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FORGED STEEL VALVES

CATENA



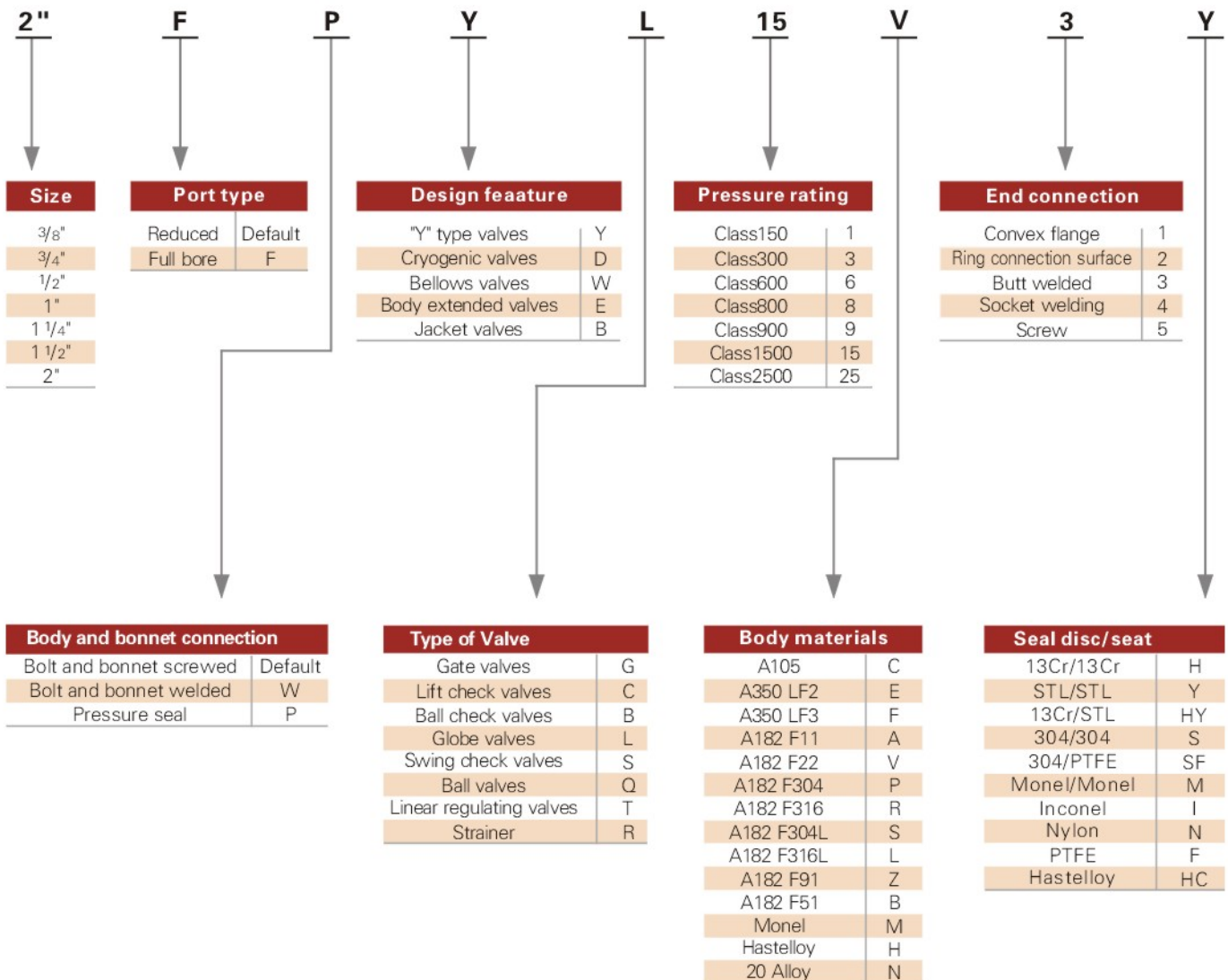
BOTELI VALVE GROUP

Figure numbering

Figure numbering

A familiarity with our figure number system is not necessary when specifying or ordering our valves. Providing a full description of the valves is given, our Sales Office will translate this into a figure number. A full description of the valves would begin with the kind of valves, and would then go on to give size, pressure rating, end connection, seat-seal material etc.

We give an example below in order to illustrate a typical figure number, but if a fuller explanation is required, please consult us.



Forged steel gate valves

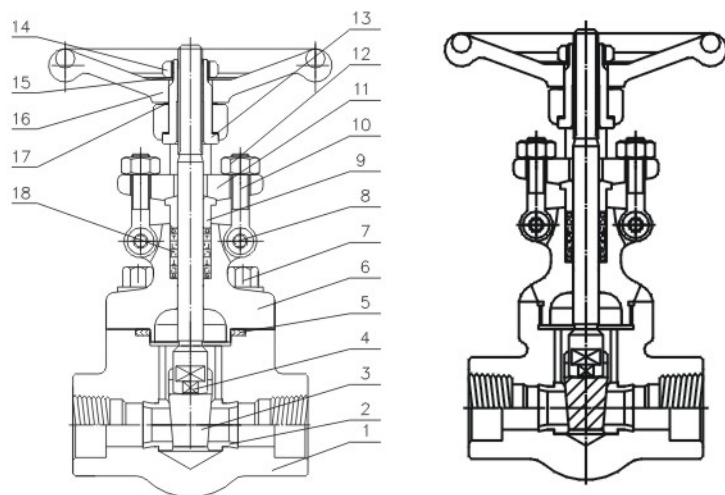
BTL valves are available in three bonnet designs. The first design is the Bolted Bonnet, with male–female joint, spiral wound gasket, made in F304L/graphite. Ring joint gasket are also available on request. The second design is the welded bonnet, with a threaded and seal welded joint. On request a full penetration strength welded joint is available, The third design is the pressure seal bonnet, with a threaded and pressure seal bonnet joint.

Construction is as follows

- ※ Full port or conventional port;
- ※ Outside screw and yoke (OS & Y);
- ※ Two piece self-aligning packing gland;
- ※ Bolted bonnet & spiral wound gasket seal bonnet;
- ※ Bolted bonnet with spiral-wound gasket, threaded and seal welded bonnet or threaded and pressure seal bonnet;
- ※ Integral backseat;
- ※ Socket weld ends to ASME B16.11;
- ※ Screwed ends (NPT) to ANSI/ASME B1.20.1.



Female threaded and socket welded gate valves



Application standards

- 1、 Design and manufacture conform to
API 602、 BS5352、 ANSI B16.34;
- 2、 Connection ends conform to:
1)Socket welded dimension conform to ANSI B16.11;JB/T1751
2)Screw ends dimension conform to ANSI B1.20.1;JB/T7306
3)Butt-welded conform to ANSI B16.25;JB/T12224
4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to:
API 598; GB/T13927; JB/T9092
- 4、 Structure features:
Bolted bonnet, outside screw and yoke
Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANIS/ASTM.
- 6、 Main materials:
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321;
F51; Monel; 20 Alloy.

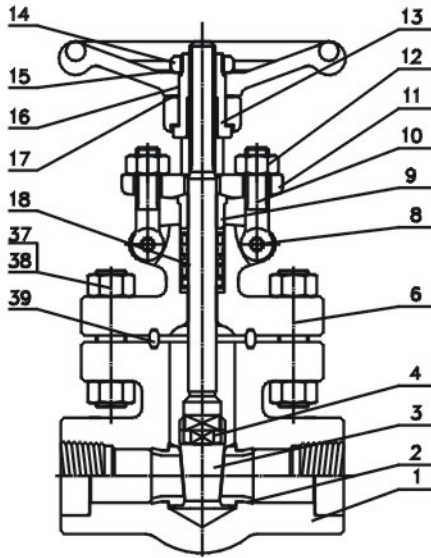
Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
 CL300–740 P.S.I @ 100° F
 CL600–1480 P.S.I @ 100° F
 CL800–1975 P.S.I @ 100° F
 CL1500–3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	Seat	410	410HF	304	410HF	304(L)	316(L)	F51
3	Wedge	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite

Female threaded and socket welded gate valves



Application standards

- 1、 Design and manufacture conform to API 602、 BS5352、 ANSI B16.34;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials:
 - A105; LF2; F5; F11; F22; 304(L); 316(L); F347;
 - F321; F51; Monel; 20 Alloy.

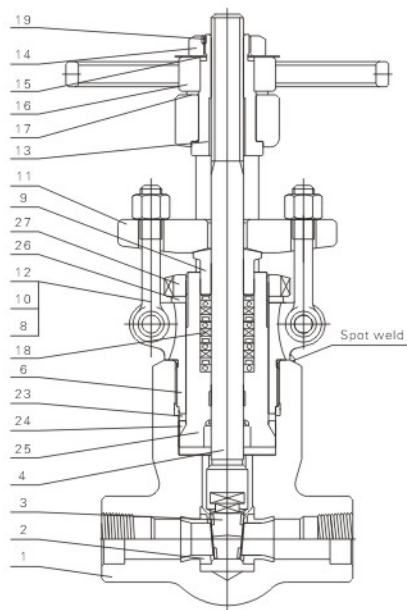
Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
 CL300–740 P.S.I @ 100° F
 CL600–1480 P.S.I @ 100° F
 CL800–1975 P.S.I @ 100° F
 CL1500–3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	Seat	410	410HF	304	410HF	304(L)	316(L)	F51
3	Wedge	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
37	Screwed stud	B7	B7	L7	B16	B8(M)	B8(M)	B8(M)
38	Nut	2H	2H	8	8	8(M)	8(M)	8(M)
39	Metal ring	304	304	304	304	304(L)	316(L)	F51

Pressure sealing gate valves



Application standards

- 1、 Design and manufacture conform to API 602、 BS5352、 ANSI B16.34
- 2、 Connection ends conform to:
 - 1)Socket welded dimension conform to ANSI B16.11;JB/T1751
 - 2)Screw ends dimension conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features: A threaded and pressure seal bonnet
- 5、 Materials conform to ANIS/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F91; Monel; 20 Alloy.

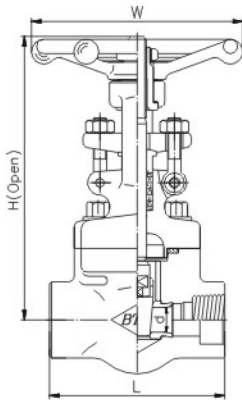
Carbon steel temperature–pressure rate

CL1500–3705 P.S.I @ 100° F
CL2500–6170 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F91/410 HF
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F91
2	Seat	410	410HF	304	410HF	304(L)	316(L)	410HF
3	Wedge	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F6aHF
4	Stem	410	410	304	410	304(L)	316(L)	410
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F91
8	Pin	410	410	410	410	304	304	410
9	Gland	410	410	304	410	304	316	410
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8
11	Gland flange	A105	A105	LF2	F11	F304	F304	F91
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A190
17	Lubricating gasket	410	410	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
19	Stop nut	35	35	35	35	35	35	35
23	Seal gasket	420	420	304	304	304(L)	316(L)	420
24	P.S.ring	304	304	304	304	304	316	316
25	P.S.seat	420	420	304	304	304(L)	316(L)	F91
26	Nut pad	410	410	410	410	410	410	410
27	Packing nut	Cast steel	Cast steel	Cast steel	Cast steel	Stainless steel	Stainless steel	Cast steel

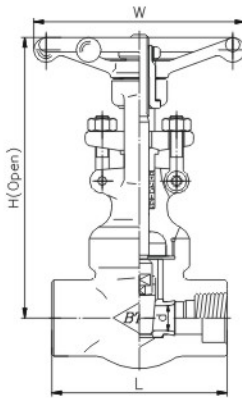
Female threaded and socket welded gate valves



CL800

Bolted bonnet, full port reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to API 602

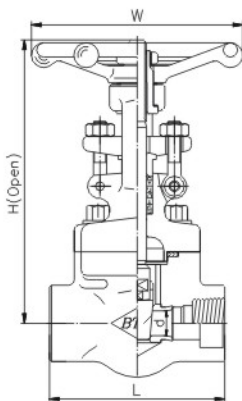
Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	120	130	145	180
Handwheel diameter	W	100	100	100	125	160	160	180	200	220
Height	H	144	144	150	182	216	235	270	300	370
Flow port dimension	d	9.5	9.5	13	17.5	24	29	36.5	44	51
Weight(Kg)		1.7	1.7	1.9	3.1	4.8	5.9	8.5	12.2	24



CL800

Welded bonnet, full port reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to API 602

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	120	130	145	180
Handwheel diameter	W	100	100	100	125	160	160	180	200	220
Height	H	142	142	145	182	212	230	263	300	370
Flow port dimension	d	9.5	9.5	13	17.5	24	29	36.5	44	51
Weight(Kg)		1.4	1.4	1.6	2.6	4.5	5.4	8.4	12.1	22

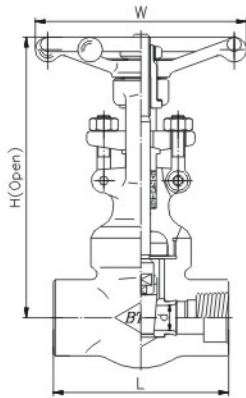


CL900-CL1500

Bolted bonnet, full port reducing port outside screw and yoke(OS&Y)
Threaded, butt-welded or socket welded ends; design to API 602

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	80	100	100	114	120	130	140	180	-
Handwheel diameter	W	100	125	125	160	160	180	180	220	-
Height	H	145	180	180	209	230	250	290	400	-
Flow port dimension	d	9.5	13	13	17.5	24	29	36.5	44	-
Weight(Kg)		2.4	3.4	3.4	5.1	5.4	7.6	11	22	-

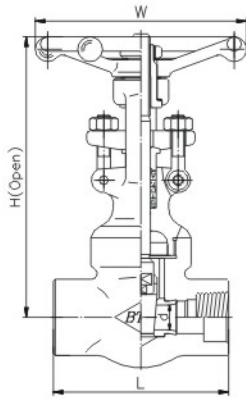
Female threaded and socket welded gate valves



CL900-CL1500

Welded bonnet, full port reducing port outside screw and yoke(OS&Y)
Threaded, butt-welded or socket welded ends; design to API 602

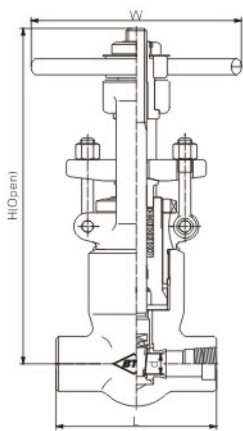
Specification (NPS)		R.P - 1/2 3/4 1 1 1/4 1 1/2 2 2 1/2 3								
		F.P 1/4 3/8 1/2 3/4 1 1 1/4 1 1/2 2 2 1/2								
Face to face	L	80	100	100	114	120	130	140	180	-
Handwheel diameter	W	100	125	125	160	160	180	180	220	-
Height	H	147	182	182	206	225	246	282	370	-
Flow port dimension	d	9.5	13	13	17.5	24	29	36.5	45	-
Weight(Kg)		2.4	3.0	3.0	5.0	5.3	8.7	11	22.8	-



CL2500

Welded bonnet, full port outside screw and yoke (OS & Y)
Socket welded ends, design conform to ASME B16.34

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	2
Face to face	L	-	114	114	114	120	-	-
Handwheel diameter	W	-	160	160	160	160	-	-
Height	H	-	204	204	204	221	-	-
Flow port dimension	d	-	13	13	13	17.5	-	-
Weight(Kg)		-	8	8.5	8.7	8.8	-	-



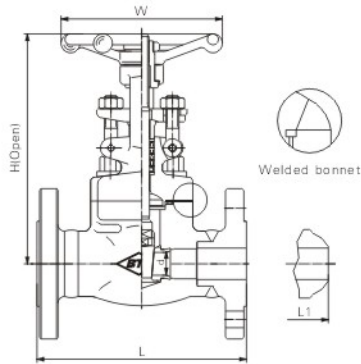
CL1500-CL2500

Pressure seal bonnet, full port outside screw and yoke(OS & Y)
Socket welded ends, design conform to ASME B16.34

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	L	CL900~1500	140	140	140	140	178	178	216
		CL2500	186	186	186	186	216	216	279
Handwheel diameter	W	CL900~1500	200	200	200	200	280	280	300
		CL2500	200	200	200	200	280	280	300
Height	H	CL900~1500	308	308	315	315	446	446	540
		CL2500	321	321	321	330	456	456	550
Flow port dimension		CL900~1500	13.5	13.5	18	18	29	36	40
		CL2500	13.5	13.5	18	18	29	29	36
Weight(Kg)		CL900~1500	11.5	11.5	10.8	10.5	19.6	21.0	55.2
		CL2500	12.0	12.1	11.8	11.0	26.8	21.8	60.0

Forged steel flange gate valves

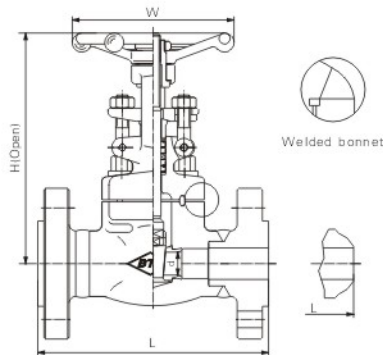
CL150-300-600 Bolted bonnet, reducing port outside screw and yoke(OS & Y) Flange-welded or butt-welded ends; design to API602;BS5352



Specification(NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2		
Face to face	CL150	-	-	108	117	127	140	165	178	190		
	CL300	L(RF)		-	-	140	152	165	178	190	216	241
	CL600	L1(BW)		-	-	165	190	216	229	241	292	330
Handwheel diameter		W		-	-	100	100	125	160	160	180	200
Height	CL150	H		-	-	144	150	182	216	235	270	300
	CL300,CL600	-	-	144	150	182	216	235	270	300		
Height (angle dimension)		d		-	-	9.5	13	17.5	24	29	36.5	44
Weight (Kg)	CL150	RF	-	-	2.6	3.3	4.9	8.4	9.0	12.1	24	
		BW	-	-	2.0	3.8	4.2	7.8	8.0	12	19.2	
	CL300	RF	-	-	3.2	4.7	6.3	9.6	11.4	15.4	26.2	
		BW	-	-	2.8	4.1	5.7	8.1	9.2	13.1	23	
	CL600	RF	-	-	3.5	4.8	6.3	9.6	10.1	13.9	32	
		BW	-	-	2.9	4.0	5.7	8.1	8.9	11.8	28	

