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LEADING THE GLOBAL VALVE INDUSTRY



CHINA·TEJI VALVE GROUP

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API & BS CAST &
FORGED STEEL VALVES

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CHINA·TEJI VALVE GROUP



ABOUT TEJI

Founded in 1980, Teji Valve Group has developed into a technology and professional valve manufacturer, which integrated valve R&D, production, sales, services, import and export all in one mode of operation.

The company covers an area of 38,000m² with two production bases in Zhejiang and Shanghai, currently 380 employees and 42 of them are senior engineers and technicians.

Equipped with over 300 sets of metal processing & cutting, machining and testing equipments including vertical CNC machining centers, CNC machines, advanced physio chemical NDT, spectral analysis, mechanical property testing, ultrasonic fault detectors, ultrasonic thickness gags, also lifting, transportation equipments.

Main products: Ball valve, Gate valve, Globe valve through conduit slab and expanding butterfly plug, Check valve, low-temp valve (Ball valve, Gate valve, Globe valve, Check valve etc.)

Widely used: In Metallurgy, Mine, Petrochemical, Chemical, Oil (Gas) transmission pipeline, Power plant, Heating power and Pharmacy etc.

Size: 1/4" ~ 48" (DN6 ~ DN1200)

Pressure ratings: CLASS150 ~ CLASS2500 (PN2.5 ~ PN420)

Operative temperature: -196°C ~ 980°C (-320.8°F ~ 1796°F)

Standards applied: API, ASME, ANSI, NACE, CE/EN, DIN, JIS, BS, ISO, TS, GB etc.

Materials available: WCB (A105), LCB (LF2), C5 (F5), WC6 (F11), WC9 (F22), CF8 (F304), CF8M (F316), 4A (F51), 5A (F53), 6A (F55), CK3MCUN (F44), Monel, Inconel (625, 825), Alloy20, HSLA, Duplex Stainless Steel (LDSS), TiZrNiCu etc.

We appreciate every opportunity to be your reliable partner in valve and control technologies. Any enquiry, questions or advices for our products or services, please contact us directly.



CHINA TEJI VALVE GROUP





ISO 9001



CE



API 607



API 607



ISO 14001



OHSAS 18001



TS



API 6D

CHINA TEJI VALVE GROUP



CERTIFICATE

Pumping Water Pumping Honor

We have inoculated the quality into each step of enterprise management, not a slogan only, the way of quality development, is accumulated step by step, then it can glow up long time, win the world market, we aspired to become the reliable brand of electric appliances.





CHINA TEJI VALVE GROUP

We own advanced producing equipments, make sure of completely new managing concept and strong professional technology force to produce high quality products that confirm with international standards.

PRODUCTION EQUIPMENT

Perfect quality originates from advanced manufacturing methods





Quality Control

TEJI your reliable partner in valve and control technologies.



1. Fire-safe Test
2. Cyogenic Test
3. PT
4. NDE-MT
5. Spectrometer analysis
6. Spectrometer analysis
7. Thickness testing
8. Ultrasonic Cleaning
9. Ultrasonic Flaw Detection
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Check Valve Series

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API Bellows Valve Series

060~075



Butterfly Valve Series

076~090



Wafer Type Central Line Butterfly Valve Series

091~099



Other Valves Series

100~127



Gate Valve Series

Standards

Design and Manufacture: Cast steel gate valve to API 600 (ISO 10434) or API 6D; Cast stainless steel gate valve to API 603 or API 600; Forged steel gate valve to API 602. Inspection and Test: API 598, API 600 or API 6D.

End flange dimension: ASME B16.5(for NPS≤24) ; ASME B16.47 series B, API 605 or ASME B16.47 series A, MSS SP-44 (for NPS>24).

BW end dimension: ASME B16.25.

Face to face and end to end: ASME B16.10.

Socket-weld dimension: ASME B16.11.

Pressure-temperature ratings: ASME B16.34.

Design of Disc

Gate Valves with NPS≥2 are of wedge flexible gate; Gate valves with NPS < 2 are of wedge solid gate.

Body and Bonnet Connection

The body and bonnet of Class150~Class900 gate valves are usually connected with studs and nuts. And the body and bonnet of Class1500~Class2500 gate valves are usually of pressure seal design.

Gasket of Cover Flange

Carbon steel or stainless steel + flexible graphite combined gasket is used for Class150 gate valve; Stainless steel + flexible graphite wounded gasket is used for Class300 gate valve; Stainless steel + flexible graphite wounded gasket is used for Class600 gate valve, and ring joint gasket is also optional for Class600 gate valve; Ring Joint gasket is used for Class 900 gate valve; Pressurized seal design is used for Class1500 ~Class 500 gate valve.

Actuation

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

Belleville Spring Loaded Packing Impacting System

If being requested by the customer, the Belleville spring loaded packing impacting system can be adopted for enhancing the durability and reliability of the packing seal.

Packing Seal

Molded flexible graphite is used for packing material. PTFE or combined packing material can be also used if being requested by the customer. The internal surface of the stuffing box, of which area is contacted with the packing, is of excellent finish (Ra3.2μ m). The stem surface, contacting with the packing, should be rolled and pressed after being precisely machined, so as to reach to the high finish and compactness (Ra0.8μ m) and ensure the reliable tightness of the stem area.

Back Seating Design

All our gate valves have the back seating design. In most cases, the carbon steel gate valve is fitted with a renewable back seat. For stainless steel gate valve, the back seat is machined directly in the bonnet or is machined after welding. When the gate valve is at fully open position, the sealing of the back seat can be very reliable. However, as per the requirement of API 600, it is not advisable to add or change packing by the mean of back seating when the valve is Pressure containing.

Seat

For carbon steel gate valve, the seat is usually forged steel. The sealing surface of the seat is spray welded with hard alloy specified by the customer. Renewable threaded seat is used for NPS≤10 gate valves, and welded on seat can be also optional if being requested by the customer. Welded on seat is used for NPS≤10 carbon steel gate valves. For Stainless steel gate valve, integral seat is usually adopted, or to weld hard alloy directly integrally. Threaded or welded on seat is also optional for stainless steel gate valve if being requested by the customer.

Stem Design

The stem is of integral forged design. The minimum diameter of the stem shall per the standard requirement. The connection of the stem and disc is T type. The strength of the connecting area is bigger than that of the T threaded part of the stem. The strength test of that area conforms to API591.

Stem Nut

Usually, the stem nut is made of copper alloy. It is also can be made of ASTM A439 D2 if being requested by the customer. For large sized gate valves (NPS10 for Class 150, NPS8 for Class 300, NPS6 for Class 600, NPS 5 for Class 900), rolling bearing is fitted at the two sides of the stem nut in order to minimize the open and close torque of the gate valve.

Special Gate Valve

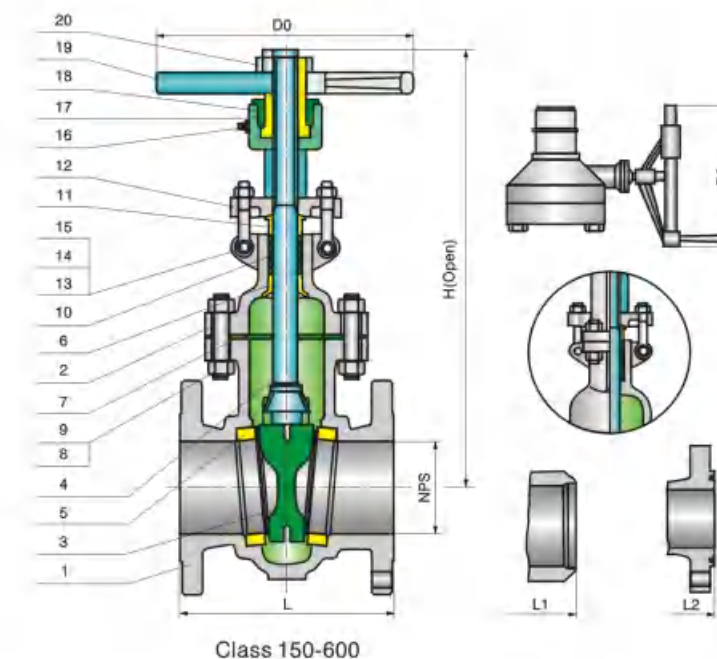
Besides the common gate valves, TEJI also makes cryogenic gate valve, Jacketed Gate Valve, Bellow Sealed Gate Valve, Extension Stem Gate Valve for underground application, Slat Gate Valve, etc.

Design Description

Full port design
OS & Y, Outside screw and yoke
BB, Bolted bonnet
Flexible wedge, fully guided
Choice of solid or split wedge
Renewable seat rings
Forged T-head stem
Rising stem and non-rising handwheel
Flanged or butt welding ends
Available with bg operator

Applicable Standards

Design standard: API 600 & ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5 ASME B16.47
Butt welding ends: ASME B16.25
Inspection and test: API 598

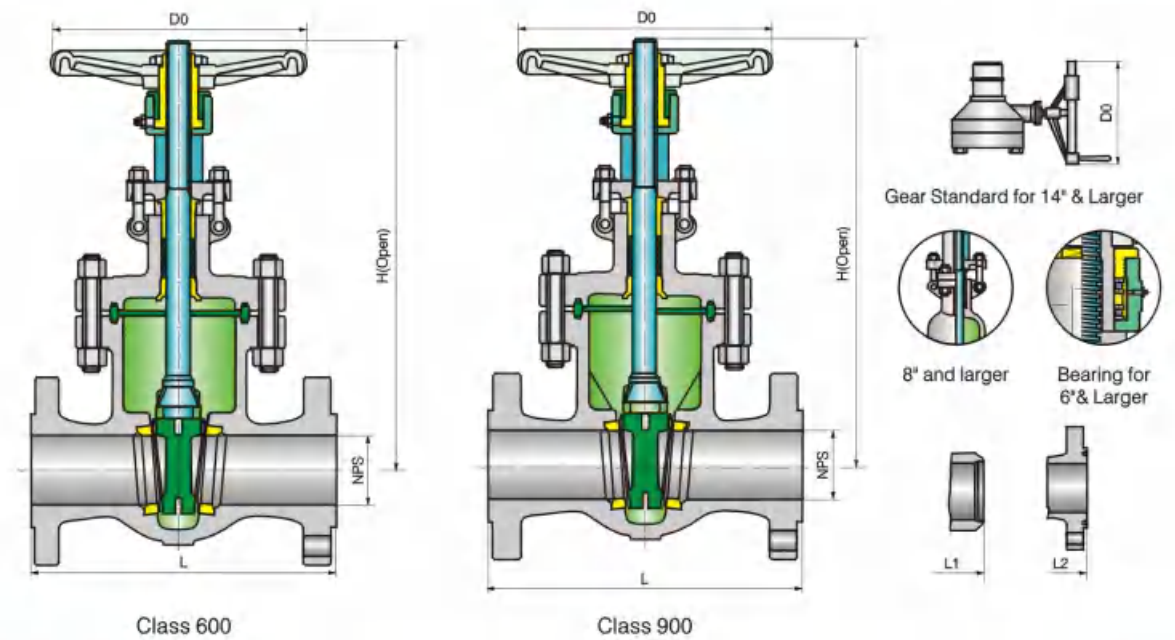
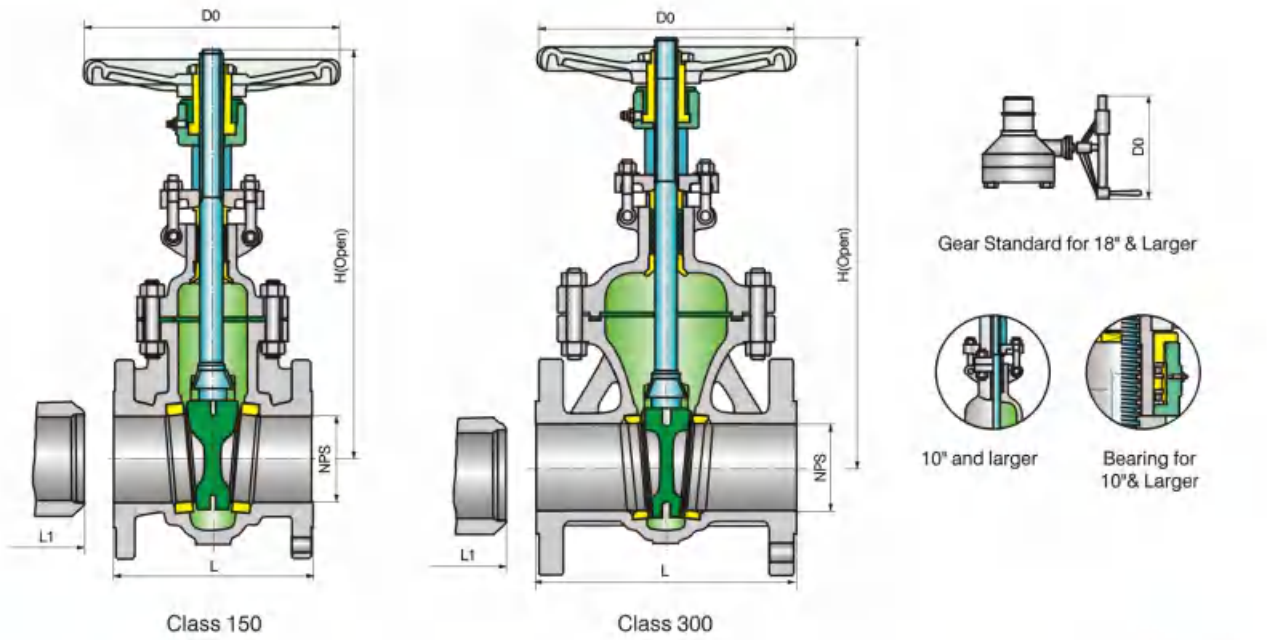


Materials of Parts

NO .	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Wedge	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Stem	A182-F6a	A182-F6a	A182-F6a
5	Seat ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
6	Stem backseat	A276-420	A276-304	A276-420
7	Bonnet gasket	Spiral wound(Graphite+304)		
8	Bonnet stud	A193-B7	A193-B16	A320-L7
9	Bonnet stud nut	A194-2H	A194-4	A194-7
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt pin	A276-420	A276-420	A276-420
14	Eyebolt	A193-B7	A193-B16	A320-L7
15	Eyebolt nut	A194-2H	A194-4	A194-7
16	Grease fitting	Brass+ steel		
17	Yokesleeve	Aluminum-Bronze ¹⁾ /A439-D2		
18	Yokesleeve jam nut	Carbon steel		
19	Handwheel	A216-WCB		
20	Handwheel nut	Carbon steel		

Note:

- 1). Ductile Ni-Resist optional;
- 2). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



Dimensions Data

Class 150

Size	NPS	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48
	DN	40	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L (RF)	in	6.5	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00	15.00	16.00	17.00	18.00	20.00	22.00	24.00	24.00	28.00	28.00	30.00	31.00	34.00
	mm	165	178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	711	711	762	787	864
L1 (BW)	in	6.5	8.5	9.50	11.12	12.00	15.88	16.50	18.00	19.75	22.50	24.00	26.00	28.00	32.00	34.00	36.00	36.00	38.00	40.00	42.00	43.00	46.00
	mm	165	216	241	283	305	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	1067	1092	1168
H (Open)	in	15.7	15.31	17.28	19.69	23.43	30.59	38.39	45.67	54.72	61.22	71.30	82.80	90.55	102.72	109.45	130.98	141.97	145.98	154.49	168.50	175.39	193.31
	mm	392	389	439	500	595	777	975	1160	1390	1555	1811	2103	2300	2609	2780	3327	3606	3708	3924	4280	4455	4910
D0	in	7.86	8	8	10	10	14	14	16	18	22	24	25	27	30	24	24	24	24	24	24	32	32
	mm	200	200	200	250	250	350	350	400	450	560	600	640	680	760	610	610	610	610	610	610	810	810

Dimensions Data

Class 600

Size	NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1 (RF/BW)	in	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L2 (RTJ)	in	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38
	mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407
H (OPEN)	in	17.91	23.14	21.65	27.17	35.83	41.93	49.49	57.80	63.90	71.50	88.98	106.50	101.63
	mm	455	588	550	690	910	1065	1257	1468	1623	1816	2260	2705	2810
D0	in	10	10	10	14	18	20	25	27	24	24	24	24	24
	mm	250	250	250	350	450	500	640	680	610	610	610	610	610

Class 300

Size	NPS	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36
	DN	40	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900
L/L1 (RF/BW)	in	7.5	8.50	9.50	11.12	12.00	15.88	16.50	18.00	19.75	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00
	mm	190	216	241	283	305	403	419	457	502	762	838	914	991	1143	1245	1346	1397	1524	1727
H (OPEN)	in	14.7	16.93	19.88	20.87	24.00	31.75	39.38	48.82	57.87	64.76	72.48	77.13	86.38	102.28	110.24	122.05	130.71	140.16	153.94
	mm	374	430	505	530	612	805	1000	1240	1470	1645	1841	1959	2194	2598	2800	3100	3320	3560	3910
D0	in	7.88	8	10	10	12	14	16	18	20	24	24	24	24	24	24	24	32	32	32
	mm	200	200	250	250	300	350	400	450	500	600	600	610	610	610	610	610	810	810	810

Class 900

Size	NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1 (RF/BW)	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	61.75
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568
H (OPEN)	in	24.41	27.76	29.02	32.48	41.93	47.99	52.95	72.44	74.88	81.00	87.00	101.00	104.00
	mm	620	705	737	825	1065	1219	1345	1550	1900	2055	2215	2565	2640
D0	in	12	14	14	16	20	24	24	24	32	32	38	38	40
	mm	300	350	350	400	500	600	610	610	800	800	950	950	1000

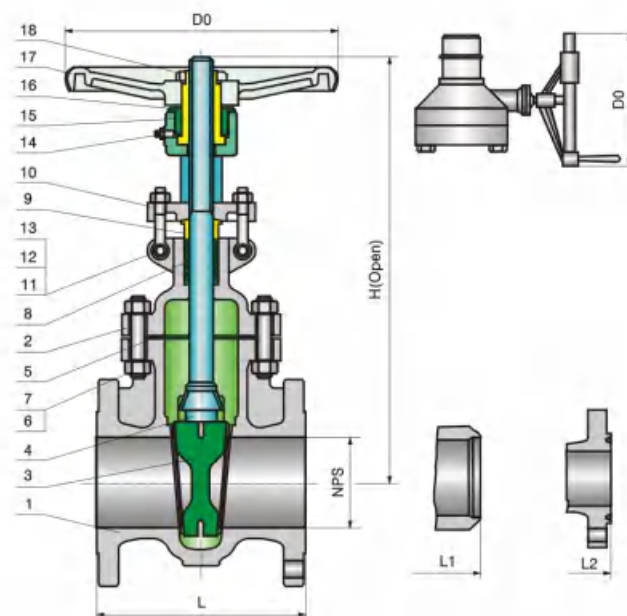
Class 1500,2500 proposed structure of self-sealing, For flange connection with the company.

Design Description

- Full port design
- OS & Y, Outside screw and yoke
- BB, Bolted bonnet
- Flexible wedge, fully guided
- Choice of solid or split wedge
- Seat ring integral with body
- Forged T-head stem
- Rising stem and non-rising handwheel
- Flanged or butt welding ends
- Available with bg operator

Applicable Standards

- Design standard: API 603 & ASME B16.34
- Face to face: ASME B16.10
- End flanges: ASME B16.5
- Butt welding ends: ASME B16.25
- Inspection and test: API 598



Class 150-600

Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A351-CF8	A351-CF8M	A351-CF3M
2	Bonnet	A351-CF8	A351-CF8M	A351-CF3M
3	Wedge	A351-CF8	A351-CF8M	A351-CF3M
4	Stem	A182-F304	A182-F316	A182-F316L
5	Bonnet gasket ¹⁾	Graphite+304	Graphite+316	Graphite+316L
6	Bonnet stud	A193-B8	A193-B8M	A193-B8M
7	Bonnet stud nut	A194-8	A194-8M	A194-8M
8	Packing ²⁾	Graphite		
9	Gland	A276-304	A276-316	A276-316L
10	Gland flange	A351-CF8	A351-CF8M	A351-CF8M
11	Eyebolt pin	A276-304	A276-316	A276-316
12	Eyebolt	A193-B8	A193-B8M	A193-B8M
13	Eyebolt nut	A194-8	A194-8M	A194-8M
14	Grease fitting	Carbon steel ni plated		
15	Yokesleeve	Aluminum-bronze ³⁾ /A439-D2		
16	Yokesleeve jam nut	A276-304		
17	Handwheel	A216-WCB		
18	Handwheel nut	Carbon steel		

- Note: 1). Seat wound construction.
 2). Teflon optional. 3). Ductile Ni-resist optional.
 4). Wedge and seat(Integral with body) may either be solid facing material or a base material equal to or better than the body/ bonnet material with facing as shown.

Dimensions Data

Class 150

Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
	DN	15	20	25	40	50	65	80	100	150	200	250	300	350	400
L (RF)	in	4.25	4.62	5.00	6.5	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00	15.00	16.00
	mm	108	117	127	165	178	191	203	229	267	292	330	356	381	406
L1 (BW)	in	4.25	4.62	5.50	6.5	8.5	9.50	11.12	12.00	15.88	16.50	18.00	19.75	22.50	24.00
	mm	108	117	140	165	216	241	283	305	403	419	457	502	572	610
H (Open)	in	8.25	8.50	9.25	15.7	15.31	17.28	19.69	23.43	30.59	38.39	45.67	54.72	61.22	71.30
	mm	210	215	235	392	389	439	500	595	777	975	1160	1390	1555	1811
D0	in	4	4	6	7.86	8	8	10	10	14	14	16	18	22	24
	mm	100	100	140	200	200	200	250	250	350	350	400	450	550	600

Class 300

Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
	DN	15	20	25	40	50	65	80	100	150	200	250	300	350	400
L/L1 (RF/BW)	in	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	16.50	18.00	19.75	30.00	33.00
	mm	140	152	165	190	216	241	283	305	403	419	457	502	762	838
H (Open)	in	6.34	6.42	7.72	9.88	16.12	17.88	20.00	24.00	31.75	39.38	47.62	55.75	62.25	67.88
	mm	161	163	196	251	410	453	509	612	805	1000	1210	1415	1580	1725
D0	in	4	4	6	6	8	8	10	10	14	16	18	20	22	22
	mm	100	100	140	140	200	200	250	250	350	400	450	500	550	600

Class 600

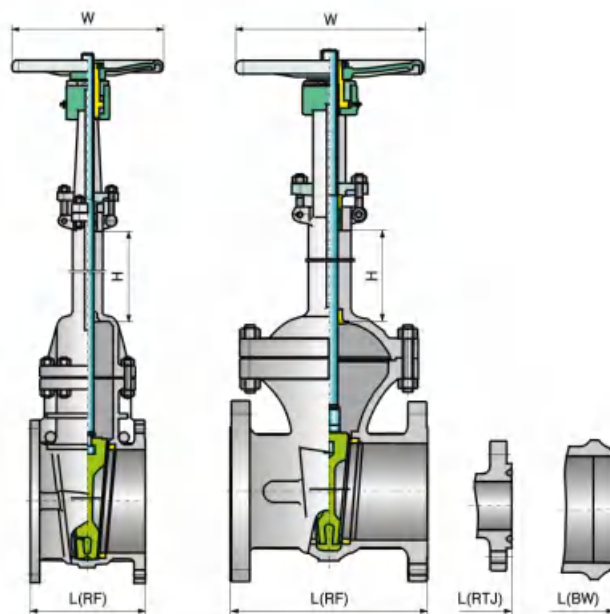
Size	NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
	DN	15	20	25	40	50	65	80	100	150	200	250	300	350	400
L/L1 (RF/BW)	in	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00
	mm	165	190	216	241	292	330	356	432	559	660	787	838	889	991
L2 (RJ)	in	-	-	-	-	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12
	mm	-	-	-	-	295	333	359	435	562	664	791	841	892	994
H (Open)	in	6.34	6.42	7.72	9.88	16.50	18.75	20.38	25.50	33.00	40.38	48.38	57.00	62.00	70.62
	mm	161	163	196	251	418	476	518	646	840	1025	1230	1450	1575	1795
D0	in	4	6	6	8	8	10	10	12	18	20	24	24	24	24
	mm	100	140	140	200	200	250	250	300	450	500	650	680	610	610

Applicable Standards

Design and Manufacture: API600, BS1414, API602, BS5352
 Face to Face Dimension: ASME B16.10
 End Flange Dimension: ASME B16.5
 Socket Welded Ends Dimension: ASME B16.11
 Threaded Ends Dimension: ASME B 1.20.1
 Pressure-Temperature Ratings: ASME B16.34
 Type of Operation: Manual, Gear, Electric, Pneumatic
 Inspection and Test: API 598

Design Description

Cryogenic valves normally refer to valves with working temperature below -110°C. It is widely used in LNG, LPG and other low temperature industry FBIC now offers Gate, Globe and Ball valves for cryogenic service up to -196°C. Our in-house computer controlled test facility can certify valves up to 24".
 Size: NPS 1/2" ~ 24"
 Pressure: Class 150Lb ~ 800Lb
 Materials: L6CB, LCC, LC3, CF8, CF8M, LF2, LF3, F304, F31



Main Material

PART NAME	MATERIAL		
	-46°C	-101°C	-196°C
BODY	A352-LCB, LCC, LC3, A351-CF8, CF8M		
SEAT	A350-LF2, LF3, A182-F304, F316		
DISC	A352-LCB, LCC, LC3, A351-CF8, CF8M		
STEM	A182-F6, F304, F316		
GASKET	(SS304, SS316)+GRAPTHITE, PTFE		
BONNET	A352-LCB, LCC, LC3, A351-CF8, CF8M		
NUT	A194-4, 8, 8M		
BOLT	A320-L7, A193-B8, B8M		
BACKSEAT BUSHING	A182-F6, F304, F316		
STEM PACKING WASHER	A182-F6, F304, F316		
LANTERN RING	A182-F6, F304, F316		
STEM PACKING	GRAPHITE, PTFE		
GLAND	A276-T410, T304, T316		
GLAND FLANGE	A216-WCB, A351-CF8		
GLAND EYEBOLT	A193-B7, B8		
GLAND EYEBOLT	A194-2H, 8		
YOKE	A216-WCB, A351-CF8		
STEN NUT	Cu-ALLOY, A439-D2		
RETAINING NUT	1025, STAINLESS STEEL		
HANDWHEEL	DUCTILE IRON OR STEEL		
H. W. LOCK NUT	1025, STAINLESS STEEL		
SEALING FACE	13%Cr/13%Cr, STL/13%Cr, STL/STL, 316/316, 316/316L, 304/304, 304L/304L, SS321/SS321		

** ≥300Lb Can be provided when clients required

Construction and Dimension

150Lb

Size		L(RF)	L(RTJ)	L(BW)	W	H(*)		
NPS	DN					-46°C	-101°C	-196°C
1 1/2	40	165	178	165	180	110	130	160
2	50	178	191	216	200	110	130	170
3	80	203	216	283	250	120	150	190
4	100	229	241	305	250	130	160	200
6	150	267	279	403	300	140	170	220
8	200	292	305	419	350	140	170	220
10	250	330	343	457	400	150	180	240
12	300	356	368	502	450	150	180	240
14	350	381	394	572	500	160	190	250
16	400	406	419	610	600	160	190	250
18	450	432	445	660	600	160	190	250
20	500	457	470	711	680	170	200	260
24	600	508	521	813	760	170	200	260

300Lb

Size		L(RF)	L(RTJ)	L(BW)	W	H(*)		
NPS	DN					-46°C	-101°C	-196°C
2	50	292	295	292	250	110	130	170
3	80	356	359	356	250	120	150	190
4	100	432	435	432	350	130	160	200
6	150	559	562	559	450	140	170	220
8	200	660	664	660	500	140	170	220
10	250	787	790	787	600	150	180	240
12	300	838	841	838	680	150	180	240
14	350	889	892	889	760	160	190	250
16	400	991	994	991	800	160	190	250
18	450	1092	1095	1092	915	160	190	250
20	500	1194	1200	1194	960	170	200	260
24	600	1397	1407	1397	-	170	200	260

600Lb

Size		L(RF)	L(RTJ)	L(BW)	W	H(*)		
NPS	DN					-46°C	-101°C	-196°C
1 1/2	40	191	203	191	160	110	130	160
2	50	216	232	216	200	110	130	170
3	80	283	298	283	250	120	150	190
4	100	305	321	305	250	130	160	200
6	150	403	419	403	350	140	170	220
8	200	419	435	419	400	140	170	220
10	250	457	473	457	450	150	180	240
12	300	502	518	502	500	150	180	240
14	350	762	778	762	600	160	190	250
16	400	838	854	838	600	160	190	250
18	450	914	930	914	680	160	190	250
20	500	991	1010	991	760	170	200	260
24	600	1143	1165	1143	915	170	200	260

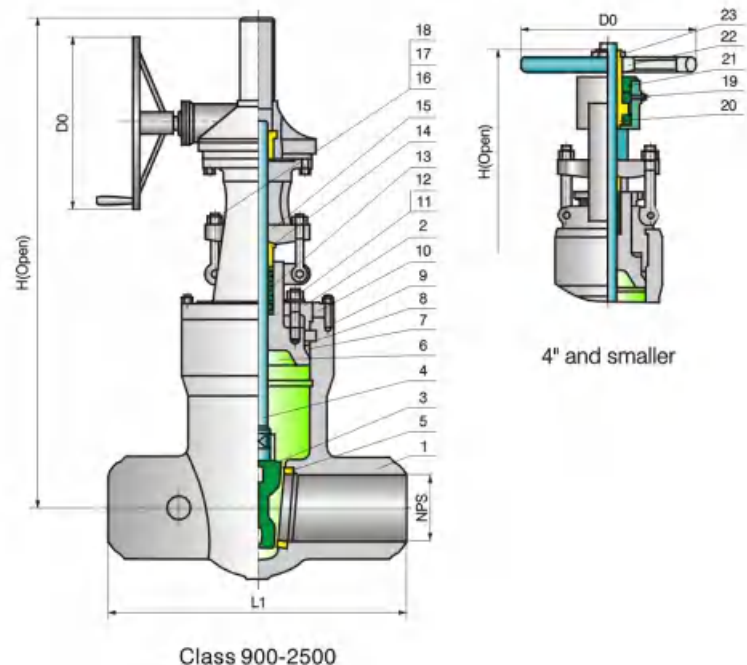
** the extension part for low temperature service can be designed acc.to clients requirement.

Design Description

- PSB, Pressure seal bonnet
- Flexible wedge, fully guided
- Choice of solid or split wedge
- Renewable seat rings
- Forged-head stem
- Rising stem and non-rising handwheel
- Flanged or butt welding ends
- Available with bg operator

Applicable Standards

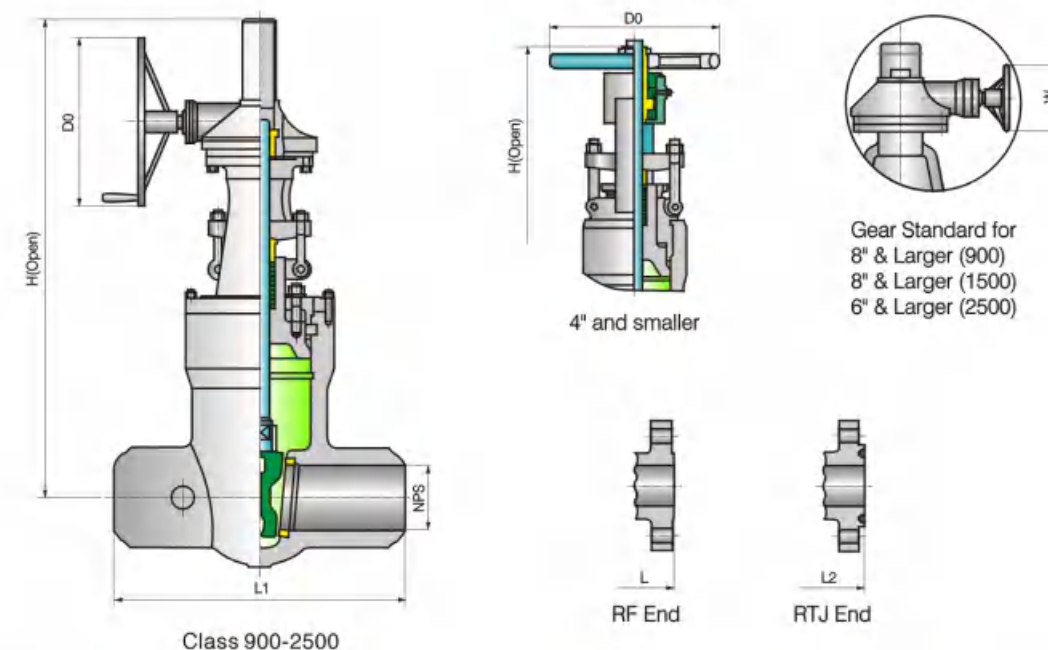
- Design standard: API 600 & ASME B16.34
- Face to face: ASME B16.10
- End flanges: ASME B16.5
- Butt welding ends: ASME B16.25
- Inspection and test: API 598



Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A351-CF3M
2	Yoke	A216-WCB	A217-WC6	A351-CF3M
3	Wedge	A216-WCB+HF	A217-WC6+HF	A351-CF3M+HF
4	Stem	A182-F6a	A182-F6a	A182-316L
5	Seat ring	A105+HF	A182-F11+HF	A240-316+HF
6	Bonnet	A216-WCB+HF	A182-F11	A351-CF3M
7	Bonnet gasket ¹⁾	A304SS Ring	A304SS Ring	A316SS Ring
8	Adapter ring	A276-410	A276-410	A276-316L
9	Retainer	A276-410	A276-410	A276-316L
10	Yake cap	A216-WCB	A217-WC6	A351-CF3M
11	Bonnet stud	A193-B7	A193-B16	A193-B8M
12	Bonnet stud nut	A194-2H	A194-4	A194-8M
13	Packing		Graphite	
14	Gland	A276-420	A276-304	A276-316L
15	Gland flange	A216-WCB	A217-WC6	A351-CF8M
16	Eyebolt pin	A276-420	A276-420	A276-316
17	Eyebolt	A193-B7	A193-B16	A193-B8M
18	Eyebolt nut	A194-2H	A194-4	A194-8M
19	Grease fitting		Brass + steel	
20	Yokesleeve		Aluminu-bronze ²⁾ /A439-D2	
21	Yokesleeve jam nut	Carbon steel		Stainless steel
22	Handwheel		A216-WCB	
23	Handwheel nut		Carbon steel	

Note: 1). Graphite optional
 2). Ductile Ni-resist optional
 3). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



Dimensions Data

		Class 900							
Size	NPS	2	2 1/2	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00
(RF)	mm	368	419	381	457	610	737	838	965
L1	in	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00
(BW)	mm	216	254	305	356	508	660	787	914
L2	in	14.62	16.62	15.12	18.12	24.12	27.12	33.12	38.12
(RTJ)	mm	371	422	384	460	613	740	841	968
H	in	24.00	30.00	30.71	33.86	40.35	50.63	60.63	70.28
(Open)	mm	610	762	780	860	1025	1286	1540	1785
D0	in	12	14	14	16	20	24	24	24
	mm	300	350	350	400	500	610	610	610

		Class 1500							
Size	NPS	2	2 1/2	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L	in	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50
(RF)	mm	368	419	470	546	705	832	991	1130
L1	in	8.50	10.00	12.00	16.00	22.00	28.00	34.00	39.00
(BW)	mm	216	254	305	406	559	711	864	991
L2	in	14.62	16.62	18.62	21.62	28.00	33.13	39.38	45.12
(RTJ)	mm	371	422	473	549	711	842	1000	1146
H	in	24.00	30.55	30.90	34.40	40.35	53.46	61.74	74.50
(Open)	mm	610	776	785	874	1025	1358	1568	1892
D0	in	12	16	16	20	24	24	24	24
	mm	300	400	400	500	600	610	610	610

		Class 2500							
Size	NPS	2	2 1/2	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L	in	17.75	20.00	22.78	26.50	36.00	40.25	50.00	56.00
(RF)	mm	451	508	578	673	914	1022	1270	1422
L1	in	11.00	13.00	14.50	18.00	24.00	30.00	36.00	41.00
(BW)	mm	279	330	368	457	610	762	914	1041
L2	in	17.87	20.25	23.00	26.88	36.50	40.87	50.88	56.88
(RTJ)	mm	454	514	584	683	927	1038	1292	1445
H	in	24.00	30.55	30.90	34.40	44.02	53.46	66.14	74.50
(Open)	mm	610	776	785	874	1118	1358	1680	1892
D0	in	14	18	18	20	24	24	24	24
	mm	350	450	450	500	610	610	610	610

Products Design Features

The series of Parallel single-disc gate valves have diversion hole, non-diversion hole and adjustment structure formations which are applied to natural gas, oil products, chemical engineering, city construction and environment protection industries. The anti-sulphur product series are fit for high speed long delivery pipeline of seriously eroded natural gas which contains H₂S medium and much impurity.

The design features of series parallel single-disc gate valve include:

The valve body has two structures of casting and welding. The short non-diversion hole flat gate valve adopts welding structure, which is short in length, light-weighted and specially fit for devices demanding light weight;

The floating seat structure makes it possible to seal both director of the valve;

The valve seat sealing adopts double-seals. PTFE can remove granule and dirties to ensure a perfect sealing.

Hard sealing surface is build-up welded on sealing surface with Co hard alloy which results in a hardness of HRC44-52 to ensure sealing reliable;

Valve with diversion hole, either full-open or full-closed, the disc will be kept in contact with seat so that the sealing surface will not be washed out directly by mediums and the valve will become more durable;

The fire-resistant design of the valve complies with API 6Fa and API 607 standards. As for valves applied to hydrocarbon liquids and oil gas pipelines, to the carry these out standards will fulfill firefighting tasks;

When the valve is in full-opening, the passage is a straight pipeline with small fluid resistance coefficient and little pressure loss. It can be cleaned by passing a wool ball;

The valve has got an automatic pressure relief device which can ensure operation security;

The valve adopts full-shut structure which has good protection function and can be used in all weather.

Products Specification

Serial models	W(K)Z(P, L, T) 43, W(K)Z(P, L, T) 543, W(K)Z(P, L, T) 643, W(K)Z(P, L, T) 743, W(K)Z(P, L, T) 943			
	W(K)Z(P, L, T) 63, W(K)Z(P, L, T) 563, W(K)Z(P, L, T) 663, W(K)Z(P, L, T) 763, W(K)Z(P, L, T) 963			
Pressure grade range	Class 150~900			
Drift diameter specification range	1"~48"		1"~48"	
Driving manner and scope of application	Hand wheel driving			Gear driving, air-operating, hydrodynamic driving and electric driving
	Class150~300	Class400(PN6.4)	Class600~900	
	1"~6"	1"~4"	1"~3"	6"~48"

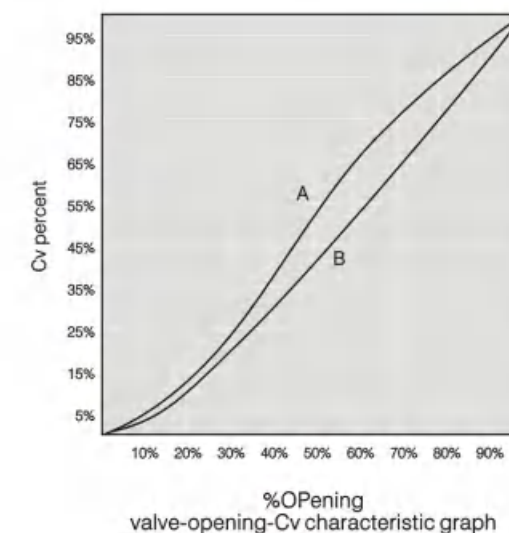
Notes: Our Company can provide products at customres' request.

Products Performance Specification

Pressure	Pound grade (Class)				
	150	300	400	600	900
Test pressure(MPa)	Intensity test	1.5 × PN			
	Sealing test	1.1 × PN			
Applicable temperature	-196°C~550°C (different raw material for different work temperature)				
Applicable Medium	Ordinary type	Petroleum natural gas and finished oil			
	antisulphur type	Natural gas and petroleum with H, S and CO			
Test pressure(MPa)	Back seal test	Petroleum natural gas and finished oil			
	Air test	Natural gas and petroleum with H, S and CO			

Flow Charalteristic

The flow characteristic of flat gate valves with a diversion hole is equal to that of pipelines of the same specification. The characteristic is shown in per centum form. As for valves without a diversion hole, its cavity fly span is smaller than that of wedge gate vales and it is a regular cylindrical object, therefore, characteristics of the valves are similar except that they have a larger pressure loss. Besides, their flux adjustment behavior is better than that of the ones with a de version hole.



Outside Drawing of Different Types of Shutter



ordinary type

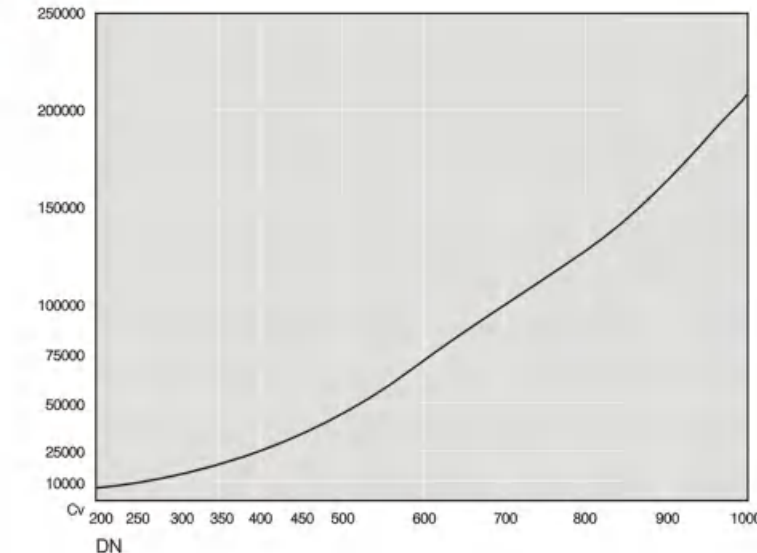
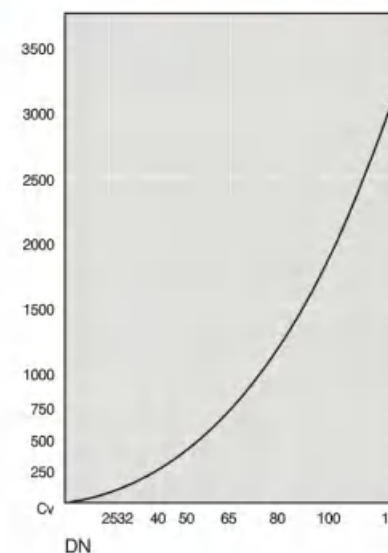


adjustment type



Type adiversion hole

Dn-cv Graph of Flat Valves With A Diversion Hole



Technical Specification

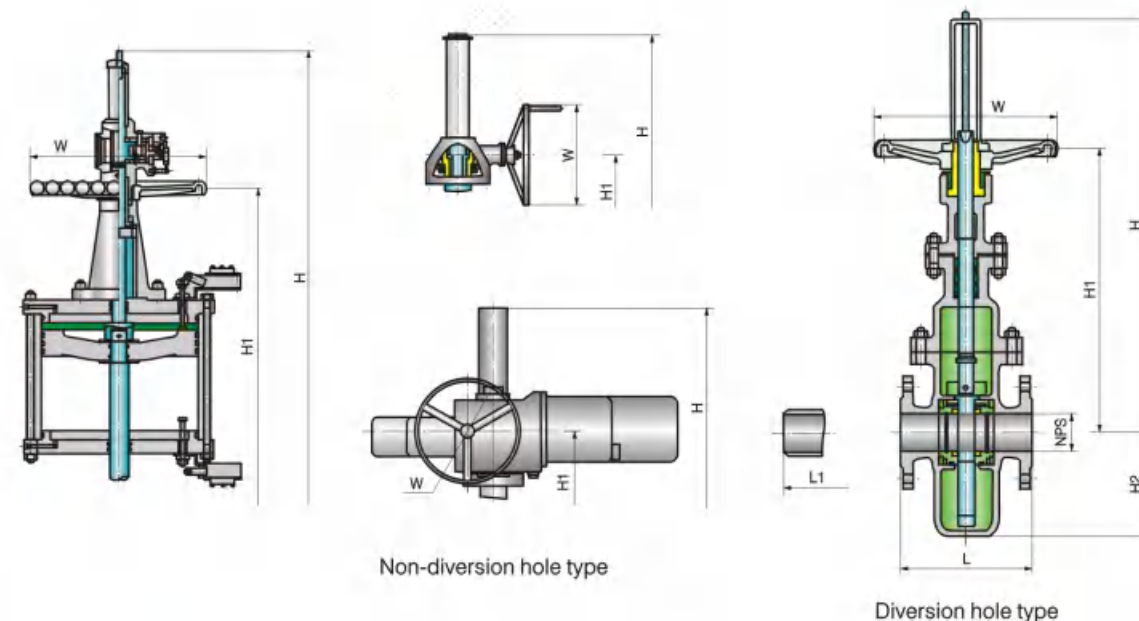
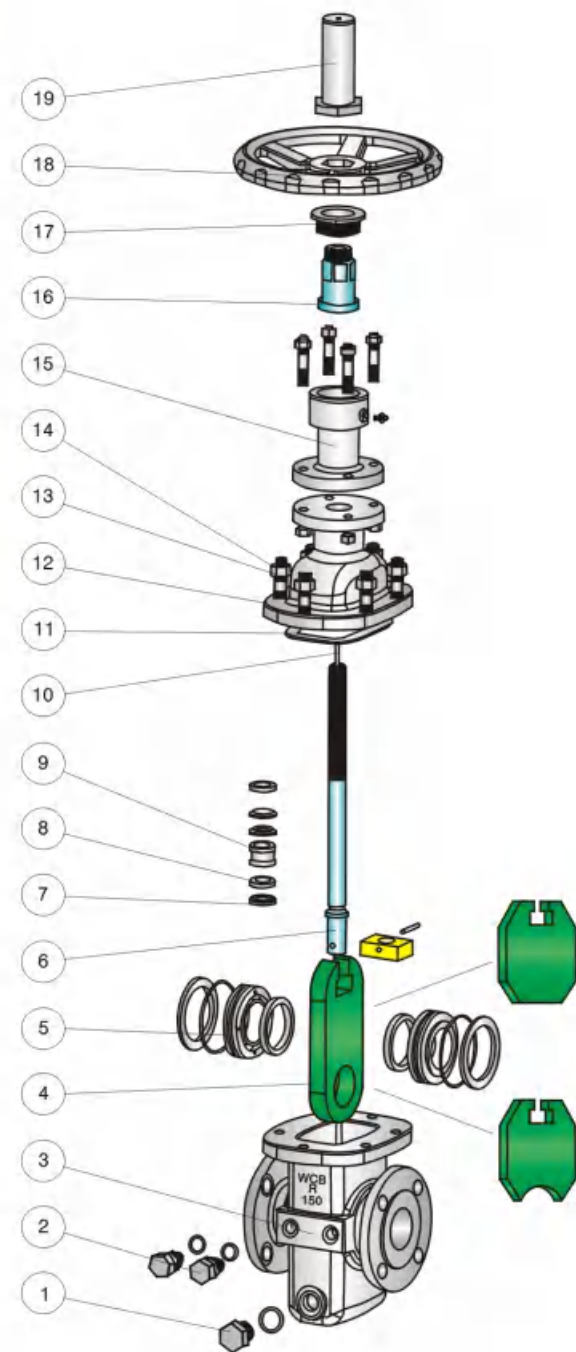
Design standard		API 6D	ASME B16.34
Structural length	Flanged ends	API 6D	ASME B16.10
	Welded connection	API 6D	ASME B16.10
Flanged ends		ASME B16.5, ASME B16.47	
Butt-welding ends		ASME B16.25	
Test & inspection		API 6D	API 598

Notes: Serial valve connecting flange and butt-welding terminal size can be designed, at customers' request.

