MVC VALVES
Valves Engineered For Industry Excellence

YOUR INDUSTRIAL VALVES

MVC FACTORY
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Forged Steel Valve

MVC VALVES.
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MVC Industrial Valves

In order to efficiently serve our customers, we have opened MVC in USA. All this infrastructure enables us to serve the market of North America, Central America, South America, Europe and Africa

It is fully committed to promoting technological development in the fields of low temperature, high temperature, high pressure air sealing, low torque and minimal leakage.

In 2012, we established factory in China. With extensive application experience and comprehensive capabilities, we provide tailor-made solutions for your valve automation needs.

Quality System

MVC's management team adheres to strict policies ensuring that no defects occur in the valves used for industrial services. To maintain this discipline, we enforce internal regulations and a robust working process system. Third parties and customers are regularly invited to audit and approve our system.

MVC holds ISO9001, API6D, CE, TS, and other key certifications. All raw materials undergo re-testing for properties and mechanical performance upon arrival at our factory to ensure they meet machining standards. Non-destructive testing (NDE), including UT, MT, PT, and RT, is conducted by our quality control department during or before machining.

Every valve undergoes shell and sealing hydraulic tests, as well as air sealing tests. For valves used in special applications, additional tests such as fugitive emission, high/low temperature cycling, life, fire safety, cryogenic, and cleanliness tests after degreasing are available upon client request.

01 Figure Numbering

Technical specification

When you inquire or order our Oram valves, you do not need to know more about our valve order number system. As long as you provide a full description of the valve you can select, our sales department can compile it into the corresponding valve order number. An adequate description of the selected valve should begin with the valve type, followed by the valve diameter and pressure rating. Two end connection form, sealing surface material or internal part number as specified in AP1602, etc. The following is an example we have given in order to illustrate a typical valve order number graphically, but if you need more details, please consult us.

1	2		3	4		5	6		7		8	
Caliber	Valve type code			Link form code			Secondary seal material code		Pressure rating		Valve material	
3/8"	Sluice valve	Z		Internal thread T	1		13Cr/13Cr	H	Class 150	1	20Mn/(A105)	C
3/4"	Stop valve	J		External thread G	2		13Cr/13Cr+STL	Y	Class 300	3	1Cr5Mo/(F5)	I
1/2"	Check valve	H		End socket weld one end internal thread	3		13Cr+STL/13Cr+STL	C	Class 600	6	15CrMo/(F11)	II
1"	Throttle valve	L		Flange connection	4		304+STL/304	D	Class 800	8	12Cr1MoV/(F22)	V
1 1/4"	Y-type stop valve	YJ		Butt welding	5		304/304	P	Class 900	9	0Cr19Ni9/(304)	P
1 1/2"	y-filter	G		Socket welding	6		316+STL/316	E	Class 1500	15	0Cr17Ni12Mo2/(F316)	R
2"	Ball valve	Q		Ferrule type	9		316/316	R	Class 2500	25	00Cr17Ni14Mo2/(F316L)	PL
							304L/304L	J			1Cr18Ni9Ti/(321)	PH
							316L/316L	K			1Cr18Ni11Nb/(347)	RH
							316+STL/316+STL	L			LF2	F
							H.C/H.C	A			1Cr9Mo1VNb(F91)	Z
							M./M.	M			00Cr22Ni5Mo3N(F51)	B
							304 and 316/PTFEE	F			MCN-28-1.5-1.8 (Monel)	M
											20Alloy(20# Alloy steel)	N

Body cover connection form	
Center flange bolt	slightly
Body cover welding	H
Pressure self-sealing	P

Gate valve structure form code	
Stop valve structure type code	And JB/T308-75 The numbering principle is the same
Check valve structure type code	

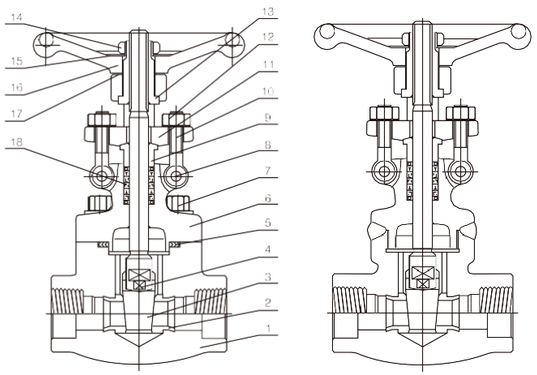
1. All full-diameter valves are added with "F" in the specification value, such as :F1/2Z61H800LB, where F1/2 indicates the full diameter, and there is no code for reducing the diameter.

2, all the internal parts of the anti-sulfur valve are F316, sealing surface two-way pile STL

3, middle flange connection B.B structure, its sealing gasket is stainless steel clip flexible graphite winding pad.

4, small diameter forged steel valve is generally driven by hand wheel. Other forms please explain.

02
FORGED STEEL
GATE VALVE /



Application specification

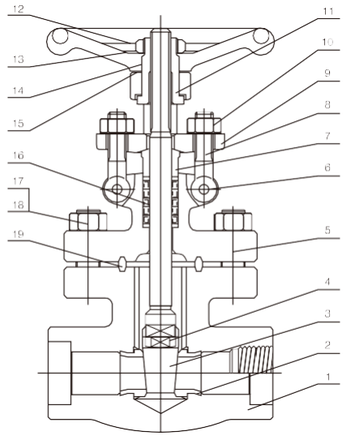
1, design and manufacture API602, BS5352, ANSI B16.34;
2. Connection end size
1) Socket size according to ANS1B16.11; JB/T1751
2) Screw end size according to ANSI 1.20.1; JB/T7306
3) Butt welding end size according to ANSIB16.25; JB/T12224
4) Flange end size according to ANSIB16.5; JB79
3, valve inspection and test API598; GB/T13927; JB/T9092
4. Structural characteristics
Bolt valve cover (B.B) and open rod support (OS&Y) or weld valve cover (W.B) and open rod support (OS&Y)5, material according to ANIS/ASTM.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	Race	410	410HF	304	410HF	304(L)	316(L)	F51
3	Ram	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Valve 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	304+ flexible graphite	304+ 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	Packing bushing	410	410	304	410	304	316	F51
10	Knuckle bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Packing plate	A105	A105	LF2	F11	F304	F304	F304
12	Hexagon nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Valve stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Dogtag	AL	AL	AL	AL	AL	AL	AL
16	Hand wheel	A197	A197	A197	A197	A197	A197	A197
17	Lubricating gasket	410	410	410	410	410	410	410
18	Filler	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite



Application specification

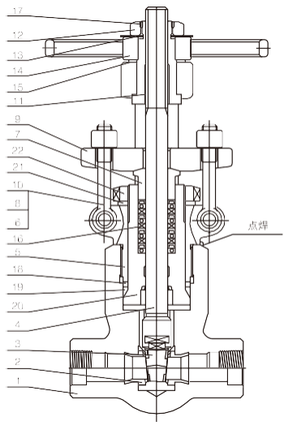
1. Design and manufacture AP|602, BS5352, ANSI B16.34;
2. Connection end size
1) Socket size according to ANSIB16.11; JB/T1751
2) Screw end size according to ANSI 1.20.1; JB/T7306
3) Butt welding end size according to ANSIB16.25; JB/T122244)
Flange end size according to ANSI 16.5; JB79
3, valve inspection and 598; GB/T13927; JB/T9092
4. Structural characteristics
Bolt valve cover (B.B) and open rod support (OS&Y) or weld valve cover (W.B) and open rod support (OS&Y)5, material according to ANIS/ASTM.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	race	410	410HF	304	410HF	304(L)	316(L)	F51
3	ram	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Valve stem	410	410	304	410	304(L)	316(L)	F51
5	bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
6	season	410	410	410	410	304	304	304
7	Packing bushing	410	410	304	410	304	316	F51
8	Knuckle bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
9	Packing plate	A105	A105	LF2	F11	F304	F304	F304
10	Hexagon nut	2H	2H	2H	2H	8(M)	8(M)	8M
11	Stem nut	410	410	410	410	410	410	410
12	Lock nut	35	35	35	35	35	35	35
13	Dogtag	AL	AL	AL	AL	AL	AL	AL
14	Hand wheel	A197	A197	A197	A197	A197	A197	A197
15	Lubricating gasket	410	410	410	410	410	410	410
16	filler	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
17	Double stud	B7	B7	L7	B16	B8(M)	B8(M)	B8(M)
18	nut	2H	2H	8	8	8(M)	8(M)	8(M)
19	Metal ring	304	304	304	304	304(L)	316(L)	F51



Application specification

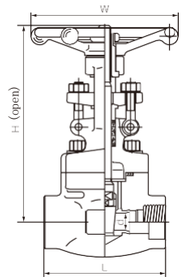
1, design and manufacture AP1602, BS5352, ANSI B16.34;
2. Connection end size
1) Socket size according to ANSIB 16.11; JB/T1751
2) Screw end size according to ANSI 1.20.1; JB/T7306
3) Butt welding end size according to ANSIB16.25; JB/T 12224
4) Flange end size according to ANSIB16.5; JB79
3, valve inspection and test API598; GB/T13927; JB/T9092
4. Structural characteristics
Thread and pressure self-sealing
5. Materials shall comply with ANIS/ASTM regulations.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L):F347; F321; F91; Monel; 20 alloys etc.

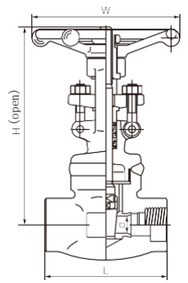
Carbon steel temperature and pressure rating

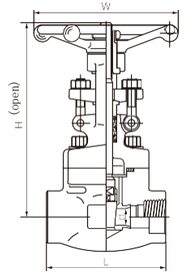
CL500-3705 P.S.I@100° F CL2500-6170 P.S.I@100° F

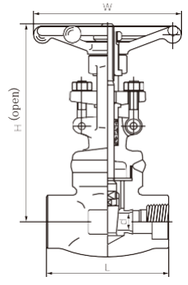
Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F91/410 HF
1	Valve body	A105	A105	LF2	F11	F304(L)	F316(L)	F91
2	Valve seat	410	410HF	304	410HF	304(L)	316(L)	410HF
3	Ram	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F6aHF
4	Valve stem	410	410	304	410	304(L)	316(L)	410
5	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F91
6	Pin	410	410	410	410	304	304	410
7	Packing bushing	410	410	304	410	304	316	410
8	Knuckle bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8
9	Packing gland	A105	A105	LF2	F11	F304	F304	F91
10	Hexagon nut	2H	2H	2H	2H	8(M)	8(M)	8
11	Stem nut	410	410	410	410	410	410	410
12	Lock nut	35	35	35	35	35	35	35
13	Dogtag	AL	AL	AL	AL	AL	AL	AL
14	Hand wheel	A197	A197	A197	A197	A197	A197	A190
15	Lubricating gasket	410	410	410	410	410	410	410
16	Filler	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
17	Set screw	35	35	35	35	35	35	35
18	Sealing ring gasket	420	420	304	304	304(L)	316(L)	420
19	Self-sealing ring	304	304	304	304	304	316	316
20	Self-sealing seat	420	420	304	304	304(L)	316(L)	F91
21	Nut pad	410	410	410	410	410	410	410
22	Tension nut	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Stainless steel	Stainless steel	Carbon steel









CL800

Bolted bonnet, reduced and full diameter, open rod bracket (os&Y) end connections are threaded or socket welded or butt welded, designed according to API602

Specifications (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	11/4	1 1/2	2	2 1/2
Structure length (mm)	L	79	79	92	111	120	120	140	178	180
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	220
Center height (open)(mm)	H	161	161	163	196	223	251	290	333	370
Channel aperture (mm)	D	8	10.5	13.5	18	24	29	36.5	45	51
Weight (Kg)		2.22	2.3	2.39	4.24	5.7	7.05	10.9	16.8	24

CL800

Bolted bonnet, reduced and full diameter, open rod bracket (os&Y) end connections are threaded or socket welded or butt welded, designed according to API602

Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	79	79	92	111	120	120	140	178	180
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	220
Center height (open)(mm)	H	161	161	163	196	223	251	290	333	370
Channel aperture (mm)	d	8	10.5	13.5	18	24	29	36.5	45	51
Weight (Kg)		1.9	1.9	2.1	3.2	5.2	6.9	10.4	15.8	22

CL900-CL1500

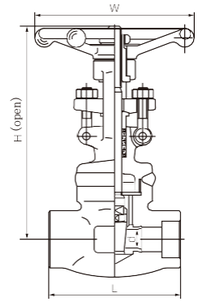
Bolted bonnet, reduced and full diameter, open rod bracket (os&Y) end connections are threaded or socket welded or butt welded, designed according to API602

Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	92	111	111	120	120	140	178	180	–
Handwheel diameter (mm)	W	100	125	125	160	160	180	200	220	–
Center height (open)(mm)	H	191	191	192	219	243	296	316	370	–
Channel aperture (mm)	d	8	10.5	13.5	18	24	29	36.5	45	–
Weight (Kg)		2.4	4.3	4.4	6	7.2	11.4	16	23	–

CL900-CL1500

Bolted bonnet, reduced and full diameter, open rod bracket (os&Y) end connections are threaded or socket welded or butt welded, designed according to API602

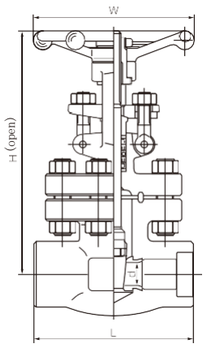
Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	92	111	111	120	120	140	178	180	–
Handwheel diameter (mm)	W	100	125	125	160	160	160	200	220	–
Center height (open)(mm)	H	171	207	207	240	258	330	355	370	–
Channel aperture (mm)	d	8	10.5	13.5	18	24	29	36.5	45	–
Weight (Kg)		2.3	4	4	4.8	7.1	11	16	22.8	–



CI2500

Welded valve covers, full diameter, open rod bracket (OS&Y) end connections are socket connections, designed according to ASME B16.34

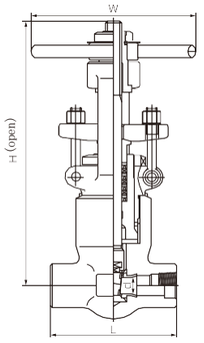
Specifications (NPS)		1/4	3/8	1/2	3/4	1	1 1/4	2	
Structure length (mm)	L		111	120	120	120	140		
Handwheel diameter (mm)	W		125	160	160	180	220		
Center height (open)(mm)	H		215	218	220	238	281		
Channel aperture (mm)	d		14	14	14	19	25		
Weight (Kg)			7	8.5	8.7	11.7	17		



CL1500-CL2500

Welded valve covers, full diameter, open rod bracket (OS&Y) end connections are socket connections, designed according to ASME B16.34

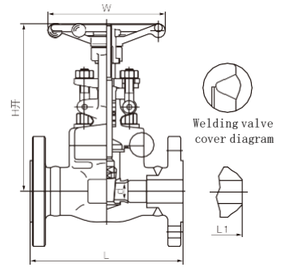
Specifications (NPS)	F.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	L	CI1500	110	150	150		210	235	
		CL2500	150	150	210		235	235	
Handwheel diameter (mm)	W	CL1500	110	130	130		180	250	
		CL2500	130	130	250		300	300	
Center height (open)(mm)	H	CL1500	277	300	390		400	435	
		CL2500	293	300	390		435	435	
Channel aperture (mm)	d	CL1500	14	17	22		35	37	
		CL2500	14	14	14		25	30	
Weight (Kg)		CL1500	5.1	11	12.1		22	37	
		CL2500	11	11.3	22.4		38	38	

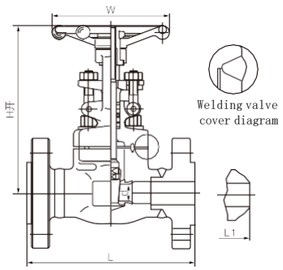


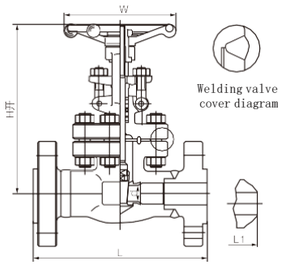
CL1500-CL2500

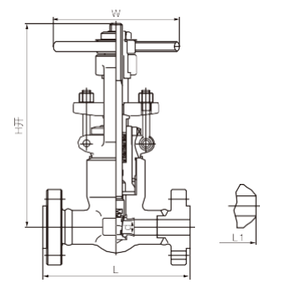
Pressure self-tightening seal bonnet, full diameter, open rod bracket (OS&Y) end connection can be welded according to socket, design according to ASMEB16.34

Specifications (NPS)	F.P		3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L	CL900~1500	140	140	140	140	178	178	216
		CI2500	186	186	186	186	232	232	279
Handwheel diameter (mm)	W	CI900~1500	200	200	200	200	280	280	300
		CI2500	200	200	200	200	280	280	300
Center height (open)(mm)	H	CL900~1500	318	318	318	322	467	468	540
		CI2500	325	325	325	327	467	468	540
Channel aperture (mm)	d	CL900~1500	14	14	14	19	25	30	36.5
		CI2500	14	14	14	19	25	30	36.5
Weight (Kg)		CL900~1500	11.5	11.5	10.8	10.5	19.6	21.0	55.4
		CL2500	10.8	11.6	12.3	12.3	26.0	28.4	60.0









CL150-300-600

Bolted bonnet, reduced diameter, open rod bracket (OS &Y). The end connection is flange or butt welded connection, designed according to API602; BS5352

Specifications (NPS)				1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	CL150		L(RF) L1(BW)	–	–	108	117	127	140	165	178	190
	CL300			–	–	140	152	165	178	190	216	241
	CL600			–	–	165	190	216	229	241	292	330
Handwheel diameter (mm)			W	–	–	100	100	125	160	160	180	200
Center height (open)(mm)	CL150		H	–	–	176	184	217	226	250	290	357
	CL300,CL600			–	–	161	163	196	226	250	290	357
Channel aperture (mm)			d	–	–	10	13.5	18	24	29	36.5	45
Weight (Kg)	CL150	RF		–	–	3.4	3.98	6.12	7.2	10.4	15.5	24.5
		BW		–	–	2.8	3.3	5.4	6.5	8.2	12.5	20
	CL300	RF		–	–	3.77	4.89	7.23	9.6	12.64	18	26.2
		BW		–	–	3.5	4.4	6.8	8.1	9.2	15.4	22
	CL600	RF		–	–	4.2	5.8	8.8	12.1	15.6	19.5	32
		BW		–	–	4.5	5.1	8.2	10.5	12.4	20.1	28

Note: For flange and valve body forging, please contact MVC sales staff.

