



## BM26A-7000 Technical Datasheet

Magnetic Level Indicator for liquids in extreme operating conditions

- Ideal for high-temperature and high-pressure applications
- PTFE-lined version for corrosive liquids
- Float designed for level or interface measurement of liquids with a minimum density of  $370 \text{ kg/m}^3$  /  $23.09 \text{ lb/ft}^3$



1	Product features	4
1.1	Magnetic level indicator for extreme operating conditions	4
1.2	Measuring principle	6
2	Technical data	7
2.1	Technical data	7
2.1.1	BM26A-7000 (Standard - all-metal) magnetic level indicator	7
2.1.2	BM26A-7000 (PTFE-lined) magnetic level indicator	12
2.1.3	LT40 reed-chain level transmitter	15
2.1.4	MS15-series and MS40-series limit switches	19
2.2	Dimensions	22
2.2.1	BM26A-7000 / PN40 - Class 300	22
2.2.2	BM26A-7000 / PN100 - Class 600	30
2.2.3	BM26A-7000 / PN250 - Class 1500	38
2.2.4	BM26A-7000 / PN400 - Class 2500	46
2.2.5	BM26A-7000 / PN40 - Class 300 / PTFE-lined	48
2.2.6	Options	56
2.2.7	Accessories	60
2.3	Maximum process pressure: measuring chamber	61
2.3.1	Magnetic level indicator with a 316 / 316 L measuring chamber	61
2.3.2	Magnetic level indicator with a 304 L measuring chamber	67
2.3.3	Magnetic level indicator with a PTFE-lined 316 L measuring chamber	69
2.4	Temperature limits: LT40 C/F reed-chain level transmitter	71
2.4.1	Without a thermal insulation option and without the LCD indicator module	71
2.4.2	Without a thermal insulation option and with the LCD indicator module	72
2.4.3	With a thermal insulation option and without the LCD indicator module	73
2.4.4	With a thermal insulation option and with the LCD indicator module	74
2.5	Temperature limits: MS15-series limit switch	75
2.5.1	Aluminium housing	75
2.5.2	Stainless-steel housing	76
2.6	Temperature limits: MS40-series limit switch	77
3	Installation	78
3.1	Intended use	78
3.2	Pre-installation requirements	78
3.2.1	General notes	78
3.2.2	Isolation valves	78
3.3	Pressure equipment regulations	79
3.4	Reed-chain level transmitter (LT40)	80
3.4.1	General notes	80
3.4.2	Thermal insulation	80
3.5	Limit switches (MS15 series and MS40 series)	81
3.5.1	General notes	81
3.5.2	Thermal insulation	82

4 Electrical connections	83
4.1 Reed-chain level transmitter	83
4.1.1 General notes	83
4.1.2 Electrical schematics and procedure	83
4.2 Limit switches	84
4.2.1 General notes	84
4.2.2 Electrical schematics and procedure	84
5 Notes	85

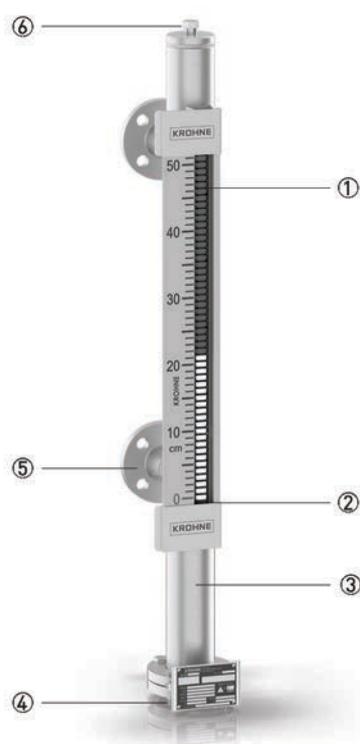
## 1.1 Magnetic level indicator for extreme operating conditions

The BM26A-7000 is the best solution for industries that require durable, reliable devices to monitor the level or interface of liquids in the most severe process conditions.

A magnetic level indicator (MLI) indicates level with a float magnetically coupled to a column of rotating flaps. An optional reed-chain transmitter (LT40) can also transmit level as an analog or digital signal. Optional bistable switches (MS15 series and MS40 series) can be attached to the measuring chamber to detect level.

The **high-temperature / high-pressure** version of this device is suitable for measuring liquids that have a density of 370...1200 kg/m<sup>3</sup> / 23.10...74.91 lb/ft<sup>3</sup>, for a temperature range of -196...+400°C / -320.8...+392°F at a pressure of -1...400 barg / -14.5...5802 psig.

The **PTFE-lined** version of this device is suitable for measuring corrosive liquids that have a density of 680...1200 kg/m<sup>3</sup> / 42.45...74.91 lb/ft<sup>3</sup>, for a temperature range of -70...+200°C / -94...+392°F at a pressure of -1...40 barg / -14.5...580 psig.



