

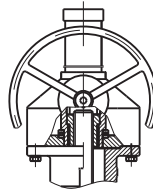
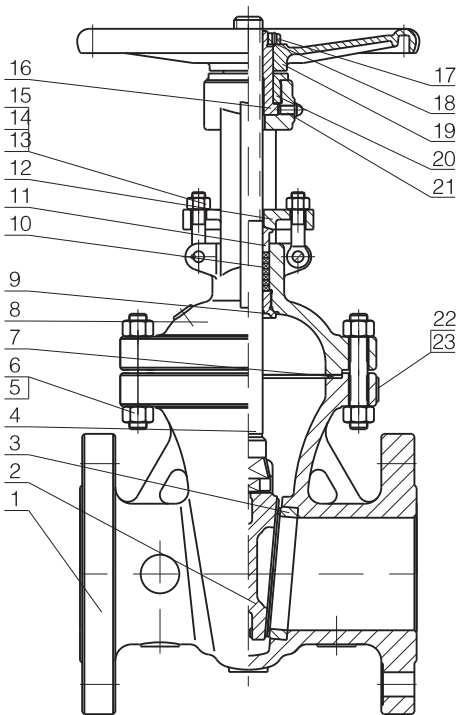


SIO
Valves & Automation

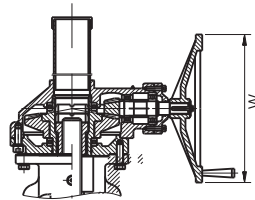
Cast Steel Valves



Cast Steel Gate Valve Series



Available With Gear Box



Applicable Standards:

Design and Manufacture : API 600 ASME B16.34
 Face to Face and End to End: ASME B16.10
 Flanged End: ASME B16.5/ASME B16.47
 Butt Welded End: ASME B16.25
 Test & Inspection: API 598

Design Description:

Full bore design
 Outside Screw and Yoke(OS & Y)
 Bolted Bonnet(BB)
 Flexible wedge, fully guided
 Solid or split wedge gate
 Renewable seat rings upon request
 Forged T-head stem
 Rising stem and non-rising handwheel
 Flanged or butt welding ends
 Available with bevel gear operator

Main Materials:

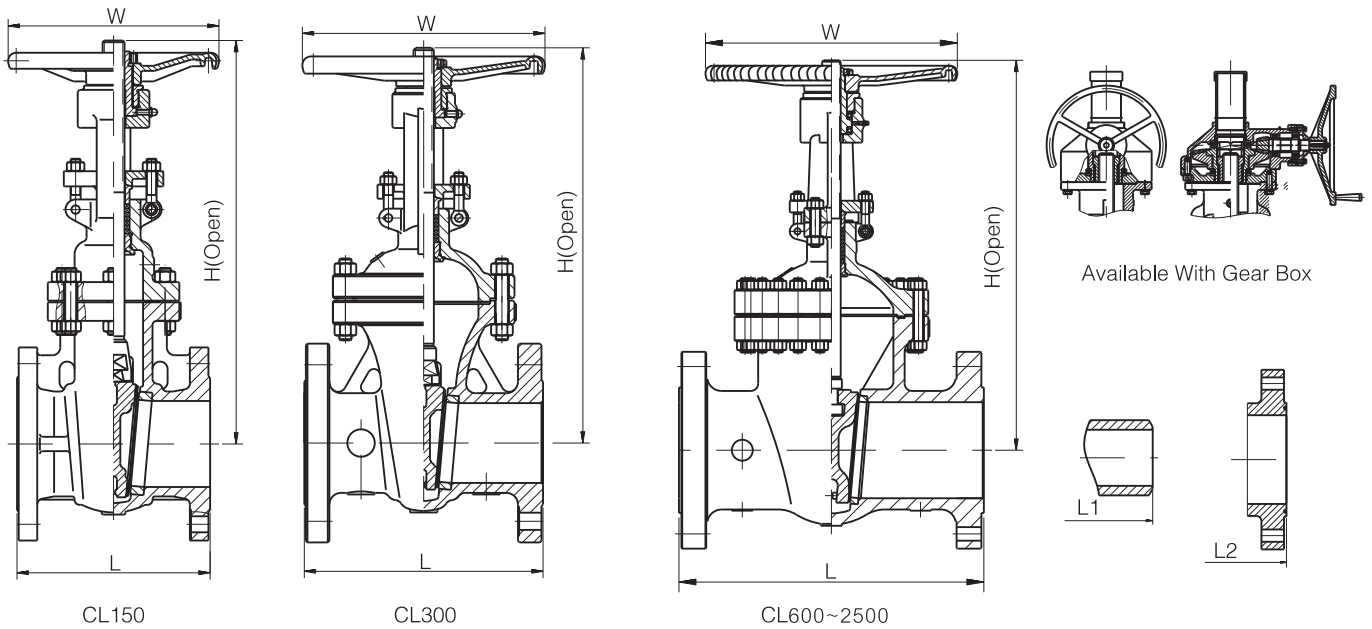
WCB, LCB, WC6, WC9, CF8, CF8M,
 CF3, CF3M, A995 4A, A995 5A, A995 6A,
 Alloy 20, Monel, Inconel

