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Simply Unique Diaphragm Valves

Alfa Laval Unique DV-ST UltraPure



Concept

The standard Unique DV-ST UltraPure is designed either for manual operation or for Pneumatic operation. The valve consist of a valve body, diaphragm, handle or actuator. Optional Sensing and control units are available. With a fully modular design the Unique DV-ST UltraPure can be built to meet virtually any demand within most industries.
The valves are primarily used in biotech and pharmaceutical industries however they are also widely used in aseptic and hygienic processes as well as in utility systems within dairy, beverage and food industries.

Working principle

Manual operation
A simple turn of the handle will push the compressor downwards on the diaphragm, pressing the diaphragm against the weir of the valve body thereby closing the valve

Pneumatic operation
The actuator controls the axial movement of a piston, thereby opening or closing the valve depending on the actuator function.

Valve Body Design

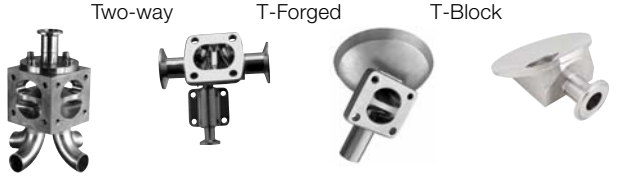
The valve bodies are available in a wide variety of valve types and configuration options (dimension standards, connections, surface finish and material).

- 2-way
- T
- Tank outlet
- Tandem
- Multi-port

Configurator available.



Two-way T-Forged T-Block



Multi-port Tandem Tank outlet-forged Tank outlet-block

Physical data

Materials

Body types	Cast CF3M (316L)	Forged 1.4435 (316L)	Block* 1.4435 (316L)
2-way	✓	✓	✓
T		✓	✓
Tank outlet		✓	✓
Tandem	✓	✓	✓
Multi-port			✓

* Other materials on request

	Cast	Forged and block
Material	CF3M (316L)	1.4435 (316L)
Delta ferrite	< 2.0%	< 0.5%
Sulphur content	< 0.04%	0.005-0.017%
Internal surface finish	Ra < 0.5µm Ra < 0.4µm EP [1)]	Ra < 0.5µm Ra < 0.4µm EP [1)]
External surface finish	Blasted	Blasted

[1)]Electro Polished

0.5µm = SF1, 0.4µm = SF4

Sensing and control units:
A wide range of sensing and control units are available for actuators consisting of:

- Controls unit
- Indication units
- ATEX units
- Stroke limiters

Documentation
All UltraPure valves are delivered with our comprehensive Q-Doc documentation package, which includes:

- 3.1/ MTR traceability certificate corresponding to EN 10204
- FDA - Declaration of conformity to FDA (CFR 21: 177.2600 or 177.1550)
- USP - Certificate of conformity to USP Class VI (Chapter 88, biological reactivity test)
- TSE/ADI - Declaration (Transmissible Spongiform Encephalopathy/Animal Derived Ingredients)
- Surface finish conformity declaration

The following documentation is available upon request:

- Surface finish certificate (Ra test results)
- ATEX certificate

Handle and actuator:
The diaphragm valves can be operated by a handle or a pneumatic actuator. Alfa Laval offers 2 different types of manual handles and 1 type of pneumatic actuator.

Actuator

	
Model	SS
Sizes	DN 8 - 80 1/4" - 3"
Housing	Stainless steel
Intermediate part	Stainless steel
Compressor, stem	Stainless steel
Max. product working pressure, EPDM	10 bar
Max. product working pressure, PTFE	6 bar
Max. air temperature	80°C
Max. air pressure	7 bar
ATEX,	✓
Autoclavable	✓ 1)
Leakage Detection	✓

1) 121°C for max. 60 min

Handles

			
Model	SS/SS	SS/SS	C/SS
Size	DN 8 - 50 1/4" - 2"	DN 65 - 80 2½" - 3"	DN 8 - 80 1/4" - 3"
Handwheel	Stainless steel	Stainless steel	POM2)
Bonnet	Stainless steel	Stainless steel	Stainless steel
Spindle + compressor1)	Stainless steel	Stainless steel	Stainless steel
Max. product pressure	10 bar	10 bar	10 bar
Overclosure protection	✓	✓	✓
Optical positioner	✓	✓	✓
Lockable			
Autoclavable	✓ 3)	✓ 3)	✓ 3)
Leakage Detection	✓	✓	✓

1) For DN 65 and up, the compressor is nickel plated cast iron

2) POM (Polyoxymethylene)

3) 121°C for max. 60 min.

Diaphragms



The diaphragms are available as soft elastomer (EPDM) as well as hard elastomers (PTFE/EPDM and TFM/EPDM).

The hard elastomers are supported by a soft elastomer (EPDM). The 2-piece design allows the two elastomers to work independently of each other, thereby reducing tension caused by different thermal properties.

Diaphragms are available with 3 different types of connections: thread, bayonet and button connection.

- Threaded connections are used on soft elastomers ≥ DN 25 (1")
- Bayonet connections are used on all hard elastomer ≥ DN 15 (1/2")
- Button connections are used on all small sizes.

Material selection:

Each application has different working conditions and therefore different demands on the diaphragm. In order to select the most suitable diaphragm for your application, the following factors should be considered:

- Working pressure
- Application temperatures
- Process fluids (product, cleaning liquid, sterilisation, passivation, etc.)

Soft elastomer (EPDM) is suitable for most applications and for high working temperatures. Including continuous steam application.