- ① Level indicator - column of rotating flaps in a hermetically sealed tube made of borosilicate glass with options that include a scale, scale units and flap colors
- ② Red flaps for float failure indication
- ③ Measuring chamber made of 316/316L (1.4401/1.4404) stainless steel, 304L (1.4307) stainless steel, HASTELLOY® C-276 alloy (2.4819), or INCONEL® nickel-chromium alloy 625 (2.4856)
- ④ Option: drain
- ⑤ Process connections - flanged (EN / ASME / JIS), threaded (ISO / ASME), or for welding
- ⑥ Option: vent

## Highlights

- Proven technology - KROHNE has more than 50 years of experience manufacturing high-quality magnetic level indicators
- Easy to install and requires almost no maintenance
- High-visibility level indicator column operates without electrical power
- Flaps in the level indicator column are housed in a hermetically sealed, durable glass tube (IP68)
- Optional LT40 reed-chain level transmitter
  - Output options: 4...20 mA (HART 7), FOUNDATION™ fieldbus or PROFIBUS PA
  - Accuracy options:  $\pm 10$  mm ( $\pm 0.4''$ ) or  $\pm 5$  mm ( $\pm 0.2''$ )
- A wide selection of options and accessories: interface measurement, special materials, isolation valves, thermal insulation, electric heat tracing, approvals for hazardous locations, limit switches, reed-chain transmitter etc.

## Industries

- Chemical and petrochemical
- Oil and gas
- Power

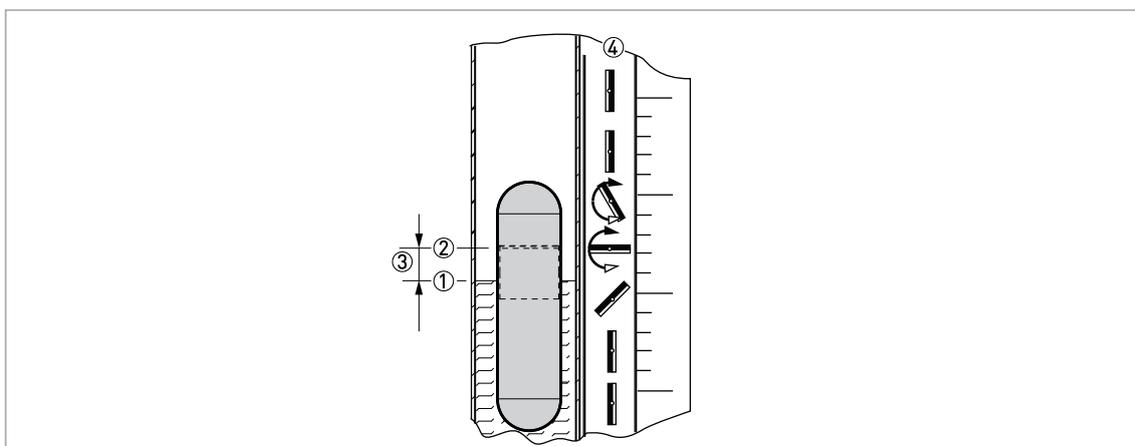
## Applications

- Feedwater heaters
- Industrial boilers
- Oil / water separators
- Flash drums
- Surge tanks
- Gas chillers
- Deaerators
- Blowdown flash tanks
- Hot wells
- Alkylation units
- Boiler drums
- Propylene acids (pressurized tanks)
- Nitric and sulphuric acids
- Solvents - acetone, toluene, xylene, naphtha
- Gas condensate
- Alcohols
- Chlorine
- Hydrocarbons
- Heat exchangers
- Water tanks

## 1.2 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 adjusted 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:



**Figure 1-1: Offset between liquid level and the float magnet (liquid level offset)**

- ① Level of the liquid
- ② Top of the float magnet. The magnet field around the top of the magnet turns the flaps in the indicator column that shows the level in the tank.
- ③ Liquid level offset. This offset is the difference between the level of the liquid and the top of the float magnet. The value is related to the type of float in the measuring chamber and the density of the liquid.
- ④ Indicator column of yellow/black or red/white rotating flaps with the optional scale in m/cm, mm, ft/inch, % (simplified) or customized volume units

*If you sent an order for device that has a float with the "zero line" option, then the value of the liquid level offset is 0 mm / 0".*

## 2.1 Technical data

- 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).

### 2.1.1 BM26A-7000 (Standard - all-metal) magnetic level indicator

	PN40 / Class 300	PN100 / Class 600	PN250 / Class 1500	PN400 / Class 2500
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#### Measuring system

Measuring principle	Magnetic level indicator - bypass chamber (principle of communicating tubes). A float in the measuring chamber (Ø73.03 m / NPS 2 1/2 pipe) is magnetically coupled to a mechanical level indicator.
Application range	Level indication of liquids in oil & gas and boiler applications
<b>Measured value</b>	
Primary measured value	Level of the float magnets in the measuring chamber
Secondary measured value	Level or volume of a liquid in the tank. Level of the interface, if there is more than one liquid in the tank.