If you want to order one piece body, please contract with sale department

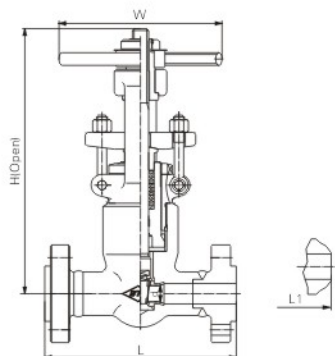
CL900-CL1500 Welded bonnet, full port outside screw and yoke(OS & Y) Flange-welded or butt-welded ends; design to BS 5352



Specification(NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	-	-	216	229	254	279	305	368
	L(RTJ)	-	-	216	229	254	279	305	371
Handwheel diameter	W	-	-	125	125	160	160	180	180
Height	H	-	-	180	180	209	230	250	270
Flow port dimension	d	-	-	13	13	17.5	24	29	36.5
Weight(Kg)		-	-	5.1	8.9	10.1	13.7	21.5	28.2

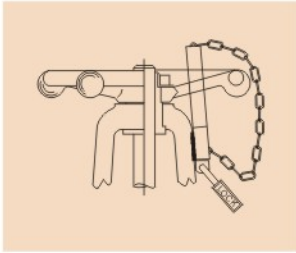
If you want to order one piece body, please contract with sale department

CL2500 Pressure seal gate valves, full port outside screw and yoke(OS & Y) Flange-welded or butt-welded ends; design to ASME B16.34

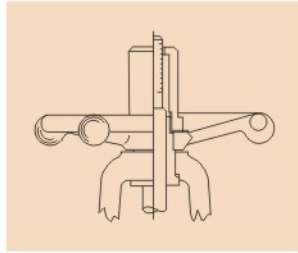


Specification(NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	-	-	264	273	308	-	384	451
	L(RTJ)	-	-	264	273	308	-	387	454
Handwheel diameter	W	-	-	200	200	200	-	280	300
Height	H	-	-	321	321	327	-	456	550
Flow port dimension	d	-	-	13.5	18	18	-	29	36
Weight(Kg)		-	-	13.1	13.0	13.7	-	29.7	63.2

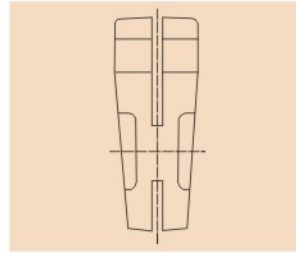
Chosen devices and varieties of gate valves



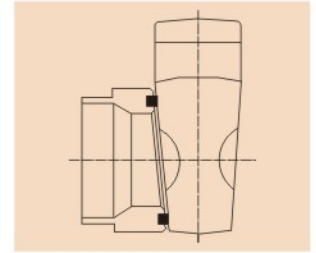
Locking device



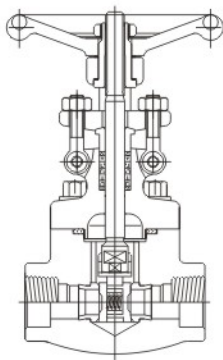
Position indicator



Flexible wedge

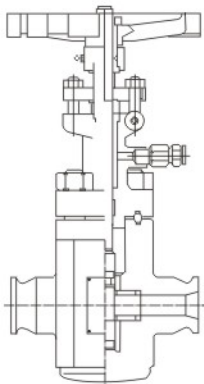


Insert PTFE seat



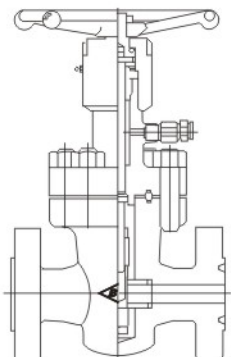
Dynamic double-wedge gate valves

	CLASS	Materials
API 6D Outside screw and yoke	600	Carbon Steel, Cryogenic Carbon Steel/ Alloy Steel, Stainless steel
	900/1500	
	2500	



Flat gate valves

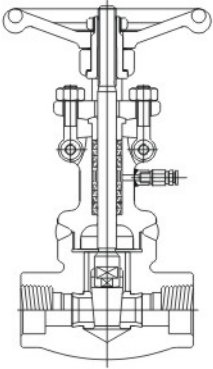
	CLASS	Materials
API 6D Outside screw and yoke	600	Carbon Steel, Cryogenic Carbon Steel/ Alloy Steel, Stainless steel
	900/1500	
	2500	



Flat gate valves

	CLASS	Materials
API 6D Outside screw and yoke	3000	Carbon Steel, Cryogenic Carbon Steel/ Alloy Steel, Stainless steel
	5000	
	10000	

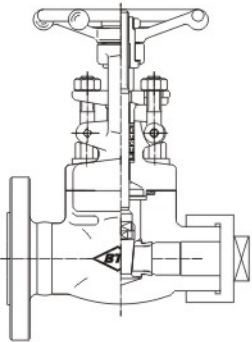
Special purposes gate valves



- ※Welded bonnet
- ※OS & Y
- ※Packing
- ※Distance ring
- ※Injector sealing gum valves
- ※Solid wedge

Vacuum gate valves

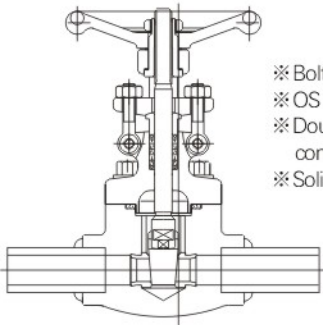
	Temperature-pressure rate	Body/bonnet	Materials Trim	Bolt
CLASS 800 API 602-BS 5352 Reduced port & full port	1975 psi @ 100° F	Cast steel	13Cr	B7



- ※ Bolted
- ※ OS & Y
- ※ Cap fitting connection
- ※ Solid wedge

For venting and/or releasing media

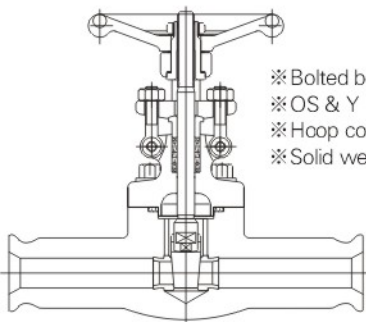
	Temperature-pressure rate	Body/bonnet	Materials Trim	Bolt
CLASS 800 API 602-BS 5352 Reduced port & full port	1975 psi @ 100° F	Cast steel	13Cr	B7



- ※ Bolted bonnet
- ※ OS & Y
- ※ Double end pipe connection
- ※ Solid wedge

Coupling pipe valves

	Temperature-pressure rate	Body/bonnet	Materials Trim	Bolt
CLASS 800 API 602-BS 5352 Reduced port & full port	1975 psi @ 100° F	Cast steel	13Cr	B7



- ※ Bolted bonnet
- ※ OS & Y
- ※ Hoop connection
- ※ Solid wedge

Hoop gate valves

	Temperature-pressure rate	Body/bonnet	Materials Trim	Bolt
CLASS 800 API 602-BS 5352 Reduced port & full port	1975 psi @ 100° F	Cast steel	13Cr	B7

Forged steel globe valves

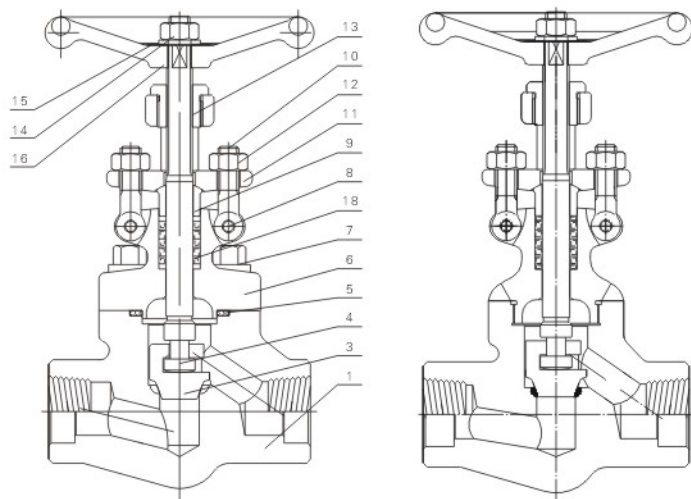
BTL valves are available in Three bonnet designs. The first design is the Bolted Bonnet, with male–Female joint, spiral wound gasket, made in F304L/graphite, Ring joint gasket are also available on request. The second design is the welded bonnet, with a threaded and seal welded joint. On request a full penetration strength welded joint is available. The third design is the pressure seal bonnet, with a threaded and pressure seal bonnet joint.

Construction is as follows

- ※ Full port or conventional port;
- ※ Outside screw and yoke (OS&Y);
- ※ Two piece self-aligning packing gland;
- ※ Bolted bonnet with spiral-wound gasket, threaded and seal welded bonnet or threaded and pressure seal bonnet;
- ※ Integral backseat;
- ※ Socket weld ends to ASME B16.11;
- ※ Screwed ends(NPT) to ANSI/ASME B1.20.1;
- ※ Disc can change for throttle type、needle type、ball type and check type.



Female threaded and socket welded globe valves



Application standards

- 1、 Design and manufacture conform to BS5352 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy.

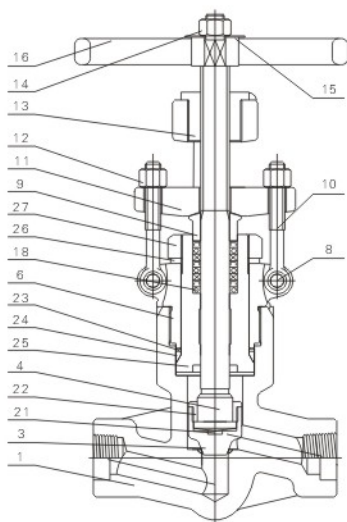
Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
 CL300–740 P.S.I @ 100° F
 CL600–1480 P.S.I @ 100° F
 CL800–1975 P.S.I @ 100° F
 CL1500–3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite

Pressure sealing globe valves



Application standards

- 1、 Design and manufacture conform to BS5352 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features: A threaded and pressure seal bonnet; Y type and T type
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F91; Monel; 20 Alloy.

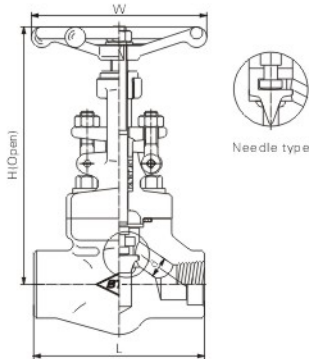
Carbon steel temperature–pressure rate

CL1500–3705 P.S.I @ 100° F
CL2500–6170 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHF	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F91/410HF
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F91+HF
3	Disc	410	410	304	410	304(L)	316(L)	410+HF
4	Stem	410	410	304	410	304(L)	316(L)	410
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F91
8	Pin	410	410	410	410	304	304	410
9	Gland	410	410	304	410	304	316	410
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8
11	Gland flange	A105	A105	LF2	F11	F304	F304	F91
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
21	Stem pad	420	420	420	420	316SH	316SH	420
22	Disc nut	410	410	410	410	304(L)	316(L)	410
23	Seal ring gasket	420	420	304	304	304(L)	316(L)	316(L)
24	P.S.ring	304	304	304	304	304	316	304
25	P.S.seat	420	420	304	304	304(L)	316(L)	F91
26	Nut pad	410	410	410	410	410	410	410
27	Draw-in stud	Cart steel	Cart steel	Cart steel	Cart steel	Stainless steel	Stainless steel	Cart steel

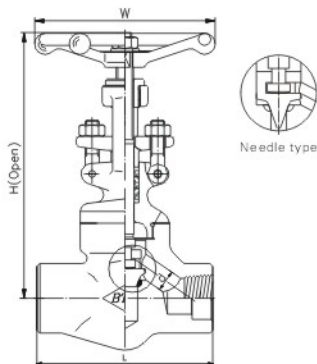
Female threaded and socket welded globe valves



CL800

Bolted bonnet, full port & reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to BS 5352.

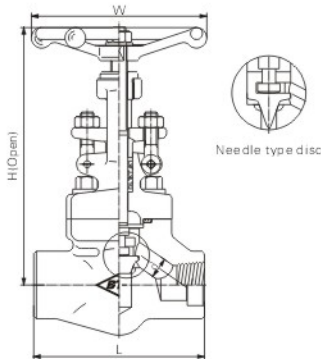
Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	145	160	220	-
Handwheel diameter	W	100	100	100	125	160	160	180	200	-
Height	H	155	155	160	198	217	235	273	303	-
Flow port dimension	d	7	9	12	17.5	22.5	29	35	44	-
Weight(Kg)		1.7	1.7	1.9	3.2	4.9	6.3	9.6	12.5	-



CL800

Welded bonnet, full port & reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

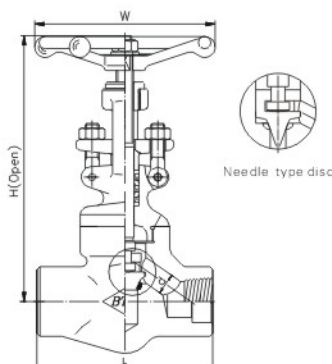
Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	145	160	220	-
Handwheel diameter	W	100	100	100	125	160	160	180	200	-
Height	H	160	160	160	188	215	218	253	280	-
Flow port dimension	d	7	9	12	17.5	22.5	29	36	44	-
Weight(Kg)		1.7	1.7	1.5	3.0	4.7	6.0	9.3	12.0	-



CL900-CL1500

Bolted bonnet, full port&reducing port outside screw and yoke(OS&Y)
Threaded, butt-welded or socket welded ends; design to BS 5352

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	80	100	100	114	145	160	172	-	-
Handwheel diameter	W	100	125	125	160	160	180	200	-	-
Height	H	160	193	193	212	235	257	300	-	-
Flow port dimension	d	7	11	14.5	19	26	29	33	-	-
Weight(Kg)		2.4	3.4	3.4	5.1	7.6	10.3	12.5	-	-

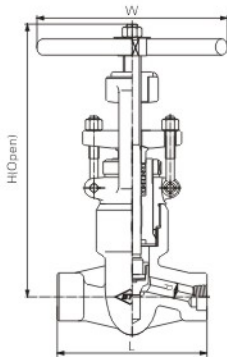


CL900-CL1500

Welded bonnet, full port&reducing port outside screw and yoke(OS&Y)
Threaded, butt-welded or socket welded ends; design to BS5352

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	80	100	100	114	145	160	172	-	-
Handwheel diameter	W	100	125	125	160	160	180	200	-	-
Height	H	160	188	188	195	218	253	300	-	-
Flow port dimension	d	7	11	14.5	19	26	29	33	-	-
Weight(Kg)		2.3	3.1	3.1	5.0	7.2	9.5	11.3	-	-

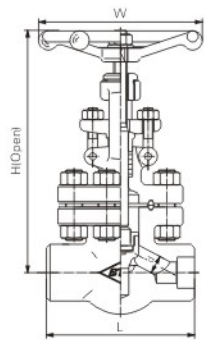
Female threaded and socket welded globe valves



CL900-CL1500

Pressure seal bonnet, full port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

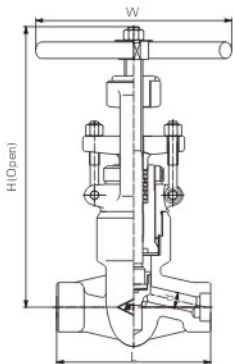
Specification(NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	140	140	140	178	178	216	-
Handwheel diameter	W	200	200	200	200	200	300	-
Height	H	320	320	320	427	427	490	-
Flow port dimension	d	13	16	19	25	27	36	-
Weight(Kg)		11.5	10.8	10.5	19.6	21.1	55.4	-



CL2500

Bolted bonnet, full port outside screw and yoke (OS & Y)
Socket welded ends, design conform to ASME B16.34

Specification(NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	114	114	145	-	-	-	-
Handwheel diameter	W	160	160	160	-	-	-	-
Height	H	208	208	217	-	-	-	-
Flow port dimension	d	12	14.2	19	-	-	-	-
Weight(Kg)		5.7	7.5	12.5	-	-	-	-

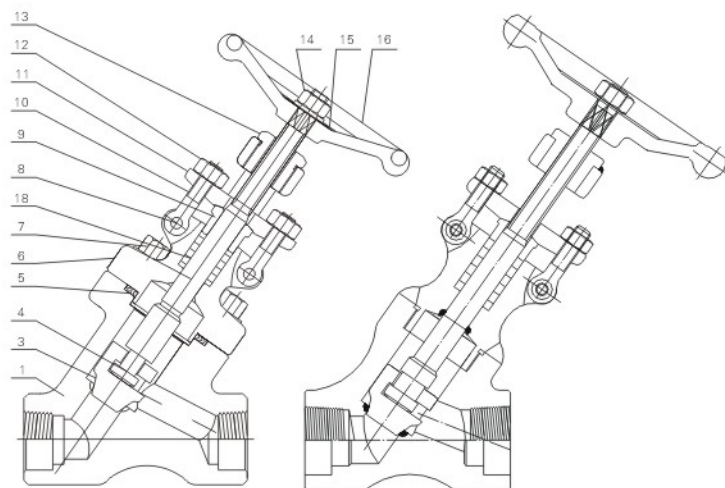


CL2500

Pressure seal bonnet, full port outside screw and yoke(OS & Y)
Socket welded ends, design conform to ASME B16.34

Specification(NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	186	186	186	232	232	279	-
Handwheel diameter	W	200	200	200	270	270	300	-
Height	H	330	330	330	480	480	530	-
Flow port dimension	d	13	16	19	25	28	36	-
Weight(Kg)		12.3	11.6	10.8	26.0	28.4	60	-

Female threaded and socket welded Y type globe valves



Application standards

- 1、 Design and manufacture conform to BS5352 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features: Bolted bonnet, outside screw and yoke
Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy; Hastelloy.

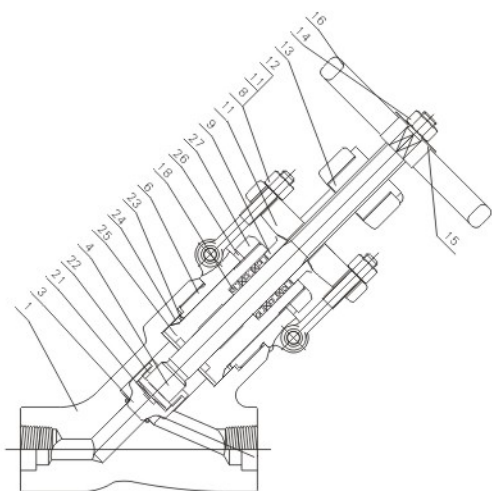
Carbon steel temperature-pressure rate

CL150-285 P.S.I @ 100° F
 CL300-740 P.S.I @ 100° F
 CL600-1480 P.S.I @ 100° F
 CL800-1975 P.S.I @ 100° F
 CL1500-3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite

Pressure seal Y type globe valves



Application standards

- 1、 Design and manufacture conform to BS5352 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features: A threaded and pressure seal bonnet; Y type and T type
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy; Hastelloy.

