CARBON STEEL VALVE & STAINLESS STEEL VALVE

BALL VALVE / GATE VALVE / CHECK VALVE / GLOBE VALVE / BUTTERFLY VALVE

FUKUYAMA CO., LTD.

CONTENTS

COMPANY PROFILE

1.Company name:	FUKUYAMA CO., LTD.
2.Company address:	Head office: JUNO-CHO, SAITAMA-CITY, SAITAMA-PREF JAPAN Tel: 0081-48-649-1278 Fax: 0081-48-647-1935
3.Legal representative:	Yosuke Murakami
4.Registered capital:	USD 1,000,000
5.Bank of deposit:	Mitsui sumitomo banking corp.
6.Target corporation of exportation:	MITSUI CO., LTD. TOYO VALVE CO., LTD. IHI CO., LTD. FUJI PRECISIONIN INDUSTRIAL. SMK CO., LTD. SUMITOMO CORPORATION. NICH CO., LTD. YONEKI VALVE CO., LTD. ESUKO CO., LTD. NITO CO., LTD. EIKO CO., LTD. METOMAN CO., LTD. HAGI CO., LTD. RUSSIA GAS PROM CO., LTD. RUSSIA OIL INDUSTRY CO., LTD. RUSSIA PETROLEUM CHEMICAL INDUSTRY CO., LTD. TIX CO., LTD. YASAKA VALVE CO., LTD.
7.Business scope:	Petroleum, chemical and natural gas materials Valve varieties Forging Casting Tubing Pipe Power station materials Pump Compressor General and special steel products

Certificate of Authority to use the Official API Monogram

License Number: 6A-1097 **ORIGINAL**

The American Petroleum Institute hereby grants to

JAPAN FUKUYAMA CORPORATION FUHUA MACHINING DALIAN PLANT
The First Factory of Gardening, West Street,
Xinzhaizi Village, Ganjingzi District
Dalian, Liaoning Province
People's Republic of China

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API Spec 6A** and in accordance with the provisions of the License Agreement.

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The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following products: Valves; Flanged Connectors at PSL 1

QMS Exclusions: No Exclusions Identified as Applicable

American Petroleum Institute

Effective Date: FEBRUARY 17, 2012
Expiration Date: AUGUST 9, 2013

To verify the authenticity of this license, go to www.api.org/compositelist.

Director of Global Industry Services

American Petroleum Institute

CORPORATE SEAL

Certificate of Authority to use the Official API Monogram

License Number: 6D-1014 **ORIGINAL**

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The First Factory of Gardening, West Street,
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The scope of this license includes the following products: Gate Valves; Plug Valves; Ball Valves; Check Valves

QMS Exclusions: No Exclusions Identified as Applicable

American Petroleum Institute

Effective Date: FEBRUARY 17, 2012
Expiration Date: AUGUST 9, 2013

To verify the authenticity of this license, go to www.api.org/compositelist.

Director of Global Industry Services

American Petroleum Institute

CORPORATE SEAL

Forged steel trunnion type ball valve

Floating ball valve

Welded connection ball valve

API 6A gate valve

API cast steel gate valve

API 1500lb gate valve

API 900lb gate valve

API 600lb gate valve

Forged steel gate valve

Swing check valve

Piston-lift type check valve

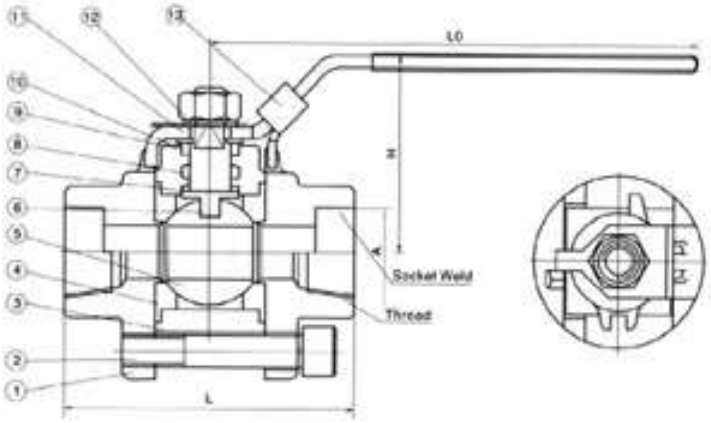
Forged steel check valve

Forged steel globe valve

API globe valve

Butterfly valve

Butterfly valve



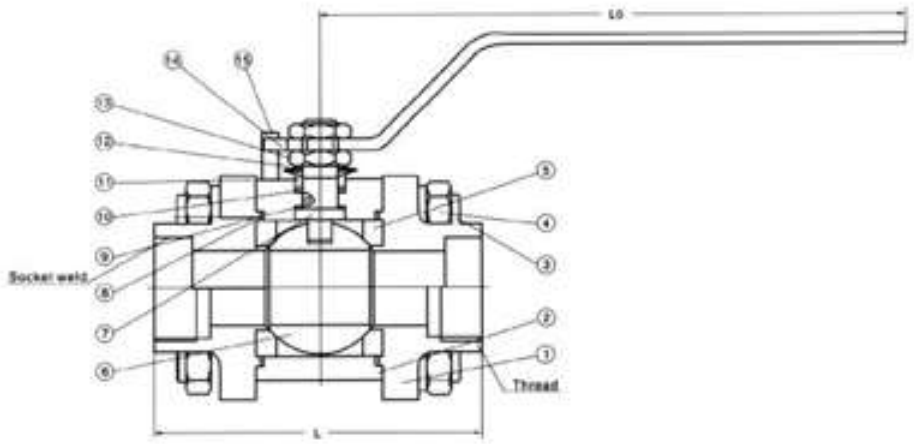
Standard material specifications

NO.	Part Name	CS ASTM	SS ASTM	
		Type A105N	Type F304(L)	Type F316(L)
1.3	Body/Bonnet	ASTM A105N	A182 F304(L)	A182 F316(L)
2	Bolt	A193 B7	A193 B8	A193 B8M
4,7,9	Seal ring	1010/RPFE+Cu/PPL		
5,6	Body, Stem	A182 F410	A182 F304(L)	A182 F316(L)
8	Rubber "O" –ring	Viton		
10	Gland	A182 F410	A182 F304(L)	A182 F316(L)
11	Wrench	A182 F321		
12	Nut	A194 2H	A194 8	A194 8
13	Lock card	A182 F321		

Note:Other materials are available upon request.CS=Carbon Steel;AS=Alloy Steel;SS=Stainless SS=Steel;

Main external dimensions

Size / dimensions	1/2"	3/4"	1"	1 1/2"	2"
L	71	96	116	128	140
A	21.8	27.1	33.8	48.7	61.1
NPT	1/2"	3/4"	1"	1 1/2"	2"
Lo	108	146	178	178	200
H	51	62	81	85	100



Standard material specifications

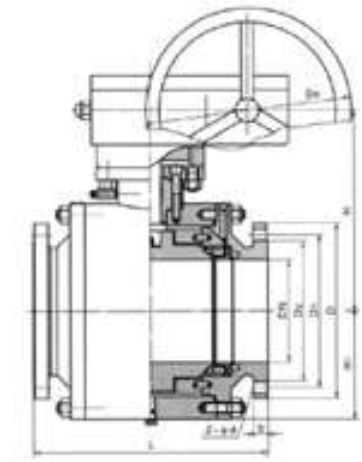
NO.	Part Name	CS ASTM	SS ASTM	
		Type A105N	Type F304 (L)	Type F316 (L)
1, 2	Body/Bonnet	ASTM A105N	A182 F304 (L)	A182 F316 (L)
3	Bolt	A193 B7	A193 B8	A193 B8M
4	Nut	A194 2H	A194 8	A194 8M
5, 8	Seal ring/Gasket	RTFE+Cu/1010/PPL		
6	Ball Body	A182 F304	A182 F304 (L)	A182 F316 (L)
7	Stem	A182 F410	A182 F304 (L)	A182 F316 (L)
9, 10	Stem Packing	RTFE+Cu/1010/PPL		
11	Gland	A182 F410	A182 F304 (L)	A182 F316 (L)
12	Spring	ASTM A29M-1566		
13	Nut	A194 B7	A194 8	A194 8
14	Wrench	Q235A		
15	Pin	A194 B7	F316	F316

Main performance parameter

Nominal pressure		900LB	1500LB	
Test pressure	Strength test	22.7	37.8	MPa
	Seal test	16.7	28.1	
	Gas seal test	0.6	0.6	
Maximum operating temperature		NYLON <80℃,PTFE<150℃,PPL<220℃		
Suitable Medium		Water、oil		