#### Design

Measuring chamber, variants	Side / side process connections	Side / side process connections	
	Axial / axial process connections		
	Bottom axial / top side process connections		
	Bottom side / top axial process connections		
Options	Interface level measurement (if there is more than one liquid in the measuring chamber)		
	Zero-line level measurement (level measurement without vertical offset of float magnets in relation to the liquid level)		
	LT40 reed-chain level transmitter without LCD indicator module with a compact or a remote housing ①		
	LT40 reed-chain level transmitter with LCD indicator module with a compact or a remote housing ①		
	Anti-icing cover for glass indicator tube		
	Thermal insulation (ROCKWOOL® or FOAMGLAS®) in a metal enclosure		
	Heating / cooling system (double-walled chamber)	N/A	
	Electric heat tracing system		
	Heat protective enclosure (metal grid)		
Bistable limit switches ②			
Measuring range (ML)	0.3...5.5 m / 1...18 ft (longer on request)		

	PN40 / Class 300	PN100 / Class 600	PN250 / Class 1500	PN400 / Class 2500
<b>Display and user interface</b>				
Display	Indicator column with magnetically coupled rotating flaps that have two colors: yellow/black; red/white			
	Indicator column with magnetically coupled floating index ③			
Float failure indication (at the bottom of the indicator column)	Rotating flaps: orange flaps Floating index: none			
Scale marking options	No scale; m + cm; mm; ft + inches; customized volume units, % (simplified) ④			

**Measuring accuracy**

Accuracy	±10 mm / 0.4"
Repeatability	±10 mm / 0.4" (when density is constant)
Maximum rate of change	20 mm/s / 0.787"/s

**Operating conditions**

<b>Temperature</b>				
Process temperature	-196...+400°C / -320.8...+752°F (Ex: see supplementary instructions or approval certificates)			
Ambient temperature	-70...+80°C / -94...+176°F (Ex: see supplementary instructions or approval certificates)			
Storage temperature	-70...+80°C / -94...+176°F			
<b>Pressure</b>				
Process pressure	-1...40 barg / -14.5...580 psig ⑤	-1...100 barg / -14.5...1450 psig ⑤	-1...250 barg / -14.5...3625 psig ⑤	-1...400 barg / -14.5...5802 psig ⑥
<b>Chemical properties</b>				
Density	370...1200 kg/m <sup>3</sup> / 23.10...74.91 lb/ft <sup>3</sup> ⑦	500...1200 kg/m <sup>3</sup> / 31.21...74.91 lb/ft <sup>3</sup> ⑦	660...1200 kg/m <sup>3</sup> / 41.20...74.91 lb/ft <sup>3</sup> ⑦	740...1200 kg/m <sup>3</sup> / 46.20...74.91 lb/ft <sup>3</sup> ⑦
Minimum difference in density for interface measurement	≥ 100 kg/m <sup>3</sup> / ≥ 6.24 lb/ft <sup>3</sup> between the top liquid and the bottom liquid			
Viscosity	≤ 500 mPa·s / ≤ 500 cP			
<b>Other conditions</b>				
Ingress protection (IEC 60529)	Indicator column: IP66 / IP68 (0.15 barg)			

**Materials**

Measuring chamber (options)	Stainless steel (1.4404 / 316L or 1.4307 / 304L); HASTELLOY® C-276 alloy; INCONEL® nickel-chromium alloy 625	Stainless steel (1.4404 / 316L); HASTELLOY® C-276 alloy (2.4819); INCONEL® nickel-chromium alloy 625 (2.4856)
Float (options)	Stainless steel (1.4404 / 316L or 1.4307 / 304L); titanium; HASTELLOY® C-276 alloy (2.4819); INCONEL® nickel-chromium alloy 625 (2.4856)	Titanium

	PN40 / Class 300	PN100 / Class 600	PN250 / Class 1500	PN400 / Class 2500
Indicator column rail	Stainless steel (1.4401 / 316)			
Indicator column tube	Borosilicate glass 3.3 (agrees with ISO 3585) - hermetically sealed tube			
Scale (option)	Stainless steel (1.4401 / 316)			
Process connection (options)	Stainless steel (1.4404 / 316L or 1.4307 / 304L); HASTELLOY® C-276 alloy (2.4819); INCONEL® nickel-chromium alloy 625 (2.4856)		Stainless steel (1.4404 / 316L); HASTELLOY® C-276 alloy (2.4819); INCONEL® nickel-chromium alloy 625 (2.4856)	
Gasket (options)	Aramid (T ≤ +250°C / +482°F); graphite; 316L/graphite (spiral-wound); PTFE (T ≤ +250°C / +482°F)	Aramid (T ≤ +250°C / +482°F); graphite; 316L/graphite (spiral-wound); ring joint ⑧	Ring joint ⑧	
Braid insulation	Ceramic fiber (thermal insulation between the indicator column and the measuring chamber when the process temperature is +200...+400°C / +392...+752°F)			
Anti-icing cover	PLEXIGLAS® (option for glass indicator column tube) - when the liquid temperature is -70...+0°C / -94...+32°F			

