



CAST STEEL VALVES



Our Company



Hart Valves

Consistent product quality and availability of substantial stocks, makes HART a dependable choice for cast gate, globe and check valves, where total reliability is the number one concern.

Hart valves offer valves either to standard specification, or valves can be modified to suit customers specific requirements. Both quickly and economically.

Hart has an extensive quality system which complies to the requirement of the major oil companies and has been audited and approved to ISO 9002 by Lloyd's register of industrial services.



Range

Hart have a range of low emission valves offering minimum leakage and maximum service life in the stem sealing and bonnet joint areas.

Testing and evaluation criteria is based on EPA method 21, and emission rates lower than 500ppm during operation are standard for this range of gate, globe and check valves.

All Hart gate and globe valves are easily adaptable for bevel gear or actuator mounting, and most makes of actuator can be supplied to suit clients specifications.





Hart Cast steel valves are designed and manufactured under strict quality control to conform with APU, ASTM, MSS, ANSI and other applicable internationally recognized standards, to possess all the qualities to meet with stringent requirement criteria of petroleum, petro-chemical and general industrial applications.

All Hart valves are tested in accordance with applicable API standard prior to releasing for deliveries to market. Full traceability on test results maintained.

All Hart valves offer the option of hard facing on the wedge (disc) and seating areas. Lantern rings are furnished as a standard feature on gate valves of Class 300 and above.

Shown below are a few illustrations showing the disc connection and lantern rings on Hart gate valves:

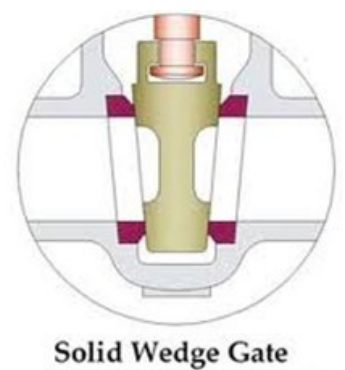
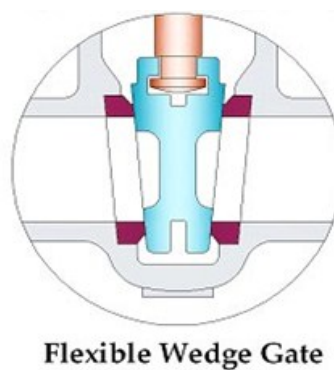
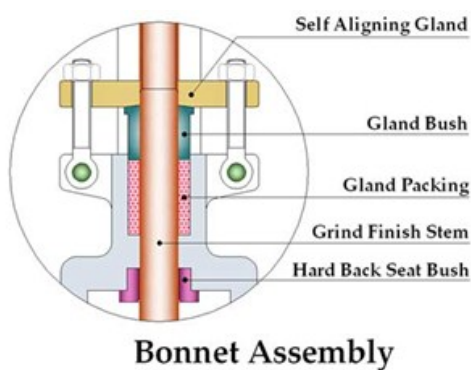


Figure Number

Code table 1

VALVE TYPE

GA	GATE
GL	GLOBE
SW	SWING CHECK
YS	Y-STRAINER



Code table 2

ANSI CLASS

1	150
3	300
6	600
9	900
15	1500
25	2500

Code table 3

BODY MATERIAL

1	CS. A216/WCB
2	316 SS/ CF8M
3	304 SS/ CF8
4	CAST IRON
5	DUCTILE IRON
6	LCB
7	C5
8	C12
9	WC6
10	WC9
11	CF3
12	CF3M
13	CF8C
14	CN7M
15	SPECIAL

Code table 4

END CONNECTION

B	BW
F	RF FLGD
R	RTJ FLGD
L	LUG TYPE
W	WAFFER TYPE
U	UNIVERSAL
S	SPECIAL

Code table 5

OPERATION

G	GEAR OP
A	ACTUATED

Code Table:
1
2
3
4
5
Sample Valve:
GA
1
1
F
G
Result:
**GATE
VALVE**
**Class
150LB**
**A216-
WCB**
RF FLGD
GEAR
VALVE SPECIFICATIONS

CLASS	Fig. No.	VALVE TYPE	CONSTRUCTION	PAGE
150	GA11F	GATE	B.B., O.S.& Y.	6
300	GA31F	GATE	B.B., O.S.& Y.	7
600	GA61F	GATE	B.B., O.S.& Y.	8
900	GA91F	GATE	B.B., O.S.& Y.	9
1500	GA151F	GATE	B.B., O.S.& Y.	10
2500	GA251F	GATE	B.B., O.S.& Y.	11
150	GL11F	GLOBE	B.B., O.S.& Y.	12
300	GL31F	GLOBE	B.B., O.S.& Y.	13
600	GL61F	GLOBE	B.B., O.S.& Y.	14
900	GL91F	GLOBE	B.B., O.S.& Y.	15
1500	GL151F	GLOBE	B.B., O.S.& Y.	16
2500	GL251F	GLOBE	B.B., O.S.& Y.	17
150	SW11F	CHECK	BC	18
300	SW31F	CHECK	BC	19
600	SW61F	CHECK	BC	20
900	SW91F	CHECK	BC	21
1500	SW151F	CHECK	BC	22
2500	SW251F	CHECK	BC	23
150	YS11F	Y-STRAINER		24
300	YS31F	Y-STRAINER		25
-	HA	CAST STEEL		26

Cast Steel Gate Valve

Class 150

GA1

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, plain solid wedge (2" to 4") or flexible solid wedge (6" and larger)

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598

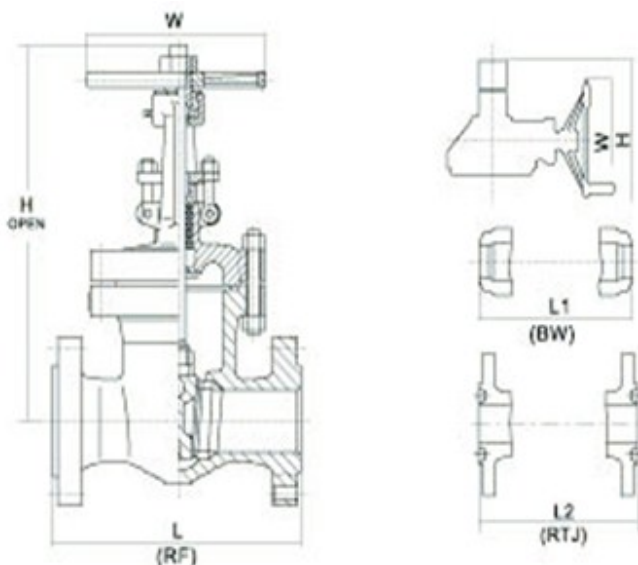


Gear operation

Optional for 14"

