Globe Control Valves - T-Series

Top-Guided Design

ASME Class 150 to 600 | 1″-8″ (25 mm to 200 mm)

L&T Valves

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
- Valves for Power
- Pipeline & Process Ball Valves
- Triple-offset Butterfly Valves
- Flanged & Wafer-type Butterfly Valves
- Double Block and Bleed Plug Valves
- Control Valves
- Customized Solutions including HIPPS

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) also are offered.

Valve manufacturing at L&T Valves leverage 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.

L&T Valves manufactures a comprehensive range of Globe and Butterfly Control Valves. Globe Control Valves are available in two designs:

- T-Series valves with Top-guided trim
- C-Series valves with Cage-guided trim

T-Series range comprises valves in sizes 1" (25 mm) to 8" (200 mm), in ASME classes 150 to 600. The valves with single-ported bodies (cast/ forged) and top-entry quick-change trim are offered in various configurations to suit myriad applications in power and hydrocarbon.

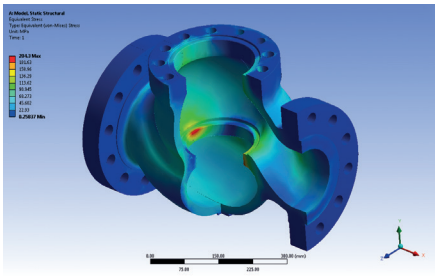
T-series valves are also offered with anti-cavitation (CATT™) and low-noise (μ.dB™) trims to meet process requirements. For lethal and zero-fugitive-emission services the valves can be offered with metal bellows seals.

Compliance Standards

Parameter		Standard
Design	Pressure-Temperature Rating	ASME B16.34
	Leakage Class	ANSI/ FCI 70-2
	Hydrodynamic Noise	IEC 60534-8-4
	Aerodynamic Noise	IEC 60534-8-3
Ends	End Flange Dimensions	ASME B16.5
	Butt-weld End Dimensions	ASME B16.25
	Socket-weld End Dimensions	ASME B16.11
Testing	Hydrostatic	ANSI/ ISA-75.19.01
	Functional	IEC 60534-4
	C_v Testing	ANSI/ ISA-75.02.01

Range

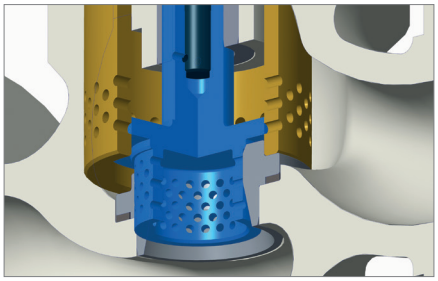
Ends	ASME Class	1	1½	2	3	4	6	8
		25	40	50	80	100	150	200
Socket-weld	150	•	•	•				
	300	•	•	•				
	600	•	•	•				
Raised Face	150	•	•	•	•	•	•	•
	300	•	•	•	•	•	•	•
	600	•	•	•	•	•	•	•
Ring-type Joint	150							
	300	•	•	•	•	•	•	•
	600	•	•	•	•	•	•	•
Butt-weld	150				•	•	•	•
	300				•	•	•	•
	600				•	•	•	•



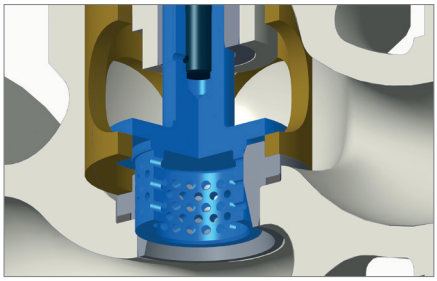
T-Series Globe Control Valves are designed for long reliable performance. Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) are used to fine-tune product performance.

The valves are tested in-house and at leading flow-control research establishments to ensure that actual product flow coefficients are in line with design calculations.

To address process phenomenon that impact valve performance and life, L&T Valves has developed special trims including CATT™ (anti-cavitation trim) and µ.dB™ (low-noise trim).



CATT



µ·dB

T-Series Globe Control Valves are manufactured at L&T Valves facility at Coimbatore where state-of-the-art infrastructure and proven expertise come together. The quality management system is certified to comply with ISO 9001: 2008. Established processes control all stages of the manufacture to ensure quality consistent with international standards and customer requirements. The valves can be offered with IBR certification and CE marking (PED 97/ 23/ EC).

