



## BM 26 Technical Datasheet

### Bypass Level Indicator

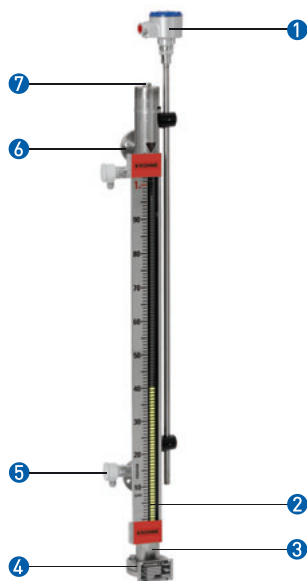
- Most compact bypass level indicator on the market
- Robust, stainless steel design
- Permanent, IP68 local indication without power supply



## The proven mechanical-based solution for level indication

The BM 26 is a simple, rugged instrument designed to indicate level or interface. It indicates level using a float magnetically coupled to an index or a column of rotating flaps. It is ideal for aggressive media stored in tanks when the PTFE lining option is used.

For liquids with densities less than 0.5 kg/l / 31 lb/ft<sup>3</sup>, pressures more than 120 bar / 1740 psig and temperatures higher than 300°C / 570 °F, we recommend our BW 25 displacer-type level indicator.



- ① Option: level transducer
- ② IP 68 level indicator (pyrex tube with an index or a column of rotating flaps)
- ③ Stainless steel bypass chamber (316 L or 316 Ti), with optional PTFE lining for acids
- ④ Option: drain with plug or flange connection
- ⑤ Option: limit switches
- ⑥ Versions: side or inline process connections (with loose or welding neck flanges)
- ⑦ Option: vent with plug or flange connection

### Highlights

- Stainless steel design (optional NACE conformity)
- Proven technology
- Temperature range: -200...+300°C / -325...+570°F
- Pressure range: -1...120 bar / -14.5...1740 psig
- Density: 0.5...3 kg/l / 31...187 lb/ft<sup>3</sup>
- Float material options: 316L, 316 Ti and Titanium
- Stainless steel scale with wide choice of markings: m/cm, ft/in, %, volume etc.
- Less risk of leakage than a sight glass - little or no maintenance needed
- Easy to install
- Ideal for tanks with obstructed environments
- Optional indication of interface
- Optional approvals for EEx i or EEx d applications

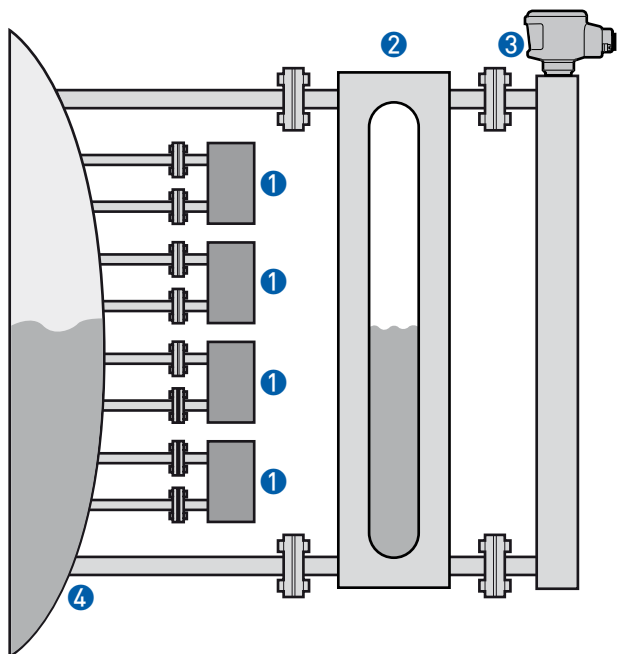
### Industries

- Chemical
- Oil and Gas
- Petrochemical
- Power

### Applications

- Boilers
- Condensators
- Hydrocarbons
- Liquid gas
- Process and storage tanks
- Steam cracking
- Separators

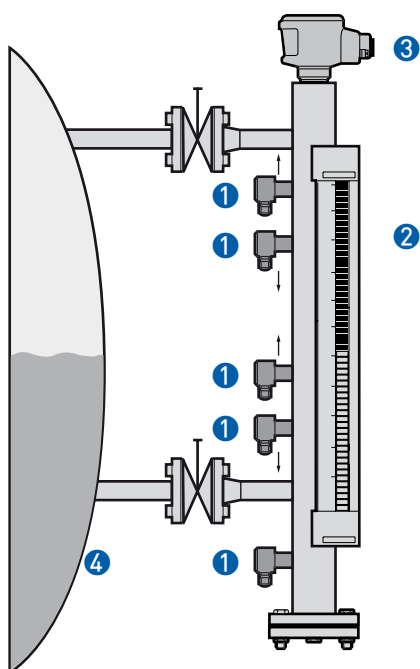
## A simpler and cheaper alternative for your application



### An example of a typical industrial application

Level indication on large tanks often involves a complex arrangement of devices set up to indicate level and provide an analogue output.

- ① Small bypass or displacer-type level indicators in a series arrangement
- ② Sight glass
- ③ Bypass chamber with analogue output
- ④ Tank



### KROHNE's all-in-one equivalent using the BM 26

The BM 26 is a bypass level indicator that provides you with an all-in-one alternative. You only need one BM 26 to read level locally or remotely, integrate the instrument into a network and receive alarms at critical points (tank full, sunk float etc).

- ① Limit switches in high-high, high, low, low-low and sink detection positions. The user can adjust these positions on-site.
- ② Bypass level indicator (magnetic)
- ③ Level transducer with analogue or network output
- ④ Tank

## Technical data: general information

	BM 26 A	BM 26 PTFE-lined
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### Input

Device	Magnetic level indicator	
Function	Float magnetically coupled to a mechanical level indicator	
Parameter	Level, interface, or volume	
Max. measuring range	0.3...6 m / 1...20 ft ①	0.3...5.5 m / 1...18 ft ①

### Output

Output signal	see "Technical data: optional level transducer" (if option fitted)	
Error signal	see "Technical data: optional level transducer" (if option fitted)	

### Accuracy

Repeatability	±10 mm / ±0.4"	
Accuracy	±10 mm / ±0.4"	

### Process conditions

Ambient temperature	-40...+85°C / -40...+185°F; EEx i: see supplementary operating instructions or approval certificates	-20...+85°C / -4...+185°F
Storage temperature	-40...+85°C / -40...+185°F	
Process temperature	-40...+200°C / -40...+390°F; EEx i: see supplementary operating instructions or approval certificates ②	-20...+200°C / -40...+390°F
Thermal resistance	100°C/min / 210°F/min	
Operating pressure	-1...40 bar / -14.5...580 psig ③	0...10 bar / 0...145 psig ③
Product density	0.5...3 kg/l / 31...187 lb/ft³	
Viscosity	≤5000 mPas / ≤3.360 lb/fts	
Protection category	IP 68 equivalent to NEMA 6-6X	

### Material

Chamber	Stainless steel (1.4404 / 316L); Stainless steel (1.4571 / 316Ti)	Stainless steel (1.4404 / 316L) with PTFE lining
Float	Stainless steel (1.4404 / 316L); Stainless steel (1.4571 / 316Ti); Titanium	Glass; PTFE
Indicator tube	Pyrex glass	
Scale	Stainless steel	
Process fitting	Stainless steel (1.4404 / 316L); Stainless steel (1.4571 / 316Ti)	Stainless steel (1.4404 / 316L) with PTFE lining
Gaskets	Klingerit; PTFE	PTFE
Heater casing	Stainless steel (1.4404 / 316L) ④	-
Insulation	Glass fibre wool ⑤	-
Magnifier glass	Plexitherm glass ⑥	-

### Process connections

Loose flange	DN15...50 (PN40) ①	-
Welding Neck flange	DN15...50 (PN40); ½"...2" (150 lb / 300 lb) ①	DN25...50 (PN10); 1"...2" (150 lb) ①

	<b>BM 26 A</b>	<b>BM 26 PTFE-lined</b>
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**Drain and vent connections**

Thread	G or NPT 3/8; G or NPT 1/2; NPT 3/4	NPT 1/2
Flange	DN15, 25 PN40; 1/2"...1" (150 lb/300 lb)	DN15...25 (PN16); 1/2"...1" (150 lb)

**Display**

Display options	Indicator column - magnetically-coupled floating index
	Indicator column - magnetically coupled, yellow/black rotating flaps
	Scale markings: m+cm; ft+in; or % <b>7</b>

**Design codes**

Conformity to pressure equipment directives	PED 97/23/EC	
Pressure vessel construction code	CODAP® 2000	
Options	NACE MR0175 / ISO 15156	-

**Approvals**

ATEX	ATEX II 1/2 G EEx d IIC T3...T6; ATEX II 1/2 G EEx d ia IIC T3...T6; ATEX II 1 G EEx ia IIC T3...T6	
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**Variants, options and accessories**