Form of Major Parts Materials

No.	Accessory name	Material	
		Ordinary type	Antisulphur type
		ASTM	ASTM
1	Blow down stopple	A276-420	A276-304
2	Grease injection joint	A105	A105
3	Body	A216-WCB	A216-WCB
4	Gate disc	A105+ENP	A276-F304
5	Seat	25+PTFE+NBR	304+PTFE+FPM
6	Stem	A186-F6a	A182-F304
7	Lower packing	PTFE	PTFE
8	Spacing ring	A276-420	A276-420
9	Upper packing	PTFE	PTFE
10	Indicating finger	A276-420	A276-420
11	Gasket	Graphite+stainless steel	
12	Bonnet	A216-WCB	A216-WCB
13	Bolt	A193-B7	A193-B7M
14	Nut	A194-2H	A194-2HM
15	Yoke	A216-WCB	A216-WCB
16	Stem nut	A439-D2	A439-D2
17	Gland	A105	A105
18	Hand wheel	A216-WCB	A216-WCB
19	Indicating cover	AISI 1025	AISI 1025

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



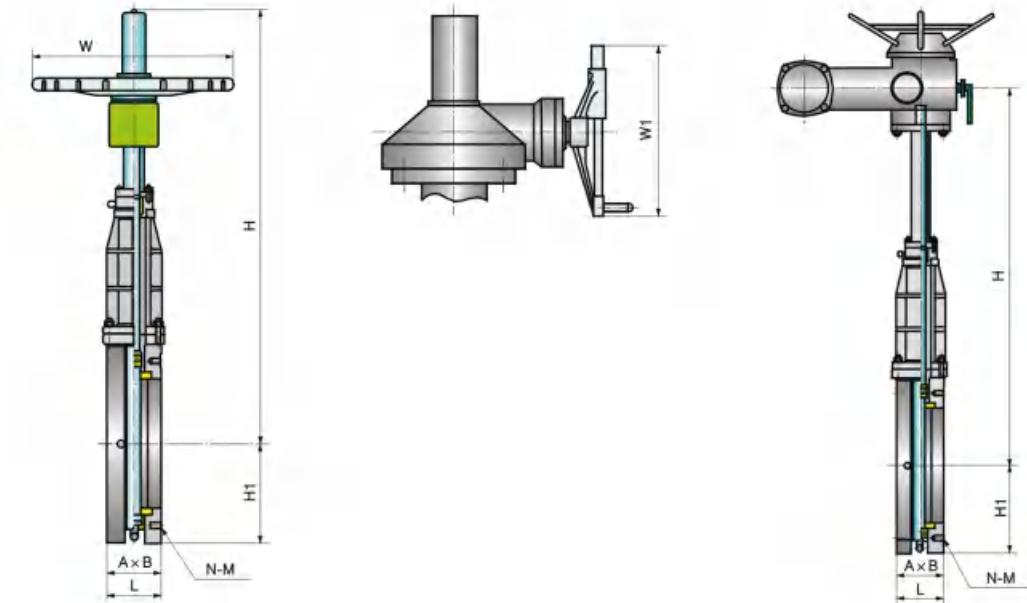
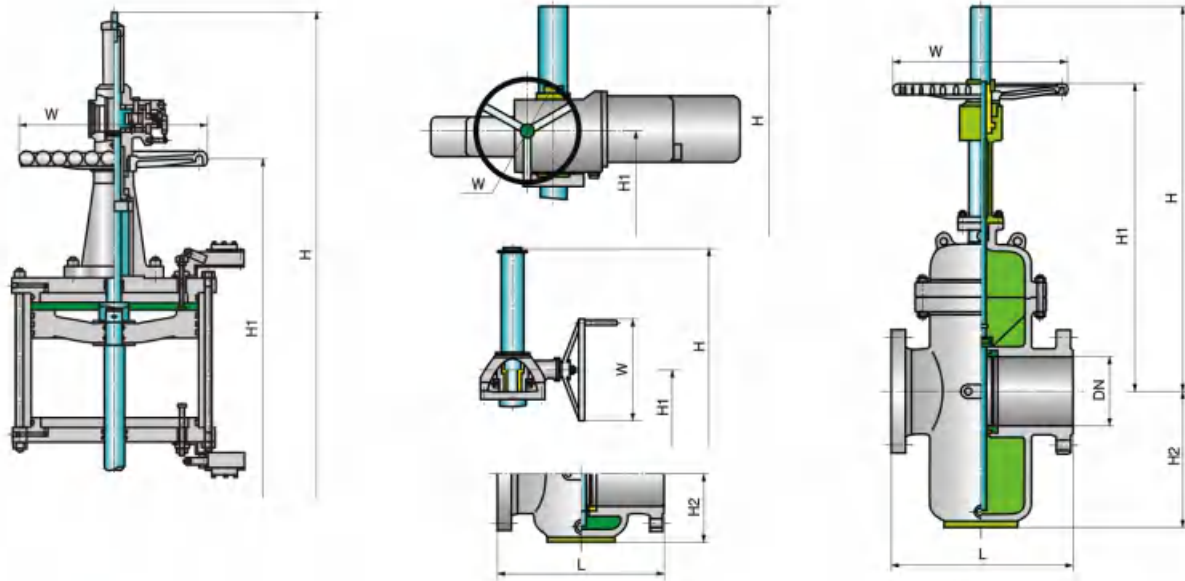
Main Size of Outside

Class 150

Size	NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32	36
		50	65	80	100	150	200	250	300	350	400	450	500	600	700	800	900
Flange	L	178	190	203	229	267	292	330	356	381	406	432	457	508	610	660	711
Butt welding	L1	216	241	283	305	403	419	457	502	572	610	660	711	813	914	965	1016
Hand-operated	H	475	535	600	700	910	1095	1370	1470	1730	1870	2185	2335	2815	-	-	-
	H1	360	425	460	535	685	815	965	1100	1250	1375	1485	1575	1995	-	-	-
	W	250	300	300	350	350	350	450	500	600	650	700	800	1000	-	-	-
Geared driving	H	-	-	-	-	-	1235	1510	1610	1890	2030	2415	2565	3045	-	-	-
	H1	-	-	-	-	-	900	1050	1185	1345	1470	1625	1715	2135	-	-	-
	W	-	-	-	-	-	BA-0	BA-0	BA-0	BA-1	BA-1	BA-2	BA-2	BA-2	-	-	-
Gear device		-	-	-	-	-	305	305	305	458	458	458	458	458	-	-	-

Class 300

Size	NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32	36
		50	65	80	100	150	200	250	300	350	400	450	500	600	700	800	900
Flange	L	216	241	283	305	403	419	457	502	762	838	914	991	1143	1346	1524	1727
Butt welding	L1	216	241	283	305	403	419	457	502	762	838	914	914	1143	1346	1524	1727
Hand-Operated	H	475	535	600	700	910	1095	1370	1470	1730	1870	2185	2335	2815	-	-	-
	H1	360	425	460	535	685	815	965	1100	1250	1375	1485	1575	1995	-	-	-
	W	250	300	300	350	350	350	450	500	600	650	700	800	1000	-	-	-
Geared driving	H	-	-	-	-	-	1235	1510	1610	1890	2030	2415	2565	3045	-	-	-
	H1	-	-	-	-	-	900	1050	1185	1345	1470	1625	1715	2135	-	-	-
	W	-	-	-	-	-	305	305	305	458	458	458	458	458	-	-	-
Gear device		-	-	-	-	-	BA-0	BA-0	BA-0	BA-1	BA-1	BA-2	BA-2	BA-2	-	-	-



Main Size of Outside

Class 600

Size	NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32	36
		DN	50	65	80	100	150	200	250	300	350	400	450	500	600	700	800
Flange	L	292	330	356	432	559	660	767	838	889	991	1092	1194	1397	1549	1778	2083
Butt welding	L1	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1778	2083
Hand-Operated	H	499	562	630	735	956	1150	1439	1545	1817	1965	-	-	-	-	-	-
	H1	378	446	483	562	720	856	1013	1155	1313	1445	-	-	-	-	-	-
	W	300	350	350	400	500	600	650	700	800	1000	-	-	-	-	-	-
Geared driving	H	-	-	-	-	1096	1290	1580	1705	1977	2125	2525	2682	-	-	-	-
	H1	-	-	-	-	805	941	1098	1250	1408	1540	1700	1795	-	-	-	-
	W	-	-	-	-	305	305	458	458	458	458	458	458	-	-	-	-
Gear device		-	-	-	BA-0	BA-0	BA-0	BA-1	BA-1	BA-1	BA-2	BA-2	BA-2	-	-	-	-

Main Size of Outside

Class 150~2500

Size	API	GB/JB	L	H	H1	W	W1	N-M(GB) 1.6/2.5		N-M(API)	A x B	Weight(kg)
4	100	127	712	257	250	-	-	8-M16/M20	8-M16/M20	8-M16	106 x 204	70
5	125	140	820	278	350	-	-	8-M16/M24	8-M16/M22	8-M20	120 x 228	100
6	150	140	894	339	350	-	-	8-M20/M24	8-M20/M22	8-M20	120 x 260	120
8	200	152	1074	432	450	310	-	12-M24/M27	12-M20/M22	8-M20	140 x 260	219
10	250	165	1277	498	450	310	-	12-M24/M27	12-M22/M27	12-M22	150 x 260	240
12	300	178	1505	570	550	460	-	12-M24/16-M27	12-M22/16-M27	12-M22	160 x 270	340
14	350	190	1705	640	650	460	-	16-M24/M30	16-M24/M30	12-M27	172 x 370	430
16	400	216	1835	710	650	460	-	16-M27/M33	16-M27/M30	16-M27	180 x 400	580
18	450	222	2037	800	750	460	-	20-M27/M33	20-M30/M36	16-M30	190 x 420	600
20	500	229	2265	877	750	460	-	20-M30/M33	20-M30/M33	20-M30	193 x 460	700
22	550	267	2500	960	-	610	-	●	●	20-M33	230 x 500	800
24	600	267	2730	1030	-	610	-	20-M33/M36	20-M36/M36	20-M33	230 x 540	980
26	650	292	3040	1110	-	610	-	●	●	24-M33	254 x 600	1200
28	700	292	3090	1190	-	610	-	24-M33/M39	24-M36/M42	28-M33	254 x 600	1380
30	750	318	3500	1260	-	813	-	●	●	28-M33	270 x 700	2240
32	800	318	3680	1340	-	813	-	24-M36/M45	24-M36/M42	28-M39	270 x 760	2600
34	850	330	4000	1420	-	813	-	●	●	32-M39	280 x 760	3090
36	900	330	4230	1490	-	813	-	28-M36/M45	28-M36/M48	32-M39	280 x 800	3500
38	950	410	4460	1570	-	813	-	●	●	32-M39	360 x 850	3970
40	1000	410	4700	1650	-	813	-	28-M39/M52	28-M42/M52	36-M39	360 x 900	4120
42	1050	410	4950	1730	-	813	-	●	●	36-M39	360 x 900	5035
48	1200	470	5670	1950	-	813	-	32-M45/M52	32-M48/M52	44-M39	420 x 1000	6380
54	1400	530	6580	2290	-	813	-	36-M45/M56	36-M48/M56	44-M45	480 x 1200	7200
60	1500	600	7100	2410	-	813	-	●	●	52-M45	540 x 1300	98000

Class 900

Size	NPS	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28
		DN	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600
Flange	L	254	279	305	368	419	381	475	610	737	838	965	1029	1130	1219	1321	1549	1905
Butt welding	L1	254	279	305	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1905
Hand-Operated	H	325	405	503	550	618	693	810	1052	1263	1583	1698	-	-	-	-	-	-
	H1	253	312	387	416	491	531	618	791	942	1136	1271	-	-	-	-	-	-
	W	350	300	300	350	400	500	600	650	700	800	1000	-	-	-	-	-	-
Geared driving	H	-	-	-	-	-	833	950	1212	1423	1813	1928	2230	-	-	-	-	-
	H1	-	-	-	-	-	616	703	886	1037	1276	1411	1585	-	-	-	-	-
	W	-	-	-	-	-	305	305	458	458	458	458	458	-	-	-	-	-
Gear device		-	-	-	-	-	BA-0	BA-0	BA-1	BA-1	BA-2	BA-2	BA-2	-	-	-	-	-

Products Design Features

Parallel double-disc gate valve is a product with new structure, which has small open-and-close moment high speed, little vibration, long performance life and reliable operation, it is mainly applied to cut-off or gas and liquid delivery pipelines. The structural Features include:

A sealing structure consists of two parallel shutter and a wedge-tightening device it is taken to replace the traditional wedge shaped gate valve structure;

The components of valve sealing mechanism are separated so the sealing can retain when transmuting caused by the temperature changes, and will not jam where swelling in high temperature;

The sealing surface of the valve adopts abrasion-resistant and anti-corrosive materials which can lengthen the performance life of the valve;

In high temperature of pressure, the disc on inlet side can be designed in pressure relief style which can avoid abnormal pressure rising in cavity caused by temperature changes, thus to ensure used safely.

The valve adopts full-shut structure which has good protection function and can be used in all weather.

Products Specification

Serial models	W(K)Z44、W(K)Z544、W(K)Z644、W(K)Z744、W(K)Z944			
	W(K)Z64、W(K)Z546、W(K)Z667、W(K)Z764、W(K)Z964			
Pressure grade range	PN1.6~10MPa		Class 150~900	
Drift diameter specific ation range	DN50~1000mm		1"~48"	
Driving manner and scope of application	Hand wheel driving		Gear driving, air-operating, hydrodynamic driving and electric driving	
	Class150~300 (PN1.6~4.0)	Class400(PN6.4)	Class600(PN10.0)	DN100~900mm 4"~36"
	2"~6"(DN50~150)	2"~4"(DN50~100)	2"~3"(DN50~80)	DN100~900mm 4"~36"

Notes: Our company can provide products at customres' request.

Products Performance Specification

Pressure	Nominal rating pressure (PN)						Pound grade (Class)				
	1.6	2.5	4.0	6.4	10.0	16.0	150	300	400	600	900
Test pressure (MPa)	Intensity test	1.5 × PN					1.5 × PN				
	Sealing test	1.1 × PN					1.1 × PN				
Applicable temperature		-196~425°C (different raw material for different work temperature)									
Applicable Medium	Ordinary type	Petroleum natural gas and finished oil									
	Antisulphur type	Natural gas and petroleum with H2S and CO									
Test pressure (MPa)	Back seal test	1.1 × PN					1.1 × PN				
	Air test	0.4~0.7MPa					0.4~0.7MPa				

Note: PN is requested pressure for the body material under the 38°C

Technical Specification

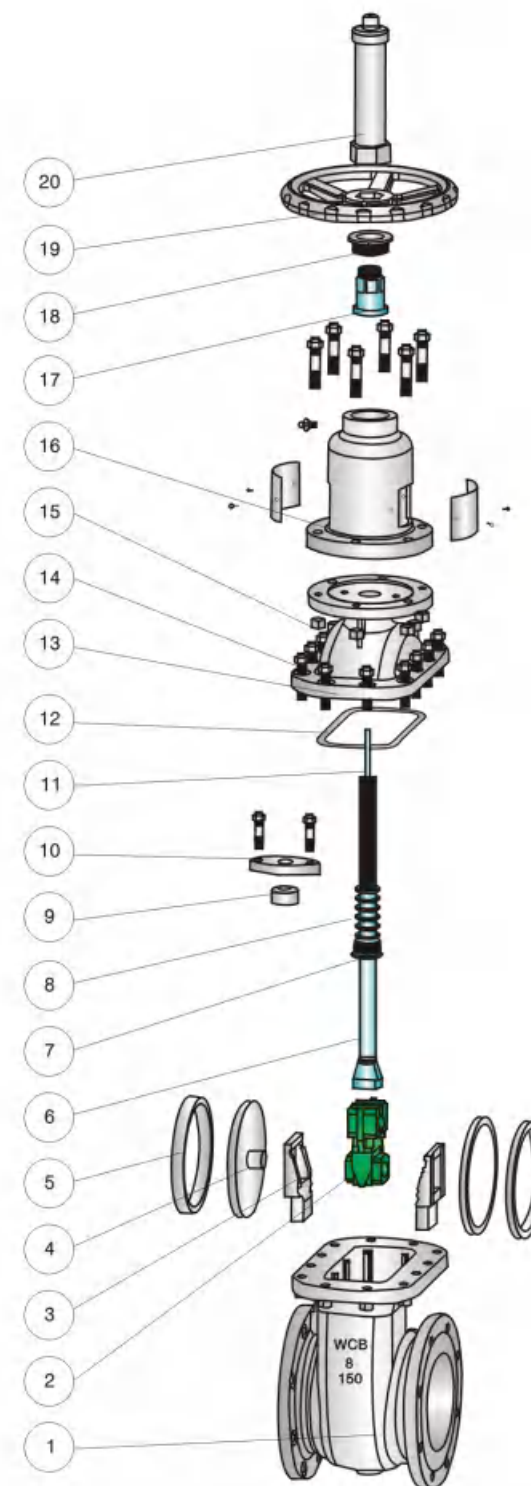
Design standard		API 6D	ASME B16.34
Structural length	Flanged ends	API 6D	ASME B16.10
	Welded connection	API 6D	ASME B16.10
Flanged ends		ASME B16.5、ASME B16.47	
Butt-welding ends		ASME B16.25	
Test & inspection		API 6D	API 598

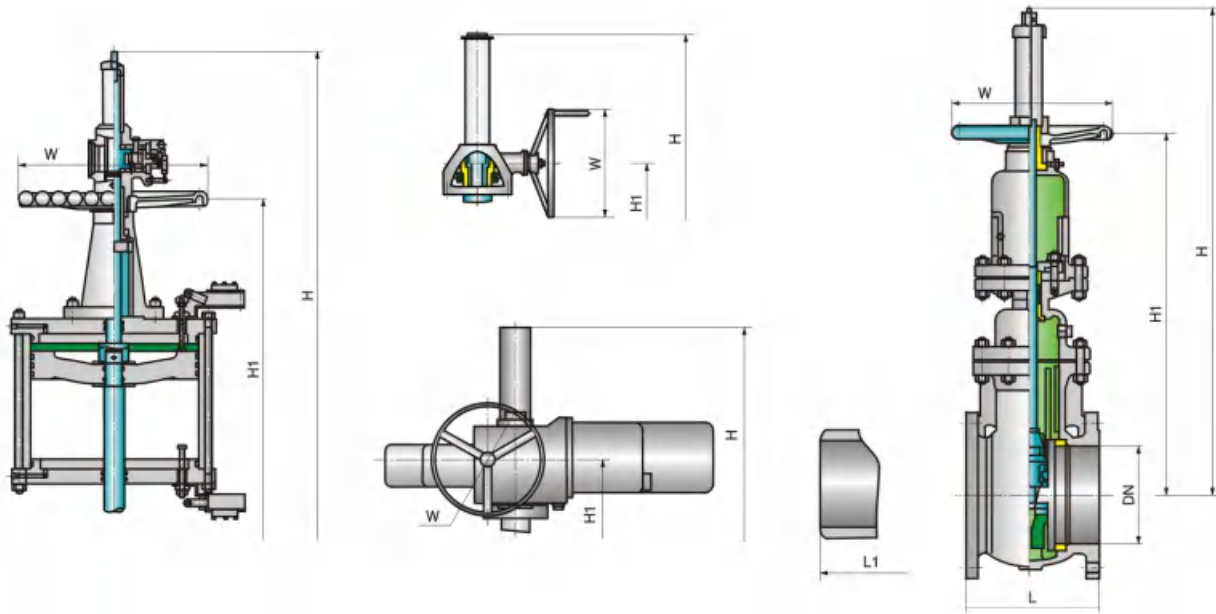
Notes: Serial valve connecting flange and butt-welding terminal size can be designed. At customers' request.

Form of Major Parts Materials

No.	Accessory name	Material	
		Ordinary type	Antisulphur type
		ASTM	ASTM
1	Body	A216-WCB	A216-WCB
2	Disc frame	A216-WCB	A216-WCB
3	Wedge block	A216-WCB+STL	A216-WCB+STL
4	Disc	A105+STL	A276-304+STL
5	Seat	A105+STL	A276-304+STL
6	Stem	A276-410	A276-304
7	Back seat	A276-410	A276-304
8	Packing	Flexible Graphite	
9	Gland	A276-420	A276-420
10	Gland fland	A276-WCB	A276-WCB
11	Indicating finger	A276-410	A276-410
12	Gasket	Graphite+stainless steel	
13	Bonnet	A216-WCB	A216-WCB
14	Bolt	A193-B7	A193-B7
15	Nut	A194-2H	A194-2H
16	Yoke	A216-WCB	A216-WCB
17	Stem nut	A439-D2	A439-D2
18	Gland	A105	A105
19	Hand wheel	A536-60-40-18	A536-60-40-18
20	Indicating cover	A105	A105

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





Main Size of Outside

Class 150

Size	NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32	36
		50	65	80	100	150	200	250	300	350	400	450	500	600	700	800	900
Flange	L	178	190	203	229	267	292	330	356	381	406	432	457	508	610	660	812
Butt welding	L1	216	241	283	305	403	419	457	502	572	610	660	711	812	914	965	1016
	H	475	535	600	700	910	1095	1370	1470	1730	1870	2185	2335	2715	-	-	-
Hand-operated	H1	360	325	460	535	685	815	965	1100	1250	1375	1485	1575	1995	-	-	-
	W	250	300	300	350	350	350	450	500	600	650	700	800	1000	-	-	-
	H	-	-	-	-	-	-	1235	1510	1610	1890	2030	2415	2565	3045	-	-
Geared driving	H1	-	-	-	-	-	900	1050	1185	1345	1470	1625	1715	2135	-	-	-
	W	-	-	-	-	-	305	305	605	458	458	458	458	458	-	-	-
	Gear device	-	-	-	-	-	BA-0	BA-0	BA-0	BA-1	BA-1	BA-2	BA-2	BA-2	-	-	-

Class 300

Size	NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32	36
		50	65	80	100	150	200	250	300	350	400	450	500	600	700	800	900
Flange	L	216	241	283	305	403	419	457	502	762	838	914	991	1143	1346	1524	1727
Butt Welding	L1	216	241	283	305	403	419	457	502	762	838	914	991	1143	1346	1524	1727
	H	475	535	600	700	910	1095	1370	1470	1730	1870	2185	2335	2715	-	-	-
Hand-Operated	H1	360	425	460	535	685	815	965	1100	1250	1375	1485	1575	1995	-	-	-
	W	250	300	300	350	350	350	450	500	600	650	700	800	1000	-	-	-
	H	-	-	-	-	-	-	1235	1510	1610	1890	2030	2415	2565	3045	-	-
Geared driving	H1	-	-	-	-	-	900	1050	1185	1345	1470	1625	1715	2135	-	-	-
	W	-	-	-	-	-	305	305	305	458	458	458	458	458	-	-	-
	Gear device	-	-	-	-	-	BA-0	BA-0	BA-0	BA-1	BA-1	BA-2	BA-2	BA-2	-	-	-

Class 600

Size	NPS DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32	
		50	65	80	100	150	200	250	300	350	400	450	500	600	700	800	
Flange	L	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1549	
Butt welding	L1	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1549	
	H	499	562	630	735	956	1150	1439	1545	1817	1965	-	-	-	-	-	-
Hand-operated	H1	378	446	483	562	720	856	1013	1155	1313	1445	-	-	-	-	-	-
	W	300	350	350	400	500	600	650	700	800	1000	-	-	-	-	-	-
	H	-	-	-	-	1096	1290	1580	1705	1977	2125	2525	2682	-	-	-	-
Geared driving	H1	-	-	-	-	805	941	1098	1250	1408	1540	1700	1705	-	-	-	-
	W	-	-	-	-	305	305	458	458	458	458	458	458	-	-	-	-
	Gear device	-	-	-	-	ba-0	BA-0	BA-1	BA-1	BA-1	BA-2	BA-2	BA-2	-	-	-	-



Globe Valve Series

Standards

Design and Manufacture:

Cast steel globe valve to BS 1873 and ASME B16.34;

Forged steel globe valve to API 602.

Inspection and Test: API 598.

End flange dimension: ASME B16.5.

BW end dimension: ASME B16.25.

Socket-weld dimension: ASME B16.11.

Face to face and end to end: ASME B16.10.

Pressure-temperature ratings: ASME B16.34.

The Features of Globe Valve

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

Body and Bonnet Connection

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

Gasket of Cover Flange

Stainless steel + flexible graphite wounded gasket is used for Class150 and Class300 globe valve. Stainless steel + flexible graphite wounded gasket is used for Class600, and ring joint gasket is also optional for Class600. Ring joint gasket is used for Class 900 globe valve. Pressurized seal design is used for Class 1500 ~ Class2500 globe valve.

Actuation

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

Packing Seal

Molded flexible graphite is used for packing material. PTFE or combined packing material can be also used if being requested by the customer. The internal surface of the stuffing box, of which area is contacted with the packing, is of excellent finish (Ra 3.2 μ m). The stem surface, contacting with the packing, should be rolled and pressed after being precisely machined, so as to reach to the high finish and compactness (Ra 0.8 μ m) and ensure the reliable tightness of the stem area.

Belleville Spring Loaded Packing Impacting System

If being requested by the customer, the Belleville spring loaded packing impacting can be adopted for enhancing the durability and reliability of the packing seal.

Back Seating Design

All our globe valves have the back seat design. In most cases, the carbon steel globe valve is fitted with a renewable back seat. For stainless steel globe valve, the back seat is machined directly in the bonnet or is machined after welding. When the globe valve is at fully open position, the sealing of the back seat can be very reliable. However, as per the requirement of API, it is not advisable to add or change packing by the mean of back seating when the valve is pressure containing.

Seat

For carbon steel globe valve, the seat is usually forged steel. The sealing surface of the seat is spray welded with hard alloy specified by the customer. Renewable threaded seat is used for NPS ≤ 10 globe valve, and welded on seat can be also optional if being requested by the customer. Welded on seat is used for NPS ≥ 12 carbon steel globe valves. For stainless steel globe valve, integral seat is usually adopted, or to weld hard alloy directly integrally. Threaded or welded on seat is also optional for stainless steel globe valve if being requested by the customer.

Stem Design

The stem is of integral forged design. The minimum diameter of the stem shall per the standard requirement.

Stem Nut

Usually, the stem nut is copper alloy. It is also can be made of ASTM A439 D2 if being requested by the customer. For large sized globe valve, rolling bearing is fitted at the two sides of stem nut in order to minimize the open and close torque of the globe valve.

Special Globe Valve

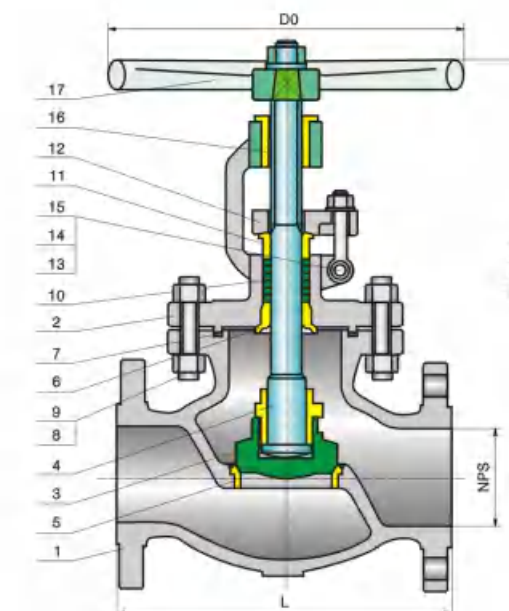
Besides the common globe valves, we also makes cryogenic globe valve, bellow sealed globe valve, Jacketed globe valve, etc.

Design Description

Straight pattern body design
OS & Y, Outside screw and yoke
BB, Bolted bonnet
Yoke integral with bonnet
Rising stem and handwheel
Loose disc, choice of plug or ball
Renewable seat ring
Impact handwheel for 10" & above
Horizontal service
Flanged or butt welding ends
Available with BG operator

Applicable Standards

Design standard: BS1873/API 600/ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5
Butt welding ends: ASME B16.25
Inspection and test: API 598



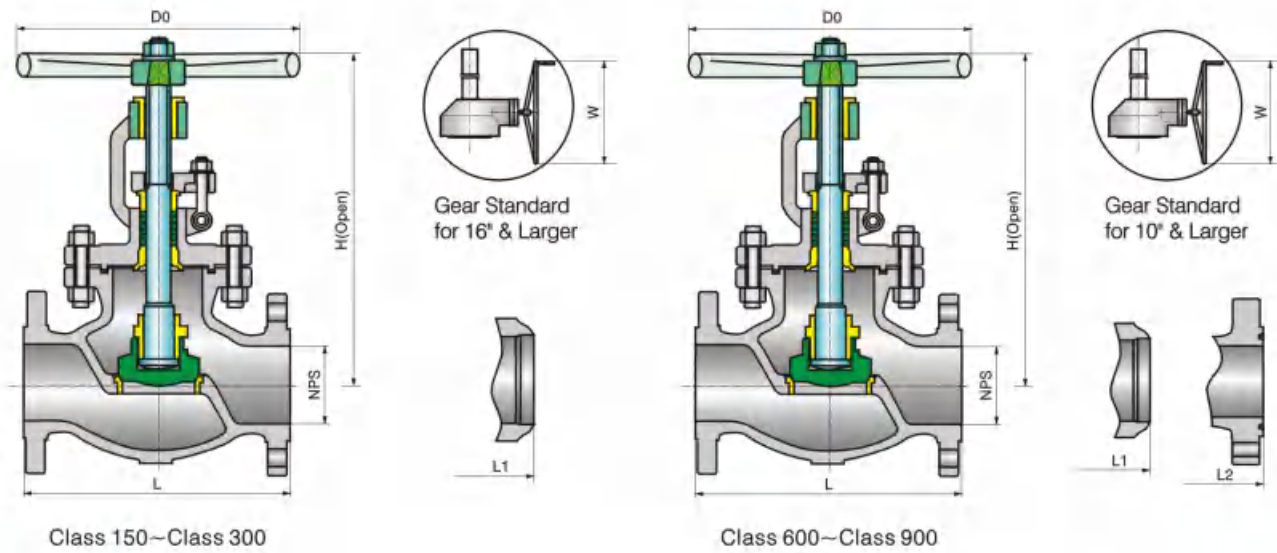
150Lb~300Lb

Materials of Parts

NO .	Part name	ASTM Material			
1	Body	A216-WCB	A217-WC6	A352-LCB	A351 CF8
2	Bonnet	A216-WCB	A217-WC6	A352-LCB	A351 CF8
3	Disc	A105+CR13	A182-11+HF	A350-LF2+CR13	A182-F304
4	Stem	A182-F6a	A182-F6a	A182-F6a	A182-F304
5	Seat ring	A105+CR13	A182-F11+HF	A350-LF2+CR13	/
6	Stem backseat	A276-420	A276-304	A276-420	/
7	Bonnet gasket	Spiral wound(Graphite+304)			
8	Bonnet stud	A193-B7	A193-B16	A320-L7	A193-B8
9	Bonnet stud nut	A194-2H	A194-4	A194-7	A194-8
10	Packing	Graphite			
11	Gland	A276-420	A276-304	A276-420	A276-304
12	Gland flange	A216-WCB	A217-WC6	A352-LCB	A351 CF8
13	Eyebolt pin	Carbon steel	A276-420	Carbon steel	Carbon steel
14	Eyebolt	A193-B7	A193-B16	A320-L7	A193-B8
15	Eyebolt nut	A194-2H	A194-4	A194-7	A194-8
16	Yokesleeve	Aluminum-bronze ¹ /A439-D2			
17	Handwheel	A216-WCB			

Note:

- 1). A Ductile Ni-resist optional;
- 2). Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

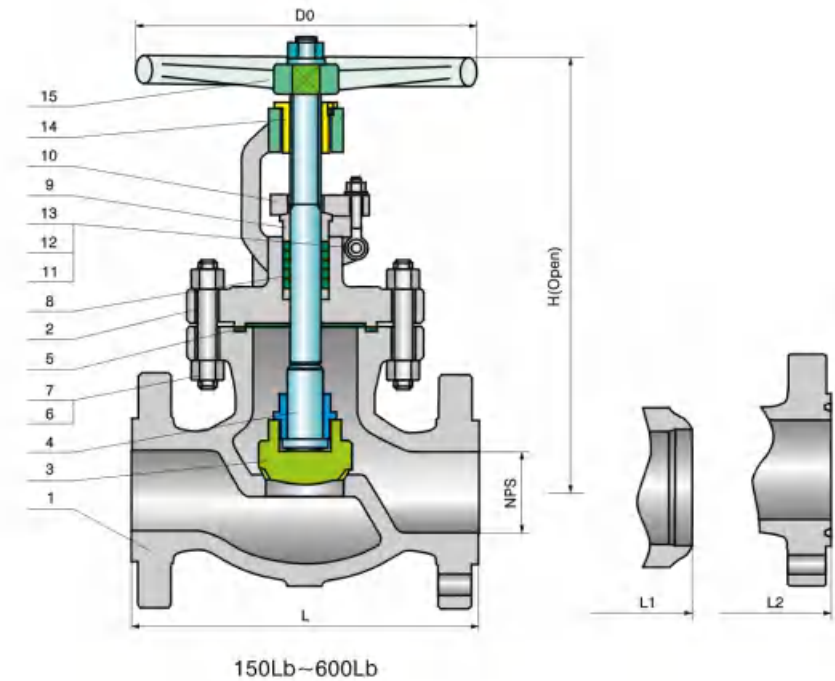


Applicable Standards

Steel globe valves: API 603
 Steel valves: ASME B16.34
 Face to face: ASME B16.10
 End flanges: ASME B16.5
 Butt welding ends: ASME B16.25
 Inspection and test: API 598

Design Description

Straight pattern body design
 OS & Y, Outside screw and yoke
 BB, Bolted bonnet
 Yoke integral with bonnet
 Rising stem and handwheel
 Loose disc, choice of plug or ball
 Seat rings integral with body
 Impact handwheel for 10" & above
 Horizontal service
 Flanged or butt welding ends
 Available with bg operator



Dimensions Data

Size	NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18
		15	20	25	40	50	65	80	100	150	200	250	300	350	400	450
L/L1	in	4.25	4.63	5.00	6.5	8.00	8.50	9.50	11.50	16.00	19.50	24.50	27.50	31.00	36.00	38.50
(RF/BW)	mm	108	118	127	165	203	216	241	292	406	495	622	698	787	914	978
H	in	8.31	8.31	9.08	14.25	13.58	14.8	15.94	19.09	20.47	23.62	30.00	33.94	38.58	47.05	5118
(Open)	mm	211	211	230	326	345	375	405	485	520	600	762	862	980	1195	1300
D0	in	4.00	4.00	4.00	7.88	8	8	10	12	14	18	20	25	25	24	24
	mm	102	102	102	200	200	200	250	300	350	450	500	640	640	610	610

Class 150

Size	NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
		15	20	25	40	50	65	80	100	150	200	250	300	350	400
L/L1	in	4.25	4.63	5.00	9	10.50	11.50	12.50	14.00	17.50	22.00	24.50	28.00	33.00	34
(RF/BW)	mm	108	118	127	229	267	292	318	356	445	559	622	711	838	864
H	in	8.31	8.31	9.08	14.17	14.57	18.66	17.32	20.67	24.41	35.83	37.36	40.63	42.91	51.5
(Open)	mm	211	211	230	360	370	474	440	525	620	910	949	1032	1090	1310
D0	in	4.00	4.00	4.00	7.88	8	10	10	14	18	22	24	25	24	24
	mm	102	102	102	200	200	250	250	350	450	560	600	640	610	610

Class 300

Size	NPS DN	2	2 1/2	3	4	6	8	10	12	14	16
		50	65	80	100	150	200	250	300	350	400
L/L1	in	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35	39
(RF/BW)	mm	292	330	356	432	559	660	787	838	889	991
L2	in	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12
(RTJ)	mm	295	33	359	435	562	663	790	841	892	994
H	in	18.19	21.26	23.03	26.38	34.88	36.69	40.94	50.39	57	63
(Open)	mm	462	540	585	670	886	932	1040	1280	1450	1600
D0	in	10	10	12	18	20	25	24	24	30	30
	mm	250	250	350	450	500	640	610	610	760	760

Class 600

Size	NPS DN	2	2 1/2	3	4	6	8	10	12
		50	65	80	100	150	200	250	300
L/L1	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38
(RF/BW)	mm	368	419	381	457	610	737	838	965
L2	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12
(RTJ)	mm	371	422	384	460	613	740	841	968
H	in	23.62	25.98	26.18	31.50	43.62	46.61	61.88	69
(Open)	mm	600	660	665	800	1108	1184	1400	1755
D0	in	14	14	18	20	24	24	24	32
	mm	350	350	450	500	610	610	600	810

Class 900

Class 1500,2500 proposed structure of self-sealing, For flange connection with the company.

Materials of Parts

NO .	Part name	ASTM Material		
		18Cr-18Ni	18Cr-9Ni-2Mo	17Cr-9Mo-2Mo
1	Body	A351-CF8	A351-CF8M	A351-CF3M
2	Bonnet	A351-CF8	A351-CF8M	A351-CF3M
3	Disc	A351-CF8	A351-CF8M	A351-CF3M
4	Stem	A182-F304	A182-F316	A182-F316L
5	Bonnet gasket ¹⁾	Graphite+304	Graphite+316	Graphite+316L
6	Bonnet stud	A193-B8	A193-B8M	A193-B8M
7	Bonnet stud nut	A194-8	A194-8M	A194-8M
8	Packing ²⁾	Graphite		
9	Gland	A276-304	A276-316	A276-316L
10	Gland flange	A351-CF8	A351-CF8M	A351-CF8M
11	Eyebolt pin	A276-304	A276-316	A276-316
12	Eyebolt	A193-B8	A193-B8	A193-B8
13	Eyebolt nut	A194-8	A194-8	A194-8
14	Yokesleeve	Aluminum-bronze ³⁾		
15	Handwheel	Malleable iron		

Note: 1). Seat wound construction. Teflon optional.
 2). Teflon optional.
 3). Ductile Ni-resist optional.
 4). Disc and seat(Integral with body) may either be solid facing material or a base material equal to or better than the body bonnet material with facing as shown.

Dimensions Data

150Lb

Size	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	400
L/L1 (RF/BW)	in	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	16.00	19.50	24.50	27.50	31.00	36.00
	mm	108	117	127	165	203	216	241	292	406	495	622	698	787	914
L2 (RTJ)	in	-	-	-	-	8.50	9.00	10.00	12.00	16.50	20.00	25.00	28.00	31.50	36.50
	mm	-	-	-	-	216	229	254	305	419	508	635	711	800	927
H (Open)	in	7.00	7.50	8.25	9.25	15.00	21.00	17.50	20.25	22.00	24.25	32.00	35.88	48.38	57.00
	mm	180	190	210	235	380	535	445	515	560	615	815	910	1230	1450
D0	in	4	4	4	6	7	10	11	11	13	13	16	18	20	24
	mm	100	100	100	140	180	240	280	280	320	320	400	450	500	600
WT (Kg)	BW	3	3.5	4.5	11	18	30	41	64	86	110	280	380	510	740
	RF/RTJ	2.5	3	4	8	14	22	33	43	72	88	245	345	450	665

300Lb

Size	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	400
L/L1 (RF/BW)	in	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	17.50	22.00	24.50	28.00	-	-
	mm	152	178	203	229	267	292	318	356	444	559	622	711	-	-
L2 (RTJ)	in	-	-	-	-	11.12	12.12	13.12	14.62	18.12	22.62	25.12	28.62	-	-
	mm	-	-	-	-	282	308	333	371	460	575	638	727	-	-
H (Open)	in	7.00	7.50	8.25	9.25	16.75	19.00	19.88	22.50	25.25	33.25	35.50	38.62	-	-
	mm	180	190	210	235	425	485	505	570	640	845	900	980	-	-
D0	in	4	4	4	6	8	10	11	13	16	18	20	24	-	-
	mm	100	100	100	140	200	240	280	320	400	450	500	600	-	-
WT (Kg)	BW	4	4.5	6	15	25	32	38	56	96	150	360	550	-	-
	RF/RTJ	3	3.5	5	12	20	22	27	41	75	117	310	492	-	-

600Lb

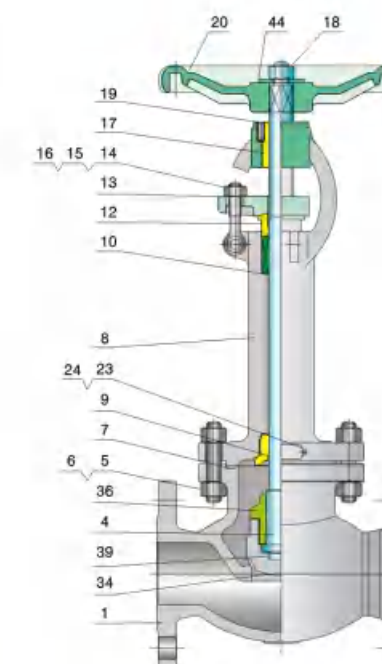
Size	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	400
L/L1 (RF/BW)	in	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	-	-
	mm	165	190	216	241	292	330	356	432	559	660	787	838	-	-
L2 (RTJ)	in	-	-	-	-	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.13	-	-
	mm	-	-	-	-	295	333	359	435	562	663	790	841	-	-
H (Open)	in	7.25	7.62	9.00	11.00	17.50	19.75	21.00	24.50	29.50	36.50	44.88	53.12	-	-
	mm	185	195	230	280	445	502	533	622	750	927	1140	1350	-	-
D0	in	4	4	6	8	10	11	13	16	18	20	24	24	-	-
	mm	100	100	140	200	240	280	320	400	450	500	600	600	-	-
WT (Kg)	BW	6	8	14	23	35	50	60	110	230	410	770	1140	-	-
	RF/RTJ	4.8	6.2	9.5	16.5	27	34	42	84	192	350	680	1030	-	-

Applicable Standards

Design and Manufacture: BS 1873, ASME B16.34
 End flange Dimension: ASME B 16.5, DIN2501
 Face to Face Dimension: ASME B16.10, DIN3202, EN558, API602, BS5352
 Welding Ends Dimension: ASME B16.25
 Threaded Ends Dimension: ASME B1.20.1
 Socket Welded Ends Dimension: ASME B16.25
 Pressure-Temperature Ratings: ASME B16.34
 Inspection and Test: API 598

Design Description

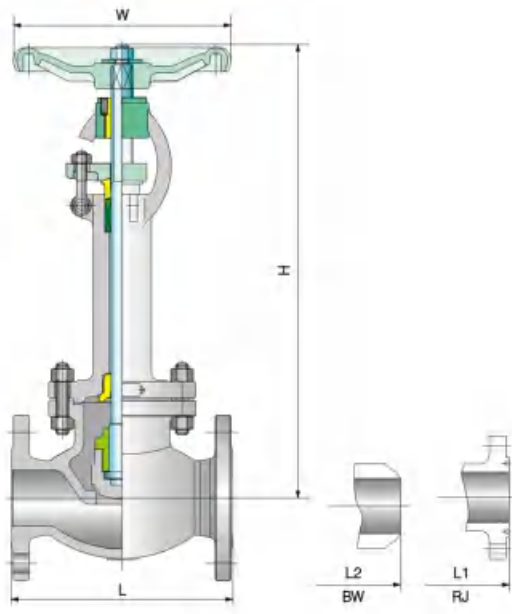
Cryogenic valves normally refer to valves with working temperature below -110°C. It is widely used in LNG, LPG and other low temperature industry. FBIC now offers Gate, Globe and Ball valves for cryogenic service up to -196°C. Our in-house computer controlled test facility can certify valves up to 24".
 Type of Operation: Manual, Gear, Electric, Pneumatic
 Size: NPS1/2"~12"
 Pressure: Class 150Lb~80Lb
 Materials: LCB, LCC, LC3, CF8, CF8M, LF2, LF3, F304, F316



150Lb~600Lb

Main Parts Material Sheet

Item	Part name	LC3	CF8	CF3	CF3M	CE3MN
1	Body	A352 LC3	A351 CF8	A351 CF3	A351 CF3M	CE3MN
4	Stem	A182 F304	A182 F304	A182 F304L	A182 F316L	A182 F53
5	Bolt	A193 B7	A193 B8	A193 B8	A193 B8M	A193 B8M
6	Nut	A194 2H	A194 8	A194 8	A194 8M	A194 8M
7	Bonnet	304+Graphite	304+Graphite	304+Graphite	316+Graphite	316+Graphite
8	Packing	A352 LC3	A351 CF8	A351 CF3	A351 CF3M	CE3MN
9	Distance ring	A182 F304	A182 F304	A182 F304L	A182 F316L	A182 FF53
10	Packing gland	304+Graphite	304+Graphite	304+Graphite	316+Graphite	316+Graphite
12	Packing plate	A182 F304	A182 F304	A182 F304L	A182 F316L	A182 F53
13	Eye bolt	A216 WCB	A351 CF8	A351 CF8	A351 CF8	A351 CF8
14	Nut	A193 B7	A193 B8	A193 B8	A193 B8M	A193 B8M
15	Pin	A194 2H	A194 8	A194 8	A194 8M	A194 8M
16	Stem nut	420	304	304	304	304
17	Locking nut	A439 type D2	A439 type D2	A439 type D2	A439 type D2	A439 type D2
18	Locking screw	1035	1035	1035	1035	1035
19	Hand wheel	1035	1035	1035	1035	1035
20	Nameplate	Ducerle L10m	Ducerle L10m	Ducerle L10m	Ducerle L10m	Ducerle L10m
23	Rivet	304	304	304	304	304
24	Pressure seal seat	AL	AL	AL	AL	AL
34	Disc	F304	F304	F304L	F316L	F53
36	Disc cover	F304	F304	F304L	F316L	F53
39	Gasket	304	304	304	316	F53
44	Washer	1035	1035	1035	1035	1035



150Lb~600Lb

Applicable Standards

Design and Manufacture: BS 1873, ASME B16.34
 End flange Dimension: ASME B 16.5, DIN2501
 Face to Face Dimension: ASME B16.10, DIN3202, EN558, API602, BS5352
 Welding Ends Dimension: ASME B16.25
 Threaded Ends Dimension: ASME B1.20.1
 Socket Welded Ends Dimension: ASME B16.25
 Pressure-Temperature Ratings: ASME B16.34
 Inspection and Test: API 598

Design Description

Cryogenic valves normally refer to valves with working temperature below -110°C. It is widely used in LNG, LPG and other low temperature industry. FBIC now offers Gate, Globe and Ball valves for cryogenic service up to -196°C. Our in-house computer controlled test facility can certify valves up to 24".
 Type of Operation: Manual, Gear, Electric, Pneumatic
 Size: NPS 1/2" ~ 12"
 Pressure: Class 150Lb ~ 80Lb
 Materials: LCB, LCC, LC3, CF8, CF8M, LF2, LF3, F304, F316

Main Parts Material Sheet

Spec (NAP)	in	150Lb										
		2	2 1/2	3	4	5	6	8	10	12	14	16
Face to face(mm)	L	203	216	241	292	356	406	495	622	698	787	914
	L1	216	229	254	305	369	419	508	635	711	800	927
	L2	203	216	241	292	356	406	495	622	698	787	914
Center height(mm)	H	520	540	575	640	675	757	927	1028	1060	1200	1305
Hand wheel diameter (mm)	W	220	250	280	320	320	400	450	560	560	-	-

Spec (NAP)	in	300Lb										
		2	2 1/2	3	4	5	6	8	10	12	14	16
Face to face(mm)	L	267	292	318	356	400	445	559	622	711	838	863
	L1	283	308	334	372	416	461	575	638	727	-	-
	L2	267	292	318	356	400	445	559	622	711	-	-
Center height(mm)	H	530	560	595	660	705	770	950	1060	1105	-	-
Hand wheel diameter (mm)	W	220	350	280	320	400	450	500	560	600	-	-

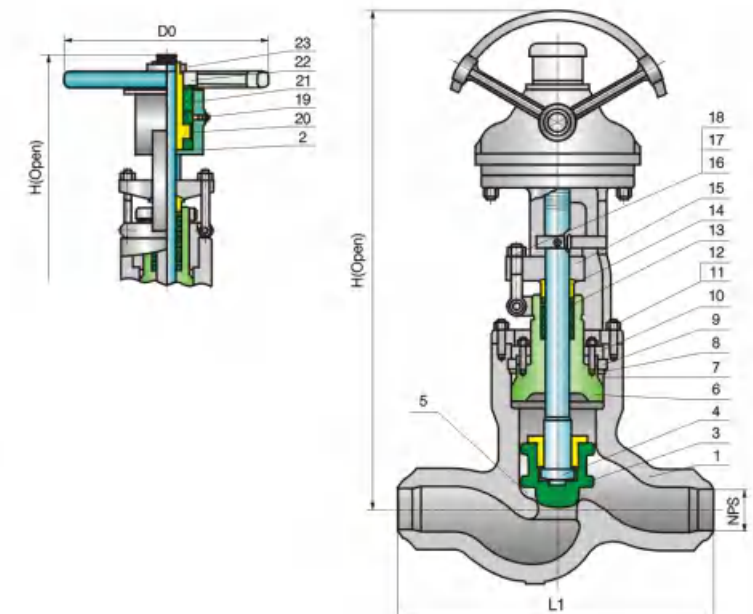
Spec (NAP)	in	600Lb										
		2	2 1/2	3	4	5	6	8	10	12	14	16
Face to face(mm)	L	292	330	356	432	508	559	660	787	838	-	-
	L1	295	333	359	435	511	562	663	790	841	-	-
	L2	292	330	356	432	508	559	660	787	838	-	-
Center height(mm)	H	560	600	625	690	730	805	995	1100	1195	-	-
Hand wheel diameter (mm)	W	285	280	320	400	500	560	600	650	760	-	-

Design Description

PSB, Pressure seal bonnet
 Flexible wedge, fully guided
 Choice of solid or split wedge
 Renewable seat rings
 Forged-head stem
 Rising stem and non-rising handwheel
 Flanged or butt welding ends
 Available with bg operator

Applicable Standards

Design standard: BS1873/API 600/ASME B16.34
 Face to face: ASME B16.10
 End flanges: ASME B16.5
 Butt welding ends: ASME B16.25
 Inspection and test: API 598

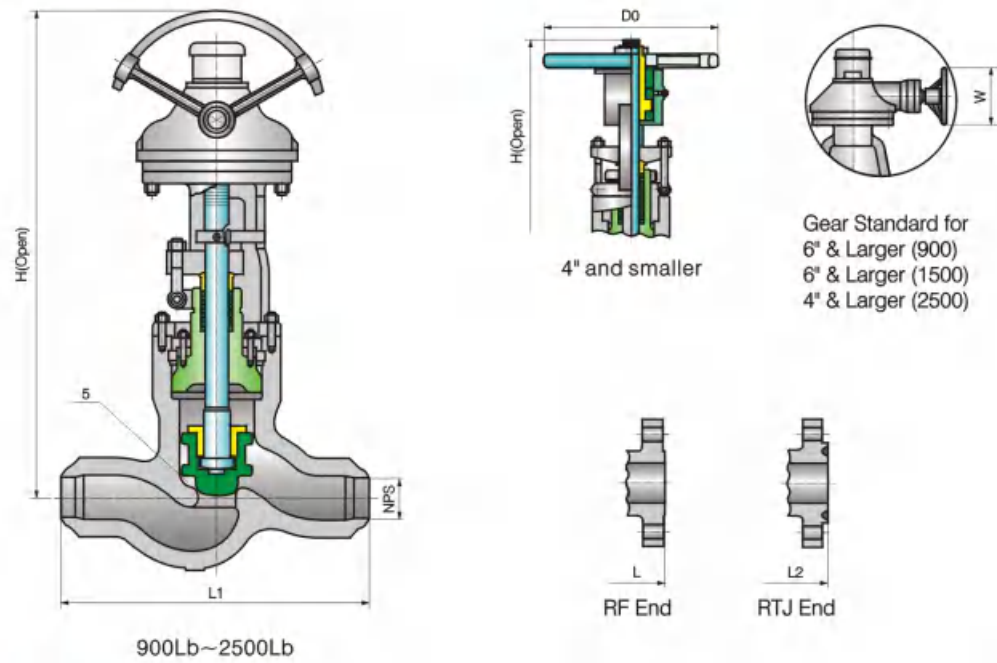


900Lb~2500Lb

Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A351-CF3M
2	Yoke	A216-WCB	A217-WC6	A351-CF3M
3	Disc	A216-WCB+HF	A217-WC6+HF	A351-CF8M+HF
4	Stem	A182-F6a	A182-F6a	A182-316L
5	Seat ring	A105+HF	A182-F11+HF	A240-316+HF
6	Bonnet	A216-WCB	A217-WC6	A351-CF3M
7	Bonnet gasket ¹⁾	Steel ring	A304SS Ring	A316SS Ring
8	Adapter ring	A276-410	A276-410	A276-316L
9	Retainer	A276-410	A276-410	A276-316L
10	Yake cap	A216-WCB	A217-WC6	A351-CF3M
11	Bonnet stud	A193-B7	A193-B16	A193-B8M
12	Bonnet stud nut	A194-2H	A194-4	A194-8M
13	Packing		Graphite	
14	Gland	A276-420	A276-304	A276-316L
15	Gland flange	A216-WCB	A217-WC6	A351-CF8M
16	Eyebolt pin	A276-420	A276-420	A276-316
17	Eyebolt	A193-B7	A193-B16	A193-B8M
18	Eyebolt nut	A194-2H	A194-4	A194-8M
19	Grease fitting		Brass + steel	
20	Yokesleeve		Aluminmu-bronze ²⁾ /A439-D2	
21	Yokesleeve jam nut		Carbon steel	
22	Handwheel		A216-WCB	
23	Handwheel nut		Carbon steel	

Note: 1). Graphite optional
 2). Ductile Ni-resist optional
 3). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



Dimensions Data

Class 900

Size	NPS	2	2 1/2	3	4	6	8
	DN	50	65	80	100	150	200
L/L1 (RF/BW)	in	14.50	16.50	15.00	18.00	24.00	29.00
	mm	368	419	381	457	610	737
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12
	mm	371	422	384	460	613	740
H (Open)	in	24.41	25.40	28.50	33.40	48.23	53.15
	mm	620	645	724	848	1225	1350
D0	in	14	14	18	20	24	24
	mm	350	350	450	500	610	610

Class 1500

Size	NPS	2	2 1/2	3	4	6	8
	DN	50	65	80	100	150	200
L/L1 (RF/BW)	in	14.50	16.50	18.50	21.50	27.75	32.75
	mm	368	419	470	546	705	832
L2 (RTJ)	in	14.62	16.62	18.62	21.62	28.00	33.13
	mm	371	422	473	549	711	842
H (Open)	in	24.41	25.40	32.68	33.86	48.50	70.24
	mm	620	645	830	860	1232	1784
D0	in	14	14	20	22	24	24
	mm	350	350	500	550	610	610

Class 2500

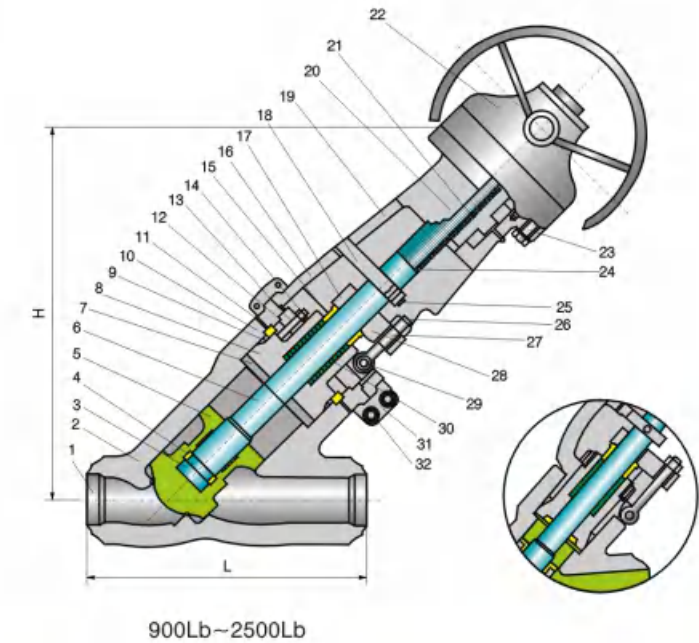
Size	NPS	2	2 1/2	3	4	6	8"
	DN	50	65	80	100	150	200
L/L1 (RF/BW)	in	17.75	20.00	22.75	26.50	36.00	40.25
	mm	451	508	578	673	914	1022
L2 (RTJ)	in	17.87	20.25	23.00	26.88	36.50	40.87
	mm	454	514	584	683	927	1038
H (Open)	in	24.41	30.63	34.84	51.10	53.74	83.46
	mm	620	778	885	1298	1365	2120
D0	in	16	20	22	24	24	24
	mm	400	500	550	610	610	610

Stop Valves

LEAD Stop valves are available in stop configurations for critical high temperature high pressure services. The many design features incorporated into stop valves-drop tight shut off, low pressure drop, piping flexibility are also included in stop valves. In addition, an equalizer pipe is provided to help achieve full disc lift as well as reduce wear producing turbulence.