Hard elastomers offer the highest possible degree of chemical resistance. Our TFM (PFTE grade) elastomer is a more flexible material and has some of the features of soft elastomer including for example low creep.

For further information, please see below or contact Alfa Laval for further guidance.

Diaphragm properties:

Description	Temperature recommendations °C			Documentation			Available sizes	Available Diaphragm connections:		
	Min.	Max. Liquid	Max. Steam	FDA	USP	TSE		Button	Thread	Bayonet
EPDM	-40°C	130°C	150°C [1]	✓	✓	✓	DN 8 - 80	DN 8 - 20	DN 25 - 80	
PTFE/EPDM	-5°C	175°C	150°C [2]	✓	✓	✓	DN 15 - 80			DN 15 - 80
TFM/EPDM	-5°C	175°C	150°C [2]	✓	✓	✓	DN 8 - 80	DN 8 - 10		DN 15 - 80

[1] Continuous temperature

[2] 40 min. steam sterilisation

FDA - Declaration of conformity to FDA (CFR 21: 177.2600 or 177.1550)
USP - Certificate of conformity to USP Class VI (chapter 88, biological reactivity test)
TSE/ADI Declaration (Transmissible Spongiform Encephalopathy /Animal Derived Ingredients)

Pressure drop / capacity table

Kv value (Pipe standard ISO 4200)

Lift in %	kv in l/min. Δp = 1 bar DN 8 (1/4")	DN 15 (1/2")	DN 20 (3/4")	DN 25 (1")	DN 40 (1½")	DN 50 (2")	DN 65 (2½")	DN 80 (3")
100	27	70	146	218	684	1156	1571	2533
90	27	68	140	210	667	1116	1480	2515
80	26	67	133	201	625	1076	1445	2462
70	25	64	124	194	610	994	1365	2312
60	23	59	101	165	545	893	1210	2170
50	20	47	87	142	457	750	1044	1925
40	18	35	55	115	345	606	835	1565
30	11	22	43	65	310	424	625	845
20	10	17	20	25	180	222	280	401
10	2	5	7	14	50	64	125	195

Kv value (Pipe standard O.D. Tubing)

Lift in %	kv in l/min. Δp = 1 bar DN 8 (1/4")	DN 15 (1/2")	DN 20 (3/4")	DN 25 (1")	DN 40 (1½")	DN 50 (2")	DN 65 (2½")	DN 80 (3")
100	3.4	35	99	180	426	914	1395	2066
90	3.3	35	99	173	425	914	1394	2066
80	3.3	34	97	155	410	913	1393	2058
70	3.3	33	95	145	401	910	1311	2030
60	3.3	33	94	140	388	882	1210	1950
50	3.2	31	90	105	349	776	1090	1753
40	3.1	28	76	95	335	665	872	1445
30	3.1	19	65	66	265	525	630	940
20	3.0	10	45	48	139	370	250	300
10	2.6	3	10	10	22	67	88	142

Cv = 1.16 x Kv

Note!

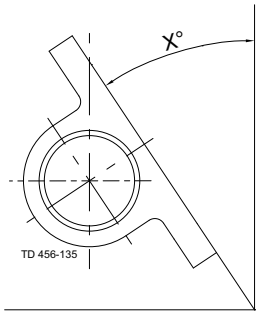
For the diagrams the following applies:

Medium: Water (20 °C)

Measurement: In accordance with VDI2173

Drain angle x :

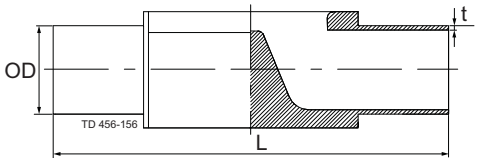
Port size DN	Inch	ASME BPE	ISO 2037	DIN11850 (Series A)	ISO 1127 (Series B)
8	¼"	37°	27°	27°	22°
10	⅜"	33°	28°	28°	31°
15	½"	32°	23°	23°	18°
20	¾"	26°	23°	23°	15°
25	1"	22°	25°	21°	20°
40	1 ½"	24°	24°	22°	18°
50	2"	24°	24°	23°	20°
65	2 ½"	20°	22°	19°	15°
80	3"	22°	25°	22°	15°



2-way bodies:

2-way bodies are the standard configuration for shut off and regulating functions.
The 2-way bodies are available from forged or cast material.

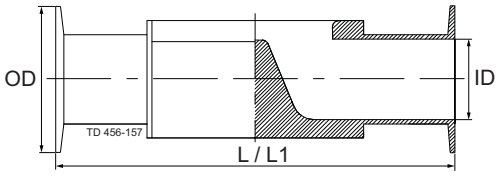




Weld ends: (mm)

Port size		Length	ASME BPE	ISO 2037	DIN11850[1] (Series A)	ISO1127[1] (Series B)
DN	Inch	L	OD x t	OD x t	OD x t	OD x t
8	¼”	89	6.35 x 0.89	12.00 x 1.00	10.00 x 1.00	13.50 x 1.60
10	⅜”	89	9.53 x 0.89	12.70 x 1.00	13.00 x 1.50	17.20 x 1.60
15	½”	89	12.70 x 1.65			
15	½”	110	12.70 x 1.65	17.20 x 1.00	19.00 x 1.50	21.30 x 1.60
20	¾”	119	19.05 x 1.65	21.30 x 1.00	23.00 x 1.50	26.90 x 1.60
25	1”	129	25.40 x 1.65	25.00 x 1.20	29.00 x 1.50	33.70 x 2.00
40	1 ½”	161	38.10 x 1.65	38.00 x 1.20	41.00 x 1.50	48.30 x 2.00
50	2”	192	50.80 x 1.65	51.00 x 1.20	53.00 x 1.50	60.30 x 2.00
65	2 ½”	218	63.50 x 1.65	63.50 x 1.60	70.00 x 2.00	76.10 x 2.00
80	3”	256	76.20 x 1.65	76.10 x 1.60	85.00 x 2.00	88.90 x 2.30