Variants	C: two side connections	C: two side connections
	D: two inline connections	-
	E: top side connection and bottom inline connection	-
	F: top inline connection and bottom side connection	-
Sub-variants	Standard	
	AG / long connection AG: low temperature (min -40°C / -40°F)	-
	B: With heating/cooling system <b>8</b>	-
	TR: very low-temperature (min.-200°C / -330°F)	-
	IC/TR: very low-temperature, with insulation jacket (min.-200°C / -330°F)	-
	HR: high-temperature (+200...+300°C / +390...570°F)	-
Options	Level transducer	
	Limit switches	
Accessories	Insulation jacket <b>9</b>	-

**1** other sizes on request

**2** Optional non-Ex -200...+300°C / -325...+570°F

**3** subject to process connection used and flange temperature; information on higher pressure levels available on request

**4** for the heating/cooling system sub-variant (B)

**5** for the insulated high-temperature sub-variant (IC/HR) or the insulated very low-temperature sub-variant (IC/TR)

**6** for the low temperature sub-variant (AG)

**7** volume units on request

**8** 2 DN15 connections - or optionally tubes for Ermeto 12 connectors - are provided for the heat transfer fluid

**9** for indicators with long process connections

## Technical data: optional level transducer

	PR 5343B 4...20 mA output	PR 5350B PROFIBUS PA® or FF output	PR 5335B 4...20 mA/HART® output
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### Input

Device	Level transducer (column of reed resistors connected to a transmitter module) mounted on the side of the BM 26 bypass chamber
Function	Reed-chain magnetically actuated by float in BM 26 bypass chamber
Parameter	Level
Max. measuring range	0.3...6 m / 1...20 ft

### Output

Output signal	4...20 mA	PROFIBUS® PA protocol Profile A&B, ver. 3.0 (EN 50710 vol.2) or FOUNDATION™ Fieldbus protocol	4...20 mA/HART
Error signal	High: 23 mA; Low: 3.5 mA	-	High: 23 mA; Low: 3.5 mA

### Accuracy

Repeatability	±10 mm / ±0.4"
Accuracy	±10 mm / ±0.4"

### Process conditions

Ambient temperature	-40...+85°C / -40...+185°F; EEx i: see supplementary operating instructions or approval certificates
Process temperature	-40...+200°C / -40...+390°F; EEx i: see supplementary operating instructions or approval certificates ❶
Protection category	IP 65 equivalent to NEMA 4-4X
Electromagnetic compatibility (EMC)	EN 61326 89/336/EEC (EMC Directive) 72/23/EEC (Low Voltage Directive)

### Material

Transmitter module housing	Aluminium
Probe	Stainless steel (1.4404 / 316L)
Bracket	Aluminium (stainless steel for high-temperature versions)
Clamp	Stainless steel

### Electrical connections

Instrument terminal - non Ex	8...35 VDC ❷	9...32 VDC	8...35 VDC ❷
Instrument terminal - EEx	8...30 VDC ❷	9...30 VDC	8...30 VDC ❷
Maximum safety values ❸	See supplementary operating instructions or approval certificates		
Cable entry	M20 x 1.5, M25 x 1.5 or NPT¼ ❹		

### Approvals

ATEX	ATEX II 1/2 G EEx d IIC T3...T6 or ATEX II 1/2 G EEx d ia IIC T3...T6; ATEX II 1 G EEx ia IIC T3...T6
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❶ for HR versions: +300°C / 570°F

❷ min./max. value for an output of 23 mA at the terminal

❸ for EEx i applications

❹ Cable fitting is not supplied: only use fittings and other components that are EEx-certified, if EEx i or EEx d approval is chosen

## Technical data: optional level switches

	Standard (Non-Ex) switches					
Type code	MS20 STD/LC/PC/NN/BT	MS15 STD/LC/PC/NO/BT	MS15 STD/LC/AL/NN/HT	MS15 STD/LC/AL/NO/HT	MS15 STD/HC/PC/NN/BT	MS15 STD/HC/AL/NN/HT
Version	Low price, standard	NAMUR	High-temperature	NAMUR, high-temperature	High-power cut-out	High-power cut-out, high temperature

### Input

Device	Level switch mounted on the side of the BM 26 bypass chamber					
Function	Reed switch that is magnetically actuated by float in BM 26 bypass chamber					
Parameter	Level detection					
Switching capacity	30 VA; 0.5 A; 230 VAC	①	20 VA; 1.5 A; 250 VAC	①	3...100VA;1.5 A; 250 VAC	3...100VA;1.5 A; 250 VAC

### Accuracy

Hysteresis	Not applicable
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### Process conditions

Ambient temperature	-20...+120°C / -4...+250°F ②					
Process temperature	-40...+250°C / -40...+480°F	-40...+250°C / -40...+480°F	-40...+300°C / -40...+570°F	-40...+300°C / -40...+570°F	-40...+250°C / -40...+480°F	-40...+300°C / -40...+570°F
Protection category	IP 65 equivalent to NEMA 4-4X					

### Material

Switch housing	Polycarbonate	Polycarbonate	Aluminium	Aluminium	Polycarbonate	Aluminium
Bracket	Stainless steel					
Clamp	Stainless steel					

### Electrical connections

Cable entry	PG 9	PG 13.5	M20 x 1.5 ③	M20 x 1.5 ③	PG 13.5	M20 x 1.5 ③
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① according to NAMUR 19234. Connect to a NAMUR amplifier.

② specify temperature if an insulation jacket is used

③ Optional: M25 x 1.5 or NPT¾. Cable fitting not supplied.

	Exi-approved switches			
Type code	MS20 EXI/LC/PC/NN/BT	MS15 EXI/LC/PC/NO/BT	MS15 EXI/LC/AL/NN/HT	MS15 EXI/LC/AL/NO/HT
Version	low price, standard	NAMUR	high-temperature	NAMUR, high-temperature

### Input

Device	Level switch mounted on the side of the BM 26 bypass chamber			
Function	Reed switch that is magnetically actuated by float in BM 26 bypass chamber			
Parameter	Level detection			
Switching capacity	0.5 A ①	②	1.5 A ①	②

### Accuracy

Hysteresis	Not applicable
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### Process conditions

Ambient temperature	③			
Process temperature	③	③	③	③
Protection category	IP 65 equivalent to NEMA 4-4X			

### Material

Switch housing	Polycarbonate	Polycarbonate	Aluminium	Aluminium
Bracket	Stainless steel			
Clamp	Stainless steel			

### Electrical connections

Power supply characteristics	See supplementary operating instructions or approval certificates.			
Cable entry	PG 9	PG 13.5	M20 x 1.5 ④	M20 x 1.5 ④

### Approvals

ATEX	ATEX II 1 G EEx ia IIC T3...T6
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- ① Only connect to a certified intrinsically-safe power supply. Safety values: see supplementary operating instructions or approval certificates.
- ② according to NAMUR 19234. Connect a NAMUR amplifier.
- ③ Dependant on temperature class: see supplementary operating instructions or approval certificates.
- ④ Optional: M25 x 1.5 or NPT $\frac{3}{4}$ . Cable fitting not supplied.

	Exd-approved switches		
Type code	MS15 EXD/LC/AL/NN/HT	MS15 EXD/LC/AL/NO/HT	MS15 EXD/HC/AL/NN/HT
Version	high-temperature	NAMUR, high-temperature	high-power cut-out, high-temperature

### Input

Device	Level switch mounted on the side of the BM 26 bypass chamber		
Function	Reed switch that is magnetically actuated by float in BM 26 bypass chamber		
Parameter	Level detection		
Switching capacity	20 VA; 1.5 A; 250 VAC	①	1.5 A ②

### Accuracy

Hysteresis	Not applicable		
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### Process conditions

Ambient temperature	③		
Process temperature	③	③	③
Protection category	IP 65 equivalent to NEMA 4-4X		

### Material

Switch housing	Aluminium	Aluminium	Aluminium
Bracket	Stainless steel		
Clamp	Stainless steel		

### Electrical connections

Cable entry	M20 x 1.5 ④	M20 x 1.5 ④	M20 x 1.5 ④
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### Approvals

ATEX	ATEX II 1/2 G EEx d ia IIC T3...T6		
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① according to NAMUR 19234. Connect a NAMUR amplifier.

② Only connect to a certified intrinsically-safe power supply. Safety values: see supplementary operating instructions or approval certificates.

