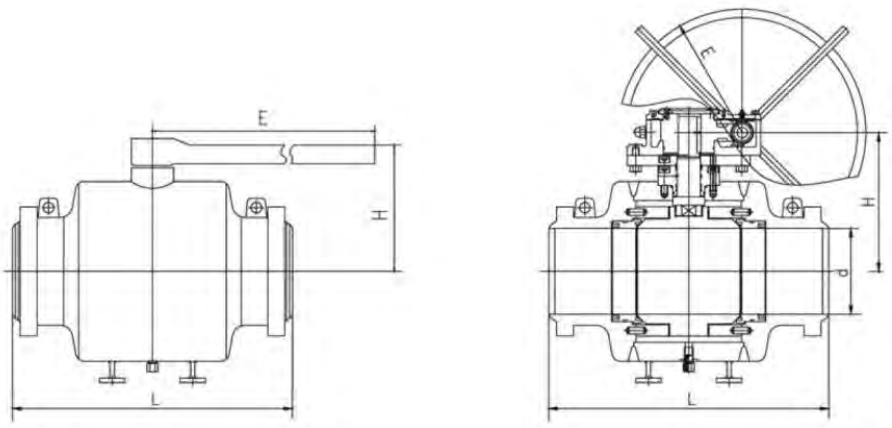




Dimensions and Weights Class 150-300

Class	NPS(in)	Dimensions / mm					Weight / kg
		d	L	H	E		
					Manual	Worm Gear	
Class 150	2	51	178	118	320	-	17
	3	76	203	144	418	-	38
	4	102	229	168	514	-	56
	6	152	394	282	-	350	200
	8	203	457	319	-	350	330
	10	254	553	362	-	350	480
	12	305	610	409	-	350	660
	14	337	686	448	-	350	820
	16	387	762	489	-	350	980
	18	438	864	533	-	350	1370
	20	489	914	573	-	350	1840
	22	540	991	647	-	600	2280
	24	591	1067	685	-	800	2730
	26	641	1143	734	-	800	3450
Class 300	2	51	216	118	370	-	19
	3	76	282	144	568	-	40
	4	102	305	168	664	-	58
	6	152	403	282	-	350	210
	8	203	502	319	-	350	340
	10	254	568	370	-	350	500
	12	305	648	417	-	350	690
	14	337	762	448	-	350	860
	16	387	838	489	-	350	1020
	18	438	914	568	-	600	1430
	20	489	991	541	-	800	1930
	22	540	1092	649	-	800	2390
	24	591	1143	685	-	800	2860
	26	635	1245	758	-	600	3620
	28	686	1346	694	-	600	4140

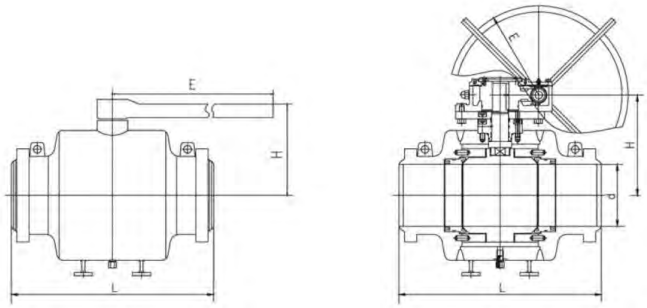
ANSI Fully Welded Ball Valves



Dimensions and Weights Class 600

Class	NPS(in)	Dimensions / mm					Weight / kg
		d	L	H	E		
					Manual	Worm Gear	
Class 600	2	51	292	118	430	-	20
	3	76	356	144	668	-	34
	4	102	432	168	764	-	45
	6	152	559	282	-	350	260
	8	200	660	327	-	350	420
	10	248	787	370	-	350	620
	12	298	838	419	-	350	860
	14	327	889	448	-	350	1060
	16	375	991	524	-	600	1270
	18	419	1092	570	-	800	1780
	20	464	1194	604	-	800	2400
	22	511	1295	673	-	600	2980
	24	559	1397	709	-	600	3570
	26	603	1448	782	-	600	4530
	28	648	1549	818	-	600	5180
	30	695	1651	857	-	600	6210
	32	830	1778	896	-	600	7060
	36	874	2083	981	-	1200	10070

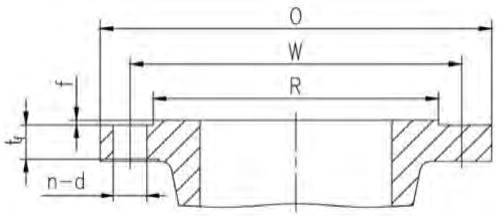
ANSI Fully Welded Ball Valves



Dimensions and Weights Class 900-1500

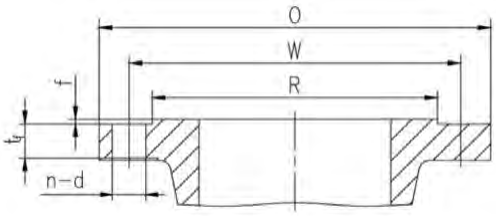
Class	NPS(in)	Dimensions / mm					Weight / kg
		d	L	H	E		
					Manual	Worm Gear	
Class 900	2	49	368	125	560	-	35
	3	74	381	155	910	-	72
	4	100	457	198	-	600	160
	6	150	610	316	-	350	330
	8	201	737	350	-	350	540
	10	252	838	392	-	350	800
	12	303	965	440	-	3530	1110
	14	322	029	499	-	600	1370
	16	373	1130	541	-	800	1650
	18	423	1219	598	-	800	2310
	20	471	1321	666	-	800	3120
	22	522	-	717	-	800	3870
	24	570	1549	778	-	800	4640
	26	617	-	827	-	800	5880
	28	665	-	869	-	800	6370
	30	712	-	913	-	800	8070
	32	760	-	971	-	800	9170
	36	855	-	1043	-	800	13090
Class 1500	2	49	368	125	610	-	20
	3	72	470	188	-	300	54
	4	100	546	237	-	600	86
	6	144	705	355	-	350	390
	8	192	832	402	-	350	640
	10	239	991	467	-	350	960
	12	287	1130	498	-	350	1330
	14	315	1257		-	600	1640
	16	360	1384		-	800	1980
	18	371	-		-	800	2770
	20	416	-		-	600	3740
	22	457	-		-	600	4640
	24	498	-		-	600	5560
	26	540	-		-	-	7050
	28	584	-		-	-	8070
	30	625	-		-	-	9680

Steel Pipe Flanges ASME B16.5 (RF)



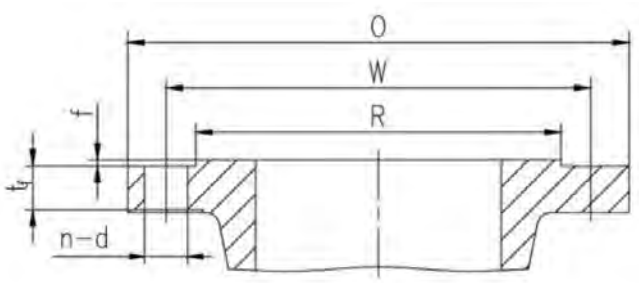
Class	NPS(in)		O/mm	W/mm	R/mm	tr/mm	f/mm	n	d
	NPS/in	DN/mm							
Class 150	½	15	90	60.3	34.9	8	2	4	16
	¾	20	100	69.9	42.9	8.9	2	4	16
	1	25	110	79.4	50.8	9.6	2	4	16
	1 ¼	32	115	88.9	63.5	11.2	2	4	16
	1 ½	40	125	98.4	73	12.7	2	4	16
	2	50	150	120.7	92.1	14.3	2	4	19
	2 ½	65	180	139.7	104.8	15.9	2	4	19
	3	80	190	152.4	127	17.5	2	4	19
	4	100	230	190.5	157.2	22.3	2	8	19
	5	125	255	215.9	185.7	22.3	2	8	22
	6	150	280	241.9	215.9	23.9	2	8	22
	8	200	345	298.5	269.9	27	2	8	22
	10	250	405	362	323.8	28.6	2	12	25.5
	12	300	485	431.8	381	30.2	2	12	25.5
	14	350	535	476.3	412.8	33.4	2	12	28.5
	16	400	595	539.8	469.9	35	2	16	28.5
	18	450	635	577.9	533.4	38.1	2	16	32
	20	500	700	635	584.2	41.3	2	20	32
	24	600	815	749.3	692.2	46.1	2	20	35
Class 300	½	15	95	66.7	34.9	12.7	2	4	16
	¾	20	115	82.6	42.9	14.3	2	4	19
	1	25	125	88.9	50.8	15.9	2	4	19
	1 ¼	32	135	98.4	63.5	17.5	2	4	19
	1 ½	40	155	114.3	73	19.1	2	4	22
	2	50	165	127	92.1	20.7	2	8	19
	2 ½	65	190	149.2	104.8	23.9	2	8	22
	3	80	210	168.3	127	27	2	8	22
	4	100	255	200	157.2	30.2	2	8	22
	5	125	280	235	185.7	33.4	2	8	22
	6	150	320	269.9	215.9	35	2	12	22
	8	200	380	330.2	269.9	39.7	2	12	25.5
	10	250	445	387.4	323.8	46.1	2	16	28.5
	12	300	520	450.8	381	49.3	2	16	32
	14	350	585	514.4	412.8	52.4	2	20	32
	16	400	650	571.5	469.9	55.6	2	20	35
	18	450	710	628.6	533.4	58.8	2	24	35
	20	500	775	685.8	584.2	62	2	24	35
	24	600	915	812.8	692.2	68.3	2	24	41

Steel Pipe Flanges ASME B16.5 (RF)



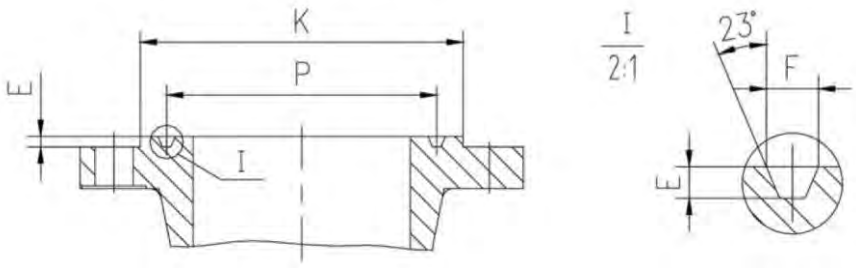
Class	NPS(in)		O/mm	W/mm	R/mm	tr/mm	f/mm	n	d
	NPS/in	DN/mm							
Class 600	½	15	95	66.7	34.9	14.3	7	4	16
	¾	20	115	82.6	42.9	15.9	7	4	19
	1	25	125	88.9	50.8	17.8	7	4	19
	1 ¼	32	135	98.4	63.5	20.7	7	4	19
	1 ½	40	155	114.3	73	22.3	7	4	22
	2	50	165	127	92.1	25.4	7	8	19
	2 ½	65	190	149.2	104.8	28.6	7	8	22
	3	80	210	168.3	127	31.8	7	8	22
	4	100	275	215.9	157.2	38.1	7	8	25.5
	5	125	330	266.7	185.7	44.5	7	8	28.5
	6	150	355	292.1	215.9	47.7	7	12	28.5
	8	200	420	349.2	269.9	55.6	7	12	32
	10	250	510	431.8	323.8	63.5	7	16	35
	12	300	560	489	381	66.7	7	20	35
	14	350	605	527	412.8	69.9	7	20	38
	16	400	685	603.2	469.9	76.2	7	20	41
	18	450	745	654	533.4	82.6	7	20	44.5
	20	500	815	723.9	584.2	88.9	7	24	44.5
	24	600	940	838.2	692.2	101.6	7	24	51
Class 900	½	15	120	82.6	34.9	22.3	7	4	22
	¾	20	130	88.9	42.9	25.4	7	4	22
	1	25	150	101.6	50.8	28.6	7	4	25.5
	1 ¼	32	160	111.1	63.5	28.6	7	4	25.5
	1 ½	40	180	123.8	7.	31.8	7	4	28.5
	2	50	215	165.1	92.1	38.1	7	8	25.5
	2 ½	65	245	190.5	104.8	41.3	7	8	28.5
	3	80	240	190.5	127	38.1	7	8	25.5
	4	100	290	235	157.2	44.5	7	8	32
	5	125	350	279.4	185.7	50.8	7	8	35
	6	150	380	317.5	215.9	55.6	7	12	32
	8	200	470	393.7	269.9	63.5	7	12	38
	10	250	545	469.9	323.8	69.9	7	16	38
	12	300	610	533.4	381	79.4	7	20	38
	14	350	640	558.8	412.7	85.8	7	20	41
	16	400	705	616	469.9	88.9	7	20	44.5
	18	450	785	685.8	533.4	101.6	7	20	51
	20	500	855	749.3	584.2	108	7	20	54
	24	600	1040	901.7	692.2	139.7	7	20	67

Steel Pipe Flanges ASME B16.5 (RF)



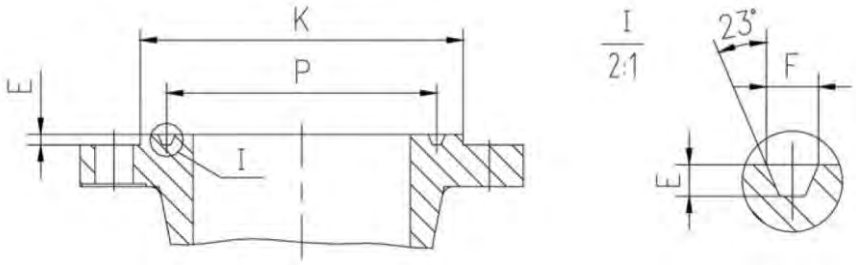
Class	NPS(in)		O/mm	W/mm	R/mm	tr/mm	f/mm	n	d
	NPS/in	DN/mm							
Class 1500	½	15	120	82.6	34.9	22.3	7	4	22
	¾	20	130	88.9	42.9	25.4	7	4	22
	1	25	150	101.6	50.8	28.6	7	4	25.5
	1 ¼	32	160	111.1	63.5	28.6	7	4	25.5
	1 ½	40	180	123.8	73	31.8	7	4	28.5
	2	50	215	165.1	92.1	38.1	7	8	25.5
	2 ½	65	245	190.5	104.8	41.3	7	8	28.5
	3	80	265	203.2	127	47.7	7	8	32
	4	100	310	241.3	157.2	54	7	8	35
	5	125	375	292.1	185.7	73.1	7	8	41
	6	150	395	317.5	215.9	82.6	7	12	38
	8	200	485	393.7	269.9	92.1	7	12	44.5
	10	250	585	482.6	323.8	108	7	12	51
	12	300	675	571.5	381	123.9	7	16	54
	14	350	750	635	412.8	133.4	7	16	60.5
	16	400	825	704.8	469.9	146.1	7	16	67
	18	450	915	774.7	533.4	162	7	16	73
	20	500	985	831.8	584.2	177.8	7	16	79.5
	24	600	1170	990.6	692.2	203.2	7	16	92
Class 2500	½	15	135	88.9	34.9	30.2	7	4	22
	¾	20	140	95.2	42.9	31.8	7	4	22
	1	25	160	108	50.8	35	7	4	25.5
	1 ¼	32	185	130.2	63.5	38.1	7	4	28.5
	1 ½	40	205	146	73	44.5	7	4	32
	2	50	235	171.4	92.1	50.9	7	8	28.5
	2 ½	65	265	196.8	104.8	57.2	7	8	32
	3	80	305	228.6	127	66.7	7	8	35
	4	100	355	273	157.2	76.2	7	8	41
	5	125	420	323.8	185.7	92.1	7	8	48
	6	150	485	368.3	215.9	108	7	8	54
	8	200	550	438.2	269.9	127	7	12	54
	10	250	675	539.8	323.8	165.1	7	12	67
	12	300	760	619.1	381	184.2	7	12	73

Steel Pipe Flanges ASME B16.5 (RTJ)



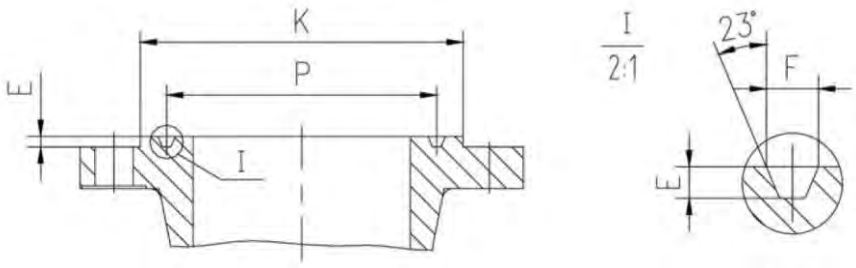
Class	NPS(in)		Ring Number	P/mm	E/mm	F/mm	K/mm
	NPS/in	DN/mm					
Class 150	1	25	R15	47.63	6.35	8.74	63.5
	1 ¼	32	R17	57.15	6.35	8.74	73
	1 ½	40	R19	65.07	6.35	8.74	82.5
	2	50	R22	82.55	6.35	8.74	102
	2 ½	65	R25	101.60	6.35	8.74	121
	3	80	R29	114.30	6.35	8.74	133
	4	100	R36	149.23	6.35	8.74	171
	5	125	R40	171.45	6.35	8.74	194
	6	150	R43	193.68	6.35	8.74	219
	8	200	R48	247.65	6.35	8.74	273
	10	250	R52	304.80	6.35	8.74	330
	12	300	R56	381.00	6.35	8.74	40
	14	350	R59	396.88	6.35	8.74	425
	16	400	R64	454.06	6.35	8.74	483
	18	450	R68	517.53	6.35	8.74	546
	20	500	R72	558.80	6.35	8.74	597
	24	600	R76	673.10	6.35	8.74	711
Class 300	½	15	R11	34.14	5.54	7.14	51
	¾	20	R13	42.88	6.35	8.74	63.5
	1	25	R16	50.80	6.35	8.74	70
	1 ¼	32	R18	60.33	6.35	8.74	79.5
	1 ½	40	R20	68.27	6.35	8.74	90.5
	2	50	R23	82.55	7.92	11.91	108
	2 ½	65	R26	101.60	7.92	11.91	127
	3	80	R31	123.83	7.92	11.91	146
	4	100	R37	149.23	7.92	11.91	175
	5	125	R41	180.98	7.92	11.91	210
	6	150	R45	211.12	7.92	11.91	241
	8	200	R49	269.88	7.92	11.91	302
	10	250	R53	323.85	7.92	11.91	356
	12	300	R57	381.00	7.92	11.91	413
	14	350	R61	419.10	7.92	11.91	457
	16	400	R65	469.90	7.92	11.91	508
	18	450	R69	533.40	7.92	11.91	575
	20	500	R73	584.20	9.53	13.49	635
	24	600	R77	692.15	11.13	16.66	749

Steel Pipe Flanges ASME B16.5 (RTJ)



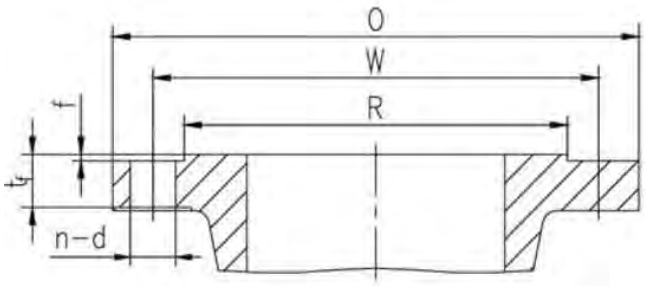
Class	NPS(in)		Ring Number	P/mm	E/mm	F/mm	K/mm
	NPS/in	DN/mm					
Class 600	½	15	R11	34.14	5.54	7.14	51
	¾	20	R13	42.88	6.35	8.74	63.5
	1	25	R16	50.80	6.35	8.74	70
	1 ¼	32	R18	60.33	6.35	8.74	79.5
	1 ½	40	R20	68.27	6.35	8.74	90.5
	2	50	R23	82.55	7.92	11.91	108
	2 ½	65	R26	101.60	7.92	11.91	127
	3	80	R31	123.83	7.92	11.91	146
	4	100	R37	149.23	7.92	11.91	175
	5	125	R41	180.98	7.92	11.91	210
	6	150	R45	211.12	7.92	11.91	241
	8	200	R49	269.88	7.92	11.91	302
	10	250	R53	323.85	7.92	11.91	356
	12	300	R57	381.00	7.92	11.91	413
	14	350	R61	419.10	7.92	11.91	457
	16	400	R65	469.90	7.92	11.91	508
	18	450	R69	533.40	7.92	11.91	575
	20	500	R73	584.20	9.53	13.49	635
	24	600	R77	692.15	11.13	16.66	749
Class 900	½	15	R12	39.67	6.35	8.74	60.5
	¾	20	R14	44.45	6.35	8.74	66.5
	1	25	R16	50.80	6.35	8.74	71.5
	1 ¼	32	R18	60.33	6.35	8.74	81.0
	1 ½	40	R20	68.27	6.35	8.74	92
	2	50	R24	95.25	7.92	11.91	124
	2 ½	65	R27	107.95	7.92	11.91	137
	3	80	R31	123.83	7.92	11.91	156
	4	100	R37	149.23	7.92	11.91	181
	5	125	R41	180.98	7.92	11.91	216
	6	150	R45	211.12	7.92	11.91	241
	8	200	R49	269.88	7.92	11.91	308
	10	250	R53	323.85	7.92	11.91	362
	12	300	R57	381.00	7.92	11.91	419
	14	350	R61	419.10	11.13	16.66	467
	16	400	R65	469.90	11.13	16.66	524
	18	450	R69	533.40	12.70	19.84	594
	20	500	R74	584.20	12.70	19.84	648
	24	600	R78	692.15	15.88	26.97	772

Steel Pipe Flanges ASME B16.5 (RTJ)

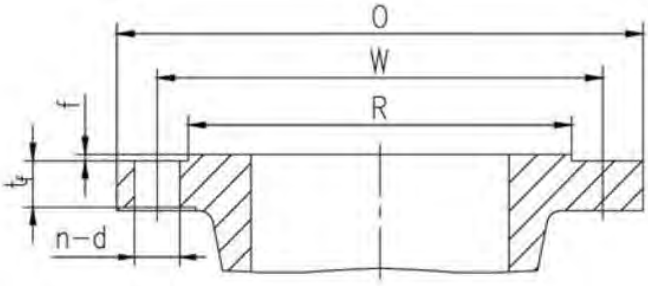


Class	NPS(in)		Ring Number	P/mm	E/mm	F/mm	K/mm
	NPS/in	DN/mm					
Class 1500	½	15	R12	39.67	6.35	8.74	60.5
	¾	20	R14	44.45	6.35	8.74	66.5
	1	25	R16	50.80	6.35	8.74	71.5
	1 ¼	32	R18	60.33	6.35	8.74	81.0
	1 ½	40	R20	68.27	6.35	8.74	92
	2	50	R24	95.25	7.92	11.91	124
	2 ½	65	R27	107.95	7.92	11.91	137
	3	80	R35	136.53	7.92	11.91	168
	4	100	R39	161.93	7.92	11.91	194
	5	125	R44	193.68	7.92	11.91	229
	6	150	R46	211.14	9.53	13.49	248
	8	200	R50	269.88	11.13	16.66	318
	10	250	R54	323.85	11.13	16.66	371
	12	300	R58	381.00	14.27	23.01	438
	14	350	R63	419.00	15.88	26.97	489
	16	400	R67	469.90	17.48	30.18	546
	18	450	R70	533.40	17.48	30.18	613
	20	500	R75	584.20	17.48	33.32	673
	24	600	R79	692.15	20.62	36.53	794
Class 2500	½	15	R13	42.88	6.35	8.74	65
	¾	20	R16	50.88	6.35	8.74	73
	1	25	R18	60.33	6.35	8.74	82.5
	1 ¼	32	R21	72.23	7.92	11.91	102
	1 ½	40	R23	82.55	7.92	11.91	114
	2	50	R26	101.60	7.92	11.91	133
	2 ½	65	R28	111.13	9.52	13.49	149
	3	80	R32	127.00	9.53	13.49	168
	4	100	R38	157.18	11.13	16.66	203
	5	125	R42	190.50	12.70	19.84	241
	6	150	R47	228.60	12.70	19.84	279
	8	200	R51	279.40	14.27	23.01	340
	10	250	R55	342.90	17.48	30.18	425
	12	300	R60	406.40	17.48	33.32	495

Steel Pipe Flanges ASME B16.47 (RF)



Class150 ~ Class150



Class600 ~ Class1500

Class	NPS(in)		O/mm	W/mm	R/mm	tf/mm	f/mm	n	d
	NPS/in	DN/mm							
Class 150	26	650	870	806.5	749.3	68.3	1.6	24	35
	28	700	927	863.6	800.1	71.4	1.6	28	35
	30	750	984	914.4	857.3	74.7	1.6	28	35
	32	800	1060	977.9	914.4	81	1.6	28	41
	34	850	1111	1028.7	965.2	82.6	1.6	32	41
	36	900	1168	1085.9	1022.4	90.4	1.6	32	41
	38	950	1238	1149.4	1073.2	87.4	1.6	32	41
	40	1000	1289	1200.2	1124	90.4	1.6	36	41
	42	1050	1346	1257.3	1193.8	96.8	1.6	36	41
	44	1100	1403	1314.5	1244.6	101.6	1.6	40	41
	46	1150	1454	1365.3	1295.4	103.1	1.6	40	41
	48	1200	1511	1422.4	1358.9	108	1.6	44	41
	50	1250	1568	1479.6	1409.7	111.3	1.6	44	48
	52	1300	1626	1536.7	1460.5	115.8	1.6	44	48
	54	1350	1683	1593.9	1511.3	120.7	1.6	44	48
Class 300	26	650	972	876.3	749.3	79.3	1.6	28	44.5
	28	700	1035	939.8	800.1	85.9	1.6	28	44.5
	30	750	1092	997	857.3	92	1.6	28	48
	32	800	1149	1054.1	914.4	98.6	1.6	28	51
	34	850	1207	1104.9	965.2	101.6	1.6	28	51
	36	900	1270	1168.4	1022.4	104.7	1.6	32	54
	38	950	1168	1092.2	1028.7	108	1.6	32	41
	40	1000	1238	1155.7	1085.9	114.3	1.6	32	44.5
	42	1050	1289	1206.5	1136.7	119.1	1.6	32	44.5
	44	1100	1353	1263.7	1193.8	124	1.6	32	48
Class 600	26	650	1016	914.4	749.3	108	6.4	28	51
	28	700	1073	965.2	800.1	111.3	6.4	28	54
	30	750	1130	1022.4	857.3	114.3	6.4	28	54
	32	800	1194	1079.5	914.4	117.3	6.4	28	60.5
	34	850	1245	1130.3	965.2	120.7	6.4	28	60.5
	36	900	1315	1193.8	1022.4	124	6.4	28	67
Class 900	26	650	1086	952.5	749.3	139.7	6.4	20	73
	28	700	1168	1022.4	800.1	142.7	6.4	20	79

GATE VALVES

Wedge Gate Valves

Compact structure and reasonable design. The valve has fine stiffness, with small flow resistance.

