

S & W

Casting Valves

Gate Valve
Globe Valve
Swing Check Valve



The enterprise which advance
on the world with technique of best

S & W
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*The enterprise which advance
on the world with technique of best*

S&W has made great progress with not only korean customers but also many worldwide of customers for years.

We have been always with customers.

Our first and final goal is to manufacture world best of Casting valves and supply to worldwide variety necessary as, power plants, sea water service, ultra low temperature plant, LNG, shipment building etc.

Casting valves will be certainly with S&W in world market.

Thank you very much.

CEO Min Kyu, Kim

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NOTE

The material in this Catalogue is only for general information, For specific performance data and proper material selection, consult factory and your S&W's representative, Although every attempt has been made to ensure that the information contained in this catalogue is correct S&W. reserves the right to change design, material and specification without notice.

Brief History

1997' s Yr	July	Established "SamWoo"
1998' s Yr	Dec.	Export castings, forgings to USA
2000' s Yr	June	Developed High Performance Butterfly valve and retainerless dual plate check valve
2001' s Yr	Nov.	Seperated "SamWoo" and "S&W"
2001' s Yr	Dec.	Established private company, "S&W"
2002' s Yr	April	To get patient right for "retainerless design" for check valve
2003' s Yr	Dec.	Coverted to coporation, "S&W IND(LTD)
2003' s Yr	Dec.	ISO 9001 certificate, API certificate
2003' s Yr	Mar.	Developed Triple High Performance Butterfly valve
2004' s Yr	July	Increase capatial \$500,000
2004' s Yr	Nov.	To build own factory(4,600m2/ 3buildings)
2005' s Yr	July	Superior Exporting Firm by government
2005' s Yr	Aug.	Best of part' s manufacturing Firm by government
2006' s Yr	Mar.	ISO 14001 certificate
2007' s Yr	Mar.	Registered Canada Shell
2008' s Yr	Jan.	CE PED Module H
2008' s Yr	Dec.	Registered SNC LAVALIN
2009' s Yr	Jan.	Registered AP Moller (Maersk Oil)
2009' s Yr	Dec.	Export 5Million Award
2010' s Yr	May	Registered Abudhani ADGAS
2010' s Yr	May	Registered Malaysia PETRONAS
2010' s Yr	June	Registered Abudhani TAKREER



Ordering Guide

8	GT	15	RF	J	5A	CR
Size	1	2	3	4	5	6

8" Gate Valve 150# Class, RF Flange, 316 Stainless steel Body, Full Stellite, Cryogenic Service

1. MODEL	2. RATING	3. END CONNECTION
GT : Gate, OS&Y	12 : ASME Class 125	10 : ASME Class 125
GB : Globe, OS&Y	15 : ASME Class 150	16 : ASME Class 125
SW : Swing Check	30 : ASME Class 300	25 : ASME Class 125
PG : Parallel Gate	60 : ASME Class 600	40 : ASME Class 125
	90 : ASME Class 900	
	150 : ASME Class 1500	
	250 : ASME Class 2500	
		W : WAFER
		L : LUG
		RF : Rased Face Flange
		FF : Flat Face Flange
		RTJ : Ring Joint Type Flange
		BW : Butt Weld End

4. BODY

FIG	Material	Specification	FIG	Material	Specification
A	Carbon Steel	A216 WCB	N	Alloy 825	UNS N00825
B	Low Temp Carbon	A352 LCB	O	Alloy 625	A494 CW6MC
C	Low Temp Carbon	A352 LCC	P	Hastelloy C276	A494 CW12MW
D	5% Cr Steel	A217 C5	Q	Monel 400	A494 M351
E	9% Cr Steel	A217 C12	R	Nickel Al-Bz	B148 C95800
G	Low Temp 13Cr 4n	A352 CA6NM	S	Inconel 625	A494 CW6MC
H	410 Stainless Steel	A217 CA15	T	Duplex SS Gr.1	A351 CD4MCu
I	304 Stainless Steel	A351 CF8	U	Duplex SS Gr.2	A890 CE8MN
J	316 Stainless Steel	A351 CF8M	V	Duplex SS Gr.3	A890 CD6MN
K	316L Stainless Steel	A351 CF3M	W	Duplex SS Gr.4	A890 CD3MN
L	317 Stainless Steel	A352 CG8M	X	Duplex SS Gr.5	A890 CE3MN
M	Alloy 20	A351 CN7M	Y	254SMO	A351 CK3MCuN
AA	Gray Iron	A126 CL.B	Z	904L SS	A351 CN2MCuN
AB	Ductile Iron	A395	T1	Titanium Gr.2	B381 F2

5. TRIM

FIG	Nominal Trim	Material Type	FIG	Nominal Trim	Material Type
1	F6	13Cr	8A	F6 and Hard faced	13Cr Ni - Cr
2	304	18Cr - 8Ni	9	Monel	Ni - Cu alloy
3	F310	25Cr - 20Ni	10	316	18Cr - 8Ni
4	Hard F6	Hard 13Cr	11	Monel and Hard faced	Ni - Cu alloy Trim 5 or 5A
5	Hard faced	Co - Cr A	12	316 and Hard faced	18Cr - 8Ni Trim 6 or 5A
5A	Hard faced	Ni - Cr	13	Alloy 20	19Cr - 29Ni
6	F6 and Cu - Ni	13Cr Cu - Ni	14	Alloy 20 and Hard Faced	19Cr - 29Ni Trim 5 or 5A
7	F6 and Hard F6	13Cr Hard 13Cr			
8	F6 and Hard faced	Co - Cr A			

6. OPTION

CR : Cryogenic Service	PO : Pneumatic Operator
FS : Fire Safety	OX : Oxygen Service
MO : Motor Operator	SL : Special Lining
HO : Hydraulic Operator	TF : Teflon Insert

GATE VALVES

BOLTED BONNET



GATE VALVES

BOLTED BONNET

GATE VALVES

YOKE SLEEVE

The upper portion of the Yoke Sleeve is hexagonally tapered to fix the handwheel. The standard material of the Yoke Sleeve is Nodular Ni-resist D2 with over 1150°C (2100°F) dissolution point in accordance with API Std. specifications.

BOLTING

The body-bonnet bolts are manufactured in accordance with API Std. 600 specifications. The nuts also strictly conform with ANSI B 1.1. The stud-bolt nuts, hexagonal, rigid and hot-forged, bear material notation as well as do the bolt nuts made according to ANSI B18.2.2.

BONNET

The bonnet and valve body have the same wall thickness. The body-bonnet flange drilling is spot-faced to exactly meet stud-bolt nuts. The bonnet back seat bushing guarantees packing replacement even when the valve is fully opened. The stem packing dimensions of the stuffing box are in accordance with API specifications.

STEM

The machined forged stem comes with a T-shape head, which connects the slot of the wedge. The spherically shaped contacting surface of the head gives greater strength and durability. The stem dimensions are in accordance with API Std. 600 specifications. The heat treated stem delivers adequate mechanical properties as well as excellent surface hardness. Further, opening/shutting friction is minimized by accurate machining and lapping.

SEAT RING

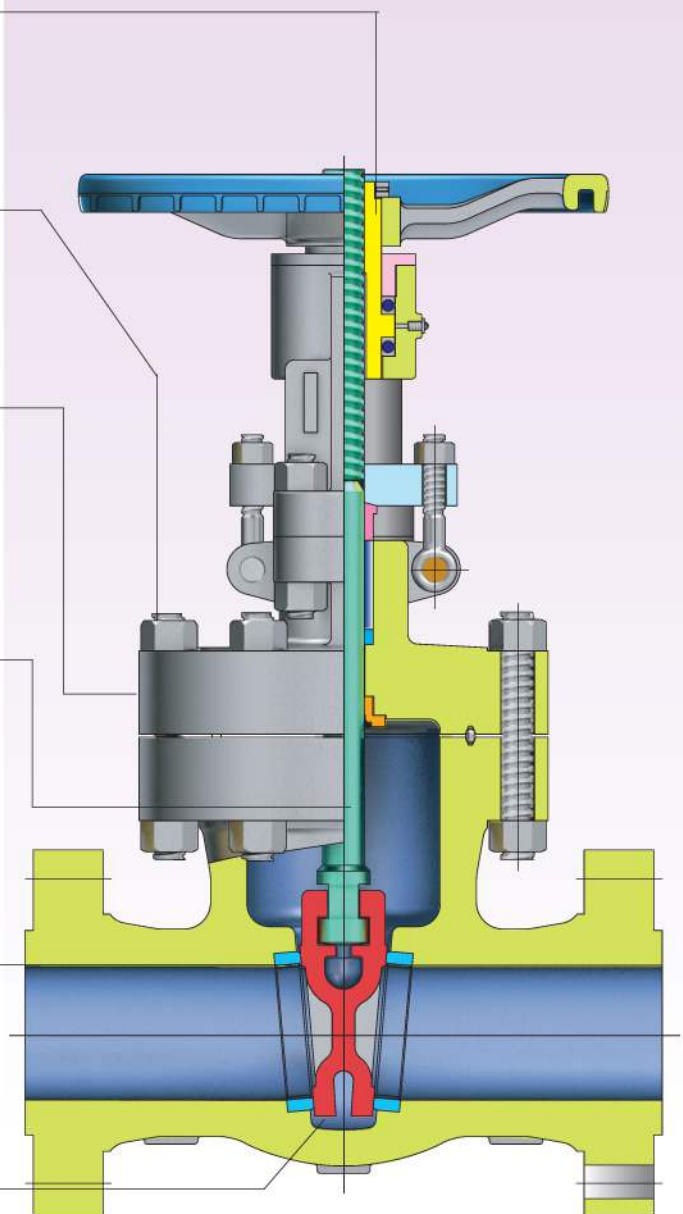
Bottom seated type seat rings are welded or screwed into the body. The seating surface is finished by lapping. They are forgings that have been heat treated to deliver the best mechanical properties and required hardness. The difference in hardness between seats and wedge is in accordance with API specifications.

FLEXIBLE WEDGE

The standard disc of our valves is a one-piece flexible wedge. Slots are machined on both sides of the wedge to allow it to travel correctly in the integrally cast body guides. The wedge seating surfaces have been accurately machined, grind and lapped to a mirror finish to prevent leakage and eliminate galling.

BODY

The cast steel body is designed to insure a wall thickness which is greater at any point than the minimum specified by API Std. 600. Special care has been taken with the design of the Class 150 valve body so that the elliptically shaped center section is free from intensified stresses in the critical area. The body of above Class 300 are made circular in shape as much as possible to minimize distortion even under extreme operating conditions. Inlet and outlet port dimensions conform with ASME B16.34 Pipe Fitting. The welded-in type seat ring is standard to insure interchangeability. Except for Class 150, the standard body-bonnet joint is male and female.



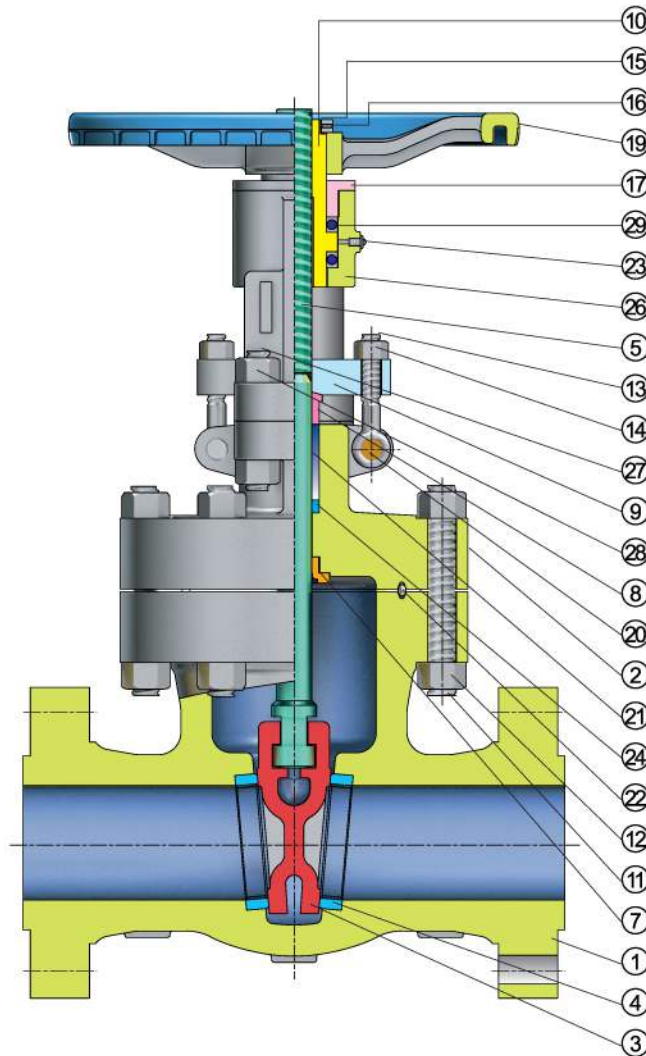
CAST STEEL

BOLTED BONNET

GATE VALVES



NO	NAME OF PART	ASTM SPECIFICATION
15	HANDLE NUT	STEEL
16	SET SCREW	STEEL
17	SLEEVE GLAND	STEEL
19	HANDWHEEL	A395
21	PACKING	COMMERCIAL
22	GASKET	COMMERCIAL
23	GREASE NIPPLE	STEEL
29	BEARING	COMMERCIAL



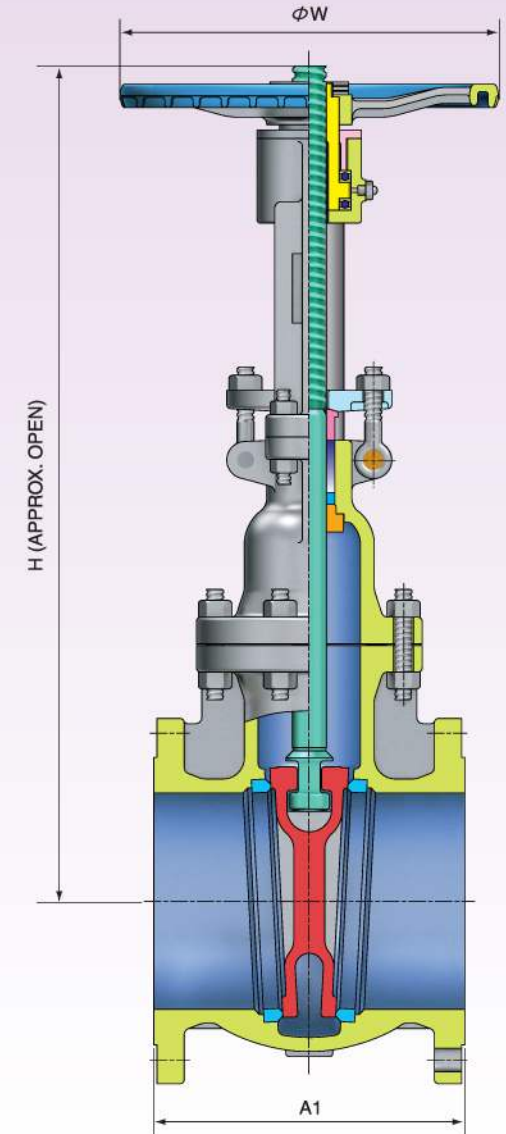
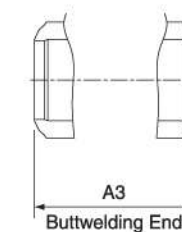
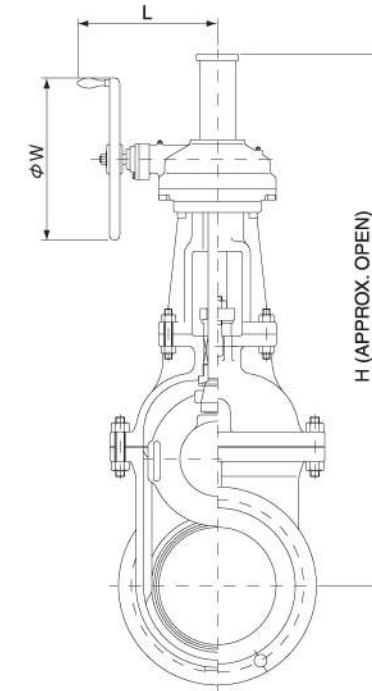
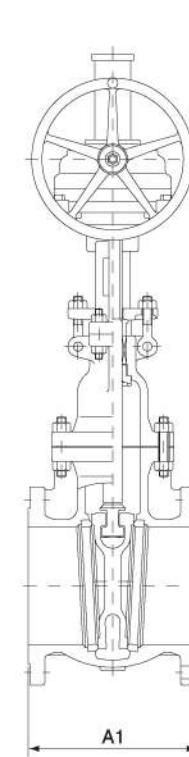
NO	NAME OF PART	ASTM SPECIFICATION												
		STANDARD	HIGH TEMPERATURE SERVICE			LOW TEMPERATURE SERVICE			STAINLESS STEEL				ALLOY STEEL	
1	BODY	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A352-LCB	A352-LC1LC2LC3	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CK3MCUN
2	BONNET	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A352-LCB	A352-LC1LC2LC3	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CK3MCUN
3	*DISC	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A351-CF8	A351-CF8	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CK3MCUN
4	BODY SEAT RING	A105+STL	A182-F1	A182-F11	A182-F22	A182-F5a	A350-LF2	A350-LF2	A240-304	A240-316	A240-304L	A240-316L	ALLOY 20	A182-F51
5	STEM	A479-410					A276-304		A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A182-F51
7	BONNET BUSH	A479-410					A276-304		A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A276-304
8	PACKING GLAND	A479-410							A276-304				A276-304	
9	GLAND FLANGE	A105 or A283-D							AISI 304				AISI 304	
10	YOKE SLEEVE	A439-D2							A439-D2				A439-D2	
11	BONNET BOLT	A193-B7	A193-B7	A193-B16	A193-B16	A193-B16	A320-L7	A320-L7	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8
12	BONNET NUT	A194-2H	A194-2H	A194-4	A194-4	A194-4	A194-4L	A194-4L	A194-8	A194-8	A194-8	A194-8	A194-8	A194-8
13	GLAND BOLT	A307-B							A193-B8				A193-B8	
14	GLAND NUT	A194-2H							A194-8				A194-8	
20	HINGE PIN	A108-1020							A276-304				A276-304	
24	LANTERN	A479-410					A276-304		A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A182-F51
26	YOKE	A216-WCB							A351-CF8				A351-CF8	
27	YOKE BOLT	A193-B7							A193-B8				A193-B8	
28	YOKE NUT	A194-2H							A194-8				A194-8	

*Note : In case of 12" and larger size, we'll use trim material overlayed one on the same or equivalent material of the Body.

GATE VALVES

BOLTED BONNET

GT CLASS 150

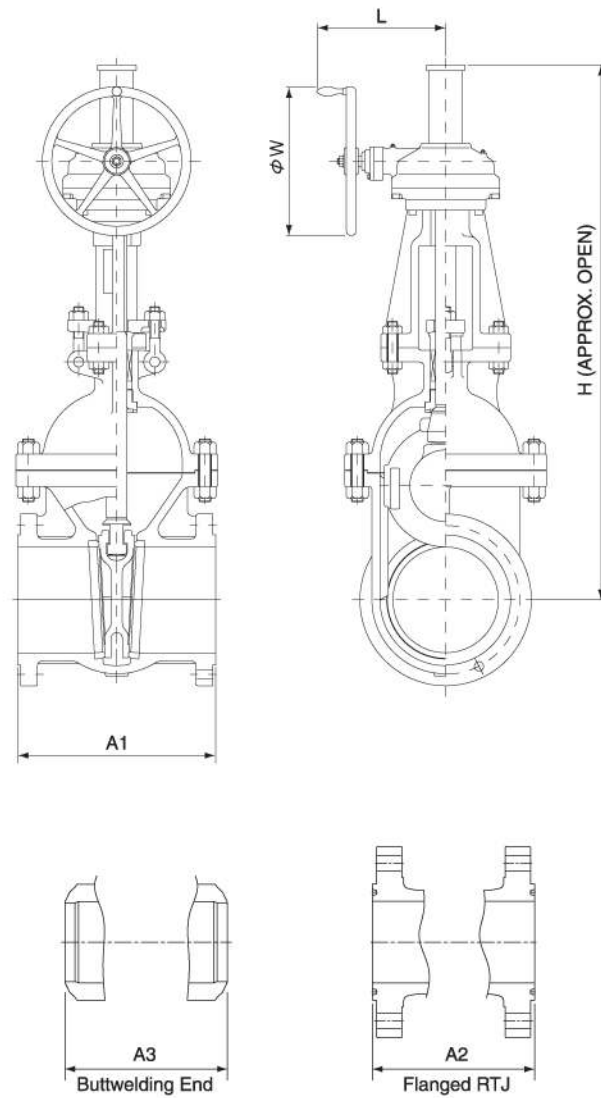
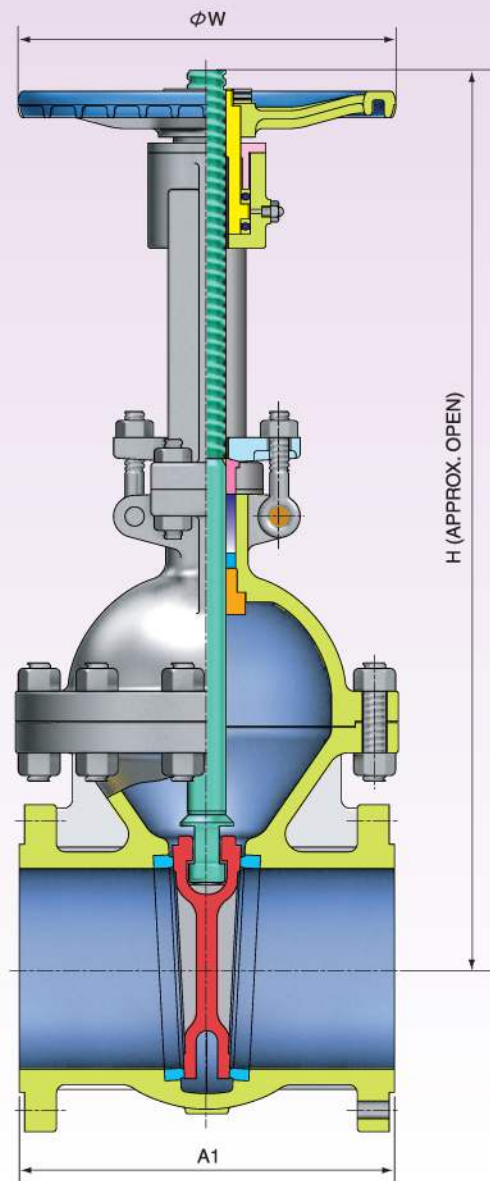


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42	48	52
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050	1200	1300
A1		in	7.0	7.5	8.0	9.0	10.5	11.5	13.0	14.0	15.0	16.0	17.0	18.0	20.0	24.0	24.0	28.0	30.0	32.0	34.0	36.0
		mm	178	190	203	229	267	292	330	356	381	406	432	457	508	610	610	711	762	813	864	914
A3		in	8.5	9.5	11.1	12.0	15.9	16.5	18.0	19.8	22.5	24.0	26.0	28.0	32.0	36.0	36.0	40.0	42.0	43.0	41.9	54.0
		mm	216	241	282	305	403	419	457	502	572	610	660	711	813	914	914	1016	1067	1092	1064	1372
H		in	13.7	16.6	18.0	22.3	29.5	36.7	46.3	52.2	60.0	71.2	87.2	99.3	112.2	129.3	139.0	156.7	169.0	181.1	204.7	224.4
		mm	347	422	457	566	749	931	1176	1326	1525	1809	2214	2522	2850	3284	3530	3980	4292	4600	5200	5700
W		in	7.9	7.9	7.9	9.8	11.8	14.0	15.7	17.7	19.7	22.0	19.7	24.8	24.8	28.0	28.0	31.5	35.4	35.4	35.4	39.4
		mm	200	200	200	250	300	355	400	450	500	560	500	630	630	710	710	800	900	900	900	1000
L		in	-	-	-	-	-	-	-	-	-	-	13.5	15.3	15.3	16.0	16.0	18.1	19.1	19.1	20.8	23.2
		mm	-	-	-	-	-	-	-	-	-	-	-	342	389	389	406	406	461	486	486	529
WEIGHT	RF	lb	37.5	55.1	61.7	90.4	152.1	238.1	357.1	513.7	815.7	1177.3	1587.3	1851.9	3423.8	4817.1	5092.7	9740.0	10368.3	10445.5	15674.9	18739.3
		kg	17	25	28	41	69	108	162	233	370	534	720	840	1553	2185	2310	4418	4703	4738	7110	8500
	BW	lb	35.3	46.3	57.3	83.8	132.3	202.8	310.9	467.4	749.6	1111.1	1397.7	1611.6	3090.9	4634.1	4916.3	9438.0	9332.2	9978.1	14107.4	16865.4
		kg	16	21	26	38	60	92	141	212	340	504	634	731	1402	2102	2230	4281	4233	4526	6399	7650

