External chamber
For level measurement with inserted sensors
Model BZG

Applications

- Level detection for almost all liquid media
- Individual design and corrosion-resistant materials make the products suitable for a broad range of applications
- Chemical industry, petrochemical industry, oil and natural gas extraction (on- and offshore), shipbuilding, machine building, power generating equipment, power plants

Special features

- Process- and procedure-specific production
- Operating limits:
  - Operating temperature: T = -196 ... +450 °C
  - Operating pressure: P = Vacuum up to 400 bar
- Wide variety of different process connections and materials
- Mounting of level sensors and guided wave radars possible as an option

External chamber, model BZG

Description

The external chamber model BZG consists of an external chamber vessel that is mounted laterally to a vessel using at least 2 process connections (flange, thread or weld stub). Through this type of arrangement, the level in the external chamber corresponds to the level in the vessel.

The level is measured by a measuring instrument inserted additionally in the external chamber, for example model FLR or FLS, or by a guided wave radar.

Data sheets showing similar products and accessories:
Bypass level indicator; model BNA; see data sheet LM 10.01
Level sensor with reed measuring chain; model FLR; see data sheet LM 20.02
Float switches for the process industry; model FLS; see data sheet LM 30.01

Part of your business

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Model overview

Model	Description	Materials	Max. operating pressure in bar	Max. operating temperature in °C
BZG-S	Standard version	Stainless steel 1.4571 (316Ti)	64 bar	-196 ... +450 °C
		Stainless steel 1.4401/1.4404 (316/316L)	64 bar	-196 ... +450 °C
BZG-H	High-pressure version	Stainless steel 1.4571 (316Ti)	400 bar	-196 ... +450 °C
		Stainless steel 1.4401/1.4404 (316/316L)	400 bar	-196 ... +450 °C
BZG-K	Steel version	Steel 1.0345/1.0460	250 bar	-10 ... +400 °C
		Steel 1.5415 (16Mo3)	250 bar	-10 ... +400 °C
		A105/A106 Gr. B	255 bar	-29 ... +400 °C
		A350 LF2/A333 Gr. 6	255 bar	-46 ... +425 °C
BZG-X	Special material version	Stainless steel 6Mo 1.4547 (UNS S31254)	250 bar	-29 ... +400 °C
		Stainless steel 1.4306 (304L)	41 bar	-196 ... +450 °C
		Duplex 1.4462 (UNS S31803)	430 bar	-40 ... +300 °C
		Super Duplex 1.4410 (UNS S3850)	430 bar	-40 ... +300 °C
		Titanium 3.7035 (grade 2)	78 bar	-60 ... +300 °C
		Hastelloy C276 (2.4819)	430 bar	-196 ... +500 °C

Other materials on request

Design codes available

- AD2000
- ASME B31.3
- NORSOK
- EN 13445

CE classification

Model	PED	CE	PED module used
BZG-S00, BZG-H00, BZG-X00, BZG-K00	-	-	-
BZG-SA1, BZG-HA1, BZG-XA1, BZG-KA1	x	x	Module A
BZG-SA2, BZG-HA2, BZG-XA2, BZG-KA2	x	x	Module A2
BZG-SBC, BZG-HBC, BZG-XBC, BZG-KBC	x	x	Module B + C2
BZG-SBD, BZG-HBD, BZG-XBD, BZG-KBD	x	x	Module B + D
BZG-SGE, BZG-HGE, BZG-XGE, BZG-KGE	x	x	Module G

Approvals

Logo	Description	Country
CE	**EU declaration of conformity** Pressure equipment directive (option)	European Union
EAC	**EAC** Pressure equipment directive No. RU D-DE.MJU62.B.02027	Eurasian Economic Community