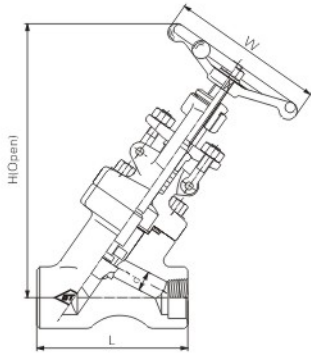
Carbon steel temperature–pressure rate

CL1500–3705 P.S.I @ 100° F
CL2500–6170 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F91/410HF
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F91+HF
3	Disc	410	410	304	410	304(L)	316(L)	410+HF
4	Stem	410	410	304	410	304(L)	316(L)	410
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F91
8	Pin	410	410	410	410	304	304	410
9	Gland	410	410	304	410	304	316	410
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8
11	Gland flange	A105	A105	LF2	F11	F304	F304	F91
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
21	Stem pad	420	420	420	420	316SH	316SH	420
22	Disc nut	410	410	410	410	304(L)	316(L)	410
23	Seal ring gasket	420	420	304	304	304(L)	316(L)	316(L)
24	P.S. ring	304	304	304	304	304	316	304
25	P.S. seat	420	420	304	304	304(L)	316(L)	F91
26	Nut pad	410	410	410	410	410	410	410
27	Draw-in stud	Cart steel	Cart steel	Cart steel	Cart steel	Stainless steel	Stainless steel	Cart steel

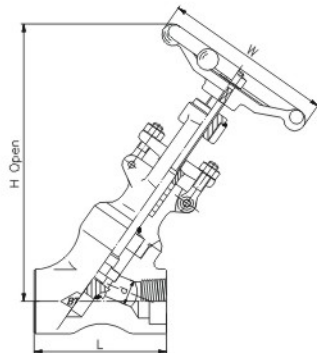
Y type globe valves



CL800

Welded bonnet, full port & reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

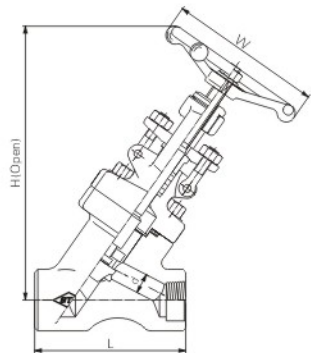
Specification (NPS)	R.P	F.P								
		-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Face to face	L	98	98	98	111	140	140	155	170	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	180	180	180	188	280	280	295	350	
Height(angle dimension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		2.6	2.6	3.8	4.6	9.3	9.3	14	19.6	



CL800

Welded bonnet, full port & reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

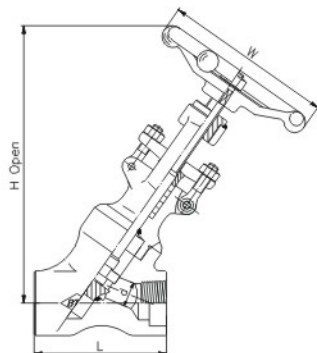
Specification (NPS)	R.P	F.P								
		-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Face to face	L	79	79	79	90	118	155	155	175	
Handwheel diameter	W	100	100	100	125	160	180	180	200	
Height	H	172	172	172	196	235	280	260	345	
Height(angle dimension)	d	7	9	13	17.5	22.5	29.5	35	44	
Weight(Kg)		1.8	1.8	2.0	3.5	8.0	8.0	12	19.5	



CL900-CL1500

Bolted bonnet, full port & outside screw and yoke (OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	98	111	111	140	140	155	170	
Handwheel diameter	W	100	125	125	160	160	180	200	
Height	H	175	175	215	215	254	305	305	
Height(angle dimension)	d	9	12	15	20	28	32	40	
Weight(Kg)		2.6	4.6	4.6	9.3	9.3	14	19.6	

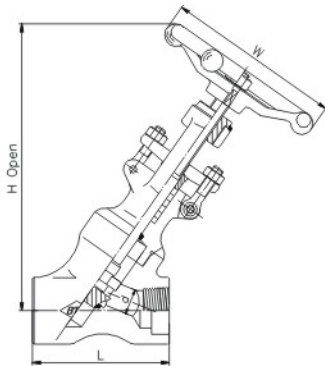


CL900-CL1500

Welded bonnet, full port & outside screw and yoke (OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	90	118	155	155	175	200	
Handwheel diameter	W	100	125	160	180	180	200	200	
Height	H	172	196	220	255	257	315	320	
Height(angle dimension)	d	9	13	17.5	22.5	29.5	35	44	
Weight(Kg)		1.8	3.5	3.5	8.0	8.0	12	16	

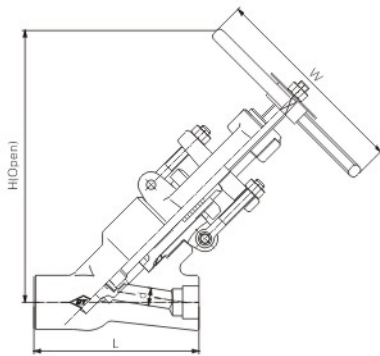
Y type globe valves



CL2500

Welded bonnet, full port outside screw and yoke(OS & Y)
Socket welded, design conform to ASME16.34

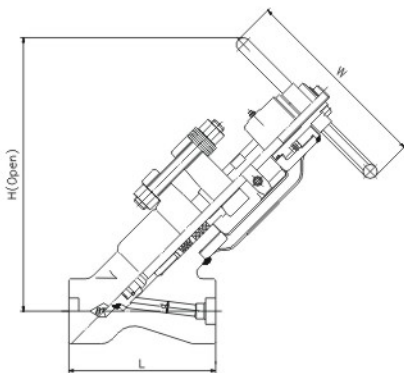
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Handwheel diameter	W	200	200	200	200	280	280	300
Height	H	329	329	329	329	350	350	383
Height(angle dimension)	d	9	11	14	19	25	28	35
Weight(Kg)		12.3	12.3	11.6	10.8	28.0	26.4	43.8



CL2500

Pressure seal bonnet, full port outside screw and yoke(OS & Y)
Socket welded, design conform to ASME16.34

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Handwheel diameter	W	200	200	200	200	280	280	300
Height	H	333	333	333	333	406	406	524
Height(angle dimension)	d	9	11	14	19	25	28	35
Weight(Kg)		12.3	12.3	11.6	10.8	28.0	26.4	43.8

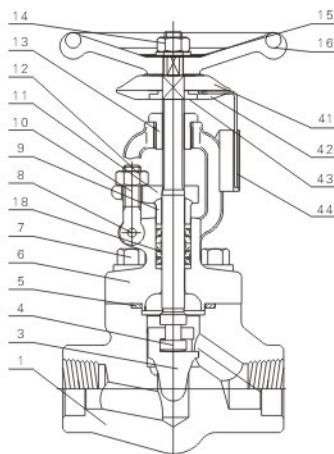


CL4500

Pressure seal bonnet, full port outside screw and yoke(OS & Y)
Socket welded, design conform to ASME16.34

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	190	190	190	190	255	255	255
Handwheel diameter	W	250	250	250	250	450	450	450
Height	H	368	368	368	368	516	516	516
Height(angle dimension)	d	9	11	11	15	20	26	28
Weight(Kg)		30	30	30	30	30	36	58

Linear regulating valves



BTL regulating valves is compose of combination valves and flow control staff guage. because equip with micrometer graduation and finger, whenoperator turn hand wheel around, finger would move ten percent. BTL regulating valves equip with regulating disc to ensure flow,so it can accuracy control. Seal facing of BTL regulating valves is stellite deposit, so seal facing is more corrosion resistant, anti-abrasive and abrasion resistance. BTL regulating valves is manual operate, liner fow regulating function, abrasion resistance. If you want to equip with locking device,please note you BTL requirement.

Application standards

- 1、 Design and manufacture conform to BS5352 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to:
 - API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
 - Disc is one piece or "V" type double or four pieces.
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials:
 - A105; LF2; F5; 304(L); 316(L); F347; F321;
 - F51; Monel; 20 Alloy.

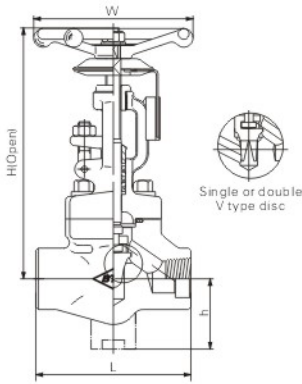
Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
 CL300–740 P.S.I @ 100° F
 CL600–1480 P.S.I @ 100° F
 CL800–1975 P.S.I @ 100° F
 CL1500–3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/Fa6HFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
5	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite	316+ flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
41	Index plate	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel
42	Lower plate	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel
43	Back block	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel
44	Indicative stem	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel	Cast steel

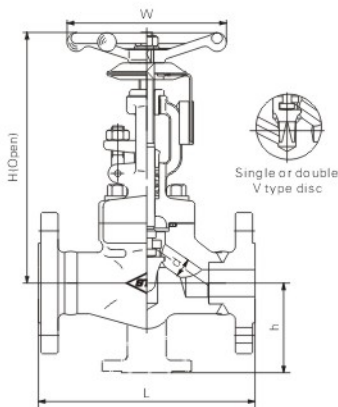
Linear regulating valves



CL800

Bolted bonnet, full port outside screw and yoke (OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	73	73	80	100	114	145	160	220
Handwheel diameter	W	100	100	100	125	160	160	180	200
Height	H	155	155	160	198	217	235	273	303
Height (angle dimension)	SW & NPT(Rc)	40	40	40	45	50	55	60	70
Flow port dimension	d	7.0	9.0	12	17.5	22.5	29	35	44
Weight(Kg)		1.6	1.6	1.9	3.2	4.9	6.3	9.7	12.5
Flow coefficient Cv	Single disc	0.2	0.5	0.5	1.0	2.0	5.2	5.2	7.0
	Four part disc	0.4	1.0	1.0	2.0	4.0	10.4	10.4	14

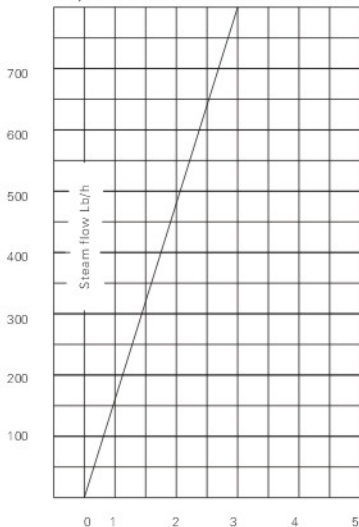


CL150-300-600

Bolted bonnet, reducing port outside screw and yoke (OS & Y)
Threaded, butt-welded or socket welded ends; design to BS5352

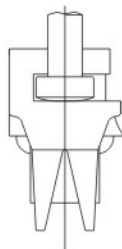
Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	L(RF)	CL150	-	-	108	118	127	-	165	203
	L1(BW)	CL300	-	-	153	178	203	-	229	267
	CL600	-	-	165	191	216	-	241	292	
	W	-	-	100	100	125	-	160	180	
Height	H	-	-	155	160	198	-	235	273	
Height (angle dimension)	SW & NPT(Rc)	-	-	40	45	50	-	60	70	
Flow port dimension	d	-	-	9.0	12	17.5	-	29	35	
	CL150	-	-	2.6	3.3	4.9	-	8.8	14	
Weight(Kg)	CL300	-	-	3.25	4.58	6.7	-	12.1	17	
	CL600	-	-	3.5	4.8	7.2	-	13.2	18.5	
		Single disc	-	-	0.5	1.0	2.0	-	5.2	7.0
Flow coefficient Cv	Four part disc	-	-	1.0	2.0	4.0	-	10.4	14	

Typical stream flow chart(from experiment)

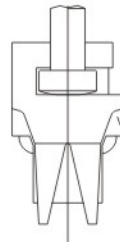


If you want to order one piece body, please contract with our sale department

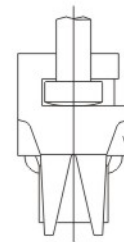
Regulating valves operation



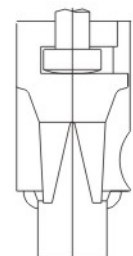
When valves full closed, disc and seat could be shut tightly.



When the disc is opened a little it allows media to flow acc.to a known quota.

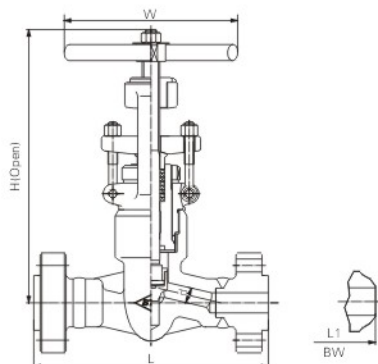
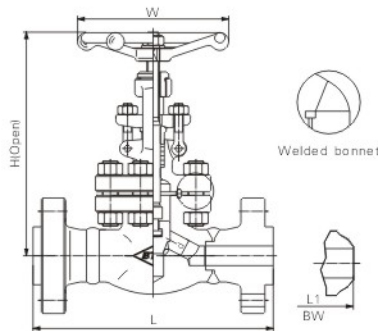
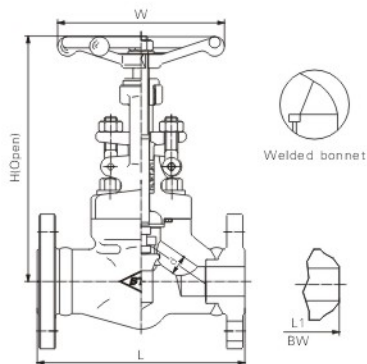
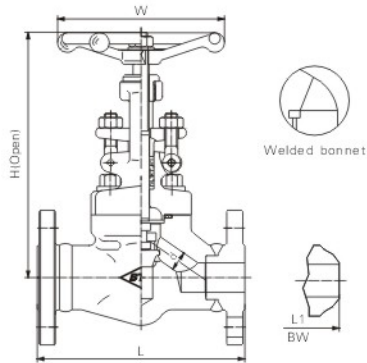


When the disc in the middle of the full lifting height,medium flow can to be reduced or increased according to control scale.



When disc in full open position, valves permit max flow to go through its port, medium flow can be reduced or acc. To control scale.

Flange and butt-welded globe valves



CL150-300-600

Welded bonnet, reducing port outside screw and yoke(OS & Y)
Flange or butt-welding design to BS5352

Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	CL150	L(RF)	-	-	108	117	127	140	165	203
	CL300	L1(BW)	-	-	152	178	203	216	229	267
	CL600		-	-	165	190	216	229	241	292
Handwheel diameter	W	-	-	100	100	125	160	160	180	
Height CL150/CL300/CL600	H	-	-	155	160	198	215	235	273	
Height(angle dimension)	d	-	-	9	12	17.5	22.5	29	35	
Weight (Kg)	CL150	R F	-	-	2.6	3.3	5.0	8.4	9.5	14.5
		BW	-	-	2.0	2.8	4.2	7.8	8.8	13.0
	CL300	R F	-	-	3.3	4.6	6.7	9.6	12.1	17.0
		BW	-	-	2.8	4.0	5.7	8.2	9.8	14.7
	CL600	R F	-	-	3.5	4.8	7.2	9.6	13.2	18.5
		BW	-	-	2.9	4.0	6.2	8.1	11.7	15.1

If you want to order one piece body, please contract with sale department

CL900-CL1500

Welded bonnet, full port outside screw and yoke(OS & Y)
Flange or butt-welding design to BS5352

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	-	-	216	229	254	279	305	368
	L(RTJ)	-	-	216	229	254	279	305	371
Handwheel diameter	W	-	-	125	125	160	160	180	200
Height	H	-	-	193	193	212	235	257	300
Height(angle dimension)	d	-	-	11	14.5	19	26	29	33
Weight (Kg)		-	-	5.2	8.8	11.2	13.8	21.6	28.3

If you want to order one piece body, please contract with sale department

CL2500

Welded bonnet, full port outside screw and yoke(OS & Y)
Welding flange or butt-welded design conform to ASME B16.34

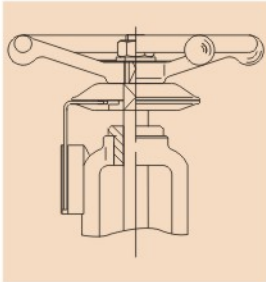
Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	-	-	264	273	308	-	-	-
	L(RTJ)	-	-	264	273	308	-	-	-
Handwheel diameter	W	-	-	160	160	160	-	-	-
Height	H	-	-	208	208	217	-	-	-
Height(angle dimension)	d	-	-	12	14.2	19	-	-	-
Weight (Kg)		-	-	19.5	21.5	42	-	-	-

CL2500

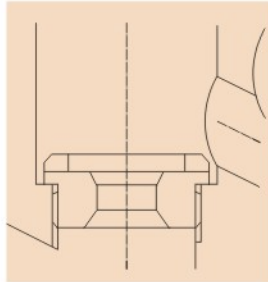
Pressure seal bonnet, full port outside screw and yoke(OS & Y)
Welding flange or butt-welded design conform to ASME B16.34

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	-	-	264	273	308	349	384	451
	L(RTJ)	-	-	264	273	308	349	387	454
Handwheel diameter	W	-	-	200	200	200	270	270	300
Height	H	-	-	330	330	330	480	480	530
Height(angle dimension)	d	-	-	13	16	19	25	28	36
Weight(Kg)		-	-	21.5	24.7	30.4	48.1	58.1	130

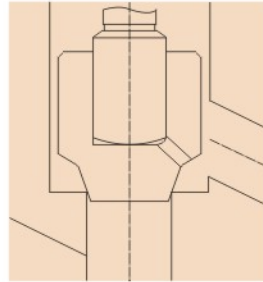
Chosen devices and varieties of globe valves