GATE VALVES

BOLTED BONNET

GT CLASS 300

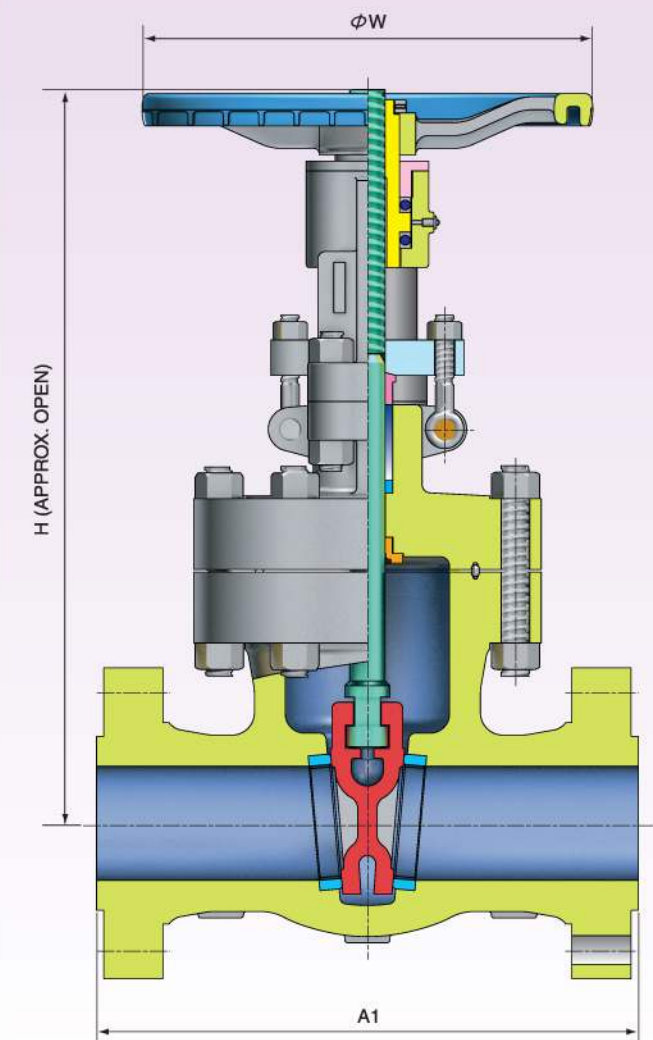
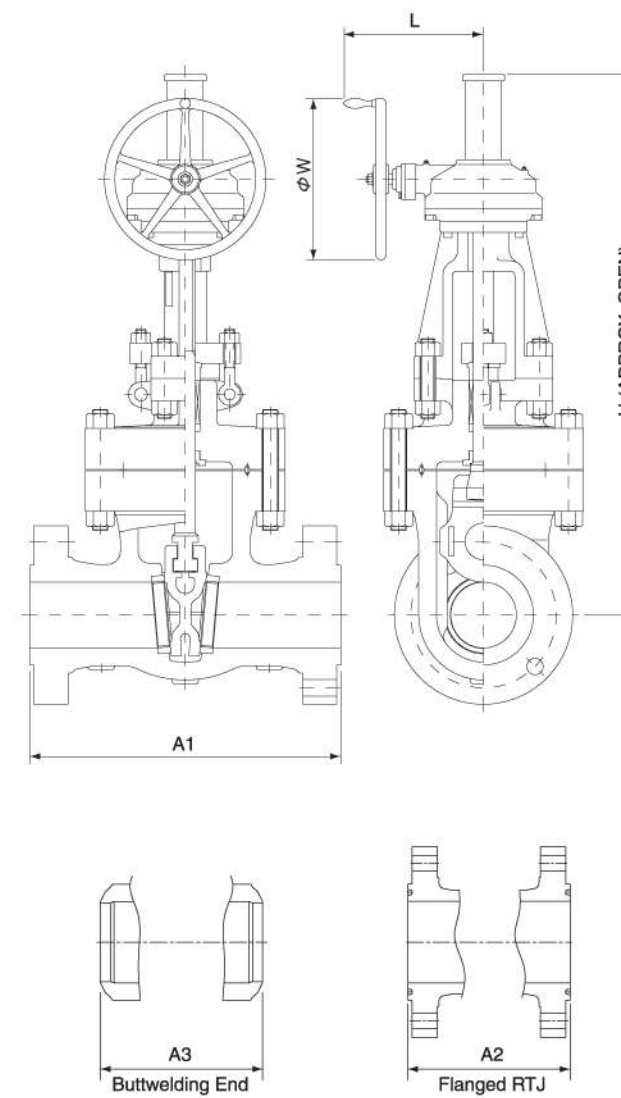


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42	48
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050	1200
A1 & A3		in	8.5	9.5	11.1	12.0	15.9	16.5	18.0	19.8	30.0	33.0	36.0	39.0	45.0	53.0	55.0	68.0	76.0	78.0	87.2
		mm	216	241	282	305	403	419	457	502	762	838	914	991	1143	1346	1397	1727	1930	1981	2215
A2		in	9.1	10.1	11.7	12.6	16.5	17.1	18.6	20.4	30.6	33.6	36.6	39.8	45.9	54.0	56.0	69.1	-	-	-
		mm	232	257	298	321	419	435	473	518	778	854	930	1010	1165	1372	1422	1756	-	-	-
H		in	14.8	18.0	18.7	23.1	30.6	37.9	46.4	55.8	68.1	77.0	89.3	95.0	109.6	136.2	137.8	156.4	188.6	174.4	217.4
		mm	375	456	475	586	776	963	1179	1417	1730	1955	2267	2414	2785	3460	3501	3973	4791	4430	5522
W		in	7.9	7.9	8.9	9.8	14.0	15.7	17.7	19.7	19.7	19.7	24.8	24.8	31.5	35.4	35.4	35.4	39.4	39.4	39.4
		mm	200	200	225	250	355	400	450	500	500	500	630	630	800	900	900	900	1000	1000	1000
L		in	-	-	-	-	-	-	-	-	13.5	13.5	15.3	15.3	18.1	19.1	19.1	20.8	23.2	23.2	23.2
		mm	-	-	-	-	-	-	-	-	-	342	342	389	389	461	486	486	529	590	590
WEIGHT	RF	lb	50.7	83.8	88.2	134.5	269.0	412.3	604.1	1005.3	1593.9	2392.0	3082.1	3518.6	5304.3	8068.9	9678.3	15101.7	18651.1	20943.9	27337.3
		kg	23	38	40	61	122	187	274	456	723	1085	1398	1596	2406	3660	4390	6850	8460	9500	12400
	BW	lb	46.3	70.5	77.2	92.6	260.1	330.7	480.6	802.5	1210.3	1907.0	2638.9	2985.1	4440.1	6865.2	8842.7	13066.8	13580.5	14991.4	19841.6
		kg	21	32	35	42	118	150	218	364	549	865	1197	1354	2014	3114	4011	5927	6160	6800	9000

GATE VALVES

BOLTED BONNET

GT CLASS 600

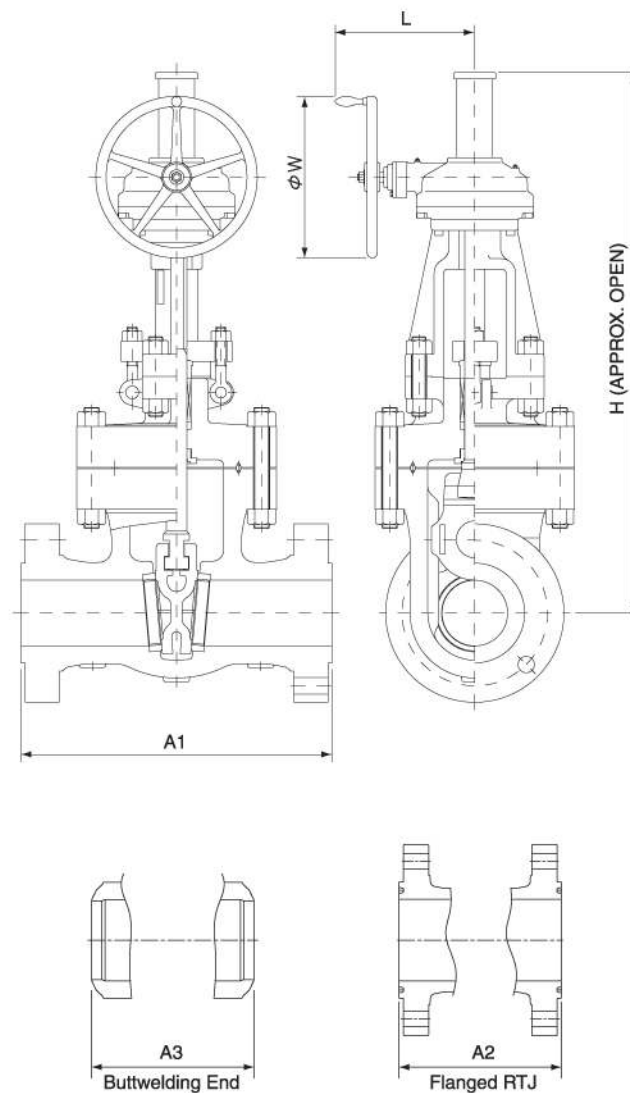
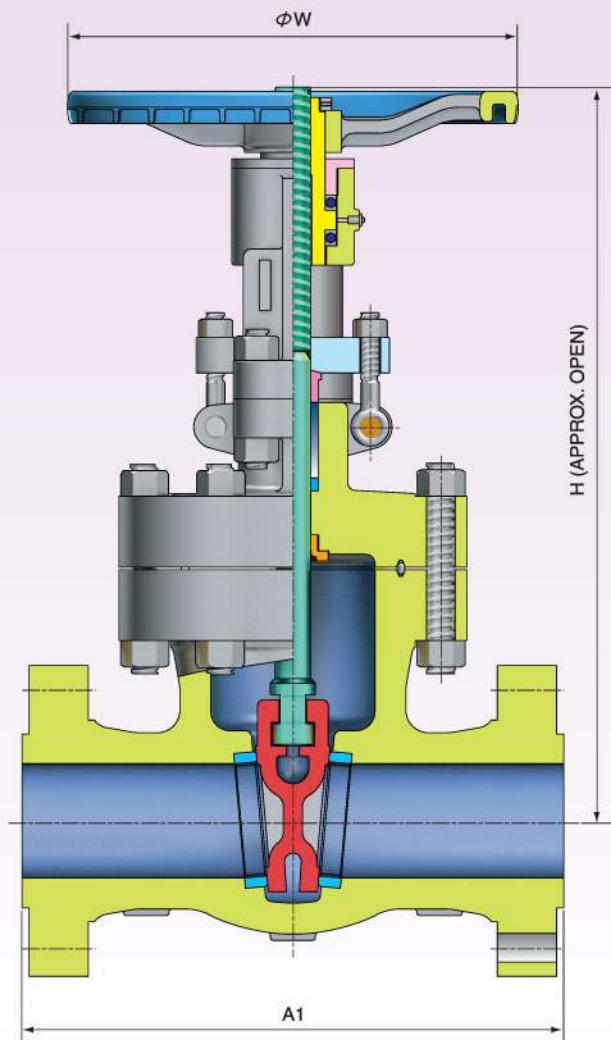


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050
A1 & A3		in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0	61.0	65.0	82.0	94.0	96.0
		mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1651	2083	2387	2438
A2		in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	39.1	43.1	47.2	55.4	61.5	65.5	82.6	-	-
		mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407	1562	1663	2098	-	-
H		in	18.5	19.4	22.0	26.9	37.4	42.6	49.8	66.9	73.0	84.3	103.0	108.2	111.1	128.8	138.6	179.5	207.6	240.1
		mm	471	494	558	682	951	1081	1264	1699	1855	2140	2616	2749	2823	3272	3521	4560	5273	6098
W		in	8.8	8.8	9.8	11.8	17.7	19.7	24.8	24.8	24.8	28.0	31.5	31.5	35.4	35.4	39.4	39.4	39.4	39.4
		mm	224	224	250	300	450	500	630	630	630	710	800	800	900	900	1000	1000	1000	1000
L		in	-	-	-	-	-	-	-	15.3	15.3	16.0	18.1	18.1	19.1	20.8	23.2	23.2	23.2	24.4
		mm	-	-	-	-	-	-	-	-	389	389	406	461	461	486	529	590	590	590
WEIGHT	RF	lb	94.8	132.3	154.3	295.4	628.3	987.7	1499.1	2398.6	2892.5	4146.9	5216.1	7050.4	10472.0	13340.2	15311.1	21473.0	23258.8	24140.6
		kg	43	60	70	134	285	448	680	1088	1312	1881	2366	3198	4750	6051	6945	9740	10550	10950
	BW	lb	61.7	99.2	132.3	229.3	451.9	690.0	1179.5	2151.7	2471.4	3558.3	4499.6	6139.9	9171.2	12202.6	13276.2	17945.6	18827.5	21539.2
		kg	28	45	60	104	205	313	535	976	1121	1614	2041	2785	4160	5535	6022	8140	8540	9770

GATE VALVES

BOLTED BONNET

GT CLASS 900

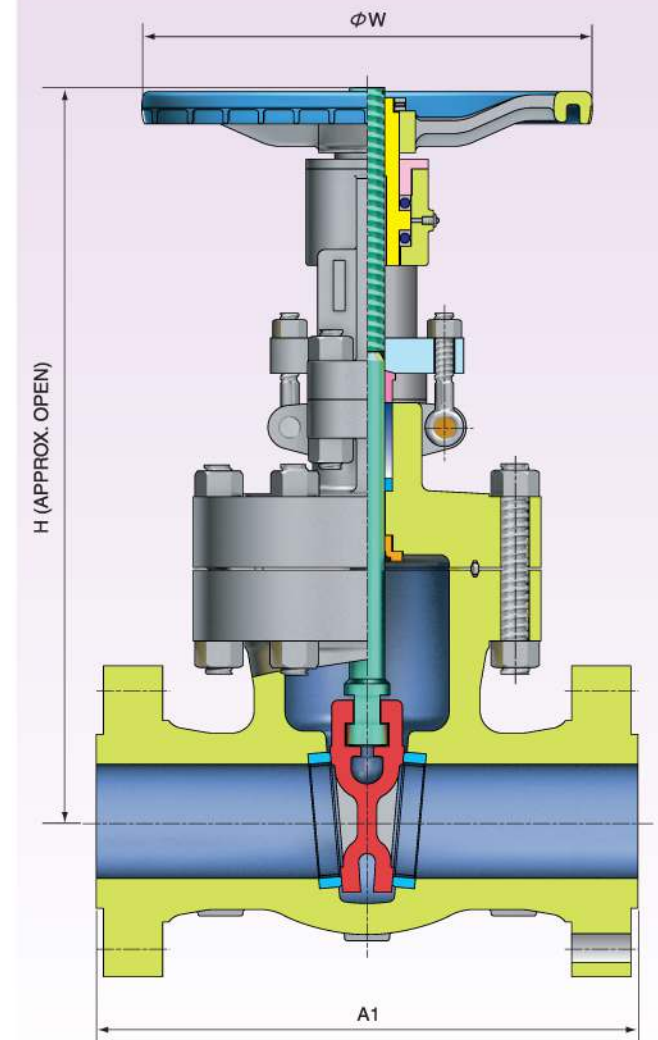
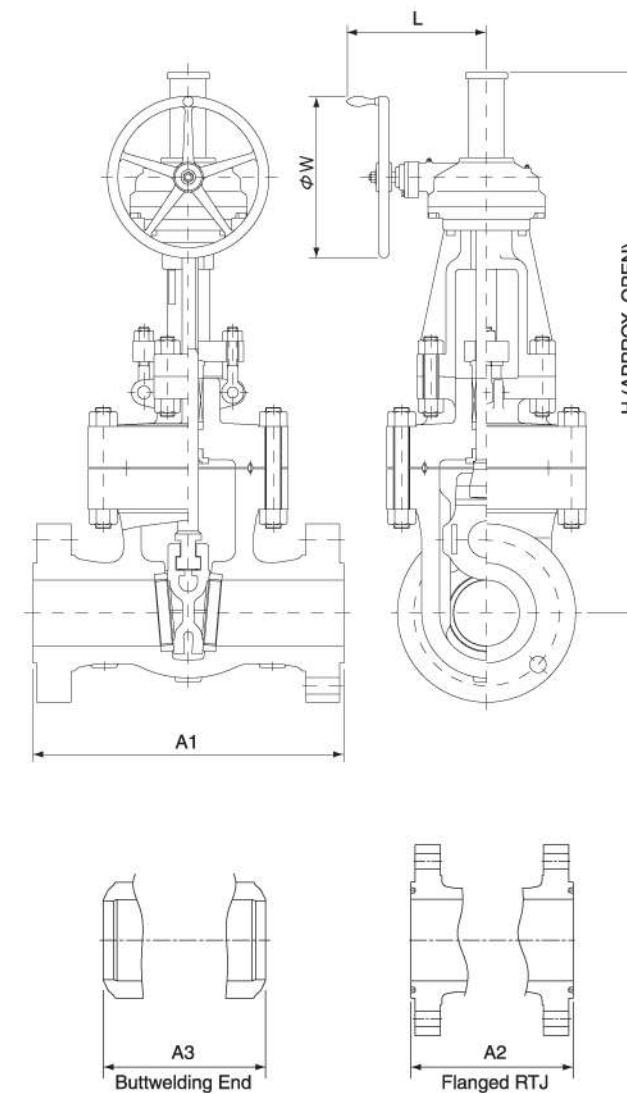


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1 & A3		in	14.5	16.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0
		mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
A2		in	14.6	16.6	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9	48.5	52.5	61.7
		mm	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568
H		in	21.0	26.4	26.6	30.8	35.0	48.8	71.2	75.7	72.0	80.2	86.4	110.2	124.0
		mm	534	671	676	783	888	1239	1808	1923	1830	2036	2195	2800	3150
W		in	11.8	11.8	14.0	15.7	22.0	19.7	24.8	28.0	28.0	31.5	35.4	35.4	39.4
		mm	300	300	355	400	560	500	630	710	710	800	900	900	1000
L		in	-	-	-	-	-	13.5	15.3	16.0	16.0	18.1	19.1	23.2	23.2
		mm	-	-	-	-	-	-	342	389	406	406	461	486	590
WEIGHT	RF	lb	180.8	341.7	363.8	383.6	998.7	1829.8	3042.4	3399.5	4894.3	6613.9	8531.9	10714.5	16093.7
		kg	82	155	165	174	453	830	1380	1542	2220	3000	3870	4860	7300
	BW	lb	130.1	286.6	291.0	295.4	822.3	1536.6	2627.9	2844.0	4166.7	5881.9	7275.3	8928.7	13492.3
		kg	59	130	132	134	373	697	1192	1290	1890	2668	3300	4050	6120

GATE VALVES

BOLTED BONNET

GT CLASS 1500

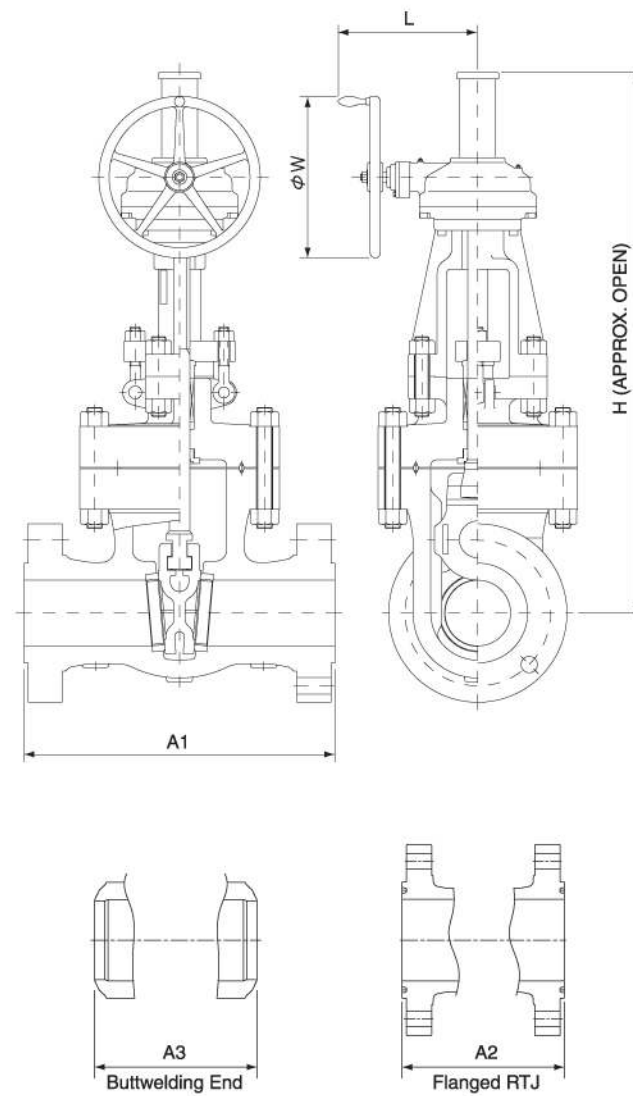
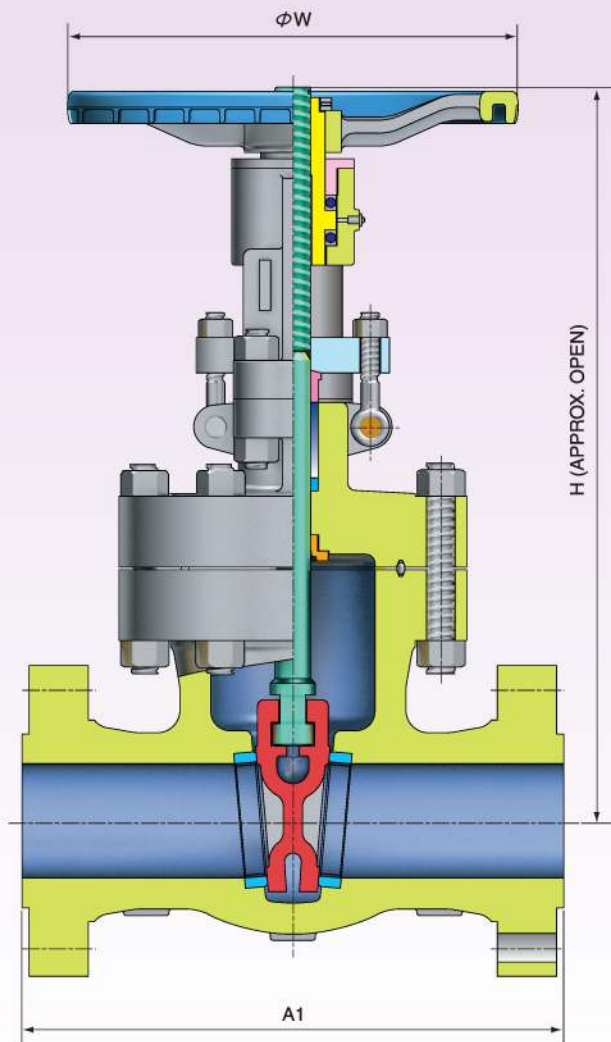


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1 & A3		in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5	54.5	60.5	65.5	76.5
		mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
A2		in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2	55.4	61.4	66.4	77.6
		mm	371	422	473	549	711	842	1000	1146	1276	1406	1559	1686	1971
H		in	21.0	26.4	29.1	30.8	51.9	63.0	66.4	82.3	85.1	97.9	108.7	122.1	146.5
		mm	534	671	738	783	1318	1600	1686	2090	2162	2486	2762	3102	3721
W		in	11.8	11.8	15.7	19.7	19.7	28.0	28.0	35.4	35.4	35.4	39.4	39.4	39.4
		mm	300	300	400	500	500	710	710	900	900	900	1000	1000	1000
L		in	-	-	-	-	13.5	16.0	16.0	19.1	20.8	20.8	23.2	23.2	24.4
		mm	-	-	-	-	342	406	406	486	529	529	590	590	619
WEIGHT	RF	lb	180.8	341.7	370.4	573.2	1360.3	3284.9	4411.4	8412.8	9072.0	15322.1	19841.6	24537.4	35869.2
		kg	82	155	168	260	617	1490	2001	3816	4115	6950	9000	11130	16270
	BW	lb	130.1	286.6	286.6	352.7	974.4	2755.8	3540.6	7079.0	7054.8	13227.7	17063.8	21076.2	30357.6
		kg	59	130	130	160	442	1250	1606	3211	3200	6000	7740	9560	13770

GATE VALVES

BOLTED BONNET

GT CLASS 2500



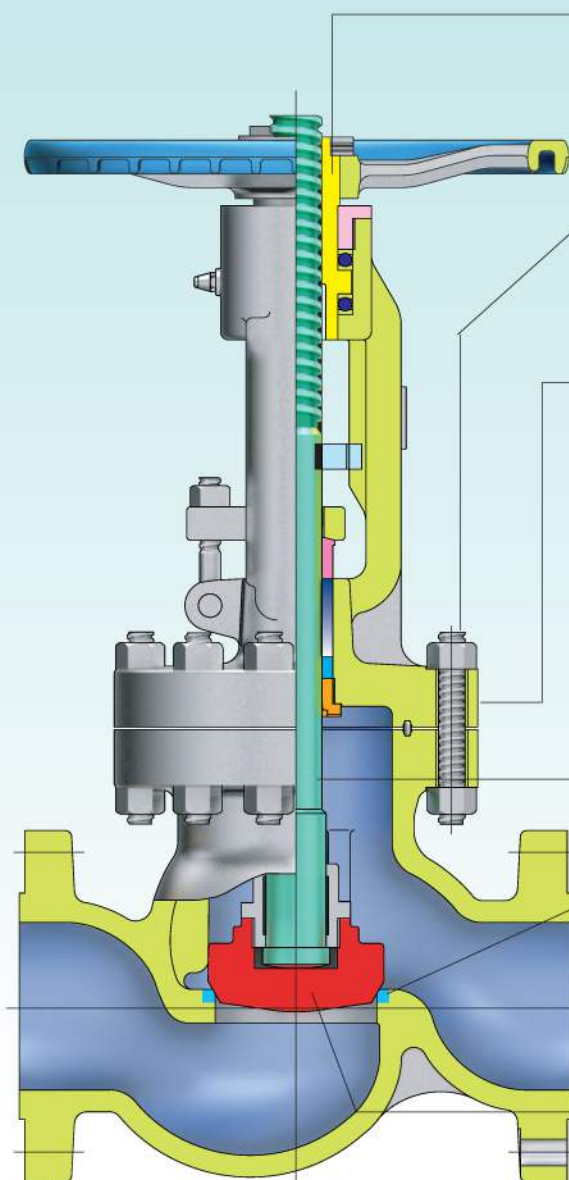
VALVE SIZE	in	2	2.5	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A1 & A3	in	17.8	20.0	22.8	26.5	36.0	40.2	50.0	56.0
	mm	451	508	578	673	914	1022	1270	1422
A2	in	17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9
	mm	454	514	584	683	927	1038	1292	1444
H	in	24.4	31.9	31.9	42.3	57.1	63.0	82.5	90.2
	mm	619	809	809	1074	1451	1600	2096	2292
W	in	11.8	17.7	17.7	24.8	24.8	28.0	31.5	35.4
	mm	300	450	450	630	630	710	800	900
L	in	-	-	-	-	15.3	16.0	18.1	20.8
	mm	-	-	-	-	389	406	461	529
WEIGHT	RF	lb	205.0	330.7	443.1	1336.0	3505.3	5379.3	10083.9
		kg	93	150	201	606	1590	2440	4574
	BW	lb	127.9	220.5	288.8	1082.5	2866.0	4409.2	8377.6
		kg	58	100	131	491	1300	2000	3800

GLOBE VALVES

BOLTED BONNET



GLOBE VALVES



YOKE SLEEVE

The standard material of the Yoke Sleeve is Nodular Ni-resist D2 with over a 1150°C (2100°F) dissolution point in conformity with API Std. Specifications.