Approvals and certificates, see website

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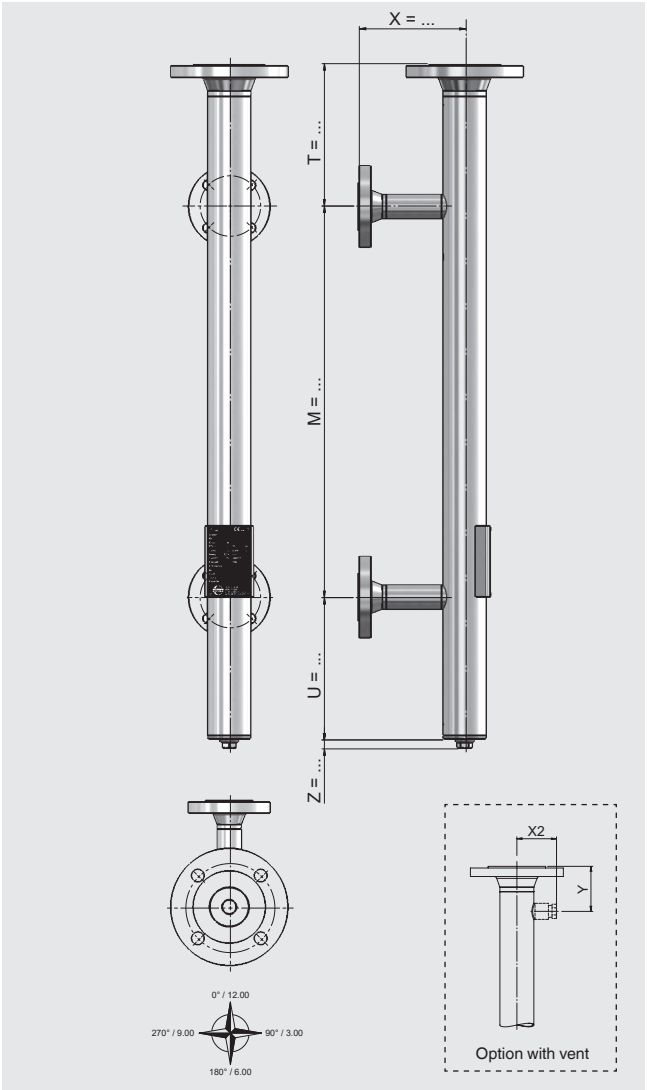
External chamber, standard version
Model BZG-S

External chamber and process connections made of stainless steel



Specifications	
Chamber end top	Flange ■ DIN EN 1092-1 DN 50 ... DN 100, PN 6 ... PN 63 ■ DIN DN 50 ... DN 100, PN 6 ... PN 64 ■ ANSI B 16.5 2" ... 4", class 150 ... 600 ■ Threaded bushing G / NPT 3/4" ... 2"
Chamber end bottom	Flange connection or pipe cap ■ Drain plug ■ Drain valve ■ Drain flange Options see page 9
Process connections	2 x lateral (options see page 10) Flange ■ DIN EN 1092-1 DN 10 ... DN 100, PN 6 ... PN 63 ■ DIN DN 10 ... DN 100, PN 6 ... PN 64 ■ ANSI B 16.5 ½" ... 4", class 150 ... 600 Weld stub ½" ... 1" Threaded bushing G / NPT ½" ... 1" Threaded nipple G / NPT ½" ... 1"
Centre-to-centre distance	≥ 150 ... ≤ 6,000 mm (larger distances on request)
Material	■ Stainless steel 1.4571 (316Ti) ■ Stainless steel 1.4401/1.4404 (316/316L)
Max. nominal pressure	64 bar
Temperature range ■ Stainless steel 1.4571 (316Ti) ■ Stainless steel 1.4401/1.4404 (316/316L)	 -120 … +400 °C -196 … +450 °C

Special versions on request

Chamber dimensions

Dimensions in mm	Stainless steel 1.4571 (316Ti)	Stainless steel 1.4401/1.4404 (316/316L)
60.3 x 2	x	x
60.3 x 2.77	x	x
88.9 x 2	x	x
88.9 x 3.05		x
114.3 x 2.6	x	
114.3 x 3.05		x

