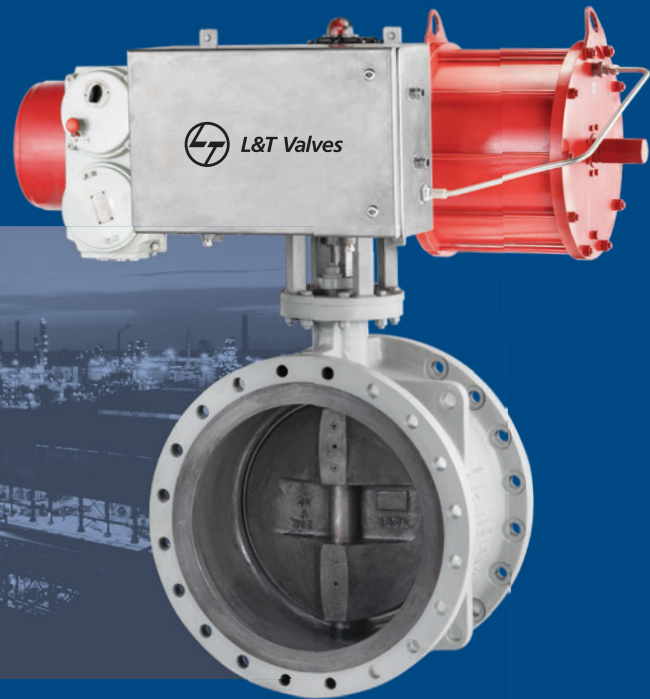


# Triple-offset Butterfly Valves



ASME Class 150 to 1500 | 3" to 100" (80 mm to 2500 mm)  
API 609

L&T Valves is a wholly owned subsidiary of Larsen & Toubro. Backed by a heritage of excellence that exceeds five decades, the company manufactures engineered flow-control solutions for key sectors of the economy.

**Product Range:**

- Gate, Globe & Check Valves
- Pipeline & Process Ball Valves
- Triple-offset Butterfly Valves
- Flanged & Wafer-type Butterfly Valves
- Double Block and Bleed Plug Valves
- Customized Solutions including HIPPS
- Smart and Digital Solutions

The valves are designed using state-of-the-art 3D design, simulation and analysis software. Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) are used to fine-tune product performance.

The Quality Management System of L&T Valves is certified to comply with ISO 9001 and API Spec Q1. The company is licensed to offer products monogrammed API 600, API 6D and API 609 as well as valves with CE Marking (Pressure Equipment Directive 97/23/EC) and ATEX certification (Council Directive 94/9/EC). Ball and Butterfly Valves with SIL-3 certification (IEC 61508) are also offered.

Valve manufacturing at L&T Valves leverages the best in technology and skill, and all manufacturing operations are guided by international safety, health and environment standards.

L&T Valves distribution network spans the globe, partnering key valve distribution companies in all major industrial centres.





## Triple-offset Butterfly Valves

L&T Valves offers a comprehensive range of Triple-offset Butterfly Valves in a variety of body styles and materials to address critical process requirements in diverse industries such as hydrocarbon, power, chemicals & fertiliser, water, etc.

The product range covers valves in ASME classes up to 1500, in sizes up to 100" (2500 mm), in carbon steel, stainless steel and alloy steels, suitable for temperatures from -196°C to 538°C. Based on customer requirements, valves in higher pressure classes, larger sizes and other materials are also offered.

The metal-seated valves conform to API 609 Category B and offer high-integrity bi-directional sealing.



L&T Valves offers Fabricated Steel Triple-offset Butterfly Valves for water industry in pressure classes from PN 6 to PN 25, in sizes up to 100" (2500 mm)

### Flanged - Short and Long Patterns

ASME Class	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36	38	40	42	48	54	64	72	84	100	
	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900	950	1000	1050	1200	1350	1600	1800	2100	2500	
150	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					
600	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•										
900	•	•	•	•	•	•	•	•	•	•	•																
1500	•	•	•	•	•	•	•	•																			

### Wafer and Wafer-Lugged

ASME Class	3	4	6	8	10	12	14	16	18	20	24
	80	100	150	200	250	300	350	400	450	500	600
150	•	•	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•	•	•
600	•	•	•	•	•	•	•	•	•	•	•

### Compliance Standards

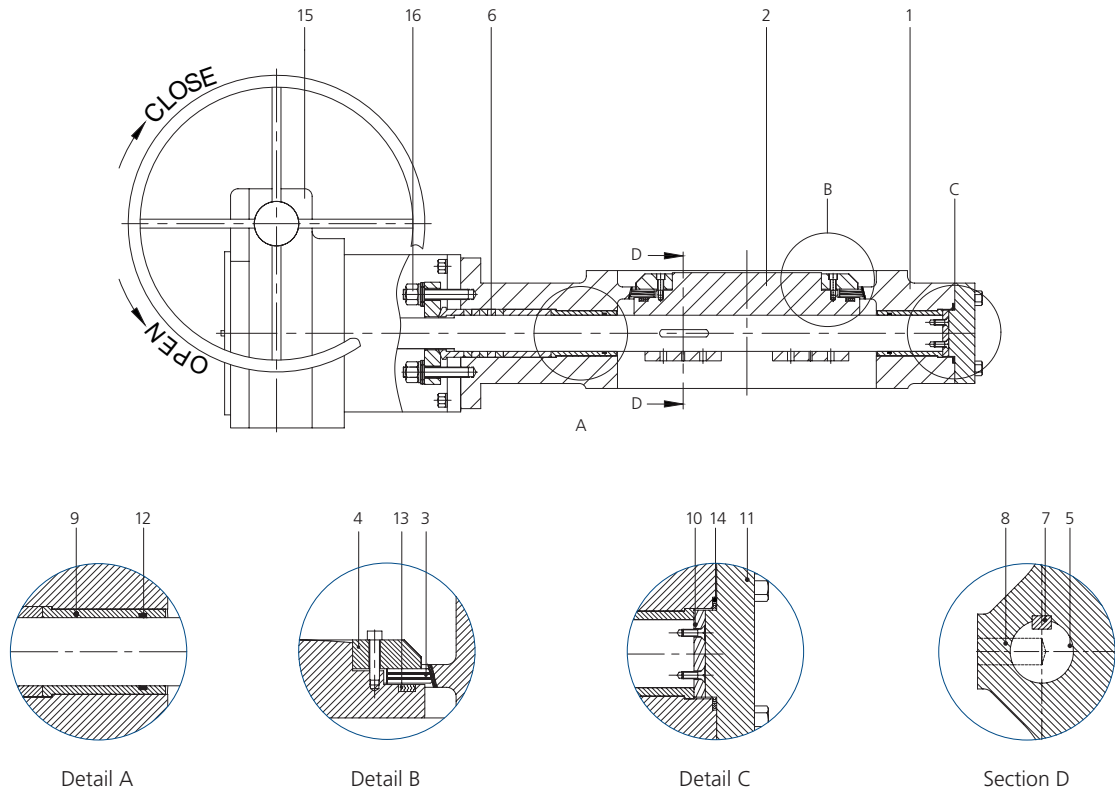
Triple-offset Butterfly Valves are designed in accordance with key international standards. They also meet the requirements of major oil & gas and power industry standards/ customer specifications.

