GLOBE VALVE SERIES

KEY VALVES
UK LTD

Quality First Service Foremost
www.keyvalvesuk.com

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 μm). 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 μm) 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

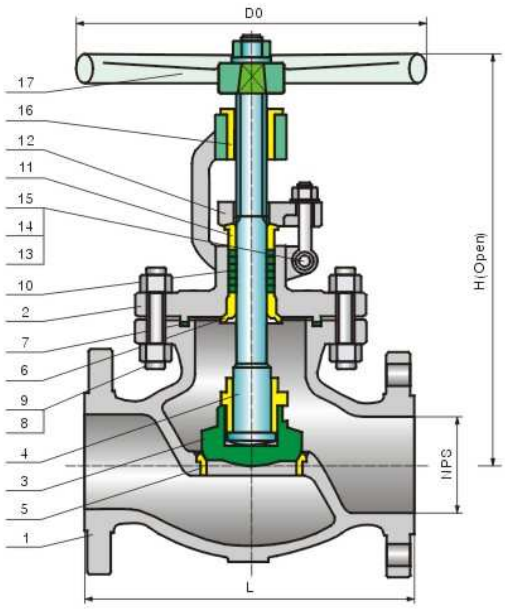
Usually, the stem nut is copper alloy. It is also can be made of ASTM A439 D2 if being requested by the customer. For large sized globe valve, rolling bearing is fitted at the two sides of stem nut in order to minimize the open and close torque of the globe valve.

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



150Lb~300Lb

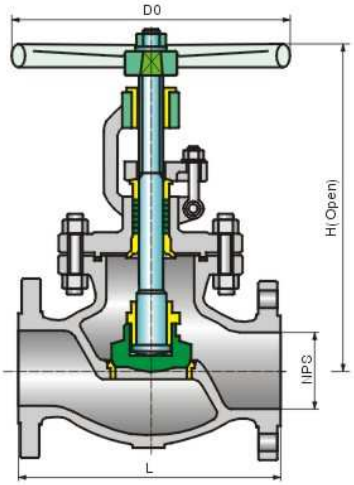
Applicable Standards

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

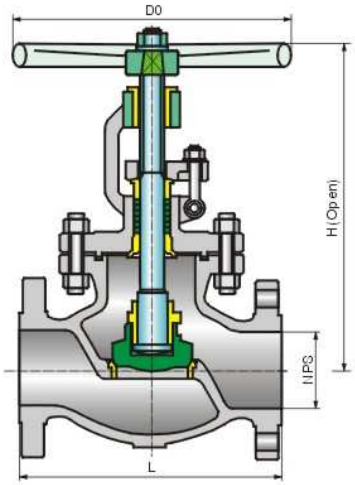
Materials of Parts

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 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"/A439-D2			
17	Handwheel	A216-WCB			

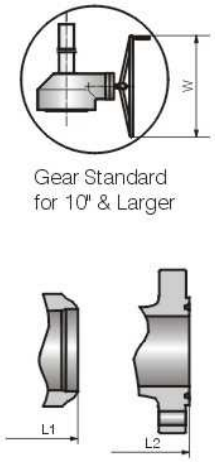
Note:
1). A Ductile Ni-resist optional;
2). Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



Class 150~Class 300



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	5118
	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

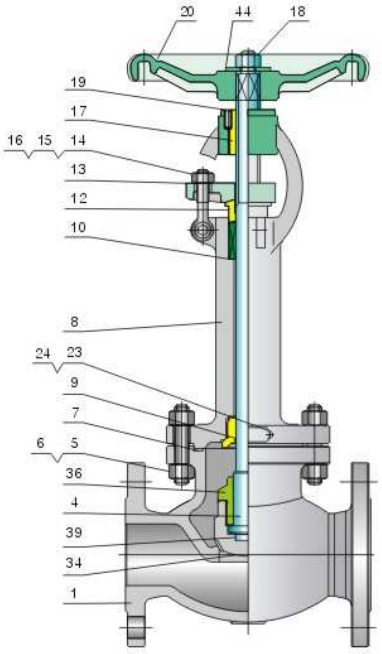
Class 1500,2500 proposed structure of self-sealing, For flange connection with the company.

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

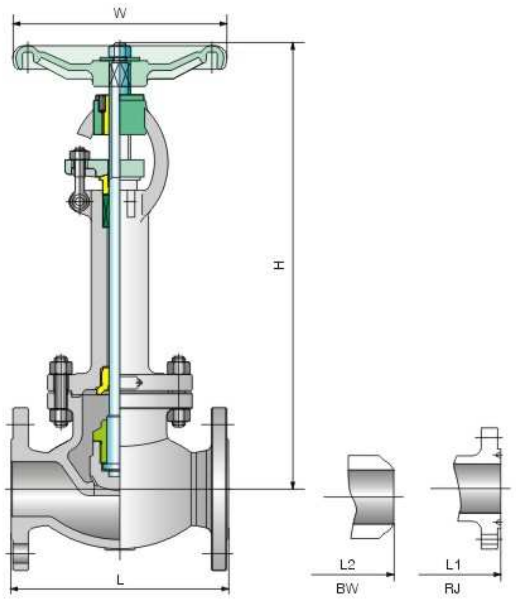
Cryogenic valves normally refer to valves with working temperature below-110℃.It is widely used in LNG, LPG and other low temperature industry FBIC now offers Gate, Globe and Ball valves for cryogenic service up to-196℃. Our in-house computer controlled test facility can certify valves up to 24"
Type 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℃.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℃.
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