Main external dimensions

Size / dimensions	1 / 2"	3 / 4"	1"	11/4"	11/2"	2"
L	92	111	127	140	152	178
S	21.8	27.1	33.8	42.8	48.7	61.1
B	9.6	12.7	12.7	12.7	12.7	15.9
Lo	123	160	160	195	195	250
NPT	1 / 2"	3 / 4"	1"	11/4"	11/2"	2"



Standard material specifications

Product Specification	Design Spec	Face to Face	Flange End	Test & Check	Marking	Supply
	API 608 API 6D	ANSI B16.10 API 6D	ANSI B16.5	API 598 API 6D	MSS SP-25 API 6D	API 608 API 6D

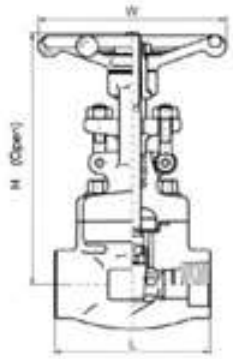
Chief property and specification

Nominal pressure	1.6	2.5	4.0	6.4
Shell test pressure	2.4	3.8	6.0	9.6
Seal test	1.8	2.8	4.4	7.0
Seal test	0.5 – 0.7			
Applicable medium	C Water, oil, steam	P Nitric acid	R Acetic acid	
Applicable temperature	≤200℃			

※Material for main parts

Parts		WCB	CF8	CF3	CF8M	CF3M
Body & Body cap		A216-WCB	A315-CF8	A35-CF3	A351-CF8M	A351-CF3M
Ball	B2-B8	A105-1025	A182-F304L	A182-F304L	A132-F316	A182-F316L
	> B8	A216-WCB	A351-CF8M	A351-CF3	A351-CF8M	A351-CF3M
Steml		A182-F6a	A182-F304	A182-F304L	A182-F336	A182-F316L
Seat		PTFE/NYLIN PTFE/Reinforced PTFE/Nyion				
Seat Retainer		A105-1025	A182-F304	A182-F304L	A182-F316	A182-F316L
Spring			304、306			
O-ring		NBR	Viton			
Stud		A193-B7	A193-B8			
Nut		A194-2H	A194-8			

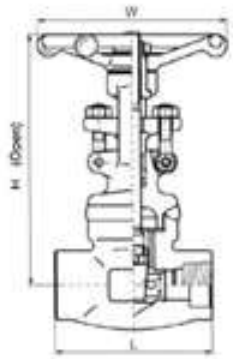
Class	DN	Main external and connecting dimensions														WT (Kg)	Remark
		d	L	LB Welding	H1	H2	W	M	K	D2	D1	D	N-Φ	b	f		
150Lb	1/2"	13	108	–	–	59	130	–	–	35	60.5	89	4–16	11.2	1.6	2.3	Float Ball
	3/4"	19	117	–	–	63	130	–	–	43	70	98	4–16	11.2	1.6	3.0	
	1"	25	127	–	–	75	160	–	–	51	79.5	108	4–16	11.2	1.6	4.5	
	11/2"	38	165	190	–	95	230	–	–	73	98.5	127	4–16	14.3	1.6	7.0	
	2"	51	178	216	–	107	230	–	–	92	120.5	152	4–19	15.9	1.6	9.5	Fixing Ball
	21/2"	61	190	241	–	142	400	–	–	105	139.5	178	4–19	17.5	1.6	15.0	
	3"	76	203	283	–	152	400	–	–	127	152.5	190	4–19	19.1	1.6	19.0	
	4"	102	229	305	–	178	700	–	–	157	190.5	229	8–19	23.9	1.6	33.0	Float Ball
	5"	127	356	–	–	252	1100	–	–	186	216	254	8–22	23.9	1.6	58.0	
	6"	52	394	457	–	272	1100	–	–	216	241.5	279	8–22	54.5	1.6	93.0	
	8"	203	457	521	–	342	1500	–	–	270	298.5	343	8–22	58.6	1.6	160.0	
	8"	203	457	521	–	398	600	115.5	350	270	298.5	343	8–22	28.6	1.6	180.0	Fixing Ball
	10"	254	533	559	335	495	600	115.5	350	324	362	406	12–25	30.2	1.6	240.0	
	12"	305	610	635	385	580	800	171	420	381	431.8	482.6	12–25	31.8	1.6	390.0	
	14"	337	686	726	430	325	800	171	420	412.8	476	535	12–29	35	1.6	510.0	
	16"	387	162	838	470	720	800	257	400	469.9	539.5	597	16–29	36.6	1.6	750.0	
	20"	489	914	991	590	840	800	257	400	58.2	635	698	20–32	42.9	1.6	1190	
	24"	591	1067	1143	700	1050	800	150	410	692.2	749.5	813	20–35	47.8	1.6	2100	
	26"	686	1245	1346	780	1150	800	83	650	800.1	836.6	927.1	28–35	71.4	1.6	3000	
300Lb	1/2"	13	140	–	–	59	130	–	–	35	66.5	95	4–16	14.2	1.6	2.5	Float Ball
	3/4"	19	152	–	–	63	130	–	–	43	82.5	117	4–19	15.9	1.6	3.5	
	1"	25	165	–	–	75	160	–	–	51	89	124	4–19	17.5	1.6	5.5	
	11/2"	38	190	190	–	95	230	–	–	73	114.5	156	4–22	20.7	1.6	10.5	
	2"	51	216	216	–	107	230	–	–	92	127	165	8–19	22.3	1.6	14.5	Fixing Ball
	21/2"	61	241	241	–	142	400	–	–	105	149	190	8–22	25.4	1.6	23.5	
	3"	76	283	283	–	152	400	–	–	127	168	210	8–22	28.6	1.6	30.0	
	4"	102	305	305	–	178	700	–	–	157	200	254	8–22	31.8	1.6	55.0	Float Ball
	5"	127	381	–	–	252	1100	–	–	186	235	279	8–22	35	1.6	81.0	
	6"	52	403	457	–	272	1100	–	–	216	270	318	12–22	36.5	1.6	118.0	
	8"	203	502	521	–	342	1500	–	–	270	330	381	12–25	41.3	1.6	200.00	
	8"	203	502	521	–	398	600	115.5	350	270	330	381	12–25	41.3	1.6	220.2	Fixing Ball
	10"	254	568	559	335	495	600	115.5	350	324	387.5	444	16–29	17.7	1.6	365	
	12"	305	648	635	385	580	800	171	420	381	451	520.8	16–32	50.8	1.6	530	
	14"	337	762	726	430	325	800	171	420	412.8	514.5	584.2	20–32	53.8	1.6	740	
	16"	387	838	838	470	720	800	257	400	469.9	571.5	647.8	20–35	57.2	1.6	1030	
	20"	489	991	991	590	840	800	257	400	58.2	685.8	774.8	24–35	63.5	1.6	1540	
	24"	591	1143	1143	700	1050	800	150	410	692.2	812.8	914.4	24–41	69.8	1.6	2600	
	28"	686	1346	1346	780	1150	800	83	650	800.1	939.8	1035	28–44.5	85.9	1.6	3900	
600Lb	1/2"	13	165	165	–	59	160	–	–	35	56.5	95	4–16	14.3	6.4	7.5	Float Ball
	3/4"	19	190	190	–	63	160	–	–	43	82.5	117	4–19	15.9	6.4	10.5	
	1"	25	216	216	–	75	230	–	–	51	89	124	4–19	17.5	6.4	14.5	
	11/2"	38	241	241	–	95	400	–	–	73	114.5	156	4–22	22.3	6.4	18.5	Fixing Ball
	2"	51	292	292	–	107	700	–	–	92	127	165	8–19	25.4	6.4	25	
	4"	102	432	432	–	178	1100	–	–	157.2	216	273	8–25	38	6.4	76	
	6"	152	559	559	250	300	600	116	350	216	282.1	355.6	12–29	47.2	6.4	127	Float Ball
	8"	203	660	660	294	374	800	171	400	269.8	349.2	419.5	12–32	55.7	6.4	350	
	10"	254	787	787	370	445	800	171	420	324	431.8	508	16–35	63.5	6.4	660	
	12"	305	838	838	420	515	800	257	400	381	489	559	20–35	66.5	6.4	820	
	14"	337	889	889	460	550	800	257	400	413	527	603.2	20–38	69.8	6.4	1130	Fixing Ball
	16"	387	991	991	505	615	800	257	400	470	603.2	686	20–41	76.2	6.4	1550	
	20"	489	1194	1194	630	810	800	150	410	584.2	724	818	24–44.5	89	6.4	2800	
	24"	591	1397	1397	825	1010	800	83	650	692.2	838.2	940	24–51	101.6	6.4	5300	
	28"	686	1549	1549	970	1180	800	123	800	800	965.2	1073	28–55	111.3	6.4	6500	