Parameter		Standard	
Design		API 609 (Category B), ASME B16.34	
Ends	Wafer/ Lugged	Face-to-face	API 609
		End Flange Dimensions	ASME B16.5
	Flanged	Face-to-face	API 609/ ISO 5752 Ser. 13/ Ser. 14/ Ser. 8
		End Flange Dimensions	ASME B16.5/ ASME B16.47
	Butt-weld	End-to-end	ASME B16.10
		End Dimensions	ASME B16.25
Testing	Shell and Seat		API 598
	Cryogenic Test		BS 6364
	Fire Test		API 607/ ISO 10497
Pressure - Temperature Rating		ASME B16.34	



### Materials of Construction

No.	Components	Materials			
		WCB/ WCC	LCB/ LCC	WC6/ WC9	C5
1	Body	A 216 Gr. WCB/ WCC	A 352 Gr. LCB/ LCC	A 217 Gr. WC6/ WC9	A 217 Gr. C5
2	Disc	A 216 Gr. WCB/ WCC	A 352 Gr. LCB/ LCC	A 217 Gr. WC6/ WC9	A 217 Gr. C5
3	Laminar Seal	UNS S31803 + Graphite/ UNS S20910 + Graphite		SS 410 + Graphite/ UNS S20910 + Graphite	
4	Retainer	A 516 Gr. 70	SS 316	SS 410	SS 410/ SS 316
5	Shaft	A 479 Type SS 410/ A 564 Type 630	A 479 Type S20910/ A 564 Type 630	A 479 Type SS 410	A 479 Type SS 410/ A 479 Type S20910
6	Packing	Graphite - 5 Braided rings / Graphite - 3 moulded and 2 braided rings / PTFE			
7	Key	SS 410/ 17-4-PH	UNS S20910 / 17-4-PH	SS 410	SS 410/ UNS S20910
8	Dowel Pin	SS 410/ 17-4-PH	UNS S20910 / 17-4-PH	SS 410	SS 410/ UNS S20910
9	Bearing	SS 316/ UNS S20910 Nitrided			
10	Thrust Plate	SS 316/ UNS S20910 Nitrided			
11	Bottom Cover	A 516 Gr. 70	SS 316 / A 516 Gr. 70	SS 410	SS 410/ SS 316
12	Bearing Protector	Graphite			
13	Gasket - Disc	SS 316 / 316L with Graphite			
14	Gasket - Cover	SS 316 / 316L with Graphite			
15	Gear Unit	Worm type (self-locking)			
16	Bolting	A 193 Gr. B7/ A 194 Gr. 2H	A 320 Gr. L7/ A 194 Gr. 7	A 193 Gr. B16/ A 194 Gr. 7	A 193 Gr. B16/ A 194 Gr. 7
Body seat hard-faced with Stellite 21 or 6					



No.	Components	Materials		
		CF3/ CF8	CF3M/ CF8M	4A/ 5A
1	Body	A 351 Gr. CF3/ CF8	A 351 Gr. CF3M/ CF8M	A 995 Gr. 4A/ 5A
2	Disc	A 351 Gr. CF3/ CF8	A 351 Gr. CF3M/ CF8M	A 995 Gr. 4A/ 5A
3	Laminar Seal	UNS S31803 + Graphite / UNS S20910 + Graphite / UNS N06625 + Graphite	UNS S31803 + Graphite / UNS S20910 + Graphite / UNS N06625 + Graphite	UNS S31803 + Graphite / UNS S32750 + Graphite
4	Retainer	SS 316/ 304/ 304L	SS 316/ 316L	UNS S31803/ UNS S32750
5	Shaft	UNS N07718 / 17-4-PH / A 479 Type S20910	UNS N07718 / 17-4-PH / A 479 Type S20910	UNS S32750/ UNS N07718
6	Packing	Graphite - 5 Braided rings / Graphite - 3 moulded and 2 braided rings / PTFE		
7	Key	UNS N07718/ 17-4-PH / UNS S20910	UNS N07718/ 17-4-PH / UNS S20910	UNS S32750/ UNS N07718
8	Dowel Pin	UNS N07718/ 17-4-PH / UNS S20910	UNS N07718/ 17-4-PH / UNS S20910	UNS S32750/ UNS N07718
9	Bearing	SS 316/ SS 316L / UNS S20910/ UNS S32750 Chrome-plated		
10	Thrust Plate	SS 316/ SS 316L / UNS S20910/ UNS S32750 Chrome-plated		
11	Bottom Cover	SS 304L/ 304/ 316	SS 316L/ 316	UNS S31803/ UNS S32750
12	Bearing Seal	Graphite / PTFE		
13	Gasket - Disc	SS 316 / 316L with Graphite		UNS S32750 with Graphite
14	Gasket - Cover	SS 316 / 316L with Graphite		UNS S32750 with Graphite
15	Gear Unit	Worm type (self-locking)		
16	Bolting	A 193 Gr. B8 / A 194 Gr. 8	A 193 Gr. B8M/ A 194 Gr. 8M	A 193 Gr. B8M/ A 194 Gr. 8M/ UNS S32750
Body seat hard-faced with Stellite 21 or 6				



The expertise in Butterfly Valves that spans three decades forms the core of L&T Triple-offset range. The design for these valves are created in a 3D environment using the finest design and analysis software. Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) are extensively used to fine-tune product designs.

The valves conform to API 609 Category B and can be offered with the API Monogram. The valves also meet the requirements of Fugitive Emission (Class A) as per IS 15848. In addition, Triple-offset Butterfly Valves are certified Fire Safe as per API 607.

