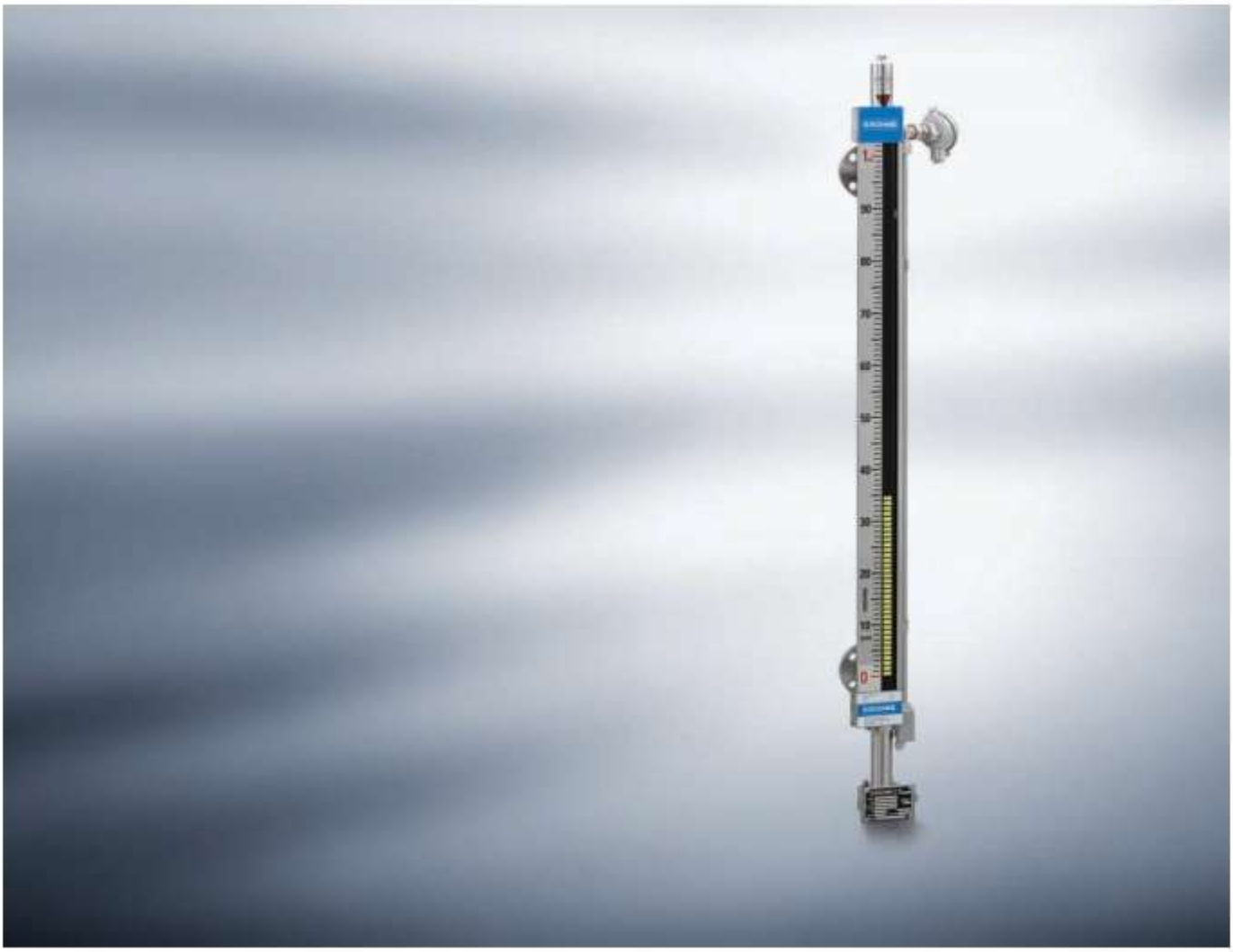


BM 26 BASIC/ADVANCED

Technical Datasheet

Magnetic bypass Level Indicator (MLI) for general-purpose applications

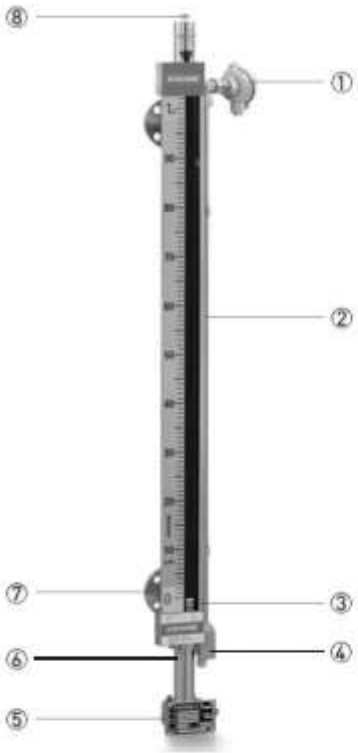
- Best price / performance ratio
- Full stainless steel construction
- IP68 local indicator with bold colours and an optional stainless steel scale

1.1 Bypass level indicators for a complete range of applications

Our bypass level indicators are simple, rugged devices designed to indicate or transmit the level of liquids. They indicate level using a float magnetically coupled to a column of rotating flaps. Bistable switches can be attached to the measuring tube to detect level.

The **Basic** version is ideal for measuring liquids with a density ≥0.8 g/cm³ / ≥49.9 lb/ft³, temperatures up to 150°C / 300°F or pressures up to 16 barg / 232 psig (for more data, refer to *Guidelines for maximum operating pressure* on page 38). Level can also be transmitted via an optional analog transmitter.

The **Advanced** version is ideal for measuring liquids with density range of 0.58...2.0 g/cm³ / 36.2...124.8 lb/ft³, temperatures up to 300°C / 570°F or pressures up to 40 barg / 580 psig (for more data, refer to *Guidelines for maximum operating pressure* on page 38). Level can also be transmitted via an optional analog transmitter or Radar/TDR level transmitters.



① Option: transmitter (for both versions: analog transmitter)
② Level indicator (with optional scale and a choice of scale units and flap colours)
③ Red flaps for float failure indication
④ Option: limit switches (any number)
⑤ Drain
⑥ Stainless steel bypass chamber
⑦ Lateral or axial process connections
⑧ Option: vent (Option for the advanced version: Radar or TDR level transmitter level transmitter with a vent on the side of the bypass chamber)

Highlights

- Stainless steel design, including indicator rail (HASTELLOY® C-276 as an option)
- Proven technology
- Less risk of leakage than a sight glass – little or no maintenance needed
- Easy to install
- No power required – permanent local indication
- Indicator is isolated from process (magnetically-coupled)
- Conforms to the latest European construction standards (NACE as an option)
- Optional approvals for Ex i applications
- Optimal construction: weight is kept to the minimum

Industries

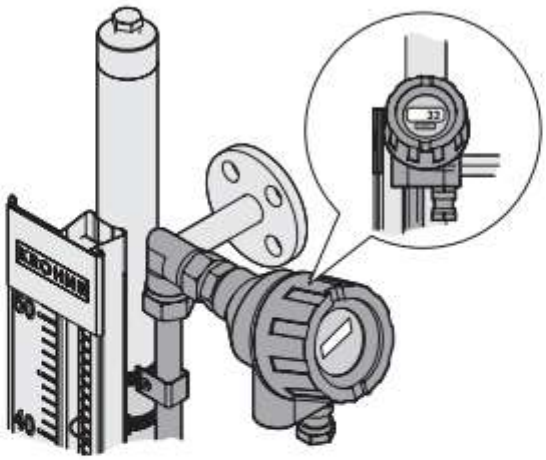
- Chemical
- Oil and Gas
- Petrochemical
- Water

Applications

- Low- and medium-pressure storage tanks
- Process tank
- Separators
- Distillation tank

1.2 Options

LCD Indicator for the optional analog transmitter



The analog transmitter can also be equipped with an optional LCD in a housing at either the top or the bottom of the reed chain. There is a choice of units: mm, inches or %. The units can be configured on site (mm, inches and % stickers are supplied with this option).

Universal power supplies for the optional analog transmitter

There are 2 optional universal power supplies that are suitable for the analog transmitter:

The **C 95** is a non-Ex 20...75 VDC power supply. 2 sets of options are available:

- 2 relays and a 4-digit local indicator (loop-powered), for panel mount
- 2 relays with a 4...20 mA and a 4-digit local indicator (loop-powered), for panel mount

The **SU 600** is a 24 VDC power supply suitable for a loop-powered 4...20 mA device. It can be attached to carrier rails (for panel or wall mounting) that agree with EN 50022. It is equipped with 2 integrated alarm relay outputs (and module default relay). Other features include:

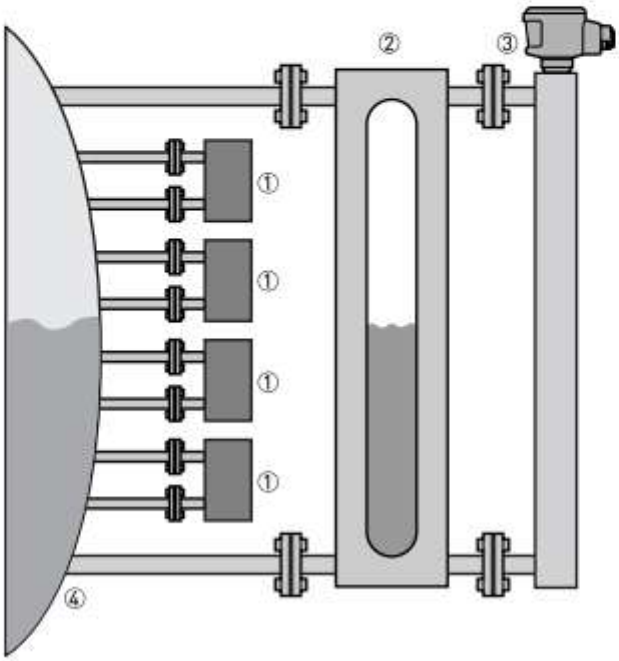
- IP40 analog panel indicator with a bar graph display
- Optional integrated Ex ia barrier (installation costs are reduced because an external Ex ia barrier is no longer necessary)

Anti-freeze cover for the indicator column

An optional anti-freeze cover made of Plexiglas® is available for the glass indicator column. This is suitable for devices that have to operate in an ambient temperature range of -60...-20°C / -76...-4°F.

1.3 A simpler and cheaper alternative for your application

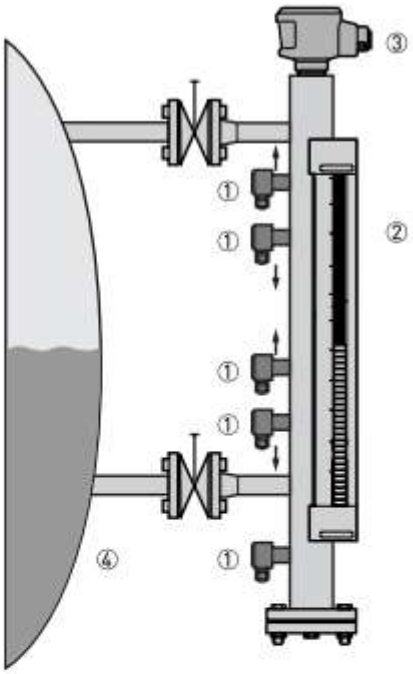
An example of a typical industrial application



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 switches in high-high, high, low, low-low and float failure positions.
② Sight glass
③ Bypass chamber with analog 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 device into a network and receive alarms at critical points (tank full, float failure etc).

① Limit switches in high-high, high, low, low-low and float failure positions. The user can adjust these positions on-site.
② Bypass level indicator (magnetic)
③ Transmitter with analog or network output
④ Tank

1.4 Product family

BM 26 Basic

The bypass chamber of the **BM 26 Basic** has an optimized volume/pressure ratio. It is unnecessary to test the bypass chamber according to PED 2014/68/EU as the CE marking is not required. The device has a maximum operating pressure of 16 barg / 232 psig.

The bypass chamber has a diameter of 42 mm / 1.7" and the same high-quality stainless steel indicator rail that has been built for over 30 years by KROHNE. No compromises have been made on quality: we have only optimized the weight so that we can offer this device at a competitive price.

BM 26 Advanced

The **BM 26 Advanced** has been designed to replace our existing BM 26 A for applications up to 40 barg / 580 psig. It is built with the same tube used in the **BM 26 Basic** design, thereby providing a more economical solution.

The **BM 26 Basic** and **BM 26 Advanced** can be equipped with our popular reed-chain level transmitter which is attached to the side of the tube and does not come into contact with the liquid.

The **BM 26 W 1010** is a version of the **BM 26 Advanced** that has an **OPTIWAVE 1010** radar level transmitter welded to the top of the magnetic bypass level indicator. The **BM 26 W 1010** is also available without the IP68 indicator.

1.5 Measuring principle

The device operates on the principle of communicating tubes. The measuring chamber is connected adjacent to the tank. The process conditions in the measuring chamber are the same as those of the tank.

A float is in the measuring chamber. The float contains magnets that rotate the flaps in the indicator column and operate the optional limit switches and analog transmitter on the side of the measuring chamber. The position of the magnets does not correspond to the level of liquid so the scale is offset at the factory to take into account this difference. The offset of the magnets depends on the liquid density. Refer to the illustration that follows:

Magnet offset

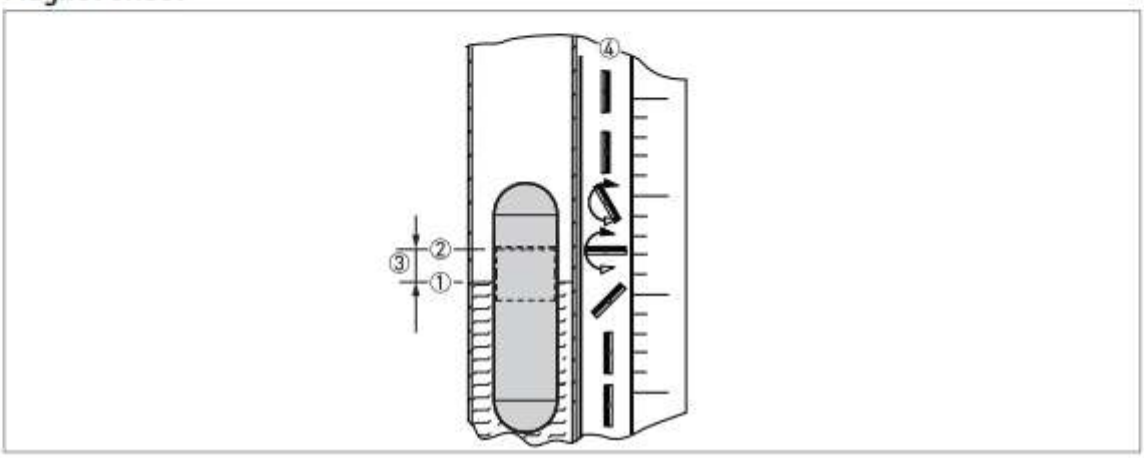


Figure 1-1: Magnet offset

① True level of the liquid
② Top of the float magnet (which corresponds to the level shown on the indicator column)
③ Difference (offset) between the true level of the liquid and the top of the float magnet (depends on the liquid density)
④ Indicator column of yellow/black rotating flaps (with the optional scale)

2.1 Technical data: general information

- *The following data is provided for general applications. If you require data that is more relevant to your specific application, please contact us or your local sales office.*
- *Additional information (certificates, special tools, software,...) and complete product documentation can be downloaded free of charge from the website (Downloadcenter).*

	Basic	Advanced

Measuring system

Measuring principle	Bypass level indicator (principle of communicating tubes). A float in the measuring chamber (Ø42 mm / 1.7") is magnetically-coupled to a mechanical level indicator.	
Application range	Level indication of liquids for low-pressure applications and in storage tanks	Level indication of liquids in applications up to 40 barg / 580 psig
Measured value		
Primary measured value	Level of the float magnets in the measuring chamber	
Secondary measured value	Level and volume of the liquid in the measuring chamber	

Design

Options and variants		
Variants	Lateral / lateral process connections	
	Axial / axial process connections	
	Top lateral / bottom axial process connections	
	Top axial / bottom lateral process connections	
Options	Support bracket (a wall support for long bypass level indicators)	
	Analog transmitter without display (converter with 4...20 mA, 4...20 mA + HART®, PROFIBUS PA or FF output module mounted at the top or bottom of the reed chain) ①	
	Analog transmitter with display (4...20 mA or 4...20 mA + HART® converter mounted at the top or bottom of the reed chain)	
	1¼" threaded cover (for installation/ removal of the float)	—
	Anti-freeze cover for glass indicator tube (when the ambient temperature is -60...-20°C / -76...-4°F)	
	—	OPTIFLEX 1300 C with Ø2 mm single cable probe (if ½ BSPP top axial connection is selected)
	—	OPTIFLEX 1300 C (if DN40 PN40 top axial connection is selected)
Accessories	Bistable limit switches (NAMUR or non-NAMUR)	
Measuring range (ML)	0.3...5.3 m / 1...17.4 ft	0.3...5.3 m / 1...17.4 ft (longer on request)
Display and user interface		
Display	Indicator column with magnetically-coupled yellow/black rotating flaps; no indicator column	
Float failure indication	Red/black rotating flaps at the bottom of the indicator column	
Scale marking options	No scale; m + cm; ft + inches; %	