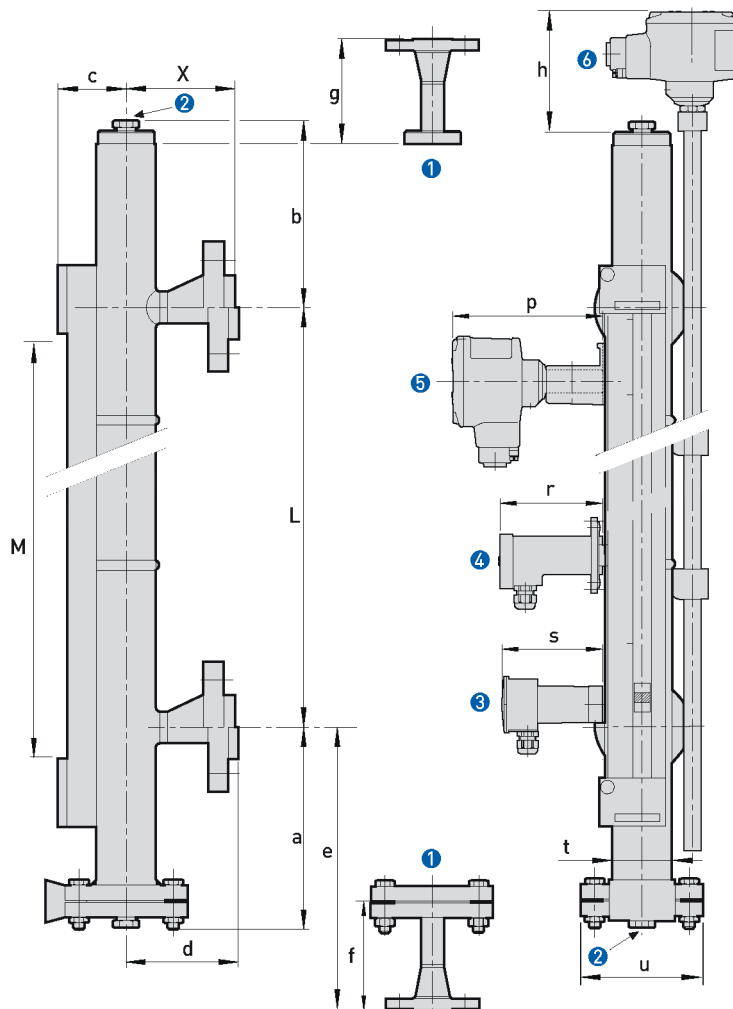
③ Dependant on temperature class: see supplementary operating instructions or approval certificates.

④ Optional: M25 x 1.5 or NPT $\frac{1}{4}$ . Cable fitting not supplied.

## Dimensions and Weights

Variant C: two side process connections

Standard, low-temperature (AG), and high-temperature (HR) sub-variants



- ① Optional drain or vent with flange connection
- ② Optional drain or vent with G or NPT plug
- ③ Optional MS20 limit switch
- ④ Optional MS15 limit switch for low-temperature applications
- ⑤ Optional MS15 limit switch for high-temperature and Ex d applications
- ⑥ Optional level transducer
- ⑦ Low temperature sub-variant (AG): Indicating tube with plexitherm glass cover (prevents condensation forming on indicating tube)  
High-temperature sub-variant (HR): High-temperature indicating tube with floating index

Dimensions in mm

	Dimensions [mm]															
	a	X	b	L	M	c	d	e	f	g	h	p	r	s	t	u
Sub-variants: Standard AG HR	300	①	200	300 ... 6000	②	72 ③	115 ④	375	116	116	150 ... 170 ⑤	146 ⑥	100 ⑦	98 ⑧	Ø72 x 2.3	Ø130

- ① Standard connections: according to process connection size. See the "Process connection dimension X" table at the end of this section. Long connections: 165 mm
- ② this is the measuring range of the indicator column. It is equal to the dimension L.
- ③ 100 mm for low-temperature sub-variant
- ④ 165 mm for long connections
- ⑤ with optional level transducer
- ⑥ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑦ with optional MS15 limit switch for low-temperature applications
- ⑧ with optional MS20 limit switch

Dimensions in inches

	Dimensions [inches]															
	a	X	b	L	M	c	d	e	f	g	h	p	r	s	t	u
Sub-variants: Standard AG HR	12.0	①	7.9	12 ... 236	②	2.8 ③	4.5 ④	14.8	4.6	4.6	6 ... 6.7 ⑤	5.7 ⑥	4.0 ⑦	3.9 ⑧	Ø2.8 x 0.09	Ø5.1

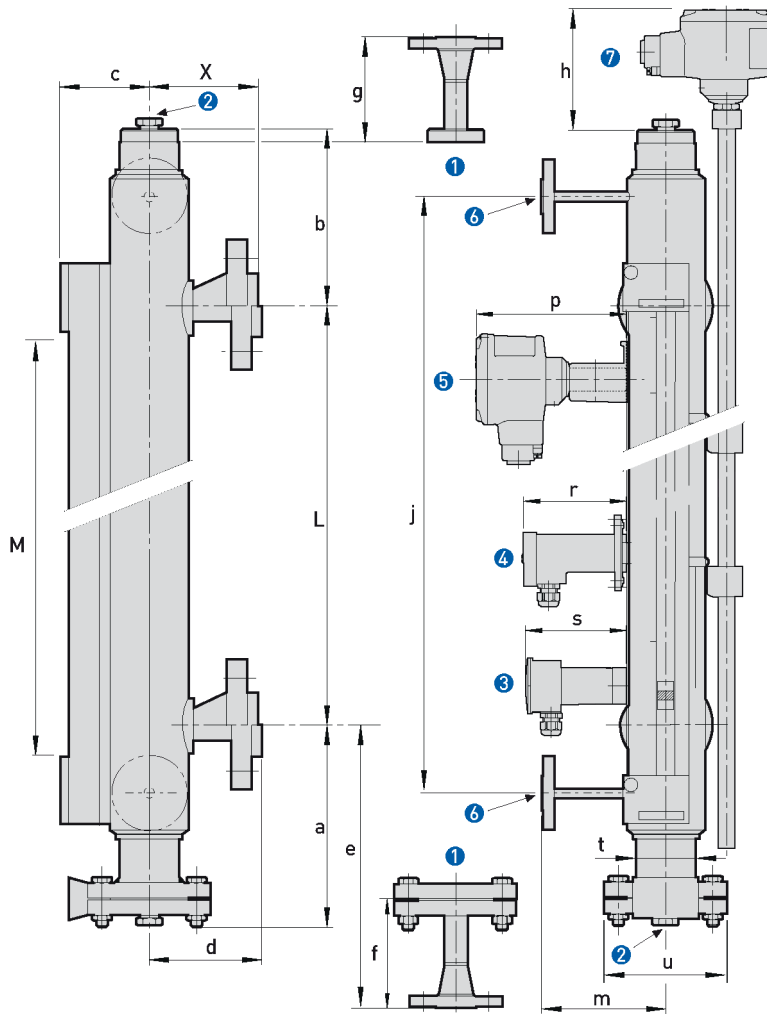
- ① Standard connections: according to process connection size. See the "Process connection dimension X" table at the end of this section. Long connections: 6.5"
- ② this is the measuring range of the indicator column. It is equal to the dimension L.
- ③ 3.9" for low-temperature sub-variant
- ④ 6.5" for long connections
- ⑤ with optional level transducer
- ⑥ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑦ with optional MS15 limit switch for low-temperature applications
- ⑧ with optional MS20 limit switch

Weight in kg and lbs

	Weight when L=1000 mm	Weight when L=40 inches	Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lbs]	[kg]	[lbs]
Bypass chamber	14.5	32.0	0.5	1.1
Level transducer	2.3	5.1	0.1	0.2
MS15 BT limit switch ①	0.13	0.3		
MS15 HT limit switch ②	1.2	2.6		
MS20 limit switch	0.085	0.2		

- ① for low-temperature applications
- ② for high-temperature applications

Heating/cooling system sub-variant (B)



- ① Optional drain or vent with flange connection
- ② Optional drain or vent with G or NPT plug
- ③ Optional MS20 limit switch
- ④ Optional MS15 limit switch for low-temperature applications
- ⑤ Optional MS15 limit switch for high-temperature and Ex d applications
- ⑥ Heating system inlet/outlet. Options: DN15 PN40 flange connection or tube for Ermeto 12
- ⑦ Optional level transducer

Dimensions in mm

	Dimensions [mm]																	
	a	X	b	L	M	c	d	e	f	g	h	j	m	p	r	s	t	u
Sub-variant: B	300	165	200	300 ... 600 0	①	76	165	375	116	116	150 ... 170 ②	L+3 04	165 ③	146 ④	100 ⑤	98 ⑥	Ø72 x 2.3	Ø13 0

- ① this is the measuring range of the indicator column. It is equal to the dimension L.
- ② with optional level transducer
- ③ 100 mm for optional tube for Ermoto 12 connection
- ④ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

Dimensions in inches

	Dimensions [inches]																	
	a	X	b	L	M	c	d	e	f	g	h	j	m	p	r	s	t	u
Sub-variant: B	12.0	6.5	7.9	12 ... 236	①	3.0	6.5	14.8	4.6	4.6	6 ... 6.7 ②	L+1 2.0	6.5 ③	5.7 ④	4.0 ⑤	3.9 ⑥	Ø2.8 x 0.09	Ø5.1