To 24" - Standard

For 26" and larger



VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			d	H	H1	W	W1	Weight (kg)	
	RF	RTJ	BW						H.W	G.O
1/2"	108	119	108	14	195	-	120	-	4	-
3/4"	117	130	117	19	210	-	120	-	5	-
1"	127	140	127	25	240	-	140	-	7	-
1 1/2"	165	178	165	38	395	-	200	-	14	-
2"	178	191	216	51	400	-	200	-	19	-
2 1/2"	191	203	241	64	435	-	200	-	25	-
3"	203	216	283	76	515	-	250	-	33	-
4"	229	241	305	102	595	-	280	-	49	-
5"	254	267	381	127	725	-	280	-	62	-
6"	267	279	403	152	780	820	300	310	77	104
8"	292	305	419	203	945	1020	350	310	123	150
10"	330	343	457	254	1150	1200	400	310	188	215
12"	356	368	502	305	1380	1430	450	310	288	315
14"	381	394	572	337	1545	1580	500	310	385	435
16"	406	419	610	387	1733	1780	500	460	500	552
18"	432	445	660	438	1915	1990	500	460	601	653
20"	457	470	711	489	2122	2220	600	460	764	816
24"	508	521	813	591	2520	2600	600	460	1007	1185
26"	559	-	864	633	-	2800	-	600	-	1550
28"	610	-	914	684	-	3050	-	600	-	1880
30"	610	-	914	735	-	3130	-	600	-	2300
32"	711	-	965	779	-	3280	-	600	-	2550
34"	762	-	1016	830	-	3500	-	600	-	2950
36"	711	-	1016	874	-	3720	-	600	-	3390

Class 300

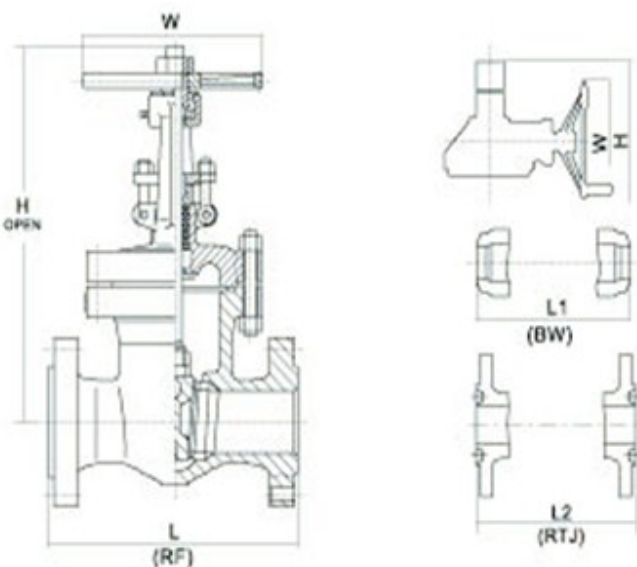
GA3

Cast Steel Gate Valve



Gear operation

Optional for 12"
To 24" - Standard
For 26" and larger



Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, plain solid wedge (2" to 4") or flexible solid wedge (6" and larger)

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598

MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Bonnet	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke sleeve	ASTM A439 Tp.D2

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			d	H	H1	W	W1	Weight (kg)	
	RF	RTJ	BW						H.W	G.O
1/2"	140	151	140	14	198	-	120	-	6	-
3/4"	152	165	152	19	215	-	140	-	7	-
1"	165	178	165	25	245	-	160	-	10	-
1 1/2"	190	203	190	38	306	-	200	-	21	-
2"	216	232	216	51	400	-	200	-	25	-
2 1/2"	241	257	241	64	420	-	200	-	30	-
3"	283	298	283	76	446	-	250	-	48	-
4"	305	321	305	102	537	650	280	310	73	100
5"	381	397	381	127	619	750	300	310	99	126
6"	403	419	403	152	722	735	350	310	130	186
8"	419	435	419	203	806	1030	400	310	208	235
10"	457	473	457	254	1000	1280	450	310	334	386
12"	502	518	502	305	1240	1460	500	310	450	502
14"	762	778	762	337	1425	1620	600	310	704	756
16"	838	854	838	387	1585	1830	600	460	923	965
18"	914	930	914	438	1790	2000	650	460	1131	1224
20"	991	1010	991	489	1960	2220	750	460	1345	1400
24"	1143	1165	1143	591	2158	2620	900	600	2122	2385
26"	1245	1270	1245	633	2576	2850	-	600	-	3000
28"	1346	1372	1346	684	-	3080	-	600	-	3300
30"	1397	1422	1397	735	-	3130	-	600	-	3550
32"	1524	1553	1524	779	-	3280	-	600	-	4400
34"	1626	1654	1626	830	-	3500	-	600	-	5200
36"	1727	1756	1727	874	-	3720	-	600	-	6050

Cast Steel Gate Valve

Class 600

GA6

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, plain solid wedge (2"to4") or flexible solid wedge (6" and larger)

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598

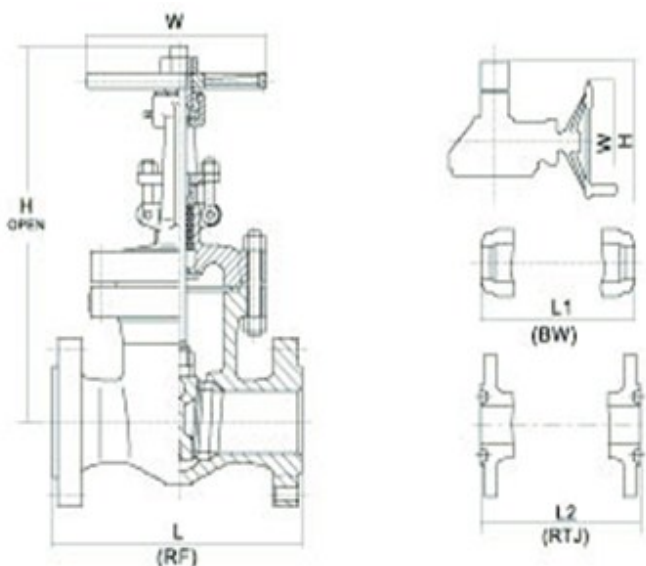


Gear operation

Optional for 8"

To 18" - Standard

For 20" and larger



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Bonnet	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke sleeve	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			d	H	H1	W	W1	Weight (kg)	
	RF	RTJ	BW						H.W	G.O
2"	292	295	292	51	444	-	200	-	32	-
2 1/2"	330	333	330	64	500	-	250	-	52	-
3"	356	359	356	76	558	585	280	310	60	87
4"	432	435	432	102	665	695	300	310	107	134
5"	508	511	508	127	760	790	350	310	175	227
6"	559	562	559	152	868	900	450	310	216	268
8"	660	664	660	203	1073	1110	500	310	399	451
10"	787	791	787	254	1263	1300	650	460	605	657
12"	838	841	838	305	1600	1650	700	460	851	893
14"	889	892	889	337	1705	1750	900	460	1177	1232
16"	991	994	991	387	1835	1900	900	460	1513	1568
18"	1092	1095	1092	438	-	2020	-	600	-	1980
20"	1194	1200	1194	489	-	2172	-	600	-	2460
24"	1397	1407	1397	591	-	2650	-	600	-	3650

Class 900

GA9

Cast Steel Gate Valve



Gear operation

Optional for 6"

To 16" - Standard

For 18" and larger

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, plain solid wedge (2" to 4") or flexible solid wedge (6" and larger)