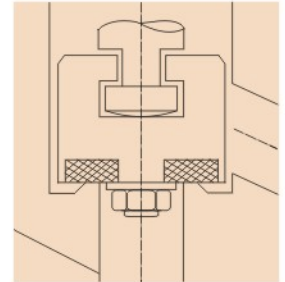
Position indicator



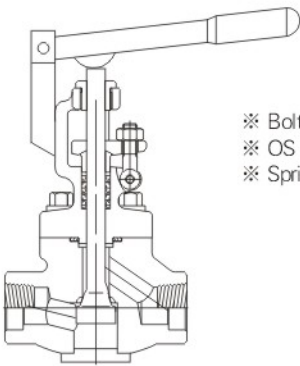
Renewable seat



Globe check valve disc



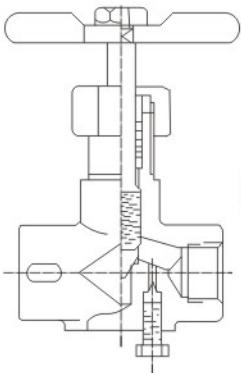
Insert PTFE seat



- ※ Bolted
- ※ OS & Y
- ※ Spring operation

Manual-automatic shut-off valves

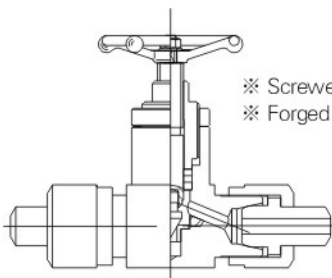
CLASS	Materials
800	Carbon Steel Alloy Steel Stainless steel
1500	
Flange and butt-welded	



- ※ Screwed bonnet
- ※ Forged structure

Instrument valves

CLASS	Materials
3000	Carbon steel Stainless steel
6000	

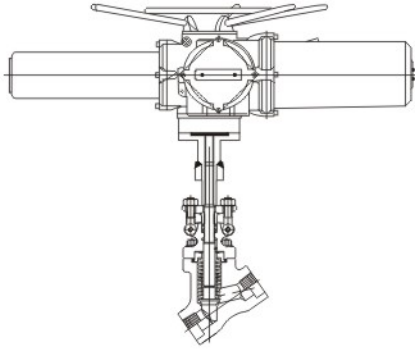


- ※ Screwed bonnet
- ※ Forged structure

Needle valves

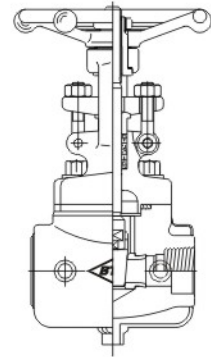
CLASS	Materials
800	Carbon steel Stainless steel
1500	

Available actuation types, Jacketed globe valves



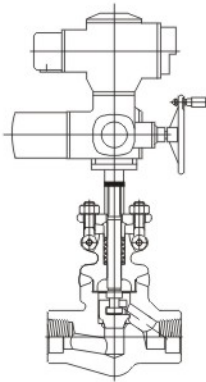
Electric actuator

CLASS	Materials
150~2500	Cart steel, Stainless steel



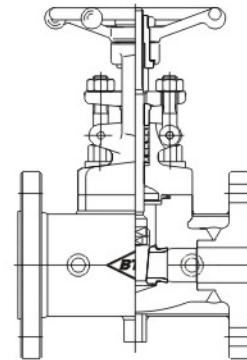
**Jacketed valves
(socket welding/screw/butt-welding)**

CLASS	Materials
150~2500	Cart steel, Stainless steel



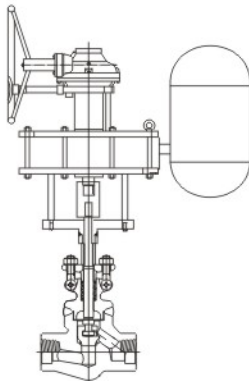
Electric actuator

CLASS	Materials
150~2500	Cart steel, Stainless steel



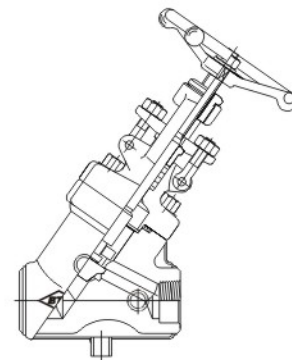
Jacketed valves(flange)

CLASS	Materials
150~2500	Cart steel, Stainless steel



Pneumatic actuator

CLASS	Materials
150~2500	Cart steel, Stainless steel



**Y type jacketed valves(socket welding/
screw/butt-welding/flange)**

CLASS	Materials
150~2500	Cart steel, Stainless steel

Forged steel check valves

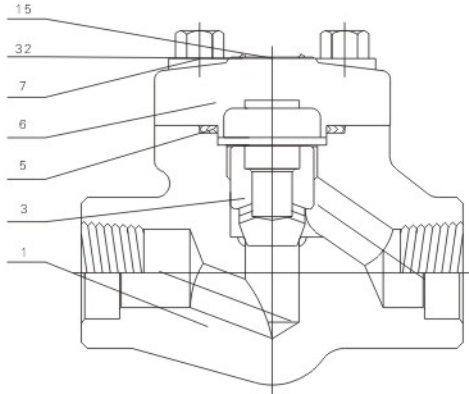
BTL valves are available in Three bonnet designs. The first design is the Bolted Bonnet, with male–female joint, spiral wound gasket, made in F304L/graphite. Ring joint gasket are also available on request. The second design is the welded bonnet, with a threaded and seal welded joint. On request a full penetration strength welded joint is available. The third design is the pressure seal bonnet, with a threaded and pressure seal bonnet joint. The check valves are also available in three different design configurations. These are piston check, ball check, or swing check designs.

Construction is as follows

- ※ Full port or conventional port;
- ※ Lift type check valves ;
- ※ Ball type check valves ;
- ※ Swing type check valves ;
- ※ According to requirement equip inside spring ;
- ※ Bolted bonnet with spiral–wound gasket, threaded and seal welded bonnet or threaded and pressure seal bonnet ;
- ※ Socket weld ends to ASME B16.11 ;
- ※ Screwed ends (NPT) to ANSI/ASME B1.20.1 ;
- ※ Disc can change for soft seal disc and ball disc.



Female threaded and socket welded check valves



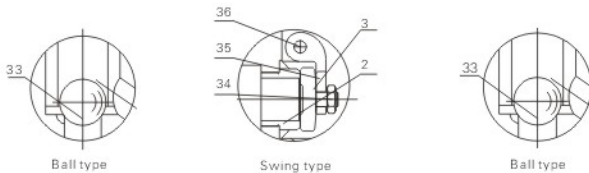
Please mark in you offer if you need load spring

Application standards

- 1、 Design and manufacture conform to BS5352 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598 ; GB/T13927 ; JB/T9092
- 4、 Structure features: Bolted bonnet、 Welded bonnet
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy.

Carbon steel temperature–pressure rate

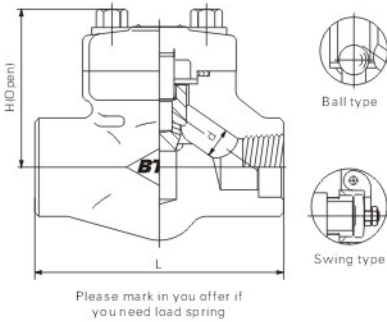
- CL150–285 P.S.I @ 100° F
- CL300–740 P.S.I @ 100° F
- CL600–1480 P.S.I @ 100° F
- CL800–1975 P.S.I @ 100° F
- CL1500–3705 P.S.I @ 100° F



Main part materials list

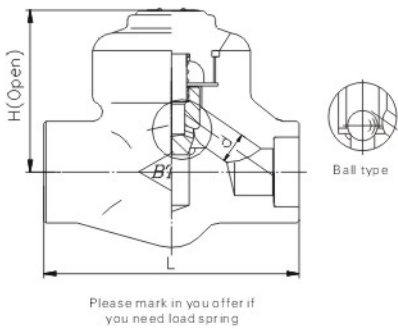
NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
		A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	Seat ring	410	410HF	304	410HF	304(L)	316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
32	Revit	AL	AL	AL	AL	AL	AL	AL
33	Steel ball	430	430	304	STL	316(L)	316(L)	STL
		304	304	304	304	304(L)	316(L)	F51
34	Disc nut	2H	2H	8	8	8(M)	8(M)	8M
35	Hinge	410	410	304	410	316(L)	316(L)	F51
36	Pin	410	410	304	410	304(L)	316(L)	F51

Female threaded and socket welded check valves



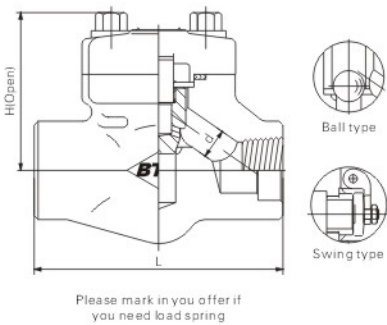
CL800 Bolted bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2		
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	L	Lift	73	73	80	100	114	145	160	-
		Swing	73	73	80	100	114	120	130	-
Height	H	Lift	50	50	53	64	80	84	102	-
		Swing	50	50	53	64	80	87	105	-
Height (angle dimension)	d	Lift	7	9	12	17.5	22.5	29	35	-
		Swing	8	9.5	13	17.5	24	29	36.5	-
Weight(Kg)		Lift	1.0	1.0	1.3	2.1	3.5	4.7	7.5	-
		Swing	1.1	1.1	1.2	2.2	3.1	4.2	6.5	-



CL800 Welded bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

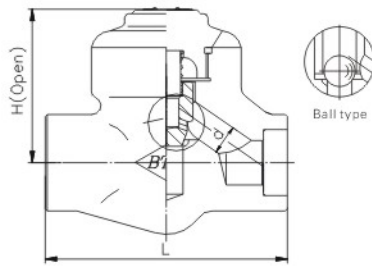
Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	
Face to face	L	73	73	80	100	114	145	160	-
Height	H	50	50	53	64	80	84	102	-
Height (angle dimension)	d	7	9	12	17.5	22.5	29	35	-
Weight(Kg)		1.0	1.0	1.3	2.1	3.5	4.7	7.5	-



CL900-CL1500 Bolted bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	Lift	100	100	114	145	160	172	-
		Swing	100	100	114	120	130	140	-
Height	H	Lift	64	64	80	84	102	118	-
		Swing	64	64	80	87	105	120	-
Height (angle dimension)	d	Lift	11	14.5	19	26	29	33	-
		Swing	13	13	17.5	24	29	36.5	-
Weight(Kg)		Lift	1.5	3.4	3.3	4.2	6.3	10.5	-
		Swing	1.5	3.4	3.3	4.2	5.0	8.5	-

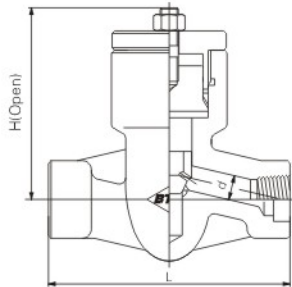
Female threaded and socket welded globe valves



Please mark in you offer if you need load spring

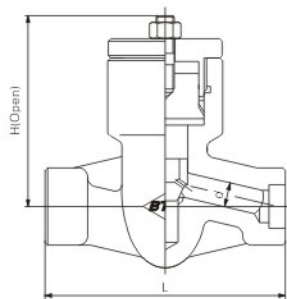
CL900-CL1500 Welded bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2		
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	80	100	100	114	145	160	172	-
Height	H	53	64	64	80	84	102	118	-
Height (angle dimension)	d	7	11	14.5	19	26	29	33	-
Weight(Kg)		1.3	3.1	3.1	3.9	5.8	10.0	11.5	-



CL900-CL1500 Pressure seal bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

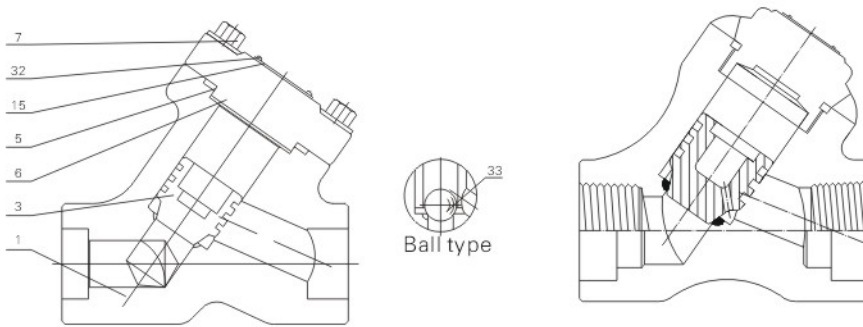
Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	-	-	140	140	140	178	178	216	-
Height	H	-	-	130	130	130	190	190	213	-
Height (angle dimension)	d	-	-	13	16	19	25	27	36	-
Weight(Kg)		-	-	7.5	7.0	6.8	18.5	10.3	22	-



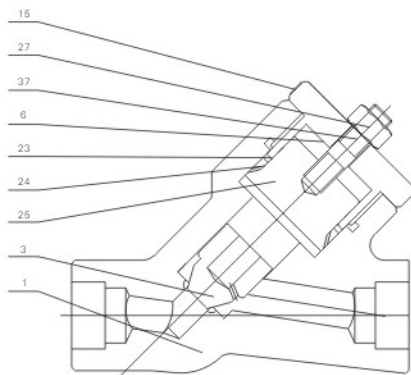
CL2500 Pressure seal bonnet, full port Threaded, butt-welded or socket welded ends; design to ASME B16.34

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	-	-	186	186	186	232	232	279
Height	H	-	-	130	130	130	190	190	213
Height (angle dimension)	d	-	-	13	16	19	25	28	36
Weight(Kg)		-	-	11.8	11	10.5	23	26.4	39

Y type check valves/Y type pressure sealed check valves



Please mark in you offer if you need load spring



Application standards

- Design and manufacture conform to BS5352 MSS SP-118;
- Connection ends conform to:
 - Socket welded ends conform to ANSI B16.11;JB/T1751
 - Screw ends conform to ANSI B1.20.1; JB/T7306
 - Butt-welded ends conform to ANSI B16.25;JB/T12224
 - Flanged ends conform to ANSI B16.5; Jb79
- Test and inspection conform to: API 598; GB/T13927; JB/T9092
- Structure features: Bolted bonnet, Welded bonnet, A threaded and pressure seal bonnet; Y type and T type.
- Materials conform to ANSI/ASTM.
- Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy.

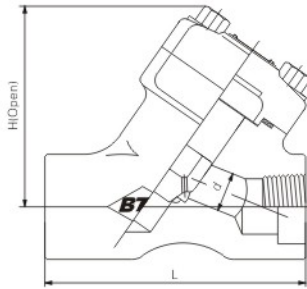
Carbon steel temperature-pressure rate

CL1500-3705 P.S.I @ 100° F
 CL2500-6170 P.S.I @ 100° F
 CL4500-1111P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHF5	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
3	Disc	410	410HF	304	410HF	304(L)	316(L)	F51
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
32	Revit	AL	AL	AL	AL	AL	AL	AL
33	Steel ball	430	430	304	STL	316(L)	316(L)	STL
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
23	Seal ring gasket	420	420	304	304	304(L)	316(L)	410
24	P.S. ring	304	304	304	304	316L	316L	316L
25	P.S. seat	F410	F410	F304	F410	F304	F316	F51
27	Lift nut	2H	2H	8	8	8(M)	8(M)	8M
37	Lift stud	B7	B7	L7	B16	B8(M)	B8(M)	B8M

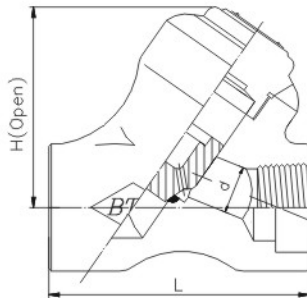
Y type check valves



CL800

Welded bonnet, full port and reducing port
Threaded, butt-welded or socket welded ends; design to BS5352

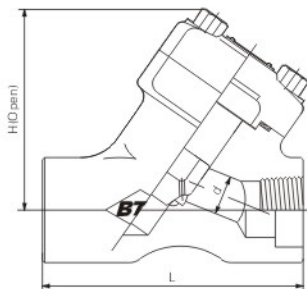
Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	98	98	98	111	140	140	155	170
Height	H	70	70	70	100	110	120	120	150
Height (angle dimension)	d	7	10	13	17.5	23	30	35	46
Weight(Kg)		2.2	2.2	2.1	4.2	9	8.9	10	18.6



CL800

Welded bonnet, full port and reducing port
Threaded, butt-welded or socket welded ends; design to BS5352

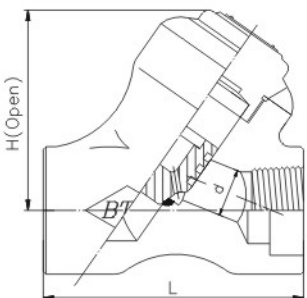
Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	79	79	79	90	118	155	155	175
Height	H	60	60	60	90	100	105	105	135
Height (angle dimension)	d	7	9	13	17.5	22.5	29.5	35	44
Weight(Kg)		1.8	1.8	2.0	3.5	8.0	8.0	12	16



CL900-CL1500

Bolted bonnet, full port
Threaded, butt-welded or socket welded ends; design to BS5352

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	98	111	111	140	140	155	170
Height	H	70	70	100	110	110	120	150
Height (angle dimension)	d	9	12	15	20	28	32	40
Weight(Kg)		2.1	4.2	9	8.9	10	18.6	20

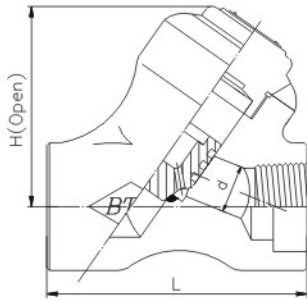


CL900-CL1500

Bolted bonnet, full port
Threaded, butt-welded or socket welded ends; design to BS5352

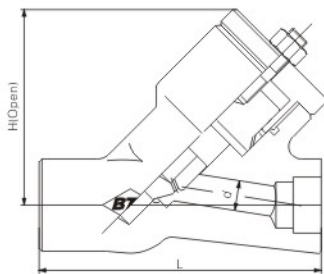
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	79	90	118	155	155	175	200
Height	H	66	90	100	105	105	135	135
Height (angle dimension)	d	9	13	17.5	22.5	29.5	35	44
Weight(Kg)		2.0	3.5	3.5	8.0	12	12	18

Y type check valves



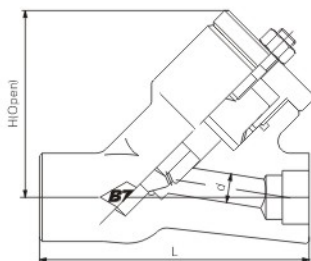
CL2500 Welded bonnet, full port
Threaded, butt-welded or socket welded ends; design to ASME B16.34