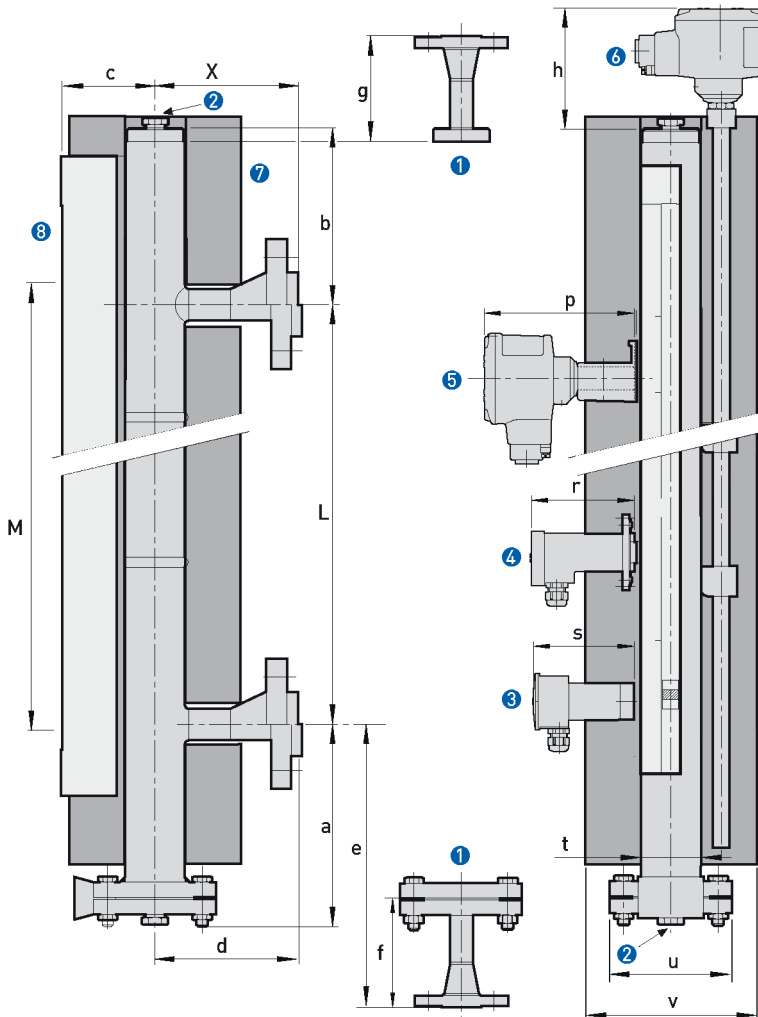
- ① this is the measuring range of the indicator column. It is equal to the dimension L.
- ② with optional level transducer
- ③ 4.0" for optional tube for Ermoto 12 connection
- ④ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

Weight in kg and lbs

	Weight when L=1000 mm	Weight when L=40 inches	Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lbs]	[kg]	[lbs]
Bypass chamber	14.5	32.0	0.5	1.1
Level transducer	2.3	5.1	0.1	0.2
MS15 BT limit switch ①	0.13	0.3		
MS15 HT limit switch ②	1.2	2.6		
MS20 limit switch	0.085	0.2		

- ① for low-temperature applications
- ② for high-temperature applications

Insulated high-temperature (IC/HR) and insulated very low-temperature (IC/TR) sub-variants



- ① Optional drain or vent with flange connection
- ② Optional drain or vent with G or NPT plug
- ③ Optional MS20 limit switch
- ④ Optional MS15 limit switch for low-temperature applications
- ⑤ Optional MS15 limit switch for high-temperature and Ex d applications
- ⑥ Optional level transducer
- ⑦ Optional insulation jacket
- ⑧ Insulated high-temperature sub-variant (IC/HR): high-temperature indicating tube with floating index  
 Insulated very low-temperature sub-variant (IC/TR): indicating tube with plexitherm glass cover (magnifies indicator and prevents condensation forming on the indicating tube)

Dimensions in mm

	Dimensions [mm]																
	a	X	b	L	M	c	d	e	f	g	h	p	r	s	t	u	v
Sub-variants: IC/HR IC/TR	300	165	200	300 ... 6000	①	100 ②	165	375	116	116	150 ...17 0 ③	146 ④	100 ⑤	98 ⑥	Ø72 x 2.3	Ø130	Ø200

- ① this is the measuring range of the indicator column. It is equal to the dimension L.
- ② for IC/HR sub-variant. IC/TR sub-variant: 116 mm.
- ③ with optional level transducer
- ④ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

Dimensions in inches

	Dimensions [inches]																
	a	X	b	L	M	c	d	e	f	g	h	p	r	s	t	u	v
Sub-variants: IC/HR IC/TR	12.0	6.5	7.9	12... 236	①	4.0 ②	6.5	14.8	4.6	4.6	6... 6.7 ③	5.7 ④	4.0 ⑤	3.9 ⑥	Ø2.8 x 0.09	Ø5.1	Ø7.9

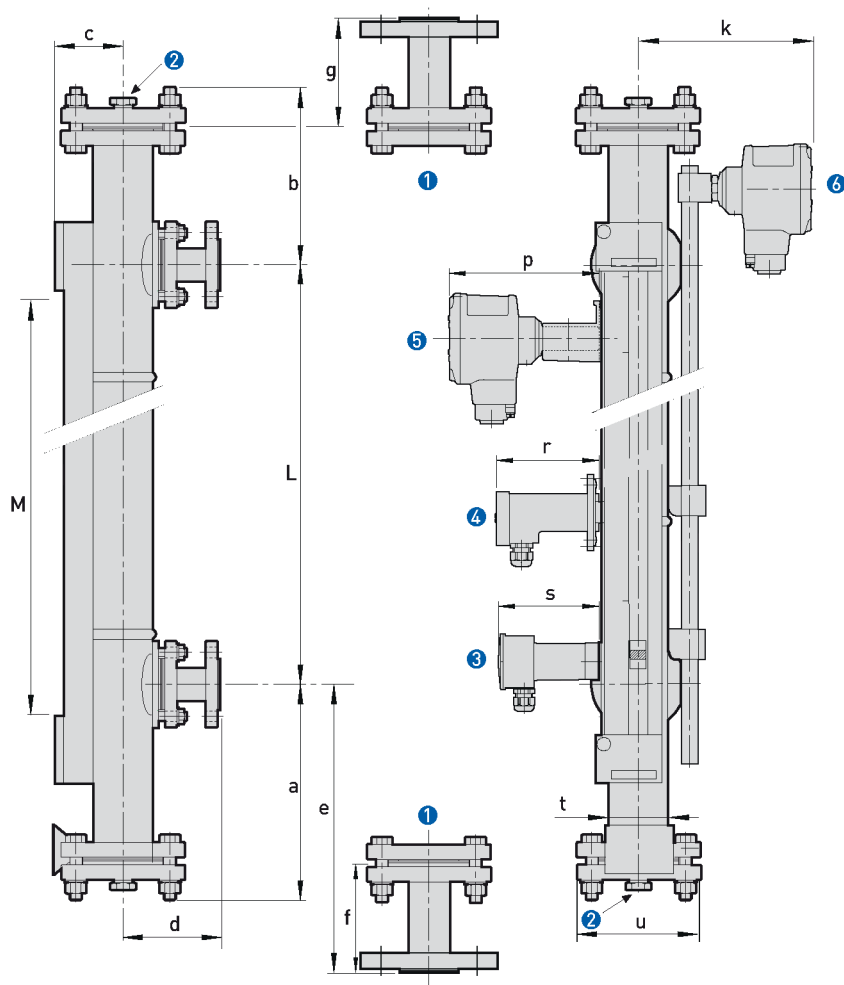
- ① this is the measuring range of the indicator column. It is equal to the dimension L.
- ② for IC/HR sub-variant. IC/TR sub-variant: 4.6".
- ③ with optional level transducer
- ④ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

Weight in kg and lbs

	Weight when L=1000 mm	Weight when L=40 inches	Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lbs]	[kg]	[lbs]
Bypass chamber	14.5	32.0	0.5	1.1
Level transducer	2.3	5.1	0.1	0.2
MS15 BT limit switch ①	0.13	0.3		
MS15 HT limit switch ②	1.2	2.6		
MS20 limit switch	0.085	0.2		

- ① for low-temperature applications
- ② for high-temperature applications

PTFE-lined sub-variant



- ① Optional drain or vent with flange connection
- ② Optional drain or vent with NPT $\frac{1}{2}$  plug
- ③ Optional MS20 Std
- ④ Optional MS15 limit switch for low-temperature applications
- ⑤ Optional MS15 limit switch for high-temperature applications
- ⑥ Optional level transducer

Dimensions in mm

	Dimensions [mm]															
	a	X	b	L	M	c	d	e	f	g	k	p	r	s	t	u
Sub-variant: PTFE-lined	300	①	200	300 ... 6000	②	72	130	375	80	80	189 ③	146 ④	100 ⑤	98 ⑥	Ø80 x 2	Ø165

- ① according to process connection size. See the "Process connection dimension X" table at the end of this section.
- ② this is the measuring range of the indicator column. It is equal to the dimension L.
- ③ with optional level transducer
- ④ with optional MS15 limit switch for high-temperature applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

Dimensions in inches

	Dimensions [inches]															
	a	X	b	L	M	c	d	e	f	g	k	p	r	s	t	u
Sub-variant: PTFE-lined	12.0	①	7.9	12 ... 236	②	2.8	5.1	14.8	3.2	3.2	7.5 ③	5.7 ④	4.0 ⑤	3.9 ⑥	Ø3.2 x 0.08	Ø6.5

- ① according to process connection size. See the "Process connection dimension" table at the end of the section.
- ② this is the measuring range of the indicator column. It is equal to the dimension L.
- ③ with optional level transducer
- ④ with optional MS15 limit switch for high-temperature applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