[1] Forged only



Clamp ends: (mm)

Port size		Length	Length	Clamp ASME BPE for ASME BPE		Clamp ISO 2852 for ISO 2037		Clamp DIN 32676[1] for Series A/DIN		Clamp DIN 32676[1] for Series B/ISO	
DN	Inch	L[3]	L1[2]	OD	ID	OD	ID	OD	ID	OD	ID
8	¼”	89	63.5	25.00	4.57	34.00	10.00	25.00	8.00	25.0	10.3
10	⅜”	89	63.5	25.00	7.75	34.00	10.70	34.00	10.00		
15	½”	-	63.5	25.00	9.40						
10	⅜”	108								25.0	14.0
15	½”	108	89	25.00	9.40	34.00	15.20	34.00	16.00	50.5	18.1
20	¾”	118	102	25.00	15.75	34.00	19.30	34.00	20.00	50.5	23.7
25	1”	127	114	50.50	22.10	50.50	22.60	50.50	26.00	50.5	29.7
32	11/4”	127						50.50	32.00		
32	11/4”	159								64.0	38.4
40	1½”	159	140	50.50	34.80	50.50	35.60	50.50	38.00	64.0	44.3
50	2”	191	159	64.00	47.50	64.00	48.60	64.00	50.00	77.5	56.3[1]
65	2½”	216	194	77.50	60.20	77.50	60.30	91.00	66.00	91.0	72.1
80	3”	254	222	91.00	72.90	91.00	72.90	106.00	81.00	106.0	84.3

[1] Forged only

[2] ASME BPE forged valves only, short version acc. to ASME BPE dimension table for hygienic clamp joint: Weir style diaphragm valve

[3] Standard build-in length acc. EN 558-1, Series 7

Other sizes and connections available on request.

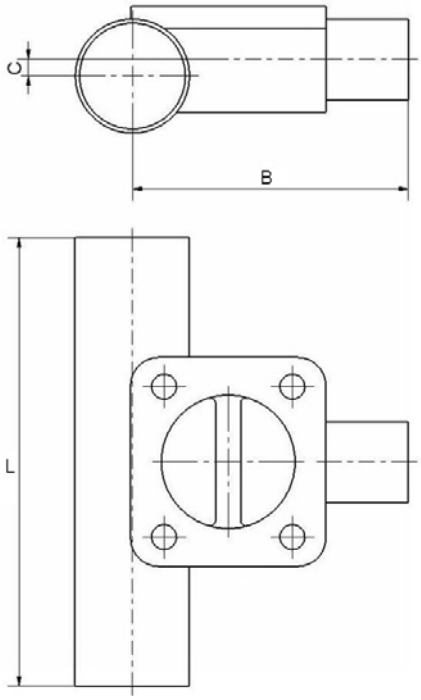
T- bodies:

T are constructed with weir as close as possible to the internal contour of the main tube thereby minimising potential dead leg.
The T- bodies are available as machined from block or from forged material.



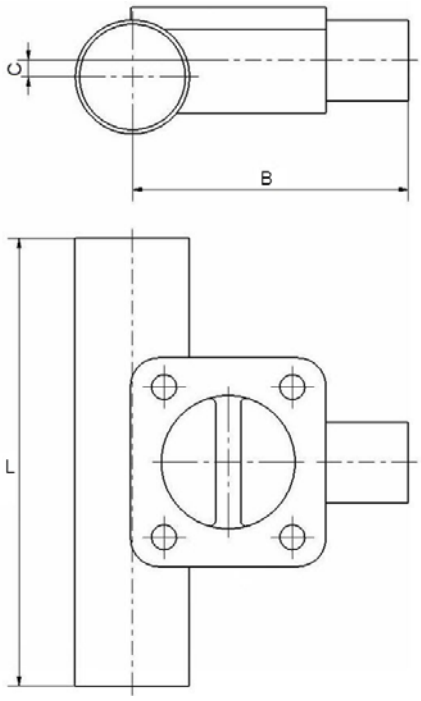
Dimension table for T-forged bodies - ASME BPE