Adopt stainless steel and hard alloy for sealing surface, long service life.

There is backseat structure in the valve, so the sealing is reliable.

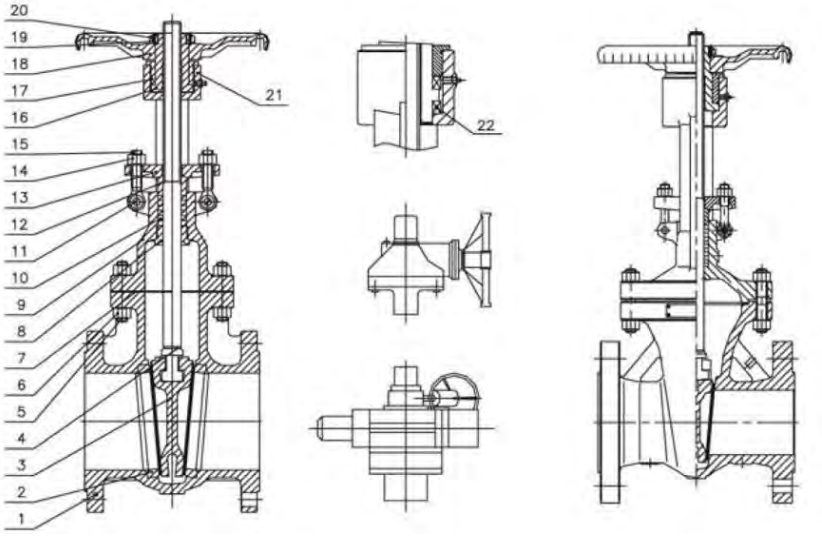
The materials of the spare parts and the flange dimensions can be selected according to the practical working conditions and customer's requirement, to meet the requirements of different projects.

Technical Data

Size: NPS1-48, DN25-1000
Pressure Class: Class150-2500, PN10-420
Temperature: -254° C - 593° C
Design Standard: ASME B16.34, EN1984, API 600, DIN 3356
Face to Face: DIN EN 558, ASME B16.10
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208, EN 12266.1, API 600, API598

Note: the sizes of serial valve flange and butt-welding endings can be designed according to customer's requirement.

Wedge Gate Valves

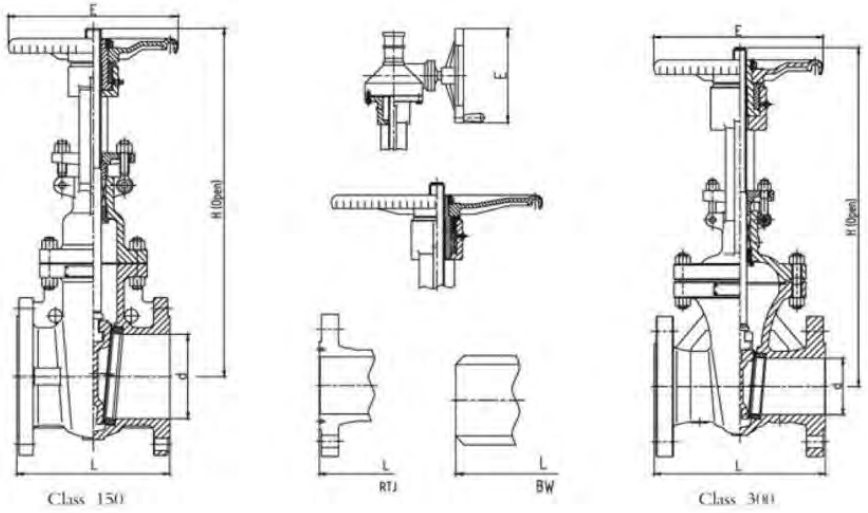


Material Specifications

No.	Parts	Materials					
		Standard	Low Temperature		High Temperature		SS
1	Body	A216 WCB	S352 LCB	A352 LC2	A217 WC6	A217 WC9	A351 CF8M
2	Seat	A105+13Cr	A182 F304	A182 F304	A182 F11+STL	A182 F22+STL	
3	Wedge	A216 WCB+13Cr	A352 LCB+304	A352 LC2+304	A217 WC6+STL	A217 WC9+STL	A351 CF8M
4	Stem	A276 410	A276 304	A276 304	A276 410	A276 410	A276 316
5	Bonnet Bolt	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A193 B8M
6	Bonnet Nut	A194 2H	A194 4	A194 4	A194 4	A194 4	A194 8M
7	Gasket	Graphite+304	Graphite+304	Graphite+304	Graphite+304	Graphite+304	Graphite+316
8	Backseat	A276 410	A276 304	A276 304	A276 410	A276 410	A276 316
9	Bonnet	A216 WCB	A352 LCB	A352 LC2	A217 WC6	A217 WC9	A351 CF8M
10	Packing	Graphite+304	Graphite+304	Graphite+304	Graphite+304	Graphite+304	Graphite+316
11	Eyebolt Pin	ASTM A29	ASTM A29	ASTM A29	ASTM A29	ASTM A29	SS
12	Gland	A276 304	A276 304	A276 410	A276 410	A276 410	A276 316
13	Gland Flange	CS	CS	CS	CS	CS	SS
14	Gland Nut	A194 2H	A194 4	A194 4	A194 4	A194 4	A194 8M
15	Gland Bolt	A193 B7	A320 L7	A320 L7	A193 B16	A193 B16	A193 B8M
16	Stem Nut	Bronze	Bronze	Bronze	Bronze	Bronze	Bronze
17	Stem Nut Retainer	ASTM A29	ASTM A29	ASTM A29	ASTM A29	ASTM A29	ASTM A29
18	Handwheel	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
19	Set Screw	CS	CS	CS	CS	CS	SS
20	Handwheel Nut	ASTM A29	ASTM A29	ASTM A29	ASTM A29	ASTM A29	ASTM A29
21	Yoke	A216 WCB	A352 LCB	A352 LC2	A217 WC6	A217 WC9	A351 CF8M
22	Bearing	Assembly	Assembly	Assembly	Assembly	Assembly	Assembly

Note: the materials can be selected according to customer's requirement.

ANSI Wedge Gate Valves



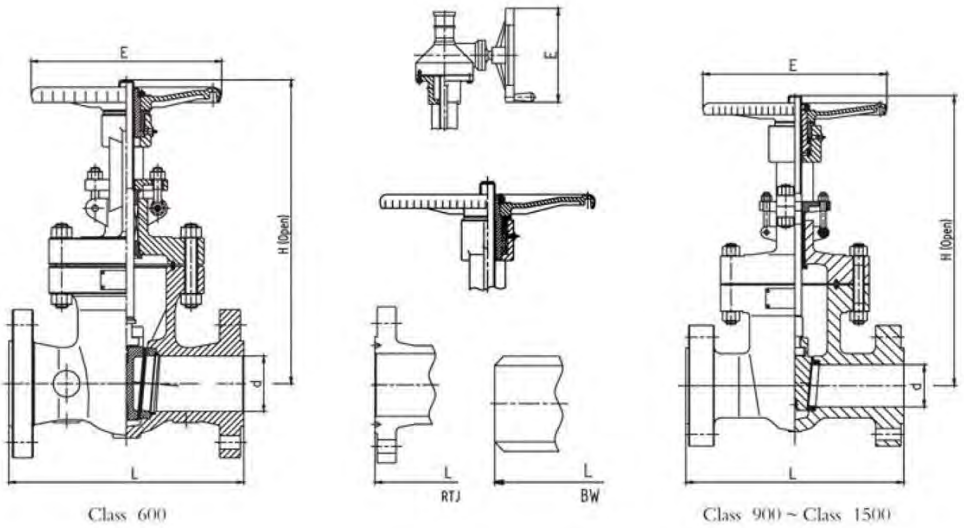
Class150, NPS≥10 and Class300, NPS≥8 with bearing, yoke and bolted bonnet.

Class150, NPS≥26 and Class300, NPS≥18 with gear operation. Class 150, 8≤NPS≤24 and Class300, 8≤NPS≤16 customer can choose gear operation or not.

Dimensions and Weights Class 150-300

Class			Class 150																
NPS(in)			2	2 ½	3	4	5	6	8	10	12	14	16	18	20	24	28	30	36
Dim.	d		51	64	76	102	127	152	203	254	305	337	387	438	489	591	692	743	874
	L	RF	178	190	203	229	254	267	292	330	356	381	406	432	457	508	610	610	711
		BW	216	241	282	305	381	403	419	457	502	572	610	660	711	813	-	-	-
		RTJ	191	203	216	242	267	280	305	343	369	394	419	445	470	521	-	-	-
	H		387	435	481	585	681	765	956	1149	1351	1508	1703	1892	2119	2500	2960	3148	3721
	E		200	200	250	280	280	300	350	400	450	500	550	600	600	650	600	600	600
Weight/kg	RF		18	25	32	50	64	77	121	178	265	362	463	621	792	1190	1900	2540	3385
	BW		15	18	26	41	58	69	108	156	248	330	424	587	752	1144	1838	2261	3310
Class			Class 300																
NPS(in)			2	2 ½	3	4	5	6	8	10	12	14	16	18	20	24	28	30	36
Dim.	d		51	64	76	102	127	152	203	254	305	337	387	432	483	584	635	686	737
	L	RF/ BW	216	241	282	305	381	403	419	457	502	762	838	914	991	1143	1245	1346	1397
		RTJ	232	257	298	321	397	419	435	473	518	778	854	930	1010	1165	1270	1372	1422
	H		410	453	509	612	670	805	1000	1209	1416	1582	1725	1959	2194	2598	2986	3120	3205
	E		200	200	250	280	300	350	400	450	500	550	600	600	600	600	600	600	600
Weight/kg	RF		23	35	50	71	100	144	209	322	482	683	950	1145	1634	2660	3090	3312	3597
	BW		17	26	39	53	79	113	164	256	390	565	805	964	1412	2304	2540	2725	3057

ANSI Wedge Gate Valves



Class600, NPS≥10 and Class900、Class1500, NPS≥6 With bearing, yoke and bolted bonnet.

Class600, NPS≥14 and Class900、Class1500, NPS≥8 with gear operation, Class600, 8≤NPS≤12 and Class900、Class1500 , 4≤NPS≤6 customer can choose gear operation or not.

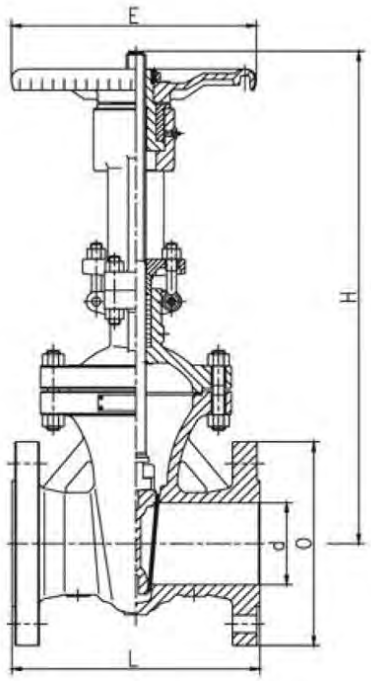
Dimensions and Weights Class 600-1500

Class			Class 600													
NPS(in)			2	2 ½	3	4	5	6	8	10	12	14	16	18	20	24
Dim.	d		51	64	76	102	127	152	200	248	298	3527	375	419	464	559
	L	RF/ BW	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
		RTJ	295	333	359	435	511	562	663	790	840	892	994	1095	1200	1407
	H		418	476	518	646	770	839	1024	1229	1450	1574	1797	1931	2207	2582
	E		200	250	280	300	400	450	500	600	650	600	600	600	600	600
Weight/kg		RF	36	52	67	112	170	234	393	610	890	1245	1530	1967	2450	3620
		BW	29	42	53	83	125	177	310	472	729	1054	1242	1626	2032	3017

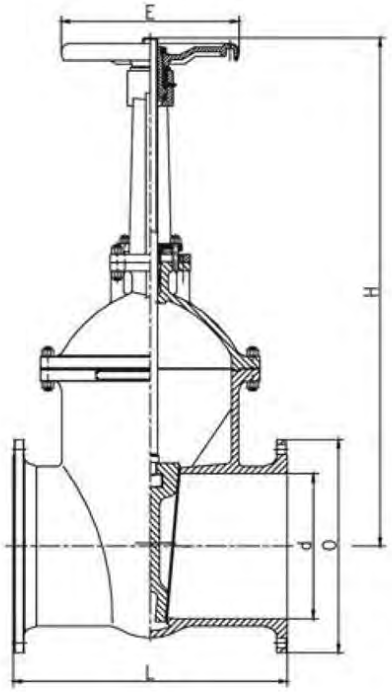
Dimensions and Weights Class 900-1500

Class			Class 900							Class 1500						
NPS(in)			2	2 ½	3	4	6	8	10	2	2 ½	3	4	6	8	10
Dim.	d		47	57	73	98	146	191	238	47	57	70	92	136	178	222
	L	RF/ BW	368	419	381	457	610	737	838	368	419	470	546	705	832	991
		RTJ	371	422	384	460	613	740	841	371	422	473	549	711	842	1001
	H		498	574	573	678	900	1103	1345	487	572	603	700	984	1146	1371
	E		280	300	300	350	550	600	610	280	300	350	400	550	460	460
Weight/kg		RF	74	91	101	172	335	640	1100	74	131	165	248	510	921	1910
		BW	54	65	78	135	260	517	922	54	105	129	197	412	761	1640

DIN Wedge Gate Valves



DN50～DN300

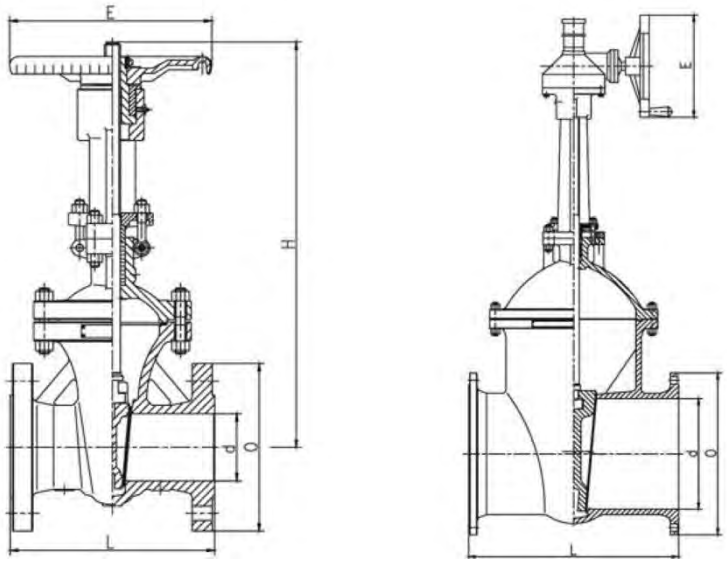


DN350～DN600

Dimensions and Weights PN 16-25

PN		PN16													
DN(mm)		50	65	80	100	125	150	200	250	300	350	400	450	500	600
Dim.	d	51	64	76	102	127	152	203	254	305	336	387	438	489	591
	L	250	270	280	300	325	350	400	450	500	550	600	650	700	800
	O	165	185	200	220	250	285	340	405	460	520	580	640	715	840
	H(Open)	422	454	514	611	684	773	998	1196	1424	1508	1703	1892	2119	2500
	E	200	200	250	280	280	300	350	400	450	500	550	600	600	650
Weight/kg		19	25	30	55	75	98	150	245	353	490	750	985	1063	1390
PN		PN25													
DN(mm)		50	65	80	100	125	150	200	250	300	350	400	450	500	600
Dim.	d	51	64	76	102	127	152	203	254	305	336	387	438	489	591
	L	250	270	280	300	325	350	400	450	500	550	600	650	700	800
	O	165	185	200	235	270	300	360	425	485	555	620	670	730	845
	H(Open)	422	454	514	611	684	773	998	1196	1424	1508	1703	1892	2119	2500
	E	200	200	250	280	280	300	350	400	450	500	550	600	600	650
Weight/kg		19	25	30	55	82	103	180	265	385	547	835	1050	1130	1500

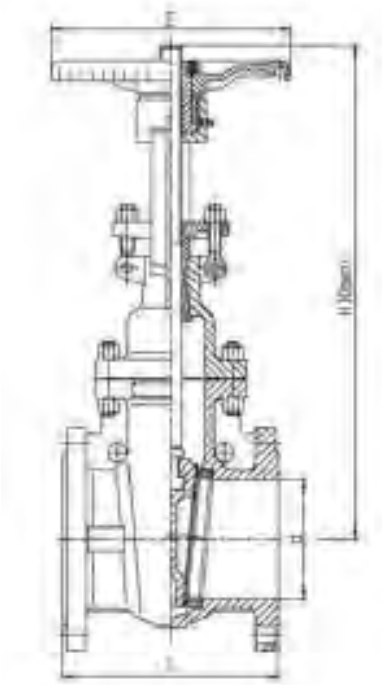
DIN Wedge Gate Valves



Dimensions and Weights PN 40-100

PN		PN40													
DN(mm)		50	65	80	100	125	150	200	250	300	350	400	450	500	600
Dim.	d	51	64	76	102	127	152	203	254	305	336	387	432	483	584
	L	250	290	310	350	400	450	550	650	750	850	950	1050	1150	1350
	O	165	185	200	235	270	300	375	450	515	580	660	685	755	890
	H(Open)	422	454	514	611	713	825	1046	1254	1472	1582	1725	1959	2194	2598
	E	200	200	250	280	300	350	400	450	500	550	600	600	750	900
Weight/kg		20	32	47	60	95	130	220	290	490	760	900	1250	1450	1700
PN		PN63													
DN(mm)		50	65	80	100	125	150	200	250	300	350	400	500	600	-
Dim.	d	51	64	76	102	127	152	203	254	305	336	387	483	584	-
	L	250	290	310	350	400	450	550	650	750	850	950	1150	1350	-
	O	180	205	215	250	295	345	415	470	530	600	670	800	930	-
	H(Open)	418	476	518	646	770	839	1024	1229	1450	1574	1797	2207	2582	-
	E	200	250	280	300	400	450	500	600	650	800	900	610	610	-
Weight/kg		22	35	52	66	103	140	230	300	510	780	940	1600	1850	-
PN		PN100													
DN(mm)		50	65	80	100	125	150	200	250	300	350	400	500	-	-
Dim.	d	51	65	80	100	125	150	200	250	300	350	400	500	-	-
	L	250	290	310	350	400	450	550	650	750	850	950	1150	-	-
	O	195	220	230	265	315	355	430	505	585	655	715	870	-	-
	H(Open)	498	547	573	678	728	900	1103	1345	1605	1770	2035	2485	-	-
	E	280	300	300	350	450	550	600	700	800	550	600	750	-	-
Weight/kg		25	39	58	74	113	152	242	323	533	803	990	1860	-	-

DIN Short-Pattern Wedge Gate Valves



Dimensions and Weights PN 10-16

PN		PN10													
DN(mm)		50	65	80	100	125	150	200	250	300	350	400	450	500	600
Dim.	d	51	64	76	102	127	152	203	254	305	336	387	438	489	591
	L	150	170	180	190	200	210	230	250	270	290	310	330	350	390
	O	165	185	200	220	250	285	340	395	445	505	565	615	670	780
	H(Open)	387	435	481	585	681	765	956	1149	1351	1508	1703	1892	2119	2500
	E	200	200	250	280	280	300	350	400	450	500	550	600	600	650
Weight/kg		16	23	28	42	72	84	134	216	320	470	730	965	1043	1372
PN		PN16													
DN(mm)		50	65	80	100	125	150	200	250	300	350	400	450	500	600
Dim.	d	51	64	76	102	127	152	203	254	305	336	387	438	489	591
	L	150	170	180	190	200	210	230	250	270	290	310	330	350	390
	O	165	185	200	220	250	285	340	405	460	520	580	640	715	840
	H(Open)	387	435	481	585	681	765	956	1149	1351	1508	1703	1892	2119	2500
	E	200	200	250	280	280	300	350	400	450	500	550	600	600	650
Weight/kg		16	23	28	42	72	84	134	230	340	500	760	1000	1103	1402

Pressure Seal Gate Valves

Body material: Carbon steel or stainless steel

Wedge slide structure

Sealing surface: hard face

Trapezoidal shape pressure seal gasket with integral graphite insures lower-load for bolting.

ISO Standard top flange makes an easy assembling for any type of actuator or gear.

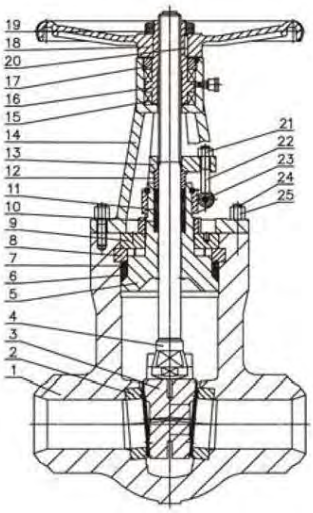
Wedge vent hole, bypass, switch indicator and other similar devices can be chosen according to customer’ s requirement.