### Process connections

Threaded pipes	1/2...1 NPT (male or female); G 1/2...1 (male or female)	1 NPT (male)	N/A	
Welded pipe	NPS 1/2...1 in Sch10S ⑨	NPS 1 in Sch40S ⑨	NPS 1 in Sch80S ⑨	N/A
<b>Flange, EN</b>				
Size	DN15...50			
Pressure rating	PN40 (welding neck or lap joint)	PN100 (welding neck)	PN160 or 250 (welding neck)	①⑩
Facing type options	A; B1; C; D; E; F	B2; D; E; F	B2; D; E; F	①⑩
<b>Flange, ASME</b>				
Size	NPS 1/2...2 ⑨			NPS 1 or 2 ⑨
Pressure rating	Class 150 / 300 (welding neck)	Class 600 (welding neck)	Class 1500 (welding neck)	Class 2500 (welding neck)
Facing type options	RF; FF; LG; SG; LF; SF; LT; ST; LM; SM	RF; RJ; LG; SG; LF; SF; LT; ST; LM; SM	RJ; LG; SG; LF; SF; LT; ST; LM; SM	RJ
<b>Flange, JIS</b>				
Size	25...50		N/A	
Pressure rating	20K (Type A)		N/A	
Facing type	RF		N/A	

	PN40 / Class 300	PN100 / Class 600	PN250 / Class 1500	PN400 / Class 2500
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### Drain and vent connections

Drain options		
Thread	Without; G 3/8...3/4 (female) with plug; 3/8...3/4 NPT (female) with plug	Without; 3/8...3/4 NPT (female) with plug
Flange, EN	All process connection options	
Flange, ASME	All process connection options	
Vent options		
Thread	Without; G 3/8...3/4 (female) with plug; 3/8...3/4 NPT (female) with plug	Without; 3/8...3/4 NPT (female) with plug
Flange, EN	All process connection options	
Flange, ASME	All process connection options	
Heating / cooling system connections		
Flange, EN	DN15 in P40 (Type B1)	N/A
Flange, ASME	NPS 1 in Class 150 / 300 (RF) ⑨	N/A

### Power supply

Limit switches	Refer to the technical data for the MS15 series and MS40 series
Reed-chain level transmitter	Refer to the technical data for the LT40

### Input and output

Parameter	Level detection or indication
Output signal	Refer to the technical data for the LT40 reed-chain level transmitter and the MS15-series and MS40-series limit switches

### Approvals and certification

CE / UKCA	The device meets the essential requirements of the EU Directives and UK Regulations. The manufacturer certifies successful testing of the product by applying the CE or UKCA marking.
	For more data about the European Standards and UK Designated Standards related to this device, refer to the EU and the UKCA Declarations of Conformity. You can download this document free of charge from the website (Download Center).

	PN40 / Class 300	PN100 / Class 600	PN250 / Class 1500	PN400 / Class 2500
<b>Explosion protection</b>				
ATEX	II 1/2 G Ex h IIC T6...T* Ga/Gb or II 2 G Ex h IIC T6...T* Gb ①②			
IECEX	Ex h IIC T6...T* Ga/Gb or Ex h IIC T6...T* Gb ①②			
UKEX - pending	II 1/2 G Ex h IIC T6...T* Ga/Gb or II 2 G Ex h IIC T6...T* Gb ①②			
<b>Other standards and approvals</b>				
Pressure	EU Pressure Equipment Directive			
	UK Pressure Equipment (Safety) Regulations			
	ASME B31.3 Code for Process Piping			
Vibration resistance	EN 60721-3-4 - vibration class 4M4 (1...200 Hz:1g, 15g shock ½ sinus: 6 ms)			
Construction code	Standard: EN 13445			
	Options: NACE MR0175 / MR0103 / ISO 15156; ASME B31.3			