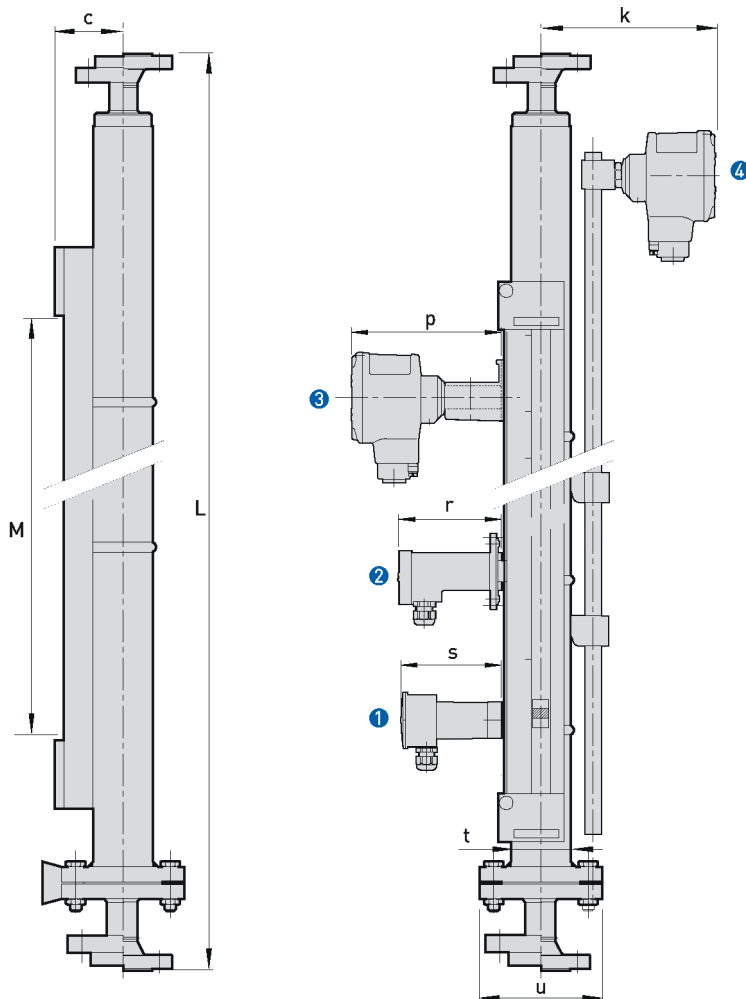
Weight in kg and lbs

	Weight when L=1000 mm	Weight when L=40 inches	Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lbs]	[kg]	[lbs]
Bypass chamber	15.5	34.2	1.2	2.6
Level transducer	2.3	5.1	0.1	0.2
MS15 limit switch BT ①	0.13	0.3		
MS15 limit switch HT ②	1.2	2.6		
MS20 limit switch	0.085	0.2		

- ① for low temperature applications
- ② for high temperature applications

Variant D: two inline process connections

Standard sub-variant



- ① Optional MS20 limit switch
- ② Optional MS15 limit switch for low-temperature applications
- ③ Optional MS15 limit switch for high-temperature and Ex d applications
- ④ Optional level transducer

Note:

- Low-temperature (AG), very low-temperature (IC/TR), high-temperature (HR & IC/HR) and heating/cooling system (B) variants are also available

Dimensions in mm

	Dimensions [mm]								
	c	L	M	k	p	r	s	t	u
Variant: D	72 ①	500...6000	L-200 ②	185 ③	146 ④	100 ⑤	98 ⑥	Ø72 x 2.3	Ø130

- ① 100 mm for low-temperature sub-variant
- ② this is the measuring range of the indicator column
- ③ with optional level transducer
- ④ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

Dimensions in inches

	Dimensions [inches]								
	c	L	M	k	p	r	s	t	u
Variant: D	2.8 ①	20...236	L-7.9 ②	7.3 ③	5.7 ④	4.0 ⑤	3.9 ⑥	Ø2.8 x 0.09	Ø5.1

- ① 3.9" for low-temperature sub-variant
- ② this is the measuring range of the indicator column
- ③ with optional level transducer
- ④ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑤ with optional MS15 limit switch for low-temperature applications
- ⑥ with optional MS20 limit switch

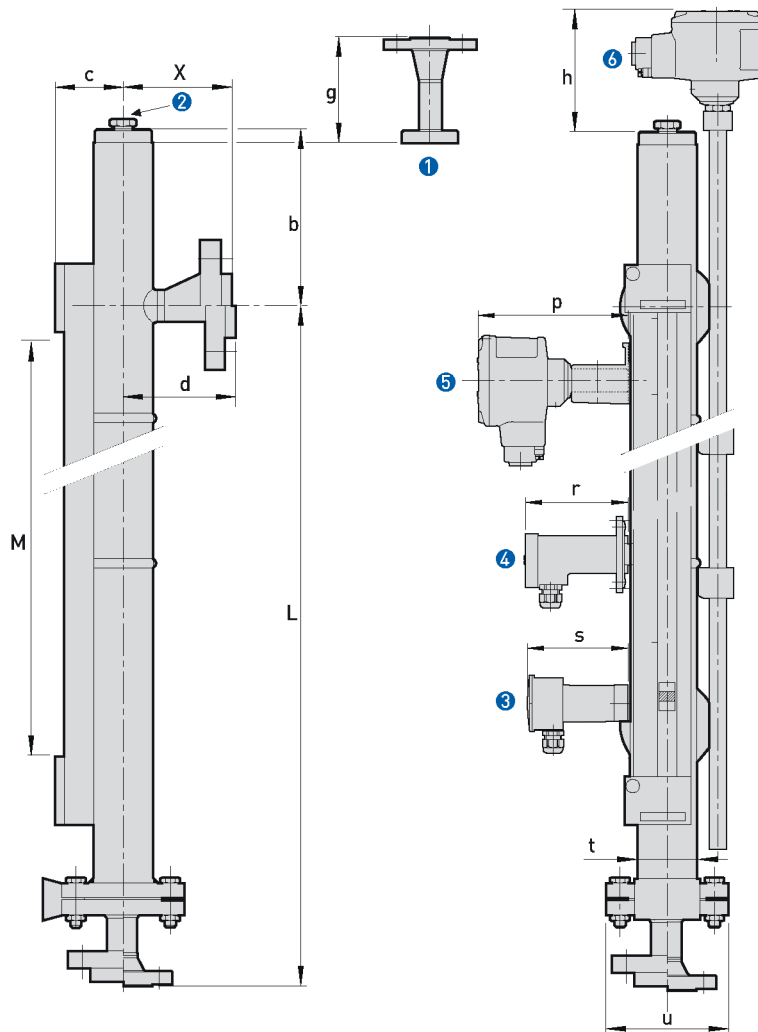
Weight in kg and lbs

	Weight when L=1000 mm	Weight when L=40 inches	Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lbs]	[kg]	[lbs]
Bypass chamber	14.5	32.0	0.5	1.1
Level transducer	2.3	5.1	0.1	0.2
MS15 BT limit switch ①	0.13	0.3		
MS15 HT limit switch ②	1.2	2.6		
MS20 limit switch	0.085	0.2		

- ① for low-temperature applications
- ② for high-temperature applications

Variant E: top side and bottom inline process connections

Standard sub-variant



- ① Optional vent with flange connection
- ② Optional vent with G or NPT plug
- ③ Optional MS20 limit switch
- ④ Optional MS15 limit switch for low-temperature applications
- ⑤ Optional MS15 limit switch for high-temperature and Ex d applications
- ⑥ Optional level transducer

Note:

- Low-temperature (AG), very low-temperature (IC/TR), high-temperature (HR & IC/HR) and heating/cooling system (B) variants are also available

Dimensions in mm

	Dimensions [mm]												
	X	b	c	L	M	d	g	h	p	r	s	t	u
Variant: E	①	200	72 ②	500...6000	L-330 ③	115 ④	116	150...170 ⑤	146 ⑥	100 ⑦	98 ⑧	Ø72 x 2.3	Ø130

- ① Standard connections: according to process connection size. See the "Process connection dimension X" table at the end of this section. Long connections: 165 mm
- ② 100 mm for low-temperature sub-variant
- ③ this is the measuring range of the indicator column
- ④ 165 mm for long connections
- ⑤ with optional level transducer
- ⑥ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑦ with optional MS15 limit switch for low-temperature applications
- ⑧ with optional MS20 limit switch

Dimensions in inches

	Dimensions [inches]												
	X	b	c	L	M	d	g	h	p	r	s	t	u
Variant: E	①	7.9	2.8 ②	20...236	L-13.0 ③	4.5 ④	4.6	6...6.7 ⑤	5.7 ⑥	4.0 ⑦	3.9 ⑧	Ø2.8 x 0.09	Ø5.1

- ① Standard connections: according to process connection size. See the "Process connection dimension X" table at the end of this section. Long connections: 6.5"
- ② 3.9" for low-temperature sub-variant
- ③ this is the measuring range of the indicator column
- ④ 6.5" for long connections
- ⑤ with optional level transducer
- ⑥ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑦ with optional MS15 limit switch for low-temperature applications
- ⑧ with optional MS20 limit switch