Features

- B. W. end to ASME B16.25
- Stem guide collar
- Composite pressure seal gasket
- Disc piston
- Guide ribs
- Integral hard surfaced seats
- Low pressure drop



Materials of Parts

NO.	Part name	ASTM Material	NO.	Part name	ASTM Material
1	Body	ASTM A216 Gr.WCB	17	Gland flange	ASTM A216 Gr. WCB
2	Seat surface	STL No.6	18	Stem guide collar	C. S.
3	Disc	ASTM A105+STL No. 6	19	Yoke	ASTM 216 Gr. WCB
4	Split ring	ASTM A182 F6a	20	Bearing	Assem.
5	Bolt	S. S.	21	Stem nut	Aluminum bronze
6	Stem	ASTM A182 F6a	22	Gear box	Assem.
7	Disc guide	ASTM A276 410	23	Bolt	C. S.
8	Bonnet	ASTM A216 Gr. WCB	24	Washer	C. S.
9	Sealing ring	ASTM A182 F304	25	Pin	C. S.
10	Spacer ring	ASTM A182 F6a	26	Bolt	C. S.
11	Segment ring	ASTM A182 F6a	27	Gland bolt	ASTM A193 Gr.B7
12	Supporting plate	ASTM A105	28	Gland nut	ASTM A194 Gr.2H
13	Yoke lock ring	ASTM A216 Gr. WCB	29	Pin	C. S.
14	Bolt	ASTM A193 Gr. B7	30	Packing	Graphite
15	Nut	ASTM A194 Gr. 2H	31	Lock ring bolt	ASTM A193 Gr.B7
16	Gland	ASTM A276 410	32	Lock ring nut	ASTM A194 Gr.2H

Dimensions Data

900Lb

Size	in	2	2 1/2	3	4	6	8	10	12	14	16
	mm	50	65	80	100	150	200	250	300	350	400
L(BW)	in	13.3	15.4	17	18.5	20	26	31	38	38	44.5
	mm	338	391	432	470	508	660	787	965	965	1130
H	in	15	16.5	18.11	23.23	32.28	41.34	50	58.27	61.02	70.08
	mm	380	420	460	590	820	1050	1270	1480	1550	1780
W	in	12.2	12.2	18.11	18.11	18.11	24	24	24	24	24
	mm	310	310	460	460	460	610	610	610	610	610
WT	Kg	78	84	92	131	258	553	992	1603	1825	2579

1500Lb

Size	in	2	2 1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L(BW)	in	13.5	15.4	17	18.5	27.75	30	36.25	43
	mm	338	391	432	470	705	762	921	1092
H	in	15	16.5	15.16	15.16	18.5	26.06	34.76	58.28
	mm	355	370	385	385	470	662	883	1480
W	in	12.2	12.2	18.11	18.11	18.11	24	24	24
	mm	310	310	460	460	460	610	610	610
WT	Kg	83	95	115	148	362	759	1320	2062

2500Lb

Size	in	2	2 1/2	3	4	6	8	10
	mm	50	65	80	100	150	200	250
L(BW)	in	13.3	15.4	17	18.5	24	30	36
	mm	338	391	432	470	610	762	914
H	in	15	16.5	15.16	16.54	26.89	28.35	35.12
	mm	304	365	385	420	683	720	892
W	in	12.2	18.11	18.11	18.11	18.11	24	24
	mm	310	460	460	460	460	610	610
WT	Kg	93	106	122	163	461	790	1330



Check Valve Series

Standards Compliance

Design and Manufacture; Cast steel check valve to BS 1868, ASME B16.34 and API 6D;
 Forged steel check valve to API 602.
 Inspection and Test: API 598 or API 6D.
 End flange dimension: ASME B16.5 (for NPS ≤ 24) ;
 ASME B 16.47 series B, API 605 or ASME B16.47 series A, MSS SP-44 (for NPS > 24) .
 BW end dimension: ASME B16.25.
 Socket-weld dimension: ASME B16.11.
 Face to face and end to end: ASME B16.10.
 Pressure-temperature ratings : ASME B16.34.
 Wall thickness dimension: API 600 and BS 1868.

Flanged & Butt-Welding Ends Swing Check Valves Products Design Features

Flanged & Butt-Welding Ends Swing Check Valves are used in pipes under pressures between Class 150~900Lb, working temperatures between 29-570°C, They are used in industries include oil, chemistry, pharmaceutical, fertilizer, and power generation to prevent the backward flux of the media.

Main structural features:

1. Rational structure, reliable sealing, excellent performance, pretty appearance.
2. Co-radix alloy welded sealing surface, anti-wearing, erosion-proof abrasion-proof, and longer use life.
3. Inside-set bolt-bearing structure reduces leakage and reliable use.
4. Under pressures 16.0Mpa, Class 1500, the valve belly, self-tightening structure offers a tighter offers a tighter sealing for a higher medium pressure.
5. Different parts materials and different sizes for flange, butt-welding are available for sensible combination according to different working facts and customers' requirements.

The Features of Check Valve

Bolted Bonnet;
 Swing and lift disc;
 Metallic seating surfaces.

Flanged Ends Piston-lift Type Check Valve Products Design Features

Flanged ends piston-lift type check valve are used in pipes under nominal pressures between ,Class 150~900, working temperatures between -46~550.

They are used in industries include oil, chemistry, pharmaceutical, fertilizer, and power generation to prevent the backward flux of the media. Main structural features:

1. Rational structure, reliable sealing, excellent performance, pretty appearance.
2. Co hard alloy welded sealing surface of the valve discs and seats, which is wearing, erosion proof, abrasion proof and long-lived.
3. Different parts materials and different sizes for flange & gasket-welding are available for sensible combination according to different working facts and customer's requirements.



Products Performance Specification

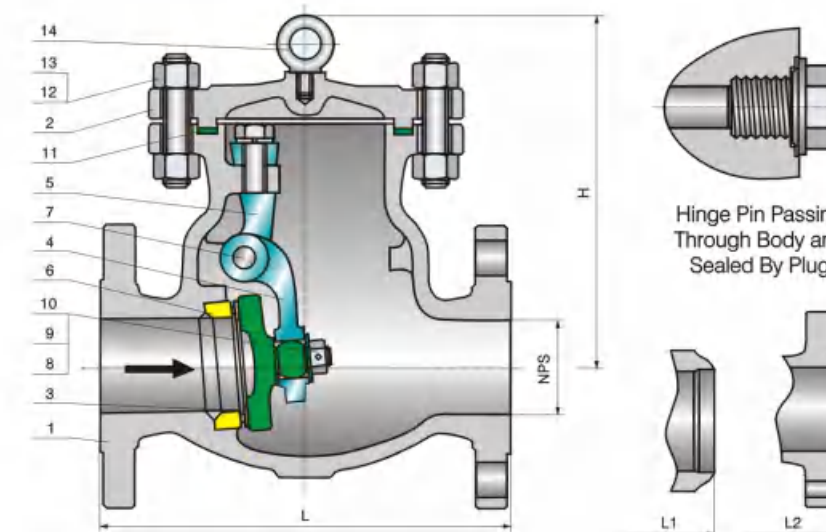
Pressure grade		Class 150~900
Test pressure (MPa)	Shell test	1.5 x PN
	Sealing test	1.1 x PN
Working temperature		-46°C ~ +570°C
Working Medium		Water, oil, natural gas, corrosive medium, etc.

Design Description

BB, Bolted bonnet,
 Swing type, Anti-rotation disc
 Renewable seat rings
 Non-penetrate disc shaft
 Horizontal or vertical service
 Flanged or butt welding ends

Applicable Standards

Design standard: BS 1868 & ASME B16.34
 Face to face: ASME B16.10
 End flanges: ASME B16.5
 Butt welding ends: ASME B16.25
 Inspection and test: API 598



Class 150~Class 600

Materials of Parts

NO .	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Disc ¹⁾	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Hinge	A216-WCB	A217-WC6	A352-LCB
5	Support	A216-WCB	A217-WC6	A352-LCB
6	Seat ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
7	Hinge pin	A276-420	A276-304	A276-420
8	Disc washer	Carbon steel	A276-304	Carbon steel
9	Disc nut	Carbon steel	A194-4	Carbon steel
10	Disc nut pin	304	304	304
11	Bonnet gasket	Spiral wound (Graphite+304)		
12	Bonnet stud	A193-B7	A193-B16	A320-L7
13	Bonnet stud nut	A194-2H	A194-4	A194-7
14	Eyebolt ²⁾	Carbon steel		

Note: 1). Spiral wound construction, tefon optional.

2). NPS 6" & Larger.

3). Disc and seat (Integral with body) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Dimensions Data

Class 150

Size	NPS	2	2.5	3	4	6	8	10	12	14	16	18	20	24	30	36
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
L/L1 (RF/BW)	in	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	60.00	77.00
	mm	203	216	241	292	356	495	622	699	787	864	978	978	1295	1524	1956
L2	in	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	51.50	-	-
	mm	216	229	254	305	368	508	635	711	800	876	991	991	1308	-	-
H	in	6.10	6.70	7.09	8.66	10.55	12.20	14.57	16.73	18.70	20.67	22.83	24.72	34.72	38.27	48.00
	mm	155	170	180	220	268	310	370	425	475	525	580	628	882	972	1220

Class 300

Size	NPS	2	2.5	3	4	6	8	10	12	14	16	18	20	24
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1 (RF/BW)	in	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00
	mm	267	292	318	356	445	533	622	711	838	864	978	1016	1346
L2	in	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88
	mm	283	308	333	371	460	549	638	727	854	879	994	1035	1368
H	in	6.89	7.28	7.80	9.25	11.10	13.19	15.15	18.1	20.47	21.81	23.62	26.38	29.53
	mm	175	185	198	235	282	335	385	460	520	554	600	670	750

Class 600

Size	NPS	2	2.5	3	4	6	8	10	12	14	16	18	20	24
	DN	50	65	80	100	150	200	250	300	350	400	450	500	600
L/L1 (RF/BW)	in	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L2	in	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38
	mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407
H	in	7.16	7.87	8.94	10.24	12.80	15.35	19.29	20.79	22.56	25.98	28.35	29.37	37.80
	mm	182	200	227	260	325	390	490	528	572	660	720	746	960

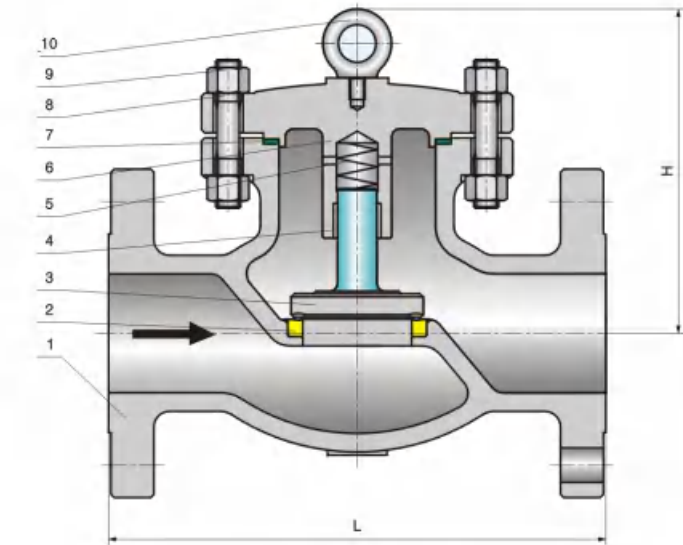
CLASS 900 and above proposed structure of self-sealing, flange connection For more information contact with the teji

Design Description

- BB, Bolted bonnet
- Swing type, Anti-rotation disc
- Renewable seat rings
- Non-penetrate disc shaft
- Horizontal or vertical service
- Flanged or butt welding ends

Applicable Standards

- Design standard: BS 1868 & ASME B16.34
- Face to face: ASME B16.10
- End flanges: ASME B16.5
- Butt welding ends: ASME B16.25
- Inspection and test: API 598



Class 150 ~ Class 900

Materials of Parts

NO .	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Seat ring	A216-WCB/CR13	A217-WC6+HF	A352-LCB+CR13
3	Disc ¹⁾	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Hinge	304	304	304
5	Spring	304	304	304
6	Bonnet	A216-WCB	A217-WC6	A352-LCB
7	Gasket	Spiral wound (Graphite+304)		
8	Bonnet gasket	A193-B7	A193-B16	A320-L7
9	Bonnet stud	A194-2H	A194-4	A194-7
10	Eyebolt ²⁾	Carbon steel		

- Note: 1). Spiral wound construction, teflon optional.
 2). NPS 6" & Larger.
 3). Disc and seat (Integral with body) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Dimensions Data

Class 150

Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	RF	108	117	127	140	165	203	216	241	292	356	406	495	622	699
	BW	108	117	127	140	165	203	216	241	292	356	406	495	622	699
d	in	13	19	25	32	38	51	64	76	102	127	152	203	254	305
H	mm	76	76	98	102	115	140	162	168	194	210	226	250	275	332

Class 300

Size	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
	DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	RF	152	178	203	216	229	267	292	318	356	400	445	559	622	711
	BW	152	178	203	216	229	267	292	318	356	400	445	559	622	711
d	in	13	19	25	32	38	51	64	76	102	127	152	203	254	305
H	mm	78	82	102	106	118	140	164	178	195	223	245	280	336	380

Class 600

Size	NPS	2	2 1/2	3	4	5	6	8
	DN	50	65	80	100	125	150	200
L	RF	292	330	356	432	508	559	660
	BW	292	330	356	432	508	559	660
d	in	51	64	76	102	127	152	200
H	mm	152	167	178	215	240	279	328

Class 900

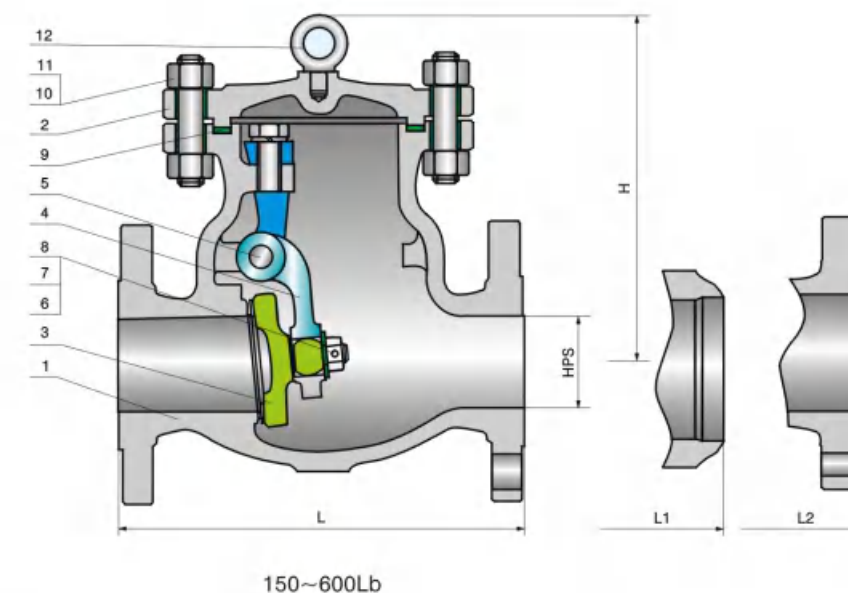
Size	NPS	2	2 1/2	3	4	5	6	8
	DN	50	65	80	100	125	150	200
L	RF	368	419	381	457	559	610	737
	BW	368	419	381	457	559	610	737
d	in	47	57	73	98	121	146	190
H	mm	180	200	235	270	300	350	400

Applicable Standards

Design and Manufacture: API 6D
 Pressure-temperature ratings: ASME B16.34
 Face to face: ASME B16.10
 End flanges: ASME B16.5
 Butt welding ends: ASME B16.25
 Inspection and test: API 598

Design Description

BB, Bolted bonnet
 Swing type, anti-rotation disc
 Seat rings integral with body
 Non-rotate disc shaft
 Horizontal or vertical service
 Flanged or butt welding ends



Materials of Parts

NO .	Part name	ASTM Material		
		18Cr-18Ni	18Cr-9Ni-2Mo	17Cr-9Ni-2Mo
1	Body	A351-CF8	A351-CF8M	A351-CF3M
2	Bonnet	A351-CF8	A351-CF8M	A351-CF3M
3	Disc	A351-CF8	A351-CF8M	A351-CF3M
4	Hinge	A351-CF8	A351-CF8M	A351-CF3M
5	Hinge pin	A276-304	A276-316	A276-316L
6	Disc washer	A276-304	A276-316	A276-316L
7	Disc nut	A193-B8	A193-B8M	A193-B8M
8	Disc nut pin	A276-304	A276-316	A276-316L
9	Bonnet gasket ¹⁾	Graphite+304	Graphite+316	Graphite+316L
10	Bonnet stud	A193-B8	A193-B8M	A193-B8M
11	Bonnet stud nut	A194-8	A194-8M	A194-8M
12	Eyebolt ²⁾	A194-8	A194-8	A194-8

Note: 1). Spiral wound construction, teflon optional.
 2). NPS 6" & Larger.
 3). Disc and seat (Integral with body) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Dimensions Data

150Lb

Size	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	40	450	500	600	650
L/L1 (RF/BW)	in	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	-
	mm	108	117	127	165	203	216	241	292	356	495	622	699	787	864	978	978	1295	-
L2 (RTJ)	in	-	-	-	-	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	21.50	-
	mm	-	-	-	-	216	229	254	305	368	508	635	711	800	876	991	991	1308	-
H (Open)	in	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	24.75	-
	mm	80	85	100	110	152	165	175	204	293	353	390	432	475	525	582	627	627	883
WT (Kg)	BW	2.5	3.5	5	7.5	14	20	25	40	71	118	177	263	353	542	632	855	970	-
	RF/RTJ	2	3	3.5	5.5	10	12	17	29	57	96	143	227	295	468	552	755	831	-

300Lb

Size	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	40	450	500	600	650
L/L1 (RF/BW)	in	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00	-
	mm	152	178	203	229	267	292	318	356	445	533	622	711	838	864	978	1016	1346	-
L2 (RTJ)	in	-	-	-	-	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	-
	mm	-	-	-	-	283	308	333	371	460	549	638	727	854	879	994	1035	1368	-
H (Open)	in	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	-
	mm	80	85	100	110	152	165	175	204	293	353	390	432	475	525	582	627	883	-
WT (Kg)	BW	3	4	6	10	16	23	29	46	82	136	204	302	405	625	730	985	1115	-
	RF/RTJ	2.5	3.5	5	7	11	13	18	31	61	103	155	245	315	503	593	812	895	-

600Lb

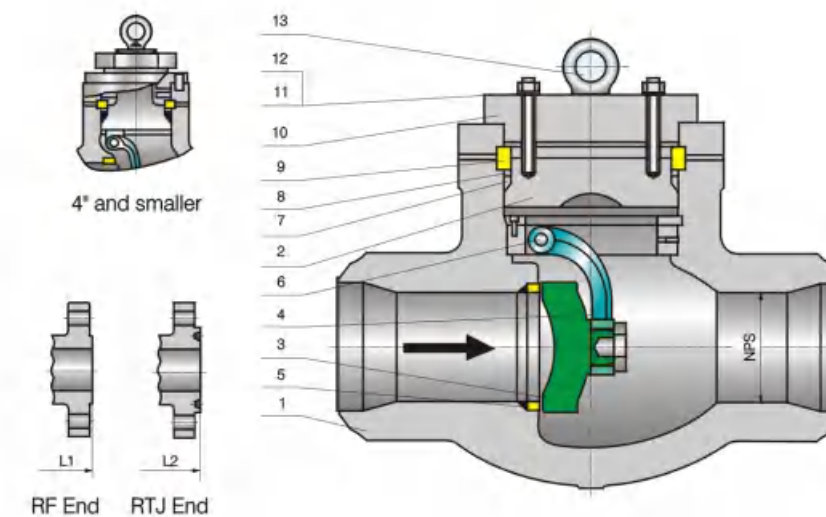
Size	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	40	450	500	600	650
L/L1 (RF/BW)	in	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	-
	mm	165	190	216	241	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	-
L2 (RTJ)	in	-	-	-	-	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	-
	mm	-	-	-	-	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	-
H (Open)	in	3.38	3.50	4.50	5.50	7.50	8.00	8.75	10.00	14.50	17.50	19.25	21.38	23.38	25.75	28.75	31.00	43.50	-
	mm	85	90	115	140	190	205	222	255	368	445	490	540	595	655	730	785	1105	-
WT (Kg)	BW	5.5	7.5	12	18	24	35	44	70	125	207	310	460	615	945	1105	1495	1695	-
	RF/RTJ	4	6	8	12.5	16	19	26	44	87	147	220	350	452	720	845	1160	1280	-

Design Description

PSB, Pressure seal bonnet
Flexible wedge, fully guided
Choice of solid or split wedge
Renewable seat rings
Forged-head stem
Rising stem and non-rising handwheel
Flanged or butt welding ends
Available with BG(Bevel Gear) operator

Applicable Standards

Design standard: BS 1868 & ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5
Inspection and test: API 598



Class 900--Class 2500

Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A351-CF3M
2	Bonnet/cap	A216-WCB	A217-WC6	A351-CF3M
3	Disc	A105+HF	A182-F11+HF	A351-CF8M+HF
4	Hinge	A216-WCB	A217-WC6	A351-CF8M
5	Seat ring	A105+HF	A182-F11+HF	A240-316+HF
6	Hinge pin	A276-420	A276-304	A276-316
7	Bonnet gasket ¹⁾	Steel ring	A304SS Ring	A316SS Ring
8	Adapter ring	Carbon steel	A276-420	A276-316
9	Retainer	Carbon steel	A276-420	A276-316
10	Bonnet clamp	Carbon steel	Alloy steel	Stainless steel
11	Bonnet stud	A193-B7	A193-B7	A193-B8M
12	Bonnet stud nut	A194-2H	A194-2H	A194-8M
13	Eyebolt	Carbon steel		

Note: 1). Graphite optional
2). Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Dimensions Data

Class 900

Size	NPS	2	2 1/2	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00
	mm	368	419	381	457	610	737	838	965
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12
	mm	371	422	384	460	613	740	841	968
H	in	11.65	11.81	11.81	12.87	17.36	19.76	26.14	30.51
	mm	296	300	300	327	441	502	664	775

Class 1500

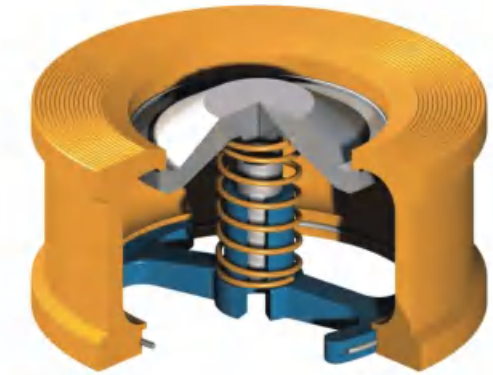
Size	NPS	2	2 1/2	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50
	mm	368	419	470	546	705	832	991	1130
L2 (RTJ)	in	14.62	16.62	18.62	21.62	28.00	33.13	39.38	45.12
	mm	371	422	473	549	711	841	1000	1146
H	in	11.65	11.81	13.43	16.22	20.12	26.77	29.76	33.74
	mm	296	300	341	412	511	680	756	857

Class 2500

Size	NPS	2	2 1/2	3	4	6	8	10	12
	DN	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	17.75	20.00	22.75	26.50	36.00	40.25	50.00	56.00
	mm	451	508	578	673	914	1022	1270	1422
L2 (RTJ)	in	17.87	20.25	23.00	26.88	36.50	40.87	50.88	56.88
	mm	454	514	584	683	927	1038	1292	1445
H	in	16.38	16.50	17.36	18.86	20.12	27.99	33.50	39.37
	mm	416	419	441	479	511	711	851	1000

Standards Compliance

Design and Manufacture: API 594, API 6D
 Face to face: API 594, API 6D, DIN 3202
 Flanged connection: 2"~24" to
 ANSI B16.5 22", 26"~36" to
 MSS-SP-44 to API 605 on request
 Test and inspection: API 598
 Pressure-temperature
 Ratings: ASME B 16.34 DIN 2401



Single disc lift type

Product Introduction

The wafer flange clamped butterfly check valve is a energy-save product. It is manufactured based on the foreign advanced technology and in accordance with relative international standards. This product is featured by excellent retaining performance, high safety and reliability and low flow resistance. It is suitable for systems in the industries of petrochemical food processing, medicine, textile, paper-making. Water supply, drainage, metallurgy, energy, and light industry, etc, used as a check valve in one way.



Features

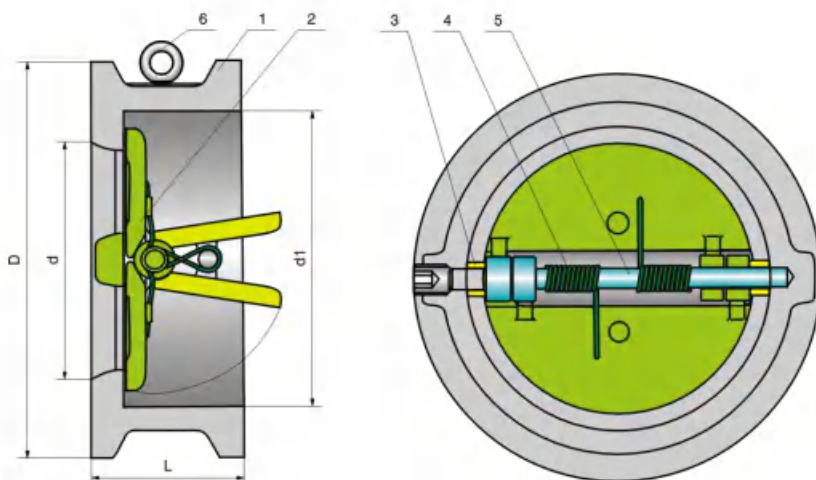
1. Small in size, light in weight, compact in structure, easy in maintenance.
 2. Two torsion springs are used exerting on each of the pair valve plates. Which close the plates quickly and automatically.
 3. The quick-close action prevents the medium from flowing back and eliminates water-hammer effect.
 4. This valve is short in length, so that it is rigid and easy to mount.
 5. It is easy to install on pipeline which is laid horizontally or vertically.
 6. This valve is tightly sealed without leakage under the pressure water test.
 7. Safe and reliable in operation, high interference-resistance.
 8. The connection dimensions of flanges accord with the standards of GB4216-84 GB4216.5-84.
 9. The face to face dimensions are in accordance with ISO5752-82.
- The stem of the valve should be perpendicular to the horizontal level when the valve is mounted on horizontal pipeline. For vertical installation the direction of flow should be downward.

Applicable Standards

Design and Manufacture: API 594/API 6D
 Design and Manufacture: ISO 14313
 Pressure-temperature ratings: ASME B 16.34
 Face to face: ASME B 16.10
 End flanges: ASME B16.5
 Inspection and test: API 598/API 6D

Design Description

One piece body
 Butterfly swing type
 Dual-plate disc, long-pattern
 Renewable split disc
 Horizontal or vertical service
 Wafer ends
 Available with flanged ends



150Lb~900Lb

Materials of Parts

NO.	Part name	ASTM Material		
		Carbon steel	18Cr-9Ni-2Mo	Carbon steel
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Plate	A216-WCB+CR13	A351-CF8M+HF	A352-LCB+CR13
3	Stop pin	A276-420	A276-304	A276-420
4	Back spring	A313-304	A313-316	A313-304
5	Hinge pin	A276-420	A276-304	A276-420
6	Eyebolt ¹⁾	Carbon steel		

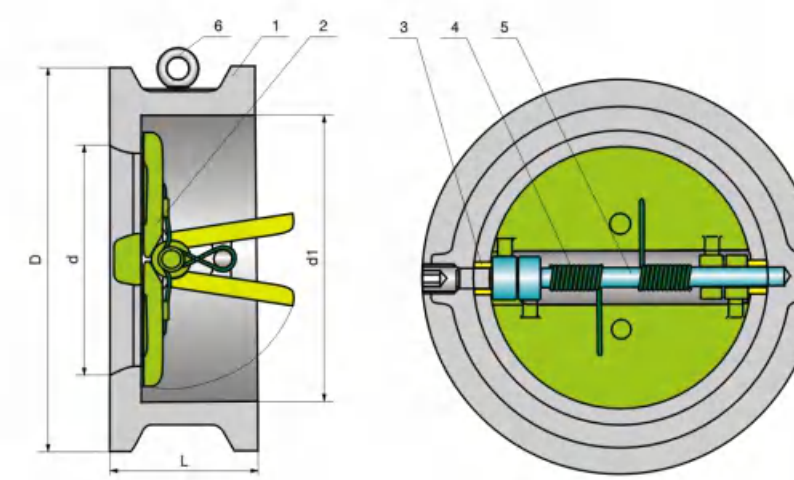
Note: 1). NPS 8" & Large;

Applicable Standards

Design and Manufacture: API 594/API 6D
 Design and Manufacture: ISO 14313
 Pressure and temperature: ASME B 16.34
 Face to face: ASME B 16.10
 End flanges: ASME B16.5
 Inspection and test: API 598/API 6D

Design Description

One piece body
 Butterfly swing type
 Dual-plate disc, long-pattern
 Renewable split disc
 Horizontal or vertical service
 Wafer ends
 Available with flanged ends



150Lb~300Lb

Dimensions Data

Size	in	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L	in	2.38	2.62	2.88	2.88	3.88	5.00	5.75	7.12	7.25	7.50	8.00	8.62	8.75
	mm	60	67	73	73	98	127	146	181	184	191	203	219	222
D	in	4.00	4.88	5.38	6.75	8.62	10.88	13.25	16.00	19.62	20.12	21.50	23.75	28.12
	mm	103	122	135	173	220	277	337	407	448	512	547	604	715
d	in	2.00	2.50	3.25	4.00	6.00	8.00	10.00	12.00	13.75	15.75	17.75	19.75	23.62
	mm	51	65	80	102	152	203	254	305	350	400	450	500	600
d1	in	2.25	2.88	3.50	4.25	6.25	8.26	10.50	12.12	14.00	16.00	18.00	19.88	23.75
	mm	56	73	88	108	160	210	266	310	356	405	455	505	605
WT	Kg	2	3	4	6	13	25	39	54	80	117	138	163	331

150Lb

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

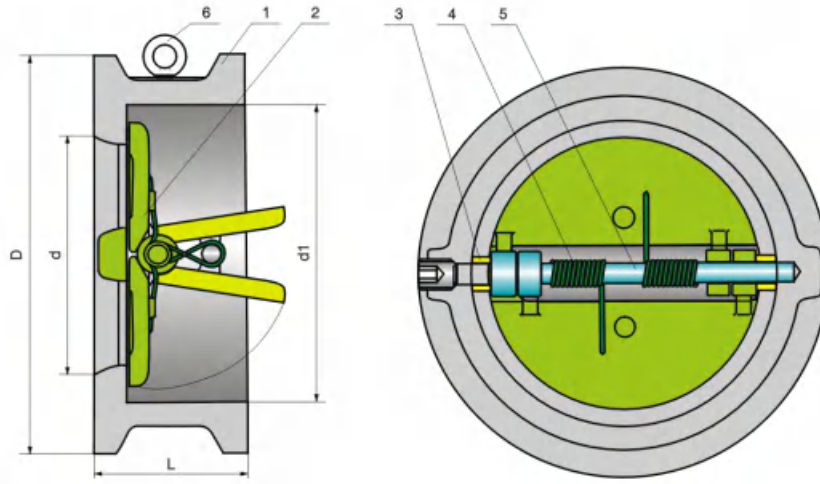
300Lb

Applicable Standards

Steel check valves: API 594/API 6D
Steel check valves: ISO 14313
Steel valves: ASME B 16.34
Face to face: ASME B 16.10
End flanges: ASME B16.5
Inspection and test: API 598/API 6D

Design Description

One piece body
Butterfly swing type
Dual-plate disc, long-pattern
Renewable split disc
Horizontal or vertical service
Wafer ends
Available with flanged ends



600Lb~900Lb

Dimensions Data

Size	in	2	2 1/2	3	4	6	8	10	12	14	16
	mm	50	65	80	100	150	200	250	300	350	400
L	in	2.38	2.62	2.88	3.12	5.38	6.50	8.38	9.00	10.75	12.00
	mm	60	67	73	79	137	165	213	229	273	305
D	in	4.38	5.00	5.75	7.50	10.38	12.50	15.62	17.88	19.25	22.12
	mm	111	128	147	191	264	318	398	455	490	562
d	in	2.00	2.50	3.00	4.00	6.00	7.88	9.88	12.00	13.25	15.25
	mm	51	65	80	102	152	200	250	305	337	387
d1	in	2.25	2.88	3.50	4.25	6.38	8.38	10.50	12.25	14.00	15.75
	mm	58	73	88	108	162	212	266	312	355	400
WT	Kg	4	5	8	11	26	55	95	140	223	360

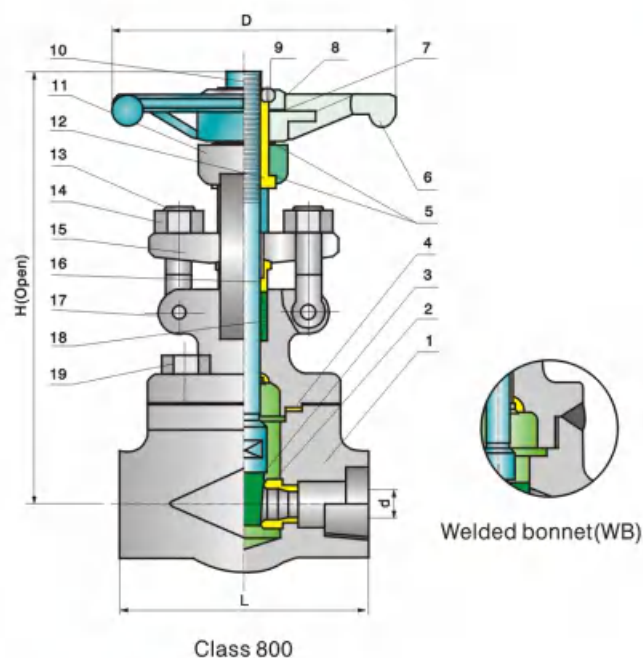
600Lb

900Lb

L	in	2.75	3.25	3.25	4.00	6.25	8.12	9.50	11.50	-	-
	mm	70	83	83	102	159	206	241	292	-	-
D	in	5.50	6.38	6.50	8.00	11.25	14.00	17.00	19.50	-	-
	mm	140	162	165	204	286	356	432	495	-	-
d	in	2.00	2.50	3.00	4.00	6.00	7.88	9.88	12.00	-	-
	mm	51	65	80	102	152	200	250	305	-	-
d1	in	2.25	2.88	3.50	4.25	6.38	8.38	10.50	12.25	-	-
	mm	58	73	88	108	162	212	266	312	-	-
WT	Kg	8	11	14	20	42	84	145	220	-	-



Forged Steel
Valve Series



Construction Features

- Bolted bonnet or welded bonnet
- OS&Y
- Threaded ends or socket welding end
- Rising stem
- Rolled-in seat ring

Applicable Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API598

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N
2	Seat Ring	A276 410/Stellite Overlay
3	Wedge	ASTM A276 420
4	Gasket	304SS Spiral Wound W/Graphite
5	Washer	ASTM A276 420
6	Handwheel	Malleable Iron
7	Nameplate	SS
8	H.W.Lock Nut	ASTM 1020
9	Bolt	ASTM 1020
10	Stem	ASTM A182 F6a

NO.	Part name	Material
11	Bonnet	ASTM A105N
12	Stem Nut	Aluminum Bronze/A439 D2
13	Eyebolt	ASTM A193 B7
14	Eyebolt Nut	ASTM A194 Gr.2H
15	Gland Flange	ASTM A105N
16	Gland	ASTM A276 410
17	Eyebolt Pin	ASTM A276 410
18	Packing	Graphite
19	Bolt	ASTM A193 Gr.B7

Body material available in F304, F316, F304L, F316L, LF2, F11, F22, F5

Dimensions Data

Class 800

Size(in.)		Dim.(mm)			
Conv.	Full	d	L	H	D
3/8	3/8	6.4	79	158	100
1/2	1/2	9.5	79	158	100
3/4	3/4	12.7	92	169	100
1	1	17.5	111	197	125
1 1/4	1 1/4	23.8	120	236	160
1 1/2	1 1/2	28.6	120	246	160
2	2	36.5	140	283	180
		46.5	178	330	200

Construction Features

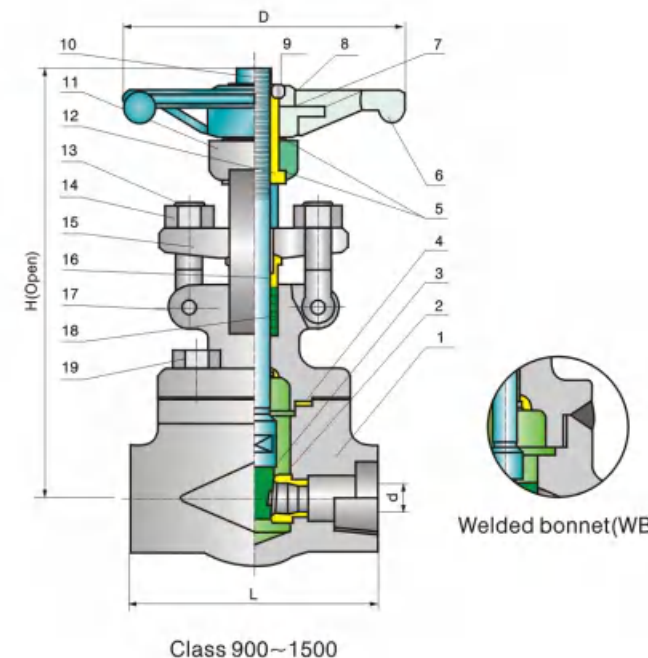
- Bolted bonnet or welded bonnet
- OS&Y
- Threaded ends or socket welding end
- Rising stem
- Rolled-in seat ring

Applicable Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API598

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N
2	Seat Ring	A276 410/Stellite Overlay
3	Wedge	ASTM A276 420
4	Gasket	304SS Spiral Wound W/Graphite
5	Washer	ASTM A276 420
6	Handwheel	Malleable Iron
7	Plate	SS
8	H.W.Lock Nut	ASTM A108 1020
9	Bolt	ASTM A108 1020
10	Stem	ASTM A182 F6a



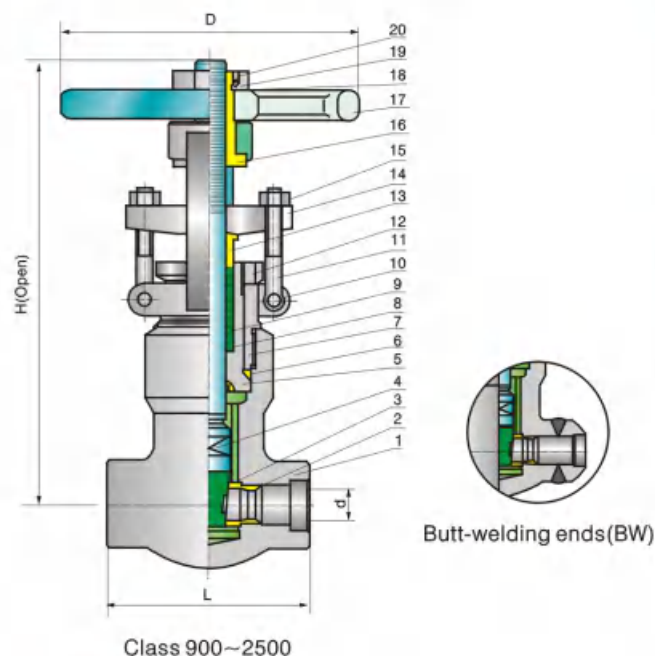
NO.	Part name	Material
11	Bonnet	ASTM A105N
12	Stem Nut	Aluminum Bronze/A439 D2
13	Eyebolt	ASTM A193 B7
14	Eyebolt Nut	ASTM A194 Gr.2H
15	Gland Flange	ASTM A105N
16	Gland	ASTM A276 410
17	Eyebolt Pin	ASTM A276 410
18	Packing	Graphite
19	Bolt	ASTM A193 Gr.B7

Body material available in F304, F316, F304L, F316L, LF2, F11, F22, F5

Dimensions Data

Class 900~1500

Size(in.)		Dim.(mm)			
Conv.	Full	d	L	H	D
3/8	3/8	6.4	92	169	100
1/2	1/2	9.5	111	197	125
3/4	3/4	12.7	111	197	125
1	1	15.9	120	236	160
1 1/4	1 1/4	22.2	120	246	160
1 1/2	1 1/2	27	140	283	180
2	2	34.9	178	330	200
		38.1	210	354	240



Construction Features

- Pressure-seal bonnet
- Socket welding ends and butt-welding ends
- Rising stem
- Rolled-in seat ring

Applicable Standards

- Socket welding ends: ASME B16.11
- Butt-welding ends: ASME B16.25
- Basic design: ASME B16.34、API602、BS 5352
- Inspection and test: API598
- End to end: ASME B16.10

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N
2	Seat Ring	A276 410/Stellite Overlay
3	Wedge	ASTM A276 420
4	Stem	ASTM A182 F6a
5	Bonnet	ASTM A105N
6	Seal Ring	Soft Iron
7	Yoke	ASTM A105N
8	Packing Washer	ASTM A276 410
9	Packing	Graphite
10	Eye Pin	ASTM A276 410

Body material available in F304、F316、F304L、F316L、LF2、F11、F22、F5

Dimensions Data(SW) Class 900~2500

Size(in.)	Dim.(mm)				
	Conv.	d	L		H
Class 900 Class 1500			Class 2500		
1/2	9.5	140	186	321	160
3/4	12.7	140	186	321	160
1	15.9	140	186	321	180
1 1/4	22.2	178	232	380	200
1 1/2	27	178	232	414	250
2	34.9	216	279	502	280

Dimensions Data(BW) Class 900~2500

Size(in.)	Dim.(mm)				
	Conv.	d	L		H
Class 900 Class 1500			Class 2500		
1/2	9.5	216	264	332	180
3/4	12.7	229	273	332	180
1	15.9	254	308	332	180
1 1/4	22.2	279	349	378	200
1 1/2	27	305	384	414	250
2	34.9	368	451	495	300

Construction Features

- Bolted bonnet or welded bonnet
- OS&Y
- Threaded ends or socket welding ends
- Rising stem
- Integral HF seat

Applicable Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: ASME B16.34、API602、BS 5352
- Inspection and test: API598

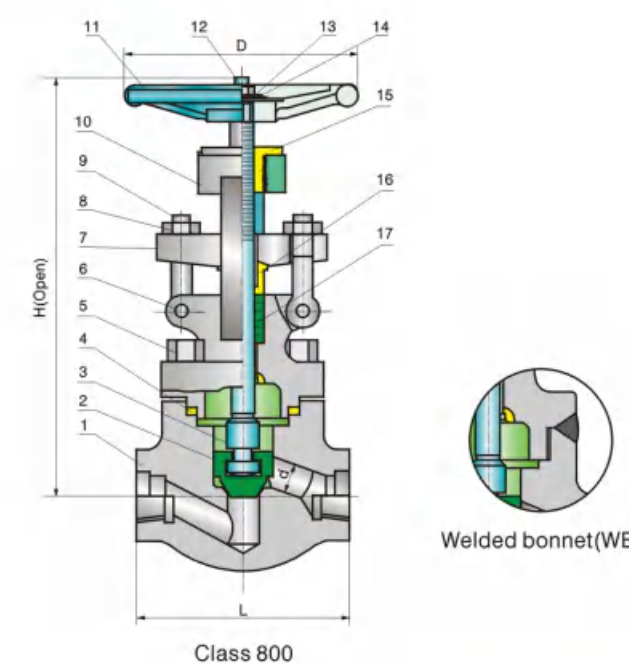
Materials of Parts

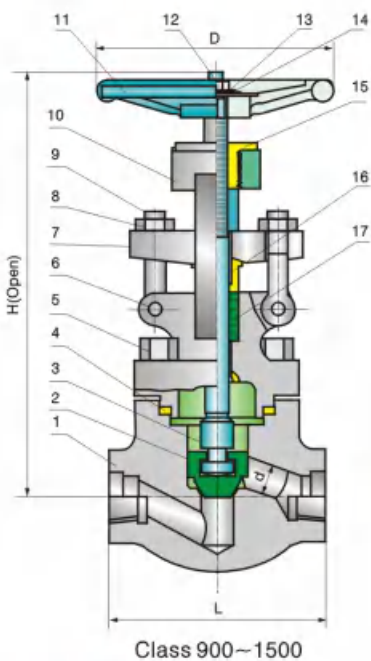
NO.	Part name	Material
1	Body	ASTM A105N/Stellite Overlay
2	Disc	ASTM A276 420
3	Stem	ASTM A276 410
4	Gasket	304SS Spiral Wound W/Graphite
5	Bolt	ASTM A193 Gr.B7
6	Eye Pin	ASTM A276 410
7	Gland Flange	ASTM A105N
8	Eyebolt Nut	ASTM A194 Gr.2H
9	Eyebolt	ASTM A193 B7

Body material available in F304、F316、F304L、F316L、LF2、F11、F22、F5

Dimensions Data Class 800

Size(in.)		Dim.(mm)			
Conv.	STD.	d	L	H	D
3/8	3/8	6.0	79	166	100
1/2	1/2	9.0	79	166	100
3/4	3/4	12.0	92	171	100
1	1	17.5	111	207	125
1 1/4	1 1/4	22.5	120	240	160
1 1/2	1 1/2	29.5	152	258	160
2	2	35.0	172	330	180





Welded bonnet(WB)

Construction Features

- Bolted donnet or welded bonnet
- OS&Y
- Threaded ends or socket welding ends
- Rising stem
- Integral HF seat

Applicable Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: ASME B16.34、API602、BS 5352
- Inspection and test: API598

Materials of Parts

NO .	Part name	Material
1	Body	ASTM A105N/Stellite Overlay
2	Disc	ASTM A276 420
3	Stem	ASTM A276 410
4	Gasket	304SS Spiral Wound W/Graphite
5	Bolt	ASTM A193 Gr.B7
6	Eye Pin	ASTM A276 410
7	Gland Flange	ASTM A105N
8	Eyebolt Nut	ASTM A194 Gr.2H
9	Eyebolt	ASTM A193 B7

NO .	Part name	Material
10	Bonnet	ASTM A105N
11	Handwheel	Malleable Iron
12	H.W.Lock Nut	ASTM A108 1020
13	Washer	ASTM A276 420
14	Nameplate	SS
15	Stem Nut	Aluminum Bronze/A439 D2
16	Gland	ASTM A276 410
17	Packing	Graphite

Body material available in F304、F316、F304L、F316L、LF2、F11、F22、F5

Dimensions Data

Class 900~1500

Size(in.)		Dim.(mm)			
Conv.	STD.	d	L	H	D
1/2	3/8	10.0	111	207	180
3/4	1/2	13.0	111	207	180
1	3/4	17.0	120	240	180
1 1/4	1	23.0	152	258	200
1 1/2	1 1/4	30.0	172	330	250
2	1 1/2	38.0	200	355	300

Construction Features

- Pressure-seal bonnet
- Socket welding ends and butt-welding ends
- Rising stem
- Integral HF seat

Applicable Standards

- Socket welding ends: ASME B16.11
- Butt-welding ends: ASME B16.25
- Basic design: ASME B16.34、API602、BS 5352
- Inspection and test: API598

Materials of Parts

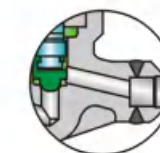
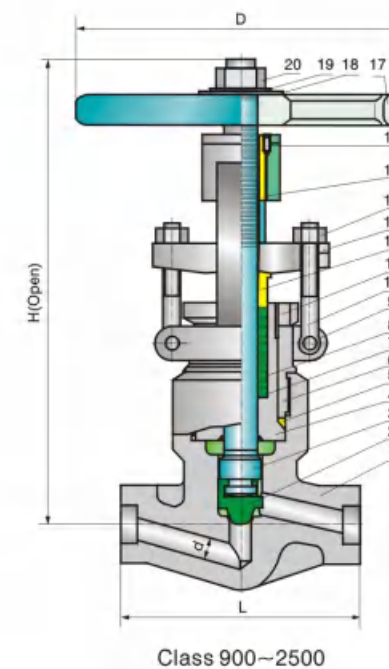
NO .	Part name	Material
1	Body	ASTM A105N/Stellite Overlay
2	Disc	ASTM A276 420
3	Stem	ASTM A182 F6a
4	Bonnet	ASTM A105N
5	Seal Ring	Soft Iron
6	Yoke	ASTM A105N
7	Packing Washer	ASTM A276 410
8	Packing	Graphite
9	Eye Pin	ASTM A276 410
10	Eyebolt	ASTM A193 Gr.B7

Body material available in F304、F316、F304L、F316L、F11、F22、F5

Dimensions Data

Class 900~1500

Size(in.)		Dim.(mm)			
Conv.	d	L		H	D
		SW	BW		
1/2	10	140	216	333	180
3/4	13	140	229	333	180
1	17.5	140	254	333	180
1 1/4	23	178	279	408	200
1 1/2	30	178	305	408	250
2	35	216	368	524	300



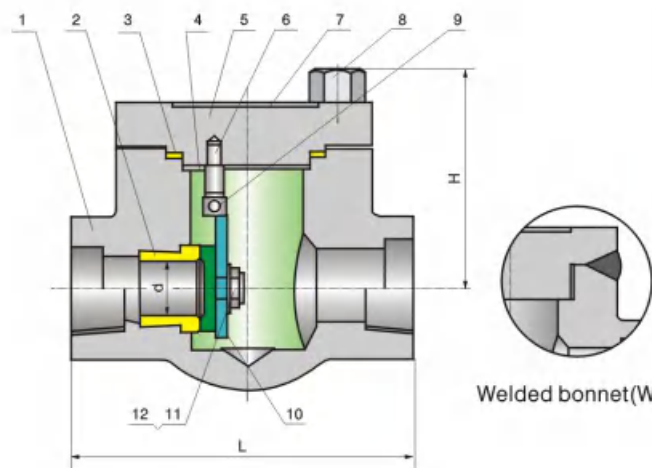
Butt-welding ends(BW)

NO .	Part name	Material
11	Nut	ASTM 1030
12	Gland	ASTM A276 410
13	Gland Flange	ASTM A105N
14	Eye Nut	ASTM A194 Gr.2H
15	Stem Nut	Aluminum Bronze/A439 D2
16	Bolt	ASTM A108 1020
17	Handwheel	Malleable Iron
18	Nameplate	SS
19	Washer	ASTM A276 420
20	H.W.Lock Nut	ASTM 1020

Dimensions data

Class 2500

Size(in.)		Dim.(mm)			
Conv.	d	L		H	D
		SW	BW		
1/2	10	186	264	333	180
3/4	13	186	273	333	180
1	17.5	186	308	333	180
1 1/4	23	232	349	408	200
1 1/2	30	232	384	408	250
2	35	279	451	524	300



Class 800~1500

Construction Features

- Bolted bonnet or welded Cover
- Threaded ends or socket welding ends
- Swing type disc
- Rolled-in seat ring

Applicable Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API598

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N
2	Seat Ring	A276 410/Stellite Overlay
3	Gasket	304SS Spiral Wound W/Graphite
4	Disc	ASTM A276 420
5	Cover	ASTM A105N
6	Supporter	ASTM A276 304
7	Nameplate	SS
8	Bolt	ASTM A193 Gr.B7
9	Hinge Pin	ASTM A276 304
10	Hinge	ASTM A276 420
11	Nut	ASTM A276 304
12	Washer	ASTM A276 304

Body material available in F304, F316, F304L, F316L, F11, F22, F5

Dimensions Data

Class 800

Size(in.)		Dim.(mm)		
Conv.	d	L	H	
1/2	10	79	61	
3/4	13.6	92	78	
1	18	111	84	
1 1/4	24	120	101	
1 1/2	29	120	120	
2	36.5	140	133	

