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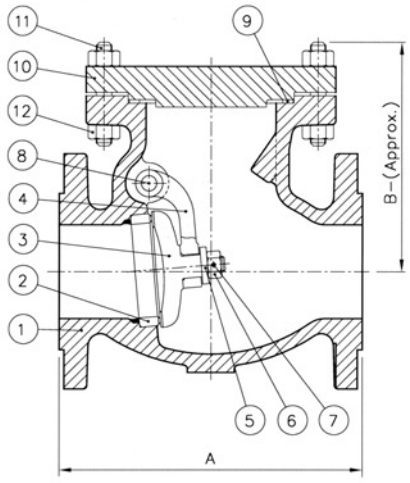
Gate, Globe & Check Valves

ASME Class 150 - 2500, (2" - 72") 50mm - 1800mm
API 600 | API 623 | API 594 | ASME B16.34 | API 603

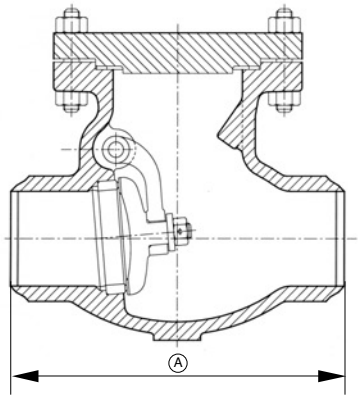
L&T Valves

Swing Check Valves - ASME Class 150, 300 & 600

Figure Numbers 713-8, 733-8 & 763-8



FLANGED END

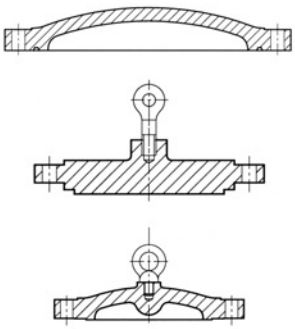


BUTT-WELD END

Standard Materials of Construction

Sl. No.	Description	Material
01	Body	ASTM A216 Gr. WCB
02	Body Seat Ring	ASTM A105 + HF*
03	Disc	ASTM A216 Gr. WCB + 13% Cr. Steel
04	Hinge	ASTM A216 Gr. WCB
05	Disc Washer	13% Cr. Steel
06	Disc Nut	SS 304
07	Disc Nut Pin	13% Cr. Steel
08	Hinge Pin	13% Cr. Steel
09	Gasket	ASTM A308
10	Cover	ASTM A216 Gr. WCB
11	Stud	ASTM A193 Gr. B7
12	Stud Nut	ASTM A194 Gr. 2H
	Hinge Pin Cover	ASTM A105
	Hinge Pin Cover Bolt	ASTM A193 Gr. B7
	Nameplate	SS 304

* HF - Hard-Faced with Stellite #6 or equivalent
For other body / cover materials, refer page 5



COVER FOR 3" VALVE (CLASS 600)

COVER & EYEBOLT ARRANGEMENT FOR 12" VALVE (CLASS 150)

COVER & EYEBOLT ARRANGEMENT FOR VALVES 14" & ABOVE (CLASS 150), VALVES 10" & ABOVE (CLASS 300) & VALVES 4" & ABOVE (CLASS 600)

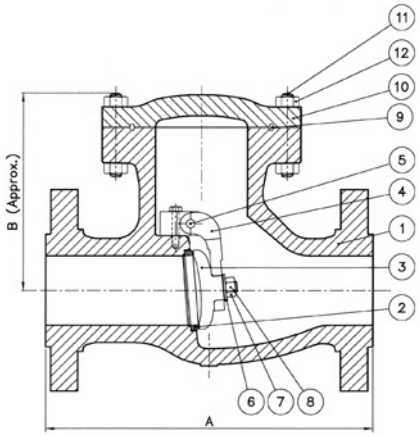
Dimensions (in mm, unless specified) & Weights (in kg)

Valve Size	Class 150					Class 300					Class 600				
	A		B	Approx.Wt.		A		B	Approx.Wt.		A		B	Approx.Wt.	
	Fl.	B/W		Fl.	B/W	Fl.	B/W		Fl.	B/W	Fl.	B/W		Fl.	B/W
50 (2")	203	203	165	21	19	267	267	165	24	19	292	292	178	35	30
65 (2½")	216	216	175	24	20	-	-	-	-	-	-	-	-	-	-
80 (3")	241	241	181	34	30	317	317	190	45	36	356	356	203	55	46
100 (4")	292	292	213	49	42	356	356	229	70	56	432	432	229	92	70
150 (6")	356	356	273	88	79	444	444	279	151	129	559	559	365	204	161
200 (8")	495	495	335	168	154	533	533	343	242	210	661	661	442	323	260
250 (10")	622	622	406	280	260	622	622	368	333	284	787	787	450	550	455
300 (12")	698	698	483	413	382	711	711	412	450	378	838	838	590	790	680
350 (14")	788	788	515	509	466	839	839	559	659	556	-	-	-	-	-
400 (16")	864	864	455	580	524	864	864	636	873	747	-	-	-	-	-
450 (18")	978	978	500	635	583	978	978	562	1090	900	-	-	-	-	-
500 (20")	978	978	675	925	855	1016	1016	675	1360	1176	-	-	-	-	-
600 (24")	1295	1295	780	1500	1403	1346	1346	790	1850	1573	-	-	-	-	-