**Table 2-1: BM26A-7000 (all-metal construction): technical data**

- ① For more data, refer to technical data for the LT40 reed-chain level transmitter in this section
- ② For more data, refer to technical data for the MS15-series and MS40-series limit switches in this section
- ③ For process temperatures less than +100°C / +212°F. This option includes a PLEXIGLAS® cover for the glass indicator column tube.
- ④ If the scale adjacent to the indicator column has % (simplified) units, then it has a range of 0...100% with an increment of 10% between each marking
- ⑤ The maximum pressure is related to the type of process connection, pressure rating and the process temperature. For more data about 316-316L and 304L stainless-steel measuring chambers, refer to the "Maximum process pressure: measuring chamber" section in this chapter.
- ⑥ The maximum pressure is related to the type of process connection, pressure rating and the process temperature. For more data about 316-316L stainless-steel measuring chambers, refer to the "Maximum process pressure: measuring chamber" section in this chapter.
- ⑦ Higher density on request
- ⑧ The ring joint is made of the same material as the measuring chamber
- ⑨ NPS = Nominal Pipe Size. For more data about the dimensions of flanges, refer to the ASME B16.5 standard. For more data about the dimensions of smooth pipes, refer to the ASME B36.19M standard.
- ①① Other process connections on request
- ①① Other vent and drain connections on request
- ①② If the device has a PTFE or Aramid gasket, then T\*= T2. For all other versions, T\*= T1.

## 2.1.2 BM26A-7000 (PTFE-lined) magnetic level indicator

**Measuring system**

Measuring principle	Magnetic level indicator - bypass chamber (principle of communicating tubes). A float in the measuring chamber (Ø73.03 mm / NPS 2 1/2 pipe) is magnetically coupled to a mechanical level indicator.
Application range	Level indication of liquids in applications from vacuum up to 40 barg / 580 psig
<b>Measured value</b>	
Primary measured value	Level of the float magnets in the measuring chamber
Secondary measured value	Level or volume of the liquid in the tank.

**Design**

Measuring chamber variants	Side / side process connections
	Axial / axial process connections
	Bottom axial / top side process connections
	Bottom side / top axial process connections
Options	LT40 reed-chain level transmitter without LCD indicator module with a compact or a remote housing ①
	LT40 reed-chain level transmitter with LCD indicator module with a compact or a remote housing ①
	Anti-icing cover for glass indicator tube
	Thermal insulation (ROCKWOOL® or FOAMGLAS®) in a metal enclosure
	Heat protective enclosure (metal grid)
	Bistable limit switches ②
Measuring range (ML)	0.3...5.5 m / 1...18 ft (longer on request)
<b>Display and user interface</b>	
Display	Indicator column with magnetically coupled rotating flaps that have two colors: yellow/black; red/white
Float failure indication (at the bottom of the indicator column)	Orange flaps
Scale marking options	No scale; m + cm; mm; ft + inches; customized volume units; % (simplified) ③

**Measuring accuracy**

Accuracy	±10 mm / 0.4"
Repeatability	±10 mm / 0.4" (when density is constant)
Maximum rate of change	20 mm/s / 0.787"/s

### Operating conditions

<b>Temperature</b>	
Process temperature	-70...+200°C / -94...+392°F (Ex: see supplementary instructions or approval certificates)
Ambient temperature	-70...+80°C / -94...+176°F (Ex: see supplementary instructions or approval certificates)
Storage temperature	-70...+80°C / -94...+176°F
<b>Pressure</b>	
Process pressure	-1...40 barg / -14.5...580 psig ④
<b>Chemical properties</b>	
Density	500...1200 kg/m <sup>3</sup> / 31.21...74.91 lb/ft <sup>3</sup> . Higher density on request.
Viscosity	≤ 500 mPa·s / ≤ 500 cP
<b>Other conditions</b>	
Ingress protection (IEC 60529)	Indicator column: IP66 / IP68 (0.15 barg)

### Materials

Measuring chamber	PTFE-lined stainless steel (1.4404 / 316L)
Float	Halar® ECTFE-coated titanium; borosilicate glass 3.3 ⑤
Indicator column rail	Stainless steel (1.4401 / 316)
Indicator column tube	Borosilicate glass 3.3 (agrees with ISO 3585) - hermetically sealed tube
Scale (option)	Stainless steel (1.4401 / 316)
Process connection	Stainless steel (1.4404 / 316L)
Gasket options	Aramid; graphite; 316L/graphite (spiral-wound); PTFE
Anti-icing cover	PLEXIGLAS® (option for glass indicator column tube) - when the liquid temperature is -70...+0°C / -94...+32°F

### Process connections

<b>Flange, EN</b>	
Size	DN20...50
Pressure rating	PN40 (lap joint)
Facing type options	A; B1
<b>Flange, ASME</b>	
Size	NPS 1/2...2 ⑥
Pressure rating	Class 150 / 300 (welding neck)
Facing type options	RF

### Drain and vent connections

<b>Drain options</b>	
Thread	Without; 3/4 NPT (female) with plug
Flange	All process connection options

Vent options	
Thread	Without; 3/4 NPT (female) with plug
Flange	All process connection options