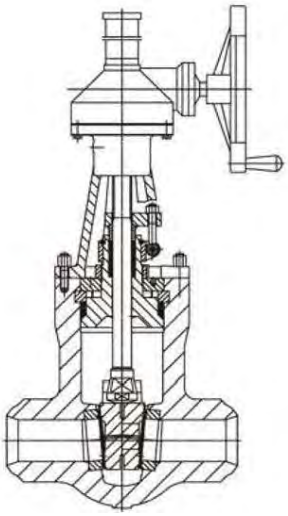
Technical Data

Size: NPS 2-24
Pressure Ratings: Class 600-2500
Temperature: -29° C - 593° C
Design Standard: ASME B16.34, EN1984, API 600
Face to Face: ASME B16.10
Flanged Ends: ASME B16.5
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208, API 600, API 598
Note: the flange and butt-welding dimensions can be designed according to customer’s requirement.

Pressure seal gate valves are used in pipeline of water, steam and high temperature medium.

Pressure Seal Gate Valves



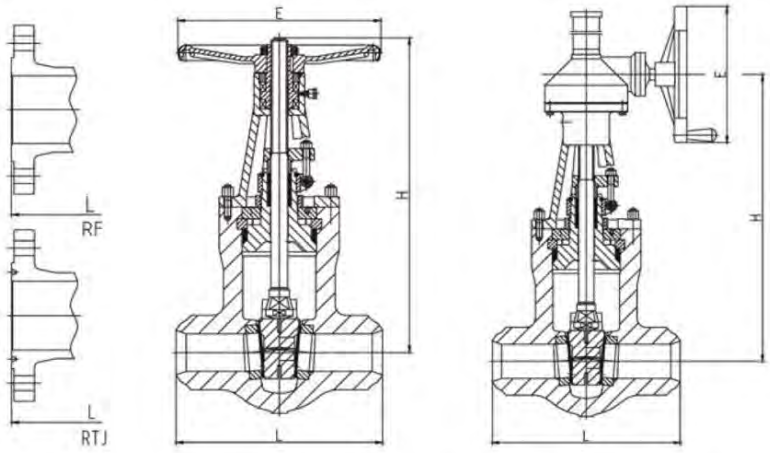


Material Specifications

No.	Parts	Materials			
		Standard	High Temperature		Corrosion Service
1	Body	A216 WCB	A217 WC6	A217 WC9	A351 CF8M
2	Seat	A105	A182 F11	A182 F22	A182 F316
3	Wedge	A216 WCB	A217 WC6	A217 WC9	A351 CF8M
4	Stem	A276 410	A276 410	A276 410	A276 316
5	Valve Core	A216 WCB	A217 WC6	A217 WC9	A351 CF8M
6	Seal Ring	Graphite+304	Graphite+304	Graphite+304	Graphite+316
7	Gland Ring	A276 410	A276 410	A276 410	A276 316
8	Segment Ring	A276 410	A276 410	A276 410	A276 316
9	Supporting Plate	A105	A182 F11	A182 F22	A182 F316
10	Packing	Graphite+304	Graphite+304	Graphite+304	Graphite+316
11	Lantern Ring	A276 410	A276 410	A276 410	A276 316
12	Gland	A276 410	A276 410	A276 410	A276 316
13	Gland Flange	CS	CS	CS	SS
14	Yoke	A216 WCB	A217 WC6	A217 WC9	A351 CF8M
15	Bearing	Assembly	Assembly	Assembly	Assembly
16	Stem Nut	Bronze	Bronze	Bronze	Bronze
17	Stem Nut Retainer	ASTM A29	ASTM A29	ASTM A29	ASTM A29
18	Handwheel	Cast Iron	Cast Iron	Cast Iron	Cast Iron
19	Handwheel Nut	ASTM A29+ZN	ASTM A29+ZN	ASTM A29+ZN	ASTM A29+ZN
20	Set Screw	CS	CS	CS	CS
21	Nut	A194 2H	A194 4	A194 4	A194 8M
22	Eyebolt	A193 B7	A193 B16	A193 B16	A193 B8M
23	Pin	ASTM A29	ASTM A29	ASTM A29	ASTM A29
24	Bolt	A193 B7	A193 B16	A193 B16	A193 B8M
25	Nut	A194 2H	A194 4	A194 4	A194 8M

Note: the materials can be selected according to customer's requirement.

ANSI Pressure Seal Gate Valves



NPS≤4
Handwheel Operation

Class900, NPS≥8; Class1500, NPS≥8; Class2500, NPS≥6
Gear Operation

Dimensions and Weights Class 900-2500

Class			Class 900									
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16
Dim.	d		47	57	73	98	146	191	238	282	311	356
	L	RF	368	419	381	457	610	737	838	965	1029	1130
		BW	216	254	305	356	508	660	787	914	991	1092
		RTJ	371	422	384	460	613	740	840	968	1039	1140
	H		594	753	756	864	1013	1276	1543	1781	2026	2261
	E		250	250	300	350	500	600	610	610	610	610
Weight/kg		RF	63	99	107	158	294	693	1008	1418	1785	2520
		BW	42	67	84	105	194	520	772	1103	1470	2048
Class			Class 1500									
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16
Dim.	d		47	57	70	92	136	178	222	263	289	3330
	L	RF	368	419	470	546	705	832	991	1130	1257	1384
		BW	216	254	305	406	559	711	864	991	1067	1194
		RTJ	371	422	473	549	711	842	1001	1146	1276	1406
	H		594	753	756	864	994	1349	1480	1870	2216	2331
	E		250	300	350	500	600	458	458	610	610	610
Weight/kg		RF	63	99	126	218	504	956	1481	2184	2741	3780
		BW	42	67	84	155	367	718	1071	1523	1890	2888
Class			Class 2500									
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16
Dim.	d		38	47	57	73	111	146	184	219	-	-
	L	RF	451	508	578	673	914	1022	1270	1422	-	-
		BW	279	330	368	457	610	762	914	1041	-	-
		RTJ	454	514	584	683	927	1038	1292	1444	-	-
	H		594	753	756	870	1129	1389	1748	1873	-	-
	E		350	450	450	500	610	610	610	610	-	-
Weight/kg		RF	89	142	173	346	851	1386	2493	3091	-	-
		BW	53	95	100	200	488	850	1680	2330	-	-

Through Conduit Gate Valves

Compact structure, rational design, goof stiffness and small flow resistance.

Wedge with flow guide hole is always fitted with sealing face both in full open and close position to prevent direct erosion from the medium so as to prolong service life.

When fully opened , flow channel of valve is smooth and linear, extremely small flow resistance and no pressure loss, and the pipeline can be pigged.

The part materials and flange dimensions may be designed according to different working condition and customer's requirement.

Technical Data

Size: NPS 2-36
Pressure Ratings: Class150-1500
Temperature: -29° C - 450° C
Design Standard: API 6D, API 598
Face to Face: API 6D, ASME B16.10
Flange Ends: ASME B16.5
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208, API 6D, API598

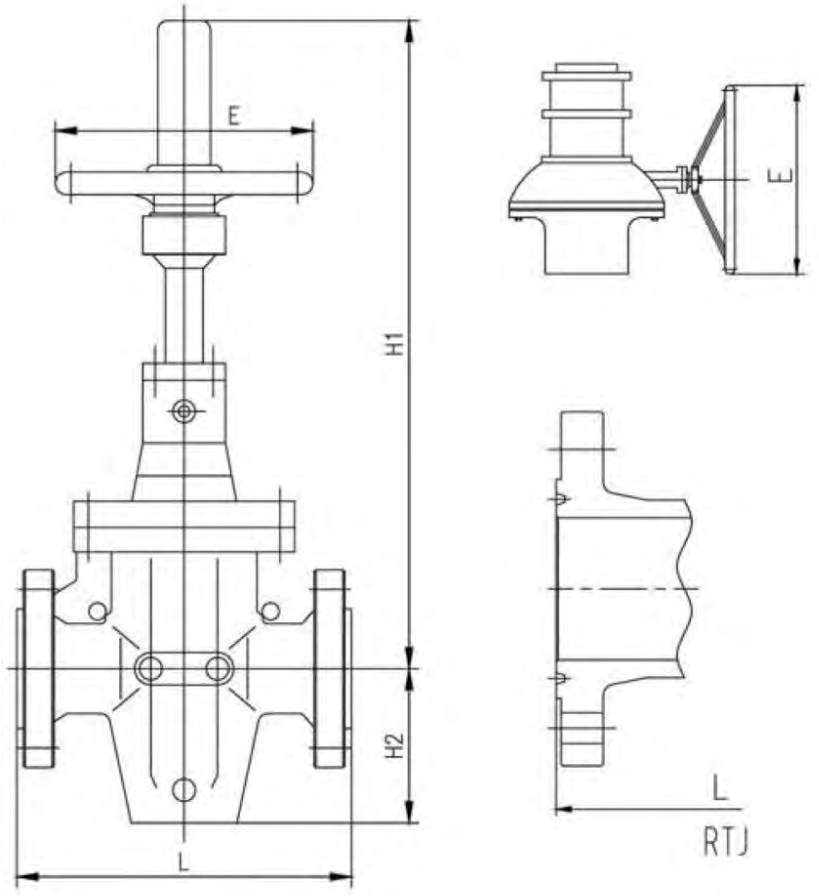
Note: the valve flange and butt-welding dimensions can be designed according to customer's requirement.

Single Wedge Through Conduit Gate Valves

Class150, NPS≥18 gear operation

Parts	Materials
Body	A216 WCB
Bonnet	A216 WCB
Gate	A105
Seat	A105
Packing	PTFE
O-Ring	Viton
Stem	A182 F6a
Bolt	A193 B7
Fitting	CS

Note: The materials can be selected according to customer's requirement.



Dimensions and Weights Class150

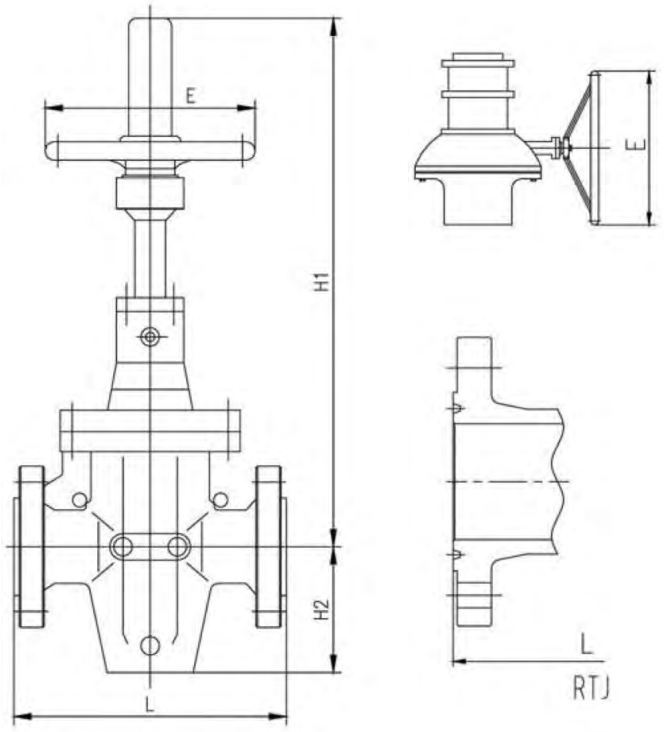
Class			Class 150											
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16	18	20
Dim.	d		49	62	74	100	150	201	252	303	334	385	436	487
	L	RF	178	190	203	229	267	292	330	356	381	406	432	457
		RTJ	191	203	216	242	280	305	343	369	394	419	445	470
	H1		464	581	660	762	1067	1251	1575	1650	1822	2019	2143	2381
	H2		146	184	210	279	340	419	499	581	635	689	765	851
	E		350	350	350	350	550	550	550	550	760	910	610	610
Weight/kg			23	27	34	56	101	158	248	349	439	517.5	664	956

Single Wedge Through Conduit Gate Valves

Class300, NPS≥18 and Class600, NPS≥14 gear operation

Parts	Materials
Body	A216 WCB
Bonnet	A216 WCB
Gate	A105
Seat	A105
Packing	PTFE
O-Ring	Viton
Stem	A182 F6a
Bolt	A193 B7
Fitting	CS

Note: The materials can be selected according to customer's requirement.



Dimensions and Weights Class300-600

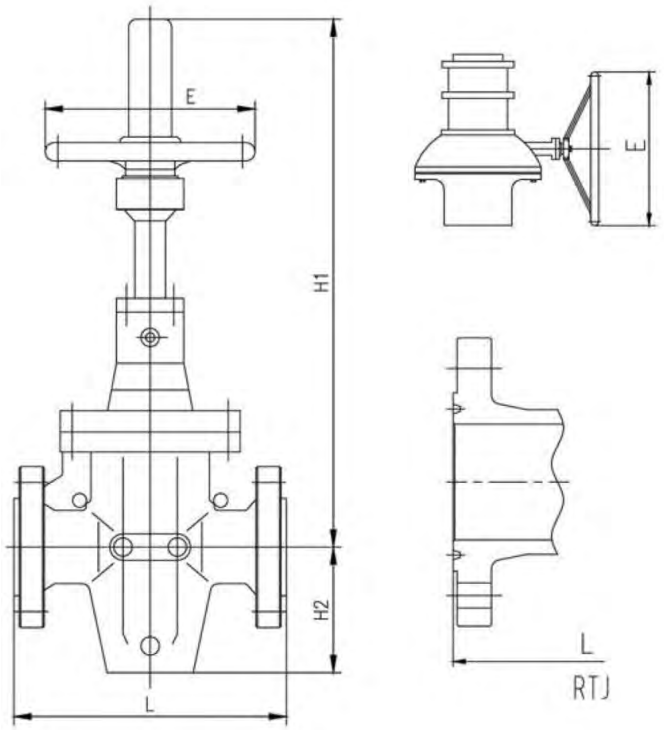
Class			Class 300												
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16	18	20	24
Dim.	d		48	62	74	100	150	201	252	303	334	385	436	487	589
	L	RF	216	241	282	305	403	419	457	502	762	838	914	991	1143
		RTJ	232	257	298	321	419	435	473	518	778	854	30	1010	1165
	H1		464	581	660	762	1067	1251	1575	1575	1822	2019	2143	2381	2788
	H2		146	184	210	279	340	419	499	581	648	702	781	876	1048
	E		350	350	350	350	550	550	550	550	760	910	610	610	610
Weight/kg			34	45	68	90	169	259	394	563	923	1114	1496	2182.5	3352.5
Class			Class 600												
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16	18	20	24
Dim.	d		49	62	74	100	150	201	252	303	334	385	436	487	589
	L	190	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
		203	295	333	359	435	562	663	790	840	892	994	1095	1200	1407
	H1		464	581	660	762	1067	1251	1575	1575	1822	2019	2143	2381	2788
	H2		152	191	216	286	340	419	498	581	660	727	810	940	1130
	E		350	350	350	350	550	550	760	760	610	610	910	910	910
Weight/kg			45	63	79	146	304	484	878	1147.5	1507.5	1800	2396	3352.5	5411

Single Wedge Through Conduit Gate Valves

Class900, NPS≥12 and Class1500, NPS≥8 gear operation

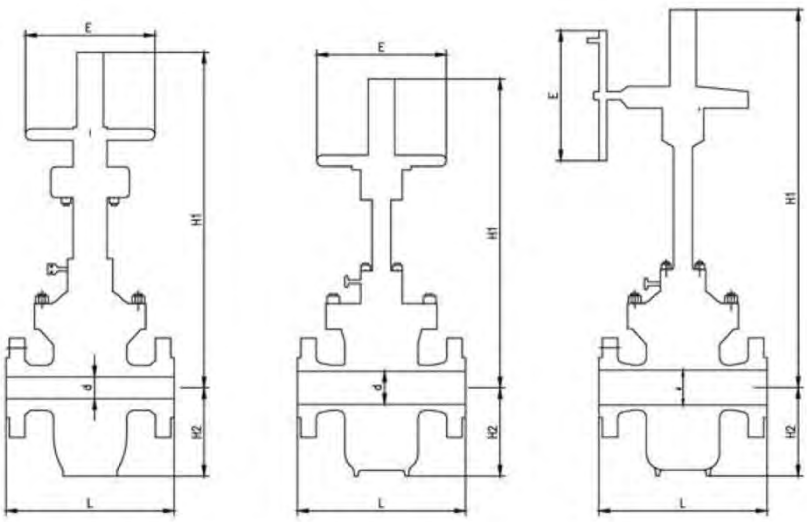
Parts	Materials
Body	A216 WCB
Bonnet	A216 WCB
Gate	A105
Seat	A105
Packing	PTFE
O-Ring	Viton
Stem	A182 F6a
Bolt	A193 B7
Fitting	CS

Note: The materials can be selected according to customer's requirement.



Class			Class 900												
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16	18	20	24
Dim.	d		49	62	74	100	150	201	252	303	322	373	423	471	570
	L	RF	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
		RTJ	371	422	384	460	613	740	840	968	1039	1140	1232	1334	1568
	H1		473	597	679	800	1133	1321	1632	1632	1902	2096	2207	2499	3004
	H2		152	190.5	229	292	346	425	508	603	660	727	810	940	1130
	E		350	350	350	350	550	760	760	610	610	610	910	910	910
Weight/kg			101	112.5	124	202.5	382.5	697.5	1170	1687.5	2306	2857.5	3645	5254	8482.5
Class			Class 1500												
NPS(in)			2	2 ½	3	4	6	8	10	12	14	16	18	20	24
Dim.	d		49	62	74	100	144	192	239	287	315	360	-	-	-
	L	RF	368	419	470	546	705	832	991	1130	1257	1384	-	-	-
		RTJ	371	422	473	549	711	842	1001	1146	1276	1406	-	-	-
	H1		473	597	679	800	1245	1384	1702	1702	1956	2175	-	-	-
	H2		152	190.5	229	292	371	464	565	670	737	825.5	-	-	-
	E		350	350	460	610	610	610	610	610	910	910	-	-	-
Weight/kg			101	112.5	157.5	304	607.5	1103	1913	1925	1417.5	5175	-	-	-

Double Wedge Through Conduit Gate Valves



2≤NPS≤12 , Manual ; 14≤NPS≤36 , Gear Operation.

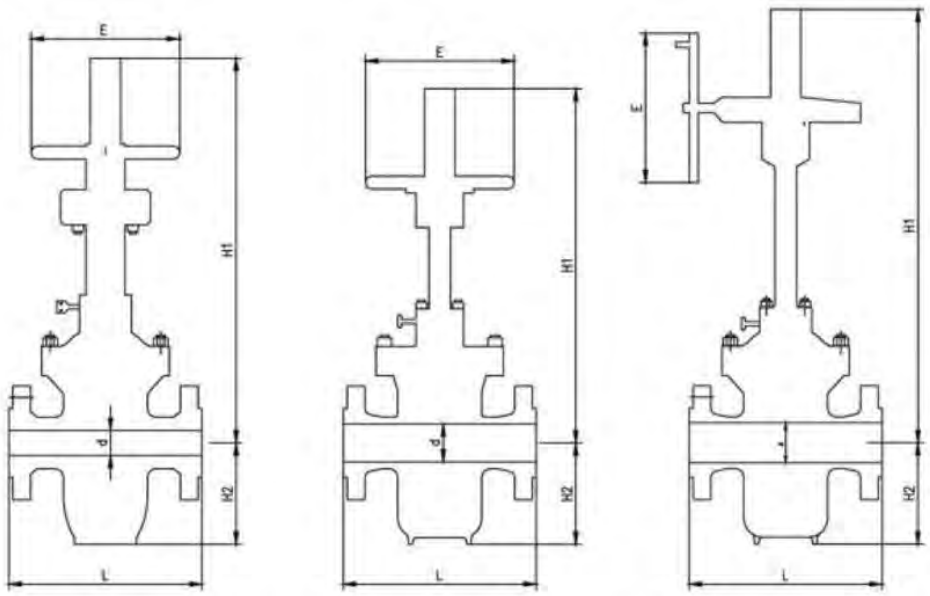
Parts	Materials
Body	A216 WCB
Bonnet	A216 WCB
Gate	A105
Seat	A105
Packing	PTFE
O-Ring	Viton
Stem	A182 F6a
Bolt	A193 B7
Fitting	CS

Note: The materials can be selected according to customer's requirement.

Dimensions and Weights Class300-600

Class		Class 300															
NPS(in)		6	8	10	12	14	16	18	20	24	26	30	36	-	-	-	-
Dim.	d	150	201	252	303	334	385	436	487	589	633	735	874	-	-	-	-
	L(RF, BW)	403	419	457	502	762	838	914	991	1143	1245	1397	1727	-	-	-	-
	H1	1149	1454	1607	1864	1674	2123	2205	2699	2940	3099	3654	4718	-	-	-	-
	H2	317.5	406	508	578	641	714	787	895	1067	1146	1346	1607	-	-	-	-
	E	610	610	610	762	610	610	610	610	610	610	610	610	-	-	-	-
Weight/ kg	RF	214	387	610	850.5	1194	1565	2109	2834	4844	5715	7258	13608				
	BW	180	341	544	676	1012	1368	1932	2622	4332	5450	6654	12701	-	-	-	-
Class		Class 600															
NPS(in)		2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	36
Dim.	d	49	74	100	150	201	252	303	334	385	436	487	589	633	684	735	874
	L(RF, BW)	292	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	2083
	H1	451	606	686	1149	1454	1648	1864	1771	2061	2197	2492	2883	3099	3499	3607	4337
	H2	122	176	219	321	394	502	584	649	714	803	914	1073	1165	1235	1346	1622
	E	305	305	356	610	610	762	762	610	610	910	910	910	910	910	910	910
Weight/ kg	RF	41	82	156	270	466	787	1374	1379	2005	2588	3445	5894	7068	9231	11340	13449
	BW	33	65	117	225	331	621	1070	1330	1792	2320	3227	5162	6161	8346	10433	124559

Double Wedge Through Conduit Gate Valves



2≤NPS≤12 , Manual ; 14≤NPS≤36 , Gear Operation.

2≤NPS≤12 , ; 14≤NPS≤36

Parts	Materials
Body	A216 WCB
Bonnet	A216 WCB
Gate	A105
Seat	A105
Packing	PTFE
O-Ring	Viton
Stem	A182 F6a
Bolt	A193 B7
Fitting	CS

Note: The materials can be selected according to customer's requirement.

Dimensions and Weights Class900

Class		Class 900						
NPS(in)		2	3	4	8	12	14	16
Dim.	d	49	74	100	201	303	322	373
	L(RF, BW)	368	381	457	737	965	1029	1130
	H1	451	606	724	1454	1803	1772	2061
	H2	129	186	230	400	597	664	768
	E	305	305	457	610	762	610	610
Weight/ kg	RF	68	120	234	578	1539	2359	3332
	BW	33	88	177	471	1236	2224	2919

Swing Check Valves

Rational structure, reliable seal, good performance and nice modeling.

Disc in swing type, can be installed both in horizontal and vertical position.

The variety of body materials is optional.
Gasket can be chosen according to customer's requirement and be used in different pressure, temperature and working condition.

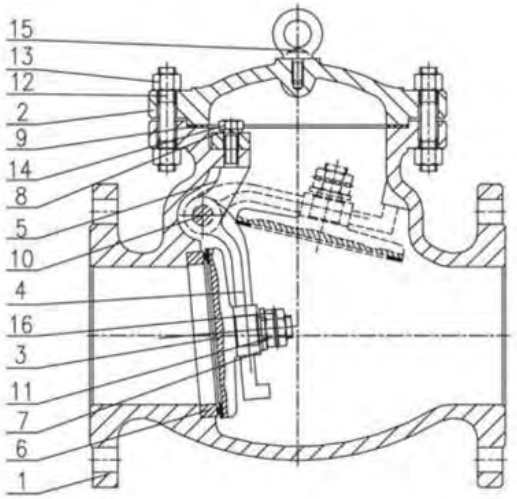
Inside shaft structure reduces leakage and is reliable to use.