BOLTING

The body-bonnet bolts are manufactured in accordance with API Std. 600 specifications. The nuts also strictly conform with ANSI B 1.1. The stud-bolt nuts, hexagonal, rigid and hot-forged, bear material notation as well as do the bolt nuts made according to ANSI B18.2.2

BONNET

The bonnet is integral or separate with the yoke and is the same material as the body. The body-bonnet flange drilling is spot-faced to exactly meet stud bolt nuts. The back seat bushing in the bonnet guarantees that the packing can be replaced even when the valve is fully opened. The stem packing dimensions of the stuffing box are in accordance with API Std. specifications.

STEM

The heat-treated stems of one-piece construction insure adequate mechanical properties and surface hardness. Friction at the time of opening and shutting is reduced to a minimum friction to accurate machining and lapping. The round finished surface of the stem head helps to achieve point contact with the inside of the disc housing to eliminate friction.

SEAT RING

The shoulder seated type seat ring is welded or screwed into body. The seating surface is finished by lapping. The seat ring is forged and heat-treated to deliver the best mechanical properties and required hardness. The difference in hardness between the seats and disc conforms to API Std. specifications.

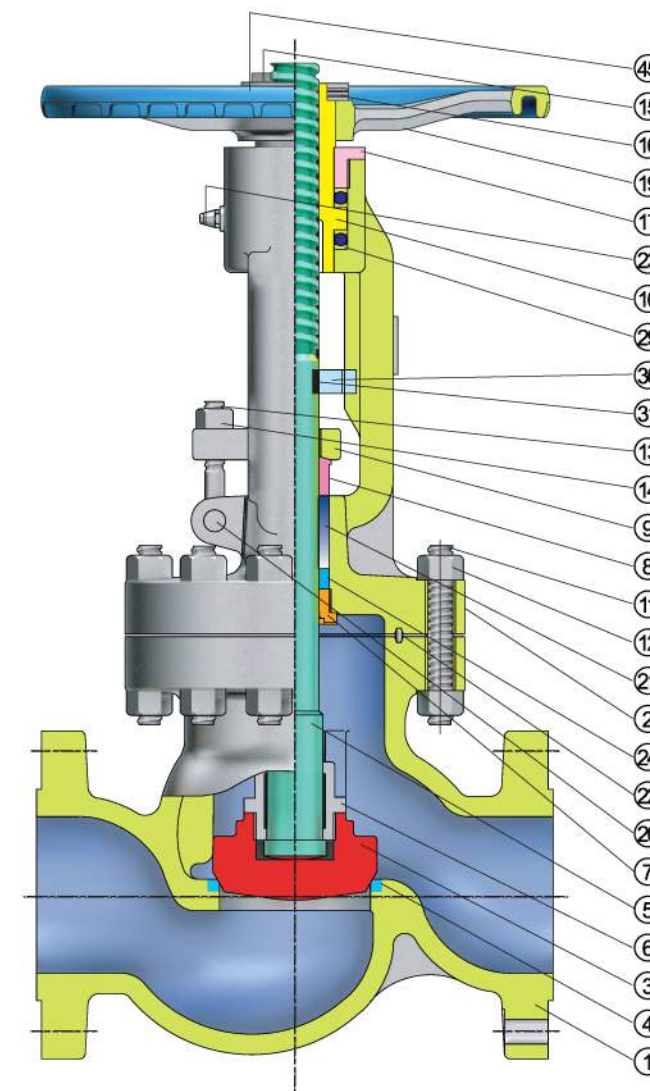
DISC

The disc of our globe valves is a loose disc and can freely revolve around the stem. This prevents friction and galling with the seating surface when the valve is shut. The disc is furnished with a conical seating surface that has been ground and lapped to a mirror finish. It is of one-piece construction, and forged and heat-treated to deliver the required mechanical properties and hardness.

BODY

The cast steel body is designed to insure a wall thickness which is greater at any point than the minimum specified by API Std. 600. Port and seat passage dimensions conform to ASME B16.34. The welded-in type seat ring is standard to allow interchangeability. The standard body-bonnet joint is male-female, and the flange is round for all valves. Accurate machining insures perfect coaxiality of the valve ends and seat ring in addition to exact perpendicularity of the body-bonnet flanges.

GLOBE VALVES



NO	NAME OF PART	ASTM SPECIFICATION
15	HANDLE NUT	STEEL
16	SET SCREW	STEEL
17	SLEEVE GLAND	STEEL
19	HANDWHEEL	A395
21	PACKING	COMMERCIAL
22	GASKET	COMMERCIAL
23	GREASE NIPPLE	STEEL
29	BEARING	A295-52100
30	STOPPER	A283-D
31	KEY	STEEL
45	WASHER	STEEL

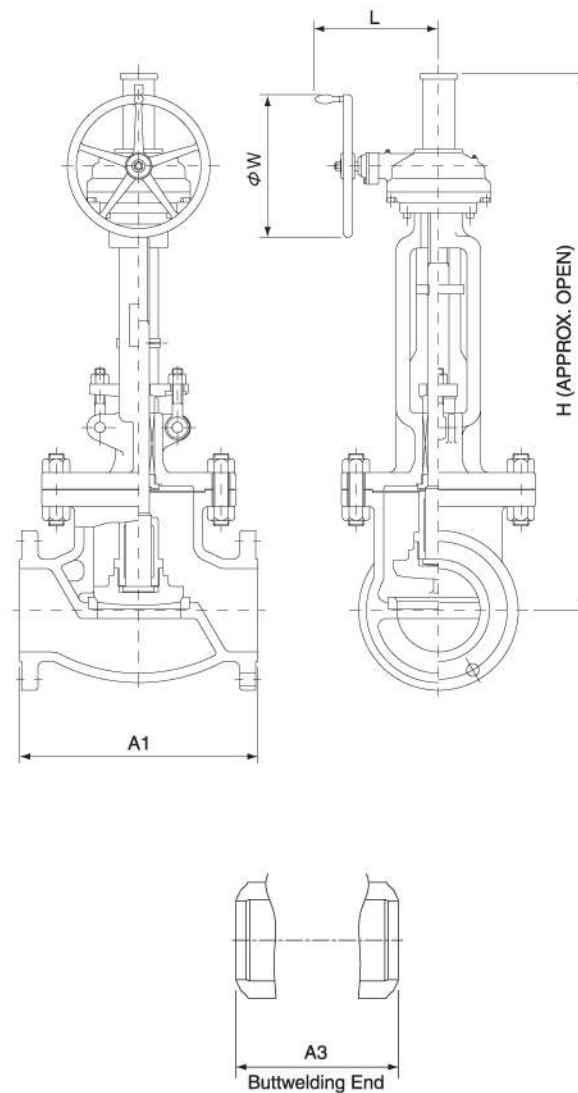
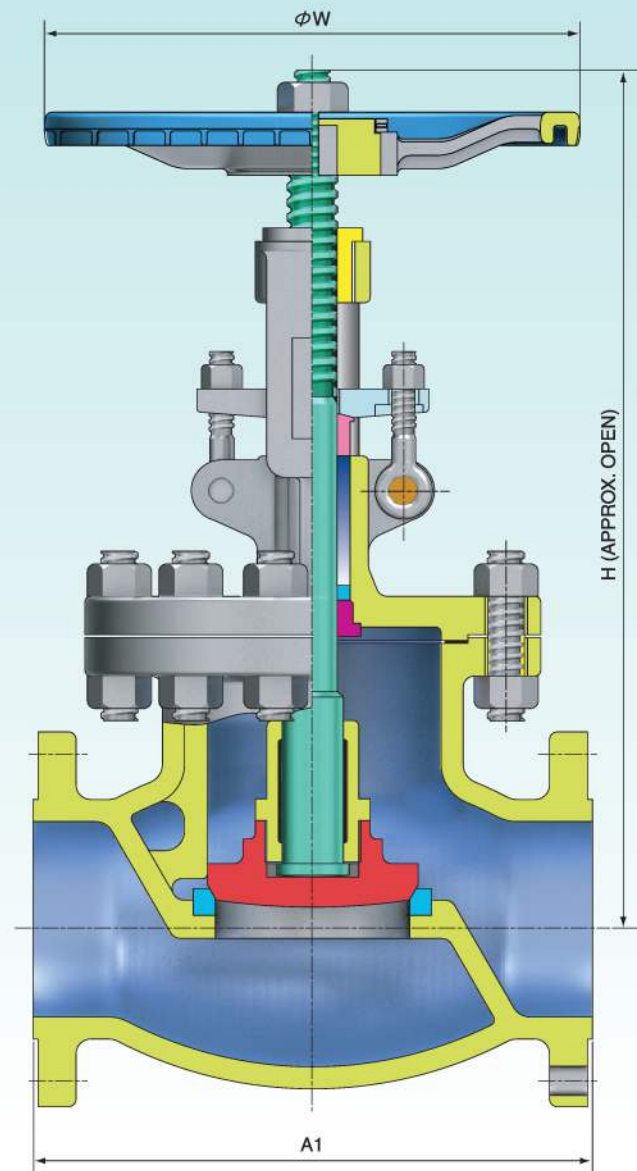
NO	NAME OF PART	ASTM SPECIFICATION												
		STANDARD	HIGH TEMPERATURE SERVICE					LOW TEMPERATURE SERVICE		STAINLESS STEEL				ALLOY STEEL
1	BODY	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A352-LCB	A352-LC1LC2LC3	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CX3MCUN
2	BONNET	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A352-LCB	A352-LC1LC2LC3	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CX3MCUN
3	*DISC	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A351-CF8	A351-CF8	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CX3MCUN
4	BODY SEAT RING	A105+STL	A182-F1	A182-F11	A182-F22	A182-F5a	A350-LF2	A350-LF2	A240-304	A240-316	A240-304L	A240-316L	ALLOY 20	A182-F51
5	STEM			A479-410			A276-304		A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A182-F51
6	DISC GLAND	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A351-CF8	A351-CF8	A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A182-F51
7	BONNET BUSH			A479-410			A276-304		A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A276-304
8	PACKING GLAND			A479-410			A276-304			A276-304				A276-304
9	GLAND FLANGE			A105 or A283-D						AISI 304				AISI 304
10	YOKE SLEEVE			A439-D2						A439-D2				A439-D2
11	BONNET BOLT	A193-B7	A193-B7	A193-B16	A193-B16	A193-B16	A320-L7	A320-L7	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8
12	BONNET NUT	A194-2H	A194-2H	A194-4	A194-4	A194-4	A194-4L	A194-4L	A194-8	A194-8	A194-8	A194-8	A194-8	A194-8
13	GLAND BOLT				A307-B					A193-B8				A193-B8
14	GLAND NUT				A194-2H					A194-8				A194-8
20	HINGE PIN			A108-1020						A276-304				A276-304
24	PACKING RING			A479-410			A276-304		A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A182-F51

*Note : In case of 12" and larger size, we'll use trim material overlayed one on the same or equivalent material of the Body.

GLOBE VALVES

BOLTED BONNET

GL CLASS 150

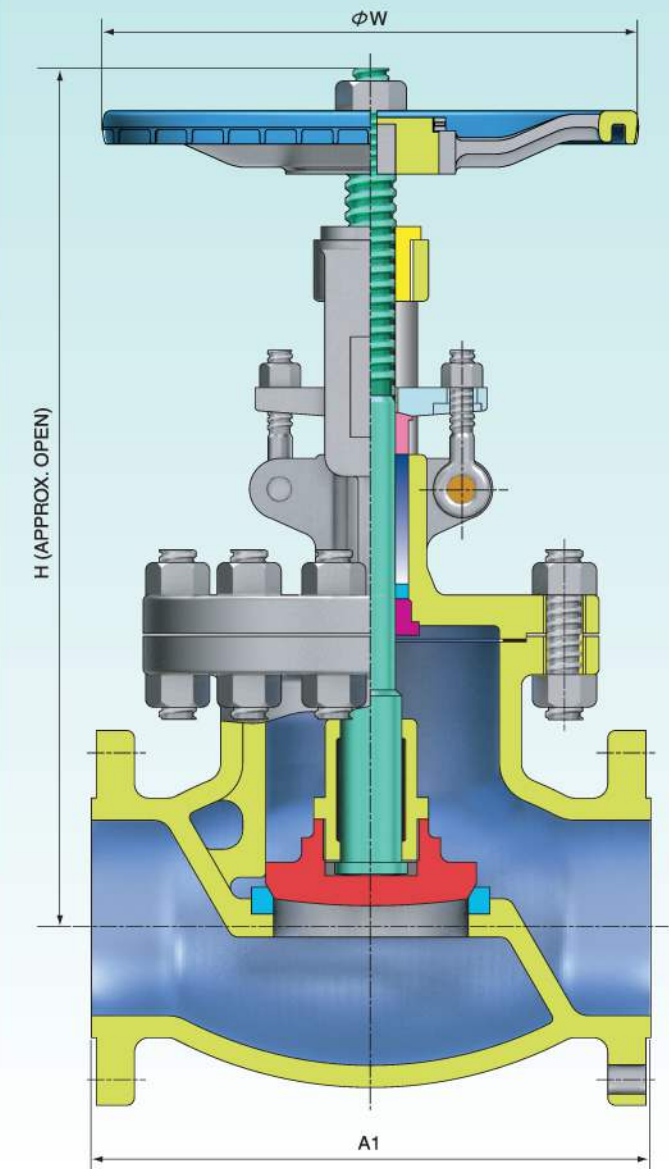
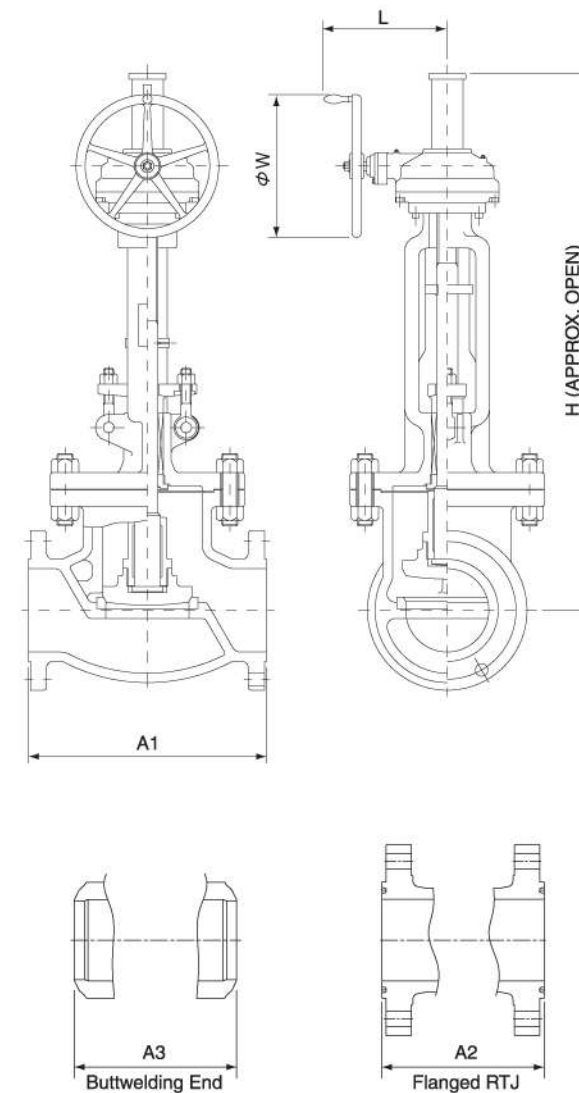


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18
		mm	50	65	80	100	150	200	250	300	350	400	450
A1 & A3		in	8.0	8.5	9.5	11.5	16.0	19.5	24.5	27.5	31.0	36.0	38.5
		mm	203	216	241	292	406	495	622	699	787	914	978
H		in	15.3	15.2	17.1	19.8	23.0	28.3	31.4	39.8	53.1	56.7	78.0
		mm	388	387	434	503	585	718	798	1011	1349	1440	1980
W		in	7.9	8.8	8.8	9.8	14.0	14.0	17.7	19.7	28.0	28.0	28.0
		mm	200	224	224	250	355	355	450	500	710	710	710
L		in	-	-	-	-	-	-	-	-	16.0	16.0	16.0
		mm	-	-	-	-	-	-	-	-	406	407	407
WEIGHT	RF	lb	44.1	77.2	88.2	123.5	229.3	401.3	650.5	903	1466	1975	3969
		kg	20	35	40	56	104	182	295	410	665	896	1800
	BW	lb	35.3	66.2	75	99.2	196.2	350.5	579.8	802.5	1327.2	1799	3889
		kg	16	30	34	45	89	159	263	364	602	816	1764

GLOBE VALVES

BOLTED BONNET

GL CLASS 300

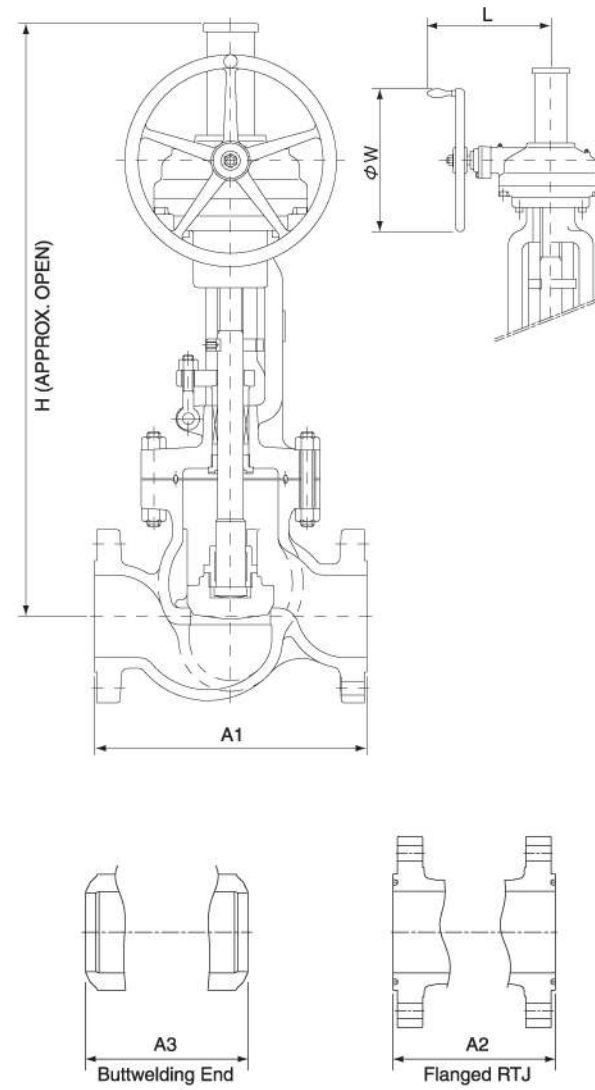
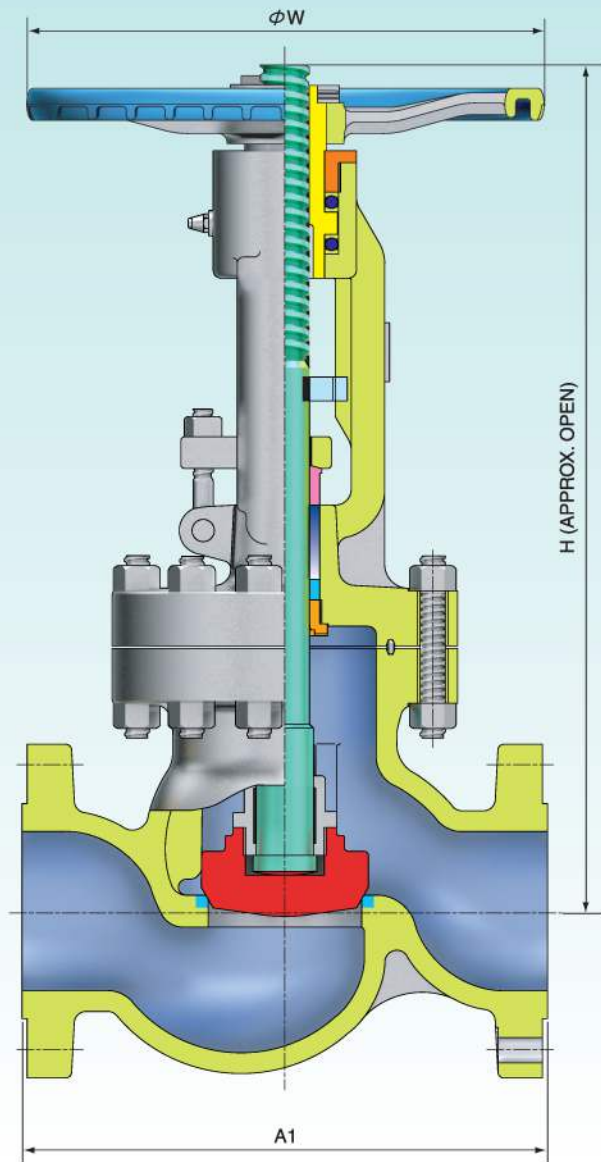


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16
		mm	50	65	80	100	150	200	250	300	350	400
A1 & A3		in	10.5	11.5	12.5	14.0	17.5	22.0	24.5	28.0	33.0	36.0
		mm	267	292	318	356	444	559	622	711	838	914
A2		in	11.1	12.1	13.1	14.6	18.1	22.6	25.1	28.6	33.6	36.6
		mm	283	308	333	371	460	575	638	727	854	929
H		in	15.5	16.8	18.1	21.7	29.4	31.7	46.3	50.7	62.5	64.4
		mm	393	427	461	552	746	806	1176	1287	1588	1635
W		in	7.9	8.8	9.8	14.0	17.7	22.0	28.0	28.0	35.4	31.5
		mm	200	224	250	355	450	560	710	710	900	800
L		in	-	-	-	-	-	-	16.0	16.0	20.8	21.0
		mm	-	-	-	-	-	-	406	406	529	534
WEIGHT	RF	lb	70.6	92.6	141	220.5	419	595.4	1283	2416.3	2546.8	3748.5
		kg	32	42	64	100	190	270	582	1096	1155	1700
	BW	lb	57.3	72.8	114.6	178.6	352.7	498.2	1137.6	2209	2262	3393
		kg	26	33	52	81	160	226	516	1002	1026	1539

GLOBE VALVES

BOLTED BONNET

GL CLASS 600

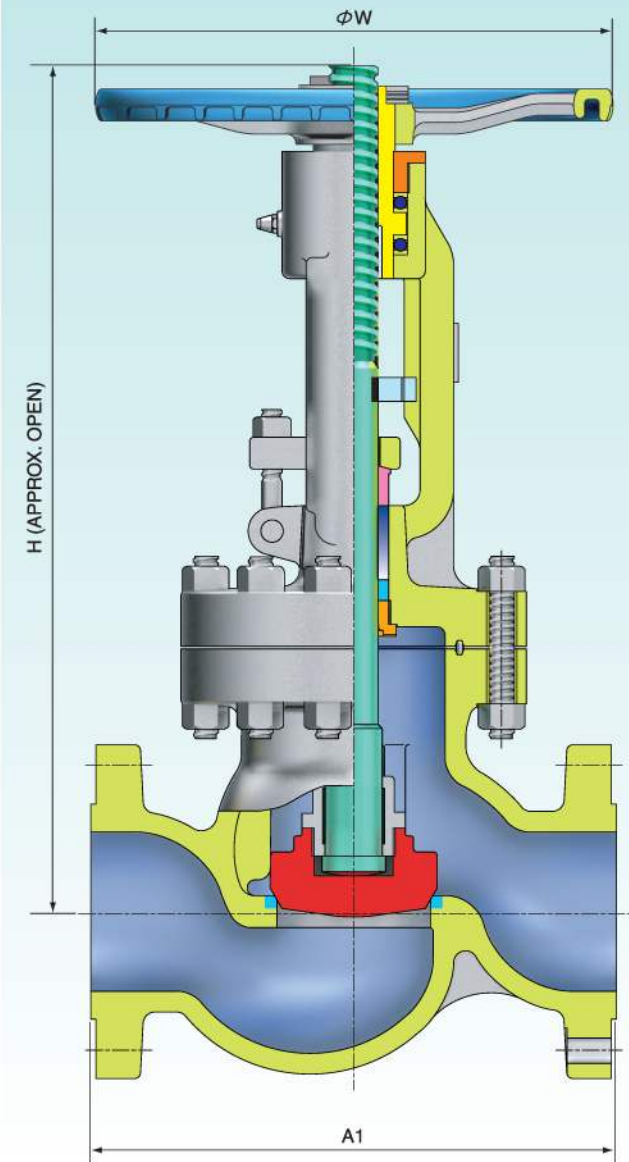
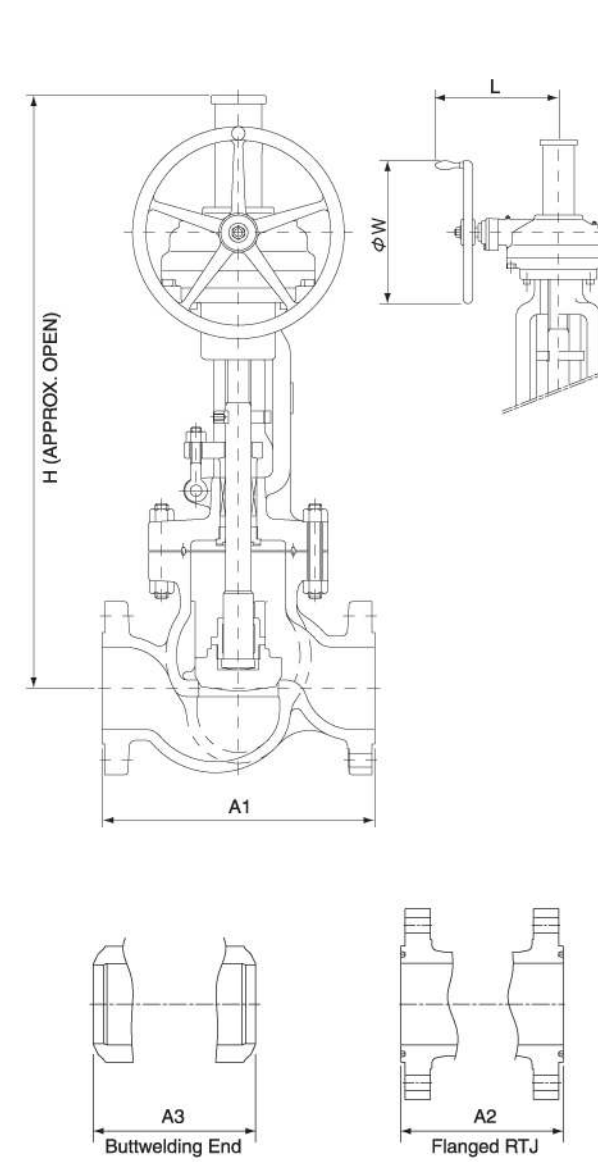