	Basic	Advanced

Measuring accuracy

Accuracy	±10 mm / 0.4"
Repeatability	±10 mm / 0.4" (when density is constant)
Maximum rate of change	2 m/minute / 6.5 ft/minute

Operating conditions

Temperature		
Process	-40...+150°C / -40...+300°F (Ex: see supplementary instructions or approval certificates)	-40...+300°C / -40...+570°F (Ex: see supplementary instructions or approval certificates)
Ambient temperature	-40...+80°C / -40...+176°F (Ex: see supplementary instructions or approval certificates)	-60...+80°C / -76...+176°F (Ex: see supplementary instructions or approval certificates)
Storage temperature	-50...+80°C / -58...+176°F	
Pressure		
Max. allowable operating pressure	16 barg / 232 psig (according to the length of the measuring chamber. Also refer to "Guidelines for maximum operating pressure".)	40 barg / 580 psig (according to the flange pressure rating. Also refer to "Guidelines for maximum operating pressure".)
Chemical properties		
Density	0.8...1.19 kg/l / 49.9...68.7 lb/ft³	0.58...2 kg/l / 36.2...124.8 lb/ft³
Viscosity	≤ 5000 mPa·s / ≤ 5000 cP	
Other conditions		
Ingress protection (EN 60529)	IP68	

Installation conditions

Recommendations	Mount vertically on the side of tanks	
	Fit isolation valves on process connections to permit maintenance of the bypass chamber (optional)	
Dimensions and weights	Refer to "Technical data: Dimensions and weights"	

Materials

Chamber	Standard: Stainless steel (1.4404 / 316L)	
	—	Option: HASTELLOY® C-276 ②
Float	Standard: Stainless steel (1.4404 / 316L)	Stainless steel (1.4404 / 316L); Titanium (for data on material selection, refer to *Floats* on page 40)
	—	Option: Hastelloy®
Indicator rail	Stainless steel	
Indicator tube	Pyrex® glass (glass tube with a true hermetic seal) ③	
Scale (option)	Stainless steel	
Process fitting	Standard: Stainless steel (1.4404 / 316L)	
	—	Option: HASTELLOY® C-276 (for the wetted parts of EN loose flanges only)

	Basic	Advanced
Gaskets	Teflon® tape ④	Standard: Aramid; Teflon® tape
	—	Options: Graphite; PTFE
Braid insulation	—	Ceramic fibre (insulation between the indicator column and the measuring chamber when the process temperature is +100...+300°C / +210...570+°F)
Anti-freeze cover for glass indicator tube (option)	Plexiglas®	

Process connections

Threaded pipes	½...¾ NPT; G ½...¾	
Smooth pipes, 10S	½"; ¾" in 10S	
Flange version		
EN	DN15...40 (Type B1) in PN16 / 40	DN15...50 (Type B1, C or E) in PN16 / 40; DN15...50 (Type B1, C or E) in PN63 / 100; others are available on request Note: HASTELLOY® C-276 flange connections are only available as loose flanges with flange facing Type B1
ASME	½...1½" (RF) in 150 lb / 300 lb	½...1½" (RF) in 150 lb / 300 lb; others are available on request

Drain and vent connections

Drain options		
Thread	Standard: cover with 3/8 NPT plug	Standard: flange with ½ NPT plug
	Option: cover with 1¼ NPT plug	Options: on page 28
Flange	—	Options: all process connection options
Vent options		
Thread	Standard: without (convex cap)	Standard: 3/8 NPT plug
	Option: cover with 3/8 NPT plug	Options: flange with ½ NPT plug; flange with G ½ plug; DN40 top flange (for TDR level transmitter) with ½ NPT lateral vent plug; welded antenna with ½ NPT lateral vent plug; ½ BSPP screw connection for OPTIFLEX 1300 C and Ø2 mm single cable probe, with ½ NPT lateral vent plug; all process connection options
Flange	—	Options: all process connection options

Power supply

Limit switches	Refer to "Technical data: optional level switches"
Analog transmitter	Refer to "Technical data: optional analog transmitter"

	Basic	Advanced

Input and output

Parameter	Level detection or indication
Output signal	Refer to "Technical data: optional level switches" and "Technical data: optional analog transmitter"

Approvals and certification

CE	CE marking not applicable (not subject to PED test requirements)	The device meets the essential requirements of the EU Directives. The manufacturer certifies successful testing of the product by applying the CE marking.
		For more data about the EU Directives and European Standards related to this device, refer to the EU Declaration of Conformity. This document is supplied with the device and it can be downloaded free of charge from the website (Download Center).
Explosion protection		
ATEX	II 1 G or II 1/2 G (measuring chamber) Refer also to approvals in "Technical data: optional level switches" and "Technical data: optional analog transmitter"	
Other standards and approvals		
PED	Not subject to PED test requirements	Pressure Equipment Directive
Vibration resistance	Vibration class 4M4 according to EN 60721-3-4	
Construction code	Standard: "CODAP® 2010"	
	Option: NACE MR0175 / ISO 15156	
	On request: EN 13445	

① HART® is a registered trademark of the HART Communication Foundation
② HASTELLOY® is a registered trademark of Haynes International, Inc.
③ Pyrex® is a registered trademark of Corning, Inc.
④ Teflon® is a registered trademark of E.I. du Pont de Nemours and Company

2.2 Technical data: optional analog transmitter

Analog output or HART® communication modules

Module output	4...20 mA	4...20 mA / HART®
Order code	xF45xBxxxxx (without LCD indicator) xF45xExxxxx (with LCD indicator)	xF45xWxxxxx (without LCD indicator) xF45xGxxxxx (with LCD indicator)

Measuring system

Measuring principle	A reed resistor chain that is magnetically actuated by a magnetic float in the BM 26 measuring chamber
Primary measured value	Resistance
Secondary measured value	Level and volume of the liquid in the measuring chamber

Design

Description of device	Resistance reed chain with 2-wire loop-powered transmitter module attached adjacent to the measuring chamber of the bypass level indicator. Changes in resistance are converted to an output signal via a transmitter module.	
Description of transmitter module	Changes in resistance are converted to analog current signals.	Changes in resistance are converted to analog or digital current signals. Up to 15 transmitters can be connected to a network that agrees with the HART® communication protocol.
Options	Converter position – The customer must specify the position of the converter at the top or the bottom of the analog transmitter	
	LCD indicator	
Accessories	SU 600 power supply unit 24 V	
	SU 600 power supply unit 24 V with integrated Ex ia barrier	
	PROF SI 24075 intrinsically-safe power supply unit (with galvanic separation)	
	C 95 Basic universal power supply (Panel mount, 2 relays, 4-digit local indicator and non-Ex)	
	C 95 Basic universal power supply (Panel mount, 2 relays, 4...20 mA output, 4-digit local indicator and non-Ex)	
Display and user interface		
Display	Standard: none	
	Option: 2-wire loop-powered LCD indicator	Option: 2-wire loop-powered LCD indicator
Functions	Display of level in mm; inches; % (stickers for optional units of measure are supplied with the device). 4-digit LCD with minus sign, 3-button keypad.	Display of level in mm; inches; % (stickers for optional units of measure are supplied with the device). 4-digit LCD with minus sign, 3-button keypad.
Display	2-wire loop-powered indicator 4-digit LCD with minus sign, 3-button keypad	2-wire loop-powered indicator 4-digit LCD with minus sign, 3-button keypad
Operation	Selectable number of decimals, 0 to 3. Open the housing to configure the device.	Selectable number of decimals, 0 to 3. Open the housing to configure the device.

Module output	4...20 mA	4...20 mA / HART®
Order code	xF45xBxxxxx (without LCD indicator) xF45xExxxxx (with LCD indicator)	xF45xWxxxxx (without LCD indicator) xF45xGxxxxx (with LCD indicator)

Measuring accuracy

Accuracy	±10 mm / 0.4" (when density is constant) ≤ ±0.1% of span	±10 mm / 0.4" (when density is constant) ≤ ±0.05% of span
Temperature coefficient	≤ ±0.01% of span/°C	≤ ±0.005% of span/°C
EMC immunity influence	< ±0.1% of span	< ±0.1% of span

Operating conditions

Temperature		
Operating temperature, transmitter module	-40...+85°C / -40...+185°F, if there is insulation around the measuring chamber, specify the temperature in the order. Do not put insulation around the transmitter housing.	
Operating temperature, LCD indicator	-20...+70°C / -4...+158°F ①	
Pressure		
Operating pressure	Atmospheric pressure	
Other conditions		
Warm-up time	5...10 minutes	30 s
Response time	1.5 s	1....60 s ②
Ingress protection (EN 60529)	Transmitter housing without LCD indicator: IP54 Transmitter housing with LCD indicator: IP66	

Installation conditions

Notes	The analog transmitter is calibrated at the factory and attached to the measuring chamber before delivery
Dimensions and weight	Refer to the "Technical data: Dimensions and weights" section

Materials

Housing	Polyester-coated aluminium
Reed-chain tube	Stainless steel
Clamp	Stainless steel

Electrical connections

Power supply		
Voltage	**Non-Ex:**	
	8...30 VDC	8...30 VDC
	Ex ia, without LCD indicator:	
	Refer to supplementary instructions or approval certificates	
	Ex ia, with LCD indicator:	
	Refer to supplementary instructions or approval certificates	—

Module output	4...20 mA	4...20 mA / HART®
Order code	xF45xBxxxxx (without LCD indicator) xF45xExxxxx (with LCD indicator)	xF45xWxxxxx (without LCD indicator) xF45xGxxxxx (with LCD indicator)
LCD indicator; voltage drop	2.5 V	2.5 V
Cable entry	M20 × 1.5	
Intrinsically-safe circuit data for Ex ia-approved devices	Refer to supplementary instructions or approval certificates	

Input and output

Current output		
Output range	4...20 mA	
Error signal	Upper value, selectable	
	21.6 mA	23 mA
	Lower value, selectable	
	3.5 mA	
HART®		
Description	—	HART® protocol via passive current output
Multidrop operation	—	Yes, current output = 4 mA Multidrop address (1...15) adjustable

Approvals and certifications

CE	The device meets the essential requirements of the EU Directives. The manufacturer certifies successful testing of the product by applying the CE marking.	
	For more data about the EU Directives and European Standards related to this device, refer to the EU Declaration of Conformity. This document is supplied with the device and it can be downloaded free of charge from the website (Download Center).	
Explosion protection		
ATEX – without LCD indicator	II 1 G Ex ia IIC T4...T6	II 1 G Ex ia IIC T4 or T6
ATEX – with LCD indicator	II 1 G Ex ia IIC T5	—
Other standards and approvals		
EMC	Electromagnetic Compatibility Directive	Electromagnetic Compatibility Directive NAMUR NE 21 ③
Vibration resistance	Vibration class 4M4 according to EN 60721-3-4	
NAMUR	NAMUR NE 43 ④	

① If the operating temperature is not in these limits, the display switches off. The transmitter module continues to operate above and below this temperature range.

② This value is programmable

③ Electromagnetic Compatibility of Industrial and Laboratory Control Equipment

④ Standardization of the Signal Level for the Failure Information of Digital Transmitters

Fieldbus modules

Module output	FOUNDATION™ fieldbus	PROFIBUS PA
Order code	xF45xDxxxxx (PR)	xF45xXxxxxx (PR)

Measuring system

Measuring principle	A reed resistor chain that is magnetically actuated by a magnetic float in the BM 26 measuring chamber
Primary measured value	Resistance
Secondary measured value	Level and volume of the liquid in the measuring chamber

Design

Description of device	Resistance reed chain with 2-wire loop-powered transmitter module attached adjacent to the measuring chamber of the bypass level indicator. Changes in resistance are converted to an output signal via a transmitter module.	
Description of transmitter module	Changes in resistance are converted to signals that agree with the FF communication protocol.	Changes in resistance are converted to signals that agree with the PROFIBUS PA communication protocol.
Options	Converter position ①	
Accessories	SU 600 power supply unit 24 V	
Display and user interface		
Display	None	

Measuring accuracy

Accuracy	±10 mm / 0.4" (when density is constant)

Operating conditions

Temperature	
Operating temperature, transmitter module	-40...+85°C / -40...+185°F, if there is insulation around the measuring chamber, specify the temperature in the order. Do not put insulation around the transmitter housing.
Pressure	
Operating pressure	Atmospheric pressure
Other conditions	
Ingress protection (EN 60529)	Transmitter housing without LCD indicator: IP54 Transmitter housing with LCD indicator: IP66

Installation conditions

Notes	The analog transmitter is calibrated at the factory and attached to the measuring chamber before delivery
Dimensions and weight	Refer to the "Technical data: Dimensions and weights" section

Materials

Housing	Polyester-coated aluminium
Reed-chain tube	Stainless steel
Clamp	Stainless steel

Module output	FOUNDATION™ fieldbus	PROFIBUS PA
Order code	xF45xDxxxxx (PR)	xF45xXxxxxx (PR)

Electrical connections

Power supply		
Voltage	**Non-Ex:**	
	9...30 VDC	
	Ex ia:	
	Refer to supplementary instructions or approval certificates	
Cable entry	M20 × 1.5	
Intrinsically-safe circuit data for Ex ia-approved devices	Refer to supplementary instructions or approval certificates	
PROFIBUS PA		
Description	—	PROFIBUS PA protocol Profile A&B, ver.3.0 (EN 50170 vol.2)
FOUNDATION™ fieldbus		
Description	FOUNDATION™ fieldbus protocol	—

Approvals and certification

CE	The device meets the essential requirements of the EU Directives. The manufacturer certifies successful testing of the product by applying the CE marking.	
	For more data about the EU Directives and European Standards related to this device, refer to the EU Declaration of Conformity. This document is supplied with the device and it can be downloaded free of charge from the website (Download Center).	
Explosion protection		
ATEX	II 1 G Ex ia IIC T4...T6 ②	II 1 G Ex ia IIC T4...T6 ②
	II 2 G Ex ib IIC T4...T6 ③	II 2 G Ex ib IIC T4...T6 ③
Other standards and approvals		
EMC	Electromagnetic Compatibility Directive	
Vibration resistance	Vibration class 4M4 according to EN 60721-3-4	

① The customer must specify the position of the converter at the top or the bottom of the analog transmitter

② Conventional or FISCO systems intrinsically-safe systems

③ FISCO systems intrinsically-safe systems

2.3 Technical data: optional limit switches

Version	Non-NAMUR	NAMUR

Measuring system

Measuring principle	A bistable reed switch that is magnetically actuated by the float in the measuring chamber of the bypass level indicator.
Application range	Level detection

Design

Description of device	Limit switch attached adjacent to the measuring chamber of the bypass level indicator.

Measuring accuracy

Hysteresis	28 mm / 1.1". For more data, refer to the "Optional limit switch" section in the Quick start or Handbook.

Operating conditions

Temperature	
Operating temperature	-40...+120°C / -40...+250°F, if there is insulation around the measuring chamber, specify the temperature in the order. Do not put insulation around the switch housing.
Storage	-40...+120°C / -40...+250°F
Pressure	
Operating pressure	Atmospheric pressure
Other conditions	
Ingress protection (EN 60529)	IP66

Installation conditions

Notes	The switch is not attached to the measuring chamber before delivery
	Adjust the switch position for hysteresis and liquid density
Dimensions and weights	Refer to "Technical data: Dimensions and weights"

Materials

Switch housing	Aluminium with epoxy powder paint
Bracket	Stainless steel
Clamp	Stainless steel

Electrical connections

Cable entry	M16 × 1.5	
Control input		
Switching capacity	60 VA/W; 1 A; 250 VAC/VDC	According to NAMUR 19234; Umax = 27 VDC
Intrinsically-safe circuit data	Refer to supplementary instructions or approval certificates.	

