PROTEK

www.protekvalves.co.uk




Forged Steel Valves

- Ball Valves
- Gate Valves
- Globe Valves
- Check Valves
- Strainer

TÜV CERT DIN ISO 9001

CE 0035

TÜV

PROTEK

www.protekvalves.co.uk

Protek Valve have strong technical capability . It isalso equiped with many manufacturing facilities and test equipments including Ultrasonic test, Radiographic test both X-ray and gamma ray, Magnetic particle test , liquid Penetant test , Pressure test and materials analyzers which can assure the reliability and safety of the products.

Protek Valve Co., Ltd has obtained API certificates and was granted the Quality System certificate of ISO9001-2000 by TUV Rhineland. The company also obtained PED module "H" certificate issued by TUV Rhineland as European Notified Body and get the authorization to use CE marking for industrial valves , Protek valves , has adopted API ANSI ASME MSS JIS BS DIN etc standard to design , manufacturing and inspection of industrial vaslves , and has become one of major manufacturers and supplies of valves used in petroleum and petrochemical industrials. Protek valves have exported the industrial valve to international markets such as North and South America , Europe , Middle East and South east Asia, We also established good relationship with many international company and traders.

The main products manufactured at Protek is Gate , Globe , Check , Ball , Plug, Butterfly and some special requirement vavles. The pressure rating is from Class 150 (PN20) to Class 2500 (PN420) and size range is from1/8(DN3) to 36 (DN900). The main material of valves are Carbon, Alloy and Stainless steel materials, such as WCB (DIN 1.0619), CF8 (DIN1.4403) CF8M (DIN1.4408) and Titanium and Monel etc. We also can provided other special materials as per customer's requirements. Bused on our company's police "Clients first ". Protek will provide quality valves as wellas best services to both demestic and foreign customers.

ISO 9001 Certificate

API 6D Certificate

Companies

All PROTEK products are manufactured to the very highest quality considerations and under an ISO 9001 / 9002 quality control system. The locations include:

Newcastle England (Head Office)		
Bilbao Spain	Valencia Spain	Madrid Spain
Barcelona Spain	Milan Italy	Gothenburg Sweden
Bangkok Thailand	Osaka Japan	

Sales & Marketing

PROTEK products are sold worldwide via a network of agents and representatives. The attached map indicates the location of these agents. For further details please contact **PROTEK** UK head office.

England – Spain – France – Finland – Germany – Greece - India - Saudi Arabia - Kuwait - United Arab Emirates - Singapore – Indonesia - USA - Canada - Morocco - Mexico - Cuba – Colombia - Venezuela – Ecuador

How to order protek direct seal valve

□□□□ □□□□ □□□□ □□□ □□ □□□

A B C D E F G

A :	BODY MATERIAL	FS : FORGEDSTEEL
		CS : CASTSTEEL

B :	TYPE OF VALVE	GT : GATE
		GL : GLOBE
		CP : PISTON
		CS : SWING
		YS : Y-STRAINER

C :	SIZE / CODE	1/4"	10	1 1/4"	125	3"	300
		3/8"	25	1 1/2"	150	4"	400
		1/2"	50	2"	150	5"	500
		3/4"	75	2 1/2"	150	6"	600
		1"	100				

D :	CLASS [PRESSURE RATING]
	150/300/600/800/900/1500/2500/ SPECIAL

E :	BODY MATERIAL	
	FORGED STEEL	
	A105N	304
	F5	304L
	F11	316
	F22	316L

F :

TRIM MATERIAL							
TRIM NO.	WEDGE/DISC	SEATS	STEM	TRIM NO.	WEDGE/DISC	SEATS	STEM
1	CR13	CR13	CR13	15	HASTELLOY	HARDFACED	HASTELLOY
5	HARDFACED	HARDFACED	CR13	16	HARDFACED	HARDFACED	18-8-3M
8	CR13	HARDFACED	CR13	17	HARDFACED	HARDFACED	347
9	MONEL	MONEL	MONEL	18	HARDFACED	HARDFACED	MONEL
10	18-8-3M	18-8-3M	18-8-3M	19	TITANIUM	HARDFACED	TITANIUM
11	MONEL	HARDFACED	MONEL	20	TITANIUM	TITANIUM	TITANIUM
12	18-8-3M	HARDFACED	18-8-3M	21	INCONEL	INCONEL	INCONEL
13	ALLOY 20	ALLOY 20	ALLOY 20	22	INCONEL	HARDFACED	INCONEL
14	HASTELLOY	HASTELLOY	HASTELLOY	23	347	HARDFACED	347
				50	SPEACIAL	SPEACIAL	SPEACIAL

G :	SPECIAL REQUIREMENTS
	JIS / DIN / STANDARD

Manufacturing in U.K.

Fugitive Emission Test

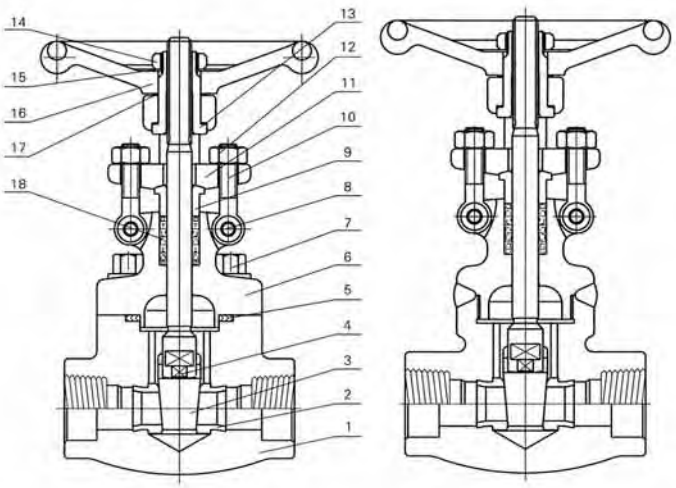
Forged Steel gate vales

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

Construction is as follows

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

Female threaded and socket welded gate valves



Application standards

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

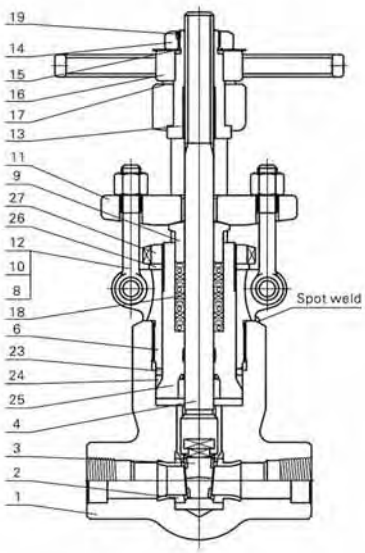
Carbon steel temperature-pressure rate

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

Main part materials list

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

Pressure sealing gate valves



Application standards

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

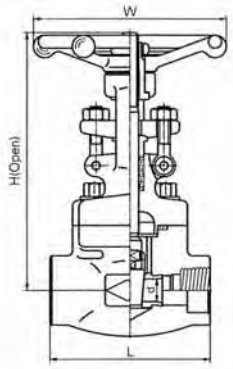
Carbon steel temperature-pressure rate

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

Main part materials list

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

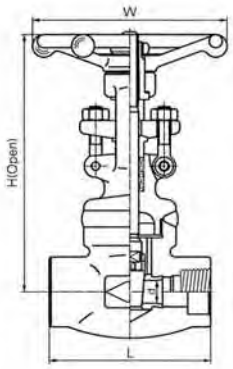
Female threaded and socket welded gate valves



CL800

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

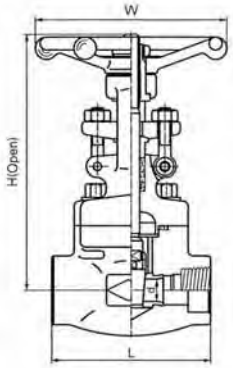
Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	120	140	178	180
Handwheel diameter	W	100	100	100	125	160	160	180	200	220
Height	H	161	161	163	196	223	251	290	333	370
Flow port dimension	d	8	10.5	13.5	18	24	29	36.5	45	51
Weight(Kg)		2.3	2.22	2.39	4.24	5.7	7.05	10.9	16.8	24



CL800

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

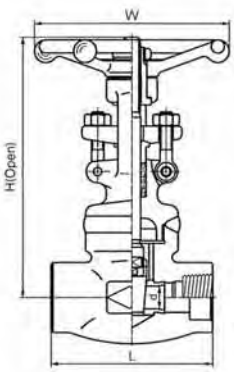
Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	120	140	178	180
Handwheel diameter	W	100	100	100	125	160	160	180	200	220
Height	H	161	161	163	196	223	251	290	333	370
Flow port dimension	d	8	10.5	13.5	18	24	29	36.5	45	51
Weight(Kg)		1.9	1.9	2.1	3.2	5.2	6.9	10.4	15.8	22



CL900-CL1500

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

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	92	111	111	120	120	140	178	180	-
Handwheel diameter	W	100	125	125	160	160	180	200	220	-
Height	H	191	191	192	219	243	296	316	370	-
Flow port dimension	d	8	10.5	13.5	18	24	29	36.5	45	-
Weight(Kg)		2.4	4.4	4.3	6	7.2	11.4	16	23	-

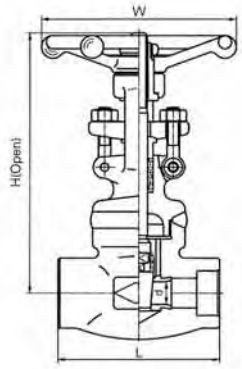


CL900-CL1500

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

Specification (NPS)	R.P	-	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	92	111	111	120	120	140	178	180	-
Handwheel diameter	W	100	125	125	160	160	160	200	220	-
Height	H	171	207	207	240	258	330	355	370	-
Flow port dimension	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	-

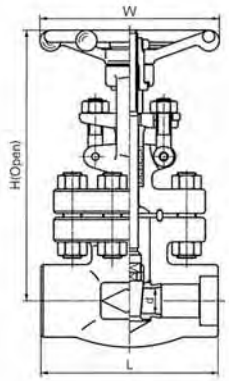
Female threaded and socket welded gate valves



CL2500

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

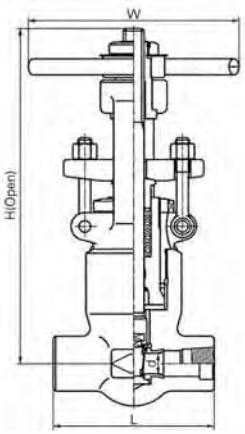
Specification(NPS)		1/4	3/8	1/2	3/4	1	1 1/4	2
Face to face	L		111	120	120	120	140	
Handwheel diameter	W		125	160	160	180	220	
Height	H		215	218	220	238	281	
Flow port dimension	d		14	14	14	19	25	
Weight(Kg)			7	8.7	8.5	11.7	17	



CL1500-CL2500

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

Specification(NPS)	F.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	CL1500	110	150	150		210	235	
		CL2500	150	150	210		235	235	
Handwheel diameter	W	CL1500	110	130	130		180	250	
		CL2500	130	130	250		300	300	
Height	H	CL1500	277	300	390		400	435	
		CL2500	293	300	390		435	435	
Flow port dimension	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	

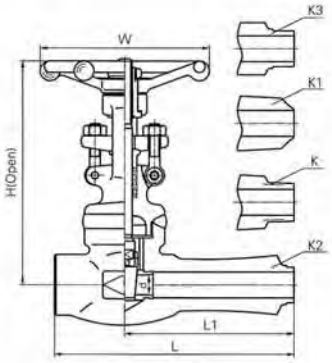


CL1500-CL2500

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

Specification(NPS)	F.P		3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	CL900~1500	140	140	140	140	178	178	216
		CL2500	186	186	186	186	232	232	279
Handwheel diameter	W	CL900~1500	200	200	200	200	280	280	300
		CL2500	200	200	200	200	280	280	300
Height	H	CL900~1500	318	318	318	322	467	468	540
		CL2500	325	325	325	327	467	468	540
Flow port dimension	d	CL900~1500	14	14	14	19	25	30	36.5
		CL2500	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	12.3	12.3	11.6	10.8	26.0	28.4	60.0

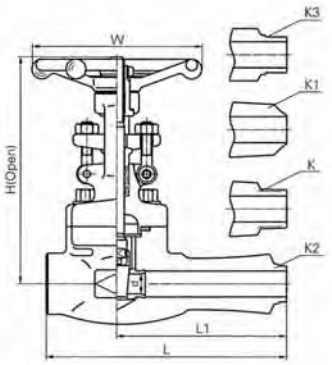
Extended body gate valves



CL800

Welded bonnet, reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to API 602, API 606

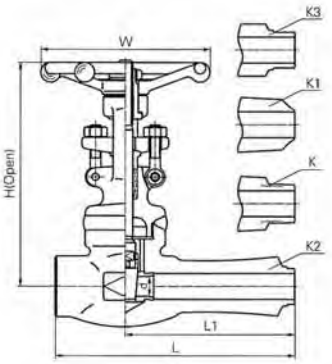
Specification(NPS)		1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	192	215	239	239	258	262
		153	153	182	182	216	216
Extended length	L_1	152	170	184	184	193	197
		108	108	127	127	152	152
Handwheel diameter	W	100	100	125	160	160	180
Height	H	161	163	196	223	251	290
Flow port dimension	d	10.5	13.5	18	24	29	36.5
Weight(Kg)	K_2	2.5	2.7	4.5	6.3	8.5	11.6
	K,K_1,K_3	2.2	2.4	3.4	6	8.0	11.4



CL800

Bolted bonnet, reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to API 602, API 606

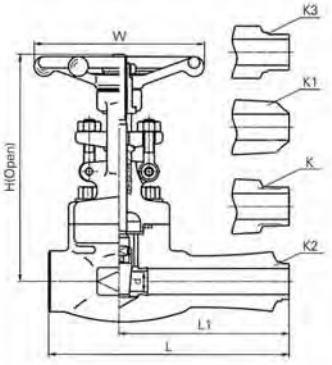
Specification(NPS)		1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	192	215	239	239	258	262
		153	153	182	182	216	216
Extended length	L_1	152	170	184	184	193	197
		108	108	127	127	152	152
Handwheel diameter	W	100	100	125	160	160	180
Height	H	161	163	196	223	251	290
Flow port dimension	d	10.5	13.5	18	24	29	36.5
Weight(Kg)	K_2	2.8	2.0	5.5	7	8.5	12.1
	K,K_1,K_3	2.4	2.5	5	6.1	7.8	11.5



CL1500

Welded bonnet, reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to API 602, API 606

Specification(NPS)		1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	239	239	239	258	262	264
		182	182	182	216	216	264
Extended length	L_1	184	184	184	193	197	189
		127	127	127	152	152	189
Handwheel diameter	W	125	125	160	160	180	200
Height	H	207	207	240	258	330	370
Flow port dimension	d	10.5	13.5	18	24	29	36.5
Weight(Kg)	K_2	5.6	5.6	7.1	8.7	12.5	16.3
	K,K_1,K_3	5.1	5.1	6.2	8	11.7	15.7

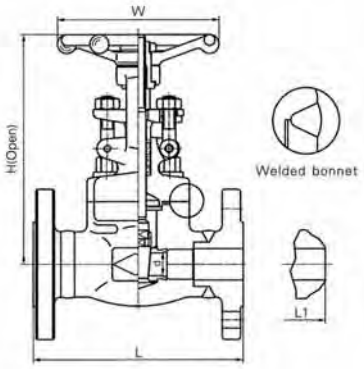


CL1500

Bolted bonnet, reducing port outside screw and yoke(OS & Y)
Threaded, butt-welded or socket welded ends; design to API 602, API 606

Specification(NPS)		1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	239	239	239	258	262	264
		182	182	182	216	216	264
Extended length	L_1	184	184	184	193	197	189
		127	127	127	152	152	189
Handwheel diameter	W	125	125	160	160	180	200
Height	H	207	207	240	258	330	370
Flow port dimension	d	10.5	13.5	18	24	29	36.5
Weight(Kg)	K_2	6	6	7.7	9.2	13.2	16.7
	K,K_1,K_3	5.7	5.7	6.5	8.2	12.3	15.9

Forged steel flange gate valves

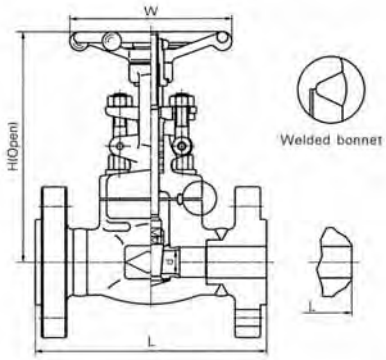


CL150-300-600

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

Specification(NPS)			1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	CL150	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		W	–	–	100	100	125	160	160	180	200
Height	CL150	H	–	–	176	184	217	226	250	290	357
	CL300,CL600		–	–	161	163	196	226	250	290	357
Height (angle dinmension)		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	7.1	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