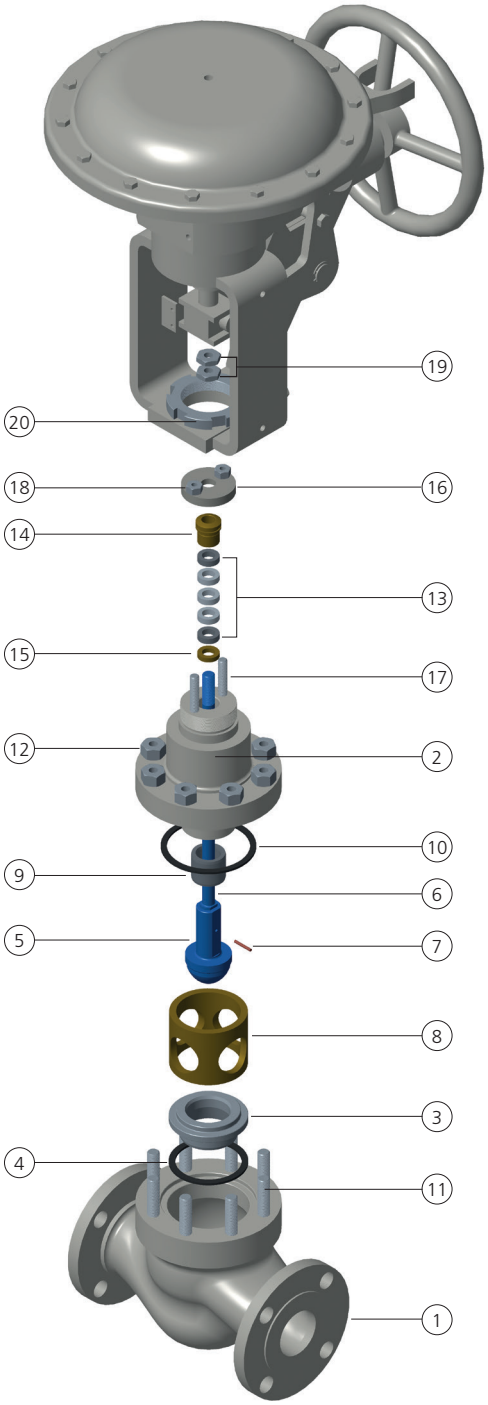
Dimensional accuracy and consistency are built into each valve by using CNC and special purpose machines.High performance is obtained by leveraging in-house capabilities in automation and system integration. All valves are tested as per IEC 60534-4 for linearity,hysteresis, dead band, etc.

International health, safety and environment standards govern the manufacturing process. L&T Valves plants are zero discharge units and are pioneers in green initiatives.