Main tube Inch	Valve Inch	Main tube OD x t mm	Valve OD x t mm	L - Weld mm	L - Clamp mm	B - Weld mm	B - Clamp mm	C mm
1/4"	1/4"	ø6.35x0.89	ø6.35x0.89	89	89	52.5	52.5	2.5
3/8"	1/4"	ø9.53x0.89	ø6.35x0.89	89	89	54	54	3.5
1/2"	1/4"	ø12.7x1.65	ø6.35x0.89	110	108	55	54	2.8
3/4"	1/4"	ø19.05x1.65	ø6.35x0.89	119	118	58.5	58	6
1"	1/4"	ø25.4x1.65	ø6.35x0.89	129	127	62	61	9
1 ½"	1/4"	ø38.1x1.65	ø6.35x0.89	161	159	64	63	15.5
2"	1/4"	ø50.8x1.65	ø6.35x0.89	192	191	68	67.5	20.5
2 ½"	1/4"	ø63.5x1.65	ø6.35x0.89	218	216	75	74	23.5
3"	1/4"	ø76.2x1.65	ø6.35x0.89	256	254	76.5	75.5	30
3/8"	3/8"	ø9.53x0.89	ø9.53x0.89	89	89	54	54	3.5
1/2"	3/8"	ø12.7x1.65	ø9.53x0.89	110	108	55	54	2.8
3/4"	3/8"	ø19.05x1.65	ø9.53x0.89	119	118	58.5	58	6
1"	3/8"	ø25.4x1.65	ø9.53x0.89	129	127	62	61	9
1 ½"	3/8"	ø38.1x1.65	ø9.53x0.89	161	159	64	63	15.5
2"	3/8"	ø50.8x1.65	ø9.53x0.89	192	191	68	67.5	20.5
2 ½"	3/8"	ø63.5x1.65	ø9.53x0.89	218	216	75	74	23.5
3"	3/8"	ø76.2x1.65	ø9.53x0.89	256	254	76.5	75.5	30
1/2"	1/2"	ø12.7x1.65	ø12.7x1.65	110	108	66	65	4
3/4"	1/2"	ø19.05x1.65	ø12.7x1.65	119	118	70	69	5
1"	1/2"	ø25.4x1.65	ø12.7x1.65	129	127	74	73	8
1 ½"	1/2"	ø38.1x1.65	ø12.7x1.65	161	159	82	81	13
2"	1/2"	ø50.8x1.65	ø12.7x1.65	192	191	89	88	16
2 ½"	1/2"	ø63.5x1.65	ø12.7x1.65	218	216	90	89	23
3"	1/2"	ø76.2x1.65	ø12.7x1.65	256	254	92	91	29
3/4"	3/4"	ø19.05x1.65	ø19.05x1.65	119	118	76.5	76	1.5
1"	3/4"	ø25.4x1.65	ø19.05x1.65	129	127	79	78.5	3
1 ½"	3/4"	ø38.1x1.65	ø19.05x1.65	161	159	87.5	87	9
2"	3/4"	ø50.8x1.65	ø19.05x1.65	192	191	94.5	94	12.5
2 ½"	3/4"	ø63.5x1.65	ø19.05x1.65	218	216	98	97.5	18
3"	3/4"	ø76.2x1.65	ø19.05x1.65	256	254	100	99.5	24
1"	1"	ø25.4x1.65	ø25.4x1.65	129	127	90	89	8
1 ½"	1"	ø38.1x1.65	ø25.4x1.65	161	159	96	95	8
2"	1"	ø50.8x1.65	ø25.4x1.65	192	191	103	102	12
2 ½"	1"	ø63.5x1.65	ø25.4x1.65	218	216	110	109	15
3"	1"	ø76.2x1.65	ø25.4x1.65	256	254	114.5	113.5	20
1 ½"	1 ½"	ø38.1x1.65	ø38.1x1.65	161	159	120	119	11.5
2"	1 ½"	ø50.8x1.65	ø38.1x1.65	192	191	125	124	13.5
2 ½"	1 ½"	ø63.5x1.65	ø38.1x1.65	218	216	125	124	16.5
3"	1 ½"	ø76.2x1.65	ø38.1x1.65	256	254	130	129	26
2"	2"	ø50.8x1.65	ø50.8x1.65	192	191	145	144.5	13
2 ½"	2"	ø63.5x1.65	ø50.8x1.65	218	216	145	144.5	8
3"	2"	ø76.2x1.65	ø50.8x1.65	256	254	154	153.5	13.5
2 ½"	2 ½"	ø63.5x1.65	ø63.5x1.65	218	216	158	157	7.5
3"	2 ½"	ø76.2x1.65	ø63.5x1.65	256	254	176	175	17.5
3"	3"	ø76.2x1.65	ø76.2x1.65	256	254	196	195	20



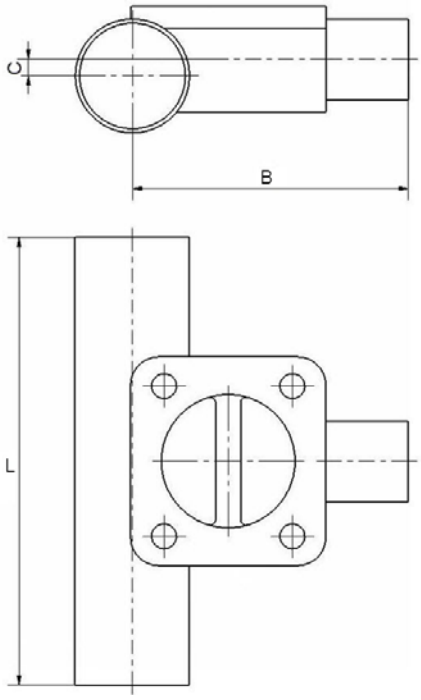
Dimension table for T-forged bodies - ISO 2037