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16
		mm	50	65	80	100	150	200	250	300	350	400
A1 & A3		in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0
		mm	292	330	356	432	559	660	787	838	889	991
A2		in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	39.1
		mm	295	333	359	435	562	664	791	841	892	994
H		in	16.8	16.4	20.9	23.7	31.4	51.4	66.9	72.5	71.0	74.8
		mm	426	416	530	601	798	1306	1700	1842	1804	1900
W		in	8.8	8.8	11.0	14.0	17.7	31.5	39.4	39.4	39.4	39.4
		mm	224	224	280	355	450	800	1000	1000	1000	1000
L		in	-	-	-	-	-	18.1	23.2	23.2	23.2	24.4
		mm	-	-	-	-	-	461	590	590	590	619
WEIGHT	RF	lb	94.8	154.4	172	300	619.6	1473	2024	5842.2	5953.5	7938
		kg	43	70	78	136	281	668	918	2650	2700	3600
	BW	lb	64	66	104	216.1	410	1102	1753	3518.6	5534.6	7386.8
		kg	29	30	47	98	186	500	795	1596	2510	3350

GLOBE VALVES

BOLTED BONNET

GL CLASS 900

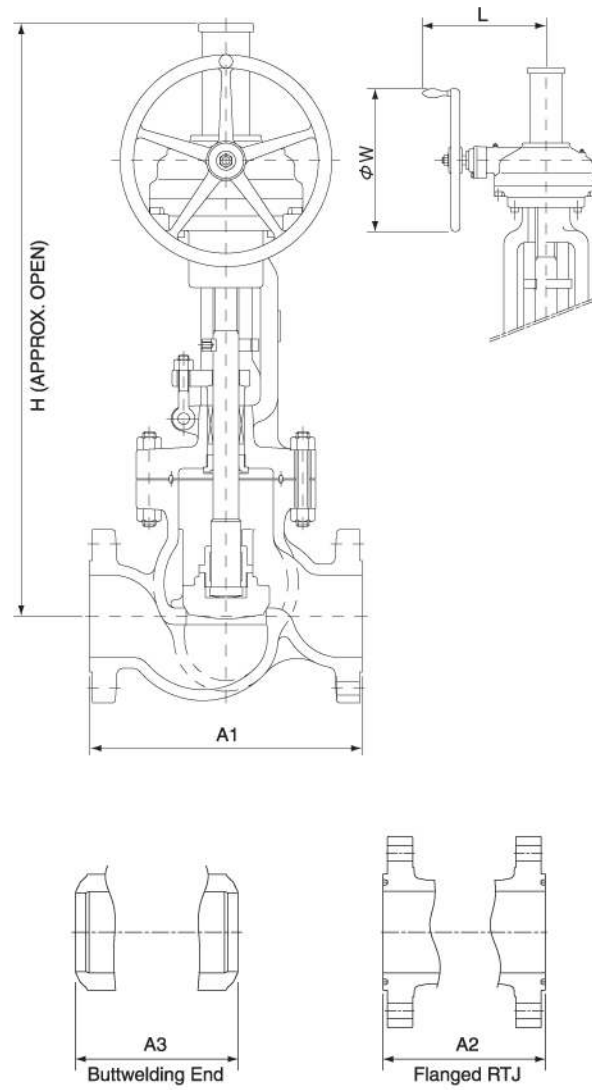
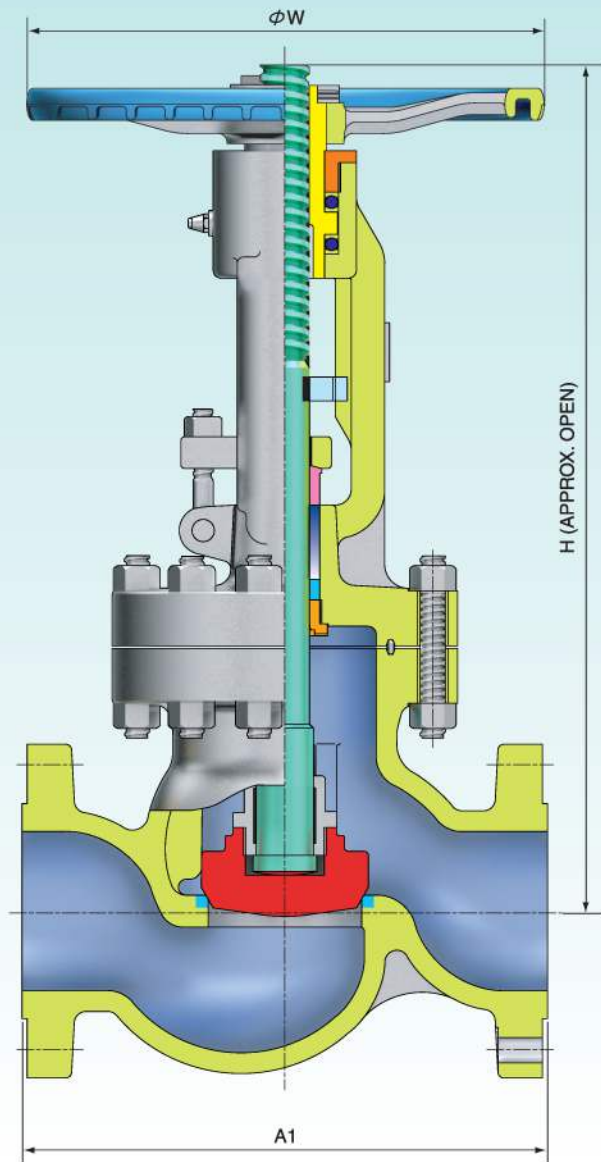


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16
		mm	50	65	80	100	150	200	250	300	350	400
A1 & A3		in	14.5	16.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5
		mm	368	419	381	457	610	737	838	965	1029	1130
A2		in	14.6	16.6	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9
		mm	371	422	384	460	613	740	841	968	1038	1140
H		in	27.2	27.0	30.2	34.6	53.9	67.7	69.5	67.1	87.0	103.1
		mm	690	686	768	880	1370	1719	1765	1705	2210	2620
W		in	15.7	15.7	15.7	15.7	28.0	35.4	31.5	35.4	35.4	35.4
		mm	400	400	400	400	710	900	800	900	900	900
L		in	-	-	-	-	16.0	20.8	12.2	26.4	26.4	26.4
		mm	-	-	-	-	406	529	310	670	670	670
WEIGHT	RF	lb	271.2	341.8	390	441	1208	2844	4520.3	5842	8048.3	9481.5
		kg	123	155	177	200	548	1290	2050	2650	3650	4300
	BW	lb	157	264.6	295.4	326	712	2425.5	4123.4	5292	7386.8	8600
		kg	71	120	134	148	323	1100	1870	2400	3350	3900

GLOBE VALVES

BOLTED BONNET

GL CLASS 1500

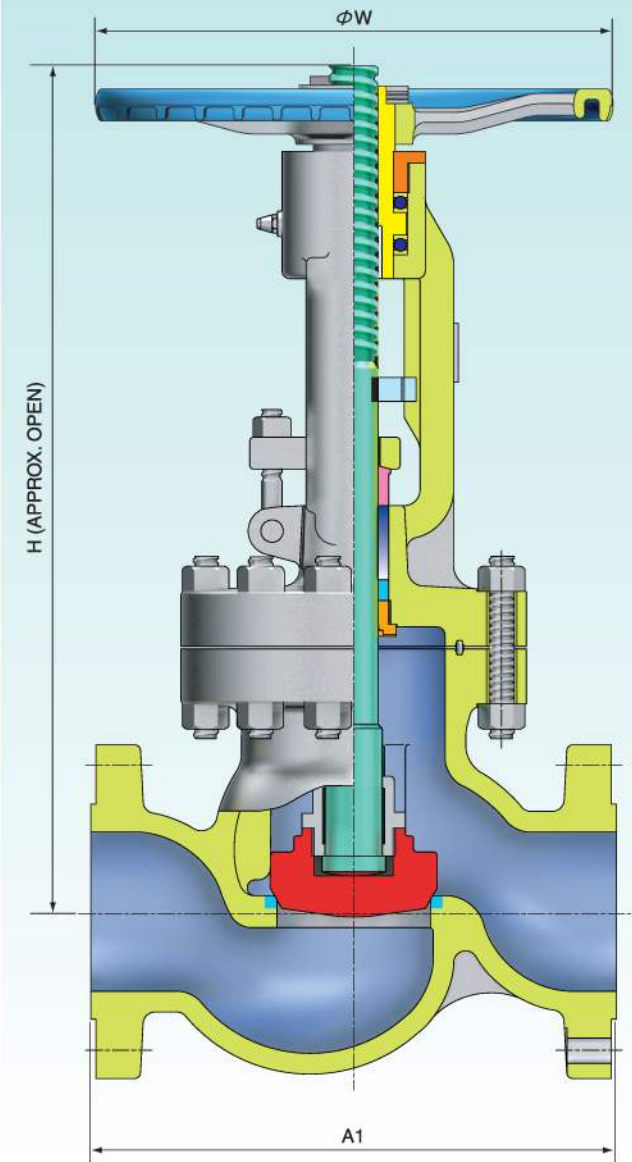
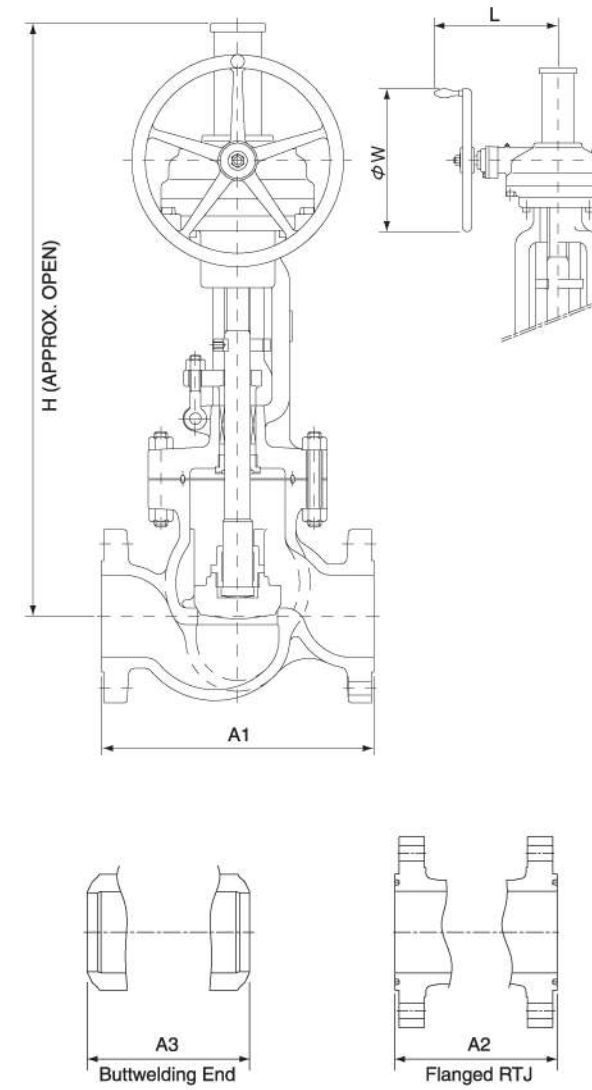


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16
		mm	50	65	80	100	150	200	250	300	350	400
A1 & A3		in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5	54.5
		mm	368	419	470	546	705	832	991	1130	1257	1384
A2		in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2	55.4
		mm	371	422	473	549	711	841	1000	1146	1276	1407
H		in	27.2	27.0	31.5	39.8	53.0	77.2	90.9	105.1	126.0	160.0
		mm	690	686	801	1012	1345	1960	2310	2670	3200	4064
W		in	15.7	15.7	19.7	19.7	35.4	28.0	29.9	29.9	29.9	29.9
		mm	400	400	500	500	900	710	760	760	760	760
L		in	-	-	-	-	20.8	18.4	20.2	20.2	22.3	22.3
		mm	-	-	-	-	529	468	512	512	567	567
WEIGHT	RF	lb	271.2	315	456	749.7	1482	4630.5	7056	9702	11907	14773.5
		kg	123	143	207	340	672	2100	3200	4400	5400	6700
	BW	lb	205.1	260	421	621.8	12171	4190	6174	8379	10363.5	12789
		kg	93	118	191	282	552	1900	2800	3800	4700	5800

GLOBE VALVES

BOLTED BONNET

GL CLASS 2500



VALVE SIZE		in	2	2.5	3	4	6	8	10	12
		mm	50	65	80	100	150	200	250	300
A1 & A3		in	17.8	20.0	22.8	26.5	36.0	40.3	50.0	56.0
		mm	451	508	578	673	914	1022	1270	1422
A2		in	17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9
		mm	454	514	584	682	927	1038	1292	1444
H		in	23.9	31.5	32.8	49.6	75.0	97.0	110.2	138.0
		mm	606	800	834	1260	1905	2465	2800	3505
W		in	15.7	19.7	19.7	24.0	24.0	29.9	29.9	29.9
		mm	400	500	500	610	610	760	760	760
L		in	-	-	-	20.2	17.0	22.3	22.3	22.3
		mm	-	-	-	512	432	567	567	567
WEIGHT	RF	lb	419	661.5	771.8	1852.2	5071.5	10584	14994	18742.5
		kg	190	300	350	840	2300	4800	6800	8500
	BW	lb	352.8	529.2	617.4	1521.5	4410	9702	13230	16537.5
		kg	160	240	280	690	2000	4400	6000	7500

SWING CHECK VALVES

BOLTED COVER



CAST STEEL

BOLTED COVER

SWING CHECK VALVES

BOLTING

The body-cover bolting conforms with ANSI B.1.1
The nuts are manufactured to conform with ANSI B18.2.2

COVER

The cover material is identical to the body.
Depending on the valve size and pressure class, either a casting or a forging is used.

HINGE PIN

The hinge pin is inserted into the valve and held in position by plug.
The larger size valves are provided with bolted flanges instead of plugs.

ARM

The arm material is identical to the body.
Hinge bushing is provided in the larger valve sizes to minimize friction and eliminate seizing.

SEAT RING

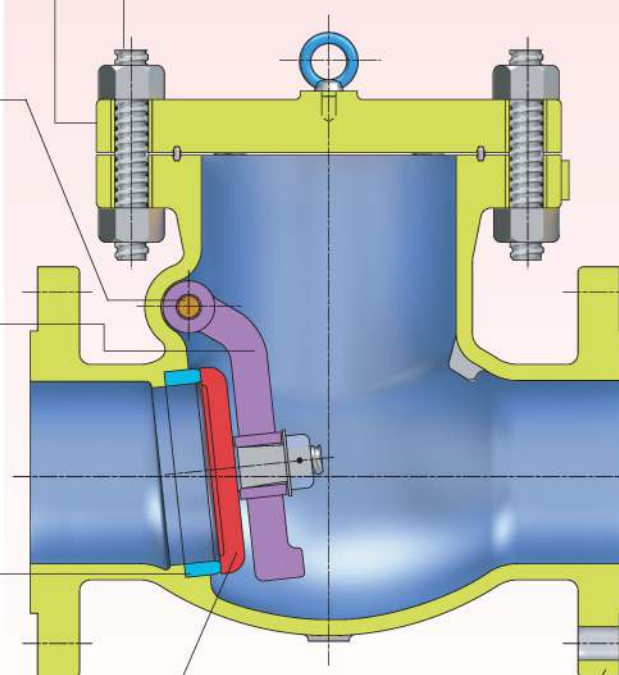
The bottom seated type seat ring is welded or screwed into the body.
The seating surface is finished by lapping.
The forged seat ring is heat-treated to deliver the best mechanical properties and required hardness.

DISC

The disc has a sufficient seating surface area which is ground and lapped to a mirror finish.
It is of one-piece construction and is heat treated to deliver the required mechanical properties and hardness.

BODY

The cast steel body is designed with a wall thickness which is greater at any point than the minimum requirement provided by API Std. 600 or API 6D. Port and seat passage dimensions conform to ASME B16.34. The welded-in type seat ring is standard to allow interchangeability.
The standard body-bonnet joint is male-female, and the flange is round for all valves.



CAST STEEL

BOLTED COVER

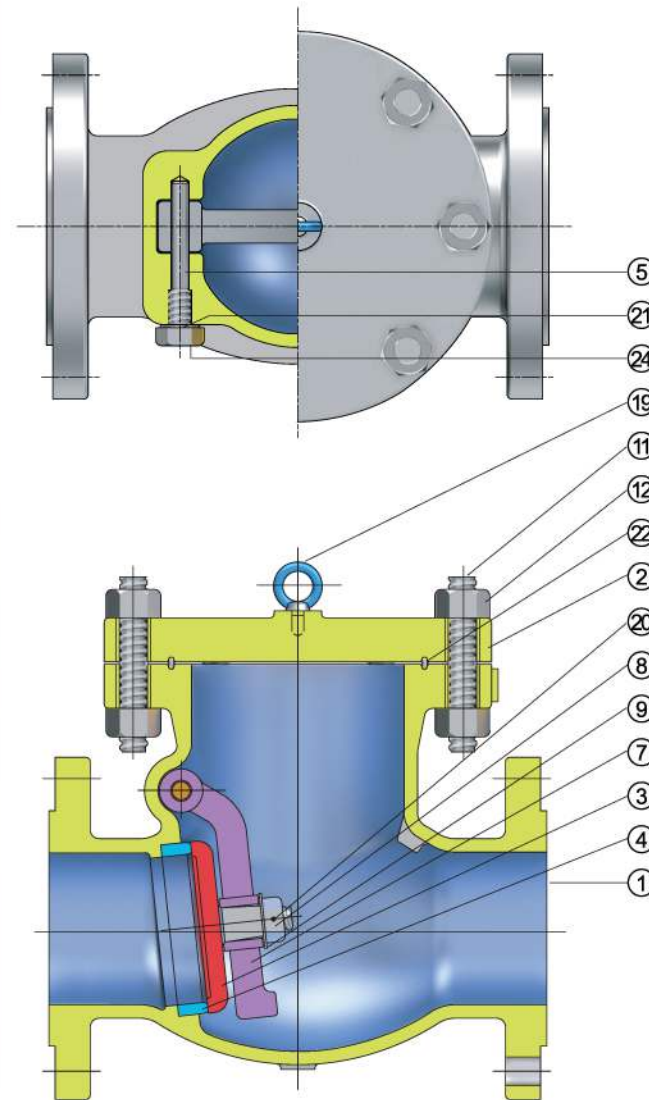
SWING CHECK VALVES



NO	NAME OF PART	ASTM SPECIFICATION
8	DISC NUT	A194-8
9	DISC WASHER	A240-304
19	EVE BOLT	A105
20	SPLIT PIN	A580-304
21	PLUG GASKET	COMMERCIAL
22	GASKET	COMMERCIAL
24	PLUG	A105

Swing check valves can be supplied with the following accessories.

- outside weight and lever
- slam retarders
- assisting springs
- position switches/indicators
- pneumatic safety control



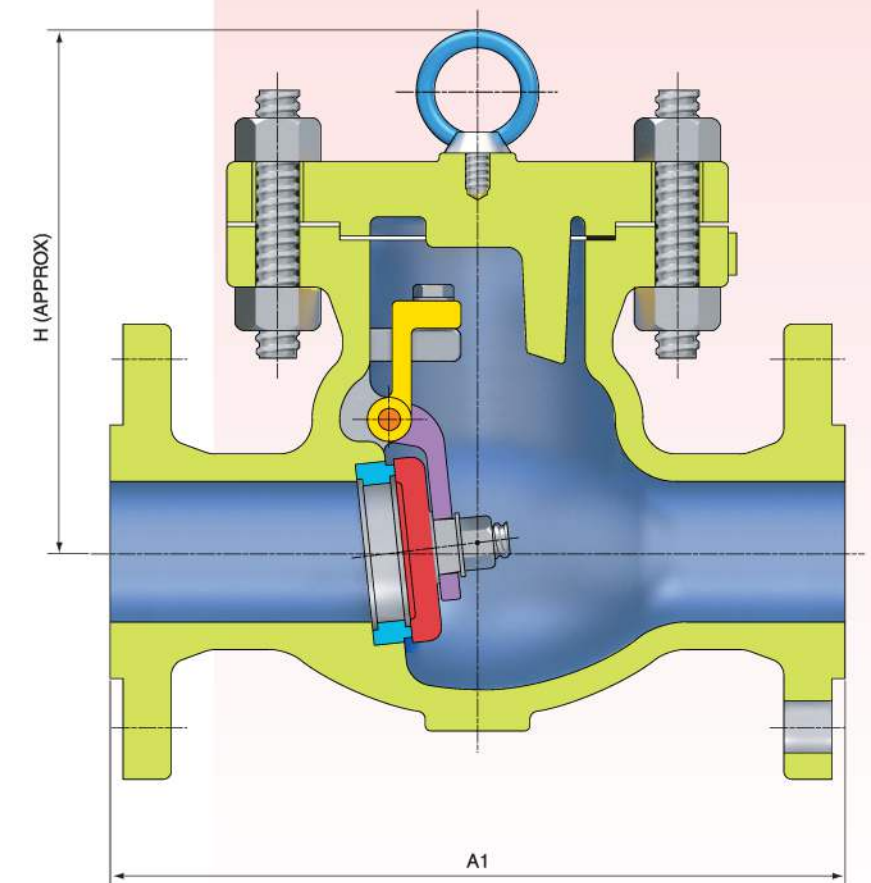
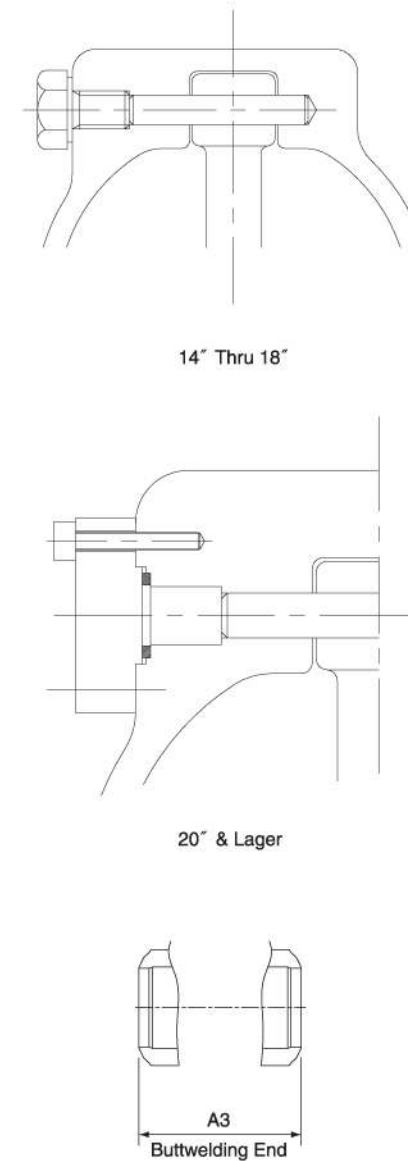
NO	NAME OF PART	ASTM SPECIFICATION												
		STANDARD	HIGH TEMPERATURE SERVICE					LOW TEMPERATURE SERVICE		STAINLESS STEEL				ALLOY STEEL
1	BODY	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A352-LCB	352LC1/LC2/LC3	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CX3MCA
2	COVER	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A352-LCB	352LC1/LC2/LC3	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CX3MCA
3	*DISC	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A217-CA15	A351-CF8	A351-CF8	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M	A351-CN7M	A351-CX3MCA
4	BODY SEAT RING	A105+STL	A182-F1	A182-F11	A182-F22	A182-F5a	A350-LF2	A350-LF2	A240-304	A240-316	A240-304L	A240-316L	ALLOY 20	A182-F51
5	HINGE PIN	A479-304					A276-304		A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A182-F51
7	ARM	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A352-LCB	352LC1/LC2/LC3	A276-304	A276-316	A276-304L	A276-316L	ALLOY 20	A182-F51
11	BONNET BOLT	A193-B7	A193-B7	A193-B16	A193-B16	A193-B16	A320-L7	A320-L7	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8	A193-B8
12	BONNET NUT	A194-2H	A194-2H	A194-4	A194-4	A194-4	A194-4L	A194-4L	A194-8	A194-8	A194-8	A194-8	A194-8	A194-8

*Note : In case of 12" and larger size, we'll use trim material overlayed one on the same or equivalent material of the Body.