Hysteresis Test

Fugitive Emission Test

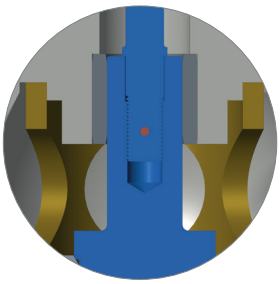
Typical Construction



No.	Description	Standard Materials
1	Body	ASTM A216 Gr. WCB/ WCC ASTM A351 Gr. CF3/ CF3M/ CF8/ CF8M ASTM A217 Gr. WC6/ WC9/ C12/ C12A ASTM A352 Gr. LCB/ LCC
2	Bonnet	ASTM A216 Gr. WCB/ WCC ASTM A351 Gr. CF3/ CF3M/ CF8/ CF8M ASTM A217 Gr. WC6/ WC9/ C12/ C12A ASTM A352 Gr. LCB/ LCC
3	Seat	Austenitic: SS 304/ 304L/ 316/ 316L with HF SS 304/ 304L/ 316/ 316L with RPTFE Insert (Class VI only) Martensitic: SS 410/ 420/ 422/ 440C SS 410/ 420/ 422/ 440C with RPTFE Insert (Class VI only)
4	Seat Gasket	Spirally-wound SS 316L with Graphite Filler
5	Plug	Austenitic: SS 304/ 304L/ 316/ 316L with HF Martensitic: SS 410/ 420/ 422/ 440B
6	Stem	SS 304/ 316 SS 410/ 420 17-4pH ASTM A638 Gr. 660 HT
7	Pin	SS 316/ 410
8	Cage	Austenitic: SS 304/ 304L/ 316/ 316L SS 304/ 304L/ 316/ 316L with Nitriding Martensitic: SS 410/ 420/ 422/ 440C
9	Guide Bush	Stellite No. 6 SS 440C
10	Body Gasket	Spirally-wound SS 316L with Graphite Filler
11	Body Stud	ASTM A193 Gr. B7 ASTM A193 Gr. B16 ASTM A193 Gr. B8
12	Body Hex Nut	ASTM A194 Gr. 2H ASTM A194 Gr. 7 ASTM A194 Gr. 8
13	Packing	PTFE Packing (standard) PTFE Chevron V-Ring Flexible Graphite Packing Double Graphite Packing
14	Gland	SS 304/ 304L/ 316/ 316L/ 410
15	Spacer/ Lantern Ring (Optional)	SS 304/ 304L/ 316/ 316L/ 410
16	Gland Flange	SS 304/ 304L/ 316/ 316L/ 410 or ASTM A105 + Zinc-plated
17	Gland Flange Stud	ASTM A193 Gr. B7 + Zinc-plated ASTM A193 Gr. B16 + Zinc-plated ASTM A193 Gr. B8
18	Gland Flange Hex Nut	ASTM A194 Gr. 2H + Zinc-plated ASTM A194 Gr. 7 + Zinc-plated ASTM A194 Gr. 8
19	Stem Lock Nut	SS 304/ 410
20	Actuator Lock Nut	Carbon Steel + Zinc-plated

NACE valves and valves in other materials available on demand

T-Series Globe Control Valves are single-ported valves with quick-change trim and unbalanced plug.

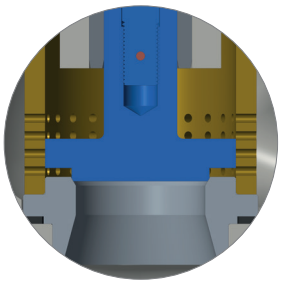


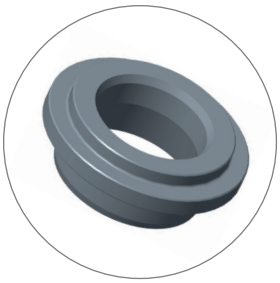
Top-Guiding

The plug is guided using its top part (plug shank) during valve operation. Top-Guiding reduces plug vibration, and enhances stability and safety during the entire working cycle.

Clamped Quick-Change Trim

The body seat is clamped in place using the cage and not screwed or welded, and this permits quicker replacement of trim.





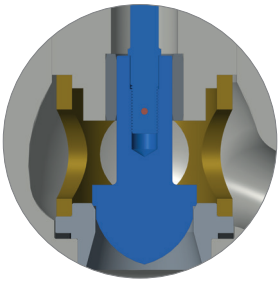
Seat Leakage

ANSI Class IV is the default leakage class for T-Series Globe Control Valves. Valves that meet Class V and Class VI requirements can be offered through optimum selection of actuator and seat material.

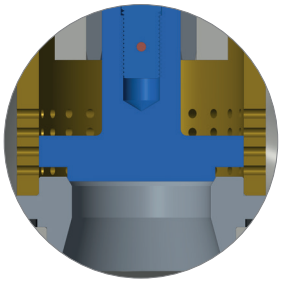
Actuation

Single-spring diaphragm actuators are provided as default. Fail-open, fail-close and special manual override options are also offered based on application.