### Power supply

Limit switches	Refer to the technical data for the MS15 series and MS40 series
Reed-chain level transmitter	Refer to the technical data for the LT40

### Input and output

Parameter	Level detection or indication
Output signal	Refer to the technical data for the LT40 reed-chain level transmitter and the MS15-series and MS40-series limit switches

### Approvals and certification

CE / UKCA	The device meets the essential requirements of the EU Directives and UK Regulations. The manufacturer certifies successful testing of the product by applying the CE or UKCA marking.  For more data about the European Standards and UK Designated Standards related to this device, refer to the EU and the UKCA Declarations of Conformity. You can download this document free of charge from the website (Download Center).
Explosion protection	
ATEX	II 1/2 G Ex h IIC T6...T3 Ga/Gb or II 2 G Ex h IIC T6...T3 Gb
IECEx	Ex h IIC T6...T3 Ga/Gb or Ex h IIC T6...T3 Gb
UKEX - pending	II 1/2 G Ex h IIC T6...T3 Ga/Gb or II 2 G Ex h IIC T6...T3 Gb
Other standards and approvals	
Pressure	EU Pressure Equipment Directive
	UK Pressure Equipment (Safety) Regulations
	ASME B31.3 Code for Process Piping
Vibration resistance	EN 60721-3-4 - vibration class 4M4 (1...200 Hz:1g, 15g shock ½ sinus: 6 ms)
Construction code	Standard: EN 13445
	Options: NACE MR0175 / MR0103 / ISO 15156; ASME B31.3

Table 2-2: BM26A-7000 (PTFE-lined): technical data

- ① For more data, refer to technical data for the LT40 reed-chain level transmitter in this section
- ② For more data, refer to technical data for the MS15-series and MS40-series limit switches in this section
- ③ If the scale adjacent to the indicator column has % (simplified) units, then it has a range of 0...100% with an increment of 10% between each marking
- ④ The maximum process pressure is related to the type of process connection, pressure rating and the process temperature. For more data about PTFE-lined 316L stainless-steel measuring chambers, refer to the "Maximum process pressure: measuring chamber" section in this chapter.
- ⑤ The density range for the Halar® ECTFE-coated float option is 800...1200 kg/m<sup>3</sup> / 49.94...74.91 lb/ft<sup>3</sup>. Higher density on request. Borosilicate glass 3.3 agrees with ISO 3585.
- ⑥ NPS = Nominal Pipe Size. For more data about the dimensions of flanges, refer to the ASME B16.5 standard.

### 2.1.3 LT40 reed-chain level transmitter

#### 4...20 mA and 4...20 mA + HART® communication modules

##### Measuring system

Measuring principle	A reed resistor chain that is magnetically operated by a magnetic float in an adjacent measuring chamber
Primary measured value	Resistance
Secondary measured value	Level or volume of the liquid in the tank

##### Design

Description of device	Resistance reed chain with 2-wire loop-powered transmitter module attached adjacent to the measuring chamber of the magnetic level indicator. A transmitter module converts changes in resistance to an output signal. If the LT40 is used in multidrop mode, a maximum of 63 transmitters can be connected to a network that agrees with the HART® communication protocol.
Options	Transmitter module position: LT40 C - compact housing at the top of the reed resistor chain
	Transmitter module position: LT40 C - compact housing at the bottom of the reed resistor chain
	Transmitter module position: LT40 F - remote housing connected to the bottom of the reed resistor chain. Max. cable length: 25 m / 82 ft.
	LCD indicator module (non-Ex and Ex d-approved devices only)
Accessories	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)
<b>Display and user interface</b>	
Display	Optional 2-wire loop-powered LCD indicator module (backlit)
	4-digit LCD with minus sign, 2-button keypad. Selectable number of decimals, 0 to 3.
Available units	mm; inches; %
Range	-1999...9999

##### Measuring accuracy

Resolution	Standard: $\pm 10$ mm / 0.4" (when density is constant)
	Option: $\pm 5$ mm / 0.2" (when density is constant)

##### Operating conditions

<b>Temperature</b>	
Ambient temperature, transmitter	-40...+80°C / -40...+176°F ①
Ambient temperature, LCD indicator	-20...+70°C / -4...+158°F ①
Process temperature	The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the transmitter housing. Refer to the "Temperature limits: LT40 C/F reed-chain level transmitter" section in this chapter.
Storage temperature	-40...+80°C / -40...+176°F
<b>Pressure</b>	
Operating pressure	Atmospheric pressure

Other conditions	
Warm-up time	30 s
Response time	1...60 s ②
Ingress protection (IEC 60529)	IP66/IP68 (at a depth of 1.5 m for 2 weeks)
Relative air humidity (RH)	0...99%

### Installation conditions

Notes	The LT40 is calibrated at the factory and attached to the measuring chamber before delivery
Dimensions	Refer to the "Dimensions" section