CL900-CL1500

Bolted bonnet, reduced diameter, open rod bracket (OS &Y). The end connection is flange or butt welded connection, designed according to API602; BS5352

Specifications (NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	216	229	254	279	305	368
	L(RTJ)	–	–	216	229	254	279	305	371
Handwheel diameter (mm)	W	–	–	125	125	160	180	200	220
Center height (open)(mm)	H	–	–	191	192	219	257	296	316
Channel aperture (mm)	d	–	–	13.5	18	24	29	36.5	45
Weight (Kg)		–	–	7.2	11.5	15.6	16.2	22.6	28.2

CL2500

Bolted cap (RJ), full diameter, open rod bracket (OS &Y) end connections are welded flanges or butt welded connections, designed according to ASME B16.34

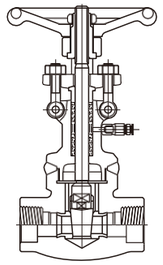
Specifications (NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter (mm)	W	–	–	125	160	160	–	200	240
Center height (open)(mm)	H	–	–	207	240	258	–	355	370
Channel aperture (mm)	d	–	–	13.5	13.5	19	–	30	36.5
Weight (Kg)		–	–	19.5	21.5	42	–	65	95

CL2500

Bolted cap (RJ), full diameter, open rod bracket (OS &Y) end connections are welded flanges or butt welded connections, designed according to ASME B16.34

Specifications (NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter (mm)	W	–	–	200	200	200	–	280	300
Center height (open)(mm)	H	–	–	325	325	327	–	478	540
Channel aperture (mm)	d	–	–	13.5	13.5	19	–	30	36.5
Weight (Kg)		–	–	14.6	16.8	17.6	–	25	31.9

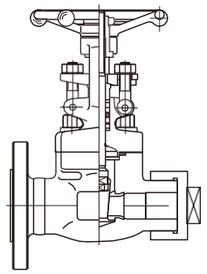
09 Special Purposes Gate Valves



※Welded bonnet
※Pole support
※Double packing
※Spacer ring
※Grease injection valve
※Rigid ram

Vacuum gate valve

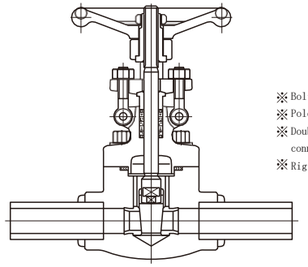
CLASS 800 API602-BS 5352 Full diameter of condensation	Temperature and pressure rating	Materials		
		Body/bonnet	Internals	Bolt
	1975 psi@ 100° F	Carbon steel	13Cr	B7



※Sakai plug valve cover
※Pole support
※Tube and cap connection
※Rigid ram

Vent the shower valve

CLASS 800 API602-BS 5352 Full diameter of condensation	Temperature and pressure rating	Materials		
		Body/bonnet	Internals	Bolt
	1975 psi@ 100° F	Carbon steel	13Cr	B7

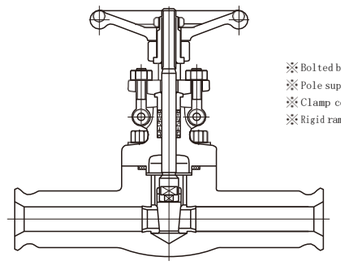


※Bolted bonnet
※Pole support
※Double-ended pipe connection
※Rigid ram

Pipe joint valve

CLASS 800 API602-BS 5352 Full diameter of condensation	Temperature and pressure rating	Materials		
		Body/bonnet	Internals	Bolt
	1975 psi@ 100° F	Carbon steel	13Cr	B7

Note: Please explain to MVC sales staff when ordering pipe length.

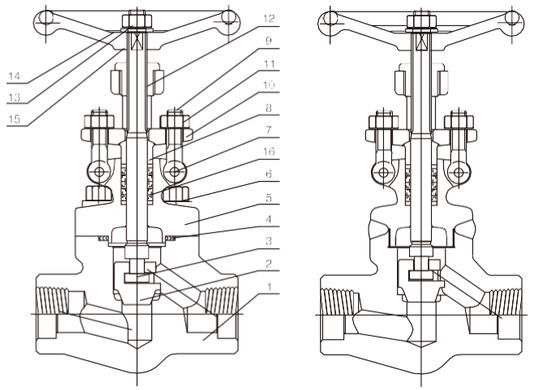


※Bolted bonnet
※Pole support
※Clamp connection
※Rigid ram

Clamped gate valve

CLASS 800 API602-BS 5352 Full diameter of condensation	Temperature and pressure rating	Materials		
		Body/bonnet	Internals	Bolt
	1975 psi@ 100° F	Carbon steel	13Cr	B7

10
FORGED STEEL GLOBE VALVE/



Application specification

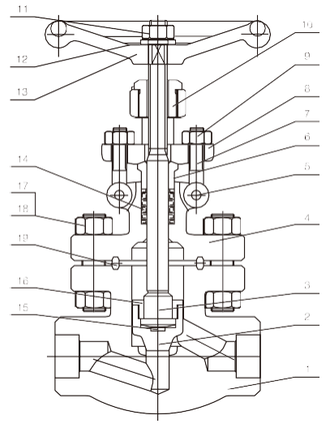
1, design and manufacture BS5352, MSSSP_118;
2. Connection end size
1) Socket size according to ANSIB16.11; JB/T1751
2) Screw end size according to ANSIB 1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T122244) Flange end size according to ANSI 16.5; JB79
3, valve inspection and test API598; GB/T13927; JB/T9092
4. Structural characteristics
Bolt valve cover (B.B) and open stem support (OS&Y) or weld valve cover (W.B) and open stem support (OS&Y) 5, material according to ANIS/ASTM.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

CL150-285P.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

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105+HF	Lf2	F11+HF	F304(L)	F316(L)	F51
2	Valve clack	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
3	Valve stem	410	410	304	410	304(L)	316(L)	F51
4	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite	316+ flexible graphite
5	bonnet	A105	A105	Lf2	F11	F304(L)	F316(L)	F51
6	bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
7	pin	410	410	410	410	304	304	304
8	Packing bushing	410	410	304	410	304	316	F51
9	Knuckle bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
10	Packing gland	A105	A105	Lf2	F11	F304	F304	F304
11	Hexagon nut	2H	2H	2H	2H	8(M)	8(M)	8M
12	Stem nut	410	410	410	410	410	410	410
13	Lock nut	35	35	35	35	35	35	35
14	Dogtag	AL	AL	AL	AL	AL	AL	AL
15	Hand wheel	A197	A197	A197	A197	A197	A197	A197
16	filler	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite



Application specification

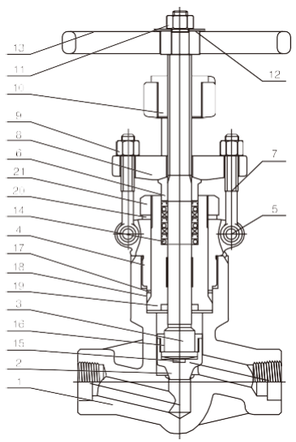
1, design and manufacture BS5352, MSSSP_118;
2. Connection end size
1) Socket size according to ANSIB16.11; JB/T1751
2) Screw end size according to ANSIB 1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T122244) Flange end size according to ANSI 16.5; JB79
3, valve inspection and test API598; GB/T13927; JB/T9092
4. Structural characteristics
Bolt valve cover (B.B) and open stem support (OS&Y) or weld valve cover (W.B) and open stem support (OS&Y) 5, material according to ANIS/ASTM.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105+HF	Lf2	F11+HF	F304(L)	F316(L)	F51
2	Valve clack	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
3	Valve stem	410	410	304	410	304(L)	316(L)	F51
4	bonnet	A105	A105	Lf2	F11	F304(L)	F316(L)	F51
5	pin	410	410	410	410	304	304	304
6	Packing bushing	410	410	304	410	304	316	F51
7	Knuckle bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
8	Packing gland	A105	A105	Lf2	F11	F304	F304	F304
9	Hexagon nut	2H	2H	2H	2H	8(M)	8(M)	8M
10	Stem nut	410	410	410	410	410	410	410
11	Lock nut	35	35	35	35	35	35	35
12	Dogtag	AL	AL	AL	AL	AL	AL	AL
13	Hand wheel	A197	A197	A197	A197	A197	A197	A197
14	filler	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
15	Valve stem pad	420	420	420	420	316SH	316SH	316SH
16	Disc nut	410	410	410	410	410	410	410
17	Double stud	B7	B7	L7	B16	B8(M)	B8(M)	B8(M)
18	nut	2H	2H	8	8	8(M)	8(M)	8(M)
19	Metal ring	304	304	304	304	304(L)	316(L)	F51



Application specification

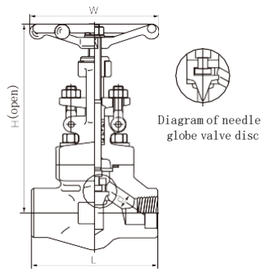
1. Design and manufacture ASME B16.34;
2. Connection end size
1) Socket size according to ANS1B16.11; JB/T17512) Thread end size according to ANSI B1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T12224
4) Flange end size according to ANSIB16.5; JB79
3, valve inspection and test :API598; GB/T13927; JB/T9092
4. Structural characteristics Bolted bonnet self-tightening seal
Y - or T-shaped structure
5, materials according to ANSI/ASTM regulations.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347;
F321; F91; Monel; 20 alloys etc

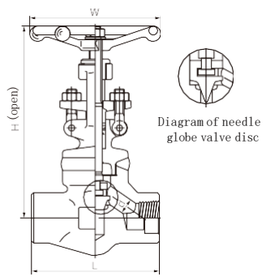
Carbon steel temperature and pressure rating

CL 500-3705 P.S.I @ 100° F CL2500-6170 P.S.I @ 100° F

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F91/410HF
1	Valve body	A105	A105+HF	Lf2	F11+HF	F304(L)	F316(L)	F91+HF
2	Valve clack	410	410	304	410	304(L)	316(L)	410+HF
3	Valve stem	410	410	304	410	304(L)	316(L)	410
4	bonnet	A105	A105	Lf2	F11	F304(L)	F316(L)	F91
5	pin	410	410	410	410	304	304	410
6	Packing bushing	410	410	304	410	304	316	410
7	Knuckle bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8
8	Packing gland	A105	A105	Lf2	F11	F304	F304	F91
9	Hexagon nut	2H	2H	2H	2H	8(M)	8(M)	8
10	Stem nut	410	410	410	410	410	410	410
11	Lock nut	35	35	35	35	35	35	35
12	Dogtag	AL	AL	AL	AL	AL	AL	AL
13	Hand wheel	A197	A197	A197	A197	A197	A197	A197
14	filler	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite
15	Valve stem pad	420	420	420	420	316SF	316SF	420
16	Disc nut	410	410	410	410	304(L)	316(L)	410
17	Sealing ring gasket	420	420	304	304	304(L)	316(L)	316(L)
18	Self-sealing ring	304	304	304	304	304	316	304
19	Self-sealing seat	420	420	304	304	304(L)	316(L)	F91
20	Nut gasket	410	410	410	410	410	410	410
21	Tension nut	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Stainless steel	Stainless steel	Carbon steel





CL800

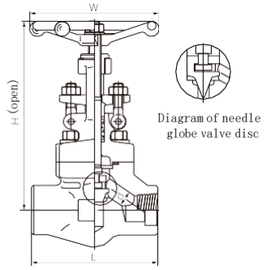
Bolted valve covers, reduced and full diameter, open rod bracket (OS&Y) end connections can be threaded or socket welded, design according to BS5352

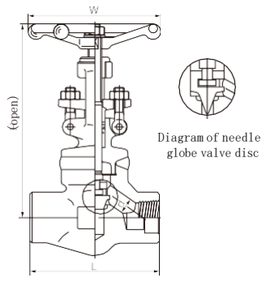
Specifications (NPS)	R.P	-	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	164	164	164	203	224	260	300	355	
Channel aperture (mm)	d	7	9	13	17.5	23	30	35	46	
Weight (Kg)		1.9	2.28	2.37	4.3	5.75	7.8	12.5	17.5	

CL800

Bolted valve covers, reduced and full diameter, open rod bracket (OS&Y) end connections can be threaded or socket welded, design according to BS5352

Specifications (NPS)	R.P	-	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	164	164	164	203	224	260	300	355	
Channel aperture (mm)	d	7	9	13	17.5	23	30	35	46	
Weight (Kg)		1.7	1.7	1.9	3.3	5.2	6.8	10.6	13.8	





CL900-CL1500

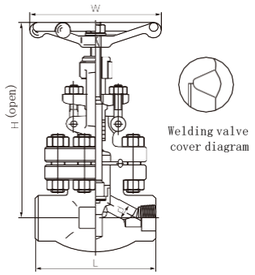
Bolted valve covers, reduced and full diameter, open rod bracket (OS&Y) end connections can be threaded or socket welded, design according to BS5352

Specifications (NPS)	R.P	-	1/2	3/8	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	92	111	111	120	152	172	200	220	
Handwheel diameter (mm)	W	100	125	125	160	160	180	200	240	-
Center height (open)(mm)	H	171	207	207	240	258	330	355	370	-
Channel aperture (mm)	d	7	12	15	20	28	32	40	45	-
Weight (Kg)		2.3	3.6	3.7	6.8	7.6	11.6	15	21.9	-

CL900-CL1500

Welded connection Valve covers, reduced and full diameter, open rod bracket (OS&Y) end connections can be threaded or socket welded, design according to BS5352

Specifications (NPS)	R.P	-	1/2	3/8	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	92	111	111	120	152	172	200	220	-
Handwheel diameter (mm)	W	100	125	125	160	160	180	200	240	-
Center height (open)(mm)	H	171	207	207	240	258	330	355	370	-
Channel aperture (mm)	d		12	15	20	28	32	40	45	-
Weight (Kg)		2.2	3.3	3.4	5.6	6.0	10.3	14.2	18.0	-

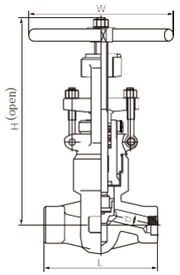


Welding valve cover diagram

CL900-CL1500

Bolted wide cover (RJ), full diameter, open rod bracket (OS&Y) end connections are threaded or socket welded according to BS5352 design

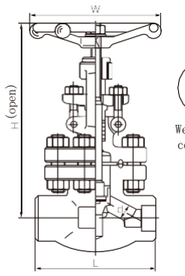
Specifications (NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	L	110	110	150	150		210	235
Handwheel diameter (mm)	W	110	110	130	180		210	250
Center height (open)(mm)	H	227	227	300	307		400	448
Channel aperture (mm)	d	9	12	15	20		32	40
Weight (Kg)		5	5	10	11.5		22	37