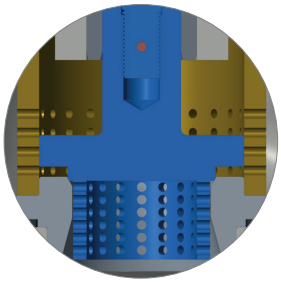
Trim Variants



Contoured-plug trim



Single-stage trim

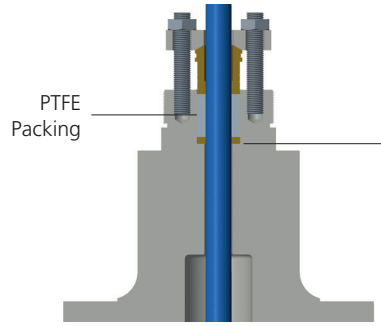


Double-stage trim

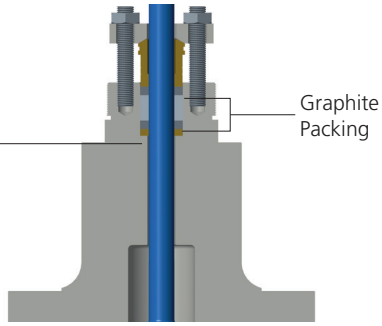
Stuffing Box Variants

Single PTFE	Double PTFE	Single Graphite	Double Graphite
Low temperature ≤200°C	Low temperature ≤200°C	Low & high temperature	Low & high temperature
Chevron rings / Standard PTFE die-moulded rings	Chevron rings / Standard PTFE die-moulded rings	Braided end-rings & Die-moulded seal rings	Braided end-rings & Die-moulded seal rings
-	With or without live loading		
-	Vacuum service		
-	Low emission		

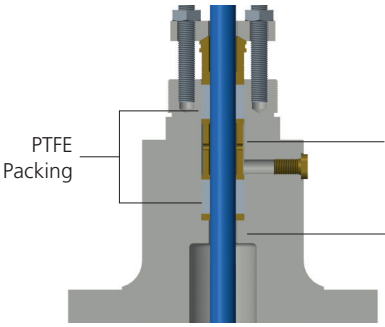
Other stuffing box variants available on demand