Main Parts Material Sheet

NO.	PART	ASTM Material				
		WCB	LCB ⁽¹⁾	WC6	CF8(M)	CF3(M)
1	BODY	A216 WCB	A352 LCB	A217 WC6	A351 CF8(M)	A351 CF3(M)
2	GATE	A216 WCB+13Cr	A352 LCB+13Cr	A217 WC6+STL	A351 CF8(M)	A351 CF3(M)
3	SEAT	A216 WCB+13Cr	A352 LCB+13Cr	A217 WC6+STL	A351 CF8(M)	A351 CF3(M)
4	STEM	A182 F6	A182 F6	A182 F6	A182 F304 / F316	A182 F304L(F316L)
5	BONNET BOLT	A193 B7	A320 L7	A193 B16	A193 B8(M)	A193 B8(M)
6	BONNET NUT	A194 2H	A194 7	A194 4	A194 8(M)	A194 8(M)
7	GASKET	SS304+GRAPHITE			PTFE / SS304+GRAPHITE	PTFE / SS316+GRAPHITE
8	BONNET	A216 WCB	A352 LCB	A217 WC6	A351 CF8(M)	A351 CF3(M)
9	BACKSEAL	A182 F6	A182 F6	A182 F6	-	-
10	PACKING	FLEXIBLE GRAPHITE			PTFE / FLEXIBLE GRAPHITE	
11	GLAND	A182 F6	A182 F6	A182 F6	A182 F304	A182 F304L(F316L)
12	GLAND FLANGE	A216 WCB	A352 LCB	A217 WC6	A351 CF8(M)	A351 CF3(M)
13	GLAND EYEBOLT		A193 B7		A193 B8	A193 B8
14	NUT		A194 2H		A194 8	A194 8
15	PIN		AISI 1025		AISI 1025	
16	STEM NUT		BRONZE		BRONZE	
17	HANDWHEEL NUT		AISI 1035		AISI 1035	
18	SCREW		ASTM A36		ASTM A36	
19	HANDWHEEL		A536 60-40-18		A536 60-40-18	
20	BEARING GLAND		AISI 1035		AISI 1035	
21	GREASE NIPPLE		BRASS		BRASS	
22	NAMEPLATE		SS304		SS304	

Different Trim are available upon request.

Cast Steel Gate Valve Series



Dimensions CLASS 150

Size	in	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L (RF)	in	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00	15.00	16.00	17.00	18.00	20.00	22.00	24.00	24.00	28.00	28.00	30	31	34
	mm	178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	711	711	762	787	864
L1 (BW)	in	8.5	9.50	11.12	12.00	15.88	16.50	18.00	19.75	22.50	24.00	26.00	28.00	32.00	34.00	36.00	36.00	38.00	40.00	42	43	46
	mm	216	241	283	305	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	1067	1092	1168
L2 (RTJ)	in	7.5	8	8.5	9.5	11	12	13.5	14.5	15.5	16.5	17.5	18.5	20.5	-	24.5	24.5	26.5	28.5	-	-	-
	mm	191	203	216	242	279	305	343	368	394	419	445	470	521	-	622	622	673	724	-	-	-
H (Open)	in	15.25	17.00	18.88	23.00	30.50	37.62	45.50	53.12	59.38	67.00	74.50	83.50	98.25	110.50	116.50	124.00	129.00	146.50	183.86	193.75	217.5
	mm	368	434	480	584	765	956	1149	1350	1508	1703	1892	2119	2500	2806	2960	3150	3280	3720	4670	4920	5525
W	in	8	8	10	12	12	14	16	18	20	22	24	26	29	29	32	32	38	40	30	30	30
	mm	200	200	250	300	300	350	400	450	500	550	600	640	720	720	800	800	950	1000	760	760	760