CL900-CL1500

Pressure self-tightening connection valve cover, full diameter, open rod bracket (OS&Y) end connection is threaded or socket welded, designed according to BS5352

Specifications (NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	L	140	140	140	178	178	216	
Handwheel diameter (mm)	W	200	200	200	280	280	300	
Center height (open)(mm)	H	320	320	320	440	440	490	
Channel aperture (mm)	d	12	15	20	28	32	40	
Weight (Kg)		10.8	10.5	11.5	19.6	21.1	55.4	

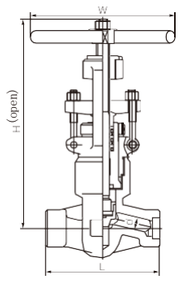



Welding valve cover diagram

CL2500

Bolted cap (RJ), full diameter, open rod bracket (OS&Y) end connections are socket welded, designed according to ASMEB16.34

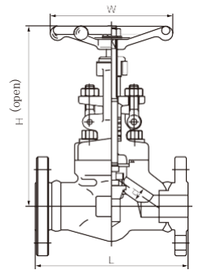
Specifications (NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	L	150	150	210		235	235	
Handwheel diameter (mm)	W	130	130	250		300	300	
Center height (open)(mm)	H	293	300	390		435	435	
Channel aperture (mm)	d	11	14	19		28	35	
Weight (Kg)		10	10.3	22.4		38	38	



Cl2500

Pressure self-tightening bonnet, full diameter, open rod bracket (OS&Y) end connection is socket welded, designed according to ASMEB16.34

Specifications (NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	L	186	186	186	232	232	279	
Handwheel diameter (mm)	W	200	200	200	280	280	300	
Center height (open)(mm)	H	375	378	380	490	490	540	
Channel aperture (mm)	d	11	14	19	25	28	35	
Weight (Kg)		10.8	11.6	12.3	26.0	28.4	60	



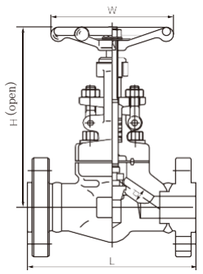

Welding valve cover diagram

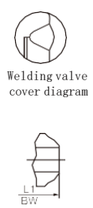
CL150-300-600

Bolted valve cover, reduced diameter, open rod support (OS&Y) The end connection is a connection flange or butt welded connection, and the design is BS5352

Specifications (NPS)			1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	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 (mm)		W	–	–	100	100	125	160	160	180
Center height (open)(mm)	CL150/CL300	H	–	–	180	184	217	224	260	300
	CL600		–	–	164	164	203	224	260	300
Channel aperture (mm)		d	–	–	9	13	17.5	23	30	35
Weight (Kg)	CL150	R F	–	–	3.45	4.00	6.19	9.6	10.5	17
		BW	–	–	2.3	3.6	7.8	8.2	12.0	15.0
	CL300	R F	–	–	3.8	5.1	7.2	12	13.5	19.7
		BW	–	–	2.8	4.0	8.5	9.2	12.6	16.8
	CL600	R F	–	–	5.6	7.8	12.5	17	23.5	38.8
		BW	–	–	3.4	4.7	9.2	10.5	13.3	18.9

Note: For flange and valve body forging in one piece, please contact MVC sales.



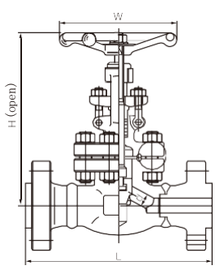

Welding valve cover diagram

CL900-CL1500

Bolted cover (BJ), full diameter, open rod bracket (OS&Y) end connection for connection flange or butt welded connection, design according to BS5352

Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	216	229	254	279	305	368
	L(RTJ)	–	–	216	229	254	279	305	371
Handwheel diameter (mm)	W	–	–	125	125	160	160	180	200
Center height (open)(mm)	H	–	–	207	207	230	160	300	355
Channel aperture (mm)	d			12	15	20	28	32	40
Weight (Kg)		–	–	11	13.2	17.4	19	24.5	31

Note: For flange and valve body forging in one piece, please contact MVC sales.

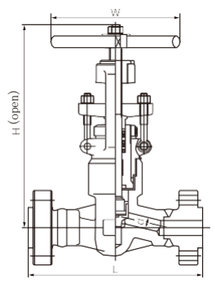


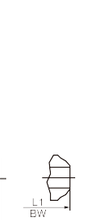

Welding valve cover diagram

CL2500

Bolted cap (RJ), full diameter, open rod bracket (OS&Y) end connections are welded flanges or butt welded connections, designed according to ASMEB16.34

Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter (mm)	W	–	–	125	160	200	–	250	240
Center height (open)(mm)	H	–	–	207	240	258	–	355	300
Channel aperture (mm)	d	–	–	11	14	19	–	28	35
Weight (Kg)		–	–	19.5	21.5	42	–	65	95

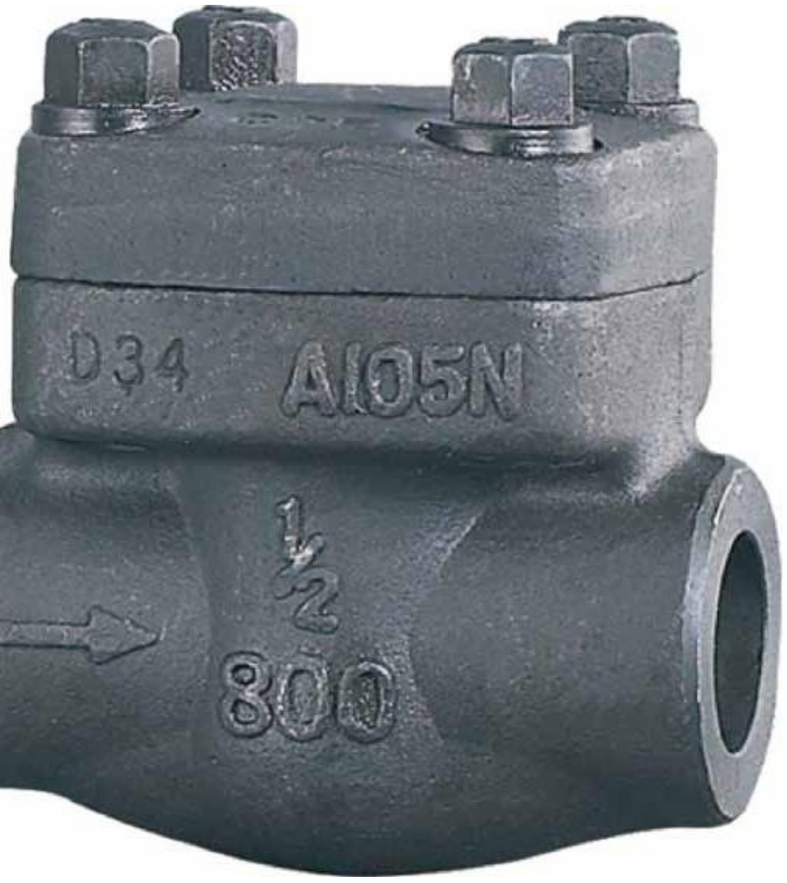



Welding valve cover diagram

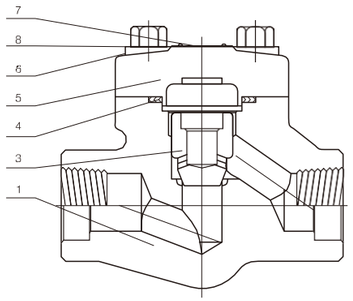
CL2500

Pressure self-tightening sealed valve covers, full diameter, open rod bracket (OS&Y) end connections are welded flange or butt welded connections, designed according to ASMEB16.34

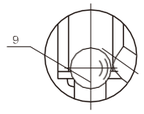
Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	264	273	308	349	384	451
	L(RTJ)	–	–	264	273	308	349	387	454
Handwheel diameter (mm)	W	–	–	200	200	280	280	280	300
Center height (open)(mm)	H	–	–	320	320	320	440	440	490
Channel aperture (mm)	d	–	–	11	14	19	25	28	35
Weight (Kg)		–	–	21.5	24.7	30.4	48.1	58.1	130



17
FORGED STEEL CHECK VALVE/



If the spring is to be loaded,
it must be indicated in the loan order



Ball check valve diagram

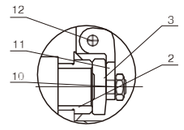


Diagram of swing check valve

Application specification

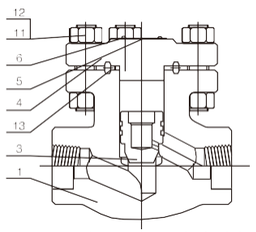
1. Design and manufacture BS5352MSSSP-118;
2, connection size 1) Socket size according to ANSI B16.11; JB/T17512) Thread end size according to ANSI B1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T 122244) Flange end size according to ANSI 16.5; JB79
3, valve inspection and test API598; GB/T13927; JB/T9092
4, structural features: bolted valve cover (B.B)
5, material according to ANSI/ASTM regulations.
6. Main material A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	race	410	410HF	304	410HF	304(L)	316(L)	F51
3	Valve clack	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite	316+ flexible graphite
5	bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
6	bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
7	Dogtag	AL	AL	AL	AL	AL	AL	AL
8	rivet	AL	AL	AL	AL	AL	AL	AL
9	Steel ball	430	430	304	STL	316(L)	316(L)	STL
10	Disc nut	2H	2H	8	8	8(M)	8(M)	8M
11	Rocker arm	410	410	304	410	316(L)	316(L)	F51
12	pin	410	410	304	410	304(L)	316(L)	F51



If the spring is to be loaded,
it must be indicated in the loan order

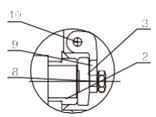
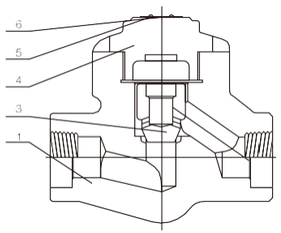
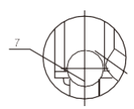


Diagram of swing check valve



If the spring is to be loaded,
it must be indicated in the loan order



Ball check valve diagram

Application specification

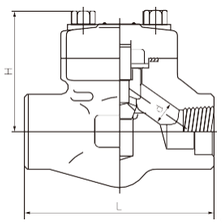
1. Design and manufacture BS5352 MSSSP_118;
2, connection size 1) Socket size according to ANSI B16.11; JB/T17512) Screw end size according to ANSI 1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T122244) Flange end size according to ANS1B16.5:JB79
3, valve inspection and life API598; GB/T13927; JB/T9092
4, structural features: the body cover connecting gasket adopts metal ring (RJ); Bolted valve cover (B.B) Welded valve cover (W.B)
5, material according to ANSI/ASTM regulations.
6, the main material A105:LF2:F5; F11:F22:304(L); 316(L); F347:F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	race	410	410HF	304	410HF	304(L)	316(L)	F51
3	Valve clack	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
5	Dogtag	AL	AL	AL	AL	AL	AL	AL
6	rivet	AL	AL	AL	AL	AL	AL	AL
7	Steel ball	430	430	304	STL	316(L)	316(L)	STL
8	Disc nut	2H	2H	8	8	8(M)	8(M)	8M
9	Rocker arm	410	410	304	410	316(L)	316(L)	F51
10	pin	410	410	304	410	304(L)	316(L)	F51
11	Double stud	B7	B7	L7	B16	B8(M)	B8(M)	B8(M)
12	nut	2H	2H	8	8	8(M)	8(M)	8(M)
13	Metal ring	304	304	304	304	304(L)	316(L)	F51



If the spring is to be loaded,
it must be indicated in the loan order

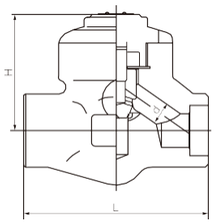
Ball check valve diagram

Diagram of swing check valve

CL800

Bolt bonnet, reduced and full diameter.
The end connection is threaded, socket welded, or butt welded.
The design press is BS5352

Specifications (NPS)	R.P			1/2	3/4	1	11/4	11/2	2	
	F.P		1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	Elevating type	79	79	92	111	120	152	172	200
		Swing type	79	79	92	111	120	120	140	178
Center height(mm)	H	Elevating type	61	61	61	78	84	84	118	132
		Swing type	61	61	61	78	84	84	120	133
Channel aperture (mm)	d	Elevating type	7	9	13	17.5	23	30	35	46
		Swing type	8	10.5	13.5	18	24	29	36.5	45
Weight (Kg)		Elevating type	1.2	1.5	1.7	3.3	4.2	4.2	10.5	12.5
		Swing type	1.4	1.5	1.7	3.3	4.2	4.2	8.5	10.9



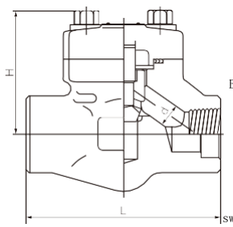
If the spring is to be loaded,
it must be indicated in the loan order

Ball check valve diagram

CL800

Weld bonnet, reduced and full diameter.
The end connection is threaded, socket welded, or butt welded.
The design press is BS5352

Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	21/2
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	79	79	92	111	120	152	172	200
Center height (mm)	H	61	61	61	78	84	103	118	132
Channel aperture (mm)	d	7	9	13	17.5	23	30	35	46
Weight (Kg)		1.2	1.3	1.5	3.0	3.9	6.0	10	12



If the spring is to be loaded,
it must be indicated in the loan order

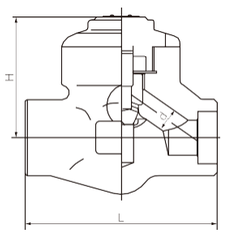
Ball check valve diagram

Diagram of swing check valve

CL900-CL1500

Bolt bonnet, reduced and full diameter.
The end connection is threaded or socket welded. The design press is BS5352

Specifications (NPS)	R.P			1/2	3/4	1	11/4	11/2	2	
	F.P		1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	Elevating type	92	111	111	120	152	172	200	
		Swing type	92	111	111	120	120	140	178	
Center height (mm)	H	Elevating type	61	78	78	84	103	118	132	
		Swing type	61	78	78	84	101	120	133	
Channel aperture (mm)	d	Elevating type	7	12	15	20	28	32	40	
		Swing type	8	10.5	13.5	18	24	29	45	
Weight (Kg)		Elevating type	1.5	3.4	3.3	4.2	6.3	10.5	12.5	
		Swing type	1.5	3.3	3.4	4.2	5.0	8.5	10.9	



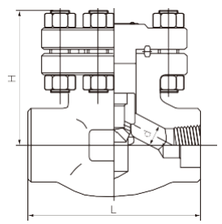
If the spring is to be loaded,
it must be indicated in the loan order

Ball check valve diagram

CL900-CL1500

Weld bonnet, reduced and full diameter.
The end connection is threaded or socket welded. The design press is BS5352

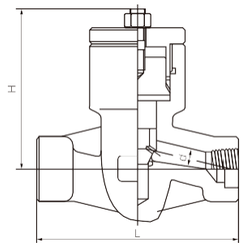
Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	92	111	111	120	152	172	200	
Center height (mm)	H	61	78	78	84	103	118	132	
Channel aperture (mm)	d	7	12	15	20	28	32	40	
Weight (Kg)		1.3	3.1	3.1	3.9	5.8	10.0	11.5	



CL900-CL1500

Bolt bonnet, reduced and full diameter.
The end connection is threaded or socket welded. The design press is BS5352

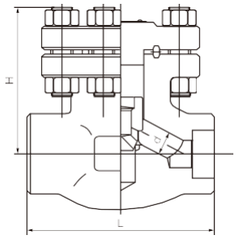
Specifications (NPS)	F.P		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L		110	110	110	110	150	150	210	235
Center height (mm)	H		166	166	171	207	240	258	330	355
Channel aperture (mm)	d	Elevating type	9	10	12	15	20	28	32	40
		Swing type	8	10.5	13.5	18	24	29	36.5	45
Weight (Kg)		Elevating type	2	2.1	1.9	4	5.1	7.2	12.1	14
		Swing type	1.9	2.3	2.3	4.35	5.25	7.8	12.5	14.6



CL900-CL1500

Pressure self-tightening valve cover, reduced diameter and full diameter end connection is threaded or socket welding, design according to :BS5352

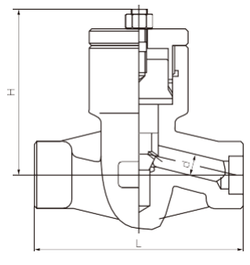
Specifications (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	L		140	140	140	178	216	216		
Center height (mm)	H		117	117	117	152	195	195		
Channel aperture (mm)	d		12	15	20	28	32	40		
Weight (Kg)			6.8	7.0	7.5	18.5	20.3	22		