Main tube DN	Valve DN	Main tube OD x t mm	Valve OD x t mm	L - Weld mm	L - Clamp mm	B - Weld mm	B - Clamp mm	C mm
15	15	ø17.2x1	ø17.2x1	110	108	69.5	68.5	6
20	15	ø21.3x1	ø17.2x1	119	118	71.5	70.5	6
25	15	ø25.0x1.2	ø17.2x1	129	127	74	73	8
40	15	ø38.0x1.2	ø17.2x1	161	159	82	81	13
50	15	ø51.0x1.2	ø17.2x1	192	191	89	88	16
59	15	ø63.5x1.6	ø17.2x1	218	216	90	89	23
80	15	ø76.1x1.6	ø17.2x1	256	254	92	91	29
20	20	ø21.3x1	ø21.3x1	119	118	78	77.5	2.5
25	20	ø25.0x1.2	ø21.3x1	129	127	79	78.5	3
40	20	ø38.0x1.2	ø21.3x1	161	159	87.5	87	9
50	20	ø51.0x1.2	ø21.3x1	192	191	94.5	94	12.5
59	20	ø63.5x1.6	ø21.3x1	218	216	98	97.5	18
80	20	ø76.1x1.6	ø21.3x1	256	254	100	99.5	24
25	25	ø25.0x1.2	ø25.0x1.2	129	127	90	89	8
40	25	ø38.0x1.2	ø25.0x1.2	161	159	96	95	8
50	25	ø51.0x1.2	ø25.0x1.2	192	191	103	102	12
59	25	ø63.5x1.6	ø25.0x1.2	218	216	110	109	15
80	25	ø76.1x1.6	ø25.0x1.2	256	254	114.5	113.5	20
40	40	ø38.0x1.2	ø38.0x1.2	161	159	120	119	11.5
50	40	ø51.0x1.2	ø38.0x1.2	192	191	125	124	13.5
59	40	ø63.5x1.6	ø38.0x1.2	218	216	125	124	16.5
80	40	ø76.1x1.6	ø38.0x1.2	256	254	130	129	26
50	50	ø51.0x1.2	ø51.0x1.2	192	191	145	144.5	13
59	50	ø63.5x1.6	ø51.0x1.2	218	216	145	144.5	8
80	50	ø76.1x1.6	ø51.0x1.2	256	254	154	153.5	13.5
59	59	ø63.5x1.6	ø63.5x1.6	218	216	158	157	7.5
80	59	ø76.1x1.6	ø63.5x1.6	256	254	176	175	17.5
80	80	ø76.1x1.6	ø76.1x1.6	256	254	196	195	20



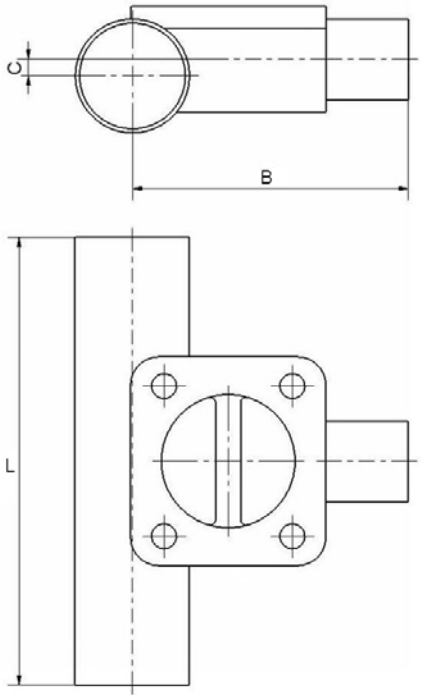
Dimension table for T-forged bodies - DIN 11850 (Series A)

Main tube DN	Valve DN	Main tube OD x t mm	Valve OD x t mm	L - Weld mm	L - Clamp mm	B - Weld mm	B - Clamp mm	C mm
8	8	ø10.0x1.0	ø10.0x1.0	89	89	53.5	53.5	2
10	8	ø13.0x1.5	ø10.0x1.0	89	89	54.5	54.5	3
15	8	ø19.0x1.5	ø10.0x1.0	110	108	58	58	6
20	8	ø23.0x1.5	ø10.0x1.0	119	118	62	62	8
25	8	ø29.0x1.5	ø10.0x1.0	129	127	64	64	11
32	8	ø35.0x1.5	ø10.0x1.0	129	127	68	68	12
40	8	ø41.0x1.5	ø10.0x1.0	161	159	71	71	14
50	8	ø53.0x1.5	ø10.0x1.0	192	191	76.5	76.5	17
65	8	ø70.0x2.0	ø10.0x1.0	218	216	78	78	27
80	8	ø85.0x2.0	ø10.0x1.0	256	254	81	81	35
10	10	ø13.0x1.5	ø13.0x1.5	89	89	54.5	54.5	35
15	10	ø19.0x1.5	ø13.0x1.5	110	108	58	58	6
20	10	ø23.0x1.5	ø13.0x1.5	119	118	62	62	8
25	10	ø29.0x1.5	ø13.0x1.5	129	127	64	64	11
32	10	ø35.0x1.5	ø13.0x1.5	129	127	67	67	14
40	10	ø41.0x1.5	ø13.0x1.5	161	159	71	71	14
50	10	ø53.0x1.5	ø13.0x1.5	192	191	76.5	76.5	17
65	10	ø70.0x2.0	ø13.0x1.5	218	216	78	78	27
80	10	ø85.0x2.0	ø13.0x1.5	256	254	81	81	35
15	15	ø19.0x1.5	ø19.0x1.5	110	108	69	68	5
20	15	ø23.0x1.5	ø19.0x1.5	119	118	72	71	7
25	15	ø29.0x1.5	ø19.0x1.5	129	127	76	75	10
32	15	ø35.0x1.5	ø19.0x1.5	129	127	79	78	12
40	15	ø41.0x1.5	ø19.0x1.5	161	159	82	81	15
50	15	ø53.0x1.5	ø19.0x1.5	192	191	88	87	18
65	15	ø70.0x2.0	ø19.0x1.5	218	216	93	92	26
80	15	ø85.0x2.0	ø19.0x1.5	256	254	96.5	95.5	33.5
20	20	ø23.0x1.5	ø23.0x1.5	119	118	79.5	79	3.5
25	20	ø29.0x1.5	ø23.0x1.5	129	127	82	81.5	5
32	20	ø35.0x1.5	ø23.0x1.5	129	127	85	84.5	8
40	20	ø41.0x1.5	ø23.0x1.5	161	159	89	88.5	10.5
50	20	ø53.0x1.5	ø23.0x1.5	192	191	95.5	95	13.5
65	20	ø70.0x2.0	ø23.0x1.5	218	216	101	100.5	21
80	20	ø85.0x2.0	ø23.0x1.5	256	254	104.5	104	28.5
25	25	ø29.0x1.5	ø29.0x1.5	129	127	92	91	7
32	25	ø35.0x1.5	ø29.0x1.5	129	127	95	94	8
40	25	ø41.0x1.5	ø29.0x1.5	161	159	99	98	9
50	25	ø53.0x1.5	ø29.0x1.5	192	191	105	104	13
65	25	ø70.0x2.0	ø29.0x1.5	218	216	113	112	18
80	25	ø85.0x2.0	ø29.0x1.5	256	254	118.5	117.5	24.5
32	32	ø35.0x1.5	ø35.0x1.5	129	127	95	94	8
40	32	ø41.0x1.5	ø35.0x1.5	161	159	99	98	9
50	32	ø53.0x1.5	ø35.0x1.5	192	191	105	104	13
65	32	ø70.0x2.0	ø35.0x1.5	218	216	113	112	18
80	32	ø85.0x2.0	ø35.0x1.5	256	254	118.5	117.5	24.5
40	40	ø41.0x1.5	ø41.0x1.5	161	159	120	119	11.5
50	40	ø53.0x1.5	ø41.0x1.5	192	191	125	124	16
65	40	ø70.0x2.0	ø41.0x1.5	218	216	129.5	128.5	20
80	40	ø85.0x2.0	ø41.0x1.5	256	254	115.5	114.5	31
50	50	ø53.0x1.5	ø53.0x1.5	192	191	145	144.5	13
65	50	ø70.0x2.0	ø53.0x1.5	218	216	149	148.5	16
80	50	ø85.0x2.0	ø53.0x1.5	256	254	159	158.5	18
65	65	ø70.0x2.0	ø70.0x2.0	218	216	163	162	11
80	65	ø85.0x2.0	ø70.0x2.0	256	254	182	181	22
80	80	ø85.0x2.0	ø85.0x2.0	256	254	202	201	24