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Height	H	115	115	120	150	150	150	160
Height (angle dimension)	d	9	11	14	19	25	28	35
Weight(Kg)		11.2	11.5	10.6	10.8	25	22	39



CL2500 Pressure seal, bolted bonnet, full port
Threaded, butt-welded or socket welded ends; design to ASME B16.34

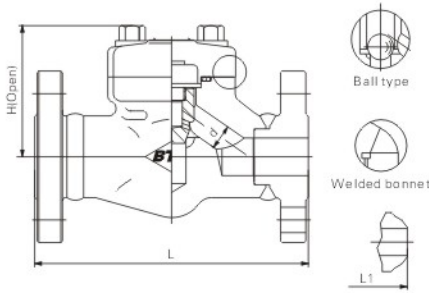
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Height	H	233	233	233	233	256	256	330
Height (angle dimension)	d	9	11	14	19	25	28	35
Weight(Kg)		11.2	11.5	10.6	10.8	25	22	39



CL4500 Pressure seal, bolted bonnet, full port
Threaded, butt-welded or socket welded ends; design to ASME B16.34

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	200	200	200	200	250	250	330
Height	H	140	140	140	140	160	160	180
Height (angle dimension)	d	9	11	11	15	20	26	28
Weight(Kg)		20	20	20	20	28	28	45

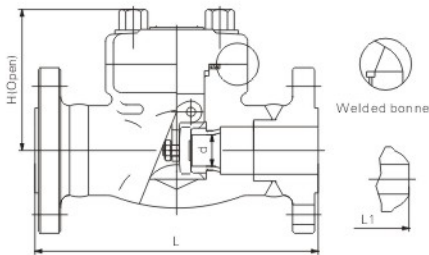
Flange and butt-welded check valves



CL150-300-600

Bolted bonnet, full port
Flange-welded or butt-welded ends; design to BS5352

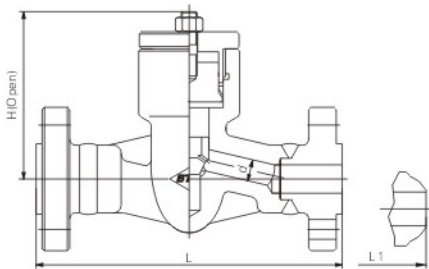
Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	CL150	L(RF) L1(BW)	-	-	108	118	127	140	165	203
	CL300		-	-	153	178	203	216	229	267
	CL600		-	-	165	191	216	229	241	292
Height	CL150	-	-	50	53	64	80	84	102	
	CL300/600	H	-	-	50	53	64	80	84	102
Height(angle dimension)	d	-	-	9	12	17.5	22.5	29	35	
Weight (Kg)	CL150	RF	-	-	3.3	3.4	4.7	8.2	11.5	12.9
		BW	-	-	2.9	3.0	3.6	7.8	10.2	11.6
	CL300	RF	-	-	3.4	3.5	5.6	8.6	11.7	13.8
		BW	-	-	3.0	3.0	4.8	7.6	10.3	12.0
	CL600	RF	-	-	3.5	3.6	6.1	10.4	15.6	24.5
		BW	-	-	3.0	3.1	5.5	9.2	13.8	21.5



CL150-300-600

Bolted bonnet, full port
Flange-welded or butt-welded ends; design to BS5352

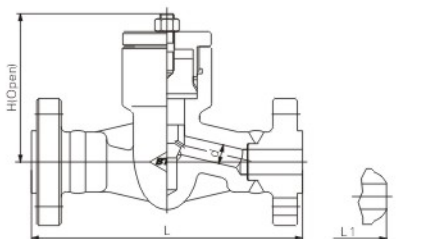
Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	CL150	L(RF) L1(BW)	-	-	108	118	127	140	165	203
	CL300		-	-	153	178	203	216	229	267
	CL600		-	-	165	191	216	229	241	292
Height	CL150	-	-	50	53	64	80	84	102	
	CL300/600	H	-	-	50	53	64	80	84	102
Height(angle dimension)	d	-	-	9.5	13	17.5	24	29	36.5	
Weight (Kg)	CL150	RF	-	-	3.2	3.6	4.6	9.2	10.2	11.1
		BW	-	-	2.8	3.0	4.0	8.5	8.9	10.0
	CL300	RF	-	-	3.7	4.8	5.5	9.6	11.3	17.8
		BW	-	-	3.2	4.3	4.8	8.6	10.2	16.2
	CL600	RF	-	-	4.0	4.8	6.0	9.5	15.6	24.5
		BW	-	-	3.4	4.0	5.1	8.8	14.8	22.5



CL900-CL1500

Pressure seal, bolted bonnet, full port and reducing port
Flange-welded or butt-welded ends; design to BS5352

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	L(RF),L1(BW)	-	-	216	229	254	280	305	268
	L(RTJ)	-	-	216	229	254	280	305	371
Height	H	-	-	117	117	117	152	152	195
Height (angle dimension)	d	-	-	13	16	19	25	27	36
Weight(Kg)		-	-	10.5	11.9	13.9	19.9	26.9	32.5



CL2500

Pressure seal, bolted bonnet, full port
Flange-welded or butt-welded ends; design to ASME B16.34

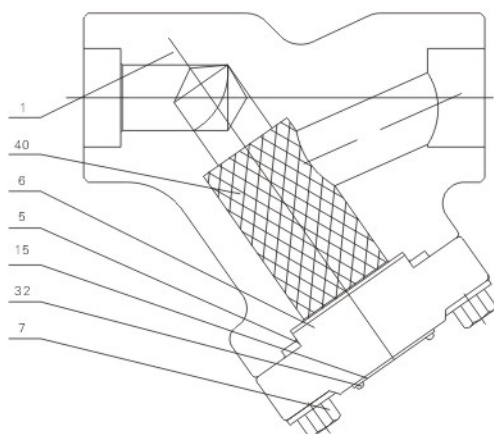
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	L(RF),L1(BW)	-	-	264	273	308	349	384	450
	L(RTJ)	-	-	264	273	308	352	387	454
Height	H	-	-	117	117	117	152	152	195
Height (angle dimension)	d	-	-	13	16	19	25	28	36
Weight(Kg)		-	-	12.6	14.9	16.5	24.8	30	35

Forged steel Y-type strainers

BTL Forged steel Y type strainer, bolted bonnet, gasket adopt spiral wound(304+flexible graphite)or metalring seal.

Construction is as follows

- ※ Full port or conventional port;
- ※ Bolted bonnet spiral wound gasket seal bonnet;
- ※ Socket weld ends to ASME B16.11;
- ※ Screwed ends (NPT) to ANSI/ASME B1.20.1;
- ※ Equip blow down tap and renewable strainer.



Please offer the mesh of strainer
If you want to equip with, you contract with our sale department

Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
CL300–740 P.S.I @ 100° F
CL600–1480 P.S.I @ 100° F
CL800–1975 P.S.I @ 100° F
CL1500–3705 P.S.I @ 100° F
CL2500–6170 P.S.I @ 100° F



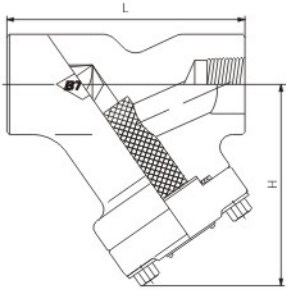
Application standards

- 1、 Design and manufacture conform to BS5352 MSS SP–118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features: Bolted bonnet or welding bonnet
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy.

Main part materials list

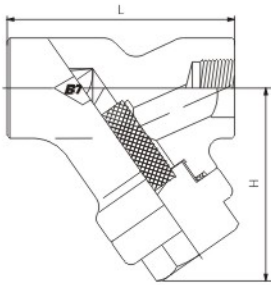
NO.	Part name	A105/F6a	A105/Fa6HFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
32	Rivet	H62	H62	H62	H62	H62	H62	H62
40	Filter screen	304	304	304	304	304(L)	316(L)	316(L)

Y-type strainers



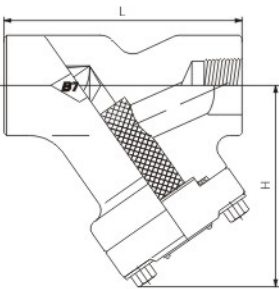
CL800 Bolted bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

Specification (NPS)	R.P F.P	1/2 1/4	3/4 3/8	1 1/2	1 1/4 3/4	1 1/2 1	2 1 1/2	3 2 1/2	
Face to face	L	98	98	98	111	140	140	155	170
Height	H	70	70	70	100	110	120	120	150
Height (angle dimension)	d	7	9	13	17.5	30	30	35	46
Weight(Kg)		2.2	2.2	2.1	4.2	8.9	8.9	10	18.6



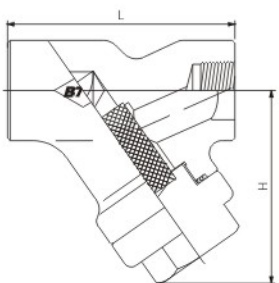
CL800 Bolted bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

Specification (NPS)	R.P F.P	1/2 1/4	3/4 3/8	1 1/2	1 1/4 3/4	1 1/2 1	2 1 1/2	3 2 1/2	
Face to face	L	79	79	92	100	140	140	155	170
Height	H	65	65	65	95	105	110	110	140
Height (angle dimension)	d	7	9	13	17.5	23	30	35	46
Weight(Kg)		1.8	1.8	2.0	3.5	9	8.0	12	16



CL800 Bolted bonnet, full port and reducing port Threaded, butt-welded or socket welded ends; design to BS5352

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	98	111	111	140	140	155	170
Height	H	70	70	100	110	120	120	150
Height (angle dimension)	d	9	12	15	20	28	32	40
Weight(Kg)		2.1	4.2	9	8.9	10	18.6	20



CL900-CL1500 Bolted bonnet, full port Threaded, butt-welded or socket welded ends; design to BS5352

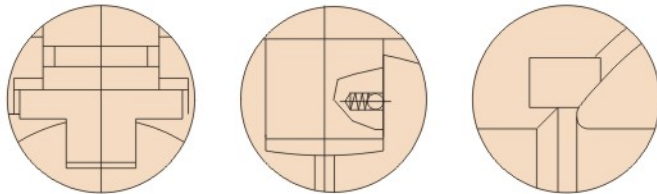
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	92	100	100	140	140	155	170
Height	H	65	65	95	105	110	110	140
Height (angle dimension)	d	9	12	15	20	28	32	40
Weight(Kg)		2.0	3.5	8.0	8.0	12	16	18

Forged steel ball valves

BTL Forged steel ball valves have two structures. one is of 2PCS structure, threaded bonnet, RPTFE or PEEK seal. The other is of 3PCS structure. bolted tailpieces. Different materials for seats, gaskets and packing may be chosen acc. to different using conditions.

Construction is as follows

- ※ Full port or conventional port;
- ※ 90° locating and lock structure;
- ※ Special Y type handle;
- ※ Fire proof and anti static;
- ※ Mounted flange as per ISO 5211;
- ※ Blow out Proof stem;
- ※ Double sealing for the stem;
- ※ Bolted bonnet;
- ※ Socket welded ends to ASME B16.11;
- ※ Screwed ends (NPT) to ANSI/ASME B1.20.1.



Blow out proof stem

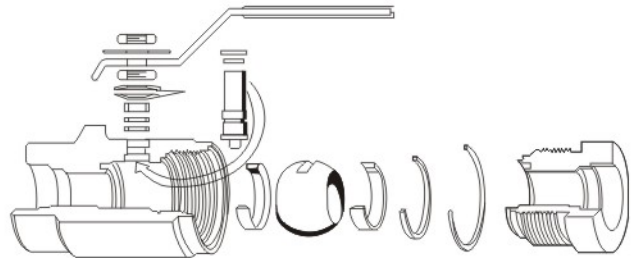
Anti static

Fire safe

BTL compact ball valves are trusted by many customers because of its reasonable structures small space-occupation and good sealing performance

Design structure

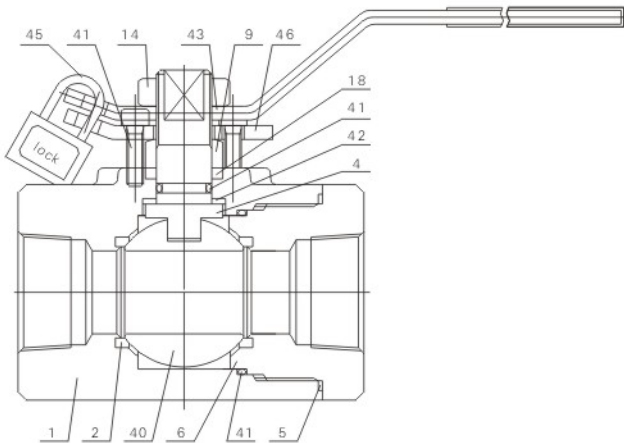
Seat is made of PTFE reinforced with 25% glass fibre or PEEK. PTFE with 25% glass fibre can gain better performances normally used for class 800 ball valves. PEEK can gain better performances under high pressure and high temperature normally used for class 1500 ball valves. Anti static/ fire safe/ blow out proof stem



Flow coefficient Cv

NPS	Cv value	
	Full port	Reduced port
1/4	8	
3/8	8	
1/2	12	8
3/4	33	12
1	48	33
1 1/4	83	48
1 1/2	120	83
2	250	120

2PCS Forged steel ball valves



Application standards

- 1、 Design and manufacture conform to BS5351 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598 ; GB/T13927 ; JB/T9092
- 4、 Structure features: Bolted bonnet ; two-piece;
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105 ; LF2 ; 304(L) ; 316(L) ; F347 ; F321 ; F51 ; Monel ; 20 Alloy.

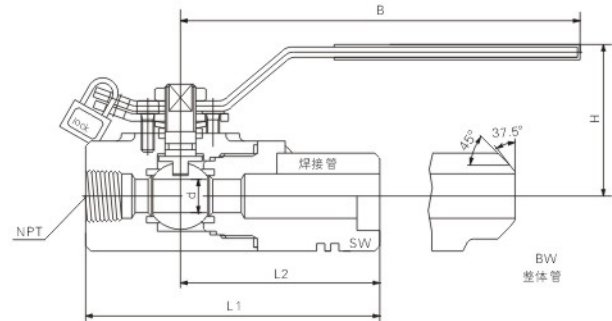
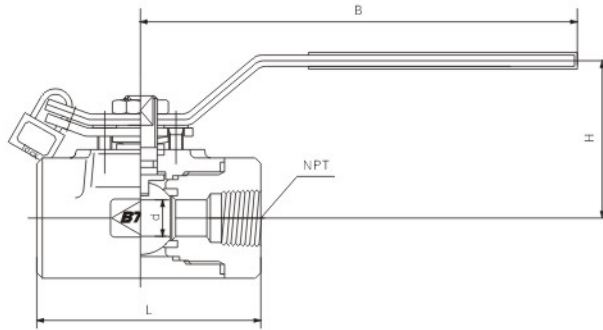
Carbon steel temperature-pressure rate

CL150-285 P.S.I @ 100° F
 CL300-740 P.S.I @ 100° F
 CL600-1480 P.S.I @ 100° F
 CL800-1975 P.S.I @ 100° F
 CL1500-3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	LF2/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	LF2	F304(L)	F316(L)	F51
2	Seat	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK
4	Stem	410	304	304(L)	316(L)	F51
5	Gasket	PTFE	PTFE	PTFE	PTFE	PTFE
6	Bonnet	A105	LF2	F304	F316	F51
9	Gland	410	304	304(L)	316(L)	F51
11	Gland flange	A105	LF2	F304	F316	F51
14	Flat nut	8	8	8	8M	8M
18	Packing	PTFE	PTFE	PTFE	PTFE	PTFE
40	Ball	F6	F304	F304(L)	F316(L)	F51
41	O-ring	VITON	VITON	VITON	VITON	VITON
42	Back seat gasket	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK
43	Wrench	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025
44	Screw	B8	B8	B8	B8M	B8M
45	Lock	Finished product	Finished product	Finished product	Finished product	Finished product
46	Locator	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025

2PCS Forged steel ball valves



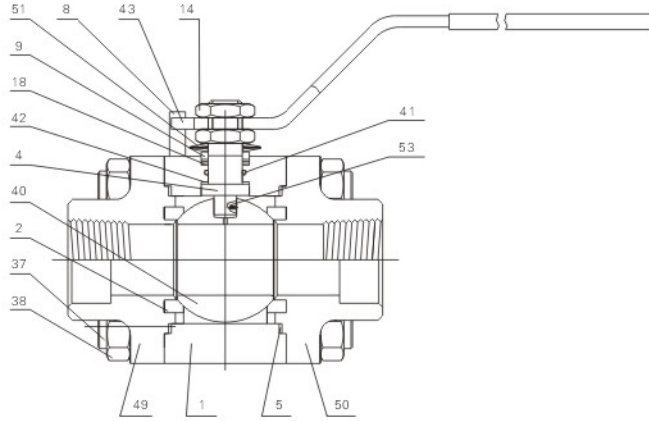
CL800 One end is welded pipe (butt-welding or socket welding) and the other is thread, design conform to BS 5351

Specification(NPS)	R.P F.P	1/4	1/2	3/4	1	1 1/4	1 1/2	2	2	2 1/2
Face to face	L1	70	70	80	95	115	125	135	155	
Coupling pipe end to center	L2	121	121	121	130	136	140	148	160	
Center to handle end	B	160	160	160	160	170	230	230	280	
Height	H	60	60	60	65	85	105	105	125	
Height(angled in dimension)	d	6	9	12.5	17	24	37	37	49	
Weight(Kg)		1.2	0.9	1.3	2.2	3.5	6.5	6.5	11	

CL1500-CL2500 One end is welded pipe(butt-welding or socket welding)and the other is thread, design conform to API6D

Specification(NPS)	F.P		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L1	CL1500	80	80	95	115	125	135	155	155
		CL2500			125	135	155		155	
Coupling pipe end to center	L2	CL1500	121	121	130	136	140	148	160	175
		CL2500			136	140	148		175	
Center to handle end	B	CL1500	160	160	160	170	230	230	280	280
		CL2500			230	230	280		280	130
Height Weight(Kg)	H	CL1500	60	60	65	85	105	105	125	
		CL2500			90	110	125			
Height(angle in dimension)	d	CL1500	6	9	13	19	25	32	38	49
		CL2500	6	9	13	19	25		38	42
Weight(Kg)		CL1500	1.2	1.5	2.5	3.7	5.8		11.5	13.7
		CL2500	1.5	1.9	2.7	4.1	6.3		12	15

3PCS Forged steel ball valves



Application standards

- 1、 Design and manufacture conform to BS5351 MSS SP-118;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598 ; GB/T13927 ; JB/T9092
- 4、 Structure features: Bolted bonnet; three-piece;
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy.