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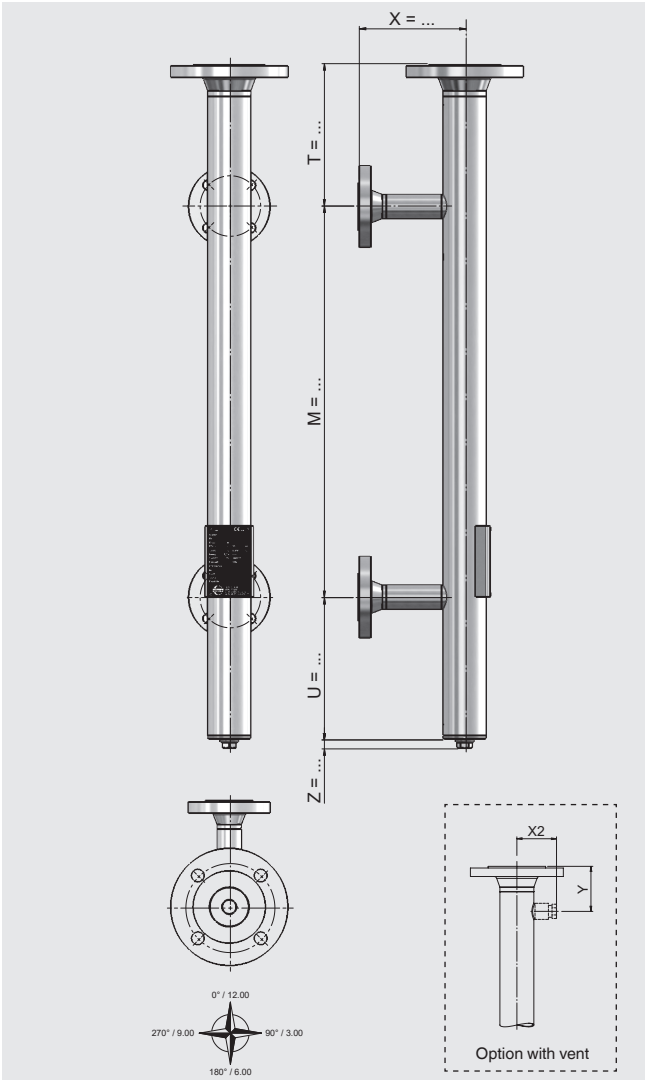
External chamber, high-pressure version
Model BZG-H

External chamber and process connections made of stainless steel



Specifications	
Chamber end top	Flange ■ DIN EN 1092-1 DN 50 ... DN 100, PN 100 ... PN 400 ■ DIN DN 50 ... DN 100, PN 100 ... PN 400 ■ ANSI B 16.5 2" ... 4", class 600 ... 2,500 ■ Threaded bushing G / NPT 3/4" ... 2"
Chamber end bottom	Flange connection or pipe cap ■ Drain plug ■ Drain valve ■ Drain flange Options see page 9
Process connections	2 x lateral (options see page 10) Flange ■ DIN EN 1092-1 DN 10 ... DN 100, PN 100 ... PN 400 ■ DIN DN 10 ... DN 100, PN 100 ... PN 400 ■ ANSI B 16.5 ½" ... 4", class 600 ... 2,500 Weld stub ½" ... 1" Threaded bushing G / NPT ½" ... 1" Threaded nipple G / NPT ½" ... 1"
Centre-to-centre distance	≥ 150 ... ≤ 6,000 mm (larger distances on request)
Material	■ Stainless steel 1.4571 (316Ti) ■ Stainless steel 1.4401/1.4404 (316/316L)
Max. nominal pressure	400 bar
Temperature range ■ Stainless steel 1.4571 (316Ti) ■ Stainless steel 1.4401/1.4404 (316/316L)	 -120 … +400 °C -196 … +450 °C

Special versions on request

Chamber dimensions

Dimensions in mm	Stainless steel 1.4571 (316Ti)	Stainless steel 1.4401/1.4404 (316/316L)
60.3 x 3.91	x	x
60.3 x 5.54		x
60.3 x 8	x	
60.3 x 8.74		x
88.9 x 4.5	x	
88.9 x 5.49		x
88.9 x 7.62	x	x
88.9 x 11	x	
88.9 x 11.13		x
114.3 x 4	x	
114.3 x 6.02		x
114.3 x 7.1	x	
114.3 x 8.56		x
114.3 x 11.13		x