**In-house Test Facilities:**

- Fire Test
- Fugitive Emission Test
- Cryogenic Tests
- Endurance & Cycle tests



The valves are truly bi-directional and provide reliable performance in critical services. Customer confidence in this product is further enhanced by its SIL-3 (Safefication for systematic integrity) as per IEC 61508.

L&T Valves leverages world-class manufacturing infrastructure and systems to produce Triple-offset Butterfly Valves that set global benchmarks.

State-of-the-art manufacturing facilities include:

- 5-axis Machining Centres
- Special Purpose CNC Machines
- Customised Welding Machines

The quality management systems have been certified to comply with:

- ISO 9001: 2008
- API Spec Q1
- CE PED 97/ 23/ EC

Quality is built into each and every valve through a meticulously implemented QAP. Established processes control all stages of manufacture to ensure quality consistent with international standards and customer requirements.

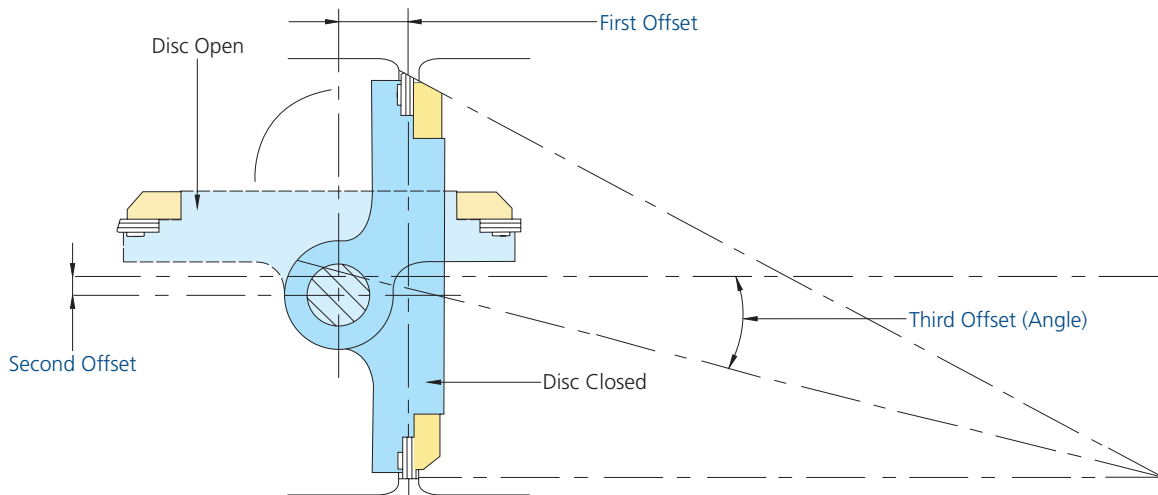
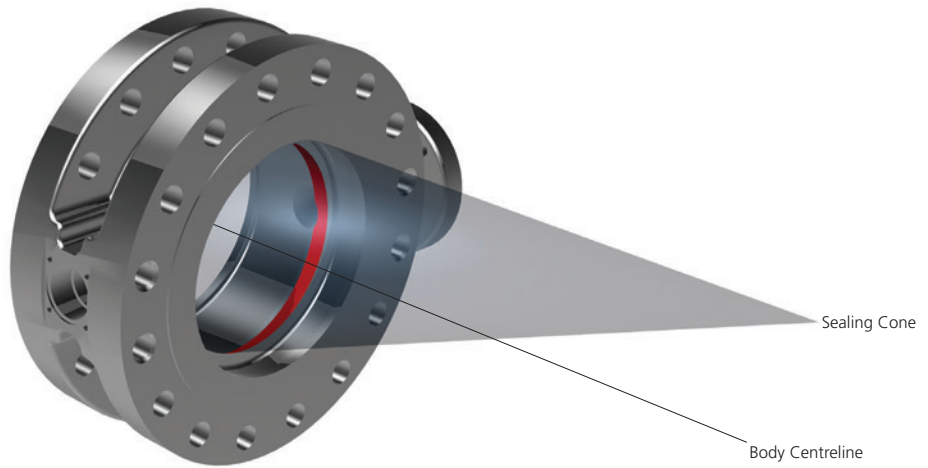
Occupational health and safety as well as environmental protection are accorded prime significance and guide all aspects of manufacturing at the plant.



**Triple-offset Geometry**

In Triple-offset Butterfly Valves, the shaft is offset from the sealing surface and body centreline. Further the sealing cone is rotated away from the bore centreline to create a third offset.

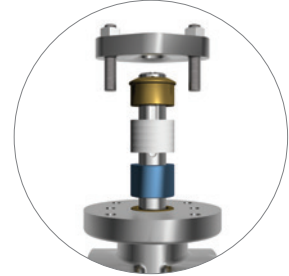
The triple-offset geometry ensures that the body and disc come into contact only at the final shut-off position. This eliminates wear and tear due to interference, reduces operating torque and enhances product life.