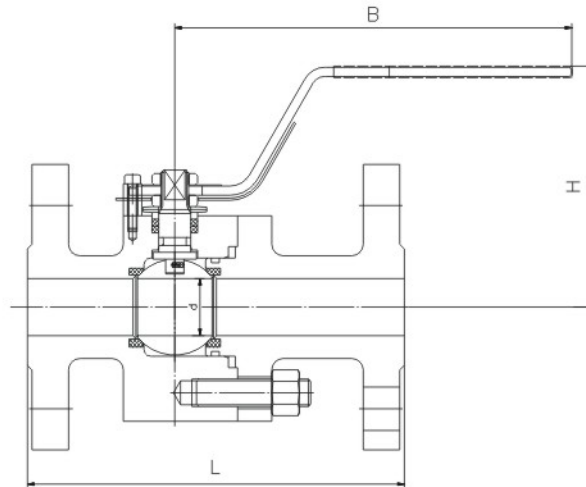
Carbon steel temperature-pressure rate

CL150-285 P.S.I @ 100° F
 CL300-740 P.S.I @ 100° F
 CL600-1480 P.S.I @ 100° F
 CL800-1975 P.S.I @ 100° F
 CL1500-3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	LF2/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	LF2	F304(L)	F316(L)	F51
2	Seat	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK
4	Stem	410	304	304(L)	316(L)	F51
5	Gasket	PTFE	PTFE	PTFE	PTFE	PTFE
8	Pin	25	304	304	304	304
9	Gland	410	304	304(L)	316(L)	F51
14	Flat nut	8	8	8	8M	8M
18	Packing	PTFE	PTFE	PTFE	PTFE	PTFE
37	Bolt	B7	B8	B8	B8M	B8M
38	Nut	2H	8	8	8M	8M
40	Ball	F6	F304	F304(L)	F316(L)	F51
41	O-ring	VITON	VITON	VITON	VITON	VITON
42	Back seat gasket	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK	RPTFE & PEEK
43	Wrench	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025
49	Left bonnet	A105	LF2	F304	F316	F51
50	Right bonnet	A105	LF2	F304	F316	F51
51	Butterfly spring	65Mn	65Mn	304	304	304
52	Elastic washer	65Mn	65Mn	304	304	304
53	Anti-static spring	304	304	304	316L	316L

3PCS Forged steel ball valves



CL800-CL1500

Connection ends may be pipe-welded (butt-welding or socket welding) and/or threaded, design to BS5351

Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	CL150	L(RF)	-	-	108	117	127	140	165	178
	CL300	L(RF)	-	-	140	152	165	178	190	216
	CL600	L(RF)	-	-	165	190	216	229	241	292
Handwheel diameter	CL150/300	B	-	-	140	140	150	180	200	250
	CL 600	B	-	-	140	140	200	200	250	300
Height	CL150/300	H	-	-	85	90	100	105	126	142
	CL 600	H	-	-	79	83	114	120	125	156
Height(angle dimension)		d	-	-	13	19	25	32	38	49
Weight (Kg)	CL150	RF	-	-	3.0	4.0	5.0	7.0	8.0	12.0
	CL300	RF	-	-	3.0	5.0	6.0	8.0	11.0	16.0
	CL 600	RF	-	-	5.0	7.0	9.0	13.0	17.0	25.0

CL900-CL1500

Connection ends may be pipe-welded (butt-welding or socket welding) and/or threaded, design to BS5351

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L RF/RJ			216	229	254	279	305	368
Center to handle end	B			182	200	250	300	350	500
Height	H			98	105	110	120	130	160
Height(angle dimension)	d			13	19	25	32	38	49
Weight(Kg)				10.0	14.0	17.0	25.0	33.0	48.0

Forged steel cryogenic valves

BTL cryogenic valves are available in two bonnet designs. The first design is the Bolted Bonnet, with male–female joint, spiral wound gasket, made in F304L/graphite. Ring joint gasket are also available on request. The second design is the welded bonnet, with a threaded and seal welded joint. On request a full penetration strength welded joint is available. The cryogenic valves are available in gate and globe design configurations. Valves are designed with an extended bonnet for use in cold services to 196 degrees C(–320 degrees F).

Construction is as follows

- ※ Full port or conventional port;
- ※ Outsied screw and yoke (OS&Y);
- ※ Extended bonnet;
- ※ Self–centering gland and flange;
- ※ Bolted bonnet with spiral–wound gasket sealing bonnet;
- ※ Threaded with full welding seal bonnet;
- ※ Integral backseat;
- ※ Socket welded ends to ASME B16.11;
- ※ Screwed ends(NPT) to ANSI/ASME B1.20.1.



Product application

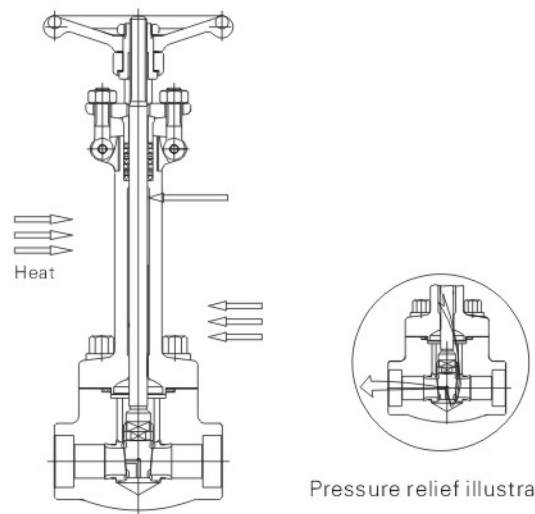
BOTELI has many users in cryogenic valves.through more than 20–year continuous efforts, BOTELI forged cryogenic gate, globe and check valves are specially designed to handle the technical problems that arise in the production,transport and storage of liquified gases such as oxygen,nitrogen, argon, natural gas, hydrogen or helium (down to –425 F/–254 C). BOTELI specially adapted extended bonnet forged valves offer safe and efficient service.

Design features

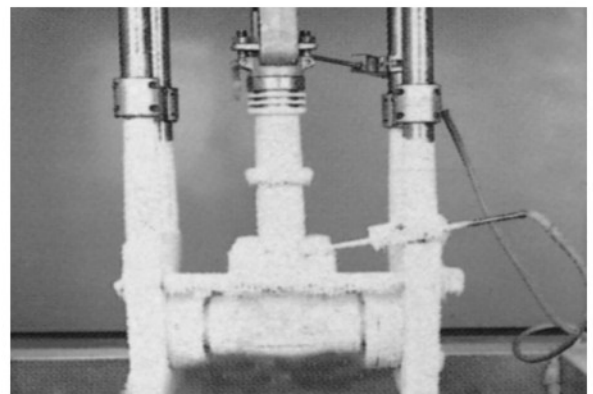
All basic design features of BOTELI forged steel valves outlined in this catalog are adapted to special serviceconditions at cryogenic temperatures.Extended bonnets with sufficient gas column length,usually specified by customer, are supplied for all valves to keep stem packing at sufficient distance away from the cold fluid to remain functional. Pressure releasing Hole, designed in the wedge, warrants the pressure in body chamber to be balance, even if the pressure inside the body chamber is suddenly up. High–hard–surfaced stem hardened with nitridding remains its perfect bruise and corrosion resistance at the extreme low temperature,so as to prevent the packing from being damaged. Overlaid Stellite 6 closure members on 1/2–2" (150 mm)valves operate with no galling in cryogenic service.

Cryogenic test

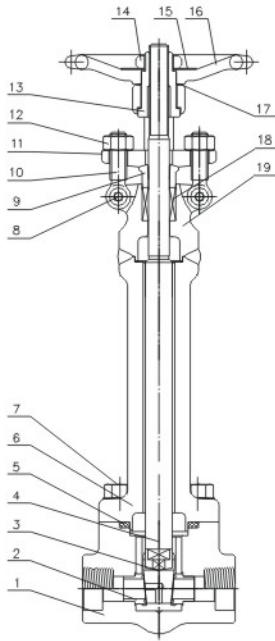
- Purpose: Demonstrating the perfect operating performances in model cryogenic conditions.
- Environment: Inside a device full of liquefied Nitrogen , temperature smaller than 196°C.
- Procedures: After being verified at room temperature,the valve is cleaned and dried,when the temperature reached the required one, it can begin to test.
- Operating performance test in cryogenic conditions.
- Sealing performance tests for packing and gasket
- Sealing performance test for backseat



Pressure relief illustration



Cryogenic gate valves



Application standards

- 1、 Design and manufacture conform to API 602 BS5352 B16.34;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials:
 - LF2; LF3; 304(L); 316(L); F347; F321; F51.

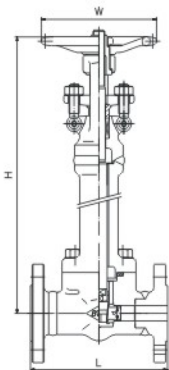
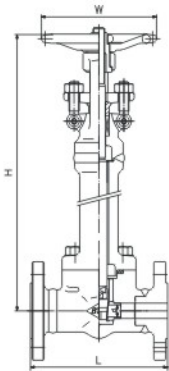
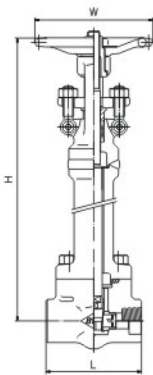
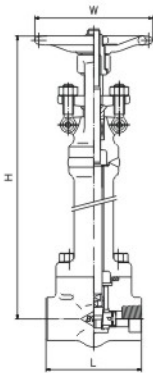
Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
 CL300–740 P.S.I @ 100° F
 CL600–1480 P.S.I @ 100° F
 CL800–1975 P.S.I @ 100° F
 CL1500–3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	LF3/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	-	-	LF2	LF3	F304(L)	F316(L)	F51
2	Seat ring	-	-	304	304	304(L)	316(L)	F51
3	Wedge disc	-	-	F304	F304	F304(L)	F316(L)	F51
4	Stem	-	-	304	F304	304(L)	316(L)	F51
5	Gasket	-	-	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	-	-	LF2	LF3	F304(L)	F316(L)	F51
7	Bolt	-	-	L7	L7	B8	B8	B8
8	Pin	-	-	410	410	304	304	304
9	Gland	-	-	304	304	304	316	F51
10	Gland eyebolt	-	-	L7	L7	B8(M)	B8(M)	B8M
11	Gland flange	-	-	LF2	LF3	F304	F304	F304
12	Hex nut	-	-	2H	2H	8(M)	8(M)	8M
13	Stem nut	-	-	410	410	410	410	410
14	Locking nut	-	-	35	35	35	35	35
15	Nameplate	-	-	AL	AL	AL	AL	AL
16	Handwheel	-	-	A197	A197	A197	A197	A197
17	Lubricating gasket	-	-	410	410	410	410	410
18	Packing	-	-	Graphite	Graphite	Graphite	Graphite	Graphite
19	Stents	-	-	LF2	LF3	F304(L)	F316(L)	F51

Cryogenic gate valves



CL800 Bolted bonnet cryogenic extended bonnet full port & reduced port, OS&Y Threaded, butt-welded or socket welded ends; design to API 602

Specification (NPS)	R.P	NPS									
		-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
Face to face	L	73	73	80	100	114	120	130	-	-	
Handwheel diameter	W	100	100	100	125	160	160	180	-	-	
Height	H -196	278	278	284	337	377	377	445	-	-	
Height(angle dimension)	d	9.5	9.5	13	17.5	24	29	36.5	-	-	
Weight(Kg)		3.5	3.5	4.3	5.1	10.9	12	14.8	-	-	

CL1500 Bolted bonnet cryogenic extended bonnet full port & reduced port, OS&Y Threaded, butt-welded or socket welded ends; design to API 602

Specification (NPS)	R.P	NPS							
		-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	80	100	100	114	120	130	140	-
Handwheel diameter	W	100	100	100	125	160	160	180	-
Height	H -196	284	337	337	377	377	445	465	-
Height(angle dimension)	d	8	13	13	17.5	24	29	36.5	-
Weight(Kg)		3.5	6.7	6.7	11	12.3	15.8	28	-

CL150-300-600 Bolted bonnet cryogenic extended bonnet, reduced port, OS&Y Flanged or butt welded ends; design to API 602

Specification(NPS)		NPS								
		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	CL150	-	-	108	117	127	-	165	178	
	CL300	L(RF), L1(BW)	-	-	140	152	165	-	191	216
	CL600	-	-	165	190	216	-	241	292	
Handwheel diameter	W	-	-	100	100	125	-	160	180	
Height	-196	H	-	-	278	284	337	-	377	445
Height(angle dimension)	d	-	-	9.5	13	17.5	-	29	36.5	
	CL R F 150	-	-	5.0	5.5	8.8	-	15	20.3	
Weight (Kg)	CL R F 300	-	-	5.8	7.3	9.7	-	19.5	22.3	
	CL R F 600	-	-	6.0	8	11.2	-	21.5	24.8	
		-	-	-	-	-	-	-	-	

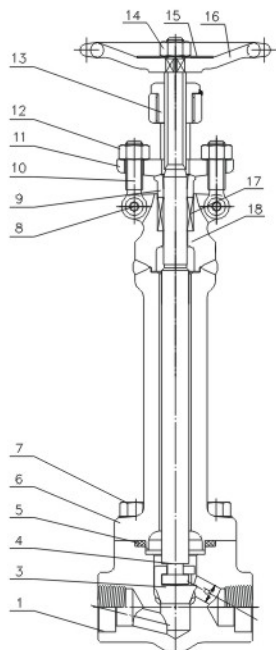
If you want to order one piece body, please contract with sale department

CL1500 Bolted bonnet cryogenic extended bonnet, full port, OS&Y Flanged or butt welded ends; design to API 602

Specification(NPS)	R.P	NPS						
		-	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L		216	229	254	279	325	368
Handwheel diameter	W		100	100	125	160	160	180
Height	H -196		337	337	377	377	445	465
Height(angle dimension)	d		13	13	17.5	24	29	36.5
Weight (Kg)			14	23	25.3	5.7	47	72

If you want to order one piece body, please contract with sale department

Cryogenic globe valves



Application standards

- 1、 Design and manufacture conform to API 602 BS5352 B16.34;
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Valve test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials:
 - LF2; LF3; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy.

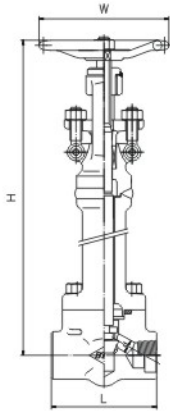
Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
 CL300–740 P.S.I @ 100° F
 CL600–1480 P.S.I @ 100° F
 CL800–1975 P.S.I @ 100° F
 CL1500–3705 P.S.I @ 100° F

Main part materials list

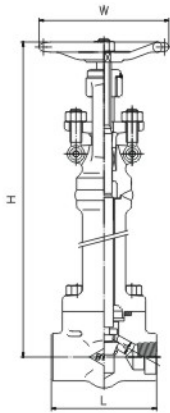
NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	LF3/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	-	-	LF2	LF3	F304(L)	F316(L)	F51
2	Seat ring	-	-	304	304	304(L)	316(L)	F51
3	Wedge disc	-	-	F304	F304	F304(L)	F316(L)	F51
4	Stem	-	-	304	304	304(L)	316(L)	F51
5	Gasket	-	-	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
6	Bonnet	-	-	LF2	LF3	F304(L)	F316(L)	F51
7	Bolt	-	-	L7	L7	B8	B8	B8
8	Pin	-	-	410	410	304	304	304
9	Gland	-	-	304	304	304	316	F51
10	Gland eyebolt	-	-	L7	L7	B8(M)	B8(M)	B8M
11	Gland flange	-	-	LF2	LF3	F304	F304	F304
12	Hex nut	-	-	2H	2H	8(M)	8(M)	8M
13	Stem nut	-	-	410	410	410	410	410
14	Locking nut	-	-	35	35	35	35	35
15	Nameplate	-	-	AL	AL	AL	AL	AL
16	Handwheel	-	-	A197	A197	A197	A197	A197
17	Packing	-	-	Graphite	Graphite	Graphite	Graphite	Graphite
18	Stents	-	-	LF2	LF3	F304(L)	F316(L)	F51

Cryogenic globe valves



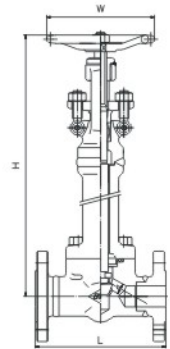
CL800 Bolted bonnet cryogenic extended bonnet full port & reduced port, OS&Y Threaded or socket welded ends; design to BS5352

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	73	73	80	100	114	145	160	-
Handwheel diameter	W	100	100	100	125	160	160	180	-
Height(open)	H -196°C	300	300	300	337.5	368	390	437	-
Flow port dimension	d	7.0	9.0	12	17.5	22.5	29	35	-
Weight (Kg)		7.2	7.2	7.2	9.5	10.8	13.5	19.8	-



CL1500 Bolted bonnet cryogenic extended bonnet full port & reduced port, OS&Y Threaded or socket welded ends; design to BS5352

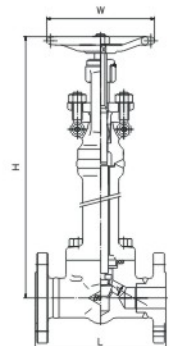
Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	80	100	100	114	145	160	172	-
Handwheel diameter	W	100	125	125	160	160	180	200	-
Height(open)	H -196°C	300	338	338	368	390	437	505	-
Flow port dimension	d	7	11	14.5	19	26	29	33	-
Weight (Kg)		7.2	9.5	9.5	10.8	13.5	19.8	29	-



CL150-300-600 Bolted bonnet cryogenic extended bonnet, reduced port, OS&Y Flanged or butt welded ends; design to BS5352

Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF)	CL150	-	-	108	117	127	-	165	203
	L1(BW)	CL300	-	-	152	178	203	-	229	267
		CL600	-	-	165	190	216	-	241	292
Handwheel diameter	W		-	-	100	100	125	-	160	180
Height(open)	H -196°C		-	-	300	300	337.50	-	390	437
Flow port dimension	d		-	-	9.0	12	17.5	-	29	35
Weight (Kg)		CL150	-	-	5	5.8	8.6	-	13.8	24.3
		CL300	-	-	5.8	6.8	10.3	-	19.3	25.8
		CL600	-	-	6.3	7.3	10.6	-	20.3	26.8

If you want to order one piece body, please contract with our sale department



CL1500 Bolted bonnet cryogenic extended bonnet, full port, OS&Y Flanged or butt welded ends; design to BS5352

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF)	-	-	216	229	254	279	305	-
Handwheel diameter	W	-	-	125	125	160	160	180	-
Height (open)	H -196°C	-	-	338	368	390	437	505	-
Flow port dimension	d	-	-	11	145	19	26	29	-

If you want to order one piece body, please contract with our sale department

Forged steel bellow sealed valves

BTL Bellow Sealed valves are available in two bonnet designs. The first design is the Bolted Bonnet, with male-female joint, spiral wound gasket, made in F304L/graphite. Ring joint gasket are also available on request. The second design is the welded bonnet. with a threaded and seal welded joint. On request a full penetration strength welded joint is available.