CL2500

Bolted bonnet, full diameter.
End connections are threaded or socket welded, designed according to ASMEB16.34

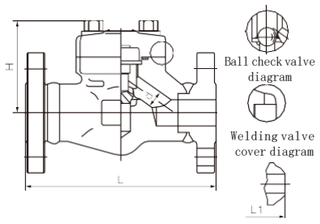
Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L	150	150	150	150	210	235	235	235
Center height (mm)	H	166	166	171	207	240	258	330	355
Channel aperture (mm)	d	7.5	10.5	11	14	19	25	28	35
Weight (Kg)		11.9	12.3	17	46	62	73	58	85



CL2500

Pressure self-tightening bonnet, full diameter end connections threaded or socket welded, designed as per ASMEB16.34

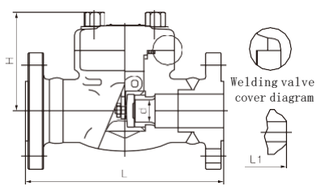
Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L			186	186	186	232	232	279
Center height (mm)	H			117	117	117	152	152	195
Channel aperture (mm)	d			11	14	19	25	28	35
Weight (Kg)				10.5	11	11.8	23	26.4	39



CL150-300-600

Bolt valve cover, reduced diameter.
Connect the end flange or butt weld, and press the design button for BS5352

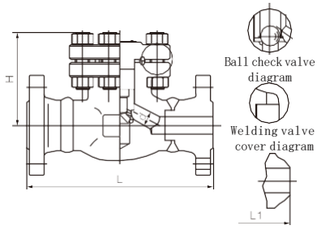
Specifications (NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	CL150	L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300		–	–	153	178	203	216	229	267
			–	–	165	191	216	229	241	292
Center height (mm)	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Channel aperture (mm)		d	–	–	10	13	17.5	23	30	35
Weight (Kg)	CL150	RF	–	–	3.6	4.6	8.5	9.2	12.5	14.8
		BW	–	–	3.0	3.6	7.6	8.5	11.3	13.6
	CL300	RF	–	–	3.7	4.8	8.8	9.6	13.7	17.8
		BW	–	–	3.2	4.3	8.0	8.6	12.7	16.2
	CL600	RF	–	–	4.0	5.8	9.5	10.4	15.6	24.5
		BW	–	–	3.4	5.1	8.8	9.2	14.8	22.5



CL150-300-600

Bolt valve cover, reduced diameter.
Connect the end flange or butt weld, and press the design button for BS5352

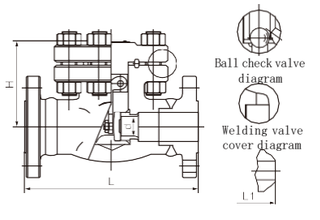
Specifications (NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	CL150	L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300		–	–	153	178	203	216	229	267
	CL600		–	–	165	191	216	229	241	292
Center height (mm)	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Channel aperture (mm)		d	–	–	10.5	13.5	18	24	29	36.5
Weight (Kg)	CL150	RF	–	–	3.6	4.6	8.5	9.2	12.5	14.8
		BW	–	–	3.0	3.6	7.6	8.5	11.3	13.6
	CL300	RF	–	–	3.7	4.8	8.8	9.6	13.7	17.8
		BW	–	–	3.2	4.3	8.0	8.6	12.7	16.2
	CL600	RF	–	–	4.0	5.8	9.5	10.4	15.6	24.5
		BW	–	–	3.4	5.1	8.8	9.2	14.8	22.5



CL150-300-600

Bolt valve cover, reduced diameter.
Connect the end flange or butt weld, and press the design button for BS5352

Specifications (NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	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
Center height (mm)	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Channel aperture (mm)		d	–	–	10	13	17.5	23	30	35
Weight (Kg)	CL150	RF	–	–	3.2	3.5	4.6	5.2	7.0	16
		BW	–	–	2.8	3.0	4.0	4.6	6.3	15
	CL300	RF	–	–	4.6	6.1	9.1	12	16	21
		BW	–	–	4.1	5.7	8.4	11.2	14.5	19.5
	CL600	RF	–	–	4.8	6.3	9.3	13	16.5	22
		BW	–	–	4.4	5.9	8.7	12.1	15.8	20.8

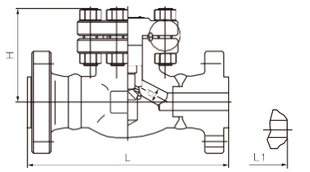


CL150-300-600

Bolt valve cover, reduced diameter.
Connect the end flange or butt weld, and press the design button for BS5352

Specifications (NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	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
Center height (mm)	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Channel aperture (mm)		d	–	–	10.5	13.5	18	24	29	36.5
Weight (Kg)	CL150	RF	–	–	3.6	4.6	8.5	9.2	12.5	14.8
		BW	–	–	3.0	3.6	7.6	8.5	11.3	13.6
	CL300	RF	–	–	3.7	4.8	8.8	9.6	13.7	17.8
		BW	–	–	3.2	4.3	8.0	8.6	12.7	16.2
	CL600	RF	–	–	4.0	5.8	9.5	10.4	15.6	24.5
		BW	–	–	3.4	5.1	8.8	9.2	14.8	22.5

23 Flange And Butt-welded Check Valves

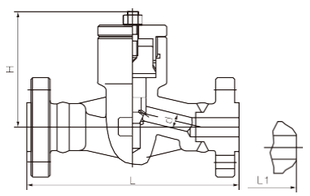


Ball check valve diagram | Diagram of swing check valve | Welding valve cover diagram

CL900-CL1500

Bolt valve cover, reduced diameter.
Connect the end flange or butt weld, and press the design button for BS5352

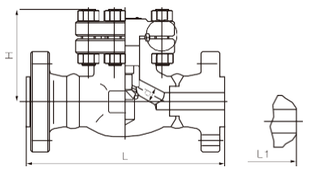
Specifications (NPS)	F.P		1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RJ),L1(BW)		216	229	254	280	305	371
Center height (mm)	H		81	93	95	101	118	130
Channel aperture (mm)	d	Elevating type	12	15	20	28	32	40
		Swing type	13.5	18	24	29	36.5	45
Weight (Kg)		Elevating type	5.2	6.8	10.5	28	18	24
		Swing type	5.0	6.1	10.8	29	17.6	27



CL900-CL1500

Pressure self-tightening, threaded cap, reduced and full diameter.
End connection flange or butt welding, design according to :BS5352

Specifications (NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)		216	229	254	280	305	368
	L(RTJ)		216	229	254	280	305	371
Center height (mm)	H		117	117	117	152	152	195
Channel aperture (mm)	d		12	15	20	28	32	40
Weight (Kg)			10.5	11.9	13.9	19.9	26.9	32.5

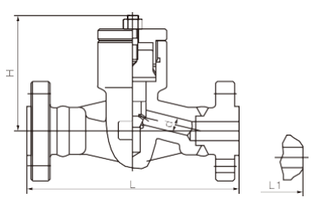


Ball check valve diagram | Diagram of swing check valve | Welding valve cover diagram

CL2500

Bolted valve covers, full diameter
End connection flanges or butt welded, designed according to ASME B16.34

Specifications (NPS)	F.P		1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)		264	273	308	349	384	450
	L(RTJ)		264	273	308	352	387	454
Center height (mm)	H		81	93	95	101	118	130
Channel aperture (mm)	d	Elevating type	12	15	20	28	32	40
		Swing type	10.5	13.5	18	24	29	36.5
Weight (Kg)		Elevating type	17	21	28	14.5	58	85
		Swing type	5.0	6.1	10.8	11.2	17.6	27



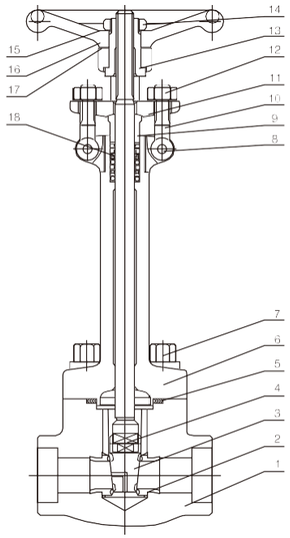
CL2500

Pressure self-tightening seal, threaded cap, full diameter,
End connection flange or butt welded, designed as per ASMEB16.34

Specifications (NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Structure length (mm)	L(RF),L1(BW)		264	273	308	349	384	450
	L(RTJ)		264	273	308	352	387	454
Center height (mm)	H		117	117	117	152	152	195
Channel aperture (mm)	d		12	15	20	32	28	40
Weight (Kg)			12.6	14.9	16.5	24.8	30	35

24

FORGED STEEL CRYOGENIC VALVE/



Application specification

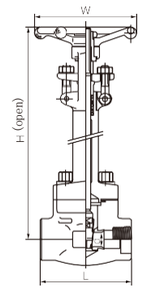
1. Design and manufacture API602 BS5352ANSI B16.34;
2. Connection end size
1) Socket size according to ANSIB16.11; JB/T1751
2) Screw end size according to ANSI 1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T122244) Flange end size according to ANSI 16.5; JB79
3, inspection and test :API598; GB/T13927; JB/T90924, structural characteristics
Bolt valve cover (B.B) and stem support (OS&Y) or weld valve cover (W.B) and stem support (OS&Y) 5, material according to ANSI/ASTM.
6. Main material :LF2; LF3; 304(L); 316(L); F347; F321; F51.

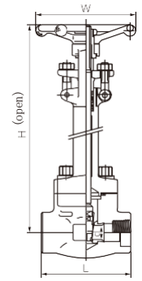
Carbon steel temperature and pressure rating

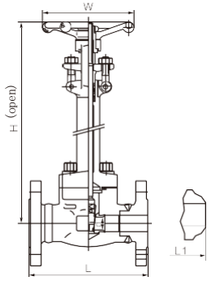
CL150-285 P.S.I @ 100° F CL300-740 P.S.I @ 100° F
CL600-1480 P.S.I @100° F CL800-1975 P.S.I @ 100° F
CL1500-3705 P.S.I @100° F

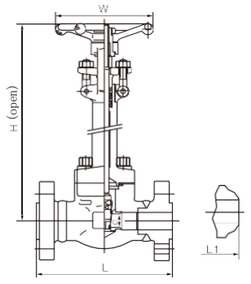
Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	LF3/304	F304(L)/304(L)	F316(L)/316(L)
1	Valve body	–	–	LF2	LF3	F304(L)	F316(L)
2	race	–	–	304	304	304(L)	316(L)
3	ram	–	–	F304	F304	F304(L)	F316(L)
4	Valve stem	–	–	304	F304	304(L)	316(L)
5	gasket	–	–	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite
6	bonnet	–	–	LF2	LF3	F304(L)	F316(L)
7	bolt	–	–	L7	L7	B8	B8
8	pin	–	–	410	410	304	304
9	Packing bushing	–	–	304	304	304	316
10	Knuckle bolt	–	–	L7	L7	B8(M)	B8(M)
11	Packing plate	–	–	LF2	LF3	F304	F304
12	Hexagon nut	–	–	2H	2H	8(M)	8(M)
13	Stem nut	–	–	410	410	410	410
14	Lock nut	–	–	35	35	35	35
15	Dogtag	–	–	AL	AL	AL	AL
16	Hand wheel	–	–	A197	A197	A197	A197
17	Lubricating gasket	–	–	410	410	410	410
18	filler	–	–	Graphite	Graphite	Graphite	Graphite









CL800

Bolted Low temperature extended bonnet, reduced and full diameter, open rod bracket (OS&Y)
End connections can be threaded or socket welded or butt welded, design according to API602

Specifications (NPS)			–	1/2	3/4	1	11/4	11/2	2	21/2	3
	R.P		–	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P		1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L		79	79	92	111	120	120	140	178	180
Handwheel diameter (mm)	W		100	100	100	125	160	160	180	200	220
Center height (open)(mm)	H	-46	291	291	293	340	375	400	450	490	560
		-196									
Channel aperture (mm)	d		7.5	10.5	13.5	18	24	29	36.5	45	51
Weight (Kg)			3.5	3.5	4.3	6.7	10.9	12	14.8	28	36

CL1500

Bolted Low temperature extended bonnet, reduced and full diameter, open rod bracket (OS&Y)
End connections can be threaded or socket welded or butt welded, design according to API602

Specifications (NPS)			–	1/2	3/4	1	11/4	11/2	2	21/2	
	R.P		–	1/2	3/4	1	11/4	11/2	2	21/2	
	F.P		1/4	3/8	1/2	3/4	1	11/4	11/2	2	
Structure length (mm)	L		79	111	111	120	120	140	178	180	
Handwheel diameter (mm)	W		100	125	125	160	160	180	200	220	
Center height (open)(mm)	H	-46	321	321	322	359	399	446	480	550	
		-196									
Channel aperture (mm)	d		7.5	10.5	13.5	18	24	29	36.5	45	
Weight (Kg)			3.5	6.7	6.7	11	12.3	15.8	28	45	

CL150-300-600

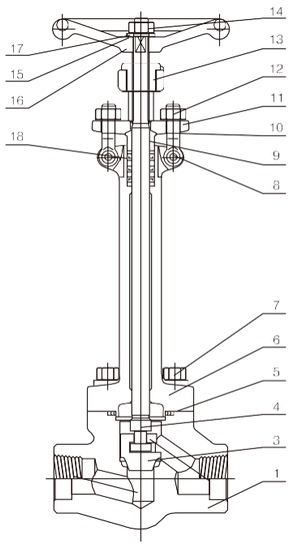
Bolted Low temperature extended bonnet, reduced diameter, open rod bracket (OS&Y)
End connections are welded flanges or butt welded connections, designed according to API602

Specifications (NPS)				1/4	3/8	1/2	3/4	1	11/4	11/2	2	
Structure length (mm)	CL150		L(RF), L1(BW)	–	–	108	118	127		165	178	
	CL300			–	–	140	153	165		191	216	
	CL600			–	–	165	191	216		241	292	
Handwheel diameter (mm)			W	–	–	100	100	125	160	160	180	
Center height (open)(mm)	H		-46 196	–	–	321	322	359	399	446	480	
Channel aperture (mm)			d	–	–	10.5	13.5	18	24	29	36.5	
Weight (Kg)	CL150	R F		–	–	5.0	5.5	8.8	13.5	15	20.3	
		BW		–	–							
	CL300	R F		–	–	5.8	7.3	9.7	12.5	19.5	22.3	
		BW		–	–							
	CL600	R F		–	–	6.0	8	11.2	13.5	21.5	24.8	
		BW		–	–							

Cl1500

Bolted cap, reduced, open rod bracket (OS&Y)
End connections can be threaded or socket welded or butt welded, design according to API602

Specifications (NPS)			–	1/2	3/4	1	11/4	11/2	2	
	R.P			1/2	3/4	1	11/4	11/2	2	
Structure length (mm)	L			216	229	254	279	325	368	
Handwheel diameter (mm)	W			125	125	160	160	180	200	
Center height (open)(mm)	H	-46		321	322	359	399	446	480	
		-196								
Channel aperture (mm)	d			10.5	13.5	18	24	29	36.5	
Weight (Kg)				14	23	25.3	35.7	47	72	



Typical parts material table

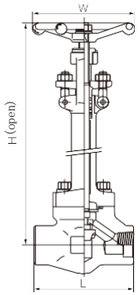
Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	LF3/304	F304(L)/304(L)	F316(L)/316(L)
1	Valve body	–	–	LF2	LF3	F304(L)	F316(L)
2	race	–	–	304	304	304(L)	316(L)
3	ram	–	–	F304	F304	F304(L)	F316(L)
4	Valve stem	–	–	304	304	304(L)	316(L)
5	Plastic sheet	–	–	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite
6	bonnet	–	–	LF2	LF3	F304(L)	F316(L)
7	bolt	–	–	L7	L7	B8	B8
8	pin	–	–	410	410	304	304
9	Packing bushing	–	–	304	304	304	316
10	Knuckle bolt	–	–	L7	L7	B8(M)	B8(M)
11	Packing plate	–	–	LF2	LF3	F304	F304
12	Hexagon nut	–	–	2H	2H	8(M)	8(M)
13	Stem nut	–	–	410	410	410	410
14	Lock nut	–	–	35	35	35	35
15	Dogtag	–	–	AL	AL	AL	AL
16	Hand wheel	–	–	A197	A197	A197	A197
17	Lubricating gasket	–	–	410	410	410	410
18	filler	–	–	Graphite	Graphite	Graphite	Graphite