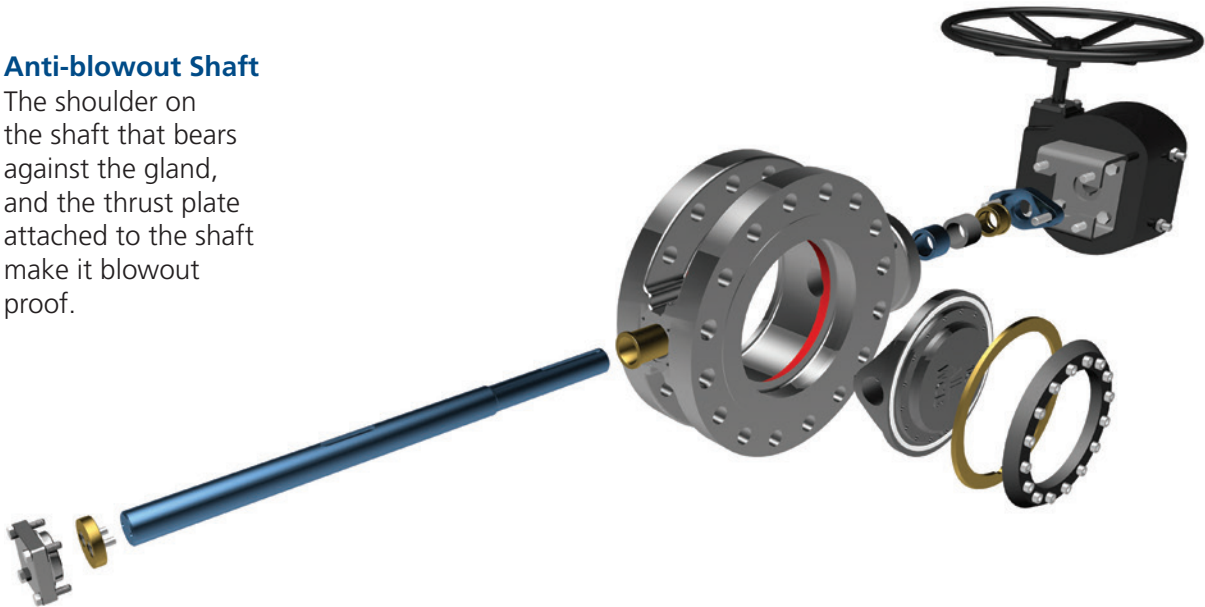
### Assured Sealing to Atmosphere

Triple-offset Butterfly Valves meet the Fugitive Emission Test requirement of ISO 15848. This is achieved by employing high-integrity graphite gland packing and a gasket between bottom cover and body.



### Anti-blowout Shaft

The shoulder on the shaft that bears against the gland, and the thrust plate attached to the shaft make it blowout proof.



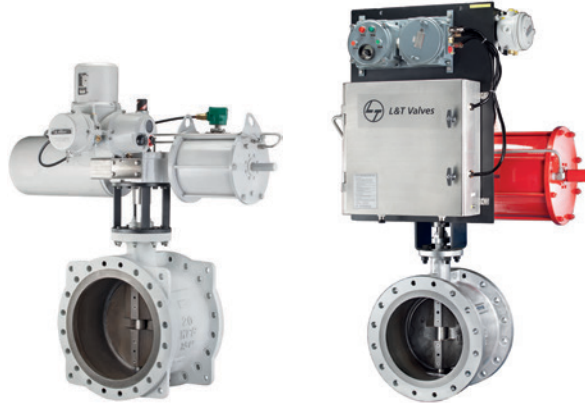
### Bi-directional bubble-tight sealing

Triple-offset Butterfly Valves are torque-seated valves where bubble-tight sealing is achieved when the laminar seal flexes and generates a compressive force all around the hard-faced body seat.

### Replaceable Metal-to-Metal Seats

The laminar seal of Triple-offset Butterfly Valves are designed to be replaceable at site. It is also possible to renew the integral hard-faced body seat of TOBV by re-depositing Stellite.

### Remote-operated Shut-off Valves (ROSOV)



Triple-offset Butterfly Valve, an inherently fire-safe valve that provides bi-directional bubble-tight sealing, has emerged as the valve of choice for oil movement and storage application worldwide. With this versatile valve at its core, L&T Valves offers Remote-operated Shut-off Valves (ROSOV) that leverages in-house capabilities in valve automation, and system design and integration.

A typical ROSOV is a fail-safe system that comprises pneumatic/ electro-hydraulic actuator, and solenoid valves, positioners and accessories integrated on a control panel. The product meets the requirements of IEC 61508 and IEC 61511 standards and is designed to enhance operational safety and efficiency in oil tankages and terminals.

### Cryogenic Valves



L&T Valves manufactures a range of cryogenic and low temperature Triple-offset Butterfly Valves that conforms to BS 6364. The austenitic stainless steel valves are designed to perform at temperatures as low as  $-196^{\circ}\text{C}$ . The valves are offered with extended shaft to ensure that cryogenic line fluids do not impair the performance of gland packing.

Triple-offset Butterfly Valves are available in ASME classes 150 to 600, in a variety of body styles and end-connections.

## Fabricated Steel Triple-offset Butterfly Valves for Water



L&T Valves, a pioneer in valves for water service, has introduced an innovation for the water industry - Fabricated Steel Triple-offset Butterfly Valves for Water.

The valve is available in sizes up to 100" (2500 mm) in pressure classes from PN 6 to PN 25 to suit customer requirement. The valves meet the requirements of AWWA C 504, AWWA C 516, EN 593 and ISO 5752 standards.

The valve body, fabricated from carbon steel plates, has better mechanical and structural properties compared to cast iron body. Further, the metal-seated valve handles line impurities better than soft-seated valves, and provides reliable sealing for a longer period.

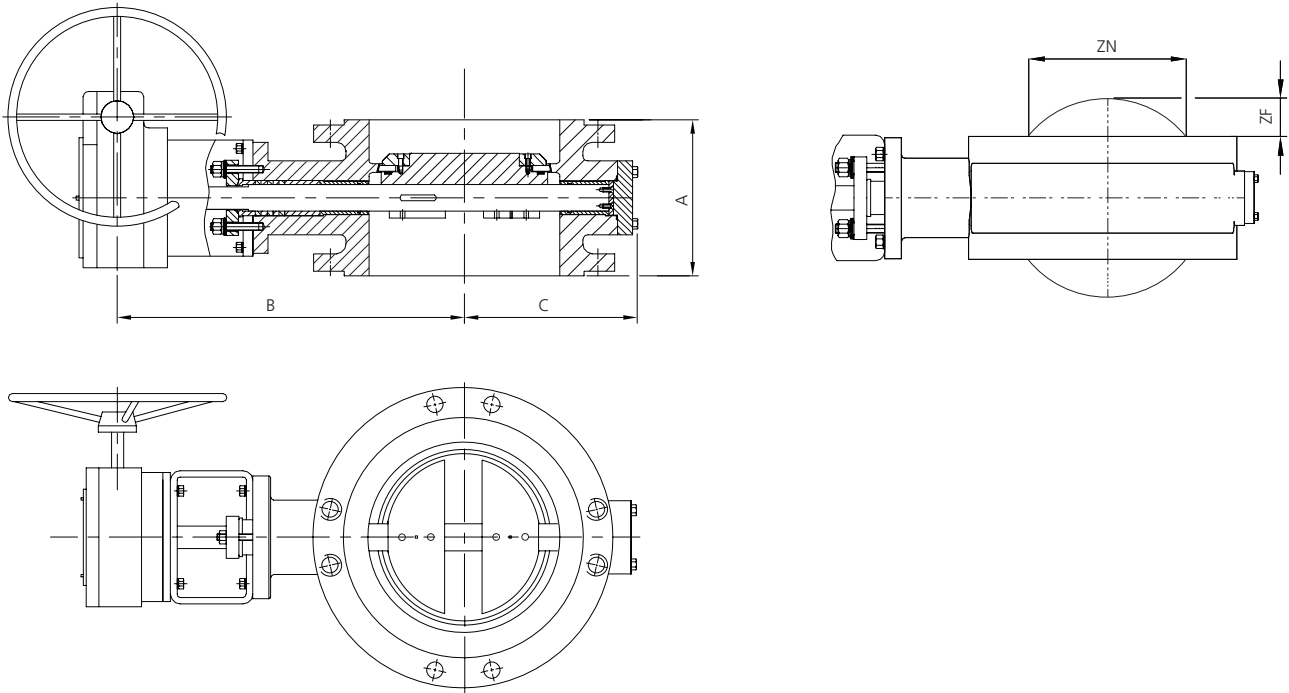
## Top-entry Triple-offset Butterfly Valves