### Materials

Housing	Polyester-coated aluminium
Reed-chain tube	Stainless steel (1.4401 / 316)
Clamp	Stainless steel (1.4401 / 316)
Cable gland	Plastic (for M20 × 1.5 only), nickel-plated brass or stainless steel

### Power supply

Voltage, without LCD indicator	non-Ex or Ex db: 10...35 V DC
	Ex ia: 10...30 V DC
Voltage, with LCD indicator	non-Ex or Ex db: 17...35 V DC
EN 60947-1 electrical data	Overvoltage category I
Cable entry	M20 × 1.5; 1/2 NPT
Cable gland	None; M20 × 1.5; 1/2 NPT
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	High: 21 mA; Low: 3.6 mA - agrees with NAMUR NE 43
HART®	
Description	Digital signal transmitted with the current output signal (HART® protocol)
Version	7
Primary value (PV)	Indicator column with m + cm or mm scale markings: mm Indicator column with ft + inches scale markings: inches Indicator column with %, volume or other markings: %
Multidrop operation	Yes, current output = 4 mA. Polling address 1...15.

### Approvals and certifications

CE / UKCA	The device meets the essential requirements of the EU Directives and UK Regulations. The manufacturer certifies successful testing of the product by applying the CE or UKCA marking.
	For more data about the European Standards and UK Designated Standards related to this device, refer to the EU and the UKCA Declarations of Conformity. You can download this document free of charge from the website (Download Center).

Explosion protection	
ATEX (EU Type Approval)	II 1 G Ex ia IIC T6...T1 Ga or II 2 G Ex ia IIC T6...T1 Gb ③
	II 2 G Ex db IIC T6...T1 Gb
IECEX	Ex ia IIC T6...T1 Ga or Ex ia IIC T6...T1 Gb ③
	Ex db IIC T6...T1 Gb
UKEX - pending	II 1 G Ex ia IIC T6...T1 Ga or II 2 G Ex ia IIC T6...T1 Gb ③
	II 2 G Ex db IIC T6...T1 Gb
Other standards and approvals	
EMC	EU Electromagnetic Compatibility Directive
	UK Electromagnetic Compatibility Regulations
	NAMUR NE 21 ④
Vibration resistance	EN 60721-3-4 - vibration class 4M4 (1...200 Hz:1g, 10g shock ½ sinus: 11 ms)
NAMUR	NAMUR NE 43

Table 2-3: LT40 (4...20 mA and 4...20 mA + HART® communication modules): technical data

- ① The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the transmitter housing. Refer to the "Temperature limits: LT40 C/F reed-chain level transmitter" section in this chapter.
- ② This value is programmable
- ③ This Ex approval does not include the optional LCD indicator module
- ④ LT40 F: Applicable only for a resolution of  $\pm 10$  mm / 0.4"

### Fieldbus communication module

	FOUNDATION™ fieldbus	PROFIBUS PA

### Measuring system

Measuring principle	A reed resistor chain that is magnetically operated by a magnetic float in an adjacent 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 magnetic level indicator. A transmitter module converts changes in resistance to an output signal.	
Description of transmitter module	Changes in resistance are converted to signals that agree with the FOUNDATION™ fieldbus communication protocol.	Changes in resistance are converted to signals that agree with the PROFIBUS PA communication protocol.
Options	Transmitter module position: LT40 C - compact housing at the top of the reed resistor chain	
	Transmitter module position: LT40 C - compact housing at the bottom of the reed resistor chain	
	Transmitter module position: LT40 F - remote housing connected to the bottom of the reed resistor chain. Max. cable length: 25 m / 82 ft.	
Display and user interface		
Display	None	

	FOUNDATION™ fieldbus	PROFIBUS PA
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### Measuring accuracy

Resolution	Standard: ±10 mm / 0.4" (when density is constant)
	Option: ±5 mm / 0.2" (when density is constant)

### Operating conditions

Temperature	
Ambient temperature	-40...+80°C / -40...+176°F ①
Process temperature	The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the transmitter housing. Refer to the "Temperature limits: LT40 C/F reed-chain level transmitter" section in this chapter.
Storage temperature	-40...+80°C / -40...+176°F
Pressure	
Operating pressure	Atmospheric pressure
Other conditions	
Ingress protection (IEC 60529)	IP66/IP68 (at a depth of 1.5 m for 2 weeks)
Relative air humidity (RH)	0...99%

### Installation conditions

Notes	The LT40 is calibrated at the factory and attached to the measuring chamber before delivery
Dimensions	Refer to the "Dimensions" section

### Materials

Housing	Polyester-coated aluminium
Reed-chain tube	Stainless steel (1.4401 / 316)
Clamp	Stainless steel (1.4401 / 316)
Cable gland	Plastic (for M20 × 1.5 only), nickel-plated brass or stainless steel