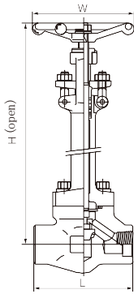
Application specification

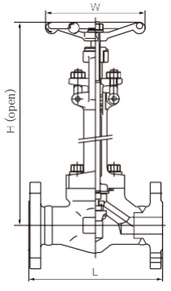
1. Design and manufacture AP|602 BS5352 ANSI B16.34;
2. Connection end size
1) Socket size according to ANSIB16.11; JB/T1751
2) Screw end size according to ANSI B1.20.1; JB/T7306
3) Butt welding end size according to ANSIB16.25; JB/T12224
4) Flange end size according to ANSIB16.5; JB79
3, inspection and test :API598; GB/T13927; JB/T9092
4. Structural characteristics
Bolted bonnet (B.B) and stem support (OS&Y) or welded bonnet (W.B) and stem support (OS&Y)
5, the material according to ANSI/ASTM.
6. Main material :LF2; LF3; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc

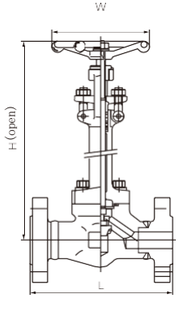
Carbon steel temperature and pressure rating

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









CL800

Bolted low temperature extended wide cover, reduced and full diameter, open rod bracket (OS&Y)
The end connection can be welded by screw thread or socket.
The design is BS5352

Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	79	79	92	111	120	152	172	200
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200
Center height (open)(mm)	H -46℃ -196℃ -101℃	390	390	415	430	460	490	505	570
Channel aperture (mm)	d	7.0	9.0	13	17.5	23	30	35	46
Weight (Kg)		7.2	7.2	7.2	9.5	10.8	13.5	19.8	29

CL1500

Bolted low temperature extended wide cover, reduced and full diameter, open rod bracket (OS&Y)
The end connection can be welded by screw thread or socket.
The design is BS5352

Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	92	111	111	120	152	172	200	–
Handwheel diameter (mm)	W	100	125	125	160	160	180	200	–
Center height (open)(mm)	H -46℃ -196℃ -101℃	370	370	370	410	410	474	546	–
Channel aperture (mm)	d	9	12	15	20	28	32	40	–
Weight (Kg)		7.2	9.5	9.5	10.8	13.5	19.8	29	–

CL150-300-600

Open rod support (OS&Y) bolted connection low temperature extended valve cover, reduced diameter
The end connection can be connected by flange or butt welding, and the design is BS5352

Specifications (NPS)		R.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L(RF) L1(BW)	CL150	–	–	108	118	127	–	165	203
		CL300	–	–	153	178	203	–	229	267
		CL600	–	–	165	191	216	–	241	292
Handwheel diameter (mm)		W	–	–	100	100	125	–	160	180
Center height (open)(mm)	H	-46℃ -196℃ -101℃	–	–	390	415	430	–	490	505
Channel aperture (mm)		d	–	–	9.0	13	17.5	–	30	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

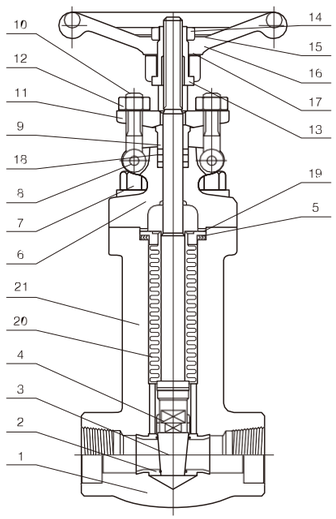
CL1500

Bolted low temperature extended bonnet, full diameter, open rod bracket (OS&Y)
The end connection can be connected by flange or butt welding, and the design is BS5352

Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L(RF)	–	–	216	229	254	280	305	368
Handwheel diameter (mm)	W	–	–	125	125	160	160	180	200
Center height (open)(mm)	H -46℃ -196℃ -101℃	–	–	370	370	410	410	474	546
Channel aperture (mm)	d	–	–	12	15	20	28	32	40

Note: For flange and valve body forging in one piece, please contact MVC sales.

29
FORGED STEEL BELLOW SEALED VALVE /



Application specification

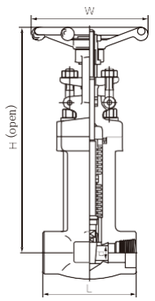
1. Design and manufacture API602; MSS-SP-1172. Dimensions of the connecting end
1) Socket size according to ANSIB 16.11; JB/T17512) Thread end size according to ANSI B1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T12224
4) Flange end size according to ANS1B16.5; JB79
3, inspection and test :API598; GB/T13927; JB/T90924, structural characteristics
Bolted bonnet (B.B) and stem support (OS&Y) or welded bonnet (W.B) and stem support (OS&Y)
5, materials according to ANSI/ASTM regulations.
6. Main material :A105; 304(L); 316(L):F347; F321.
7, bellows material :304, 321, 316, Inconel625, HastelloyC276, Monel, etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

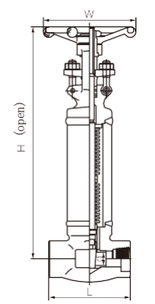
Number	Part name	A105/F6a	A105/Fa6HFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Valve body	A105	A105	A105	F304(L)	F316(L)
2	Valve seat	410	410HF	410HF	304(L)	316(L)
3	ram	F6a	F6a	F6aHF	F304(L)	F316(L)
4	Valve stem	410	410	410	304(L)	316(L)
5	gasket	304+ flexible graphite	304+ flexible graphite	304+ 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	Packing bushing	410	410	410	304	316
10	Knuckle bolt	B7	B7	B7	B8(M)	B8(M)
11	Packing plate	A105	A105	A105	F304	F304
12	Hexagon nut	2H	2H	2H	8(M)	8(M)
13	Sea stem nut	410	410	410	410	410
14	Lock nut	35	35	35	35	35
15	Dogtag	AL	AL	AL	AL	AL
16	Hand wheel	A197	A197	A197	A197	A197
17	Lubricating gasket et	410	410	410	410	410
18	filler	Graphite	Graphite	Graphite	Graphite	Graphite
19	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite
20	bellows	F321	F321	F321	F316L	F316L



CL800

Bolted bonnet, reduced and full diameter, open rod support (OS&Y).
End connections are threaded or socket welded or butt welded, designed according to API602, MSS-SP-117

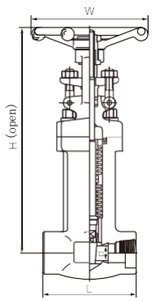
Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2
Structure length (mm)	L	79	79	92	111	120	120	140
Handwheel diameter (mm)	W	100	100	100	125	160	160	180
Center height (open)(mm)	H	255	255	285	345	445	545	594
Channel aperture (mm)	d	7.5	10.5	13.5	18	24	29	36.5
Weight (Kg)		3.0	3.0	3.3	5.9	8.7	10.2	16.2



CL800

Welded bonnet, reduced and full diameter, open rod bracket (OS&Y)
End connections are threaded or socket welded or butt welded, designed according to API602, MSS-SP-117

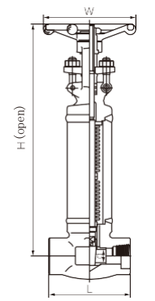
Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2
Structure length (mm)	L	79	79	92	111	120	120	140
Handwheel diameter (mm)	W	100	100	100	125	160	160	180
Center height (open)(mm)	H	248	548	111	335	437	537	585
Channel aperture (mm)	d	7.5	10.5	13.5	18	24	29	36.5
Weight (Kg)		2.9	2.9	3.2	4.6	7.2	8.9	15.5



CL1500

Bolted bonnet, reduced and full diameter, open rod support (OS&Y).
End connections are threaded or socket welded or butt welded, designed according to API602, MSS-SP-117

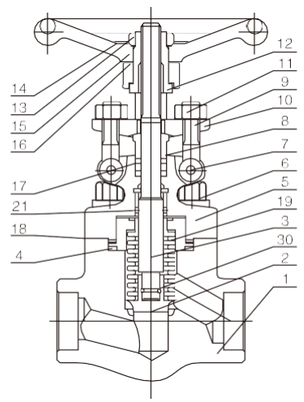
Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2
Structure length (mm)	L	79	111	111	120	120	140	178
Handwheel diameter (mm)	W	100	125	125	160	160	180	180
Center height (open)(mm)	H	294	264	320	379	478	607	636
Channel aperture (mm)	d	7.5	10.5	13.5	18	24	29	36.5
Weight (Kg)		3.1	5.1	5.1	9.0	10.5	16.7	21



CL1500

Welded bonnet, reduced and full diameter, open rod bracket (OS&Y)
End connections are threaded or socket welded or butt welded, designed according to API602, MSS-SP-117

Specifications (NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2
Structure length (mm)	L	79	111	111	120	120	140	178
Handwheel diameter (mm)	W	100	125	125	160	160	180	180
Center height (open)(mm)	H	287	287	312	368	465	595	627
Channel aperture (mm)	d	7.5	10.5	13.5	18	24	29	36.5
Weight (Kg)		2.9	4.7	4.7	5.7	7.4	16	19



Application specification

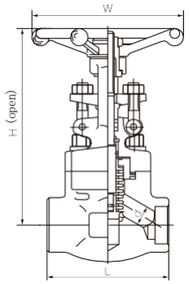
1. Design and manufacture BS5352; MSS-SP_117
2. Connection end size
1) Socket size according to ANSIB 16.11; JB/T17512) Screw end size according to ANSI 1.20.1; JB/T73063) Butt welding end size according to ANSIB 16.25; JB/T122244) Flange end size according to ANSI 16.5; JB79
3, inspection and test :API598; GB/T13927; JB/T9092
4. Structural characteristics
Bolted bonnet (B.B) and stem support (OS&Y) or welded bonnet (W.B) and stem support (OS&Y)
5, materials according to ANSI/ASTM regulations.
6. Main material :A105; LF2; F5; F11; F22304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.
7, corrugated pipe material :304, 321, 316, Inconel625, Hastelloy, C276, Mone, etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

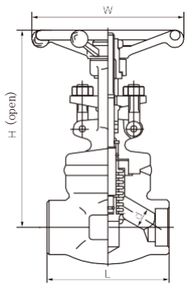
Number	Part name	A105/F6a	A105/F6aHFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Valve body	A105	A105+HF	A105+HF	F304(L)	F316(L)
2	Valve clack	F6a	F6a	F6aHF	F304(L)	F316(L)
3	Valve stem	410	410	410	304(L)	316(L)
4	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite
5	bonnet	A105	A105	A105	F304(L)	F316(L)
6	bolt	B7	B7	B7	B8(M)	B8(M)
7	pin	410	410	410	304	304
8	Packing bushing	410	410	410	304	316
9	Knuckle nut	B7	B7	B7	B8(M)	B8(M)
10	Packing gland	A105	A105	A105	F304	F304
11	Hexagon nut	2H	2H	2H	8(M)	8(M)
12	Stem nut	410	410	410	410	410
13	Lock nut	35	35	35	35	35
14	Dogtag	AL	AL	AL	AL	AL
15	Hand wheel	A197	A197	A197	A197	A197
16	Lubricating gasket	410	410	410	410	410
17	filler	Graphite	Graphite	Graphite	Graphite	Graphite
18	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite
19	bellows	F321	F321	F321	F321/304L	F316/316L
20	Steel wire	304	304	304	304	316
21	pin	304	304	304	304	316



CL800

Bolted bonnet, reduced and full diameter, open rod bracket (OS&Y)
The end connection is threaded or socket welded, and the design is BS5352 or MSS-SP-117

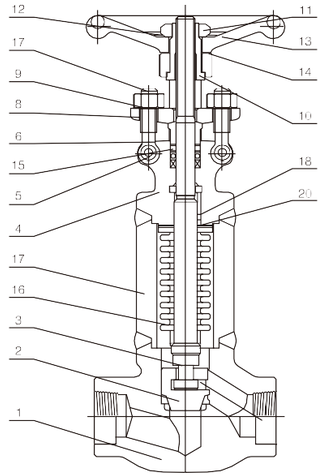
Specifications (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Structure length (mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	162	162	164	200	220	257	295	350	
Channel aperture (mm)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight (Kg)		2.3	2.4	2.5	4.35	5.75	7.8	12.5	17.5	



CL800

Bolted bonnet, reduced and full diameter, open rod bracket (OS&Y)
The end connection is threaded or socket welded, and the design is BS5352 or MSS-SP-117

Specifications (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
Structure length (mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	162	162	164	200	220	257	295	350	
Channel aperture (mm)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight (Kg)		1.7	1.8	1.9	3.3	5.2	6.8	10.6	13.8	



Application specification

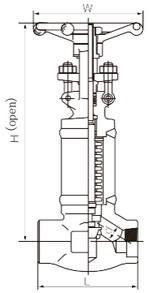
1. Design and manufacture API602; MSS-SP-117
2. Connection end size
1) Socket size according to ANSIB16.11; JB/T17512) Screw end size according to ANSI 1.20.1; JB/T7306
3) Butt welding end size according to ANSIB16.25; JB/T12224
4) Flange end size according to ANSIB16.5; JB793, inspection and test :API598; GB/T13927; JB/T9092
4, structural features bolted valve cover (B.B) and open rod support (OS&Y) or welded valve cover (W.B) and open rod support (OS&Y)
5, materials according to ANSI/ASTM regulations.
6. Main material :A105; 304(L); 316(L); F347; F321.
7, corrugated pipe material :304, 321, 316, Inconel625, Hastelloy, C 276v Monel, etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

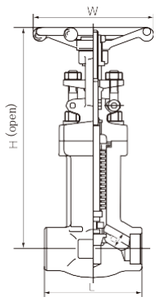
Number	Part name	A105/F6a	A105/F6aHFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Valve body	A105	A105+HF	A105+HF	F304(L)	F316(L)
2	Valve clack	F6a	F6a	F6aHF	F304(L)	F316(L)
3	gasket	410	410	410	304(L)	316(L)
4	bolt	A105	A105	A105	F304(L)	F316(L)
5	pin	410	410	410	304	304
6	Packing bushing	410	410	410	304	316
7	Knuckle bolt	B7	B7	B7	B8(M)	B8(M)
8	Packing gland	A105	A105	A105	F304	F304
9	Hexagon nut	2H	2H	2H	8(M)	8(M)
10	Stem nut	410	410	410	410	410
11	Lock nut	35	35	35	35	35
12	Dogtag	AL	AL	AL	AL	AL
13	Hand wheel	A197	A197	A197	A197	A197
14	Lubricating gasket et	410	410	410	410	410
15	filler	Graphite	Graphite	Graphite	Graphite	Graphite
16	bellows	F321	F321	F321	F316	F316L
17	Take over	A105	A105	A105	A304(L)	A316(L)
18	pin	304	304	304	304	316



CL800

Welded bonnet, reduced and full diameter, open rod support (OS&Y)
BS5352 and MSS-SP-117 are designed for threaded or socket welding

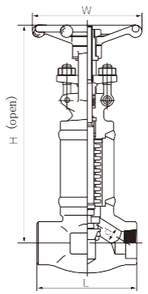
Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	237	237	239	270	298	340	395	470	
Channel aperture (mm)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight (Kg)		2.5	2.6	2.7	4.4	6.7	8.8	15	18.8	



CL800

Welded bonnet, reduced and full diameter, open rod support (OS&Y)
BS5352 and MSS-SP-117 are designed for threaded or socket welding

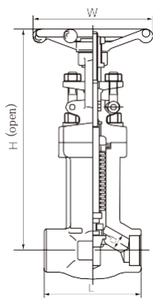
Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	237	237	239	270	298	340	395	470	
Channel aperture (mm)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight (Kg)		3.1	3.3	4.2	5.5	7.25	9.8	16	21	



Cl1500

Welded bonnet,full diameter, open rod support (OS&Y)
BS5352 and MSS-SP-117 are designed for threaded or socket welding

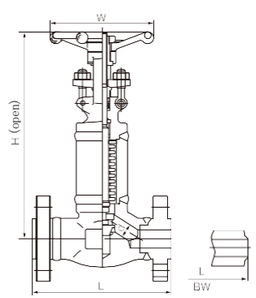
Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	92	92	111	111	120	152	172	200
Handwheel diameter (mm)	W	100	100	125	125	160	160	180	200
Center height (open)(mm)	H	290	330	380	380	400	450	520	650
Channel aperture (mm)	d	7	9	12	15	20	28	32	40
Weight (Kg)		3.3	3.5	5	7.5	10	16	27	30



Cl1500

Welded bonnet,full diameter, open rod support (OS&Y)
BS5352 and MSS-SP-117 are designed for threaded or socket welding

Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	92	92	111	111	120	152	172	200
Handwheel diameter (mm)	W	100	100	125	125	160	160	180	200
Center height (open)(mm)	H	290	330	380	380	400	450	520	650
Channel aperture (mm)	d	7	9	12	15	20	28	32	40
Weight (Kg)		3.3	3.5	5	7.5	10	16	27	30

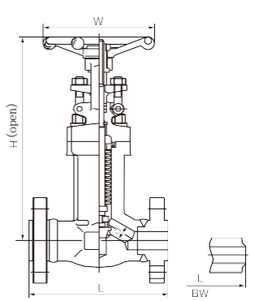


CL150-300-600

Welded bonnet, reduced diameter, open rod support (OS&Y)
The end connection is a connection flange or butt welding, and the design is BS5352 or MSS-SP-117

Specifications (NPS)		R.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	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 (mm)		W	–	–	100	100	125	160	160	180
Center height (open)(mm)	CL150/CL300	H	–	–	340/350	340/350	360/375	380/400	450/470	540/570
	CL600		–	–	360	360	390	430	500	600
Channel aperture (mm)		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	11.5/9.5	13.5/16
	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	12.5/3	18/14	24.5/18	42/36

Note: For flange and valve body forging in one piece, please contact MVC sales.