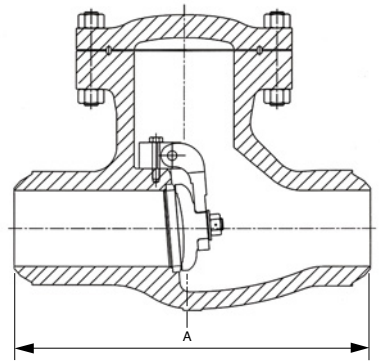
Fl. - Flanged ; B/W - Butt-weld.

Swing Check Valves - ASME Class 900 & 1500

Figure Numbers 793-8 & 7A3-8



FLANGED END



BUTT-WELD END

Standard Materials of Construction

Sl. No.	Description	Material
01	Body	ASTM A216 Gr. WCB
02	Body Seat Ring	ASTM A105 + HF*
03	Disc	ASTM A216 Gr. WCB + 13% Cr. Steel
04	Hinge	ASTM A216 Gr. WCB
05	Hinge Pin	13% Cr. Steel
06	Disc Washer	13% Cr. Steel
07	Disc Nut	SS 304
08	Disc Nut Pin	SS 304
09	Gasket RTJ	Soft Iron
10	Cover	ASTM A216 Gr. WCB
11	Stud	ASTM A193 Gr. B7
12	Stud Nut	ASTM A194 Gr. 2H
	Nameplate	SS 304

* HF - Hard-Faced with Stellite #6 or equivalent
For other body / cover materials, refer page 5

Dimensions (in mm, unless specified) & Weights (in kg)

Valve Size	Class 900					Class 1500				
	A		B	Approx.Wt.		A		B	Approx.Wt.	
	Fl.	B/W		Fl.	B/W	Fl.	B/W		Fl.	B/W
50 (2”)	-	-	-	-	-	368	368	250	69	53
65 (2½”)	-	-	-	-	-	-	-	-	-	-
80 (3”)	381	381	250	88	70	470	470	285	118	89
100 (4”)	457	457	280	162	131	546	546	340	177	134
150 (6”)	610	610	350	336	275	705	705	400	566	467
200 (8”)	737	737	420	673	569	832	832	465	892	728
250 (10”)	838	838	510	938	789	991	991	570	1730	1447
300 (12”)	965	965	610	1480	1280	1130	1130	680	2580	2157

Fl. - Flanged ; B/W - Butt-weld

ASME B16.34 L&T Gate, Y-Globe & Swing Check Valves

Pressure Seal Bonnet design

The ASME B16.34 family of L&T Gate, Y-Globe and Swing Check Valves features a pressure seal bonnet design for high pressure services. These valves are extensively used in high pressure and high temperature steam, oil, gas, chemical and water applications in thermal power plants, fertiliser plants, petrochemical plants and refineries. The valves are available with butt-weld ends in pressure ratings of Classes 900, 1500 and 2500, and come in carbon steel and alloy steel construction.

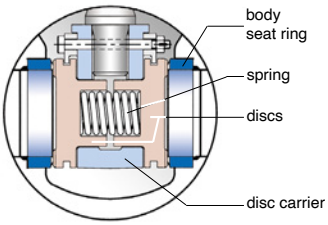
Gate valves also meet the requirements of API 600 Style A.

GATE VALVES

Parallel Slide Disc Mechanism

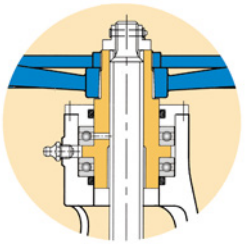
This mechanism consists of two independent discs held by a disc carrier. An alloy steel spring between the discs provides the initial loading to keep the discs pressed against the body seats. The disc faces are parallel to each other and seal on parallel seat rings in the body. Sealing takes place by utilizing the line pressure to provide tight seal on the downstream seat. As the two discs are independent and parallel, opening / closing torques are significantly lower than comparable wedge disc designs, thereby minimizing the possibility of jamming at high temperatures or pressures.

When the valve is operated, the discs are allowed to slide and rotate over the body seats. This helps wipe out foreign particles from the seat faces.