Dimension table for T-forged bodies - ISO 1127 (Series B)

Main tube DN	Valve DN	Main tube OD x t mm	Valve OD x t mm	L - Weld mm	L - Clamp mm	B - Weld mm	B - Clamp mm	C mm
8	8	ø13.5x1.6	ø13.5x1.6	89	89	56	56	6
10	8	ø17.2x1.6	ø13.5x1.6	110	108	57.5	57.5	6
15	8	ø21.3x1.6	ø13.5x1.6	110	108	59	59	7
20	8	ø26.9x1.6	ø13.5x1.6	119	118	63.5	63.5	10
25	8	ø33.7x2.0	ø13.5x1.6	129	127	66.5	66.5	11.5
32	8	ø42.4x2.0	ø13.5x1.6	161	159	69.5	69.5	15
40	8	ø48.3x2.0	ø13.5x1.6	161	159	71	71	17
50	8	ø60.3x2.0	ø13.5x1.6	192	191	77	77	20.5
65	8	ø76.1x2.0	ø13.5x1.6	218	216	84	84	26
80	8	ø88.9x2.3	ø13.5x1.6	256	254	82.5	82.5	35
10	10	ø17.2x1.6	ø17.2x1.6	110	108	69	68	4
15	10	ø21.3x1.6	ø17.2x1.6	110	108	71	70	6
20	10	ø26.9x1.6	ø17.2x1.6	119	118	74	73	9
25	10	ø33.7x2.0	ø17.2x1.6	129	127	78	77	12
32	10	ø42.4x2.0	ø17.2x1.6	161	159	83	82	15
40	10	ø48.3x2.0	ø17.2x1.6	161	159	86	85	17
50	10	ø60.3x2.0	ø17.2x1.6	192	191	92	91	20
65	10	ø76.1x2.0	ø17.2x1.6	218	216	99	98	24
80	10	ø88.9x2.3	ø17.2x1.6	256	254	107	106	26
15	15	ø21.3x1.6	ø21.3x1.6	110	108	71	70	6
20	15	ø26.9x1.6	ø21.3x1.6	119	118	74	73	9
25	15	ø33.7x2.0	ø21.3x1.6	129	127	78	77	12
32	15	ø42.4x2.0	ø21.3x1.6	161	159	83	82	15
40	15	ø48.3x2.0	ø21.3x1.6	161	159	86	85	17
50	15	ø60.3x2.0	ø21.3x1.6	192	191	92	91	20
65	15	ø76.1x2.0	ø21.3x1.6	218	216	99	98	24
80	15	ø88.9x2.3	ø21.3x1.6	256	254	107	106	26
20	20	ø26.9x1.6	ø26.9x1.6	119	118	86	85.5	4
25	20	ø33.7x2.0	ø26.9x1.6	129	127	90	89.5	7
32	20	ø42.4x2.0	ø26.9x1.6	161	159	95	94.5	10
40	20	ø48.3x2.0	ø26.9x1.6	161	159	99	98.5	11.5
50	20	ø60.3x2.0	ø26.9x1.6	192	191	103	102.5	16
65	20	ø76.1x2.0	ø26.9x1.6	218	216	109	108.5	22
80	20	ø88.9x2.3	ø26.9x1.6	256	254	119	118.5	29
25	25	ø33.7x2.0	ø33.7x2.0	129	127	93	92	6
32	25	ø42.4x2.0	ø33.7x2.0	161	159	96	95	10
40	25	ø48.3x2.0	ø33.7x2.0	161	159	100	99	12
50	25	ø60.3x2.0	ø33.7x2.0	192	191	107	106	15
65	25	ø76.1x2.0	ø33.7x2.0	218	216	114	113	23.5
80	25	ø88.9x2.3	ø33.7x2.0	256	254	120	119	26
32	32	ø42.4x2.0	ø42.4x2.0	161	159	115	n/a	5
40	32	ø48.3x2.0	ø42.4x2.1	161	159	120	119	11.5
50	32	ø60.3x2.0	ø42.4x2.2	192	191	125	124	16.5
65	32	ø76.1x2.0	ø42.4x2.3	218	216	135	134	17.5
80	32	ø88.9x2.3	ø42.4x2.4	256	254	143	142	21
40	40	ø48.3x2.0	ø48.3x2.0	161	159	120	119	11.5
50	40	ø60.3x2.0	ø48.3x2.0	192	191	125	124	16.5
65	40	ø76.1x2.0	ø48.3x2.0	218	216	135	134	17.5
80	40	ø88.9x2.3	ø48.3x2.0	256	254	143	142	21
50	50	ø60.3x2.0	ø60.3x2.0	192	191	147	146.5	8
65	50	ø76.1x2.0	ø60.3x2.0	218	216	156	155.5	12
80	50	ø88.9x2.3	ø60.3x2.0	256	254	164	163.5	13
65	65	ø76.1x2.0	ø76.1x2.0	218	216	170	169	14
80	65	ø88.9x2.3	ø76.1x2.0	256	254	178	177	20
80	80	ø88.9x2.3	ø88.9x2.3	256	254	206	205	26