Dimensions CLASS 300

Size	in	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200
L/L1 (RF/BW)	in	8.50	9.50	11.12	12.00	15.88	16.50	18.00	19.75	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	76	78	88
	mm	216	241	283	305	403	419	457	502	762	838	914	991	1143	1245	1346	1397	1524	1727	1930	1981	2235
L2 (RTJ)	in	9.12	10.12	11.75	12.62	16.50	17.12	18.62	20.38	30.62	33.62	36.62	39.75	45.88	50.00	54.00	56.00	61.12	69.12	-	-	-
	mm	232	257	298	321	419	435	473	518	778	854	930	1010	1165	1270	1372	1422	1553	1756	-	-	-
H (OPEN)	in	16.12	17.88	20.00	24.00	31.75	39.38	47.62	55.75	62.25	67.88	77.12	86.38	102.00	117.00	122.00	126.00	130.00	152.00	188.63	198.13	217.38
	mm	410	453	509	612	805	1000	1210	1415	1580	1725	1960	2195	2590	2975	3100	3200	3300	3860	4791	5032	5522
W	in	8	8	10	12	14	16	18	20	22	22	24	26	29	29	32	32	38	40	24	24	24
	mm	200	200	250	300	350	400	450	500	550	550	600	640	720	720	800	800	950	1000	610	610	610

Cast Steel Gate Valve (Bolt Bonnet)

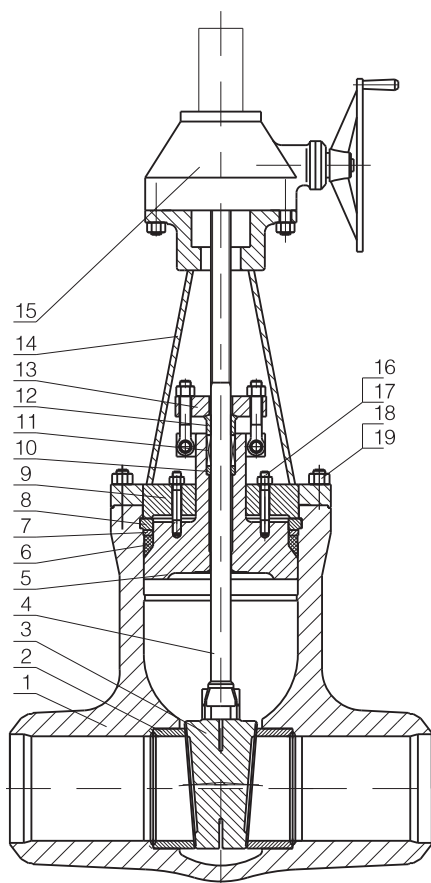
Dimensions																			CLASS 600	
Size	in	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	
L/L1 (RF/BW)	in	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	65.00	70.00	82.00	
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	1778	2083	
L2 (RTJ)	in	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	65.50	70.62	82.62	
	mm	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	1664	1794	2099	
H (OPEN)	in	16.50	18.75	20.38	25.50	33.00	40.38	48.38	57.00	62.00	70.62	76.00	87.00	101.50	105.00	109.50	114.00	124.00	140.00	
	mm	418	476	518	646	840	1025	1230	1450	1575	1795	1930	2210	2580	2665	2780	2895	3150	3560	
W	in	8	10	10	12	18	20	24	24	24	24	26	26	29	29	32	32	38	40	
	mm	200	250	250	300	450	500	600	600	600	600	640	640	720	720	800	800	950	1000	

Dimensions																CLASS 900	
Size	in	2	2½	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			
L/L1 (RF/BW)	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00			
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549			
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	61.75			
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568			
H (OPEN)	in	19.62	21.50	22.50	26.62	35.50	43.50	53.00	60.00	74.88	81.00	87.00	101.00	104.00			
	mm	498	547	573	678	900	1103	1345	1525	1900	2055	2215	2565	2640			
W	in	10	10	12	18	20	24	26	29	32	32	38	38	40			
	mm	250	250	300	450	500	600	640	720	800	800	950	950	1000			