Standards

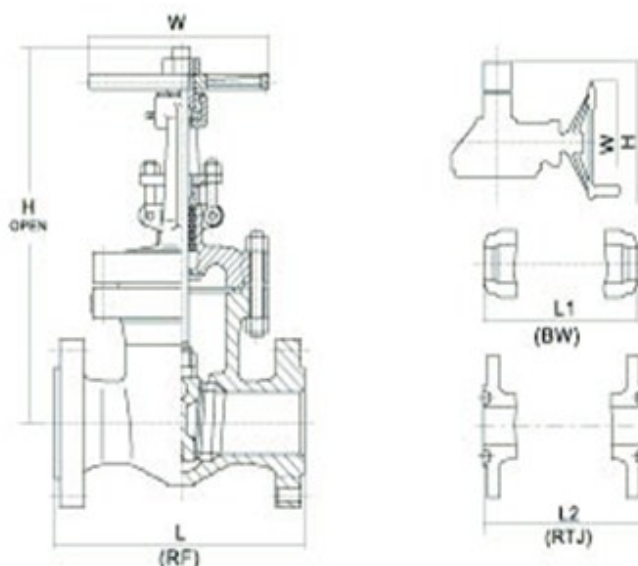
Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB, LCB, WC6, WC9, CF8, CF8M
Bonnet	WCB, LCB, WC6, WC9, CF8, CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4") ASTM A216 Gr.WCB + 13Cr (6" and larger)
Seat ring	ASTM A105+HF*
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke sleeve	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
2"	368	371	368	498	250	74
2 1/2"	419	422	419	547	250	92
3"	381	384	381	573	300	101
4"	457	460	457	678	350	172
6"	610	613	610	900	500	335
8"	737	740	737	1103	600	640
10"	838	841	838	1345	610	1100
12"	965	968	965	1520	610	1360
14"	1029	1038	1029	1902	610	2250
16"	1130	1140	1130	2051	610	2850

* HF is the abbreviation of hart facing with Co-Cr-W alloy

Cast Steel Gate Valve

Class 1500

GA15

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, plain solid wedge (2"to4") or flexible solid wedge (6" and larger)

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598

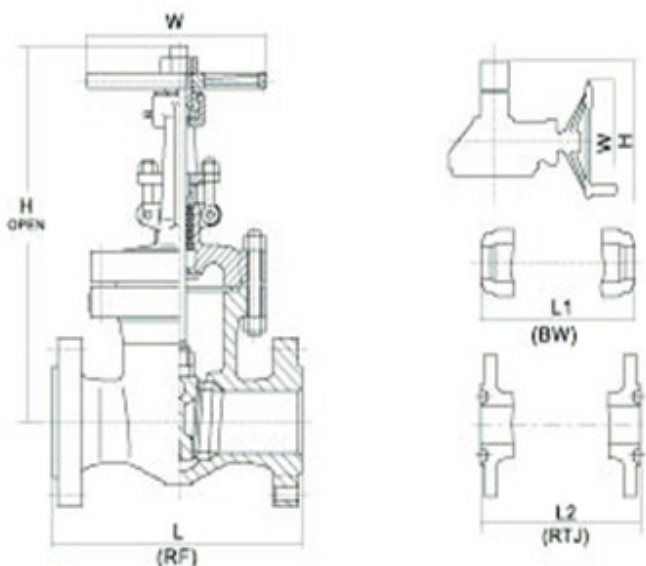


Gear operation

Optional for 6"

To 12" - Standard

For 14" and larger



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Bonnet	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Seat ring	ASTM A105+HF*
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke sleeve	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

* HF is the abbreviation of hart facing with Co-Cr-W alloy

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
2"	368	371	368	498	250	74
2 1/2"	419	422	419	547	250	131
3"	381	384	381	573	300	165
4"	457	460	457	678	350	248
6"	610	613	610	900	500	510
8"	737	740	737	1103	600	1040
10"	838	841	838	1345	610	1910
12"	965	968	965	1520	610	2685
14"	1029	1038	1029	1902	610	4100
16"	1130	1140	1130	2051	610	6200

Class 2500

GA25

Cast Steel Gate Valve



Gear operation
Optional for 6"

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, plain solid wedge (2"to4") or flexible solid wedge (6" and larger)

Standards

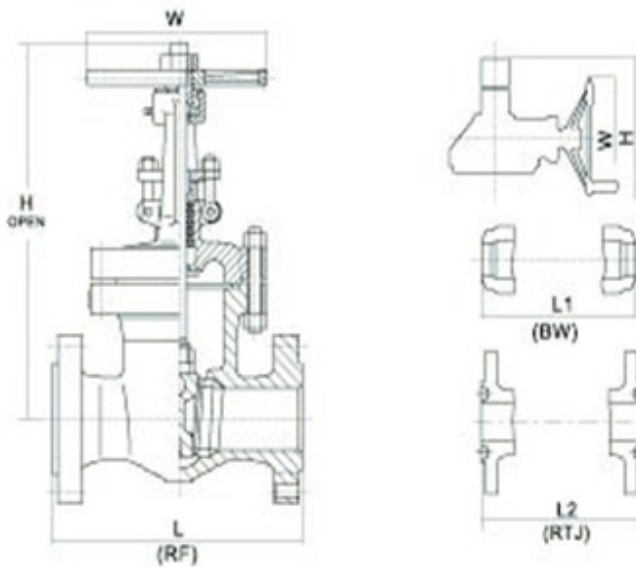
Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Bonnet	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Seat ring	ASTM A105+HF*
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke sleeve	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

* HF is the abbreviation of hart facing with Co-Cr-W alloy

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
2"	451	454	451	563	350	130
2 1/2"	508	514	508	563	450	200
3"	578	584	578	582	450	245
4"	673	683	673	870	500	490
6"	914	927	914	1450	610	1600
8"	1022	1038	1022	1610	610	2450
10"	1270	1292	1270	2076	610	4570
12"	1422	1445	1422	2281	610	7150

Cast Steel Globe Valve

Class 150

GL1



Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, swivel disc.

Standards

Design and manufacture as BS1873, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

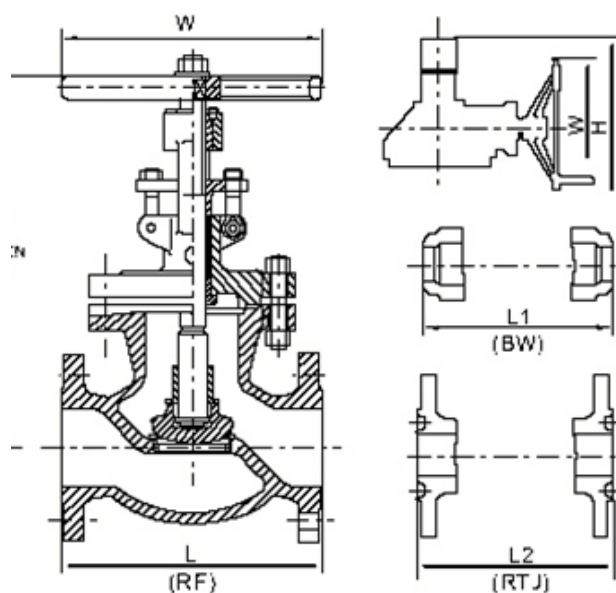
Pressure test as API598

Gear operation

Optional for 10"