CL800

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

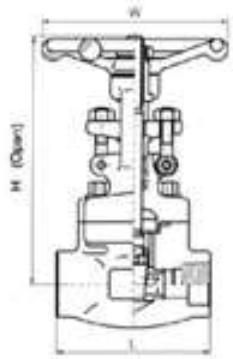
Specification(NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	79	79	92	111	120	120	140	178	180
Handwheel diameter(mm)	W	100	100	100	125	160	160	180	200	220
Height(mm)	H	161	161	163	196	223	251	290	333	370
Flow port dimension(mm)	d	8	10.5	13.5	18	24	29	36.5	45	51
Weight(Kg)		2.22	2.3	2.39	4.24	5.7	7.05	10.9	16.8	24



CL800

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

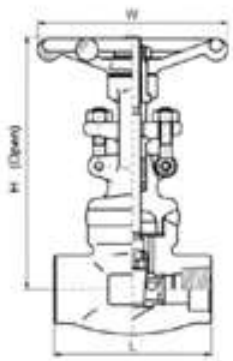
Specification(NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	79	79	92	111	120	120	140	178	180
Handwheel diameter(mm)	W	100	100	100	125	160	160	180	200	220
Height(mm)	H	161	161	163	196	223	251	290	333	370
Flow port dimension(mm)	d	8	10.5	13.5	18	24	29	36.5	45	51
Weight(Kg)		1.9	1.9	2.1	3.2	5.2	6.9	10.4	15.8	22



CL900–CL1500

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

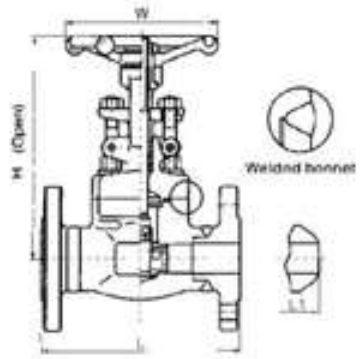
Specification(NPS)	R.P	–	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	92	111	111	120	120	140	178	180	–
Handwheel diameter(mm)	W	100	125	125	160	160	180	200	220	–
Height(mm)	H	191	191	192	219	243	296	316	370	–
Flow port dimension(mm)	d	8	10.5	13.5	18	24	29	36.5	45	–
Weight(Kg)		2.4	4.3	4.4	6	7.2	11.4	16	23	–



CL900–CL1500

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	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	92	111	111	120	120	140	178	180	–
Handwheel diameter(mm)	W	100	125	125	160	160	160	200	220	–
Height(mm)	H	171	207	207	240	258	330	355	370	–
Flow port dimension(mm)	d	8	10.5	13.5	18	24	29	36.5	45	–
Weight(Kg)		2.3	4	4	4.8	7.1	11	16	22.8	–

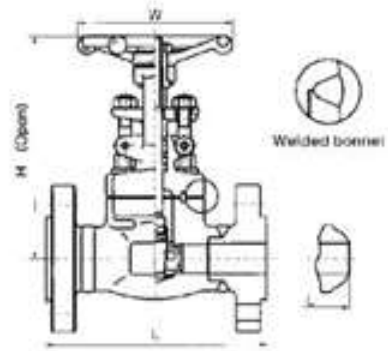


CL150–300–600

Welded 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	11/4	11/2	2	21/2
Face to face (mm)	CL150		L(RF) L1(BW)	–	–	108	117	127	140	165	178	190
	CL300			–	–	140	152	165	178	190	216	241
	CL600			–	–	165	190	216	229	241	292	330
Handwheel diameter(mm)			W	–	–	100	100	125	160	160	180	200
Height(mm)	CL150		H	–	–	176	184	217	226	250	290	357
	CL300,CL600			–	–	161	163	196	226	250	290	357
Height (angle dinmension)(mm)			d	–	–	10	13.5	18	24	29	36.5	45
Weight (Kg)	CL150	RF		–	–	3.4	3.98	6.12	7.2	10.4	15.5	24.5
		BW		–	–	2.8	3.3	5.4	6.5	8.2	12.5	20
	CL300	RF		–	–	3.7	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

Flange Integrity Forged Steel Valve enquiry please contact sales department.

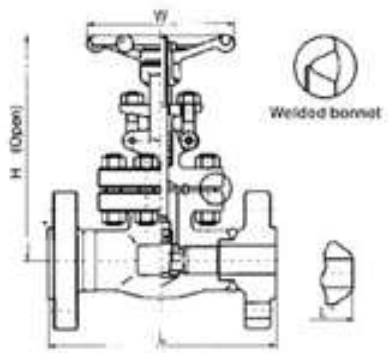


CL900–CL1500

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

Specification(NPS)		1/4	3/8	1/2	3/4	1	11/4	11/2	2
Face to face(mm)	L(RF),L1(BW)	–	–	216	229	254	279	305	368
	L(RTJ)	–	–	216	229	254	279	305	371
Handwheel diameter(mm)	W	–	–	125	125	160	180	200	220
Height(mm)	H	–	–	191	192	219	257	296	316
Flow port dimension(mm)	d	–	–	13.5	18	24	29	36.5	45
Weight(Kg)		–	–	7.2	11.5	15.6	16.2	22.6	28.2

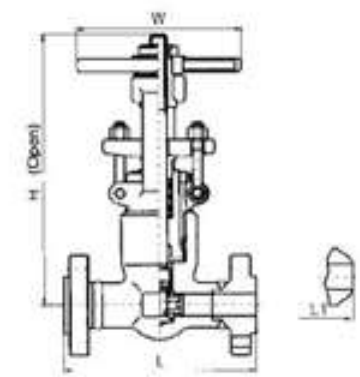
Flange Integrity Forged Steel Valve enquiry please contact sales department.



CL2500

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

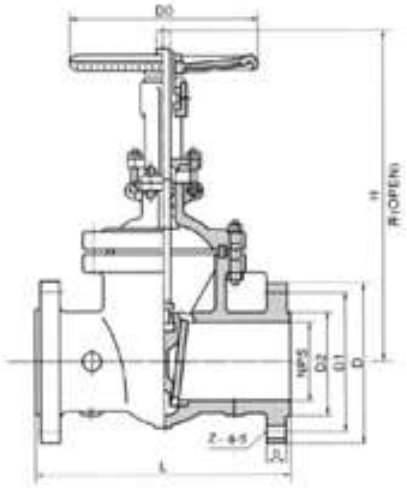
Specification(NPS)		1/4	3/8	1/2	3/4	1	11/4	11/2	2
Face to face(mm)	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter(mm)	W	–	–	125	160	160	–	200	240
Height(mm)	H	–	–	207	240	258	–	355	370
Flow port dimension(mm)	d	–	–	13.5	13.5	19	–	30	36.5
Weight(Kg)		–	–	19.5	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	11/4	11/2	2
Face to face(mm)	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter(mm)	W	–	–	200	200	200	–	280	300
Height(mm)	H	–	–	325	325	327	–	478	540
Flow port dimension(mm)	d	–	–	13.5	13.5	19	–	30	36.5
Weight(Kg)		–	–	14.6	16.8	17.6	–	25	31.9



Production enforce standard

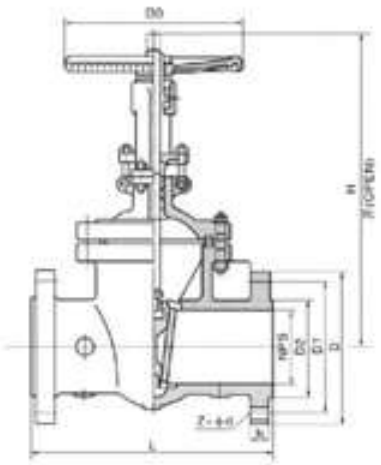
Desing And Manufacture	Face to Face/ End to end	Flange Dimension	Butt welding dimension	Pressure Temperature Lating	Inspection and test
API600	ANSI B16.10	ANSI B16.5	ANSI B16.25	ANSI B16.34	API 598

Chief property and specification

Nominal Pressure	Shell test		Water seal test		Air seal test	
	MPa	Lbf/in^2	MPa	Lbf/in^2	MPa	Lbf/in^2
150	3.1	450	2.2	315	0.5~0.7	60~100
300	7.8	1125	5.6	815		
600	15.3	2225	11.2	1630		
900	23.1	3350	16.8	2440		
1500	38.4	5575	28.1	4080		
2500	64.6	9367	47.4	6873		

Main part materials and property

Body Cover disc	Stem	Sealing Face	Sealing shim	Packing	Working temperature	Suitable medium
WCB	410 420	13Cr STL With body material PTFE Nylon	Enhanced Flexible 410/Flexible graphite F304 F316 F304L F316L	Flexible graphite enhanced flexible graphite SFB/260 SFP/260 PTFE	≤425	Water Steam Petroleum Products
WC1					≤450	
WC6					≤540	
WC9					≤570	
C5 C12					≤540	
CF8	F304				≤600	Nitric acid Aceic acid
CF3	F316					
CF8M	F304L					
CF3M	F316L					