L&T Top-entry Triple-offset Butterfly Valve range is the specially designed for applications that require online maintenance. The top cover provides access to valve internals for complete renewal of valve trim - without removing the valve from the line, without jeopardising system safety and operator life.

The valve is available in sizes up to 48" (1200 mm), in ASME classes up to 900, with long pattern body and butt-weld ends.

## Triple-offset Butterfly Valves - Short Pattern



### Dimensions & Weights

Size		Class 150						Class 300					
NPS	DN	A	B	C	ZN	ZF	Wt.	A	B	C	ZN	ZF	Wt.
3	80	114	265	130			30	114	265	130			50
4	100	127	275	140			35	127	275	150			70
6	150	140	300	160	45	8	45	140	390	200			80
8	200	152	415	205	128	28	65	152	455	230	125	28	125
10	250	165	475	240	182	45	110	165	490	253	180	46	165
12	300	178	510	265	235	65	150	178	545	295	235	66	216
14	350	190	560	305	265	75	190	190	585	335	275	78	305
16	400	216	590	335	294	78	250	216	625	375	291	77	380
18	450	222	585	360	345	100	280	222	680	405	336	105	420
20	500	229	670	395	380	115	385	229	755	455	395	120	530
24	600	267	725	475	475	145	570	267	910	530	476	150	1040
26	650	292	760	475	515	156	600	292	920	530	513	155	1060
28	700	292	820	495	555	180	760	292	950	565	564	185	1440
30	750	318	930	585	595	185	845	318	970	625	595	190	1450
32	800	318	1000	640	677	224	860	318	1082	665	655	211	1720
34	850	330	1025	650	706	235	1060	330	1130	695	699	235	1960
36	900	330	1030	675	740	250	1100	330	1192	745	699	235	2035
38	950	410	1055	690	752	238	1240	410	1120	715	762	235	2460
40	1000	410	1145	745	783	250	1657	410	1140	735	815	261	2750
42	1050	410	1200	795	867	285	1871	410	1220	775	868	290	3275
48	1200	470	1385	905	980	320	2858	470	1405	885	994	335	5100
54	1350	530	1365	950	1110	369	3800						
60	1500	600	1450	1040	1240	402	4600						
64	1600	600	1700	1150	1271	416	6080						
100	2500	700	2550	1745	2270	865	23500						

Face-to-face dimensions for valves in sizes above 48" & intermediate sizes are as per manufacturer's standard

All dimensions in mm and weights in kg



10" Class 600



32" Class 300

Size		Class 600						Class 900				Class 1500			
NPS	DN	A	B	C	ZN	ZF	Wt.	A	B	C	Wt.	A	B	C	Wt.
3	80	180	335	155			50								
4	100	190	372	170			60								
6	150	210	410	200			95	225	466	254	199	275	475	257	450
8	200	230	490	255			230	275	568	305	445	325	575	307	770
10	250	250	580	305			365	325	618	331	504	390	630	371	1323
12	300	270	600	335	61	4	395	375	700	407	710	450	720	414	1628
14	350	290	630	370	150	20	445	425	759	432	978	515	770	493	2860
16	400	310	750	410	172	25	735	475	825	483	1354	575	830	530	3630
18	450	330	816	455	226	40	910	500	875	534	1737	640	925	591	4730
20	500	350	820	475	263	50	1435	575	985	585	2212	700	1015	664	5500
24	600	390	990	565	353	72	1520	675	1055	661	3793	765	1090	780	8448
30	750	470	1200	665	470	106	2440								

All dimensions in mm and weights in kg

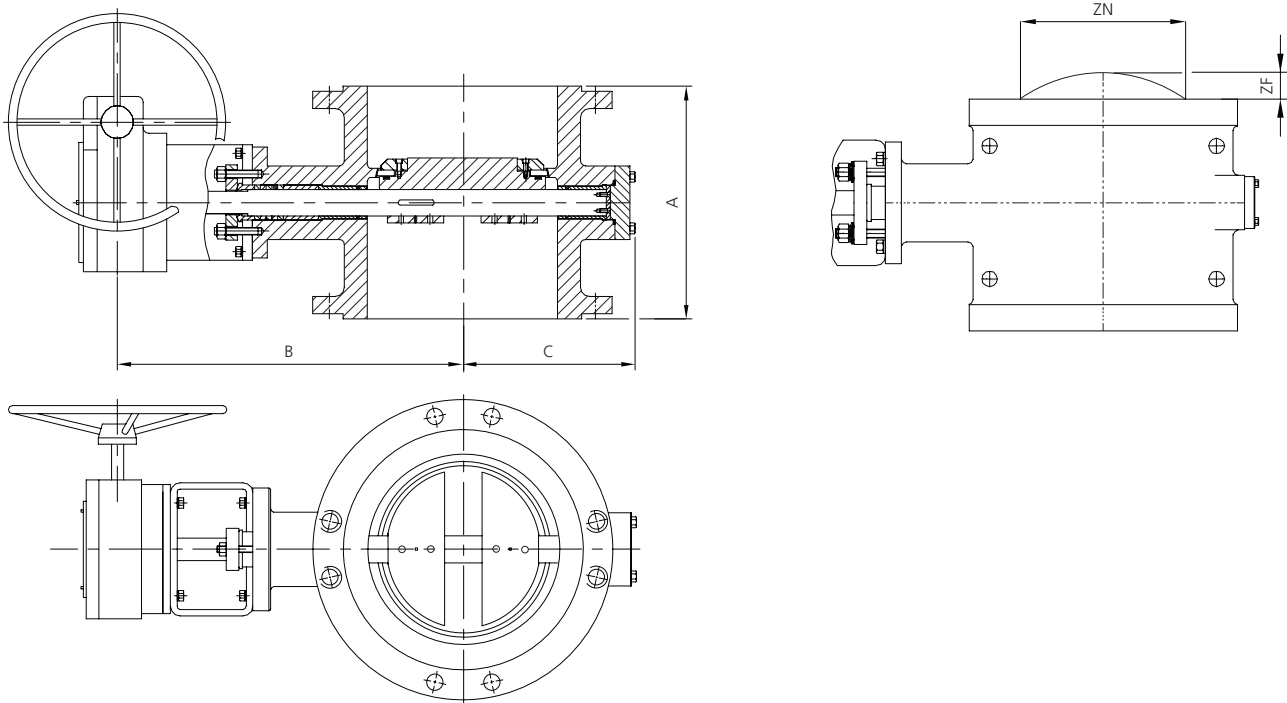
Class 600 - Face-to-face dimensions above 24" are manufacturer's standard