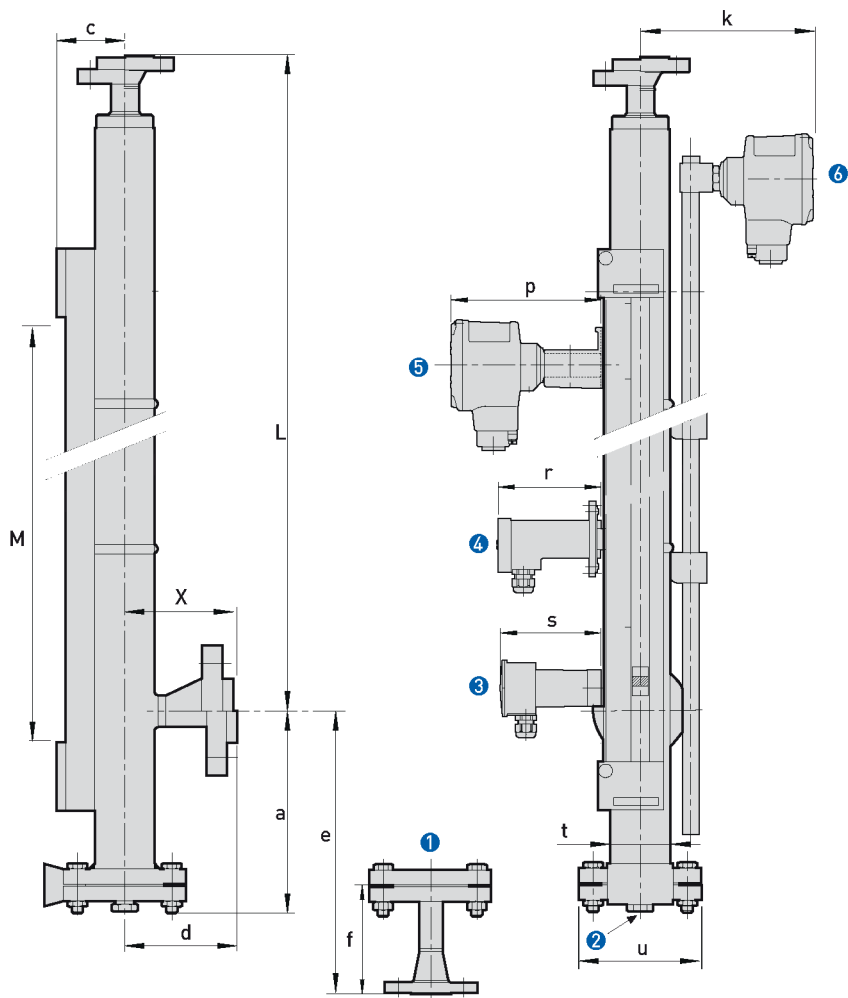
Weight in kg and lbs

	Weight when L=1000 mm	Weight when L=40 inches	Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lbs]	[kg]	[lbs]
Bypass chamber	14.5	32.0	0.5	1.1
Level transducer	2.3	5.1	0.1	0.2
MS15 BT limit switch ①	0.13	0.3		
MS15 HT limit switch ②	1.2	2.6		
MS20 limit switch	0.085	0.2		

- ① for low-temperature applications
- ② for high-temperature applications

Variant F: top inline and bottom side process connection

Standard sub-variant



- ① Optional drain with flange connection
- ② Optional drain with G or NPT plug
- ③ Optional MS20 limit switch
- ④ Optional MS15 limit switch for low-temperature applications
- ⑤ Optional MS15 limit switch for high-temperature and Ex d applications
- ⑥ Optional level transducer

Note:

- Low-temperature (AG), very low-temperature (IC/TR), high-temperature (HR & IC/HR) and heating/cooling system (B) variants are also available

Dimensions in mm

	Dimensions [mm]														
	a	X	L	M	c	d	e	f	h	k	p	r	s	t	u
Variant: F	300	①	500 ... 6000	L-200 ②	72 ③	115 ④	375	116	150 ... 170 ⑤	185 ⑤	146 ⑥	100 ⑦	98 ⑧	Ø72 x 2.3	Ø130

- ① Standard connections: according to process connection size. See the "Process connection dimension X" table at the end of this section. Long connections: 165 mm
- ② this is the measuring range of the indicator column
- ③ 100 mm for low-temperature sub-variant
- ④ 165 mm for long connections
- ⑤ with optional level transducer
- ⑥ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑦ with optional MS15 limit switch for low-temperature applications
- ⑧ with optional MS20 limit switch

Dimensions in inches

	Dimensions [inches]														
	a	X	L	M	c	d	e	f	h	k	p	r	s	t	u
Variant: F	12.0	①	20 ... 236	L-7.9 ②	2.8 ③	4.5 ④	14.8	4.6	6 ... 6.7 ⑤	7.3 ⑤	5.7 ⑥	4.0 ⑦	3.9 ⑧	Ø2.8 x 0.09	Ø5.1

- ① Standard connections: according to process connection size. See the "Process connection dimension X" table at the end of this section. Long connections: 6.5"
- ② this is the measuring range of the indicator column
- ③ 3.9" for low-temperature sub-variant
- ④ Long connections: 6.5"
- ⑤ with optional level transducer
- ⑥ with optional MS15 limit switch for high-temperature and Ex d applications
- ⑦ with optional MS15 limit switch for low-temperature applications
- ⑧ with optional MS20 limit switch

Weight in kg and lbs

	Weight when L=1000 mm	Weight when L=40 inches	Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lbs]	[kg]	[lbs]
Bypass chamber	14.5	32.0	0.5	1.1
Level transducer	2.3	5.1	0.1	0.2
MS15 BT limit switch ①	0.13	0.3		
MS15 HT limit switch ②	1.2	2.6		
MS20 limit switch	0.085	0.2		

- ① for low-temperature applications
- ② for high-temperature applications

Tables for process connection dimension X

Process connection length, X, in mm (EN welding neck flanges)

Nominal size	Pressure rating	Process connection length, X
DN	PN	[mm]
15	40	79.5
20	40	81.5
25	40	81.5
40	40	86.5
50	40	89.5

Process connection length, X, in inches (EN welding neck flanges)

Nominal size	Pressure rating	Process connection length, X
DN	PN	[inches]
15	40	3.13
20	40	3.21
25	40	3.21
40	40	3.41
50	40	3.52

Process connection length, X, in mm (ASME welding neck flanges flanges)

Nominal size	Pressure rating	Process connection length, X
ASME		[mm]
½"	150LB	89.5
¾"	150LB	93.5
1"	150LB	97.5
1½"	150LB	103.5
2"	150LB	104.5
½"	300LB	93.5
¾"	300LB	98.5
1"	300LB	103.5
1½"	300LB	109.5
2"	300LB	111.5

Process connection length, X, in inches (ASME welding neck flanges)

Nominal size	Pressure rating	Process connection length, X
ASME		[inches]
½"	150LB	3.52
¾"	150LB	3.84
1"	150LB	4.07
1½"	150LB	4.11
2"	150LB	3.68
½"	300LB	3.68
¾"	300LB	3.88
1"	300LB	4.07
1½"	300LB	4.31
2"	300LB	4.39

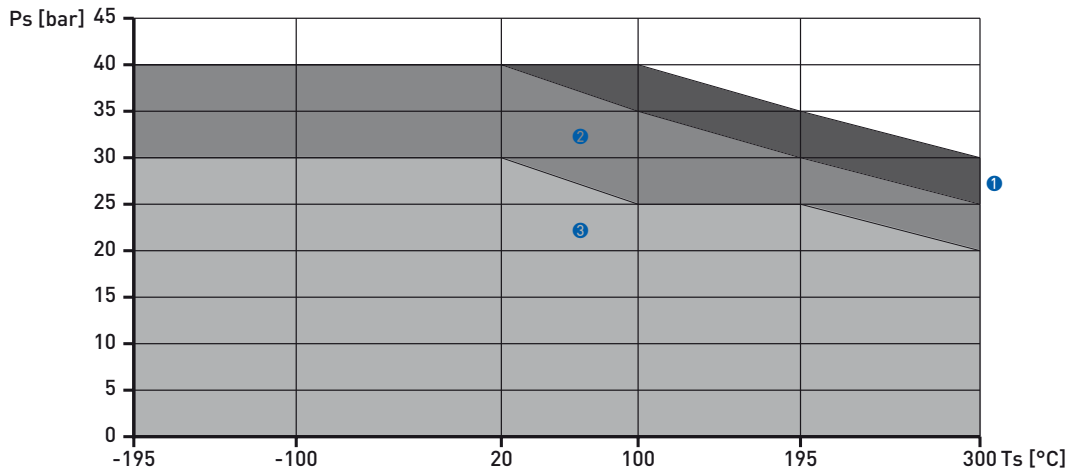
## Guidelines for maximum operating pressure

**Note:**

Ensure that meters are used within their operating limits. Observe the following requirements.