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

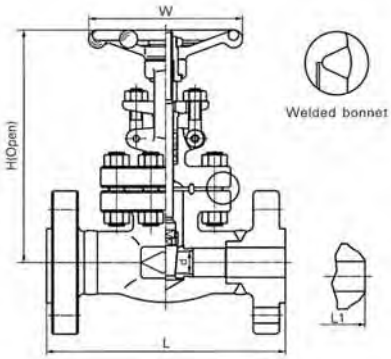


CL900-CL1500

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

Specification(NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	–	–	216	229	254	279	305	368
	L(RTJ)	–	–	216	229	254	279	305	371
Handwheel diameter	W	–	–	125	125	160	180	200	220
Height	H	–	–	191	192	219	257	296	316
Height(angle dinmension)	d	–	–	13.5	18	24	29	36.5	45
Weight(Kg)		–	–	7.2	11.5	15.6	16.2	22.6	28.2

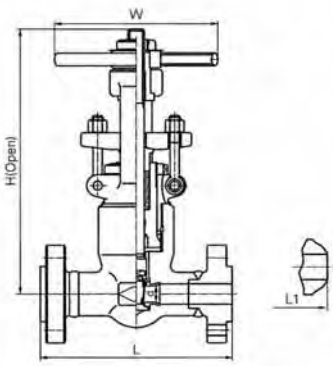
If you want to order one piece body, please contract with sale department



CL2500

Bolted bonnet, full port outside screw and yoke(OS & Y)
Flange–welded or butt–welded ends; design to ASME B16.34

Specification(NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face (mm)	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter	W	–	–	125	160	160	–	200	240
Height	H	–	–	207	240	258	–	355	370
Height(angle dinmension)	d	–	–	13.5	13.5	19	–	30	36.5
Weight(Kg)		–	–	19.5	21.5	42	–	65	95

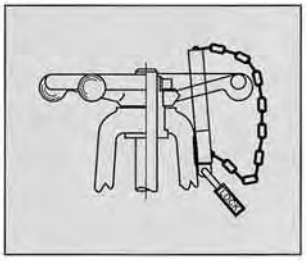


CL2500

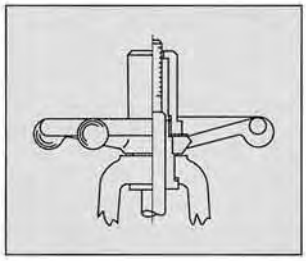
Pressure seal gate valves, full port outside screw and yoke(OS & Y)
Flange–welded or butt–welded ends; design to ASME B16.34

Specification(NPS)		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter	W	–	–	200	200	200	–	280	300
Height	H	–	–	325	325	327	–	478	540
Height(angle dinmension)	d	–	–	13.5	13.5	19	–	30	36.5
Weight(Kg)		–	–	4.6	6.8	7.6	–	15	21.9

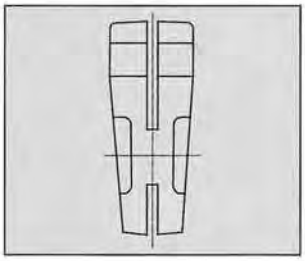
Chosen devices and varieties of gate valves



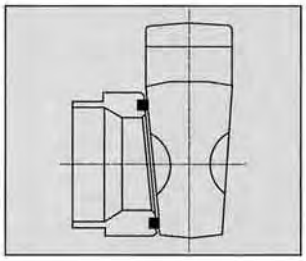
Locking device



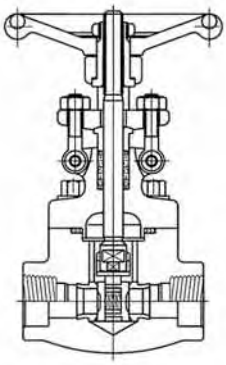
Position indicator



Flexible wedge

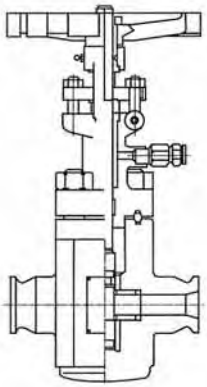


Insert PTFE seat



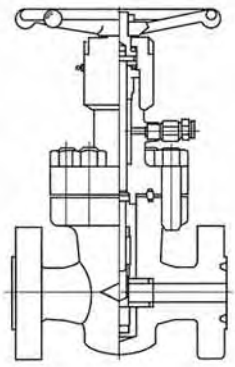
Dynamic double–wedge gate valves

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



Flat gate valves

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



Flat gate valves

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

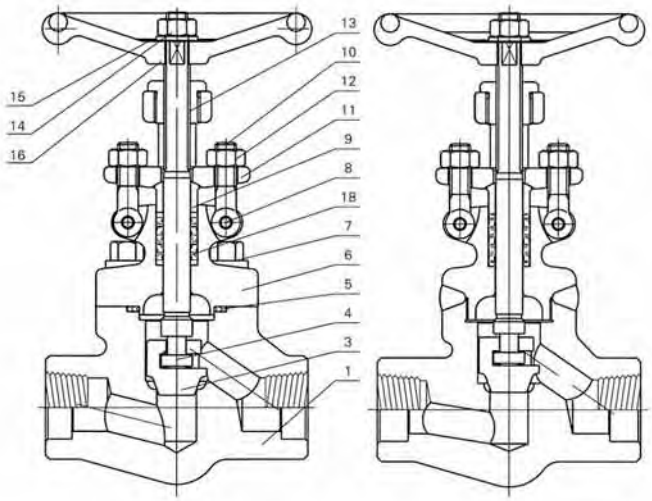
Forged steel globe valves

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

Construction is as follows

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

Female threaded and socket welded globe valves



Application standards

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

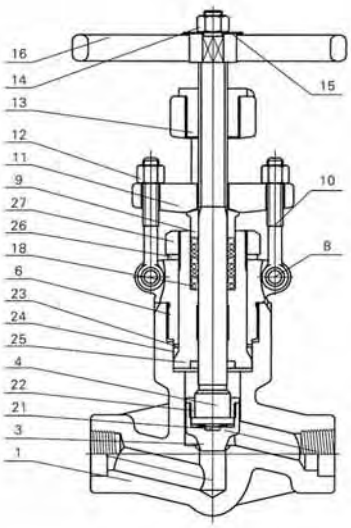
Carbon steel temperature-pressure rate

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

Main part materials list

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

Pressure sealing globe valves



Application standards

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

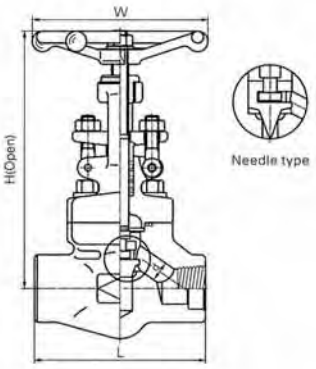
Carbon steel temperature-pressure rate

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

Main part materials list

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

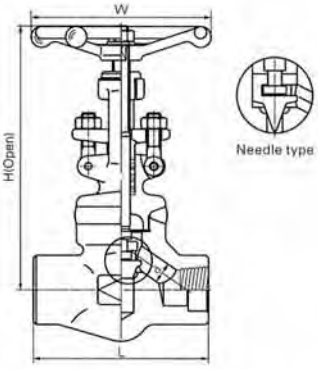
Female threaded and socket welded globe valves



CL800

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

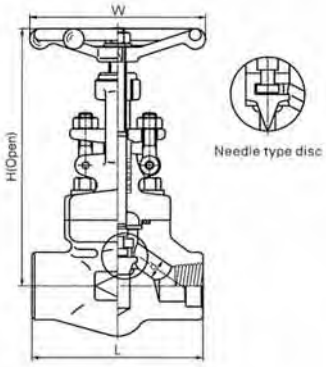
Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	152	172	200	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	164	164	164	203	224	260	300	355	
Height (angle dinmension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		1.9	2.28	2.37	4.3	5.75	7.8	12.5	17.5	



CL800

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

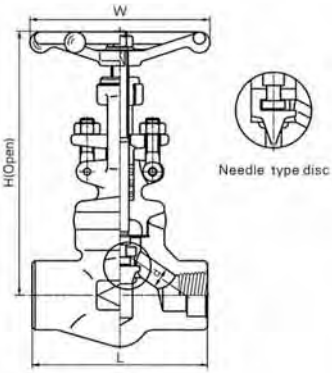
Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	152	172	200	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	164	164	164	203	224	260	300	355	
Height (angle dinmension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		1.7	1.7	1.9	3.3	5.2	6.8	10.6	13.8	



CL900-CL1500

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

Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	92	111	111	120	152	172	200	220	–
Handwheel diameter	W	100	125	125	160	160	180	200	240	–
Height	H	171	207	207	240	258	330	355	370	–
Height (angle dinmension)	d	7	12	15	20	28	32	40	45	–
Weight(Kg)		2.3	3.7	3.6	6.8	7.6	11.6	15	21.9	–

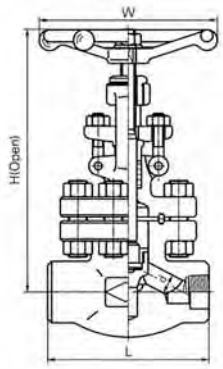


CL900-CL1500

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

Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	92	111	111	120	152	172	200	220	–
Handwheel diameter	W	100	125	125	160	160	180	200	240	–
Height	H	171	207	207	240	258	330	355	370	–
Height (angle dinmension)	d		12	15	20	28	32	40	45	–
Weight(Kg)		270	3.4	3.3	6.0	5.6	10.3	14.2	18.0	–

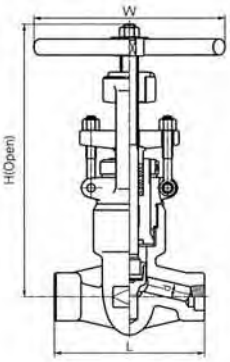
Female threaded and socket welded globe valves



CL900-CL1500

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

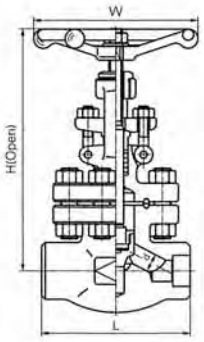
Specification(NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	110	110	150	150		210	235
Handwheel diameter	W	110	110	130	210		180	250
Height	H	227	227	300	307		40	448
Height(angle dinmension)	d	9	12	15	20		32	40
Weight(Kg)		5	5	10	11.5		22	37



CL900-CL1500

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

Specification(NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	140	140	140	178	178	216	
Handwheel diameter	W	200	200	200	280	280	300	
Height	H	320	320	320	440	440	490	
Height(angle dinmension)	d	12	15	20	28	32	40	
Weight(Kg)		11.5	10.8	10.5	19.6	21.1	55.4	

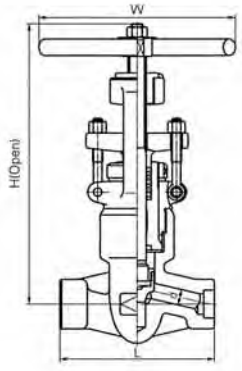



Welded bonnet

CL2500

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

Specification(NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	150	150	210		235	235	
Handwheel diameter	W	130	130	250		300	300	
Height	H	293	300	390		435	435	
Height(angle dinmension)	d	11	14	19		28	35	
Weight(Kg)		10	10.3	22.4		38	38	

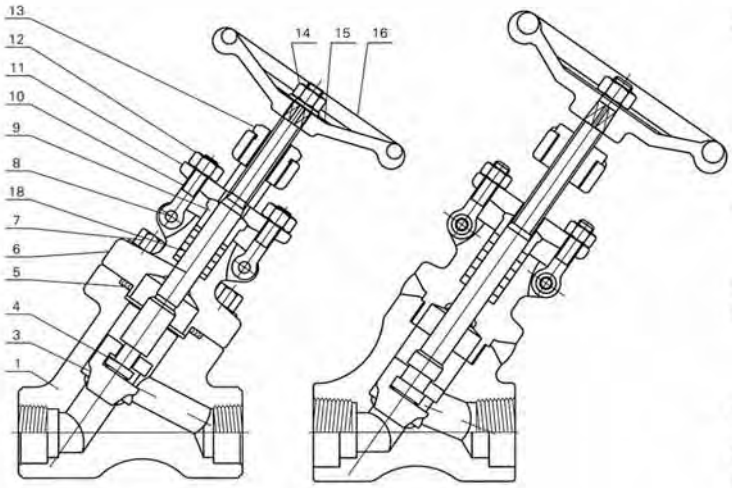


CL2500

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

Specification(NPS)	F.P	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	186	186	186	232	232	279	
Handwheel diameter	W	200	200	200	280	280	300	
Height	H	375	378	380	490	490	540	
Height(angle dinmension)	d	11	14	19	25	28	35	
Weight(Kg)		12.3	11.6	10.8	26.0	28.4	60	

Female threaded and socket welded Y type globe valves



Application standards

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

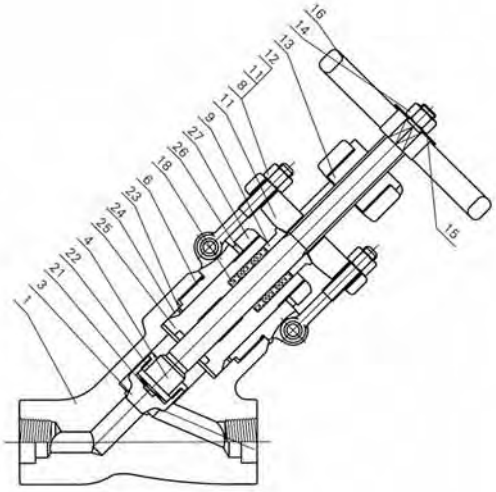
Carbon steel temperature-pressure rate

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

Main part materials list

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

Pressure seal Y type globe valves



Application standards

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

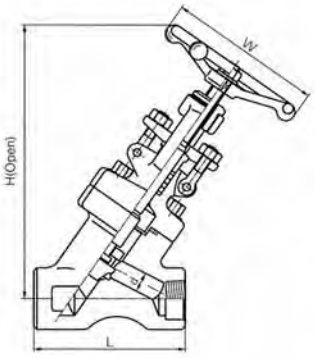
Carbon steel temperature-pressure rate

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

Main part materials list

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

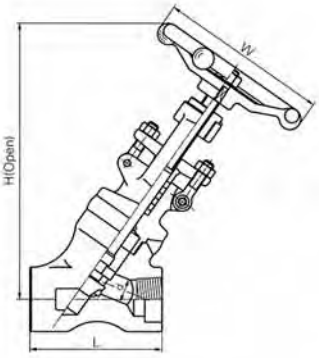
Y type globe valves



CL800

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

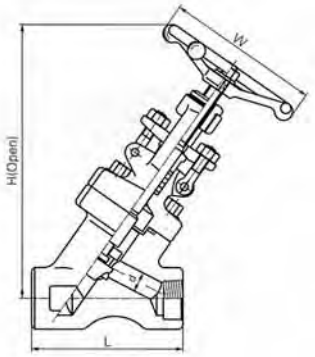
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	98	98	98	111	140	140	155	170	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	180	180	180	188	280	280	295	350	
Height(angle dinmension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)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



CL800

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

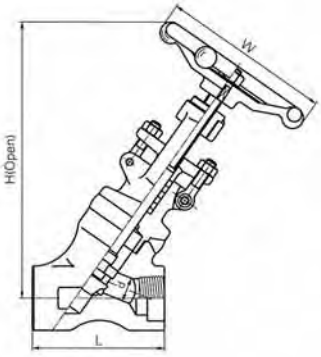
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	100	140	140	155	170	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	198	198	198	207	280	280	295	350	
Height(angle dinmension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		1.8	1.8	2.0	3.5	8.0	8.0	12	16	



CL900-CL1500

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

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

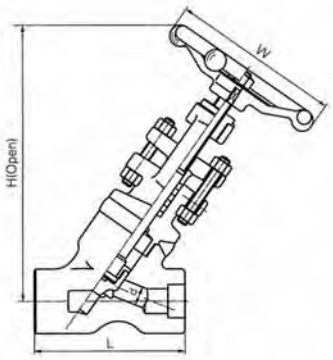


CL900-CL1500

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

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	92	100	100	140	140	155	170	
Handwheel diameter	W	100	125	125	160	160	180	200	
Height	H	175	207	207	280	280	295	350	
Height(angle dinmension)	d	9	12	15	20	28	32	40	
Weight(Kg)		1.8	3.5	3.5	8.0	8.0	12	16	