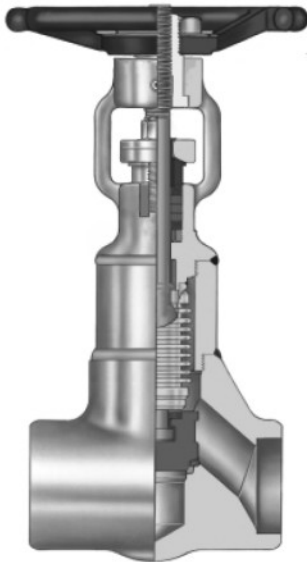


Construction is as follows

- ※ Full port or conventional port;
- ※ Outsied screw and yoke (OS&Y);
- ※ Self-centering gland and plate;
- ※ Bolted bonnet with spiral-wound gasket or threaded and seal welded bonnet;
- ※ Integral backseat;
- ※ Socket welded end to ASME B16.11;
- ※ Screwed ends(NPT) to ANSI/ASME B1.20.1.

Bellow sealed valves

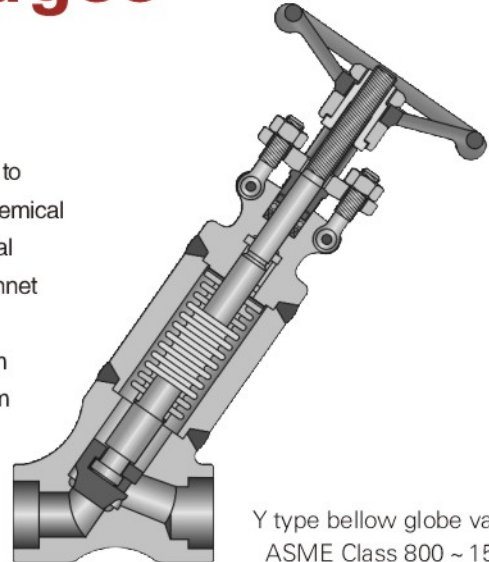
Zero leakages



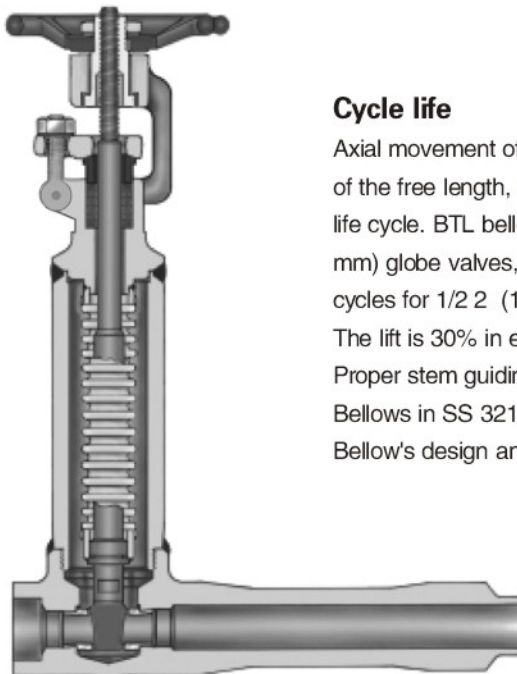
Valves design parameters

A valve with a bellows to seal off the stem enclosure is an ideal choice whenever leakage to the atmosphere is intolerable due to toxicity, chemical corrosion, radioactivity, other health or ecological reasons. In addition, seal welding the body–bonnet seal makes the valve hermetically sealed. The bellows is welded to the stem and to the bottom of the bonnet. this kind of design originates from BTL more than 20–year experiences.

Bellow seal globe valves
ASME Class 150 ~ 800



Y type bellow globe valves
ASME Class 800 ~ 1500



Cycle life

Axial movement of the bellows is limited to a maximum of 2025% of the free length, depending on pressure–temperature and desired life cycle. BTL bellows are designed for 10,000 cycles for 1/2 2(1550 mm) globe valves, 5000 cycles for bonnetless globe valves and 3000 cycles for 1/2 2 (1550 mm) gate valves.

The lift is 30% in extension and 70% in compression.

Proper stem guiding eliminates torsion of bellows.

Bellows in SS 321, Inconel or Hastelloy.

Bellow's design and manufacture as per MSS SP–117

Bellows seal drain valves
Class 800 ~ 1500



Bellows seal seal gate
Class 800 ~ 1500
Flange ASME Class 150 ~ 1500

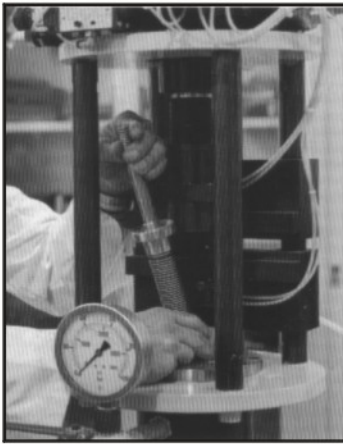
The stem of BTL bellow seal valves has 3–level seals

- SS Bellow sealing;
- Packing emergency sealing;
- Backseat sealing.

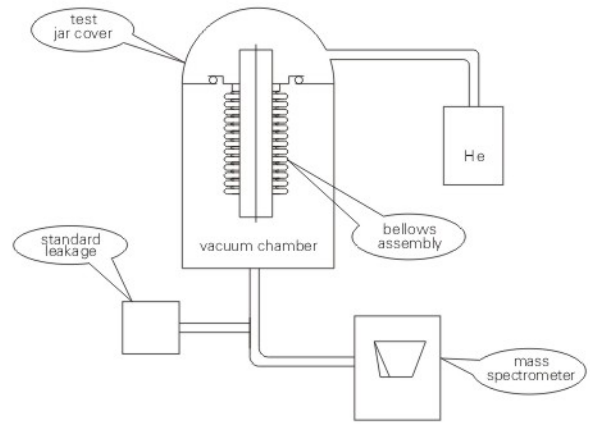
Bellow sealed valves

Quality insurance.

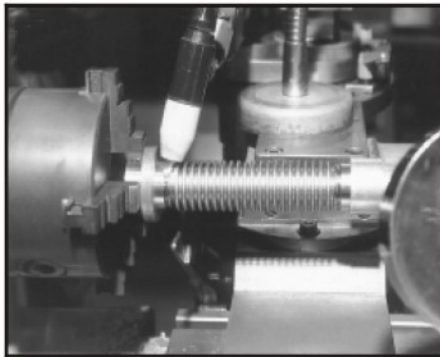
BOTELI has a set of procedures to severely inspect and test every released bellow seal valve acc. to requirements of ISO 9001 and AZ state safety register quality system in which include 100% air seal test, no bubble test and PT exam to every bellow, available to do vacuum air seal test with Helium mass spectrograph if a vacuum degree is required.



The bellow inspection device R&D by BOTELI,



Vacuum seal test with Helium mass spectrograph

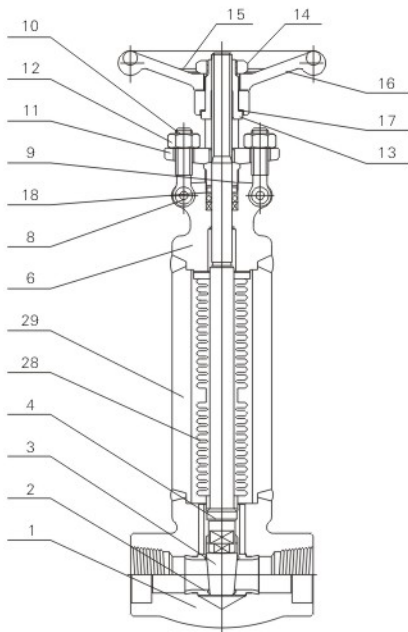


Micro bundle plasma bellow welding



Circle life test under a pressure.

Bellow sealed gate valves



Application standards

- 1、 Design and manufacture conform to API 602; MSS-SP-117
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; 304(L); 316(L); F347; F321.
- 7、 Bellow materials: 304、 321、 316、 Inconel 625、 Hastelloy C 276、 Monel.

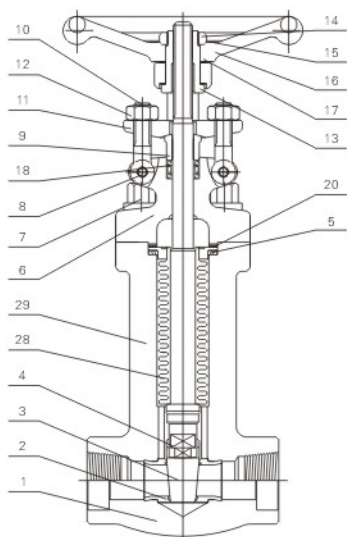
Carbon steel temperature–pressure rate

CL150–285 P.S.I @ 100° F
 CL300–740 P.S.I @ 100° F
 CL600–1480 P.S.I @ 100° F
 CL800–1975 P.S.I @ 100° F
 CL1500–3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Body	A105	A105	A105	F304(L)	F316(L)
2	Seat ring	410	410HF	410HF	304(L)	316(L)
3	Wedge disc	F6a	F6a	F6aHF	F304(L)	F316(L)
4	Stem	410	410	410	304(L)	316(L)
6	Bonnet	A105	A105	A105	F304(L)	F316(L)
8	Pin	410	410	410	304	304
9	Gland	410	410	410	304	316
10	Gland eyebolt	B7	B7	B7	B8(M)	B8(M)
11	Gland flange	A105	A105	A105	F304	F304
12	Hex nut	2H	2H	2H	8(M)	8(M)
13	Stem nut	410	410	410	410	410
14	Locking nut	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
28	Bellow	F321	F321	F321	F316	F321
29	Coupling pipe	A105	A105	A105	F304(L)	F316(L)

Bellow sealed gate valves



Application standards

- 1、 Design and manufacture conform to API 602; MSS-SP-117
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5;JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; 304(L); 316(L); F347; F321.
- 7、 Bellow materials: 304、 321、 316、 Inconel 625、 Hastelloy C 276、 Monel.

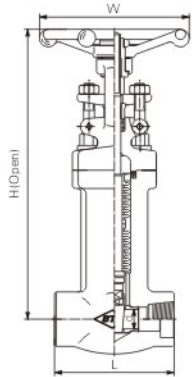
Carbon steel temperature–pressure rate

- CL150–285 P.S.I @ 100° F
- CL300–740 P.S.I @ 100° F
- CL600–1480 P.S.I @ 100° F
- CL800–1975 P.S.I @ 100° F
- CL1500–3705 P.S.I @ 100° F

Main part materials list

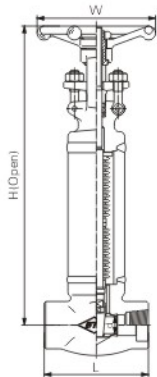
NO.	Part name	A105/F6a	A105/Fa6HFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Body	A105	A105	A105	F304(L)	F316(L)
2	Seat	410	410HF	410HF	304(L)	316(L)
3	Wedge disc	F6a	F6a	F6aHF	F304(L)	F316(L)
4	Stem	410	410	410	304(L)	316(L)
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite
6	Bonnet	A105	A105	A105	F304(L)	F316(L)
7	Bolt	B7	B7	B7	B8	B8
8	Pin	410	410	410	304	304
9	Gland	410	410	410	304	316
10	Gland eyebolt	B7	B7	B7	B8(M)	B8(M)
11	Gland flange	A105	A105	A105	F304	F304
12	Hex nut	2H	2H	2H	8(M)	8(M)
13	Stem nut	410	410	410	410	410
14	Locking nut	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
20	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite
28	Bellow	F321	F321	F321	F316L	F316L

Bellow sealed gate valves



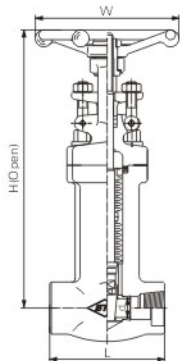
CL800 Bolted bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded,butt-welded or socket welded ends;design to API602\MSS-SP-117

Specification (NPS)	R.P	1/2	3/4	1	1 ¹ / ₄	1 ¹ / ₂	2	
		F.P	1/4	3/8	1/2	3/4	1	1 ¹ / ₄
Face to face	L	73	73	80	100	114	120	130
Handwheel diameter	W	100	100	100	125	160	160	180
Height	H	247	247	285	344	432	477	551
Height(angle dimension)	d	9.5	9.5	13	17.5	24	29	36.5
Weight(Kg)		3.0	3.0	3.3	6.3	8.7	10.2	16.2



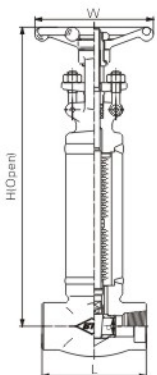
CL800 Welded bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded,butt-welded or socket welded ends;design to API 602\MSS-SP-117

Specification (NPS)	R.P	1/2	3/4	1	1 ¹ / ₄	1 ¹ / ₂	2	
		F.P	1/4	3/8	1/2	3/4	1	1 ¹ / ₄
Face to face	L	73	73	80	100	114	120	130
Handwheel diameter	W	100	100	100	125	160	160	180
Height	H	247	247	285	344	432	477	551
Height(angle dimension)	d	9.5	9.5	13	17.5	24	29	36.5
Weight(Kg)		2.9	2.9	3.2	4.6	7.2	8.9	15.5



CL1500 Bolted bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded,butt-welded or socket welded ends;design to API602\MSS-SP-117

Specification (NPS)	R.P	1/2	3/4	1	1 ¹ / ₄	1 ¹ / ₂	2	
		F.P	1/4	3/8	1/2	3/4	1	1 ¹ / ₄
Face to face	L	80	100	100	114	120	130	140
Handwheel diameter	W	100	125	125	160	160	180	180
Height	H	287	287	312	368	465	595	627
Height(angle dimension)	d	8	13	13	17.5	24	29	36.5
Weight(Kg)		3.1	5.1	5.1	9.0	10.5	16.7	21

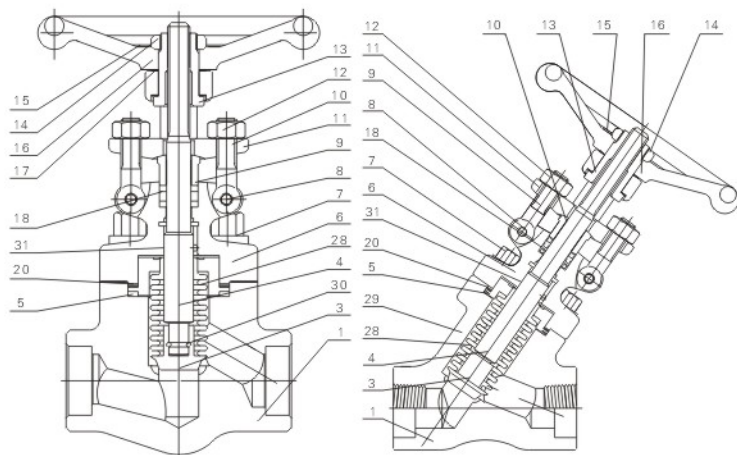


CL1500 Welded bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded,butt-welded or socket welded ends;design to API602\MSS-SP-117

Specification (NPS)	R.P	1/2	3/4	1	1 ¹ / ₄	1 ¹ / ₂	2	
		F.P	1/4	3/8	1/2	3/4	1	1 ¹ / ₄
Face to face	L	80	100	100	114	120	130	140
Handwheel diameter	W	100	125	125	160	160	180	180
Height	H	287	287	312	368	465	595	627
Height(angle dimension)	d	8	13	13	17.5	24	29	36.5
Weight(Kg)		2.9	4.7	4.7	7.4	5.7	16	19

Short pattern bellow seal globe valves

The short pattern bellow seal globe valve, agglomerating many years experiences of BOTELJ researcher studying bellows, has been developed out through a series of complicated tests. Not only do this kind of valves own the normal bellow seal valve's functions, also have the features of a compact structure and replaceable bellow. This kind of valve will out of question display its advantages if the pipe system and/or equipment have a severe requirement to the valve's installing height.



Application specifications

- Design and manufacture conform to BS5352; MSS-SP-117
- Connection ends conform to:
 - Socket welded ends conform to ANSI B16.11;JB/T1751
 - Screw ends conform to ANSI B1.20.1;JB/T7306
 - Butt-welded ends conform to ANSI B16.25;JB/T12224
 - Flanged ends conform to ANSI B16.5;JB79
- Test and inspection conform to:
 - API 598; GB/T13927; JB/T9092
- Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- Materials conform to ANSI/ASTM.
- Main materials:
 - A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 Alloy.
- Bellow materials: 304、321、316、Inconel 625、Hastelloy C 276、Monel.