Dimensions Data

Class 900~1500

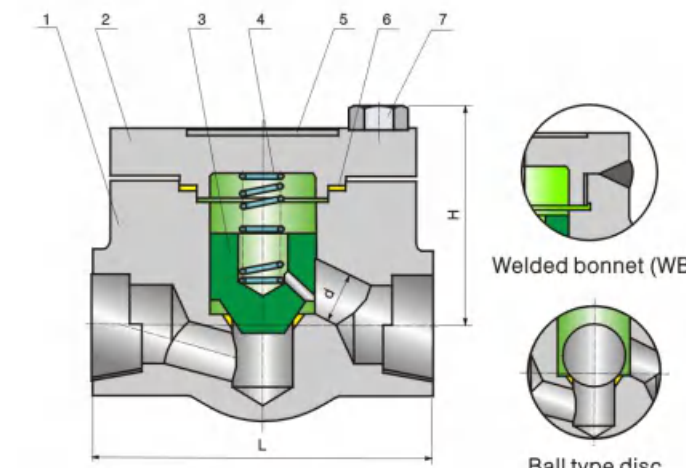
Size(in.)		Dim.(mm)		
Conv.	d	L	H	
1/2	10	111	79	
3/4	13	111	79	
1	17.5	120	97	
1 1/4	23	120	105	
1 1/2	30	140	120	
2	35	178	140	

Construction Features

- Bolted bonnet or welded Cover
- Threaded ends or socket welding ends
- Spring loaded disc or piston type disc
- Integral HF seat

Applicable Standards

- Threaded ends: ASME B1.20.1
- Socket welding ends: ASME B16.11
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API598



Class 800~1500

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N/Stellite Overlay
2	Cover	ASTM A105N
3	Disc	ASTM A276 420
4	Spring	304SS.
5	Nameplate	SS
6	Gasket	304SS Spiral Wound W/Graphite
7	Bolt	ASTM A193 Gr.B7

Body material available in F304, F316, F304L, F316L, F11, F22, F5

Dimensions Data

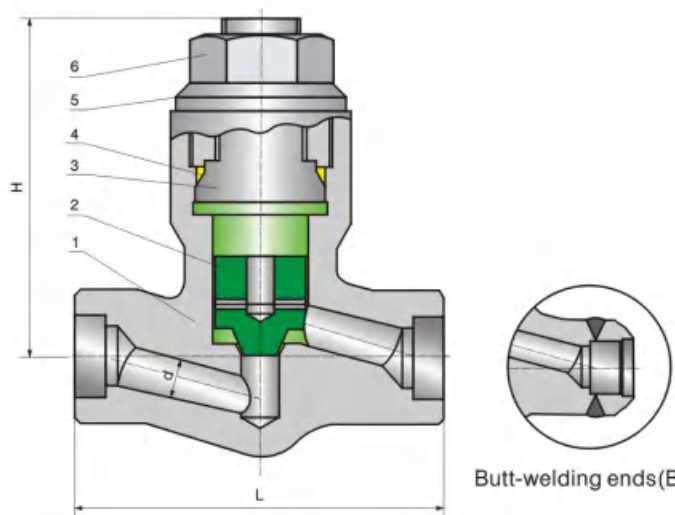
Class 800

Size(in.)		Dim.(mm)		
Conv.	STD.	d	L	H
3/8	3/8	6.4	79	61
1/2	1/2	10	79	61
3/4	3/4	13	92	65
1	1	17.5	111	79
1 1/4	1 1/4	23	120	95
1 1/2	1 1/2	30	152	103
2	2	35	172	118
		40	200	132

Dimensions Data

Class 900~1500

Size(in.)		Dim.(mm)		
Conv.	STD.	d	L	H
1/2	3/8	10	111	79
3/4	1/2	13	111	79
1	3/4	17.5	120	97
1 1/4	1	23	152	104
1 1/2	1 1/4	30	172	120
2	1 1/2	35	200	139



Class 900~2500

Construction Features

- Pressure-seal Cover
- Socket welding ends and butt-welding ends
- Piston type disc
- Integral HF seat

Applicable Standards

- Socket welding ends: ASME B16.11
- Butt-welding ends: ASME B16.25
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API598
- End to end: ASME B16.10

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N/Stellite Overly
2	Disc	ASTM A276 420
3	Cover	ASTM A182 F6a
4	Pressure Ring	Soft Iron
5	Retaining Nut	ASTM A105N
6	P.S.Lock Nut	ASTM A194 Gr.2H

Body material available in F304, F316, F304L, F316L, F11, F22, F5

Dimensions Data

Class 900~1500

Size(in.)	Dim.(mm)	Dim.(mm)		
		L		H
Conv.	d	SW	BW	
1/2	10	140	216	117
3/4	13	140	229	117
1	17.5	140	254	117
1 1/4	23	178	279	152
1 1/2	30	178	305	152
2	35	216	368	195

Dimensions Data

Class 2500

Size(in.)	Dim.(mm)	Dim.(mm)		
		L		H
Conv.	d	SW	BW	
1/2	10	186	264	117
3/4	13	186	273	117
1	17.5	186	308	117
1 1/4	23	232	349	152
1 1/2	30	232	384	152
2	35	279	451	195

Construction Features

- Bolted bonnet
- OS&Y
- Flanged ends and butt-welding ends
- Rising stem
- Rolled-in seat ring

Applicable Standards

- Flanged ends: ASME B16.5
- Butt-welding ends: ASME B16.25
- Face to face: ASME B16.10
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API 598

Materials of Parts

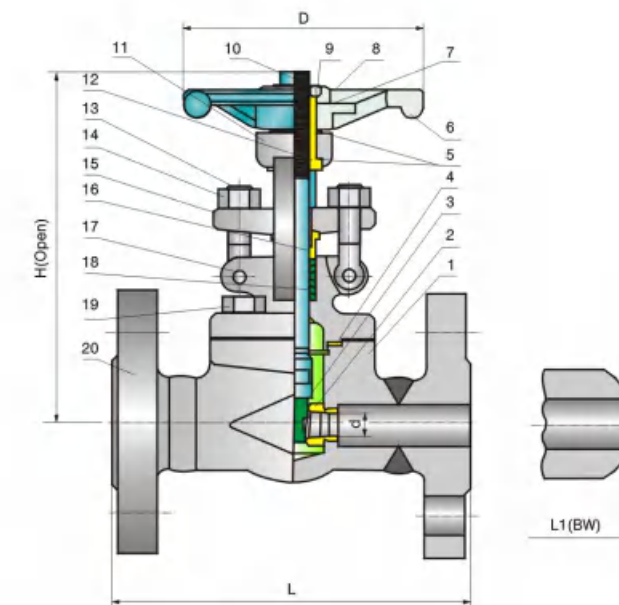
NO.	Part name	Material
1	Body	ASTM A105N
2	Seat Ring	A276 410/Stellite Overly
3	Wedge	ASTM A276 420
4	Gasket	304SS Spiral Wound W/Graphite
5	Washer	ASTM A276 420
6	Hand Wheel	Malleable Iron
7	Nameplate	SS
8	H.W.Lock Nut	ASTM 1020
9	Bolt	ASTM 1020
10	Stem	ASTM A182 F6a

Body material available in F304, F316, F304L, F316L, F11, F22, F5 Full Port valve available

Dimensions Data

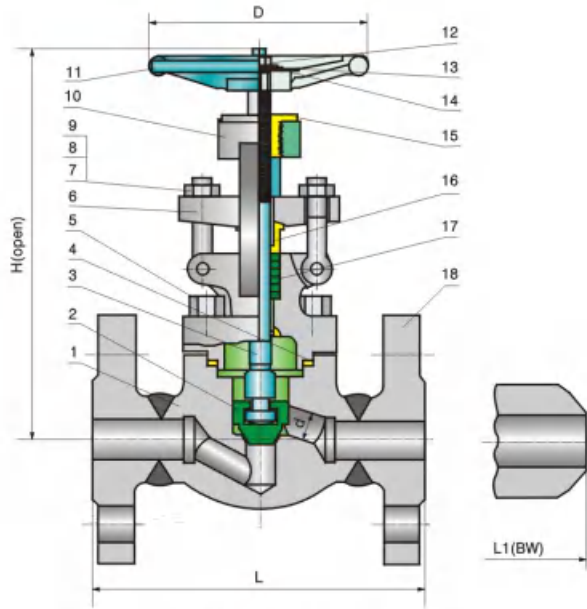
Class 150~600

Size(in.)	Dim.(mm)	Dim.(mm)					
		L & L1			H		D
		Class 150	Class 300	Class 600	Class 150 Class 300	Class 600	
1/2	9.5	108	140	165	158	169	100
3/4	12.7	117	152	190	169	197	100
1	17.5	127	165	216	197	236	125
1 1/4	23.8	140	178	229	236	246	160
1 1/2	28.6	165	190	241	246	283	160
2	36.5	178	216	292	283	320	180



Class 150~600

NO.	Part name	Material
11	Bonnet	ASTM A105N
12	Stem Nut	Aluminum Bronze/A439 D2
13	Eye Bolt Nut	ASTM A194 Gr.2H
14	Eye Bolt	ASTM A193 B7
15	Gland Flange	ASTM A105N
16	Gland	ASTM A276 410
17	Eye Pin	ASTM A276 410
18	Packing	Graphite
19	Bolt	ASTM A193 Gr.B7
20	Flanged	ASTM A105N



Class 150~600

Construction Features

- Bolted bonnet
- OS&Y
- Flanged ends and butt-welding ends
- Rising stem
- Integral HF seat

Applicable Standards

- Flanged ends: ASME B16.5
- Butt-welding ends: ASME B16.25
- Face to face: ASME B16.10
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API 598

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N
2	Seat Ring	A276 410/Stellite Overlay
3	Wedge	ASTM A276 420
4	Gasket	304SS Spiral Wound W/Graphite
5	Washer	ASTM A276 420
6	Hand Wheel	Malleable Iron
7	Nameplate	SS
8	H.W.Lock Nut	ASTM 1020
9	Bolt	ASTM 1020
10	Stem	ASTM A182 F6a

NO.	Part name	Material
11	Bonnet	ASTM A105N
12	Stem Nut	Aluminum Bronze/A439 D2
13	Eyebolt Nut	ASTM A194 Gr.2H
14	Eyebolt	ASTM A193 B7
15	Gland Flange	ASTM A105N
16	Gland	ASTM A276 410
17	Eye Pin	ASTM A276 410
18	Packing	Graphite

Body material available in F304, F316, F304L, F316L, F11, F22, F5Standard port valve available

Dimensions Data

Class 150~600

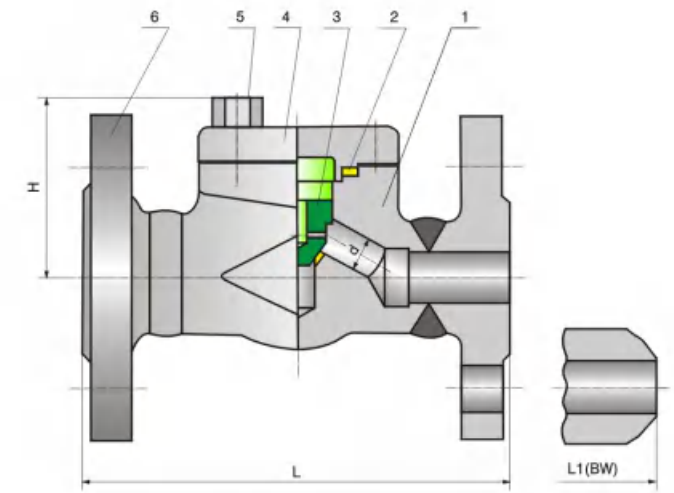
Size(in.)	Dim.(mm)						D	
	Conv.	d	L & L1			H		
			Class 150	Class 300	Class 600	Class 150 Class 300		Class 600
1/2	9.0	108	152	165	166	171	100	
3/4	12.0	117	178	190	171	207	100	
1	17.5	127	203	216	207	240	125	
1 1/4	22.5	140	216	229	240	258	160	
1 1/2	29.5	165	229	241	258	330	160	
2	35.0	203	267	292	330	380	180	

Construction Features

- Bolted Cover
- Flanged ends and butt-welding ends
- Spring loaded disc or piston type disc
- Integral HF seat

Applicable Standards

- Flanged ends: ASME B16.5
- Butt-welding ends: ASME B16.25
- Face to face: ASME B16.10
- Basic design: ASME B16.34, API602, BS 5352
- Inspection and test: API 598



Class 150~600

Materials of Parts

NO.	Part name	Material
1	Body	ASTM A105N/Stellite Overlay
2	Gasket	304SS Spiral Wound W/Graphite
3	Disc	ASTM A276 420
4	Cover	ASTM A105N
5	Bolt	ASTM A193 Gr.B7
6	Flanged	ASTM A105N

Body material available in F304, F316, F304L, F316L, F11, F22, F5Standard port valve available

Dimensions Data

Class 150~600

Size(in.)	Dim.(mm)						
	Conv.	d	L & L1			H	
			Class 150	Class 300	Class 600	Class 150 Class 300	Class 600
1/2	10.0	108	152	165	61.0	61.0	
3/4	13.0	117	178	190	61.0	79.0	
1	17.5	127	203	216	79.0	95.0	
1 1/4	23.0	140	216	229	95.0	103.0	
1 1/2	30.0	165	229	241	103.0	118.0	
2	35.0	203	267	292	118.0	135.0	



API Bellows
Valve Series



LEADING THE GLOBAL VALVE INDUSTRY

Applications

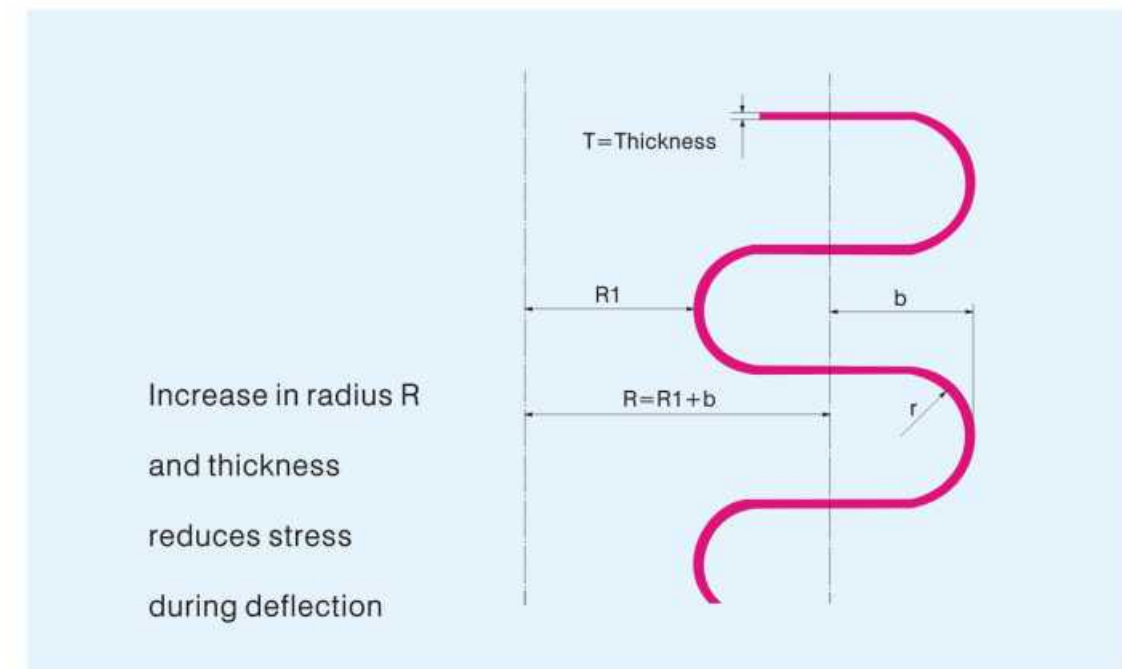
Reliability and total containment of toxic and aggressive fluids is achieved with bellows sealed stem and seal-welded body-bonnet joint. Operators, the public and the environment are protected from packing and gasket leakage. Maintenance-free service for 2000 to 10000 cycles. Ideal for steam, which is difficult to contain and where loss of energy is very costly. Bellows sealed valves are currently in use in difficult and toxic services for the following fluids.

Acrylonitrile	Ethyl mercaptan	Potassium(liquid)
Heat transfer oils/media	Hydrogen	Titanium tetrachloride
Caustic solutions	Hydrofluoric acid(HF)	Toluene
Ammonia	Freon	Phosgene
Benzene	Hydrogen bromide	Sodium(liquid)
Argon	Helium	Steam
Carbon dioxide	Hydrogen chloride	Vinyl chloride
Chlorine	Nitrogen	Sulfuric acid
Dowthem	Hydrogen	

Also for sour gas and oil, cryogenic and vacuum service.

Overall Design Features

- No torsion of bellows
- Non-rotating stem prevents torsion of bellows and ensures long cycle life on all valves.
- Two secondary stem seals
 - 1)、Backseat (stem bevel) protects from line pressure when open.
 - 2)、Stem packing
- Low torque due to non-rotating stem, central grease fitting for lubrication of stem nut and for high-pressure valves, stem thrust bearing.
- Long cycle life bellows
- Designed for and successfully tested in high pressure/temperature applications.
- Hermetically sealed. Body-bonnet welds provide a hermetically-enclosed vessel in most designs.
- In-line servicing. Stem-bellows assembly can easily be removed and replaced on valves with bolted bonnet.
- On seal-welded valves, removal and replacement of weld is necessary. Special power tools are available for cutting seal weld.



Design Parameters

TEJI Valves feature a formed multiply bellows welded to the stem and to the bottom of the bonnet, creating a hermetic seal or impermeable in stainless steel. Inconel, hastelloy C and Monel for virtually all corrosive chemical applications.

Cycle Life

Axial movement of the bellows is limited to a maximum of 20~25% of the free length, depending on pressure/temperature and Desired life cycle.

TEJI Bellows are designed for:

10000cycles (or per desired life cycle) for 1/2~2" (15~50mm) class 800 globe valves;

5000 cycles (or per desired life cycle) for 1/2~2" (15~50mm) Y-pattern ASME Class 1500~2500 valves.

3000 cycles for 1/2~2" (15~50mm) gate valves. Larger valves, sizes 21/2"~12" (65~300mm) are offered with

3000 life cycles for globe valves, and 2000 cycles for gate valves.

Proper stem guiding eliminated torsion of bellows.

The bellows stroke is 50% in tension and 50% in compression.

Stroke limitation for ling bellows. To accommodate long lift for larger gate valves, two or three bellows are joined and each takes over part of the lift.

Bellows Seal Steel Gate, Globe

Valve type	Pressure rating (b)	Size (in. mm)											
		1/2 15	3/4 20	1 25	1 1/2 40	2 50	2 1/2 65	3 80	4 100	6 150	8 200	10 250	12 300
Gate	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	800	✓	✓	✓	✓	✓							
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Globe	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	800	✓	✓	✓	✓	✓							
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

How to Order

When ordering please use TEJI figure numbers to ensure correct and prompt processing of your order. Buyers are recommended to specify detail description for special order:

10	WZ	6	R	G	11	C	
1	2	3	4	5	6	7	8

1. Valve Size: 1"-2"

2. Valve Types:

Valve type	Bellows seal gate	Bellows seal globe	Bellows seal pressure seal bonnet globe	Bellows seal welded bonnet gate	Bellows seal welded bonnet globe
Code	WZ	WJ	WJP	WZW	WJW

3. Rating:

Class	150Lb	300Lb	600Lb	800Lb	900Lb	1500Lb
Code	1	3	6	8	9	15

4. Connection End

Connection	Flat flange	Raised flange	Ring joint flange	Butt-weld end	Socket-weld end	Female thread
Code	L	F	R	W	S	C

5. Operator

Operator	Gear box	Electric motor	Chain wheel	Pneumatic actuator
Code	G	E	C	P

* If handwheel operator is required, this column will be left blank.

6. Trim Material

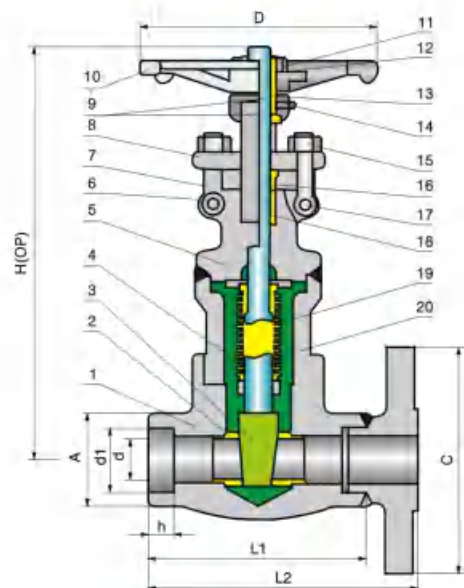
Trim No.	Seat ring or surface	Wedge/disc or surface	Stem
11	13Cr	13Cr	ASTM A182 Gr.F6a
88	18Cr-8Ni	18Cr-8Ni	ASTM A182 Gr.F304
28	HF	18Cr-8Ni	ASTM A182 Gr.F304
22	HF	HF	ASTM A182 Gr.F6a
21	HF	13Cr	ASTM A182 Gr.F6a
44	NiCu alloy	NiCu alloy	Monel K500
99	18Cr-8Ni-Mo	18Cr-8Ni-Mo	ASTM A182 Gr.F316
29	HF	18Cr-8Ni-Mo	ASTM A182 Gr.F316
66	19Cr-29Ni	19Cr-29Ni	ASTM B473
26	HF	19Cr-29Ni	ASTM B473

7. Shell Material

Material	WCB	A105	LCB	LF2	CF8	F304	CF8M	F316	CF3	F304L	CF3M	F316
Code	C		F		P		R		S		L	

8. Special Code

Symbol	Description	Symbol	Description
YP	Y-Pattern	R	Reduce bore



Features

1. Long cycle life bellows (3000 cycles).
Designed for high pressure
Temperature service
2. Two secondary stem seals:
a. Backseat in open position
b. Graphite packing
3. Superior seating faces.
Seats hard faced with stellite 6
and wedge is solid stellite 6
4. Bellows monitoring port
(optional). A plug can be connected
with the space above the bellows to
monitor performance
5. Technical data
a. Basic design: API 602 & MSS SP-117
b. Socket weld ends to ASME B16.11
c. Threaded ends to ASME B1.20.1
d. Flange ends to ASME B16.5
e. Face-to-face dimension: ASME B16.10
f. End-to-end dimension: MFR. STD.
g. Inspection and test: API 598.

Typical A105 Valve Parts List

No.	Parts	Material
1	Body	ASTM A105
2	Seat ring	Type 410SS
3	Wedge	Type 420 SS
4	Stem	ASTM A182 F6a
5	Bonnet	ASTM A105
6	Split pin	Carbon steel
7	Gland bolt	Type 410 SS
8	Gland flange	Carbon steel
9	Thrust collar	Type 410 SS
10	Handwheel	Malleable iron

No.	Parts	Material
11	Handle nut	Carbon steel
12	Name plate	Aluminum
13	Stem nut	Aluminum bronze
14	Grease fitting	Copper alloy
15	Nut	Carbon steel
16	Gland bushing	Type 410 SS
17	Pin	Type 410 SS
18	Packing	Graphite
19	Bellows assy. ¹⁾	Type 321 S. S.
20	Extension	ASTM A105

Socket Weld/threaded Gate Valve

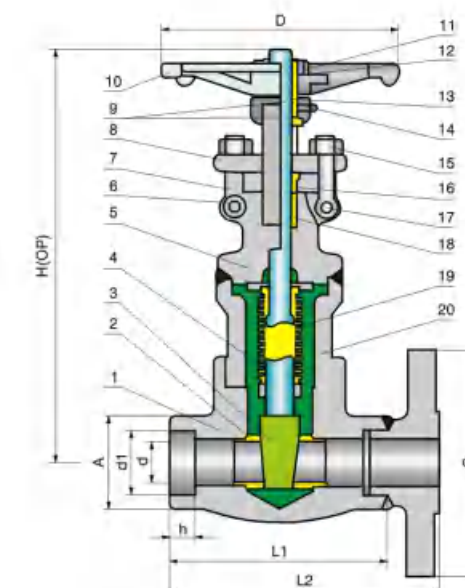
Size	d		A		d1		h		L1				h(OP)				D				
	in	mm	in	mm	in	mm	in	mm	150~800Lb		1500Lb		150~800Lb		1500Lb		150~800Lb		1500Lb		
1/2"	15	0.39	10	1.34	34	0.855	21.7	0.39	10	3.23	82	3.5	89	7.2	183	13	330	3.94	100	3.94	100
3/4"	20	0.5	13	1.57	40	1.065	27	0.51	13	3.54	90	3.78	96	11.25	286	13.5	343	3.94	100	3.94	100
1"	25	0.71	18	1.93	49	1.33	33.8	0.51	13	3.62	92	5.12	130	12.56	319	17	431	4.92	125	4.92	125
1 1/2"	40	1.25	32	2.56	65	1.915	48.6	0.51	13	5.12	130	5.43	138	15.5	393	22.63	575	6.3	160	7.9	200
2"	50	1.5	38	3.07	78	2.406	61.1	0.63	16	5.91	150	8.82	224	17.81	452	25.94	659	7.09	180	9.8	250

Flanged Gate Valve

Size	150Lb							300Lb															
	d	L2	C	D	H	WT	d	L2	C	D	H	WT											
1/2"	15	0.39	10	4.25	108	3.5	89	4	100	7.2	183	4.1	0.39	10	5.5	140	3.75	95	4	100	7.2	183	5.2
3/4"	20	0.5	13	4.62	117	3.88	98	5	125	11.25	286	5	0.5	13	6	152	4.62	117	5	125	11.25	286	6.9
1"	25	0.71	18	5	127	4.25	108	6.5	165	11.56	319	6.9	0.71	18	6.5	165	4.88	124	6.5	165	11.56	319	8.7
1 1/2"	40	1.25	32	6.5	165	5	127	7	180	15.5	393	12.1	1.25	32	7.5	170	6.12	155	7	180	15.5	393	15.5
2"	50	1.5	38	7	178	6	152	7.9	200	17.81	452	18.5	1.5	38	8.5	216	6.5	165	7.9	200	17.81	452	22.1

Features

1. Long cycle life bellows (3000 cycles).
Designed for high pressure
Temperature service
2. Two secondary stem seals:
a. Backseat in open position
b. Graphite packing
3. Superior seating faces.
Seats hard faced with stellite 6
and wedge is solid stellite 6
4. Bellows monitoring port
(optional). A plug can be connected
with the space above the bellows to
monitor performance
5. Technical data
a. Basic design: API 602 & MSS SP-117
b. Socket weld ends to ASME B16.11
c. Threaded ends to ASME B1.20.1
d. Flange ends to ASME B16.5
e. Face-to-face dimension: ASME B16.10
f. End-to-end dimension: MFR. STD.
g. Inspection and test: API 598.



Typical A105 Valve Parts List

No.	Parts	Material
1	Body	ASTM A105
2	Seat ring	Type 410SS
3	Wedge	Type 420 SS
4	Stem	ASTM A182 F6a
5	Bonnet	ASTM A105
6	Split pin	Carbon steel
7	Gland bolt	Type 410 SS
8	Gland flange	Carbon steel
9	Thrust collar	Type 410 SS
10	Handwheel	Malleable iron

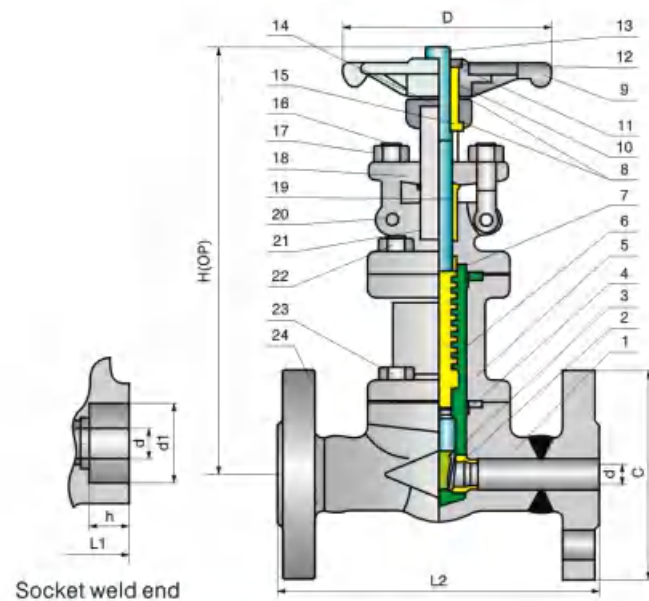
No.	Parts	Material
11	Handle nut	Carbon steel
12	Name plate	Aluminum
13	Stem nut	Aluminum bronze
14	Grease fitting	Copper alloy
15	Nut	Carbon steel
16	Gland bushing	Type 410 SS
17	Pin	Type 410 SS
18	Packing	Graphite
19	Bellows assy. ¹⁾	Type 321 S. S.
20	Extension	ASTM A105

Socket Weld/threaded Gate Valves

Size	d		A		d1		h		L1				h(OP)				D				
	in	mm	in	mm	in	mm	in	mm	150~800Lb		1500Lb		150~800Lb		1500Lb		150~800Lb		1500Lb		
1/2"	15	0.39	10	1.34	34	0.855	21.7	0.39	10	3.23	82	3.5	89	7.2	183	13	330	3.94	100	3.94	100
3/4"	20	0.5	13	1.57	40	1.065	27	0.51	13	3.54	90	3.78	96	11.25	286	13.5	343	3.94	100	3.94	100
1"	25	0.71	18	1.93	49	1.33	33.8	0.51	13	3.62	92	5.12	130	12.56	319	17	431	4.92	125	4.92	125
1 1/2"	40	1.25	32	2.56	65	1.915	48.6	0.51	13	5.12	130	5.43	138	15.5	393	22.63	575	6.3	160	7.9	200
2"	50	1.5	38	3.07	78	2.406	61.1	0.63	16	5.91	150	8.82	224	17.81	452	25.94	659	7.09	180	9.8	250

Flanged Gate Valves

Size	600Lb							1500Lb															
	d	L2	C	D	H	WT	d	L2	C	D	H	WT											
1/2"	15	0.39	10	6.5	165	3.75	95	4	100	7.2	183	5.5	0.39	10	8.5	216	4.75	121	5	125	13.5	343	8.9
3/4"	20	0.5	13	7.5	190	4.62	118	5	125	11.25	286	7.6	0.5	13	9.0	229	5.12	130	5	125	13.5	343	11.2
1"	25	0.71	18	8.5	216	4.88	124	6.5	165	11.56	319	9.7	0.71	18	10.0	254	5.88	149	6.5	160	13.5	343	14.1
1 1/2"	40	1.25	32	9.5	241	6.12	156	7	180	15.5	393	16.3	1.25	32	12.0	305	7.00	178	7	180	22.63	575	22.1
2"	50	1.5	38	11.5	292	6.5	165	7.9	200	17.81	452	23.6	1.5	38	14.5	368	8.5	216	7.9	200	22.94	659	33.6



Features

1. Long cycle life bellows (3000 cycles), Designed for high pressure Temperature service
2. Secondary stem seals:
 - a. Backseat in open position
 - b. Graphite packing
3. Superior seating faces. Seats hard faced with stellite 6 and wedge is solid stellite 6
4. Bellows monitoring port (optional). A plug can be connected with the space above the bellows to monitor performance
5. Bolted body-bonnet for fast serviceability
6. Improved body-bonnet joint Fully-encased, spiral wound graphite -filled Gr. 316 (stainless) gasket
7. Technical data
 - a. Basic design: API 602 & MSS SP-117
 - b. Socket weld ends to ASME B16.11
 - c. Threaded ends to ASME B1.20.1
 - d. Flange ends to ASME B16.5
 - e. Face-to-face dimension: ASME B16.10
 - f. End-to-end dimension: MFR, STD.
 - g. Inspection and test: API 598

Typical A105 valve parts list

No.	Parts	Material
1	Body	ASTM A105
2	Seat	ASTM A105+STL
3	Wedge	ASTM A105+ER410
4	Gasket	Graphite+316
5	Bonnet	ASTM A105
6	Bellows assy. ¹⁾	Type 321 S. S
7	Connection	ASTM A182 F316
8	Thrust collar	Type 410SS
9	Handwheel	Malleable iron
10	Nameplate	Aluminum
11	Lock nut	ASTM A29 1035
12	Screw	ASTM A29 1035

No.	Parts	Material
13	Stem	ASTM A182 F6a
14	Yoke	ASTM A105
15	Stem nut	Aluminum bronze
16	Bolt	ASTM A193 B7
17	Nut	ASTM A194 2H
18	Gland flange	ASTM A216 WCB
19	Gland	ASTM A216 410
20	Pin	ASTM A29 1045
21	Packing	Graphite
22	Bolt	ASTM A193 B7
23	Bolt	ASTM A193 B7
24	Flange	ASTM A105

Socket Weld/threaded Gate Valve

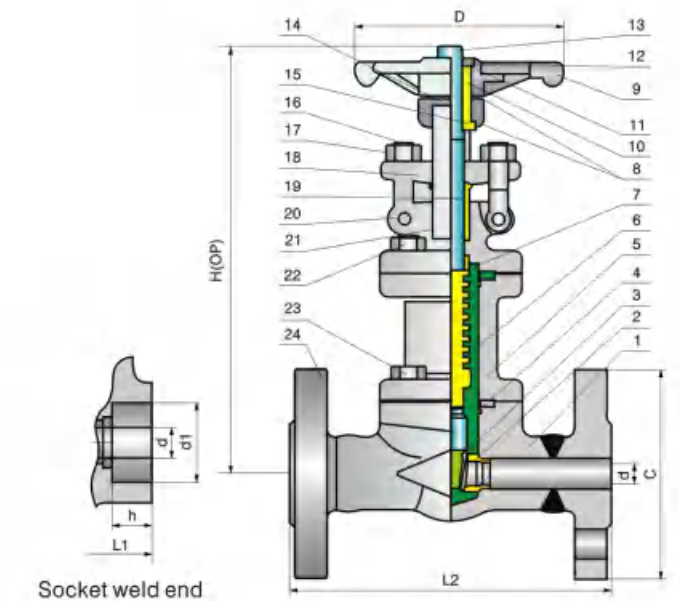
Size		d		d1		h		L1(150~800Lb)		D(150~800Lb)	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2"	15	0.39	10	0.855	21.7	0.39	10	3.23	82	3.94	100
3/4"	20	0.5	13	1.065	27	0.51	13	3.54	90	3.94	100
1"	25	0.71	18	1.33	33.8	0.51	13	3.62	92	4.92	125
1 1/2"	40	1.25	32	1.915	48.6	0.51	13	5.12	130	6.3	160
2"	50	1.5	38	2.406	61	0.63	16	5.91	150	7.09	180

Flanged Gate Valve

Size	150Lb							300Lb															
	d	L2	C	D	H	WT	d	L2	C	D	H	WT											
in mm	in mm	in mm	in mm	in mm	in mm	(kg)	in mm	in mm	in mm	in mm	in mm	(kg)											
1/2"	15	0.39	10	4.25	108	3.5	89	4	100	7.2	183	4.1	0.39	10	5.5	140	3.75	95	4	100	7.2	183	5.2
3/4"	20	0.5	13	4.62	117	3.88	98	5	125	11.25	286	5	0.5	13	6	152	4.62	117	5	125	11.25	286	6.9
1"	25	0.71	18	5	127	4.25	108	6.5	165	11.56	319	6.9	0.71	18	6.5	165	4.88	124	6.5	165	11.56	319	8.7
1 1/2"	40	1.25	32	6.5	165	5	127	7	180	15.5	393	12.1	1.25	32	7.5	190	6.12	155	7	180	15.5	393	15.5
2"	50	1.5	38	7	178	6	152	7.9	200	17.81	452	18.5	1.5	38	8.5	216	6.5	165	7.9	200	17.81	452	22.1

Features

1. Long cycle life bellows (3000 cycles), Designed for high pressure Temperature service
2. Secondary stem seals:
 - a. Backseat in open position
 - b. Graphite packing
3. Superior seating faces. Seats hard faced with stellite 6 and wedge is solid stellite 6
4. Bellows monitoring port (optional). A plug can be connected with the space above the bellows to monitor performance
5. Bolted body-bonnet for fast serviceability
6. Improved body-bonnet joint Fully-encased, spiral wound graphite -filled Gr. 316 (stainless) gasket
7. Technical data
 - a. Basic design: API 602 & MSS SP-117
 - b. Socket weld ends to ASME B16.11
 - c. Threaded ends to ASME B1.20.1
 - d. Flange ends to ASME B16.5
 - e. Face-to-face dimension: ASME B16.10
 - f. End-to-end dimension: MFR, STD.
 - g. Inspection and test: API 598



Typical A105 Valve Parts List

No.	Parts	Material
1	Body	ASTM A105
2	Seat	ASTM A105+STL
3	Wedge	ASTM A105+ER410
4	Gasket	Graphite+316
5	Bonnet	ASTM A105
6	Bellows assy. ¹⁾	Type 321 S. S
7	Connection	ASTM A182 F316
8	Thrust collar	Type 410SS
9	Handwheel	Malleable iron
10	Nameplate	Aluminum
11	Lock nut	ASTM A29 1035
12	Screw	ASTM A29 1035

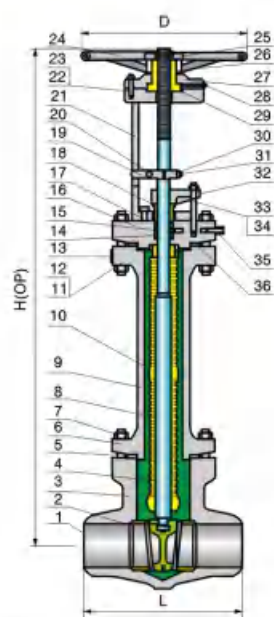
No.	Parts	Material
13	Stem	ASTM A182 F6a
14	Yoke	ASTM A105
15	Stem nut	Aluminum bronze
16	Bolt	ASTM A193 B7
17	Nut	ASTM A194 2H
18	Gland flange	ASTM A216 WCB
19	Gland	ASTM A216 410
20	Pin	ASTM A29 1045
21	Packing	Graphite
22	Bolt	ASTM A193 B7
23	Bolt	ASTM A193 B7
24	Flange	ASTM A105

Socket Weld/threaded Gate Valve

Size		d		d1		h		L1(150~800Lb)		D(150~800Lb)	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2"	15	0.39	10	0.855	21.7	0.39	10	3.23	82	3.94	100
3/4"	20	0.5	13	1.065	27	0.51	13	3.54	90	3.94	100
1"	25	0.71	18	1.33	33.8	0.51	13	3.62	92	4.92	125
1 1/2"	40	1.25	32	1.915	48.6	0.51	13	5.12	130	6.3	160
2"	50	1.5	38	2.406	61	0.63	16	5.91	150	7.09	180

Flanged Gate Valve

Size	600Lb											
	d	L2	C	D	H	WT						
in mm	in mm	in mm	in mm	in mm	in mm	(kg)						
1/2"	15	0.39	10	6.5	165	3.75	95	4	100	7.2	183	5.5
3/4"	20	0.5	13	7.5	191	4.62	118	5	125	11.25	286	7.6
1"	25	0.71	18	8.5	216	4.88	124	6.5	165	11.56	319	9.7
1 1/2"	40	1.25	32	9.5	241	6.12	156	7	180	15.5	393	16.3
2"	50	1.5	38	11.5	292	6.5	165	7.9	200	17.81	452	23.6



All standard valves available in A105, A182 Gr. F304 & Gr.F316
Optional body, trim and bellows material available on request

Features

- Long cycle life bellows (2000 cycles).
Designed for high pressure
Temperature service
- Two secondary stem seals:
a. Backseat in open position
b. Graphite packing
- Seating faces hard faced
with stellite 6, ground and lapped
- Bellows monitoring port
(optional), A plug can be connected with the space
above the bellows to monitor performance
- Non-rotating stem
Prevents torsion of bellows
- Forged for higher safety
Increased toughness, strength and fatigue resistance
- Two-part bellows
8. Low torque
a. Non-rotating stem prevents torsion of bellows
b. Stem nut thrust bearings
c. Central lubrication
- Technical data
a. Basic design: API 600 & MSS SP-117
b. Butt weld ends: ASME B16.25
c. End-to-end dimension: ASME B16.10
d. Inspection and test: API 598

Typical A105 Valve Parts List

No.	Parts	Material
1	Seat ring	A105+STL
2	Wedge	Type 420 SS
3	Body(1)	A105
4	Stem	A182 F6a
5	Gasket	Graphite+316
6	Bolt	A193 B7
7	Nut	A194 2H
8	Bellows assy	Type 321 S. S ⁽¹⁾
9	Body ⁽²⁾	A105
10	Connection	Stainless steel
11	Bolt	A193 B7
12	Nut	A194 2H
13	Nameplate	S. S.
14	Packing	Graphite
15	Lantern	Type 410 SS
16	Bonnet	A105
17	Joint bolt	Carbon steel
18	Gland	Type 410 SS

(1) Hastelloy C and Inconel 625 also available

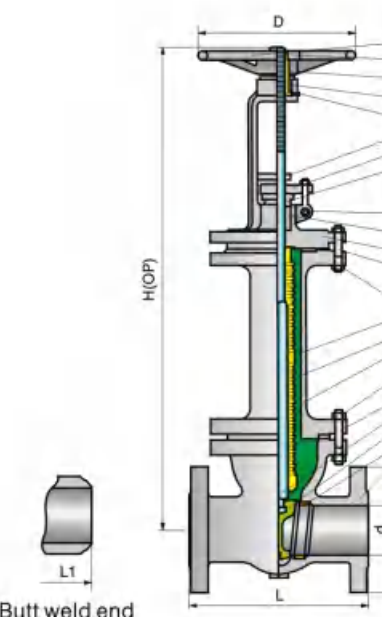
No.	Parts	Material
19	Guide plate ⁽¹⁾	Carbon steel
20	Nut	Carbon steel
21	Yoke	Carbon steel
22	Bolt	Carbon steel
23	Nut	Carbon steel
24	Handwheel	Malleable iron
25	Handle nut	Carbon steel
26	Stem nut	Aluminum bronze
27	Cover	Carbon steel
28	Grease fitting	Carbon steel
29	Thrust collar	Copper alloy
30	Guide plate ⁽²⁾	Carbon steel
31	Nut	Carbon steel
32	Gland flange	Carbon steel
33	Bolt	A193 B7
34	Nut	A194 2H
35	Plug pipe	Stainless steel
36	Gasket	Graphite+316

Dimensions

Size	600Lb						900Lb						1500Lb						
	H(OP)		D		L		H(OP)		D		L		H(OP)		D		L		
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2"	50	25	635	8.8	224	7.00	178	30	762	8.8	224	8.50	216	36	914	9.84	250	8.50	216
2 1/2"	65	35	89	9.84	250	8.50	216	42	1067	9.84	250	10	254	50	1270	12.4	315	10	254
3"	80	47	1194	11.0	280	10	254	56	1422	11.0	280	12	305	67	1702	12.4	315	12	305
4"	100	57	1448	12.4	315	12	305	68	1727	12.4	315	14	356	81	2057	14.0	355	16	406
6"	150	67	1702	16	450	18	457	80	2032	16	450	20	508	96	2438	20	500	22	559

Features

- Long cycle life bellows (2000 cycles)
in Gr. 321 (stainless)
- Bolted body-bonnet
for fast service ability: Hermetically-sealed bonnet
available for Class 300Lb & 600Lb
- Superior seating faces
Seats & wedge hard faced with stellite 6
- Improved body-bonnet joint
Graphite reinforced with SS Graphite gasket for class 150Lb
- Two or three section bellows
- Two secondary stem seals
a. Backseat in open position
b. Graphite packing
- Non-rotating stem
Prevents torsion of bellows
- Technical data
a. Basic design: API 600 & MSS SP-117
b. Butt weld ends to ASME B16.25
c. Flange ends to ASME B16.5
d. Face-to-face dimension: ASME B16.10
e. End-to-end dimension: ASME B16.10
f. Inspection and test: API 598



All standard valves available in A316 Gr. WCB, A352 Gr. LCB,
A351 Gr. CF8 and A351 Gr. CF8M
Optional body, trim and bellows material available on request

Typical A216 WCB Valve Parts List

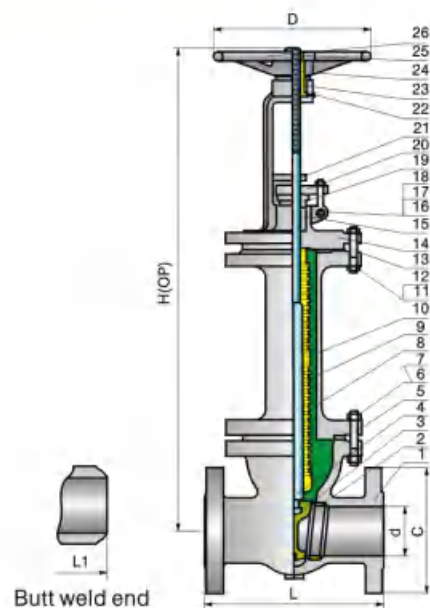
No.	Parts	Material
1	Body	A216 WCB
2	Seat ring	A105+STL
3	Wedge	A216 WCB+ER410
4	Stem	A182 F6a
5	Gasket	Graphite+316
6	Bolt	A193 B7
7	Nut	A194 2H
8	Bonnet	A216 WCB
9	Bellows assy ⁽¹⁾	Type 321 S. S
10	Connection	S. S.
11	Bolt	A193 B7
12	Nut	A194 2H
13	Gasket	Graphite+316

(1) Hastelloy C and Inconel 625 also available

No.	Parts	Material
14	Yoke	A316 WCB
15	Packing	Graphite+S. S.
16	Pin	C. S.
17	Eyebolt	A193 B7
18	Nut	A194 2H
19	Gland	A276 410
20	Gland flange	A216 WCB
21	Guiding rod	C. S.
22	Lubricator	C. S.
23	Nut	C. S.
24	Stem nut	Aluminum bronze
25	Nut	C. S.
26	Hand wheel	Malleable iron

Dimensions

Size	d	150Lb													
		L		L1		C		H(OP)		Lift		D			
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
2"	50	7.00	178	8.50	216	6.00	152	31.27	794	2.35	59	8.0	200		
2 1/2"	65	7.50	190	9.50	241	7.00	178	33.93	862	2.78	70	8.0	200		
3"	80	8.00	203	11.12	282	7.50	191	35.37	898	3.54	90	8.8	224		
4"	100	9.00	229	12.00	305	9.00	229	40.37	1025	4.37	111	10.0	250		
6"	150	10.50	267	15.88	403	11.00	279	58.87	1495	6.61	168	12.4	315		
8"	200	11.50	292	16.50	419	13.50	343	67.75	1721	8.50	216	14.0	355		
10"	250	13.00	330	18.00	457	16.00	406	81.31	2065	10.47	266	16.0	400		
12"	300	14.00	356	19.75	502	19.00	483	93.03	2363	12.5	318	18	450		



Features

1. Long cycle life bellows (2000 cycles) in Gr. 321 (stainless)
2. Bolted body-bonnet for fast service ability: Hermetically-sealed bonnet available for Class 300Lb & 600Lb
3. Superior seating faces Seats & wedge hard faced with stellite 6
4. Improved body-bonnet joint Graphite reinforced with SS Graphite gasket for class 150Lb
5. Two or three section bellows
6. Two secondary stem seals
 - a. Backseat in open position
 - b. Graphite packing
7. Non-rotating stem Prevents torsion of bellows
8. Technical data
 - a. Basic design: API 600 & MSS SP-117
 - b. Butt weld ends to ASME B16.25
 - c. Flange ends to ASME B16.5
 - d. Face-to-face dimension: ASME B16.10
 - e. End-to-end dimension: ASME B16.10
 - f. Inspection and test: API 598

All standard valves available in A316 Gr. WCB, A352 Gr. LCB, A351 Gr. CF8 and A351 Gr. CF8M
Optional body, trim and bellows material available on request

Typical A216 Wcb Valve Parts List

No.	Parts	Material
1	Body	A216 WCB
2	Seat ring	A105+STL
3	Wedge	A216 WCB+ER410
4	Stem	A182 F6a
5	Gasket	Graphite+316
6	Bolt	A193 B7
7	Nut	A194 2H
8	Bonnet	A216 WCB
9	Bellows assy ¹⁾	Type 321 S. S
10	Connection	S. S.
11	Bolt	A193 B7
12	Nut	A194 2H
13	Gasket	Graphite+316

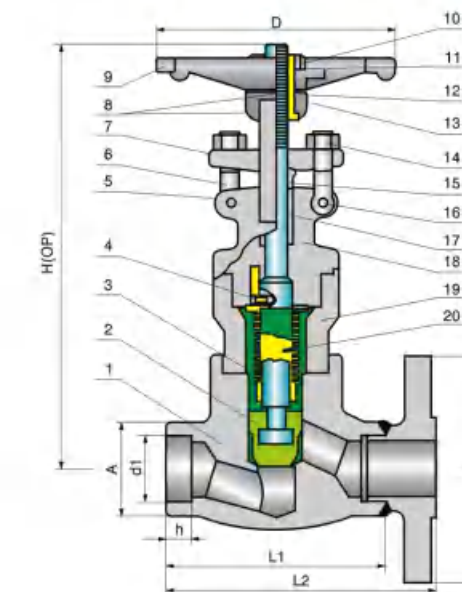
(1) Hastelloy C and Inconel 625 also available

Dimensions

Size	d	300Lb								600Lb								
		L=L1		C		H(OP)		D		L=L1		C		H(OP)		D		
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
2"	50	50	8.5	216	6.50	165	31.25	794	8.0	200	11.50	292	6.50	165	36.38	924	8.8	224
2 1/2"	65	63	9.5	241	7.50	191	33.38	848	8.0	200	13.00	330	7.50	191	38.75	984	10.0	250
3"	80	76	11.13	283	8.25	210	34.37	873	8.8	224	14.00	356	8.25	210	39.75	1010	11.0	280
4"	100	100	12.00	305	10.00	254	39.87	1013	10.0	250	17.00	432	10.75	273	46.81	1189	12.4	315
6"	150	150	15.88	403	12.50	318	58.50	1486	14.0	355	22.00	559	14.00	356	63.44	1611	16	450
8"	200	200	16.50	419	15.00	381	68.19	1732	16.0	400	26.00	660	16.50	419	82.75	2102	20	500
10"	250	250	18.00	457	17.50	445	80.75	2051	18.0	450	31.00	787	20.00	508	100.25	2546	24	630
12"	300	300	19.75	502	20.50	521	91.12	2314	20	500	33.00	838	22.00	559	116.75	2966	28	710

Features

1. Long cycle life bellows (10000 cycles) Designed for high pressure/ Temperature service
2. Two secondary stem seals
 - a. Backseat in open position
 - b. Graphite packing
3. Superior seating faces Seats hard faced with stellite 6 and wedge is solid stellite 6
4. Bellows monitoring port (optional). A plug can be connected with the space above the bellows to monitor performance
5. Technical data
 - a. Basic design: API 602 & MSS SP-117
 - b. Socket weld ends to ASME B16.11
 - c. Threaded ends to ASME B1.20.1
 - d. Flange ends to ASME B16.5
 - e. Face-to-face dimension: MFR. STD.
 - f. end-to-end dimension: MFR. STD.
 - g. Inspection and test: API 598



All standard valves available in A105, A182 Gr.F304 & Gr.F316.
Optional body, trim and bellows material available on request

Typical A105 Valve Parts List

No.	Parts	Material
1	Body	A105
2	Disc	Type 420 SS
3	Stem	Type 410 SS
4	Guide pin	Caron steel
5	Split pin	Type 410 SS
6	Gland bolt	Type 410 SS
7	Gland flange	Carbon steel
8	Thrust collar	Type 410 SS
9	Handwheel	Malleable iron
10	Hand nut	Carbon steel

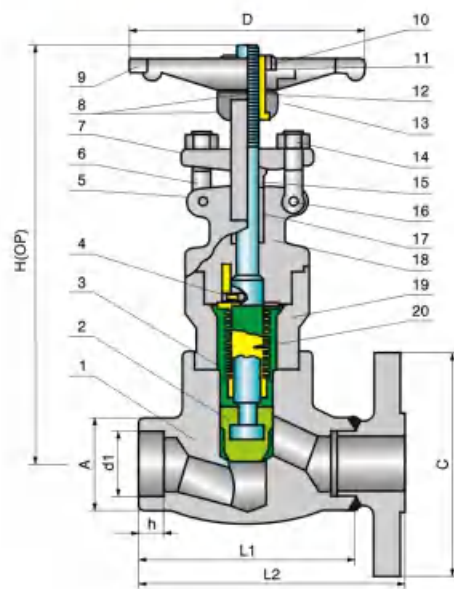
(1) Hastelloy C and Inconel 625 also available

