

### Compliance Standards

L&T Gate, Globe & Check Valves are designed in accordance with key international standards. They also meet the requirements of major power and oil & gas industry standards and customer specifications.

Parameter		Standard	
Design	Gate Valves	ASME B16.34	API 600
	Globe Valves		BS 1873
	Check Valves		BS 1868
Ends	Face-to-face/ End-to-end Dimensions	ASME B16.10	
	End Flange Dimensions	ASME B16.5	
	Butt-weld End Dimensions	ASME B16.25	
	Forged Fittings, Socket welding & Threading Dimensions	ASME B16.11	
Testing		MSS SP-61 or API 598	



### Materials of Construction

The product portfolio encompasses valves in carbon steel, stainless steels and alloy steels, in cast and forged materials, in a number of trim options - suitable for line-fluids ranging from low temperature hydrocarbon to super-critical steam.

Material Classification	Body Materials	
	Cast Steel	Forged Steel
<b>Carbon Steel</b>	ASTM A 216 Gr. WCB/ WCC	ASTM A 105
1¼ Cr - ½ Mo	ASTM A 217 Gr. WC6	ASTM A 182 Gr. F11 Cl. 2
2¼ Cr - 1 Mo	ASTM A 217 Gr. WC9	ASTM A 182 Gr. F22 Cl. 3
5 Cr - ½ Mo	ASTM A 217 Gr. C5	ASTM A 182 Gr. F5a
9 Cr - 1 Mo	ASTM A 217 Gr. C12	ASTM A 182 Gr. F9
9 Cr - 1 Mo - ¼ V	ASTM A 217 Gr. C12A	ASTM A 182 Gr. F91
<b>Low-temperature Steel</b>	ASTM A 352 Gr. LCB/ LCC	ASTM A 350 Gr. LF2
Austenitic Stainless Steel 18-8 (Type 304)	ASTM A 351 Gr. CF8	ASTM A 182 Gr. F304
Austenitic Stainless Steel 16 Cr - 12 Ni - 2 Mo (Type 316)	ASTM A 351 Gr. CF8M	ASTM A 182 Gr. F316

\*Valves in other materials available on demand

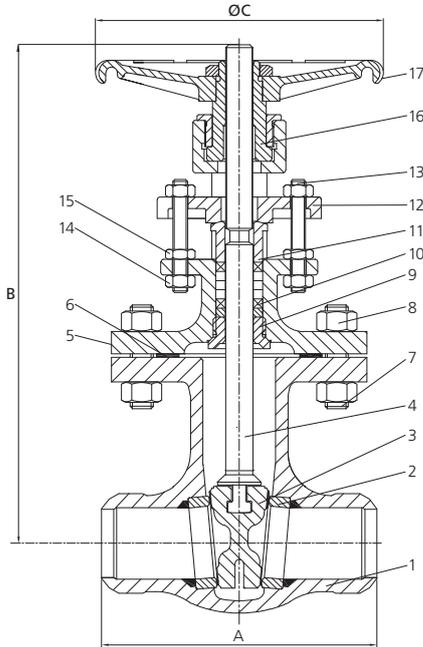
### Trim Materials

API 600 Trim	Materials			
	Stem	Seat Surface	Disc Surface	Back Seat
1	13% Cr	13% Cr	13% Cr	13% Cr
2	SS 316	SS 304	SS 304	SS 316
5	13% Cr	HF	HF	13% Cr
8	13% Cr	HF	13% Cr	13% Cr
9	Monel	Monel	Monel	Monel
10	SS 316	SS 316	SS 316	SS 316
12	SS 316	HF	SS 316	SS 316
16	SS 316	HF	HF	SS 316

\*Other trim combinations available on demand

## Gate Valves - ASME Class 150, 300 & 600 (API 600, ASME B16.34)

L&T Gate Valves with bolted bonnet and flexible wedge are available in ASME classes 150 to 600. The valves are offered with flanged and butt-weld ends in sizes up to 24", above which butt-weld end is the standard.



No.	Components	Materials
1	Body	A 216 Gr. WCB
2	Seat Ring	A 105 + HF
3	Disc	A 217 Gr. CA15/ A 216 Gr. WCB + 13% Cr
4	Stem	A 182 Gr. F6a
5	Bonnet	A 216 Gr. WCB
6	Gasket - Cl. 150	Corrugated soft steel with Graphite Filler
6	Gasket - Cl. 300 & Cl. 600	Spirally-wound SS316 with Graphite filler
7	Stud	A 193 Gr. B7
8	Hex. Nut	A 194 Gr. 2H
9	Bonnet Bush	A 276 Type 410
10	Packing	Die-moulded Graphite packing with braided end-rings
11	Gland	A 276 Type 410
12	Gland Flange	A 105
13	Stud	A 193 Gr. B7
14	Hex. Nut	A 194 Gr. 2H
15	Lock Nut	A 194 Gr. 2H
16	Yoke Sleeve	B 148 UNS C95400
17	Handwheel	IS:1865 Gr. SG400/15/ Steel