Main External and Connection Dimension

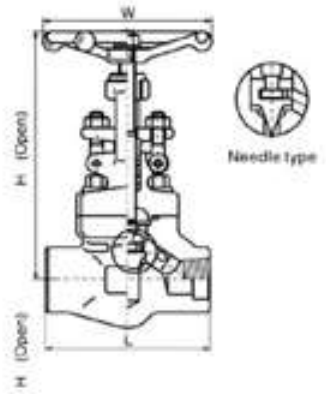
Class	in	DN	Unit	L	H(OPEN)	D	D1	D2	b	Z-ϕd	D0
150Lb	2	50	in	7.00	16.10	6.00	4.75	3.62	0.75	4-0.75	8.00
			mm	178	409	152	120.5	92	19.1	4-19	200
	3	80	in	8.00	20.00	7.50	6.00	5.00	0.94	4-0.75	1.00
			mm	203	570	90	152.5	127	23.9	4-19	250
	4	100	in	9.00	23.20	9.00	7.50	6.19	0.94	8-0.75	10.00
			mm	229	590	229	190.5	157	23.9	8-19	250
	6	150	in	10.50	24.80	11.00	950	8.50	1.00	8-0.88	12.00
			mm	267	630	279	241.5	216	25.4	8-22	300
	8	200	in	11.50	37.80	13.50	11.75	10.62	1212	8-0.88	3.88
			mm	292	960	343	298.5	270	28.5	8-22	350
	10	250	in	13.00	45.60	16.00	14.25	12.75	119	12-1.00	15.70
			mm	330	1158	406	362	324	30.2	12-25	400
	12	300	in	14.00	54.30	19.00	17.00	15.00	1.25	12-1.00	17.70
			mm	356	1378	483	432	381	31.8	12-25	450
	14	350	in	15.00	60.75	21.00	18.75	16.25	1.38	12-1.12	19.70
			mm	381	1543	533	476.5	413	35	12-29	500
	16	400	in	16.00	68.40	23.50	21.25	18.50	1.44	16-1.12	23.60
			mm	406	1738	597	539.5	470	36.6	16-29	600
	18	450	in	17.00	74.10	25.00	22.75	21.00	1.56	16-1.25	23.60
			mm	432	1959	635	578	533	39.7	16-32	600
	20	500	in	18.00	87.20	27.50	25.00	23.00	1.69	20-1.25	26.80
			mm	457	2214	698	635	584	42.9	20-32	680
	24	600	in	20.00	102.3	32.00	29.50	27.25	1.88	20-1.38	29.90
			mm	508	2599	813	749.5	692	47.7	20-35	760
	30	750	in	24.00	125.3	38.75	36.00	33.75	2.94	28-1.38	36.00
			mm	610	3183	985	914	857	74.5	28-35	915
	36	900	in	28.00	147.00	46.00	42.75	40.25	3.56	32-1.62	36.00
			mm	711	3737	1170	1086	1022	90.5	32.41	915

Main External and Connection Dimension

Class	in	DN	Unit	L	H(OPEN)	D	D1	D2	b	Z-ϕd	D0
300Lb	2	50	in	8.50	16.70	6.5	5.00	3.62	0.88	8-0.75	8.0
			mm	216	424	165	127	92	22.3	8-19	200
	3	80	in	11.15	21.00	8.25	6.62	5.00	1.12	8-0.88	10
			mm	283	535	210	168	127	28.5	8-22	250
	4	100	in	12.00	24.20	10.0	7.88	6.19	1.25	8-0.88	10
			mm	305	615	254	200	157	31.8	8-22	250
	6	150	in	15.87	31.30	12.50	10.62	8.50	1.44	8-0.88	14
			mm	403	795	381	270	216	36.6	12-22	350
	8	200	in	16.50	39.90	15.0	13.0	10.62	1.62	12-1.0	15.7
			mm	419	1012	381	330	270	41.3	12-25	400
	10	250	in	18.00	48.50	17.50	15.25	12.75	1.88	16-1.12	17.7
			mm	457	1231	444	387.5	324	47.7	16-29	450
	12	300	in	19.75	57.0	20.50	17.75	15.00	2.00	16-1.25	19.7
			mm	502	1450	521	451	381	50.8	16-32	500
	14	350	in	30.00	64.8	23.00	20.25	16.25	2.12	20-1.25	23.6
			mm	762	1645	584	514.5	413	54.0	20-32	600
	16	400	in	33.00	72.50	25.50	20.25	18.50	2.25	20-1.38	23.6
			mm	838	1814	648	571.5	470	57.2	20-35	600
	18	450	in	36.00	76.50	28.00	24.75	21.00	2.38	24-1.38	26.8
			mm	914	1943	711	628.5	533	60.4	24-35	680
	20	500	in	39.00	84.80	30.50	27.0	23.00	2.50	24-1.38	38
			mm	991	2154	775	686	584	63.5	24-35	760
	24	600	in	45.00	100.50	36.0	32.0	27.25	2.75	24-1.62	36
			mm	1143	2553	914	813	692	69.9	24-41	915

Main External and Connection Dimension

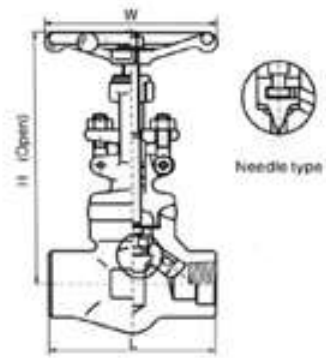
Class	in	DN	Unit	L	H(OPEN)	D	D1	D2	b	Z-ϕd	D0
600Lb	2	50	in	11.50	18	6.5	5.00	3.62	1.0	8-0.75	10
			mm	292	458	165	127	92	25.4	8-19	250
	3	80	in	14.00	22.50	8.25	6.62	5.00	1.25	8-0.88	10
			mm	356	570	210	168	127	31.8	8-22	250
	4	100	in	17.00	27.2	10.75	8.50	6.19	1.5	8-1.0	14
			mm	432	390	273	216	157	38.1	8-25	350
	6	150	in	22	35.8	14	11.50	8.50	1.88	12-1.12	18
			mm	559	910	356	292	216	47.7	12-29	450
	8	200	in	26.00	41.9	16.5	13.75	10.62	2.19	12-1.25	19.7
			mm	600	1064	419	349	270	55.6	12-32	500
	10	250	in	31.00	49.5	20	17.00	12.75	2.5	16-1.38	23.6
			mm	787	1257	508	432	324	63.5	16-35	600
	12	300	in	33	57.8	22	19.25	15.00	2.62	20-1.38	26.8
			mm	838	1468	559	489	381	66.7	20-35	680
	14	350	in	35	63.9	23.75	20.75	16.25	2.75	20-1.50	26.9
			mm	889	1623	603	527	413	69.9	20-38	760
	16	400	in	39	71.5	27	23.75	18.50	3.0	20-1.62	26.9
			mm	991	1816	686	603	470	76.2	20-41	760
	18	450	in	43	82.7	29.25	25.75	21.00	3.25	20-10.75	36
			mm	1092	21.00	743	654	533	82.6	20-45	91.5
	20	500	in	47	88.6	32	28.5	23.00	3.5	24-1.75	37.4
			mm	1194	2250	813	724	584	88.9	24-45	950
	24	600	in	55	107.5	37	33.0	27.25	4.0	24-2.0	39.4
			mm	1397	2730	940	838	692	102	24-51	1000



CL800

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

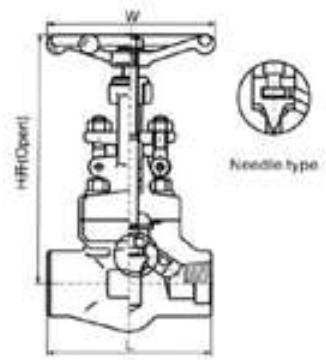
Specification(NPS)	R.P	-	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter(mm)	W	100	100	100	125	160	160	180	200	
Height(mm)	H	164	164	164	203	224	260	300	355	
Flow port dimension(mm)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		1.9	2.28	2.37	4.3	5.75	7.8	12.5	17.5	



CL800

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

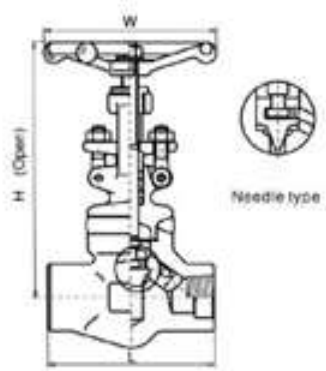
Specification(NPS)	R.P	-	1/2	3/4	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	79	79	92	111	120	152	172	200	
Handwheel diameter(mm)	W	100	100	100	125	160	160	180	200	
Height(mm)	H	164	164	164	203	224	260	300	355	
Flow port dimension(mm)	d	7	9	13	17.5	23	30	35	46	
Weight(Kg)		1.7	1.7	1.9	3.3	5.2	6.8	10.6	13.8	