SWING CHECK VALVES

BOLTED COVER

SW/CH CLASS 150

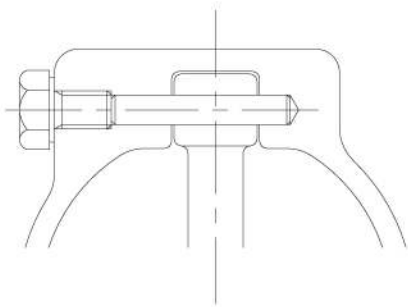
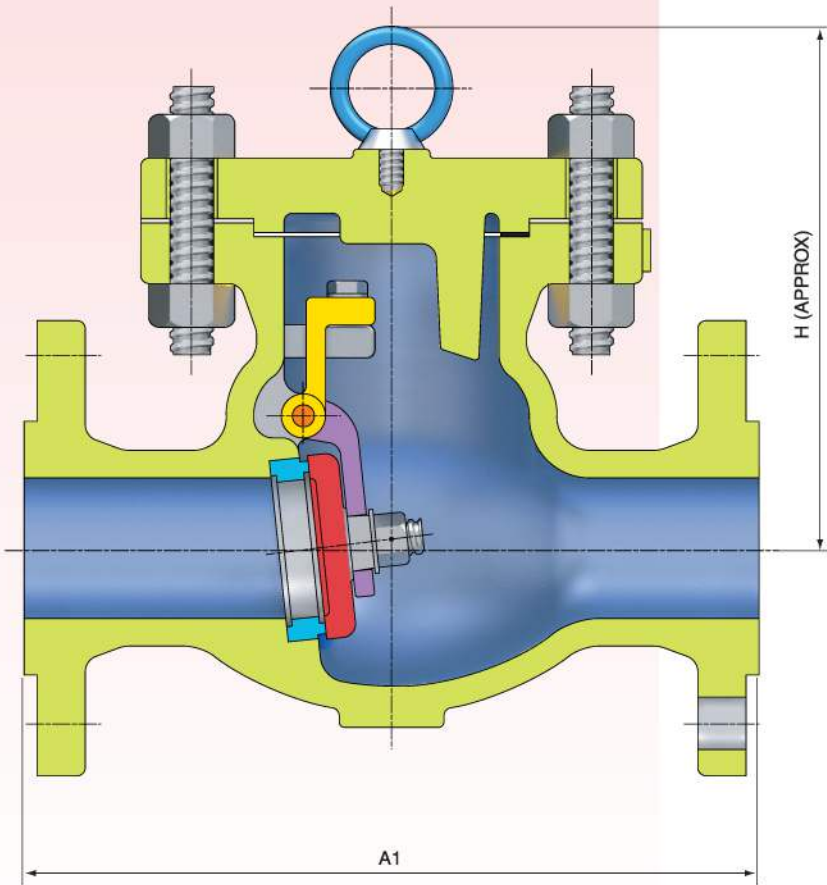


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	
A1 & A3	in	8.0	8.5	9.5	11.5	14.0	19.5	24.5	27.5	31.0	34.0	38.5	38.5	51.0	51.0	57.0	60.0	60.0	77.0	
	mm	203	216	241	292	356	495	622	698	787	864	978	978	1295	1295	1448	1524	1524	1956	
H	in	5.8	6.4	6.9	8.0	11.4	13.8	16.9	19.6	23.9	25.6	30.7	25.5	31.5	33.5	40.0	35.0	37.0	53.1	
	mm	147	163	176	204	290	350	428	499	606	650	781	647	800	852	1017	888	941	1349	
WEIGHT	RF	lb	35.3	48.5	66.1	97.0	172.0	260.1	520.3	758.4	930.3	1397.7	1798.9	2164.9	3924.2	3637.6	3825.0	4647.3	5291.0	7385.4
		kg	16	22	30	44	78	118	236	344	422	634	816	982	1780	1650	1735	2108	2400	3350
	BW	lb	28.7	33.1	46.3	57.3	136.7	200.6	449.7	645.9	661.4	1276.5	1547.6	1878.3	3584.7	3306.9	3223.1	4426.8	4960.3	6944.5
		kg	13	15	21	26	62	91	204	293	300	579	702	852	1626	1500	1462	2008	2250	3150

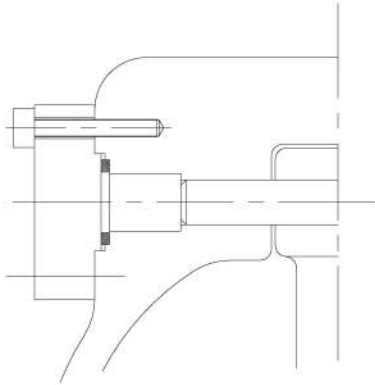
SWING CHECK VALVES

BOLTED COVER

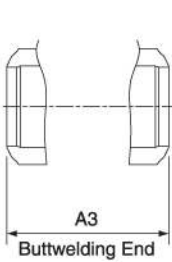
SW/CH CLASS 300



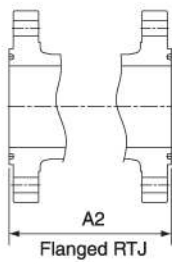
14" Thru 16"



18" & Larger



Buttwelding End



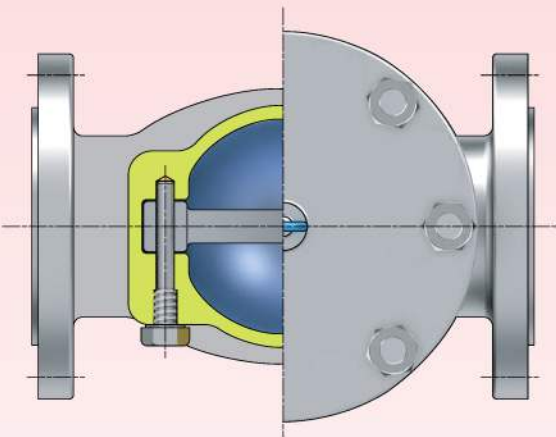
Flanged RTJ

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1 & A3	in	10.5	11.5	12.5	14.0	17.5	21.0	24.5	28.0	33.0	34.0	38.5	40.0	53.0	59.0	62.8	82.0
	mm	267	292	318	356	444	533	622	711	838	864	978	1016	1346	1499	1594	2083
A2	in	11.1	12.1	13.1	14.6	18.1	21.6	25.1	28.6	33.6	34.6	39.1	40.7	53.9	60.0	63.7	83.1
	mm	283	308	333	371	460	549	638	727	854	880	994	1035	1368	1524	1619	2111
H	in	6.4	7.1	7.8	8.7	13.1	15.0	18.8	21.1	22.8	27.4	31.4	30.5	40.4	45.2	50.0	46.1
	mm	163	180	197	220	332	380	477	535	580	695	797	775	1025	1149	1270	1171
WEIGHT	RF	lb	52.9	81.6	99.2	149.9	302.0	485.0	595.2	1091.3	1499.1	2094.4	2645.5	3306.9	4850.1	6172.9	7495.6
		kg	24	37	45	68	137	220	270	495	680	950	1200	1500	2200	2800	3400
	BW	lb	46.3	66.1	77.2	112.4	242.5	401.2	463.0	925.9	1157.4	1763.7	2202.4	2689.6	4060.9	5291.0	6503.5
		kg	21	30	35	51	110	182	210	420	525	800	999	1220	1842	2400	2950

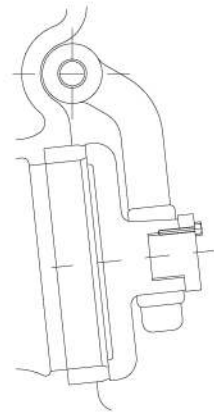
SWING CHECK VALVES

BOLTED COVER

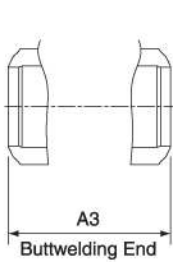
SW/CH CLASS 600



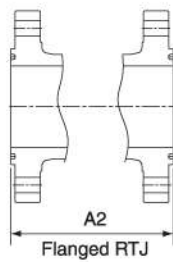
16" & Larger



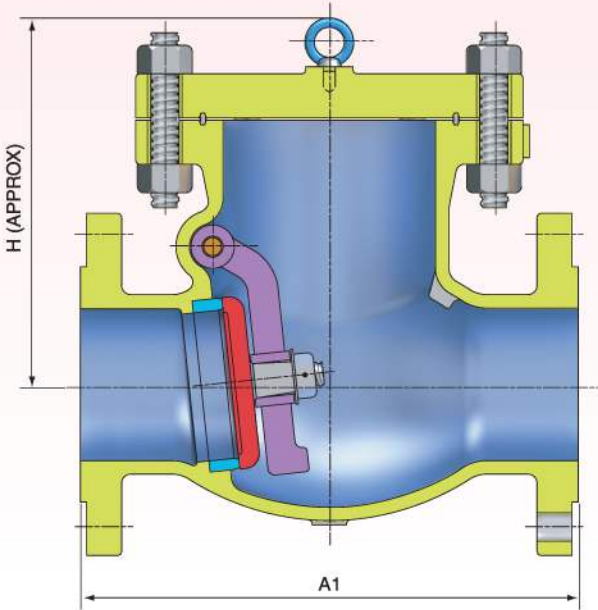
18" & Larger



Buttwelding End



Flanged RTJ

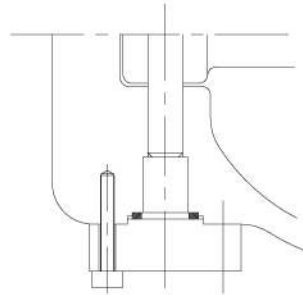
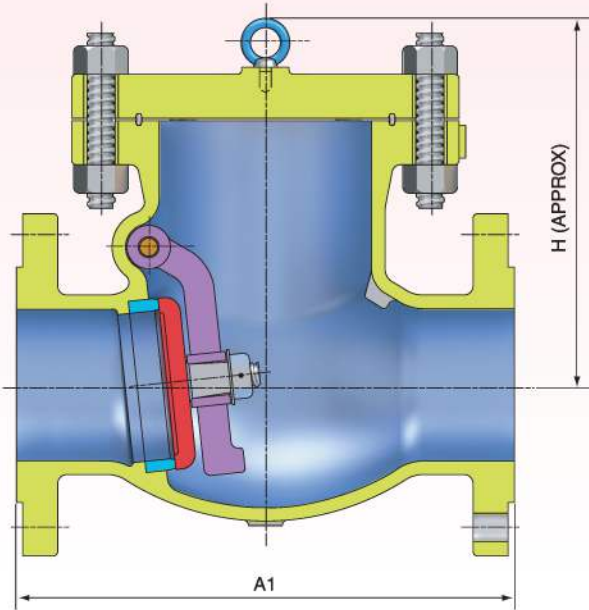
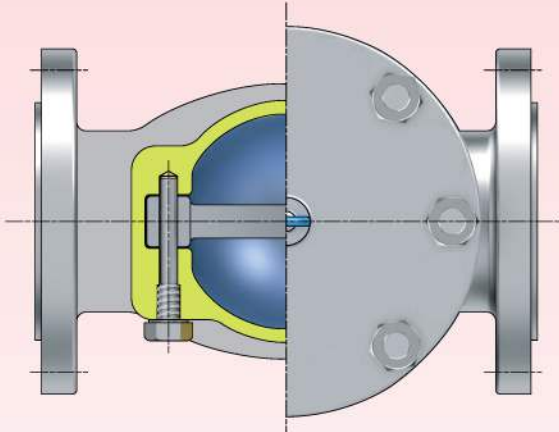


VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
A1 & A3	in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0	63.0	65.0
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1600	1651
A2	in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	39.1	43.1	47.2	55.4	63.5	65.5
	mm	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1613	1664
H	in	8.3	8.6	10.5	12.2	15.5	21.2	24.6	24.4	26.8	32.0	37.8	40.5	47.3	54.6	51.7
	mm	210	219	267	310	393	538	625	620	680	812	960	1029	1202	1388	1313
WEIGHT	RF	lb	88.2	121.3	158.7	253.5	551.1	925.9	1349.2	1785.7	1984.1	2971.8	4448.9	5264.6	7195.8	9038.8
		kg	40	55	72	115	250	420	612	810	900	1348	2018	2388	3264	4100
	BW	lb	83.8	99.2	138.9	176.4	451.9	762.8	1078.0	1472.7	1940.0	2464.7	3798.5	4437.8	6011.9	7716.1
		kg	38	45	63	80	205	346	489	668	880	1118	1723	2013	2727	3500

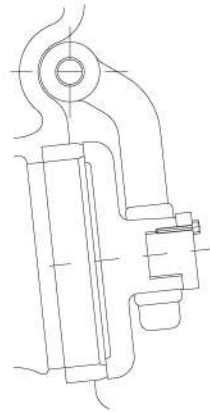
SWING CHECK VALVES

BOLTED COVER

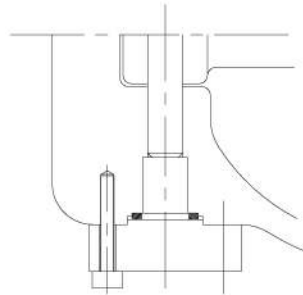
SW/CH CLASS 900



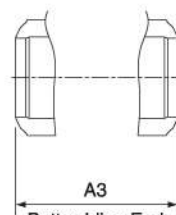
10" & Under



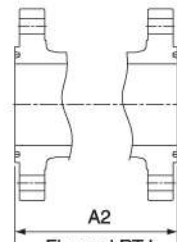
10" & Larger



12" & Larger



A3
Butt welding End



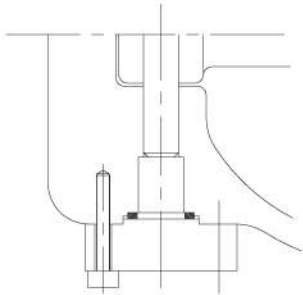
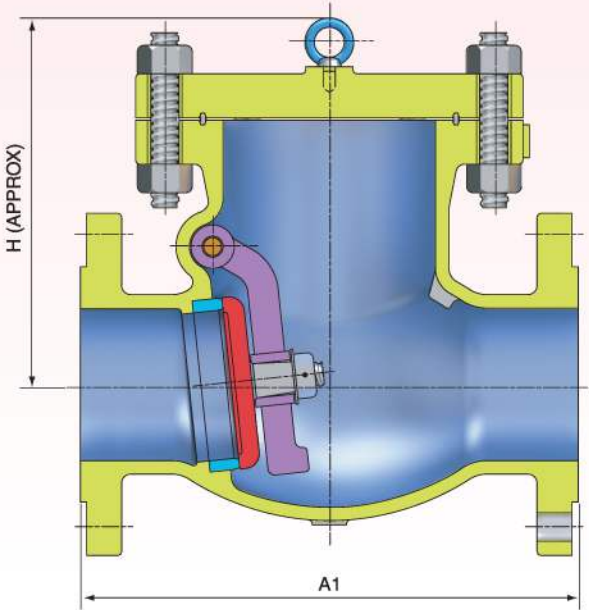
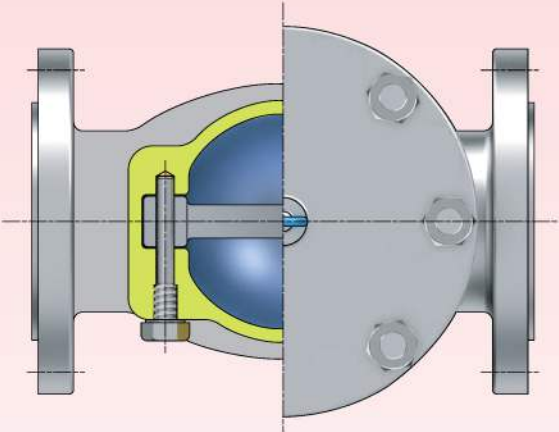
A2
Flanged RTJ

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
A1 & A3	in	14.5	16.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0	69.0	73.0
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	1753	1854
A2	in	14.6	16.6	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9	48.5	52.5	61.7	69.9	73.9
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1333	1568	1775	1876
H	in	12.2	13.0	8.1	15.3	17.9	22.2	28.7	30.7	29.8	34.3	36.3	41.4	47.2	55.1	61.8
	mm	309	331	207	389	454	565	729	781	756	870	921	1051	1200	1400	1569
WEIGHT	RF	lb	160.9	242.5	180.8	471.8	837.7	1375.7	2535.3	3196.7	3858.0	5335.1	7164.9	8818.4	12786.6	17195.8
		kg	73	110	82	214	380	624	1150	1450	1750	2420	3250	4000	5800	7800
	BW	lb	119.0	191.8	136.7	383.6	502.6	1089.1	2094.4	2601.4	3196.7	4519.4	5952.4	7275.1	9920.7	14660.5
		kg	54	87	62	174	228	494	950	1180	1450	2050	2700	3300	4500	6650

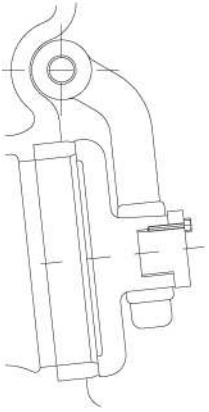
SWING CHECK VALVES

BOLTED COVER

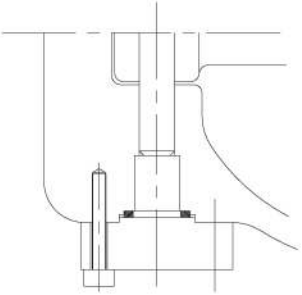
SW/CH CLASS 1500



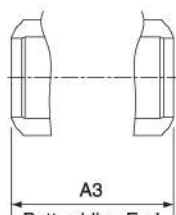
8" & Under



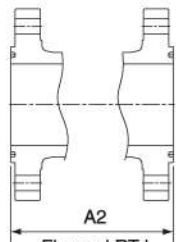
8" & Larger



10" & Larger



A3
Butt welding End



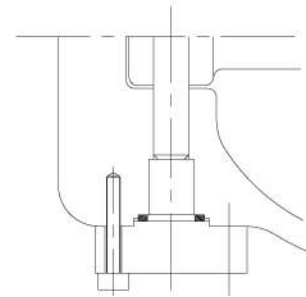
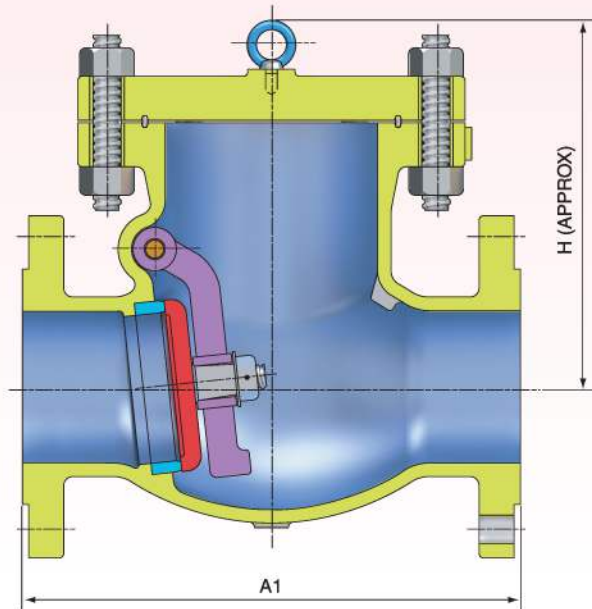
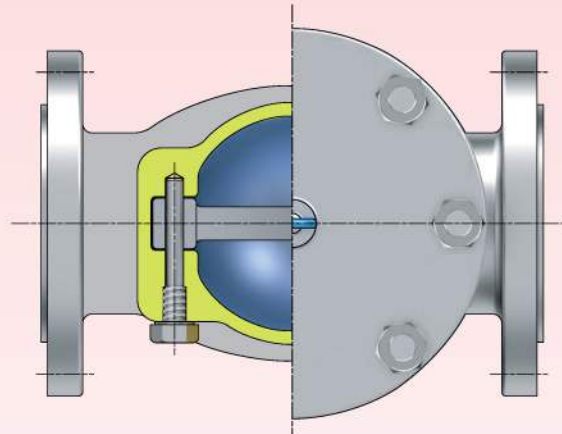
A2
Flanged RTJ

VALVE SIZE	in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1 & A3	in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5	54.4	60.5	65.5	76.5
	mm	368	419	470	546	705	832	991	1130	1257	1383	1537	1664	1943
A2	in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2	55.3	61.4	66.4	77.6
	mm	371	422	473	549	711	841	1000	1146	1276	1405	1559	1686	1972
H	in	12.2	13.0	14.8	17.0	22.3	26.3	28.9	35.6	40.7	42.0	47.1	51.1	57.1
	mm	309	331	375	433	567	668	734	904	1035	1067	1197	1299	1451
WEIGHT	RF	lb	154.3	220.5	374.8	467.4	1067.0	2623.5	4078.5	7341.3	7936.5	10802.5	14550.3	17967.4
		kg	70	100	170	212	484	1190	1850	3330	3600	4900	6600	8150
	BW	lb	112.4	191.8	308.6	361.6	813.5	2127.4	3262.8	6084.7	6250.0	8597.9	11574.1	14219.6
		kg	51	87	140	164	369	965	1480	2760	2835	3900	5250	6450

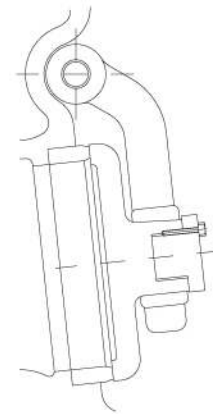
SWING CHECK VALVES

BOLTED COVER

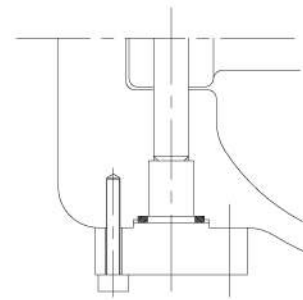
SW/CH CLASS 2500



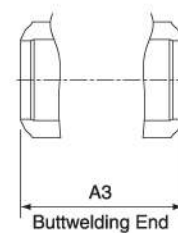
8" & Under



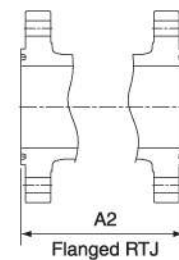
8" & Larger



10" & Larger



A3
Buttwelding End



A2
Flanged RTJ

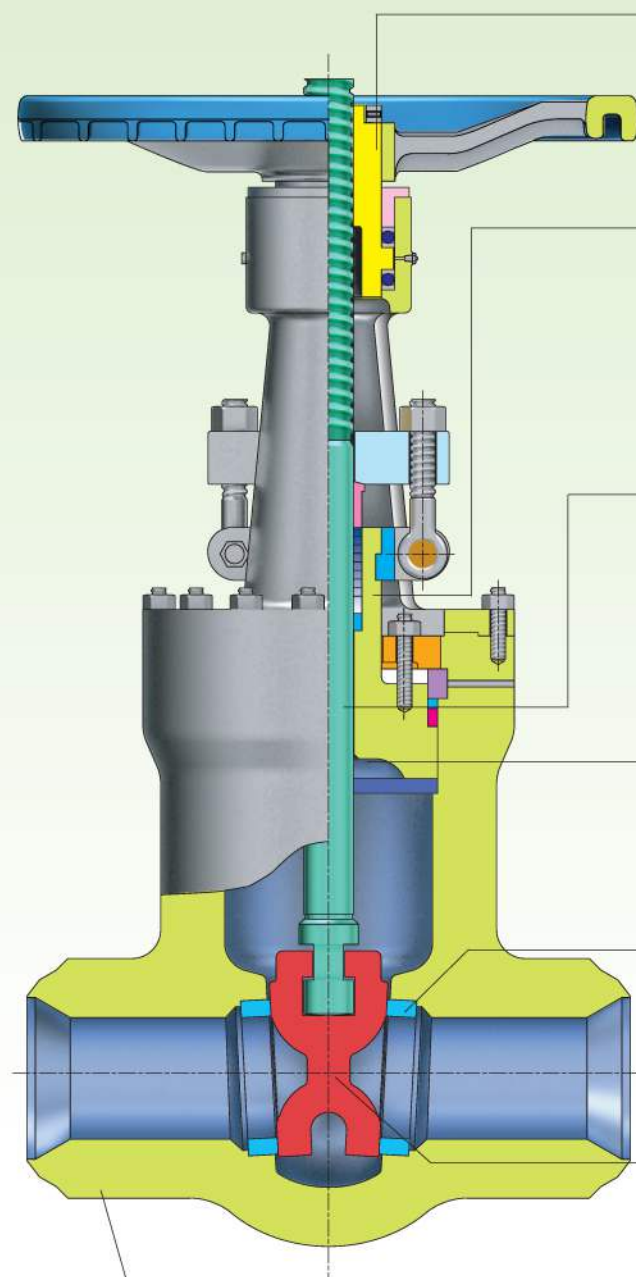
VALVE SIZE		2	2.5	3	4	6	8	10	12	14	16
	in	50	65	80	100	150	200	250	300	350	400
A1 & A3	in	17.8	20.0	22.8	26.5	36.0	40.2	50.0	56.0	62.0	68.0
	mm	451	508	578	673	914	1022	1270	1422	1574.8	1727.2
A2	in	17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9	-	-
	mm	454	514	584	683	927	1038	1292	1444	-	-
H	in	16.4	16.5	17.4	21.3	28.9	28.4	33.5	39.4	47.2	51.1
	mm	416	419	441	541	733	722	851	1000	1200	1299
WEIGHT	RF	lb	330.7	529.1	771.6	1433.0	3196.7	5621.7	8708.1	12566.2	-
		kg	150	240	350	650	1450	2550	3950	5700	-
	BW	lb	264.6	429.9	617.3	1190.5	2645.5	4850.1	6944.5	10030.9	13668.5
		kg	120	195	280	540	1200	2200	3150	4550	6200

GATE VALVES

PRESSURE SEAL BONNET



GATE VALVES



YOKE SLEEVE

The upper portion of the Yoke Sleeve is hexagonally tapered to fix the handwheel. The standard material of the Yoke Sleeve is Nodular Ni-resist D2 with over 1150°C (2100°F) dissolution point in accordance with API Std. specifications.

BONNET

The bonnet is of a steel forging identical to the body to insure high reliability. The bonnet has a perfect body-bonnet seal and both ease of dismantling and reassembly are ensured. The bodies and bonnets of the valve are machined by special purpose machines to achieve perfect coaxiality and eliminate any misalignment which may damage the stems.

STEM

The machined forged stem comes with a T-shape head, which connects the slot of the wedge. The contacting surface of the head is spherically shaped, thereby giving it greater strength and durability. It is heat treated to give it adequate mechanical properties and surface hardness. Accurate machining and lapping insure minimized friction during opening and shutting.

BACK SEAT

All of our valves are provided with positive backseat, and packing replacement can be done with the valve fully open. The conical seat and the guide are integrally stellite faced.

SEAT RING

The Stellite 6 surface of the seat ring is integrally applied to the body by means of welding in all valve sizes. Lapping applied to the seating surface ensures perfect mating with the wedge surfaces.