Technical Data

Size: NPS2-36, DN50-900
Pressure Ratings: Class150-1500, PN16-100
Temperature: -196° C - 550° C
Design Standard: ASME B16.34, API 6D, DIN3356, BS1868
Face to Face: ASME B16.10, DIN EN558
Flanged Ends: ASME B16.5, DIN EN1092
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208, API 6D, API598, EN12266.1
Note: the sizes of serial valve flange and butt-welding dimensions can be designed according to customer's requirement.

They are used in industries including oil, chemistry, pharmaceutical, fertilizer and power generation to prevent the backward flow of the media.

ANSI Swing Check Valves

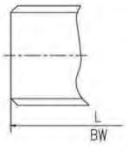


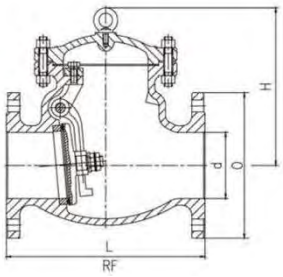
Material Specifications

No.	Parts	Materials				
		Standard	Sour(NACE)	Low Temperature	High Temperature	SS
1	Body	A216 WCB	A216 WCB	A352 LCC	A217 C5	A351 CF8M
2	Cover	A216 WCB	A216 WCB	A352 LCC	A217 C5	A351 CF8M
3	Disc	A216 WCB	A351 CF8	A352 LCC	A217 C5	A351 CF8M
4	Hinge	A216 WCB	A216 WCB	A352 LCC	A217 C5	A351 CF8M
5	Yoke	A216 WCB	A216 WCB	A352 LCC	A217 C5	A351 CF8M
6	Seat	A105	A182 F304	A350 LF3	A182 F5a	
7	Disc Washer	CS	316	316	316	316
8	Bolt Washer	CS	316	316	316	316
9	Gasket	Graphite+316	Graphite+316	Graphite+316	Graphite+316	Graphite+316
10	Hinge Pin	A276 410	A182 F316	A182 F316	A276 410	A182 F316
11	Disc Nut	A182 F304	A182 F304	A182 F304	A182 F304	A182 F316
12	Bonnet Bolt	A193 B7	A193 B7M	A320 L7M	A193 B16	A193 B8M
13	Bonnet Nut	A194 2H	A194 2HM	A194 7M	A194 4	A194 8M
14	Bolt	A276 304	A276 304	A276 304	A276 304	A276 316
15	Eyebolt	CS	CS	CS	CS	SS
16	Disc Pin	A276 304	A276 304	A276 304	A276 304	A276 316

Note: The materials can be selected according to customer's requirement.

ANSI Swing Check Valves

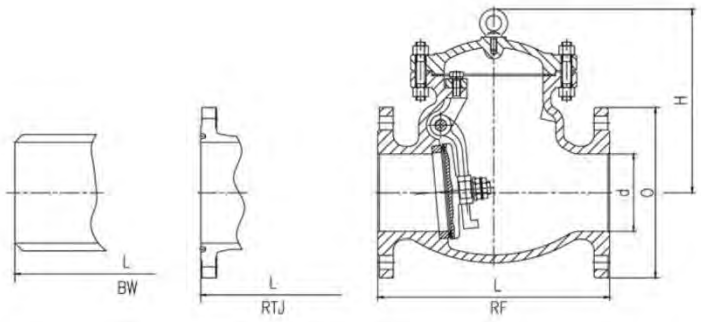




Dimensions and Weights Class 150-300

Class	NPS(in)	Dimensions/mm				Weight/kg	
		d	L RF/BW	O	H	RF	BW
Class 150	2	51	203	150	150	15	12
	2 ½	64	216	180	170	26	17
	3	76	241	190	180	27	18
	4	102	292	230	237	42	32
	6	152	356	280	305	75	60
	8	203	495	345	370	124	106
	10	254	622	405	420	200	174
	12	305	698	485	440	310	258
	14	337	727	535	470	428	368
	16	387	864	595	520	555	483
	18	438	978	635	580	775	685
	20	489	978	700	630	835	720
	24	591	1295	815	870	1100	970
	26	641	1295	870	901	1370	1120
	28	692	1448	927	920	1720	1550
	30	743	1524	984	970	1980	1780
Class 300	2	51	267	165	170	21	15
	2 ½	64	292	190	185	30	22
	3	76	318	210	215	39	30
	4	102	356	255	235	70	44
	6	152	444	320	300	125	98
	8	203	533	380	340	190	150
	10	254	622	445	350	290	230
	12	305	711	520	420	450	375
	14	337	838	585	480	700	555
	16	387	864	650	520	840	766
	18	432	978	710	600	1000	915
	20	483	1016	775	670	1273	1100
	24	584	1346	915	750	1700	1500
	26	635	1346	972	880	2175	1995
	28	686	1499	1035	1010	2565	2260
	30	737	1594	1092	1410	2989	2680

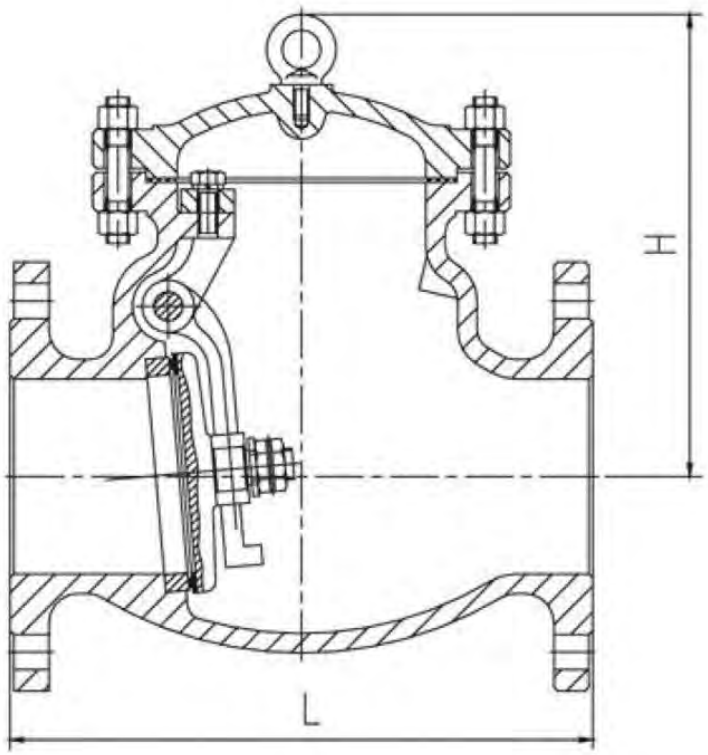
ANSI Swing Check Valves



Dimensions and Weights Class 600-1500

Class	NPS(in)		Dimensions/mm				Weight/kg	
		d	L		O	H	RF/RTJ	BW
			RF/BW	RTJ				
Class 600	2	51	292	295	165	175	28	20
	2 ½	64	330	333	190	200	38	30
	3	76	356	359	210	230	52	40
	4	102	432	435	275	295	87	65
	6	152	559	562	355	360	224	155
	8	200	660	663	420	400	354	280
	10	248	787	790	510	460	555	395
	12	298	838	840	560	520	790	630
	14	327	889	892	605	590	892	710
	16	375	991	994	685	670	1200	1020
	18	419	1092	1095	745	730	1600	1350
Class 900	2	47	368	371	215	300	70	50
	2 ½	57	419	422	245	310	100	77
	3	73	381	384	240	310	91	68
	4	98	457	460	290	335	150	113
	6	146	610	613	380	420	305	230
	8	191	737	740	470	503	510	387
	10	238	838	840	545	637	810	632
	12	282	965	968	610	757	1120	901
	14	311	1029	1039	640	810	1380	1139
	16	356	1130	1140	705	820	1900	1613
Class 1500	2	47	368	371	215	300	70	50
	2 ½	57	419	422	245	300	100	77
	3	70	470	473	265	340	150	115
	4	92	546	549	310	411	285	190
	6	136	705	711	395	511	550	452
	8	178	832	842	485	681	1010	845
	10	222	991	1001	585	757	1550	1280
	12	263	1130	1146	675	856	2280	1780

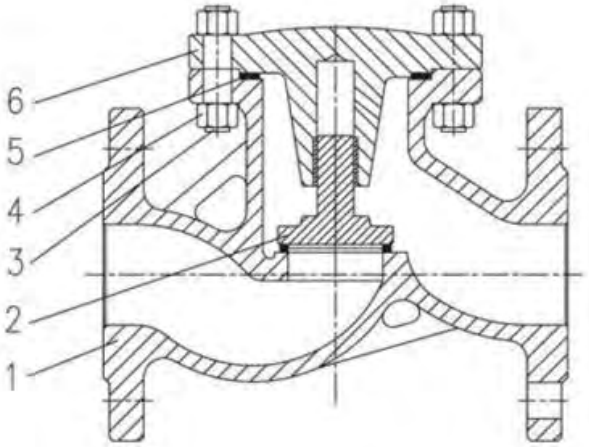
DIN Swing Check Valves



Dimensions and Weights PN 16-100

DN/mm		50	65	80	100	125	150	200	250	300	350	400	500	600
PN16	L/mm	200	240	260	300	350	400	500	600	700	800	900	1100	1300
	H/mm	150	170	180	237	270	305	369	424	440	470	520	630	870
	WT/kg	16	25	29	44	68	85	115	180	270	380	509	967	1507
PN25	L/mm	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
	H/mm	150	170	180	237	270	305	369	424	440	470	520	630	870
	WT/kg	17	30	34	48	105	118	160	230	420	535	585	1025	1650
PN40	L/mm	230	290	310	350	400	480	600	730	850	980	1100	1250	1450
	H/mm	150	170	180	237	270	305	369	424	440	470	520	630	870
	WT/kg	17	30	34	48	105	118	220	320	450	600	800	1269	1669
PN63	L/mm	300	340	380	430	500	550	650	775	900	1025	1150	1400	-
	H/mm	180	200	220	245	300	335	385	445	520	565	635	750	-
	WT/kg	37	45	55	59	145	160	255	360	600	780	1100	1656	-
PN100	L/mm	300	340	380	430	500	550	650	775	900	125	1150	1400	-
	H/mm	180	200	220	245	300	335	385	445	520	585	635	950	-
	WT/kg	80	95	110	125	190	260	400	560	800	1000	1250	1925	-

Lift Check Valves

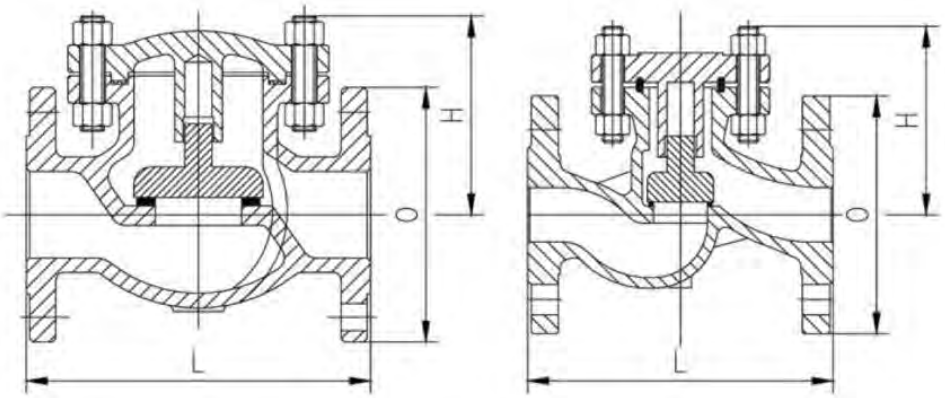


Material Specifications

No.	Parts	Materials				
		Standard	Sour(NACE)	Low Temperature	High Temperature	SS
1	Body	A216 WCB	A216 WCB	A352 LCC	A217 C5	A351 CF8M
2	Disc	A105	A182 F316	A350LF3	A182 F5a	A182 F316
3	Bolt	A193 B7	A193 B7M	A320 L7M	A193 B16	A193 B8M
4	Nut	A194 2H	A194 2HM	A194 7M	A194 4	A194 8M
5	Gasket	Graphite+304	Graphite+304	Graphite+304	Graphite+304	Graphite+316
6	Cover	A216 WCB	A216 WCB	A352 LCC	A217 C5	A351 CF8M

Note: The materials can be selected according to customer's requirement.

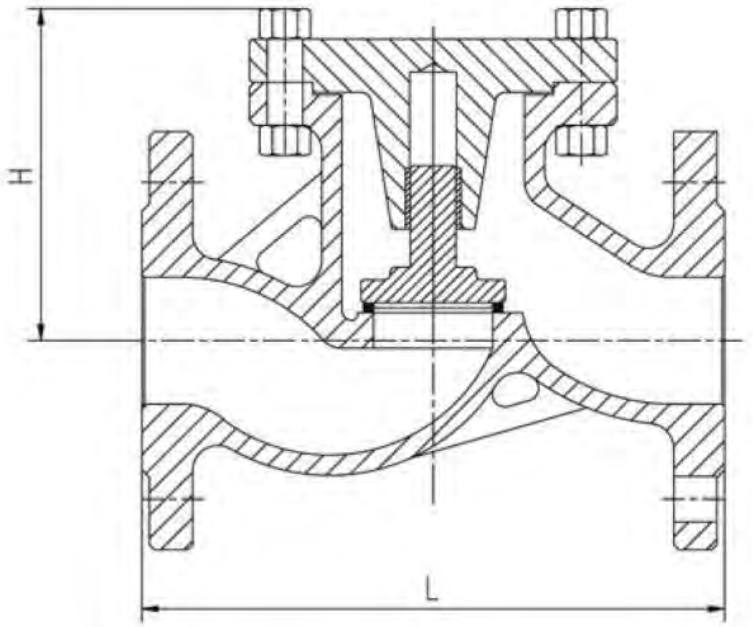
ANSI Lift Check Valves



Dimensions and Weights Class 150-900

Class		Class 150									
NPS(in)		2	2 ½	3	4	6	8	10	12	14	16
Dim.	L	203	216	241	292	406	495	622	698	787	914
	O	150	180	190	230	280	345	405	485	535	595
	H	165	175	190	215	265	320	365	415	460	510
Weight/kg		17	25	29	50	85	150	240	350	460	580
Class		Class 300									
NPS(in)		2	2 ½	3	4	6	8	10	12	-	-
Dim.	L	267	292	318	356	444	559	622	711	-	-
	O	165	190	210	255	320	380	445	520	-	-
	H	190	205	220	245	295	330	420	480	-	-
Weight/kg		28	33	45	70	150	230	390	520	-	-
Class		Class 600									
NPS(in)		2	2 ½	3	4	6	8	10	12	-	-
Dim.	L	292	330	356	432	559	660	787	838	-	-
	O	165	190	210	275	355	420	510	560	-	-
	H	210	230	255	295	365	420	505	545	-	-
Weight/kg		33	43	62	113	222	390	630	871	-	-
Class		Class 900									
NPS(in)		2	2 ½	3	4	6	-	-	-	-	-
Dim.	L	368	419	381	457	610	-	-	-	-	-
	O	215	245	240	290	380	-	-	-	-	-
	H	235	270	302	342	425	-	-	-	-	-
Weight/kg		120	166	176	182	403	-	-	-	-	-

DIN Lift Check Valves



Dimensions and Weights PN 16-100

DN/mm		50	65	80	100	125	150	200	250	300	350	400
PN16	L/mm	200	240	260	300	350	400	500	600	700	800	900
	H/mm	165	175	190	215	230	265	320	365	415	460	510
	WT/kg	17	25	29	50	70	85	150	240	350	460	580
PN25	L/mm	230	290	310	350	400	480	600	730	850	980	1100
	H/mm	172	180	195	220	250	270	330	380	430	480	530
	WT/kg	18	27	32	55	80	90	155	250	360	290	620
PN40	L/mm	230	290	310	350	400	480	600	730	850	-	-
	H/mm	190	205	220	245	265	295	330	420	480	-	-
	WT/kg	28	33	45	70	100	150	230	390	520	-	-
PN63	L/mm	300	340	380	430	500	550	650	775	900	-	-
	H/mm	200	215	238	270	300	330	375	460	510	-	-
	WT/kg	30	38	54	91	124	186	310	500	690	-	-
PN100	L/mm	300	340	380	430	500	550	650	775	900	-	-
	H/mm	210	230	255	295	330	365	420	505	545	-	-
	WT/kg	33	43	62	113	150	222	390	630	871	-	-

Wafer Duo Check Valves

Short pattern, small volume and light weight

Both soft and metallic seats can be chosen according to different working conditions, all with perfect sealing effect.

With a small starting pressure, discs can be fully opened under a very small pressure difference.

Quick close and small water hammer effect.

Can be installed both in horizontal and vertical position.

The variety of body materials is optional. Gasket can be chosen according to customer's requirement and be used in different pressure, temperature and working condition.

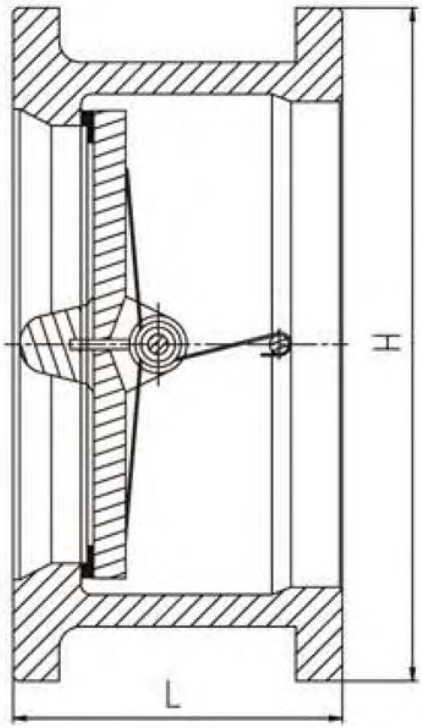
Technical Data

Size: NPS 2-24
Pressure Ratings: Class 150-900
Temperature: -196° C - 540° C
Face to Face: API 594, API 6D
Test and Inspection: API 6D, API598

Material Specifications

Name	Materials (ASTM)
Body Materials	WCB, A105; WC6, F1; WC9, F22; LCB, LF1; CF8, 304; CF3, 304L; CF3M, 316L; Titanium & Titanium Alloy; Copper & Copper Alloy
Sealing Surface Materials	Body Material; 13Cr/13Cr; SS/Hard Alloy; Monel Metal; Hard Alloy/Hard Alloy; No. 20 Alloy; Copper Alloy; NBR; PTFE; FPM; EPDM; SR
Internal Parts Materials	304; 304L; 316; 316L; Monel; No. 20 Alloy; Copper Alloy; Titanium & Titanium Alloy
Spring Materials	304; 304L; 316; 316L; Inconel X-600; Inconel X-750

Wafer Duo Check Valves



Dimensions and Weights Class150-900

NPS/in	In	2	2 ½	3	4	6	8	10	12	14	16	18	20	24	28	30	32	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	800	900
Class		Class 150																
L/mm		60	67	73	73	98	127	146	181	184	191	203	219	222	-	305	-	368
H/mm		103	122	135	173	220	277	337	407	448	512	547	604	715	773	824	878	983
Wt/kg		2	3	4	6	13	25	39	54	80	117	138	163	331	380	425	560	640
Class		Class 300																
L/mm		60	67	73	73	98	127	146	181	222	232	264	292	318	-	368	-	483
H/mm		110	128	147	179	249	305	359	420	483	537	594	652	772	882	1044	1196	1365
Wt/kg		3	4	6	8	18	31	51	77	117	190	200	265	410	660	1020	1540	2260
Class		Class 600												Class 900				
NPS/in	In	2	2 ½	3	4	6	8	10	12	14	16	18	20	2	2 ½	3	4	6
	mm	50	65	80	100	150	200	250	300	350	400	450	500	50	65	80	100	150
L/mm		60	67	73	79	136	165	213	229	273	305	362	368	70	83	83	102	159
H/mm		10	128	147	191	264	318	398	455	490	562	610	680	140	162	165	204	286
Wt/kg		4	5	8	11	26	55	95	140	223	360	395	518	8	11	14	20	42

Pressure Seal Cast Steel Check Valves

Pressure seal design and pure graphite gasket ring ensure high tightness and safety using.

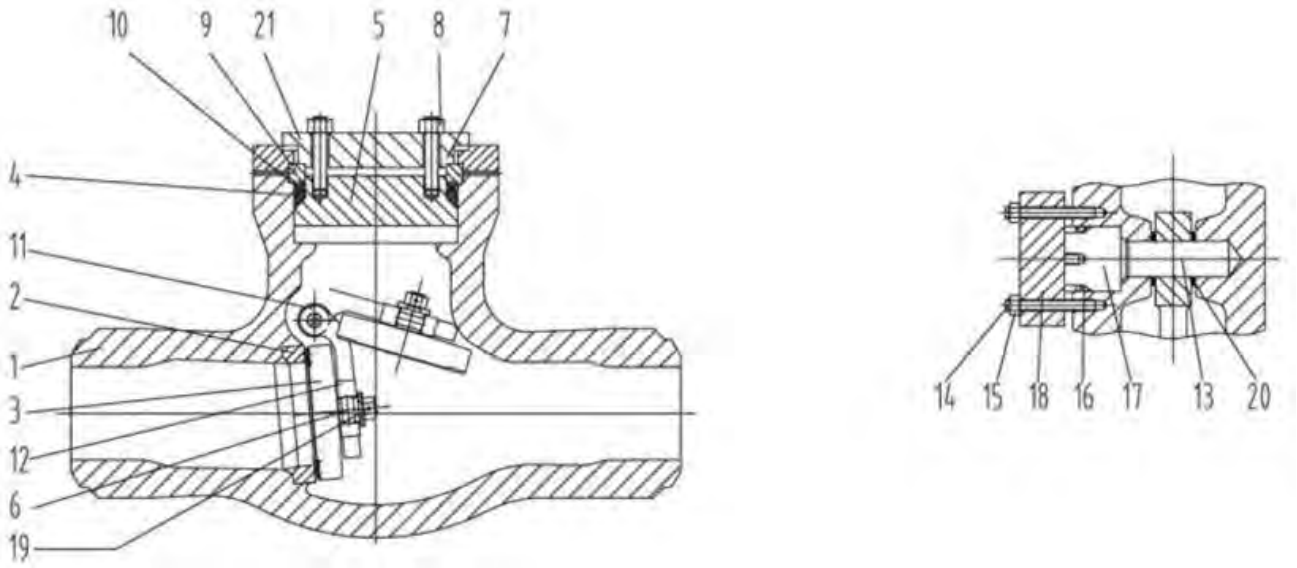
Slam-free operation offered by tilting disc configuration.

Technical Data

Sizes:
Swing Check Configuration: NPS 2-16
Tilting Disc Configuration: NPS 2-24
Pressure Ratings:
Swing Check Configuration: Class 900-1500
Tilting Disc Configuration: Class 1500-2500
Temperature: -196° C - 593° C
Design Standard: ASME B16.34, API 6D, BS1868
Face to Face: ASME B16.10
Butt-Welding Ends: ASME B16.25
Test and Inspection: API 6D, API598
Note: the sizes of serial valve butt-welding dimensions can be designed according to customer's requirement.

Specifically designed to satisfy the requirements of a waterpower station. Also can be used in all high temperature application (i.e. chemical, petrochemical, steam).