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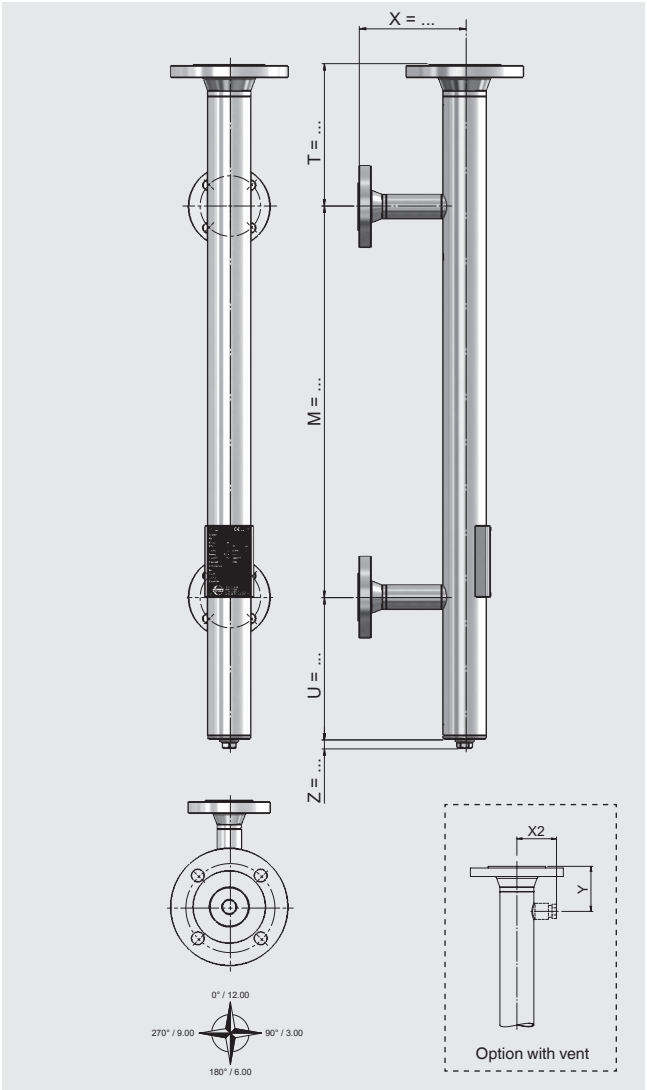
External chamber, steel version
Model BZG-K

External chamber and process connections made of steel



Specifications	
Chamber end top	Flange ■ DIN EN 1092-1 DN 50 ... DN 100, PN 16 ... PN 400 ■ DIN DN 50 ... DN 100, PN 16 ... PN 400 ■ ANSI B 16.5 2" ... 4", class 150 ... 2,500
Chamber end bottom	Flange connection or pipe cap ■ Drain plug ■ Drain valve ■ Drain flange Options see page 9
Process connections	2 x lateral (options see page 10) Flange ■ DIN EN 1092-1 DN 10 ... DN 50, PN 16 ... PN 400 ■ DIN DN 10 ... DN 50, PN 16 ... PN 400 ■ ANSI B 16.5 ½" ... 4", class 150 ... 2,500 Weld stub ½" ... 1" Threaded bushing G / NPT ½" ... 1" Threaded nipple G / NPT ½" ... 1"
Centre-to-centre distance	≥ 150 ... ≤ 6,000 mm (larger distances on request)
Material	■ Steel 1.0345/1.0460 ■ Steel 1.5415 (16Mo3) ■ Steel A105/A106 Gr.B ■ Steel A350 LF2/A333 Gr. 6
Max. nominal pressure ■ Steel 1.0345/1.0460, 1.5415 (16Mo3) ■ Steel A105/A106 Gr. B, A350 LF2/A333 Gr. 6	 250 bar 255 bar
Temperature range ■ Steel 1.0345/1.0460, 1.5415 (16Mo3) ■ Steel A105/A106 Gr. B ■ Steel A350 LF2/A333 Gr. 6	 -10 … +400 °C -29 … +400 °C -46 … +425 °C

Special versions on request
Paintings on request

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Chamber dimensions model BZG-K (made of steel)