To 12" - Standard

For 14" and larger



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Bonnet	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4")
	ASTM A216 Gr.WCB + 13Cr (6"-12")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke bush	ASTM A439 Tp.D2

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)	
	RF	RTJ	BW			H.W	G.O
1/2"	108	-	-	169	125	5	-
3/4"	117	-	-	180	125	6	-
1"	127	-	-	190	125	8	-
1 1/2"	165	-	-	347	180	15	-
2"	203	216	203	356	180	24	-
2 1/2"	216	229	216	381	240	30	-
3"	241	254	241	413	280	42	-
4"	292	305	292	500	280	67	-
6"	406	419	406	656	360	117	-
8"	495	508	495	660	450	172	-
10"	622	635	622	686	500	261	-
12"	698	711	699	781	500	367	-
14"	787	800	787	1144	560	560	595
16"	914	927	914	1291	650	822	854

Class 300

GL3

Cast Steel Globe Valve



Gear operation

Optional for 8"
and larger

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, swivel disc.

Standards

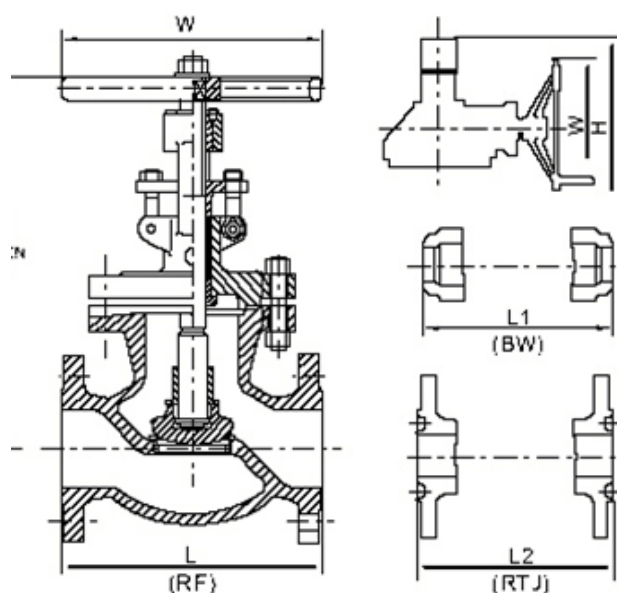
Design and manufacture as BS1873, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Bonnet	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4")
	ASTM A216 Gr.WCB + 13Cr (6"-12")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke bush	ASTM A439 Tp.D2
Collar	ASTM A182 GR.F6a

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
1/2"	152	-	-	220	125	5
3/4"	178	-	-	230	125	6
1"	203	-	-	260	160	8
1 1/2"	229	-	-	300	200	15
2"	267	283	267	352	200	26
2 1/2"	292	308	292	388	240	38
3"	318	371	318	439	280	51
4"	356	416	356	509	320	76
6"	444	460	444	675	500	173
8"	559	575	559	795	500	297
10"	622	638	622	930	600	385
12"	711	727	711	965	650	724
14"	838	854	838	1130	610	1125
16"	864	879	864	1310	610	1650

Cast Steel Globe Valve

Class 600

GL6



Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, swivel disc.

Standards

Design and manufacture as BS1873, ANSI B16.34

Face to face dimensions as ANSI B16.10

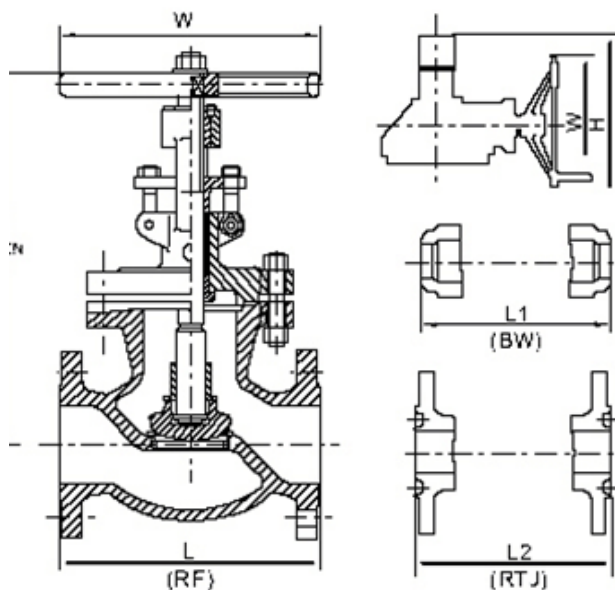
End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598

Gear operation

Optional for 6" and larger



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Bonnet	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4") ASTM A216 Gr.WCB + 13Cr (6"-12") CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke bush	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
1/2"	165	-	-	285	160	5
3/4"	190	-	-	285	160	6
1"	216	-	-	313	160	8
1 1/2"	241	-	-	365	240	15
2"	292	295	292	444	240	37
2 1/2"	330	333	330	483	240	50
3"	356	359	356	533	280	65
4"	432	435	432	622	360	128
6"	559	562	559	800	500	294
8"	660	663	660	927	550	543
10"	787	790	787	1016	700	700
12"	838	841	838	1397	610	900
14"	889	892	889	1450	610	1620
16"	991	994	991	1610	762	2160

Class 900

GL9

Cast Steel Globe Valve



Gear operation
Optional for 4"
and larger

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, swivel disc.

Standards

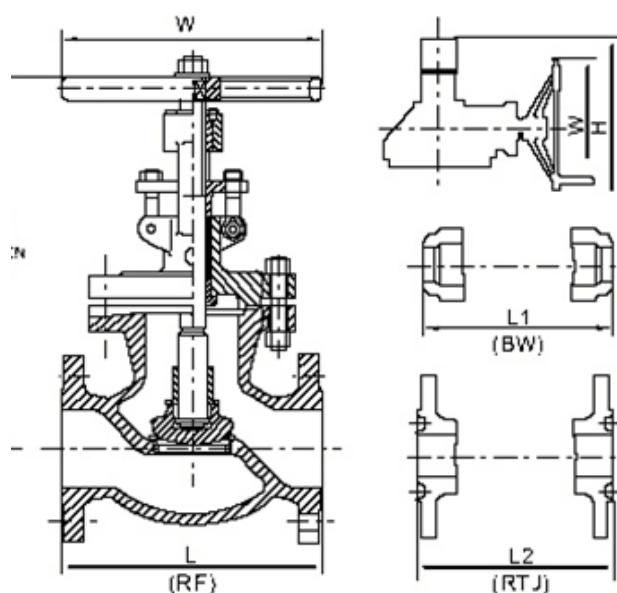
Design and manufacture as BS1873, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	ASTM A216 Gr.WCB
Bonnet	ASTM A216 Gr.WCB
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4") ASTM A216 Gr.WCB + 13Cr CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke bush	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

* HF is the abbreviation of hart facing with Co-Cr-W alloy

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
2"	368	371	368	590	350	95
2 1/2"	419	422	419	660	350	138
3"	381	384	381	699	450	110
4"	457	460	457	795	500	197
6"	610	613	610	1108	610	435
8"	737	740	737	1184	610	720

Cast Steel Globe Valve

Class 1500

GL15



Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, swivel disc.