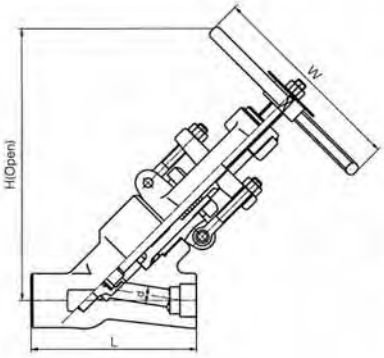
Y type globe valves



CL2500

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

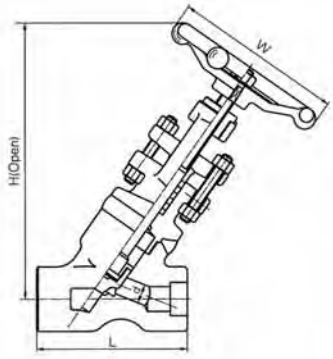
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Handwheel diameter	W	200	200	20	200	280	280	300
Height	H	329	329	329	329	350	350	383
Height (angle dinmension)	d	9	11	14	19	25	28	35
Weight(Kg)		12.3	12.3	11.6	10.8	28.0	26.4	43.8



CL2500

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

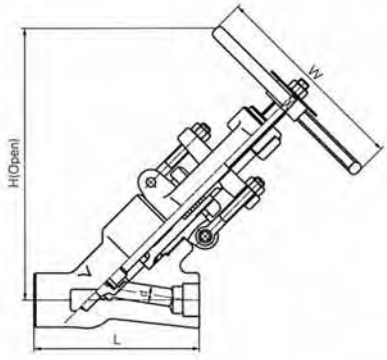
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Handwheel diameter	W	200	200	20	200	280	280	300
Height	H	333	333	333	333	406	406	524
Height (angle dinmension)	d	9	11	14	19	25	28	35
Weight(Kg)		12.3	12.3	11.6	10.8	28.0	26.4	43.8



CL4500

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

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	155	155	155	155		225	225
Handwheel diameter	W	180	180	180	180		400	400
Height	H	350	350	350	380		453	453
Height (angle dinmension)	d	9	11	11	15		26	28
Weight(Kg)		9.6	9.6	9.4	10.5		34	36

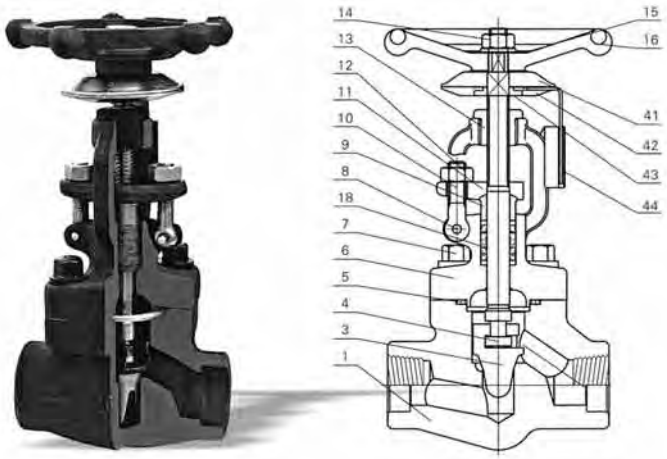


CL4500

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

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	200	200	200	200	250	250	330
Handwheel diameter	W	280	280	280	280	300	300	320
Height	H	400	400	400	400	460	460	540
Height (angle dinmension)	d	9	11	11	15	20	26	28
Weight(Kg)		30	30	30	30	30	36	58

Linear regulating valves



Application standards

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

Carbon steel temperature-pressure rate

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

PROTEK regulating valves is compose of combination valves and flow control staff guage. because equip with micrometer graduation and finger, when operator turn hand wheel around, finger would move ten percent.

PROTEK regulating valves equip with regulating disc to ensure flow, so it can accuracy control.

Seal facing of **PROTEK** regulating valves is stellite deposit, so seal faceing is more corrosion resistant, anti-abrasive and abrasion resistance.

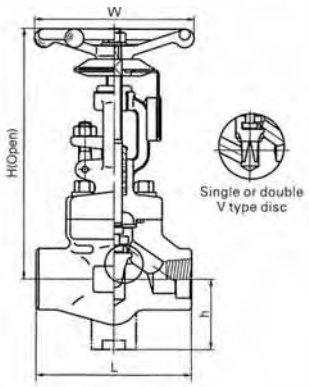
PROTEK regulating valves is manual operate, liner fow regulating function, abrasion resistance.

If you want to equip with locking device , please note you **PROTEK** requirement.

Main part materials list

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

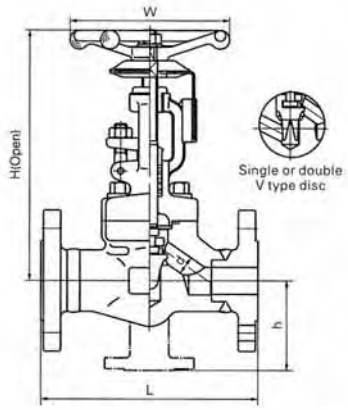
Linear regulating valves



CL800

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	79	79	92	111	120	152	172	200
Handwheel diameter	W	100	100	100	125	160	160	180	200
Height	H	166	166	171	207	240	258	330	355
Height (angle dinmension) SW & NPT(Rc)		40	40	40	45	50	55	60	70
Flow port dimension	d	7.0	9.0	13	17.5	23	30	35	46
Weight(Kg)		1.9	2.3	2.4	4.35	5.25	7.8	12.5	14.6
Flow coefficient Cv	Single disc	0.2	0.5	0.5	1.0	2.0	5.2	5.2	7.0
	Four part disc	0.4	1.0	1.0	2.0	4.0	10.4	10.4	14



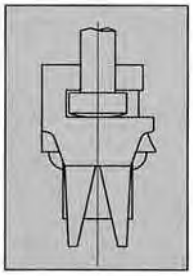
CL150-300-600

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

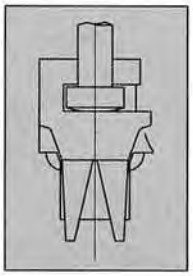
Specification(NPS)	R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face L(RF) L1(BW)	CL150	–	–	108	118	127	–	165	203
	CL300	–	–	153	178	203	–	229	267
	CL600	–	–	165	191	216	–	241	292
Handwheel diameter	W	–	–	100	100	125	–	160	180
Height	H	–	–	164	200	220	–	295	350
Height (angle dinmension) SW & NPT(Rc)		–	–	40	45	50	–	60	70
Flow port dimension	d	–	–	9.0	13	17.5	–	30	35
Weight(Kg)	CL150	–	–	3.45	4.0	6.19	–	10.5	17
	CL300	–	–	3.8	5.1	7.2	–	13.5	19.7
	CL600	–	–	5.6	7.8	12.5	–	23.5	38.8
Flow coefficient Cv	Single disc	–	–	0.5	1.0	2.0	–	5.2	7.0
	Four part disc	–	–	1.0	2.0	4.0	–	10.4	14

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

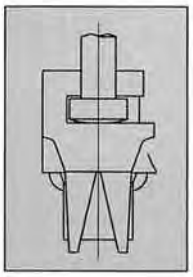
Regulating valves operation



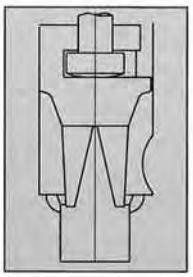
When valves full closed, disc and seat could be shut tightly.



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

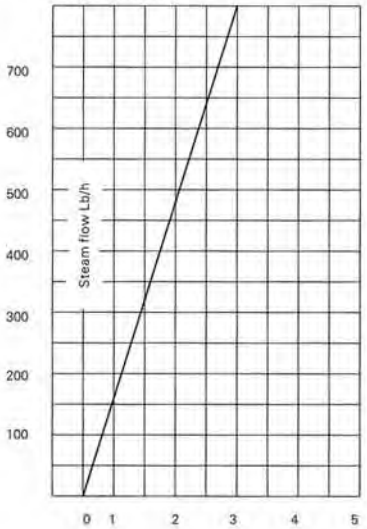


When the disc in the middle of the full lifting height, medium flow can to be reduced or increased according to control scale.

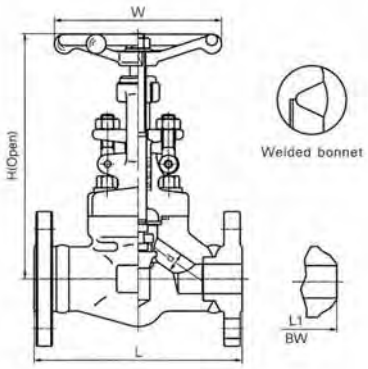


When disc in full open position, valves permit max flow to go through its port, medium flow can be reduced or acc. to control scale.

Typical stream flow chart(from experiment)



Flange and butt-welded globe valves

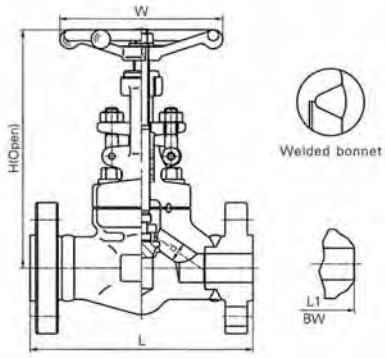


CL150-300-600

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

Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF) L1(BW)	–	–	108	117	127	140	165	203
	CL300		–	–	152	178	203	216	229	267
	CL600		–	–	165	190	216	229	241	292
Handwheel diameter		W	–	–	100	100	125	160	160	180
Height	CL150/CL300	H	–	–	180	184	217	224	260	300
	CL600		–	–	164	164	203	224	260	300
Height(angle dinmension)		d	–	–	9	13	17.5	23	30	35
Weight (Kg)	CL150 RF		–	–	3.45	4.00	6.19	9.6	10.5	17
	CL150 BW		–	–	2.3	3.6	7.8	8.2	12.0	15.0
	CL300 RF		–	–	3.8	5.1	7.2	12	13.5	19.7
	CL300 BW		–	–	2.8	4.0	8.5	9.2	12.6	16.8
	CL600 RF		–	–	5.6	7.8	12.5	17	23.5	38.8
	CL600 BW		–	–	3.4	4.7	9.2	10.5	13.3	18.9

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

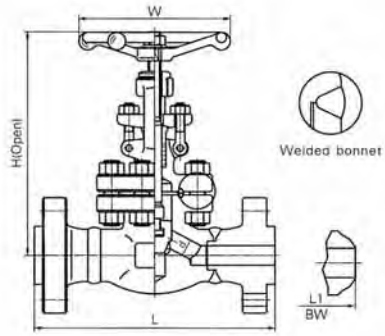


CL900-CL1500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	–	–	216	229	254	279	305	368
	L(RTJ)	–	–	216	229	254	279	305	371
Handwheel diameter	W	–	–	125	125	160	160	180	200
Height	H	–	–	207	207	230	160	300	355
Height(angle dinmension)	d	–	–	12	15	20	28	32	40
Weight (Kg)		–	–	11	13.2	17.4	19	24.5	31

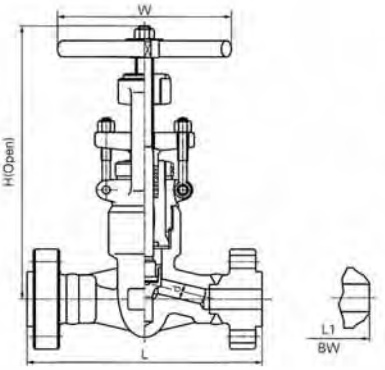
If you want to order one piece body, please contract with sale department



CL2500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter	W	–	–	125	160	200	–	250	240
Height	H	–	–	207	240	258	–	355	300
Height(angle dinmension)	d	–	–	11	14	19	–	28	35
Weight (Kg)		–	–	19.5	21.5	42	–	65	95

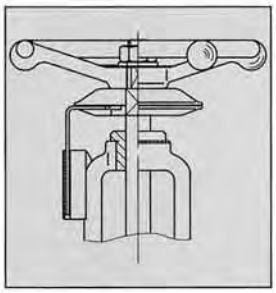


CL2500

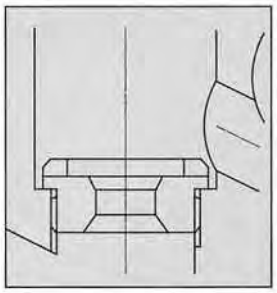
Pressure seal bonnet, full port outside screw and yoke(OS & Y)
Welding flange or butt-welded design conform to ASME B16.34

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	–	–	264	273	308	349	384	451
	L(RTJ)	–	–	264	273	308	349	387	454
Handwheel diameter	W	–	–	200	200	280	280	280	300
Height	H	–	–	320	320	320	440	440	490
Height(angle dinmension)	d	–	–	11	14	19	25	28	35
Weight(Kg)		–	–	21.5	24.7	30.4	48.1	58.1	130

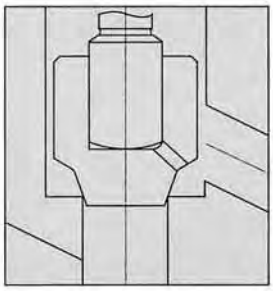
Chosen devices and varieties of globe valves



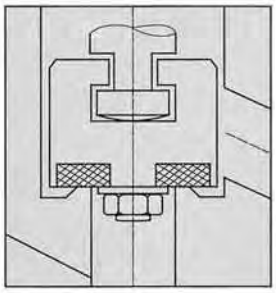
Position indicator



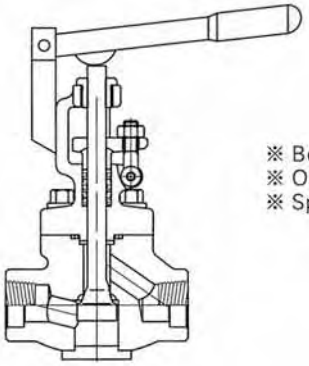
Renewable seat



Globe check valve disc



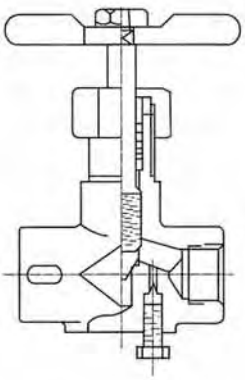
Insert PTFE seat



※ Bolted
※ OS & Y
※ Spring operation

Manual–automatic shut–off valves

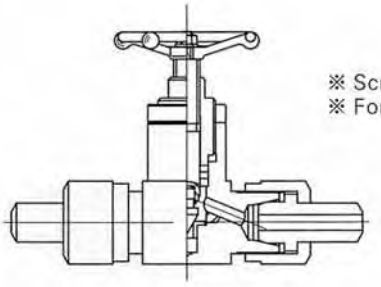
CLASS	Materials
800 1500 Flange and butt–welded	Carbon Steel Alloy Steel Stainless steel



※ Screwed bonnet
※ Forged structure

Instrument valves

CLASS	Materials
3000 6000	Carbon steel Stainless steel

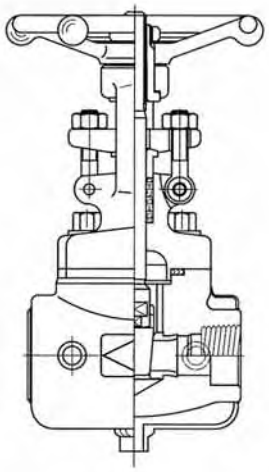


※ Screwed bonnet
※ Forged structure

Needle valves

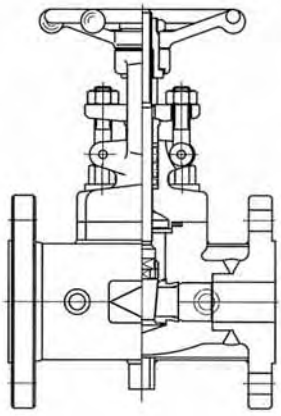
CLASS	Materials
800 1500	Carbon steel Stainless steel

Jacketed globe valves



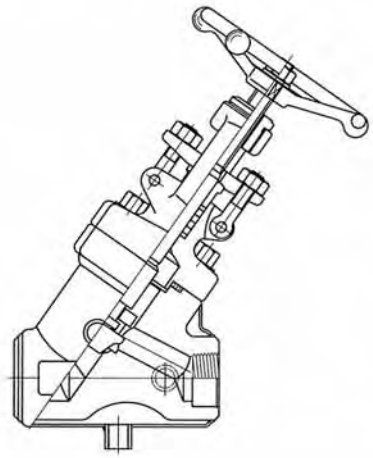
Jacketed valves (socket welding/screw/butt–welding)

CLASS	Material
150~2500	Cart steel, Stainless steel



Jacketed valves (flange)

CLASS	Material
150~2500	Cart steel, Stainless steel



Y Type jacketed valves (socket welding/screw/butt–welding/flange)

CLASS	Material
150~2500	Cart steel, Stainless steel

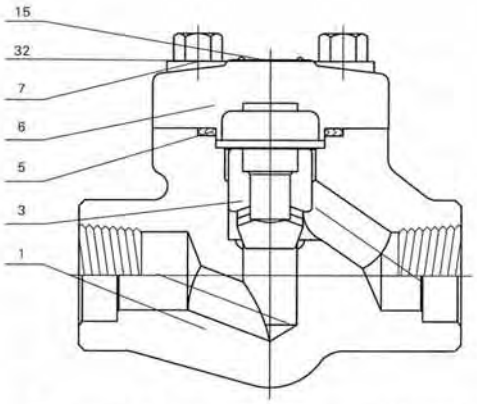
Forged steel check valves

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

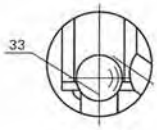
Construction is as follows

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

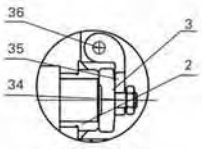
Female threaded and socket welded check valves



