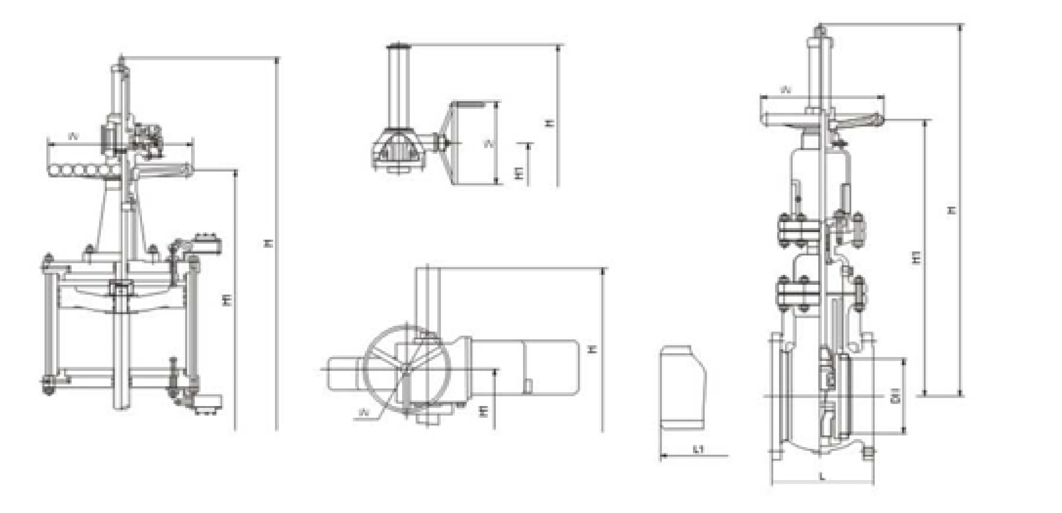
GATE VALVE SERIES
PARALLEL DOUBLE-DISC GATE VALVE



MAIN SIZE OF OUTSIDE

Class 150

Size		NPS	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	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
Hand-operated		H	475	535	600	700	910	1095	1370	1470	1730	1870	2185	2335	2715	-	-	-
		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	-	-	-
Geared driving		H	-	-	-	-	-	1235	1510	1610	1890	2030	2415	2565	3045	-	-	-
		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	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	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
Hand-Operated		H	475	535	600	700	910	1095	1370	1470	1730	1870	2185	2335	2715	-	-	-
		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	-	-	-

Class 600

Size	NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	32
	DN	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
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	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

GlOBE VALVE SERIES
STEEL GLOBE VALVE

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 Class1500~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 Class900 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 3.2μm). 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 0.8μm) and ensure the reliable tightness of the stem area.

BELLEVILLE SPRING LOADED PACKINGIMPACTING 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 be as 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.