Pressure Seal Cast Steel Check Valves

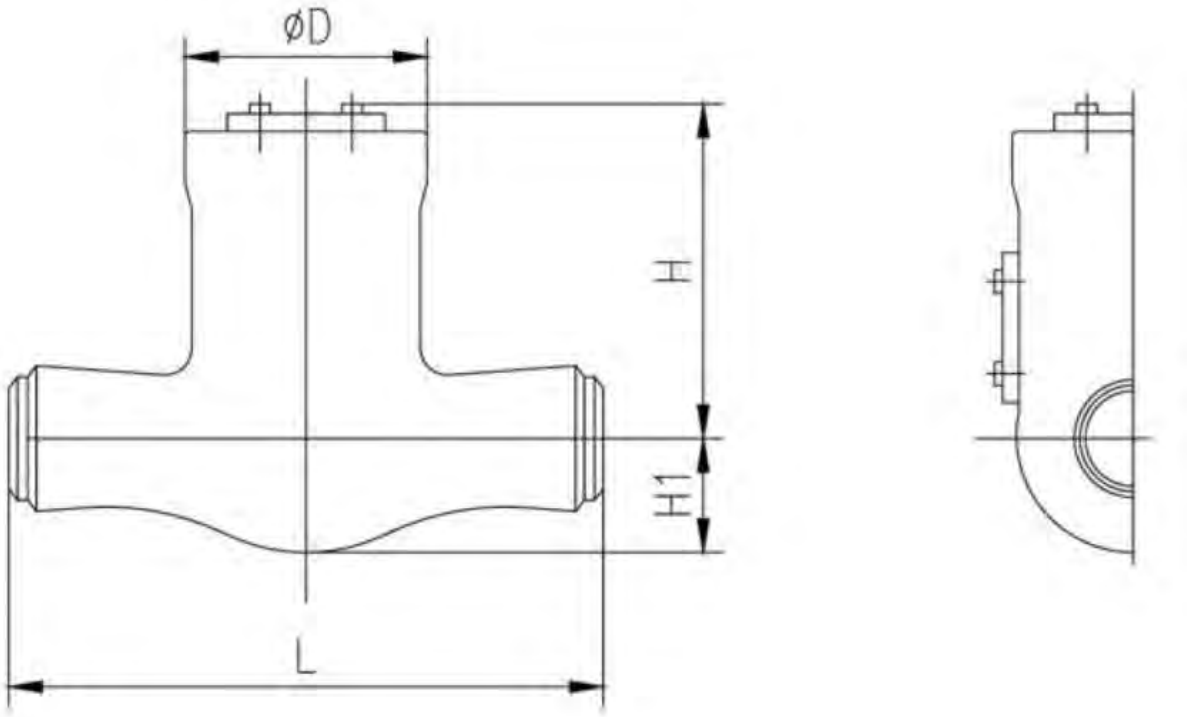


Material Specifications

No.	Parts	Materials		
1	Body	A216 WCB	A217 WC6	A217 WC9
2	Seat	A105	A182 F22	A182 F22
3	Disc	A216 WCB	A217 WC6	A217 WC9
4	Gasket	316 Reinforced Graphite	316 Reinforced Graphite	316 Reinforced Graphite
5	Cover	A105	A182 F22	A182 F22
6	Washer	A182 F316	A182 F316	A182 F22
7	Cover Bolt	A193 B7	A193 B16	A193 B16
8	Cover Nut	A194 2H	A194 4	A194 4
9	Segment Ring	A276 410	A276 410	A276 410
10	Intermediate Thrust Ring	A276 410	A276 410	A276 410
11	Hinge	A216 WCB	A217 WC6	A217 WC9
12	Disc Nut	A194 2H	A194 4	A194 4
13	Hinge Pin	A182 F6a	A182 F6a	A182 F6a
14	Plug Bolt	A193 B7	A193 B16	A193 B16
15	Plug Nut	A194 2H	A194 4	A194 4
16	Pin Gasket	316 Reinforced Graphite	316 Reinforced Graphite	316 Reinforced Graphite
17	Pressure Seal Plug	A105	A182 F22	A182 F22
18	Flange	A105	A182 F22	A182 F22
19	Pin	F316	F316	F316
20	Spacer	A182 F316	A182 F316	A182 F316
21	Retaining Ring	A105	A105	A105

Note: The materials can be selected according to customer's requirements.

ANSI Pressure Seal Cast Steel Swing Check Valves

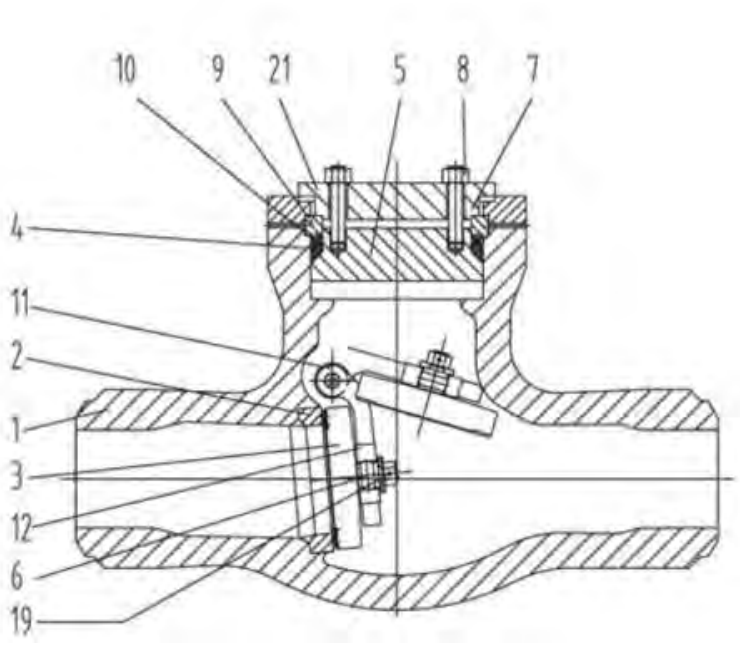


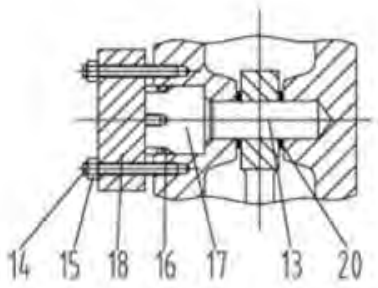
Dimensions and Weights Class 900-1500

NPS/in		2	2 ½	3	4	6	8	10	12	14	16
Class 900	L/mm	★	254	305	356	508	660	787	914	991	1092
	D/mm	160	160	170	192	270	340	396	420	516	580
	H/mm	230	230	240	265	310	405	455	475	540	620
	H1/mm	65	65	70	85	115	145	170	200	225	250
	WT/mm	35	35	45	52	115	280	380	560	665	950
Class 1500	L/mm	216	254	305	406	559	711	864	991	1067	1194
	D/mm	160	160	170	230	285	380	430	500	540	620
	H/mm	230	230	235	260	350	440	490	535	595	700
	H1/mm	65	65	75	95	125	170	190	225	245	275
	WT/mm	35	35	53	60	140	360	465	790	1040	1490

Note: ★dimensions can be designed according to customer's requirement.

Pressure Seal Cast Steel Tilting Disc Check Valves



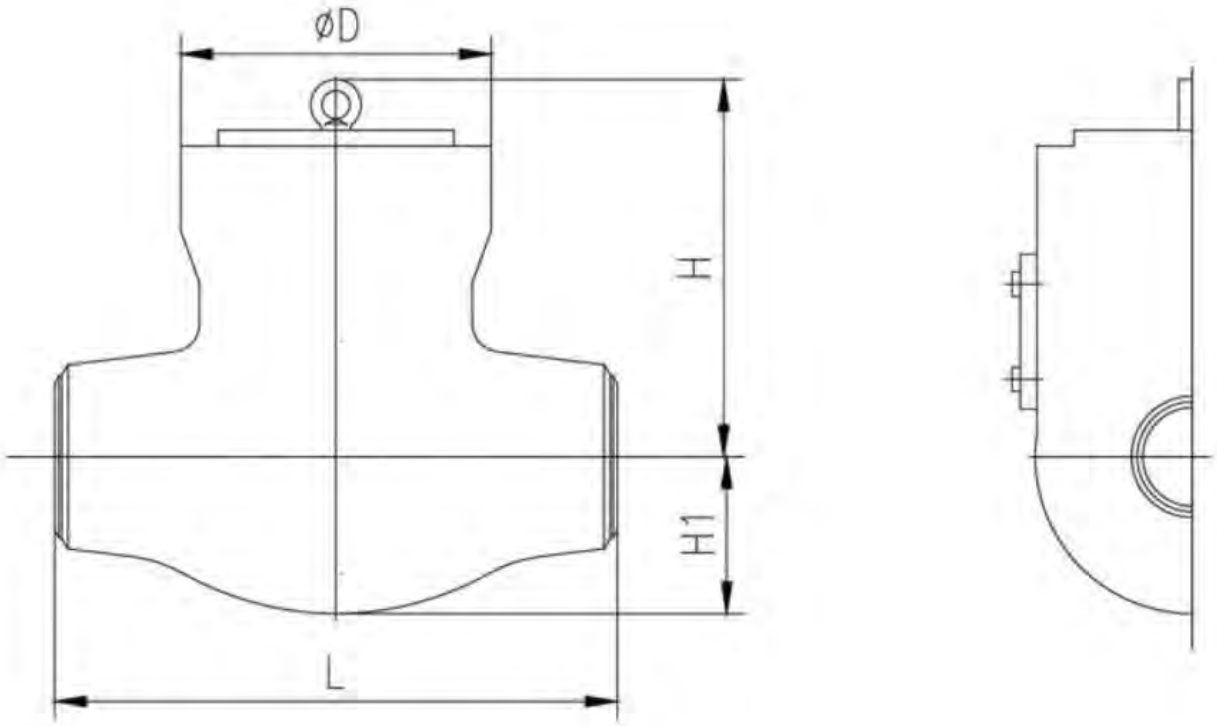


Material Specifications

No.	Parts	Materials		
1	Body	A216 WCB	A217 WC6	A217 WC9
2	Seat	A105	A182 F22	A182 F22
3	Disc	A216 WCB	A217 WC6	A217 WC9
4	Gasket	316 Reinforced Graphite	316 Reinforced Graphite	316 Reinforced Graphite
5	Cover	A105	A182 F22	A182 F22
6	Cover Bolt	A193 B7	A193 B16	A193 B16
7	Cover Nut	A194 2H	A194 4	A194 4
8	Segment Ring	A276 410	A276 410	A276 410
9	Intermediate Thrust Ring	A276 410	A276 410	A276 410
10	Retaining Ring	A105	A105	A105
11	Bolt	A193 B7	A193 B16	A193 B16
12	Nut	A194 2H	A194 4	A194 4
13	Flange	A105	A182 F22	A182 F22
14	Gasket	316 Reinforced Graphite	316 Reinforced Graphite	316 Reinforced Graphite
15	Pressure Seal Plug	A105	A182 F22	A182 F22
16	Pin	A182 F6a	A182 F6a	A182 F6a
17	Space	A182 F316	A182 F316	A182 F316

Note: The materials can be selected according to customer's requirements.

ANSI Pressure Seal Cast Steel Tilting Disc Check Valves



Dimensions and Weights Class1500-2500

NPS/in		2	3	4	6	8	10	12	14	16	18	20	24
Class 1500	L/mm	216	305	405	559	711	864	991	1067	1194	1537	1164	1743
	D/mm	170	185	215	260	365	455	480	510	665	745	860	990
	H/mm	185	185	295	380	460	610	700	730	790	840	900	980
	H1/mm	80	110	120	145	180	230	260	280	335	380	445	565
	WT/kg	60	65	110	270	530	780	1210	1490	2170	2825	4150	5200
Class 2500	L/mm	279	368	457	610	762	614	1041	1118	1245	1397	1547	1727
	D/mm	170	170	185	285	365	420	465	520	560	650	710	815
	H/mm	160	160	185	360	360	450	580	620	775	855	890	970
	H1/mm	80	80	120	165	180	210	250	275	335	345	385	465
	WT/kg	60	65	105	245	520	860	1250	1750	2350	3200	4540	5700

Notes: ★dimensions can be designed according to customer's requirement.

GLOBE VALVES

Rational structure, reliable sealing, excellent performance and nice molding.

Co-radix alloy welded sealing surface, anti-wearing, erosion-proof, abrasion-proof and prolong service life.

There is backseat structure in the valve, so the sealing is reliable.

Disc and sealing surface of seat utilize awl seal, with small strength to blow down scour resistance seal credible.

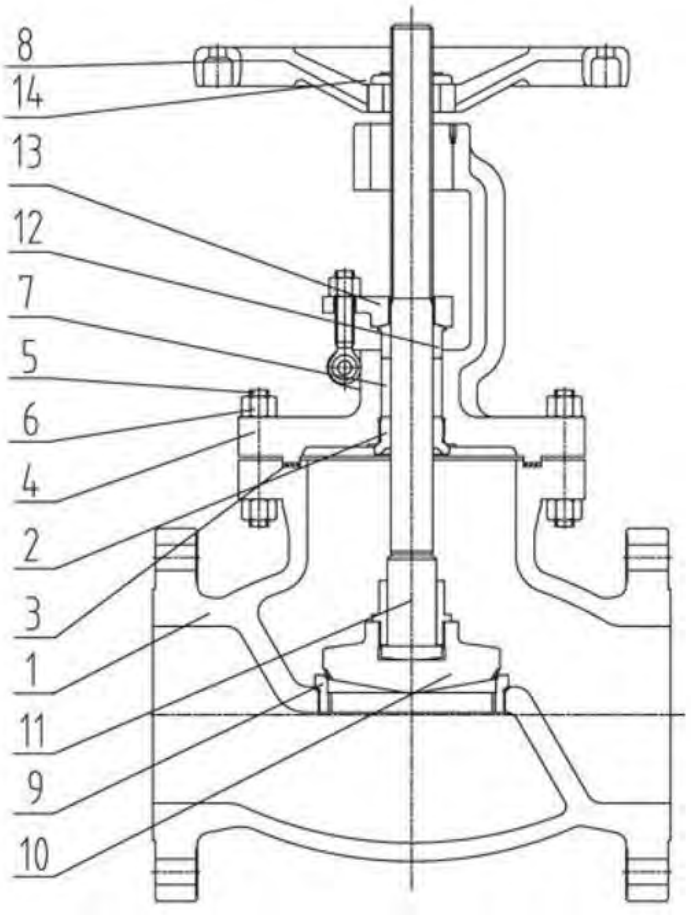
The part materials and flange dimensions may be designed according to different working condition and customer's requirement.

Technical Data

Size: NPS 2-18, DN 50-400
Pressure Ratings: Class 150-900, PN 16-100
Temperature: -196° C - 593° C
Design Standard: ASME B16.34, DIN3356, BS1873
Face to Face: ASME B16.10, DIN EN558
Flanged Ends: ASME B16.5, DIN EN1092
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208, API598, DIN 3230
Drive Means: Manual, Electric Actuator, Pneumatic Actuator

Note: the flange sizes and butt-welding of serial valves can be designed according to customer's requirement.

Globe Valves

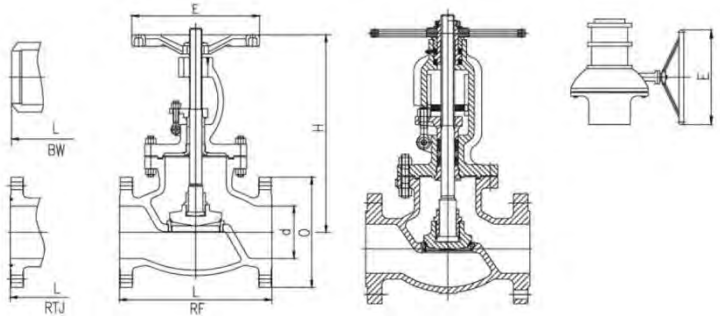


Material Specifications

No	Parts	Materials			
		Standard	Low Temp. Service	High Temperature	SS
1	Body	A216 WCB	A352 LCB	A217 WC6	A351 CF8M
2	Backseat	A182 F6a	A182 F304	A182 F304	A182 F316
3	Bonnet Gasket	Graphite+316	Graphite+316	Graphite+316	Graphite+316
4	Bonnet	A216 WCB	A352 LCB	A217 WC6	ACF8M
5	Bonnet Bolt	A193 B7	A320 L7	A193 B16	A193 B8M
6	Bonnet Nut	A194 2H	A194 4	A194 4	A194 8M
7	Packing	Graphite+304	Graphite+304	Graphite+304	Graphite+316
8	Handwheel	Cast Iron	Cast Iron	Cast Iron	Cast Iron
9	Seat	A105	A182 LF2	A182 F11	A182 F316
10	Disc	A105	A182 LF2	A182 F11	A182 F316
11	Stem	A182 F6a	A182 F304	A182 F6a	A182 F316
12	Gland	A276 410	A276 410	A276 304	A276 316
13	Gland Flange	SS	CS	CS	CS
14	Handwheel Nut	SS	CS	CS	SS

Note: Materials can be selected according to customer's requirement.

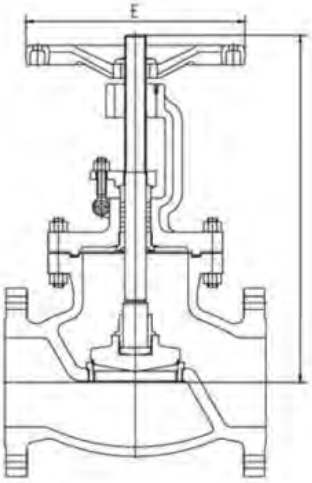
ANSI Globe Valves



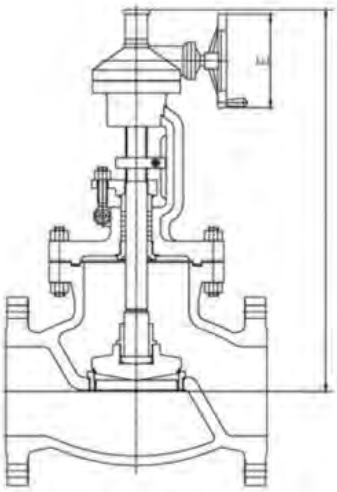
Dimensions and Weights Class 150-900

Class	NPS(in)	Dimensions/mm						Weight/kg	
		d	L		O	H	E		
			RF/BW	RFJ				RF/RTJ	BW
Class 150	2	51	203	216	150	338	200	21	17
	2 ½	64	216	229	180	373	250	28	20
	3	76	241	254	190	396	280	35	27
	4	102	292	305	230	476	300	58	47
	6	152	406	419	280	524	350	100	86
	8	203	495	508	345	588	400	160	138
	10	252	622	635	405	738	600	253	219
	12	305	698	711	485	862	650	498	362
	14	337	787	800	535	950	600	550	491
	16	387	914	927	595	994	600	724	650
	18	438	978	991	635	1140	600	1400	1250
Class 300	2	51	267	283	165	354	200	25	19
	2 ½	64	292	308	190	389	280	38	29
	3	76	318	334	210	421	280	49	38
	4	102	356	372	255	496	350	76	58
	6	152	444	460	320	675	400	168	137
	8	203	559	575	380	912	600	282	237
	10	252	622	638	445	949	700	485	419
	12	305	711	727	520	1032	600	724	632
	14	337	838	854	585	1130	600	1125	975
	16	387	864	880	650	1310	600	1650	1450
Class 600	2	51	292	295	165	397	250	36	29
	2 ½	64	330	333	190	446	280	50	40
	3	76	356	359	210	496	350	78	64
	4	102	432	435	275	599	400	120	91
	6	152	559	562	355	791	600	284	227
	8	200	660	663	420	1014	600	543	460
	10	248	787	790	510	1180	700	1000	762
	12	298	838	841	560	1397	600	1350	1050
Class 900	2	47	368	371	215	590	300	95	75
	2 ½	57	419	422	245	660	350	138	112
	3	73	381	384	240	699	400	108	85
	4	98	457	460	290	795	450	195	158
	6	146	610	613	380	1108	600	435	360
	8	191	737	740	470	1184	600	720	597

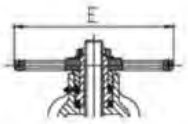
DIN Globe Valves



Yoke
PN63 , DN≥200
PN100 , DN≥200



Impact Handwheel
PN16 , PN25 , DN≥250
PN40 , DN≥150
PN63 , DN≥100



Gear Operation
PN16 , PN25 , DN≥350
PN40 , DN≥200
PN63 , DN≥150
PN100 , DN≥100

Dimensions and Weights PN 16-100

DN/mm		50	65	80	100	150	200	250	300	350	400
L/mm		230	290	310	350	480	600	730	850	980	1100
PN16	H/mm	305	354	402	437	541	699	815	914	1189	1350
	E/mm	200	250	280	300	350	400	600	600	600	600
	Weight/kg	20	25	35	50	100	210	446	648	805	1050
PN25	H/mm	325	363	415	453	556	744	864	948	1269	1450
	E/mm	200	250	250	300	350	400	550	600	560	650
	Weight/kg	22	27	38	55	105	220	450	660	810	1100
PN40	H/mm	325	370	430	480	589	783	888	965	1285	1512
	E/mm	200	250	250	350	500	560	600	650	610	610
	Weight/kg	24	30	41	60	110	225	460	670	830	1120
DN/mm		50	65	80	100	150	200	250	300	350	400
L/mm		300	340	380	430	550	650	775	900	1025	1150
PN63	H/mm	305	354	402	437	541	699	815	914	1189	1350
	E/mm	250	250	350	450	560	600	700	610	610	610
	Weight/kg	26	33	45	65	120	230	470	680	850	1130
PN100	H/mm	325	363	415	453	556	744	864	948	1269	1450
	E/mm	350	350	450	500	610	610	610	610	610	610
	Weight/kg	27	34	46	67	125	235	480	690	860	1150

Pressure Seal Globe Valves

Rational structure, reliable sealing, excellent performance and nice molding

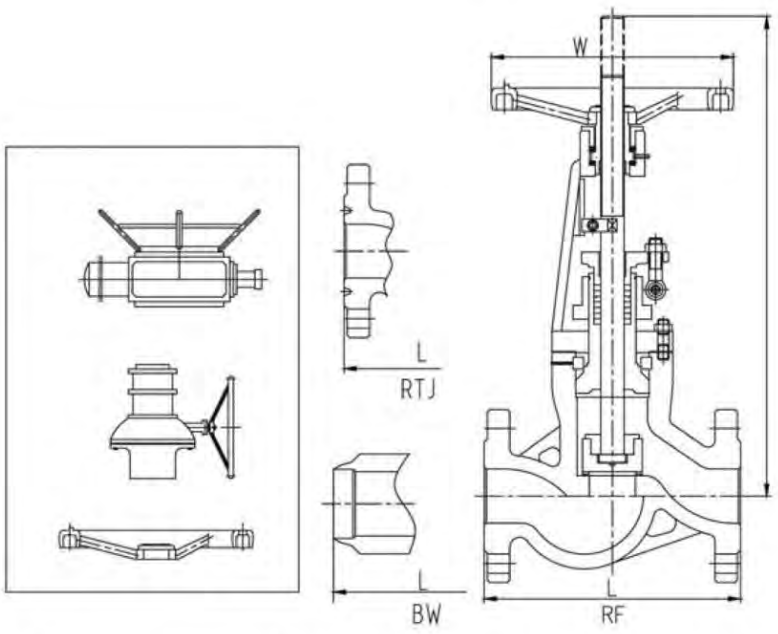
Regardless of operating-temperature changes, the bonnet joint remains leak proof. This is insured by stainless steel inlay in the body gasket area. The sealing pressure is in direct proportion to the internal pressure.

Advanced pressure seal designed body and pure graphite gasket rings to ensure high tightness and comply with the healthy and safe environment requirements for fugitive emissions control.

Technical Data

Size: NPS 1-12
Pressure Ratings: Class900-2500
Temperature: -29° C - 593° C
Design Standard: ASME B16.34
Face to Face: ASME B16.10
Flanged Ends: ASME B16.5
Butt-Welding Ends: ASME B16.25
Test and Inspection: ISO5208, API598
Drive Means: Manual, Electric Actuator, Pneumatic Actuator
Note: the flange sizes and butt-welding of serial valves can be designed according to customer's requirement.

ANSI Pressure Seal Globe Valves



Note: Manual for NPS4 and smaller.