Dimensions															CLASS 1500	
Size	in	2	2½	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		
L/L1 (RF/BW)	in	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	54.50	60.50	65.50	76.50		
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943		
L2 (RTJ)	in	15.50	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	55.38	61.38	66.38	77.62		
	mm	371	422	473	549	711	841	1000	1146	1276	1407	1559	1686	1972		
H (OPEN)	in	24.25	26.00	30.00	34.12	39.50	45.00	54.00	61.00	74.88	80.50	93.75	101.50	114.75		
	mm	615	658	760	868	1005	1145	1370	1550	1900	2050	2380	2580	2915		
W	in	10	12	18	20	24	18	18	24	24	24	24	24	24		
	mm	250	300	450	500	600	460	460	600	600	600	600	600	600		

Dimensions															CLASS 2500	
Size	in	2	2½	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		
L/L1 (RF/BW)	in	17.75	20.00	22.75	26.50	36.00	40.25	50.00	56.00	-	-	-	-	-		
	mm	451	508	578	673	914	1022	1270	1422	-	-	-	-	-		
L2 (RTJ)	in	17.88	20.50	23.00	26.88	36.50	10.88	50.88	56.88	-	-	-	-	-		
	mm	454	514	584	683	927	1038	1292	1445	-	-	-	-	-		
H (OPEN)	in	21.88	29.00	35.00	41.50	57.00	63.38	81.75	89.75	-	-	-	-	-		
	mm	631	736	890	1055	1450	1610	2075	2280	-	-	-	-	-		
D0	in	12	18	20	20	24	24	24	24	-	-	-	-	-		
	mm	300	450	500	500	600	600	600	600	-	-	-	-	-		

Cast Steel Gate Valve (Pressure Seal Bonnet)



Applicable Standards

Design and Manufacture: ASME B16.34
 Face to Face and End to End: ASME B16.10
 Flanged End: ASME B16.5/ASME B16.47
 Butt Welded End: ASME B16.25
 Test & Inspection: API 598

Design Description:

Full bore design
 Outside Screw and Yoke(OS & Y)
 Pressure Seal Bonnet(PSB)
 Flexible wedge, fully guided
 Solid or split wedge gate
 Renewable seat rings upon request
 Forged T-head stem
 Rising stem and non-rising handwheel
 Flanged or butt welding ends
 Available with bevel gear operator

Main Materials:

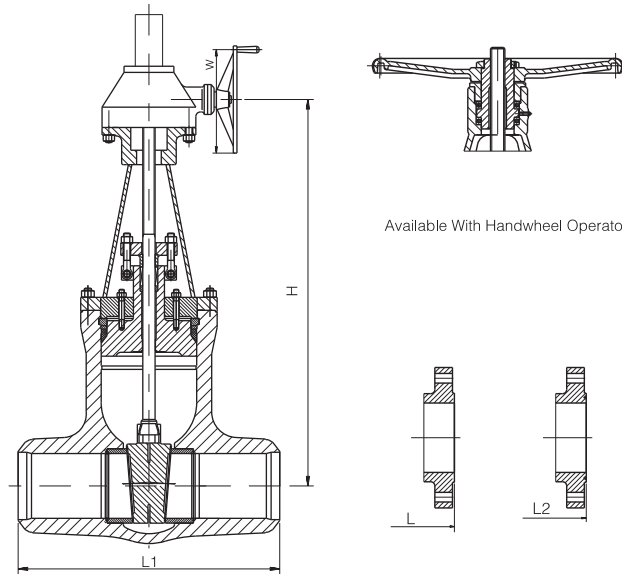
WCB, LCB, WC6, WC9, CF8, CF8M,
 CF3, CF3M, A995 4A, A995 5A, A995 6A,
 Alloy 20, Monel, Inconel