Class 900 - Face-to-face dimensions are as per ISO 5752 Ser. 8

Class 1500 - Face-to-face dimensions are as per manufacturer's standard

## Triple-offset Butterfly Valves - Long Pattern

Face-to-face dimensions of Flanged - Long Pattern valves conform to ASME B16.10 and are the same as that of comparable API 600 Gate Valves.



### Dimensions & Weights

Size		Class 150						Class 300			
NPS	DN	A	B	C	ZN	ZF	Wt.	A	B	C	Wt.
3	80	203	265	130			35	282	258	122	50
4	100	229	275	140			40	305	267	142	81
6	150	267	350	160			55	403	368	185	96
8	200	292	415	205			80	418	433	212	151
10	250	330	475	240			130	457	433	232	186
12	300	356	475	265			175	502	522	284	261
14	350	381	560	305			220	762	607	320	420
16	400	406	590	335			290	838	642	356	520
18	450	432	610	360			330	914	665	385	625
20	500	457	670	395			445	991	756	437	796
24	600	508	725	475	475	145	650	1143	920	510	1360
26	650	559	760	475	515	156	700	1245	920	512	1530
28	700	610	820	495	555	180	890	1346	952	548	2120
30	750	610	930	585	595	185	995	1397	980	600	2125
32	800	660	1000	640	677	224	1025	1524	1042	652	2475
34	850	711	1025	650	706	235	1270	1727	1092	685	3100
36	900	711	1030	675	740	250	1340	1727	1125	695	3249
38	950	762	1055	690	752	238	1470	1930	1178	762	4065
40	1000	762	1145	745	783	250	1910	1930	1250	790	4050
42	1050	787	1200	795	867	285	2180	1981	1290	840	5100
48	1200	864	1385	905	980	320	3230	2235	1500	938	6545
54	1350	1067	1365	950	1110	369	4450				
60	1500	1143	1450	1040	1240	402	5480				
64	1600	1372	1700	1150	1271	416	7495				

Face-to-face dimensions for valves in sizes above 36" are as per manufacturer's standard  
 All dimensions in mm and weights in kg



48" Class 150

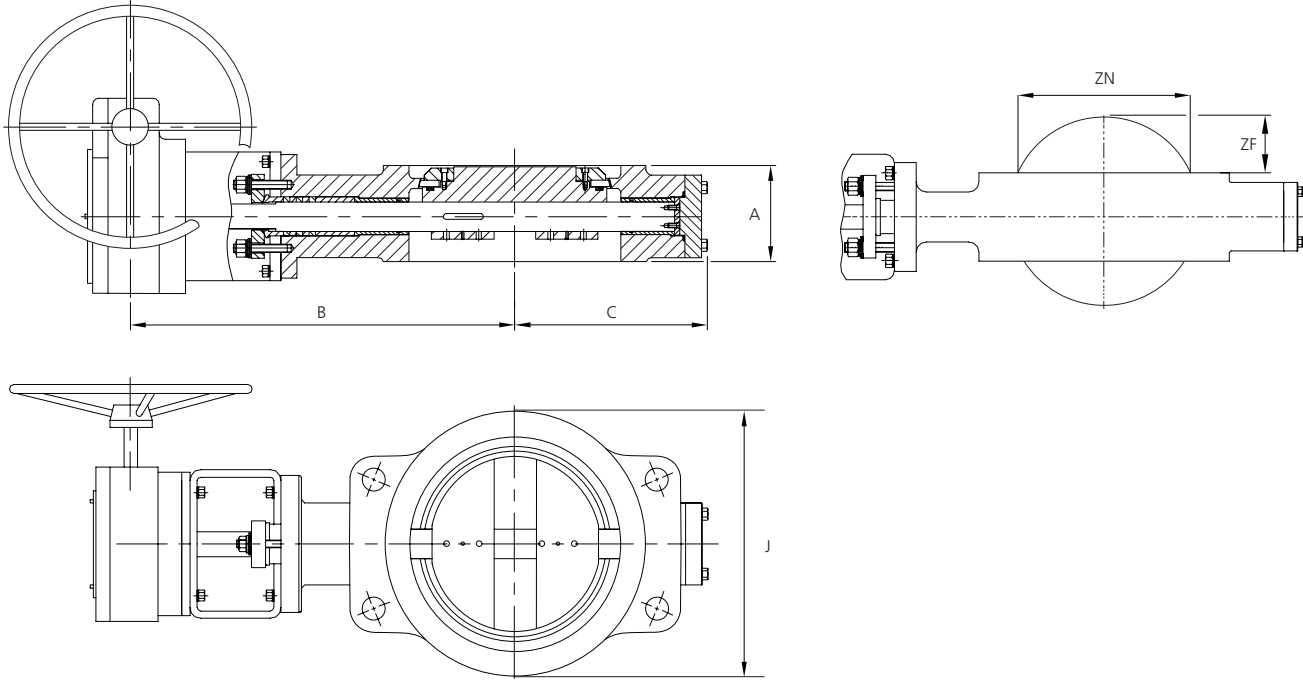
Size		Class 600				Class 900				Class 1500			
NPS	DN	A	B	C	Wt.	A	B	C	Wt.	A	B	C	Wt.
3	80	356	335	155	58								
4	100	432	372	170	75								
6	150	559	410	200	120	610	466	254	266	705	475	257	517
8	200	660	490	255	250	737	568	305	624	832	575	307	898
10	250	787	580	305	465	838	618	331	748	991	630	371	1549
12	300	838	600	335	528	965	700	407	1072	1130	720	414	1982
14	350	889	630	370	590	1029	759	432	1204	1257	770	493	3348
16	400	991	750	410	1070	1130	825	483	1756	1384	830	530	4312
18	450	1092	816	455	1265	1219	875	534	2545	1537	925	591	5673
20	500	1194	820	475	1560	1321	985	585	3290	1664	1015	664	6745
24	600	1397	990	565	2260	1549	1055	661	5239	1943	1090	780	10598
30	600	1651	1200	665	3950								