Standards

Design and manufacture as BS1873, ANSI B16.34

Face to face dimensions as ANSI B16.10

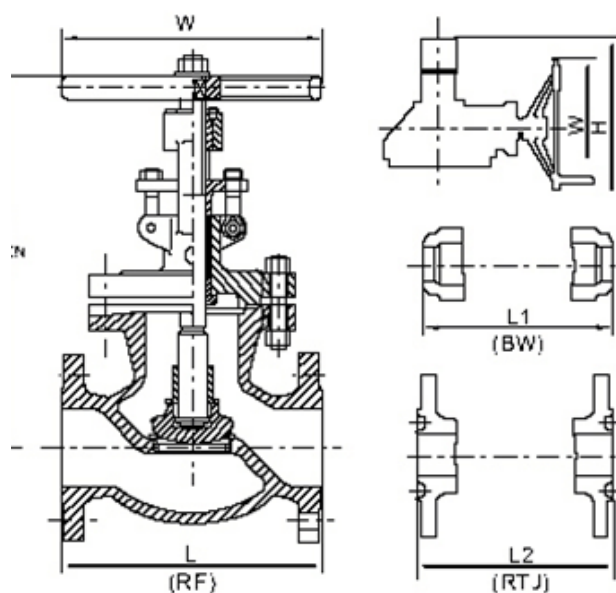
End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598

Gear operation

Optional for 3" and larger



MATERIALS LIST

Description	Materials
Body	ASTM A216 Gr.WCB
Bonnet	ASTM A216 Gr.WCB
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4")
	ASTM A216 Gr.WCB + 13Cr (6"-12")
	ASTM A216 Gr.WCB + 13Cr
	(14" & larger)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke bush	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

* HF is the abbreviation of hart facing with Co-Cr-W alloy

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
2"	368	371	368	550	350	75
2 1/2"	419	422	419	572	350	112
3"	470	473	470	582	500	129
4"	546	549	546	795	560	299
6"	705	711	705	1278	610	462
8"	832	842	832	1960	610	830

Class 2500

GL25

Cast Steel Globe Valve



Gear operation
Optional for 3"
and larger

Bolted bonnet, outside screw-and-yoke, rising stem, non-rising hand wheel, swivel disc.

Standards

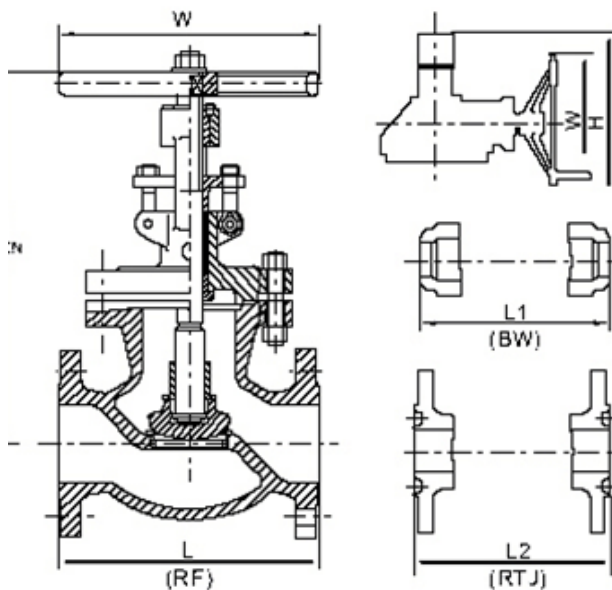
Design and manufacture as BS1873, ANSI B16.34

Face to face dimensions as ANSI B16.10

End flange dimension as per ANSI B16.5

Pressure-temperature ratings as ANSI B16.34

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	ASTM A216 Gr.WCB
Bonnet	ASTM A216 Gr.WCB
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-4") ASTM A216 Gr.WCB + 13Cr (6"-12") ASTM A216 Gr.WCB + 13Cr (14" & larger)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Gland	ASTM A182 Gr.F6a
Gland packing	Flexible graphite
Gland flange	ASTM A105
Hand wheel	Ductile iron
Gasket	Soft steel
Bonnet bolt/nut	ASTM A193 Gr.B7/A194 Gr.2H
Gland bolt/nut	ASTM A105/A576 Gr.1020
Bonnet bush	ASTM A182 Gr.F6a
Yoke bush	ASTM A439 Tp.D2
Collar	ASTM A182 Gr.F6a

* HF is the abbreviation of hart facing with Co-Cr-W alloy

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	W	Weight (kg)
	RF	RTJ	BW			H.W
2"	451	454	451	720	400	176
2 1/2"	508	514	508	800	500	264
3"	578	584	578	885	560	308
4"	673	683	673	1260	610	759
6"	914	927	914	1905	610	1990
8"	1022	1038	1022	2465	610	4390

Cast Steel Check Valve

Class 150

SW1

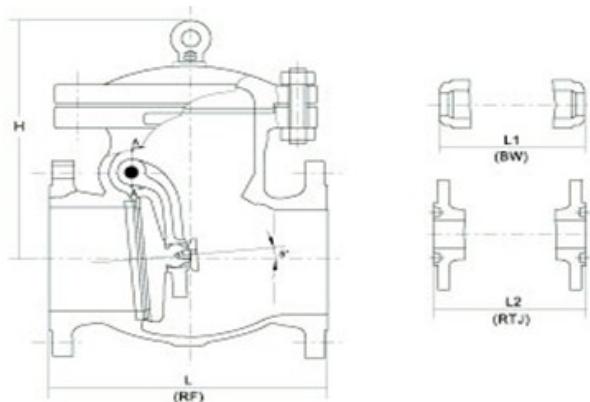
Bolted cover, swing type disc

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Cover	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-6")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Cover bolt/nut	ASTM A182 Gr.F6a
Arm	ASTM A105 (2"-14")
	ASTM A216 Gr.WCB (16" & larger)
Gasket	Soft steel
Plug	ASTM A105

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	Weight (kg)
	RF	RTJ	BW		
2"	292	295	292	176	30
2 1/2"	330	333	330	185	43
3"	356	359	356	216	55
4"	432	435	432	259	93
6"	559	562	559	317	208
8"	660	663	660	380	339
10"	787	790	787	434	547
12"	858	841	858	511	715
14"	889	892	889	561	885
16"	991	994	991	596	1310
18"	1092	1095	1092	675	1620
20"	1194	1200	1194	730	2120
24"	1397	1407	1397	860	3100
30"	1524	-	1524	760	1120