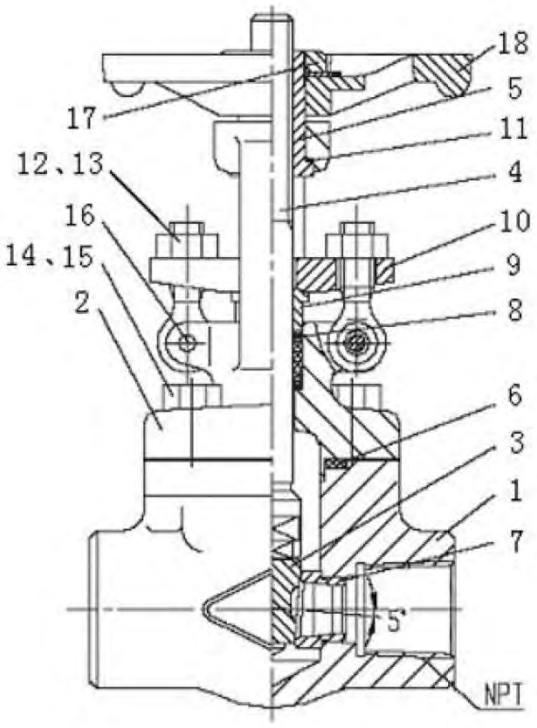
Dimensions and Weights Class 900-2500

Class	NPS(in)	Dimensions/mm						Weight/kg	
		d	L		O	H	E		
			RF/BW	RFJ				RF/RTJ	BW
Class 900	2	47	368	371	215	619	350	84	58
	2 ½	57	419	422	245	641	350	100	74
	3	73	381	384	240	721	450	110	84
	4	98	457	460	290	850	500	179	137
	6	146	610	613	380	1225	610	441	378
	8	191	737	740	470	1350	610	1050	945
Class 1500	2	47	368	371	215	619	350	84	58
	2 ½	57	419	422	245	641	350	116	84
	3	70	470	473	265	838	500	146	100
	4	92	546	549	310	857	560	236	168
	6	136	705	711	395	1230	610	918	781
	8	178	832	842	485	1800	610	1764	1502
Class 2500	2	38	451	454	235	616	400	105	74
	2 ½	47	508	541	265	781	500	163	116
	3	57	578	584	305	800	560	221	147
	4	73	673	683	355	1300	610	525	368
	6	111	914	927	485	1370	610	1313	973
	8	146	1022	1038	550	2160	610	2520	2100

Forged Steel Gate Valves

Technical Data

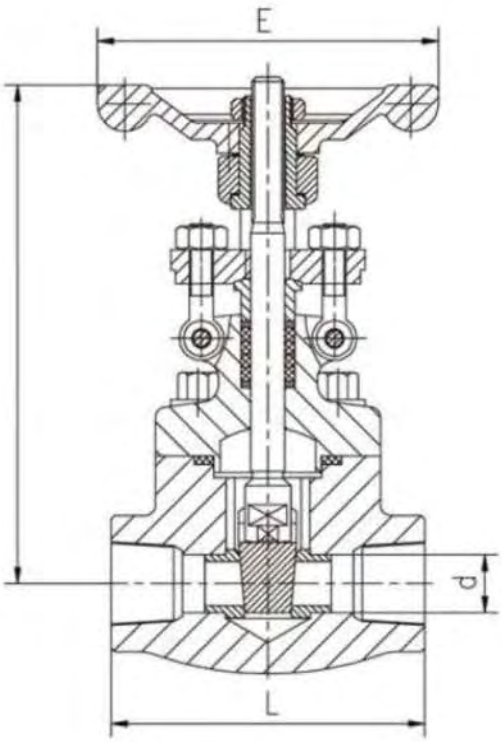
Pressure Ratings: Class 800-1500
Basic Design: API 602
Threaded end: ASME B 1.20.1
Socket-weld: ASME B 16.11
Test and Inspection: API598



Material Specifications

No.	Parts	Materials
		ASTM
1	Body	A105
2	Bonnet	A105
3	Wedge	A217
4	Stem	A182 F6a
5	Stem Nut	Bronze
6	Gasket	304 SS
7	Seat	A105
8	Packing	Graphite+304
9	Gland	A276 420
10	Gland Flange	CS
11	Thrust Washer	A182 F304
12	Nut	A194 2H
13	Eyebolt	A193 B7
14	Bolt	A193 B7
15	Nut	A194 2H
16	Pin	CS
17	Handwheel Nut	CS
18	Handwheel	Cast Iron

ANSI Forged Steel Gate Valves



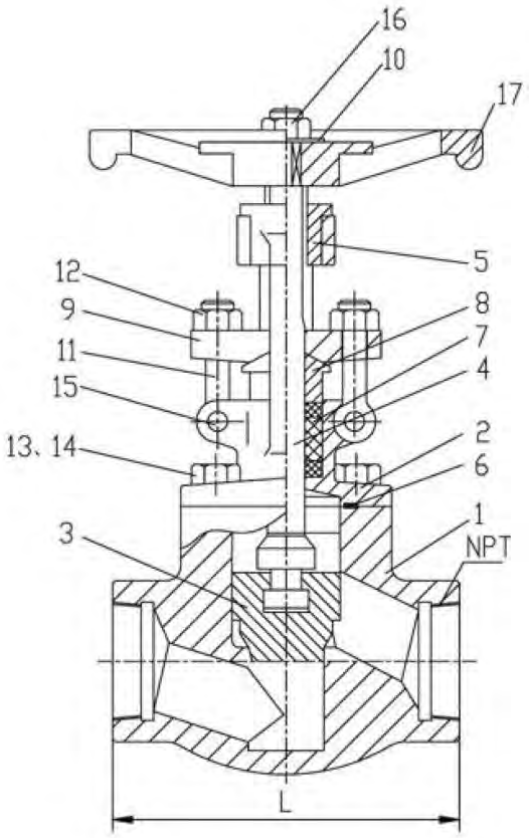
Dimensions and Weights Class 16-100

Class	NPS(in)	Dimensions/mm					Weight/kg
		d	L	H		E	
				Open	Close		
Class 800	¼	6	76	146	132.5	90	1.5
	3/8	6	76	146	132.5	90	1.5
	½	9	86	157	140	90	2
	¾	12	102	194	173	110	3
	1	17	118	239	209	150	4
	1 ¼	23	118	263	228	150	5.5
	1 ½	28	132	290	247	150	7.5
	2	36	178	328	270	180	10.5
Class 1500	¼	6	90	214	198	90	2.5
	3/8	6	90	214	198	90	2.5
	½	9	104	218	202	110	3.5
	¾	12	120	239	218	150	5.5
	1	15	130	275	245	150	8.5
	1 ¼	22	130	290	255	150	8.5
	1 ½	27	150	313	272	180	14.5
	2	34	210	365	317	180	20

Forged Steel Globe Valves

Technical Data

Pressure Rating: Class 800-2500
Basic Design: API 602
Threaded end: ASME B 1.20.1
Socket-weld: ASME B 16.11
Test and Inspection: API 598

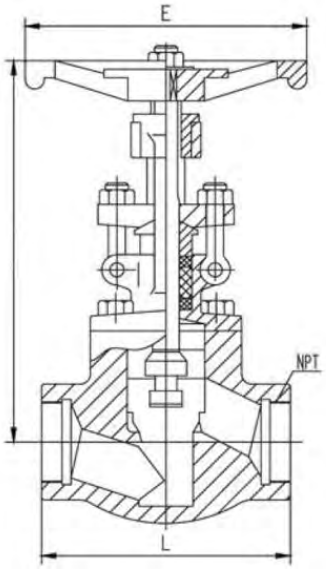


Material Specifications

No.	Parts	Materials
		ASTM
1	Body	A105
2	Bonnet	A105
3	Disc	A182 F6a
4	Stem	A182 F6a
5	Stem Nut	A439 D2/Bronze
6	Gasket	304 SS
7	Packing	Graphite+304
8	Gland	A276 420
9	Gland Flange	CS
10	Washer	CS
11	Eyebolt	A193 B7
12	Nut	A194 2H
13	Bolt	A193 B7
14	Nut	A194 2H
15	Pin	CS
16	Handwheel Nut	CS
17	Handwheel	Cast Iron

Note: The materials can be selected according to customer's requirement

ANSI Forged Steel Globe Valves



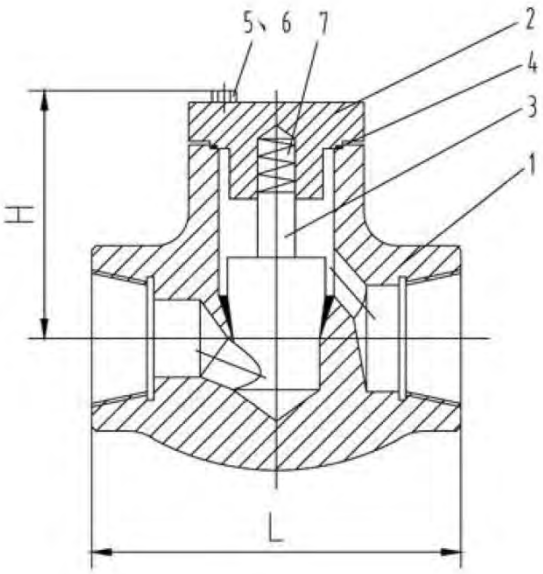
Dimensions and Weights Class 800-2500

Class	NPS(in)	Dimensions/mm					Weight/kg
		d	L	H		E	
				Open	Close		
Class 800	¼	6	76	146	135	90	2
	3/8	6	76	146	135	90	2
	½	9	86	146	135	90	2.5
	¾	12	102	154	142	110	3.5
	1	17	140	195	183	150	7
	1 ¼	23	140	195	183	150	7
	1 ½	28	170	231	214	150	10.5
	2	36	210	277	254	180	15
Class 1500	¼	5	90	211	195	90	2.5
	3/8	5	90	211	195	90	2.5
	½	8	104	211	195	110	3
	¾	9	120	218	200	150	5.5
	1	14	150	243	220	150	8.5
	1 ¼	20	150	277	248	180	8.5
	1 ½	25	180	290	255	180	14.5
	2	27	210	316	275	180	18
Class 2500	½	8	127	176	148	130	7
	¾	9	155	242	218	130	9
	1	14	170	257	230	130	12.5
	1 ¼	25	235	429	385	250	26
	2	27	235	434	392	250	37

Forged Steel Lift Check Valves

Technical Data

Pressure Rating: Class 800-2500
Basic Design: API 602
Threaded end: ASME B 1.20.1
Socket-weld: ASME B 16.11
Test and Inspection: API 598



Material Specifications

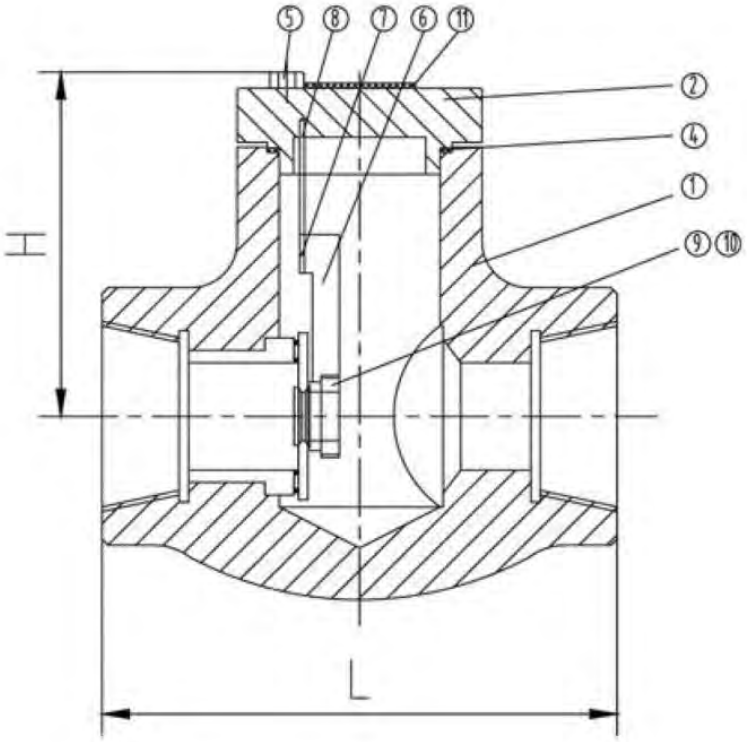
No.	Parts	Materials
		ASTM
1	Body	A105
2	Cover	A105
3	Disc	A182 F6a
4	Gasket	304 SS
5	Bolt	A193 B7
6	Nut	A194 2H
7	Spring	SS

Note: The materials can be selected according to customer's requirement.

Dimensions and Weights Class 800-1500

Class		Class 800							
NPS(in)		¼	3/8	½	¾	1	1 ¼	1 ½	2
Dimensions/mm	L	76	76	86	102	140	140	170	210
	H	42	42	47	56	68	68	87	100
Weight/kg		1	1	1.5	2.5	4	4	7.5	11
Class		Class 1500							
NPS(in)		¼	3/8	½	¾	1	1 ¼	1 ½	2
Dimensions/mm	L	90	90	104	120	150	150	180	210
	H	60	60	73	80	98	118	147	147
Weight/kg		1.5	1.5	2.5	4	6	9.5	15	23.5

Forged Steel Swing Check Valves



Technical Data

Pressure Rating: Class 800-1500
Basic Design: API 602
Threaded End: ASME B 1.20.1
Socket-weld: ASME B 16.11
Test and Inspection: API 598

Material Specifications

No.	Parts	Materials
		ASTM
1	Body	A105
2	Cover	A105
3	Disc	A182 F6a
4	Gasket	304 SS
5	Bolt	A193 B7
6	Hinge	A276 420
7	Hinge Pin	SS
8	Holder	A276 420
9	Nut	A276 420
10	Washer	A276 420
11	Nameplate	SS
12	Seat	A105+STL

Dimensions and Weights Class 800

Class		Class 800							
NPS(in)		¼	3/8	½	¾	1	1 ¼	1 ½	2
Dimensions/mm	L	76	76	86	102	118	118	132	178
	H	42	42	46	59	78	78	90	100
Weight/kg		1	1	1.5	2.5	4	4	7.5	11

Inverted Pressure Balance Lubricated Plug Valves

It has the structure of flip chip balanceable pressure and light on or off operation.

An oil groove us set between body and seal surface, which may infuse the seal grease to increase the seal capability.

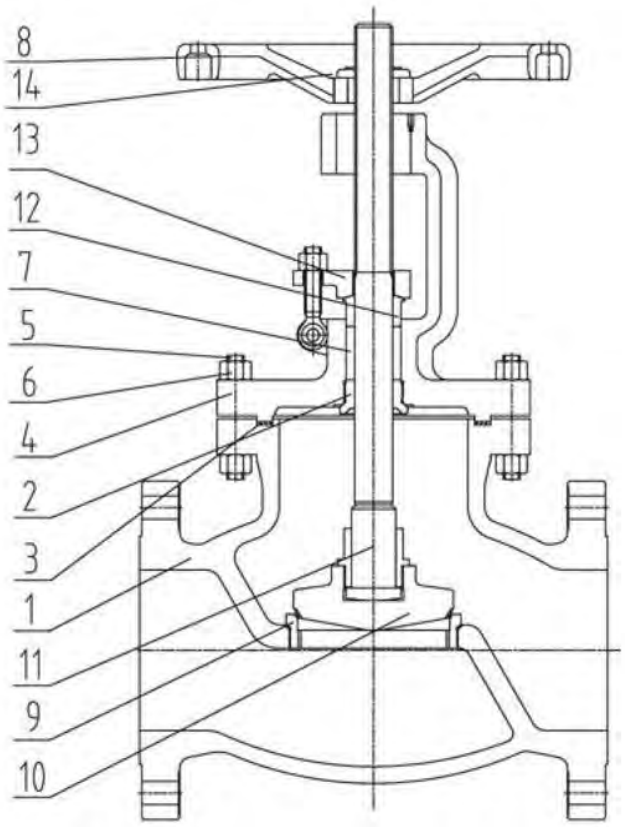
The part materials and flange dimensions may be selected according to current working condition and customer's requirement, so that they meet the requirements of various engineering.

Technical Data

Size: NPS 1 ½-14
Pressure Ratings: Class 150-900
Temperature: -29° C-121° C
Design Standard: API 6D, ASME B16.10
Flanged Ends: ASME B16.5
Test and Inspection: ISO 5208, API 598
Drive Means: Manual, Electric Actuator, Pneumatic Actuator
Note: The size of serial valve flange dimensions can be designed according to customer's requirement.

Inverted pressure balance lubricated plug valve is applicable to the cutting and connection of pipelines media that are used in various industries such as petroleum, chemical industry, pharmacy, chemical fertilizer, electric power industry, etc.

Inverted Pressure Balance Lubricated Plug Valves

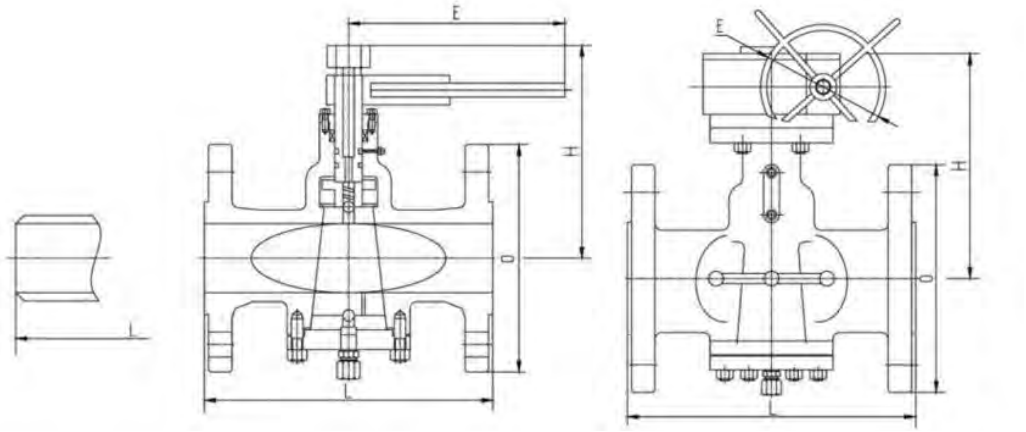


Material Specifications

No.	Parts	Materials	
		Carbon Steel	Stainless Steel
		ASTM	ASTM
1	Body	A216 WCB	A351 CF8M
2	Bonnet	A105	A182 F316
3	Plug	A216 WCB+N	A351 CF8M+N
4	Stem	A182 F6a	A182 F316
5	Gland	A105	A182 F316
6	Gasket	Graphite+SS	Graphite+SS
7	Bolt	A193 B7	A193 B8M
8	Nut	A194 2H	A193 8M
9	O-Ring	FPM	FPM
10	Packing	Graphite+SS	Graphite+SS
11	Oil Nozzle	SS	SS
12	Lever	CS	CS

Note: The materials can be selected according to customer's requirement.

ANSI Inverted Pressure Balance Lubricated Plug Valves

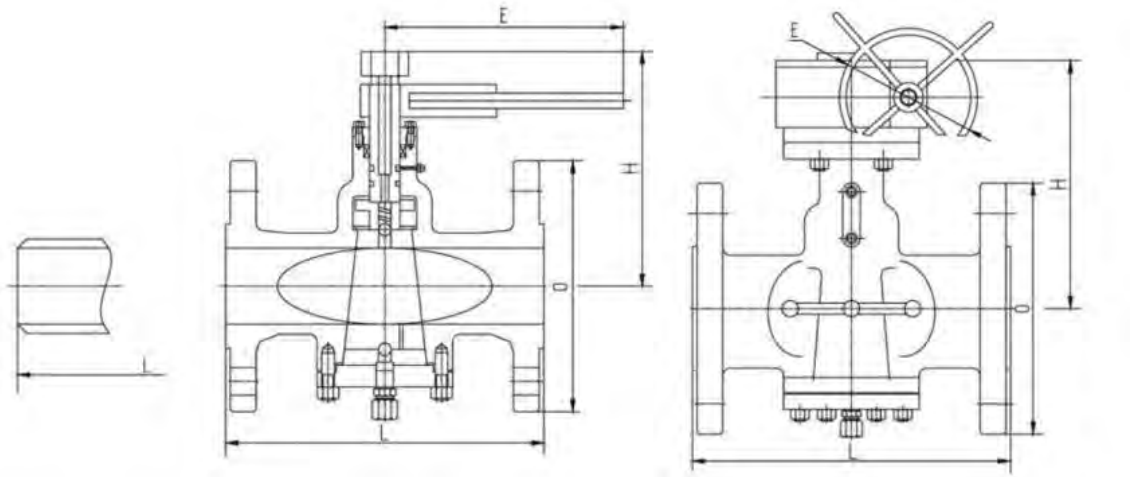


Dimensions and Weights Class 150 -300

Class	NPS(in)	Dimensions/mm					Weight/kg
		L		O	H	E	
		RF	BW				
Class 150	1 ½	-	-	125	210	500	19
	2	178	267	150	215	500	21
	2 ½	190	305	180	250	720	29
	3	203	330	190	270	720	33
	4	229	356	230	300	300	48
	5	254	381	255	340	300	75
	6	267	457	280	365	320	98
	8	292	521	345	400	320	125
	10	330	559	405	450	350	171
	12	356	635	485	510	380	230
	14	381	-	535	590	380	370
Class 300	1 ½	190	-	155	210	600	21
	2	216	267	165	215	820	24
	2 ½	241	305	190	250	1000	31
	3	283	330	210	270	1000	36
	4	305	356	255	300	300	61
	5	381	-	280	340	300	86
	6	403	457	320	365	320	130
	8	419	521	380	400	320	190
	10	457	559	445	450	350	255
	12	502	635	520	510	380	380
	14	762	762	585	590	380	560

Note: NPS4 or above with worm gear.

ANSI Inverted Pressure Balance Lubricated Plug Valves



Dimensions and Weights Class 600-900

Class	NPS(in)	Dimensions/mm					Weight/kg
		L		O	H	E	
		RF	BW				
Class 600	1 ½	241	241	155	210	600	24
	2	292	292	165	215	820	29
	2 ½	330	330	190	250	1000	35
	3	356	356	210	270	1000	47
	4	432	432	275	300	300	91
	6	559	559	355	365	320	210
	8	660	660	420	400	320	320
	10	787	787	510	450	350	660
	12	838	838	560	510	380	920
	14	889	889	605	590	380	1250
Class 900	1 ½	305	305	180	210	600	30
	2	368	368	215	215	820	37
	2 ½	419	419	245	250	1000	44
	3	381	381	240	270	1000	65
	4	457	457	290	300	300	110
	6	610	610	380	365	320	255
	8	737	737	470	400	320	380
	10	838	838	545	450	350	810
	12	965	965	610	510	380	1050

Note: NPS4 or above with worm gear.

Butterfly Valves

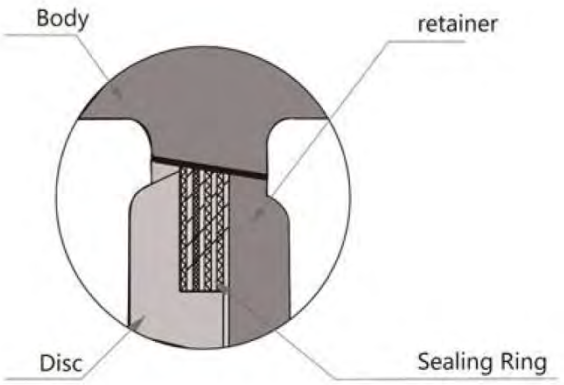
Multi-layers sealing structure and function

With advanced triple-eccentric structure, seat and sealing ring are apart when opening and closing, can be zero leakage and good bio-flow directions tightness, compare with normal centric and eccentric structures, with lower torque and longer using life.