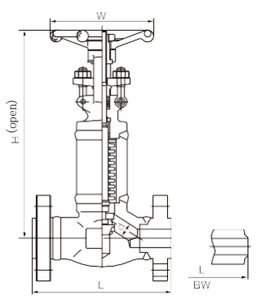


CL150-300-600

Bolted cap, reduced diameter, open rod support :(OS&Y)
The end connection is a connection flange or butt welded connection, and the design is BS5352 or MSS-SP-117

Specifications (NPS)		R.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	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 (mm)		W	–	–	100	100	125	160	160	180
Center height (open)(mm)	CL150/CL300	H	–	–	340/350	340/350	360/375	380/400	450/470	540/570
	CL600		–	–	360	360	390	430	500	600
Channel aperture (mm)		d	–	–	9	13	17.5	23	30	35
Weight (Kg)	CL150 RF/BW		–	–	4.17/3.5	4.8/4 1	7.716.7	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

Note: For flange and valve body forging in one piece, please contact MVC sales.

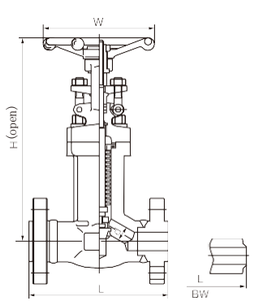


CL1500

Welded bonnet, full diameter, open rod bracket (OS &Y)
The end connection is a connection flange or butt welded connection.
The design is BS5352 or MSS-SP-117

Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	216	229	254	280	305	368
	L(RTJ)	–	–	216	229	254	280	305	371
Handwheel diameter (mm)	W	–	–	125	125	160	160	180	200
Center height (open)(mm)	H	–	–	380	380	400	450	520	650
Channel aperture (mm)	d	–	–	12	15	20	28	32	40
Weight (Kg)		–	–	11.1	11.8	14.1	16.5	23.8	37.5

Note: For flange and valve body forging in one piece, please contact MVC sales.



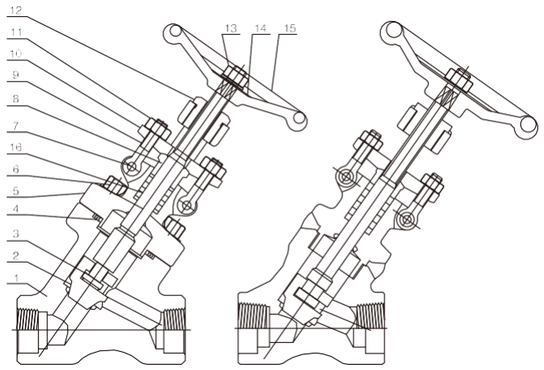
CL1500

Bolted cap, full diameter, open rod bracket (OS &Y)
End connection flange connection or butt welding connection, the design is BS5352, MSS-SP-117

Specifications (NPS)	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L(RF),L1(BW)	–	–	216	229	254	280	305	368
	L(RTJ)	–	–	216	229	254	280	305	371
Handwheel diameter (mm)	W	–	–	125	125	160	160	180	200
Center height (open)(mm)	H	–	–	380	380	400	450	520	650
Channel aperture (mm)	d	–	–	12	15	20	28	32	40
Weight (Kg)		–	–	11.6	12.3	15	17.5	25	38.3

Note: For flange and valve body forging in one piece, please contact MVC sales.

37
YTYPE
FORGED STEEL /



Application specification

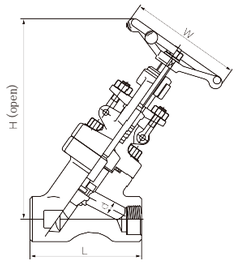
1, design and manufacture BS5352, MSSSP-118;
2, connecting end size 1) Socket size according to ANSIB16.11; JB/T17512) Screw end size according to ANSI 1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T122244) Flange end size according to ANSI 16.5; JB79
3, valve inspection and test API598; GB/T13927; JB/T9092
4. Structural characteristics
Bolted valve covers (B.B) and stem brackets (OS&Y) or welded valve covers (W.B) and stem brackets (OS&Y)5, materials as specified in ANIS/ASTM.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloy; Hastelloy, etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

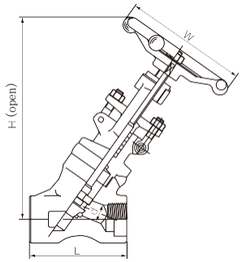
Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
2	Valve clack	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
3	Valve stem	410	410	304	410	304(L)	316(L)	F51
4	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite
5	bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
6	bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
7	pin	410	410	410	410	304	304	304
8	Packing bushing	410	410	304	410	304	316	F51
9	Articulated gland	B7	B7	L7	B16	B8(M)	B8(M)	B8M
10	Packing gland	A105	A105	LF2	F11	F304	F304	F304
11	Hexagon nut	2H	2H	2H	2H	8(M)	8(M)	8M
12	Stem nut	410	410	410	410	410	410	410
13	Lock nut	35	35	35	35	35	35	35
14	Dogtag	AL	AL	AL	AL	AL	AL	AL
15	Hand wheel	A197	A197	A197	A197	A197	A197	A197
16	filler	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite



CL800

Bolted bonnet, reduced and full diameter, open rod bracket (OS&Y)
The end connection is threaded or socket welded, and the design is BS5352

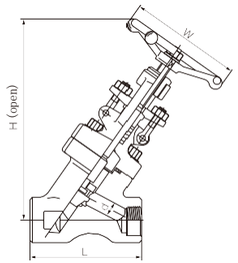
Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	98	98	98	111	140	140	155	170	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	180	180	180	188	280	280	295	350	
Channel aperture (mm)	d	7	9	13	17.5	23	30	35	46	
Weight (Kg)		2.6	2.6	3.8	4.6	9.3	9.3	14	19.6	



CL800

Welded bonnet, reduced and full diameter, open rod support (OS&Y)
The end connection is threaded or interweld. The design is BS5352

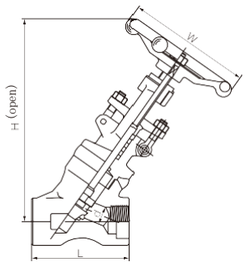
Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	79	79	92	100	140	140	155	170	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	198	198	198	207	280	280	295	350	
Channel aperture (mm)	d	7	9	13	17.5	23	30	35	46	
Weight (Kg)		1.8	1.8	2.0	3.5	8.0	8.0	12	16	



CL900-CL1500

Bolted bonnet, full diameter, open rod bracket (OS&Y)
The end connection is threaded or socket welded, and the design is BS5352

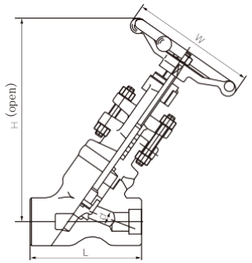
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	98	111	111	140	140	155	170	
Handwheel diameter (mm)	W	100	125	125	160	160	180	200	
Center height (open)(mm)	H	175	175	215	215	254	305	305	
Channel aperture (mm)	d	9	12	15	20	28	32	40	
Weight (Kg)		2.6	4.6	4.6	9.3	9.3	14	19.6	



CL900-CL1500

Welded bonnet, full diameter, open rod support (OS&Y)
The end connection is threaded or interweld. The design is BS5352

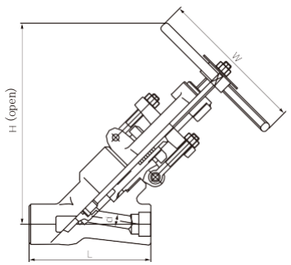
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	92	100	100	140	140	155	170	
Handwheel diameter (mm)	W	100	125	125	160	160	180	200	
Center height (open)(mm)	H	175	207	207	280	280	295	350	
Channel aperture (mm)	d	9	12	15	20	28	32	40	
Weight (Kg)		1.8	3.5	3.5	8.0	8.0	12	16	



CL2500

Welded bonnet, full diameter, open rod support (OS&Y)
The end connection is welded socket connection, designed according to ASME16.34

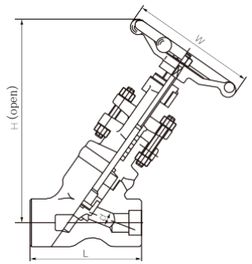
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	186	186	186	186	232	232	310
Handwheel diameter (mm)	W	200	200	200	200	280	280	300
Center height (open)(mm)	H	329	329	329	329	350	350	383
Channel aperture (mm)	d	9	11	14	19	25	28	35
Weight (Kg)		10.8	11.6	12.3	12.3	28.0	26.4	43.8



CL2500

Pressure self-tightening seal bonnet, full diameter, open rod support (OS&Y)
The end connection is welded socket connection, designed according to ASME16.34

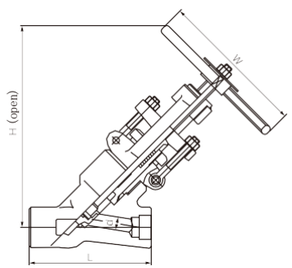
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	186	186	186	186	232	232	310
Handwheel diameter (mm)	W	200	200	200	200	280	280	300
Center height (open)(mm)	H	333	333	333	333	406	406	524
Channel aperture (mm)	d	9	11	14	19	25	28	35
Weight (Kg)		10.8	11.6	12.3	12.3	28.0	26.4	43.8



CL4500

Welded self-tightening seal bonnet, full diameter, open rod support (OS&Y)
The end connection is welded socket connection, designed according to ASME16.34

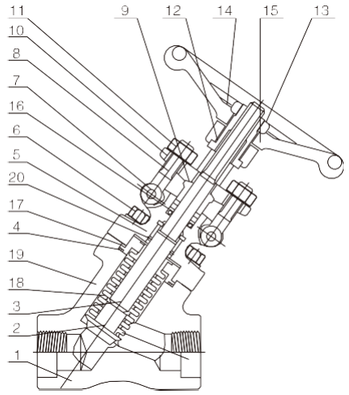
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	155	155	155	155		225	225
Handwheel diameter (mm)	W	220	220	220	220		300	320
Center height (open)(mm)	H	350	350	350	380		453	453
Channel aperture (mm)	d	9	11	11	15		26	28
Weight (Kg)		9.4	9.6	9.6	10.5		34	36



CL4500

Pressure self-tightening seal bonnet, full diameter, open rod support (OS&Y)
The end connection is welded socket connection, designed according to ASME16.34

Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	200	200	200	200	250	250	330
Handwheel diameter (mm)	W	280	280	280	280	300	300	320
Center height (open)(mm)	H	400	400	400	400	460	460	540
Channel aperture (mm)	d	9	11	11	15	20	26	28
Weight (Kg)		30	30	30	30	30	36	58



Application specification

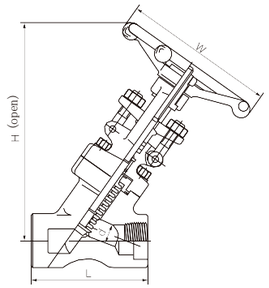
1. Design and manufacture BS5352; MSS-SP_117
2. Connection end size
1) Socket size according to ANSIB 16.11; JB/T1751
2) Screw end size according to ANSI 1.20.1; JB/T73063) Butt welding end size according to ANSIB 16.25; JB/T122244) Flange end size according to ANSI 16.5; JB79
3, inspection and test :API598; GB/T13927; JB/T9092
4. Structural characteristics
Bolted bonnet (B.B) and stem support (OS&Y) or welded bonnet (W.B) and stem support (OS&Y)
5, materials according to ANSI/ASTM regulations.
6. Main material :A105; LF2; F5; F11; F22304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.
7, corrugated pipe material :304, 321, 316, Inconel625, Hastelloy, C276, Mone, etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

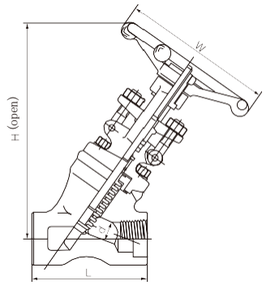
Number	Part name	A105/F6a	A105/F6aHFS	A105/F6aHF	F304(L)/304(L)	F316(L)/316(L)
1	Valve body	A105	A105+HF	A105+HF	F304(L)	F316(L)
2	Valve clack	F6a	F6a	F6aHF	F304(L)	F316(L)
3	Valve stem	410	410	410	304(L)	316(L)
4	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite
5	bonnet	A105	A105	A105	F304(L)	F316(L)
6	bolt	B7	B7	B7	B8(M)	B8(M)
7	pin	410	410	410	304	304
8	Packing bushing	410	410	410	304	316
9	Knuckle nut	B7	B7	B7	B8(M)	B8(M)
10	Packing gland	A105	A105	A105	F304	F304
11	Hexagon nut	2H	2H	2H	8(M)	8(M)
12	Stem nut	410	410	410	410	410
13	Lock nut	35	35	35	35	35
14	Dogtag	AL	AL	AL	AL	AL
15	Hand wheel	A197	A197	A197	A197	A197
16	Lubricating gasket	410	410	410	410	410
17	filler	Graphite	Graphite	Graphite	Graphite	Graphite
18	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite
19	bellows	F321	F321	F321	F321/304L	F316/316L
20	Steel wire	304	304	304	304	316
21	pin	304	304	304	304	316



CL800

Welded bonnet, reduced and full diameter, open rod support (OS&Y)
The end connection is threaded or socket welded, and the design is BS5352 or MSS-SP-117

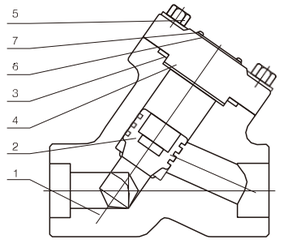
Specifications (NPS)		–	1/2	3/4	1	11/4	11/2	2	21/2	3
	R.P									
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	98	98	98	111	140	140	155	170	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	180	180	180	188	280	280	295	350	
Channel aperture (mm)	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

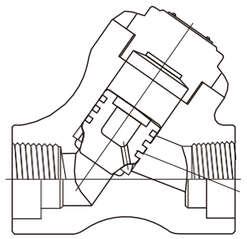
Welded bonnet, reduced and full diameter, open rod support (OS&Y)
The end connection is threaded or socket welded, and the design is BS5352 or MSS-SP-117

Specifications (NPS)		–	1/2	3/4	1	11/4	11/2	2	21/2	3
	R.P									
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	79	79	92	100	140	140	155	170	
Handwheel diameter (mm)	W	100	100	100	125	160	160	180	200	
Center height (open)(mm)	H	198	198	198	207	280	280	295	350	
Channel aperture (mm)	d	7	9	13	17.5	23	30	35	46	
Weight (Kg)		1.8	1.8	2.0	3.5	8.0	8.0	12	16	



如要加载弹簧需在定货单中注明

球阀止回阀
示意图



Application specification

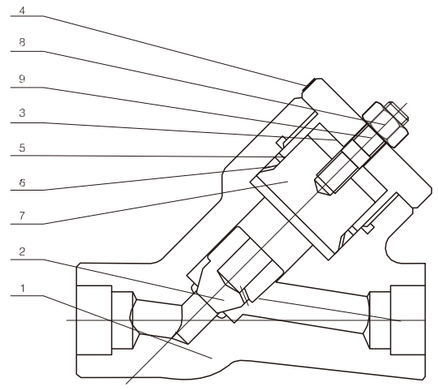
1. Design and manufacture BS5352MSSSP_118:
2. Connection size
1) Socket size according to ANSIB16.11; JB/T1751
2) Screw end size according to ANSIB 1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T122244) Flange end size according to ANSI 16.5; JB79
3, valve inspection and test :API598; GB/T13927; JB/T9092
4, structural features: bolted valve cover (B.B) Welded valve cover (W.B)
5, materials according to ANSI/ASTM regulations.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve clack	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	gasket	410	410HF	304	410HF	304(L)	316(L)	F51
3	bonnet	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite	316+ flexible graphite
4	Valve body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
5	bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
6	Dogtag	AL	AL	AL	AL	AL	AL	AL
7	rivet	AL	AL	AL	AL	AL	AL	AL
8	Steel ball	430	430	304	STL	316(L)	316(L)	STL