CL900-CL1500

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

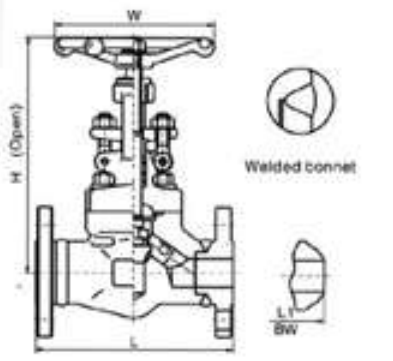
Specification(NPS)	R.P	-	1/2	3/8	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	92	111	111	120	152	172	200	220	-
Handwheel diameter(mm)	W	100	125	125	160	160	180	200	240	-
Height(mm)	H	171	207	207	240	258	330	355	370	-
Flow port dimension(mm)	d	7	12	15	20	28	32	40	45	-
Weight(Kg)		2.3	3.6	3.7	6.8	7.6	11.6	15	21.9	-



CL900-CL1500

Welded 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	3/8	1	11/4	11/2	2	21/2	3
	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2
Face to face(mm)	L	92	111	111	120	152	172	200	220	-
Handwheel diameter(mm)	W	100	125	125	160	160	180	200	240	-
Height(mm)	H	171	207	207	240	258	330	355	370	-
Flow port dimension(mm)	d		12	15	20	28	32	40	45	-
Weight(Kg)		2.2	3.3	3.4	5.6	6.0	10.3	14.2	18.0	-

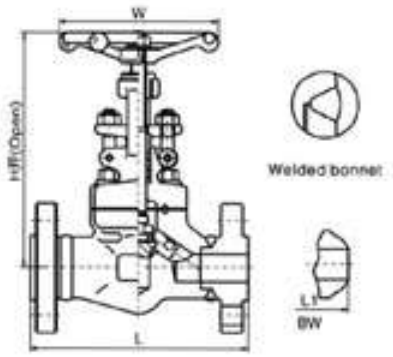


CL150–300–600

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

Specification(NPS)			R.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Face to face (mm)	CL150		L(RF) L1(BW)	–	–	108	117	127	140	165	203
	CL300			–	–	152	178	203	216	229	267
	CL600			–	–	165	190	216	229	241	292
Handwheel diameter(mm)			W	–	–	100	100	125	160	160	180
Height (mm)	CL150/CL300		H	–	–	180	184	217	224	260	300
	CL600			–	–	164	164	203	224	260	300
Flow port dinmension(mm)			d	–	–	9	13	17.5	23	30	35
Weight (Kg)	CL150	RF		–	–	3.45	4.00	6.19	9.6	10.5	17
		BW		–	–	2.3	3.6	7.8	8.2	12.0	15.0
	CL300	RF		–	–	3.8	5.1	7.2	12	13.5	19.7
		BW		–	–	2.8	4.0	8.5	9.2	12.6	16.8
	CL600	RF		–	–	5.6	7.8	12.5	17	23.5	38.8
		BW		–	–	3.4	4.7	9.2	10.5	13.3	18.9

Flange Integrity Forged Steel Valve enquiry please contact sales department.

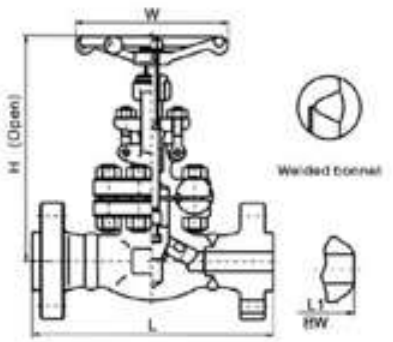


CL900–CL1500

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

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

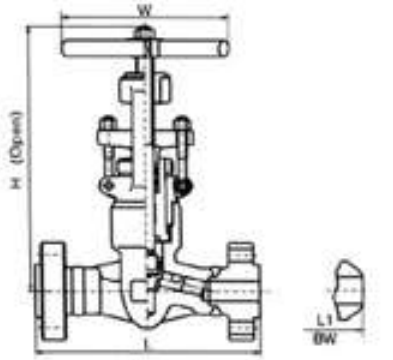
Flange Integrity Forged Steel Valve enquiry please contact sales department.



CL2500

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

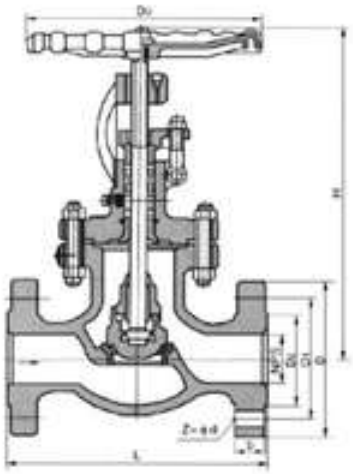
Specification(NPS)	F.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Face to face(mm)	L(RF),L1(BW)	–	–	264	273	308	–	384	451
	L(RTJ)	–	–	264	273	308	–	387	454
Handwheel diameter(mm)	W	–	–	125	160	200	–	250	240
Height(mm)	H	–	–	207	240	258	–	355	300
Flow port dimension(mm)	d	–	–	11	14	19	–	28	35
Weight(Kg)		–	–	19.5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



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	11/4	11/2	2
Face to face(mm)	L(RF),L1(BW)	–	–	264	273	308	349	384	451
	L(RTJ)	–	–	264	273	308	349	387	454
Handwheel diameter(mm)	W	–	–	200	200	280	280	280	300
Height(mm)	H	–	–	320	320	320	440	440	490
Flow port dimension(mm)	d	–	–	11	14	19	25	28	35
Weight(Kg)		–	–	21.5	24.7	30.4	48.1	58.1	130



Production enforce standard

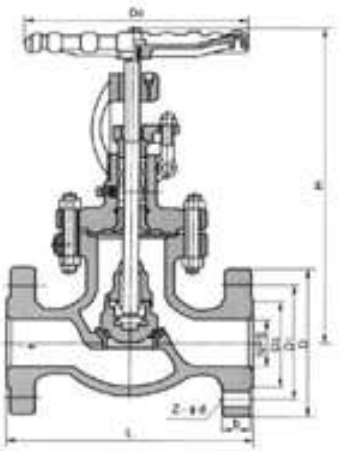
Desing And Manufacture	Face to Face/ End to end	Flange Dimension	Butt welding dimension	Pressure Temperature Lating	Inspection and test
ANSI B16.34、BS1873	ANSI B16.10	ANSI B16.5	ANSI B16.25	ANSI B16.34	API 598

Chief property and specification

Nominal Pressure	Shell test		Water seal test		Air seal test	
	MPa	Lbf/in^2	MPa	Lbf/in^2	MPa	Lbf/in^2
150	3.1	450	2.2	315	0.5~0.7	60~100
300	7.8	1125	5.6	815		
600	15.3	2225	11.2	1630		
900	23.1	3350	16.8	2440		
1500	38.4	5575	28.1	4080		
2500	64.6	9367	47.4	6873		

Main part materials and property

Body Cover disc	Stem	Sealing Face	Sealing shim	Packing	Working temperature	Suitable medium
WCB	410 420	13Cr STL With body material PTFE Nylon	Enhanced Flexible 410/Flexible graphite F304 F316 F304L F316L	Flexible graphite enhanced flexible graphite SFB/260 SFP/260 PTFE	≤425	Water Steam Petroleum Products
WC1					≤450	
WC6					≤540	
WC9					≤570	
C5 C12					≤540	
CF8	F304				≤600	Nitric acid Aceic acid
CF3	F316					
CF8M	F304L					
CF3M	F316L					