HF - Hard-Faced with Stellite 6 or equivalent  
Valves in other materials available on demand

### Dimensions

Size		Class 150						Class 300					
inch	mm	A		B	ØC	Wt.		A		B	ØC	Wt.	
		FL	BW			FL	BW	FL	BW			FL	BW
2	50	178	216	379	200	20	20	216	216	406	200	23	20
3	80	203	282	486	250	32	30	282	282	507	250	50	44
4	100	229	305	591	250	47	46	305	305	600	250	72	63
6	150	267	403	795	350	93	85	403	403	815	350	155	120
8	200	292	419	995	350	151	120	419	419	1015	400	236	190
10	250	330	457	1040	400	198	187	457	457	1035	400	340	280
12	300	356	502	1100	400	294	270	502	502	1080	630	510	400
14	350	381	572	1200	400	430	379	762	762	1180	630	834	728
16	400	406	610	1350	400	570	500	838	838	1350	710	1080	990
18	450	432	660	1490	500	630	603	914	914	1480	710	1200	1140
20	500	457	711	1580	630	840	808	991	991	1625	900	1480	1355
22	550		762	1580	630	900	850		1092	1625	900	1500	1375
24	600	508	813	1875	710	1170	1160	1143	1143	1940	900	2320	1800
26	650		864	1875	710		1179		1245	1965	900		1950
28	700		914	2320	900		2175		1346	2450	1000		3000
30	750		914	2320	900		2062		1397	2460	1000		3600
32	800		965	2625	900		2100		1496	3365	1000		4650
34	850		1016	3670	900		3001		1626	4100	1000		5500
36	900		1016	2715	900		3100		1727	2890	1000		6800
38	950		1042	2715	900		3175		1900	4450	1000		7500
40	1000		1067	3200	1000		4700		1900	4550	1000		7800
42	1050		1100	4400	1000		6000		1900	3450	1000		8100

All dimensions in mm and weights in kg



Size		Class 600					
inch	mm	A		B	ØC	Wt.	
		FL	BW			FL	BW
2	50	292	292	425	200	31	31
3	80	356	356	524	250	62	56
4	100	432	432	605	350	114	100
6	150	559	559	850	300	243	220
8	200	660	660	870	500	524	470
10	250	787	787	972	710	761	680
12	300	838	838	1100	710	910	875
14	350	893	889	1275	800	1140	985
16	400	991	991	1440	900	1690	1690
18	450	1096	1092	1595	1000	2035	1865

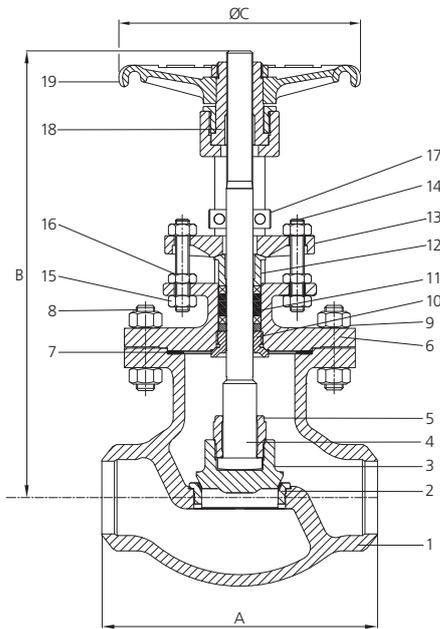
All dimensions in mm and weights in kg

L&T Gate Valves of size 20" and above in ASME class 600 are offered with pressure-seal bonnet and pillar-yoke design as a standard. Please refer page no. 11 for dimensional details of valves 20" and above.

## Globe Valves - ASME Class 150, 300 & 600 (BS1873, ASME B16.34)

L&T Globe Valves with bolted bonnet and plug-type disc are available in ASME classes 150 to 600.

Up to 12", the valves are offered with flanged and butt-weld ends, above which butt-weld end is the standard.



No.	Components	Materials
1	Body	A 216 Gr. WCB
2	Seat Ring	A 182 Gr. F6a + HF
3	Disc	A 182 Gr. F6a/ A 216 Gr. WCB + 13% Cr
4	Stem	A 182 Gr. F6a
5	Disc Nut	A 276 Type 410
6	Bonnet	A 216 Gr. WCB
7	Gasket	Spirally-wound SS316 with Graphite filler
8	Stud	A 193 Gr. B7
9	Hex. Nut	A 194 Gr. 2H
10	Bonnet Bush	A 276 Type 410
11	Packing	Die-moulded Graphite packing with braided end-rings
12	Gland	A 276 Type 410
13	Gland Flange	A 105
14	Stud	A 193 Gr. B7
15	Hex. Nut	A 194 Gr. 2H
16	Lock Nut	A 194 Gr. 2H
17	Stem Guide	A 276 Type 410
18	Yoke Sleeve	B 148 UNS C95400
19	Handwheel	IS:1865 Gr. SG400/ 15
--	Grease Nipple	Steel