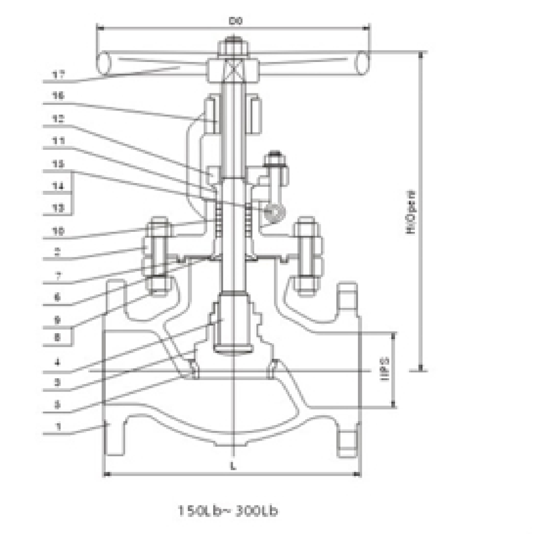
SPECIAL GLOBE VALVE

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

GLOBE VALVE SERIES
CAST STEEL GLOBE VALVE

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



150Lb~300Lb

APPLICABLE STANDARDS

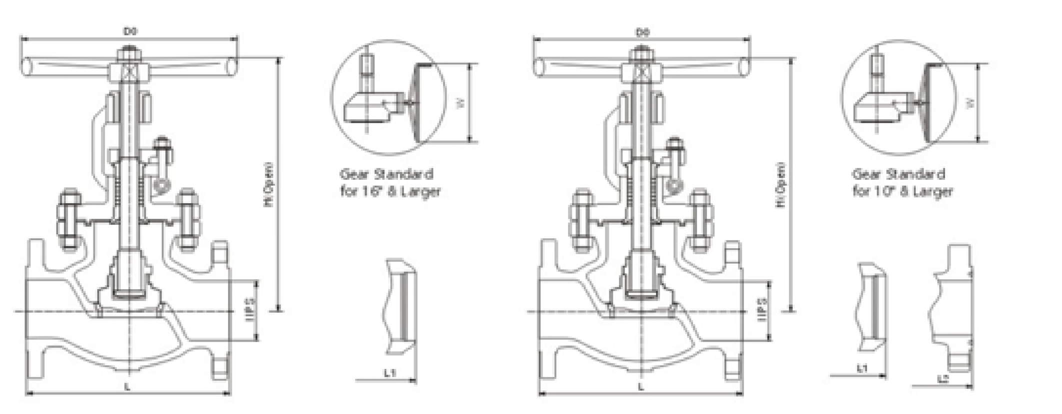
Design standard: BS1873/API 600/ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5
Butt welding ends: ASME B16.25
Inspection and test: API 598

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 back seat	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*/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.

GLOBE VALVE SERIES
CAST STEEL GLOBE VALVE



Gear Standard for 16" & Larger
Class 150~Class 300

Gear Standard for 10" & Larger
Class 600~Class 900

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	18
		DN	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450
L/L1 (RF/BW)		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
		mm	108	118	127	165	203	216	241	292	406	495	622	698	787	914	978
H (Open)		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	51.18
		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 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	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
		mm	108	118	127	229	267	292	318	356	445	559	622	711	838	864
H (Open)		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
		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 600

Size	NPS	2	2 1/2	3	4	6	8	10	12	14	16
	DN	50	65	80	100	150	200	250	300	350	400
L/L1 (RF/BW)	in	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35	39
	mm	292	330	356	432	559	660	787	838	889	991
L2 (RTJ)	in	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12
	mm	295	33	359	435	562	663	790	841	892	994
H (Open)	in	18.19	21.26	23.03	26.38	34.88	36.69	40.94	50.39	57	63
	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 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
	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 (Open)	in	23.62	25.98	26.18	31.50	43.62	46.61	61.88	69
	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 1500,2500 proposed structure of self-sealing, For flange connection with the company.

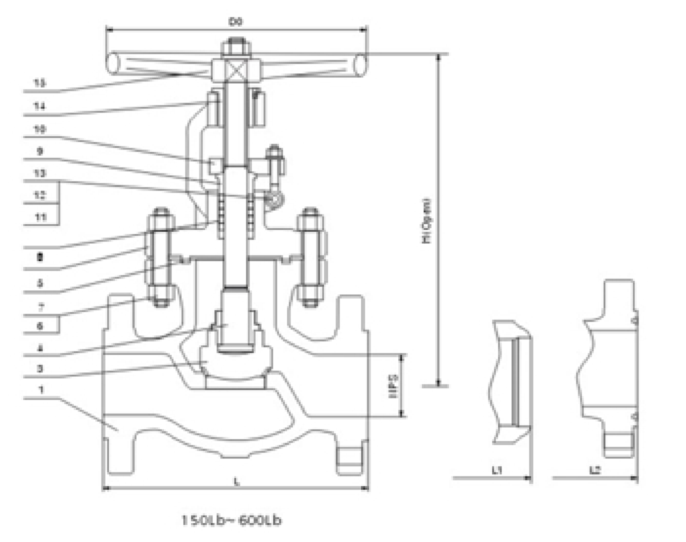
GLOBE VALVE SERIES
CAST STAINLESS STEEL GLOBE VALVE(API603)

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



150Lb~600Lb

MATERIALS OF PARTS

NO.	Part name	ASTM Material		
		18Cr-9Ni	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	Stem	A182 F304	A182 F316	A182 F316L
5	Bonnet gasket*	Graphite+304	Graphite+316	Graphite+316L
6	Bonnet stud	A193-B8	A193-B8M	A193-B8M
7	Bonnet nut	A194-8	A194-8M	A194-8M
8	Packing*	Graphite		
9	Gland	A276-304	A276-316	A276-316L
10	Gland flange	A351-CF8	A351-CF8M	A351-CF3M
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	Yokesleeve	Aluminum-bronze*		
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.