Main External and Connection Dimension

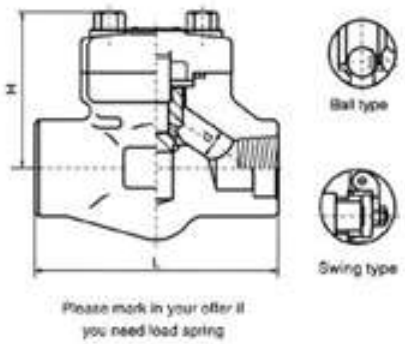
Class	Size		L	D	t	G	C	n- ϕ d	W	H	WT(Kg)
150Lb	1/2"	mm	108	89	12	35	60.5	4-15	125	169	3.8
		in	4.25	3.5	0.47	1.38	2.38	4-0.59	4.92	6.65	
	3/4"	mm	117	98	12	43	70	4-15	125	180	4.2
		in	4.61	3.86	0.47	1.69	2.76	4-0.59	4.92	7.08	
	1"	mm	127	108	12	51	79.5	4-15	125	190	8
		in	5	4.25	0.47	2	3.13	4-0.59	4.92	7.48	
	11/2"	mm	165	127	14.3	73	98.5	4-16	180	347	13
		in	6.5	5	0.56	2.87	3.88	4-0.62	7.09	13.66	
	2"	mm	203	152	15.9	92	120.5	4-19	180	356	21
		in	8.00	6.00	0.625	3.62	4.75	4-0.75	7.09	14	
	21/2"	mm	216	178	17.5	105	139.5	4-19	240	381	30
		in	8.5	7	0.69	4.12	5.50	4-0.75	9.45	15.00	
	3"	mm	241	190	19.1	127	152.4	4-19	280	13	41
		in	9.5	7.50	0.75	5	6	4-0.75	11.02	16.25	
	4"	mm	292	229	24	157	190.5	8-19	280	500	64
		in	11.50	9.00	0.94	6.19	7.5	8-0.75	11.02	19.68	
	6"	mm	406	279	25.4	216	241.5	8-22	360	656	113
		in	16	11.0	1.00	8.5	9.50	8-0.88	14.17	22.25	
	8"	mm	495	343	29	270	298.5	8-22	450	660	190
		in	19.5	13.5	1.12	10.62	11.75	8-0.88	17.75	26.00	

Main External and Connection Dimension

Class	Size		L	D	t	G	C	n-φd	W	H	WT(Kg)
300Lb	1/2"	mm	152	95	15	35	66.5	4-15	125	190	4.5
		in	5.98	3.74	0.95	1.38	2.62	4-0.59	4.92	7.48	
	3/4"	mm	178	117	16	43	82.5	4-19	125	212	8
		in	7	4.61	0.62	1.69	3.25	4-0.75	4.92	8.35	
	1"	mm	203	124	18	51	89	4-19	160	231	10
		in	8	4.9	0.71	2	3.50	4-0.75	6.2	9.1	
	11/2"	mm	229	156	20.7	73	114.5	4-22	200	391	18.5
		in	9	6.12	0.81	2.87	4.51	4-0.88	8	15.43	
	2"	mm	267	165	22	92	127	8-19	200	406	37
		in	10.5	6.5	0.88	3.62	5	8-0.75	7.87	16.00	
	21/2"	mm	292	190	25	105	149	8-22	180	457	50
		in	11.5	7.50	1.00	4.12	5.88	8-0.88	7.09	18.00	
	3"	mm	318	210	29	127	168.5	8-22	240	470	61
		in	12.50	8.25	1.12	5	6.62	8-0.88	9.45	18.50	
	4"	mm	356	254	32	157	200	8-22	320	590	99
		in	14.00	10.00	1.25	6.19	7.88	8-0.88	12.60	23.23	
	6"	mm	444	318	37	216	270	12-22	500	711	176
		in	17.50	12.50	1.44	8.5	10.62	12-0.88	19.68	28.00	
	8"	mm	559	381	41	270	330	12-25	500	750	333
		in	22.0	15	1.62	10.62	13.00	12-100	19.68	29.50	
600Lb	1/2"	mm	165	95	15	35	66.5	4-15	160	285	6
		in	6.5	3.74	0.95	1.38	2.62	4-0.95	6.2	11.22	
	3/4"	mm	190	117.5	16	43	82.5	4-19	160	285	9
		in	7.48	4.61	0.62	1.69	3.25	4-0.75	6.2	11.22	
	1"	mm	216	124	18	51	89	4-19	160	313	12
		in	8.5	4.9	0.71	2	3.50	4-0.75	6.2	12.32	
	11/2"	mm	241	156	23	73	114.5	4-22	240	365	22
		in	9.5	6.12	0.91	2.87	4.51	4-0.88	9.45	14.17	
	2"	mm	292	165	25	92	127	8-19	240	444	39
		in	11.50	6.50	1.00	3.62	5	8-0.75	9.45	17.50	
	21/2"	mm	330	190	29	105	149	8-22	240	483	50
		in	13	7.50	1.12	4.12	5.88	8-0.08	9.45	19	
	3"	mm	356	210	32	127	168.5	8-22	280	533	68
		in	14.00	8.25	1.25	5	6.62	8-0.88	11.02	21	
	4"	mm	406	273	38.1	157	216	8-25	360	622	120
		in	16.00	10.75	1.5	6.19	8.5	8-1.00	14.17	24.50	
	6"	mm	495	356	47.7	216	292	12-29	500	800	220
		in	19.50	14	1.88	8.5	11.5	12-1.14	19.68	31.50	
	8"	mm	597	419	55.6	270	349	12-32	550	927	450
		in	23.50	16.5	2.19	10.62	13.75	12-1.25	21.65	36.50	

CL800

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

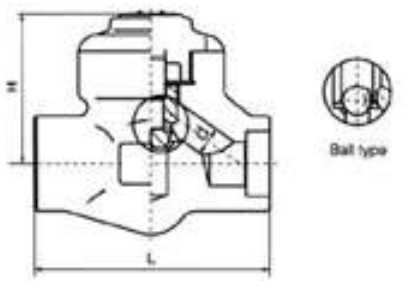


Please mark in your offer if you need load spring

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(mm)	L	Lift	79	79	92	111	120	152	172	200
		Swing	79	79	92	111	120	120	140	178
Height(mm)	H	Lift	61	61	61	78	84	84	118	132
		Swing	61	61	61	78	84	84	120	133
Flow port dimension(mm)	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	8.4	10.9

CL800

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

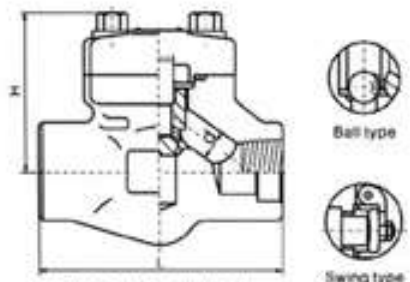


Please mark in your offer if you need load spring

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(mm)	L	79	79	92	111	120	152	172	200
Height(mm)	H	61	61	61	78	84	103	118	132
Flow port dimension(mm)	d	7	9	13	17.5	23	30	35	46
Weight(Kg)		1.2	1.3	1.5	3.0	3.9	6.0	10	12

CL900-CL1500

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

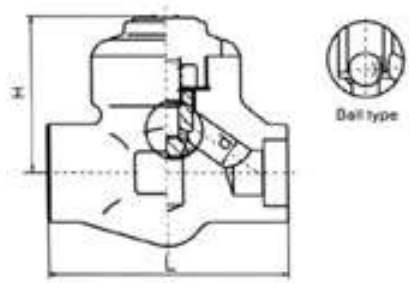


Please mark in your offer if you need load spring

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(mm)	L	Lift	92	111	111	120	152	172	200	
		Swing	92	111	111	120	120	140	178	
Height(mm)	H	Lift	61	78	78	84	103	118	132	
		Swing	61	78	78	84	101	120	133	
Flow port dimension(mm)	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	3.3	3.4	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

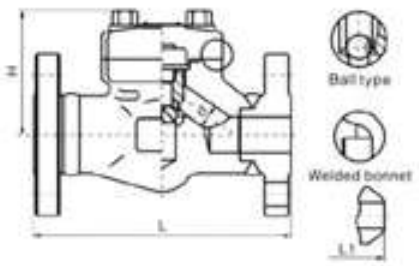


Please mark in your offer if you need load spring

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(mm)	L	92	111	111	120	152	172	200	
Height(mm)	H	61	78	78	84	103	118	132	
Flow port dimension(mm)	d	7	12	15	20	28	32	40	
Weight(Kg)		1.3	3.1	3.1	3.9	5.8	10.0	11.5	

CL150–300–600

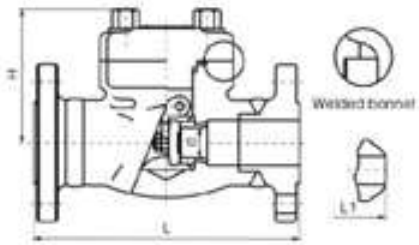
Bolted bonnet, full port
Flange–welded or butt–welded ends; design to BS5352



Specification(NPS)			R.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Face to face (mm)	CL150		L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300			–	–	153	178	203	216	229	267
	CL600			–	–	165	191	216	229	241	292
Height(mm)	CL150		H	–	–	77	81	93	95	103	118
	CL300/600			–	–	61	78	84	101	120	133
Flow port dimension(mm)			d	–	–	10	13	17.5	23	30	35
Weight (Kg)	CL150	RF		–	–	3.6	4.6	8.5	9.2	12.5	14.8
		BW		–	–	3.0	3.6	7.6	8.5	11.3	13.6
	CL300	RF		–	–	3.7	4.8	8.8	9.6	13.7	17.8
		BW		–	–	3.2	4.3	8.0	8.6	12.7	16.2
	CL600	RF		–	–	4.0	5.8	9.5	10.4	15.6	24.5
		BW		–	–	3.4	5.1	8.8	9.2	14.8	22.5