Dimensions

Size	d		A		d1		h		L1		H(OP)		D		
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
1/2"	15	0.31	8	1.34	34	0.855	21.7	0.39	10	3.23	82	7.0	178	2.4	60
3/4"	20	0.5	13	1.57	40	1.065	27	0.51	13	3.54	90	9.0	229	3.5	90
1"	25	0.75	19	1.93	49	1.33	33.8	0.51	13	3.62	92	10.1	257	3.5	90
1 1/2"	40	1.25	32	2.56	65	1.915	48.6	0.51	13	5.12	130	12.3	313	6.0	150
2"	50	1.38	35	3.07	78	2.406	61	0.63	16	5.91	150	14.7	373	6.0	150

Dimensions

Size	150Lb							300Lb															
	d	L2	C	D	H	WT	d	L2	C	D	H	WT											
in	mm	in	mm	in	mm	(kg)	in	mm	in	mm	in	mm	(kg)										
1/2"	15	0.31	8	4.25	108	3.5	89	2.5	64	7.0	178	3.9	0.31	8	5.5	140	3.75	95	2.5	64	7.0	178	4.8
3/4"	20	0.5	13	4.62	117	3.88	98	3.5	89	9.0	229	4.5	0.5	13	6	152	4.62	117	3.5	89	9.0	229	6.4
1"	25	0.75	19	5	127	4.25	108	3.5	89	10.10	257	8.2	0.75	19	6.5	165	4.88	124	3.5	89	10.10	257	10
1 1/2"	40	1.25	32	6.5	165	5	127	6.0	152	12.31	313	10	1.25	32	7.5	190	6.12	156	6.0	152	12.31	313	13.6
2"	50	1.38	35	8	203	6	152	6.0	152	14.69	373	18.6	1.38	35	8.5	216	6.5	165	6.0	152	14.69	373	22.3



Features

1. Long cycle life bellows (10000 cycles)
Designed for high pressure/
Temperature service
2. Two secondary stem seals
a. Backseat in open position
b. Graphite packing
3. Superior seating faces
Seats hard faced with stellite 6 and
wedge is soild stellite 6
4. Bellows monitoring port
(optional). A plug can be connected
with the space
above the bellows to monitor
performance
5. Technical data
a. Basic design: API 602 & MSS SP-117
b. Socket weld ends to ASME B16.11
c. Threaded ends to ASME B1.20.1
d. Flange ends to ASME B16.5
e. Face-to-face dimension: MFR. STD.
f. end-to-end dimension: MFR. STD.
g. Inspection and test: API 598

All standard valves available in A105, A182 Gr.F304 & Gr.F316.
Optional body, trim and bellows material available on request

Typical A105 valve parts list

No.	Parts	Material
1	Body	A105
2	Disc	Type 420 SS
3	Stem	Type 410 SS
4	Guide pin	Caron steel
5	Split pin	Type 410 SS
6	Gland bolt	Type 410 SS
7	Gland flange	Carbon steel
8	Thrust collar	Type 410 SS
9	Handwheel	Malleable iron
10	Hand nut	Carbon steel

(1) Hastelloy C and Inconel 625 also available

Dimensions

Size	d		A		d1		h		L1		H(OP)		D		
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
1/2"	15	0.31	8	1.34	34	0.855	21.7	0.39	10	3.23	82	7.0	178	2.4	60
3/4"	20	0.5	13	1.57	40	1.065	27	0.51	13	3.54	90	9.0	229	3.5	90
1"	25	0.75	19	1.93	49	1.33	33.8	0.51	13	3.62	92	10.1	257	3.5	90
1 1/2"	40	1.25	32	2.56	65	1.915	48.6	0.51	13	5.12	130	12.3	313	6.0	150
2"	50	1.38	35	3.07	78	2.406	61	0.63	16	5.91	150	14.7	373	6.0	150

Dimensions

Size	600Lb										WT (kg)	
	d		L2		C		D		H			
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
1/2"	15	0.31	8	6.5	165	3.75	95	2.5	64	7.2	183	4.8
3/4"	20	0.5	13	7.5	190	4.62	118	3.5	89	11.25	286	6.8
1"	25	0.75	19	8.5	216	4.88	124	3.5	89	11.56	319	10.4
1 1/2"	40	1.25	32	9.5	241	6.12	156	6.0	152	15.5	393	14.2
2"	50	1.38	35	11.5	292	6.5	165	6.0	152	17.81	452	23.1

Features

1. Long cycle life bellows (3000 cycles)
Designed for high pressure/
Temperature service
2. Two secondary stem seals
a. Backseat in open position
b. Graphite packing
3. Guide disc. Seat and disc hard faced
with stellite 6, ground and lapped
4. Bellows monitoring port
(optional). A plug can be connected
with the space above the bellows to
monitor performance.
5. Non-rotating stem
Prevents torsion of bellows
6. Forged for higher safety
Increased toughness, strength and fatigue resistance
7. Two or three section bellows
8. Low torque
a. Non-rotating stem prevents torsion
of bellows
b. Stem nut thrust bearings
c. Central lubrication
9. Technical date
a. Basic design: API 600 & MSS SP-117
b. Butt weld ends to ASME B16.25
c. End-to-end dimension: ASME B16.10
d. Inspection and test: API 598

All standard valves available in A105, A182 Gr.F304 & Gr.F316.
Optional body, trim and bellows material available on request

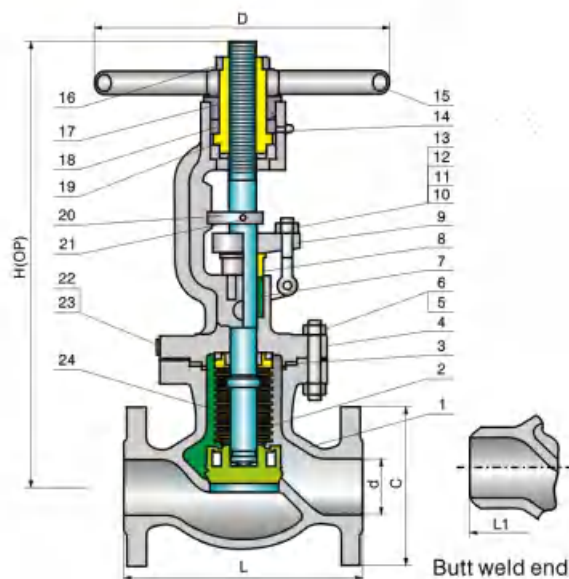
Typical A105 Valve Parts List

No.	Parts	Material
1	Body(1)	A105+STL
2	Disc	A105+STL
3	Lock nut	Stainless steel
4	Bellows assy	Type 321 S. S ⁽¹⁾
5	Bolt	A193 B7
6	Nut	A194 2H
7	Gasket	Graphite+316
8	Bonnet	A105
9	Nameplate	S. S.
10	Packing	Graphite
11	Lantern	Type 410 SS
12	Joint bolt	Carbon steel
13	Gland	Type 410 SS
14	Guide plate ⁽¹⁾	Carbon steel
15	Nut	Carbon steel
16	Yoke	Carbon steel

(1) Hastelloy C and Inconel 625 also available

Dimensions

Size	600Lb						900Lb						1500Lb						
	H(OP)		L		D		H(OP)		L		D		H(OP)		L		D		
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
21/2"	65	22	559	8.50	216	12.38	315	26	660	10.00	254	14.0	355	29	737	10.00	254	15.75	400
3"	80	23	584	10	254	14.0	355	28	711	12	305	15.75	400	31	787	12	305	17.75	450
4"	100	31	787	12	305	17.75	450	35	889	14	356	17.75	450	38	965	16	406	24.81	630
6"	150	41	1041	20	508	22.06	560	47	1194	20	508	24.81	630	51	1295	22	559	27.94	710



All standard valves available in A216 Gr. WCB, A352 Gr. LCB, A351 Gr. CF8 and A351 Gr. CF8M
Optional body, trim and bellows material available on request

Typical A105 Valve Parts List

No.	Parts	Material
1	Body	A216 WCB
2	Stem	A182 F6a
3	Gasket	Graphite/316 SS
4	Bonnet	A216 WCB
5	Bolt	A193 B7
6	Nut	A194 2H
7	Packing	Graphite
8	Gland bushing	Type 410 SS
9	Gland flange	A216 WCB
10	Nut	Carbon steel
11	Gland bolt	Carbon steel
12	Pin	Carbon steel

(1) Hastelloy C and Inconel 625 also available

Features

1. Long cycle life bellows (3000 cycles)
2. Two secondary stem seals:
Graphite packing; Back seat in open position
3. Superior seating faces
Seats and disc hard faced with stellite 6
4. Bellows monitoring port
(optional). A plug can be connected with the space above the bellows to monitor performance
5. Bolted body-bonnet
For fast service ability fully enclosed, spiral wound graphite-filled Gr. 316 (stainless) gaskets
6. Non-rotating stem prevents torsion of bellows
7. Technical data
 - a. Basic design: API 600& MSS SP-117
 - b. Butt weld ends to ASME B16.25
 - c. Flange ends to ASME B16.5
 - d. Face-to-face dimension: ASME B16.10
 - e. End-to-end dimension: ASME B16.10
 - f. Inspection and test: API 598

No.	Parts	Material
13	Split pin	Carbon steel
14	Grease fitting	Carbon steel
15	Handwheel	Malleable iron
16	Handle nut	Carbon steel
17	Yoke cap	Carbon steel
18	Thrust bearing	Assembly
19	Stem nut	Aluminum bronze
20	Guide plate	Carbon steel
21	Pin	Carbon steel
22	Rivet	Bronze
23	Nameplate	S. S.
24	Bellows assy. ¹⁾	Type 321 S.S

Dimensions and Weights

Size	150Lb														300Lb													
	d		L		L1		C		D		H(OP)		FL WT (kg)	BW WT (kg)	d		L=L1		C		D		H(OP)		FL WT (kg)	BW WT (kg)		
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm			in	mm	in	mm	in	mm	in	mm	in	mm			in	mm
2"	50	50	8.00	203	8.00	203	6.00	152	7.88	200	15	381	27.6	22	50	10.5	267	6.50	165	7.88	200	15	381	42.2	34.3			
2 1/2"	65	64	8.50	216	8.50	216	7.00	178	8.82	224	15.35	375	31.8	25	64	11.5	292	7.50	191	8.82	224	15.35	375	47.6	38.6			
3"	80	76	9.50	241	9.50	241	7.50	191	9.88	250	17.9	455	40.8	36.3	76	12.5	318	8.25	210	9.88	250	17.9	455	54.5	40.8			
4"	100	100	11.50	292	11.50	292	9.00	229	9.88	250	22.2	564	68	54.5	100	14.0	356	10.00	254	9.88	250	22.2	564	81.6	68.5			
6"	150	150	16.00	406	16.00	406	11.00	279	14.0	355	25.2	640	118	111.2	150	17.5	444	12.50	318	14.0	355	25.2	640	154.2	122.5			
8"	200	200	19.50	495	19.50	495	13.50	343	15.88	400	30.5	775	195	182	200	22.0	559	15.00	381	15.88	400	33.6	854	258.5	204.2			

Features

1. Long cycle life bellows (3000 cycles)
2. Two secondary stem seals:
Graphite packing; Back seat in open position
3. Superior seating faces
Seats and disc hard faced with stellite 6
4. Bellows monitoring port
(optional). A plug can be connected with the space above the bellows to monitor performance
5. Bolted body-bonnet
For fast service ability fully enclosed, spiral wound graphite-filled Gr. 316 (stainless) gaskets
6. Non-rotating stem prevents torsion of bellows
7. Technical data
 - a. Basic design: API 600& MSS SP-117
 - b. Butt weld ends to ASME B16.25
 - c. Flange ends to ASME B16.5
 - d. Face-to-face dimension: ASME B16.10
 - e. End-to-end dimension: ASME B16.10
 - f. Inspection and test: API 598

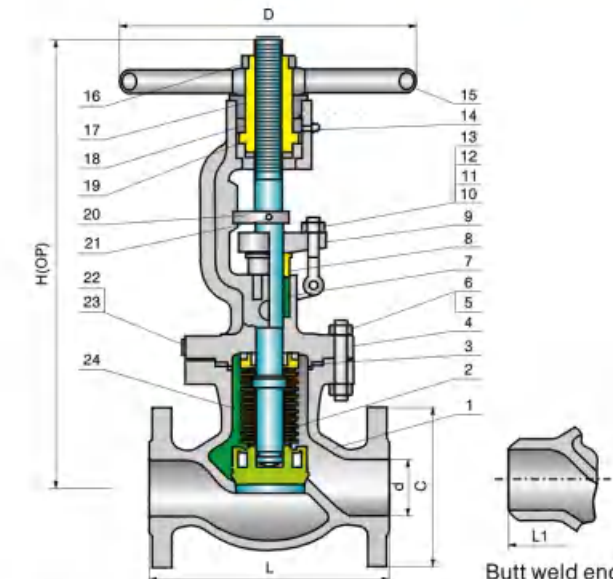
Typical A105 Valve Parts List

No.	Parts	Material
1	Body	A216 WCB
2	Stem	A182 F6a
3	Gasket	Graphite/316 SS
4	Bonnet	A216 WCB
5	Bolt	A193 B7
6	Nut	A194 2H
7	Packing	Graphite
8	Gland bushing	Type 410 SS
9	Gland flange	A216 WCB
10	Nut	Carbon steel
11	Gland bolt	Carbon steel
12	Pin	Carbon steel

(1) Hastelloy C and Inconel 625 also available

Dimensions and Weights

Size	300Lb													
	d		L=L1		C		D		H(OP)		FL WT (kg)	BW WT (kg)		
	in	mm	in	mm	in	mm	in	mm	in	mm				
2"	50	50	11.50	292	6.50	165	9.88	250	18.2	462	53	42.3		
2 1/2"	65	64	13.00	330	7.50	191	12.38	315	19.5	495	57	46.3		
3"	80	76	14.00	356	8.25	210	14.0	355	25.1	638	65.4	49		
4"	100	100	17.00	432	10.75	273	17.75	450	28.8	732	98	82		
6"	150	150	22.00	559	14.00	356	22.06	560	40.5	1029	185	147		
8"	200	200	26.00	660	16.50	419	24.81	630	53.6	1361	310	245		



All standard valves available in A216 Gr. WCB, A352 Gr. LCB, A351 Gr. CF8 and A351 Gr. CF8M
Optional body, trim and bellows material available on request



Butterfly Valve Series



LEADING THE GLOBAL VALVE INDUSTRY

Center Line Sealing Butterfly

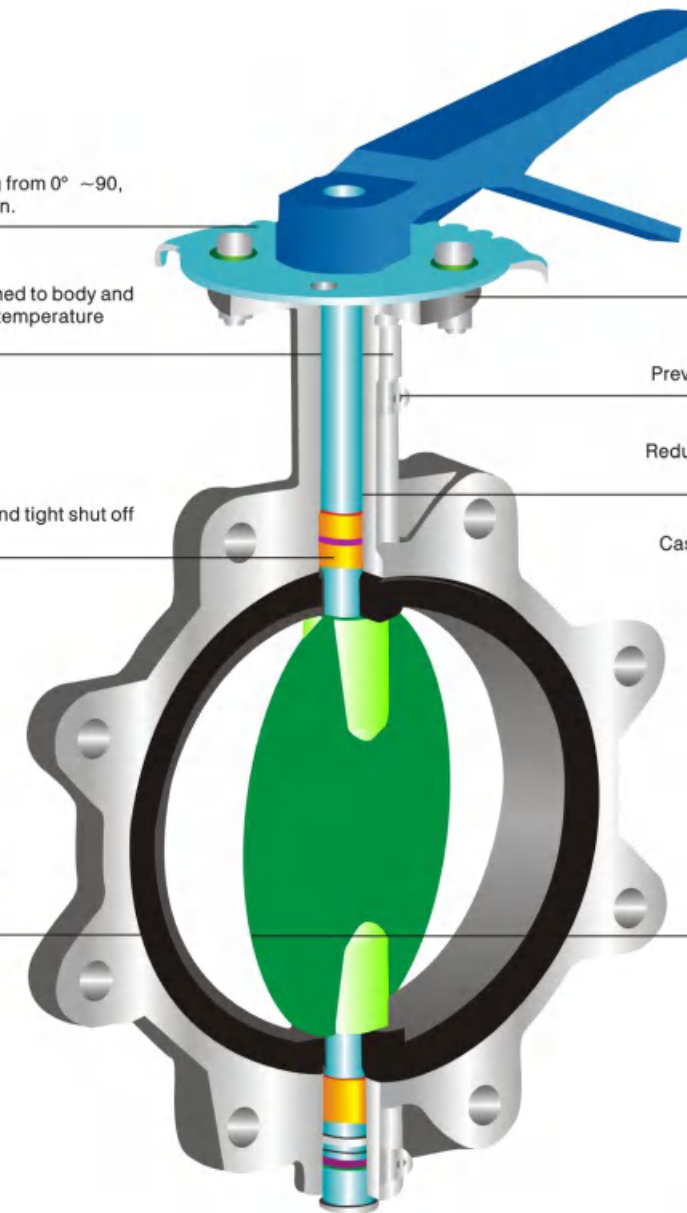


Indicate plate
Provide 10 opening angle setting from 0° ~90, easily identifying the disc position.

Nameplate
Nameplate is permanently attached to body and provides full material, pressure, temperature reference.

PTFE Bushing with O-ring
Reduce valve operation torque and tight shut off the line pressure.

Back-up ring supported seat
Enables replaceable seat & prevents seat leakage. Resilient seat also extended above body eliminates the need for gaskets.



Mounting pad
Designed per ISO 5211, easily installation of hand levers, gear box, pneumatic or electric actuators.

Anti - Blowout spring pin
Prevent stem blowout by line pressure.

Double shaft (2"~12")
Reduce the valve operating torque also Improves flow Cv.

One Piece Shaft Design
Cast iron & Ductile Iron 14" and above
Cast steel, S.S. 2" and above

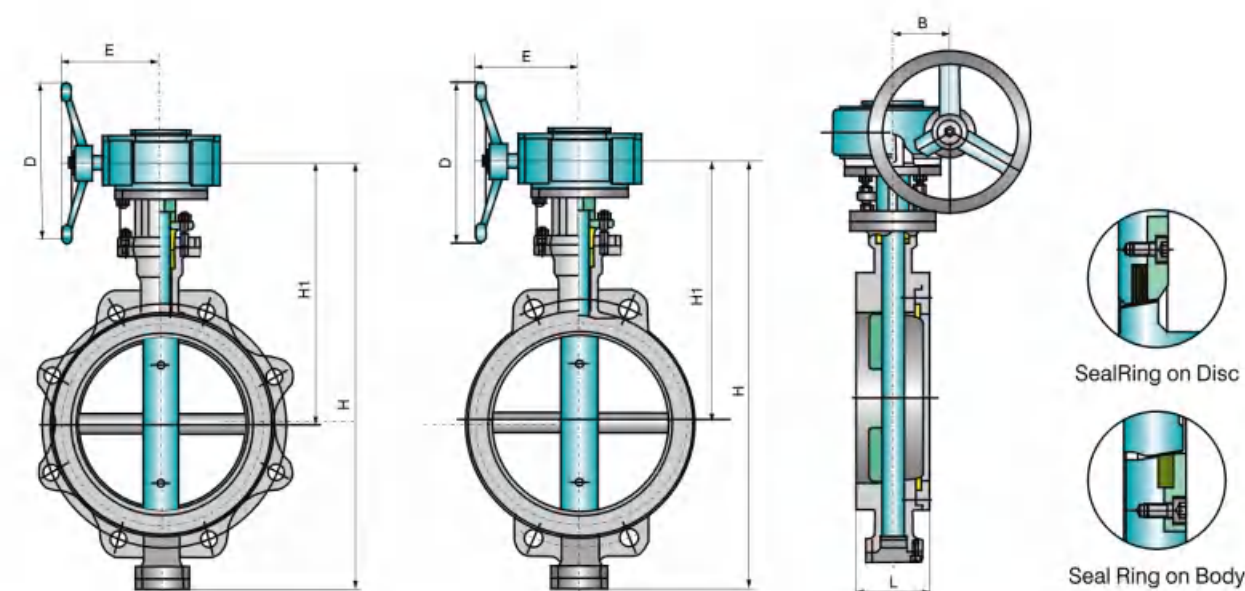
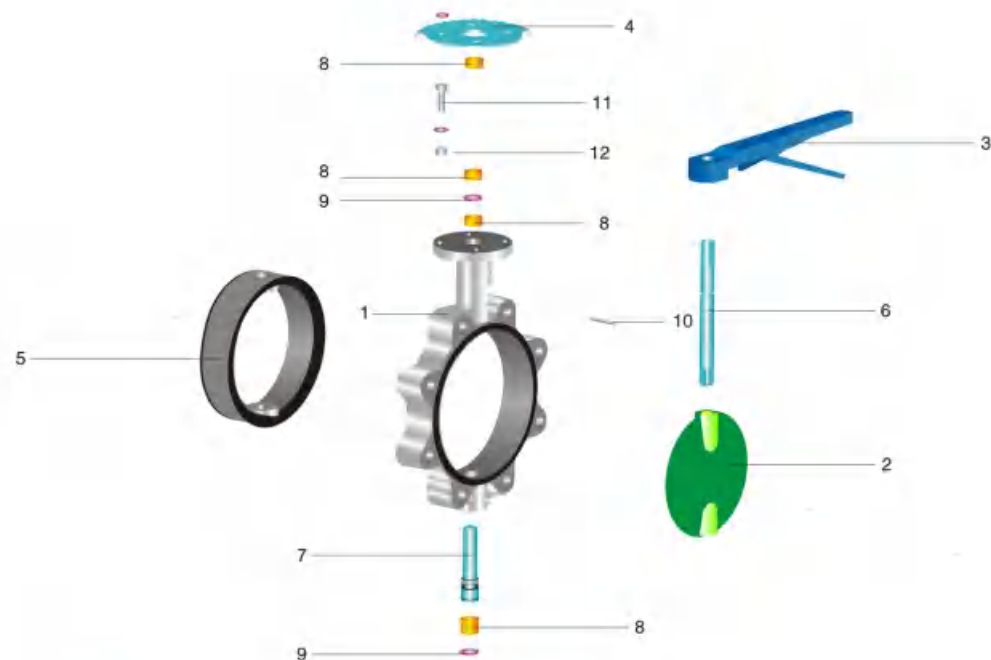
Polished disc edge
Semicircular edge shape reduces the valve operation torque and maximizes seat life.

Products Range

Size	2"~24"
Rating	PN10, PN16, Class 125lb & 150lb
Temperature Range	-20°C~+200°C
Body Materials	Cast Iron, Ductile Iron, Cast steel, Stainless steel
Elastomer Material	EPDM, NBR, PTFE & Viton
End Connection	Wafer, Lug & Double Flange

Applicable Standards

Design standard	API 609	ASME B16.34
Face to face	ASME B16.10	
End flanges	ASME B16.5	
Inspection and test	API 598	



Material Specifications

No .	Part	Material Series			
		Cast Iron	Ductile Iron	Cast Steel	Stainless Steel
1	Body	ASTM A126-B	ASTM A339-80-45-10	ASTM A216-WCB	ASTM A351-CF8M ASTM A351-CF8
2	Disc	ASTM A339-80-45-10	ASTM A339-80-45-10	ASTM A351-CF8	ASTM A351-CF3
		ASTM A351-CF8	ASTM A351-CF8	ASTM A351-CF8M	ASTM A351-CF3M
		ASTM A351-CF8M	ASTM A351-CF8M	ASTM B148	ASTM B148
		ASTM B148	ASTM B148	MONEL	MONEL
3	Handle	ASTM A126B	ASTM A126-B	ASTM A126-B	ASTM A126-B
4	Indicate Plate	CARBON STEEL	CARBON STEEL	CARBON STEEL	S.S.
5	Seat	EPDM	EPDM	EPDM	EPDM
		NBR	NBR	NBR	NBR
		VITON	VITON	VITON	VITON
		NEOPRENE	NEOPRENE	NEOPRENE	NEOPRENE
		HYPALON	HYPALON	HYPALON	HYPALON
		PTFE	PTFE	PTFE	PTFE
6	Shaft	ASTM A182-F6a	ASTM A182-F6a	ASTM A182-F6a	ASTM A182-F6a
		ASTM A182-F304	ASTM A182-F304	ASTM A182-F304	ASTM A182-F304
		ASTM A182-F316	ASTM A182F-316	ASTM A182F-316	ASTM A182F-316
		MONEL K500	MONEL K500	MONEL K500	MONEL K500
		17-4PH	17-4PH	17-4PH	17-4PH
7	Hub Shaft	ASTM A182-F6a	ASTM A182-F6a	ASTM A182-F6a	ASTM A182-F6a
		ASTM A182-F304	ASTM A182-F304	ASTM A182-F304	ASTM A182-F304
		ASTM A182-F316	ASTM A182-F316	ASTM A182-F316	ASTM A182-F316
		MONEL K500	MONEL K500	MONEL K500	MONEL K500
		17-4PH	17-4PH	17-4PH	17-4PH
8	Bushing	PTFE	PTFE	PTFE	PTFE
9	O-Ring	EPDM	EPDM	EPDM	EPDM
		NBR	NBR	NBR	NBR
		VITON	VITON	VITON	VITON
10	Retaining Pin	S.S.	S.S.	S.S.	S.S.
11	Bolt	CARBON STEEL	CARBON STEEL	CARBON STEEL	S.S.
12	Nut	CARBON STEEL	CARBON STEEL	CARBON STEEL	S.S.

Standards Compliance

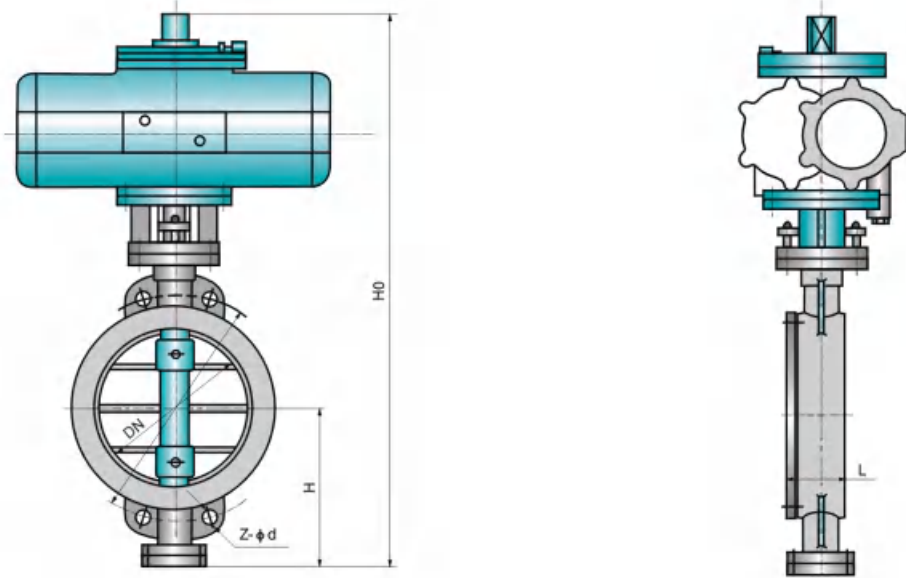
Design and manufacture standard	API 609	Flange ends dimension standard
Material pressure-temp standard	ASME B16.34	Size ≤24" to ANSI B16.5
Face to face dimension standard	API 609 Series B	Size >24" to ANSI B16.47 Series B

Products Performance Specification

Pressure	Testing pressure at constant temperature (Mpa)			Applicable temperature	Applicable medium
	The shell testing	High-Pressure seal	Low-Pressure seal		
Pound grade (Class)	150	2.93	2.07	-46°C~550°C Different raw material for different work temperature	Water, oil, gas and other causticity medium (Different rawmaterial for different medium)
	300	7.58	0.6		
	600	15.0	0.6		

Main size of Outside & Weight

		150Lb												
		3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
L		48	57	58	64	71	81	92	102	114	127	154	167	184
	H	320	342	415	510	567	665	739	825	910	990	1210	1453	1775
H1		185	195	243	263	295	342	385	430	469	500	618	875	939
	E	140	140	140	150	150	200	200	240	240	300	320	512	512
B		63	63	63	84	84	108	108	152	152	168	192	279	279
	D	160	160	300	400	400	600	600	600	800	800	800	400	400
Weight(kg)	WF	9	11	17	25	40	61	82	123	150	204	300	454	762
	WL	9	14	20	31	49	79	107	150	182	253	398	490	771
		300Lb												
L		48	54	59	73	83	92	117	133	149	159	181	254	305
	H	320	342	415	510	567	665	739	825	910	990	1210	1937	2198
H1		185	195	243	263	295	342	385	430	469	500	618	1180	1298
	E	140	140	140	150	150	200	200	240	240	300	320	512	570
B		63	63	63	84	84	108	108	152	152	168	192	279	368
	D	160	160	300	400	400	600	600	600	800	800	800	600	600
Weight(kg)	WF	13.5	18	28	49	68	109	186	264	297	363	454	816	1429
	WL	15.5	21	34	60	88	117	207	308	408	468	748	1338	2154



Main Size of Outside

DN(mm) Nominal Diameter		L	D1	D2	Ho	H	Z-φd
in	mm						
150Lb							
2"	50	43	120.5	92	409	82	4-φ19
2 1/2"	65	46	139.5	115	457	95	4-φ19
3"	80	46	152.5	127	482	108	4-φ19
4"	100	52	190.5	157	521	125	8-φ19
5"	125	56	216	186	623	138	8-φ22
6"	150	56	241.5	216	714	198	8-φ22
8"	200	60	298.5	270	774	236	8-φ22
10"	250	68	362	324	826	276	12-φ25
12"	300	78	432	381	912	308	12-φ25
14"	350	78	476	413	968	340	12-φ29
16"	400	102	540	470	1038	374	16-φ29
18"	450	114	598	533	1108	384	16-φ32
20"	500	127	578	584	1192	448	20-φ32
24"	600	154	635	692	1345	490	20-φ35
26"	650	165	749.5	743	1395	515	28-φ35
28"	700	165	806	794	1590	560	28-φ35
30"	750	165	914.5	857	1705	570	28-φ35
32"	800	190	978	908	2022	665	32-φ41
36"	900	203	1086	1022	2130	697	32-φ41
40"	1000	216	1200.1	1156	2206	748	36-φ41
42"	1050	216	1257.3	1206	2381	773	36-φ41
48"	1200	254	1422.5	1371	2506	865	44-φ41
300Lb							
2"	50	43	127	92	458	95	8-φ19
2 1/2"	65	46	149	115	468	101	8-φ19
3"	80	46	168.5	127	482	108	8-φ22
4"	100	52	200	157	521	125	8-φ22
5"	125	56	235	186	623	138	8-φ22
6"	150	56	270	216	714	198	12-φ22
8"	200	60	330	270	774	236	12-φ25
10"	250	68	387.5	324	826	276	16-φ29
12"	300	78	451	381	912	308	16-φ32
14"	350	78	514.5	413	968	340	20-φ32
16"	400	102	571.5	470	1038	374	20-φ35
18"	450	114	628.5	533	1108	384	24-φ35
20"	500	127	686	584	1192	448	24-φ35
24"	600	154	813	692	1345	490	24-φ41

Anti-blowout proof design, provide positive maximum strength.

Mounting pad
Designed per ISO 5211, easily installation of hand levers, gear box, pneumatic or electric actuators.

Low emission packing
Advanced braided (top and bottom) plus 3-4 dieformed graphite packing rings ensure less 20ppm on fugitive emission.

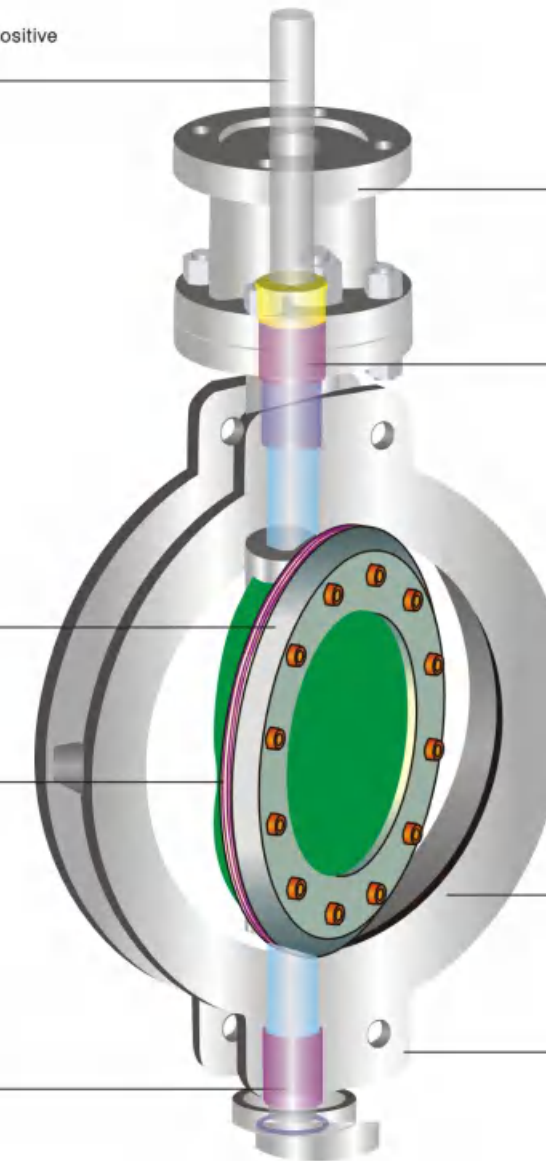
Disc seat design
Allows field replaceable without special tools.

Laminated Seal
PTFE or Graphite plus metal layers, provide an elastic tight seal. Also fire-safe is assured.
One-Piece shaft

Stellited seat (optional)
Integral hardfaced, provide longer valve life and less maintenance.

Long-length bearing
Fine-machined and hardened (Nickel-plated) to reduce the stem friction and ensure lower torque

Rigid body structure
Available in wafer, lug or double flange connection and various material range. Temperature range: -196°C~+550°C.

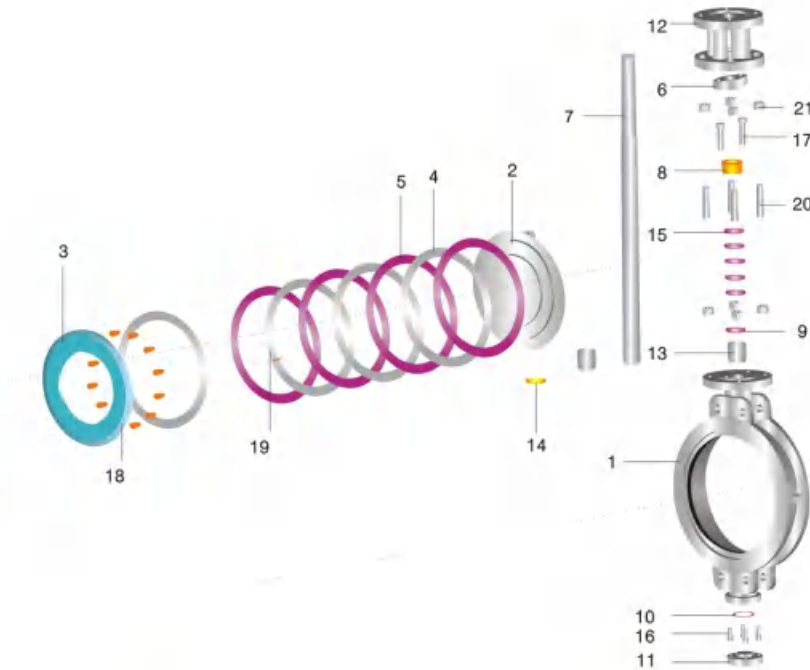
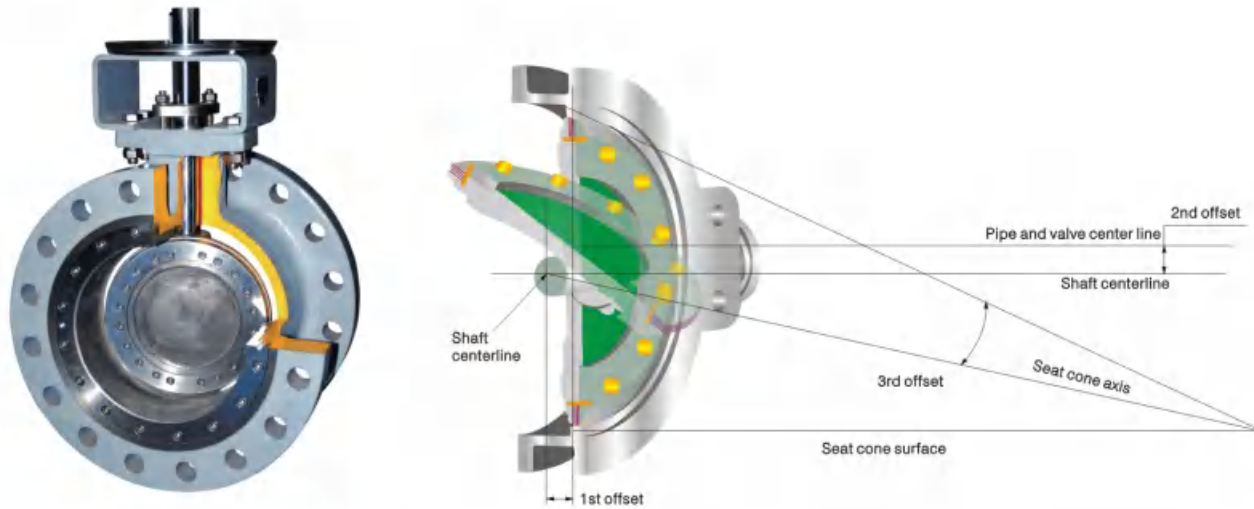


Products Range

Size	3"~48"
Rating	ANSI 150lb & 600lb
Temperature Range	-196°C~+550°C
Body Materials	Cast steel, Stainless steel, Alloy steel Duplex steel.
Disc Sealing	PTFE, Graphite laminated
End Connection	Wafer, Lug, Double Flange

Applicable standards

Design standard	API 609	ASME B16.34
Face to face	ASME B16.10	
End flanges	ASME B16.5	
Inspection and test	API 598	

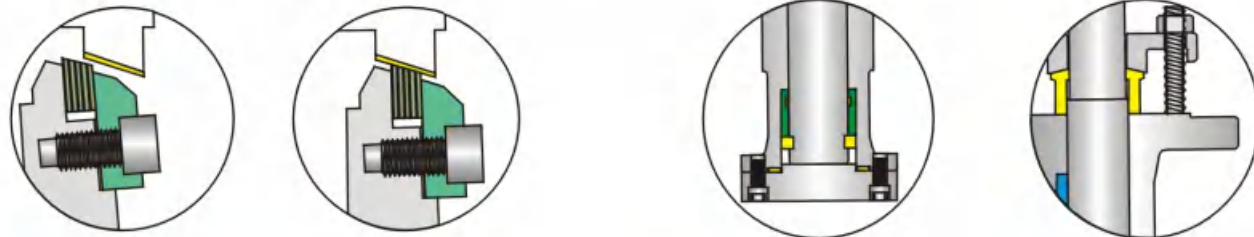


Triple Offset Frictionless Design

1st offset: Shaft rotation center is offset from the centerline of valve seat, providing a completed sealing contact between disc and seat.

2nd offset: Shaft rotation center is offset from centerline of valve body, greatly reduce the friction between disc and seat during valve closing and opening.

3rd offset: Seat cone center is offset from the valve centerline, completely eliminate the mechanical frictionless seal valve, which is ideally suitable for metal seated valves on high temperature, high pressure and firesafe application.



Laminated Disc Seal

Laminated sealing is mounted in the disc, easily for maintenance and replacement. It consists of 3-5 flexible graphite or PTFE layers self adhere with fine machined stainless seal ring, no need traditional phenol resin adhere joint, There is a reasonable clearance between disc seal and disc, provide a floating resilient seal and self centering tight seal both in low & high temperature application. Conical angle & streamline profile of this laminated disc is optimized by computer finite element analysis to eliminate any potential jamming as well as give a greater Cv.

Anti-blowout Shaft

Internally & Externally retained, double times blowout proof stem design per API 609.

Internal: Lower end shaft is grooved with Hemicycle Ring, prevent stem blowout.

External: Shaft is designed with an integral collar and was blowout prevented by gland follower.

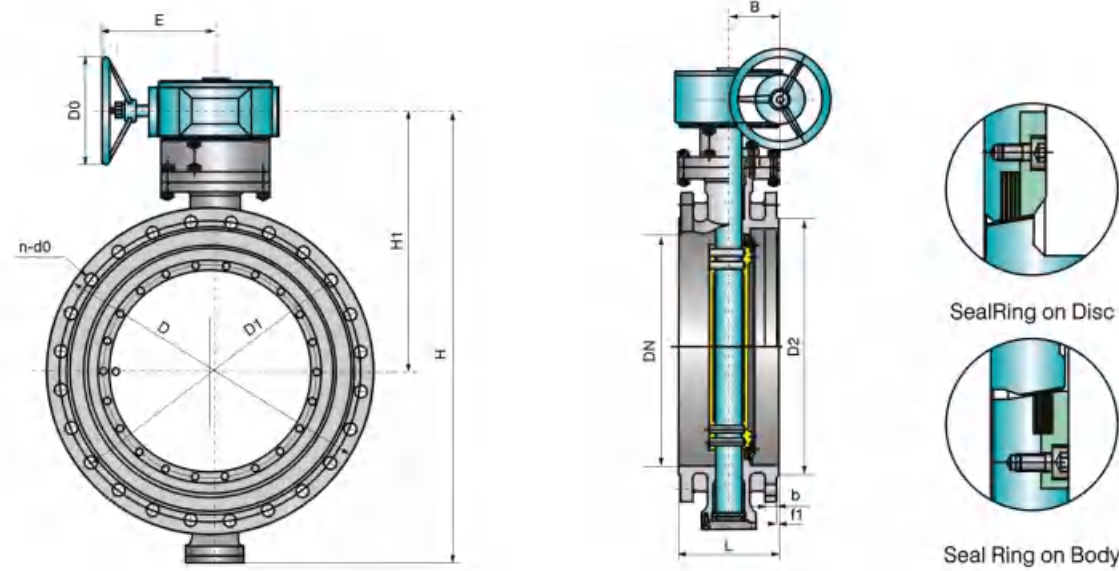
Zero Leakage

Disc-Seat sealing was achieved by torque force evenly loaded on disc laminated seal edge, which has resilient function to assure Zero Leakage in both hydrostatic or air test per API 598.

Inherent Fire Safe

TEJI triple offset butterfly valves are all metal construction and sealing, it is inherently fire safe design. Fire safe tests to API 607 were successfully performed in TEJI Research & Development laboratory.

No .	Part	Cast Steel	Stainless steel
1	Body	ASTM A216-WCB/316 overlay	ASTM A351-CF8M
2	Disc	ASTM A216-WCB	ASTM A351-CF8M
3	Disc Retaining Ring	ASTM A105+ENP/ASTM A182-F316	ASTM A182-F316
4	Steel Seal Ring	ASTM A182-F316	ASTM A182-F316
5	Seal Ring	Graphite/PTFE	Graphite/PTFE
6	Gland Flange	ASTM A216-WCB	ASTM A351-CF8
7	Shaft	ASTM A182 F6a/ASTM A182-F316	ASTM A182-F316
8	Gland	ASTM A276-410/ ASTM A276-316	ASTM A182-F316
9	Spacer Ring	ASTM A276-410/ ASTM A276-316	ASTM A182-F316
10	Gasket	304SS+Graphite/316SS+Graphite	316+Graphite
11	End Cover	ASTM A105	ASTM A182-F316
12	Yoke	ASTM A216-WCB	ASTM A216-WCB
13	Bearing	304/316/Cr plated	ASTM A182-F316/Cr plated
14	Hemicycle Ring	ASTM A182-304/ASTM A182-F316	ASTM A182-F316
15	Packing	Graphite/PTFE	Graphite/PTFE
16	Screw	ASTM A193-B7	ASTM A193-B8
17	Gland bolt	ASTM A193-B7	ASTM A193-B8
18	Disc Screw	S.S.	S.S
19	Disc Pin	S.S.	S.S
20	Body Stud	ASTM A193-B7	ASTM A 193-B8
21	Body Nut	ASTM A194-2H	ASTM A194-8



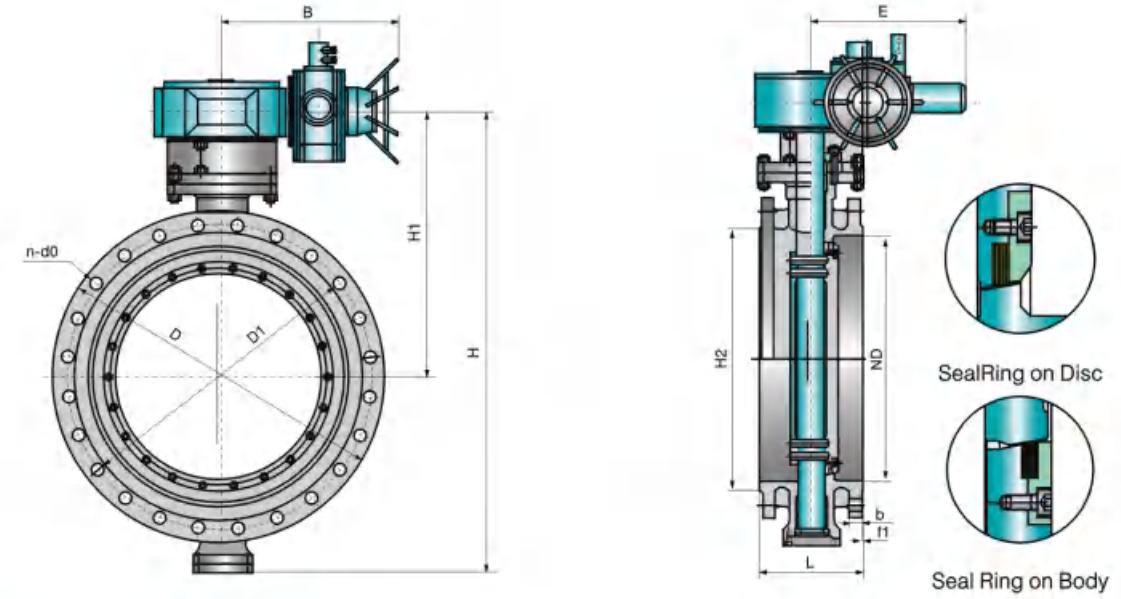
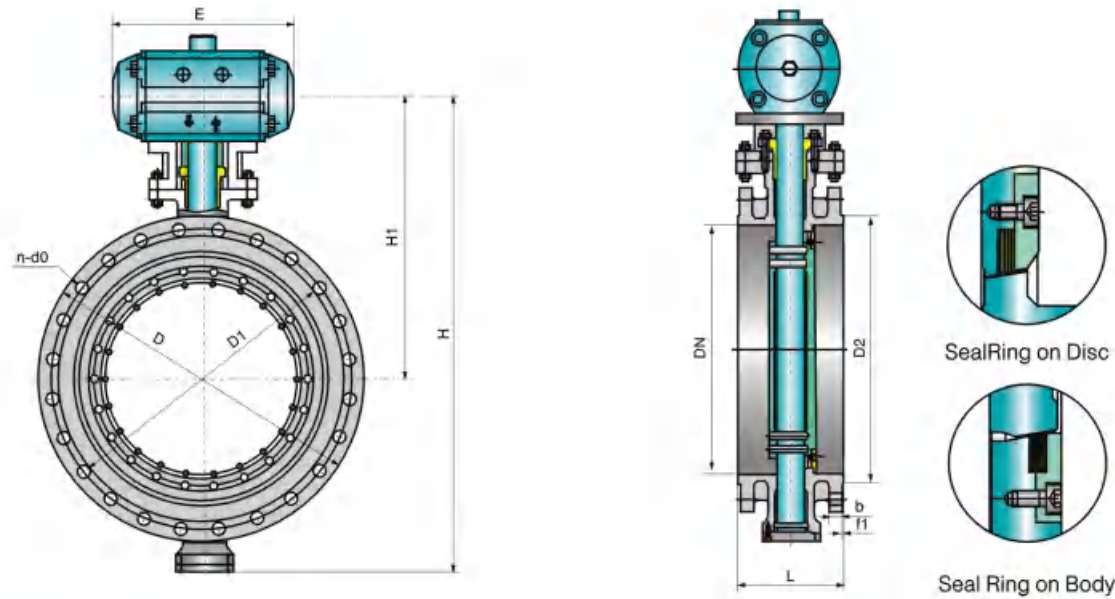
Main Size of Outside & Weight

D343 ^H _F -150Lb (A Series) Flange butterfly													
NPS	DN	D	D1	D2 Tunisia face	f1 Boss	b	n-d0	Short pattern	H	H1	B	E	D0
3"	80	190	152.5	127	1.6	24	4X18	114	472	350	50	130	203
4"	100	230	190.5	175.5	1.6	24	8X18	127	520	375	60	188	203
6"	150	280	241.5	216	1.6	25.5	8X22	140	580	410	67	220	305
8"	200	345	298.5	270	1.6	29	8X22	152	650	440	90	260	460
10"	250	405	362	324	1.6	30.5	12X26	165	700	460	90	260	460
12"	300	485	432	381	1.6	32	12X26	178	800	530	100	295	610
14"	350	535	476	413	1.6	35	12X29.5	190	980	675	100	320	356
16"	400	600	540	470	1.6	37	16X29.5	216	1042	710	120	320	457
18"	450	635	578	533.5	1.6	40	16X32.5	222	1110	750	120	340	610
20"	500	700	635	584	1.6	43	20X32.5	229	1170	760	140	340	762
24"	600	815	749.5	692	1.6	48	20X35	267	1225	777	140	360	762
26"	650	870	806.5	749.5	1.6	68.5	24X35	267	1280	805	155	360	315
28"	700	927	863.5	800	1.6	71	28X35	292	1330	827	155	360	400
30"	750	985	914.5	857	1.6	75	28X35	308	1385	853	155	435	400
32"	800	1060	978	914.5	1.6	81	28X41	318	1440	870	190	435	400
36"	900	1170	1086	1022.5	1.6	83	32X41	330	1530	905	230	580	400
38"	950	1240	1149.5	1073	1.6	87	32X41	330	1610	950	230	580	400
40"	1000	1290	1200	1124	1.6	90	36X41	410	1660	965	230	580	400
42"	1050	1346	1257.5	1194	1.6	97	36X41	410	1720	997	230	580	400
44"	1100	1405	1314.5	1244.5	1.6	102	40X41	410	1780	1027	263	620	450
46"	1150	1455	1365	1295.5	1.6	103	40X41	470	1830	1053	263	620	450
48"	1200	1511	1422.5	1359	1.6	108	44X41	470	1920	1115	263	620	450
50"	1250	1570	1479.5	1410	1.6	111	44X48	470	1980	1160	263	620	450
52"	1300	1625	1536.5	1460.5	1.6	116	44X48	470	2030	1168	263	620	450
54"	1350	1683	1594	1511	1.6	121	44X48	470	2093	1203	310	690	500
56"	1400	1746	1651	1575	1.6	124	48X48	530	2160	1235	310	690	500
58"	1450	1805	1708	1625.5	1.6	128	48X48	530	2220	1265	310	690	500
60"	1500	1855	1759	1676.5	1.6	132	52X48	530	2270	1293	310	690	500