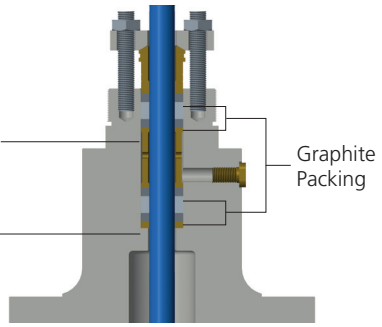
Single PTFE



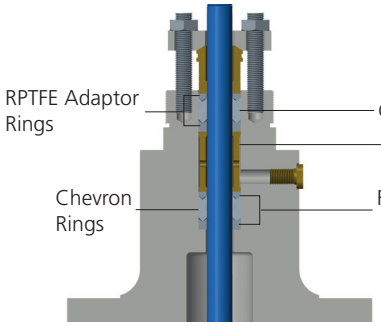
Single Graphite



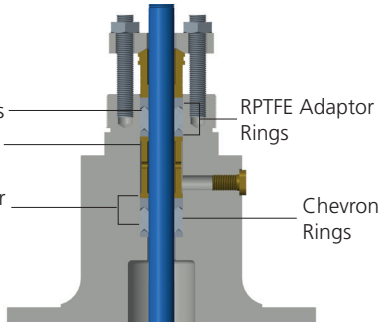
Double PTFE with Lantern Ring



Double Graphite with Lantern Ring

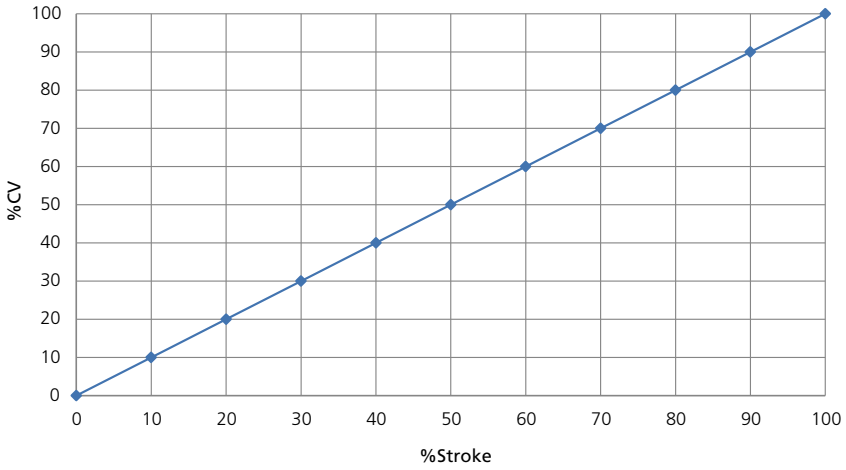


Double PTFE with Chevron - Vacuum Service

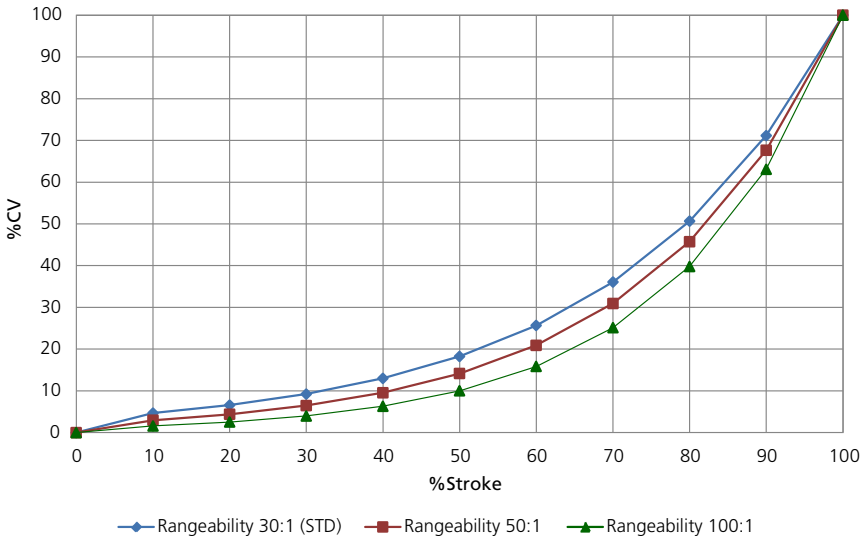


Double PTFE with Chevron - Low Emission

Standard Linear - Default



Equal Percentage - Optional



Flow Data for Valves with Contoured Plug - Equal Percentage (Rangeability 30:1)

(ASME Class 150 to 600)

Travel %				10	20	30	40	50	60	70	80	90	100
F_L				0.93	0.93	0.92	0.92	0.91	0.91	0.91	0.9	0.9	0.9
Size NPS	Orifice (mm)	Stroke (mm)	Coefficients	Parameters									
1	22	20	C_v	0.6	0.8	1.1	1.6	2.2	3.1	4.3	6.1	8.5	12
			X_t	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
	11	20	C_v	0.3	0.4	0.6	0.8	1.1	1.5	2.2	3.1	4.3	6
			X_t	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
	6	20	C_v	0.1	0.2	0.3	0.4	0.6	0.8	1.1	1.5	2.1	3
			X_t	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
1½	33	20	C_v	1.2	1.8	2.5	3.5	4.9	6.9	9.7	13.7	19.2	27
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
	22	20	C_v	0.6	0.8	1.1	1.6	2.2	3.1	4.3	6.1	8.5	12
			X_t	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8
	11	20	C_v	0.3	0.4	0.6	0.8	1.1	1.5	2.2	3.1	4.3	6
			X_t	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
2	44	20	C_v	2.3	3.2	4.4	6.2	8.8	12.3	17.3	24.3	34.2	48
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
	33	20	C_v	1.2	1.8	2.5	3.5	4.9	6.9	9.7	13.7	19.2	27
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
	22	20	C_v	0.6	0.8	1.1	1.6	2.2	3.1	4.3	6.1	8.5	12
			X_t	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8
3	66	40	C_v	5.1	7.1	10	14	19.7	27.7	38.9	54.7	76.9	108
			X_t	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
	55	40	C_v	3.5	4.9	6.9	9.8	13.7	19.2	27	38	53.4	75
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9
	44	40	C_v	2.3	3.2	4.4	6.2	8.8	12.3	17.3	24.3	34.2	48
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
4	88	50	C_v	8.9	12.5	17.5	24.6	34.6	48.6	68.4	96.1	135.2	190
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9
	66	50	C_v	5.1	7.1	10	14	19.7	27.7	38.9	54.7	76.9	108
			X_t	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
	55	50	C_v	3.5	4.9	6.9	9.8	13.7	19.2	27	38	53.4	75
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9
6	132	50	C_v	16.9	23.4	33.3	46.8	65.7	92.4	129.8	182.3	256.2	360
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.9	0.9
	88	50	C_v	8.9	12.5	17.5	24.6	34.6	48.6	68.4	96.1	135.2	190
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9
	66	50	C_v	5.1	7.1	10	14	19.7	27.7	38.9	54.7	76.9	108
			X_t	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
8	176	50	C_v	29.9	42.1	59.1	83.1	116.7	164.1	230.6	324.1	455.4	640
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.8	0.8
	132	50	C_v	16.9	23.4	33.3	46.8	65.7	92.4	129.8	182.3	256.2	360
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.9	0.9
	88	50	C_v	8.9	12.5	17.5	24.6	34.6	48.6	68.4	96.1	135.2	190
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9