Main Parts Material 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	-	-

Design Description

PSB, Pressure seal bonnet

Flexible wedge, fully guided

Choice of solid or split wedge

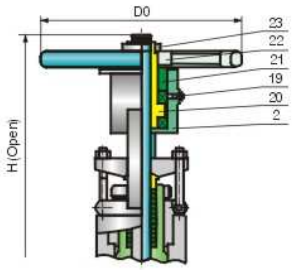
Renewable seat rings

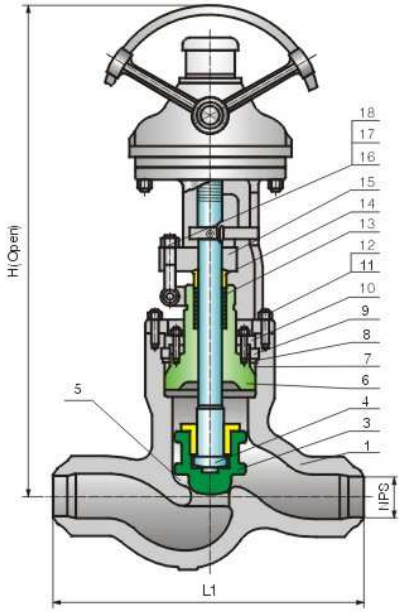
Forged-head stem

Rising stem and non-rising handwheel

Flanged or butt welding ends

Available with bg operator





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

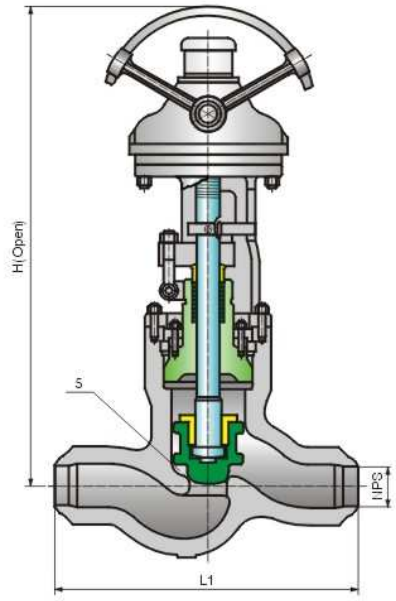
Materials of Parts

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

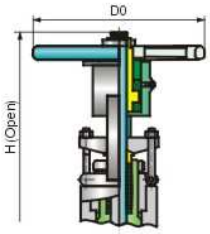
Note: 1). Graphite optional

2). Ductile Ni-resist optional

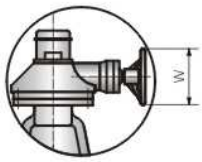
3). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



900Lb~ 2500Lb



4" and smaller



Gear Standard for
6" & Larger (900)
6" & Larger (1500)
4" & Larger (2500)

RF End

RTJ End

● 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

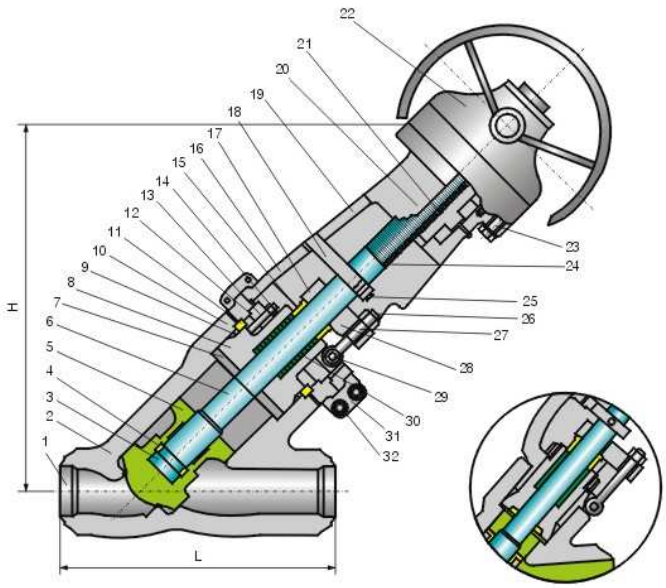
Size	NPS	2	2 1/2	3	4	6	8
	DN	50	65	80	100	150	200
L/L1 (RF/BW)	in	14.50	16.50	18.50	21.50	27.75	32.75
	mm	368	419	470	546	705	832
L2 (RTJ)	in	14.62	16.62	18.62	21.62	28.00	33.13
	mm	371	422	473	549	711	842
H (Open)	in	24.41	25.40	32.68	33.86	48.50	70.24
	mm	620	645	830	860	1232	1784
D0	in	14	14	20	22	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, and equalizer pipe is provided to help achieve full disc lift as well as reduce wear producing turbulence.



900Lb~ 2500Lb

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	21/2	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	21/2	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	21/2	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