Main Size of Outside & Weight

D343 ^H _F -300Lb (A Series) Flange butterfly													
NPS	DN	D	D1	D2 Tunisia face	f1 Boss	b	n-d0	Short pattern	H	H1	B	E	D0
3"	80	210	168.5	127	1.6	29	8x22	180	378	253	73	229	152
4"	100	255	200	157.5	1.6	32	8x22	190	421	274	73	229	305
6"	150	320	270	216	1.6	34	12x22	210	543	351	108	254	305
8"	200	380	330	270	1.6	41.5	12x26	230	628	392	108	254	305
10"	250	445	387.5	324	1.6	48	16x29.5	250	855	480	133	305	610
12"	300	520	451	381	1.6	51	16x32.5	270	812	515	133	305	610
14"	350	585	514.5	413	1.6	54	20x32.5	290	885	555	175	256	610
16"	400	650	571.5	470	1.6	57.5	20x35.5	310	951	590	175	356	356
18"	450	710	628.5	533.5	1.6	60.5	24x35.5	330	1020	615	175	356	356
20"	500	775	686	584	1.6	63.5	24x35.5	350	1080	653	175	356	356
24"	600	915	813	692	1.6	70	24x42	390	1200	759	210	435	400
26"	650	927	876.5	749.5	1.6	84	28x44	390	1277	764	210	435	400
28"	700	1035	940	800	1.6	90	28x44	430	1385	817	210	435	400
30"	750	1092	997	857	1.6	95	28x48	430	1442	846	250	580	425
32"	800	1150	1054	914.5	1.6	100	28x51	470	1555	930	250	580	425
36"	900	1270	1168.5	1022.5	1.6	111	32x54	510	1640	955	250	580	425
38"	950	1170	1092	1029	1.6	108	32x41	510	1540	905	300	620	450
40"	1000	1240	1155.5	1086	1.6	114	32x44	550	1630	960	300	620	450
42"	1050	1290	1206.5	1136.5	1.6	119	32x44	550	1650	955	300	620	450
44"	1100	1353	1263.5	1194	1.6	124	32x48	550	1723	997	300	620	450
46"	1150	1416	1321	1244.5	1.6	128	28x51	630	1790	1032	350	690	500
48"	1200	1467	1371.5	1302	1.6	133	32x51	630	1840	1056	350	690	500
50"	1250	1530	1429	1359	1.6	140	32x54	630	1900	1100	350	690	500
52"	1300	1581	1479.5	1410	1.6	144	32x54	630	1950	1126	420	820	520
54"	1350	1658	1549.5	1467	1.6	152	28x60.5	710	2030	1150	420	820	520
56"	1400	1710	1600	1517.5	1.6	154	28x60.5	710	2080	1175	420	820	520
58"	1450	1760	1651	1575	1.6	159	32x60.5	710	2130	1200	530	1020	600
60"	1500	1810	1702	1625.5	1.6	163	32x60.5	710	2180	1225	530	1020	600

D343H-600Lb (A Series) Flange butterfly													
NPS	DN	D	D1	D2 Tunisia face	f1 Boss	b	n-d0	Short pattern	H	H1	B	E	D0
6"	150	355	292	216	6.4	48	12x29.5	210	680	480	130	320	300
8"	200	420	349	270	6.4	55.5	12x32.5	230	750	515	130	320	300
10"	250	510	432	324	6.4	63.5	16x35.5	250	840	560	130	320	300
12"	300	560	489	381	6.4	67	20x35.5	270	890	580	155	340	350
14"	350	605	527	413	6.4	70	20x39	290	955	625	175	360	350
16"	400	685	603	470	6.4	76.5	20x42	310	1035	665	175	360	350
18"	450	745	654	533.5	6.4	83	20x45	330	1095	693	175	360	350
20"	500	815	724	584	6.4	89	24x45	350	1165	730	210	435	400
24"	600	940	838	692	6.4	102	24x51	390	1290	805	250	580	425
26"	650	1016	914.5	749.5	6.4	108	28x51	390	1386	860	250	580	425
28"	700	1073	965	800	6.4	111.5	28x54	430	1443	893	300	620	450
30"	750	1130	1022.5	857	6.4	114.5	28x54	430	1500	920	300	620	450
32"	800	1194	1079.5	914.5	6.4	117.5	28x60.5	470	1565	950	350	690	500
36"	900	1315	1194	1022.5	6.4	124	28x66.5	510	1685	1010	350	690	500

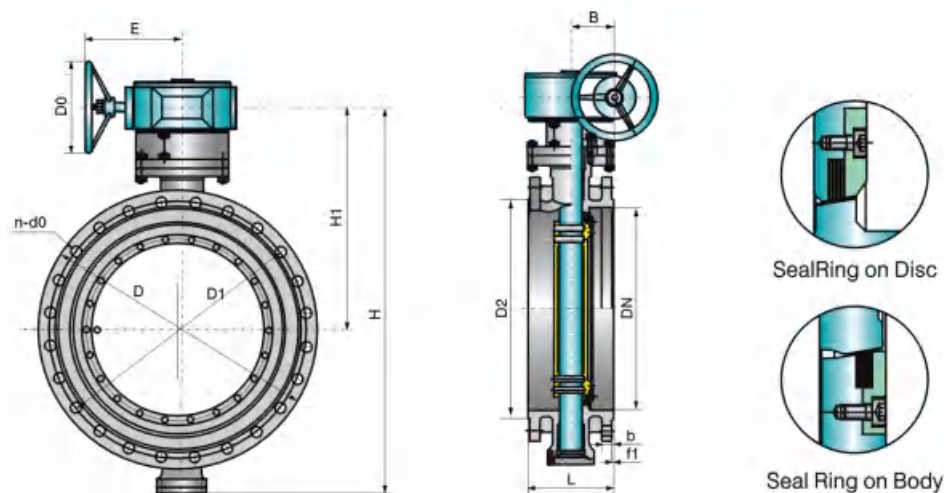


Main Size of Outside & Weight

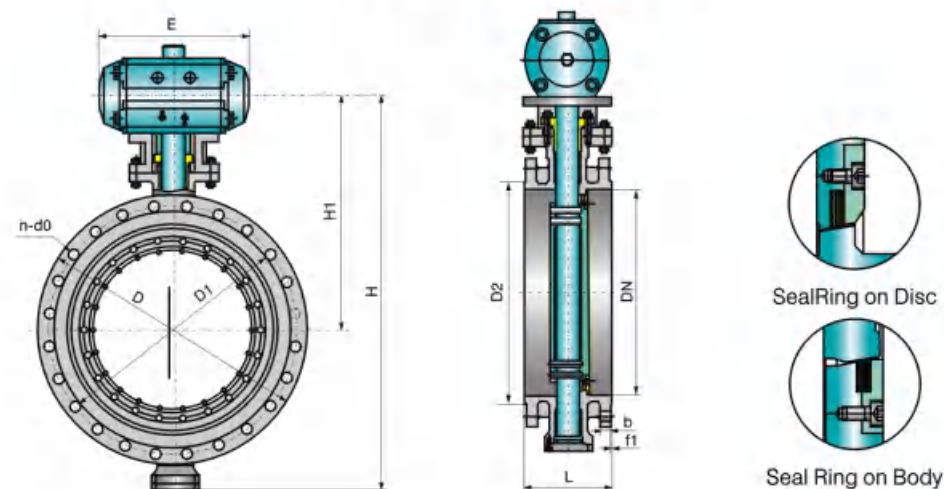
150Lb												
NPS	DN	D	D1	D2 Tunisia face	H Boss	b	n-d0	Short pattern	H	H1	E	
3"	80	190	152.5	127	1.6	24	4X18	114	560	220	263	
4"	100	230	190.5	175.5	1.6	24	8X18	127	580	240	263	
6"	150	280	241.5	216	1.6	25.5	8X22	140	640	290	263	
8"	200	345	298.5	270	1.6	29	8X22	152	690	323	275	
10"	250	405	362	324	1.6	30.5	12X26	165	750	355	275	
12"	300	485	432	381	1.6	32	12X26	178	955	475	378	
14"	350	535	476	413	1.6	35	12X29.5	190	1032	513	378	
16"	400	600	540	470	1.6	37	16X29.5	216	1182	598	530	
18"	450	635	578	533.5	1.6	40	16X32.5	222	1265	635	530	
20"	500	700	635	584	1.6	43	20X32.5	229	1335	667	530	
24"	600	815	749.5	692	1.6	48	20X35	267	1642	830	680	
26"	650	870	806.5	749.5	1.6	68.5	24X35	292	1711	859	680	
28"	700	927	863.5	800	1.6	71	28X35	308	1782	910	680	
30"	750	985	914.5	857	1.6	75	28X35	318	1856	942	680	
32"	800	1060	978	914.5	1.6	81	28X41	330	1920	975	680	
300Lb												
NPS	DN	D	D1	D2 Tunisia face	H Boss	b	n-d0	Short pattern	H	H1	E	
3"	80	210	168.5	127	1.6	29	8x22	180	378	253	263	
4"	100	255	200	157.5	1.6	32	8x22	190	420	274	263	
6"	150	320	270	216	1.6	34	12x22	210	543	350	263	
8"	200	380	330	270	1.6	41.5	12x26	230	628	392	275	
10"	250	445	387.5	324	1.6	48	16x29.5	250	755	430	378	
12"	300	520	451	381	1.6	51	16x32.5	270	812	515	530	
14"	350	585	514.5	413	1.6	54	20x32.5	290	885	555	530	
16"	400	650	571.5	470	1.6	57.5	20x35.5	310	951	590	530	
18"	450	710	628.5	533.5	1.6	60.5	24x35.5	330	1020	615	680	
20"	500	775	686	584	1.6	63.5	24x35.5	350	1182	653	680	
24"	600	915	813	692	1.6	70	24x42	390	1245	756	-	
26"	650	972	876.5	749.5	1.6	79.5	28x44	390	1277	764	-	
28"	700	1035	940	800	1.6	90	28x44	430	1385	817	-	
30"	750	1092	997	857	1.6	95	28x48	430	1442	846	-	
32"	800	1150	1054	914.5	1.6	100	28x51	470	1555	930	-	

Main Size of Outside & Weight

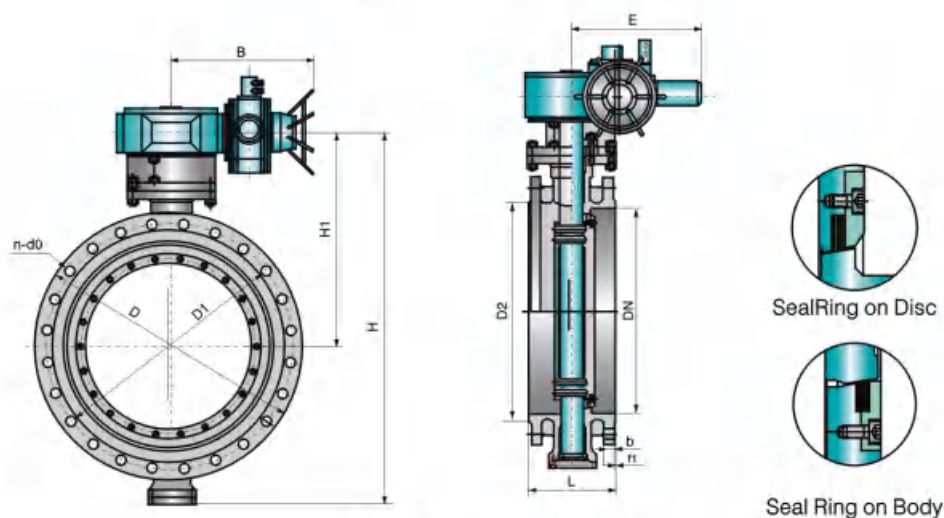
150Lb													
NPS	DN	D	D1	D2 Tunisia face	H Boss	b	n-d0	Short pattern	H	H1	E	B	
3"	80	190	152.5	127	1.6	24	4X18	114	513	263	180	178	
4"	100	230	190.5	175.5	1.6	24	8X18	127	535	282	180	178	
6"	150	280	241.5	216	1.6	25.5	8X22	140	602	322	180	178	
8"	200	345	298.5	270	1.6	29	8X22	152	745	296	370	235	
10"	250	405	362	324	1.6	30.5	12X26	165	805	325	370	235	
12"	300	485	432	381	1.6	32	12X26	178	883	365	370	235	
14"	350	535	476	413	1.6	35	12X29.5	190	965	408	370	235	
16"	400	600	540	470	1.6	37	16X29.5	216	1033	443	370	235	
18"	450	635	578	533.5	1.6	40	16X32.5	222	1120	485	370	235	
20"	500	700	635	584	1.6	43	20X32.5	229	1186	518	370	235	
24"	600	815	749.5	692	1.6	48	20X35	267	1380	625	370	235	
26"	650	870	806.5	749.5	1.6	68.5	24X35	292	1711	677	430	245	
28"	700	927	863.5	800	1.6	71	28X35	292	1587	745	515	245	
30"	750	985	914.5	857	1.6	75	28X35	308	1650	777	515	245	
32"	800	1060	978	914.5	1.6	81	28X41	318	1717	810	515	245	
300Lb													
NPS	DN	D	D1	D2 Tunisia face	H Boss	b	n-d0	Short pattern	H	H1	E	B	
3"	80	210	168.5	127	1.6	29	8x22	180	530	253	180	178	
4"	100	255	200	157.5	1.6	32	8x22	190	552	274	180	178	
6"	150	320	270	216	1.6	34	12x22	210	610	351	180	178	
8"	200	380	330	270	1.6	41.5	12x26	230	755	392	370	235	
10"	250	445	387.5	324	1.6	48	16x29.5	250	816	480	370	235	
12"	300	520	451	381	1.6	51	16x32.5	270	912	515	370	235	
14"	350	585	514.5	413	1.6	54	20x32.5	290	980	555	370	235	
16"	400	650	571.5	470	1.6	57.5	20x35.5	310	1057	590	370	235	
18"	450	710	628.5	533.5	1.6	60.5	24x35.5	330	1140	636	370	235	
20"	500	775	686	584	1.6	63.5	24x35.5	350	1243	685	515	245	
24"	600	915	813	692	1.6	70	24x42	390	1420	934	817	351	
26"	650	972	876.5	749.5	1.6	84	28x44	390	1812	1039	817	351	
28"	700	1035	940	800	1.6	90	28x44	430	1906	1060	817	351	
30"	750	1092	997	857	1.6	95	28x48	430	2021	1120	817	351	
32"	800	1150	1054	914.5	1.6	100	28x51	470	2327	1190	973	440	



Dd343H Worm Gear Driven Butterfly Valve



Dd643H Pneumatic Butterfly Valve

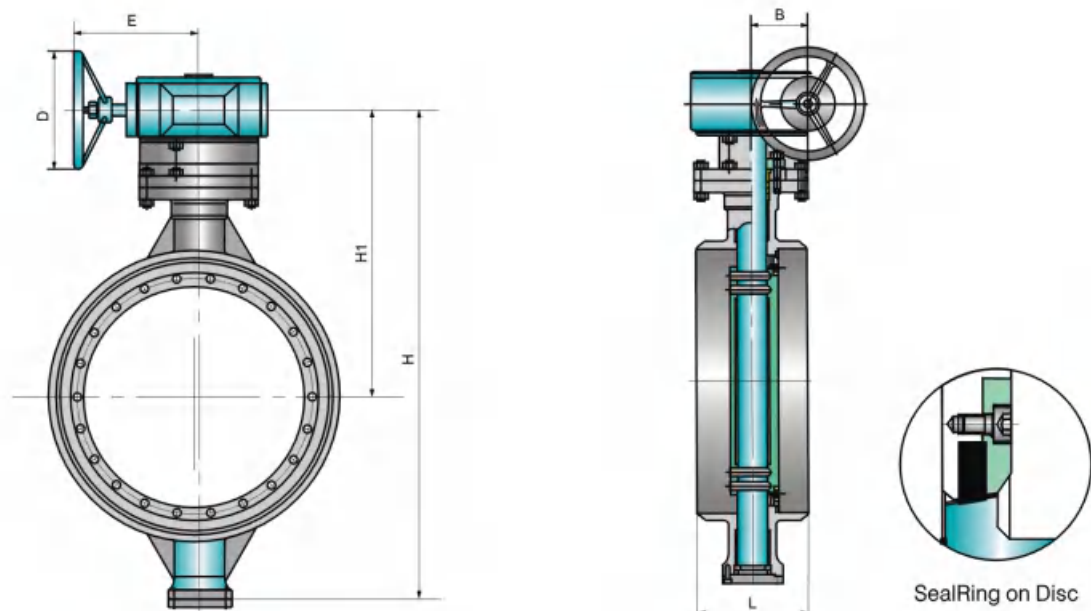


Dd943H Electric Butterfly Valve

Main Size of Outside & Weight

D343 ^H _F -150Lb (B Series) Flange butterfly													
NPS	DN	D	D1	D2 Tunisia face	f1 Boss	b	n-d0	Short pattern	H	H1	B	E	D0
26"	650	786	744.5	711	1.6	41.5	36x22.5	267	1100	670	155	360	300
28"	700	837	795.5	762	1.6	44.5	40x22.5	292	1157	703	155	360	300
30"	750	888	846	813	1.6	44.5	44x22.5	308	1210	730	155	360	300
32"	800	942	900	863.5	1.6	46	48x22.5	318	1275	756	190	435	300
34"	850	1005	957.5	921	1.6	49.5	40x25.5	318	1330	783	190	435	300
36"	900	1057	1009.5	971.5	1.6	52.5	44x25.5	330	1390	833	210	580	350
38"	950	1124	1070	1022.5	1.6	54	40x28.5	330	1415	865	230	580	350
40"	1000	1175	1120.5	1079.5	1.6	56	44x28.5	410	1510	891	230	580	350
42"	1050	1226	1171.5	1130.5	1.6	59	48x28.5	410	1560	920	230	580	350
44"	1100	1277	1222	1181	1.6	60.5	52x28.5	410	1610	943	263	620	350
46"	1150	1342	1284	1235	1.6	62	40x32	470	1677	975	263	620	400
48"	1200	1392	1335	1289	1.6	65	44x32	470	1747	1050	263	620	400
50"	1250	1443	1386	1340	1.6	68.5	48x32	470	1795	1075	263	620	400
52"	1300	1494	1436.5	1390.5	1.6	70	52x32	470	1850	1100	263	620	400
54"	1350	1550	1492.5	1441.5	1.6	71.5	56x32	470	1910	1125	310	690	400
56"	1400	1600	1543	1492.5	1.6	73.5	60x32	530	1960	1150	310	690	400
58"	1450	1675	1611.5	1543	1.6	75	48x35	530	2035	1187	310	690	450
60"	1500	1726	1662	1600	1.6	76.5	52x35	530	2087	1213	310	690	450

D343 ^H _F -300Lb (B Series) Flange butterfly													
NPS	DN	D	D1	D2 Tunisia face	f1 Boss	b	n-d0	Short pattern	H	H1	B	E	D0
26"	650	867	803	736.5	1.6	89	32x35	390	1197	734	210	435	400
28"	700	921	857	787.5	1.6	89	36x35	430	1251	761	210	435	400
30"	750	991	920.5	844.5	1.6	94	36x38	430	1321	796	210	435	400
32"	800	1054	978	901.5	1.6	103.5	32x41	470	1395	840	250	580	425
34"	850	1108	1031.5	952.5	1.6	103.5	36x41	470	1450	865	250	580	425
36"	900	1172	1089	1009.5	1.6	103.5	32x44.5	510	1525	916	250	580	425
38"	950	1222	1140	1060.5	1.6	111.5	36x44.5	510	1580	951	300	620	450
40"	1000	1273	1191	1114.5	1.6	116	40x44.5	550	1633	977	300	620	450
42"	1050	1334	1244.5	1168.5	1.6	119.5	36x48	550	1694	1010	300	620	450
44"	1100	1385	1295.5	1219	1.6	127	40x48	550	1750	1033	350	620	450
46"	1150	1461	1365.5	1270	1.6	128.5	36x51	630	1825	1071	350	690	500
48"	1200	1511	1416	1327	1.6	128.5	40x51	630	1893	1106	350	690	500
50"	1250	1562	1467	1378	1.6	138.5	44x51	630	1942	1131	350	690	500
52"	1300	1615	1517.5	1429	1.6	143	48x51	630	1995	1157	420	820	520
54"	1350	1674	1578	1479.5	1.6	137	48x51	710	2055	1187	420	820	520
56"	1400	1766	1651	1536.5	1.6	154	36x60.5	710	2166	1253	420	820	520
58"	1450	1828	1713	1594	1.6	154	40x60.5	710	2228	1284	455	1020	600
60"	1500	1878	1764	1651	1.6	151	40x60.5	710	2278	1310	455	1020	600



Standards Compliance

Design and manufacture standard	API 609	End to End Dimension standard	ISO 5052 Series 13
Material pressure-temp standard	ASME B16.34	Butt-Weld ends dimension standard	ASME B16.25
Inspection and test standard	API 598		

Products Performance Specification

Pressure (Lb) Pound grade (Class)	Testing pressure at constant temperature (Mpa)			Applicable temperature	Applicable medium
	The shell testing	High- Pressure seal	Low- Pressure seal		
150	2.93	2.07	0.6	-46°C~550°C Different raw material for different work temperature	Water, oil, gas and other causticity me dium(Different rawmaterial fordifferent medium)
300	7.58	5.52	0.6		
600	15.0	11.03	0.6		

Main Size of Outside & Weight

150Lb															
NPS	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	36"
L	140	160	180	220	220	240	260	280	300	320	340	460	480	480	500
H1	295	305	366	396	429	483	498	579	630	655	744	790	815	874	899
H	430	460	536	594	660	752	795	912	996	1049	1196	1301	1351	1451	1501
E	198	198	211	267	254	254	404	404	404	465	465	465	559	559	559
B	84	84	84	145	114	114	145	145	191	191	191	191	269	269	269
D	200	200	250	250	315	315	315	315	315	400	400	400	400	400	400
Weight(kg)	32	35	43	60	90	107	153	207	267	327	473	653	760	1033	1200
300Lb															
NPS	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	36"
L	140	160	180	220	220	240	260	280	300	320	340	460	480	480	500
H1	295	358	389	417	465	546	579	642	673	701	775	904	963	1054	1161
H	427	508	577	638	717	836	897	1010	1069	1123	1270	1463	1557	1671	1837
E	198	198	254	254	404	404	465	465	465	559	559	648	648	648	805
B	84	84	114	114	145	145	191	191	191	269	269	351	351	351	429
D	200	200	315	315	315	315	400	400	400	400	400	400	400	400	630
Weight(kg)	34	44	73	132	151	257	286	416	497	571	881	1320	1478	1699	2379



**Wafer Type Central
Line Butterfly
Valve Series**

Products Specification

Valve Name	Sot Seat Butterfly Valve
Pressure Class	150Lb
Valve Nominal Size	2"-24"
Design Standard	API 609
Test Standard	API 598
Connection Standard	ASME B16.5
Valve Actuator	Lever, Worm Gear
Valve Connection	Wafer
Valve Structure	Central Line

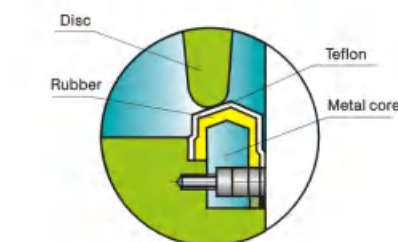
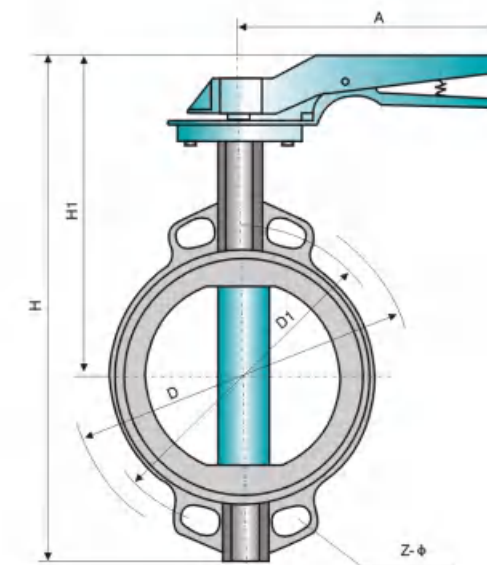
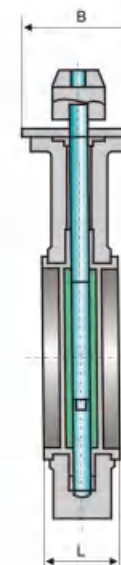
Water, Air, Oil, Gas, Steam, etc.

Product Main Parts List

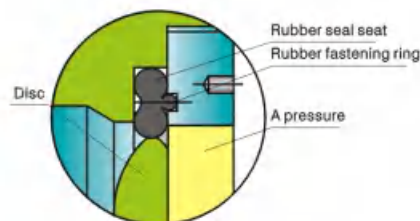
Item	Part Name	Part Material							
		CI	DI	CS	CS CF8	CS CF8M	CF8	CF8M	
1	Body	CI	DI	WCB	WCB	WCB	CF8	CF8M	
2	Disc	CI	DI	WCB	CF8	CF8M	CF8	CF8M	
3	Stem	416	416	420	F304	F316	F304	F316	
4	Seat	NBR/EPDM/Viton							
5	Stem Packing	PTFE							
6	Operator	Part							

Product Description

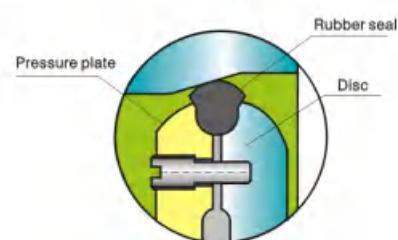
1. Cental line butterfly valve hold real bi-direction seal effort.
2. Valve max working pressure: less than 12Inch is 20Bar, other is 16Bar.
3. Valve seat is soft ring, can be replaced.
4. Disc and stem connection, there are two kinds: without pin, pin connection.
5. There are 10 lock position for handle.
6. As per client's requirement, For CI, DI, CD body valve, Disc can be coated with some material.



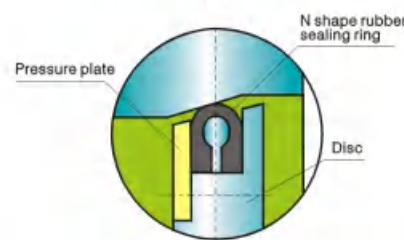
1



2



3



4

1, J-ring rubber seal will be done on the valve seat in a sealed form. Ring from the base metal, coated metal from ethylene and tetrafluoroethylene special vulcanized rubber layer. Tip of metal-core board so that there is sufficient rigidity, the soft and hard transition PTFE, rubber suction to the flexibility of compensation to ensure that a reliable valve seal.

2, Dumbbell-shaped rubber ring is to do in the ring on the valve seat form a seal. Dumbbell-shaped seal with O-ring rubber-restricted, to prevent ring slid off the trench. The structure of sealing performance particularly good, long life, but only for low-voltage, the normal temperature of the pipeline system. Seal replacement easy, easy maintenance.

3, Fan-shaped flexible rubber ring is to do in the ring butterfly board form a seal. Seal can be used with bolts of the regulation, when the valve seat after a period of use, the sealing surface is a certain amount of wear and tear, then tighten bolts squeeze fan flexible rubber ring, compensation wear cushion to extend valve life.

4, N-Seal is a flexible ring will be done in the form of a butterfly board. n-shaped seal with a flexible clips and fixed with bolts, steel metal embedded within the Central Sisuo strengthen both flexible ring can prevent the radial expansion and contraction. Suitable for, high-pressure pipeline system.

Main Performance Spcification

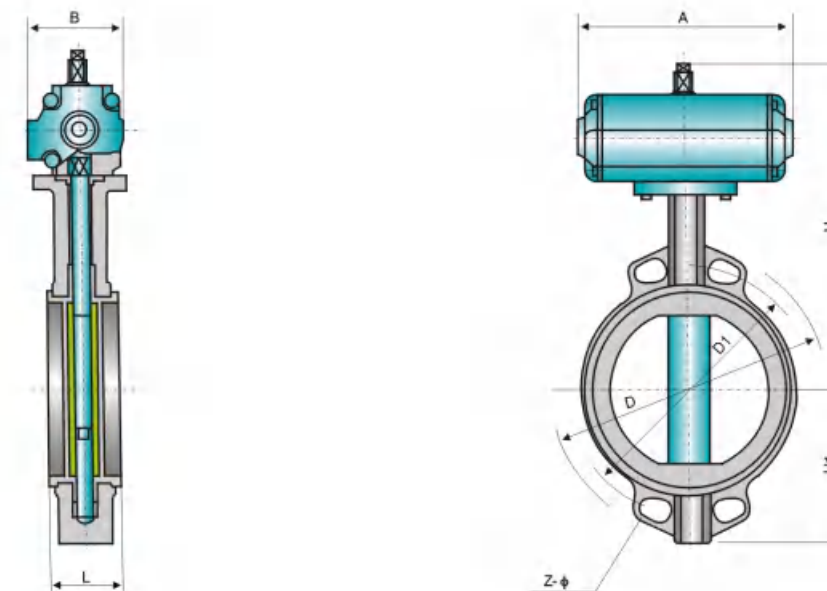
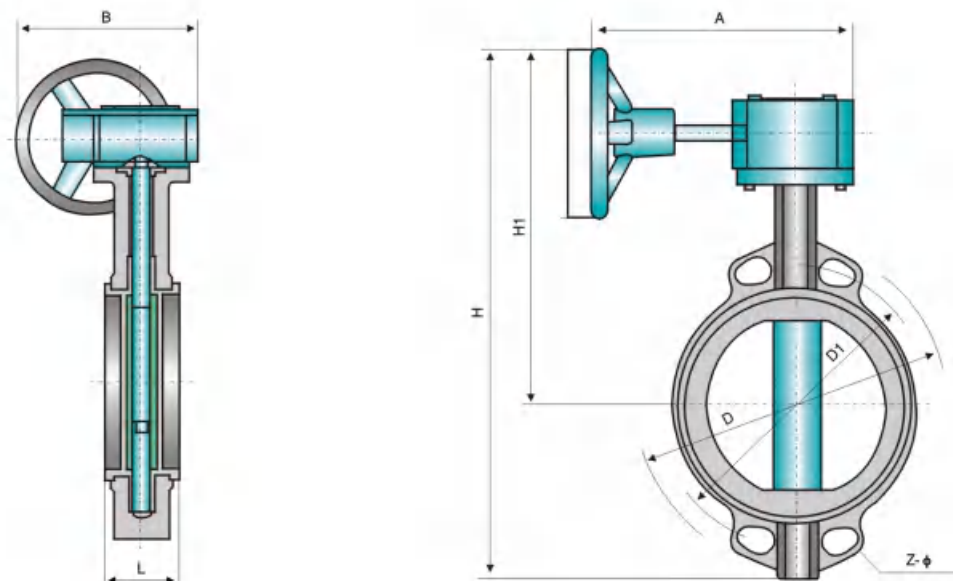
Applicable temperature	Applicable medium
≤85°C	Gypsum slurry, limestone grout, Recycled water, process water waste water
≤100°C	

Meterial of Main Parts

Name	Materials
Body	Gray cast iron, nodular cast iron, carbon steel
Disc	1.4529, C276 Carbon steel coated with rubber, carbon steel coated fluorine plastic, stainless steel Duplex stainless steel plate 1.4529, C276
Seat	Natural rubber, epdm rubber,
Stem	Stainless steel、2Cr13、304

Main External and Connection Dimension

(DN)	L	D	D1	Z-φ	H	H1	A	B	(kg)
40(1 1/2")	33	150	110	4-18	220	150	270	118	3.1
50(2")	43	165	125	4-18	270	190	270	118	3.5
65(2 1/2")	46	185	145	4-18	295	205	270	118	4.4
80(3")	46	200	160	8-18	305	210	270	118	5.5
100(4")	52	220	180	8-18	340	215	270	118	6.5
125(5")	56	250	210	8-18	370	245	310	118	9
150(6")	56	285	240	8-22	395	255	310	118	12
200(8")	60	340	295	8-22	475	300	370	165	22
Standard	GB12238 GB12221 GB/T17241.6 PN1.0MPa								



Main Performance Specification

Applicable temperature	Applicable medium
≤85°C	Gypsum slurry, limestone grout, Recycled water, process water waste water
≤100°C	

Material of Main Parts

Name	Materials
Body	Gray cast iron, nodular cast iron, carbon steel
Disc	1.4529, C276 Carbon steel coated with rubber, carbon steel coated fluorine plastic, stainless steel Duplex stainless steel plate 1.4529, C276
Seat	Natural rubber, epdm rubber,
Stem	Stainless steel, 2Cr13, 304

Main External and Connection Dimension

(DN)	L	D	D1	Z-φ	H	H1	A	B	D0	(kg)
40(1 1/2")	33	150	110	4-18	350	270	193	125	150	7
50(2")	43	165	125	4-18	360	280	193	125	150	8
65(2 1/2")	46	185	145	4-18	385	295	193	125	150	9
80(3")	46	200	160	8-18	396	300	193	125	150	10
100(4")	52	220	180	8-18	430	315	193	125	150	11
125(5")	56	250	210	8-18	460	335	193	125	150	13
150(6")	56	285	240	8-22	485	345	193	125	150	14
200(8")	60	340	295	8-22	630	455	283	165	220	30
250(10")	68	395	350	12-22	690	484	283	165	220	40
300(12")	78	445	400	12-22	770	530	334	175	280	78
350(14")	78	505	460	16-22	830	560	334	175	280	81
400(16")	102	565	515	16-26	910	595	425	210	320	140
450(18")	114	615	565	20-26	938	618	425	210	320	160
500(20")	127	670	620	20-26	993	650	425	210	320	190
600(24")	154	780	725	20-30	1131	718	425	210	320	315
700(28")	165	895	840	24-30	1476	998	620	320	400	480
800(32")	190	1015	950	24-33	1533	1008	620	320	400	516
900(36")	203	1115	1050	28-33	1655	1070	620	320	400	780
1000(40")	216	1230	1160	28-36	1765	1125	620	400	400	950
1100(44")	230	1340	1270	32-36	1880	1184	620	400	400	1050
1200(48")	254	1455	1380	32-39	1995	1240	620	400	400	1150
Standard	GB12238 GB12221 GB/T17241.6 PN1.0MPa									

Main Performance Specification

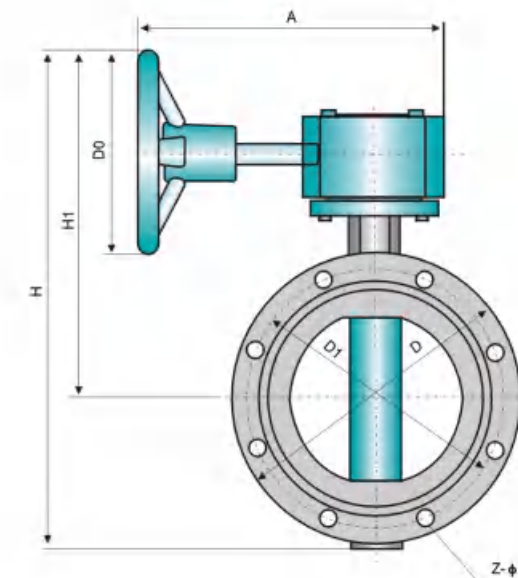
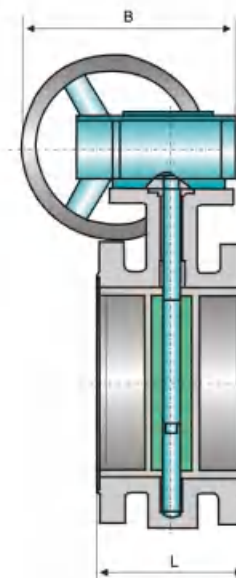
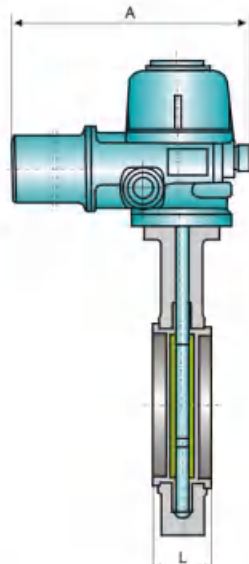
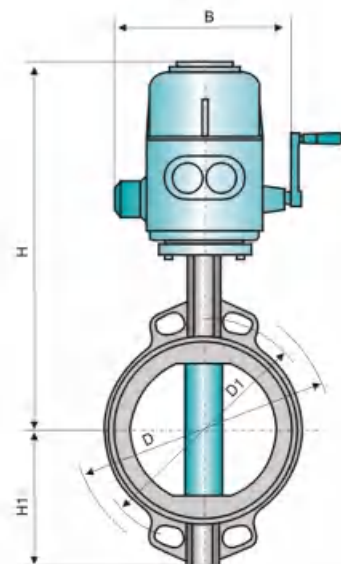
Applicable temperature	Applicable medium
≤85°C	Gypsum slurry, limestone grout, Recycled water, process water waste water
≤100°C	

Material of Main Parts

Name	Materials
Body	Gray cast iron, nodular cast iron, carbon steel
Disc	1.4529, C276 Carbon steel coated with rubber, carbon steel coated fluorine plastic, stainless steel Duplex stainless steel plate 1.4529, C276
Seat	Natural rubber, epdm
Stem	stainless steel, 2Cr13, 304
Pneumatic device	Tianjin two the

Main External and Connection Dimension

(DN)	L	D	D1	Z-φ	A	B	H	H1	(kg)	
40(1 1/2")	33	150	110	4-18	127	60	214	60	6	
50(2")	43	165	125	4-18	127	60	234	64	7	
65(2 1/2")	46	185	145	4-18	133	70	273	80	10	
80(3")	46	200	160	8-18	133	83	293	90	11	
100(4")	52	220	180	8-18	203	100	327	102	16	
125(5")	56	250	210	8-18	222	120	376	112	22	
150(6")	56	285	240	8-22	294	120	386	132	24	
200(8")	60	340	295	8-22	337	172	483	160	45	
250(10")	68	395	350	12-22	380	172	510	206	57	
300(12")	78	445	400	12-22	420	224	612	232	90	
350(14")	78	505	460	16-22	450	224	643	263	103	
400(16")	102	565	515	16-26	603	272	732	295	177	
450(18")	114	615	565	20-26	603	272	754	327	193	
500(20")	127	670	620	20-26	683	272	812	358	343	
600(24")	154	780	725	20-30	683	360	952	474	380	
Standard	GB12238 GB12221 GB/T17241.6 PN1.0MPa									



Main Performance Specification

Applicable temperature	Applicable medium
≤85°C	Gypsum slurry, limestone grout, Recycled water, process water waste water
≤100°C	

Material of Main Parts

Name	Materials
Body	Gray cast iron, nodular cast iron, carbon steel
Disc	1.4529, C276 Carbon steel coated with rubber, carbon steel coated fluorine plastic, stainless steel Duplex stainless steel plate 1.4529, C276
Seat	Natural rubber, epdm
Stem	Stainless steel, 2Cr13, 304
Pneumatic device	Tianjin two the

Main External and Connection Dimension

(DN)	L	D	D1	Z-φ	A	B	H	H1	(kg)
40(1 1/2")	33	150	110	4-18	418	308	369	60	26
50(2")	43	165	125	4-18	418	308	389	64	29
65(2 1/2")	46	185	145	4-18	418	308	414	80	31
80(3")	46	200	160	8-18	418	308	422	90	33
100(4")	52	220	180	8-18	418	308	439	102	34
125(5")	56	250	210	8-18	418	308	455	112	39
150(6")	56	285	240	8-22	418	308	465	132	41
200(8")	60	340	295	8-22	418	308	594	160	68
250(10")	68	395	350	12-22	418	308	621	206	86
300(12")	78	445	400	12-22	585	275	667	232	137
350(14")	78	505	460	16-22	585	275	698	293	150
400(16")	102	565	515	16-26	585	275	740	295	205
450(18")	114	615	565	20-26	585	275	762	327	240
500(20")	127	670	620	20-26	729	355	852	358	285
600(24")	154	780	725	20-30	729	355	934	474	407
700(28")	165	895	840	24-30	910	395	1039	486	515
800(32")	190	1015	950	24-33	910	395	1101	591	655
900(36")	203	1115	1050	28-33	783	448	1320	640	920
1000(40")	216	1230	1160	28-36	783	448	1450	721	1100
1100(44")	230	1340	1270	32-36	783	448	1740	760	1150
1200(48")	254	1455	1380	32-39	783	448	2035	795	1200
Standard	GB12238 GB12221 GB/T17241.6 PN1.0MPa								

Main Performance Specification

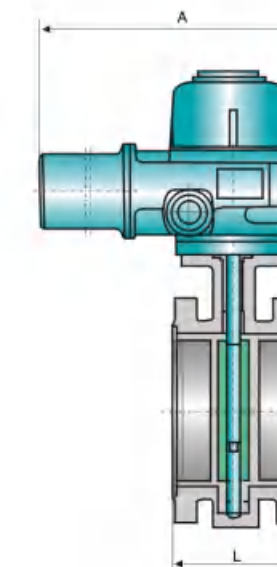
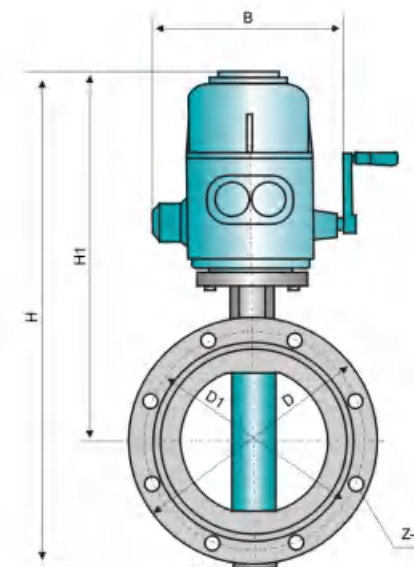
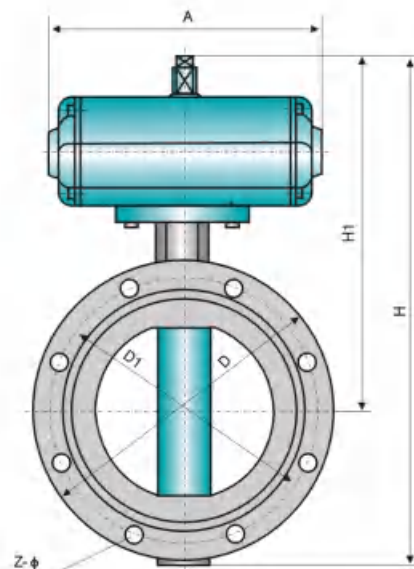
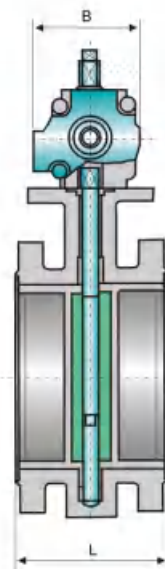
Applicable temperature	Applicable medium
≤85°C	Gypsum slurry, limestone grout, Recycled water, process water waste water
≤100°C	

Material of Main Parts

Name	Materials
Body	Gray cast iron, nodular cast iron, carbon steel
Disc	1.4529, C276 Carbon steel coated with rubber, carbon steel coated fluorine plastic, stainless steel Duplex stainless steel plate 1.4529, C276
Seat	Natural rubber, EPDM
Stem	Stainless steel, 2Cr13, 304

Main External and Connection Dimension

(DN)	(PN) MPa	L	D	D1	Z-φ	H	H1	A	B	DO	(kg)
50(2")	1.0	108	165	125	4-18	310	227	193	125	150	8
65(2 1/2")		112	185	145	4-18	333	240	193	125	150	11.5
80(3")		114	200	160	8-18	423	323	193	125	150	12.5
100(4")		127	220	180	8-18	440	330	193	125	150	23
125(5")		140	250	210	8-18	455	330	193	125	150	41
150(6")		140	285	240	8-22	510	368	193	125	150	47
200(8")		152	340	295	8-22	614	444	283	165	220	61
250(10")		165	395	350	12-22	680	483	283	165	220	74
300(12")		178	445	400	12-22	776	554	334	175	280	103
350(14")		190	505	460	16-22	840	588	334	175	280	120
400(16")		216	565	515	16-26	858	596	425	210	320	217
450(18")		222	615	565	20-26	993	686	425	210	320	242
500(20")		229	670	620	20-26	1056	721	425	210	320	279
600(24")		267	780	725	20-30	1161	771	425	210	320	396
700(28")		229	860	810	24-26	1350	818	503	393	450	265
700(28")		1.0	292	895	840	24-30	1350	818	503	393	450
800(32")	0.6	241	975	920	24-30	1440	858	503	393	450	345
800(32")	1.0	318	1015	950	24-33	1440	858	503	393	450	552
900(36")	0.6	241	1075	1020	24-30	1616	978	630	555	500	425
900(36")	1.0	330	1115	1050	28-33	1616	978	630	555	500	680
1000(40")	0.6	300	1175	1120	28-30	1780	1058	630	555	500	565
1000(40")	1.0	410	1230	1160	28-36	1780	1058	630	555	500	906
1100(44")	0.6	350	1305	1240	28-33	1995	1200	630	555	500	740
1100(44")	1.0	440	1340	1270	32-36	1995	1200	630	555	500	1184
1200(48")	0.6	350	1405	1340	32-33	2045	1250	630	555	500	910
1200(48")	1.0	470	1455	1380	32-36	2045	1250	630	555	500	1456
Standard	GB12238 GB12221 GB/T17241.6 PN1.0MPa PN0.6MPa										



Main Performance Specification

Applicable temperature	Applicable medium
≤85°C	Gypsum slurry, limestone grout, Recycled water, process water waste water
≤100°C	

Material of Main Parts

Name	Materials
Body	Gray cast iron, nodular cast iron, carbon steel
Disc	1.4529, C276 Carbon steel coated with rubber, carbon steel coated fluorine plastic, stainless steel Duplex stainless steel plate 1.4529, C276
Seat	Natural rubber, epdm
Stem	stainless steel, 2Cr13, 304
Pneumatic device	Tianjin two the

Main Performance Specification

Applicable temperature	Applicable medium
≤85°C	Gypsum slurry, limestone grout, Recycled water, process water waste water
≤100°C	

Material of Main Parts

Name	Materials
Body	Gray cast iron, nodular cast iron, carbon steel
Disc	Carbon steel coated with rubber, carbon steel coated fluorine plastic, stainless steel Duplex stainless steel plate 1.4529, C276
Seat	Natural rubber, epdm
Stem	Stainless steel, 2Cr13, 304
Pneumatic device	Tianjin two the

Main External and Connection Dimension

(DN)	(PN) MPa	L	D	D1	Z-φ	H	H1	A	B	(kg)	
50(2")	1.0	108	165	125	4-18	305	214	127	60	8.5	
65(2 1/2")		112	185	145	4-18	352	248	133	70	11.5	
80(3")		114	200	160	8-18	377	270	133	83	12.5	
100(4")		127	220	180	8-18	422	302	203	100	27	
125(5")		140	250	210	8-18	479	350	222	120	40	
150(6")		140	285	240	8-22	496	365	294	120	43	
200(8")		152	340	295	8-22	655	478	337	172	71.5	
250(10")		165	395	350	12-22	704	498	380	172	86.5	
300(12")		178	445	400	12-22	825	605	420	224	128.5	
350(14")		190	505	460	16-22	907	643	450	224	147	
400(16")		216	565	515	16-26	1030	732	603	272	208	
450(18")		222	615	565	20-26	1079	752	603	272	260	
500(20")		229	670	620	20-26	1164	812	683	272	350	
600(24")		267	780	725	20-30	1396	950	683	360	452	
700(28")		0.6	229	860	810	24-26	1622	1090	742	440	360
700(28")		1.0	292	895	840	24-30	1622	1090	742	440	578
800(32")	0.6	241	975	920	24-30	1722	1190	866	496	448	
800(32")	1.0	318	1015	950	24-33	1722	1190	866	496	716	
900(36")	0.6	241	1075	1020	24-30	1886	1248	866	496	562	
900(36")	1.0	330	1115	1050	28-33	1886	1248	866	496	899	
1000(40")	0.6	300	1175	1120	28-30	2140	1418	990	580	740	
1000(40")	1.0	410	1230	1160	28-36	2140	1418	990	580	1184	
1100(44")	0.6	350	1305	1240	28-33	2270	1510	990	580	928	
1100(44")	1.0	440	1340	1270	32-36	2270	1510	990	580	1485	
1200(48")	0.6	350	1405	1340	32-33	2405	1610	990	580	1117	
1200(48")	1.0	470	1455	1380	32-36	2405	1610	990	580	1787	
Standard					GB12238 GB12221 GB/T17241.6	PN1.0MPa PNO.6MPa					

Main External and Connection Dimension

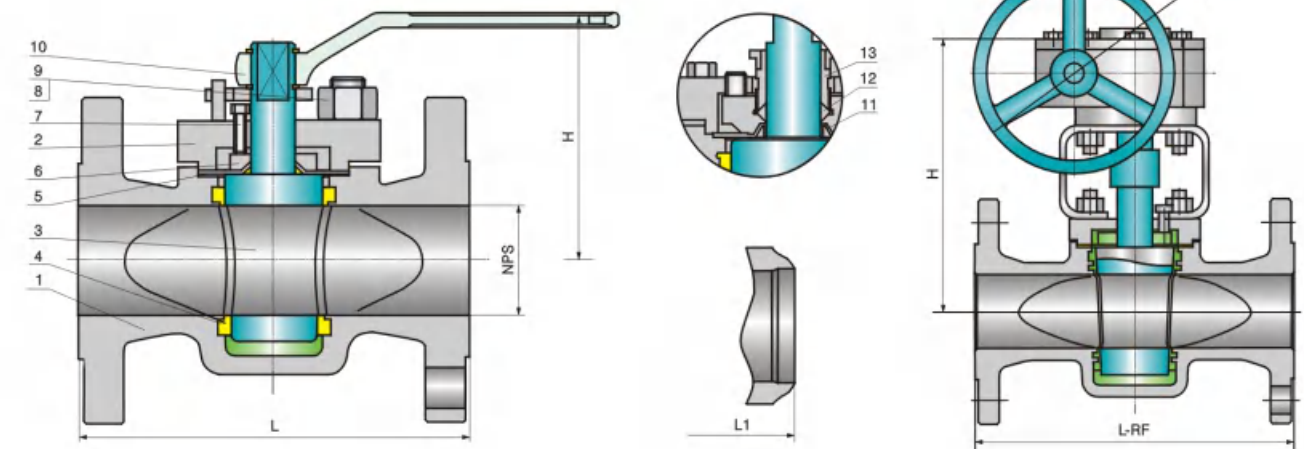
(DN)	(PN) MPa	L	D	D1	Z-φ	H	H1	A	B	(kg)	
50(2")	1.0	108	165	125	4-18	460	369	418	308	36	
65(2 1/2")		112	185	145	4-18	493	369	418	308	39	
80(3")		114	200	160	8-18	506	399	418	308	42	
100(4")		127	220	180	8-18	549	414	418	308	45	
125(5")		140	250	210	8-18	568	439	418	308	53	
150(6")		140	285	240	8-22	585	454	418	308	55	
200(8")		152	340	295	8-22	766	589	418	308	87	
250(10")		165	395	350	12-22	815	609	418	308	102	
300(12")		178	445	400	12-22	880	660	585	275	158	
350(14")		190	505	460	16-22	962	698	585	275	169	
400(16")		216	565	515	16-26	1038	740	585	275	238	
450(18")		222	615	565	20-26	1087	760	585	275	286	
500(20")		229	670	620	20-26	1204	852	729	355	333	
600(24")		267	780	725	20-30	1378	932	729	355	474	
700(28")		0.6	229	860	810	24-26	1558	1026	1120	597	376
700(28")		1.0	292	895	840	24-30	1558	1026	1120	597	601
800(32")	0.6	241	975	920	24-30	1648	1066	1120	597	460	
800(32")	1.0	318	1015	950	24-33	1648	1066	1120	597	736	
900(36")	0.6	241	1075	1020	24-30	1762	1124	1120	597	580	
900(36")	1.0	330	1115	1050	28-33	1762	1124	1120	597	928	
1000(40")	0.6	300	1175	1120	28-30	1926	1204	1120	591	760	
1000(40")	1.0	410	1230	1160	28-36	1926	1204	1120	591	1216	
1100(44")	0.6	350	1305	1240	28-33	2080	1320	1114	820	980	
1100(44")	1.0	440	1340	1270	32-36	2080	1320	1114	820	1568	
1200(48")	0.6	350	1405	1340	32-33	2215	1420	1114	820	1210	
1200(48")	1.0	470	1455	1380	32-36	2215	1420	1114	820	1936	
Standard					GB12238 GB12221 GB/T17241.6	PN1.0MPa PNO.6MPa					



Other Valves
Series



LEADING THE GLOBAL VALVE INDUSTRY



Gear Standard for 4" & Larger

Design Description:

Rugged, heavy-duty body
Bolted bonnet cap
PTFE Sleeved, tapered plug
Non-lubricated
Stem integral with-plug
In-line adjustment
Fire durable construction
Anti static device
Stopper device
Renewable seat ring
Flanged or butt welding ends
Available with wg operator
working temperature of -29~180°C
There is no cavity in the valve for accumulation of medium.