CL150–300–600

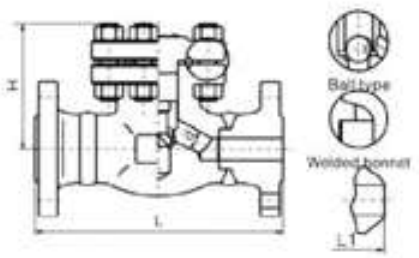
Bolted bonnet, full port
Flange–welded or butt–welded ends; design to BS5352



Specification(NPS)			R.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Face to face (mm)	CL150		L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300			–	–	153	178	203	216	229	267
	CL600			–	–	165	191	216	229	241	292
Height(mm)	CL150		H	–	–	77	81	93	95	103	118
	CL300/600			–	–	61	78	84	101	120	133
Flow port dimension(mm)			d	–	–	10.5	13.5	18	24	29	36.5
Weight (Kg)	CL150	RF		–	–	3.6	4.6	8.5	9.2	12.5	14.8
		BW		–	–	3.0	3.6	7.6	8.5	11.3	13.6
	CL300	RF		–	–	3.7	4.8	8.8	9.6	13.7	17.8
		BW		–	–	3.2	4.3	8.0	8.6	12.7	16.2
	CL600	RF		–	–	4.0	5.8	9.5	10.4	15.6	24.5
		BW		–	–	3.4	5.1	8.8	9.2	14.8	22.5

CL150–300–600

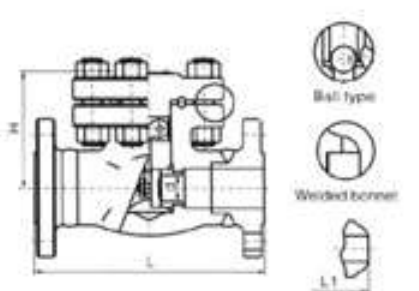
Bolted bonnet, reducing port
Flange–welded or butt–welded ends; design to BS5352



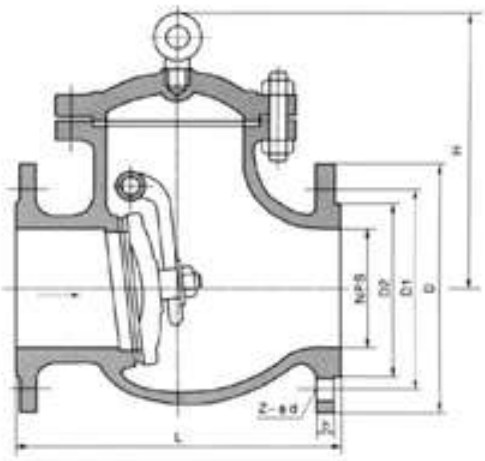
Specification(NPS)			R.P	1/4	3/8	1/2	3/4	1	11/4	11/2	2
Face to face (mm)	CL150		L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300			–	–	153	178	203	216	229	267
	CL600			–	–	165	191	216	229	241	292
Height(mm)	CL150		H	–	–	77	81	93	95	103	118
	CL300/600			–	–	61	78	84	101	120	133
Flow port dimension(mm)			d	–	–	10	13	17.5	23	30	35
Weight (Kg)	CL150	RF		–	–	3.2	3.5	4.6	5.2	7.0	16
		BW		–	–	2.8	3.0	4.0	4.6	6.3	15
	CL300	RF		–	–	4.6	6.1	9.1	12	16	21
		BW		–	–	4.1	5.7	8.4	11.2	14.5	19.5
	CL600	RF		–	–	4.8	6.3	9.3	13	16.5	22
		BW		–	–	4.4	5.9	8.7	12.1	15.8	20.8

CL150–300–600

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	11/4	11/2	2
Face to face (mm)	CL150		L(RF) L1(BW)	–	–	108	118	127	140	165	203
	CL300			–	–	153	178	203	216	229	267
	CL600			–	–	165	191	216	229	241	292
Height(mm)	CL150		H	–	–	77	81	93	95	103	118
	CL300/600			–	–	61	78	84	101	120	133
Flow port dimension(mm)			d	–	–	10.5	13.5	18	24	29	36.5
Weight (Kg)	CL150	RF		–	–	3.6	4.6	8.5	9.2	12.5	14.8
		BW		–	–	3.0	3.6	7.6	8.5	11.3	13.6
	CL300	RF		–	–	3.7	4.8	8.8	9.6	13.7	17.8
		BW		–	–	3.2	4.3	8.0	8.6	12.7	16.2
	CL600	RF		–	–	4.0	5.8	9.5	10.4	15.6	24.5
		BW		–	–	3.4	5.1	8.8	9.2	14.8	22.5



Production enforce standard

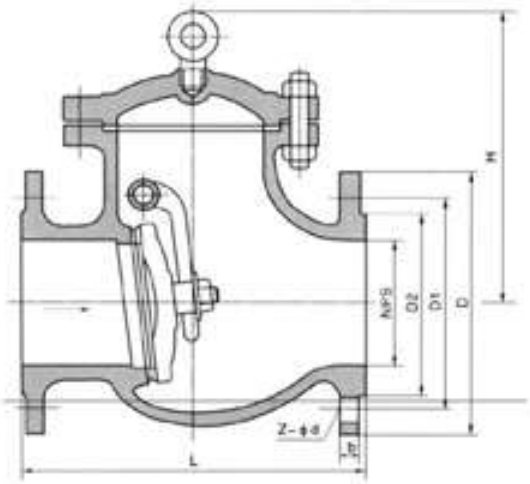
TYPE	Desing And Manufacture	Face to Face/ End to end	Flange Dimension	Pressure Temperature Lating	Inspection and test
Swing check valve	ANSI B16.34	ANSI B16.10	ANSI B16.15	ANSI B16.34	API 598
Lift check valve	BS 1868				

Chief property and specification

Nominal Pressure		150	300	600	900
Shell test	MPa	3.1	7.8	15.3	23.1
	Lbf/in²	450	1125	2225	3350
Water seal test	MPa	2.2	5.6	11.2	16.8
	Lbf/in²	315	815	1630	2440
Air seal test	MPa	0.5~0.7			
	Lbf/in²	60~100			

Main part materials and property

Body Cover DiskHingesideway bush	Hinge pin	Sealing shim	Sealing Face	Working temperature	Suitable medium
WCB	410 420	Enhanced Flexible graphite 410/Flexible Graphite S.S/Acie-proof ashestos Tooth profile gasket	13Cr STL PTFE With body material Nylon	≤425	Water steam Petroleum Products Nitric acid Aceic acid
WC1				≤450	
WC6				≤540	
WC9				≤570	
C5 C12				≤550	
CF8	304			≤600	
CF3	316				
CF8M	304L				
CF3M	316L				