Class 300

SW3

Cast Steel Check Valve



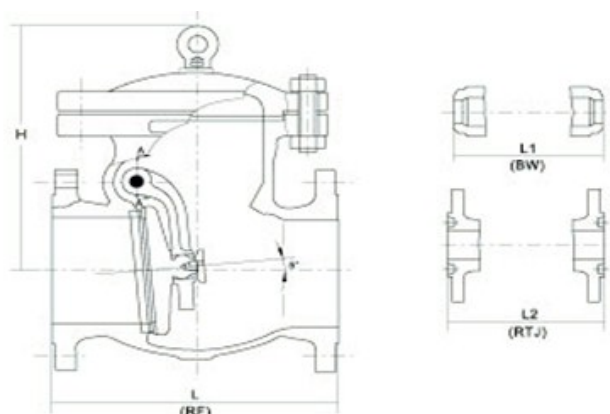
Bolted cover, swing type disc

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Cover	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-6")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Cover bolt/nut	ASTM A182 Gr.F6a
Arm Arm	ASTM A105 (2"-14")
	ASTM A216 Gr.WCB (16" & larger)
Gasket	Soft steel
Plug	ASTM A105

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	Weight (kg)
	RF	RTJ	BW		
2"	267	283	267	176	10
2 1/2"	292	308	292	185	12
3"	318	333	318	216	17
4"	356	371	356	259	29
6"	444	460	444	317	57
8"	533	549	533	380	96
10"	622	638	622	434	143
12"	711	727	711	511	227
14"	838	854	838	561	294
16"	864	879	864	596	468
18"	978	994	978	675	552
20"	1016	1035	1016	730	755
24"	1346	1369	1346	860	831

Cast Steel Check Valve

Class 600

SW6

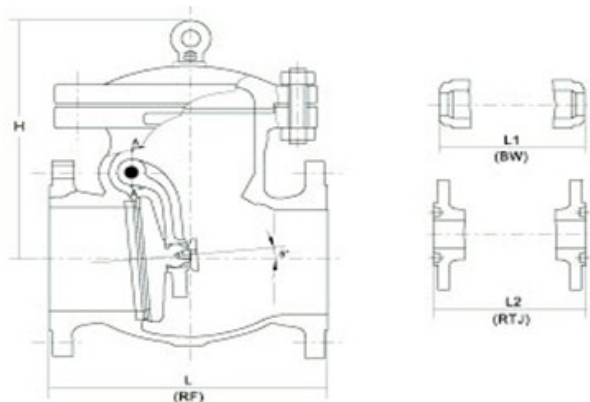
Bolted cover, swing type disc

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	ASTM A216 Gr.WCB
Cover	ASTM A216 Gr.WCB
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-6")
	ASTM A216 Gr.WCB + 13Cr (8" and larger)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Cover bolt/nut	ASTM A182 Gr.F6a
Arm	ASTM A105 (2"-14")
	ASTM A216 Gr.WCB (16" & larger)
Gasket	Soft steel
Plug	ASTM A105

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	Weight (kg)
	RF	RTJ	BW		
2"	292	295	292	176	30
2 1/2"	330	333	330	185	43
3"	356	359	356	216	55
4"	432	435	432	259	93
6"	559	562	559	317	208
8"	660	663	660	380	339
10"	787	790	787	434	547
12"	858	841	858	511	715
14"	889	892	889	561	885
16"	991	994	991	596	1310
18"	1092	1095	1092	675	1620
20"	1194	1200	1194	730	2120
24"	1397	1407	1397	860	3100

Class 900

SW9

Cast Steel Check Valve



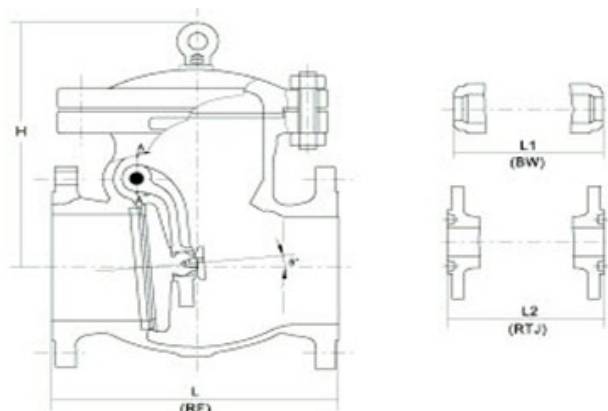
Bolted cover, swing type disc

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Cover	WCB , LCB , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-6")
	ASTM A216 Gr.WCB + 13Cr
	CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Cover bolt/nut	ASTM A182 Gr.F6a
Arm	ASTM A105 (2"-14")
	ASTM A216 Gr.WCB (16" & larger)
Gasket	Soft steel
Plug	ASTM A105

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	Weight (kg)
	RF	RTJ	BW		
2"	368	371	368	296	70
2 1/2"	419	422	419	300	100
3"	381	384	381	300	91
4"	457	460	457	327	150
6"	610	613	610	441	305
8"	737	740	737	502	510
10"	838	841	838	664	810
12"	965	968	965	775	1120
14"	1029	1038	1029	782	1380
16"	1130	1140	1130	838	1900

Cast Steel Check Valve

Class 1500

SW15

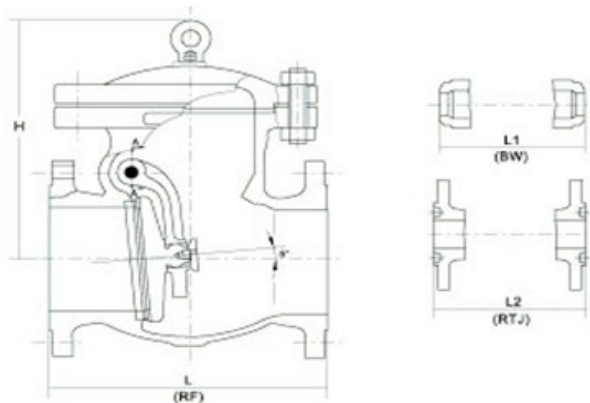
Bolted cover, swing type disc

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	ASTM A216 Gr.WCB
Cover	ASTM A216 Gr.WCB
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-6")
	ASTM A216 Gr.WCB + 13Cr (8" and larger)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Cover bolt/nut	ASTM A182 Gr.F6a
Arm	ASTM A105 (2"-14")
	ASTM A216 Gr.WCB (16" & larger)
Gasket	Soft steel
Plug	ASTM A105

* HF is the abbreviation of hart facing with Co-Cr-W alloy

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	Weight (kg)
	RF	RTJ	BW		
2"	368	371	368	296	70
2 1/2"	419	422	419	300	100
3"	470	473	470	341	150
4"	546	549	546	412	245
6"	705	711	705	511	550
8"	832	842	832	680	1010
10"	991	1000	991	756	1550
12"	1130	1146	1130	857	2280
14"	1257	1276	1257	950	3060
16"	1384	1407	1384	1020	4500