Applicable Standards

Design standard	API 599/API 6D
Fire test	API 607
Anti static	API 599
Steel valves	ASME B16.34
Face to face	ASME B16.10
End flanges	ASME B16.5
Butt welding ends	ASME B16.25
Inspection and test	API 598/API 6D

Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet	A216-WCB	A351-CF8M	A352-LCB
3	Plug	A351-CF8	A351-CF8M	A352-LCB
4	Sleeve	Glass filled PTFE/PTFE		
5	Bonnet gasket	Graphite+3042)	Graphite+3162)	Graphite+3042)
6	Adjusting gasket	A182-F6a	A182-F316	A182-F6a
7	Adjusting bolt	A193-B7	A193-B8	A320-L7
8	Bonnet stud	A193-B7	A193-B8	A320-L7
9	Bonnet bolt	A194-2H	A194-8	A194-7
10	Handle	A216-WCB		
11	Diaphragm	A167-304+PTFE	A167-316+PTFE	A167-304+PTFE
12	Packing	Graphite		
13	Gland flange	A216-WCB	A217-WC6	A352-LCB

Note: 1). A216-WCB+ENP Optional; 2). Jacketed construction.

Dimensions Data

ANSI Class 150

Size	in	2	2 1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L (RF)	in	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00
	mm	178	191	203	229	267	292	330	356
L1 (BW)	in	10.50	12.00	13.00	14.00	18.00	20.50	22.00	25.00
	mm	267	305	330	356	457	521	559	635
H	in	6.00	6.50	7.12	15.00	20.50	22.88	24.50	26.75
	mm	150	165	180	380	520	580	620	680

ANSI Class 300

Size	in	2	2 1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L (RF)	in	8.5	9.5	11.0	12.0	16.0	16.5	18.0	20.0
	mm	216	241	283	305	403	419	457	502
L1 (BW)	in	10.50	12.00	13.00	14.00	18.00	20.50	22.00	25.00
	mm	267	305	330	356	457	521	559	635
H	in	6.00	6.50	7.12	15.00	20.50	22.88	24.50	26.75
	mm	150	165	180	380	520	580	620	680

ANSI Class 600

Size	in	2 1/2	2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	11.50	13.00	14.00	16.00	19.50	23.50	26.50	30.00
	mm	292	330	356	432	559	660	787	838
L2 (RTJ)	in	11.62	13.12	14.12	16.12	19.62	23.62	26.62	30.12
	mm	295	333	359	435	562	664	791	841
H	in	6.12	6.75	7.25	15.38	20.88	23.25	24.88	27.12
	mm	155	170	185	390	530	590	630	690

ANSI Class 900

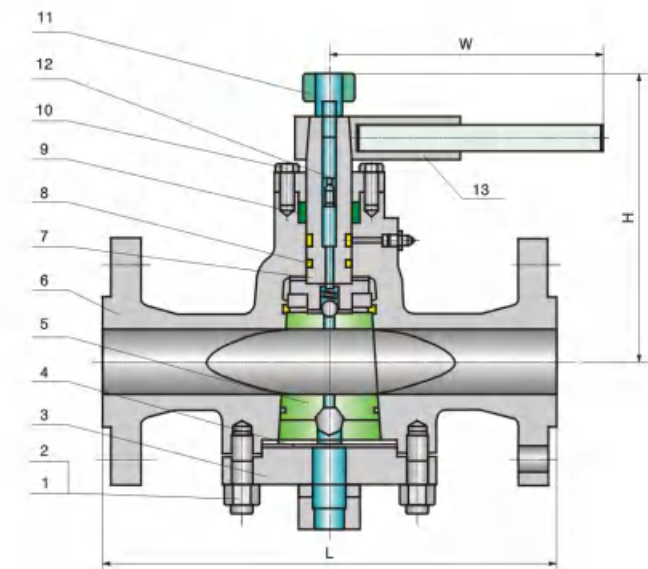
Size	in	2 1/2	2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L/L1 (RF/BW)	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00
	mm	368	419	381	457	610	737	838	965
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12
	mm	371	422	384	460	613	740	841	968
H	in	6.12	6.75	7.25	15.38	20.88	23.25	24.88	27.12
	mm	155	170	185	390	530	590	630	690

Main Structural Features

Bolt cover, structure of inverted pressure balance
 And light on/off operation. An oil groove is set between valve body and sealing surface, which may infuse the seal grease to increase the seal capability.
 working temperature of -29~180°C

Applicable Standards

Design and manufacture: API 599, API 6D
 Face to face(end to end): ANSI B 16.10
 Flange connection: ANSI B16.5
 Butt welded end: ANSI B16.25
 Test and inspection: API 598, API 6D



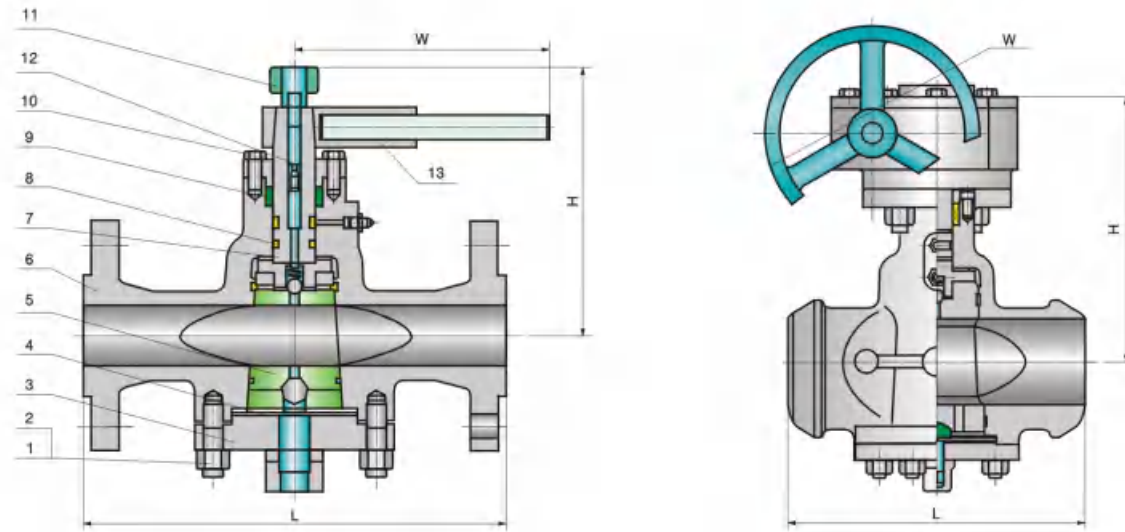
Main Parts Materials

NO.	Part name	Material				
1, 2	Bolt/Nut	A193 B7/A194 2H	A193 B8/A194 8	A193 B8M	A194 8M	
3	Cover	A216 WCB	A351 CF8	A351 CF8M		
4	Gasket	Flexible graphite+ stainless steel/PTFE				
5	Plug	A182 F304	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
6	Body	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
7	Stem	A182 F410	A182 F304	A182 F316	A182 F304L	A351 CF3M
8	*O* ring	NBR/FEP/SBR				
9	Packing	Flexible graphite/PTFE				
10	Gland	A216 WCB	A351 CF8	A351 CF8M		
11, 12	Oichozzle/check valve	Material see body				
13	Wrench	ASTM A47-32510 A216 WCB				

Dimensions Data

ANSI Class 150																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	108	117	127	140	165	178	190	203	229	254	267	292	330	356	381
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380

ANSI Class 300																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF	mm	140	152	165	178	190	216	241	283	305	381	403	419	457	502	762
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380



Gear Standard for 4" & Larger

Main Parts Materials

NO.	Part name	Material				
		A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
1, 2	Bolt/Nut	A193 B7/A194 2H	A193 B8/A194 8	A193 B8M	A194 8M	
3	Cover	A216 WCB	A351 CF8	A351 CF8M		
4	Gasket	Flexible graphite+ stainless steel/PTFE				
5	Plug	A182 F304	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
6	Body	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
7	Stem	A182 F410	A182 F304	A182 F316	A182 F304L	A351 CF3M
8	"O" ring	NBR/FEP/SBR				
9	Packing	Flexible graphite/PTFE				
10	Gland	A216 WCB	A351 CF8	A351 CF8M		
11, 12	Oichozzle/check valve	Material see body				
13	Wrench	ASTM A47-32510 A216 WCB				

Dimensions Data

ANSI Class 600																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF/BW	mm	165	190	216	229	241	292	330	356	432	508	559	660	787	838	889
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380

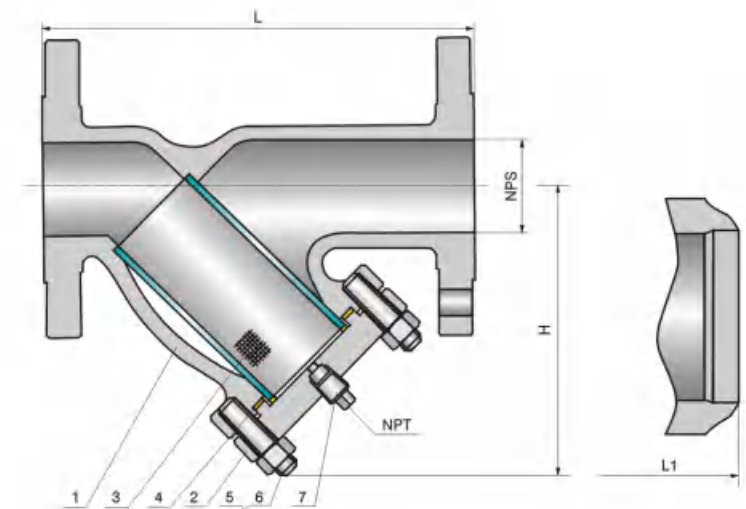
ANSI Class 900																
Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
L-RF/BW	mm	229	229	254	279	305	368	419	381	457	559	610	737	838	965	1029
H	mm	180	180	185	200	210	215	250	270	300	340	365	400	450	510	590
W	mm	400	400	500	500	600	600	820	820	300	300	320	320	350	380	380

Design Description

- Y-Pattern type
- Bolted bonnet cap with drain plug
- Perforated stainless steel screen
- Strainer density with 100 mesh design
- Full range of strainer density
- Renewable strainer density
- Flanged or butt welding ends

Applicable Standards

- Steel valves: ASME B16.34
- Face to face: ASME B16.10
- End flanges: ASME B16.5
- Butt welding ends: ASME B16.25
- Inspection and test: API 598



Materials of Parts

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A351-CF8M	A352-LCB
2	Bonnet cap	A216-WCB	A351-CF8M	A352-LCB
3	Screen	A240-304	A420-316	A240-304
4	Bonnet gasket	Graphite+3041)	Graphite+3041)	Graphite+3041)

NO.	Part name	ASTM Material		
5	Bonnet stud	A193-B7	A193-B8	A320-L7
6	Bonnet stud nut	A194-2H	A194-8	A194-7
7	Plug	A276-410	A276-316	A276-410

Note: 1). Spiral wound construction.

Percentage Open Area

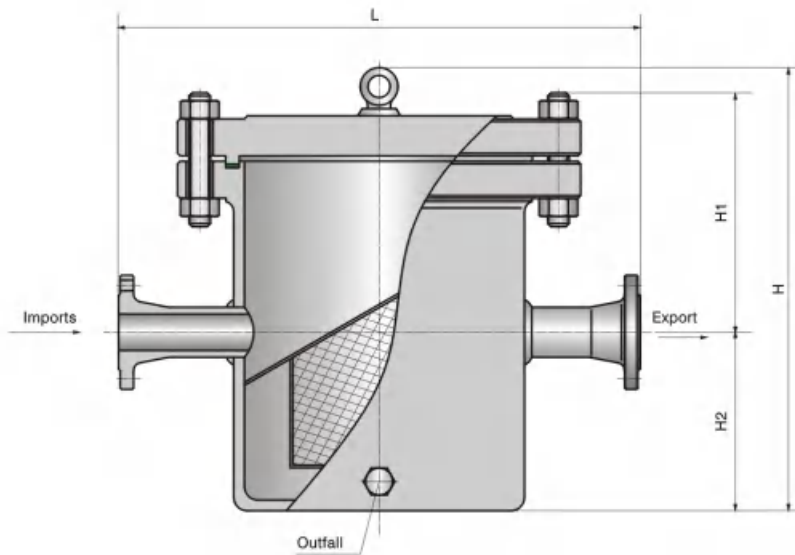
Mesh	5	10	20	30	40	50	60	80	100	120	150	180	200	250	300
A(SWG)	20	22	28	32	36	37	38	40	42	43	45 1/2	46 1/2	47	48	48
B(m/m)	0.914	0.711	0.356	0.274	0.193	0.172	0.152	0.122	0.102	0.092	0.066	0.053	0.051	0.040	0.039
C(m/m)	4.166	1.829	0.914	0.572	0.442	0.336	0.271	0.195	0.152	0.119	0.103	0.088	0.076	0.062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

Even the "MESH" is same; OPEN AREA is not always same due to the diameter of wire. The details of wire as follows;
A: Number of wire; B: Diameter of wire; C: Width of opening; D: Percentage of OPEN AREA

Dimensions Data

Class 150~300

Size	in	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	
		mm	15	20	25	40	50	65	80	100	150	200	250	300
150Lb	L/L1 (RF/BW)	in	5.50	6.00	6.50	8.00	9.00	11.00	12.50	14.50	18.50	23.50	26.50	30.50
		mm	140	152	165	203	229	279	318	368	470	597	673	775
	H	in	3.38	4.12	4.50	6.12	7.12	10.25	11.50	12.75	17.62	21.00	27.12	30.75
		mm	87	105	114	156	181	259	293	324	448	535	690	780
300Lb	L/L1 (RF/BW)	in	5.50	6.00	6.50	8.00	9.00	11.00	12.50	14.50	18.50	23.50	26.50	30.50
		mm	140	152	165	203	229	279	318	368	470	597	673	775
	H	in	3.38	4.12	4.50	6.12	7.12	10.25	11.50	12.75	17.62	21.00	27.12	30.75
		mm	87	105	114	156	181	259	293	324	448	535	690	780
Plug(NPT)	in	1/8	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1	
	mm	15.875	127	127	127	127	19.05	19.05	19.05	19.05	19.05	25.4	25.4	
WT (Kg)	RF/RFJ	2.1	2.3	3.1	6.2	9.7	23.5	28	37	67	91	135	168	
	BW	0.8	1.2	1.4	3.7	6.7	16.5	22	28	59	78	113	151	



Dimensions Data

CL150

Spec (NPS)	in	1	1 1/2	2	2 1/2	3	4	6	8
Face to face(mm)	L	215	270	270	330	340	340	500	560
Center height(mm)	H	470	560	560	710	790	790	-	-
	H1	105	130	130	145	150	175	210	260
	H2	165	175	175	210	255	300	425	525
Weight (Kg)		6	8	10	14	16	16	55	78

CL300

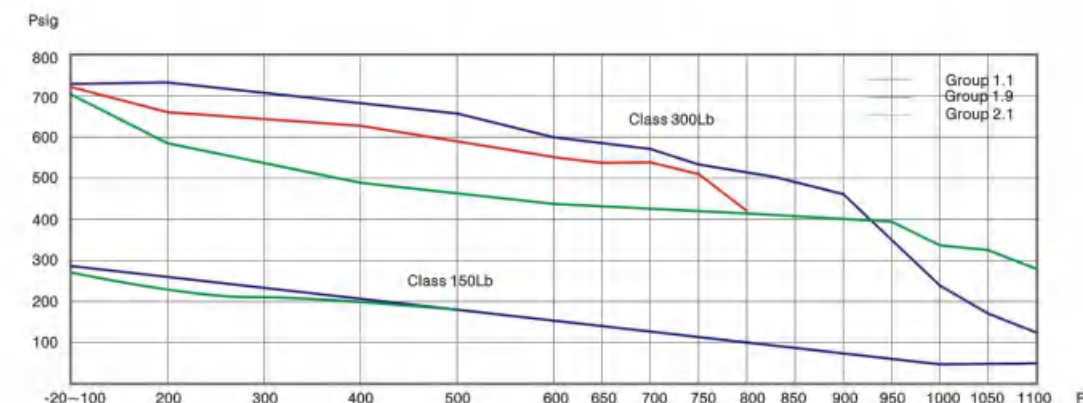
Spec (NPS)	in	1	1 1/2	2	2 1/2	3	4	6	8
Face to face(mm)	L	215	270	270	330	340	340	500	560
Center height(mm)	H	470	560	560	710	790	790	-	-
	H1	105	130	130	145	150	175	210	260
	H2	165	175	175	210	255	300	425	525
Weight (Kg)		8	10	14	20	38	55	90	120

Features

Material	Chemical compositions (%)										Mechanical properties				Hardness
	C≤	Mn≤	P≤	S≤	Si	Cr	Mo	Ni	Cu	V	Tensile	Yield	Elon- Gation	Red Area	
Design											Min	Min	%	%	
Nation											MPa	MPa	%	%	min
	max	max	max	max	max										
WCB	0.30	1.00	0.04	0.045	0.6	≤0.4	≤0.25	≤0.5	≤0.3	≤0.03	485	250	22	35	187
WC6	0.20	0.5-0.8	0.04	0.045	0.6	1.0-1.5	0.45-0.65		0.50		485	275	20	35	143-187
WC9	0.18	0.4-0.7	0.04	0.045	0.60	2-2.75	0.9-1.2	0.50	0.50		485	275	20	35	179-217
C5	0.20	0.40-0.70	0.04	0.045	0.75	4.00-6.50	0.45-0.65	0.50	0.50		620	415	18	35	
LCB	0.30	1.00	0.04	0.045	0.6	0.5	0.2	0.50	0.30	0.30	450	240	24	35	
LCC	0.25	1.20	0.04	0.045	0.6	0.5	0.2	5.50	0.30	0.30	485	275	22	35	
CF8	0.08	1.50	0.04	0.04	2.0	18-21	0.5	8-11			485	205	35		
CF8M	0.08	1.50	0.04	0.04	1.5	18-21	2.0-3.0	9.0-12			485	205	30		
CF8C	0.08	1.50	0.04	0.04	2.0	18-21		9.0-12			485	205	30		
CF3	0.03	1.50	0.04	0.04	2.0	17-21	0.5	8.0-12	3.0-4.0		485	205	35		
CF3M	0.03	1.50	0.04	0.04	1.5	17-21	2.0-3.0	9.0-13	≤0.40		485	205	30		
CN7M	0.07	1.50	0.04	0.04	1.5	19.0-22.0	2.0-3.0	27.0-30.5		≤0.08	425	170	35		
A105	0.35	0.60-1.05	0.035	0.04	0.1-0.35	≤0.30	≤0.12	≤0.40			485	250	22	30	
F6	0.15	1.00	0.04	0.03	1.0	11.5-13.50	-	≤0.50			485	275	18	35	
F11	0.1-0.2	0.3-0.8	0.04	0.04	0.50-1.0	1.0-1.5	0.44-0.65	-			415	205	20	40	
304	0.08	2.0	0.04	0.03	1.0	18.0-20.0	-	18.0-11.0			515	205	30	50	
316	0.08	2.0	0.04	0.03	1.0	16.0-18.0	2.0-3.0	10.0-14.0			515	205	30	50	
304L	0.035	2.0	0.04	0.03	1.0	18.0-20.0	-	8.0-13.0			485	170	30	50	
316L	0.035	2.0	0.04	0.03	1.0	16.0-18.0	2.0-3.0	10.0-15.0			485	170	30	50	
321	0.08	2.0	0.045	0.03	1.0	≤17.0-19.0	-	9.0-12.0			515	205	30	50	
410	0.15	1.0	0.04	0.03	1.0	11.5-13.5	-	-			480	275	16	45	
420	≤0.15	1.0	0.04	0.03	1.0	12.0-14.0	-	-							255
430	0.12	1.0	0.04	0.03	1.0	16.0-18.0	-	-			415	207	20	45	
B7	0.37-0.49	0.65-1.10	0.035	0.04	0.15-0.35	0.75-1.20	0.15-0.25	-			860	720	16	50	
B7M	0.37-0.49	0.65-1.10	0.035	0.04	0.15-0.35	0.75-1.20	0.15-1.25	-			690	550	18	50	235
2H	>0.4	1.00	0.04	0.05	0.40	-	-	-							248-352
2HM	>0.4	1.00	0.04	0.05	0.40	-	-	-							159-237
B8	0.08	2.00	0.045	0.03	1.00	18.0-20.0	-	8.0-11.0			515	205	30	50	223
B8M	0.08	2.00	0.045	0.03	1.00	16.0-18.0	2.0-3.0	10.0-14.0			515	205	30	50	223
8	0.08	2.00	0.045	0.03	1.00	18.0-20.0	-	8.0-11.0							
L7	0.38-0.48	0.75-1.00	0.035	0.04	0.15-0.35	0.80-1.10	0.15-0.25	-			860	725	16	50	126-300
L7M	0.38-0.48	0.75-1.00	0.035	0.04	0.15-0.35	0.80-1.10	0.15-0.25	-			690	550	18	50	235

Materials Description

Material form	Description	Genericname	Specification	Grade	Conditions/comments	
Casting	A216 WCB	Carbon steel	ASTM A3216	WCB	Normalize & temper	
	A351 CF8M	Stainless steel 316	ASTM A351	CF8M	Solution anneal	
	A351 CN7M	Alloy 20	ASTM A351	CN7M	Solution anneal	
	A352 LCB	Carbon steel to-50F	ASTM A352	LCB	Quench & temper	
	MIL-B-24480	Aluminum bronze	MIL-B-24480A(SH)			
	QQ-N-288	Monel	QQ-N-228/AMO3	Comp. A		
Forging	A105	Carbon steel	ASTM A105			
	A182 F316	Stainless steel 316	ASTM A182	F316		
	A350 LF2	Carbon steel to-50F	ASTM A350	LF2		
	QQ-N-281	Monel	QQ-N-2810/AMO2	Class A Form 2	Anneal	
Plate/sheet	A240 316	Stainless steel 316	ASTM A240	316		
	A240 321	Stainless steel 321	ASTM A240	321		
	A515 70	Carbon steel	ASTM A515	70		
	A516 70	Carbon steel to-50	ASTM A516	70	Normalize	
	B127	Monel	ASTM B127			
	B463 20CB	Alloy 20	ASTM B464			
	INC718	Inconel 718	ASTM B670		Anneal/age harden	
	NITR 50	Nitric 50	ASTM A479	XM19		
Barstock	A479 316	Stainless steel 316	ASTM A479	316		
	17-4 H1075	17-4PH	ASTM A564	630	H1075	
	17-4 H1075	17-4PH	ASTM A564	630	H1075	
	B473 20CB	Alloy 20	ASTM B473			
	QQ-N-281	Monel	QQ-N-2810/AMO2	Class A form 1	Anneal	
	INC 718	Inconel 718	ASTM A637	718		
	C. S.	Carbon steel	As Available	Various	Lowc (1018) non-press. parts	
	18-8S. S.	Stainless steel	As Available	Various	300 Series (304) Non-press. parts	
	Tubing	A269	Stainless steel	ASTM A269	Various	300 Series seamless tubing
		A321 316	Stainless steel 316	ASTM A312	316	Pipe
A511		Stainless steel	ASTM A511	Various	300 Series seamless	
Bolting	A193-B7	Alloy steel	ASTM A193	B7		
	A193-B8M	Stainless steel 316	ASTM A193	B8M		
	ALY STL	Alloy steel	SAE	5	Bracket & accessory bolting	
	18-8S .S.	Stainless			300 Series stainless steel	



ASME B16.34 Maximum Allowable Non-shock Pressure 150Lb~300Lb

Temperature		ASTM Material															
		ANSI Class 150Lb								ANSI Class 300Lb							
°F	°C	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20~-100	-20~-38	285	290	265	290	290	290	275	275	740	750	695	750	750	750	720	720
200	93	260	260	250	260	260	260	230	235	670	750	655	750	750	745	600	620
300	149	230	230	230	230	230	230	205	215	655	730	640	720	730	715	540	560
400	204	200	200	200	200	200	200	190	195	635	705	620	695	705	705	495	515
500	260	170	170	170	170	170	170	170	170	600	665	585	665	665	665	465	480
600	316	140	140	140	140	140	140	140	140	550	605	535	605	605	605	435	450
650	343	125	125	125	125	125	125	125	125	535	590	525	590	590	590	430	445
700	371	110	110		110	110	110	110	110	535	570		570	570	570	425	430
750	399	95	95		95	95	95	95	95	505	505		530	530	530	415	425
800	427	80	80		80	80	80	80	80	410	410		510	510	510	405	420
850	454				65	65	65	65	65				485	485	485	395	420
900	482				50	50	50	50	50				450	450	370	390	415
950	510				35	35	35	35	35				320	375	275	380	385
1000	538				20	20	20	20	20				215	260	200	320	350
1050	566				206)	206)	206)	206)	206)				145	175	145	310	345
1100	593				206)	206)	206)	206)	206)				95	110	100	255	305

Test Pressure By API 598

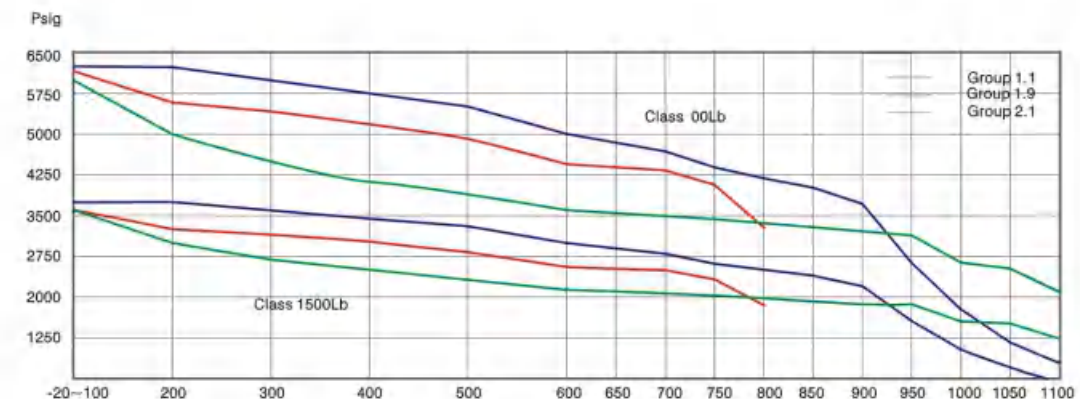
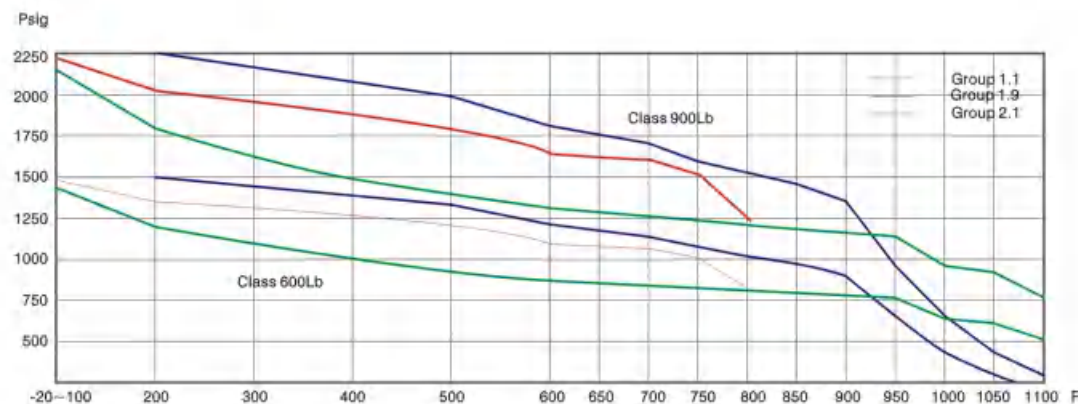
Hydrostatic sheel test	450	450	400	450	450	450	425	425	1125	1125	1050	1125	1125	1125	1100	1100
Hydrostatic seal test	315	320	295	320	320	320	305	320	815	825	765	825	825	825	795	795
Air seal test	80±20								80±20							

Metric conversions by API STD 2564 ♦ Pressure: 1Pound per square inch (Psig)=0.06894757 bar=0.006894757 MPa ♦ Temperature: °C=(5/9)(°F-32)

ASME B16.34Material

	1.1	A105e)	A216-WCBe)
1.2	A216-WCC [®]	A352-LCC [®]	
1.3	A352-LCB [®]		
1.9	A217-WC6 [®]		
1.10	A217-WC9 [®]		
1.13	A217-C5		
2.1	A182-F304	A351-CF8	A351-CF3 [®]
2.2	A182-F316	A352-CF8M	A351-CF3M [®]

- a). Not to be used over 650°F (343°C)
- b). Not to be used over 800°F (427°C)
- c). Not to be used over 1000°F (538°C)
- d). Not to be used over 1100°F (593°C)
- e). Permissible, but not recommended for prolonged use above 800°F (427°C)
- f). For welding end valve only. Flanged end rating terminates at 1000°F (538°C)



ASMe B16.34 Maximum Allowable Non-shock Pressure

600Lb~900Lb

Temperature		ASTM Material															
		ANSI Class 600Lb								ANSI Class 900Lb							
°F	°C	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20~100	-20~38	1480	1500	1390	1500	1500	1500	1440	1440	2220	2250	2085	2250	2250	2250	2160	2160
200	93	1350	1500	1315	500	1500	1490	1200	1240	2025	2250	1970	2250	2250	2235	1800	1860
300	149	1315	1455	1275	1445	1455	1430	1080	1120	1970	2185	1915	2165	2185	2150	1620	1680
400	204	1270	1410	1235	1385	1410	1410	995	1025	1900	2115	1850	2080	2115	2115	1490	1540
500	260	1200	1330	1165	1330	1330	1330	930	965	1795	1995	1745	1995	1995	1995	1395	1435
600	316	1095	1210	1065	1210	1210	1210	875	900	1640	1815	160	1815	1815	1815	1310	1355
650	343	1075	1175	1045	1175	1175	1175	860	890	1610	1765	1570	1765	1765	1765	1290	1330
700	371	1065	1135		1135	1135	1135	850	870	1600	1705		1705	1705	1705	1275	1305
750	399	1010	1010		1065	1065	1055	830	855	1510	1510		1595	1595	1585	1245	1280
800	427	825	825		1015	1015	1015	805	845	1235	1235		1525	1525	1525	1210	1265
850	454				975	975	965	790	835				1460	1460	1450	1190	1255
900	482				900	900	740	780	830				1350	1350	1110	1165	1245
950	510				640	755	550	765	775				955	1130	825	1145	1160
1000	538				430	520	400	640	700				650	790	595	965	1050
1050	566				290	350	290	615	685				430	525	430	925	1030
1100	593				190	220	200	515	610				290	330	300	770	915

ASME B16.34 Maximum Allowable Non-shock Pressure

1500Lb~2500Lb

Temperature		ASTM Material															
		ANSI Class 1500Lb								ANSI Class 2500Lb							
°F	°C	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2	Group 1.1	Group 1.2	Group 1.3	Group 1.9	Group 1.10	Group 1.13	Group 2.1	Group 2.2
-20~100	-20~38	3705	3750	3470	3750	3750	3750	3600	3600	6170	6250	5785	6250	6250	6250	6000	600
200	93	3375	3750	3280	3750	3750	3725	3000	3095	5625	6250	5470	6250	6250	6205	5000	5160
300	149	3280	3640	3190	3610	3640	3580	2700	2795	5470	6070	5315	6015	6070	5965	4500	4660
400	204	3170	3530	3085	3465	3530	3530	2485	2570	5280	5880	5145	5775	5880	5880	4140	4280
500	260	2995	3325	2910	3325	3325	3325	2330	2390	4990	5540	4850	5540	5540	5540	3880	3980
600	316	2735	3025	2665	3025	3025	3025	2185	2255	4560	5040	4440	5040	5040	5040	3640	3760
650	343	2685	2940	2615	2940	2940	2940	2150	2220	4475	4905	4355	4905	4905	4905	3580	3700
700	371	2665	2840		2840	2840	2840	2125	2170	4440	4730		4730	4730	4730	3540	3620
750	399	2520	2520		2660	2660	2640	2075	2135	4200	4200		4430	4430	4400	3460	3560
800	427	2060	2060		2540	2540	2540	2015	2110	3430	3430		4230	4230	4230	3360	3520
850	454				2435	2435	2415	1980	2090				4060	4060	4030	3300	3480
900	482				2245	2245	1850	1945	2075				3745	3745	3085	3240	3460
950	510				1595	1885	1370	1910	1930				2655	3145	2285	3180	3220
1000	538				1080	1305	995	1605	1750				1800	2170	1655	2675	2915
1050	566				720	875	720	1545	1720				1200	1455	1200	2570	2865
1100	593				480	550	495	1285	1525				800	915	830	2145	2545

Test Pressure By API 598

Hydrostatic sheel test	2225	2250	2100	2250	2250	2250	2175	2175	3350	3375	3150	3375	3375	3375	3250	3250
Hydrostatic seal test	1630	1650	1530	1650	1650	1650	1585	1585	2445	2475	2295	2475	2475	2475	2380	2380
Air seal test	80 ± 20								80 ± 20							

Metric conversions by API STD 2564 ♦ Pressure: 1Pound per square inch (Psig)=0.06894757 bar=0.006894757 MPa ♦ Temperature: °C=(5/9)(°F-32)

ASME B16.34 Material

1.1	A105e)	A216-WCBe)	
1.2	A216-WCC ^{d)}	A352-LCC ^{d)}	
1.3	A352-LCB ^{d)}		
1.9	A217-WC6 ^{d)}		
1.10	A217-WC9 ^{d)}		
1.13	A217-C5		
2.1	A182-F304	A351-CF8	A351-CF3 ^{d)}
2.2	A182-F316	A352-CF8M	A351-CF3M ^{d)}

- a). Not to be used over 650°F (343°C)
- b). Not to be used over 800°F (427°C)
- c). Not to be used over 1000°F (538°C)
- d). Not to be used over 1100°F (593°C)
- e). Permissible, but not recommended for prolonged use above 800°F (427 °C)

Test Pressure By API 598

Hydrostatic sheel test	5575	5625	5225	5625	5625	5625	5400	5400	9275	9375	8700	9375	9375	9375	9000	9000
Hydrostatic seal test	4080	4125	3820	4125	4125	4125	3960	3960	6790	6875	6365	6875	6875	6875	6600	6600
Air seal test	80 ± 20								80 ± 20							

Metric conversions by API STD 2564 ♦ Pressure: 1Pound per square inch (Psig)=0.06894757 bar=0.006894757 MPa ♦ Temperature: °C=(5/9)(°F-32)

ASME B16.34 Material

1.1	A105e)	A216-WCBe)	
1.2	A216-WCC ^{d)}	A352-LCC ^{d)}	
1.3	A352-LCB ^{d)}		
1.9	A217-WC6 ^{d)}		
1.10	A217-WC9 ^{d)}		
1.13	A217-C5		
2.1	A182-F304	A351-CF8	A351-CF3 ^{d)}
2.2	A182-F316	A352-CF8M	A351-CF3M ^{d)}

- a). Not to be used over 650°F (343°C)
- b). Not to be used over 800°F (427°C)
- c). Not to be used over 1000°F (538°C)
- d). Not to be used over 1100°F (593°C)
- e). Permissible, but not recommended for prolonged use above 800°F (427 °C)

Materials Characteristic

ASTM Specification	Chemical requirements											Tensile requirements				Hardness HB
	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	V	Tensile	Yield	Elongation	Reduction of area		
	Nominal or maximum %											MPa	MPa	%	%	
Cast steel																
Carbon steel	A216-WCA	0.25	0.70	0.60	0.040	0.045	0.50	0.50	0.20	0.30	0.03	415-585	205	24	35	
	A216-WCB	0.30	1.00	0.60	0.040	0.045	0.50	0.50	0.20	0.30	0.03	485-655	250	22	35	
	A216-WCC	0.25	1.20	0.60	0.040	0.045	0.50	0.50	0.20	0.30	0.03	485-655	275	22	35	
Cast steel																
Chromium-molybdenum steel	A217-WC1	0.25	0.50-0.80	0.60	0.040	0.045	0.35	0.045-0.65	0.45-0.65	0.50	-	450-620	240	24	35	
	A217-WC6	0.05-0.20	0.50-0.80	0.60	0.040	0.045	1.00-1.50	0.50	0.45-0.65	0.50	-	485-655	295	20	35	
	A217-WC9	0.05-0.18	0.40-0.70	0.60	0.040	0.045	2.00-2.75	0.50	0.90-1.20	0.50	-	485-655	295	20	35	
	A217-C5	0.20	0.40-0.70	0.75	0.040	0.045	4.00-6.50	0.50	0.45-0.65	0.50	-	620-795	415	18	35	
	A217-C12	0.20	0.35-0.65	1.00	0.040	0.045	8.00-10.0	0.50	0.90-1.20	0.50	-	620-795	415	18	35	
Cast steel																
Ni-Alloy steel	A494 M-35-1	0.35	1.50	1.25	0.030	0.030	-	Allowance	-	26.0-33.0	Fe≤3.50	450	170	25	-	
	A494 CW-6M	0.07	1.00	1.00	0.040	0.030	17.0-20.0	Allowance	17.0-20.0	-	Fe≤3.00	495	275	25	-	
	A494 CY-40	0.40	1.50	3.00	0.030	0.030	14.0-17.0	Allowance	-	-	Fe≤11.0	185	195	30	-	
Cast steel																
Stainless steel	351-CF8	0.08	1.50	2.00	0.040	0.040	18.0-21.0	8.0-11.0	0.05	-	-	485	205	35	35	
	A351-CF8M	0.08	1.50	1.50	0.040	0.040	18.0-21.0	9.0-12.0	2.0-3.0	-	-	485	205	30	30	
	A351-CF3	0.03	1.50	2.00	0.040	0.040	17.0-21.0	8.0-12.0	0.50	-	-	485	205	35	35	
	A351-CF3M	0.03	1.50	1.50	0.040	0.040	17.0-21.0	9.0-13.0	2.0-3.0	-	-	485	205	30	30	
	A351-CN7M	0.07	1.50	1.50	0.040	0.040	19.0-22.0	27.5-30.5	2.0-3.0	3.0-4.0	-	450	170	35	35	
Cast steel																
Carbon steel	A352-LCB	0.30	1.00	0.60	0.040	0.045	0.50	0.50	0.20	0.30	0.03	450-650	240	24	35	
	A352-LCC	0.25	1.20	0.60	0.040	0.045	0.50	0.50	0.20	0.30	0.03	485-655	275	22	35	
	A352-LC1	0.25	0.50-0.80	0.60	0.040	0.045	-	-	0.45-0.65	-	-	450-620	240	24	35	
	A352-LC2	0.25	0.50-0.80	0.60	0.040	0.045	-	2.00-3.00	-	-	-	485-655	275	24	35	
	A352-LC3	0.15	0.50-0.80	0.60	0.040	0.045	-	3.00-4.00	-	-	-	485-655	275	24	35	187
Forged steel																
Carbon steel	A105(N)	0.35	0.60-1.05	0.35	0.040	0.050	0.30	0.40	0.12	0.40	0.03	485	250	30	30	
	A350-LF1	0.30	1.35	0.15-0.30	0.035	0.040	0.30	0.40	0.12	0.40	0.03	415-585	205	25	38	
	A350-LF2	0.30	1.35	0.15-0.30	0.035	0.040	0.30	0.40	0.12	0.40	0.03	485-655	250	22	3	
	A350-LF3	0.20	0.90	0.20-0.356	0.035	0.040	0.30	3.25-3.7	0.12	0.40	0.03	485-655	260	22	35	
	A350-LF9	0.20	0.40-1.06	-	0.035	0.040	0.30	1.60-2.24	0.12	0.75-1.25	0.03	435-605	315	25	38	
Forged steel																
Stainless steel	A182-F304	0.08	2.00	1.00	0.040	0.030	18.0-20.0	8.0-11.0	-	-	-	515	205	30	50	
	A182-F316	0.08	2.00	1.00	0.040	0.030	16.0-18.0	10.0-14.0	2.0-3.0	-	-	515	205	30	50	
	A182-F304L	0.03	2.00	1.00	0.045	0.030	18.0-20.0	8.0-13.0	-	-	-	485	170	30	50	
	A182-F316L	0.03	2.00	1.00	0.045	0.030	16.0-18.0	10.0-15.0	2.0-3.0	-	-	485	170	30	50	
Component part																
Trim	A276-304	0.08	2.00	1.00	0.045	0.030	18.0-20.0	8.0-10.5	-	-	-	515	205	40	50	
	A276-316	0.08	2.00	1.00	0.045	0.030	16.0-18.0	10.0-14.0	2.0-3.0	-	-	485	170	40	50	
	A276-410	0.15	1.00	1.00	0.040	0.030	12.5-13.5	-	-	-	-	480	275	20	45	241
	A276-420	0.15	1.00	1.00	0.040	0.030	12.0-14.0	-	-	-	-	-	-	-	-	167-229
	A182-F6a	0.15	1.00	1.00	0.040	0.030	11.5-13.5	0.50	-	-	-	585	380	18	35	
Fastening piece																
Stud	A193-B7	0.37-0.49	0.65-1.10	0.15-0.35	0.035	0.040	0.75-1.20	-	0.15-0.25	-	-	860	720	16	50	235
	A193-B7M	0.37-0.49	0.65-1.10	0.15-0.35	0.035	0.040	0.75-1.20	-	0.15-0.25	-	-	690	550	18	50	223
	A193-B8	0.08	2.00	1.00	0.045	0.030	18.0-20.0	8.0-10.50	-	-	-	515	205	30	50	192
	A193-B8A	0.08	2.00	1.00	0.045	0.030	18.0-20.0	8.0-10.50	-	-	-	515	205	30	50	192
	A193-B8M	0.08	2.00	1.00	0.045	0.030	16.0-18.0	10.0-14.0	2.0-3.0	-	-	515	205	30	50	
	A320-L7	0.38-0.48	0.75-1.00	0.15-0.35	0.035	0.040	0.80-1.10	-	0.15-0.25	-	-	860	725	16	50	
	A194-2H	≥0.40	1.00	0.40	0.040	0.050	-	-	-	-	-	-	-	-	-	248-352
	A194-2HM	≥0.40	1.00	0.40	0.040	0.050	-	-	-	-	-	-	-	-	-	159-237
Nut	A194-7	0.37-0.49	0.65-1.10	0.15-0.35	0.040	0.040	0.75-1.20	-	0.15-0.25	-	-	-	-	-	-	248-352
	A194-8	0.08	2.00	1.00	0.045	0.030	18.0-20.0	8.0-10.5	-	-	-	-	-	-	-	126-300
	A194-8M	0.08	2.00	1.00	0.045	0.030	16.0-18.0	10.0-14.0	2.0-3.0	-	-	-	-	-	-	126-300

Nace Valves:

For servicing four gases or other hydrogen sulfide bearing hydrocarbon fluids, TEJI offers NACE valves made of component materials specially heat-treated and hardness-controlled in conformity with NACE MR 0175 standard. Typical NACE material configuration is shown below for TEJI cast steel valve. A note should be taken on the face that NACE hardness requirement conflicts with the one of valve sealing surface specified by API 600, Table 13. TEJI steel valves are available only at user's option.

The Demands About Resist Ssc (Sulfur Stress Crack) Material That Be Used For The Equipment That The Working Medium Include H2s Carbon-hydrate Compound

NO.	Part name	ASTM Material	NACE Hardness	API 600 Hardness
1	Body	A216-WCB		-
2	Bonnet/Yoke	A216-WCB	≤HRC 22	-
3	Seat ring	A105 With 13CR overlay	(273 HB)	≥250 HB*
4	Wedge/Disc	A216-WCB/A105 With 13CR overlay		≥250 HB*
5	Stem			≥250 HB
6	Backseat bushing	ANSI TYPE410A182-F6a	≤HRC 22	≥250 HB
7	Lantern ring		(273 HB)	-
8	Gland		-	-
9	Bonnet gasket	316SS+Graphite	-	-
		316SS(RTJ)	≤HRC 22	-
10	Bonnet bolt	193-B7	-	-
		A193-B7M	≤HRC 22	-
11	Bonnet nut	A194-2H	-	-
		A194-2HM	≤HRC 22	-

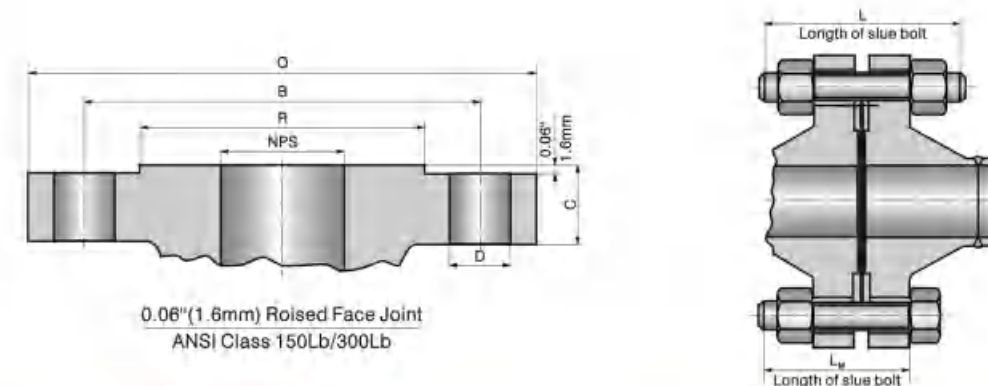
All The Cast Steel Vaves In This Catalogue Can Be Manufactured To Nace Mr 0175 Specification For Sour Oil And Gas Service.

- a). All NACE valves meet API standard, except as modified to meet a HRC 22 maximum hardness requirements of NACE specification.
- b). Standard body and bonnet ASTM A216-WCB have the maximum carbon equivalent 0.43%.
- c). Seat rings are screwed in to eliminate potential hardness problem with welds and HAZ(Heat affected zones).
- d). Bonnet gasket for ANSI Class 150Lb gate valve only, bonnet gasket in flexible graphite with stainless steel 316 sheet reinforcement. For ANSI Class 300Lb gate valve and ANSI Class 150Lb and 300Lb globe and check valve, bonnet gasket in stainless steel 316 spiral wound with graphite filler.
- e). Standard trim is hardness controlled 13%Cr steel with Hard faced seats(API trim No.8).
- f). Standard bonnet bolting is Class II nut and bolt.
- g). All NACE valves are further identified by additional words "NACE MR 0175" shown on the nameplate for traceability and certification of conformance.

Typical NACE material specifications shown in above table and other material application are available at customer's option.