Dimensions in mm	Steel 1.0345/1.0460	Steel 1.5415 (16Mo3)	Steel A105/A106 Gr. B	Steel A350 LF2/A333 Gr. 6
60.3 x 3.6	x	x		
60.3 x 3.91			x	x
60.3 x 4	x	x		
60.3 x 5.54			x	x
60.3 x 5.6	x	x		
60.3 x 7.1	x	x		
60.3 x 8.74			x	x
60.3 x 8.8	x	x		
60.3 x 11.07			x	x
73 x 3.05			x	x
73 x 5.16			x	x
73 x 7.01			x	x
73 x 9.53			x	x
73 x 14.02			x	x
76.1 x 3.6	x	x		
76.1 x 5.6	x	x		
76.1 x 7.1	x	x		
76.1 x 8	x	x		
76.1 x 10	x	x		
76.1 x 14.2	x			
88.9 x 4	x	x		
88.9 x 5.49			x	x
88.9 x 5.6	x	x		
88.9 x 7.62			x	x
88.9 x 8	x	x		
88.9 x 8.8	x	x		
88.9 x 11	x	x		
88.9 x 11.13			x	x
88.9 x 15.24			x	x
88.9 x 16	x			
114.3 x 4.5	x	x		
114.3 x 6.02			x	x
114.3 x 6.3	x	x		
114.3 x 8.8	x	x		
114.3 x 11	x	x		
114.3 x 11.13			x	x
114.3 x 13.49			x	x
114.3 x 14.2	x	x		
114.3 x 17.12			x	x
114.3 x 17.5	x			

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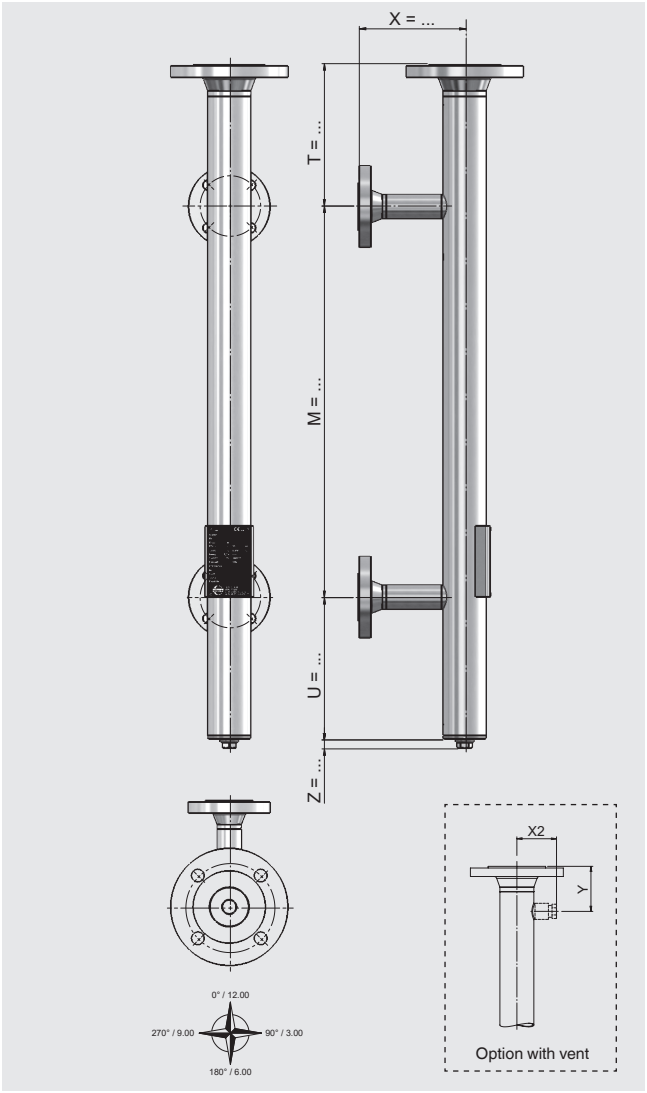
External chamber, special material version
Model BZG-X

External chamber and process connections made of austenitic and ferritic stainless steel



Specifications	
Chamber end top	Flange ■ DIN EN 1092-1 DN 50 ... DN 100, PN 63 ... PN 400 ■ DIN DN 50 ... DN 100, PN 64 ... PN 400 ■ ANSI B 16.5 2" ... 4", class 600 ... 2,500
Chamber end bottom	Flange connection or pipe cap ■ Drain plug ■ Drain valve ■ Drain flange Options see page 9
Process connections	2 x lateral (options see page 10) Flange ■ DIN EN 1092-1 DN 10 ... DN 100, PN 63 ... PN 400 ■ DIN DN 10 ... DN 100, PN 64 ... PN 400 ■ ANSI B 16.5 ½" ... 4", class 600 ... 2,500 Weld stub ½" ... 1" Threaded bushing G / NPT ½" ... 1" Threaded nipple G / NPT ½" ... 1"
Centre-to-centre distance	≥ 150 ... ≤ 6,000 mm (larger distances on request)
Material	■ Stainless steel 6Mo 1.4547 (UNS S31254) ■ Stainless steel Duplex 1.4462 (UNS S31803) ■ Stainless steel Super Duplex 1.4410 (UNS S32750)
Max. nominal pressure	258 bar
Temperature range ■ Stainless steel 6Mo 1.4547 ■ Stainless steel Duplex 1.4462 ■ Stainless steel Super Duplex 1.4410	 -196 … +450 °C -40 … +300 °C -40 … +300 °C