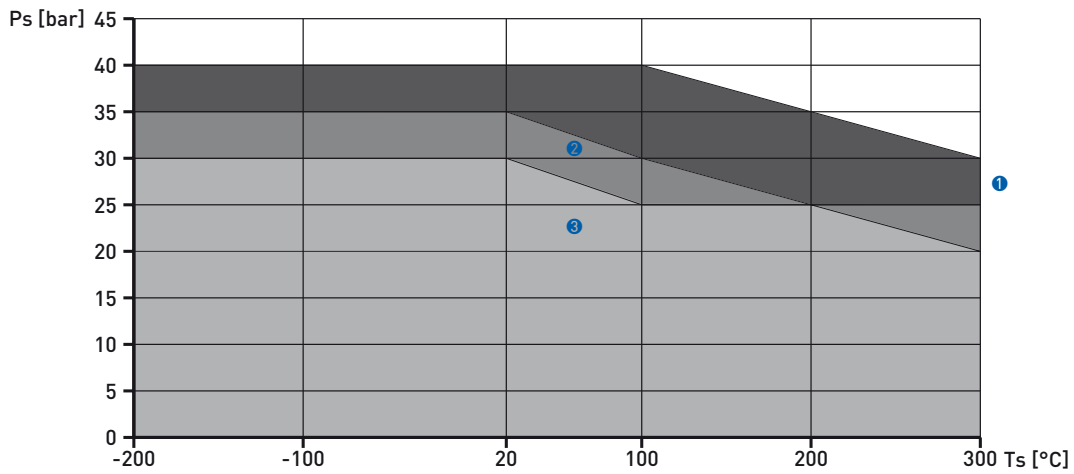
Flanged connections for BM 26 chamber according to EN 1092-1:

Pressure / temperature de-rating for 316 L (1.4404) stainless steel meters



- ① Loose and Welding Neck PN40 flanges for sizes DN15 and DN20
- ② Loose and Welding Neck PN40 flange for size DN25
- ③ Loose and Welding Neck PN40 flanges for sizes DN40 and DN50

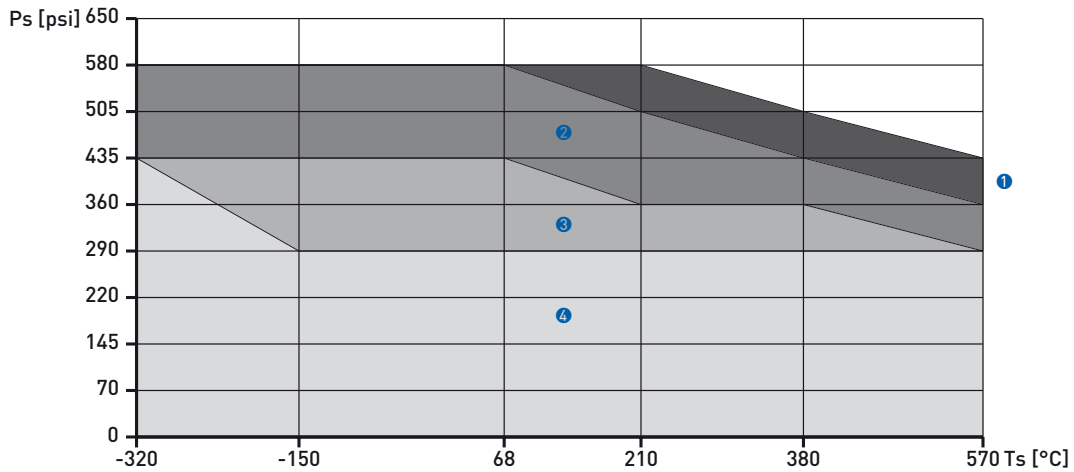
Pressure / temperature de-rating for 316 Ti (1.4571) stainless steel meters



- ① Loose and Welding Neck PN40 flanges for sizes DN15, DN20, and DN25
- ② Loose and Welding Neck PN40 flange for size DN50
- ③ Loose and Welding Neck PN40 flanges for sizes DN40

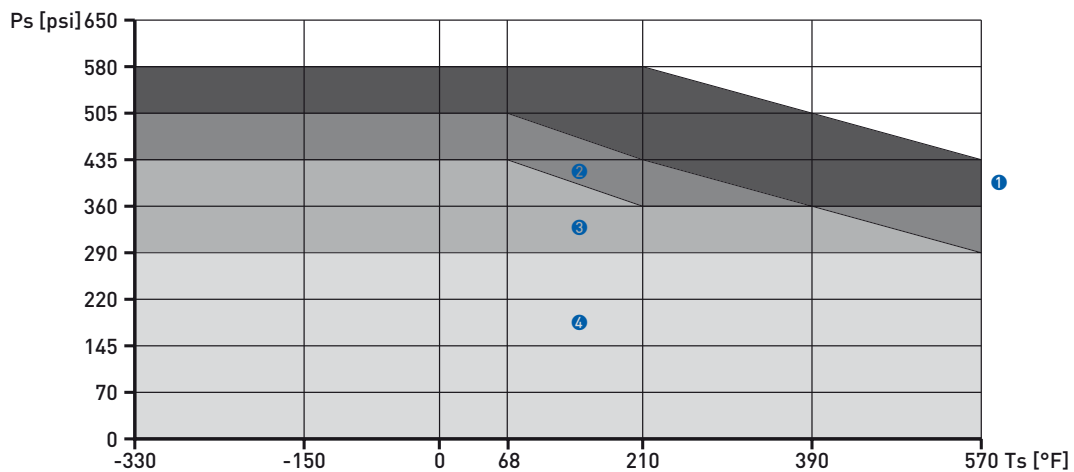
Flanged connections for BM 26 chamber according to ASME:

Pressure / temperature de-rating for 316 L (1.4404) stainless steel meters



- ① ASME 300 lb flanges for sizes ½" and ¾"
- ② ASME 300 lb flange for size 1"
- ③ ASME 300 lb flanges for sizes 1½" and 2"
- ④ ASME 150 lb flanges for sizes ½", ¾", 1, 1½", and 2"

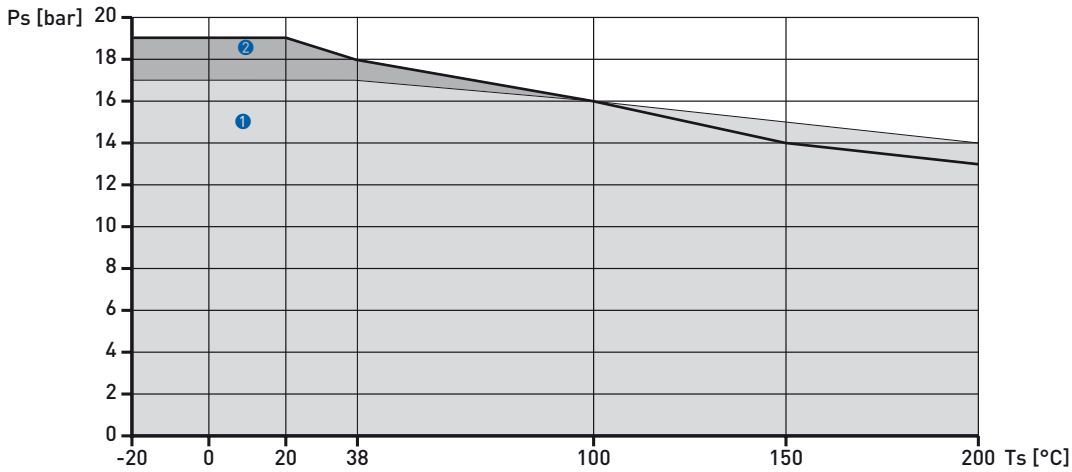
Pressure / temperature de-rating for 316 Ti (1.4571) stainless steel meters



- ① ASME 300 lb flanges for sizes ½", ¾", 1", and 1½"
- ② ASME 300 lb flange for size 2"
- ③ No ASME flanges covered by this category
- ④ ASME 150 lb flanges for sizes ½", ¾", 1, 1½", and 2"

Flanged connections for BM 26 chamber according to EN 1092-1:

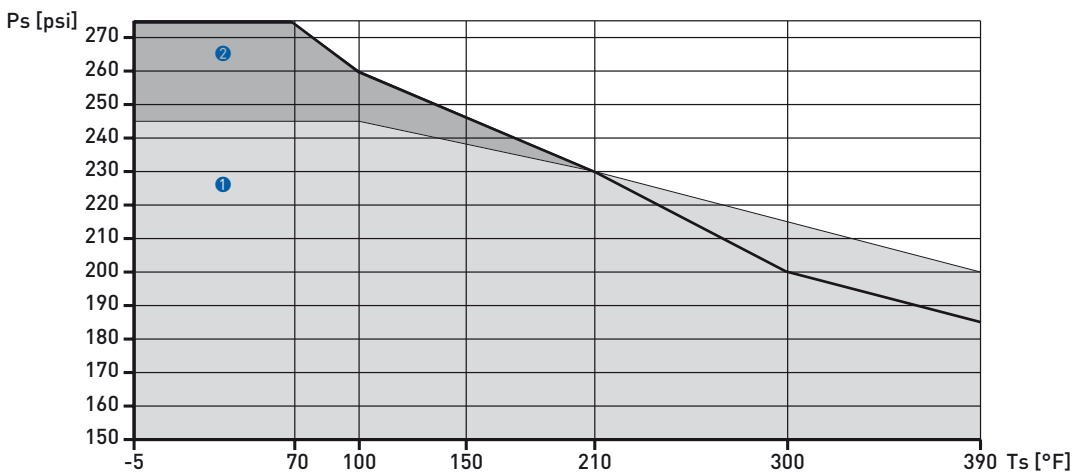
Pressure / temperature de-rating for PTFE-lined 316 L (1.4404) stainless steel meters