Version	Non-NAMUR	NAMUR

Approvals and certifications

CE	The device meets the essential requirements of the EU Directives. The manufacturer certifies successful testing of the product by applying the CE marking.	
	For more data about the EU Directives and European Standards related to this device, refer to the EU Declaration of Conformity. This document is supplied with the device and it can be downloaded free of charge from the website (Download Center).	
Explosion protection		
ATEX	II 1 G Ex ia IIC T6...T4	
Other standards and approvals		
LVD	Essential requirements of Low-Voltage (LVD) directive	—
Vibration resistance	Vibration class 4M5 according to EN 60721-3-4	

Limit switches with stainless steel housings are also available on request for low temperatures (operating temperature: -60...+125°C / -76...+257°F). For more data, refer to this website: http://www.euroswitch.co.uk

2.4 Basic version: Dimensions and weights

Basic version: Lateral / Lateral process connections

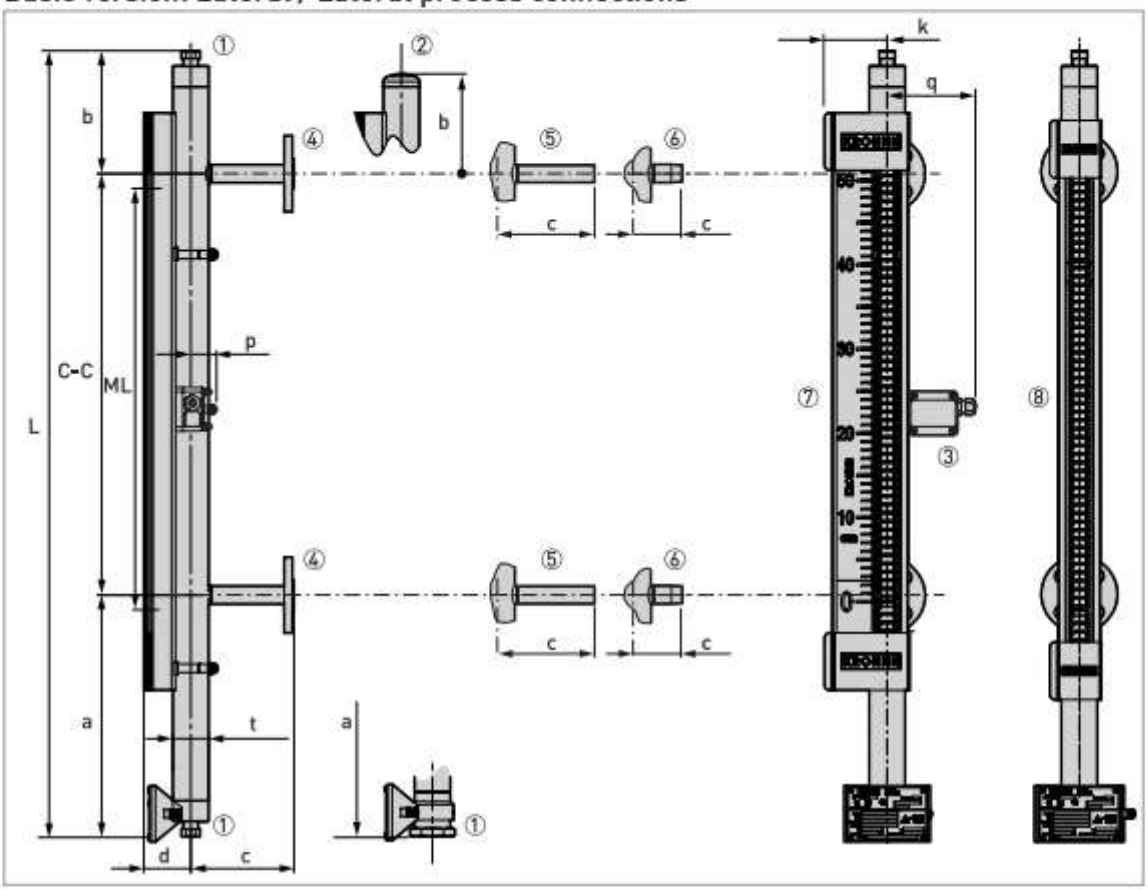


Figure 2-1: Lateral / Lateral process connections

① Optional vent with 3/8 NPT connection (with plug). Optional drain with 3/8 NPT – or a 1¼ NPT plug for removal of the float from the bottom of the device
② Welded cap
③ Optional limit switch
④ Flange connection
⑤ Optional long stud [½" or ¾"] connection
⑥ Optional male thread [½... ¾ NPT or G ½...¾] connection
⑦ Level indicator with optional scale
⑧ Level indicator without optional scale

Note:

- C-C = Centre-to-centre length (process connections)
- ML = Measuring length
- L = Overall length
- a = Distance from the axis of the bottom connection to the bottom of the device;
  b = Distance from the axis of the top connection to the top of the device

Dimensions in mm

	Dimensions [mm]										
	a	b	C-C	ML	c	d	k	L	p	q	Øt
Lateral / Lateral process connections	310 ①	173 ②	③	300... 5300	135 ④	55.5	74	(C-C) +483 ⑤	32	113	42.4

① Optional drain with 1¼" plug: 323 mm
② Welded cap option: 149 mm
③ This is equal to the dimension ML
④ Long stud option: 130 mm. Male thread connection option: 58 mm.
⑤ Welded cap option: (C-C) +459 mm. 1¼" plug option: (C-C) +500 mm. Welded cap + 1¼" plug options: (C-C) +476 mm.

Dimensions in inches

	Dimensions [inches]										
	a	b	C-C	ML	c	d	k	L	p	q	Øt
Lateral / Lateral process connections	12.2 ①	6.8 ②	③	12... 208	5.3 ④	2.2	2.9	(C-C) +19 ⑤	1.3	4.4	1.7

① Optional drain with 1¼" plug: 12.7"
② Welded cap option: 5.9"
③ This is equal to the dimension ML
④ Long stud option: 5.1". Male thread connection option: 2.3".
⑤ Welded cap option: (C-C) +18.1". 1¼" plug option: (C-C) +19.7". Welded cap + 1¼" plug options: (C-C) +18.7".

Weights in kg and lb

	Weights		Weights for every additional 100 mm	Weights for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
Min.: DN15 PN40 flanges	7.4 ①	16.3 ②	0.3	0.7
Max.: 1½" 300 lb flanges	11.2 ①	24.7 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm
② When L=20"

Basic version: Axial / Axial process connections

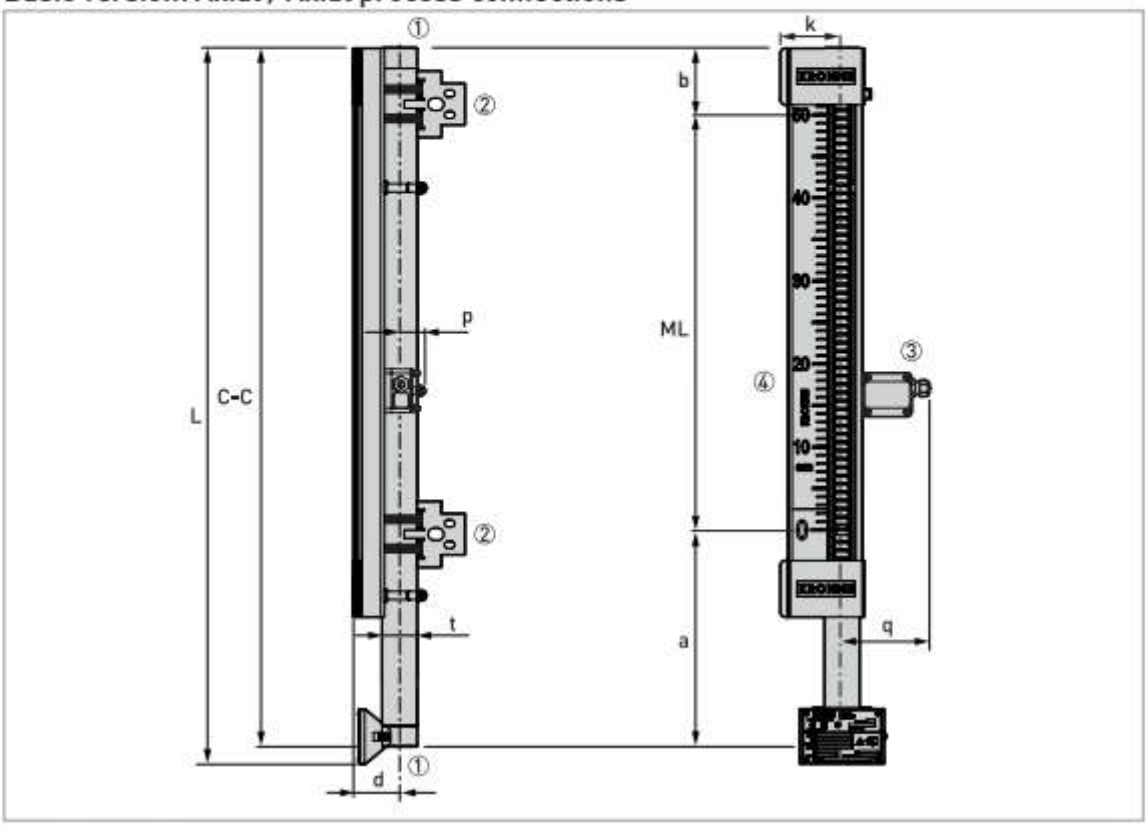


Figure 2-2: Axial / Axial process connections

① 3/8 NPT threaded connection
② Optional support bracket – also refer to "Support bracket option: Dimensions and weight"
③ Optional limit switch
④ Level indicator with optional scale

Note:

- C-C = Face-to-face length (process connections)
- ML = Measuring length
- L = Overall length
- a = bottom dead zone; b = top dead zone

Dimensions in mm

	Dimensions [mm]									
	a	b	C-C	ML	d	k	L	p	q	Øt
Axial / Axial process connections	274	96	ML +370	272... 5300	55.5	74	(C-C) +21	32	113	42.4

Dimensions in inches

	Dimensions [inches]									
	a	b	C-C	ML	d	k	L	p	q	Øt
Axial / Axial process connections	10.8	3.8	ML +14.6	10.8... 208	2.5	2.9	(C-C) +0.8	1.3	4.4	1.7

Weights in kg and lb

	Weights		Weight for every additional 100 mm	Weight for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
3/8 NPT	6.0 ①	13.2 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm

② When L=20"

Basic version: Top lateral / Bottom axial process connections

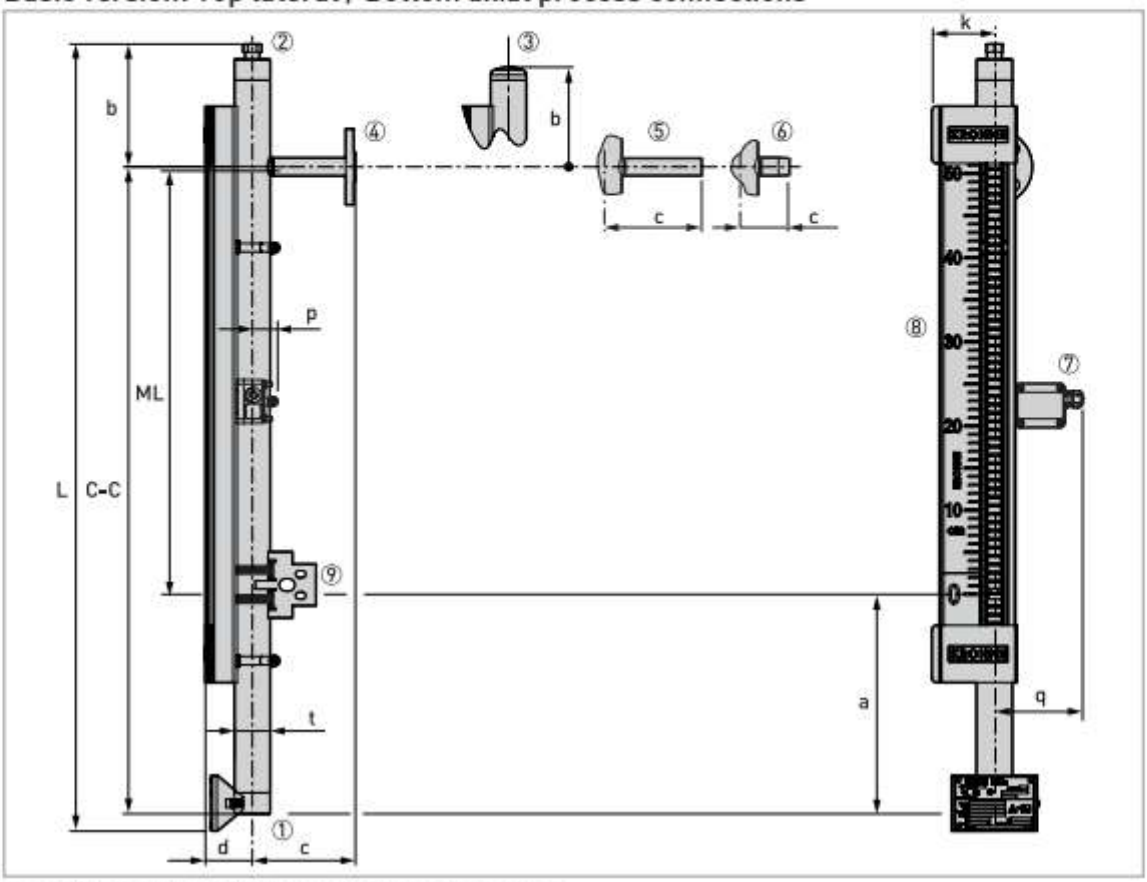


Figure 2-3: Top lateral / Bottom axial process connections

① 3/8 NPT threaded connection
② Optional drain or vent with 3/8 NPT connection (with plug)
③ Welded cap
④ Flange connection
⑤ Optional long stud (½" or ¾") connection
⑥ Optional male thread (½... ¾ NPT or G ½...¾) connection
⑦ Optional limit switch
⑧ Level indicator with optional scale
⑨ Optional support bracket – also refer to "Support bracket option: Dimensions and weight"

Note:

- C-C = Centre-to-face length (process connections)
- ML = Measuring length
- L = Overall length
- a = bottom dead zone; b = Distance from the axis of the top connection to the top of the device

Dimensions in mm

	Dimensions [mm]										
	a	b	C-C	ML	c	d	k	L	p	q	Øt
Top lateral / Bottom axial process connections	300	173 ①	ML +300	370... 5300	135 ②	55.5	74	(C-C) +194 ③	32	113	42.4

① Welded cap option: 149 mm

② Long stud option: 130 mm. Male thread connection option: 58 mm.

③ Welded cap option: (C-C) +170 mm

Dimensions in inches

	Dimensions [inches]										
	a	b	C-C	ML	c	d	k	L	p	q	Øt
Top lateral / Bottom axial process connections	11.8	6.8 ①	ML +11.8	14.6... 208	5.3 ②	2.2	2.9	(C-C) +7.6 ③	1.3	4.4	1.7

① Welded cap option: 5.9"

② Long stud option: 5.1". Male thread connection option: 2.3".

③ Welded cap option: (C-C) +6.7"

Weights in kg and lb

	Weights		Weights for every additional 100 mm	Weights for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
Min.: 3/8 NPT / DN15 PN40 flange	6.7 ①	14.8 ②	0.3	0.7
Max.: 3/8 NPT / 1½" 300 lb flange	8.6 ①	19.0 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm

② When L=20"

Basic version: Top axial / Bottom lateral process connections

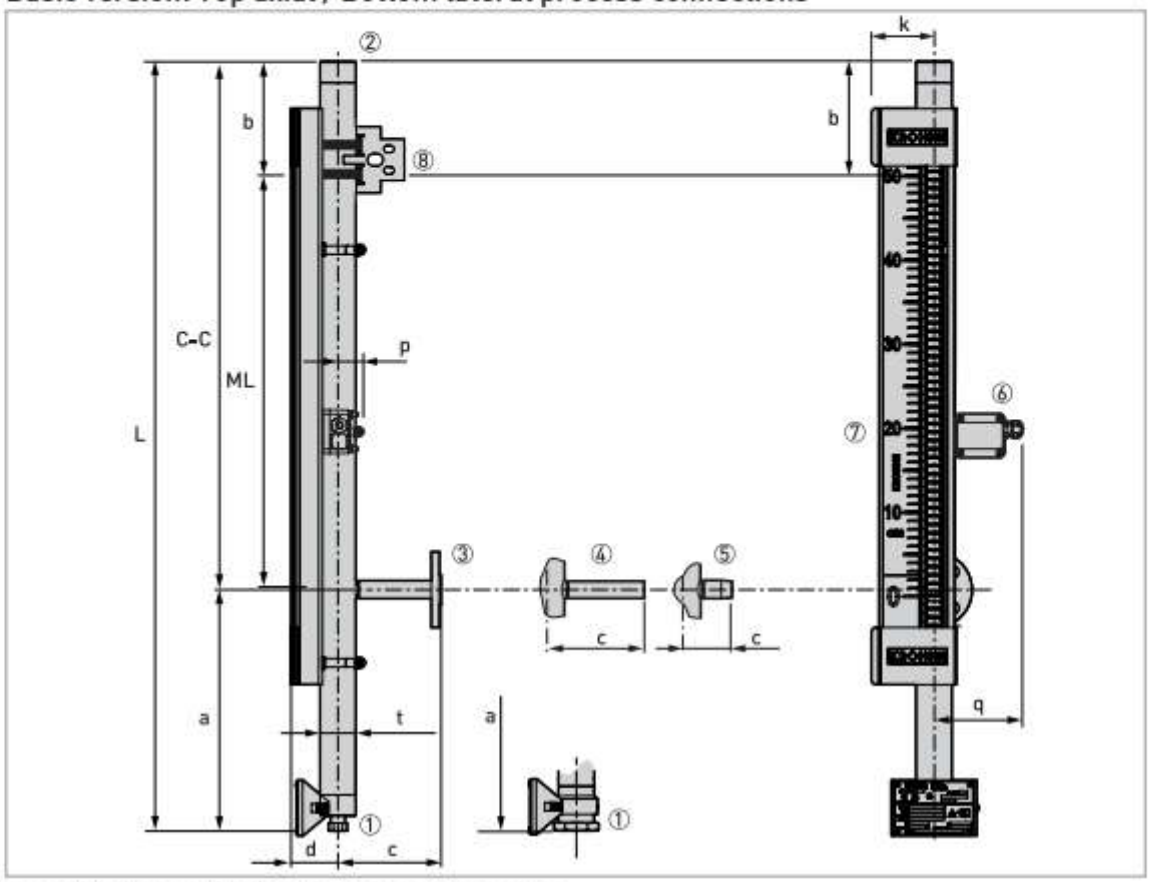


Figure 2-4: Top axial / Bottom lateral process connections

① Optional drain with 3/8 NPT or 1¼ NPT connection (with plug – 1¼ NPT connection is for removal of the float from the bottom of the device)
② 3/8 NPT threaded connection
③ Flange connection
④ Optional long stud (½" or ¾") connection
⑤ Optional male thread (½... ¾ NPT or G ½...¾) connection
⑥ Optional limit switch
⑦ Level indicator with optional scale
⑧ Optional support bracket – also refer to "Support bracket option: Dimensions and weight"

Note:

- C-C = Face-to-centre length (process connections)
- ML = Measuring length
- L = Overall length
- a = Distance from the axis of the bottom connection to the bottom of the device;
  b = top dead zone

Dimensions in mm

	Dimensions [mm]										
	a	b	C-C	ML	c	d	k	L	p	q	Øt
Top axial / Bottom lateral process connections	310 ①	140	ML +140	288... 5300	135.2 ②	55.5	74	(C-C) +310 ③	32	113	42.4

① Optional drain with 1¼" plug: 323 mm

② Long stud option: 130.2 mm. Male thread connection option: 58.2 mm.