F_L - Liquid Pressure Recovery Factor, C_v - Flow Coefficient, X_t - Pressure Differential Ratio

Flow Data for Valves with Contoured Plug - Linear
(ASME Class 150 to 600)

Travel %				10	20	30	40	50	60	70	80	90	100
F_L				0.93	0.93	0.92	0.92	0.91	0.91	0.91	0.9	0.9	0.9
Size NPS	Port Ø (mm)	Stroke (mm)	Coefficients	Parameters									
1	22	20	C_v	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12
			X_t	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
	11	20	C_v	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6
			X_t	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
	6	20	C_v	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3
			X_t	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
1½	33	20	C_v	2.7	5.4	8.1	10.8	13.5	16.2	18.9	21.6	24.3	27
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
	22	20	C_v	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12
			X_t	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8
	11	20	C_v	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6
			X_t	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8
2	44	20	C_v	4.4	8.8	13.2	17.6	22	26.4	30.8	35.2	39.6	44
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
	33	20	C_v	2.7	5.4	8.1	10.8	13.5	16.2	18.9	21.6	24.3	27
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
	22	20	C_v	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12
			X_t	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8
3	66	40	C_v	10.8	21.6	32.4	43.2	54	64.8	75.6	86.4	97.2	108
			X_t	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
	55	40	C_v	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9
	44	40	C_v	4.4	8.8	13.2	17.6	22	26.4	30.8	35.2	39.6	44
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
4	88	50	C_v	19	38	57	76	95	114	133	152	171	190
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9
	66	50	C_v	10.8	21.6	32.4	43.2	54	64.8	75.6	86.4	97.2	108
			X_t	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
	55	50	C_v	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9
6	132	50	C_v	36	72	108	144	180	216	252	288	324	360
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.9	0.9
	88	50	C_v	19	38	57	76	95	114	133	152	171	190
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9
	66	50	C_v	10.8	21.6	32.4	43.2	54	64.8	75.6	86.4	97.2	108
			X_t	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
8	176	50	C_v	64	128	192	256	320	384	448	512	576	640
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.8	0.8
	132	50	C_v	36	72	108	144	180	216	252	288	324	360
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.9	0.9
	88	50	C_v	19	38	57	76	95	114	133	152	171	190
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9

F_L - Liquid Pressure Recovery Factor, C_v - Flow Coefficient, X_t - Pressure Differential Ratio

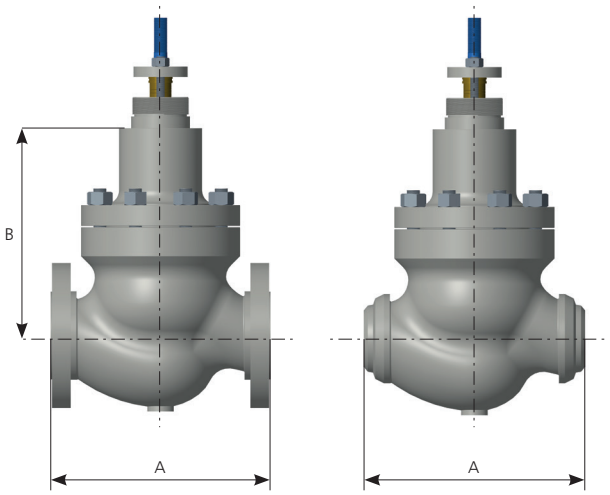
Flow Data for Valves with Single-stage Trim - Linear
CATT-1 & µdB-1 (ASME Class 150 to 600)