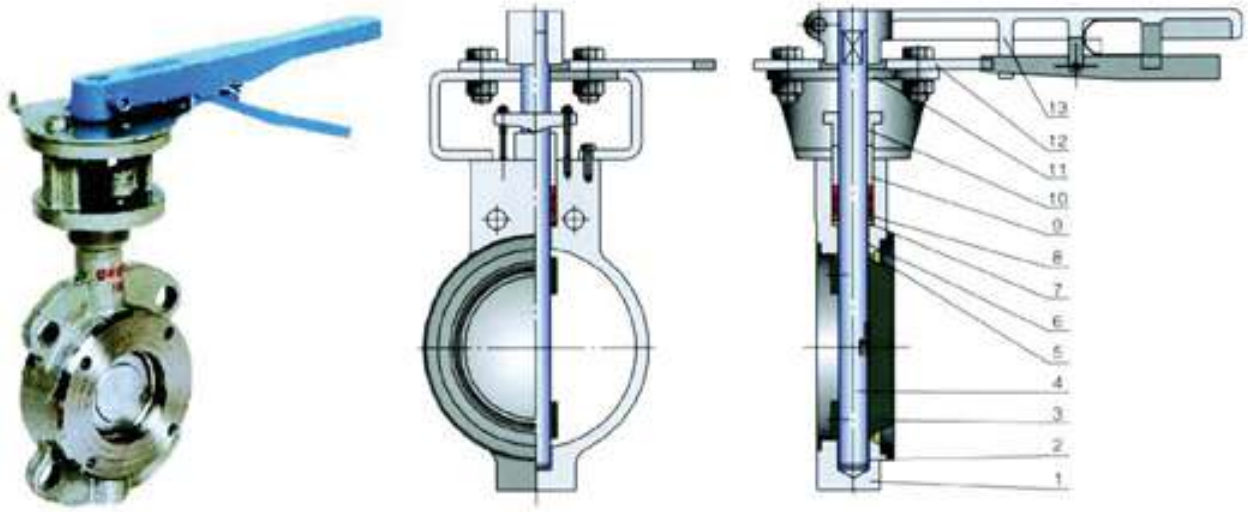


Main External and Connection Dimension

Class	NPS	DN	Class 150Lb							WT (Kg)
	in	mm	L	D	D1	D2	b	Z-φd	H	
150Lb	2"	50	203	157	120.7	92	19.50	4-φ19	161	17
	21/2"	65	216	178	139.7	105	22.5	4-φ19	180	23
	3"	80	241	190.5	152.4	127	24	4-φ19	190	33
	4"	100	292	229	190.50	157.2	24	8-φ19	220	44
	6"	150	356	279	241.5	216	25.5	8-φ22.5	257	78
	8"	200	495	343	298.5	270	29	8-φ22.5	292	137
	10"	250	622	406	362	324	30.5	12-φ25	350	207
	12"	300	698	483	432	381	32	12-φ25	398	279
	14"	350	787	533	476.8	413	35	12-φ29	445	387
	16"	400	864	597	539.8	470	37	16-φ29	490	446
	18"	450	978	635	577.8	533	40	16-φ32	520	621
	20"	500	978	698	635	584	43	20-φ32	546	770
	24"	600	1295	813	749.3	692	48	20-φ35	880	970

Main External and Connection Dimension

Class	NPS	DN	Class 300Lb/600Lb							WT (Kg)
	in	mm	L	D	D1	D2	b	Z-ϕd	H	
300Lb	2"	50	267	165	127	92	22.5	8-ϕ19	179.5	20
	21/2"	65	292	190	150	105	25	8-ϕ22	190	24
	3"	80	318	210	168	127	29.0	8-ϕ22.5	212.4	40
	4"	100	356	254	200	157	32.0	8-ϕ22.5	246	51
	6"	150	445	317.5	269.7	216	37.0	12-ϕ22.5	292	90
	8"	200	533	381	330	270	41.5	12-ϕ25.5	328	175
	10"	250	622	444.5	387	324	48.0	16-ϕ28.5	378.6	210
	12"	300	711	521	451	381	51.0	16-ϕ32	420	286
	14"	350	838	584	514	54	54	20-ϕ32	470	400
	16"	400	864	648	572	57	57	20-ϕ35	530	550
	18"	450	978	711	629	60	60	24-ϕ35	584	700
	20"	500	1016	775	686	64	64	24-ϕ35	610	860
	24"	600	1346	914	813	70	70	24-ϕ41	860	1931
600Lb	2"	50	292	165	127	92	25	8-ϕ19	203	34
	21/2"	65	330	190	150	105	29	8-ϕ22	229	45
	3"	80	356	210	168	127	32	8-ϕ22	235	63
	4"	100	432	273	216	157	38	8-ϕ25	286	114
	6"	150	559	356	292	216	48	8-ϕ29	330	207
	8"	200	660	419	349	270	56	12-ϕ29	381	387
	10"	250	787	508	432	324	64	12-ϕ32	457	580
	12"	300	838	559	489	381	67	16-ϕ35	584	778
	14"	350	889	603	527	413	70	20-ϕ38	635	986
	16"	400	991	686	603	470	76	20-ϕ41	684	1380



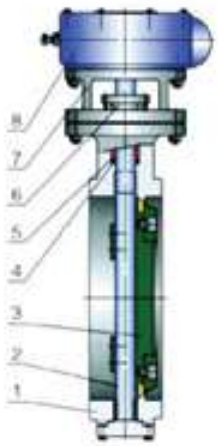
Technical specification

Structural formation	Single eccentric structure
Design reference	API
Driving manner	Hand-operated, worm wheel & worm screw pneumatic operated, Electric-driving
Design standard	API 609、MSS.SP-68
Face to face	ASME B16.10、API 609、MSS.SP-68
Flanged ends	ASME B16.5、ASME B16.47
Test & inspection	API 598

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.

Major parts material form

No.	Part name	Material	No.	Part name	Material
1	Body	WCB、CF8、CF8M、CF3、CF3M	8	Packing	Graphite
2	Bush	Cu、PTFE+SS	9	Stuffing cover	ASTM A276-420
3	Wedge	WCB、CF8、CF8M、CF3、CF3M	10	Gland	WCB、CF8、CF8M
4	Stem	ASTM A276-410 / 420	11	Yoke	WCB、CF8、CF8M、CF3、CF3M
5	Sealing part	A105+Viton、A105+F6、CF8M	12	Indicating plate	Cu、SS
6	Bush	Cu、PTFE+SS	13	Wrench	KTH330、QT400-17
7	Packing seat	420			



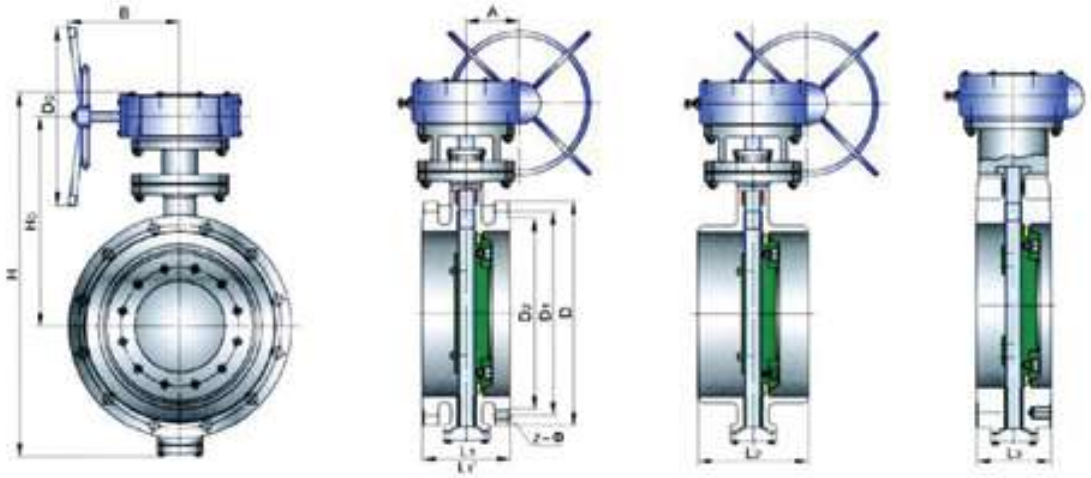
Technical specification

Structural formation	Double eccentric structure
Design reference	API
Driving manner	Hand-operated, worm wheel & worm screw pneumatic operated, Electric-driving
Design standard	API 609、MSS.SP-68
Face to face	ASME B16.10、API 609、MSS.SP-68
Flanged ends	ASME B16.5、ASME B16.47
Test & inspection	API 598

Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.

Major parts material form

No.	Part name	Material	No.	Part name	Material
1	Body	WCB、CF8、CF8M CF8C、CF3、CF3M	5	Packing	Graphite
2	Stem	ASTM A276-410 / 420	6	Stuffing cove	WCB、CF8、CF8M
3	Disc	WCB+F4、WCB+Composite SS WCB+F6、CF8、CF8M	7	Yoke	WCB、CF8、CF8M、CF3、CF3M
4	Packing seat	420	8	Worm device	



Main size of outside

Class	NPS (in)	Dimensios (mm)							
		L_1	L_2	L_3	H_0	H	A	B	D_0
150Lb	3	114	114	48	185	320	140	63	160
	4	127	127	54	195	342	140	63	160
	5	140	140	55	209	365	140	63	300
	6	140	140	57	243	415	140	63	300
	8	152	152	64	263	510	150	64	400
	10	165	165	71	295	567	150	64	400
	12	178	178	81	342	665	200	108	600
	14	190	190	92	385	739	200	108	600
	16	216	216	102	430	825	240	152	600
	18	222	222	114	469	910	240	152	800
	20	229	229	127	500	990	300	168	800
	24	267	267	154	618	1210	320	192	800
	28	292	292	229	746	1475	237	168	400
	32	318	318	241	810	1600	237	168	400
	34	330	330	241	875	1728	237	168	400
	40	410	410	300	965	1900	237	168	600
300Lb	3	180	180	48	241	395	140	63	300
	4	190	190	54	205	355	140	63	400
	5	200	200	55	215	378	140	63	400
	6	210	210	59	260	430	150	84	600
	8	230	230	73	273	523	150	84	600
	10	250	250	83	315	600	200	108	600
	12	270	270	92	362	693	200	108	800
	14	290	290	117	405	772	240	152	800
	16	310	310	133	440	862	300	169	800
	18	330	330	149	525	960	320	192	400
	20	350	350	159	603	1158	168	237	400
	24	390	390	181	693	1320	168	237	300

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