③ 1¼" plug option: (C-C) +327 mm

Dimensions in inches

	Dimensions [inches]										
	a	b	C-C	ML	c	d	k	L	p	q	Øt
Top axial / Bottom lateral process connections	12.2 ①	5.5	ML +5.5	11.3... 208	5.3 ②	2.2	2.9	(C-C) +12.2 ③	1.3	4.4	1.7

① Optional drain with 1¼" plug: 12.7"

② Long stud option: 5.1". Male thread connection option: 2.3".

③ 1¼" plug option: (C-C) +12.9"

Weights in kg and lb

	Weights		Weights for every additional 100 mm	Weights for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
Min.: 3/8 NPT / DN15 PN40 flange	6.7 ①	14.8 ②	0.3	0.7
Max.: 3/8 NPT / 1½" 300 lb flange	8.6 ①	19.0 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm

② When L=20"

2.5 Advanced version: Dimensions and weights

Advanced version: Lateral / Lateral process connections

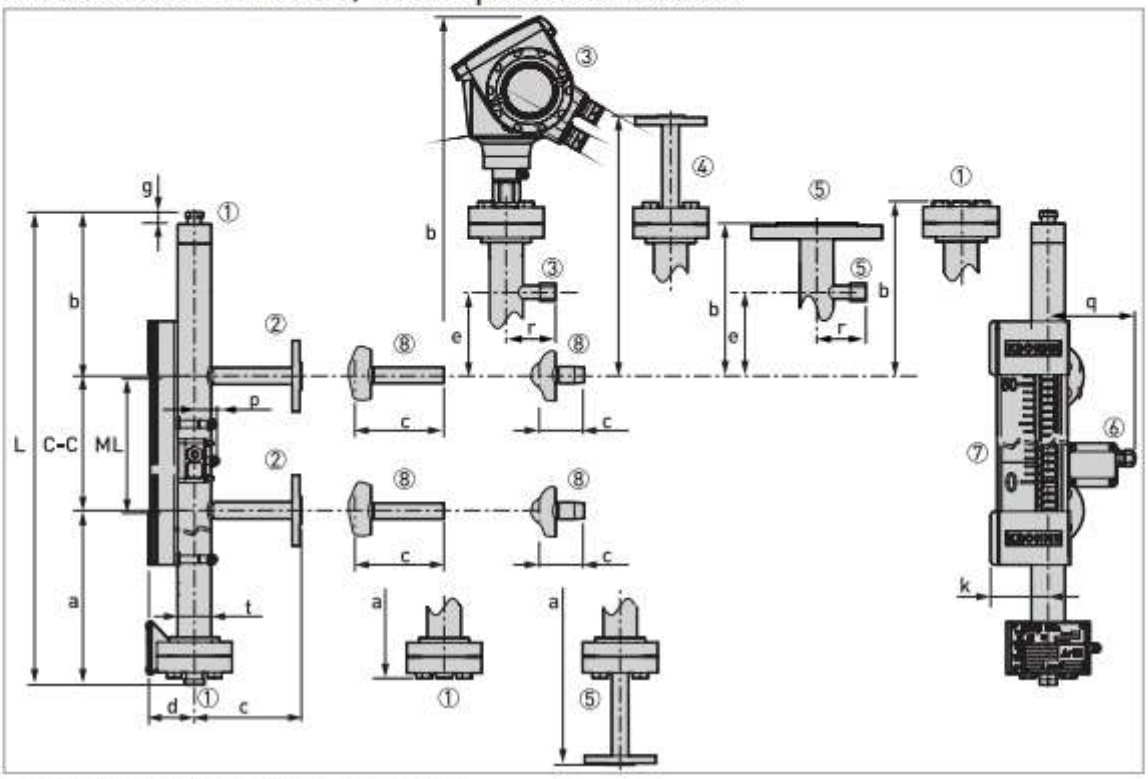


Figure 2-5: Lateral / Lateral process connections

① Optional vent with 3/8 NPT connection (with plug) , or optional vent with 1/2 NPT, G 1/2 or G 3/8 connection (with plug) on a plate flange, or drain with 1/2 NPT, 3/8 NPT, G 1/2 or G 3/8 connection (with plug) on a plate flange
② Process connection (flange)
③ ½ BSP connection for OPTIFLEX 1300 TDR level transmitter with ½ NPT lateral vent (with plug)
④ Optional vent and drain (flange)
⑤ Optional DN40 top flange for other level transmitters
⑥ Optional limit switch
⑦ Level indicator with optional scale
⑧ Optional male thread (½... ¾ NPT or G ½...¾) or long stud (½" or ¾") connection

Note:

- C-C = Centre-to-centre length (process connections)
- ML = Measuring length
- L = Overall length
- a = Distance from the axis of the bottom connection to the bottom of the device;
  b = Distance from the axis of the top connection to the top of the device

Other dimensions are available on request.

Dimensions in mm

	Liquid density [kg/l]	Dimensions [mm]													
		a	b	C-C	ML	c	d	e	g	k	L	p	q	r	Øt
Lateral / Lateral process connections	0.58...0.7 ①	②	③	④	300... 5300	⑤	55.5 ⑥	106	15	74	⑦	32	113	259	42.4
	0.7...0.99 ①	⑧	③	④		⑤	55.5 ⑥	106	15	74	⑦	32	113	259	42.4
	0.99...2.0 ①	⑨	③	④		⑤	55.5 ⑥	106	15	74	⑦	32	113	259	42.4

① For more data, refer to "Floats" at the end of this chapter
② Optional 1/2NPT or 3/8NPT drain + plug: 480 mm. Optional G1/2 or G3/8 drain + plug: 472 mm. Optional drain flange: 580 mm.
③ Optional 3/8NPT vent: 228 mm. Optional 1/2NPT vent: 228 mm. Optional G1/2 vent: 220 mm. Optional OPTIFLEX 1300 transmitter with 2 mm single cable probe: 454 mm. Optional flange vent: 328 mm. Optional DN40 flange: 193 mm.
④ This is equal to the dimension C-C
⑤ EN flange, type B: 135 mm. EN flange, type C: 135 mm. EN flange, type E: 135 mm. Long stud: 130 mm. Male thread connection: 58 mm.
⑥ If ambient temperature is -60...-20°C: 85.5 mm (with Plexiglas® cover)
⑦ Depends on the options selected. Contact your local sales office for more data.
⑧ Optional 1/2NPT or 3/8NPT drain + plug: 299 mm. Optional G1/2 or G3/8 drain + plug: 291 mm. Optional drain flange: 399 mm.
⑨ Optional 1/2NPT or 3/8NPT drain + plug: 255 mm. Optional G1/2 or G3/8 drain + plug: 247 mm. Optional drain flange: 355 mm.

Dimensions in inches

	Liquid density [lb/ft³]	Dimensions [inches]													
		a	b	C-C	ML	c	d	e	g	k	L	p	q	r	Øt
Lateral / Lateral process connections	36.2...43.7 ①	②	③	④	12... 208	⑤	2.2 ⑥	4.2	0.6	2.9	⑦	1.3	4.4	10.2	1.7
	43.7...61.8 ①	⑧	③	④		⑤	2.2 ⑥	4.2	0.6	2.9	⑦	1.3	4.4	10.2	1.7
	61.8...124.8 ①	⑨	③	④		⑤	2.2 ⑥	4.2	0.6	2.9	⑦	1.3	4.4	10.2	1.7

① For more data, refer to "Floats" at the end of this chapter
② Optional 1/2NPT or 3/8NPT drain + plug: 18.9". Optional G1/2 or G3/8 drain + plug: 18.6". Optional drain flange: 22.8".
③ Optional 3/8NPT vent: 9.0". Optional 1/2NPT vent: 9.0". Optional G1/2 vent: 8.6". Optional OPTIFLEX 1300 transmitter with 0.08" single cable probe: 17.9". Optional flange vent: 12.9". Optional DN40 flange: 7.6".
④ This is equal to the dimension C-C
⑤ EN flange, type B: 5.3". EN flange, type C: 5.1". EN flange, type E: 5.3". Long stud: 5.1". Male thread connection: 2.3".
⑥ If ambient temperature is -76...-4°F: 3.4" (with Plexiglas® cover)
⑦ Depends on the options selected. Contact your local sales office for more data.
⑧ Optional 1/2NPT or 3/8NPT drain + plug: 11.8". Optional G1/2 or G3/8 drain + plug: 11.4". Optional drain flange: 15.7".
⑨ Optional 1/2NPT or 3/8NPT drain + plug: 10". Optional G1/2 or G3/8 drain + plug: 9.7". Optional drain flange: 14.0".

Weights in kg and lb

	Weights		Weights for every additional 100 mm	Weights for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
Min.: DN15 PN40 flanges	7.4...8 ①	16.3...17.6 ②	0.3	0.7
Max.: 1½" 600 lb flanges	12.4...13 ①	27.3...28.7 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm – if liquid density is low, then weight is higher
② When L=20" – if liquid density is low, then weight is higher

Advanced version: Axial / Axial process connections

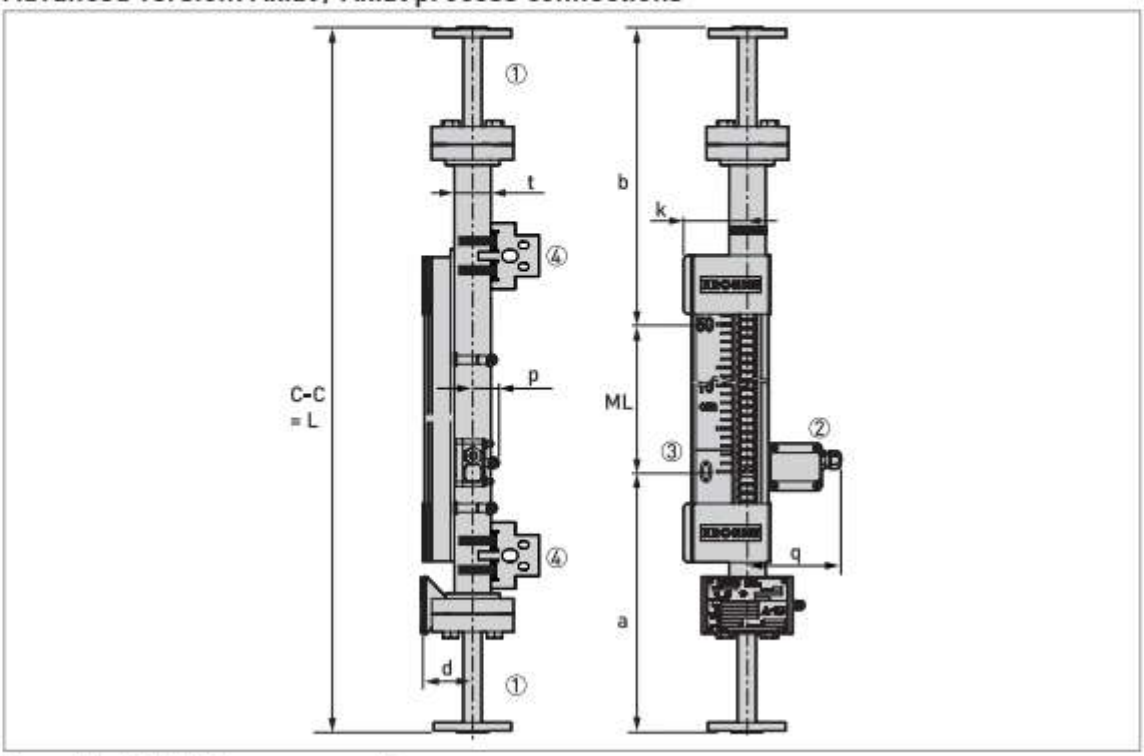


Figure 2-6: Axial / Axial process connections

① Process connection (flange)
② Optional limit switch
③ Level indicator with optional scale
④ Optional support bracket – also refer to "Support bracket option: Dimensions and weight"

Note:

- C-C = Face-to-face length (process connections)
- ML = Measuring length
- L = Overall length
- a = bottom dead zone; b = top dead zone

Other dimensions are available on request.

Dimensions in mm

	Liquid density [kg/l]	Dimensions [mm]										
		a	b	C-C	ML	d	e	k	L	p	q	Øt
Axial / Axial process connections	0.58...0.7 ①	570	250	ML +820	300... 5300	55.5 ②	106	74	③	32	113	42.4
	0.7...0.99 ①	390	250	ML +640		55.5 ②	106	74	③	38	113	42.4
	0.99...2.0 ①	340	250	ML +590		55.5 ②	106	74	③	32	113	42.4

① For more data, refer to "Floats" at the end of this chapter
② If ambient temperature is -60...-20°C: 85.5 mm (with Plexiglas® cover)
③ This is equal to the dimension C-C

Dimensions in inches

	Liquid density [lb/ft³]	Dimensions [inches]										
		a	b	C-C	ML	d	e	k	L	p	q	Øt
Axial / Axial process connections	36.2...43.7 ①	22.4	9.8	ML +32.3	11.8... 208	2.2 ②	4.2	2.9	③	1.3	4.4	1.7
	43.7...61.8 ①	15.3	9.8	ML +25.2		2.2 ②	4.2	2.9	③	1.3	4.4	1.7
	61.8...124.8 ①	13.4	9.8	ML +23.2		2.2 ②	4.2	2.9	③	1.3	4.4	1.7

① For more data, refer to "Floats" at the end of this chapter
② If ambient temperature is -76...-4°F: 3.4" (with Plexiglas® cover)
③ This is equal to the dimension C-C

Weights in kg and lb

	Weights		Weights for every additional 100 mm	Weights for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
Min.: DN15 PN40 flanges	7.4...8 ①	16.3...17.6 ②	0.3	0.7
Max.: 1½" 600 lb flanges	12.4...13 ①	27.3...28.7 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm – if liquid density is low, then weight is higher
② When L=20" – if liquid density is low, then weight is higher

Advanced version: Top lateral / Bottom axial process connections

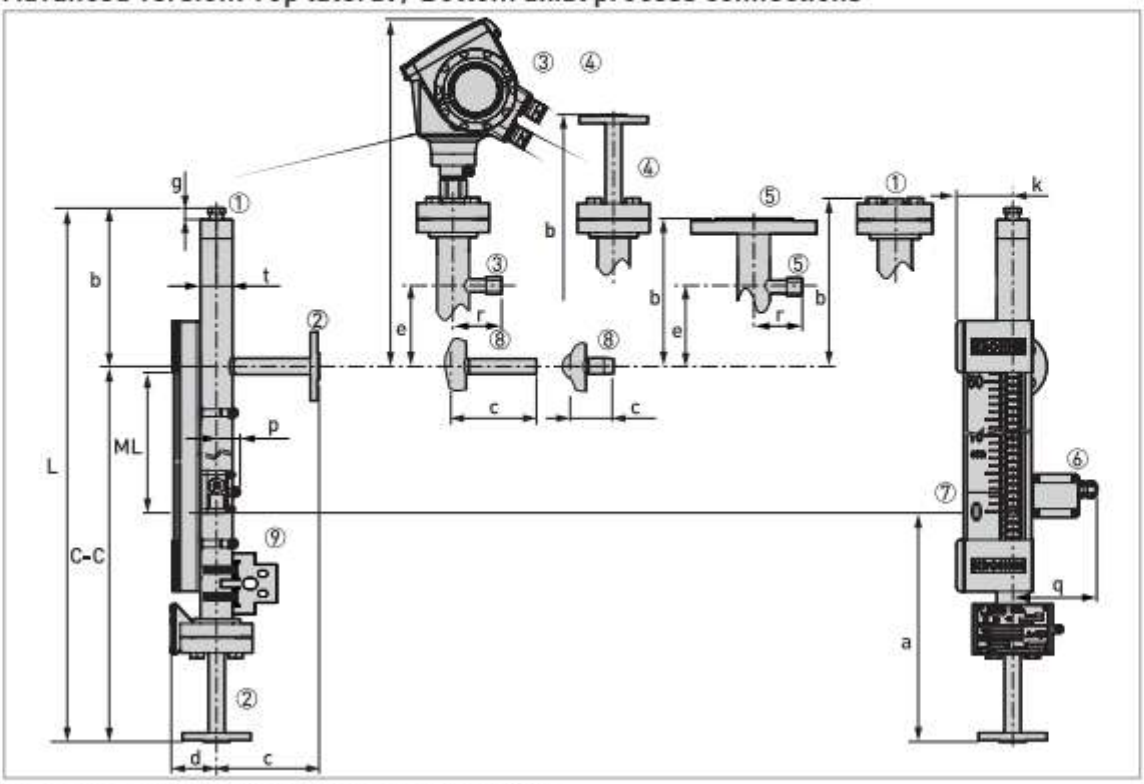


Figure 2-7: Top lateral / Bottom axial process connections

① Optional vent with 3/8 NPT connection (with plug) or optional vent with 1/2 NPT or G 1/2 connection (with plug) on a plate flange
② Process connection (flange)
③ ½ BSP connection for OPTIFLEX 1300 TDR level transmitter with ½ NPT lateral vent (with plug)
④ Optional vent (flange)
⑤ Optional DN40 top flange for other level transmitters with ½ NPT lateral vent (with plug)
⑥ Optional level switch
⑦ Level indicator with optional scale
⑧ Optional male thread (½... ¾ NPT or G ½...¾) or long stud (½" or ¾") connection
⑨ Optional support bracket – also refer to "Support bracket option: Dimensions and weight"

Note:

- C-C = Centre-to-face length (process connections)
- ML = Measuring length
- L = Overall length
- a = bottom dead zone; b = Distance from the axis of top connection to the top of the device

Other dimensions are available on request.