Class 2500

SW25

Cast Steel Check Valve



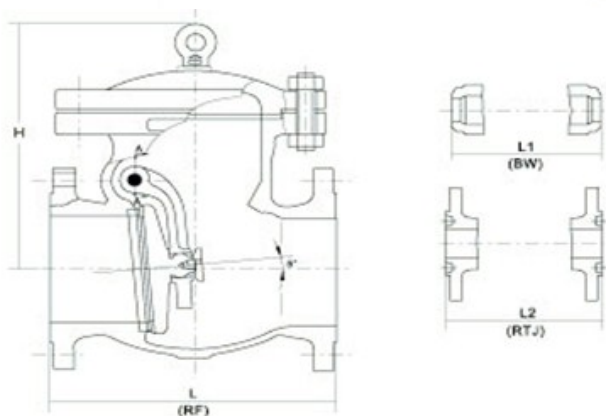
Bolted cover, swing type disc

Standards

Design and manufacture as API600, ANSI B16.34

Face to face dimensions as ANSI B16.10

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCM , WC6 , WC9 , CF8 , CF8M
Cover	WCB , LCM , WC6 , WC9 , CF8 , CF8M
Stem	ASTM A182 Gr.F6a
Disc	ASTM A182 Gr.F6a (2"-6") ASTM A216 Gr.WCB + 13Cr CF8 (304) , CF8M (316)
Disc nut	ASTM A182 Gr.F6a
Seat ring	ASTM A182 Gr.F6a
Cover bolt/nut	ASTM A182 Gr.F6a
Arm	ASTM A105 (2"-14") ASTM A216 Gr.WCB (16" & larger)
Gasket	Soft steel
Plug	ASTM A105

* HF is the abbreviation of hart facing with Co-Cr-W alloy

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L			H	Weight (kg)
	RF	RTJ	BW		
2"	451	454	451	416	145
2 1/2"	508	514	508	419	240
3"	578	584	578	441	330
4"	673	683	673	479	650
6"	914	927	914	511	1400
8"	1022	1038	1022	711	2420
10"	1270	1292	1270	851	3750
12"	1422	1445	1422	1000	5500

Cast Steel Y-Strainer

Class 150

YS1

API Y-Strainer

Standards

Design and manufacture as ANSI B16.34

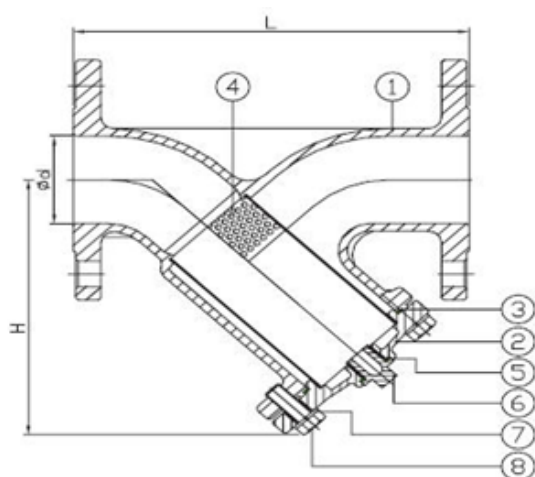
Face to face dimensions as ANSI B16.34

Flange dimension as ANSI B16.5

Pressure temperature rating ANSI B16.34

Screen mesh 40 mesh, 60 mesh, 80 mesh

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCB , CF8 , CF8M
Cover	WCB , LCB , CF8 , CF8M
Gasket	PTFE
Screen	ANSI 304 , ANSI 316
Plug	A351-CF8M
Spring washer	AISI 304
Bonnet bolt	ASTM A193-B7 , AISI 304

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L	H	Weight (kg)
	RF		
1/2"	140	89	2.5
3/4"	140	95	4.6
1"	160	95	4.6
1 1/4"	200	121	4.4
1 1/2"	200	121	5.6
2"	215	133	8.1
2 1/2"	250	165	12.7
3"	280	178	15
4"	320	210	25
5"	340	286	25
6"	385	343	40
8"	485	394	69

Class 300

YS3

Cast Steel Y-Strainer



API Y-Strainer

Standards

Design and manufacture as ANSI B16.34

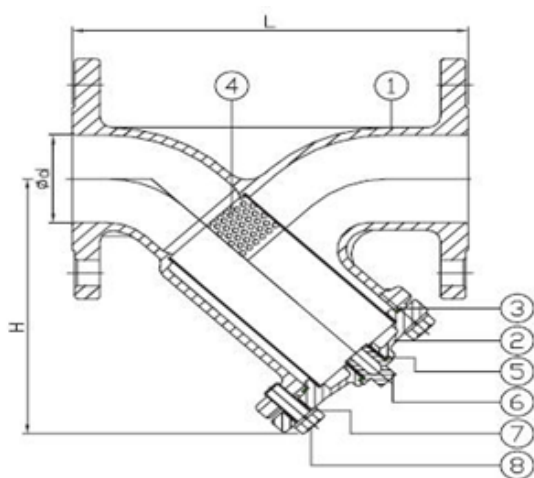
Face to face dimensions as ANSI B16.34

Flange dimension as ANSI B16.5

Pressure temperature rating ANSI B16.34

Screen mesh 40 mesh, 60 mesh, 80 mesh

Pressure test as API598



MATERIALS LIST

Description	Materials
Body	WCB , LCB , CF8 , CF8M
Cover	WCB , LCB , CF8 , CF8M
Gasket	PTFE
Screen	ANSI 304 , ANSI 316
Plug	A351-CF8M
Spring washer	AISI 304
Bonnet bolt	ASTM A193-B7 , AISI 304

VALVE DIMENSIONS AND APPROXIMATE WEIGHTS

Size	L	H	Weight (kg)
	RF		
1/2"	135	89	2.5
3/4"	155	95	5.5
1"	165	95	5.9
1 1/4"	185	121	8.2
1 1/2"	205	121	8.2
2"	208	133	8.1
2 1/2"	242	165	10
3"	270	178	14.5
4"	320	210	22
5"	365	343	40
6"	415	343	54.5
8"	505	400	79

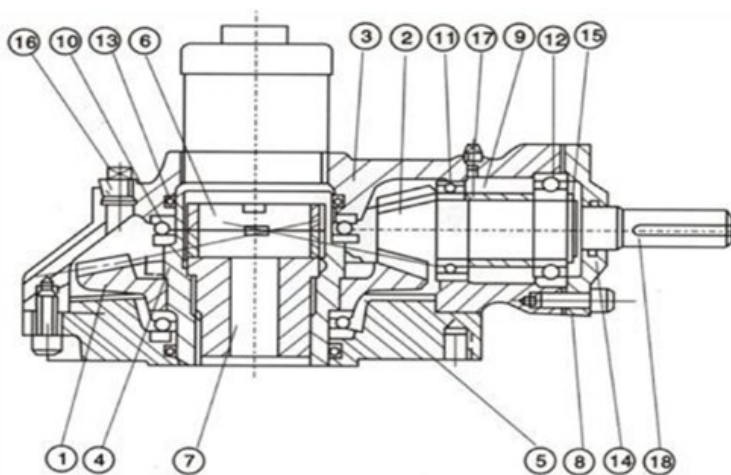
Gear Standard

HA



BA SERIES DATA

MODEL	HA-1	HA-2	HA-3
Ration	4.1:1	5.2:1	6.3:1
MAX.REV(N:M)	1,470	2,940	4,000
MAX.THRUST CAPACITY	196,000	340,000	490,000
MAX. stem dia MN(ø) Capper driver bush	52	70	90
Weight	54	110	198