Special versions on request

Chamber dimensions

Dimensions in mm	Stainless steel 6Mo 1.4547 (UNS S31254)	Stainless steel Duplex 1.4462 (UNS S31803)	Stainless steel Super Duplex 1.4410 (UNS S32750)
60.3 x 2.77	x	x	x
60.3 x 3.91	x	x	x
60.3 x 5.54	x	x	x
88.9 x 3.05	x	x	x
114.3 x 3.05	x	x	x

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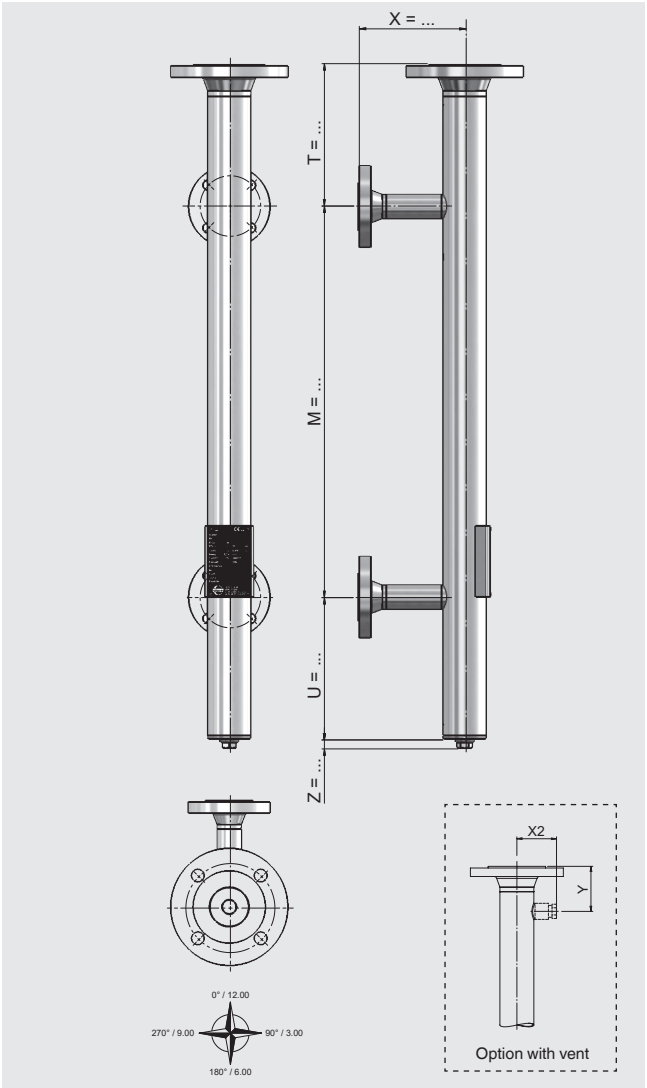
External chamber, special material version
Model BZG-X

External chamber and process connections made of stainless steel / titanium / Hastelloy