All dimensions in mm and weights in kg

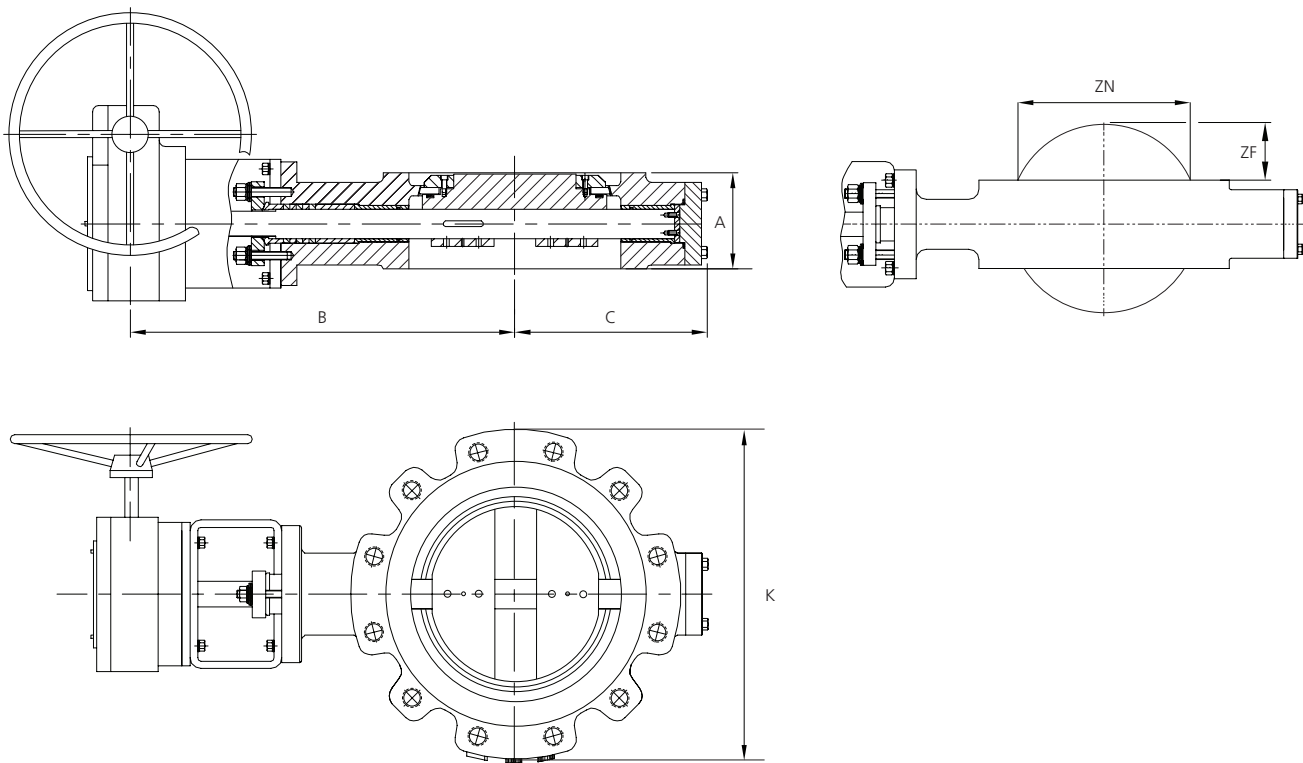
## Triple-offset Butterfly Valves - Wafer and Wafer-Lugged

Face-to-face dimensions of Triple-offset Butterfly Valves in Wafer Flangeless and Wafer Lugged constructions conform to API 609. The valves are compact in design and significantly lighter than comparable gate valves.

### Wafer-type



### Wafer-Lugged







12" Class 150

### Dimensions & Weights

Size		Class	A	B	C	ZN	ZF	Wafer-type		Lug-type	
NPS	DN							J	Wt.	K	Wt.
3	80	150	48	265	130	75	18	127	25	190	30
		300	48	265	130	71	18	127	31	210	40
		600	54	335	155	71	15	127	35	210	48
4	100	150	54	270	140	99	27	158	31	230	35
		300	54	267	148	94	27	158	60	255	71
		600	64	372	170	94	16	158	44	275	60
6	150	150	57	300	160	151	52	216	40	280	45
		300	59	350	195	143	52	216	58	320	76
		600	78	410	182	143	30	216	70	355	95
8	200	150	64	325	190	197	70	270	58	345	65
		300	73	423	222	188	70	270	97	380	126
		600	102	490	255	183	41	270	147	420	200
10	250	150	71	470	240	249	85	324	98	405	110
		300	83	435	250	242	85	324	120	445	156
		600	117	580	305	231	64	324	268	510	365
12	300	150	81	460	260	299	110	381	134	485	150
		300	92	535	295	292	110	381	166	520	216
		600	140	600	335	275	64	381	300	560	408
14	350	150	92	560	305	331	147	413	170	535	190
		300	117	610	330	324	147	413	235	585	305
		600	155	630	370	302	85	413	313	605	425
16	400	150	102	560	345	381	153	470	223	595	250
		300	133	642	370	375	153	470	292	650	380
		600	178	750	410	348	89	470	603	685	820
18	450	150	114	586	360	432	165	534	250	635	280
		300	149	690	400	422	165	534	323	710	420
		600	200	816	455	392	101	534	669	745	910
20	500	150	127	700	390	483	157	585	344	700	385
		300	159	755	450	472	157	585	408	775	530
		600	216	820	475	437	113	585	809	815	1100
24	600	150	154	725	455	578	220	693	491	815	550
		300	181	925	530	562	220	693	785	915	1020
		600	232	990	565	519	132	693	1118	940	1520