Main Parts Material Sheet

NO.	PART	ASTM Material				
		WCB	WC6	WC9	CF8(M)	CF3(M)
1	BODY	A216 WCB	A217 WC6	A217 WC9	A351 CF8(M)	A351 CF3(M)
2	SEAT	A216 WCB+STL	A217 WC6+STL	A217 WC9+STL	A351 CF8(M)+STL.6	A351 CF3(M)+STL.6
3	GATE	A216 WCB+STL	A217 WC6+STL	A217 WC9+STL	A351 CF8(M)+STL.6	A351 CF3(M)+STL.6
4	STEM	A182 F6	A182 F6	A182 F6	A182 F304(F316)	A182 F304L(F316L)
5	BONNET	A216 WCB	A217 WC6	A217 WC9	A351 CF8(F316)	A351 CF3(M)
6	PRESSURE SEAL RING		PURE IRON		A182 F304(F316)	A182 F304L(F316L)
7	RING		A182 F6		A182 F304(F316)	A182 F304L(F316L)
8	SEGMENT RING		A182 F6		A182 F304(F316)	A182 F304L(F316L)
9	BONNET RETAINER	A105	A182 F11	A182 F22	A182 F304(F316)	A182 F304L(F316L)
10	PACKING WASHER		F6a		SS304(F316)	SS304L(F316L)
11	PACKING		SS304+FLEXIBLE GRAPHITE		SS304+FLEXIBLE GRAPHITE/SS316+FLEXIBLE GRAPHITE	
12	GLAND		A182 F6		A182 F304(F316)	A182 F304(F316)
13	GLAND FLANGE		CARBON STEEL		A351 CF8	A351 CF8
14	YOKE		CARBON STEEL		A351 CF8	A351 CF8
15	GEAR BOX		ASSEMBLY		ASSEMBLY	
16	STUD	A193 B7	A193 B16	A193 B16	A193 B8	A193 B8
17	NUT	A194 2H	A194 4	A194 4	A194 8	A194 8

Different Trim are available upon request.

Cast Steel Gate Valve (Pressure Seal Bonnet)



Dimensions

Size	in	2	2½	3	4	6	8	10	12	14	16
	mm	50	65	80	100	150	200	250	300	350	400
CLASS 900											
L1 (BW)	in	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	39.00	43.00
	mm	216	254	305	356	508	660	787	914	991	1092
L (RF)	in	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50
	mm	368	419	381	457	610	737	838	935	1029	1130
L2 (RTJ)	in	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88
	mm	371	422	384	460	613	740	841	968	1038	1140
H (Open)	in	17.62	17.62	19.5	22.88	32.62	67.62	45.5	53.12	59	70.5
	mm	448	448	495	580	830	955	1155	1350	1500	1790
D0	in	14	14	14	14	18	24	28	34	34	34
	mm	350	350	350	350	450	600	700	850	850	850
CLASS 1500											
L1 (BW)	in	8.5	10.00	12.00	16.00	22.00	28.00	34.00	39.00	42.00	47.00
	mm	216	254	305	406	559	711	864	991	1067	1194
L (RF)	in	14.50	16.50	18.50	21.5	27.75	32.75	39.00	44.50	49.50	54.50
	mm	368	419	470	546	705	832	991	1130	1257	1384
L2 (RTJ)	in	14.62	16.62	18.62	21.62	28	33.13	39.38	45.12	50.25	55.38
	mm	371	422	473	549	711	841	1000	1146	1276	1407
H (Open)	in	24.25	26	30	34.12	39.5	45	54	61	74.88	80.5
	mm	615	658	760	868	1005	1145	1370	1550	1900	2050
D0	in	10	12	18	20	24	18	18	24	24	24
	mm	250	300	450	500	600	460	460	600	600	6050
CLASS 2500											
L1 (BW)	in	11.00	13.00	14.50	18.00	24.00	30.00	36.00	41.00	-	-
	mm	279	330	368	457	610	762	914	1041	-	-
L (RF)	in	17.50	20.00	22.75	26.5	36.00	40.25	50.00	56.00	-	-
	mm	451	508	578	673	914	1022	1270	1422	-	-
L2 (RTJ)	in	17.88	20.5	28	36.88	36.5	40.88	50.88	56.88	-	-
	mm	454	514	584	683	927	1038	1292	1445	-	-
H (Open)	in	21.88	29	35	41.5	57	63.38	81.75	89.75	-	-
	mm	631	736	890	1055	1450	1610	2075	2680	-	-
D0	in	12	18	20	20	24	24	24	24	-	-
	mm	300	450	500	500	600	600	600	600	-	-

The logo for SIO, featuring the letters 'SIO' in a bold, sans-serif font. The letter 'I' is stylized with a vertical bar through its center. A registered trademark symbol (®) is located to the upper right of the 'O'.

SIO®

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Authorized distributor

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