Please mark in you offer if you need load spring



Ball type



Swing type

Application standards

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

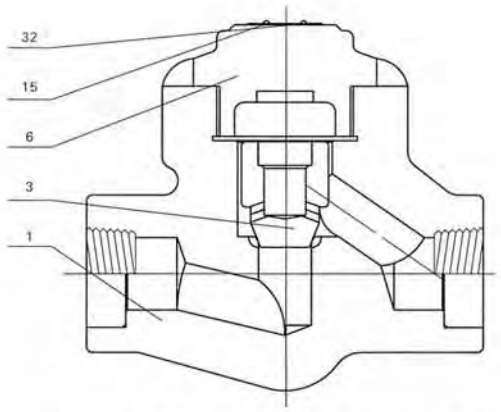
Carbon steel temperature-pressure rate

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

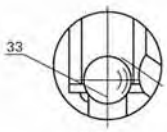
Main part materials list

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

Female threaded and socket welded check valves



Please mark in you offer if you need load spring



Ball type

Application standards

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

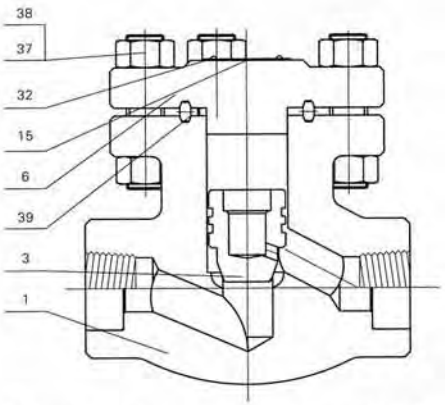
Carbon steel temperature-pressure rate

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

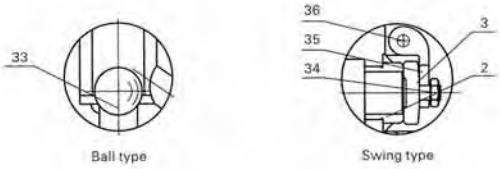
Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
32	Revit	AL	AL	AL	AL	AL	AL	AL
33	Steel ball	304	304	304	304	304(L)	316(L)	F51

Female threaded and socket welded check valves



Please mark in you offer if you need load spring



Application standards

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

Carbon steel temperature-pressure rate

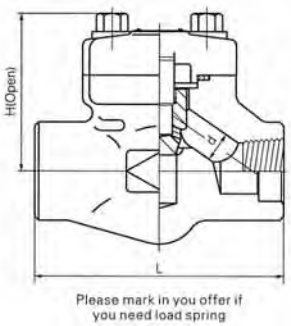
CL150-285 P.S.I @ 100° F
CL300-740 P.S.I @ 100° F
CL600-1480 P.S.I @ 100° F
CL800-1975 P.S.I @ 100° F
CL1500-3705 P.S.I @ 100° F
CL2500-6170 P.S.I @ 100° F

Main part materials list

NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	Seat ring	410	410HF	304	410HF	304(L)	316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
15	Nameplate	AL	AL	AL	AL	AL	AL	AL
32	Revit	AL	AL	AL	AL	AL	AL	AL
33	Steel ball	430	430	304	STL	316(L)	316(L)	STL
34	Disc nut	2H	2H	8	8	8(M)	8(M)	8M
35	Hinge	410	410	304	410	316(L)	316(L)	F51
36	Pin	410	410	304	410	304(L)	316(L)	F51
37	Screwed stud	B7	B7	L7	B16	B8(M)	B8(M)	B8(M)
38	Nut	2H	2H	8	8	8(M)	8(M)	8(M)
39	Metal ring	304	304	304	304	304(L)	316(L)	F51

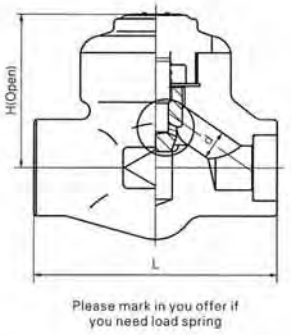
Female threaded and socket welded check valves

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



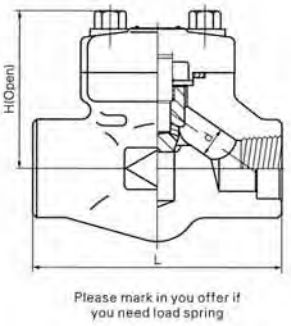
Specification (NPS)	R.P			1/2	3/4	1	1 1/4	1 1/2	2	
	F.P		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	Lift	79	79	92	111	120	152	172	200
		Swing	79	79	92	111	120	120	140	178
Height	H	Lift	61	61	61	78	84	84	118	132
		Swing	61	61	61	78	84	84	120	133
Height (angle dinmension)	d	Lift	7	9	13	17.5	23	30	35	46
		Swing	8	10.5	13.5	18	24	29	36.5	45
Weight(Kg)		Lift	1.2	1.5	1.7	3.3	4.2	4.2	10.5	12.5
		Swing	1.4	1.5	1.7	3.3	4.2	4.2	8.5	10.9

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



Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	79	79	92	111	120	152	172	200
Height	H	61	61	61	78	84	103	118	132
Height (angle dinmension)	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

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



Specification (NPS)	R.P			1/2	3/4	1	1 1/4	1 1/2	2	
	F.P		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	Lift	92	111	111	120	152	172	200	
		Swing	92	111	111	120	120	140	178	
Height	H	Lift	61	78	78	84	103	118	132	
		Swing	61	78	78	84	101	120	133	
Height (angle dinmension)	d	Lift	7	12	15	20	28	32	40	
		Swing	8	10.5	13.5	18	24	29	45	
Weight(Kg)		Lift	1.5	3.4	3.3	4.2	6.3	10.5	12.5	
		Swing	1.5	3.4	3.3	4.2	5.0	8.5	10.9	

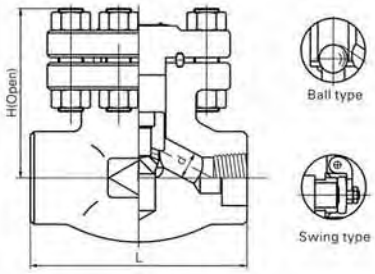
CL900-CL1500 Welded bonnet, full port and reducing port
Threaded,butt–welded or socket welded ends;design to BS5352

Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	92	111	111	120	152	172	200	
Height	H	61	78	78	84	103	118	132	
Height (angle dinmension)	d	7	12	15	20	28	32	40	
Weight(Kg)		1.3	3.1	3.1	3.9	5.8	10.0	11.5	

Female threaded and socket welded check valves

CL900-CL1500

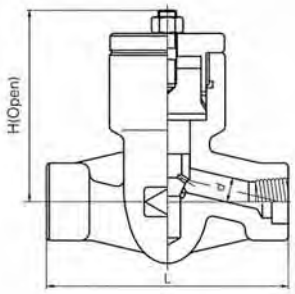
Bolted bonnet, full port and reducing port
Threaded,butt–welded or socket welded ends;design to BS5352



Specification (NPS)	F.P		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L		110	110	110	110	150	150	210	235
Height	H		166	166	171	207	240	258	330	355
Height (angle dinmension)	d	Lift	9	10	12	15	20	28	32	40
		Swing	8	10.5	13.5	18	24	29	36.5	45
Weight(Kg)		Lift	2	2.1	1.9	4	5.1	7.2	12.1	14
		Swing	1.9	2.3	2.3	4.35	5.25	7.8	12.5	14.6

CL900-CL1500

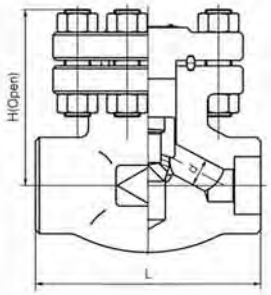
Pressure seal bonnet, full port and reducing port
Threaded,butt–welded or socket welded ends;design to BS5352



Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L		140	140	140	178	216	216		
Height	H		117	117	117	152	195	195		
Height (angle dinmension)	d		12	15	20	28	32	40		
Weight(Kg)			7.5	7.0	6.8	18.5	20.3	22		

CL2500

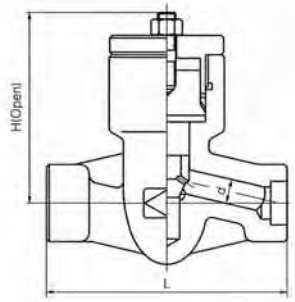
Bolted bonnet, full port
Threaded, butt–welded or socket welded ends; design to ASME B16.34



Specification (NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	150	150	150	150	210	235	235	235
Height	H	166	166	171	207	240	258	330	355
Height (angle dinmension)	d	7.5	10.5	11	14	19	25	28	35
Weight(Kg)		1.9	2.3	17	46	62	73	58	85

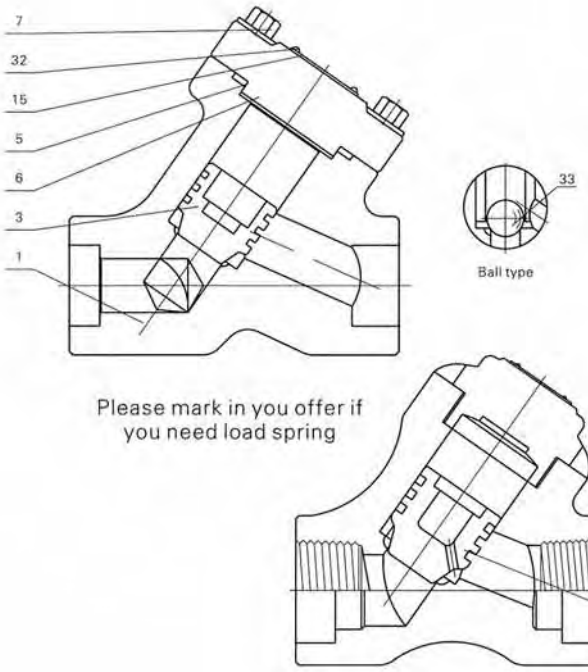
CL2500

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



Specification (NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L			186	186	186	232	232	279
Height	H			117	117	117	152	152	195
Height (angle dinmension)	d			11	14	19	25	28	35
Weight(Kg)				11.8	11	10.5	23	26.4	39

Y type check valves



Application standards

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

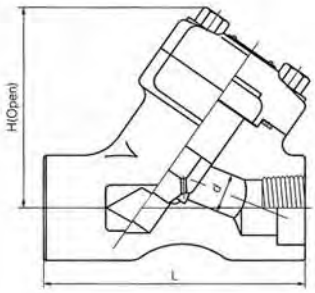
Carbon steel temperature-pressure rate

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

Main part materials list

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

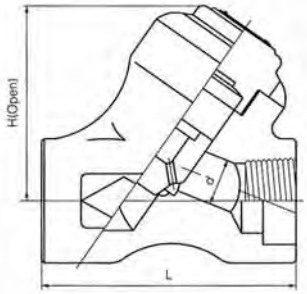
Y type check valves



CL800

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

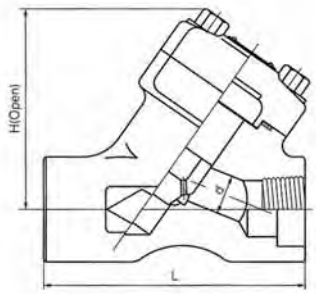
Specification (NPS)	R.P		1/2	3/4	1	1¼	1½	2	2½	3
	F.P	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	98	98	98	111	140	140	155	170	
Height	H	70	70	70	100	110	120	120	150	
Height(angle dinmension)	d	7	10	13	17.5	23	30	35	46	
Weight(Kg)		2.2	2.2	2.1	4.2	9	8.9	10	18.6	



CL800

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

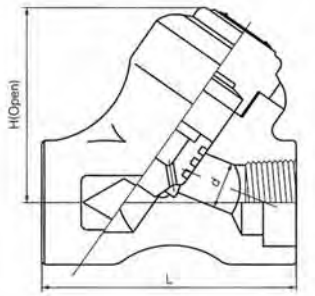
Specification (NPS)	R.P		1/2	3/4	1	1¼	1½	2	2½	3
	F.P	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	79	79	92	100	140	140	155	170	
Height	H	65	65	65	95	105	110	110	140	
Height(angle dinmension)	d	7	10	13	17.5	23	30	35	46	
Weight(Kg)		1.8	1.8	2.0	3.5	8.0	8.0	12	16	



CL900-CL1500

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

Specification (NPS)	F.P	3/8	1/2	3/4	1	1¼	1½	2	
Face to face	L	98	111	111	140	140	155	170	
Height	H	70	70	100	110	110	120	150	
Height(angle dinmension)	d	9	12	15	20	28	32	40	
Weight(Kg)		2.1	4.2	9	8.9	10	18.6	20	

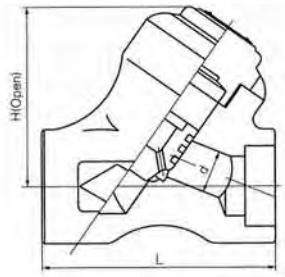


CL900-CL1500

Welded bonnet, full port
Threaded,butt–welded or socket welded ends;design to BS5352

Specification (NPS)	F.P	3/8	1/2	3/4	1	1¼	1½	2	
Face to face	L	92	100	100	140	140	155	170	
Height	H	65	65	65	105	110	110	140	
Height(angle dinmension)	d	9	12	15	20	32	28	40	
Weight(Kg)		2.0	3.5	3.5	8.0	12	12	18	

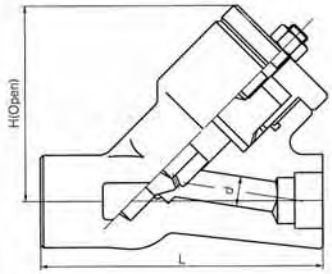
Y type check valves



CL2500

Welded bonnet, full port
Threaded, butt-welded or socket welded ends; design to ASME B

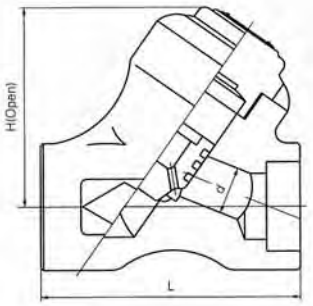
Specification (NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Height	H	115	115	120	150	150	150	160
Height(angle dinmension)	d	9	11	14	19	25	28	35
Weight(Kg)		11.2	11.5	10.6	10.8	25	22	39



CL2500

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

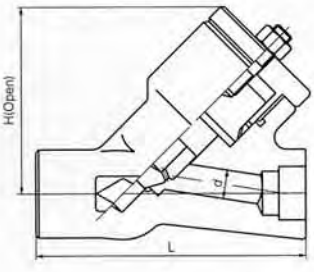
Specification (NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	186	186	186	186	232	232	310
Height	H	233	233	233	233	256	256	330
Height(angle dinmension)	d	9	11	14	19	25	28	35
Weight(Kg)		11.2	11.5	10.6	10.8	25	22	39



CL4500

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

Specification (NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	155	155	155	155		225	225
Height	H	120	120	120	145		160	160
Height(angle dinmension)	d	9	11	11	15		26	28
Weight(Kg)		8.7	8.7	8.7	8		16.5	16



CL4500

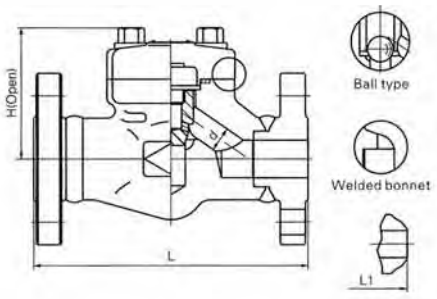
Pressure seal, bolted bonnet, full port
Threaded, butt-welded or socket welded ends; design to ASME B16.34

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

Flange and butt-welded check valves

CL150-300-600

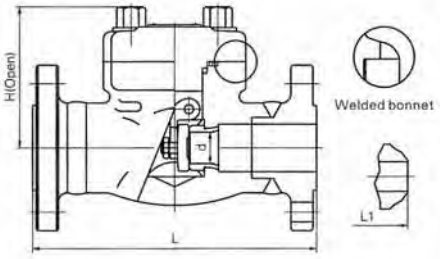
Bolted bonnet, full port
Flange–welded or butt–welded ends;design to BS5352



Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300		–	–	153	178	203	216	229	267
	CL600		–	–	165	191	216	229	241	292
Height	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Height(angle dinmension)		d	–	–	10	13	17.5	23	30	35
Weight (Kg)	CL150 RF		–	–	3.6	4.6	8.5	9.2	12.5	14.8
	CL150 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
	CL300 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
	CL600 BW		–	–	3.4	5.1	8.8	9.2	14.8	22.5

CL150-300-600

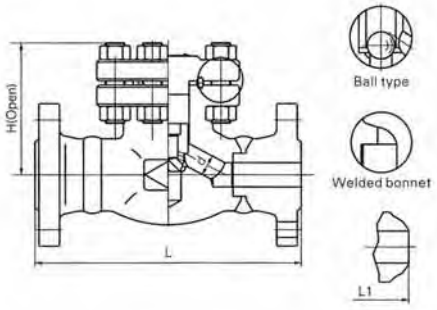
Bolted bonnet, full port
Flange–welded or butt–welded ends; design to BS5352



Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300		–	–	153	178	203	216	229	267
	CL600		–	–	165	191	216	229	241	292
Height	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Height(angle dinmension)		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
	CL150 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
	CL300 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
	CL600 BW		–	–	3.4	5.1	8.8	9.2	14.8	22.5

CL150-300-600

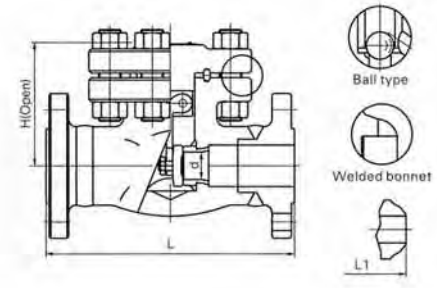
Bolted bonnet, reducing port
Flange–welded or butt–welded ends; design to BS5352



Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300		–	–	153	178	203	216	229	267
	CL600		–	–	165	191	216	229	241	292
Height	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Height(angle dinmension)		d	–	–	10	13	17.5	23	30	35
Weight (Kg)	CL150 RF		–	–	3.2	3.5	4.6	5.2	7.0	16
	CL150 BW		–	–	2.8	3.0	4.0	4.6	6.3	15
	CL300 RF		–	–	4.6	6.1	9.1	12	16	21
	CL300 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
	CL600 BW		–	–	4.4	5.9	8.7	12.1	15.8	20.8

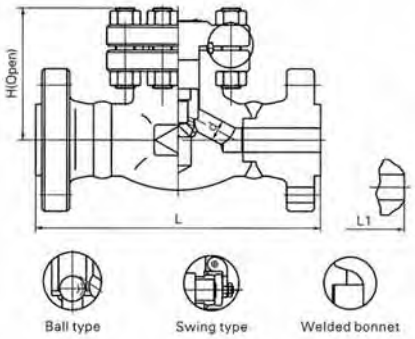
CL150-300-600

Bolted bonnet, reducing port
Flange–welded or butt–welded ends; design to BS5352



Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300		–	–	153	178	203	216	229	267
	CL600		–	–	165	191	216	229	241	292
Height	CL150	H	–	–	77	81	93	95	103	118
	CL300/600		–	–	61	78	84	101	120	133
Height(angle dinmension)		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
	CL150 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
	CL300 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
	CL600 BW		–	–	3.4	5.1	8.8	9.2	14.8	22.5

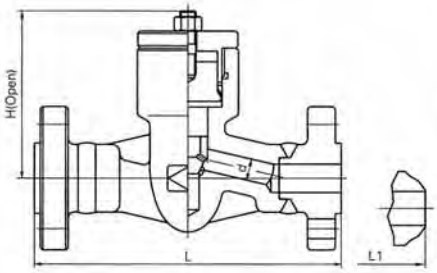
Flange and butt-welded check valves



CL900-CL1500

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

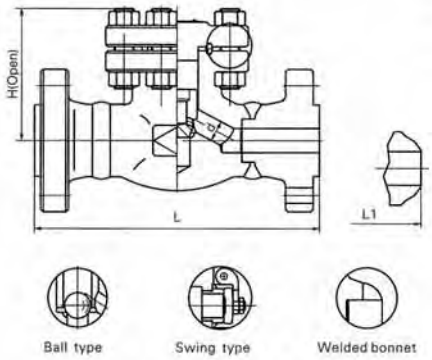
Specification(NPS)	F.P		1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RJ) L1(BW)		216	229	254	280	305	371
Height	H		81	93	95	101	118	130
Height (angle dinmension)	d	Lift	12	15	20	28	32	40
		Swing	13.5	18	24	29	36.5	45
Weight(Kg)		Lift	5.2	6.8	10.5	28	18	24
		Swing	5.0	6.1	10.8	29	17.6	27



CL900-CL1500

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

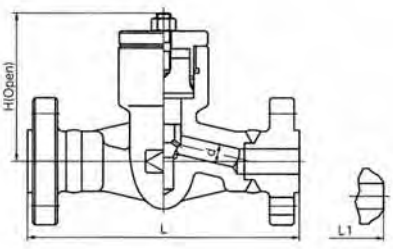
Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)		216	229	254	280	305	268
	L(RTJ)		216	229	254	280	305	371
Height	H		117	117	117	152	152	195
Height (angle dinmension)	d		12	15	20	28	32	40
Weight(Kg)			10.5	11.9	13.9	19.9	26.9	32.5



CL2500

Bolted bonnet, full port
Flange–welded or butt–welded ends; design to ASME B16.34

Specification(NPS)	F.P		1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)		264	273	308	349	384	450
	L(RTJ)		264	273	308	352	387	454
Height	H		81	93	95	101	118	130
Height (angle dinmension)	d	Lift	12	15	20	28	32	40
		Swing	10.5	13.5	18	24	29	36.5
Weight(Kg)		Lift	17	21	28	14.5	58	85
		Swing	5.0	6.1	10.8	11.2	17.6	27



CL2500

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

Specification(NPS)	F.P	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)		264	273	308	349	384	450
	L(RTJ)		264	273	308	352	387	454
Height	H		117	117	117	152	152	195
Height (angle dinmension)	d		12	15	20	32	28	40
Weight(Kg)			12.6	14.9	16.5	24.8	30	35

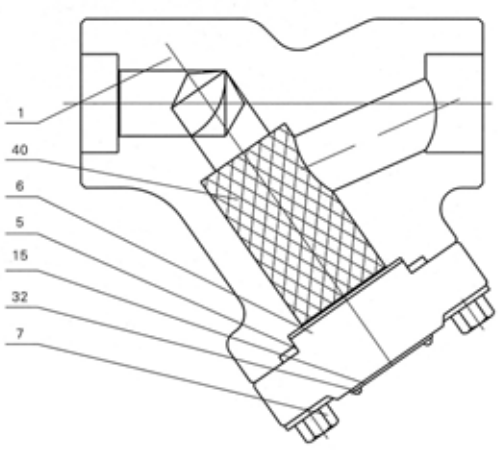
Forged steel strainers

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

Construction is as follows

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

Y type strainers



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

Application standards

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

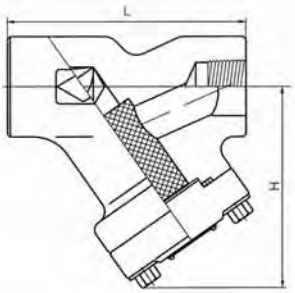
Carbon steel temperature–pressure rate

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

Main part materials list

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

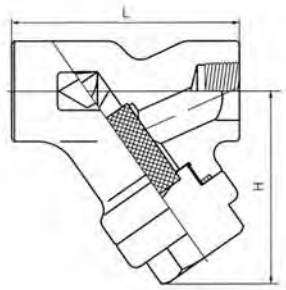
Y type strainers



CL800

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

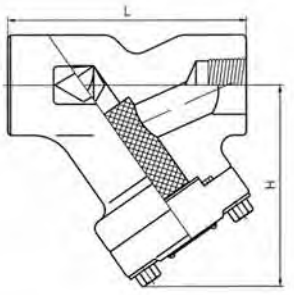
Specification (NPS)	R.P		1/2	3/4	1	1¼	1½	2	2½	3
	F.P	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	98	98	98	111	140	140	155	170	
Height	H	70	70	70	100	110	120	120	150	
Height(angle dinmension)	d	7	9	13	17.5	30	30	35	46	
Weight(Kg)		2.2	2.2	2.1	4.2	8.9	8.9	10	18.6	



CL800

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

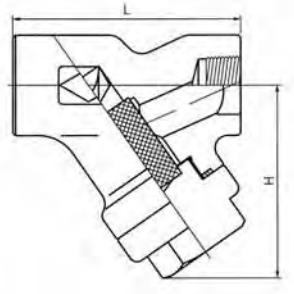
Specification (NPS)	R.P		1/2	3/4	1	1¼	1½	2	2½	3
	F.P	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	79	79	92	100	140	140	155	170	
Height	H	65	65	65	95	105	110	110	140	
Height(angle dinmension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		1.8	1.8	2.0	3.5	9	8.0	12	16	



CL900-CL1500

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

Specification (NPS)	F.P	3/8	1/2	3/4	1	1¼	1½	2	
Face to face	L	98	111	111	140	140	155	170	
Height	H	70	70	100	110	120	120	150	
Height(angle dinmension)	d	9	12	15	20	28	32	40	
Weight(Kg)		2.1	4.2	9	8.9	10	18.6	20	



CL900-CL1500

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

Specification (NPS)	F.P	3/8	1/2	3/4	1	1¼	1½	2	
Face to face	L	92	100	100	140	140	155	170	
Height	H	65	65	95	105	110	110	140	
Height(angle dinmension)	d	9	12	15	20	28	32	40	
Weight(Kg)		2.0	3.5	8.0	8.0	12	16	18	

Forged steel cryogenic valves

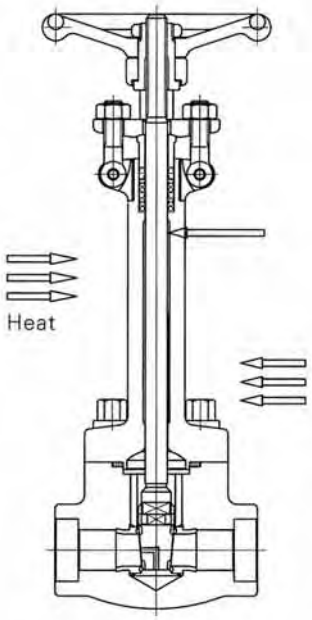
PROTEK cryogenic valves are available in two bonnet designs. The first design is the Bolted Bonnet, with male–female joint, spiral wound gasket, made in F304L/graphite. Ring joint gasket are also available on request. The second design is the welded bonnet, with a threaded and seal welded joint. On request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

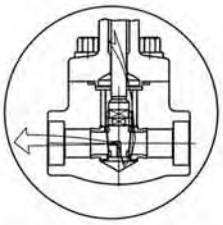
The cryogenic valves are available in gate and globe design configurations. Valves are designed with an extended bonnet for use in cold services to 196 degrees C(–320 degrees F).

Construction is as follows

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

Cryogenic gate valves





Pressure relief illustration

Product application

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

Design features

All basic design features of **PROTEK** forged steel valves outlined in this catalog are adapted to special service conditions at cryogenic temperatures.

Extended bonnets with sufficient gas column length, usually specified by customer, are supplied for all valves to keep stem packing at sufficient distance away from the cold fluid to remain functional.

Pressure releasing Hole, designed in the wedge, warrants the pressure in body chamber to be balance, even if the pressure inside the body chamber is suddenly up.

High–hard–surfaced stem hardened with nitriding remains its perfect bruise and corrosion resistance at the extreme low temperature, so as to prevent the packing from being damaged.

Overlaid Stellite 6 closure members on 1/2~2" (150 mm) valves operate with no galling in cryogenic service.

Cryogenic test

Purpose: Demonstrating the perfect operating performances in model cryogenic conditions.

Environment: Inside a device full of liquefied Nitrogen, temperature smaller than 196℃.

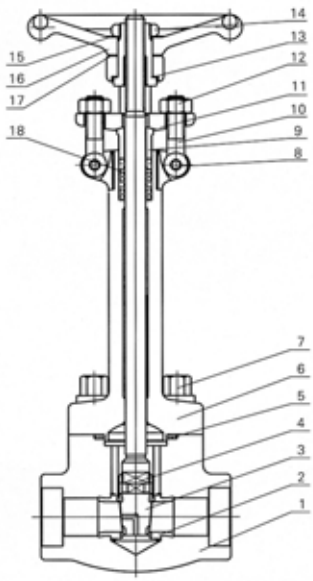
Procedures: After being verified at room temperature, the valve is cleaned and dried, when the temperature reached the required one, it can begin to test.

Operating performance test in cryogenic conditions.

Sealing performance tests for packing and gasket

Sealing performance test for backseat

Cryogenic gate valves



Application specifications

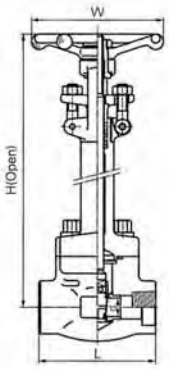
1、Design and manufacture conform to API 602 BS5352 B16.34;
2、Connection ends conform to:
1)Socket welded ends conform to ANSI B16.11;JB/T1751
2)Screw ends conform to ANSI B1.20.1;JB/T7306
3)Butt-welded ends conform to ANSI B16.25;JB/T12224
4)Flanged ends conform to ANSI B16.5;JB79
3、Test and inspection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

Carbon steel temperature-pressure rate

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

Main part materials list

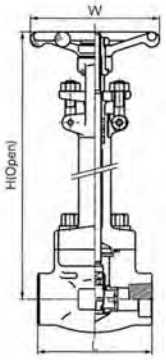
NO.	Part name	A105/F6a	A105/F6aHFS	LF2/304	LF3/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	–	–	LF2	LF3	F304(L)	F316(L)	F51
2	Seat ring	–	–	304	304	304(L)	316(L)	F51
3	Wedge disc	–	–	F304	F304	F304(L)	F316(L)	F51
4	Stem	–	–	304	F304	304(L)	316(L)	F51
5	Gasket	–	–	304+ Flexible graphite	304+ Flexible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



CL800

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

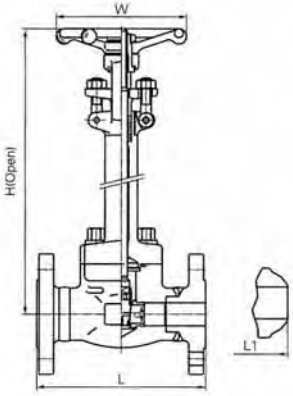
Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	120	140	178	180
Handwheel diameter	W	100	100	100	125	160	160	180	200	220
Height	H -196	291	291	293	340	375	400	450	490	560
	H -46	255	255	258	290	325	265	395	440	485
Height(angle dinmension)	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 bonnet cryogenic extended bonnet full port & reduced port, OS&Y
Threaded, butt-welded or socket welded ends; design to API 602

Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	79	111	111	120	120	140	178	180
Handwheel diameter	W	100	125	125	160	160	180	200	220
Height	H -196	321	321	322	359	399	446	480	550
	H -46	285	285	287	309	343	396	420	480
Height(angle dinmension)	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

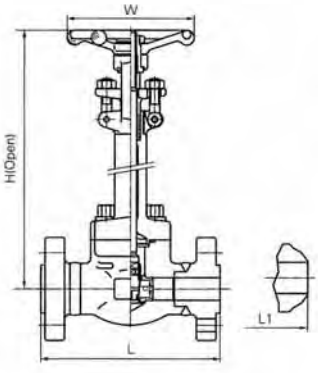


CL150-300-600

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

Specification(NPS)			1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF), L1(BW)	–	–	108	118	127		165	178
	CL300		–	–	140	153	165		191	216
	CL600		–	–	165	191	216		241	292
Handwheel diameter		W	–	–	100	100	125	160	160	180
Height	-196	H	–	–	321	322	359	399	446	480
	-46		–	–	285	287	309	343	396	420
Height(angle dinmension)		d	–	–	10.5	13.5	18	24	29	36.5
Weight (Kg)	CL 150 RF		–	–	5.0	5.5	8.8	13.5	15	20.3
	CL 150 BW		–	–						
	CL 300 RF		–	–	5.8	7.3	9.7	12.5	19.5	22.3
	CL 300 BW		–	–						
	CL 600 RF		–	–	6.0	8	11.2	13.5	21.5	24.8
	CL 600 BW		–	–						

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



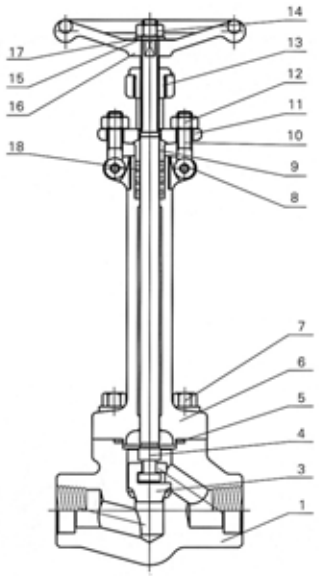
CL1500

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

Specification(NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L		216	229	254	279	325	368
Handwheel diameter	W		125	125	160	160	180	200
Height	H -196		321	322	359	399	446	480
	H -46		285	287	309	343	396	420
Height(angle dinmension)	d		10.5	13.5	18	24	29	36.5
Weight (Kg)			14	23	25.3	5.7	47	72