Specifications	
Chamber end top	Flange ■ DIN EN 1092-1 DN 50 ... DN 100, PN 6 ... PN 400 ■ DIN DN 50 ... DN 100, PN 6 ... PN 400 ■ ANSI B 16.5 2" ... 4", class 150 ... 2,500
Chamber end bottom	Flange connection or pipe cap ■ Drain plug ■ Drain valve ■ Drain flange Options see page 9
Process connections	2 x lateral (options see page 10)
■ Stainless steel 1.4306 (304L), titanium 3.7035,	Flange ■ DIN EN 1092-1 DN 10 ... DN 100, PN 6 ... PN 63 ■ DIN DN 10 ... DN 100, PN 6 ... PN 64 ■ ANSI B 16.5 ½" ... 4", class 150 ... 600
■ Hastelloy C276 (2.4819)	Flange ■ DIN EN 1092-1 DN 10 ... DN 100, PN 6 ... PN 160 ■ DIN DN 10 ... DN 100, PN 6 ... PN 160 ■ ANSI B 16.5 ½" ... 4", class 150 ... 900
Centre-to-centre distance	≥ 150 ... ≤ 6,000 mm (larger distances on request)
Material	■ Stainless steel 1.4306 (304L) ■ Titanium 3.7035 ■ Hastelloy C276 (2.4819)
Max. nominal pressure	
■ Stainless steel 1.4306 (304L)	41.4 bar
■ Titanium 3.7035	64 bar
■ Hastelloy C276 (2.4819)	160 bar
Temperature range	
■ Stainless steel 1.4306 (304L)	-196 ... +450 °C
■ Titanium 3.7035	-10 ... +300 °C
■ Hastelloy C276 (2.4819)	-196 ... +500 °C

Special versions on request

Chamber dimensions

Dimensions in mm	Titanium 3.7035	Hastelloy C276 (2.4819)	Stainless steel 1.4306 (304L)
60.3 x 2	x		
60.3 x 2.77	x	x	x
60.3 x 3.91		x	
88.9 x 3.05		x	
114.3 x 3.05		x	

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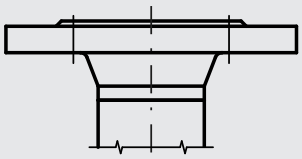
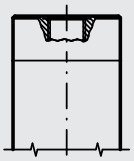
Options for chamber ends

Chamber end top (examples)

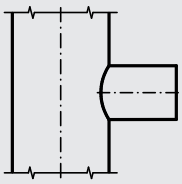


Flange connection

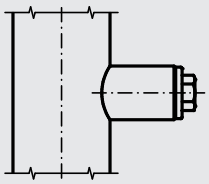


Threaded connection

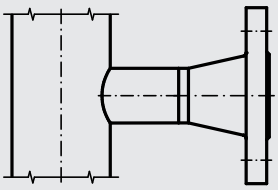
Vent (examples)



Weld stub

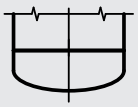


Vent plug G / NPT ½

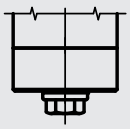


Flange connection

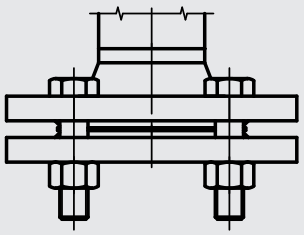
Chamber end bottom (examples)



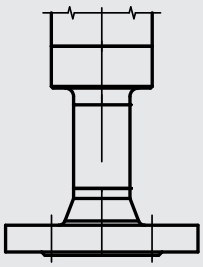
Pipe cap without drain



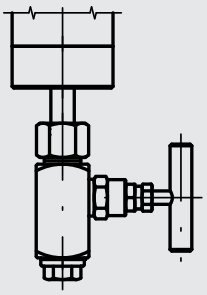
Pipe cap with drain plug
G / NPT ½"