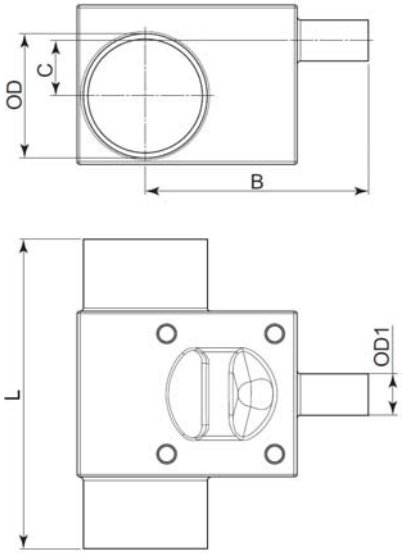
T- bodies:

T are constructed with weir as close as possible to the internal contour of the main tube thereby minimising potential dead leg. The T- bodies are available as machined from block or from forged material.



Dimension table for T-block bodies - ASME

Main tube DN	Valve DN	Main tube OD x t mm	Valve OD1 x t mm	B - Weld mm	B - Clamp mm	C mm	L - Weld mm	L - Clamp mm
8	8	ø6.35x0.89	ø6.35x0.89	34.9	47.6	0.0	57.0	82.4
10	8	ø9.53x0.89	ø6.35x0.89	35.6	48.3	3.2	57.0	82.4
15	8	ø12.7x1.65	ø6.35x0.89	37.0	49.7	4.6	81.0	106.4
20	8	ø19.05x1.65	ø6.35x0.89	39.9	52.6	9.0	81.0	106.4
25	8	ø25.4x1.65	ø6.35x0.89	43.2	55.9	12.3	81.0	106.4
40	8	ø38.1x1.65	ø6.35x0.89	55.4	68.1	13.0	81.0	106.4
50	8	ø50.8x1.65	ø6.35x0.89	57.7	70.4	19.4	81.0	106.4
65	8	ø63.5x1.65	ø6.35x0.89	63.5	76.2	25.8	81.0	106.4
80	8	ø76.2x1.65	ø6.35x0.89	70.2	88.9	32.1	81.0	106.4
10	10	ø9.53x0.89	ø9.53x0.89	35.6	48.3	3.2	57.0	82.4
15	10	ø12.7x1.65	ø9.53x0.89	37.0	49.7	4.6	81.0	106.4
20	10	ø19.05x1.65	ø9.53x0.89	39.9	52.6	9.0	81.0	106.4
25	10	ø25.4x1.65	ø9.53x0.89	43.2	55.9	12.3	81.0	106.4
40	10	ø38.1x1.65	ø9.53x0.89	55.4	68.1	13.0	81.0	106.4
50	10	ø50.8x1.65	ø9.53x0.89	57.7	70.4	19.4	81.0	106.4
65	10	ø63.5x1.65	ø9.53x0.89	69.5	76.2	25.8	81.0	106.4
80	10	ø76.2x1.65	ø9.53x0.89	70.2	82.9	32.1	81.0	106.4
15	15	ø12.7x1.65	ø12.7x1.65	57.7	70.4	3.6	95.0	120.4
20	15	ø19.05x1.65	ø12.7x1.65	58.6	71.3	8.0	95.0	120.4
25	15	ø25.4x1.65	ø12.7x1.65	62.0	74.7	11.3	95.0	120.4
40	15	ø38.1x1.65	ø12.7x1.65	68.6	81.3	16.95	95.0	120.4
50	15	ø50.8x1.65	ø12.7x1.65	75.2	87.9	20.6	95.0	120.4
65	15	ø63.5x1.65	ø12.7x1.65	81.8	94.5	24.75	95.0	120.4
80	15	ø76.2x1.65	ø12.7x1.65	88.3	101.0	29.1	95.0	120.4
20	20	ø19.05x1.65	ø19.05x1.65	64.9	77.6	1.0	109.0	134.4
25	20	ø25.4x1.65	ø19.05x1.65	68.4	81.1	6.3	109.0	134.4
40	20	ø38.1x1.65	ø19.05x1.65	75.1	87.8	13.0	109.0	134.4
50	20	ø50.8x1.65	ø19.05x1.65	81.7	94.4	17.6	109.0	134.4
65	20	ø63.5x1.65	ø19.05x1.65	88.2	100.9	21.2	109.0	134.4
80	20	ø76.2x1.65	ø19.05x1.65	94.8	107.5	24.9	109.0	134.4
25	25	ø25.4x1.65	ø25.4x1.65	72.9	85.6	4.3	117.0	142.4
40	25	ø38.1x1.65	ø25.4x1.65	79.6	92.3	12.4	117.0	142.4
50	25	ø50.8x1.65	ø25.4x1.65	85.3	98.0	18.1	117.0	142.4
65	25	ø63.5x1.65	ø25.4x1.65	91.9	104.6	22.2	117.0	142.4
80	25	ø76.2x1.65	ø25.4x1.65	98.4	111.1	25.9	117.0	142.4
40	40	ø38.1x1.65	ø38.1x1.65	88.9	101.6	2.4	143.0	168.4
50	40	ø50.8x1.65	ø38.1x1.65	95.8	108.5	11.3	143.0	168.4
65	40	ø63.5x1.65	ø38.1x1.65	102.4	115.1	17.6	143.0	168.4
80	40	ø76.2x1.65	ø38.1x1.65	109.1	121.8	22.6	143.0	168.4
50	50	ø50.8x1.65	ø50.8x1.65	111.5	124.2	4.6	170.0	195.4
65	50	ø63.5x1.65	ø50.8x1.65	111.7	124.4	12.8	170.0	195.4
80	50	ø76.2x1.65	ø50.8x1.65	118.4	131.1	18.9	170.0	195.4
65	65	ø63.5x1.65	ø63.5x1.65	134.4	147.1	12.7	190.0	215.4
80	65	ø76.2x1.65	ø63.5x1.65	134.5	147.2	12.9	190.0	215.4
80	80	ø76.2x1.65	ø76.2x1.65	152.1	164.8	9.9	233.0	258.4