Travel %				10	20	30	40	50	60	70	80	90	100
F_L				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Size NPS	Port Ø (mm)	Stroke (mm)	Coefficients	Parameters									
1	22	20	C_v	0.8	1.5	2.3	3	3.8	4.5	5.3	6	6.8	7.5
			X_t	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8
1½	33	20	C_v	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
			X_t	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
2	44	20	C_v	2.8	5.5	8.3	11	13.8	16.5	19.3	22	24.8	27.5
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9
3	66	40	C_v	6	12	18	24	30	36	42	48	54	60
			X_t	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9
4	88	40	C_v	10.5	21	31.5	42	52.5	63	73.5	84	94.5	105
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.9	0.9
6	132	50	C_v	18	36	54	72	90	108	126	144	162	180
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.8	0.8
8	176	50	C_v	32	64	96	128	160	192	224	256	288	320
			X_t	0.6	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.8	0.8

Flow Data for Valves with Double-stage Trim - Linear
CATT-2 & µdB-2 (ASME Class 150 to 600)

Travel %				10	20	30	40	50	60	70	80	90	100
F_L				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Size NPS	Port Ø (mm)	Stroke (mm)	Coefficients	Parameters									
1	22	20	C_v	0.5	0.9	1.4	1.9	2.4	2.8	3.3	3.8	4.2	4.7
			X_t	0.64	0.60	0.64	0.63	0.64	0.63	0.64	0.68	0.77	0.83
1½	33	20	C_v	1	1.9	2.9	3.8	4.8	5.8	6.7	7.7	8.7	9.6
			X_t	0.63	0.65	0.66	0.69	0.67	0.67	0.70	0.70	0.76	0.82
2	44	20	C_v	1.8	3.5	5.3	7	8.8	10.6	12.3	14.1	15.8	17.6
			X_t	0.56	0.64	0.66	0.68	0.70	0.72	0.78	0.77	0.86	0.92
3	66	40	C_v	3.8	7.7	11.5	15.4	19.2	23	26.9	30.7	34.6	38.4
			X_t	0.62	0.64	0.69	0.69	0.69	0.72	0.76	0.79	0.84	0.89
4	88	40	C_v	6.7	13.4	20.2	26.9	33.6	40.3	47	53.8	60.5	67.2
			X_t	0.55	0.63	0.68	0.72	0.67	0.61	0.68	0.83	0.86	0.87
6	132	50	C_v	11.5	23	34.6	46.1	57.6	69.1	80.7	92.2	103.7	115.2
			X_t	0.62	0.63	0.68	0.66	0.67	0.61	0.68	0.75	0.82	0.82
8	176	50	C_v	20.5	41	61.4	81.9	102.4	122.9	143.4	163.8	184.3	204.8
			X_t	0.55	0.58	0.68	0.66	0.67	0.61	0.69	0.75	0.82	0.82

F_L - Liquid Pressure Recovery Factor, C_v - Flow Coefficient, X_t - Pressure Differential Ratio



Dimensions

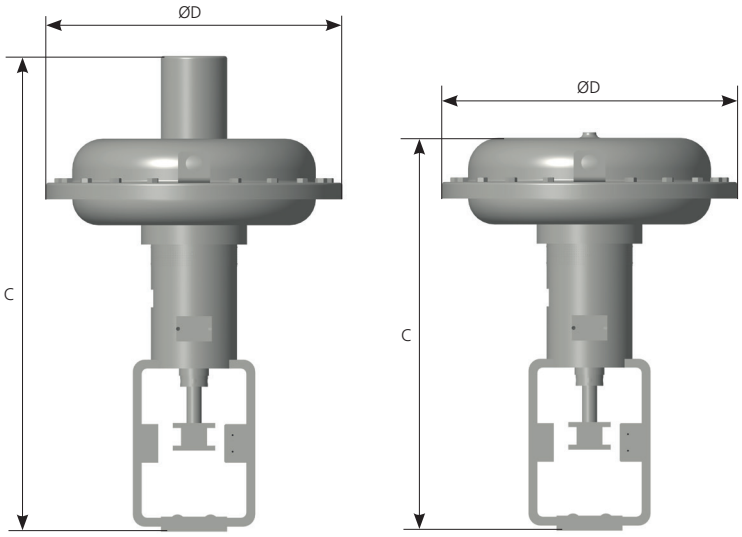
Size NPS	A								B
	Class 150		Class 300			Class 600			
	BW/ SW	RF	BW/ SW	RF	RTJ	BW/ SW	RF	RTJ	
1	187	184	187	197	210	187	210	210	160
1½	222	222	222	235	248	222	251	251	160
2	254	254	254	267	283	254	286	289	180
3	318	298	318	318	334	318	337	340	230
4	368	352	368	368	384	368	394	397	250
6	451	451	451	473	489	451	508	511	350
8	543	543	543	568	584	543	610	613	390