Application specification

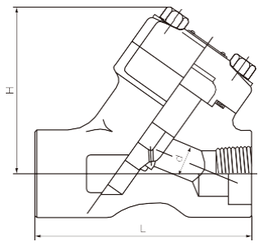
1. Design and manufacture ASME B16.34 MSS SP_118;
2. Connection size
1) Socket size according to ANSI B16.11; JB/T17512) Thread end size according to ANSI B1.20.1; JB/T73063) butt welding end size according to ANSIB16.25; JB/T12224
4) Flange end size according to ANSIB16.5; JB79
3, valve inspection and test :API598:GB/T13927; JB/T90924, structural features: screw connection valve cover pressure self-tightening seal; Y - or T-shaped structure
5, materials according to ANSI/ASTM regulations.
6. Main material
A105; LF2; F5; F11; F22; 304(L); 316(L); F347; F321; F51; Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

Typical parts material table

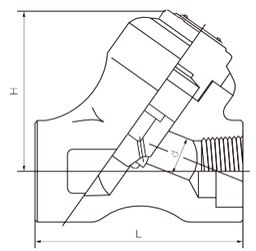
Number	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
2	Valve clack	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
3	bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
4	Dogtag	AL	AL	AL	AL	AL	AL	AL
5	Sealing ring gasket	420	420	304	304	304(L)	316(L)	410
6	Self-sealing ring	304	304	304	304	316L	316L	316L
7	Self-sealing seat	F410	F410	F304	F410	F304	F316	F51
8	Lifting nut	2H	2H	8	8	8(M)	8(M)	8M
9	Lifting bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M



CL800

Bolt bonnet, reduced and full diameter.
The end connection is threaded, socket welded, or butt welded. The design press is BS5352

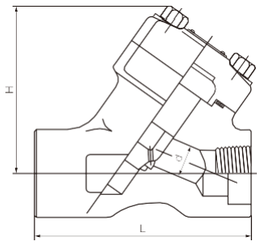
Specifications (NPS)	R.P	1/4	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	98	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	70	98	98	111	140	140	155	170	
Center height (mm)	H	7	70	70	100	110	120	120	150	
Channel aperture (mm)	d	2.1	10	13	17.5	23	30	35	46	
Weight (Kg)			2.2	2.2	4.2	8.9	9	10	18.6	



CL800

Weld bonnet, reduced and full diameter.
The end connection is threaded, socket welded, or butt welded. The design press is BS5352

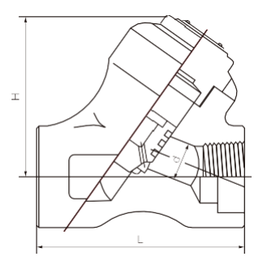
Specifications (NPS)	R.P	1/4	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	79	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Structure length (mm)	L	65	79	92	100	140	140	155	170	
Center height (mm)	H	7	65	65	95	105	110	110	140	
Channel aperture (mm)	d	1.8	10	13	17.5	23	30	35	46	
Weight (Kg)			1.8	2.0	3.5	8.0	8.0	12	16	



CL900-CL1500

Bolted bonnet, full diameter.
The end connection is threaded, socket welded, or butt welded. The design press is BS5352

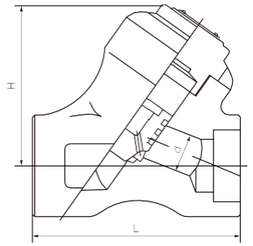
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	98	111	111	140	140	155	170
Center height (mm)	H	70	70	100	110	110	120	150
Channel aperture (mm)	d	9	12	15	20	28	32	40
Weight (Kg)		2.1	4.2	8.9	9	10	18.6	20



CL900-CL1500

Welded bonnet, full diameter.
The end connection is threaded, socket welded, or butt welded. The design press is BS5352

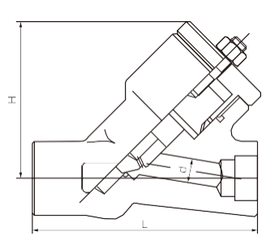
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	92	100	100	140	140	155	170
Center height (mm)	H	65	65	65	105	110	110	140
Channel aperture (mm)	d	9	12	15	20	32	28	40
Weight (Kg)		2.0	3.5	3.5	8.0	12	12	18



CL2500

Welded bonnet, full diameter.
End connections are threaded or socket welded or butt welded according to ASME B16.34

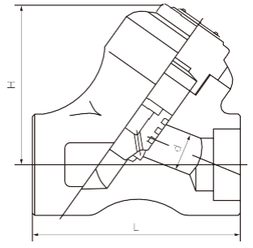
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	186	186	186	186	232	232	310
Center height (mm)	H	115	115	120	150	150	150	160
Channel aperture (mm)	d	9	11	14	19	25	28	35
Weight (Kg)		10.6	10.8	11.2	11.5	25	22	39



CL2500

Threaded cap pressure self-tightening seal full diameter.
End connections are threaded or socket welded or butt-welded:ASMEB16.34

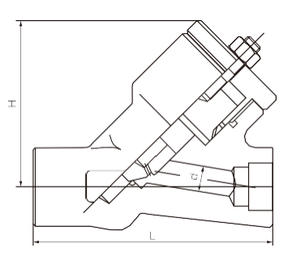
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	186	186	186	186	232	232	310
Center height (mm)	H	233	233	233	233	256	256	330
Channel aperture (mm)	d	9	11	14	19	25	28	35
Weight (Kg)		10.6	10.8	11.2	11.5	25	22	39



CL4500

Welded bonnet, full diameter.
End connections are threaded or socket welded or butt welded according to ASME B16.34

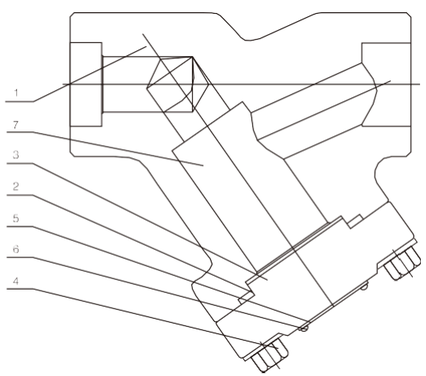
Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	155	155	155	155		225	225
Center height (mm)	H	120	120	120	145		160	160
Channel aperture (mm)	d	9	11	11	15		26	28
Weight (Kg)		8	8.7	8.7	8.7		16.5	16



CL4500

Pressure self-tightening seal, threaded bonnet, full diameter.
End connections are threaded or socket welded or butt welded according to ASME B16.34

Specifications (NPS)	F.P	3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L	200	200	200	200	250	250	330
Center height (mm)	H	140	140	140	140	160	160	180
Channel aperture (mm)	d	9	11	11	15	20	26	28
Weight (Kg)		20	20	20	20	28	28	45



* The mesh number of filter should be provided when the customer orders
* If you need to provide emissions blockage, you must explain with MVC sales staff

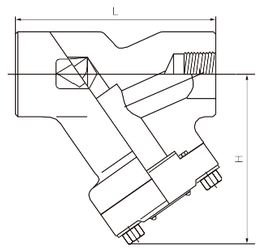
Application specification

1. Design and manufacture :BS5352 MSSSP_118;
2. Connection end size:
1) Jack size according to ANSIB16.11:JBT1751
2) Newt end size according to ANSI B1.20.1:JB/T7306
3) Butt welding end size according to ANSIB16.25; JB JI T12224
4) Flange end size according to ANS1B16.5; JB79
3, check valve and test: API598: GBIT13927: JB/T9092
4, structural features: plug connected valve cover (B.B) Welding valve (W.B)
5, materials according to ANSI/ASTM, regulations.
6. Main material:
A105; LF2; F5; F11; F22; 304(L); 316(L);F347; F321; F51:Monel; 20 alloys etc.

Carbon steel temperature and pressure rating

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

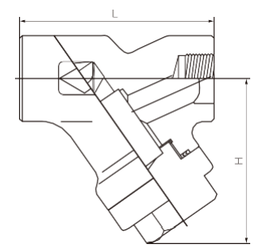
Number	Part name	A105/F6a	A105/Fa6HFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Valve body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	gasket	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	304+ flexible graphite	316+ flexible graphite	316+ flexible graphite
3	Valve shortage	A105	A105	LF2	F11	F304(L)	F316(L)	F51
4	bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
5	Dogtag	AL	AL	AL	AL	AL	AL	AL
6	rivet	H62	H62	H62	H62	H62	H62	H62
7	Filter screen	304	304	304	304	304(L)	316(L)	316(L)



CL800

Bolt bonnet reduced and full diameter
The end connection is threaded, socket welded, or butt welded. The design press is BS5352

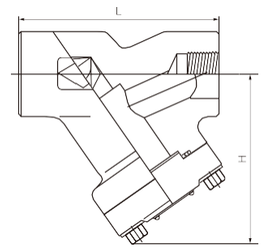
Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2	
Structure length (mm)	L	98	98	98	111	140	140	155	170		
Center height (open)(mm)	H	70	70	70	100	110	120	120	150		
Channel aperture (mm)	d	7	9	13	17.5	30	30	35	46		
Weight (Kg)		2.2	2.2	2.1	4.2	8.9	8.9	10	18.6		



CL800

Reduced and full diameter bolt valve covers.
The end connection is threaded, socket welded, or butt welded. The design press is BS5352

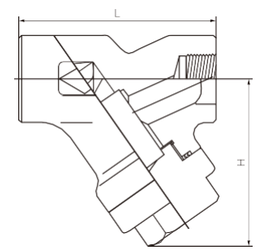
Specifications (NPS)	R.P		1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2	
Structure length (mm)	L	79	79	92	100	140	140	155	170		
Center height (open)(mm)	H	65	65	65	95	105	110	110	140		
Channel aperture (mm)	d	7	9	13	17.5	23	30	35	46		
Weight (Kg)		1.8	1.8	2.0	3.5	9	8.0	12	16		



CL900-CL1500

Bolted bonnet, full diameter.
The end connection is threaded or socket welded.
The design press is BS5352

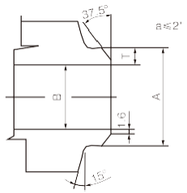
Specifications (NPS)	F.P		3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L		98	111	111	140	140	155	170
Center height (mm)	H		70	70	100	110	120	120	150
Channel aperture (mm)	d		9	12	15	20	28	32	40
Weight (Kg)			2.1	4.2	9	8.9	10	18.6	20

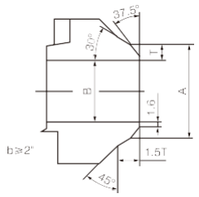


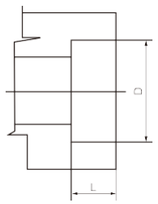
CL900-CL1500

Bolted bonnet, full diameter.
The end connection is threaded or socket welded.
The design press is BS5352

Specifications (NPS)	F.P		3/8	1/2	3/4	1	11/4	11/2	2
Structure length (mm)	L		92	100	100	140	140	155	170
Center height (mm)	H		65	65	95	105	110	110	140
Channel aperture (mm)	d		9	12	15	20	28	32	40
Weight (Kg)			2.0	3.5	8.0	8.0	12	16	18







Butt welding standard

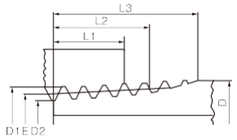
Unit:mm

Nominal pipe diameter	SCH.40			SCH.80			SCH.160			SCH.XXS		
	A	B	T	A	B	T	A	B	T	A	B	T
1/2	21.3	15.8	2.77	21.3	13.8	3.73	21.3	11.7	4.78	21.3	6.4	7.47
3/4												
1	33.4	26.6	3.38	33.4	24.3	4.55	33.4	20.7	6.35	33.4	15.2	9.09
1 1/4												
1 1/2	48.3	41.0	3.68	48.3	38.1	5.08	48.3	33.5	7.41	48.3	28.0	10.15
2												
21/2	73.0	62.7	5.15	73.0	59.0	7.01	73.0	54.0	9.53	73.0	45.0	14.02
3												
4	114.3	102.3	6.02	114.3	97.2	8.56	114.3	85.3	13.49	114.3	80.1	17.12

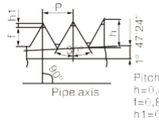
Socket welding standards by

Unit:mm

Nominal pipe diameter	JB		ANSI		JIS	
	D	L	D	L	D	L
1/4	14 5	10 0	14 1	9 6	14 3	9 6
3/8	18 0	10 0	17 6	9 6	17 9	9 6
1/2	22 5	10 0	21 8	9 6	22 2	9 6
3/4	28 5	11 0	27 1	12 7	27 7	12 7
1	34 5	12 0	33 8	12 7	34 5	12 7
1 1/4	43 0	14	42 6	12 7	43 2	12 7
1 1/2	49 0	15	48 7	12 7	49 1	12 7
2	61 2	16	61 2	15 9	61 2	15 9

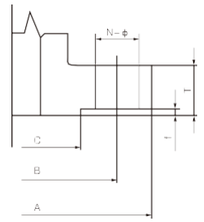


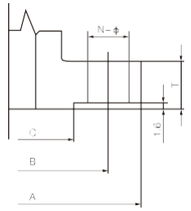
National pipe thread ASME B1.20.1



Thread standard

Nominal pipe diameter		Outside diameter of pipe	Teeth per inch	Screw pitch	O.D.AT	Middle diameter of pipe end thread	Root dia.at beginning of ext.thread	Length of engagement of internal andexternal threads	Effective length of external thread	Profile height
		D	N	P	DI	E	D2	LI	L2	L3
1/8	inch	0.41	1.06	0.04	0.39	0.36	0.26	0.18	0.26	0.39
	mm	10.29	27	0.940	9.982	9.233	6.484	4.572	6.703	9.967
1/4	inch	0.54	0.71	0.06	0.52	0.48	0.43	0.20	0.40	0.59
	mm	13.72	18	1.412	13.259	12.126	10.998	5.080	10.206	15.103
3/8	inch	0.67	0.71	0.06	0.66	0.61	0.57	0.24	0.41	0.60
	mm	17.14	18	1.412	16.662	15.545	14.427	6.096	10.358	15.255
1/2	inch	0.84	0.55	0.07	0.82	0.76	0.70	0.32	0.53	0.78
	mm	21.34	14	1.814	20.726	19.263	17.805	8.128	13.556	19.850
3/4	inch	1.05	0.55	0.07	1.03	0.97	0.91	0.34	0.55	0.79
	mm	26.67	14	1.814	26.035	24.580	23.139	8.611	13.861	20.155
1	inch	1.31	0.452	0.09	1.28	1.21	1.14	0.40	0.68	0.98
	mm	33.40	11.1/2	2.210	32.588	30.825	29.058	10.160	17.343	25.006
11/4	inch	1.66	0.45	0.09	1.63	1.56	1.49	0.42	0.71	1.01
	mm	42.16	11.1/2	2.210	41.326	39.550	37.795	10.688	17.953	25.616
11/2	inch	1.90	0.45	0.09	1.87	1.80	1.73	0.42	0.72	1.03
	mm	48.26	11.1/2	2.210	47.396	45.621	43.866	10.668	18.377	26.040
2	inch	2.37	0.45	0.09	2.34	2.27	2.20	0.44	0.76	1.06
	mm	60.32	11.1/2	2.210	59.411	57.633	55.855	11.074	19.215	26.878

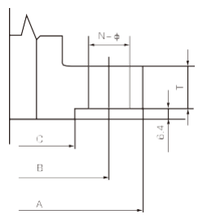




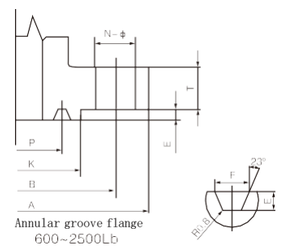
Convex flange
150~300Lb

German standard flange -2544-45-46

PN	DN	NPS	A	B	C	T	f	Bolt hole	
								N	Φ
25 40	15	1/2	95	65	45	16	2	4	14
	20	3/4	105	75	58	18	2	4	14
	25	1	115	85	68	18	2	4	14
	32	1 1/4	140	100	78	18	2	4	18
	40	1/2	150	110	88	18	3	4	18
	50	2	165	125	102	20	3	4	18
64	15	1/2	105	75	45	20	2	4	14
	20	3/4	130	90	58	22	2	4	18
	25	1	140	100	65	24	2	4	18
	32	1 1/4	155	110	75	24	2	4	22
	40	1 1/2	170	125	88	26	3	4	22
	50	2	180	135	95	26	3	4	22