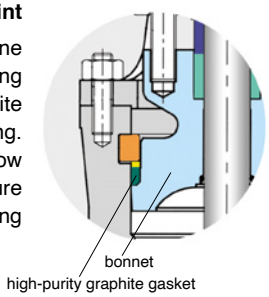
Yoke Sleeve and Thrust Bearings

The yoke sleeve is made of nodular Niresist Iron, supported by a set of bearings to reduce friction and the consequent torque required to operate the valves. Nodular Niresist Iron also withstands high temperatures. Weather seals, provided in the yoke sleeve, protect the bearing area against ingress of dirt and water.



Pressure Seal arrangement for body-bonnet joint

This pressure seal body-bonnet joint utilizes the line pressure to create a tight body-bonnet seal. Sealing is achieved by compressing a high-purity graphite gasket between the bonnet and the body retainer ring. Preloaded fasteners provide an initial tight seal at low line pressures. At higher pressures, the line pressure pushes up the bonnet against the gasket, compressing it further and providing a much tighter seal.



Seat Rings

Body seat rings are welded to the body to offer a leakproof design as they eliminate the leakage path betwen the seat ring and the body. This design is superior to screwed seats which can loosen up due to temperature fluctuations, corrosion or vibration and result in leakage.

Trim

Both the disc and the seat ring faces are hard-faced with Stellite #6 or equivalent.

Back-seat

The back-seat is in-situ hard-faced with Stellite #6 or equivalent.

Stem and Gland Packing

The valves feature a stem, made of 13% Cr. Steel - ACME threaded, precision-machined and ground to a high finish to ensure a smooth operation. The high-purity graphite gland packings, used for stem sealing, provide capability to withstand high temperatures and pressures, and also to resist many chemicals. The smooth-finish stuffing box ensures longer life for the packings.

Accessories

L&T Valves can be supplied with accessories such as bypass arrangement, drain plugs, live-loading and mountings like extension spindles, floor stands and chain wheel. The valves can also be supplied with gear units and electrical actuators.

Y-GLOBE VALVES

By virtue of their Y-type configuration, L&T Y-Globe Valves have a relatively straight flow and a lower pressure drop compared to conventional globe valves. The valves are suitable for tight shutoff and throttling in high pressure and high temperature lines.

Some of the unique features of L&T Y-Globe Valves are :

- Pressure Seal Bonnet
- Low operating torque due to use of thrust bearings
- Non-rotating stem
- Integrally-stellited body seats
- Fully-guided disc with Stellite seating and guiding surface
- Impactor handwheel in sizes of 6" (150mm) and above

SWING CHECK VALVES

L&T Swing Check Valves feature a pressure-seal body-cover joint and seal-welded seat rings. The seating surfaces are hard-faced with Stellite #6 or equivalent.

Swing-type Disc

The disc is of swing-type design and is opened by line velocity and the resultant pressure. When the flow stops, the disc is closed by gravity. Seating load and the resultant tightness are dependent on the back pressure.

As the disc is internally hinged, there is no opening in the body of the valve. This ensures high integrity.

Installation

L&T Swing Check Valves are used to prevent the reversal of flow in vertical, horizontal or inclined pipelines. These valves are to be used only for upward or horizontal flow. Pulsating flows, as obtained at the outlet of a reciprocating pump, would cause disc chatter and hence ought to be avoided.

End Connection

L&T Valves with butt-weld ends comply with ANSI B16.25 Fig. 2a or 3a, as applicable. For ANSI pipes, pipe schedule ought to be specified. For non-ANSI pipes, OD (or ID) and wall thickness ought to be furnished for end preparation.

Ordering Information

Valve Size mm (in)	Valve Type	ASME Pr. Class	End Connection	Trim	Disc
50 (2") 80 (3") 100 (4") 150 (6") 200 (8") 250 (10") 300 (12") 350 (14") 400 (16") 450 (18") 500 (20") 600 (24")	**3** Pressure Seal Bonnet / Cap	**Gate Valve** **81** Class 900 **86** Class 1500 **91** Class 2500 **Globe Valve** **61** Class 900 **66** Class 1500 **71** Class 2500 **Check Valve** **80** Class 900 **85** Class 1500 **90** Class 2500	**½** Butt-weld Flanged RF Flanged RTJ	**U** Hard-faced	**P** Gate Valve Parallel Slide Disc **F** Flexible Wedge **TDCV** Tilting Disc Check Valve

As a standard, L&T Valves are made in Carbon Steel to ASTM A216 Gr. WCB. For valves in other materials and for accesories like gear operation and electrical actuators, suffix suitable abbreviations to the above ordering code such as :

WC6 for ASTM A217 Gr. WC6
WC9 for ASTM A217 Gr. WC9
C12A for ASTM A217 Gr. C12A

GO for Gear Operation
LA for Locking Arrangement
ACT for Actuator
BP for Bypass
IBR for IBR-certified