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

Cryogenic globe valves



Application specifications

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

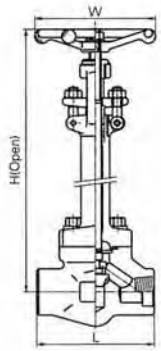
Carbon steel temperature-pressure rate

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

Main part materials list

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

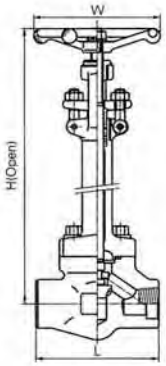
Cryogenic globe valves



CL800

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

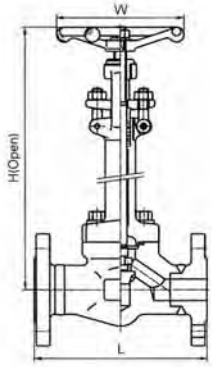
Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	79	79	92	111	120	152	172	200
Handwheel diameter	W	100	100	100	125	160	160	180	200
Height(open)	H (-196℃ -101℃)	390	390	415	430	460	490	505	570
	H (-46℃)	350	350	400	410	425	450	480	540
Flow port dimension	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 bonnet cryogenic extended bonnet full port & reduced port, OS&Y
Threaded or socket welded ends; design to BS5352

Specification (NPS)	R.P	–	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	92	111	111	120	152	172	200	–
Handwheel diameter	W	100	125	125	160	160	180	200	–
Height(open)	H (-196℃ -101℃)	370	370	370	410	410	474	546	–
	H (-46℃)	350	350	400	410	425	450	480	–
Flow port dimension	d	9	12	15	20	28	32	40	–
Weight (Kg)		7.2	9.5	9.5	10.8	13.5	19.8	29	–

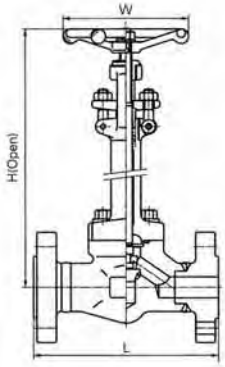


CL150-300-600

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

Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF) L1(BW)	CL150	–	–	108	118	127	–	165	203
		CL300	–	–	153	178	203	–	229	267
		CL600	–	–	165	191	216	–	241	292
Handwheel diameter		W	–	–	100	100	125	–	160	180
Height (open)	H	-196℃ -101℃	–	–	390	415	430	–	490	505
		-46℃	–	–	350	400	410	–	450	480
Flow port dimension		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

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



CL1500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF)	–	–	216	229	254	280	305	368
Handwheel diameter	W	–	–	125	125	160	160	180	200
Height (open)	H (-196℃ -101℃)	–	–	370	370	410	410	474	546
	H (-46℃)	–	–	350	400	410	425	450	480
Flow port dimension	d	–	–	12	15	20	28	32	40

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

Forged steel bellow sealed valves

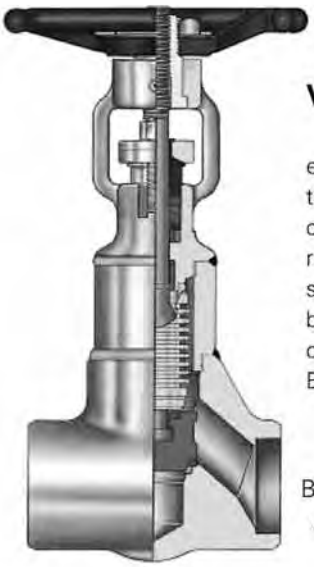
PROTEK Bellow Sealed valves are available in two bonnet designs. The first design is the Bolted Bonnet, with male –female joint, spiral wound gasket, made in F304L/graphite. Ring joint gasket are also available on request. The second design is the welded bonnet. with a threaded and seal welded joint.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

Construction is as follows

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

Below sealed valves

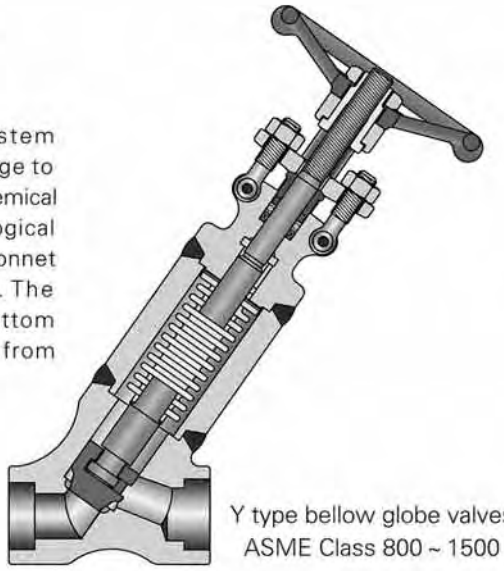
Zero leakages



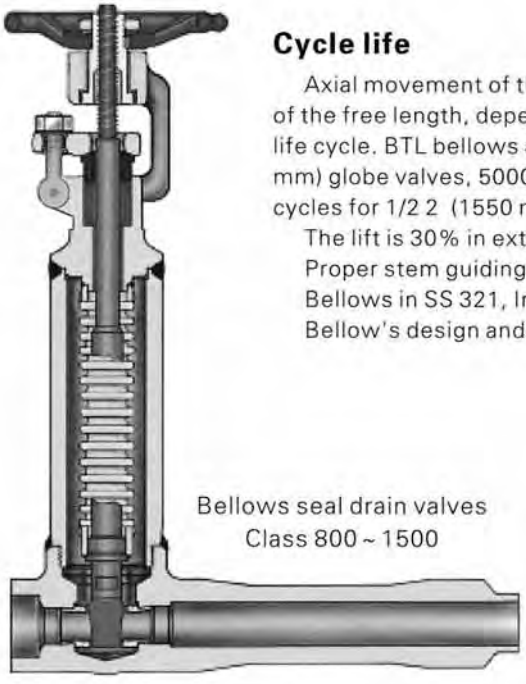
Bellow seal globe valves
ASME Class 150 ~ 800

Valves design parameters

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



Y type bellow globe valves
ASME Class 800 ~ 1500



Bellows seal drain valves
Class 800 ~ 1500

Cycle life

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

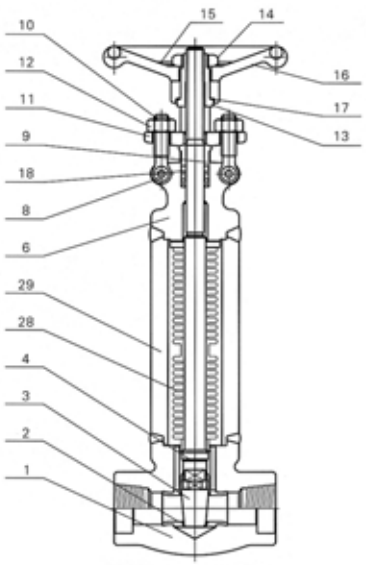
The lift is 30% in extension and 70% in compression.
Proper stem guiding eliminates torsion of bellows.
Bellows in SS 321, Inconel or Hastelloy.
Bellow's design and manufacture as per MSS SP–117

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

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

SS Bellow sealing;
Packing emergency sealing;
Backseat sealing.

Below sealed gate valves



Application specifications

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

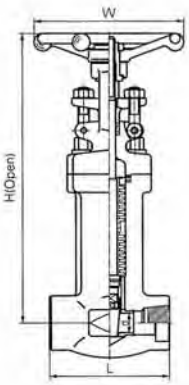
Carbon steel temperature-pressure rate

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

Main part materials list

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

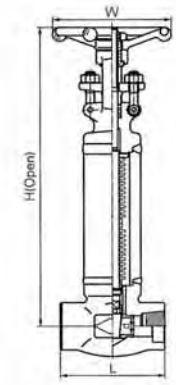
Below sealed gate valves



CL800

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

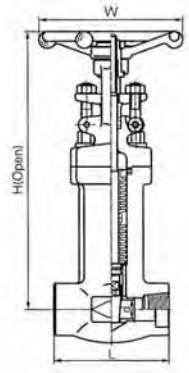
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Face to face	L	79	79	92	111	120	120	140
Handwheel diameter	W	100	100	100	125	160	160	180
Height	H	255	255	285	345	445	545	594
Height(angle dinmension)	d	7.5	10.5	13.5	18	24	29	36.5
Weight(Kg)		3.0	3.0	3.3	5.9	8.7	10.2	16.2



CL800

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

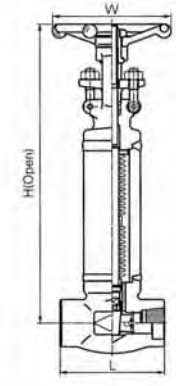
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Face to face	L	79	79	92	111	120	120	140
Handwheel diameter	W	100	100	100	125	160	160	180
Height	H	248	548	777	335	437	537	585
Height(angle dinmension)	d	7.5	10.5	13.5	18	24	29	36.5
Weight(Kg)		2.9	2.9	3.2	4.6	7.2	8.9	15.5



CL1500

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

Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Face to face	L	79	111	111	120	120	140	178
Handwheel diameter	W	100	125	125	160	160	180	180
Height	H	294	264	320	379	478	607	636
Height(angle dinmension)	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



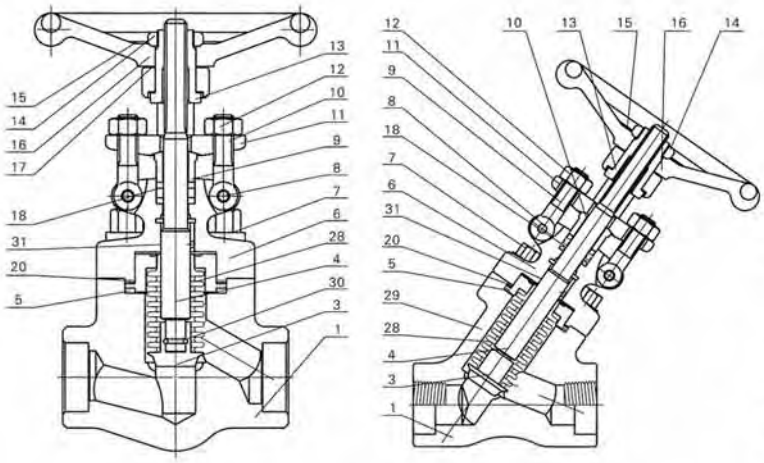
CL1500

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

Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Face to face	L	79	111	111	120	120	140	178
Handwheel diameter	W	100	125	125	160	160	180	180
Height	H	287	287	312	368	465	595	627
Height(angle dinmension)	d	7.5	10.5	13.5	18	24	29	36.5
Weight(Kg)		2.9	4.7	4.7	7.4	5.7	16	19

Short pattern bellow seal globe valves

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



Application specifications

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

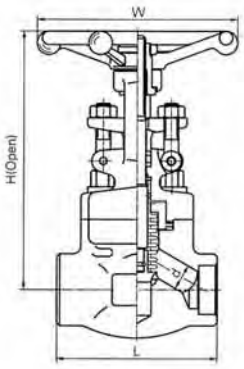
Carbon steel temperature-pressure rate

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

Main part materials list

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

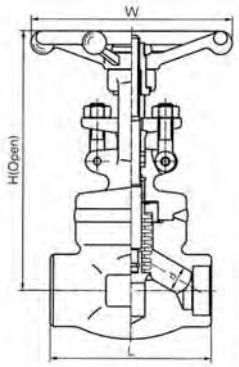
Short pattern bellow seal globe valves



CL800

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

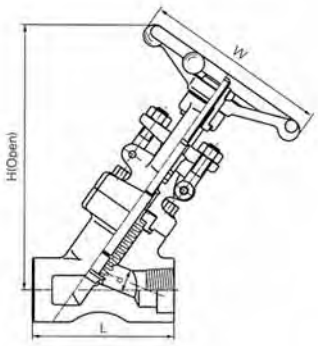
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	152	172	200	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	162	162	164	200	220	257	295	350	
Height (angle dinmension)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight(Kg)		2.5	2.3	2.4	4.35	5.75	7.8	12.5	17.5	



CL800

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

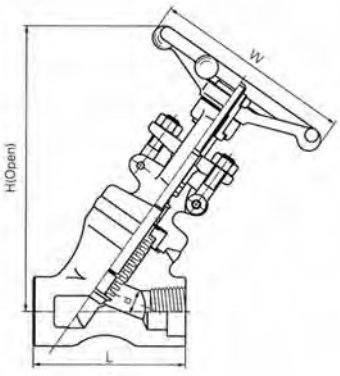
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	152	172	200	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	162	162	164	200	220	257	295	350	
Height (angle dinmension)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight(Kg)		1.8	1.7	1.9	3.3	5.2	6.8	10.6	13.8	



CL800

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

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

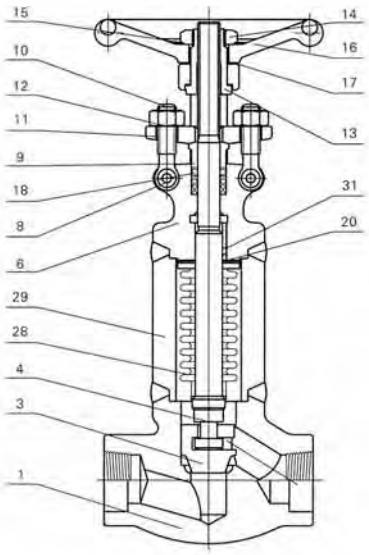


CL800

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

Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	100	140	140	155	170	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	198	198	198	207	280	280	295	350	
Height (angle dinmension)	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	

Bellow sealed globe valves



Application specifications

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

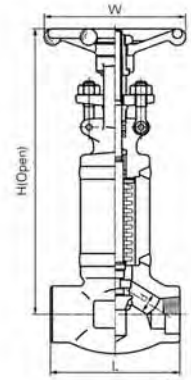
Carbon steel temperature-pressure rate

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

Main part materials list

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

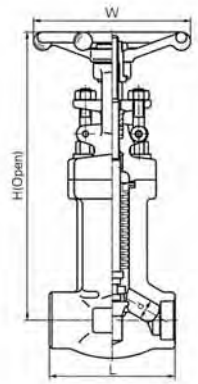
Bellow sealed globe valves



CL800

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

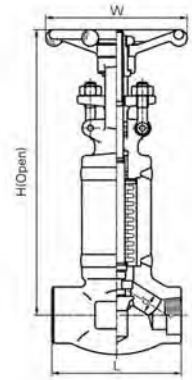
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	152	172	200	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	237	237	239	270	298	340	395	470	
Height(angle dinmension)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight(Kg)		2.6	2.5	2.7	4.4	6.7	8.8	15	18.8	



CL800

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

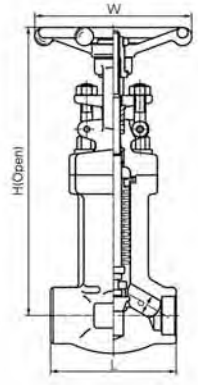
Specification (NPS)	R.P		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Face to face	L	79	79	92	111	120	152	172	200	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	237	237	239	270	298	340	395	470	
Height(angle dinmension)	d	7.0	9.0	13	17.5	23	30	35	46	
Weight(Kg)		3.3	3.1	4.2	5.5	7.25	9.8	16	21	



CL1500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	92	92	111	111	120	152	172	200
Handwheel diameter	W	100	100	125	125	160	160	180	200
Height	H	290	330	380	380	400	450	520	650
Height(angle dinmension)	d	7	9	12	15	20	28	32	40
Weight(Kg)		3.3	3.5	5	7.5	10	16	27	30

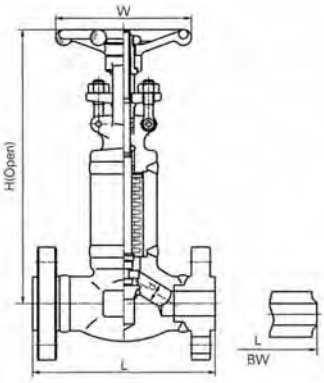


CL1500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L	92	92	111	111	120	152	172	200
Handwheel diameter	W	100	100	125	125	160	160	180	200
Height	H	290	330	380	380	400	450	520	650
Height(angle dinmension)	d	7	9	12	15	20	28	32	40
Weight(Kg)		3.3	3.5	5	7.5	10	16	27	30