ITEMS	
1	BEVEL GEAR
2	BEVEL PINION
3	HOUSING
4	DRIVE SLEEVE
5	BASE
6	LOCK NUT
7	DRIVE BUSH
8	END CAP
9	COLLAR
10	THRUSTBALL
11	BEARING
12	BEARING
13	O RING
14	O RING
15	GASKET
16	GREASE CUP
17	GREASE NIPPLE
18	KEY

Pressure - Temperature Ratings

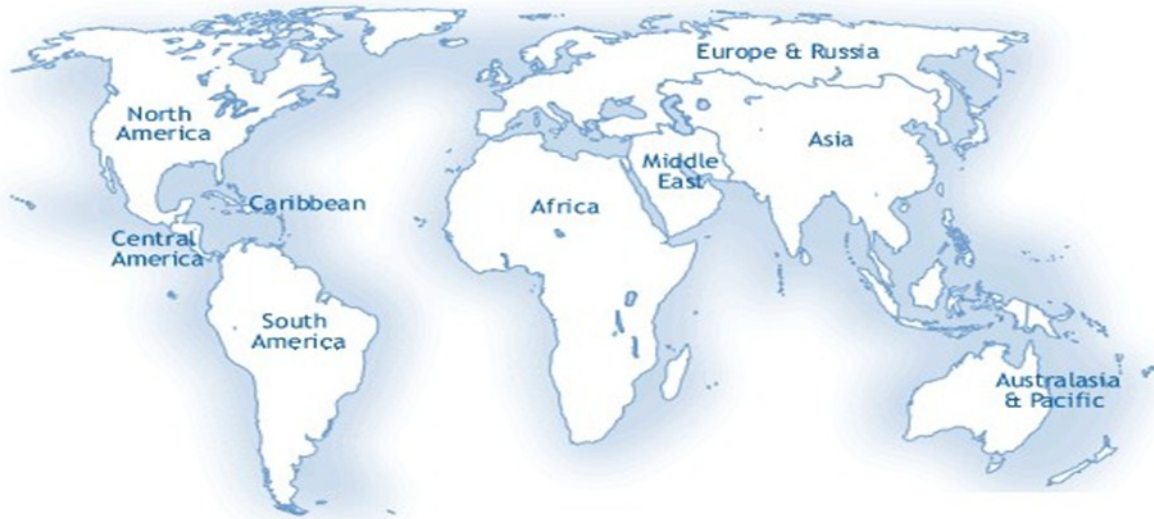
Maximum allowable non-shock pressure,

ANSI B16.34-1981

SERVICE TEMPERATURE		CLASS 150					CLASS 300					CLASS 600				
F	C	WCB (a)	WC1 (b) (c)	WC6 (c)	WC9 (c)	C5 (c)	WCB (a)	WC1 (b) (c)	WC6 (c)	WC9 (c)	C5 (c)	WCB (a)	WC1 (b) (c)	WC6 (c)	WC9 (c)	C5 (c)
-20	-29	285	265	290	290	290	740	695	750	750	750	1480	1390	1500	1500	1500
100	38															
200	93	260	260	260	260	260	675	680	710	715	750	1350	1360	1245	1430	1500
300	149	230	230	230	230	230	655	655	645	675	730	1315	1305	1345	1355	1455
400	204	200	200	200	200	200	635	640	660	650	705	1270	1280	1315	1295	1410
500	260	170	170	170	170	170	600	620	640	640	665	1200	1245	1285	1280	1330
600	316	140	140	140	140	140	550	605	605	605	605	1095	1210	1210	1210	1210
650	343	125	125	125	125	125	535	590	590	590	590	1075	1175	1175	1175	1175
700	371	110	110	110	110	110	535	570	570	570	570	1065	1135	1135	1135	1135
750	399	95	95	95	95	95	505	530	530	530	530	1010	1065	1065	1065	1065
800	427	80	80	80	80	80	410	510	510	510	500	825	1015	1015	1015	995
850	454	65	65	65	65	65	270	485	485	485	440	535	975	975	975	880
900	482	50	50	50	50	50	170	450	450	450	355	345	900	900	900	705
950	510	35	35	35	35	35	105	280	380	380	260	205	560	755	755	520
1000	538	20	20	20	20	20	50	165	225	270	190	105	330	445	535	385
1050	566			20*	20*	20*			140	200	140			275	400	280
1100	593			20*	20*	20*			92	115	105			190	225	205
1150	621					20*					70					140
1200	649					20*					45					90
Hydrostatic Shell Test Pressure		450	400	450			1125	1050	1125			2225	2100	2250		
Valve Closure Test Pressure	Fluid	315	292	319			814	765	815			1630	1529	1650		
	Gas	80					80					80				

SERVICE TEMPERATURE		CLASS 900					CLASS 1500					CLASS 2500				
F	C	WCB (a)	WC1 (b) (c)	WC6 (c)	WC9 (c)	C5 (c)	WCB (a)	WC1 (b) (c)	WC6 (c)	WC9 (c)	C5 (c)	WCB (a)	WC1 (b) (c)	WC6 (c)	WC9 (c)	C5 (c)
-20	-29	2220	2085	2250	2250	2250	3705	3470	3750	3750	3750	6170	5785	6250	6250	6250
100	38															
200	93	2025	2035	2135	2150	2250	3375	3395	3560	3580	3750	5625	5660	5930	5965	6250
300	149	1970	1955	2020	2030	2185	3280	3260	3365	3385	3640	5470	5435	5605	5640	6070
400	204	1900	1920	1975	1945	2115	3170	3200	3290	3240	3530	5280	5330	5485	5400	5880
500	260	1795	1865	1925	1920	1995	2995	3105	3210	3200	3325	4990	5180	5350	5330	5540
600	316	1640	1815	1815	1815	1815	2735	3025	3025	3025	3025	4560	5040	5040	5040	5040
650	343	1610	1765	1765	1765	1765	2685	2940	2940	2940	2940	4475	4905	4905	4905	4905
700	371	1600	1705	1705	1705	1705	2665	2840	2840	2840	2840	4440	4730	4730	4730	4730
750	399	1510	1595	1595	1595	1595	2520	2660	2660	2660	2660	4200	4430	4430	4430	4430
800	427	1235	1525	1525	1525	1490	2060	2540	2540	2540	2485	3430	4230	4230	4230	4145
850	454	805	1460	1460	1460	1315	1340	2435	2435	2435	2095	2230	4060	4060	4060	3660
900	482	515	1350	1350	1350	1060	860	2245	2245	2245	1765	1430	3745	3745	3745	2945
950	510	310	845	1130	1130	780	515	1405	1885	1885	1350	860	2345	3145	3145	2170
1000	538	155	495	670	805	575	260	825	1115	1340	960	430	1370	1860	2230	1600
1050	566			410	595	420			685	995	705			1145	1660	1170
1100	593			290	340	310			480	565	515			800	945	860
1150	621					205					345					570
1200	649					135					225					370
Hydrostatic Shell Test Pressure		3350	3150	3375			5575	5225	5625			9275	8700	9375		
Valve Closure Test Pressure	Fluid	2442	2292	2475			4078	3817	4125			6787	6365	6875		
	Gas	80					80					80				

WORLDWIDE NETWORK OF AGENTS AND DISTRIBUTORS



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