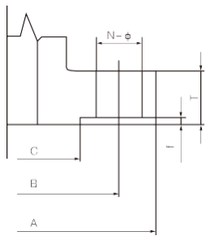
Concave flange
600~2500Lb



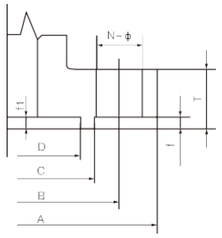
Annular groove flange
600~2500Lb

American standard

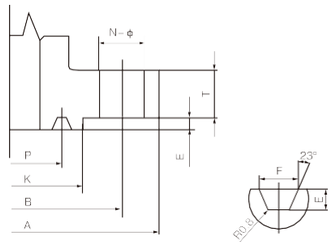
CLASS	NPS	A	B	C	T	Bolt hole		Ring joint				Ring number
						N	Φ	K	P	F	E	
150	1/2	89	60.3	34.9	11.5	4	16	–	–	–	–	–
	3/4	98	69.8	42.9	13.0	4	16	–	–	–	–	–
	1	108	79.4	50.8	14.5	4	16	63.5	47.62	8.74	6.4	R15
	11/4	117	88.9	63.5	16.0	4	16	73.0	57.15	8.74	6.4	R17
	11/2	127	98.4	73.0	17.5	4	16	82.5	65.07	8.74	6.4	R19
	2	152	120.6	92.1	19.5	4	20	102.0	82.55	8.74	6.4	R22
300	1/2	95	66.7	34.9	14.5	4	16	51.0	34.14	7.14	5.6	R11
	3/4	117	82.5	42.9	16.0	4	20	63.5	42.88	8.74	6.4	R13
	1	124	88.9	50.8	17.5	4	20	70.0	50.80	8.74	6.4	R16
	11/4	133	98.4	63.5	19.5	4	20	79.5	60.32	8.74	6.4	R18
	11/2	156	114.3	73.0	21.0	4	23	90.5	68.28	8.74	6.4	R20
	2	165	127.0	92.1	22.5	8	20	108.0	82.55	11.91	8.0	R23
600	1/2	95	66.7	34.9	14.5	4	16	51.0	34.14	7.14	5.6	R11
	3/4	117	82.5	42.9	16.0	4	20	63.5	42.88	8.74	6.4	R13
	1	124	88.9	50.8	17.5	4	20	70.0	50.80	8.74	6.4	R16
	11/4	133	98.4	63.5	21.0	4	20	79.5	60.32	8.74	6.4	R18
	11/2	156	114.3	73.0	22.5	4	23	90.5	68.28	8.74	6.4	R20
	2	165	127.0	92.1	25.5	8	20	108.0	82.55	11.91	8.0	R23
900 1500	1/2	121	82.5	34.9	22.5	4	23	60.5	39.67	8.74	6.4	R12
	3/4	130	88.9	42.9	25.5	4	23	66.5	44.45	8.74	6.4	R14
	1	149	101.6	50.8	29.0	4	26	71.5	50.80	8.74	6.4	R16
	11/4	159	111.1	63.5	29.0	4	26	81.0	60.32	8.74	6.4	R18
	11/2	178	123.8	73.0	32.0	4	29	92.0	68.28	8.74	6.4	R20
	2	216	165.1	92.1	38.5	8	26	124.0	95.25	11.91	8.0	R24
2500	1/2	133	88.9	34.9	30.5	4	23	65.0	42.88	8.74	6.4	R13
	3/4	140	95.2	42.9	32.0	4	23	73.0	50.80	8.74	6.4	R16
	1	159	107.9	50.8	35.0	4	26	82.5	60.32	8.74	6.4	R18
	11/4	184	130.2	63.5	38.5	4	29	101.5	72.24	11.91	6.4	R21
	11/2	203	146	73.0	44.5	4	32	114.5	82.55	11.91	6.4	R23
	2	235	171.4	92.1	51.0	8	29	133.5	101.60	11.91	8.0	R26



Convex flange
PN1.6~4.0MPa



Concave flange
PN4.0~16.0MPa



Annular groove flange
PN6.3~16.0MPa

National standard flange JB/T79.1~4-94 ; JB T82.1~4-94

PN (MPa)	DN	A	B	C	D	T	f	f1	Bolt hole		Ring joint			
									N	Φ	K	P	F	E
1.6	10	90	60	40	–	14	2	–	4	14	–	–	–	–
	15	95	65	45	–	14	2	–	4	14	–	–	–	–
	20	105	75	55	–	14	2	–	4	14	–	–	–	–
	25	115	85	65	–	14	2	–	4	14	–	–	–	–
	32	135	100	78	–	16	2	–	4	18	–	–	–	–
	40	145	110	85	–	16	3	–	4	18	–	–	–	–
	50	160	125	100	–	16	3	–	4	18	–	–	–	–
2.5 4.0	10	90	60	40	35	16	2	4	4	14	–	–	–	–
	15	95	65	45	40	16	2	4	4	14	–	–	–	–
	20	105	75	55	51	16	2	4	4	14	–	–	–	–
	25	115	85	65	58	16	2	4	4	14	–	–	–	–
	32	135	100	78	66	18	2	4	4	18	–	–	–	–
	40	145	110	85	76	18	3	4	4	18	–	–	–	–
	50	160	125	100	88	20	3	4	4	18	–	–	–	–
6.3	10	100	70	50	35	18	2	4	4	14	50	35	9	6.5
	15	105	75	55	40	18	2	4	4	14	55	35	9	6.5
	20	125	90	68	51	20	2	4	4	18	68	45	9	6.5
	25	135	100	78	58	22	2	4	4	18	78	50	9	6.5
	32	150	110	82	66	24	2	4	4	23	82	65	9	6.5
	40	165	125	95	76	24	3	4	4	23	95	75	9	6.5
	50	175	135	105	88	26	3	4	4	23	105	85	12	8
10.0	10	100	70	50	35	18	2	4	4	14	50	35	9	6.5
	15	105	75	55	40	20	2	4	4	14	55	35	9	6.5
	20	125	90	68	51	22	2	4	4	18	68	45	9	6.5
	25	135	100	78	58	24	2	4	4	18	78	50	9	6.5
	32	150	110	82	66	24	2	4	4	23	82	65	9	6.5
	40	165	125	95	76	26	3	4	4	23	95	75	9	6.5
	50	195	145	112	88	28	3	4	4	25	112	85	12	8
16.0	15	110	75	55	40	24	2	4	4	18	52	35	9	6.5
	20	130	90	62	51	26	2	4	4	23	62	45	9	6.5
	25	140	100	72	58	28	2	4	4	23	72	50	9	6.5
	32	165	115	85	66	30	2	4	4	25	85	65	9	6.5
	40	175	125	92	76	32	3	4	4	27	92	75	9	6.5
	50	215	165	132	88	36	3	4	8	25	132	95	12	8

Note :1, convex and concave flange thickness (T) includes the height of the convex part f1, ring groove flange thickness (T) does not include the height of the convex part E
2, PN<1t; 100 flange sealing form is generally concave flange, if the user needs a ring sealing flange (RJ), please specify with OULAM sales staff in the contract.

Temperature pressure rating (Psig)- F: Class 150-300-600-800-900-1500-2500

Materials	A105&A350-LF2							F5							F11						
Class	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500
-20 to 100	285	740	1480	1975	2220	3705	6170	290	750	1500	2000	2250	3750	6250	290	750	1500	2000	2250	3750	6250
200	260	675	1350	1800	2025	3375	5625	260	745	1490	2000	2235	3725	6205	260	750	1500	1900	2250	3750	6250
300	230	655	1315	1750	1970	3280	5470	230	715	1430	1940	2150	3580	5965	230	720	1445	1795	2165	3610	6015
400	200	635	1270	1690	1900	3170	5280	200	705	1410	1880	2115	3530	5880	200	695	1385	1755	2080	3465	5775
500	170	600	1200	1595	1795	2995	4990	170	665	1330	1775	1995	3325	5540	170	665	1330	1710	1995	3325	5540
600	140	550	1095	1460	1640	2735	4560	140	605	1210	1615	1815	3025	5040	140	605	1210	1615	1815	3025	5040
650	125	535	1075	1430	1610	2685	4475	125	590	1175	1570	1765	2940	4905	125	590	1175	1570	1765	2940	4905
700	110	535	1065	1420	1600	2665	4440	110	570	1135	1515	1705	2840	4730	110	570	1135	1515	1705	2840	4730
750	95	505	1010	1345	1510	2520	4200	95	530	1055	1420	1585	2640	4400	95	530	1065	1420	1595	2660	4430
800	80	410	825	1100	1235	2060	3430	80	510	1015	1325	1525	2540	4230	80	510	1015	1355	1525	2540	4230
850	65	270	535	715	805	1340	2230	65	485	965	1170	1450	2415	4030	65	485	975	1300	1460	2435	4060
900	50	170	345	460	515	860	1430	50	370	740	940	1110	1850	3085	50	450	900	1200	1350	2245	3745
950								35	275	550	695	825	1370	2285	35	320	640	1005	9550	1595	2655
1000								20	200	400	510	595	995	1655	20	215	430	595	650	1080	1800
1050									145	290	375	430	720	1200		145	290	365	430	720	1200
1100									100	200	275	300	495	830		95	190	225	290	480	800
1150									60	125	185	185	310	515		60	125	140	185	310	515
1200									35	70	120	105	170	285		40	75	95	115	190	315
1250																					
1300																					

Temperature pressure rating (Psig)- F:Class 150-300-600-800-900-1500-2500

Materials	F22							F91							F304 F304H						
Class	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500
-20 to 100	290	750	1500	2000	2250	3750	6250	290	750	1500	2000	2250	3750	6250	275	720	1440	1920	2160	3600	6000
200	260	750	1500	1910	2250	3750	6250	260	750	1500	2000	2250	3750	6250	230	600	1200	1600	1800	3000	5000
300	230	730	1455	1805	2185	3640	6070	230	730	1455	1940	2185	3640	6070	205	540	1080	1410	1620	2700	4500
400	200	705	1410	1730	2115	3530	5880	200	705	1410	1880	2115	3530	5880	190	495	995	1255	1490	2485	4140
500	170	665	1330	1705	1995	3325	5540	170	665	1330	1775	1995	3325	5540	170	465	930	1165	1395	2330	3880
600	140	605	1210	1615	1815	3025	5040	140	605	1210	1615	1815	3025	5040	140	435	875	1105	1310	2185	3640
650	125	590	1175	1570	1765	2940	4905	125	590	1175	1570	1765	2940	4905	125	430	860	1090	1290	2150	3580
700	110	570	1135	1515	1705	2840	4730	110	570	1135	1515	1705	2840	4730	110	425	850	1075	1275	2125	3540
750	95	530	1065	1420	1595	2660	4430	95	530	1065	1420	1595	2660	4430	950	415	830	1060	1245	2075	3460
800	80	510	1015	1355	1525	2540	4230	80	510	1015	1355	1525	2540	4230	80	105	805	1050	1210	2015	3360
850	65	485	975	1300	1460	2435	4060	65	485	975	1300	1460	2435	4060	65	395	790	1035	1190	1980	3300
900	50	450	900	1200	1350	2245	3745	50	450	900	1200	1350	2245	3745	50	390	780	1025	1165	1945	3240
950	35	375	755	1005	1130	1885	3145	35	385	775	1030	1160	1930	3220	35	380	765	1000	1145	1910	3180
1000	20	260	520	715	780	1305	2170	20	365	725	970	1090	1820	3030	20	320	640	860	965	1605	2675
1050		175	350	530	525	875	1455	20	360	720	960	1080	1800	3000		310	615	825	925	1545	2570
1100		110	220	300	330	550	915	20	300	605	805	905	1510	2515		255	515	685	770	1285	2145
1150		70	135	275	205	345	570	20	225	445	595	670	1115	1855		200	400	520	595	995	1655
1200		40	80	145	125	205	345	20	145	290	385	430	720	1200		155	310	415	465	770	1285
1250																115	225	295	340	565	945
1300																85	170	220	255	430	715

Body and bonnet materials

Chemical composition	Carbon steel	Hypothermy		Alloy steel				ASTM-A182						Duplex stainless steel
	A105	Lf2	Lf3	F5	F91	F11Class2	F22Class3	F304	F304H	F304L	F316	F316L	F347H	F51
C	0.35	0.35	0.20	0.15	0.08–0.12	0.10–0.20	0.05–0.15	0.08	0.04–0.10	0.035	0.08	0.035	0.04–0.1	0.030
Mn	0.60–1.05	0.60–1.35	0.90	0.30–0.60	0.30–0.60	0.30–0.80	0.30–0.60	2.00	2.00	2.00	2.00	2.00	2.00	2.00
P	0.035	0.035	0.035	0.030	0.020	0.040	0.040	0.045	0.045	0.045	0.045	0.045	0.045	0.030
S	0.040	0.040	0.040	0.030	0.010	0.040	0.040	0.030	0.030	0.030	0.030	0.030	0.030	0.20
Si	0.10–0.35	0.15–0.30	0.20–0.35	0.50	0.20–0.50	0.50–1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ni	0.40	0.40	33–3.7	0.50	0.40	–	–	8.0–11.0	8.0–11.0	8.0–13.0	10.0–14.0	10.0–15.0	9.0–13.0	4.5–6.5
Cr	0.30	0.30	0.30	4.0–6.0	8–9.5	1.00–1.50	2.00–2.50	18.0–20.0	18.0–20.0	18.0–20.0	16.0–18.0	16.0–18.0	17.0–20.0	21–23
Mo	0.12	0.12	0.12	0.44–0.65	0.85–1.05	0.44–0.65	0.87–1.13	–	–	–	2.00–3.00	2.00–3.00	–	2.5–3.5

Mechanical property	ASTM A105	LF2	LF3	F5	F91	F11Class2	F22Class3	F304	F304H	F304L	F316	F316L	F347H	F51
Tensile strength	70	70–95	70–95	70	85	70	75	75	75	70	75	70	75	90
Yield strength	36	36	37.5	40	60	40	45	30	30	25	30	25	30	65
Rate of elongation	22	22	22	20	20	20	20	30	30	30	30	30	30	25
Shrinkage of section	30	30	35	35	40	30	30	50	50	50	50	50	50	45
Brinell hardness	187(2)	197	197	143–217	≤248	143–207	156–207	–	–	–	–	–	–	–

内件与螺栓材料

Chemical composition	Internal material					Bolt material				
	AISI 410	AISI 416	AISI 420	ASTM B164 Monel	Stellite Gr.6	ASTM A193		AISI 430	ASTM A194	
						B7	B8		2H	G8
C	0.15max.	0.15max.	0.15max.	0.3max.	1.00	0.37–0.49	0.08max.	0.12max.	0.40min.	0.08max.
Mn	1.00max.	1.25max.	1.00max.	2.0max.	1.00max.	0.65–1.10	2.0max.	1.00max.	1.00max.	2.00max.
P	0.040	0.060max.	0.040	–	–	0.035	0.045	0.040	0.040max.	0.045
S	0.030	0.15max.	0.030	0.024	–	0.04	0.030	0.030	0.050max.	0.030
Si	1.00max.	1.00max.	1.00max.	0.5max.	1.00	0.15–0.35	1.00max.	1.00max.	0.40max.	1.00max.
Cr	11.50–13.50	12.0–14.0	12.0–14.0	–	28.00	0.75–1.20	18.0–20.0	14.0–18.0	–	18.0–20.0
Ni	–	–	–	63.0min.	3.0max.	–	8.00–11.0	–	–	8.00–11.0
Mo	–	0.600.max.	–	–	–	0.15–0.25	–	–	–	–
Cu	–	–	–	28.0–34.0	–	–	–	–	–	–
Other elements	–	–	–	Fe:2.5max.	Fe:3.0max. W:4.0 Co:ba ance	–	–	–	–	–

	410	416	420	ASTM A164	Gr.6	B7	B8	430	2H	G8
Mechanical property	99/85 70/130	85/170 85/170	149/298 105/210	70(2) 49.2	– –	125 87.8	75 52.7	75.4 53	– –	– –
Tensile strength	59/170	59/128	119/199	25(2)	–	105	30	40	–	–
Yield strength	42/120	42/90	84/140	17.6	–	73.8	21	28	–	–
Shrinkage of section	(15)(1)	(10)(1)	(8)(1)	(35)(2)	–	16	30	28	–	–
Shrinkage of section	50/75	8/60	5/40	–	–	50	50	65	–	–
Brinell hardness	180–375	180/375	300–600	–	HRCmin.37	–		160	248–352	126–300