Dimensions in mm

	Liquid density [kg/l]	Dimensions [mm]													
		a	b	C-C	ML	c	d	e	g	k	L	p	q	r	Øt
Top lateral / Bottom axial process connections	0.58... 0.7 ①	580	②	ML +580	300... 5300	③	55.5 ④	106	15	74	⑤	32	113	259	42.4
	0.7... 0.99 ①	400	②	ML +400		③	55.5 ④	106	15	74	⑤	32	113	259	42.4
	0.99... 2.0 ①	360	②	ML +360		③	55.5 ④	106	15	74	⑤	32	113	259	42.4

① For more data, refer to "Floats" at the end of this chapter

② Optional 3/8NPT vent: 228mm. Optional 1/2NPT vent: 228 mm. Optional G1/2 vent: 220 mm. Optional OPTIFLEX 1300 transmitter with 2 mm single cable probe: 454 mm. Optional flange vent: 328 mm. Optional DN40 flange: 193 mm.

③ EN flange, type B: 135.2 mm. EN flange, type C: 134.7 mm. EN flange, type E: 135.2 mm. Long stud: 130.2 mm. Male thread connection: 58.2 mm.

④ If ambient temperature is -60...-20°C: 85.5 mm (with Plexiglas® cover)

⑤ Depends on the options selected. Contact your local sales office for more data.

Dimensions in inches

	Liquid density [lb/ft³]	Dimensions [inches]													
		a	b	C-C	ML	c	d	e	g	k	L	p	q	r	Øt
Top lateral / Bottom axial process connections	36.2... 43.7 ①	22.8	②	ML +22.8	11.8... 208	③	2.2 ④	4.2	0.6	2.9	⑤	1.3	4.4	10.2	1.7
	43.7... 61.8 ①	15.7	②	ML +15.7		③	2.2 ④	4.2	0.6	2.9	⑤	1.3	4.4	10.2	1.7
	61.8... 124.8 ①	14.2	②	ML +14.2		③	2.2 ④	4.2	0.6	2.9	⑤	1.3	4.4	10.2	1.7

① For more data, refer to "Floats" at the end of this chapter

② Optional 3/8NPT vent: 9.0". Optional 1/2NPT vent: 9.0". Optional G1/2 vent: 8.6". Optional OPTIFLEX 1300 transmitter with 0.08" single cable probe: 17.9". Optional flange vent: 12.9". Optional DN40 flange: 7.6".

③ EN flange, type B: 5.3". EN flange, type C: 5.1". EN flange, type E: 5.3". Long stud: 5.1". Male thread connection: 2.3".

④ If ambient temperature is -76...-4°F: 3.4" (with Plexiglas® cover)

⑤ Depends on the options selected. Contact your local sales office for more data.

Weights in kg and lb

	Weights		Weights for every additional 100 mm	Weights for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
Min.: DN15 PN40 flanges	6.7...7.3 ①	14.8...16.1 ②	0.3	0.7
Max.: 1½" 600 lb flanges	9.2...9.8 ①	20.3...21.6 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm – if liquid density is low, then weight is higher

② When L=20" – if liquid density is low, then weight is higher

Advanced version: Top axial / Bottom lateral process connections

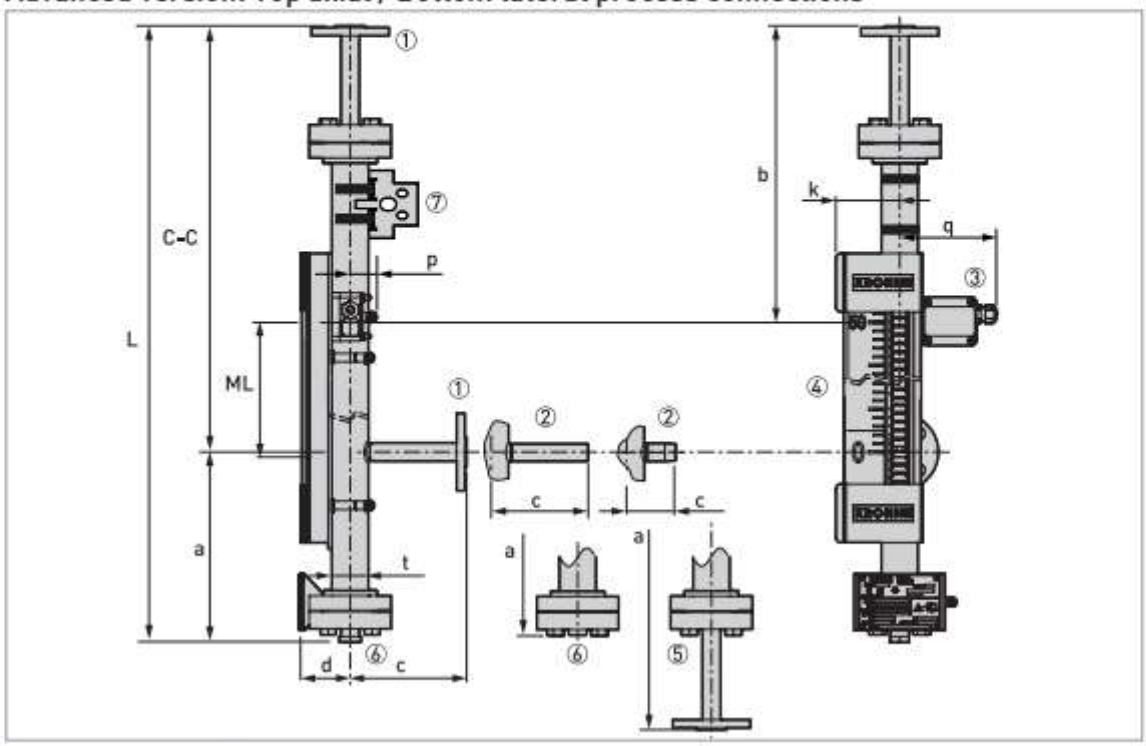


Figure 2-8: Top axial / Bottom lateral process connections

① Process connection (flange)
② Optional male thread (½... ¾ NPT or G ½...¾) or long stud (½" or ¾") connection
③ Optional level switch
④ Level indicator with optional scale
⑤ Optional drain (flange)
⑥ Optional drain with 1/2 NPT, 3/8 NPT, G 1/2 or G 3/8 connection (with plug) on a plate flange
⑦ Optional support bracket – also refer to "Support bracket option: Dimensions and weight"

Note:

- C-C = Face-to-centre length (process connections)
- ML = Measuring length
- L = Overall length
- a = Distance from the axis of the bottom connection to the bottom of the device;
  b = top dead zone

Other dimensions are available on request.

Dimensions in mm

	Liquid density [kg/l]	Dimensions [mm]										
		a	b	C-C	ML	c	d	k	L	p	q	Øt
Top axial / Bottom lateral process connections	0.58... 0.7 ①	②	330	ML +330	300... 5300	③	55.5 ④	74	⑤	32	113	42.4
	0.7... 0.99 ①	⑥	310	ML +310		③	55.5 ④	74	⑤	32	113	42.4
	0.99... 2.0 ①	⑦	320	ML +320		③	55.5 ④	74	⑤	32	113	42.4

① For more data, refer to "Floats" at the end of this chapter
② Optional 1/2NPT or 3/8NPT drain + plug: 480 mm. Optional G1/2 or G3/8 drain + plug: 472 mm. Optional drain flange: 580 mm.
③ EN flange, type B: 135.2 mm. EN flange, type C: 134.7 mm. EN flange, type E: 135.2 mm. Long stud: 130.2 mm. Male thread connection: 58.2 mm.
④ If ambient temperature is -60...-20°C: 85.5 mm (with Plexiglas® cover)
⑤ Depends on the options selected. Contact your local sales office for more data.
⑥ Optional 1/2NPT or 3/8NPT drain + plug: 299 mm. Optional G1/2 or G3/8 drain + plug: 291 mm. Optional drain flange: 399 mm.
⑦ Optional 1/2NPT or 3/8NPT drain + plug: 255 mm. Optional G1/2 or G3/8 drain + plug: 247 mm. Optional drain flange: 355 mm.

Dimensions in inches

	Liquid density [lb/ft³]	Dimensions [inches]										
		a	b	C-C	ML	c	d	k	L	p	q	Øt
Top axial / Bottom lateral process connections	36.2... 43.7 ①	②	13	ML +13	11.8... 208	③	2.2 ④	2.9	⑤	1.3	4.4	1.7
	43.7... 61.8 ①	⑥	12.2	ML +12.2		③	2.2 ④	2.9	⑤	1.3	4.4	1.7
	61.8... 124.8 ①	⑦	12.6	ML +12.6		③	2.2 ④	2.9	⑤	1.3	4.4	1.7

① For more data, refer to "Floats" at the end of this chapter
② Optional 1/2NPT or 3/8NPT drain + plug: 18.9". Optional G1/2 or G3/8 drain + plug: 18.6". Optional drain flange: 22.8".
③ EN flange, type B: 5.3". EN flange, type C (tongue): 5.1". EN flange, type E: 5.3". Long stud: 5.1". Male thread connection: 2.3".
④ If ambient temperature is -76...-4°F: 3.4" (with Plexiglas® cover)
⑤ Depends on the options selected. Contact your local sales office for more data.
⑥ Optional 1/2NPT or 3/8NPT drain + plug: 11.8". Optional G1/2 or G3/8 drain + plug: 11.4". Optional drain flange: 15.7".
⑦ Optional 1/2NPT or 3/8NPT drain + plug: 10". Optional G1/2 or G3/8 drain + plug: 9.7". Optional drain flange: 14.0".

Weights in kg and lb

	Weights		Weights for every additional 100 mm	Weights for every additional 4 inches
	[kg]	[lb]	[kg]	[lb]
Min.: DN15 PN40 flanges	6.7...7.3 ①	14.8...16.1 ②	0.3	0.7
Max.: 1½" 600 lb flanges	9.2...9.8 ①	20.3...21.6 ②	0.3	0.7
Limit switch	0.085	0.2		

① When L=500 mm – if liquid density is low, then weight is higher
② When L=20" – if liquid density is low, then weight is higher

2.6 Analog transmitter: Dimensions and weight

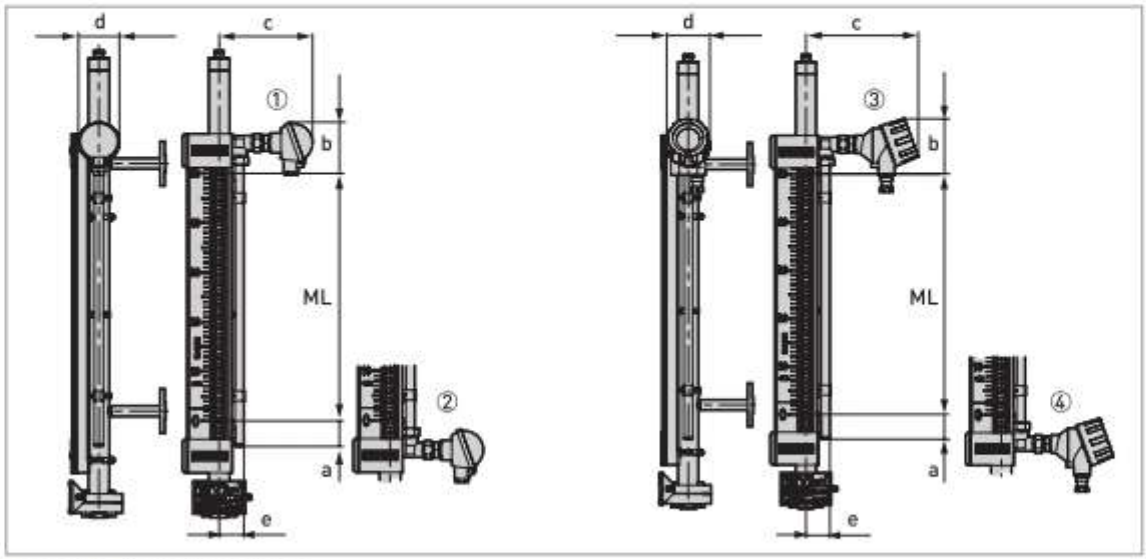


Figure 2-9: Analog transmitter

① Non-Ex or Ex i analog transmitter (at the top of the reed chain)
② Non-Ex or Ex i analog transmitter (at the bottom of the reed chain)
③ Non-Ex or Ex i analog transmitter (at the top of the reed chain, with optional LCD indicator)
④ Non-Ex or Ex i analog transmitter (at the bottom of the reed chain, with optional LCD indicator)

Dimensions in mm

Converter	Dimensions [mm]					
	a	b	c	ML	d	e
Non-Ex or Ex i	52	103	189	①	83	50
Non-Ex or Ex i, with optional LCD indicator	52	115	234	①	90	50

① Refer to the dimension ML for each device version

Dimensions in inches

Converter	Dimensions [inches]					
	a	b	c	ML	d	e
Non-Ex or Ex i	2.1	4.1	7.4	①	3.3	2.0
Non-Ex or Ex i, with optional LCD indicator	2.1	4.5	9.2	①	3.5	2.0

① Refer to the dimension ML for each device version

Weights in kg and lb

Converter	Weights for 1 m	Weights for 40 inches	Weights for every additional 1000 mm	Weights for every additional 40 inches
	[kg]	[lb]	[kg]	[lb]
Non-Ex or Ex i	1.32	2.9	+1	+2.20
Non-Ex or Ex i, with optional LCD indicator	1.85	4.1	+1	+2.20

2.7 Support bracket option: Dimensions and weight

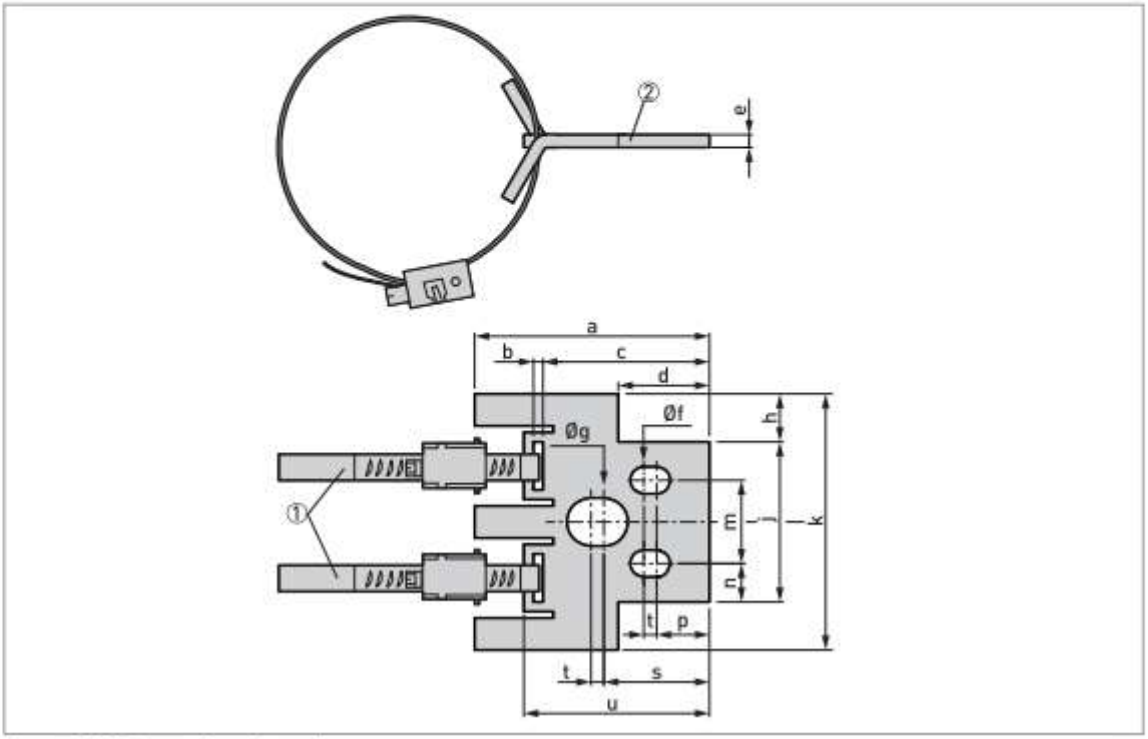


Figure 2-10: Support bracket option

① Attach the collar to the measuring chamber
② Attach the plate to the tank

Dimensions mm

	Dimensions [mm]															
	a	b	c	d	e	Øf	Øg	h	j	k	m	n	p	s	t	u
Support bracket	73	3	52	28.5	4	8.4	15	15	50	80	26	12	16.5	33	4	58

Dimensions in inches

	Dimensions [inches]															
	a	b	c	d	e	Øf	Øg	h	j	k	m	n	p	s	t	u
Support bracket	2.87	0.12	2.05	1.12	0.16	0.33	0.59	0.59	1.97	3.15	1.02	0.47	0.65	1.30	0.16	2.28

The weight of the support bracket is 0.22 kg / 0.48 lb.