HF - Hard-Faced with Stellite 6 or equivalent  
Valves in other materials available on demand

### Dimensions

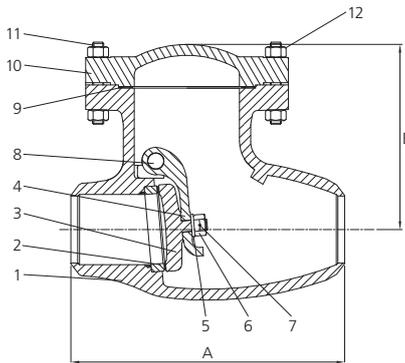
Size		Class 150						Class 300						Class 600					
		A		B	ØC	Wt.		A		B	ØC	Wt.		A		B	ØC	Wt.	
inch	mm	FL	BW			FL	BW	FL	BW			FL	BW	FL	BW			FL	BW
2	50	203	203	375	200	22	18	267	267	390	200	31	28	295	292	425	250	38	34
3	80	241	241	420	250	37	36	318	318	430	250	50	45	356	356	650	350	81	72
4	100	292	292	510	350	63	60	356	356	570	350	88	67	432	432	810	500	138	110
6	150	406	406	610	350	104	95	444	444	735	450	180	163	599	559	895	710	440	347
8	200	495	495	795	450	208	195	559	559	875	710	405	363	663	660	930	900	680	365
10	250	622	622	895	710	356	337	622	622	950	800	555	493	787		1315	900		439
12	300	698	698	913	800	620	579	711	711	1050	900	820	611	838		1550	900		765
14	350		775	930	900		700		838	1200	1000		985	889		1700	1000		985
16	400		914	1019	900		890		864	1300	1000		1419	991		1895	1000		1459
18	450		978	1291	1000		979		978	1540	1000		1925	1092		1925	1000		1950

All dimensions in mm and weights in kg

## Check Valves - ASME Class 150, 300 & 600 (BS1868, ASME B16.34)

L&T Check Valves with bolted cover, swing-type disc and internal hinge are available in ASME classes 150 to 600.

The valves are offered with flanged and butt-weld ends in sizes up to 24", above which butt-weld end is the standard. Valves are also offered with dashpot arrangement based on customer demand.



No.	Components	Materials
1	Body	A 216 Gr. WCB
2	Seat Ring	A 105 + HF
3	Disc	A 217 CA15/ A216 Gr.WCB + 13% Cr
4	Hinge	A 216 Gr. WCB
5	Washer	SS 304
6	Hinge Nut	SS 304
7	Split Pin	SS 304
8	Hinge-pin	A 276 Type 410
9	Gasket	Spirally-wound SS316 with Graphite filler
10	Cover	A 216 Gr. WCB
11	Stud	A 193 Gr. B7
12	Hex. Nut	A 194 Gr. 2H

HF - Hard-Faced with Stellite 6 or equivalent  
Valves in other materials available on demand

### Dimensions

Size		Class 150					Class 300					Class 600				
		A		B	Wt.		A		B	Wt.		A		B	Wt.	
inch	mm	FL	BW		FL	BW	FL	BW		FL	BW	FL	BW		FL	BW
2	50	203	203	135	17	15	267	267	145	23	18	292	292	165	32	29
3	80	241	241	150	27	25	318	318	170	38	34	356	356	195	45	40
4	100	292	292	190	43	40	356	356	210	62	45	432	432	248	86	78
6	150	356	356	270	68	64	444	444	260	117	111	559	559	306	320	120
8	200	495	495	310	118	95	533	533	370	190	171	660	660	383	420	210
10	250	622	622	350	195	150	622	622	357	265	215	787	787	423	547	347
12	300	698	698	380	310	255	711	711	450	300	235	838	838	468	780	520
14	350	787	787	383	470	395	838	838	418	360	260	889	889	502	893	580
16	400	864	914	428	680	615	864	864	495	665	635		991	601		850
18	450	978	978	466	710	650	978	978	622	890	840		1092	665		1150
20	500	978	978	503	750	680	1016	1016	595	1085	900	L&T Check Valves of size 20" and above in ASME class 600 are offered with pressure-seal cover design as a standard. Please refer page no. 15 for dimensional details.				
22	550		1067	562	890	810		1118	586	1160	950					
24	600	1295	1295	595	1035	965	1346	1346	695	1750	1500					
26	650		1295	569		1070		1346	695		1550					
28	700		1448	740		1450		1499	779		2300					
30	750		1524	824		2200		1594	1050		2700					
32	800		1524	824		2300		1700	1120		2950					
34	850		1900	1023		4050		1850	1120		3170					
36	900		1900	1023		4100		1900	1250		3350					
38	950		1900	1023		4400		1900	1350		3570					
40	1000		1900	1200		4800		1900	1400		3890					
42	1050		1900	1200		4850		1900	1410		4120					

All dimensions in mm and weights in kg