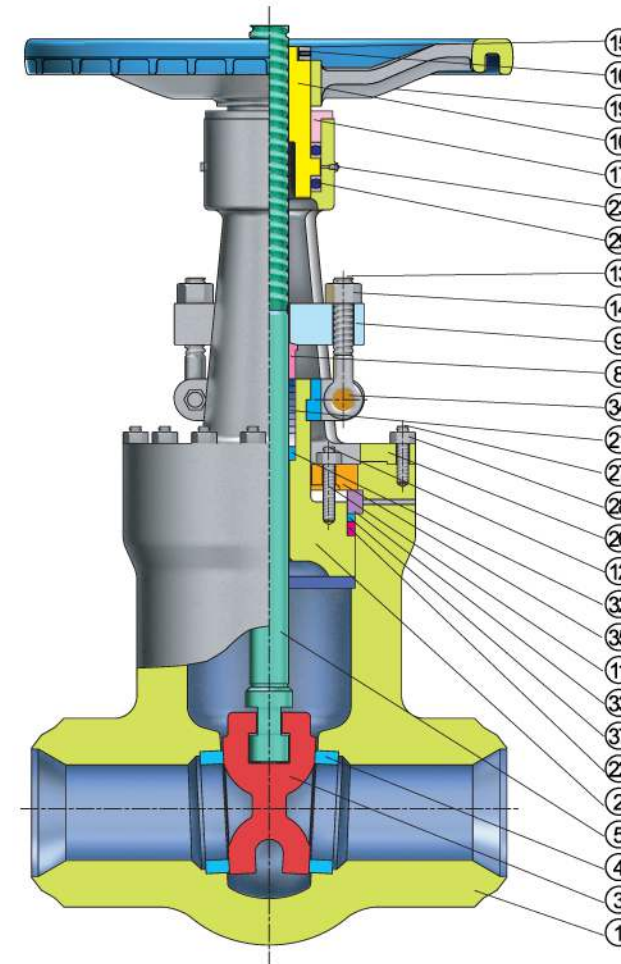
FLEXIBLE WEDGE

The flexible wedge designed to absorb thermally-induced body distortion, thereby making it ideal for high temperature steam or water supply piping. A Stellite 6 layer is applied to the seating surface, and this deposit is subjected to a special heat treatment to secure required hardness and soundness. The lapped finish then insures perfect mating with the seats.

BODY

The valve body is cylindrically shaped to prevent distortion or undue stress during extreme working conditions. In addition, adequate padding helps to achieve a sound cast structure in critical area. The wall thickness is greater than, or in accordance with API, ANSI and ASME requirements. The contact surfaces ensure that a minimum specific pressure is achieved. The area contacting the pressure seal gasket has a stainless steel 18/8 inlay to eliminate corrosion or wire drawing and to insure easy dismantling at all times. The close tolerances of the inside diameter of this area are attained by accurate machining and honing finish.

GATE VALVES



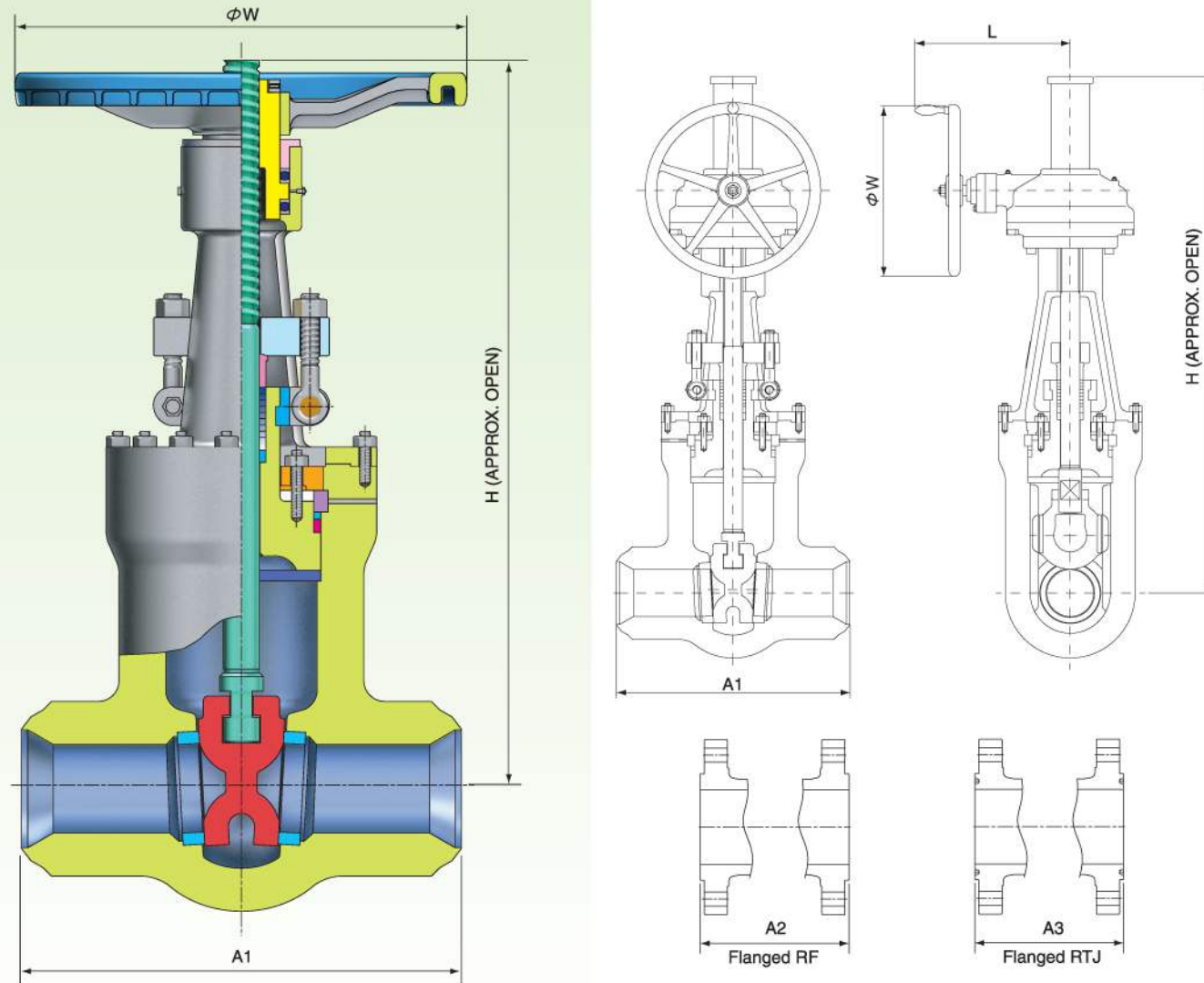
NO	NAME OF PART	ASTM SPECIFICATION
15	HANDLE NUT	STEEL
16	SET SCREW	STEEL
17	SLEEVE GLAND	STEEL
19	HANDWHEEL	A395
21	PACKING	COMMERCIAL
22	GASKET	COMMERCIAL
23	GREASE NIPPLE	STEEL
29	BEARING	COMMERCIAL

NO	NAME OF PART	ASTM SPECIFICATION										
		STANDARD	HIGH TEMPERATURE SERVICE						STAINLESS STEEL			
1	BODY	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
2	BONNET	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
3	DISC	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
4	BODY SEAT RING	A105+STL	A182-F1	A182-F11	A182-F22	A182-F5a	A182-F9	A182-F91	A182-F304	A182-F316	A182-F304L	A182-F316L
5	STEM	A479-410							A276-304	A276-316	A276-304L	A276-316L
8	PACKING GLAND	A479-410							A276-304			
9	GLAND FLANGE	A105 or A283-D							AISI 304			
10	YOKE SLEEVE	A439-D2							A439-D2			
11	BONNET BOLT	A193-B7	A193-B7	A193-B16	A193-B16	A193-B16	A193-B16	A193-B16	A193-B8			
12	BONNET NUT	A194-2H	A194-2H	A194-4	A194-4	A194-4	A194-4	A194-4	A194-8			
13	GLAND BOLT	A193-B7							A193-B8			
14	GLAND NUT	A194-2H							A194-8			
26	YOKE	A216--WCB							A351-CF8			
27	YOKE BOLT	A193-B7							A193-B8			
28	YOKE NUT	A194-2H							A194-8			
32	PACKING RING	A479-410							A276-304	A276-316	A276-304L	A276-316L
33	RETAINER	A29-1045+Cr. PLATED	A240-304					A240-304L				
34	HINGE CLAMP	A216-WCB					A351-CF8					
35	BONNET CLAMP	A29-1045					A240-304					
37	GASKET SPACER	A29-1045+Cr. PLATED	A240-304					A240-304				

GATE VALVES

PRESSURE SEAL BONNET

GT CLASS 600

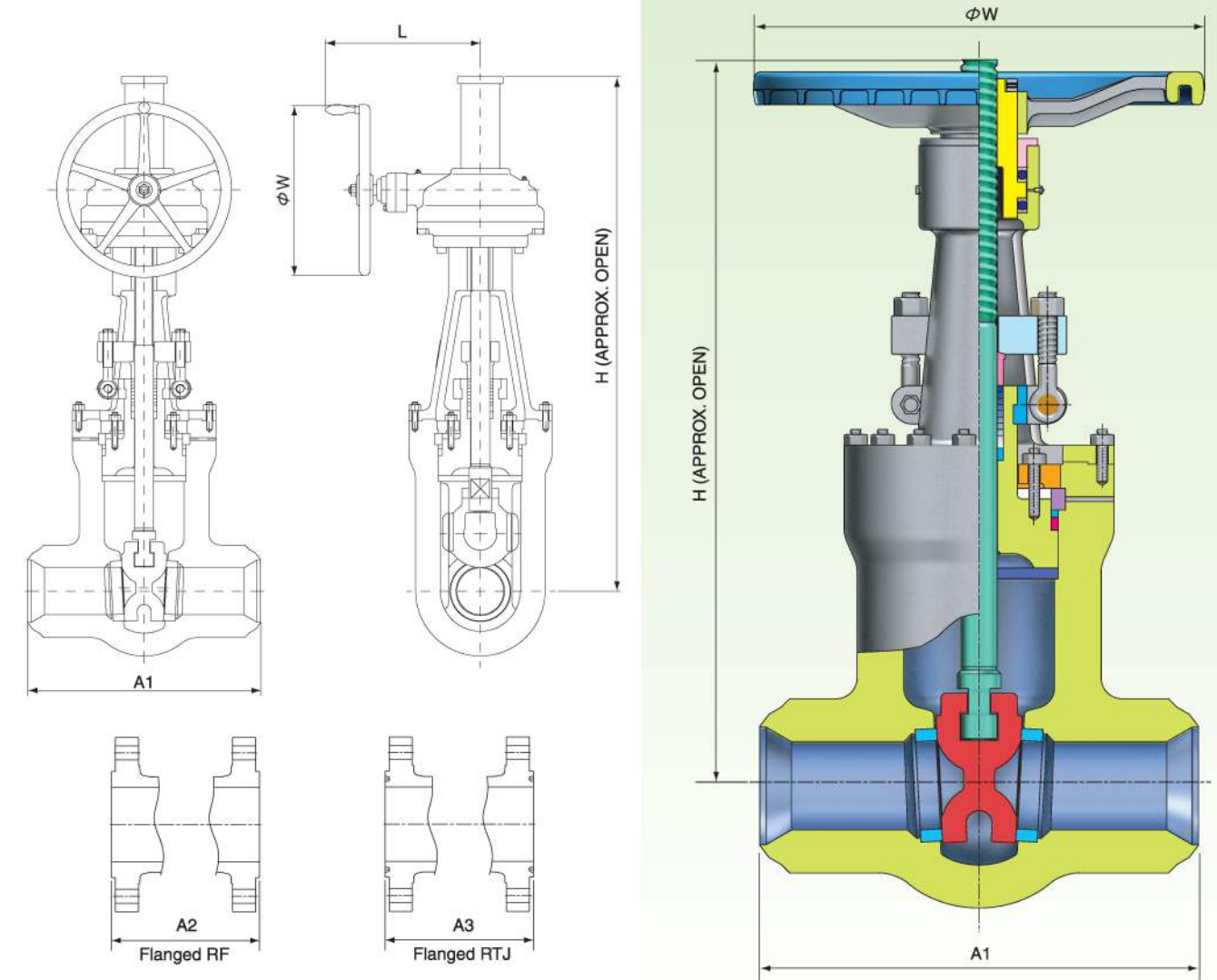


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1		in	11.5	8.5	10.0	12.0	18.0	23.0	28.0	32.0	35.0	39.0	43.0	47.0	55.0
		mm	292	216	254	305	457	584	711	813	889	991	1092	1194	1397
A2		in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0
		mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
A3		in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	39.1	43.1	47.2	55.4
		mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407
H		in	23.1	21.1	19.9	23.4	37.0	43.3	49.1	66.9	71.6	80.3	96.1	101.1	109.9
		mm	586	535	505	594	941	1100	1248	1700	1818	2040	2442	2567	2792
W		in	19.7	11.8	9.8	11.8	17.3	19.7	24.8	24.8	24.8	28.0	31.5	31.5	35.4
		mm	500	300	250	300	440	500	630	630	630	710	800	800	900
L		in	-	-	-	-	-	-	-	15.3	15.3	16.0	18.1	18.1	19.1
		mm	-	-	-	-	-	-	-	389	389	406	461	461	486
WEIGHT	RF	lb	154.3	209.4	220.5	326.3	555.6	705.5	1071.4	1642.4	1962.1	3104.1	4321.1	5820.2	7407.5
		kg	70	95	100	148	252	320	486	745	890	1408	1960	2640	3360
	BW	lb	136.7	176.4	185.2	253.5	416.7	648.2	974.4	1492.5	1785.7	2821.9	3924.2	4850.2	6172.9
		kg	62	80	84	115	189	294	442	677	810	1280	1780	2200	2800

GATE VALVES

PRESSURE SEAL BONNET

GT CLASS 900

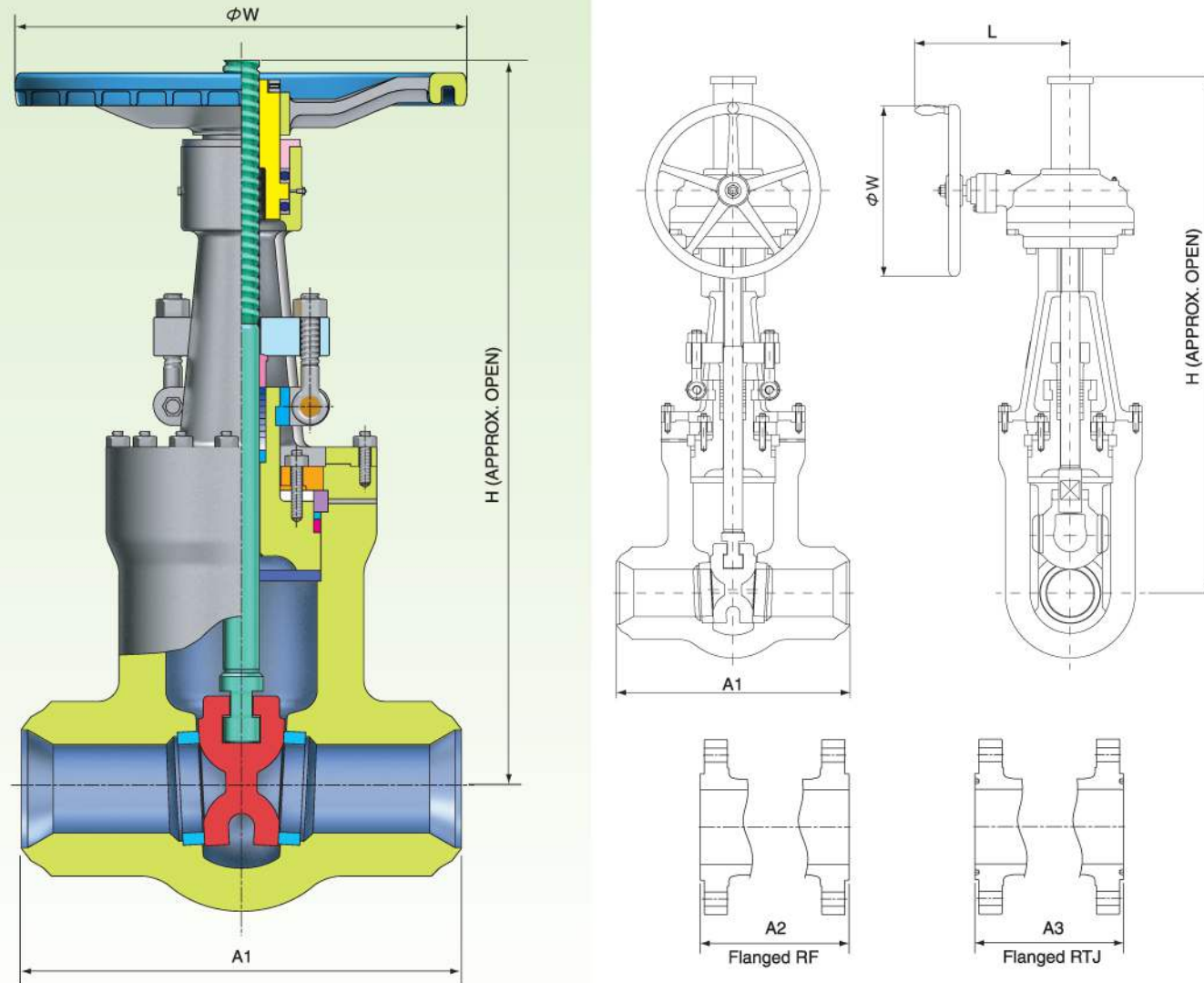


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24	
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	
A1		in	8.5	10.0	12.0	14.0	20.0	26.0	31.0	36.0	39.0	43.0	48.0	52.0	61.0	
		mm	216	254	305	356	508	660	787	914	991	1092	1219	1321	1549	
A2		in	14.5	16.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0	
		mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	
A3		in	14.6	16.6	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9	48.5	52.5	61.7	
		mm	371	422	384	460	613	740	841	968	1039	1140	1232	1334	1568	
H		in	23.1	21.1	26.2	31.4	40.8	53.3	62.2	70.6	73.2	85.9	97.2	100.2	119.5	
		mm	586	535	666	798	1036	1353	1581	1792	1860	2181	2470	2546	3036	
W		in	19.7	11.8	19.7	19.7	22.0	19.7	24.8	28.0	28.0	31.5	35.4	35.4	39.4	
		mm	500	300	500	500	560	500	630	710	710	800	900	900	1000	
L		in	-	-	-	-	-	13.5	15.3	16.0	16.0	18.1	19.1	20.8	23.2	
		mm	-	-	-	-	-	342	389	406	406	461	486	529	590	
WEIGHT		RF	lb	132.3	207.2	224.9	330.7	617.3	1455.1	2116.4	2976.2	3747.9	5291.1	7319.3	9700.3	14925.3
			kg	60	94	102	150	280	660	960	1350	1700	2400	3320	4400	6770
		BW	lb	88.2	141.1	176.4	220.5	407.9	1091.3	1620.4	2314.9	3086.5	4299.0	6018.6	8124.0	11971.1
			kg	40	64	80	100	185	495	735	1050	1400	1950	2730	3685	5430

GATE VALVES

PRESSURE SEAL BONNET

GT CLASS 1500

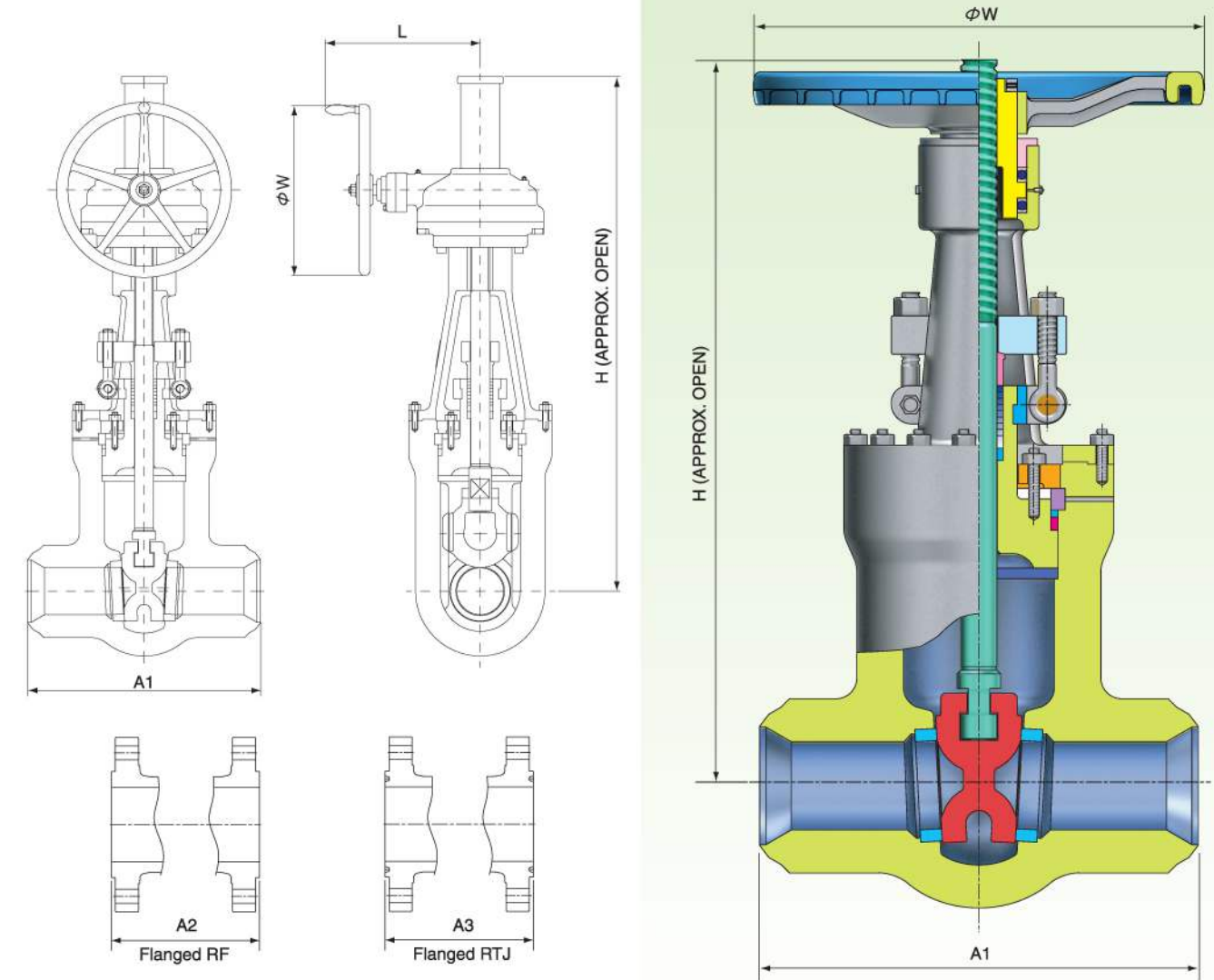


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1		in	8.5	10.0	12.0	16.0	22.0	28.0	34.0	39.0	42.0	47.0	53.0	58.0	64.0
		mm	216	254	305	406	559	711	864	991	1067	1194	1346	1473	1626
A2		in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5	54.5	60.5	65.5	76.5
		mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
A3		in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2	55.4	61.4	66.4	77.6
		mm	371	422	473	549	711	842	1000	1146	1276	1406	1559	1686	1971
H		in	23.1	21.1	26.2	32.0	53.7	56.1	62.3	66.7	79.6	91.8	111.1	101.5	116.3
		mm	586	535	666	812	1363	1426	1583	1694	2023	2331	2823	2579	2955
W		in	19.7	11.8	19.7	19.7	19.7	24.8	28.0	28.0	35.4	35.4	39.4	39.4	39.4
		mm	500	300	500	500	500	630	710	710	900	900	1000	1000	1000
L		in	-	-	-	-	13.5	15.3	16.0	16.0	20.8	20.8	23.2	23.2	24.4
		mm	-	-	-	-	342	389	406	406	529	529	590	590	619
WEIGHT	RF	lb	132.3	207.2	264.6	458.6	1058.2	2006.2	3108.5	4585.6	5754.1	7936.6	13139.5	16248.1	23391.0
		kg	60	94	120	208	480	910	1410	2080	2610	3600	5960	7370	10610
	BW	lb	88.2	141.1	185.2	308.6	749.6	1499.1	1984.2	3196.7	3968.3	6062.7	10207.4	12610.4	18166.1
		kg	40	64	84	140	340	680	900	1450	1800	2750	4630	5720	8240

GATE VALVES

PRESSURE SEAL BONNET

GT CLASS 2500



VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18
		mm	50	65	80	100	150	200	250	300	350	400	450
A1		in	11.0	13.0	14.5	18.0	24.0	30.0	36.0	41.0	44.0	49.0	55.0
		mm	279	330	368	457	610	762	914	1041	1118	1245	1397
A2		in	17.8	20.0	22.8	26.5	36.0	40.2	50.0	56.0	-	-	-
		mm	451	508	578	673	914	1022	1270	1422	-	-	-
A3		in	17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9	-	-	-
		mm	454	514	584	683	927	1038	1292	1444	-	-	-
H		in	24.4	25.9	31.9	29.5	46.1	55.0	60.9	76.5	72.7	97.2	116.1
		mm	619	659	809	750	1170	1397	1548	1942	1846	2470	2950
W		in	11.8	14.0	17.7	19.7	19.7	28.0	31.5	35.4	35.4	39.4	39.4
		mm	300	355	450	500	500	710	800	900	900	1000	1000
L		in	-	-	-	-	13.5	16.0	18.1	20.8	20.8	24.4	24.4
		mm	-	-	-	-	342	406	461	529	529	619	619
WEIGHT	RF	lb	187.4	297.6	363.8	765.0	1785.7	2910.1	5233.8	7539.8	-	-	-
		kg	85	135	165	347	810	1320	2374	3420	-	-	-
	BW	lb	110.2	198.4	253.5	418.9	1146.4	1631.4	3527.4	6613.9	7495.7	9259.4	11023.1
		kg	50	90	115	190	520	740	1600	3000	3400	4200	5000

GLOBE VALVES

PRESSURE SEAL BONNET



CAST STEEL PRESSURE SEAL BONNET

GLOBE VALVES

YOKE SLEEVE

The standard material of the Yoke Sleeve is Nodular Ni-resist D2 with over 1150°C (2100°F) dissolution point in conformity with API Std. specifications.

BONNET

The bonnet is of a steel forging identical to the body to insure high reliability. The bonnet has a perfect body-bonnet seal and both ease of dismantling and reassembly are ensured. The body and bonnets of our valve are carefully machined to achieve perfect coaxiality and eliminate any misalignment which may cause damage stems.

STEM

The stem of one-piece construction, is heat treated to secure the adequate mechanical properties and surface, hardness. Accurate machining and grinding insure that there is minimized friction during valve opening/shutting. The round head of the stem gives a point contact with the inside of the disc housing and thus prevents galling.

BACK SEAT

All of our valves are equipped with a backseat to allow packing replacement with the valve fully opened. The conical shape contact seat in the bonnet assembly in integrally stellite faced.