International Materials Standards

Materials	America		Germany		United kingdom		China	
	ASTM/ANSI/ASME	DIN No.	DIN Type	Material number	BS Number	BS Grade	GB	
Cast steel								
Carbon steel	A216-WCA	ASTM A316-WCA	1681	GS-38	1.042	1504-161	430	WCA
	A216-WCB	ASTM A216-WCB	17245	GS-C25	1.0619	1504-161	480	WCB
	A216-WCC							WCC
Cast steel								
Chrome-molybdenum steel	A217-WC1	ASTM A217-WC1	17245	GS-22Mo4	1.5419			ZG20Mo
	A217-WC6	ASTM A217-WC6	17245	GS-17CrMo55	1.7357			15CrMo
	A217-WC9	ASTM A217-WC9	17245	GS-18CrMo810	1.7379			12Cr1Mo1V
	A217-C5	ASTM A217-C5	VDEh SPW 595	GS-12CrMo195	1.7363	1504	625E	1Cr5Mo
	A217-C12	ASTM A217-C12	VDEh SPW 595	G-X12CrMo101	1.7389	1504	629E	9Cr1Mo
Cast steel								
Ni alloy steel	A494M-35-1							
	A494 CW-6M							
	A494 CY-40							
Cast steel								
Stainless steel	A351-CF8	ASTM A351-CF8	17445	G-X6CrNi189	1.4308	1504-304	C15	0Cr18Ni9
	A351-CF8M	ASTM A351-CF8M	17445	G-X6CrNiMo1810	1.4408	1504-316	C16	1Cr18Ni12Mo2Ti
	A351-CF3	ASTM A351-CF3	17440	G-X2CrNiN189	1.4306	970/1	304S11	00Cr18Ni10
	A351-CF3M	ASTM A351-CF3M	17440	G-X2CrNiMoN1810	1.4404	2056	316S12	00Cr17Ni14Mo2
	A351-CN7M	ASTM A351-CN7M				1504	332C11E	
Cast steel								
Carbon steel	A352-LCB	ASTM A352-LCB	SFW 685	GS-21Mo5	1.1138			LCB
	A352-LCC	ASTM A352-LCC	17173	GS-26CrMo4	1.7219			LCC
	A352-LC1	ASTM A352-LC1				1504	245LT50	
	A352-LC2	ASTM A352-LC2						ZG0CrMnVA1
	A352-LC3	ASTM A352-LC3	SEW 685	GS10Ni14	1.5638	1504-503	LT60	
Forged steel								
Carbon steel	A105(N)	ASTM A105	17100	St50-2	1.005	1503	221-490	25
	A350-LF1	ASTM A350-LF1	SEW 680	TTS141	1.0437			
	A350-LF2	ASTM A350-LF2	17155	19Mn5	1.0482			
	A350-LF3	ASTM A350-LF3	17173	10Ni14	1.5637	1503	503Gr.490	
	A350-LF9	ASTM A350-LF9						
Forged steel								
Stainless steel	A182-F304	ASTM A182-F304	17440	X5CrNi189	1.4301	1503	304S31	0Cr18Ni9
	A182-F316	ASTM A182-F316	17440	X5CrNiMo1810	1.4401	1503	316S31	0Cr17Ni12Mo2
	A182-F304L	ASTM A182-F304L	17440	X2CrNi1810	1.4311			00Cr18Ni10
	A182-F316L	ASTM A182-F316L	17440	X2CrNiMo1810	1.4404	1503	316S11	00Cr17Ni14Mo2
Component part								
Trim	A276-304	ASTM A276-304						0Cr18Ni9
	A276-316	ASTM A276-316						0Cr17Ni12Mo2
	A276-410	ASTM A276-410						1Cr13
	A276-420	ASTM A276-420						2Cr13
	A182-F6a	ASTM A276-F6a						2Cr13
Fastening piece								
Stud	A193-B7	ASTM A193 GRAD B7	17240	40CrMoV47	1.7711	1506-630	790	35CrMoA
	A193-B7M	ASTM A193 GRAD B7M						
	A193-B8	ASTM A193 GRAD B8	17240	X5CrNi189	1.4301			0Cr18Ni9
	A193-B8A							
	A193-B8M	ASTM A193 GRAD B8M	17245	X6CrNiMoTi17 12 2	1.4571	1506-316	S31	0Cr17Ni12Mo2
Nut	A320-L7	ASTM A320 GRL7	17200	42CrMo4	1.7225	4882		42CrMo
	A194-2H	ASTM A194 GRAD 2H	17440	CK 35	1.1181	1506-162		45
	A194-2HM	ASTM A194 GRAD 2HM						
	A194-7	ASTM A194 GRAD 7	17200	24CrMo5	1.7258	1506-162		20CrMo
	A194-8	ASTM A194 GRAD 8	17245	X6CrNiMo 17 12 2	1.4571	1506-316	S31	0Cr18Ni9
A194-8M	ASTM A194 GR8M	17440	X5CrNiMo 1810	1.4401			0Cr17Ni12Mo2	



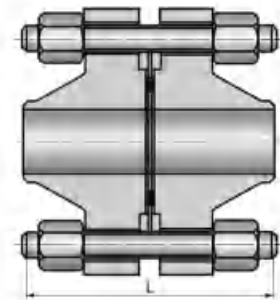
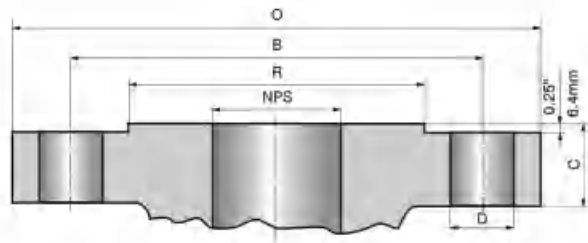
International Materials Standards

150Lb

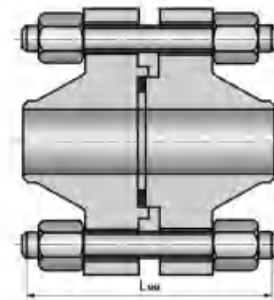
NPS	O		C		R		B		D		Bolt		L		LM		
	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm	
2	50	6.00	152.4	0.75	19.1	3.62	91.9	4.75	120.7	0.75	19.1	4	5/8	3.25	82.6	2.75	69.9
2 1/2	65	7.00	177.8	0.88	22.4	4.12	104.6	5.50	139.7	0.75	19.1	4	5/8	3.50	88.9	3.00	76.2
3	80	7.50	190.5	0.94	23.9	5.00	127.0	6.00	152.4	0.75	19.1	4	5/8	3.50	88.9	3.00	76.2
4	100	9.00	228.6	0.94	23.9	6.19	157.2	7.50	190.5	0.75	19.1	8	5/8	3.50	88.9	3.00	76.2
5	125	10.00	254.0	0.94	23.9	7.31	185.7	8.50	215.9	0.88	22.4	8	3/4	3.75	95.3	3.25	82.6
6	150	11.00	279.4	1.00	25.4	8.50	215.9	9.50	241.3	0.88	22.4	8	3/4	4.00	101.6	3.25	82.6
8	200	13.50	342.9	1.12	28.4	10.62	269.7	11.75	298.5	0.88	22.4	8	3/4	4.25	108.0	3.50	88.9
10	250	16.00	406.4	1.19	30.2	12.75	323.9	14.25	362.0	1.00	25.4	12	7/8	4.50	114.3	4.00	101.6
12	300	19.00	482.6	1.25	31.8	15.00	381.0	17.00	431.8	1.00	25.4	12	7/8	4.75	120.7	4.00	101.6
14	350	21.00	533.4	1.38	35.1	16.25	412.8	18.75	476.3	1.12	28.4	12	1	5.25	133.4	4.50	114.3
16	400	23.50	596.9	1.44	36.6	18.50	469.9	21.25	539.8	1.12	28.4	16	1	5.25	133.4	4.50	114.3
18	450	25.00	635.0	1.56	39.6	21.00	533.4	22.75	577.9	1.25	31.8	16	1 1/8	5.75	146.1	5.00	127.0
20	500	27.50	698.5	1.69	42.9	23.00	584.2	25.00	635.0	1.25	31.8	20	1 1/8	6.25	158.8	5.50	139.7
24	600	32.00	812.8	1.88	47.8	27.25	692.2	29.50	749.3	1.38	35.1	20	1 1/4	6.75	171.5	6.00	152.4
26	650	34.25	870.0	2.69	68.3	29.50	749.3	31.75	806.5	1.38	35.1	24	1 1/4	8.25	209.6	7.50	190.5
28	700	36.50	927.1	2.81	71.4	31.50	800.1	34.00	863.6	1.38	35.1	28	1 1/4	8.50	215.9	7.75	196.9
30	750	38.75	984.3	2.94	74.7	33.75	857.3	36.00	914.4	1.38	35.1	28	1 1/4	9.00	228.6	8.00	203.2
32	800	41.75	1060.5	3.18	80.8	36.00	914.4	38.50	977.9	1.62	41.1	28	1 1/2	9.75	247.7	8.75	222.3
34	850	43.75	1113.3	3.25	82.6	38.00	965.2	40.50	1028.7	1.62	41.1	32	1 1/2	10.00	254.0	9.00	228.6
36	900	46.00	1168.4	3.56	90.4	40.25	1022.4	42.75	1085.9	1.62	41.1	32	1 1/2	10.50	266.7	9.50	241.3

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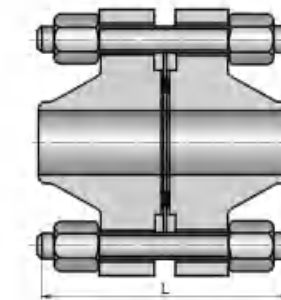
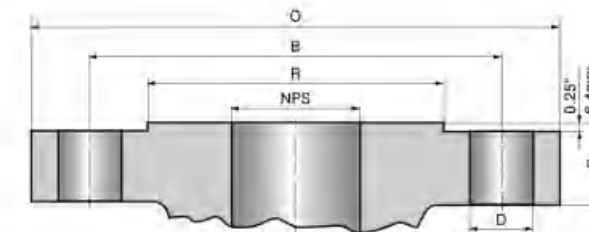
NPS	O		C		R		B		D		Bolt		L		LRTJ		LM		
	in	mm	in	mm	in	mm	in	mm	in	mm	QTY	Diam	in	mm	in	mm	in	mm	
2	50	6.50	165.1	0.88	22.4	3.62	91.9	5.00	127.0	0.75	19.1	8	5/8	3.50	88.9	4.00	101.6	3.00	76.2
2 1/2	65	7.50	190.5	1.00	25.4	4.13	104.6	5.88	149.4	0.88	22.4	8	3/4	4.00	101.6	4.50	114.3	3.25	82.6
3	80	8.25	209.6	1.12	28.4	5.00	127.0	6.62	168.1	0.88	22.4	8	3/4	4.25	108.0	4.75	120.7	3.50	88.9
4	100	10.00	254.0	1.25	31.8	6.19	157.2	7.88	200.2	0.88	22.4	8	3/4	4.50	114.3	5.00	127.0	3.75	95.3
5	125	11.00	279.4	1.38	35.1	9.31	185.7	9.25	235.0	0.88	22.4	8	3/4	4.75	120.7	5.25	133.4	4.25	108.0
6	150	12.50	317.5	1.44	36.6	8.50	215.9	10.62	269.7	0.88	22.4	12	3/4	4.75	120.7	5.50	139.7	4.25	108.0
8	200	15.00	381.0	1.62	41.1	10.62	269.7	13.00	330.2	1.00	25.4	12	7/8	5.50	139.7	6.00	152.4	4.75	120.7
10	250	17.50	444.5	1.88	47.8	12.75	323.9	15.25	387.4	1.12	28.4	16	1	6.25	158.8	6.75	171.5	5.50	139.7
12	300	20.50	520.7	2.00	50.8	15.00	381.0	17.75	450.9	1.25	31.8	16	1 1/8	6.75	171.5	7.25	184.2	5.75	146.1
14	350	23.00	584.2	2.12	53.8	16.25	412.8	20.25	514.4	1.25	31.8	20	1 1/8	7.00	177.8	7.50	190.5	6.25	158.8
16	400	25.50	647.7	2.25	57.2	18.50	469.9	22.50	571.5	1.38	35.1	20	1 1/4	7.50	190.5	8.00	203.2	6.50	165.1
18	450	28.00	711.2	2.38	60.5	21.00	533.4	24.75	628.7	1.38	35.1	24	1 1/4	7.75	196.9	8.25	209.6	6.75	171.5
20	500	30.50	774.7	2.50	63.5	23.00	584.2	27.00	685.8	1.38	35.1	24	1 1/4	8.00	203.2	8.75	222.3	7.25	184.2
24	600	36.00	914.4	2.75	69.9	27.25	692.2	32.00	812.8	1.62	41.1	24	1 1/2	9.00	228.6	10.00	254.0	8.00	203.2
26	650	38.25	971.6	3.12	79.2	29.50	749.3	34.50	876.3	1.75	44.5	28	1 5/8	10.25	260.4	11.25	285.8	9.25	235.0
28	700	40.75	1035.1	3.38	85.9	31.50	800.1	37.00	939.8	1.75	44.5	28	1 5/8	10.75	273.1	11.75	298.5	9.75	247.7
30	750	43.00	1092.2	3.62	91.9	33.75	857.3	39.25	997.0	1.88	47.8	28	1 3/4	11.50	292.1	12.50	317.5	10.50	266.7
32	800	45.25	1149.4	3.88	98.6	36.00	914.4	41.50	1054.1	2.00	50.8	28	1 7/8	12.25	311.2	13.50	342.9	11.25	285.8
34	850	47.50	1206.5	4.00	101.6	38.00	965.2	43.50	1104.9	2.00	50.8	28</							



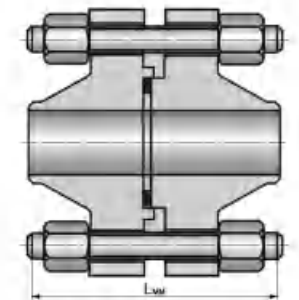
ANSI Class 600Lb/900Lb
0.25"(6.4mm) Raised Face Joint



ANSI Class 600Lb/900Lb
Male & Female



ANSI Class 600Lb/900Lb
0.25"(6.4mm) Raised Face Joint



ANSI Class 1500Lb/2500Lb
Male & Female

International Materials Standards

600Lb

NPS	O	C	R	B	D	Bolt	L	LRTJ	LM										
in	mm	in	mm	in	mm	QTY	Diam	in	mm										
2	50	6.50	165.1	1.00	25.4	3.62	91.9	5.00	127.0	0.75	19.1	8	5/8	4.25	108.0	4.25	108.0	4.00	101.6
2 1/2	65	7.50	190.5	1.12	28.4	4.12	104.6	5.88	149.4	0.88	22.4	8	3/4	4.75	120.7	4.75	120.7	4.50	114.3
3	80	8.25	209.6	1.25	31.8	5.00	127.0	6.62	168.1	0.88	22.4	8	3/4	5.00	127.0	5.00	127.0	4.75	120.7
4	100	10.75	273.1	1.50	38.1	6.19	157.2	8.50	215.9	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
5	125	13.00	330.2	1.75	44.5	7.31	185.7	10.50	266.7	1.12	28.4	8	1	6.50	165.1	6.50	165.1	6.25	158.8
6	150	14.00	355.6	1.88	47.8	8.50	215.9	11.50	292.1	1.12	28.4	12	1	6.75	171.5	6.75	171.5	6.50	165.1
8	200	16.50	419.1	2.19	55.6	10.62	269.7	13.75	349.3	1.25	31.8	12	1 1/8	7.50	190.5	7.50	190.5	7.25	184.2
10	250	20.00	508.0	2.50	63.5	12.75	323.9	17.00	431.8	1.38	35.1	16	1 1/4	8.50	215.9	8.50	215.9	8.25	209.6
12	300	22.00	558.8	2.62	66.5	15.00	381.0	19.25	489.0	1.38	35.1	20	1 1/4	8.75	222.3	8.75	222.3	8.50	215.9
14	350	23.75	603.3	2.75	69.9	16.25	412.8	20.75	527.1	1.50	38.1	20	1 3/8	9.25	235.0	9.25	235.0	9.00	228.6
16	400	27.00	685.8	3.00	76.2	18.50	469.9	23.75	603.3	1.62	41.1	20	1 1/2	10.00	254.0	10.00	254.0	9.75	247.7
18	450	29.25	743.0	3.25	82.6	21.00	533.4	25.75	654.1	1.75	44.5	20	1 5/8	10.75	273.1	10.75	273.1	10.50	266.7
20	500	32.00	812.8	3.50	88.9	23.00	584.2	28.50	723.9	1.75	44.5	24	1 5/8	11.25	285.8	11.50	292.1	11.00	279.4
24	600	37.00	939.8	4.00	101.6	27.25	692.2	33.00	838.2	2.00	50.8	24	1 7/8	13.00	330.2	13.25	336.6	12.75	323.9
26	650	40.00	1016.0	4.25	108.0	29.50	749.3	36.00	914.4	2.00	50.8	28	1 7/8	14.00	355.6	14.00	355.6	13.75	349.3
28	700	42.25	1073.2	4.38	111.3	31.50	800.1	38.00	965.2	2.12	53.8	28	2	14.50	368.3	14.50	368.3	14.25	362.0
30	750	44.50	1130.3	4.50	114.3	33.75	857.3	40.25	1022.4	2.12	53.8	28	2	15.00	381.0	14.75	374.7	14.75	374.7
32	800	47.00	1193.8	4.62	117.3	36.00	914.4	42.50	1079.5	2.38	60.5	28	2 1/4	15.50	393.7	15.75	400.1	15.25	387.4
34	850	49.00	1244.6	4.75	120.7	38.00	965.2	44.50	1130.3	2.38	60.5	28	2 1/4	16.25	412.8	16.25	412.8	16.00	406.4
36	900	51.75	1314.5	4.88	124.0	40.25	1022.4	47.00	1193.8	2.62	66.5	28	2 1/2	15.75	400.1	16.75	425.5	15.50	393.7

900Lb

NPS	O	C	R	B	D	Bolt	L	LRTJ	LM										
in	mm	in	mm	in	mm	QTY	Diam	in	mm										
2	50	8.50	215.9	1.50	38.1	3.62	91.9	6.50	165.1	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
2 1/2	65	9.62	244.3	1.62	41.1	4.12	104.6	7.50	190.5	1.12	28.4	8	1	6.25	158.8	6.25	158.8	6.00	152.4
3	80	9.50	241.3	1.50	38.1	5.00	127.0	7.50	190.5	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
4	100	11.50	292.1	1.75	44.5	6.19	157.2	9.25	235.0	1.25	31.8	8	1 1/8	6.75	171.5	6.75	171.5	6.50	165.1
5	125	13.75	349.3	2.00	50.8	7.31	185.7	11.00	279.4	1.38	35.1	8	1 1/4	7.50	190.5	7.50	190.5	7.25	184.2
6	150	15.00	381.0	2.19	55.6	8.50	215.9	12.50	317.5	1.25	31.8	12	1 1/8	7.50	190.5	7.75	196.9	7.25	184.2
8	200	18.50	469.9	2.50	63.5	10.62	269.7	15.50	393.7	1.50	38.1	12	1 3/8	8.75	222.3	8.75	222.3	8.50	215.9
10	250	21.50	546.1	2.75	69.9	12.75	323.9	18.50	469.9	1.50	38.1	16	1 3/8	9.25	235.0	9.25	235.0	9.00	228.6
12	300	24.00	609.6	3.12	79.2	15.00	381.0	21.00	533.4	1.50	38.1	20	1 3/8	10.00	254.0	10.00	254.0	9.75	247.7
14	350	25.25	641.4	3.38	85.9	16.25	412.8	22.00	558.8	1.62	41.1	20	1 1/2	10.75	273.1	11.00	279.4	10.50	266.7
16	400	27.75	704.9	3.50	88.9	18.50	469.9	24.25	616.0	1.75	44.5	20	1 5/8	11.25	285.8	11.50	292.1	11.00	279.4
18	450	31.00	787.4	4.00	101.6	21.00	533.4	27.00	685.8	2.00	50.8	20	1 7/8	12.75	323.9	13.25	336.6	12.50	317.5
20	500	33.75	857.3	4.25	108.0	23.00	584.2	29.50	749.3	2.12	53.8	20	2	13.75	349.3	14.25	362.0	13.50	342.9
24	600	41.00	1041.4	5.50	139.7	27.25	692.2	35.50	901.7	2.62	66.5	20	2 1/2	17.25	438.2	18.00	457.2	17.00	431.8

a). NPS 24" and smaller flanged ends by ANSI B16.5, NPS 26" and larger by MSS SP-44.
 b). Flanged of 600Lb and 900Lb with the raised face of 0.25(6.4mm) is added while excluded by the smallest flange of thickness C.
 c). The length L/LMFM of the double-end bolt don't include the terminal length. D). Flange gasket of the matching flange ASME B16.20.

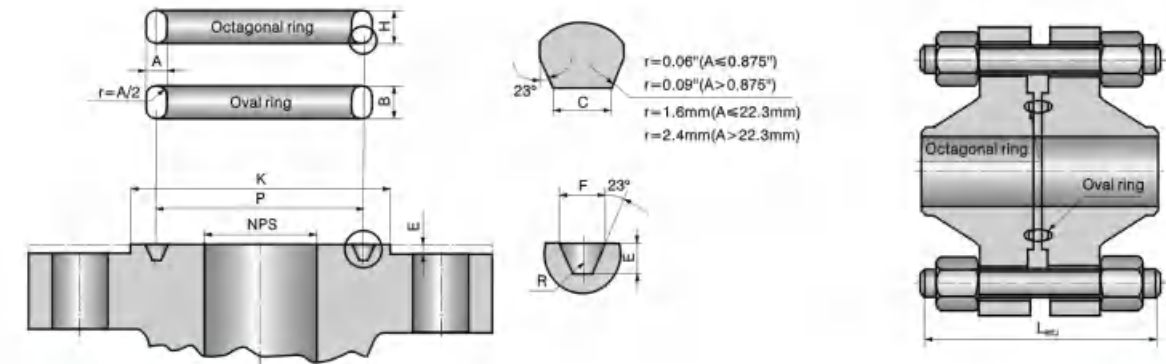
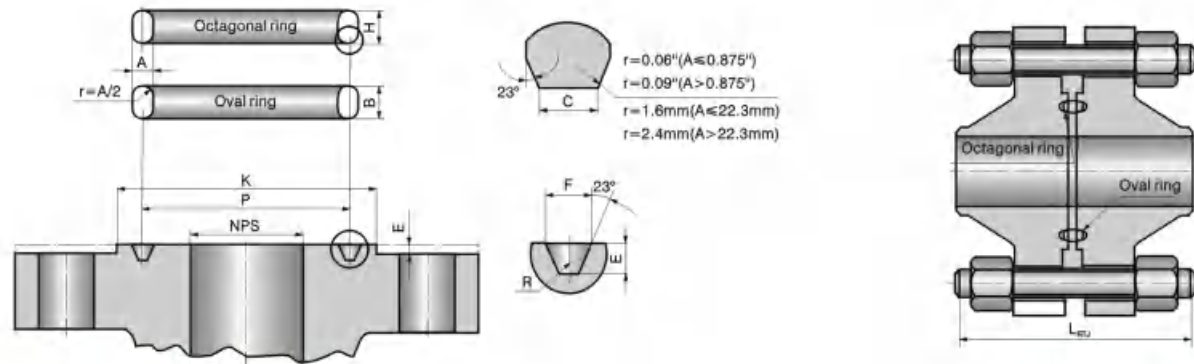
International Materials Standards

1500Lb

NPS	O	C	R	B	D	Bolt	L	LRTJ	LM										
in	mm	in	mm	in	mm	QTY	Diam	in	mm										
2	50	8.50	215.9	1.50	38.1	3.62	91.9	6.50	165.1	1.00	25.4	8	7/8	5.75	146.1	5.75	146.1	5.50	139.7
2 1/2	65	9.62	244.3	1.62	41.1	4.12	104.6	7.50	190.5	1.12	28.4	8	1	6.25	158.8	6.25	158.8	6.00	152.4
3	80	10.50	266.7	1.88	47.8	5.00	127.0	8.00	203.2	1.25	31.8	8	1 1/8	7.00	177.8	7.00	177.8	6.75	171.5
4	100	12.25	311.2	2.12	53.8	6.19	157.2	9.50	241.3	1.38	35.1	8	1 1/4	7.75	196.9	7.75	196.9	7.50	190.5
5	125	14.75	374.7	2.88	73.2	7.31	185.7	11.50	292.1	1.62	41.1	8	1 1/2	9.75	247.7	9.75	247.7	9.50	241.3
6	150	15.50	393.7	3.25	82.6	8.50	215.9	12.50	317.5	1.50	38.1	12	1 3/8	10.25	260.4	10.50	266.7	10.00	254.0
8	200	19.00	482.6	3.62	91.9	10.62	269.7	15.50	393.7	1.75	44.5	12	1 5/8	11.50	292.1	12.75	323.9	11.25	285.8
10	250	23.00	584.2	4.25	108.0	12.75	323.9	19.00	482.6	2.00	50.8	12	1 7/8	13.25	336.6	13.50	342.9	13.00	330.2
12	300	26.50	673.1	4.88	124.0	15.00	381.0	22.50	571.5	2.12	53.8	16	2	14.75	374.7	15.25	387.4	14.50	368.3
14	350	29.50	749.3	5.25	133.4	16.25	412.8	25.00	635.0	2.38	60.5	16	2 1/4	16.00	406.4	16.75	425.5	15.75	400.1
16	400	32.50	825.5	5.75	146.1	18.50	469.9	27.75	704.9	2.62	66.5	16	2 1/2	17.50	444.5	18.50	469.9	17.25	438.2
18	450	36.00	914.4	6.38	162.1	21.00	533.4	30.50	774.7	2.88	73.2	16	2 3/4	19.50	495.3	20.75	527.1	19.25	489.0
20	500	38.75	984.3	7.00	177.8	23.00	584.2	32.75	831.9	3.12	79.2	16	3	21.25	539.8	22.25	565.2	21.00	533.4
24	600	46.00	1168.4	8.00	203.2	27.25	692.2	39.00	990.6	3.62	91.9	16	3 1/2	24.25	616.0	25.50	647.7	24.00	609.6

2500Lb

NPS	O	C	R	B	D	Bolt	L	LRTJ	LM										
in	mm	in	mm	in	mm	QTY	Diam	in	mm										
2	50	9.25	235.0	2.00	50.8	3.62	91.9	6.75	171.5	1.12	28.4	8	1	7.00	177.8	7.00	177.8	6.75	171.5
2 1/2	65	10.50	266.7	2.25	57.2	4.12	104.6	7.75	196.9	1.25	31.8	8	1 1/8	7.75	196.9	8.00	203.2	7.50	190.5
3	80	12.00	304.8	2.62	66.5	5.00	127.0	9.00	228.6	1.38	35.1	8	1 1/4	8.75	222.3	9.00	228.6	8.50	215.9
4	100	14.00	355.6	3.00	76.2	6.19	157.2	10.75	273.1	1.62	41.1	8	1 1/2	10.00	254.0	10.25	260.4	9.75	247.7
5	125	16.50	419.1	3.62	91.9	7.31	185.7	12.75	323.9	1.88	47.8	8	1 3/4	11.75	298.5	12.25	311.2	11.50	292.1
6	150	19.00	482.6	4.25	108.0	8.50	215.9	14.50	368.3	2.12	53.8	8	2	13.50	342.9	14.00	355.6	13.25	336.6
8	200	21.75	552.5	5.00															



Ring-Joint Flange Ends

150Lb~2500Lb

ANSI Class-Lb		Annular groove								150Lb		300/600Lb		900Lb		1500Lb		2500Lb				
150	300	600	900	1500	2500	No.	P	E	F	R	K											
NPS							in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
2						R22	3.250	82.55	0.250	6.35	0.344	8.74	0.03	0.76	4.00	101.60						
	2	2				R23	3.250	85.55	0.312	7.92	0.469	11.91	0.03	0.76		4.25	107.95			4.50	114.30	
			2			R24	3.750	95.25	0.312	7.92	0.469	11.91	0.03	0.76				4.88	123.95			
				2		R26	4.000	101.60	0.312	7.92	0.469	11.91	0.03	0.76		5.00	127.00			5.25	133.35	
2 1/2						R25	4.000	101.60	0.250	6.35	0.344	8.74	0.03	0.76	4.75	120.65						
	2 1/2	2 1/2				R26	4.000	101.60	0.312	7.92	0.469	11.91	0.03	0.76		5.00	127.00			5.25	133.35	
			2 1/2			R27	4.250	107.95	0.312	7.92	0.469	11.91	0.03	0.76				5.38	136.65			
				2 1/2		R28	4.375	111.13	0.375	9.53	0.531	13.49	0.03	0.76						5.88	149.35	
3						R29	4.500	114.30	0.250	6.35	0.344	8.74	0.03	0.76	5.25	133.35						
	3	3	3			R31	4.875	123.83	0.312	7.92	0.469	11.91	0.03	0.76		5.75	146.05	6.12	155.45			
				3		R32	5.000	127.00	0.375	9.53	0.531	13.49	0.06	1.52						6.62	168.15	
4						R36	5.875	149.23	0.250	6.35	0.344	8.74	0.03	0.76	6.75	171.45						
	4	4	4			R37	5.875	149.23	0.312	7.92	0.469	11.91	0.03	0.76		6.88	174.75	7.12	180.85			
				4		R38	6.188	157.18	0.438	11.13	0.656	16.66	0.06	1.52						8.00	203.20	
					4	R39	6.375	161.93	0.312	7.92	0.469	11.91	0.03	0.76				7.62	193.55			
5						R40	6.750	171.45	0.50	6.35	0.344	8.74	0.03	0.76	7.62	193.55						
	5	5	5			R41	7.125	180.98	0.312	7.92	0.469	11.91	0.03	0.76		8.25	209.55	8.50	215.90			
				5		R42	7.500	190.50	0.500	12.70	0.781	19.84	0.060	1.52						9.50	241.30	
					5	R44	7.625	193.68	0.312	7.92	0.469	11.91	0.03	0.76				9.00	228.60			
6						R43	7.625	193.68	0.250	6.35	0.344	8.74	0.03	0.76	8.62	218.95						
	6	6	6			R45	8.312	211.12	0.312	7.92	0.469	11.91	0.03	0.76		9.50	241.30	9.50	241.30			
				6		R46	8.312	211.12	0.375	9.53	0.531	13.49	0.06	1.52					9.75	247.65		
					6	R47	9.000	228.60	0.500	12.70	0.781	19.84	0.06	1.52						11.00	279.40	
8						R48	9.750	247.65	0.250	6.35	0.344	8.74	0.03	0.76								
	8	8	8			R49	10.625	269.88	0.312	7.92	0.469	11.91	0.03	0.76	10.75	273.05						
				8		R50	10.625	269.88	0.438	11.13	0.656	16.66	0.06	1.52		11.88	301.75	12.12	307.85	12.50		
					8	R51	11.000	279.40	0.562	14.27	0.906	23.01	0.06	1.52							13.38	339.85

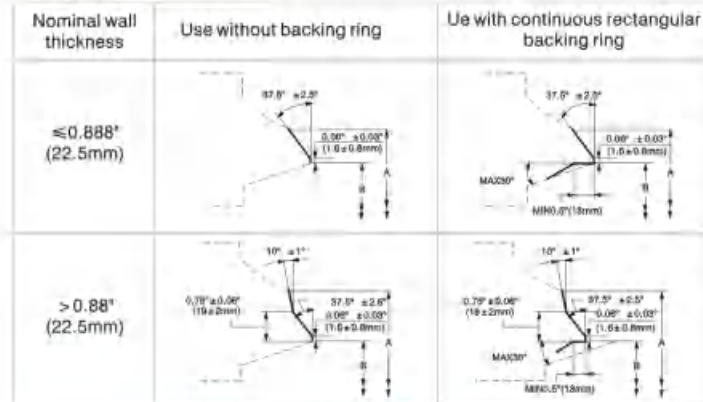
a). Please to see flange ends for other connection dimension. B). Flange metal ring gasket of the matching flange ASME B16.20.
 c). For the specification of NPS 2~2 1/2" of 900Lb will adopt the dimension of 1500Lb.
 D). The length LRTJ of the double-end bolt don't include the terminal length.

Ring-Joint Flange Ends

150Lb~2500Lb

ANSI Class-Lb		Annular groove								150Lb		300/600Lb		900Lb		1500Lb		2500Lb				
150	300	600	900	1500	2500	No.	P	E	F	R	K											
NPS							in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
10						R52	12.000	304.80	0.250	6.35	0.344	8.74	0.03	0.76	13.00	330.20						
	10	10	10			R53	12.750	323.85	0.312	7.92	0.469	11.91	0.03	0.76		14.00	355.60	14.25	361.95			
				10		R54	12.750	323.85	0.438	11.13	0.656	16.66	0.06	1.52						4.62	371.35	
					10	R55	13.500	342.90	0.688	17.48	1.188	30.18	0.09	2.29							16.75	425.45
12						R56	15.000	381.00	0.250	6.35	0.344	8.74	0.03	0.76	16.00	406.40						
	12	12	12			R57	15.000	381.00	0.312	7.92	0.469	11.91	0.03	0.76		16.25	412.75	16.50	419.10			
				12		R58	15.000	381.00	0.562	14.27	0.906	23.01	0.06	1.52						17.25	438.15	
					12	R60	16.000	406.40	0.688	17.48	1.312	33.32	0.09	2.29							19.50	
14						R59	15.625	396.88	0.250	6.35	0.344	8.74	0.03	0.76							495.30	
	14	14				R61	16.500	419.10	0.312	7.92	0.469	11.91	0.03	0.76	16.75	425.45						
			14	14		R62	16.500	419.10	0.438	11.13	0.656	16.66	0.06	1.52		18.00	457.20	18.38	466.85			
					14	R63	16.500	419.10	0.625	15.88	1.062	26.97	0.09	2.29						19.25	488.95	
16						R64	17.875	454.03	0.250	6.35	0.344	8.74	0.03	0.76	19.00	482.60						
	16	16				R65	18.500	469.90	0.312	7.92	0.469	11.91	0.03	0.76		20.00	508.00					
			16			R66	18.500	469.90	0.438	11.13	0.656	16.66	0.06	1.52				20.62	523.75			
				16		R67	18.500	469.90	0.688	17.48	1.188	30.18	0.09	2.29						21.50	546.10	
18						R68	20.375	517.53	0.250	6.35	0.344	8.74	0.03	0.76	21.50	546.10						
	18	18				R69	21.000	533.40	0.312	7.92	0.469	11.91	0.03	0.76		22.62	574.55					
			18			R70	21.000	533.40	0.500	12.70	0.781	19.84	0.06	1.52				23.38	593.85			
				18		R71	21.000	533.40	0.688	17.48	1.188	30.18	0.09	2.29						24.12	612.65	
20						R72	22.000	558.80	0.250	6.35	0.344	8.74	0.03	0.76	23.50	596.90						
	20	20				R73	23.000	584.20	0.375	9.53	0.531	13.49	0.06	1.52		25.00	635.00					
			20			R74	23.000	584.20	0.500	12.70	0.781	19.84	0.06	1.52				25.50	647.70			
				20		R75	23.000	584.20	0.688	17.48	1.312	33.32	0.09	2.29						26.50	673.10	
24						R76	26.500	673.10	0.250	6.35	0.344	8.74	0.03	0.76	28.00	711.20						
	24	24				R77	27.250	692.15	0.438	11.13	0.656	16.66	0.06	1.52		29.50	749.30					
			24			R78	27.250	692.15	0.625	15.88	1.062	26.97	0.09	2.29				30.38	771.65			
				24		R79	27.250	692.15	0.812	20.62	1.438	36.53	0.09	2.29						31.25	793.75	

a). Please to see flange ends for other connection dimension. b). Flange metal ring gasket of the matching flange asme b16.20.
 c). For the specification of nps 2~2 1/2" of 900lb will adopt the dimension of 1500lb.
 d). The length LRTJ of the double-end bolt don't include the terminal length.



Class 150 and 300 valve which size equal to 12 inch and smaller and 12 inch valves which connected with standard wall pipe(0.375 \" thick-ness)are regularly machined. Unless have other requirement.

Order for class 150 and 300 butt-welding valves which size equal to 14 and larger and class 400 and higher valve for all sizes, it should specified the diameter of the pipe that connected with valves. If need backing ring, indicate specification.

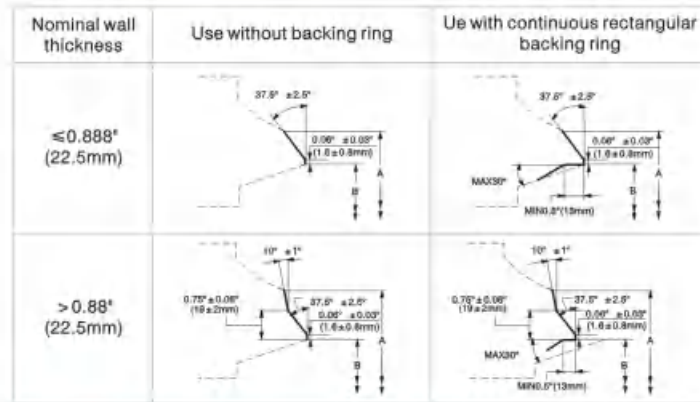
Other types of weld end preparation would be furnished or specified.

ASME B16.25-Butt-welding Ends

1		2	3				4		5		6		7	
Nominal pipe diameter			Wall thickness of pipe number	Outside diameter of welding end				Nominal inside diameter of pipe		Machined inside diameter of pipe		Nominal wall thickness		
NPS	DN			Steel valve		Forged ¹⁾		B		C		t		
in	mm		in	mm	in	mm	in	mm	in	mm	in	mm		
2 1/2	65	40	2.96	75	2.88	73.0	2.469	62.5	2.479	62.93	0.203	5.16		
		80	2.96	75	2.88	73.0	2.323	59	2.351	59.69	0.276	7.01		
		160	2.96	75	2.88	73.0	2.215	54	2.178	55.28	0.375	9.53		
3	80	XXS	2.96	75	2.88	73.0	1.771	45	1.868	47.43	0.552	14.02		
		40	3.59	91	3.50	88.9	3.068	78	3.081	78.25	0.216	5.49		
		80	3.59	91	3.50	88.9	2.900	73.5	2.934	74.53	0.300	7.62		
		160	3.59	91	3.50	88.9	2.624	66.5	2.692	68.38	0.438	11.13		
3 1/2	90	XXS	3.59	91	3.50	88.9	2.300	58.5	2.409	61.19	0.600	15.24		
		40	4.12	105	4.00	101.6	3.548	90	3.564	90.52	0.226	5.74		
		80	4.12	105	4.00	101.6	3.364	85.5	3.402	86.42	0.318	8.08		
		160	4.12	105	4.00	101.6	3.026	102	4.044	102.73	0.237	6.02		
4	100	40	4.62	117	4.50	114.3	4.026	102	4.044	102.73	0.237	6.02		
		80	4.62	117	4.50	114.3	3.826	97	3.869	98.28	0.337	8.56		
		120	4.62	117	4.50	114.3	3.624	92	3.692	93.78	0.438	11.13		
		160	4.62	117	4.50	114.3	3.438	87.5	3.530	89.65	0.531	13.49		
5	125	XXS	4.62	117	4.50	114.3	3.152	80	3.279	83.30	0.674	17.12		
		40	5.69	144	5.56	141.3	5.047	128	5.070	128.80	0.258	6.55		
		80	5.69	144	5.56	141.3	4.813	122	4.866	123.58	0.375	9.53		
		120	5.69	144	5.56	141.3	4.563	116	4.647	118.04	0.500	12.70		
6	150	160	5.69	144	5.56	141.3	4.313	109.5	4.428	112.47	0.625	15.88		
		XXS	5.69	144	5.56	141.3	4.063	103	4.209	106.92	0.750	19.05		
		40	6.78	172	6.62	168.3	6.065	154	6.094	154.82	0.280	7.11		
		80	6.78	172	6.62	168.3	5.761	146.5	5.828	148.06	0.432	10.97		
8	200	120	6.78	172	6.62	168.3	5.501	140	5.600	142.29	0.562	14.27		
		160	6.78	172	6.62	168.3	5.187	132	5.326	135.31	0.719	18.26		
		XXS	6.78	172	6.62	168.3	4.897	124.5	5.072	128.85	0.864	21.95		
		40	8.78	223	8.62	219.1	7.981	203	8.020	203.75	0.322	8.18		
10	250	60	8.78	223	8.62	219.1	7.813	198.5	7.873	200.02	0.406	10.31		
		80	8.78	223	8.62	219.1	7.625	193.5	7.709	195.84	0.500	12.70		
		100	8.78	223	8.62	219.1	7.437	189	7.544	191.65	0.594	15.09		
		120	8.78	223	8.62	219.1	7.187	182.5	7.326	186.11	0.719	18.26		
10	250	140	8.78	223	8.62	219.1	7.001	178	7.163	181.98	0.812	20.62		
		XXS	8.78	223	8.62	219.1	6.875	174.5	7.053	179.16	0.875	22.23		
		160	8.78	223	8.62	219.1	6.813	173	6.998	177.79	0.906	23.01		
		40	10.94	278	10.75	273.0	10.020	254.5	10.070	255.74	0.365	9.27		
10	250	60	10.94	278	10.75	273.0	9.750	247.5	9.834	249.74	0.500	12.70		
		80	10.94	278	10.75	273.0	9.562	243	9.670	245.55	0.594	15.09		
		100	10.94	278	10.75	273.0	9.312	236.5	9.451	240.01	0.719	18.26		
		120	10.94	278	10.75	273.0	9.062	230	9.232	234.44	0.844	21.44		
10	250	140	10.94	278	10.75	273.0	8.750	222	8.959	227.51	1.000	25.40		
		160	10.94	278	10.75	273.0	8.500	216	8.740	221.95	1.125	28.58		

ASME B16.25-Butt-welding Ends

1		2	3				4		5		6		7	
Nominal pipe diameter			Wall thickness of pipe number	Outside diameter of welding end				Nominal inside diameter of pipe		Machined inside diameter of pipe		Nominal wall thickness		
NPS	DN			Steel valve		Forged ¹⁾		B		C		t		
in	mm		in	mm	in	mm	in	mm	in	mm	in	mm		
12	300	STD	12.97	329	12.75	323.8	12.000	305	12.053	306.08	0.375	9.53		
		40	12.97	329	12.75	323.8	11.938	303	11.999	304.72	0.406	10.31		
		XS	12.97	329	12.75	323.8	11.750	298.5	11.834	300.54	0.500	12.70		
		60	12.97	329	12.75	323.8	11.626	295	11.725	297.79	0.562	14.27		
		80	12.97	329	12.75	323.8	11.374	289	11.505	292.17	0.688	17.48		
		100	12.97	329	12.75	323.8	11.062	281	11.232	285.24	0.844	21.44		
		120	12.97	329	12.75	323.8	10.750	273	10.959	278.31	1.000	25.40		
14	350	140	12.97	329	12.75	323.8	10.500	266.5	10.740	272.75	1.125	28.58		
		160	12.97	329	12.75	323.8	10.126	257	10.413	264.45	1.312	33.32		
		STD	14.25	362	14.00	355.6	13.250	336.5	13.303	337.88	0.375	9.53		
		40	14.25	362	14.00	355.6	13.124	333.5	13.192	335.08	0.438	11.13		
		XS	14.25	362	14.00	355.6	13.000	330	13.084	332.34	0.500	12.70		
		60	14.25	362	14.00	355.6	12.812	325.5	12.920	328.15	0.594	15.09		
		80	14.25	362	14.00	355.6	12.500	317.5	12.646	321.22	0.750	19.05		
16	400	100	14.25	362	14.00	355.6	12.124	308	12.318	312.86	0.938	23.83		
		120	14.25	362	14.00	355.6	11.812	300	12.044	305.93	1.094	27.79		
		140	14.25	362	14.00	355.6	11.500	292	11.771	299.00	1.250	31.75		
		160	14.25	362	14.00	355.6	11.188	284	11.498	292.07	1.406	35.71		
		STD	16.25	413	16.00	406.4	15.250	387.5	15.303	388.68	0.375	9.53		
		40	16.25	413	16.00	406.4	15.000	381	15.084	383.14	0.500	12.70		
		60	16.25	413	16.00	406.4	14.688	373	14.811	376.21	0.656	16.66		
18	450	80	16.25	413	16.00	406.4	14.312	363.5	14.482	367.84	0.844	21.44		
		100	16.25	413	16.00	406.4	13.938	354	14.155	359.53	1.031	26.19		
		120	16.25	413	16.00	406.4	13.562	344.5	13.826	351.18	1.219	30.96		
		140	16.25	413	16.00	406.4	13.124	333.5	13.442	341.43	1.438	36.53		
		160	16.25	413	16.00	406.4	12.812	325.5	13.170	334.50	1.594	40.49		
		STD	18.28	464	18.00	457.2	17.250	438	17.303	439.48	0.375	9.53		
		XS	18.28	464	18.00	457.2	17.000	432	17.084	433.94	0.500	12.70		
20	500	40	18.28	464	18.00	457.2	16.876	428.5	16.975	431.19	0.562	14.27		
		60	18.28	464	18.00	457.2	16.500	419	16.646	422.82	0.750	19.05		
		80	18.28	464	18.00	457.2	16.124	409.5	16.318	414.46	0.938	23.83		
		100	18.28	464	18.00	457.2	15.688	398.5	15.936	404.78	1.156	29.36		
		120	18.28	464	18.00	457.2	15.250	387.5	15.553	395.03	1.375	34.93		
		140	18.28	464	18.00	457.2	14.876	378	15.225	386.77	1.562	39.67		
		160	18.28	464	18.00	457.2	14.438	366.5	14.842	376.99	1.781	45.24		
22	550	STD	20.31	516	20.00	508.0	19.250	489	19.303	490.28	0.375	9.53		
		XS	20.31	516	20.00	508.0	19.000	482.5	19.084	484.74	0.500	12.70		
		40	20.31	516	20.00	508.0	18.812	478	18.920	480.55	0.594	15.09		
		60	20.31	516	20.00	508.0	18.376	467	18.538	470.88	0.812	20.62		
		80	20.31	516	20.00	508.0	17.938	455.5	18.155	461.13	1.031	26.19		
		100	20.31	516	20.00	508.0	17.438	443	17.717	450.02	1.281	32.54		
		120	20.31	516	20.00	508.0	17.000	432	17.334	440.29	1.500	38.10		
22	550	140	20.31	516	20.00	508.0	16.500	419	16.896	429.17	1.750	44.45		
		160	20.31	516	20.00	508.0	16.062	408	16.513	419.44	1.969	50.01		
		STD	22.34	567	22.00	558.8	21.250	520	21.303	541.08	0.375	9.53		
		XS	22.34	567	22.00	558.8	21.000	533	2					



Class 150 and 300 valve which size equal to 12 inch and smaller and 12 inch valves which connected with standard wall pipe(0.375\"/>

Order for class 150 and 300 butt-welding valves which size equal to 14 and larger and class 400 and higher valve for all sizes, it should specified the diameter of the pipe that connected with valves. If need backing ring, indicate specification.

Other types of weld end preparation would be furnished of specified.

ASME B16.25-Butt-welding Ends

1		2	3				4		5		6		7	
Nominal pipe diameter			Wall thickness of pipe number	Outside diameter of welding end				Nominal inside diameter of pipe		Machined inside diameter of pipe		Nominal wall thickness		
NPS	DN			Steel valve		Forged ¹⁾		B		C		t		
in	mm		A	A1			in	mm	in	mm	in	mm	in	mm
24	600	STD	24.38	619	24.00	609.6	23.250	590.5	23.303	591.88	0.375	9.53		
		XS	24.38	619	24.00	609.6	23.000	584	23.084	586.34	0.500	12.70		
		30	24.38	619	24.00	609.6	22.876	581	22.975	583.59	0.562	14.27		
		40	24.38	619	24.00	609.6	22.624	574.5	22.755	577.97	0.688	17.48		
		60	24.38	619	24.00	609.6	22.062	560.5	22.263	565.49	0.969	24.61		
		80	24.38	619	24.00	609.6	21.562	547.5	21.826	554.38	1.219	30.93		
		100	24.38	619	24.00	609.6	20.938	532	21.280	540.49	1.531	38.89		
		120	24.38	619	24.00	609.6	20.376	517.5	20.788	528.03	1.812	46.02		
		140	24.38	619	24.00	609.6	19.876	505	20.350	516.91	2.062	52.37		
26	650	10	26.38	670	26.00	660.4	25.376	645.5	25.413	645.50	0.312	7.92		
		20	26.38	670	26.00	660.4	25.000	635	25.084	637.14	0.500	12.70		
28	700	10	28.38	721	28.00	711.2	27.376	695.5	27.413	696.30	0.312	7.92		
		20	28.38	721	28.00	711.2	27.000	686	27.084	687.94	0.500	12.70		
30	750	10	30.38	772	30.00	762.0	29.376	746	29.413	747.10	0.312	7.92		
		20	30.38	772	30.00	762.0	29.000	736.5	29.084	738.74	0.500	12.70		
32	800	10	32.50	825	32.00	812.8	31.376	797	31.413	797.90	0.312	7.92		
		20	32.50	825	32.00	812.8	31.000	787.5	31.084	789.54	0.500	12.70		
34	850	10	34.50	876	34.00	863.6	33.376	848	33.413	848.70	0.312	7.92		
		20	34.50	876	34.00	863.6	33.000	838	33.084	840.34	0.500	12.70		
36	900	10	36.50	927	36.00	914.4	35.376	898.5	35.413	899.50	0.312	7.92		
		20	36.50	927	36.00	914.4	35.000	889	35.084	891.14	0.500	12.70		

Note: 1). Forged machined component part
 a. STD=Standard wall thickness
 b. XS=Intensifying wall thickness
 c. XXS=Double intensifying wall thickness.

Example:

Sample	8	G	P	9	B	05	A	-	B
Code	I	II	III	IV	V	VI	VII		VII

I	Valve NPS	Design standard
NPS	Nominal pipe size	API, ANSI
DN	Nominal diameter	BS, EN, DIN

II	Valve type
G	Gate valve
B	Ball vave
C	Check valve
GL	Globe
P	Plug valve
S	Strainer

III	Special code ¹⁾	Suitable valve
R	Reduced port	
C	Cryogenic	
P	Pressure seal	G/C/GL Valve
N	Non-rising stem	G/GL Valve
B	Bellows type	
A	Adjustment-type disc	Globe valve
M	Trunnion mounted	
T	Top entry	Ball valve
W	All-welded	
V	Vertical	Lift type
H	Horizontal	
D	Dual-plate, butterfly type	Check valve
S	Single-plate	
Y	Y-type	Strainer

IV	ANSI Pound Class	PN Nominal pressure
0		PN 1.6MPa
1	ANSI Class 150Lb	PN 2.0MPa
2		PN 2.5MPa
3	ANSI Class 300Lb	PN 5.0MPa
4		PN 4.0MPa
5	ANSI Class 400Lb	PN 6.3MPa
6	ANSI Class 600Lb	PN 10.0MPa
8	ANSI Class 800Lb	
9	ANSI Class 900Lb	PN 15.0MPa
15	ANSI Class 1500Lb	PN 25.0MPa
25	ANSI Class 2500Lb	PN 42.0MPa

TEJI valve figure number is comprised of significant numbers and etters that describe the configurations of valves. When ordering, we recommend you to select figure numbers to make your requirements more distinct. However a detailed description must accompany any special orders.

V	Type of connection	Stand code
F	Raised face flange end	RF
L	Flat face flange end	FF
R	Ring joint flange end	RTJ
B	Butt welding end	BW
S	Socket welding end	SW
T	Screwed end, internal thread, NPT	SC
W	Wafer type	WF

VI	Trim material				
	Code	API CN	Surface		Stem material
		Closure member	Seat	Brinell Hardness	
01	1	13Cr	13Cr	250 HB min	13Cr
02	2	18Cr-8Ni	18Cr-8Ni	Not specified	18Cr-8Ni
03	3	20Cr-20Ni	20Cr-20Ni	Not specified	20Cr-20Ni
04	4	13Cr	13Cr	750 HB min	13Cr
05	5	HF	HF	350 HB min	13Cr
06	6	13Cr	CuNi	250 HB/175 HB min	13Cr
07	7	13Cr	13Cr	250 HB/750 HB min	13Cr
08	8	13Cr	HF	250 HB/350 HB min	13Cr
09	9	NiCu alloy	NiCu alloy	Not specified	NiCu alloy
10	10	18Cr-8Ni-Mo	18Cr-8Ni-Mo	Not specified	18Cr-8Ni-Mo
11	11	NiCu alloy	HF	350 HB min	NiCu alloy
12	12	18Cr-8Ni-Mo	HF	350 HB min	18Cr-8Ni-Mo
13	13	19Cr-29Ni	19Cr-29Ni	Not specified	19Cr-29Ni
14	14	19Cr-29Ni	HF	350 HB min	19Cr-29Ni
50	/	A105+ENP ²⁾	Soft seat ¹⁾	Not specified	13Cr
55	/	13Cr	Soft seat ¹⁾	Not specified	13Cr
56		18Cr-8Ni	Soft seat ¹⁾	Not specified	13Cr
57	/	18Cr-8Ni	Soft seat ¹⁾	Not specified	18Cr-8Ni
58	/	18Cr-8Ni-Mo	Soft seat ¹⁾	Not specified	13Cr
59	/	18Cr-8Ni-Mo	Soft seat ¹⁾	Not specified	18Cr-8Ni-Mo
00 ³⁾	/	/	/	/	/

Notes:
 1) Soft seat including PTFE, NYLON and PEEK, see part list for details.
 2) ENP=Electroless nickel plating.
 3) Other materials can be used upon discussion between buyer and manufacturer.

VI Code	Shell material							
	ASTM Spec. grade	Nominal designation	Service recommendations	Min. TEMP		Min. TEMP		
				°F	°C	°F	°C	
A	A216-WCB	Cast carbon steel	W.O.G(Water, oil & gas)steam and general service	-20	-29	800	425	
B	A352-LCB	Cast carbon steel	Low temperature and general service	-50	-46	650	343	
C	A352-LCC	Cast carbon steel	Low temperature and general service	-50	-46	650	343	
D	A217-WC6	Chrome-molybdenum steel 1 1/4Cr-1/2Mo	High temperature steam oil vapour and general service	-20	-29	1100	593	
E	A217-WC9	Chrome-molybdenum steel 2 1/4Cr-1Mo	High temperature steam oil vapour and general service	-20	-29	1100	593	
F	A217-C5	Chrome-molybdenum steel 5Cr-1/2Mo	Corrosive erosive oil refinery service	-20	-29	1200	649	
G	A217-C12	Chrome-molybdenum steel 9Cr-1Mo	Corrosive erosive oil refinery service	-20	-29	1200	649	
K	A351-CF8	Cast stainless steel 18Cr-10Ni, 304 SS	Corrosive or extremely high temperature noncorrosive services between -450 °F (-268 °F) and 1200 ° F(649 °F). Above 1000 ° F(540 ° F) specify carbon content of 0.04% or greater.	-20	-29	1100	593	
L	A351-CF8M	Cast stainless steel 18Cr-10Ni-2Mo, 316 SS		-20	-29	1100	593	
M	A351-CF3	Cast stainless steel 18Cr-10Ni, 304L SS		-20	-29	800	425	
N	A351-CF3M	Cast stainless steel 18Cr-10Ni-2Mo, 316L SS		-20	-29	850	454	
P	A351-CN7M	Cast stainless steel 19Cr-29Ni, Alloy-20	Corrosion resistance	-20	-29	800	425	
R	A494 M-35-1	Cast Ni alloy steel monel	Weldable grade, good resistance to corro- sion by all common organic acids and salt water	-20	-29	750	400	
U	A494 CW-6M	Cast Ni alloy steel hastelloy C	Good resistance to strong oxidation conditions. Good properties at high tem- peratures, high resistance to formic, phosphoric, sulphurous and sulfuric acids.	-20	-29	1200	649	
V	A494 CY-40	Cast Ni alloy steel inconel	Very good for high temperature service. Good resistance to strongly corrosive media.	-20	-29	1200	649	
FA	A105(N)	Forged carbon steel	W.O.G(Water, oil & gas)steam and general service	-50	-46	650	343	
FB	A350-LF2	Forged carbon steel	W.O.G(Water, oil & gas)and general service	-50	-46	650	343	
FD	A182-F11	Chrome-molybdenum steel 1 1/4Cr-1/2 Si	High temperature, steam oil vapour and general service	-40	-40	1100	593	
FK	A2182-F304	Forged stainless steel 18Cr-10Ni-2Mo, 304 SS	Corrosive or extremely high tem- perature non-corrosive services between -450° F (-268°C) and 1200° F (649°C). Above1000° F (540°C) specify carbon content of 0.04% or greater.	-20	-29	1100	593	
FL	A182-F316	Forged stainless steel 18Cr-10Ni-2Mo, 316 SS		-20	-29	1100	593	
FM	A182-F304L	Forged low carbon stainless steel 18Cr-10Ni, 304L SS		-20	-29	800	425	
FN	A182-F316L	Forged low carbon stainless steel 18Cr-10Ni, 316L SS		-20	-29	850	454	
Note: The soft seal valve maximum working temperature depending upon the seat material.			Seat material	R.PTFE	-320	-196	250	121
				NYLON	-58	-50	176	80
				PEEK	-185	-120	483	250

VI	Actuator device
B	Bevel gear actuator
W	Worm gear actuator
E	General electric actuator
EX	Explosion-proof electric actuator
P	Double pneumatic actuator
PS	Single pneumatic actuator
H	Hydraulic actuator
EH	Electro-hydraulic actuator
PH	Pneumatic-hydraulic actuator

Notes:
a. N/A For handwheel or lever operated.
b. N/A For check valve and strainer.