Flange connection



Pipe cap with drain flange



Pipe cap with drain valve

Other options on request

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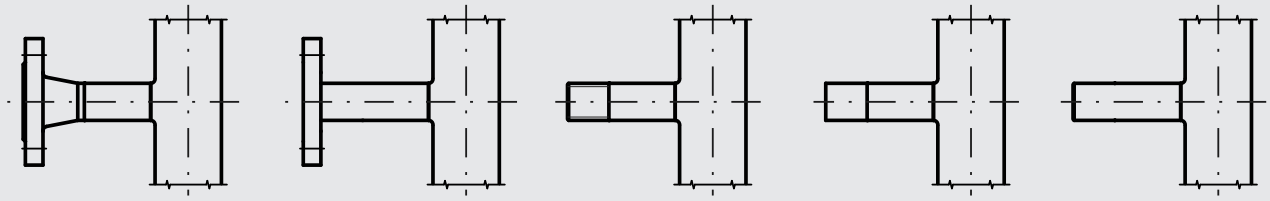
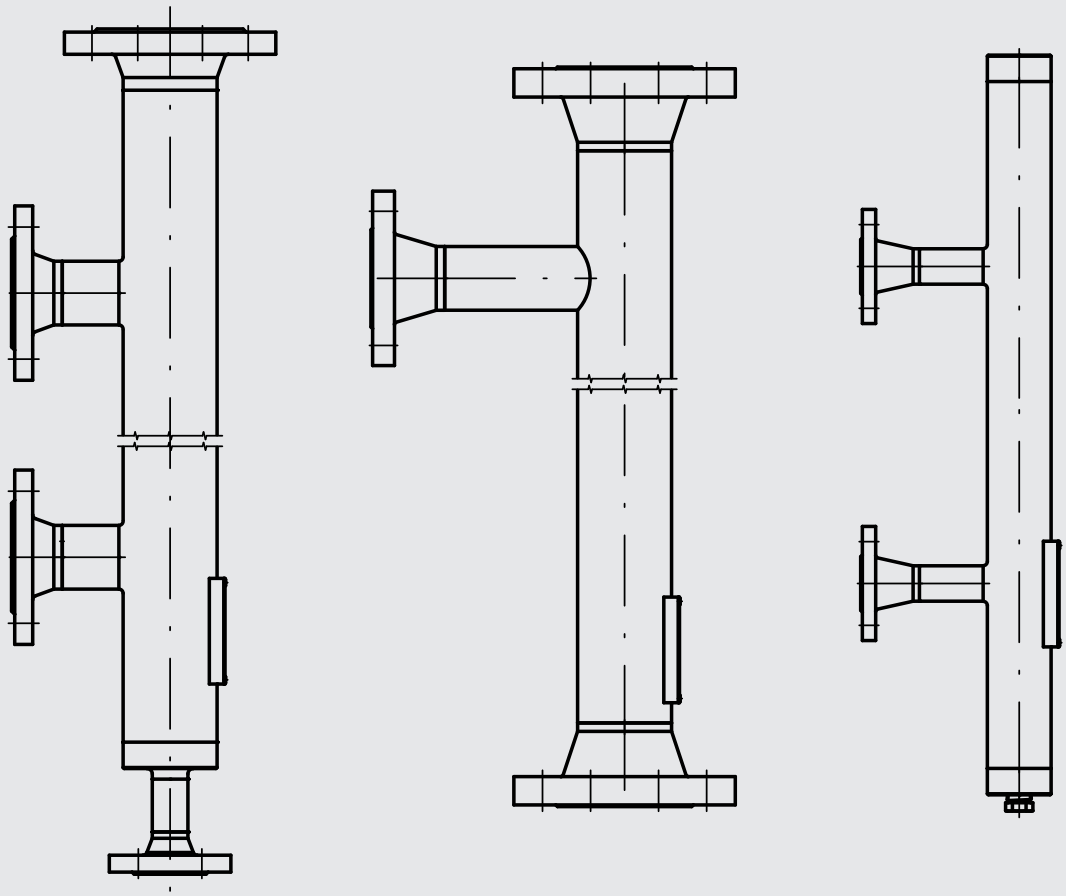
Options for process connection

Process connection (examples)



Welding neck flange | Blind flange | Threaded coupling GN ... (Male thread) | Threaded coupling GM ... (Female thread) | Weld stub S ...

Complete instrument (examples)



Vertical flange connection (top)
Process connections 2 x lateral
Pipe cap with vertical drain flange (bottom)

Vertical flange connection (top)
Process connections 1 x lateral
Vertical flange connection (bottom)

Vertical threaded connection (top)
Process connections 2 x lateral
Pipe cap with vertical drain plug (bottom)

Other connections on request

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Selectable tests

- Hydrostatic pressure test
- X-ray testing (RT)
- Dye penetrant test (PT)
- Visual testing (VT)
- Positive material identification test (PMI)

Other tests on request

Ordering information
Model / Material / Process specifications (operating temperature and pressure) / Process connection / Centre-to-centre distance M ...

Detailed information on sensors (reed chain and magnetostrictive) can be found in the following data sheets:
- Level sensor, magnetostrictive high-resolution measuring principle; model FLM; see data sheet LM 20.01
- Level sensor, with reed measuring chain; model FLR; see data sheet LM 20.02

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We reserve the right to make modifications to the specifications and materials.

03/2019 EN

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