Bellow sealed globe valves

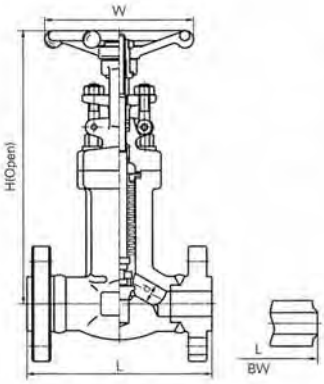


CL150-300-600

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

Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF) L1(BW)	–	–	108	117	127	140	165	203
	CL300		–	–	152	178	203	216	229	267
	CL600		–	–	165	190	216	229	241	292
Handwheel diameter		W	–	–	100	100	125	160	160	180
Height	CL150/CL300	H	–	–	340/350	340/350	360/375	380/400	450/470	540/570
	CL600		–	–	360	360	390	430	500	600
Height(angle dinmension)		d	–	–	9	13	17.5	23	30	35
Weight (Kg)	CL150 RF/BW		–	–	3.67/3	4.3/3.6	6.3/5.7	10.5/9.5	11.5/9.8	19.5/16
	CL300 RF/BW		–	–	4/3.2	4.8/4	7.3/6.7	13/11	14.5/12	22/18
	CL600 RF/BW		–	–	5.8/4.7	8.1/6	12.5/9	18/14	24.5/18	42/36

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

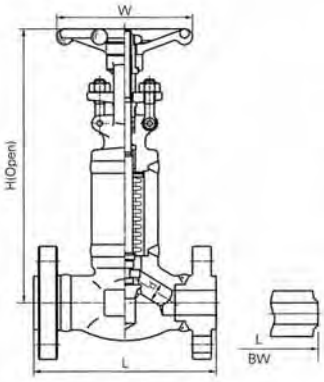


CL150-300-600

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

Specification(NPS)		R.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	CL150	L(RF) L1(BW)	–	–	108	117	127	140	165	203
	CL300		–	–	152	178	203	216	229	267
	CL600		–	–	165	190	216	229	241	292
Handwheel diameter		W	–	–	100	100	125	160	160	180
Height	CL150/CL300	H	–	–	340/350	340/350	360/375	380/400	450/470	540/570
	CL600		–	–	360	360	390	430	500	600
Height(angle dinmension)		d	–	–	9	13	17.5	23	30	35
Weight (Kg)	CL150 RF/BW		–	–	4.17/3.5	4.8/4.1	7.7/6.7	12.5/11.5	14/11.5	21.5/18
	CL300 RF/BW		–	–	4.5/3.7	5.2/4.5	8.3/7.7	14.5/12.5	16/13.5	24/20
	CL600 RF/BW		–	–	6.3/5.2	8.6/6.5	13.5/10	19.5/15.5	26/19.5	44/38

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

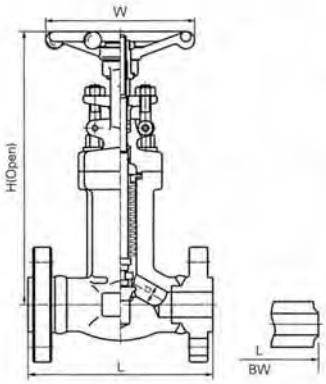


CL1500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)			216	229	254	280	305	368
	L(RTJ)			216	229	254	280	305	371
Handwheel diameter	W			125	125	160	160	180	200
Height	H			380	380	400	450	520	650
Height(angle dinmension)	d			12	15	20	28	32	40
Weight(Kg)				11.1	11.8	14.1	16.5	23.8	37.5

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



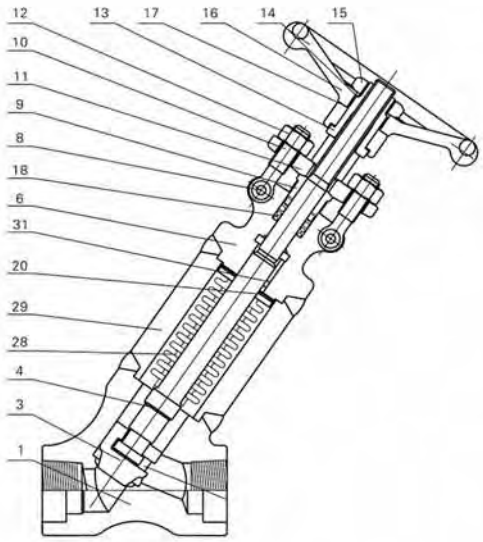
CL1500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Face to face	L(RF),L1(BW)	–	–	216	229	254	280	305	368
	L(RTJ)	–	–	216	229	254	280	305	371
Handwheel diameter	W	–	–	125	125	160	160	180	200
Height	H	–	–	380	380	400	450	520	650
Height(angle dinmension)	d	–	–	12	15	20	28	32	40
Weight(Kg)		–	–	11.6	12.3	15	17.5	25	38.3

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

Y type bellow globe valves



Application specifications

1、Design and manufacture conform toBS5352; MSS-SP-117
2、Connection ends conform to:
1)Socket welded ends conform to ANSI B16.11;JB/T1751
2)Screw ends conform to ANSI B1.20.1;JB/T7306
3)Butt-welded ends conform to ANSI B16.25;JB/T12224
4)Flanged ends conform to ANSI B16.5;JB79
3、Test and inspection conform to:
API 598; GB/T13927; JB/T9092
4、Structure features:
Bolted bonnet, outside screw and yoke
Welded bonnet, outside screw and yoke
5、Materials conform to ANSI/ASTM.
6、Main materials:
A105; 304(L); 316(L); F347; F321.
7、Bellow materials: 304、321、316、Inconel 625、Hastelloy C 276、Monel.

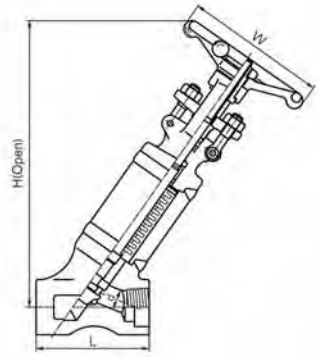
Carbon steel temperature-pressure rate

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

Main part materials list

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

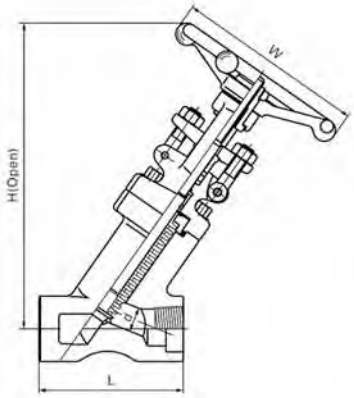
Y type bellow globe valves



CL800

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

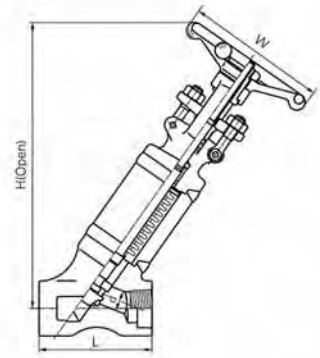
Specification (NPS)	R.P		1/2	3/4	1	1¼	1½	2	2½	3
	F.P	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	79	79	92	100	140	140	155	170	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	237	237	239	270	298	340	395	470	
Height(angle dinmension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		2.6	2.6	2.8	4.6	9.5	10.0	15.5	21	



CL800

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

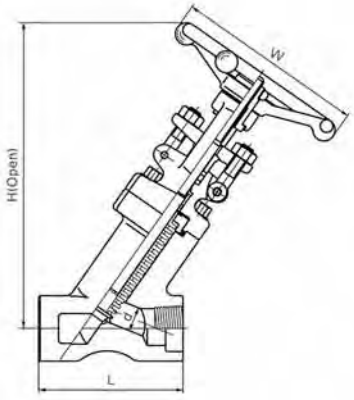
Specification (NPS)	R.P		1/2	3/4	1	1¼	1½	2	2½	3
	F.P	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	98	98	98	111	140	140	155	170	
Handwheel diameter	W	100	100	100	125	160	160	180	200	
Height	H	240	240	240	260	350	350	380	450	
Height(angle dinmension)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		3.1	3.1	4.3	5.6	10.8	10.8	16	22	



CL1500

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

Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	92	92	100	100	140	140	155	170	
Handwheel diameter	W	100	100	125	125	160	160	180	200	
Height	H	300	300	300	380	390	470	550	700	
Height(angle dinmension)	d	7	9	12	15	20	28	32	40	
Weight(Kg)		3.3	3.5	5	7.5	10	16	27	30	

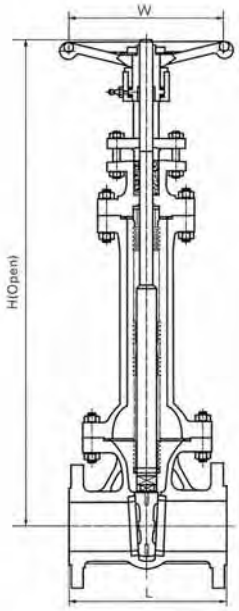


CL1500

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

Specification(NPS)	F.P	3/8	1/2	3/4	1	1¼	1½	2	2½
Face to face	L	98	111	111	140	140	155	170	
Handwheel diameter	W	100	125	125	160	160	180	200	
Height	H	300	300	380	390	470	550	700	
Height(angle dinmension)	d	9	12	15	20	28	32	40	
Weight(Kg)		3.1	5.1	5.1	10.3	10.8	16	22	

Carbon steel bellow gate valves



Application specifications

1、Design and manufacture:
ASME B16.34; BS1414; API 600; MSS-117
2、Connection ends conform to:
1)Face-to-face:ANSI B16.10; GB/T12221-89
2)Butt-welded ends: ANSI B16.25;JB/T12224
3)Flanged ends: ANSI B16.5;JB79
3、Test and inspection:
API 598; GB/T13927; JB/T9092
4、Structure features:
Bolted bonnet, outside screw & yoke
Welding bonnet, outside screw & yoke
5、Materials conform to ASTM
6、Main materials:
WCB; CF8; CF8M; CF3; CF3M; CN7M.
7、Bellow materials:304、321、316、Inconel 625、
Hastelloy C 276、Monel.

Carbon steel temperature-pressure rate

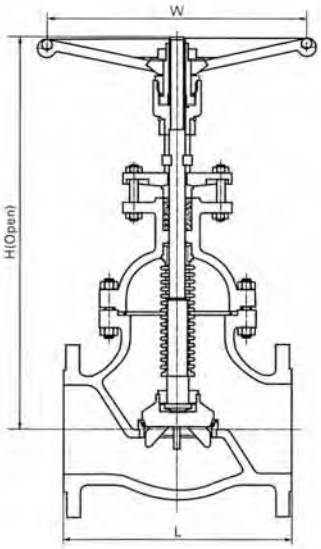
CL150-285 P.S.I @ 100° F
CL300-740 P.S.I @ 100° F
CL600-1480 P.S.I @ 100° F

CL150-300-600

Specification(NPS)		F.P	2	2.5	3	4	6	8	10	12	14	16
Class 150	Face to face	L(RF)	178	191	203	229	267	292	330	356	381	406
		L(BW)	216	241	282	305	403	419	457	502	572	610
	Handwheel diameter	W	180	180	250	250	400	400	600	600	600	600
	Height (open)	H(开)	650	800	875	1100	1270	1600	2200	2500	2800	3150
	Weight (Kg)		35	40	45	60	95	150	260	400	480	700
Class 300	Face to face	L(RF、BW)	216	241	282	305	403	419	457	502	762	838
	Handwheel diameter	W	180	250	300	300	400	600	600	600	600	600
	Height (open)	H(Open)	630	800	875	1070	135	1700	2200	2500	2800	3150
	Weight (Kg)		45	50	70	100	160	250	440	600	930	1200
Class 600	Face to face	L(RF、BW)	292	330	356	432	559	660	787	838	889	991
		L(RJ)	295	333	359	435	562	663	790	841	892	994
	Handwheel diameter	W	250	250	300	400	400	600	600	600	800	800
	Height (open)	H(Open)	700	980	1060	1250	1980	2100	2500	2600	2950	3150
	Weight (Kg)		60	75	100	150	280	460	800	1000	1500	2100

If you want more information, please look at the carbon steel sample of BTL'S

Carbon steel bellow globe valves



Application specifications

1、Design and manufacture ASME B16.34; BS1873; MSS-117
2、Connection ends conform to:
1)Face-to-face ANSI B16.10;GB/T12221-89
2)Butt-welded ends ANSI B16.25;JB/T12224
3)Flanged ends conform to ANSI B16.5;JB79
3、Test and inspection conform to:
API 598; GB/T13927; JB/T9092
4、Structure features:
Bolted bonnet, outside screw & yoke
Welding bonnet, outside screw & yoke
5、Materials conform to ANSI/ASTM.
6、Main materials:
WCB; CF8; CF8M; CF3; CF3M; CN7M.
7、Bellow materials: 304、321、316、Inconel 625、Hastelloy C 276、Monel.

Carbon steel temperature-pressure rate

CL150-285 P.S.I @ 100° F
CL300-740 P.S.I @ 100° F
CL600-1480 P.S.I @ 100° F

CL150-300-600

Specification(NPS)		F.P	2	2.5	3	4	6	8	10	12	14	16
Class 150	Face to face	L	203	216	241	292	406	495	622	699	787	914
	Handwheel diameter	W	180	250	250	300	400	600	600	600	600	600
	Height(open)	H(Open)	470	560	560	660	750	900	1300	1600	1800	1950
	Weight (Kg)		35	40	45	65	120	230	450	600	900	1300
Class 300	Face to face	L	267	292	318	356	445	559	622	711	838	864
	Handwheel diameter	W	250	250	300	400	400	600	600	600	800	800
	Height(open)	H(Open)	510	560	560	660	850	1080	1300	1600	1900	1950
	Weight (Kg)		45	55	70	100	190	300	500	740	1000	1450
Class 600	Face to face	L	292	330	356	432	559	660	787	838	889	991
		L(RJ)	295	333	359	435	562	663	790	841	892	994
	Handwheel diameter	W	250	300	400	600	600	600	800	800	800	800
	Height(open)	H(Open)	510	650	650	720	960	1200	1450	1700	2000	2150
	Weight (Kg)		60	75	90	140	350	580	900	1200	1650	2500

If you want more information, please look at the carbon steel sample of BTL'S

Usual ASTM materials' chemical analysis and physical properties

Body and bonnet materials

Chemical compositeion	Carben steel	Cryogenic		Alloy steel				Austenite stainless steel ASTM-A182						Duplex stainless steels
	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	3.3–3.7	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
Elongation at Rupture	22	22	22	20	20	20	20	30	30	30	30	30	30	25
Shrinkage of R. A.	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	–	–	–	–	–	–	–

Trim and bolt materials

Chemical compositeion	Trim materials					Bolt materials				
	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 element	–	–	–	Fe:2.5max.	Fe:3.0max. W:4.0 Co:balance	–	–	–	–	–

Mechanical property	410	416	420	ASTM A164	Gr.6	B7	B8	430	2H	G8
Tensile strength	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	– –	– –
Yield strength Yield strength	59/170 42/120	59/128 42/90	119/199 84/140	25(2) 17.6	– –	105 73.8	30 21	40 28	– –	– –
Elongation at Rupture	(15)(1)	(10)(1)	(8)(1)	(35)(2)	–	16	30	28	–	–
Shrinkage of R. A.	50/75	8/60	5/40	–	–	50	50	65	–	–
Brinell hardness	180–375	180/375	300–600	–	HRC min.37	–	–	160	248–352	126–300

Temperature and pressure rate

Class 150/300/600/800/900/1500/2500 Temperature-pressure rate(Psig)-°F

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																					

Class 150/300/600/800/900/1500/2500 Temperature-pressure rate(Psig)-°F

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

Temperature and pressure rate

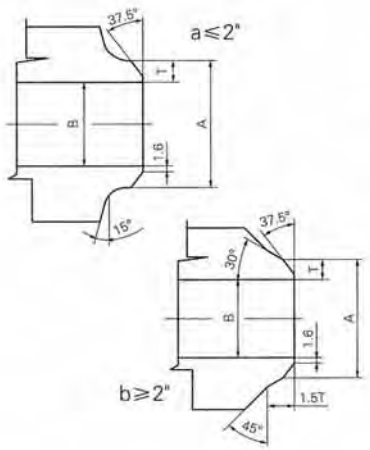
Class 150/300/600/800/900/1500/2500 Temperature–pressure rate(Psig)–°F