DISC

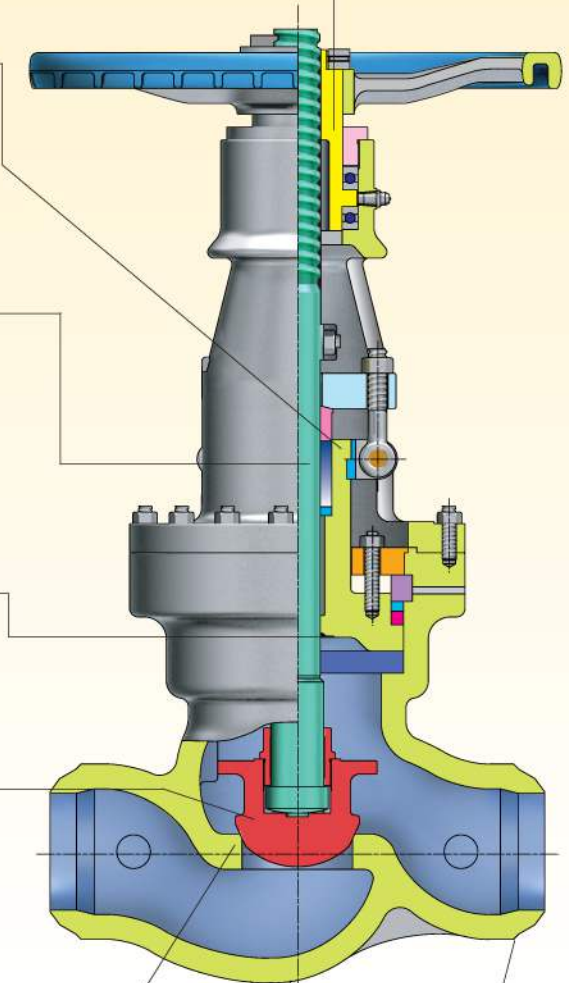
The disc of our globes is a loose disc which freely revolves around the stem, thereby preventing friction and galling with the seating surface when the valve is shut. The outside diameter of the disc is accurately finished and cylindrical in shape to travel along the body guides. A stellite 6 layer is applied to the conical seating surface of the disc. This deposit undergoes a special heat treatment to secure the required hardness and soundness. In addition, the lapped finish insures a perfect mating with the seats.

SEAT

The Stellite 6 seating surface is integrally applied to the body by means of welding in all valve sizes. Perfect mating of the disc surfaces is achieved by lapping applied to the seating surface.

BODY

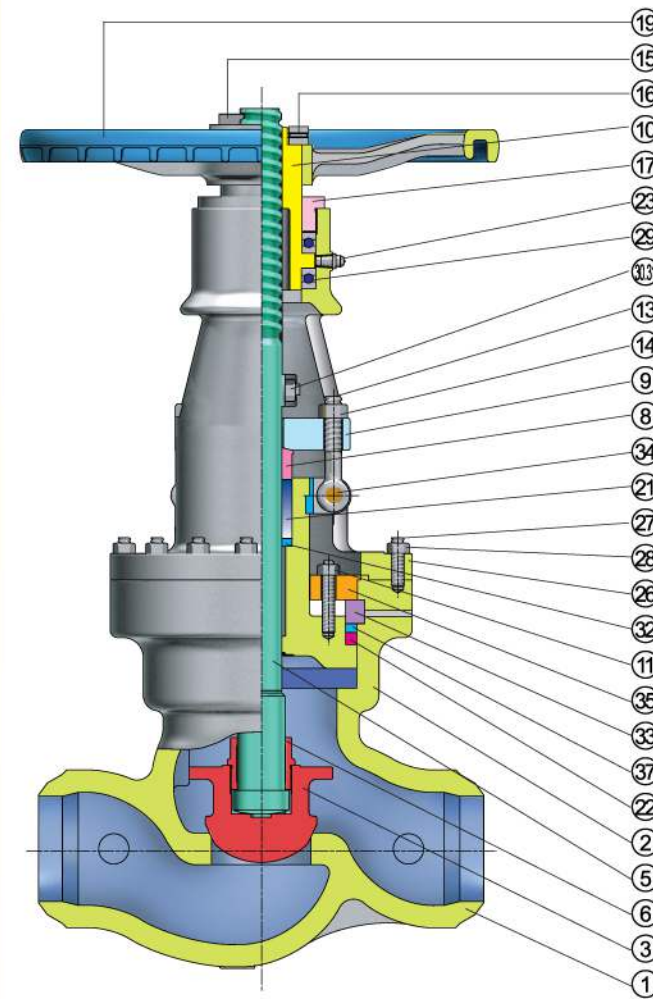
The cylindrically shaped valve body prevents distortion or undue stress under extreme working conditions. In addition, adequate padding ensures a sound cast structure in the critical areas. The wall thickness is greater than, or in accordance with API, ANSI and ASME requirements. The close tolerances of the inside diameter of this area are attained by accurate machining and honing finish.



GLOBE VALVES

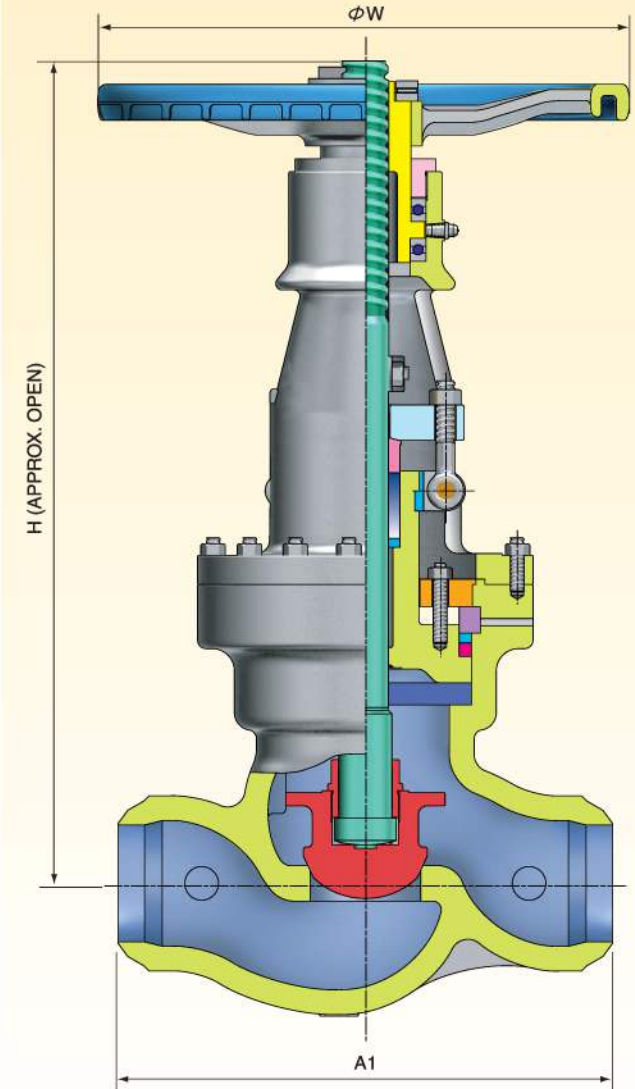
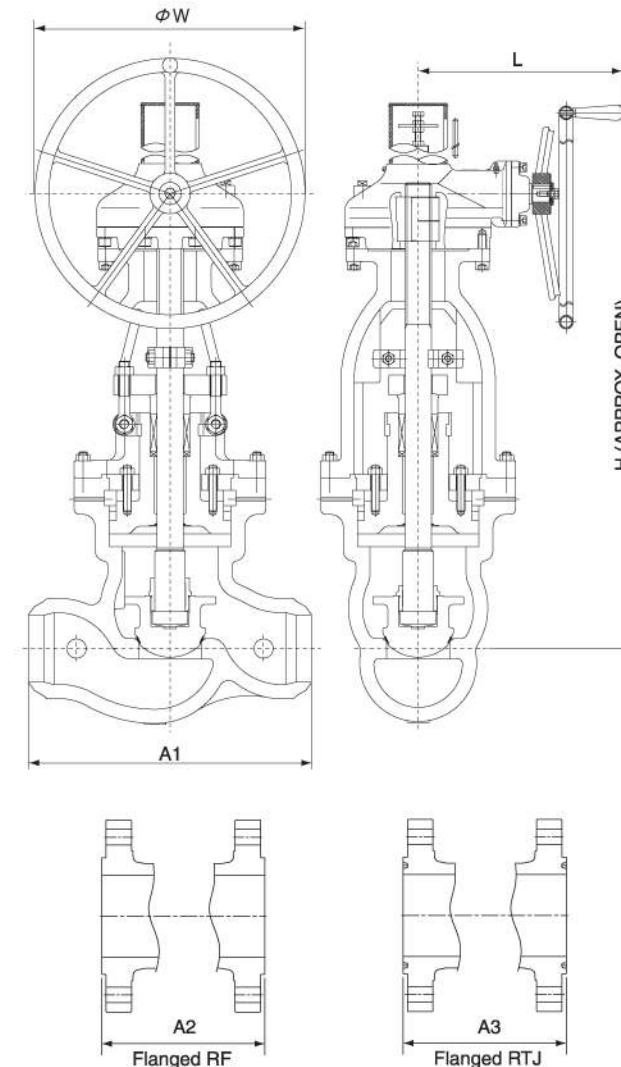


NO	NAME OF PART	ASTM SPECIFICATION
15	HANDLE NUT	STEEL
16	SET SCREW	STEEL
17	SLEEVE GLAND	STEEL
19	HANDWHEEL	A395
21	PACKING	COMMERCIAL
22	GASKET	COMMERCIAL
30	STOPPER	A283-D



NO	NAME OF PART	ASTM SPECIFICATION										
		STANDARD	HIGH TEMPERATURE SERVICE						STAINLESS STEEL			
1	BODY	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
2	BONNET	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
3	DISC	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
5	STEM	A479-410							A276-304	A276-316	A276-304L	A276-316L
6	DISC GLAND	A217-CA15							A276-304	A276-316	A276-304L	A276-316L
8	PACKING GLAND	A479-410							A276-304			
9	GLAND FLANGE	A105 or A283-D							A351-CF8			
10	YOKE SLEEVE	A439-D2							A439-D2			
11	BONNET BOLT/NUT	A193-B7 / A194-2H		A193-B16 / A194-4					A193-B8 / A194-8			
13	GLAND BOLT	A193-B7							A193-B8			
14	GLAND NUT	A194-2H							A194-8			
26	YOKE	A216-WCB							A351-CF8			
27	YOKE BOLT	A193-B7							A193-B8			
28	YOKE NUT	A194-2H							A194-8			
31	STOPPER PIN	A193-B7							A29-1045			
32	PACKING RING	A479-410							A276-304	A276-316	A276-304L	A276-316L
33	RETAINER	A29-1045-CI PLATED	A240-304					A240-304L				
34	HINGE CLAMP	A216-WCB							A351-CF8			
35	BONNET CLAMP	A29-1045							A240-304			
37	GASKET SPACER	A29-1045-CI PLATED	A240-304					A240-304				

GL CLASS 600

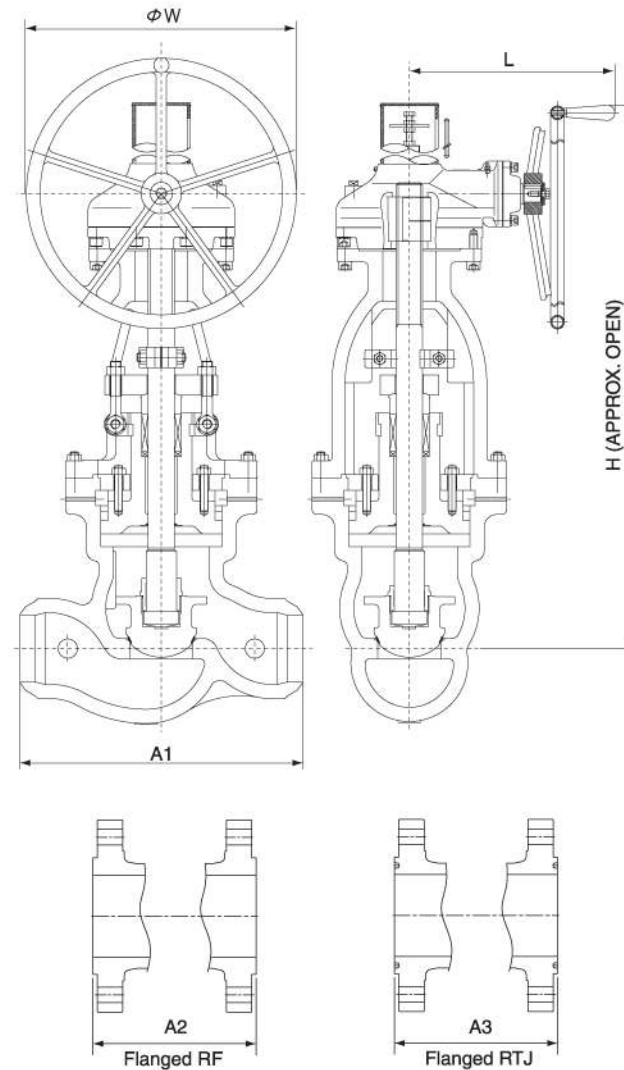
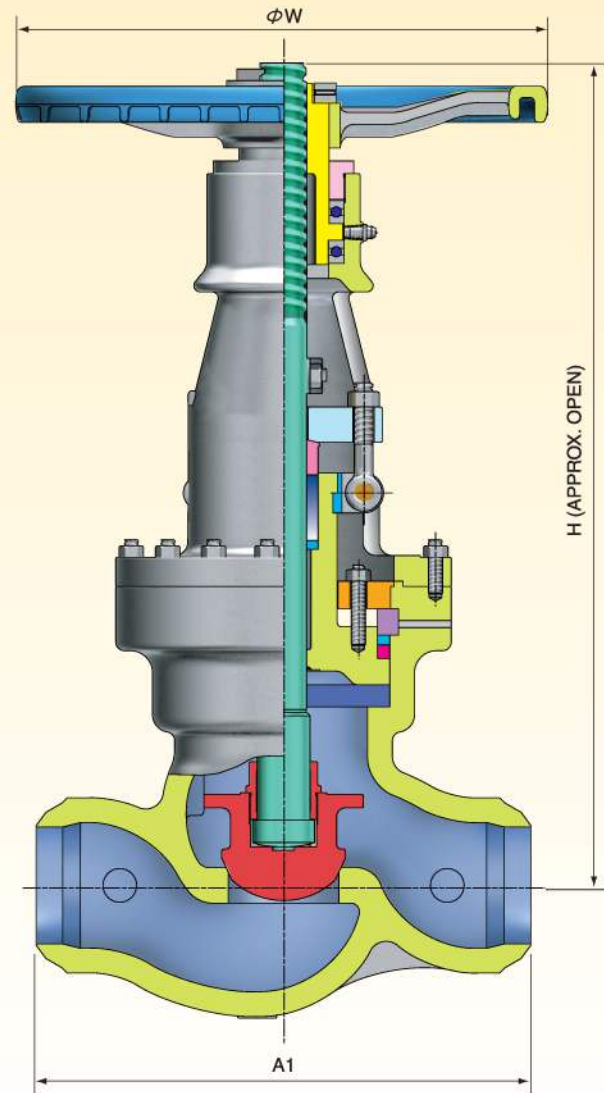


VALVE SIZE		2	2.5	3	4	6	8	10	12	14	16
	in	2	2.5	3	4	6	8	10	12	14	16
A1	mm	50	65	80	100	150	200	250	300	350	400
	mm	292	330	356	432	559	584	711	813	889	991
A2	in	11.5	13.0	14.0	17.0	22.0	23.0	28.0	32.0	35.0	39.0
	mm	292	330	356	432	559	660	787	818	889	991
A3	in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	39.1
	mm	295	333	359	435	562	664	791	841	892	994
H	in	19.7	20.8	24.8	25.6	37.6	42.4	55.1	61.0	70.9	85.0
	mm	500	529	630	650	955	1076	1400	1550	1800	2160
W	in	19.7	19.7	15.7	17.7	24.8	24.8	24.0	24.0	24.0	29.9
	mm	500	500	400	450	630	630	610	610	610	760
L	in	-	-	-	-	15.3	15.3	17.0	20.2	20.2	22.3
	mm	-	-	-	-	389	389	432	512	512	567
WEIGHT	RF	lb	99.2	121.2	187.4	297.7	672.5	1367.1	2888.6	4189.5	5997.6
		kg	45	55	85	135	305	620	1310	1900	2720
	BW	lb	77.2	99.2	132.3	209.5	507.2	1190.7	2535.8	3792.6	5578.7
		kg	35	45	60	95	230	540	1150	1720	2530

GLOBE VALVES

PRESSURE SEAL BONNET

GL CLASS 900

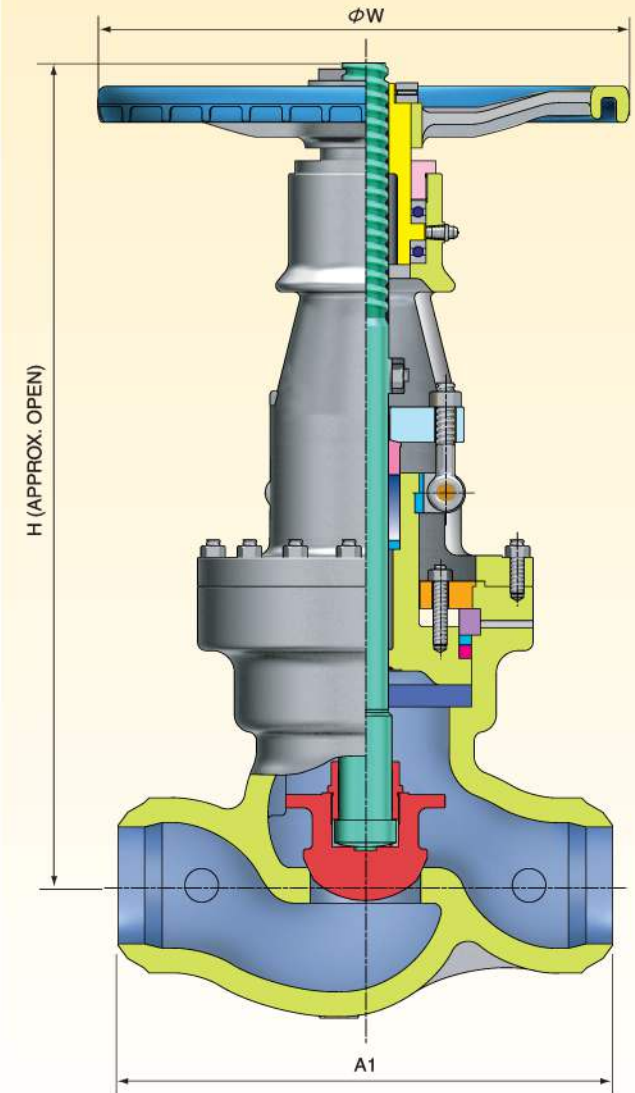
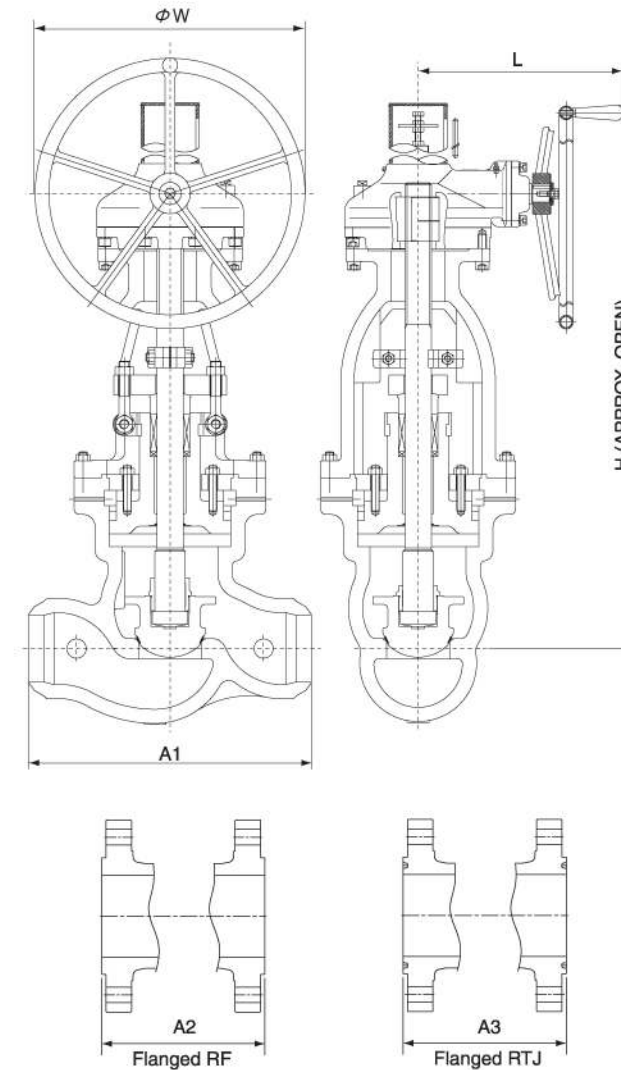


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16
		mm	50	65	80	100	150	200	250	300	350	400
A1		in	14.5	16.5	15.0	18.0	20.0	26.0	31.0	36.0	39.0	43.0
		mm	368	419	381	457	508	660	787	914	991	1092
A2		in	14.5	16.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5
		mm	368	419	381	457	610	737	838	965	1029	1130
A3		in	14.6	16.6	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9
		mm	371	422	384	460	613	740	841	968	1038	1140
H		in	20.7	26.1	24.9	27.0	53.3	53.1	61.0	68.9	78.7	90.9
		mm	525	663	633	687	1355	1350	1550	1750	2000	2310
W		in	19.7	19.7	19.7	19.7	28.0	24.0	24.0	24.0	29.9	29.9
		mm	500	500	500	500	710	610	610	610	760	760
L		in	-	-	-	-	16.0	17.0	20.2	20.2	22.3	22.3
		mm	-	-	-	-	406	432	512	512	567	567
WEIGHT	RF	lb	176.4	242.6	231.5	374.9	926.1	2205	3792.6	5071.5	7386.8	8820
		kg	80	110	105	170	420	1000	1720	2300	3350	4000
	BW	lb	121.3	176.4	176.4	286.7	793.8	1984.5	3351.6	4520.3	6725.3	7938
		kg	55	80	80	130	360	900	1520	2050	3050	3600

GLOBE VALVES

PRESSURE SEAL BONNET

GL CLASS 1500

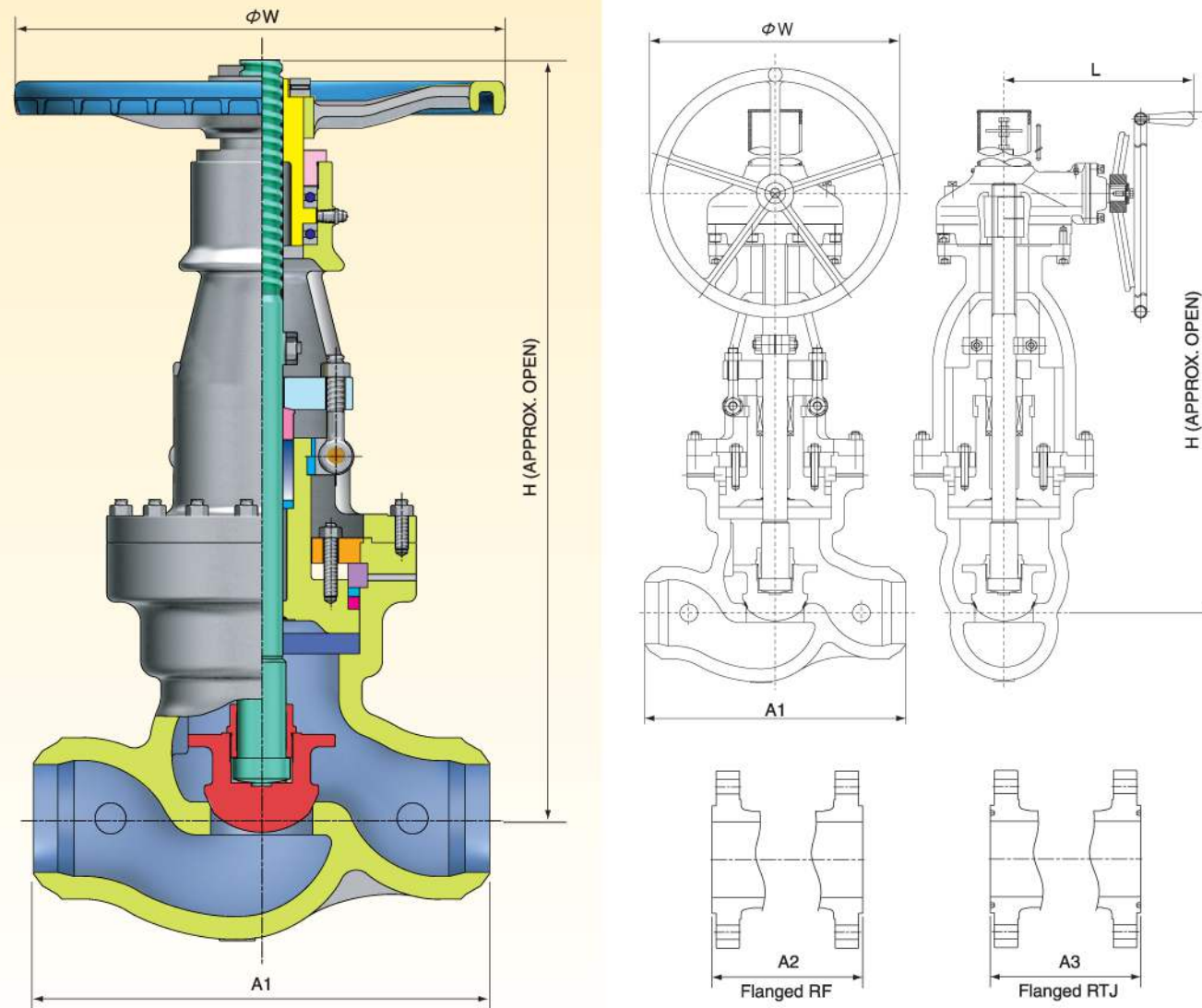


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14
		mm	50	65	80	100	150	200	250	300	350
A1		in	8.5	10.0	12.0	16.0	22.0	28.0	34.0	39.0	42.0
		mm	368	419	305	406	559	711	864	991	1067
A2		in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5
		mm	368	419	470	546	705	832	991	1130	1257
A3		in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2
		mm	371	422	473	549	711	841	1000	1146	1276
H		in	20.7	26.1	26.4	34.5	45.9	70.9	78.7	91.0	105.9
		mm	525	663	671	876	1167	1800	2000	2311	2691
W		in	19.7	19.7	19.7	19.7	31.5	24.0	29.9	29.9	29.9
		mm	500	500	500	500	800	610	760	760	760
L		in	-	-	-	-	18.1	20.2	20.2	20.2	22.3
		mm	-	-	-	-	461	512	512	512	567
WEIGHT	RF	lb	176.4	242.6	299.9	496.1	1433.3	3704.4	5909.4	7497	9481.5
		kg	80	110	136	225	650	1680	2680	3400	4300
	BW	lb	121.3	176.4	209.5	352.8	1146.6	3153.2	5027.4	6240.2	7938
		kg	55	80	95	160	520	1430	2280	2830	3600

GLOBE VALVES

PRESSURE SEAL BONNET

GL CLASS 2500



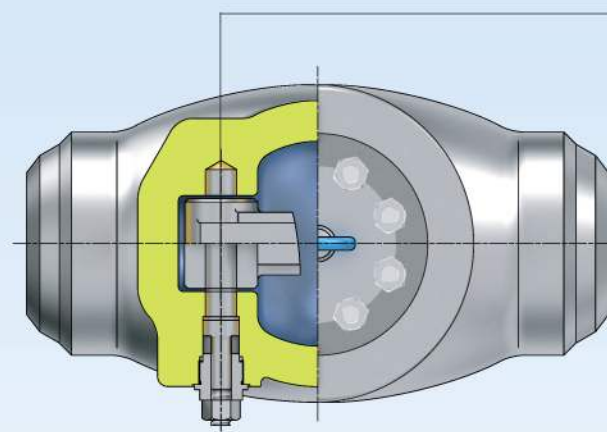
VALVE SIZE		2	2.5	3	4	6	8	10	12
	in	2	2.5	3	4	6	8	10	12
A1	in	11.0	13.0	14.5	18.0	24.0	30.0	36.0	41.0
	mm	279	508	578	457	610	762	914	1041
A2	in	17.8	20.0	22.8	26.5	36.0	40.3	50.0	56.0
	mm	451	508	578	673	914	1022	1270	1422
A3	in	17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9
	mm	454	514	584	682	927	1038	1292	1444
H	in	25.1	28.3	29.3	47.4	53.0	85.0	100.0	106.0
	mm	637	719	743	1205	1345	2160	2540	2692
W	in	19.7	19.7	22.8	28.0	35.4	29.9	29.9	29.9
	mm	500	500	580	710	900	760	760	760
L	in	-	-	-	16.0	19.1	22.3	22.3	22.3
	mm	-	-	-	406	486	567	567	567
WEIGHT	RF	lb	220.5	341.8	463.1	1102.5	2756.3	5292	7276.5
		kg	100	155	210	500	1250	2400	3300
	BW	lb	154.4	242.6	308.7	771.8	2094.8	4410	5512.5
		kg	70	110	140	350	950	2000	2500

SWING CHECK VALVES

PRESSURE SEAL COVER



SWING CHECK VALVES



HINGE PIN

The hinge pin is inserted into the valve body to achieve pressure seal construction.