GLOBE VALVE SERIES
CAST STAINLESS STEEL GLOBE VALVE(API603)

DIMENSIONS DATA

150Lb

Size		in	1/2	3/4	1	11/2	2	21/2	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	11/2	2	21/2	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	11/2	2	21/2	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	-	-

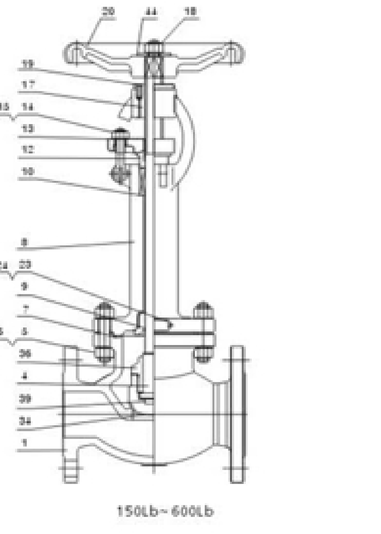
GLOBE VALVE SERIES
CRYOGENIC GLOBE VALVE

APPLICABLE STANDARDS

Design and Manufacture: BS 1873, ASME B16.34
End Flange Dimension: ASME B16.5, DIN2501
Face to face Dimension: ASME B16.10, DIN 3202, EN558, API602, BS5352
Welding Ends Dimension: ASME B16.25
Threaded Ends Dimension: ASME B1.20.1
Socket Welded Ends Dimension: ASME B16.11
Pressure-Temperature Ratings: ASME B16.34
Inspection and Test: API 598

DESIGN DESCRIPTION

Cryogenic valve normally refer to valves with working temperature below -110°C. It is widely used in LNG, LPG and other low temperature industry. DBV cryogenic valves offer Gate, Globe and Ball valves for cryogenic service up to -196°C. Our in-house computer controlled facility can certify valves up to 24".
Type of Operation: Manual, Gear, Electric, Pneumatic.
Size: NPS1/2"~12"
Pressure Class: 150Lb~800Lb
Materials: LCB, LCC, LC3, CF8, CF8M, LF2, LF3, F304, F316.



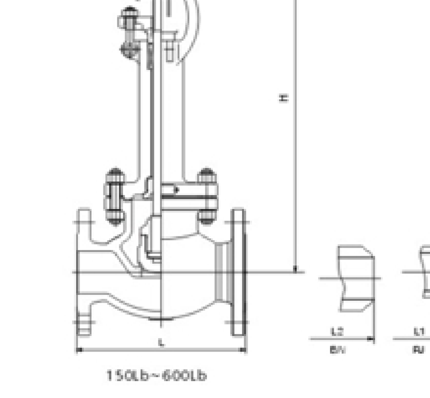
150Lb~600Lb

MAIN PARTS MATERIAL SHEET

150Lb~600Lb

Item	Part name	LC3	CF8	CF3	CF3M	CE3MN
1	Body	A352 LC3	A351 CF8	A351 CF3	A351 CF3M	CE3MN
2	Bonnet	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	Stem	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	Disc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

GLOBE VALVE SERIES
CRYOGENIC GLOBE VALVE



150Lb~600Lb

MAIN PARTS DIMENSION SHEET

150Lb

Spec (NAP)	in	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	-	-

300Lb

Spec (NAP)	in	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	-	-

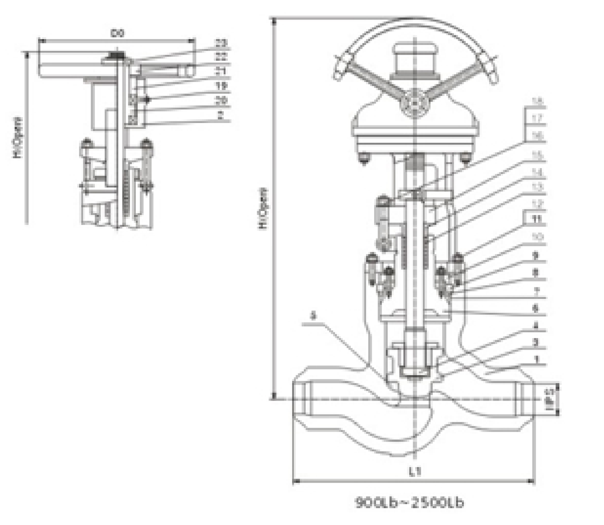
600Lb

Spec (NAP)	in	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	-	-

GLOBE VALVE SERIES
CAST STEEL GLOBE VALVE (PRESSURE SEAL)

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 gear operator



900Lb~2500Lb

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

MATERIALS OF PARTS

NO.	Part name	ASTM Material		
1	Body	A216-WCB	A217-WC6	A351-CF3M
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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.