All dimensions in mm

Weights

Size NPS	Class 150		Class 300				Class 600			
	SW	RF	SW	RF	RTJ	BW	SW	RF	RTJ	BW
1	13	18	13	18	18		13	19	19	
1½	18	24	18	24	24		18	26	26	
2	22	29	22	29	29		22	32	32	
3		64		64	64	36		64	64	50
4		98		98	98	61		108	108	67
6		177		177	177	119		224	224	135
8		340		340	340	305		385	385	350

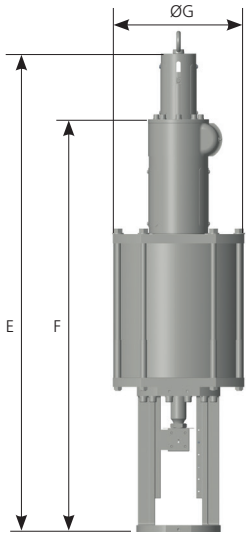
All weights in kg



Dimensions & Weights - Spring & Diaphragm Actuator

Model	C	D	Weight
	Direct/ Reverse	Direct/ Reverse	Direct/ Reverse
S320	550	275	55
S550	650	350	65
S700	750	395	75
S960	950	460	135
S1400	1000	545	165
S1920	1050	620	185

All dimensions in mm and weights in kg. Handwheel variants available on demand.



Dimensions & Weights - Piston Actuator

Model	DASR	DA	DA & DASR	Weight	
	E	F	G	DA	DASR
PA150	660	420	200	38	56
PA250	860	450	270	60	78
PA350	1210	660	400	106	160
PA400	1070	630	490	134	193
PA500	1070	630	590	189	243

All dimensions in mm and weights in kg. Handwheel variants available on demand.
DA - Double Acting; DASR - Double Acting with Spring Return

Ordering Information

Size NPS	Port	Class	Trim Variant	Valve MOC	Trim MOC	Char.	Leakage Class	Ends	Actuator	Fail Safe Position
A - 1	F - Full	0 - 150	0 - Contoured-plug	A - WCB	A - SS 410	L - Linear	4 - IV	1 - FLG FF	1 - Pneumatic - Spring & Diaphragm	FO - Fail-open
B - 1½	R1 - Reduced 1	3 - 300	1 - Single-stage	B - WCC	B - SS 420	E - EQP	5 - V	2 - FLG RF	2 - Pneumatic - Piston (SR)	FC - Fail-close
C - 2	R2 - Reduced 2	6 - 600	2 - Double-stage	C - LCB	C - SS 422	Q - Quick Open	6 - VI	3 - FLG RTJ	3 - Pneumatic - Piston (DA)	FS - Fail Stay-put
D - 3				D - LCC	D - SS 440			4 - SW	4 - Electrical	
E - 4				E - WC6	E - SS 304 + HF			5 - BW	5 - Electro-Hydraulic	
F - 6				F - WC9	F - SS 304L + HF					
G - 8				G - C12	G - SS 316 + HF					
				H - C12A	H - SS 316L + HF					
				J - CF3	J - SS 304 + Soft Seat					
				K - CF3M	K - SS 304L + Soft Seat					
				L - CF8	L - SS 316 + Soft Seat					
				M - CF8M	M - SS 316L + Soft Seat					

Standard Accessories
Air filter Regulator - ¼", ½"
Positioner - Smart HART/ Foundation Fieldbus®
Position Transmitter - Integral with positioner (4-20mA)
Limit Switches - Mechanical or Sensor type
Volume Booster - For fast stroking

L&T Valves

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Publication Number: VC008/0916