- ① PN10/16 flanges for sizes DN25, DN40, and DN50
- ② No PN flanges covered by this category

Flanged connections for BM 26 chamber according to ASME:

Pressure / temperature de-rating for PTFE-lined 316 L (1.4404) stainless steel meters



- ① No ASME flanges covered by this category
- ② ASME 150 lb flanges for sizes 1", 1"½, and 2"

Pressure de-rating for heating/cooling system (sub-variant B)

Where L is the height of the bypass chamber between process connection axes

Maximum pressure of heating/cooling system in bar (for a given bypass chamber length)

	L	Pmax.
	m	bar
Sub-variant B: heating/cooling system	0...2	10
	2...4	7
	4...6	5

Maximum pressure of heating/cooling system in psig (for a given bypass chamber length)

	L	Pmax.
	ft.	psig
Sub-variant B: heating/cooling system	0...6.5	145
	6.5...13	101.5
	13...19.5	72.5





## KROHNE Product Overview

- Electromagnetic flowmeters
- Variable area flowmeters
- Mass flowmeters
- Ultrasonic flowmeters
- Vortex flowmeters
- Flow controllers
- Level measuring instruments
- Pressure gauges
- Temperature measuring instruments
- Water solutions & analysis
- Oil and gas turnkey solutions

### Addresses:

#### Germany

##### Northern sales office

KROHNE Messtechnik GmbH & Co. KG  
Bremer Str. 133  
D-21073 Hamburg  
Phone: +49 (0)40 767 3340  
Fax: +49 (0)40 767 33412  
nord@krohne.de  
ZIP code: 10000 - 29999, 49000 - 49999

##### Western and middle sales office

KROHNE Messtechnik GmbH & Co. KG  
Ludwig-Krohne-Straße  
D-47058 Duisburg  
Phone: +49 (0)203 301 416  
Fax: +49 (0)203 301 10416  
west@krohne.de  
ZIP code: 30000 - 34999, 37000 - 48000, 50000 - 53999, 57000 - 59999, 98000 - 99999

##### Southern sales office

KROHNE Messtechnik GmbH & Co. KG  
Landsberger Str. 392  
D-81261 Munich  
Phone: +49 (0)89 121 5620  
Fax: +49 (0)89 129 6190  
sued@krohne.de  
ZIP code: 0 - 9999, 80000 - 89999, 90000 - 97999

##### Southwestern sales office

KROHNE Messtechnik GmbH & Co. KG  
Rüdesheimer Str. 40  
D-65239 Hochheim/Main  
Phone: +49 (0)6146 827 30  
Fax: +49 (0)6146 827 312  
rhein-main@krohne.de  
ZIP code: 35000 - 36999, 54000 - 56999, 60000 - 79999

##### Instrumentation and control equipment catalog

TABLAR Messtechnik GmbH  
Ludwig-Krohne-Straße 5  
D-47058 Duisburg  
Phone: +49 (0)2 03 305 880  
Fax: +49 (0)2 03 305 8888  
kontakt@tablar.de www.tablar.de

#### KROHNE sales companies

#### International

##### Australia

KROHNE Australia Pty Ltd  
Quantum Business Park 10/287  
Victoria Rd Rydalmere NSW 2116  
Phone: +61 2 8846 1700  
Fax: +61 2 8846 1755  
krohne@krohne.com.au

##### Austria

KROHNE Austria Ges.m.b.H.  
Modecertraße 14  
A-1030 Vienna  
Phone: +43 (0)1/203 45 32  
Fax: +43 (0)1/203 47 78  
info@krohne.at

##### Belgium

KROHNE Belgium N.V.  
Brusselstraat 320  
B-1702 Groot Bijgaarden  
Phone: +32 (0)2 4 66 00 10  
Fax: +32 (0)2 4 66 08 00  
krohne@krohne.be

##### Brazil

KROHNE Conaut Controles  
Automaticos Ltda.  
Estrada Das Águas Espraiadas, 230  
C. P. 56 06835 - 080 EMBU - SP  
Phone: +55 (0)11-4785-2700  
Fax: +55 (0)11 4785-2768  
conaut@conaut.com.br

##### China

KROHNE Measurement Instruments  
(Shanghai) Co. Ltd., (KMIC)  
Room 1501

1033 Zhaojiabang Road  
Shanghai 200030  
Phone: +86 21 6487 9611  
Fax: +86 21 6438 7110  
info@krohne-asia.com

##### Czech Republic

Sobisická 156  
63800 Brno  
Phone: +420 (0)545.242 627  
Fax: +420 (0)545 220 093  
brno@krohne.cz

##### France

KROHNE S.A.S.  
Les Ors BP 98  
F-26103 ROMANS Cedex  
Phone: +33 (0)4 75 05 44 00  
Fax: +33 (0)4 75 05 00 48  
info@krohne.fr

##### Great Britain

KROHNE Ltd.  
Rutherford Drive  
Park Farm Industrial Estate  
Wellingborough  
Northants NN8 6AE  
Phone: +44 (0)19 33 408 500  
Fax: +44 (0)19 33 408 501  
info@krohne.co.uk

##### CIS

Kanex KROHNE Engineering AG  
Business-Centre Planeta  
Office 404 ul.  
Marxistskaja 3  
109147 Moscow/Russia  
Phone: +7 (0)095 911 7165  
Fax: +7 (0)095 742 8873  
krohne@dol.ru

##### India

Krohne Marshall Ltd.  
A-34/35, M.I.D.C. Industrial Area,  
H-Block  
Pimpri Poona 411018  
Phone: +91 (0)202 744 2020  
Fax: +91 (0)202 744 2020  
pcu@vsnl.net

##### Iran

KROHNE Liaison Office  
North Sohrvardi Ave. 26,  
Sarmad St., Apt. #9  
Tehran 15539  
Phone: +9821 8874 5973  
Fax: +9821 8850 1268  
krohne@krohneiran.com

##### Italy

KROHNE Italia Srl.  
Via V. Monti 75  
I-20145 Milan  
Phone: +39 02 4300 661  
Fax: +39 02 4300 6666  
info@krohne.it

##### Korea

KROHNE Korea  
Room 508 Miwon Bldg 43  
Yoido-Dong Youngdeungpo-Ku  
Seoul, Korea  
Phone: 00-82-2-782-1900  
Fax: 00-82-2-780-1749  
krohnekorea@krohnekorea.com

##### Netherlands

KROHNE Nederland B.V.  
Kerkeplaat 14  
NL-3313 LC Dordrecht  
Phone: +31 (0)78 630 6200  
Fax: +31 (0)78 630 6405  
Service Direct: +31 (0)78 630 6222  
info@krohne.nl

##### Norway

KROHNE Norway A.S.  
Ekholtveien 114  
NO-1521 Moss  
Phone: +47 (0)69 264 860  
Fax: +47 (0)69 267 333  
postmaster@krohne.no

##### Poland

KROHNE Polska Sp.z o.o.  
ul. Stary Rynek Oliwski 8a  
80-324 Gdansk  
Phone: +48 (0)58 520 9211  
Fax: +48 (0)58 520 9212  
info@krohne.pl

##### Switzerland

KROHNE AG  
Uferstr. 90  
CH-4019 Basel  
Phone: +41 (0)61 638 30 30  
Fax: +41 (0)61 638 30 40  
info@krohne.ch

##### Singapore

Tokyo Keiso - KROHNE (Singapore)  
Pte. Ltd.  
14, International Business Park,  
Jurong East  
Chiyoda Building, #01-01/02  
Singapore 609922  
Phone: (65) 6567 4548  
Fax: (65) 6567 9874  
tks@tokyokeiso-krohne.com.sg

##### Republic of South Africa

KROHNE Pty. Ltd.  
Bushbuck Close  
Corporate Park South  
Midrand, Gauteng  
P.O. Box 2069  
Midrand, 1685  
Phone: +27 (0)11 314 1391  
Fax: +27 (0)11 314 1681  
midrand@krohne.co.za

##### Spain

I.I. KROHNE IBERIA, S.r.l.  
Poligono Industrial Nilo  
Calle Brasil, nº. 5  
28806 Alcalá de Henares Madrid  
Phone: +34 (0)91 883 2152  
Fax: +34 (0)91 883 4854  
krohne@krohne.es

##### USA

KROHNE, Inc.  
7 Dearborn Road  
Peabody, MA 01960  
Phone: +1 (800) FLOWING  
Phone: +1 (978) 535 6060 (in MA)  
info@krohne.com

#### Representatives

Algeria  
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#### Other countries

KROHNE Messtechnik GmbH & Co. KG  
Ludwig-Krohne-Str. 5  
D-47058 Duisburg  
Phone: +49 (0)203 301 0  
Fax: +49 (0)203 301 389  
export@krohne.de