2.8 Guidelines for maximum operating pressure

Make sure that the devices are used within their operating limits. Observe the following requirements:

Pressure derating chart for the Basic version in barg

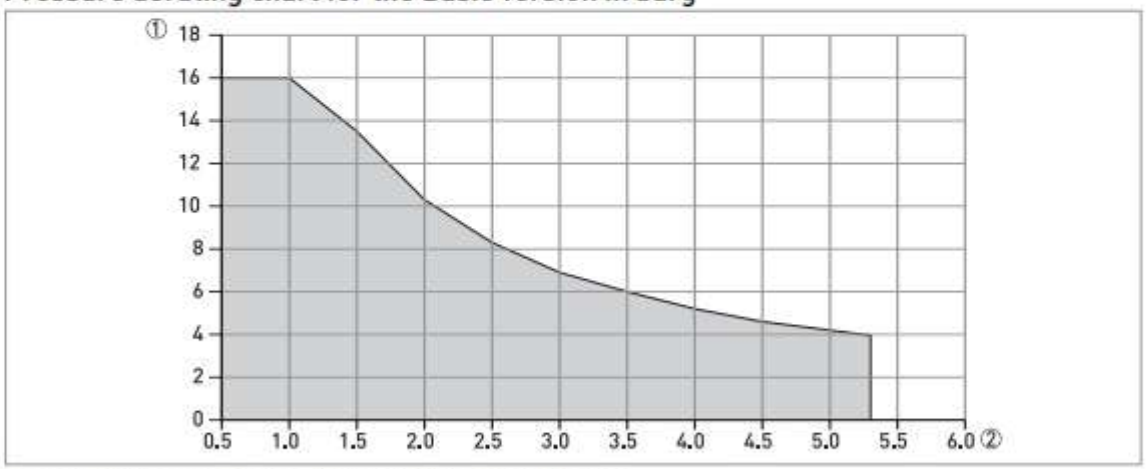


Figure 2-11: Pressure derating chart for the Basic version in barg

① Process pressure, P [barg]
② Length of the indicator, L [m]

Pressure derating chart for the Basic version in psig

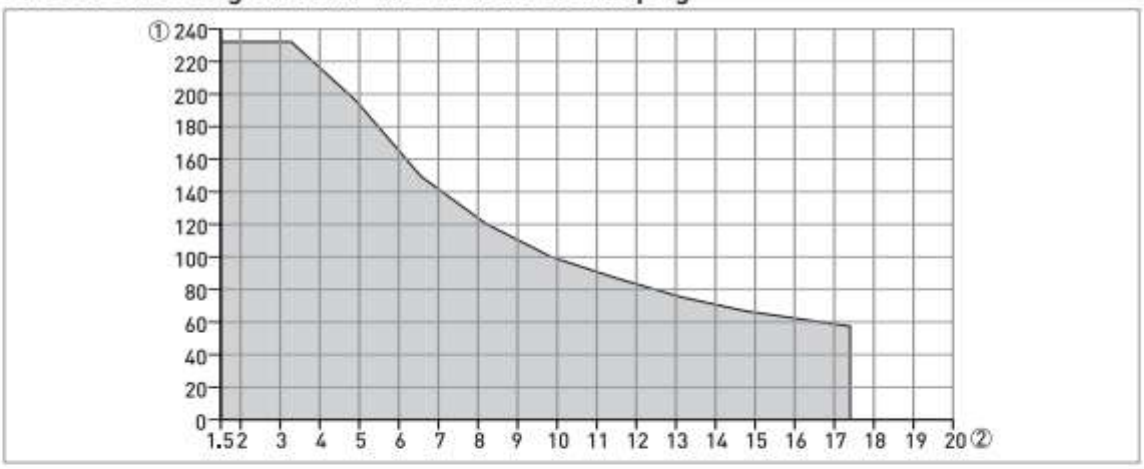


Figure 2-12: Pressure derating chart for the Basic version in psig

① Process pressure, P [psig]
② Length of the indicator, L [ft]

The EU Pressure Equipment Directive does not apply to the use of the BM 26 Basic.

Pressure derating chart (PED 2014/68/EU) for the Advanced version with a 316 L measuring chamber in barg

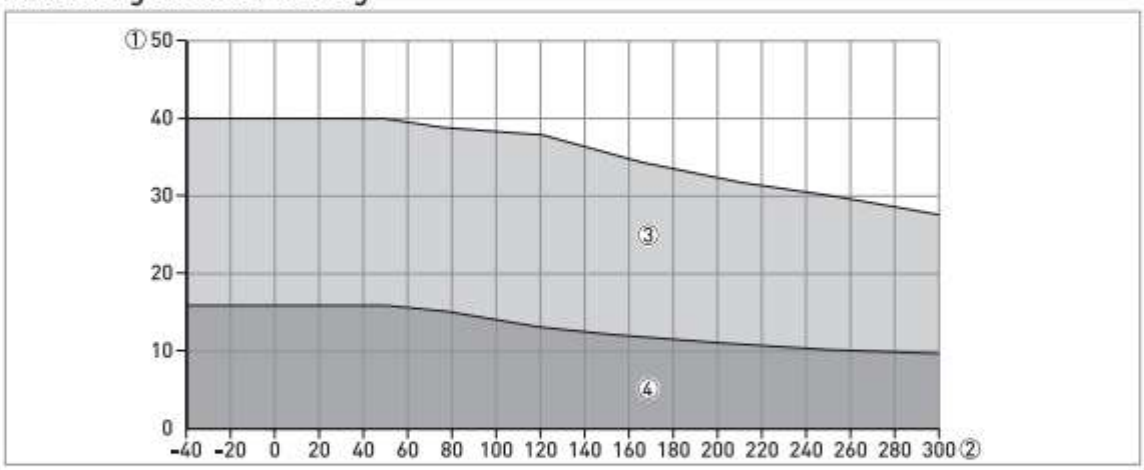


Figure 2-13: Pressure derating chart (PED 2014/68/EU) for the Advanced version with a 316 L measuring chamber in barg

① Process pressure, P [barg]
② Process temperature, T [°C]
③ PN40, PN63, PN100 (EN 1092-1), Class 300 (ASME B16.5) flanges, welded pipes and threaded pipes
④ Class 150 (ASME B16.5) flanges

Pressure derating chart (PED 2014/68/EU) for the Advanced version with a 316 L measuring chamber in psig

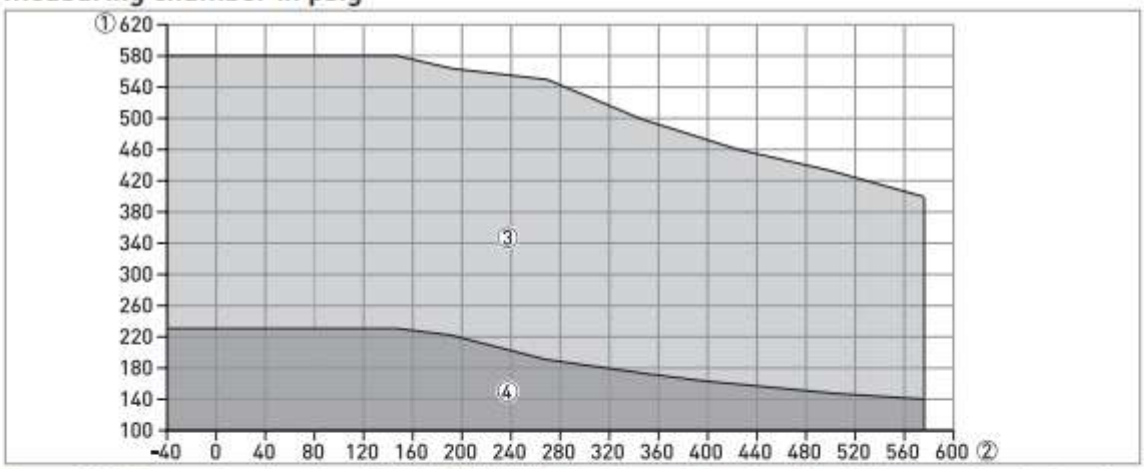


Figure 2-14: Pressure derating chart (PED 2014/68/EU) for the Advanced version with a 316 L measuring chamber in psig

① Process pressure, P [psig]
② Process temperature, T [°F]
③ PN40, PN63, PN100 (EN 1092-1), Class 300 (ASME B16.5) flanges, welded pipes and threaded pipes
④ Class 150 (ASME B16.5) flanges

2.9 Floats

Make sure that the devices are used within the operating limits of the floats. Refer to the table and graphs that follow:

BM 26 Basic: Application limits of floats in °C, bar and kg/l

	Dimensions	Material	Density range	Maximum operating pressure [barg]		
	[mm]		[kg/l]	20°C	100°C	150°C
Float	Ø32 × 245	316L	0.80...1.19	16	15.1	13.7

BM 26 Basic: Application limits of floats in °F, psi and lb/ft³

	Dimensions	Material	Density range	Maximum operating pressure [psig]		
	[inches]		[lb/ft³]	70°F	210°F	300°F
Float	Ø1.3 × 9.6	316L	49.9...74.3	232	219	199

BM 26 Advanced: Application limits of floats in °C, bar and kg/l

	Dimensions	Material	Density range	Maximum operating pressure [barg]					
	[mm]		[kg/l]	20°C	100°C	150°C	200°C	250°C	300°C
Float 1	Ø32 × 420	Titanium	0.58...0.7	40	37.9	34.4	31.8	29.8	27.6
Float 2	Ø32 × 240	Titanium	0.7...0.99	40	37.9	34.4	31.8	29.8	27.6
Float 3	Ø32 × 185	316L ①	0.99...2.0	40	37.9	34.4	31.8	29.8	27.6

① HASTELLOY® C-276 is available on request

BM 26 Advanced: Application limits of floats in °F, psi and lb/ft³

	Dimensions	Material	Density range	Maximum operating pressure [psig]					
	[inches]		[lb/ft³]	70°F	210°F	300°F	390°F	480°F	570°F
Float 1	Ø1.3 × 16.5	Titanium	36.2...43.7	580	449	500	461	432	400
Float 2	Ø1.3 × 9.4	Titanium	43.7...61.8	580	449	500	461	432	400
Float 3	Ø1.3 × 7.3	316L ①	61.8...124.8	580	449	500	461	432	400

① HASTELLOY® C-276 is available on request

Other floats are available on request.

3.1 Intended use

This magnetic level indicator measures the level or volume of liquids.

It is installed next to open or pressurized tanks. With the applicable options, it is resistant to difficult service conditions and liquids that are poisonous, flammable, or that cause corrosion.

Responsibility for the use of the measuring devices with regard to suitability, intended use and corrosion resistance of the used materials against the measured fluid lies solely with the operator.

The manufacturer is not liable for any damage resulting from improper use or use for other than the intended purpose.

3.2 General requirements

3.2.1 How to attach the bypass level indicator to the tank

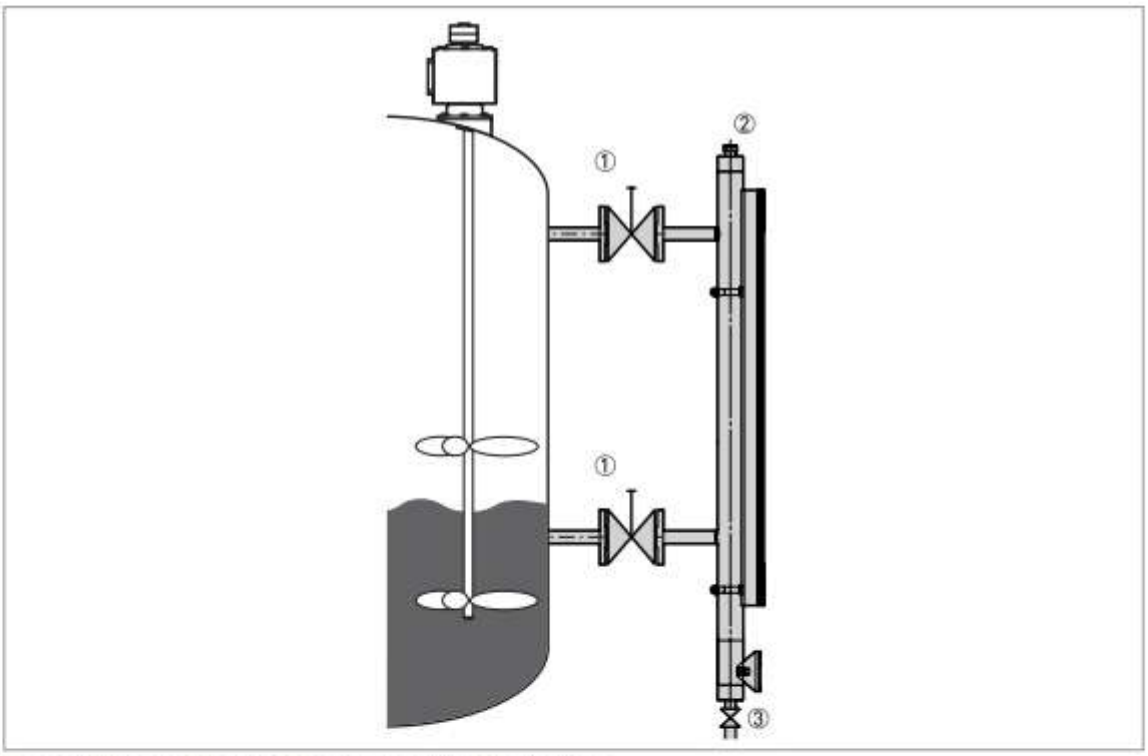


Figure 3-1: How to attach the bypass level indicator to the tank

① Optional isolation valve
② Optional vent
③ Optional drain with isolation valve

Obey the instructions that follow:

- Select bolts and gaskets (not supplied) that agree with the pressure rating of the process connection and the operating pressure.
- Install the bypass level indicator vertically on the tank.
- Make sure that there is no contamination (dirt etc.) or unwanted objects in the measuring chamber.
- Make sure that mechanical loadings do not cause damage to the process connections. If necessary, put supports on the device.
- Install shut-off valves so that the device can be cleaned separately from the tank. Drain the device only when it is isolated from the tank.

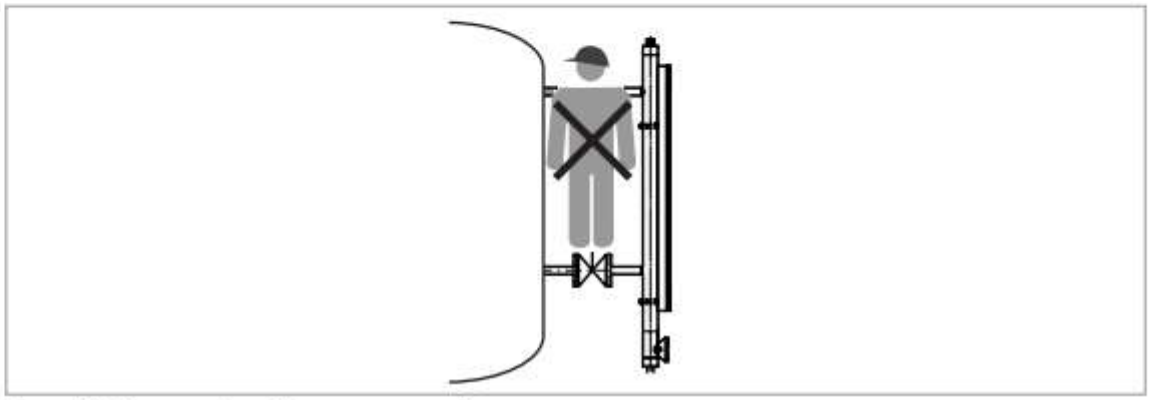


Figure 3-2: Stay away from the process connections

Stay away from the process connections. If you stand on the process connections, you can cause damage to the device and the installation.

Make sure that the outer surface temperature of the device is not more than +60° C / +140° F. If the surface temperature is more than +60° C / +140° F, use the device with precautions that agree with Health and Safety rules and regulations.

EU Pressure Equipment Directive data

- *The process connections must be attached correctly to prevent mechanical stress. The axis of the process connection must be parallel to and centred with the axis of the tank's process connections. Tighten the process connections in agreement with the design code.*
- *The user must take necessary steps to protect the installed device from shock waves (water hammer). A pressure limiting valve must protect the installation.*
- *The effective pressure of the installation (the maximum permitted by the pressure limiting valve) must never be greater than the maximum permitted pressure, P_s, marked on the device nameplate.*
- *Make sure that the parts in contact with the fluid are compatible with the fluid and conform to the ageing characteristics of the measurement environment and the fluid used. These have either been recommended in the instructions or form the subject of a particular specification in the contract.*
- *The external pressure, P_{ext}, must be equal to atmospheric pressure, P_{atmos} ($P_{ext} = P_{atmos}$).*
- *If stainless steel devices are more than 6 m / 20 ft high, we recommend more anchoring points.*

3.3 Level indicator column

The level indicator column is attached to the measuring chamber before delivery. Customer order data is used to calibrate its position. No other adjustment is necessary.