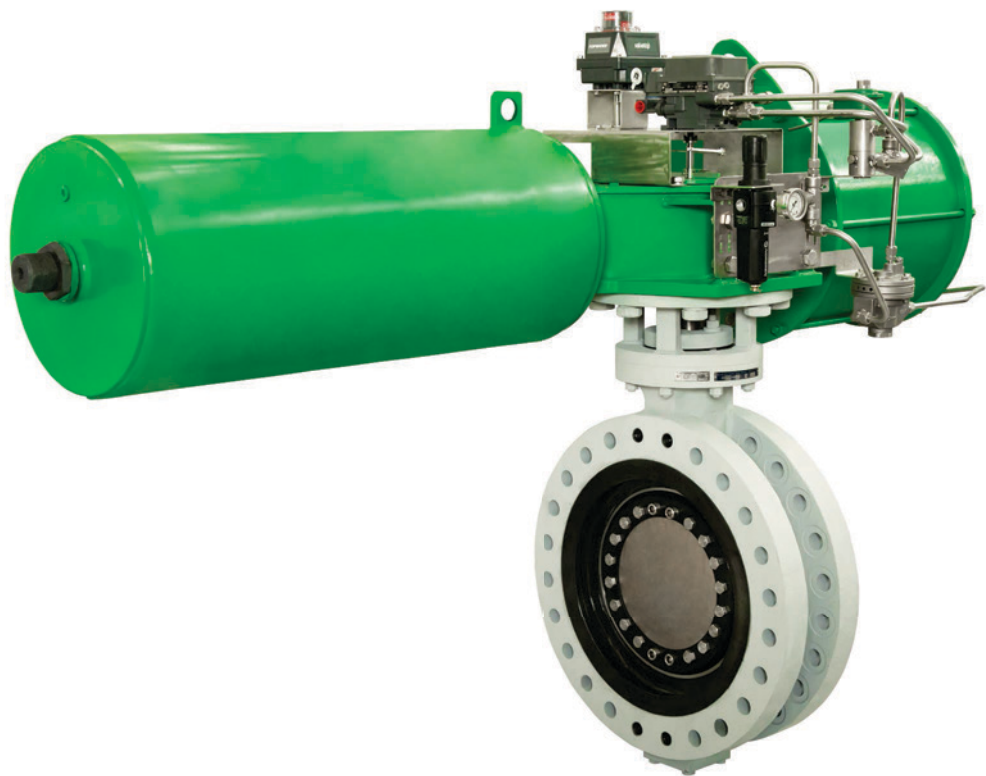
All dimensions in mm and weights in kg

## Ordering Information

Body Style	Class Rating	Face-to-face	End Detail	Operator
1 - Wafer-type	1 - Class 150	1 - API 609, Lug & Wafer-type	1 - ASME B16.5 Class 150	BS - Bare Shaft
2 - Wafer-Lugged	2 - Class 300	2 - API 609 SP/ ISO 5752 Table 1, Ser. 13	2 - ASME B16.5 Class 300	GU - Gear Unit
3 - Short Pattern (Double-flanged)	3 - Class 600	3 - ISO 5752 Table 1, Ser. 14	3 - ASME B16.47 Ser. A Class 150	EA - Electrical Actuator
4 - Long Pattern (Double-flanged)	4 - Class 900	4 - ISO 5752 Table 1, Ser. 8	4 - ASME B16.47 Ser. A Class 300	EH - Electro-Hydraulic Actuator
5 - Short Pattern (Butt-weld)	5 - Class 1500	5 - ASME B16.10, Long Pattern	5 - ASME B16.47 Ser. B Class 150	DA - Pneumatic Actuator, Double Acting
6 - Long Pattern (Butt-weld)	6 - PN 16	6 - Manufacturer Standard	6 - ASME B16.47 Ser. B Class 300	SR - Pneumatic Actuator, Spring Return
			7 - ASME B16.5 Class 600	
			8 - ASME B16.47 Ser. A Class 600	
			9 - ASME B16.47 Ser. B Class 600	
			A - ASME B16.5 Class 900	
			B - ASME B16.5 Class 1500	
			W - Butt-weld as per ASME B16.25	
			X- IS : 6392 - PN 16	
			Y- IS : 9523 - PN 16	
			Z- AWWA C 207 - Class E	

## Valves Automation Solutions

Leveraging in-house capabilities in system design, manufacture, integration and testing, L&T Valves offers a comprehensive range of SIL-capable Valve Automation Solutions that go beyond industry standards and customer expectations.



## The L&T Valves Advantage

- Versatile range of valves
- Flow-control expertise of over 55 years
- World-class manufacturing facility
- In-house capability to design and integrate customized automation solutions
- Designs reviewed by Functional Safety Engineer
- Flexibility to offer any combination of valve/ actuator/ accessory/ communication protocol
- New-build and retrofitting options for automation systems for valves
- Trained personnel for commissioning and service support
- Single-point warranty for the complete valve automation system

## Gate, Globe & Check Valves

Bolted Bonnet & Pressure-seal

#150 to 4500, Up to 72" (1800 mm)

Cryogenic Valves

Low Emission Valves

Bellow-sealed Valves

API monogrammed, SIL3-Capable



## Ball Valves

Trunnion-mounted

#150 to 2500, Up to 56" (1400 mm)

Side-entry and Top-entry

Soft-seated and Metal-seated

API monogrammed, SIL3-Capable

Floating Ball Valves, #150 to 2500, Up to 8" (200 mm)

Soft-seated and Metal-seated



## Butterfly Valves

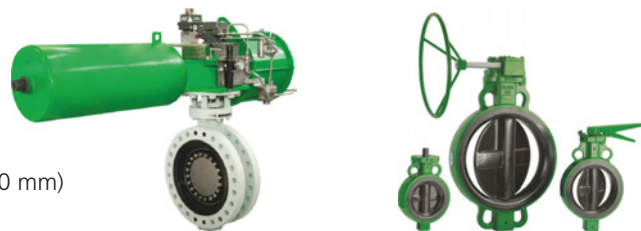
Triple-offset, #150 to 1500, Up to 100" (2500 mm)

API monogrammed, SIL3-Capable

Soft-seated, PN6 to PN25

Integrally-moulded - Wafer, Lugged & Flanged, Up to 36" (900 mm)

Large-size Flanged Valves, Up to 120" (3000 mm)



## Double Block and Bleed Plug Valves

#150 to 600,

Up to 42" (1050 mm)

API Monogrammed



## Valve Automation Solutions

SIL3-capable Automation Solutions

High Integrity Pressure Protection System (HIPPS),  
Emergency Shutdown Valves (ESDV)



## LAMP L&T Valves Asset Management Programme

Smart Valves with diagnostic and communication modules



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