Tank outlet body:

Tank outlet bodies with minimised dead leg and complete drainability.
The tank outlet valve bodies are available as machined from block or from forged material.

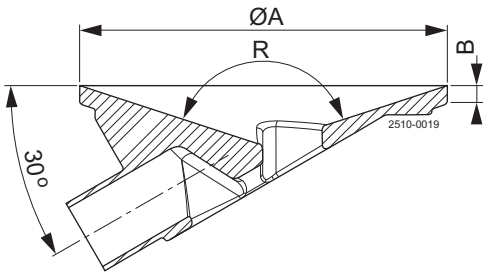




Dimension table for Tank outlet-block bodies - all standards

DN	ØA (mm)	B (mm)	R
DN15 (1/2")	90	5.4	144°
DN20 (3/4")	100	5.4	144°
DN25 (1")	120	5.4	144°
DN40 (1½")	150	5.4	144°
DN50 (2")	180	5.4	144°
DN65 (2½")	200	5.4	144°
DN80 (3")	250	5.4	144°

For OD dimensions see two-way valves.

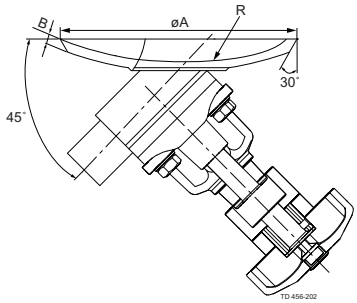


Dimension table for Tank outlet-forged bodies - all standards

DN	øA (mm)	B (mm)	R (mm)
15 (½")	90	6	500
20 (¾")	100	6	600
25 (1")	120	6	750
40 (1½")	150	6	900
50 (2")	180	6	1000
65 (2½")	200	8	1100
80 (3")	225	8	1200

For OD dimensions see two-way bodies.

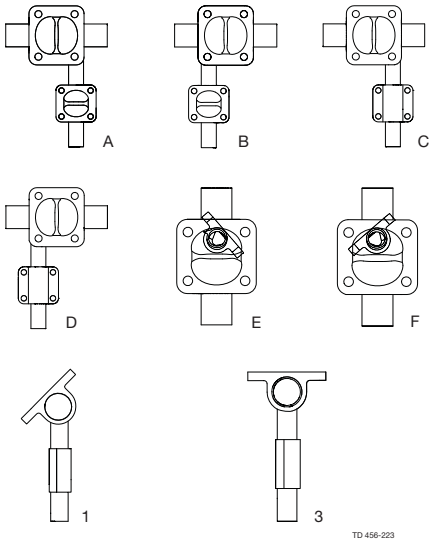
Other dimensions on request



Tandem body:
Tandem bodies are available in a wide variety of angles and positions for sampling or steam purposes. The Tandem bodies are available from forged or cast material.



Tandem body configuration
To configure the tandem body the position and the angle of the two bodies are selected by combining one of the letters with one of the numbers in the following overview.



Multi-port body:
Multi-port bodies are a space and time saving alternative to valve clusters minimising dead volumes. Alfa Laval offers customised solutions for both simple and complex processes.



For more details, please contact Alfa Laval.