Customer order data is used to calibrate the device. If liquid density changes, the device will not measure correctly. Please contact our nearest sales office for advice.

3.4 Optional analog transmitter

The analog transmitter is attached to the measuring chamber before delivery. Customer order data is used to calibrate its position. No other adjustment is necessary.

Too much heat can cause damage to the analog transmitter. If the process temperature is more than +120°C / +250°F, put insulation between the bypass chamber and the analog transmitter. If the process temperature is more than +150°C / +300°F, do not cover any part of the analog transmitter.

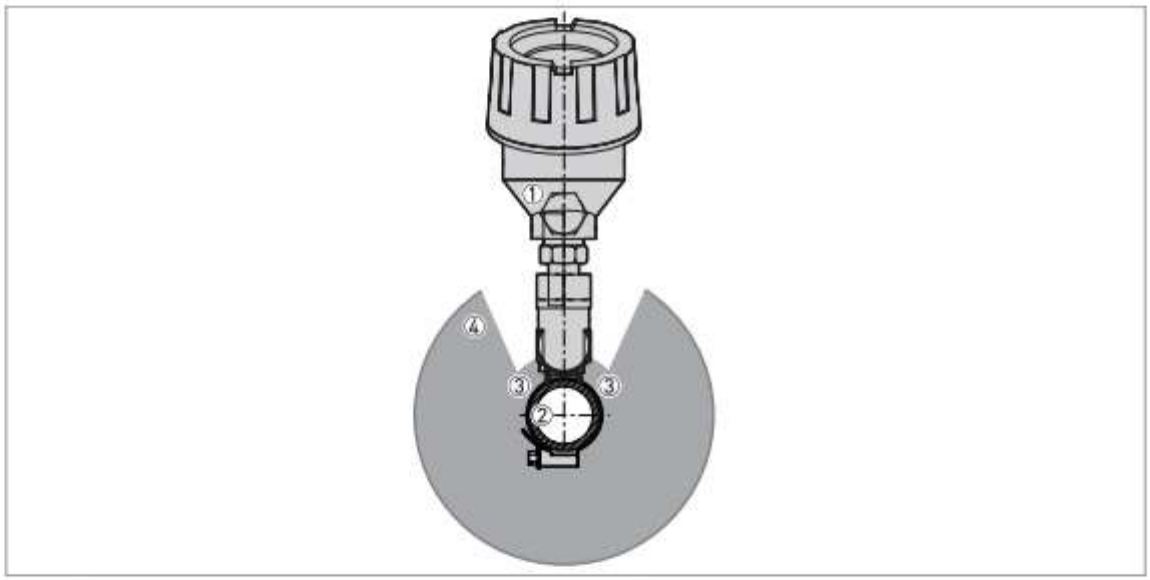


Figure 3-3: Analog transmitter and insulation for the bypass chamber

① Analog transmitter
② Bypass chamber (cross-section)
③ If temperature is more +120°C / +250°F, put insulation between the bypass chamber and the analog transmitter
④ Insulation (cross-section). If temperature is more +150°C / +300°F, do not cover any part of the analog transmitter with insulation.

Do not move the analog transmitter. If you adjust the position of this device, the current output will be incorrect.

Customer order data is used to calibrate the device. If liquid density changes, the device will not measure correctly. Please contact our nearest sales office for advice.

3.5 Optional limit switch

The level switches are not attached to the device before delivery. Remove the switches from the packing and obey the installation instructions in the Quick Start or Handbook.

Too much heat can cause damage to the limit switch. If you put insulation around the bypass level indicator, do not cover the limit switch housing. Make sure that there is approximately 15 mm / 0.6" of empty space between the limit switch and the insulation.

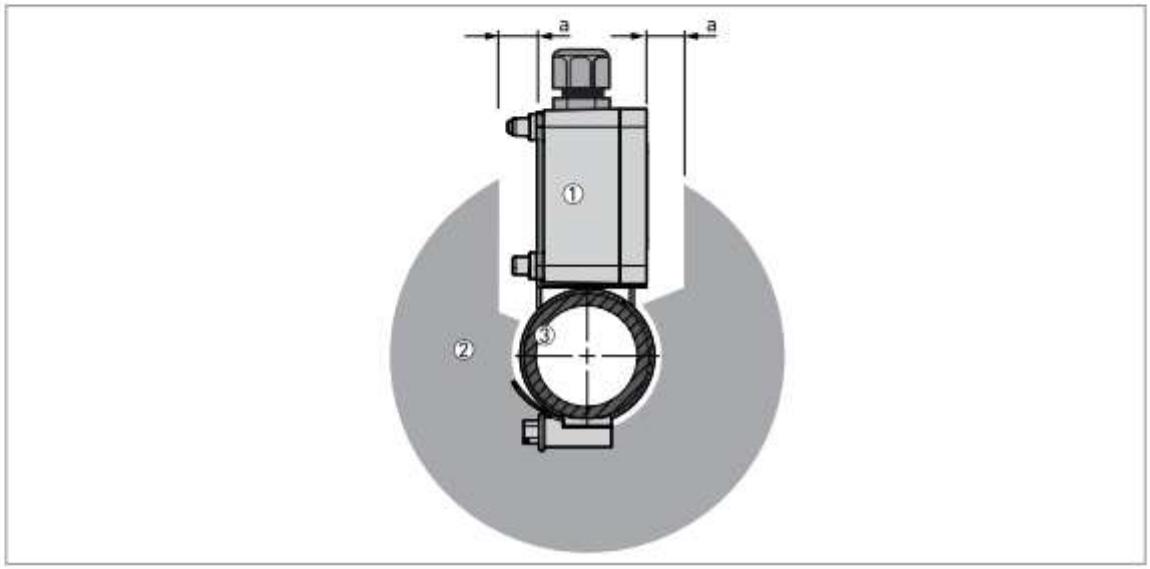


Figure 3-4: Limit switches and insulation for the measuring chamber

① Limit switch housing
② Insulation around the measuring chamber (cross-section)
③ Measuring chamber (cross-section)
Empty space between the limit switch and the insulation for the measuring chamber, a ≥15 mm / 0.6".

4.1 Optional analog transmitter

- Remove the terminal compartment cover.
- Connect the device to the electrical circuit. Obey the national electrical codes.

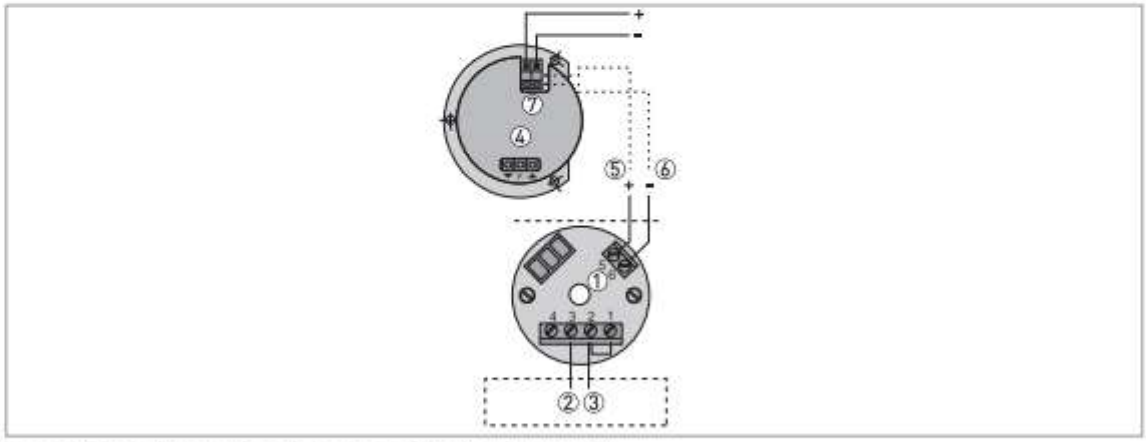


Figure 4-1: Electrical schematic for the 4...20 mA output module

① Power supply terminals
② Internal wiring - brown wire
③ Internal wiring - red wire
④ Optional LCD indicator
⑤ Power supply (+) - if optional LCD connected - red wire
⑥ Power supply (-) - if optional LCD connected - black wire
⑦ LCD power supply terminal (10...35 VDC)

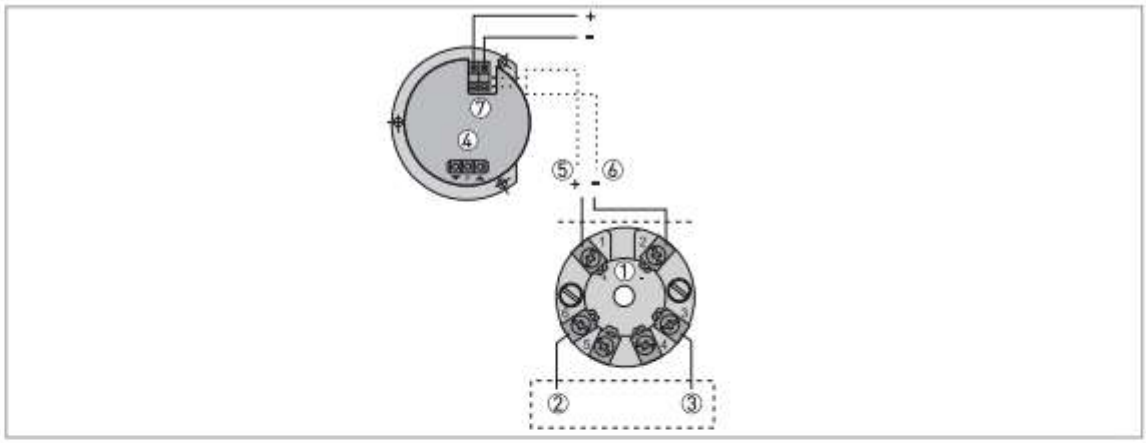


Figure 4-2: Electrical schematic for the 4...20 mA + HART output module

① Power supply terminals
② Internal wiring - brown wire
③ Internal wiring - red wire
④ Optional LCD indicator
⑤ Power supply (+) - if optional LCD connected - red wire
⑥ Power supply (-) - if optional LCD connected - black wire
⑦ LCD power supply terminal (10...35 VDC)

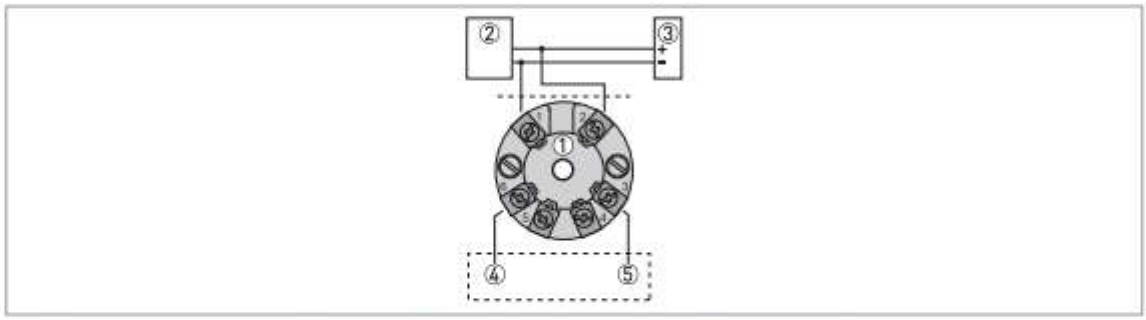


Figure 4-3: Electrical schematic for the FOUNDATION™ Fieldbus / PROFIBUS PA module

① Bus connection terminals
② Segment coupler
③ Bus termination
④ Internal wiring - orange wire
⑤ Internal wiring - brown wire

For more electrical data, refer to *Technical data: optional analog transmitter* on page 13.

4.2 Optional limit switches

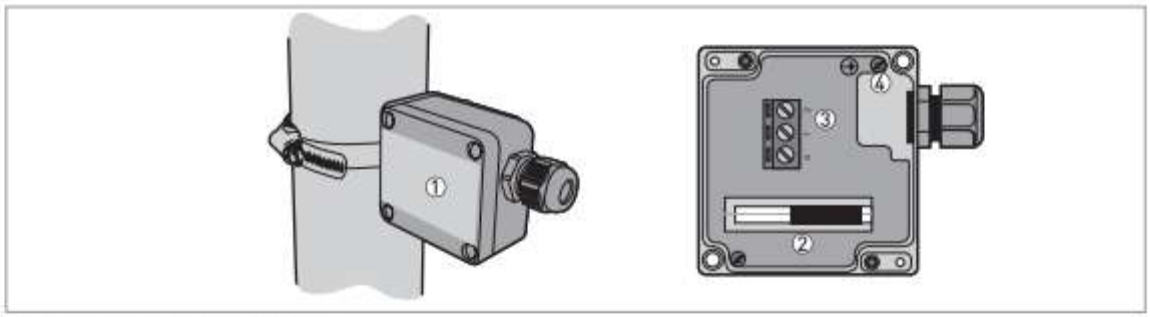


Figure 4-4: Terminal compartment

① Terminal compartment cover
② Bistable reed switch
③ Output terminal

- Remove the terminal compartment cover.
- Connect the device to the electrical circuit. Obey the national electrical codes.

*If the switch is set to **LOW limit**, make sure that switch is **open** when the float is below the switch position.*
*If the switch is set to **HIGH limit**, make sure that switch is **open** when the float is above the switch position.*

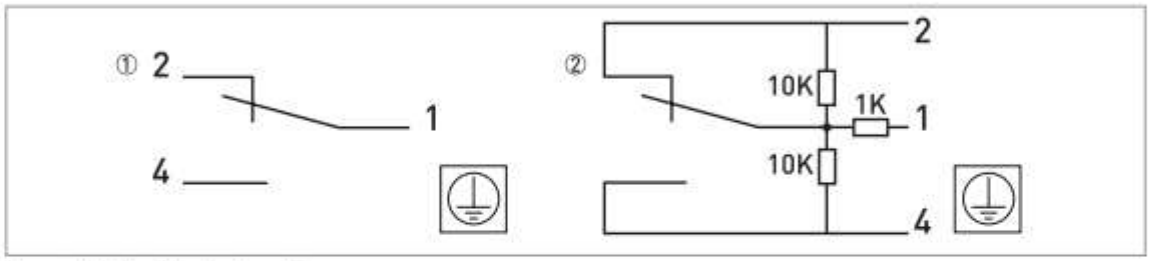


Figure 4-5: Electrical schematic

① Non-NAMUR version
② NAMUR version

For more electrical data, refer to *Technical data: optional limit switches* on page 18.

Limit switches with stainless steel housings are also available on request for low temperatures (operating temperature: -60...+125°C / -76...+257°F). For more data, refer to this website: http://www.euroswitch.co.uk

4.3 Protection category

For the IP categories of the accessories for the device, refer to the table that follows:

Protection categories according to EN 60529

Equipment housing	Ingress protection
Analog transmitter	
Non-Ex / Ex i (without indicator)	IP54
Non-Ex / Ex i (with indicator)	IP66
Limit switches	
Non-Ex / Ex i	IP66

Limit switches with stainless steel housings are also available on request for low temperatures (operating temperature: -60...+125°C / -76...+257°F). For more data, refer to this website: http://www.euroswitch.co.uk

Make sure the cable gland is watertight.

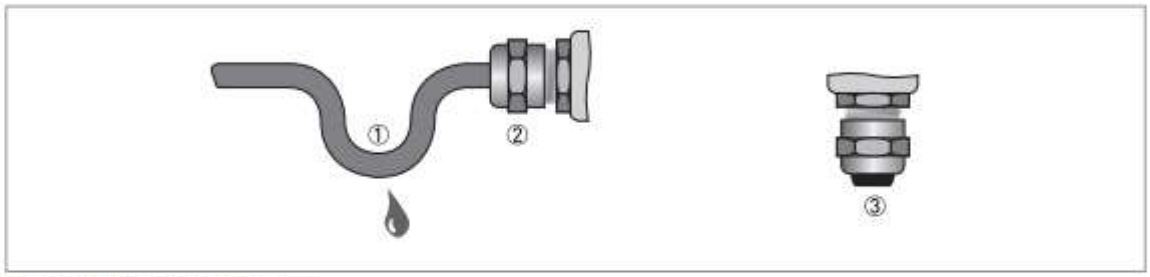


Figure 4-6: Protection category

How to make sure that the electrical installation agrees with the protection category

- Make sure that the gaskets are not damaged.
- Make sure that the electrical cables are not damaged.
- Make sure that the electrical cables agree with the national electrical code.
- The cables are in a loop in front of the device ① so water cannot enter the housing.
- Tighten the cable glands ②.
- Close unused cable glands with dummy plugs ③.

5.1 Order code

The characters of the order code highlighted in light grey describe the standard.