Materials	F321 F321H							F316 F316H							F304L F316L						
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	275	720	1440	1920	2160	3600	6000	275	720	1440	1920	2160	3600	6000	230	600	1200	1600	1800	3000	5000
200	240	645	1290	1720	1935	3230	5380	235	620	1240	1655	1860	3095	5160	195	505	1015	1350	1520	2530	4220
300	230	595	1190	1585	1785	2975	4960	215	560	1120	1495	1680	2795	4660	175	455	910	1210	1360	2270	3780
400	200	550	1105	1470	1655	2760	4600	195	515	1025	1370	1540	2570	4280	160	415	825	1100	1240	2065	3440
500	170	515	975	1375	1545	2570	4285	170	480	955	1275	1435	2390	3980	145	380	765	1020	1145	1910	3180
600	140	485	955	1300	1460	2435	4060	140	450	900	1205	1355	2255	3760	140	360	720	960	1080	1800	3000
650	125	480	930	1275	1435	2390	3980	125	445	890	1185	1330	2220	3700	125	350	700	935	1050	1750	2920
700	110	465	915	1240	1395	2330	3880	110	430	870	1150	1305	2170	3620	110	345	685	915	1030	1715	2860
750	95	460	900	1220	1375	2290	3820	95	425	855	1130	1280	2135	3560	95	335	670	895	1010	1680	2800
800	80	450	895	1205	1355	2255	3760	80	420	845	1105	1265	2110	3520	80	330	660	875	985	1645	2740
850	65	445	885	1190	1340	2230	3720	65	415	835	1080	1255	2090	3480	65	320	645	860	965	1610	2680
900	50	440	775	1180	1325	2210	3680	50	385	830	1050	1245	2075	3460							
950	35	385	715	1030	1160	1930	3220	35	350	775	1030	1160	1930	3220							
1000	20	355	625	950	1070	1785	2970	20	345	700	970	1050	1750	2915							
1050	20	315	545	835	940	1565	2605		305	685	860	1030	1720	2865							
1100	20	270	475	725	815	1360	2265		235	610	735	915	1525	2545							
1150	20	235	370	630	710	1185	1970		185	475	550	710	1185	1970							
1200	20	185	280	495	555	925	1545		145	370	485	555	925	1545							
1250	20	140	220	375	420	705	1170		115	295	365	440	735	1230							
1300	20	110	170	295	330	550	915			235		350	585	970							

Class 150/300/600/800/900/1500/2500 Temperature–pressure rate(Psig)–°F

Materials	F347 F347H							F44 F51 F53						
Class	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500
-20 to 100	275	720	1400	1920	2160	3600	6000	290	750	1500	2000	2250	3750	6250
200	255	660	1320	1760	1980	3300	5500	260	720	1400	1920	2160	3600	6000
300	230	615	1230	1640	1845	3070	5120	230	665	1330	1773	1995	3325	5540
400	200	575	1145	1530	1720	2870	4780	200	615	1230	1640	1845	3070	5120
500	170	540	1080	1440	1620	2700	4500	170	575	1150	1537	1730	2880	4800
600	140	515	1025	1370	1540	2570	4280	140	555	1115	1485	1670	2785	4640
650	125	505	1010	1345	1510	2520	4200	125	550	1100	1467	1650	2750	4580
700	110	495	990	1320	1485	2470	4120	110	540	1085	1445	1625	2710	4520
750	95	490	985	1310	1475	2460	4100	95	530	1065	1418	1595	2660	4430
800	80	485	975	1300	1460	2435	4060							
850	65	450	970	1295	1455	2425	4040							
900	50	385	900	1200	1350	2245	3745							
950	35	365	775	1030	1160	1930	3220							
1000	20	360	720	940	1090	1820	3030							
1050	20	325	645	960	1080	1800	3000							
1100	20	275	550	860	965	1610	2685							
1150	20	170	345	735	825	1370	2285							
1200	20	125	245	460	515	855	1430							
1250	20	95	185	330	370	615	1030							
1300	20	70	110	250	280	465	770							

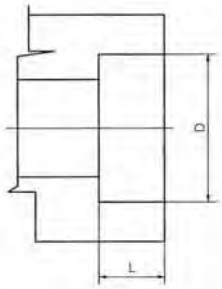
Connection-end standards



Butt–welded standard ASME B16.25

Unit:mm

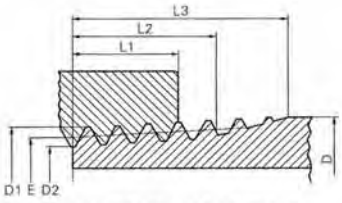
Normal diameter	SCH.40			SCH.80			SCH.160			SCH.XXS		
	A	B	T	A	B	T	A	B	T	A	B	T
1/2	21.3	15.8	2.77	21.3	13.8	3.73	21.3	11.7	4.78	21.3	6.4	7.47
3/4	26.7	25.0	2.87	26.7	18.9	3.91	26.7	15.6	5.56	26.7	11.1	7.82
1	33.4	26.6	3.38	33.4	24.3	4.55	33.4	20.7	6.35	33.4	15.2	9.09
1 1/4	42.2	35.1	3.55	42.2	32.5	4.85	42.2	29.5	6.35	42.2	22.8	9.70
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	60.3	52.5	3.91	60.3	49.2	5.54	60.3	42.9	8.74	60.3	38.2	11.07
2 1/2	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	88.9	78.0	5.48	88.9	73.7	7.62	88.9	66.6	11.13	88.9	58.4	15.24
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



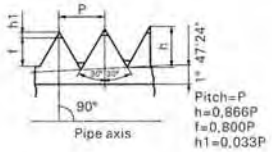
Foreign socket welded standard JB–ANSI–JIS

Unit:mm

Normal 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



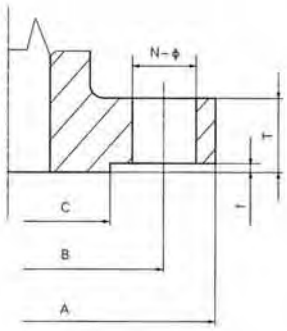
Thread standard ASME B1.20.1

Normal diameter		O.D.OF Pipe	Threads sep in.	Pitch of thread	O.D.AT Beginning of thread	Pitch dia.at beginning of ext.thread	Root dia.at beginning of ext.thread	Handtight engagement	Effective thread ext.length	Overall length ext.thread
		D	N	P	D1	E	D2	L1	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
1 1/4	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
1 1/2	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

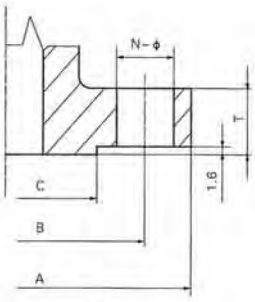
Flange dimensions

DIN flange 2544–45–46

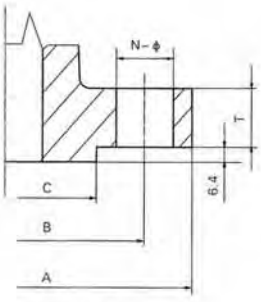
Unit:mm



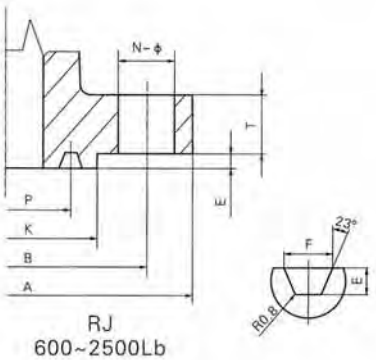
PN	DN	NPS	A	B	C	T	f	Bolt hole	
								N	ϕ
25 40	15	1/2	95	65	45	16	2	4	14
	20	3/4	105	75	58	18	2	4	14
	25	1	115	85	68	18	2	4	14
	32	1 1/4	140	100	78	18	2	4	18
	40	1/2	150	110	88	18	3	4	18
	50	2	165	125	102	20	3	4	18
64	15	1/2	105	75	45	20	2	4	14
	20	3/4	130	90	58	22	2	4	18
	25	1	140	100	65	24	2	4	18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



RF
150~300Lb



RF
600~2500Lb



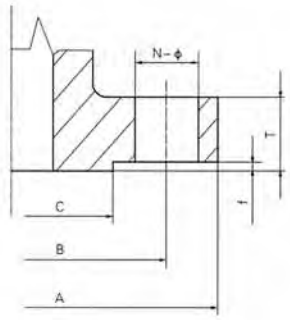
RJ
600~2500Lb

ANSI B16.5 flange standard

Unit:mm

Class	NPS	A	B	C	T	Bolt hole		Ring type joint				Ring No
						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
	1 1/4	117	88.9	63.5	16.0	4	16	73.0	57.15	8.74	6.4	R17
	1 1/2	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
	1 1/4	133	98.4	63.5	19.5	4	20	79.5	60.32	8.74	6.4	R18
	1 1/2	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
	1 1/4	133	98.4	63.5	21.0	4	20	79.5	60.32	8.74	6.4	R18
	1 1/2	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
	1	149	101.6	50.8	29.0	4	26	71.5	50.80	8.74	6.4	R16
	1 1/2	178	123.8	73.0	32.0	4	29	92.0	68.28	8.74	6.4	R20
2500	1/2	133	88.9	34.9	30.5	4	23	65.0	42.88	8.74	6.4	R13
	1	159	107.9	50.8	35.0	4	26	82.5	60.32	8.74	6.4	R18
	1 1/2	203	146	73.0	44.5	4	32	114.5	82.55	11.91	6.4	R23

Flange dimensions



RF
10K~63K

JIB B2212(10K) JIB B2214(20K) JIB B2215(30K) JIB B2215(40K) JIB B2216(63K) Unit:mm

K Grabe	DN	A	B	C	T	f	Bolt hole	
							N	ϕ
10K	10	90	65	48	12	1	4	15
	15	95	70	52	12	1	4	15
	20	100	75	58	14	1	4	15
	25	125	90	70	14	1	4	19
	32	135	100	80	16	2	4	19
	40	140	105	85	16	2	4	19
	50	155	120	100	16	2	4	19
20K	10	90	65	46	14	1	4	15
	15	95	70	52	14	1	4	15
	20	100	75	58	16	1	4	15
	25	125	90	70	16	1	4	15
	32	135	100	80	18	2	4	19
	40	140	105	85	18	2	4	19
	50	155	120	100	18	2	8	19
30K	10	110	75	52	16	1	4	19
	15	115	80	55	18	1	4	19
	20	120	85	60	18	1	4	19
	25	130	95	70	20	1	4	19
	32	140	105	80	22	2	4	19
	40	160	120	90	22	2	4	23
	50	165	130	105	22	2	8	19
40K	10	110	57	52	18	1	4	19
	15	115	80	55	20	1	4	19
	20	120	85	60	20	1	4	19
	25	130	95	70	22	1	4	19
	32	140	105	80	24	2	4	19
	40	160	120	90	24	2	4	23
	50	165	130	105	26	2	8	19
63K	10	115	80	52	23	1	4	19
	15	120	85	55	23	1	4	19
	20	135	95	60	25	1	4	23
	25	140	100	70	27	1	4	23
	32	150	110	80	30	2	4	23
	40	175	130	90	32	2	4	25
	50	185	145	105	34	2	8	23

Main specifications and standards

NO.	Code for criteria&standards	Name of criteria & standards	Note
1	GB/T 13927-92	Pressure testing for general purpose valves	Including swing check valve
2	JB/T 9092-99	Valve inspection and testing	
3	SH 3064-94	Choosing, checking and accepting to steel general purpose valves for petroleum and chemical industries	
4	API 598	Valve inspection and testing	
5	BS 6755	Valve inspection and testing	
6	GB/T 12221-89	Metal valves for used in flanged pipe systems face to face and center to face dimensions	
7	JB/T 96-95	Face to face and center to face dimensions for globe valves, throttling valves and check valves	
8	ASME/ANSI B16.10	Face to face and end-to-end dimensions of valves	
9	JIS B2002	Face to face and end-to-end dimensions of flanged and butt-welding valves	
10	GB/T 12224-89	General requirements for industrial steel valves	
11	GB/T 12234-89	General purpose industrial valves flanged and butt-weld steel gate valves	
12	GB/T 12235-89	General purpose industrial valves flanged steel globe valves and lift check valves	
13	GB/T 12236-89	General purpose industrial valves steel swing check valves	
14	GB/T 12237-89	General purpose industrial valves flanged and butt-weld end steel ball valves	
15	JB/T 308-75	Editing methods of valve types	
16	JB/T 7749-95	Cryogenic valves technical specifications	
17	NACE MR0175	Metals for sulfide stress cracking and stress corrosion cracking resistance in sour oilfield environments	The national association of corrosion engineers
18	ASME/ANSI B16.34	Valves flanged, threaded, and welding end	Valve body minimum wall thickness&pressure-temperature rating.
19	JB/T7746-95	Flanged, threaded compact steel valves	
20	API 600	Bolted bonnet steel gate valves for petroleum and natural gas industries	Class:150~2500;Size:1"~24"(full bore)
21	API 602	Steel gate, globe and check valves for sizes DN 100 and smaller for the petroleum and natural gas industries	Class:150-1500;Size:1/4 " ~4 " (reduced bore)
22	BS 5352	Specification for steel wedge gate, globe and check valves 50mm and smaller for the petroleum, petrochemical and allied industries	
23	MSS SP-117	Bellows seals for globe and gate valves	
24	BS5351-91	Specification for steel ball valves for the petroleum, petrochemical and allied industries	
25	JB/T 82.1-94	Raised face welding neck steel pipe flange	Facings: RF, FF
26	JB/T 82.2-94	Male-female face welding neck steel pipe flange	Facings: FM, M
27	JB/T 82.4-94	Ring joint face welding neck steel pipe flange	Facings: RTJ or RJ
28	JB/T 79.1-94	Raised Face integral steel pipe flange	Facings: RF
29	JB/T 79.2-94	Male-female face integral steel pipe flange	Facings: FM, M
30	JB/T 79.3-94	Tongue and groove face integral steel pipe flange	Facings: T, G
31	JB/T 79.4-94	Ring joint face integral steel pipe flange	Facings: RTJ or RJ
32	GB/T 9113.1-2000	Integral steel pipe flange	FF or RF flanges
33	GB/T 9113.2-2000	Male-female face integral steel pipe flange	Facings: FM, M
34	GB/T 9113.3-2000	Tongue and groove face integral steel pipe flange	Facings: T, G
35	GB/T 9113.4-2000	Ring joint face integral steel pipe flange	Facings: RTJ or RJ
36	HG 20592-97	End flange facings and flange dimensions	Facings, parameters (european system)
37	HG 20596-97	Integral steel pipe flange	European system
38	HG 20618-97	Integral steel pipe flange	American system
39	SH 3406-92	Steel pipe flanges for petroleum and chemical industries	
40	ASME/ANSI B16.5	Pipe flanges and flanged fittings	Main Facings: RF, RTJ
41	JIS B2212 ~ B2216	Flange ends	RF slip-on flanges
42	ANSI B1.20.1	Pipe threads, general purpose (inch)	Angle of the thread teeth: 60 degree, FNPT
43	GB 7306-87	Pipe threads, general purpose (metric)	Angle of the thread teeth: 55 degree, Rc
44	ASME/ANSI B16.11	Forged steel fittings, socket-welding and threaded	Code: SW
45	JB/T 1751-95	Socket welding ends	Code: SW
46	ASME/ANSI B16.25	Butt welding ends	Code: BW
47	GB/T 12228-89	Technical specification for carbon fittings for general purpose valves	
48	ASTM A182	Specification for forged or bolled alloy-steel pipe flanges, forged fittings, and valves and parts for high-temperature service	
49	ASTM A193	Specification for alloy-steel and stainless steel bolting materials for high-temperature service	
50	ASTM A194	Specification for carbon and alloy-steel nuts for bolts for high-pressure and high-Temperature service	
51	ASTM A105	Specification for carbon steel forgings for piping applications	
52	ASTM A276	Specification for Stainless Steel Bars and Shapes	

Code	Name
JB	Ministry of machinery industry standard
HG	Ministry of chemical industry standard
JB/T	Ministry of chemical industry recommended standard
ASTM	American society of testing materials

Sign	Name
SH	Ministry of sino petroleum-chemical industry standard
ANSI	American national standard institute
ASME	American Society of Mechanical Engineers
API	American Petroleum Institute
DIN	Deutsches institute for norms
MSS	The manufacturers standardization society of the valve and fittings industry

Sign	Name
NACE	The national association of corrosion engineers
BS	British standards institution
JIS	Japanese national standard institute
ISO	The international organization for standardization
NF	French national standard institute

PROTEK

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- Gate Valves
- Globe Valves
- Check Valves
- Strainer & Bellow seal

TÜV CERT DIN ISO 9001 CE 0035 TÜV

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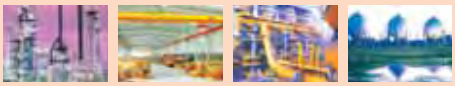

Cast Steel and Stainless Valves

- Gate Valves
- Globe Valves
- Check Valves
- Strainer Valves

TÜV CERT DIN ISO 9001 CE 0035 TÜV

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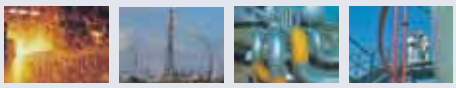

Knife Gate Valves

- Round Port
- Thru Conduit
- High Pressure
- Packingless
- Square Port

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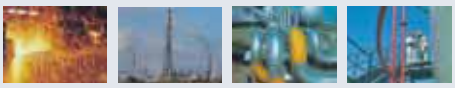

Butterffly Valves

- Wafer Type
- Lug Type
- Double Flanged Type

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