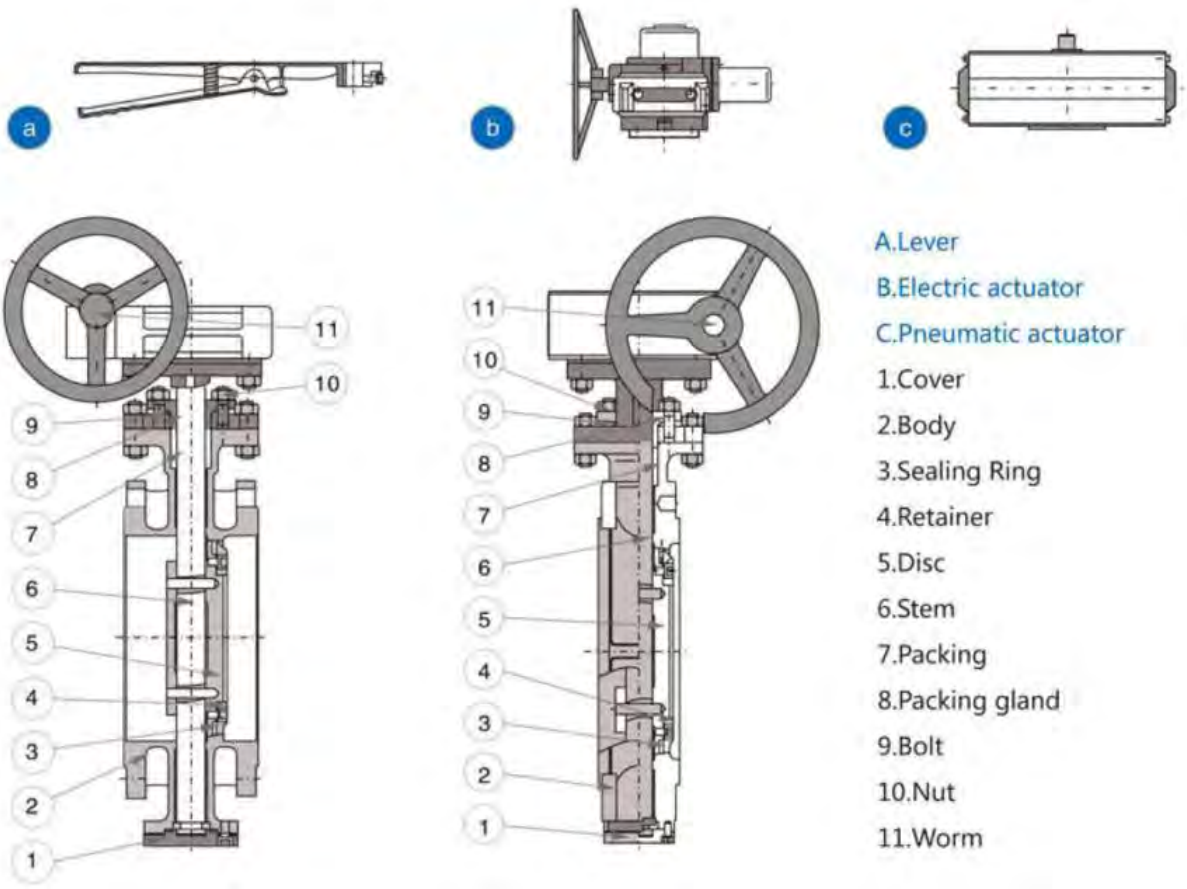
Multi-layers sealing system, when close the valve, multi-layers sealing material is compressed and flexible transmutation to press close to seat, to get a good sealing.

Small size, compact structure, installation and maintenance convenience,

Sealing material can be changed according to different working condition and requirement of clients.



Pneumatic, hydraulic and electric butterfly valve can be used for remote centralized control and still computer-programmed to meet the requirements.



Fully metal sealing features

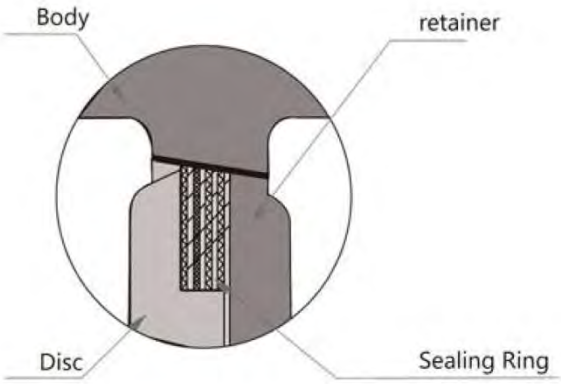
With advanced triple-eccentric structure, seat and sealing ring are apart when opening and closing, can be zero leakage and good bio-flow directions tightness, compare with normal centric and eccentric structures, with lower torque and longer using life.

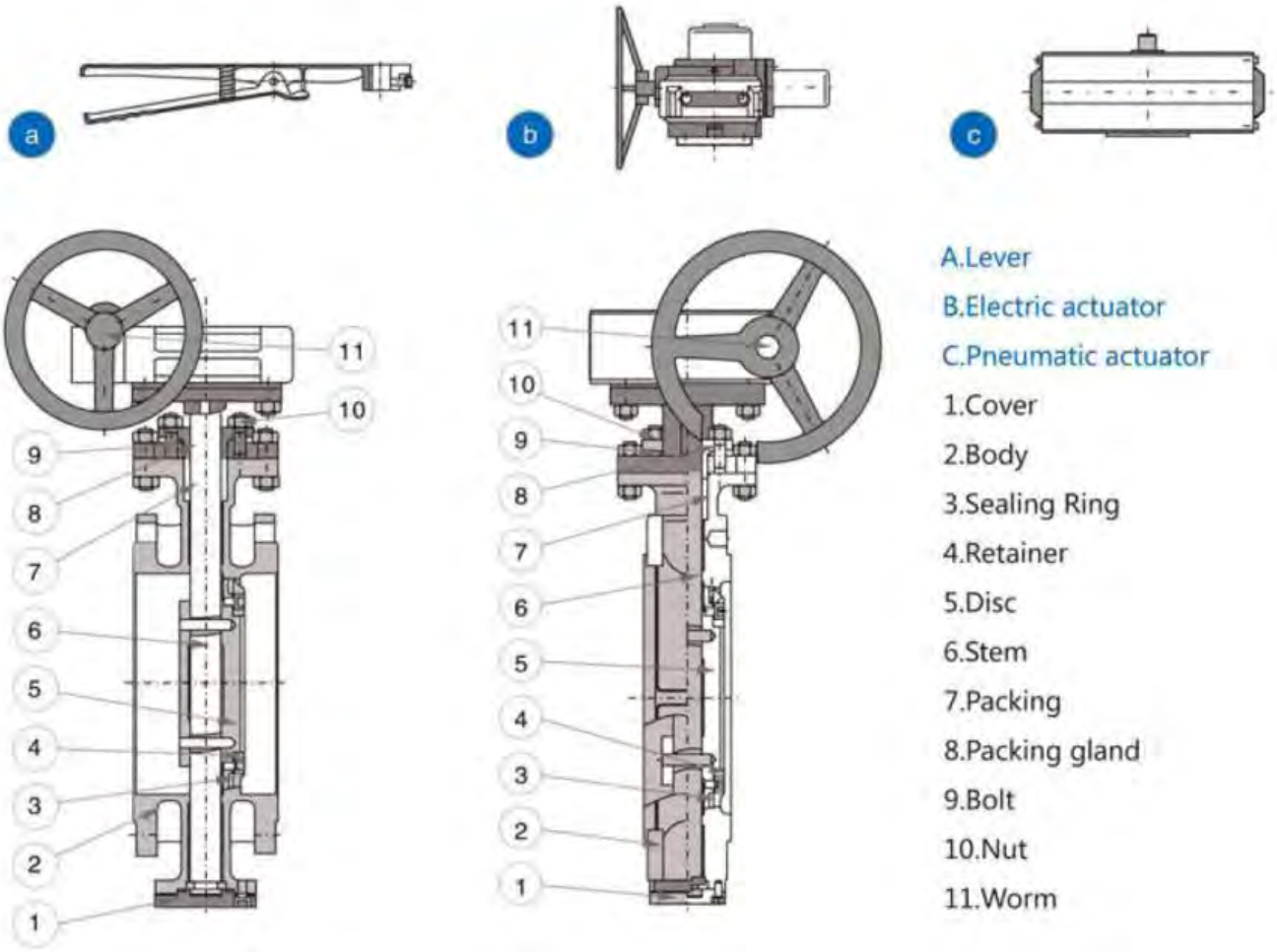
Resist high temp, wear and tear, corruption, scour.

Small size, compact structure, installation and maintenance convenience,

Sealing material can be changed according to different working condition and requirement of clients.

Pneumatic, hydraulic and electric butterfly valve can be used for remote centralized control and still computer-programmed to meet the requirements.

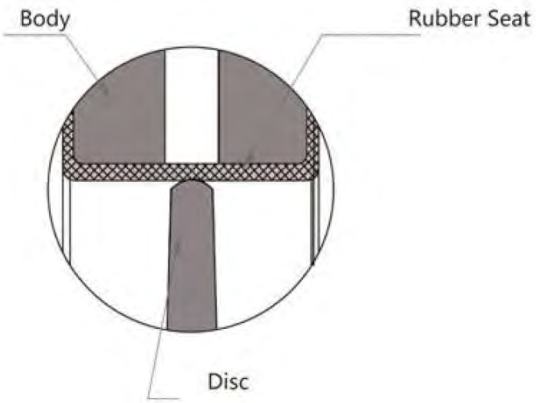


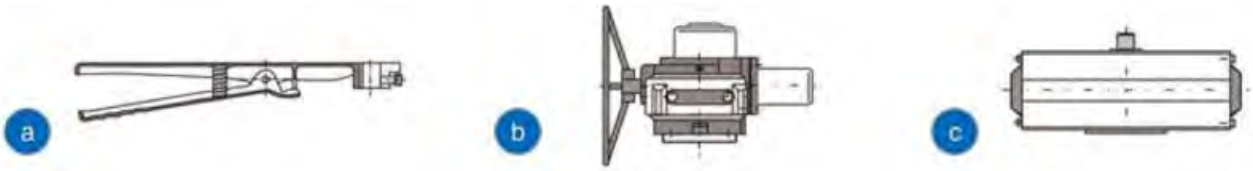


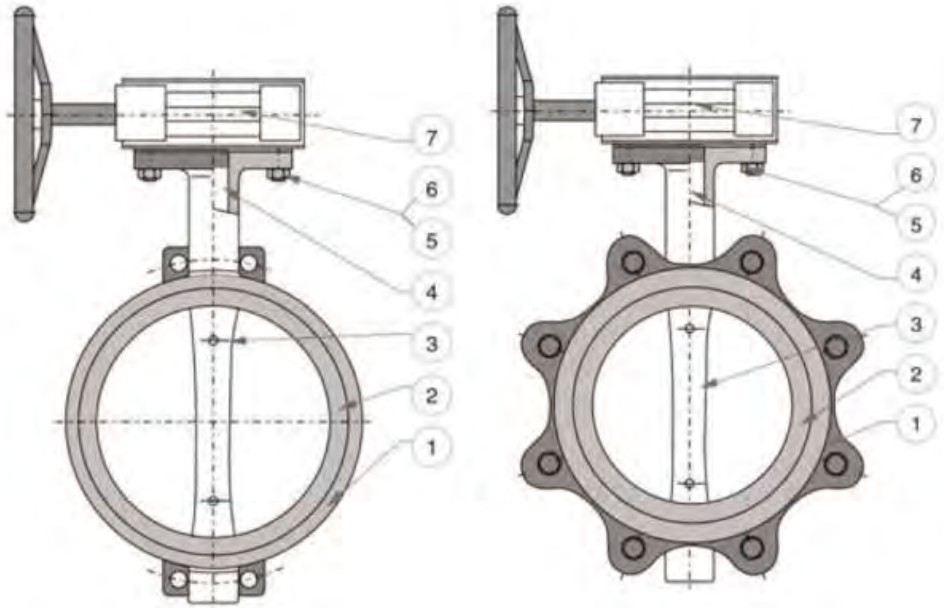
Soft seated features

Soft seal butterfly apply to less than 120° C temperature. Stu<1.6Mpa Food, medicine, chemicals, petroleum, electricity, textile, papermaking, to water drainage, gas, pipeline and the closure flow regulator for the media role. Its main features are:

1. A new layout and design, reasonable, unique structure and light weight, open and close rapidly.
2. Operation moment small torque, easy operation.
3. Can be in any location of the installation.
4. Seals can be replaced, reliable sealing performance, two-way closed to zero leakage.
5. Sealing materials aging, corrosion resistance and long service life characteristics.





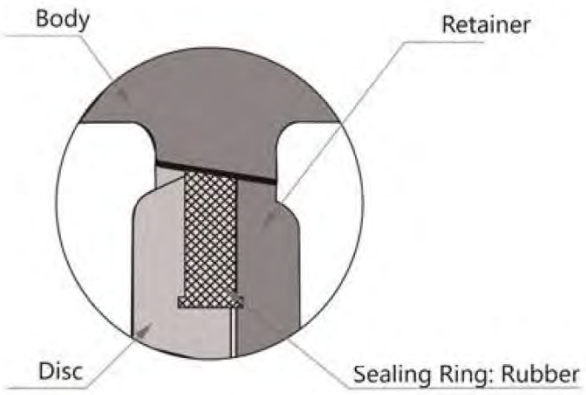


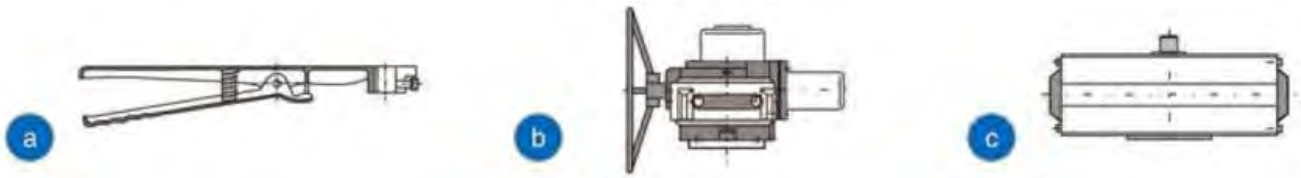
A.Lever
B.Electric actuator
C.Pneumatic actuator
1.Body
2.Rubber Seat
3.Disc
4.Stem
5.Bolt
6.Nut
7.Worm

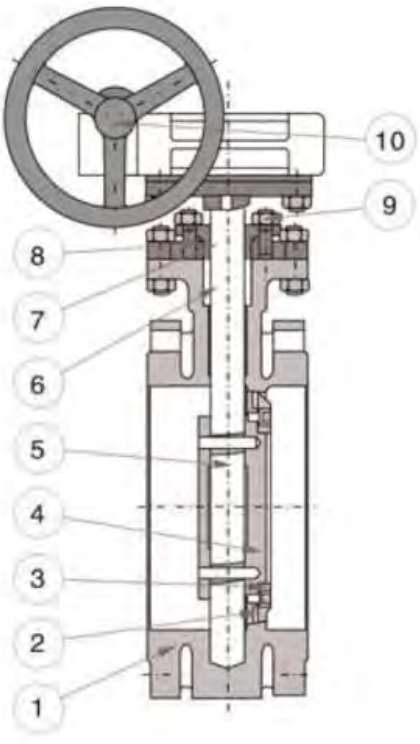
Double eccentric soft seated features

Soft seal butterfly apply to less than 120° C temperature. Stu<1.6Mpa Food, medicine, chemicals, petroleum, electricity, textile, papermaking, to water drainage, gas, pipeline and the closure flow regulator for the media role. Its main features are:

1. A new layout and design, reasonable, unique structure and light weight, open and close rapidly.
2. Operation moment small torque, easy operation.
3. Can be in any location of the installation.
4. Seals can be replaced, reliable sealing performance, two-way closed to zero leakage.
5. Sealing materials aging, corrosion resistance and long service life characteristics.



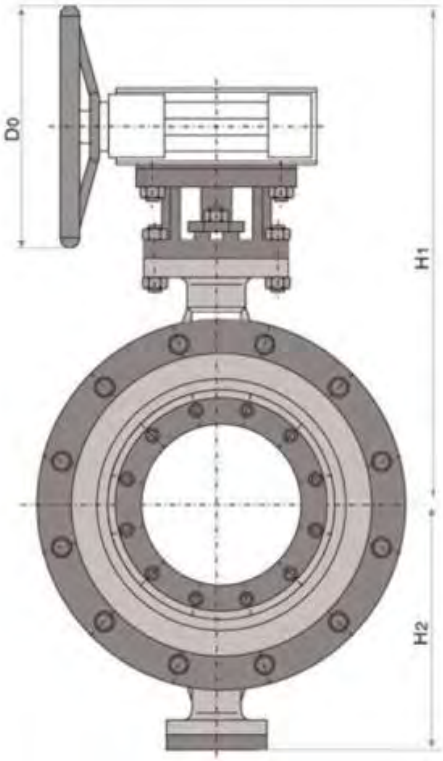


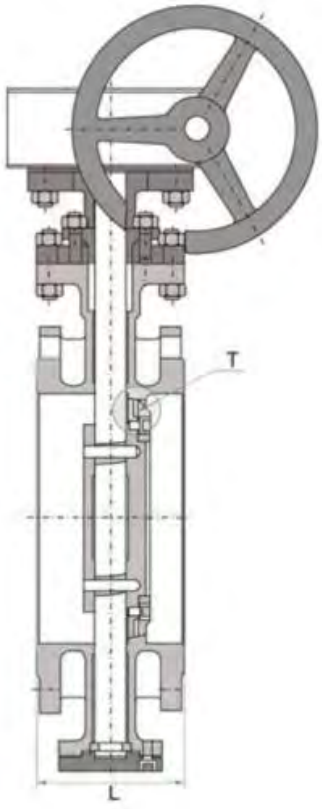


A.Lever
B.Electric actuator
C.Pneumatic actuator
1.Body
2.Sealing Ring
3.Retainer
4.Disc
5.Stem
6.Packing
7.Packing gland
8.Bolt
9.Nut
10.Worm

API Flanged type butterfly valves 150LBS/300LBS technical data

This series butterfly valve used Worm Drive, operation of the LRT and self-locking function. Application of advanced structural design of three eccentric and flexible ring of tiny elastic deformation characteristics, the use of advanced technology and methods for process equipment manufacturing, to ensure accuracy. Ensuring reliable seal a lasting pay coincide with resistance small, reliable sealing, sealing surface wear small, whole working life long. The products are widely used in metallurgical, petrochemical, oil refining, to the drainage works and other sectors.





API Flanged type butterfly valves 150LBS/300LBS technical data

The valve design, manufactured by JB/T8527-97 standards.

By connecting flange GB/T9113.1-2000 standards.

Valve length of the structure by GB/T12221-89 standards.

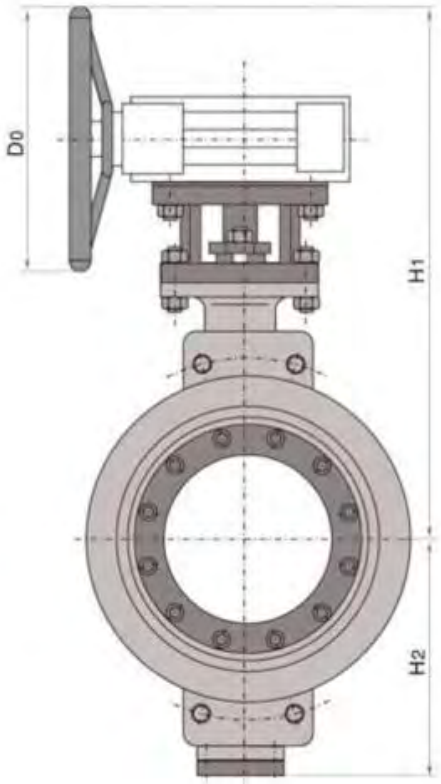
Inspection and test valves on JB/T9092-99 standards.

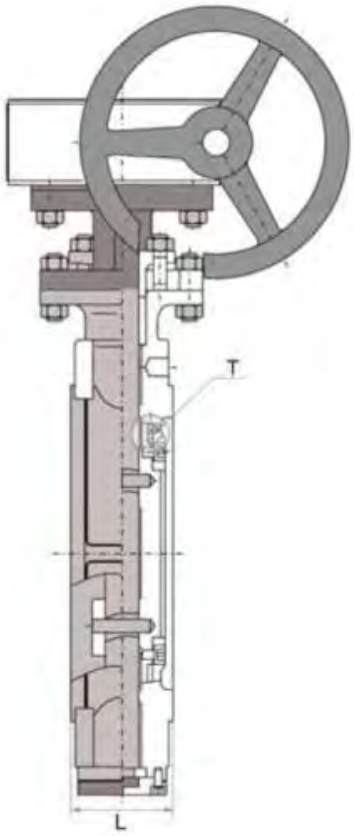
In	DN	L		H1		H2		D0	
		150	300	150	300	150	300	150	300
2	50	108	150	290	-	110	-	145	-
2 ½	65	112	170	300	-	125	-	145	-
3	80	114	180	315	-	130	-	145	-
4	100	127	190	335	360	155	170	145	290
5	125	140	200	445	470	165	185	290	290
6	150	140	210	460	505	170	210	290	290
8	200	152	230	520	570	225	240	290	320
10	250	165	250	656	610	260	275	290	320
12	300	178	270	630	690	305	310	320	380
14	350	190	290	660	790	325	350	320	380
16	400	216	310	725	830	365	375	380	380
18	450	222	330	765	880	390	405	380	380
20	500	229	350	880	925	420	455	380	380
24	600	267	390	960	940	460	510	380	380380
26	650	267	390	930	1000	440	490	380	380
28	700	292	430	980	1025	465	515	380	380
30	750	292	430	1020	1130	490	540	380	480
32	800	318	470	1050	1175	525	585	380	480
36	900	330	510	1195	1265	595	640	480	480
40	1000	410	550	1265	1300	645	700	480	480
48	1200	470	-	1360	-	750	-	480	-
52	1300	-	-	1600	-	845	-	600	-
56	1400	-	-	1670	-	910	-	600	-
60	1500	-	-	1730	-	965	-	600	-

Note: Handle, worm, Worm, electrical, pneumatic, hydraulic, can be selected according to customer's requirement.

API Wafer Type Butterfly Valves 150LBS/300LBS technical data

The series butterfly valve used Worm Drive, operation of the LRT and self-locking function. Application of advanced structural design of three eccentric and flexible ring of tiny elastic deformation characteristics, the use of advanced technology and methods for process equipment Manufacturing, to ensure accuracy of parts and assembly accuracy. Ensuring reliable seal a lasting pay coincide with the total elimination of the sealing surface of the interference with the mill loss. Therefore, the switch resistance small, reliable sealing, sealing surface wear small, whole working life long. The products are widely used in metallurgical, petrochemical, oil refining, to the drainage works and other sectors.





API Wafer Type Butterfly Valves 150LBS/300LBS technical data

The valve design, manufactured by JB/T8527-97 standards.

By connecting flange GB/T9113.1-2000 standards.

Valve length of the structure by GB/T12221-89 standards.

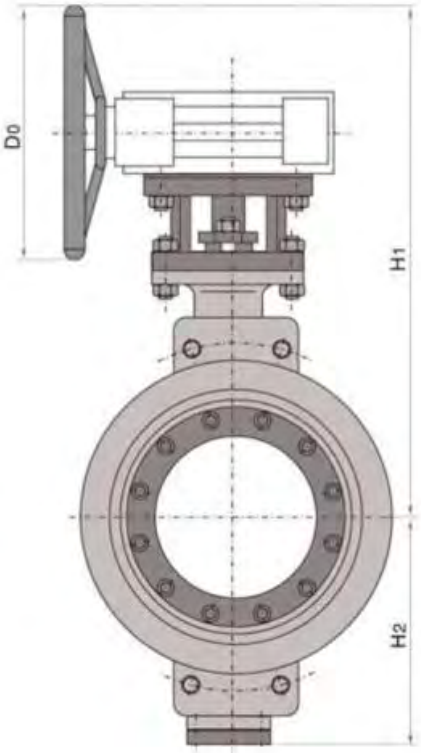
Inspection and test valves on JB/T9092-99 standards.