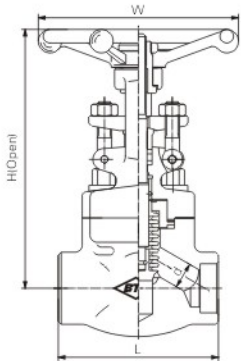
Carbon steel temperature–pressure rate

- CL150–285 P.S.I @ 100° F
- CL300–740 P.S.I @ 100° F
- CL600–1480 P.S.I @ 100° F
- CL800–1975 P.S.I @ 100° F
- CL1500–3705 P.S.I @ 100° F

Main part materials list

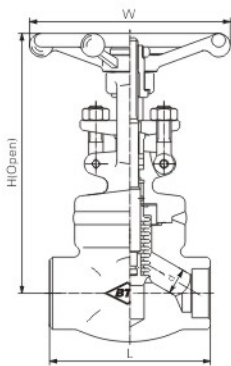
NO.	Part name	A105/F6a	A105/F6aHFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Body	A105	A105+HF	A105+HF	F304(L)	F316(L)
3	Disc	F6a	F6a	F6aHF	F304(L)	F316(L)
4	Stem	410	410	410	304(L)	316(L)
5	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite
6	Bonnet	A105	A105	A105	F304(L)	F316(L)
7	Bolt	B7	B7	B7	B8(M)	B8(M)
8	Pin	410	410	410	304	304
9	Packing bushing	410	410	410	304	316
10	Eyelet bolt	B7	B7	B7	B8(M)	B8(M)
11	Packing gland	A105	A105	A105	F304	F304
12	Hex nut	2H	2H	2H	8(M)	8(M)
13	Stem nut	410	410	410	410	410
14	Locking nut	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
20	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite
28	Bellow	F321	F321	F321	F321/304L	F316/316L
30	Steel wire	304	304	304	304	316
31	Pin	304	304	304	304	316

Short pattern bellow seal globe valves



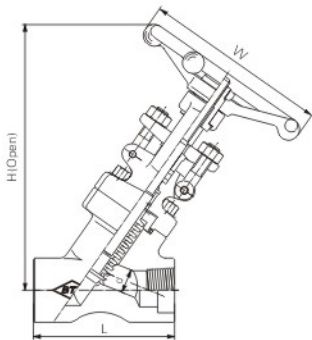
CL800 Bolted bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded, butt-welded or socket welded ends; design to BS5352/MSS-SP-117

Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	145	160	220	-
Handwheel diameter	W	100	100	100	125	160	160	180	200	-
Height	H	155	155	160	198	217	235	273	303	-
Height (angle dimension)	d	7.0	9.0	12	17.5	22.5	29	35	44	-
Weight(Kg)		2.5	2.3	2.4	4.35	5.75	7.8	12.5	17.5	-



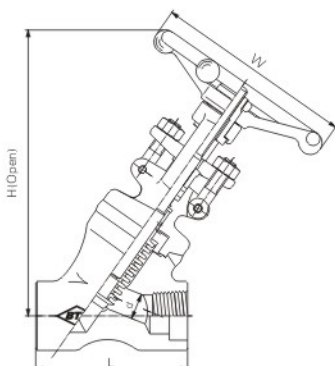
CL800 Welded bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded, butt-welded or socket welded ends; design to BS5352, MSS-SP-117

Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	145	160	220	-
Handwheel diameter	W	100	100	100	125	160	160	180	200	-
Height	H	160	160	160	188	215	218	253	280	-
Height (angle dimension)	d	7.0	9.0	12	17.5	22.5	29	36	44	-
Weight(Kg)		1.8	1.7	1.9	3.3	5.2	6.8	10.6	13.8	-



CL800 Bolted bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded, butt-welded or socket welded ends; design to BS5352, MSS-SP-117

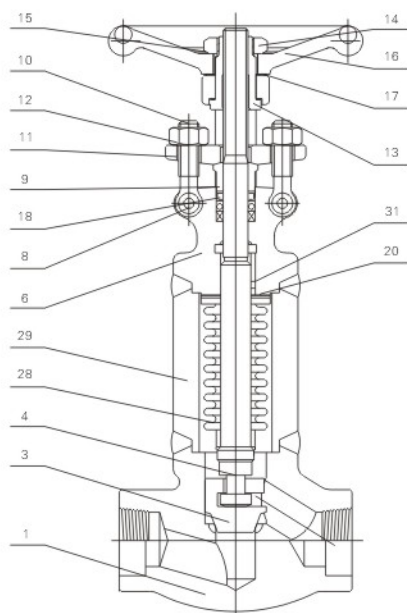
Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	98	98	98	111	140	140	155	170
Handwheel diameter	W	100	100	100	125	160	160	180	200
Height	H	180	180	180	188	280	280	295	350
Height (angle dimension)	d	7	9	13	17.5	23	30	35	46
Weight(Kg)		2.6	2.6	3.8	4.6	9.3	9.3	14	19.6



CL800 Welded bonnet, full port & reducing port outside screw and yoke(OS & Y). Threaded, butt-welded or socket welded ends; design to BS5352, MSS-SP-117

Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	79	79	79	90	118	155	155	175
Handwheel diameter	W	100	100	100	125	160	160	180	200
Height	H	172	172	172	196	235	280	260	345
Height (angle dimension)	d	7	9	13	17.5	22.5	29.5	35	44
Weight(Kg)		1.8	1.8	2.0	3.5	8.0	8.0	12	16

Bellow sealed globe valves



Application standards

- 1、 Design and manufacture conform to BS5352; MSS-SP-117
- 2、 Connection ends conform to:
 - 1)Socket welded ends conform to ANSI B16.11;JB/T1751
 - 2)Screw ends conform to ANSI B1.20.1;JB/T7306
 - 3)Butt-welded ends conform to ANSI B16.25;JB/T12224
 - 4)Flanged ends conform to ANSI B16.5; JB79
- 3、 Test and inspection conform to: API 598; GB/T13927; JB/T9092
- 4、 Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- 5、 Materials conform to ANSI/ASTM.
- 6、 Main materials: A105; 304(L); 316(L); F347; F321.
- 7、 Bellow materials: 304、 321、 316、 Inconel 625、 Hastelloy C 276、 Monel.

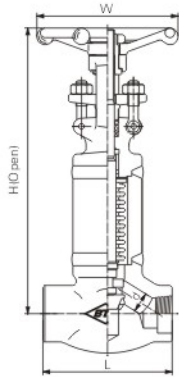
Carbon steel temperature–pressure rate

- CL150–285 P.S.I @ 100° F
- CL300–740 P.S.I @ 100° F
- CL600–1480 P.S.I @ 100° F
- CL800–1975 P.S.I @ 100° F
- CL1500–3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Body	A105	A105+HF	A105+HF	F304(L)	F316(L)
3	Disc	F6a	F6a	F6aHF	F304(L)	F316(L)
4	Stem	410	410	410	304(L)	316(L)
6	Bonnet	A105	A105	A105	F304(L)	F316(L)
8	Pin	410	410	410	304	304
9	Gland	410	410	410	304	316
10	Gland eyebolt	B7	B7	B7	B8(M)	B8(M)
11	Gland flange	A105	A105	A105	F304	F304
12	Hex nut	2H	2H	2H	8(M)	8(M)
13	Stem nut	410	410	410	410	410
14	Locking nut	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
28	Bellow	F321	F321	F321	F316	F316L
29	Coupling pipe	A105	A105	A105	A304(L)	A316 (L)
31	Pin	304	304	304	304	316

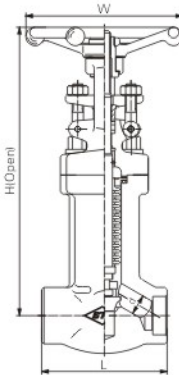
Bellow sealed globe valves



CL800

Welded bonnet, full port & reducing port outside screw and yoke(OS & Y)
Threaded,butt-welded or socket welded ends;design to BS5352\MSS-SP-117

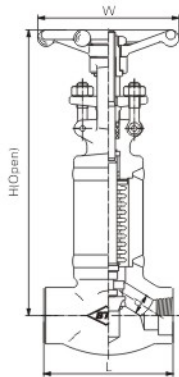
Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	145	160	-	-
Handwheel diameter	W	100	100	100	125	160	160	180	-	-
Height	H	218	218	218	246	295	300	329	-	-
Height(angle dimension)	d	7.0	9.0	12	17.5	22.5	29	35	-	-
Weight(Kg)		2.6	2.5	2.7	4.4	6.7	8.8	15	-	-



CL800

Bolted bonnet, full port & reducing port outside screw and yoke(OS & Y)
Threaded,butt-welded or socket welded ends;design to BS5352\MSS-SP-117

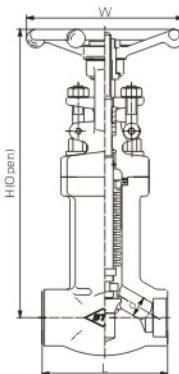
Specification (NPS)	R.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	73	73	80	100	114	145	160	-	-
Handwheel diameter	W	100	100	100	125	160	160	180	-	-
Height	H	218	218	218	246	295	300	329	-	-
Height(angle dimension)	d	7.0	9.0	12	17.5	22.5	29	35	-	-
Weight(Kg)		3.3	3.1	4.2	5.5	7.25	9.8	16	-	-



CL1500

Welded bonnet, full port outside screw and yoke(OS & Y)
Threaded,butt-welded or socket welded ends;design to BS5352\MSS-SP-117

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	80	100	100	114	145	160	172	-
Handwheel diameter	W	100	125	125	160	160	180	200	-
Height	H	237	237	239	270	298	340	395	-
Height(angle dimension)	d	7	11	14.5	19	26	29	33	-
Weight(Kg)		3.3	3.5	5	7.5	10	16	27	-

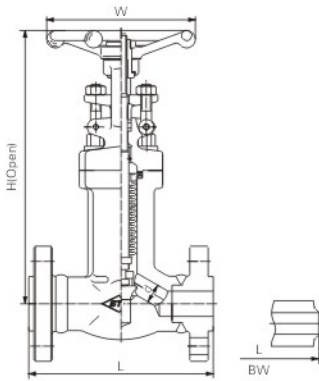
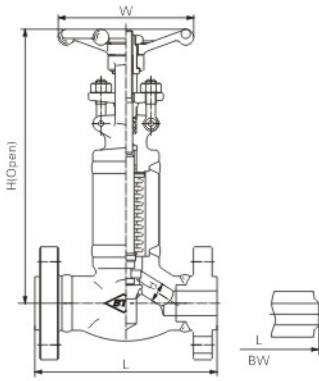
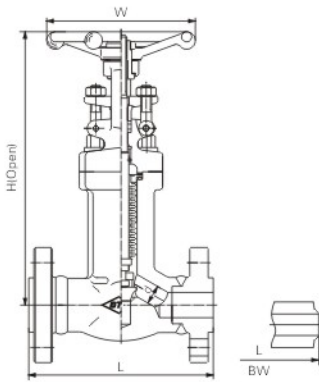
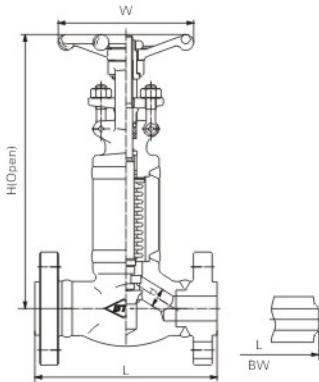


CL1500

Bolted bonnet, full port outside screw and yoke(OS & Y)
Threaded,butt-welded or socket welded ends;design to BS5352\MSS-SP-117

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	80	100	100	114	145	160	172	-
Handwheel diameter	W	100	125	125	160	160	180	200	-
Height	H	237	237	239	270	298	340	395	-
Height(angle dimension)	d	7	11	14.5	19	26	29	33	-
Weight(Kg)		3.3	3.5	5	7.5	10	16	27	-

Bellow sealed globe valves



CL150-300-600

Welded bonnet, reducing port outside screw and yoke(OS & Y)
Flange-welded or butt-welded ends; design to BS5352MSS-SP-117

Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	CL150	L(RF) L1(BW)	-	-	108	117	127	140	165	203
	CL300		-	-	152	178	203	216	229	267
	CL600		-	-	165	190	216	229	241	292
Handwheel diameter	W	-	-	100	100	125	160	160	180	
Height	H	-	-	218	218	246	295	300	329	
Height(angle dimension)	d	-	-	9	13	17.5	23	30	35	
Weight (Kg)	CL150 RF/BW	-	-	3.67/3	4.3/3.6	6.3/5.7	10.5/9.5	11.5/9.8	19.5/16	
	CL300 RF/BW	-	-	4.3/2	4.8/4	7.3/6.7	13/11	14.5/12	22/18	
	CL600 RF/BW	-	-	5.8/4.7	8.1/6	12.5/9	18/14	24.5/18	42/36	

If you want to order one piece body, please contract with sale department

CL150-300-600

Bolted bonnet, reducing port outside screw and yoke(OS & Y)
Flange-welded or butt-welded ends; design to BS5352MSS-SP-117

Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
Face to face	CL150	L(RF) L1(BW)	-	-	108	117	127	140	165	203
	CL300		-	-	152	178	203	216	229	267
	CL600		-	-	165	190	216	229	241	292
Handwheel diameter	W	-	-	100	100	125	160	160	180	
Height	H	-	-	218	218	246	295	300	329	
Height(angle dimension)	d	-	-	9	12	17.5	22.5	29	35	
Weight (Kg)	CL150 RF/BW	-	-	4.17/3.5	4.8/4.1	7.7/6.7	12.5/11.5	14/11.5	21.5/18	
	CL300 RF/BW	-	-	4.5/3.7	5.2/4.5	8.3/7.7	14.5/12.5	16/13.5	24/20	
	CL600 RF/BW	-	-	6.3/5.2	8.6/6.5	13.5/10	19.5/15.5	26/19.5	44/38	

If you want to order one piece body, please contract with sale department

CL1500

Welded bonnet, full port outside screw and yoke(OS & Y)
Flange-welded or butt-welded ends; design to BS5352MSS-SP-117

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF), L1(BW)	-	-	216	229	254	279	305	368
	L(RTJ)	-	-	216	229	254	279	305	371
Handwheel diameter	W	-	-	125	160	160	180	200	-
Height	H	-	-	239	270	298	340	395	-
Height(angle dimension)	d	-	-	14.5	19	26	29	33	-
Weight(Kg)		-	-	11.1	11.8	14.1	16.5	23.8	37.5

If you want to order one piece body, please contract with sale department

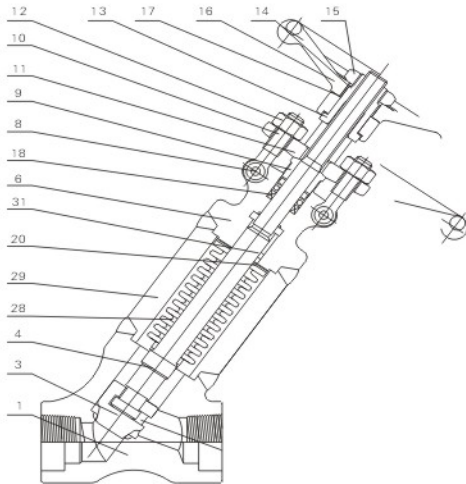
CL1500

Bolted bonnet, full port outside screw and yoke(OS & Y)
Flange-welded or butt-welded ends; design to BS5352MSS-SP-117

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF), L1(BW)	-	-	216	229	254	280	305	368
	L(RTJ)	-	-	216	229	254	280	305	371
Handwheel diameter	W	-	-	125	160	160	180	200	-
Height	H	-	-	239	270	298	340	395	-
Height(angle dimension)	d	-	-	14.5	19	26	29	33	-
Weight(Kg)		-	-	11.6	12.3	15	17.5	25	38.3

If you want to order one piece body, please contract with sale department

Y type bellow globe valves



Application specifications

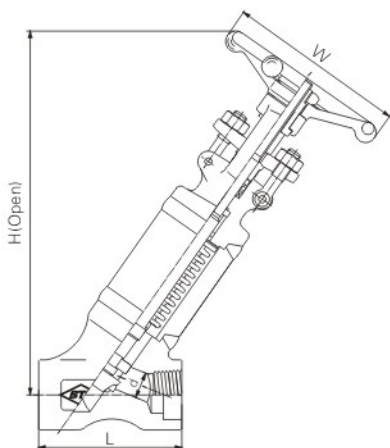
- Design and manufacture conform to BS5352; MSS-SP-117
- Connection ends conform to:
 - Socket welded ends conform to ANSI B16.11; JB/T1751
 - Screw ends conform to ANSI B1.20.1; JB/T7306
 - Butt-welded ends conform to ANSI B16.25; JB/T12224
 - Flanged ends conform to ANSI B16.5; JB79
- Test and inspection conform to:
 - API 598; GB/T13927; JB/T9092
- Structure features:
 - Bolted bonnet, outside screw and yoke
 - Welded bonnet, outside screw and yoke
- Materials conform to ANSI/ASTM.
- Main materials:
 - A105; 304(L); 316(L); F347; F321.
- Bellow materials: 304, 321, 316, Inconel 625, Hastelloy C 276, Monel.

Carbon steel temperature-pressure rate

CL150-285 P.S.I @ 100° F
 CL300-740 P.S.I @ 100° F
 CL600-1480 P.S.I @ 100° F
 CL800-1975 P.S.I @ 100° F
 CL1500-3705 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Body	A105	A105+HF	A105+HF	F304(L)	F316(L)
3	Disc	F6a	F6a	F6aHF	F304(L)	F316(L)
4	Stem	410	410	410	304(L)	316(L)
6	Bonnet	A105	A105	A105	F304(L)	F316(L)
8	Pin	410	410	410	304	304
9	Gland	410	410	410	304	316
10	Gland eyebolt	B7	B7	B7	B8(M)	B8(M)
11	Gland flange	A105	A105	A105	F304	F304
12	Hex nut	2H	2H	2H	8(M)	8(M)
13	Stem nut	410	410	410	410	410
14	Locking nut	35	35	35	35	35
15	Nameplate	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite
20	Gasket	304+ Flexible graphite	304+ Flexible graphite	304+ Flexible graphite	316+ Flexible graphite	316+ Flexible graphite
28	Bellow	F321	F321	F321	F316	F316L
29	Coupling pipe	A105	A105	A105	F304(L)	F316(L)
31	Pin	304	304	304	304	316



CL800

Welded bonnet, full port & reducing port outside screw and yoke(OS & Y)
 Threaded, butt-welded or socket welded ends; design to BS5352/MSS-SP-117

Specification (NPS)	R.P	1/2		3/4		1		1 1/4		1 1/2		2		2 1/2		3	
		F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2						
Face to face	L	79	79	79	90	118	155	155	175	-							
Handwheel diameter	W	100	100	100	125	160	160	180	200	-							
Height	H	237	237	239	270	298	340	395	470	-							
Height(angle dimension)	d	7	9	13	17.5	22.5	29.5	35	44	-							
Weight(Kg)		2.6	2.6	2.8	4.6	9.5	10.0	15.5	21	-							

CL1500

Welded bonnet, full port outside screw and yoke(OS & Y)
 Threaded, butt-welded or socket welded ends; design to BS5352/MSS-SP-117

Specification (NPS)	F.P	1/4		3/8		1/2		3/4		1		1 1/4		1 1/2		2		2 1/2	
Face to face	L	79	79	90	118	155	155	175	200	-									
Handwheel diameter	W	100	100	125	160	180	180	200	200	-									
Height	H	300	300	300	380	390	470	550	700	-									
Height(angle dimension)	d	7	9	13	17.5	22.5	29.5	35	44	-									
Weight(Kg)		3.3	3.5	5	7.5	10	16	27	30	-									