Basic version

VF41	4	**BM 26 Basic magnetic bypass level indicator – the cost-effective device for basic applications: Max. service pressure: 16 barg (232 psig) at +150°C (+302°F) – Process temperature range: -40...+150°C (-40...+302°F)**							
		Material							
		0	316L						
			Approval						
			0	Non-Ex					
			1	ATEX					
				0	**Process temperature**				
					0	-40...+150°C (-40...+300°F)			
						Density [kg/l]/Float material			
						1	0.8...1.19 / 316L		
							Orientation of process connections		
							0	Lateral / Lateral	
							1	Bottom lateral / Top axial	
							2	Bottom axial / Top lateral	
							3	Axial / Axial	
							4	Bottom lateral / Top axial + 1 support bracket	
							5	Bottom axial / Top lateral + 1 support bracket	
							6	Axial / Axial + 2 support brackets	
								Process connection type	
								0	Without (3/8 NPTF for axial process connections)
								1	Flange connection
								2	Welded connection
								3	Threaded connection (male)
VF41	4	0		0	0	1			**Order code (complete this code on the pages that follow)**

									Process connection						
									0	Without					
									1	DN15 PN40					
									3	DN20 PN40					
									5	DN25 PN40					
									7	DN40 PN40					
									D	½" 150 lb					
									E	½" 300 lb					
									F	¾" 150 lb					
									G	¾" 300 lb					
									H	1" 150 lb					
									K	1" 300 lb					
									L	1½" 150 lb					
									M	1½" 300 lb					
									R	Welded pipe ½", Sch10, length 107 mm					
									S	Welded pipe ¾", Sch10, length 107 mm					
									T	Threaded pipe ¾ NPT, Sch10, male, length 35 mm					
									U	Threaded pipe ½ NPT, Sch10, male, length 35 mm					
									V	Threaded pipe G ¾, Sch10, male, length 35 mm					
									W	Threaded pipe G ½, Sch10, male, length 35 mm					
										Flange facing					
										0	Without (options without flange connections)				
										B	Type B1 (EN 1092-1, raised face)				
										F	RF (ASME B16.5, raised face)				
											Vent				
											0	Without			
											1	3/8 NPT + plug			
												Drain			
												1	3/8 NPT + plug		
												2	1¼ NPT + plug (without flange)		
													Sealing		
													0	Without	
														Indicator / stainless steel scale	
														0	Without indication
														1	Flaps / without scale
														2	Flaps / m + cm
														3	Flaps / feet + inches
														4	Flaps / % (simplified)
VF41	4	0		0	0	1							0		**Order code (complete this code on the pages that follow)**

															Transmitter/Converter position										
															0	Without									
															D	LT40 (4-20 mA) + display / top of chamber									
															E	LT40 (4-20 mA+HART) + display / top of chamber ①									
															F	LT40 (4-20 mA) / top of chamber									
															G	LT40 (4-20 mA+HART) / top of chamber									
															H	LT40 (FF) / top of chamber									
															K	LT40 (PROFIBUS PA) / top of chamber									
															N	LT40 (4-20 mA) + display / bottom of chamber									
															P	LT40 (4-20 mA+HART) + display / bottom of chamber ①									
															R	LT40 (4-20 mA) / bottom of chamber									
															S	LT40 (4-20 mA+HART) / bottom of chamber									
															T	LT40 (FF) / bottom of chamber									
															U	LT40 (PROFIBUS PA) / bottom of chamber									
																Transmitter approval									
																0	Without								
																1	Ex i								
																	Number of limit switches								
																	0	Without							
																	1	1 switch							
																	2	2 switches							
																	3	3 switches							
																	4	4 switches							
																	5	5 switches							
																		Limit switch approval							
																		0	Without						
																		1	Ex i						
																		A	Namur (DIN 19234)						
																		B	Namur (DIN 19234), Ex i						
																			0	0	**Adjustment certificate**				
																					0	Without			
																					1	Adjustment certificate			
																						0	**Tag number**		
																							0	Without	
																							2	Tag number on stainless steel plate	
VF41	4	0		0	0	1							0						0	0		0		**Order code (complete this code on the pages that follow)**	

																								C-C length	
																							0	0 m	
																							1	1 m	
																							2	2 m	
																							3	3 m	
																							4	4 m	
																							5	5 m (5.3 m max.)	
																								C-C length	
																								0	0 mm
																								1	100 mm
																								2	200 mm
																								3	300 mm
																								4	400 mm
																								5	500 mm
																								6	600 mm
																								7	700 mm
																								8	800 mm
																								A	900 mm
VF41	4	0		0	0	1							0						0	0		0				**Order code**

① For non-Ex devices only

Advanced version (without the OPTIWAVE 1010 radar level transmitter)

VF42	4	**BM 26 Advanced magnetic bypass level indicator for general-purpose applications: Max. service pressure: 40 barg (580 psig) at +20°C (+68°F) / 27,6 barg (400 psig) at +300°C (+572°F) – Process temperature range: -40...+300°C (-40...+572°F)**							
		Material							
		0	316L						
			Approval						
			0	Non-Ex					
			1	ATEX					
				Other approval					
				0	Without				
				B	EAC Russia				
				C	EAC Belarus				
				K	EAC Kazakhstan				
					Process temperature				
					0	-40...+20°C (-40...+68°F)			
					1	-40...+50°C (-40...+122°F)			
					2	-40...+100°C (-40...+212°F)			
					3	-40...+150°C (-40...+302°F)			
					4	-40...+200°C (-40...+392°F)			
					5	-40...+250°C (-40...+122°F)			
					6	-40...+300°C (-40...+572°F)			
						Density [kg/l]/Float material			
						0	Without ①		
						1	0.58...0.70 / Titanium		
						2	0.70...0.99 / Titanium		
						3	0.99...2 / 316L		
						A	0.99...2 / Hastelloy® (on request)		
							Orientation of process connections		
							0	Lateral / Lateral	
							1	Bottom lateral / Top axial	
							2	Bottom axial / Top lateral	
							3	Axial / Axial	
							4	Bottom lateral / Top axial + 1 support bracket	
							5	Bottom axial / Top lateral + 1 support bracket	
							6	Axial / Axial + 2 support brackets	
								Process connection type	
								0	Without
								1	Flange connection
								2	Welded connection
								3	Threaded connection (male)
								4	Loose flange EN
VF42	4	0		0					**Order code (complete this code on the pages that follow)**

									Process connection			
									0	Without		
									1	DN15 PN40		
									2	DN15 PN100		
									3	DN20 PN40		
									4	DN20 P100		
									5	DN25 PN40		
									6	DN25 PN100		
									7	DN40 PN40		
									8	DN40 PN100		
									A	DN50 PN40		
									B	DN50 PN63		
									C	DN50 PN100		
									D	½" 150 lb		
									E	½" 300 lb		
									F	¾" 150 lb		
									G	¾" 300 lb		
									H	1" 150 lb		
									K	1" 300 lb		
									L	1½" 150 lb		
									M	1½" 300 lb		
									N	2" 150 lb		
									P	2" 300 lb		
									R	Welded pipe ½", Sch10, length 107 mm		
									S	Welded pipe ¾", Sch10, length 107 mm		
									T	Threaded pipe ¾ NPT, Sch10, male, length 35 mm		
									U	Threaded pipe ½ NPT, Sch10, male, length 35 mm		
									V	Threaded pipe G ¾, Sch10, male, length 35 mm		
									W	Threaded pipe G ½, Sch10, male, length 35 mm		
										Flange facing		
										0	Without (options without flange connections)	
										B	Type B1 (EN 1092-1, raised face)	
										C	Type C (EN 1092-1, tongue)	
										E	Type E (EN 1092-1, spigot)	
										F	RF (ASME B16.5, raised face)	
											Vent	
											0	Without
											1	3/8 NPT + plug
											3	½ NPT
											4	DN40 PN40 top flange + lateral vent ½ NPT (with plug)
											6	G ½
											A	As per process connection
VF42	4	0		0								**Order code (complete this code on the pages that follow)**

												Drain				
												1	Flange + 3/8 NPT			
												2	Flange + ½ NPT			
												3	Flange + G 3/8			
												4	Flange + G ½			
												A	Flange (as per process connection)			
													Sealing			
													0	Without		
													1	Standard (aramid without asbestos)		
													2	316L graphite		
													3	PTFE		
														Indicator / stainless steel cale		
														0	Without indication	
														1	Flaps / without scale	
														2	Flaps / m + cm	
														3	Flaps / feet + inches	
														4	Flaps / % (simplified)	
															Transmitter type	
															0	Without
															1	OPTIFLEX 1300 with 2 mm (0.08") single cable probe / without float
															2	OPTIFLEX 1300 + flange (DN40 PN40) / without float
															3	OPTIFLEX 2200 + flange DN40 PN40 / without float
															A	Other (side chamber with flange DN40 PN40 for level transmitter)
															D	LT40 (4-20 mA) + display / top of chamber
															E	LT40 (4-20 mA+HART) + display / top of chamber ②
															F	LT40 (4-20 mA) / top of chamber
															G	LT40 (4-20 mA+HART) / top of chamber
															H	LT40 (FF) / top of chamber
															K	LT40 (PROFIBUS PA) / top of chamber
															N	LT40 (4-20 mA) + display / bottom of chamber
															P	LT40 (4-20 mA+HART) + display / bottom of chamber ②
															R	LT40 (4-20 mA) / bottom of chamber
															S	LT40 (4-20 mA+HART) / bottom of chamber
															T	LT40 (FF) / bottom of chamber
															U	LT40 (PROFIBUS PA) / bottom of chamber
																Transmitter approval
																0 Without
																1 Ex i
VF42	4	0		0												**Order code (complete this code on the pages that follow)**

																	Number of limit switches									
																	0	Without								
																	1	1 switch								
																	2	2 switches								
																	3	3 switches								
																	4	4 switches								
																	5	5 switches								
																		Limit switch approval								
																		0	Without								
																		1	Ex i								
																		A	Namur (DIN 19234)								
																		B	Namur (DIN 19234), Ex i								
																				0	0	**Adjustment certificate**					
																						0	Without				
																						1	Adjustment certificate				
																							Special requirement				
																							0	Without			
																							2	NACE design (MR 0175 / MR 0103 / ISO 15156)			
																								Tag number			
																								0	Without		
																								2	Tag number on stainless steel plate		
																									C-C length		
																									0	0 m	
																									1	1 m	
																									2	2 m	
																									3	3 m	
																									4	4 m	
																									5	5 m (5.3 m max. – longer on request)	
VF42	4	0		0																0	0						**Order code (complete this code on the pages that follow)**

																									C-C length	
																									0	0 mm
																									1	100 mm
																									2	200 mm
																									3	300 mm
																									4	400 mm
																									5	500 mm
																									6	600 mm
																									7	700 mm
																									8	800 mm
																									A	900 mm
VF42	4	0		0															0	0						**Order code**

① The device is a bypass chamber without a float. Indicator and switch options are not available.
② For non-Ex devices only

The measuring system with an OPTIWAVE 1010 has 2 parts:

- The BM26 Advanced (magnetic level indicator (MLI) or bypass chamber). Give the order code – refer to the table that follows.
- The OPTIWAVE 1010 radar (FMCW) level transmitter. Give the order code – refer to the table in the OPTIWAVE 1010 technical data sheet

BM 26 W 1010 (Advanced version for the OPTIWAVE 1010 radar level transmitter)

VF42	4	**BM 26 W 1010 magnetic bypass level indicator for the OPTIWAVE 1010 radar level transmitter: Max. service pressure: 40 barg (580 psig) at +20°C (+68°F) / 34.4 barg (499 psig) at +150°C (+302°F) – Process temperature range : -40...+150°C (-40...+302°F)**					
		Material					
		0	316L				
			Approval				
			0	Non-Ex			
			1	ATEX			
				Other approval			
				0	Without		
				B	EAC Russia (pending)		
				C	EAC Belarus (pending)		
				K	EAC Kazakhstan (pending)		
					Process temperature		
					0	-40...+20°C (-40...+68°F)	
					1	-40...+50°C (-40...+122°F)	
					2	-40...+100°C (-40...+212°F)	
					3	-40...+150°C (-40...+302°F)	
						Density [kg/l]/Float material	
						0	Without ①
						4	0.58...0.81 / Titanium for OPTIWAVE 1010
						5	0.81...0.98 / Titanium for OPTIWAVE 1010
						6	0.98...1.2 / 316L for OPTIWAVE 1010
VF42	4	0		0			**Order code (complete this code on the pages that follow)**

							Orientation of process connections						
							0	Lateral / Lateral					
								Process connection type					
								0	Without				
								1	Flange connection				
								2	Welded connection				
								3	Threaded connection (male)				
								4	Loose flange EN				
									Process connection				
									0	Without			
									1	DN15 PN40			
									3	DN20 PN40			
									5	DN25 PN40			
									7	DN40 PN40			
									A	DN50 PN40			
									D	½" 150 lb			
									E	½" 300 lb			
									F	¾" 150 lb			
									G	¾" 300 lb			
									H	1" 150 lb			
									K	1" 300 lb			
									L	1½" 150 lb			
									M	1½" 300 lb			
									N	2" 150 lb			
									P	2" 300 lb			
									R	Welded pipe ½", Sch10, length 107 mm			
									S	Welded pipe ¾", Sch10, length 107 mm			
									T	Threaded pipe ¾ NPT, Sch10, male, length 35 mm			
									U	Threaded pipe ½ NPT, Sch10, male, length 35 mm			
									V	Threaded pipe G ¾, Sch10, male, length 35 mm			
									W	Threaded pipe G ½, Sch10, male, length 35 mm			
										Flange facing			
										0	Without (options without flange connections)		
										B	Type B1 (EN 1092-1, raised face)		
										C	Type C (EN 1092-1, tongue)		
										E	Type E (EN 1092-1, spigot)		
										F	RF (ASME B16.5, raised face)		
											Vent ②		
											0	Without	
											3	½ NPT	
											6	G ½	
VF42	4	0		0			0					**Order code (complete this code on the pages that follow)**	

												Drain												
												1	Flange + 3/8 NPT											
												2	Flange + ½ NPT											
												3	Flange + G 3/8											
												4	Flange + G ½											
												A	Flange (as per process connection)											
													Sealing											
													0	Without										
													1	Standard (aramid without asbestos)										
													2	316L graphite										
													3	PTFE										
														Indicator / stainless steel scale										
														0	Without indication/scale (used as a bypass chamber)									
														1	Flaps / without scale									
														2	Flaps / m + cm									
														3	Flaps / feet + inches									
														4	Flaps / % (simplified)									
															Transmitter type									
															6	OPTIWAVE 1010 with Metapeek – max. 16 barg (232 psig)								
															7	OPTIWAVE 1010 with Metaglas – max. 40 barg (580 psig)								
																0	**Number of limit switches**							
																	0	Without						
																	1	1 switch						
																	2	2 switches						
																	3	3 switches						
																	4	4 switches						
																	5	5 switches						
																		Limit switch approval						
																		0	Without					
																		1	Ex i					
																		A	Namur (DIN 19234)					
																		B	Namur (DIN 19234), Ex i					
																			0	0	**Adjustment certificate**			
																					0	Without		
																					1	Adjustment certificate		
																						Special requirement		
																						0	Without	
																						2	NACE design (MR 0175 / MR 0103 / ISO 15156)	
VF42	4	0		0			0									0			0	0			**Order code (complete this code on the pages that follow)**	

																									Tag number	
																								0	Without	
																								2	Tag number on stainless steel plate	
																									C-C length	
																								0	0 m	
																								1	1 m	
																								2	2 m	
																								3	3 m	
																								4	4 m	
																								5	5 m (5.3 m max. – longer on request)	
																									C-C length	
																								0	0 mm	
																								1	100 mm	
																								2	200 mm	
																								3	300 mm	
																								4	400 mm	
																								5	500 mm	
																								6	600 mm	
																								7	700 mm	
																								8	800 mm	
																								A	900 mm	
VF42	4	0		0			0									0			0	0						**Order code**

① The device is a bypass chamber without a float (for liquids with dielectric constant > 3). Indicator and switch options are not available.
② Only lateral vent connections are available

5.2 Spare parts code

The characters of the order code highlighted in light grey describe the standard. You must also give the initial customer order number with the spare part code.

Limit switch

VF40	4	**Limit switch**				
		Used with...				
		0	BM 26 Basic			
		1	BM 26 Advanced			
			Approval			
			0	Non-Ex		
			1	ATEX		
				Process temperature		
				0	-40...+150°C (-40...+300°F)	
				1	-80...+300°C (112...572°F)	
					Approval type	
					0	Without
					1	Ex i
					A	Namur (DIN 19234)
					B	Namur (DIN 19234), Ex i
VF40	4					**Order code**

Limit switches with stainless steel housings are also available on request for low temperatures (operating temperature: -60...+125°C / -76...+257°F). For more data, refer to this website: http://www.euroswitch.co.uk

Analog transmitter

VF45	4	**Analog transmitter**						
		Module						
		B	4...20 mA					
		D	FOUNDATION™ Fieldbus					
		E	4...20 mA with LCD indicator ①					
		G	4...20 mA+HART with LCD indicator ②					
		W	4...20 mA+HART					
		X	PROFIBUS PA					
			Approval					
			0	Non-Ex				
			1	Ex i				
				Mounting position				
				1	Top			
				B	Bottom			
					C-C length			
					0	0 m		
					1	1 m		
					2	2m		
					3	3 m		
					4	4 m		
					5	5 m (5.3 m max. - longer on request)		
						C-C length (> 1000 mm)		
						0	0 mm	
						1	100 mm	
						2	200 mm	
						3	300 mm	
						4	400 mm	
						5	500 mm	
						6	600 mm	
						7	700 mm	
						8	800 mm	
						A	900 mm	
							Power supply	
							0	Without
VF45	4							**Order code**

① The units (mm, % etc.) must be specified in the order

② The units (mm, % etc.) must be specified in the order. For non-Ex devices only.

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- Services

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