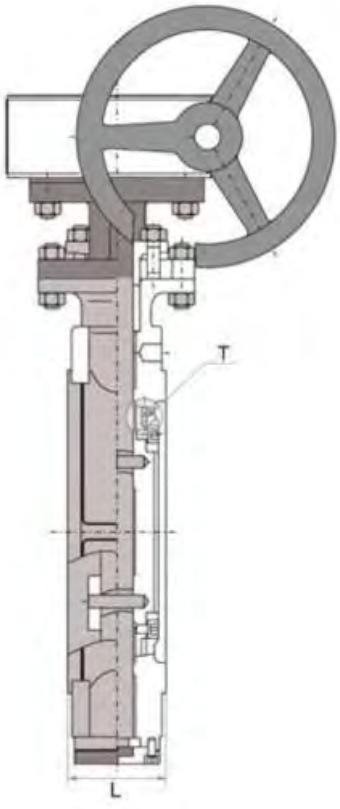
In	DN	L		H1		H2		D0	
		150	300	150	300	150	300	150	300
2	50	43	-	285	-	100	-	145	-
2½	65	46	-	295	-	110	-	145	-
3	80	48	-	310	-	120	-	145	-
4	100	54	54	330	435	140	150	145	290
5	125	54	54	435	465	165	180	290	290
6	150	57	59	455	500	170	190	290	290
8	200	64	73	500	565	215	235	290	320
10	250	71	83	550	620	230	250	290	320
12	300	81	92	595	665	260	280	320	380
14	350	92	117	635	700	290	320	320	380
16	400	102	133	690	740	315	335	380	380
18	450	114	149	750	790	360	390	380	380
20	500	127	159	865	920	385	415	380	380
24	600	154	181	930	940	450	485	380	380
26	650	165	-	955	-	435	-	380	-
28	700	165	-	985	-	465	-	380	-
30	750	165	-	1005	-	485	-	380	-
32	800	190	-	1045	-	515	-	380	-
36	900	203	-	1165	-	570	-	480	-
40	1000	216	-	1260	-	645	-	480	-
48	1200	254	-	1355	-	750	-	480	-

Note: Handle, worm, Worm, electrical, pneumatic, hydraulic, can be selected according to customer's requirement.

API lug type butterfly valves 150LBS/300LBS technical data

The series butterfly valve used Worm Drive, operation of the LRT and self-locking function. Application of advanced structural design of three eccentric and flexible ring of tiny elastic deformation characteristics, the use of advanced technology and methods for process equipment Manufacturing, to ensure accuracy of parts and assembly accuracy. Ensuring reliable seal a lasting pay coincide with the total elimination of the sealing surface of the interference with the mill loss. Therefore, the switch resistance small, reliable sealing, sealing surface wear small, whole working life long. The products are widely used in metallurgical, petrochemical, oil refining, to the drainage works and other sectors.





API lug type butterfly valves 150LBS/300LBS technical data

The Valve design and manufacture of API 609 standards.

ANSI B16.5 by connecting flange ASME B16.47 standards.

Inspection and test valves by API 598 standards.

In	DN	L		H1		H2		D0	
		150	300	150	300	150	300	150	300
6	150	57	59	470	500	175	210	290	290
8	200	64	73	515	565	220	240	290	320
10	250	71	83	560	620	255	275	290	320
12	300	81	92	625	665	300	310	320	380
14	350	92	117	655	700	325	350	320	380
16	400	102	133	735	820	355	380	380	380
18	450	114	149	765	850	375	415	380	380
20	500	127	159	850	930	410	450	380	380
24	600	154	181	925	1005	470	525	380	380
28	700	165	-	965	-	485	-	380	-
30	750	165	-	995	-	510	-	380	-
32	800	190	-	1045	-	545	-	380	-
36	900	203	-	1170	-	610	-	480	-

Note: Handle, worm, Worm, electrical, pneumatic, hydraulic, can be selected according to customer's requirement.

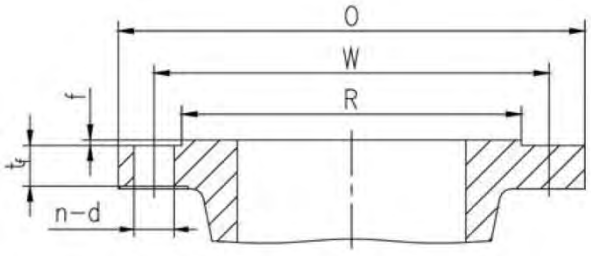
Torque and Thrust of Wedge Gate Valves

Class	Size(in)	2	2 ½	3	4	5	6	8	10	12	14	16	18	20	22	24
150	Thrust(KN)	9	10	12	15	16	23	33	47	66	69	96	119	151	181	190
	Torque(N.M)	20	25	30	40	50	70	100	160	240	270	400	520	700	920	1010
300	Thrust(KN)	12	14	17	24	35	46	74	110	151	176	226	284	349	-	441
	Torque(N.M)	25	30	40	70	100	140	250	400	590	730	980	1300	1770	-	2540
600	Thrust(KN)	20	23	32	50	73	100.88	150	213	300	351	443	480	582	-	809
	Torque(N.M)	40	50	90	140	250	370	580	920	1370	1860	2450	2770	3630	-	5830
900	Thrust(KN)	33	43	49	70	-	139	214	326	436	527	569	726	876	-	1231
	Torque(N.M)	60	90	100	210	-	540	930	1650	2310	2910	3280	5240	6730	-	10050
1500	Thrust(KN)	51	66	83	114	220	220	352	509	657	807	878	1155	1447	-	2056
	Torque(N.M)	130	190	250	390	900	900	1780	2940	4100	5820	6330	9970	13190	-	22660
2500	Thrust(KN)	70	98	111	145	-	289	470	712	942	1135	1408	-	-	-	-
	Torque(N.M)	180	270	340	490	-	1250	2600	4960	7240	9260	12830	-	-	-	-

Torque and Thrust of Globe Valves

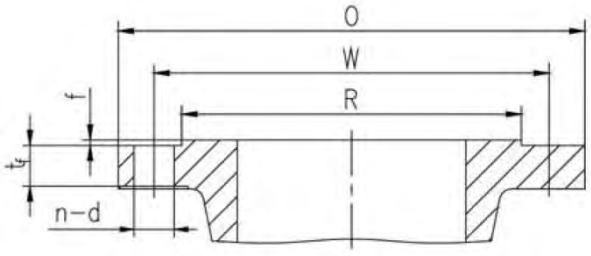
Class	Size(in)	2	2 ½	3	4	5	6	8	10	12	14	16	18	20
150	Thrust(KN)	9	14	19	30	50	69	119	182	260	309	412	540	672
	Torque(N.M)	20	30	40	60	110	140	280	510	810	1060	1480	2100	2830
300	Thrust(KN)	22	34	47	75	126	176	303	466	662	787	1074	1328	-
	Torque(N.M)	30	60	90	160	310	490	940	1670	2580	3320	5250	7330	-
600	Thrust(KN)	42	64	94	49	252	353	606	908	1289	1371	2147	-	-
	Torque(N.M)	80	130	189	370	700	1090	2170	3830	6300	7570	13210	-	-
900	Thrust(KN)	57	-	128	212	-	470	820	1286	1557	-	-	-	-
	Torque(N.M)	120	-	300	590	-	1690	3460	6280	7610	-	-	-	-
1500	Thrust(KN)	95	140	231	389	-	796	1186	-	2334	-	-	-	-
	Torque(N.M)	200	330	0640	1330	-	3360	5800	-	15100	-	-	-	-
2500	Thrust(KN)	117	170	334	489	-	900	-	-	-	-	-	-	-
	Torque(N.M)	290	400	980	1750	-	4200	-	-	-	-	-	-	-

Steel Pipe Flanges ASME B16.5 (RF)



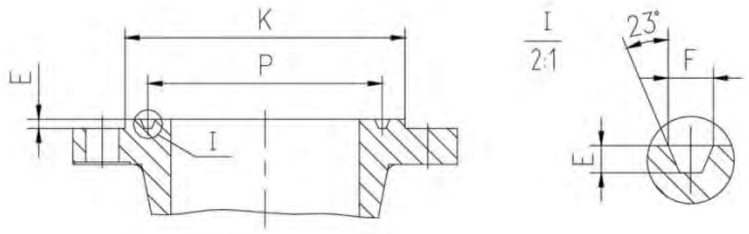
Class	NPS(in)		O/mm	W/mm	R/mm	tf/mm	f/mm	n	d
	NPS/in	DN/mm							
Class 150	½	15	90	60.3	34.9	8	2	4	16
	¾	20	100	69.9	42.9	8.9	2	4	16
	1	25	110	79.4	50.8	9.6	2	4	16
	1 ¼	32	115	88.9	63.5	11.2	2	4	16
	1 ½	40	125	98.4	73	12.7	2	4	16
	2	50	150	120.7	92.1	14.3	2	4	19
	2 ½	65	180	139.7	104.8	15.9	2	4	19
	3	80	190	152.4	127	17.5	2	4	19
	4	100	230	190.5	157.2	22.3	2	8	19
	5	125	255	215.9	185.7	22.3	2	8	22
	6	150	280	241.3	215.9	23.9	2	8	22
	8	200	345	298.5	269.9	27	2	8	22
	10	250	405	362	323.8	28.6	2	12	25.5
	12	300	485	431.8	381	30.2	2	12	25.5
	14	350	535	476.3	412.8	33.4	2	12	28.5
	16	400	595	539.8	469.9	35	2	16	28.5
	18	450	635	577.9	533.4	38.1	2	16	32
	20	500	700	635	584.2	41.3	2	20	32
	24	600	815	749.3	692.2	46.1	2	20	35
Class 300	½	15	95	66.7	34.9	12.7	2	4	16
	¾	20	115	82.6	42.9	14.3	2	4	19
	1	25	125	88.9	50.8	15.9	2	4	19
	1 ¼	32	135	98.4	63.5	17.5	2	4	19
	1 ½	40	155	114.3	73	19.1	2	4	22
	2	50	15	127	92.1	20.7	2	8	19
	2 ½	65	190	149.2	104.8	23.9	2	8	22
	3	80	210	169.3	127	27	2	8	22
	4	100	255	200	157.2	30.2	2	8	22
	5	125	280	235	185.7	33.4	2	8	22
	6	150	320	269.9	215.9	35	2	12	22
	8	200	380	330.2	269.9	39.7	2	12	25.5
	10	250	445	387.4	323.8	46.1	2	16	28.5
	12	300	520	450.8	381	49.3	2	16	32
	14	350	585	514.4	412.8	52.4	2	20	32
	16	400	650	571.5	469.9	55.6	2	20	35
	18	450	710	628.6	533.4	55.8	2	24	35
	20	500	775	685.8	584.2	62	2	24	35
	24	600	915	812.8	692.2	68.3	2	24	41

Steel Pipe Flanges ASME B16.5 (RF)



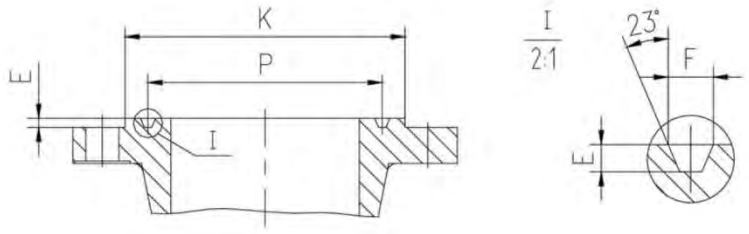
Class	NPS(in)		O/mm	W/mm	R/mm	tf/mm	f/mm	n	d
	NPS/in	DN/mm							
Class 600	½	15	95	66.7	34.9	14.3	7	4	16
	¾	20	115	82.6	42.9	15.9	7	4	19
	1	25	125	88.9	50.8	17.5	7	4	19
	1 ¼	32	135	98.4	63.5	20.7	7	4	19
	1 ½	40	155	114.3	73	22.3	7	4	22
	2	50	165	127	92.1	25.4	7	8	19
	2 ½	65	190	149.2	104.8	28.6	7	8	22
	3	80	210	168.3	127	31.8	7	8	22
	4	100	275	215.9	157.2	38.1	7	8	25.5
	5	125	330	266.7	185.7	44.5	7	8	28.5
	6	150	355	292.1	215.9	47.7	7	12	28.5
	8	200	420	349.2	269.9	55.6	7	12	32
	10	250	510	431.8	323.8	63.5	7	16	35
	12	300	560	489	381	66.7	7	20	35
	14	350	605	527	412.8	69.9	7	20	38
	16	400	685	603.2	469.9	76.2	7	20	41
	18	450	745	654	533.4	82.6	7	20	44.5
	20	500	815	723.9	584.2	88.9	7	24	44.5
	24	600	940	838.2	692.2	101.6	7	24	51
Class 900	½	15	120	82.6	34.9	22.3	7	4	22
	¾	20	130	88.9	42.9	25.4	7	4	22
	1	25	150	101.6	50.8	28.6	7	4	25.5
	1 ¼	32	160	444.4	63.5	28.6	7	4	25.5
	1 ½	40	180	123.8	73	31.8	7	4	28.5
	2	50	215	165.1	92.1	38.1	7	4	25.5
	2 ½	65	145	190.5	104.8	41.3	7	8	28.5
	3	80	240	190.5	127	38.1	7	8	25.5
	4	100	290	235	157.2	44.5	7	8	32
	5	125	350	279.4	185.7	50.8	7	8	35
	6	150	380	317.5	215.9	55.6	7	8	32
	8	200	470	393.7	269.9	63.5	7	12	38
	10	250	545	469.9	323.8	69.9	7	12	38
	12	300	610	533.4	381	79.4	7	16	38
	14	350	640	558.8	412.8	85.8	7	20	41
	16	400	705	616	469.9	88.9	7	20	44.5
	18	450	785	685.8	533.4	101.6	7	20	51
	20	500	855	749.3	584.2	108	7	20	54
	24	600	1040	901.7	692.2	139.7	7	20	67

Steel Pipe Flanges ASME B16.5 (RTJ)



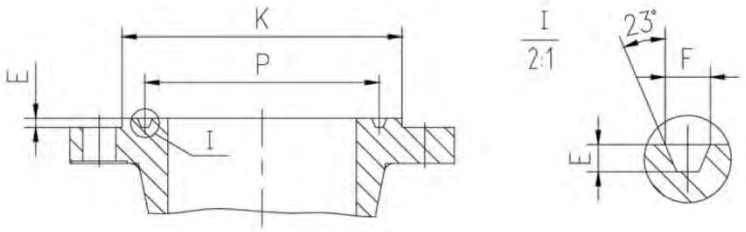
Class	NPS(in)		Ring Number	P/mm	E/mm	F/mm	K/mm
	NPS/in	DN/mm					
Class 150	1	25	R15	47.63	6.35	8.74	63.5
	1 ¼	32	R17	57.15	6.35	8.74	73
	1 ½	40	R19	65.07	6.35	8.74	82.5
	2	50	R22	82.55	6.35	8.74	102
	2 ½	65	R25	101.60	6.35	8.74	121
	3	80	R29	114.30	6.35	8.74	133
	4	100	R36	149.23	6.35	8.74	171
	5	125	R40	171.45	6.35	8.74	194
	6	150	R43	193.68	6.35	8.74	219
	8	200	R48	247.65	6.35	8.74	273
	10	250	R52	304.80	6.35	8.74	330
	12	300	R56	381.00	6.35	8.74	406
	14	350	R59	396.88	6.35	8.74	425
	16	400	R64	454.06	6.35	8.74	483
	18	450	R68	517.53	6.35	8.74	546
	20	500	R72	558.80	6.35	8.74	597
	24	600	R76	673.10	6.35	8.74	711
Class 300	½	15	R11	34.14	5.54	7.14	51
	¾	20	R13	42.88	6.35	8.74	63.5
	1	25	R16	50.80	6.35	8.74	70
	1 ¼	32	R18	60.33	6.35	8.74	79.5
	1 ½	40	R20	68.27	6.35	8.74	90.5
	2	50	R23	82.55	7.92	11.91	108
	2 ½	65	R26	101.60	7.92	11.91	127
	3	80	R31	123.83	7.92	11.91	146
	4	100	R37	149.23	7.92	11.91	175
	5	125	R41	180.98	7.92	11.91	210
	6	150	R45	211.12	7.92	11.91	241
	8	200	R49	269.88	7.92	11.91	302
	10	250	R53	323.85	7.92	11.91	356
	12	300	R57	381.00	7.92	11.91	413
	14	350	R61	419.10	7.92	11.91	457
	16	400	R65	469.90	7.92	11.91	508
	18	450	R69	533.40	7.92	11.91	575
	20	500	R73	584.20	9.53	13.49	635
	24	600	R77	692.15	11.13	16.66	749

Steel Pipe Flanges ASME B16.5 (RTJ)



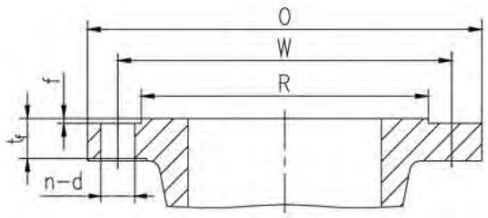
Class	NPS(in)		Ring Number	P/mm	E/mm	F/mm	K/mm
	NPS/in	DN/mm					
Class 600	½	15	R11	34.14	5.54	7.14	51
	¾	20	R13	42.88	6.35	8.74	63.5
	1	25	R16	50.80	6.35	8.74	70
	1 ¼	32	R18	60.33	6.35	8.74	79.5
	1 ½	40	R20	68.27	6.35	8.74	90.5
	2	50	R23	82.55	7.92	11.91	108
	2 ½	65	R26	101.60	7.92	11.91	127
	3	80	R31	123.83	7.92	11.91	146
	4	100	R37	149.23	7.92	11.91	175
	5	125	R41	180.98	7.92	11.91	210
	6	150	R45	211.12	7.92	11.91	241
	8	200	R49	269.88	7.92	11.91	302
	10	250	R53	323.85	7.92	11.91	356
	12	300	R57	381.00	7.92	11.91	413
	14	350	R61	419.10	7.92	11.91	457
	16	400	R65	469.90	7.92	11.91	508
	18	450	R69	533.40	7.92	11.91	575
	20	500	R73	584.20	9.53	13.49	635
	24	600	R77	692.15	11.13	16.66	749
Class 900	½	15	R12	39.67	6.35	8.74	60.5
	¾	20	R14	44.45	6.35	8.74	66.5
	1	25	R16	50.80	6.35	8.74	71.5
	1 ¼	32	R18	60.33	6.35	8.74	81.0
	1 ½	40	R20	68.27	6.35	8.74	92
	2	50	R24	95.25	7.92	11.91	124
	2 ½	65	R27	107.95	7.92	11.91	137
	3	80	R31	123.83	7.92	11.91	156
	4	100	R37	149.23	7.92	11.91	181
	5	125	R41	180.98	7.92	11.91	216
	6	150	R45	211.12	7.92	11.91	241
	8	200	R49	269.88	7.92	11.91	308
	10	250	R53	323.85	7.92	11.91	362
	12	300	R57	381.00	7.92	11.91	419
	14	350	R62	419.10	11.13	16.66	467
	16	400	R66	469.90	11.13	16.66	524
	18	450	R70	533.40	12.70	19.84	594
	20	500	R74	584.20	12.70	19.84	648
	24	600	R78	692.15	15.88	26.97	772

Steel Pipe Flanges ASME B16.5 (RTJ)

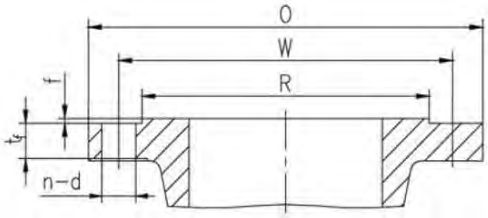


Class	NPS(in)		Ring Number	P/mm	E/mm	F/mm	K/mm
	NPS/in	DN/mm					
Class 1500	½	15	R12	39.67	6.35	8.74	60.5
	¾	20	R14	44.45	6.35	8.74	66.5
	1	25	R16	50.80	6.35	8.74	71.5
	1 ¼	32	R18	60.33	6.35	8.74	81.0
	1 ½	40	R20	68.27	6.35	8.74	92
	2	50	R24	92.25	7.92	11.91	124
	2 ½	65	R27	107.95	7.92	11.91	137
	3	80	R35	136.53	7.92	11.91	168
	4	100	R39	161.93	7.92	11.91	194
	5	125	R44	193.68	7.92	11.91	229
	6	150	R46	211.14	9.53	13.49	248
	8	200	R50	269.88	11.13	16.66	318
	10	250	R54	323.85	11.13	16.66	371
	12	300	R58	381.00	14.27	23.01	438
	14	350	R63	419.00	15.88	26.97	489
	16	400	R67	469.90	17.48	30.18	546
	18	450	R71	533.40	17.48	30.18	613
	20	500	R75	584.20	17.48	33.32	673
	24	600	R79	692.15	20.62	36.53	794
Class 2500	½	15	R13	42.88	6.35	8.74	65
	¾	20	R16	50.80	6.35	8.74	73
	1	25	R18	60.33	6.35	8.74	82.5
	1 ¼	32	R21	72.23	7.92	11.91	102
	1 ½	40	R23	82.55	7.92	11.91	114
	2	50	R26	101.60	7.92	11.191	133
	2 ½	65	R28	111.13	9.52	13.49	149
	3	80	R32	127.00	9.53	13.49	168
	4	100	R38	157.18	11.13	16.66	203
	5	125	R42	190.50	12.70	19.84	241
	6	150	R47	228.60	12.70	19.84	279
	8	200	R51	279.40	14.27	23.01	340
	10	250	R55	342.90	17.48	30.18	425
	12	300	R60	406.40	17.48	33.32	495

Steel Pipe Flanges ASME B16.47 (RF)



Class150 ~ Class300



Class600 ~ Class900

Class	NPS(in)		O/mm	W/mm	R/mm	t/mm	tf/mm	n	d
	NPS/in	DN/mm							
Class 150	26	650	870	806.5	749.3	68.3	1.6	24	35
	28	700	927	863.6	800.1	71.4	1.6	28	35
	30	750	984	914.4	857.3	74.7	1.6	28	35
	32	800	1060	977.9	914.4	81	1.6	28	41
	34	850	1111	1028.7	965.2	82.6	1.6	32	41
	36	900	1168	1085.9	1022.4	90.4	1.6	32	41
	38	950	1238	1149.4	1073.2	87.4	1.6	32	41
	40	1000	1289	1200.2	1124	90.4	1.6	36	41
	42	1050	1346	1257.3	1193.8	96.8	1.6	36	41
	44	1100	1403	1314.5	1244.6	101.6	1.6	40	41
	46	1150	1454	1365.3	1295.4	103.1	1.6	40	41
	48	1200	1511	1422.4	1358.9	108	1.6	44	41
	50	1250	1568	1479.6	1409.7	111.3	1.6	44	48
	52	1300	1626	1536.7	1460.5	115.8	1.6	44	48
	54	1350	1683	1593.9	1511.3	120.7	1.6	44	48
Class 300	26	650	972	876.3	749.3	79.3	1.6	28	44.5
	28	700	1035	939.8	800.1	85.9	1.6	28	44.5
	30	750	1092	997	857.3	92	1.6	28	48
	32	800	1149	1054.1	914.4	98.6	1.6	28	51
	34	850	1207	1104.9	965.2	101.6	1.6	32	51
	36	900	1270	1168.4	1022.4	104.7	1.6	32	54
	38	950	1168	1092.2	1028.7	108	1.6	32	41
	40	1000	1238	1155.7	1085.9	114.3	1.6	32	44.5
	42	1050	1289	1206.5	1136.7	119.1	1.6	32	44.5
	44	1100	1352	1263.7	1193.8	124	1.6	28	48
Class 600	26	650	1016	914.4	749.3	108	6.4	28	51
	28	700	1073	965.2	800.1	111.3	6.4	28	54
	30	750	1130	1022.4	857.3	114.3	6.4	28	54
	32	800	1194	1079.5	914.4	117.3	6.4	28	60.5
	34	850	1245	1130.3	965.2	120.7	6.4	28	60.5
	36	900	1315	1193.8	1022.4	124	6.4	28	67
Class 900	26	650	1086	952.5	749.3	139.7	6.4	20	73
	28	700	1168	1022.4	800.1	142.7	6.4	20	79