COVER

The cover material is a steel forging identical to the body to insure high dependability. The cover construction has a perfect body-cover tightness and ease of dismantling and reassembly are ensured.

ARM

The arm is of a steel material identical to the body. Larger sized valves are provided with a hinge bushing to reduce friction and to prevent galling.

DISC

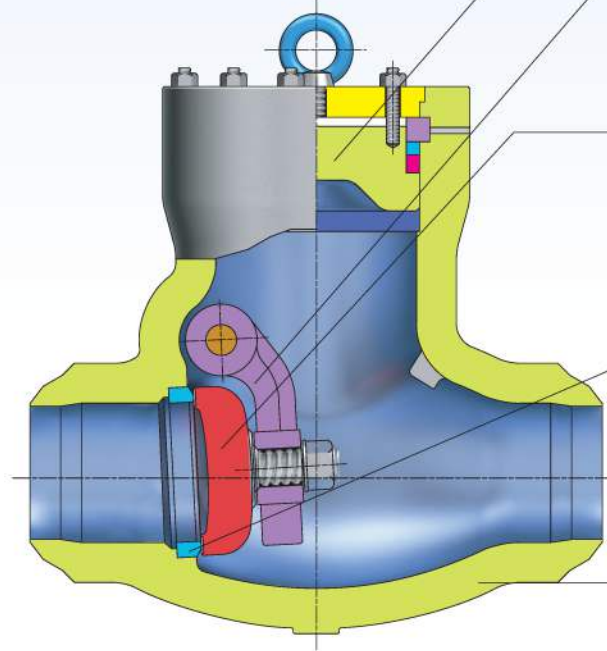
The disc has a sufficient seating surface area which is ground and lapped to a mirror finish. It is of one-piece construction and is heat treated to deliver the required mechanical properties and hardness.

SEAT RING

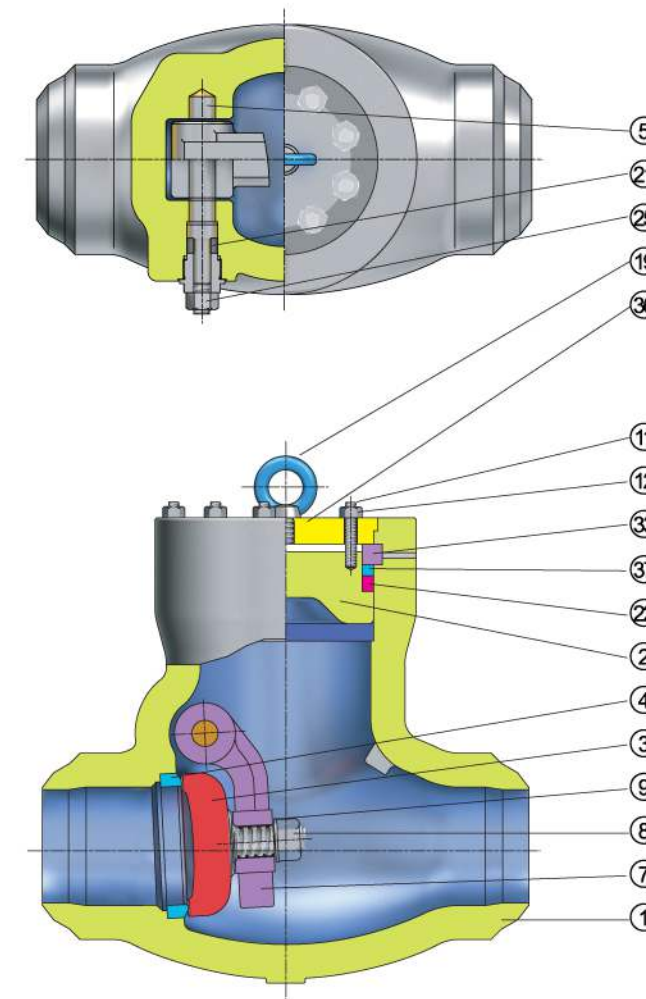
The Stellite 6 surface of the seat ring is integrally applied to the body by means of welding in all valve sizes. Perfect mating with the DISC surfaces attained by a lapping finish applied to the seating.

BODY

The cylindrically shaped valve body prevents distortion or undue stress under extreme working conditions. Padding is also provided to achieve a sound cast structure in the critical areas. The wall thickness is greater than, or in accordance with, API, ANSI and ASME requirements. The close tolerances of the inside diameter of this area are attained by accurate machining and honing finish.



SWING CHECK VALVES



NO	NAME OF PART	ASTM SPECIFICATION
8	DISC NUT	A194-8
9	WASHER	A240-304
19	EVE BOLT	A 105
21	PLUG GASKET	COMMERCIAL
22	GASKET	COMMERCIAL

Swing check valves can be supplied with the following accessories.

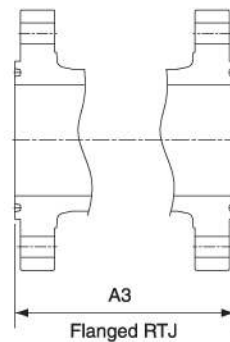
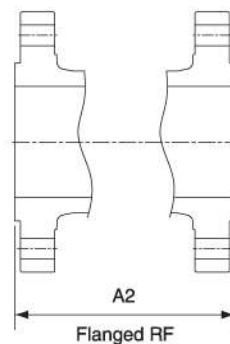
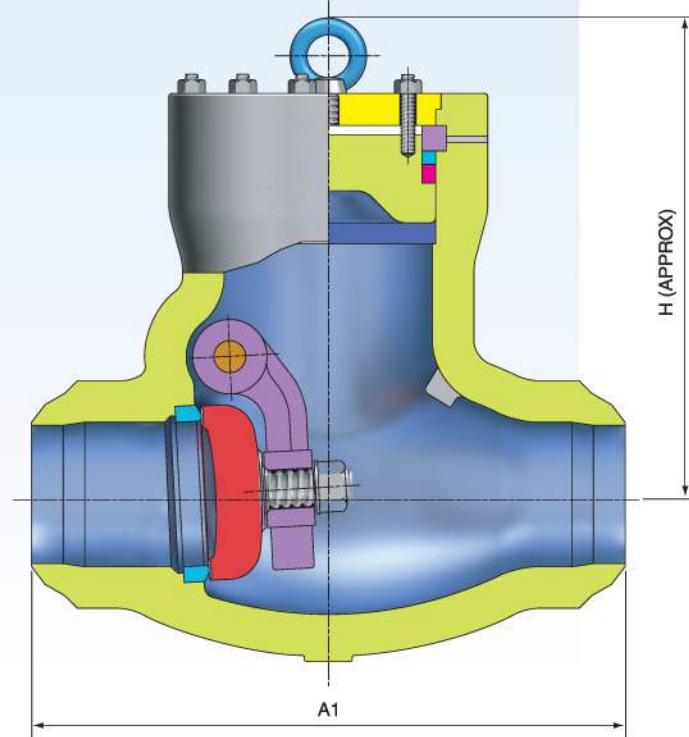
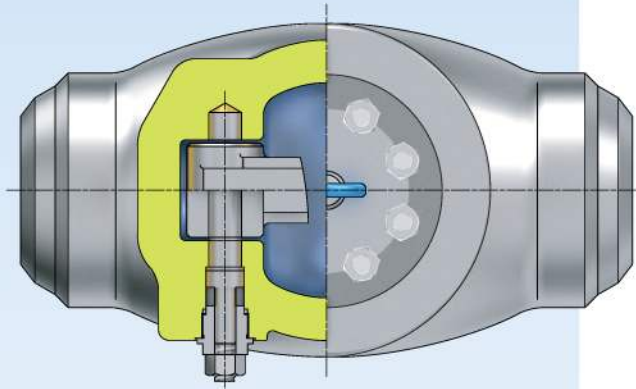
- outside weight and lever
- slam retarders
- assisting springs
- position switches/indicators
- pneumatic safety control

NO	NAME OF PART	ASTM SPECIFICATION										
		STANDARD	HIGH TEMPERATURE SERVICE						STAINLESS STEEL			
1	BODY	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
2	COVER	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
3	DISC	A217-CA15	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
4	BODY SEAT RING	A105+STL	A182-F1	A182-F11	A182-F22	A182-F5a	A182-F9	A182-F91	A240-304	A240-316	A240-304L	A240-316L
5	HINGE PIN	A479-410							A276-304	A276-316	A276-304L	A276-316L
7	ARM	A216-WCB	A217-WC1	A217-WC6	A217-WC9	A217-C5	A217-C12	A217-C12A	A351-CF8	A351-CF8M	A351-CF3	A351-CF3M
11	BONNET BOLT	A193-B7		A193-B16					A193-B8			
12	BONNET NUT	A194-2H		A194-4					A194-8			
25	PLUG	A105	A479-410						A276-304	A276-316	A276-304L	A276-316L
33	RETAINER	A29-1045+Cr PLATED	A240-304						A240-304			
36	BONNET CLAMP	A29-1045						A240-304				
37	GASKET SPACER	A29-1045+Cr PLATED	A240-304						A240-304			

SWING CHECK VALVES

PRESSURE SEAL COVER

SW/CH CLASS 600

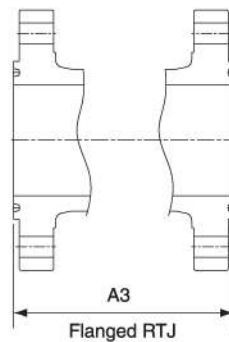
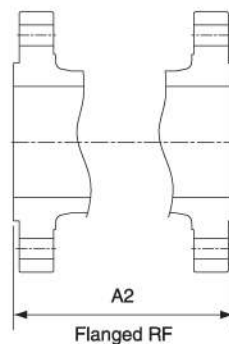
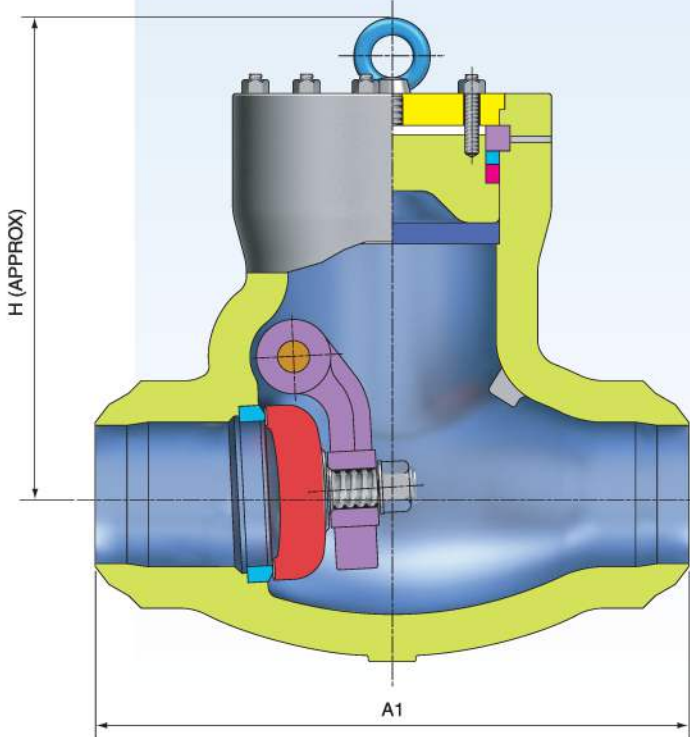
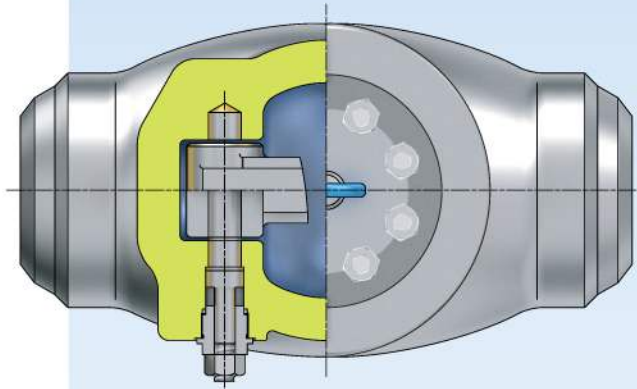


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1		in	11.5	13.0	10.0	12.0	18.0	23.0	28.0	32.0	35.0	39.0	43.0	47.0	55.0
		mm	292	330	254	305	457	584	711	813	889	991	1092	1194	1397
A2		in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0
		mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
A3		in	11.6	13.1	14.1	17.1	22.1	26.1	31.1	33.1	35.1	39.1	43.1	47.2	55.4
		mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407
H		in	11.4	13.5	8.1	10.2	12.8	17.1	23.9	27.4	29.5	28.7	28.7	32.2	37.4
		mm	289	343	205	260	325	434	606	695	749	730	730	819	949
WEIGHT	RF	lb	59.5	77.2	99.2	187.4	418.9	771.6	1102.3	1477.1	1940.0	2535.3	3262.8	4144.6	5731.9
		kg	27	35	45	85	190	350	500	670	880	1150	1480	1880	2600
	BW	lb	39.7	55.1	70.5	75.0	271.2	573.2	815.7	1080.2	1455.0	1873.9	2425.0	3284.8	4497.4
		kg	18	25	32	34	123	260	370	490	660	850	1100	1490	2040

SWING CHECK VALVES

PRESSURE SEAL COVER

SW/CH CLASS 900

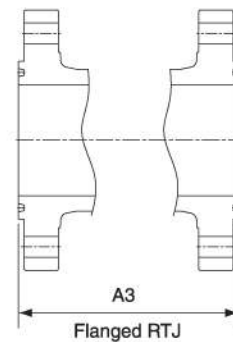
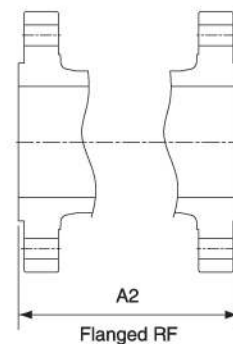
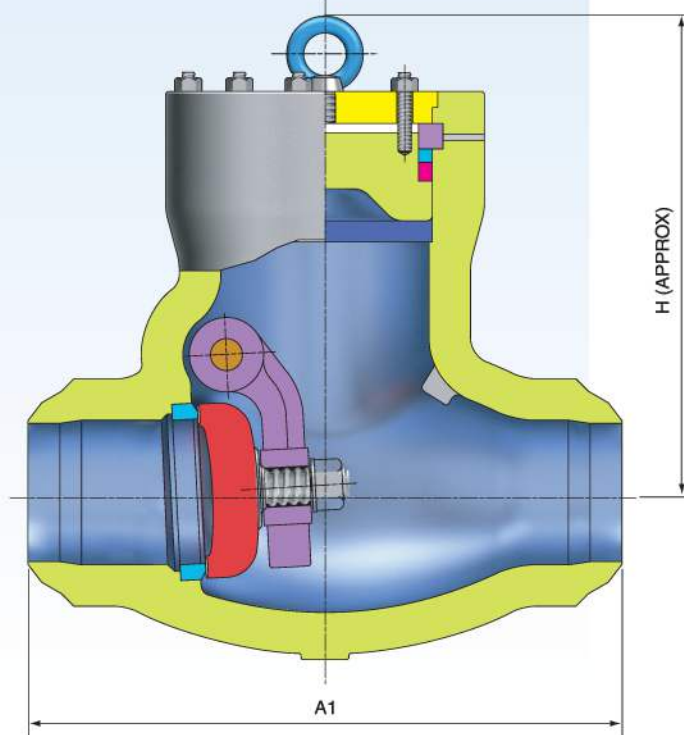
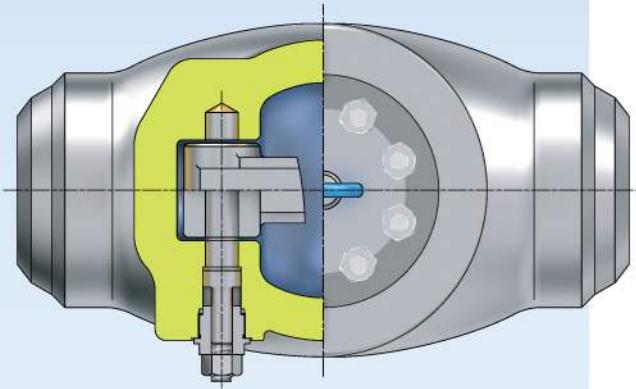


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1		in	14.5	16.5	12.0	14.0	20.0	26.0	31.0	36.0	39.0	43.0	46.5	50.5	59.5
		mm	368	419	305	356	508	660	787	914	991	1092	1181	1283	1511
A2		in	14.5	16.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0
		mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
A3		in	14.6	16.6	15.1	18.1	24.1	29.1	33.1	38.1	40.9	44.9	48.5	52.5	61.7
		mm	371	422	384	460	613	740	841	968	1039	1140	1232	1334	1568
H		in	11.4	13.5	8.1	15.0	15.9	23.1	23.9	27.4	29.5	28.7	33.5	34.0	37.8
		mm	289	343	205	381	403	587	606	695	749	730	851	864	959
WEIGHT	RF	lb	88.2	121.3	114.6	231.5	507.1	1256.6	1873.9	2866.0	3417.1	3637.6	5070.6	6613.8	9038.8
		kg	40	55	52	105	230	570	850	1300	1550	1650	2300	3000	4100
	BW	lb	44.1	70.5	66.1	143.3	352.7	970.0	1521.2	2248.7	2645.5	2976.2	4078.5	5291.0	6393.3
		kg	20	32	30	65	160	440	690	1020	1200	1350	1850	2400	2900

SWING CHECK VALVES

PRESSURE SEAL COVER

SW/CH CLASS 1500

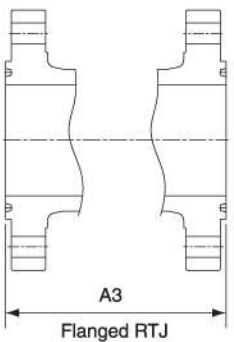
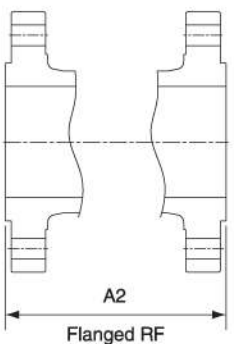
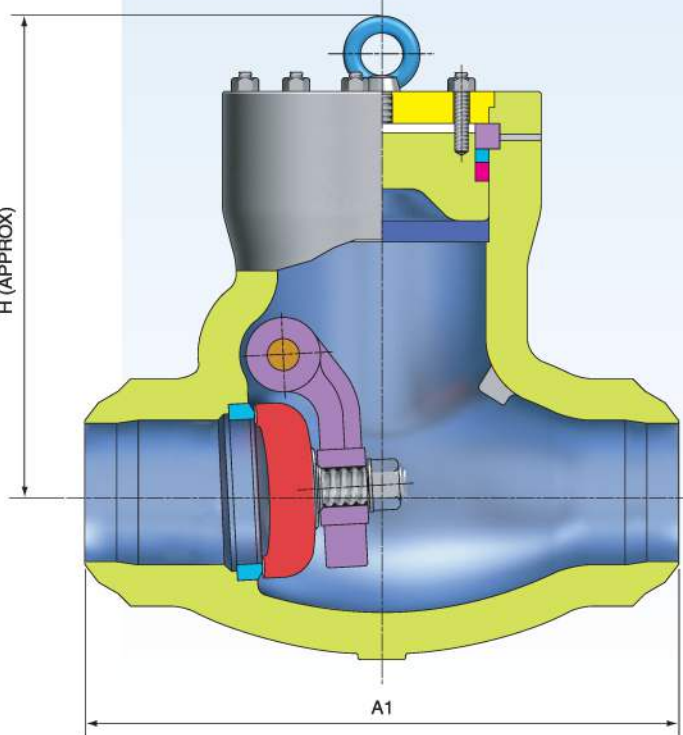
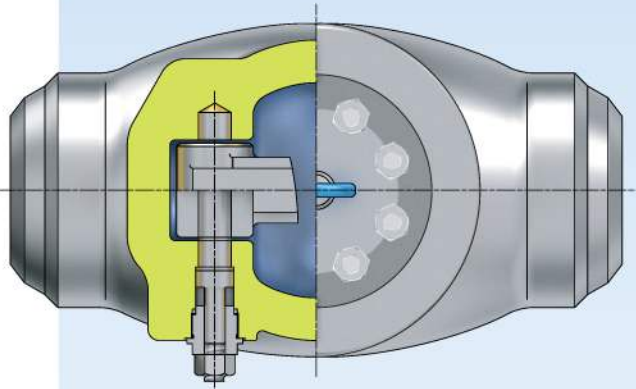


VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20	24
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1		in	14.5	16.5	18.5	16.0	22.0	28.0	34.0	39.0	42.0	47.0	53.0	58.0	64.0
		mm	368	419	470	406	559	711	864	991	1067	1194	1346	1473	1626
A2		in	14.5	16.5	18.5	21.5	27.8	32.8	39.0	44.5	49.5	54.4	60.5	65.5	76.5
		mm	368	419	470	546	705	832	991	1130	1257	1383	1537	1664	1943
A3		in	14.6	16.6	18.6	21.6	28.0	33.1	39.4	45.1	50.2	55.3	61.4	66.4	77.6
		mm	371	422	473	549	711	842	1001	1146	1276	1405	1559	1686	1972
H		in	11.4	13.5	15.1	14.8	17.6	19.7	23.5	25.4	28.0	29.5	34.6	37.4	43.3
		mm	289	343	383	376	448	500	598	645	711	749	880	949	1099
WEIGHT	RF	lb	88.2	121.3	220.5	308.6	881.8	1344.8	2314.8	3417.1	4629.6	5731.9	7275.1	9259.3	13227.5
		kg	40	55	100	140	400	610	1050	1550	2100	2600	3300	4200	6000
	BW	lb	44.1	70.5	88.2	154.3	617.3	1058.2	1631.4	2425.0	3108.5	3527.3	4629.6	5731.9	7716.1
		kg	20	32	40	70	280	480	740	1100	1410	1600	2100	2600	3500

SWING CHECK VALVES

PRESSURE SEAL COVER

SW/CH CLASS 2500



VALVE SIZE		in	2	2.5	3	4	6	8	10	12	14	16	18	20
		mm	50	65	80	100	150	200	250	300	350	400	450	500
A1		in	17.8	20.0	22.8	18.0	24.0	30.0	36.0	41.0	44.0	49.0	55.0	55.0
		mm	451	508	578	457	610	762	914	1041	1118	1245	1397	1397
A2		in	17.8	20.0	22.8	26.5	36.0	40.2	50.0	56.0	62.0	68.0	-	-
		mm	451	508	578	673	914	1022	1270	1422	1575	1727	-	-
A3		in	17.9	20.2	23.0	26.9	36.5	40.9	50.9	56.9	-	-	-	-
		mm	454	514	584	683	927	1038	1292	1444	-	-	-	-
H		in	11.4	11.4	15.1	15.5	22.4	24.4	29.7	27.5	33.9	42.4	39.4	54.3
		mm	289	289	383	393	570	619	754	699	860	1076	1000	1378
WEIGHT	RF	lb	187.4	260.1	341.7	628.3	1653.4	2976.2	4739.9	6613.8	9215.2	11155.2	16490.3	17636.7
		kg	85	118	155	285	750	1350	2150	3000	4180	5060	7480	8000
	BW	lb	110.2	154.3	187.4	363.8	1014.1	1984.1	2866.0	3968.3	5401.2	7054.7	8928.6	11023.0
		kg	50	70	85	165	460	900	1300	1800	2450	3200	4050	5000