### Power supply

Voltage	non-Ex or Ex db: 9...32 V DC	
	Ex ia: 9...30 V DC	
EN 60947-1 electrical data	Overvoltage category I	
Cable entry	M20 × 1.5; 1/2 NPT	
Cable gland	None; M20 × 1.5; 1/2 NPT	
Intrinsically safe circuit data for Ex ia-approved devices	Refer to supplementary instructions or approval certificates	
FOUNDATION™ fieldbus		
Description	FOUNDATION™ fieldbus protocol	N/A
PROFIBUS PA		
Description	N/A	PROFIBUS PA protocol Profile A&B, ver.3.0 (EN 50170 vol.2)

	FOUNDATION™ fieldbus	PROFIBUS PA
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### Approvals and certification

CE / UKCA	The device meets the essential requirements of the EU Directives and UK Regulations. The manufacturer certifies successful testing of the product by applying the CE or UKCA marking.	
	For more data about the European Standards and UK Designated Standards related to this device, refer to the EU and the UKCA Declarations of Conformity. You can download this document free of charge from the website (Download Center).	
<b>Explosion protection</b>		
ATEX (EU Type Approval)	II 1 G Ex ia IIC T6...T1 Ga or II 2 G Ex ia IIC T6...T1 Gb	
	II 2 G Ex db IIC T6...T1 Gb	
IECEX	Ex ia IIC T6...T1 Ga or Ex ia IIC T6...T1 Gb	
	Ex db IIC T6...T1 Gb	
UKEX - pending	II 1 G Ex ia IIC T6...T1 Ga or II 2 G Ex ia IIC T6...T1 Gb	
	II 2 G Ex db IIC T6...T1 Gb	
<b>Other standards and approvals</b>		
EMC	EU Electromagnetic Compatibility Directive	
	UK Electromagnetic Compatibility Regulations	
Vibration resistance	EN 60721-3-4 - vibration class 4M4 (1...200 Hz:1g, 10g shock ½ sinus: 11 ms)	

Table 2-4: LT40 (fieldbus communication module): technical data

- ① The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the transmitter housing. Refer to the "Temperature limits: LT40 C/F reed-chain level transmitter" section in this chapter.

## 2.1.4 MS15-series and MS40-series limit switches

	MS15 series	MS40 series
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### Measuring system

Measuring principle	Bistable reed switch (SPDT) that is magnetically operated by a magnetic float in an adjacent measuring chamber
Application range	Level detection

### Design

Description of device	Limit switch attached adjacent to the measuring chamber of the magnetic level indicator
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### Measuring accuracy

Hysteresis	The hysteresis value agrees with the model of the magnetic level indicator. For more data, refer to the handbook.
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### Operating conditions

<b>Temperature</b>	
Ambient temperature	-40...+80°C / -40...+176°F ①

	MS15 series	MS40 series
Process temperature	The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the limit switch housing. Refer to the "Temperature limits: MS15-series limit switch" and "Temperature limits: MS40-series limit switch" sections in this chapter.	
Operating temperature	-40...+115°C / -40...+239°F ②	-40...+120°C / -40...+248°F ②
Storage temperature	-40...+80°C / -40...+176°F	
<b>Pressure</b>		
Operating pressure	Atmospheric pressure Max. height above mean sea level: 2000 m / 6560 ft	
<b>Other conditions</b>		
Ingress protection (IEC 60529)	MS15 series: IP66 / IP68 (at a depth of 1.5 m for 2 weeks) MS40 series: IP66	
Relative air humidity (RH)	0...99%	

### Installation conditions

Notes	Adjust the switch position in relation to the hysteresis data (switching point offset) and the density of the liquid
Dimensions	Refer to the "Dimensions" section

### Materials

Housing	Aluminium with epoxy powder paint or stainless steel (1.4404 / 316L)	Aluminium with epoxy powder paint
Clamp	Stainless steel (1.4401 / 316)	
Cable gland	Plastic (for M20 × 1.5 only), nickel-plated brass or stainless steel	Plastic

### Electrical connections

Switching capacity	MS15 / MS40: Absolute ratings: 250 V AC/DC; 1 A; 60 VA/W MS15 NAMUR / MS40 NAMUR: Agrees with DIN 19234 (NAMUR); U <sub>max</sub> = 13 V DC
EN 60947-5-1 electrical data (MS15 and MS40 only)	Overtoltage category II
	Rated insulation voltage, U <sub>i</sub> : 250 V AC or 250 V DC
	Rated impulse withstand voltage, U <sub>imp</sub> : 2.5 kV
	Rated conventional thermal current, I <sub>th</sub> : 1 A
Utilization category (EN 60947-5-1) with current and voltage ratings	Pollution degree: 4
	AC13: I <sub>e</sub> = 0.5 A; U <sub>max</sub> = 60 V AC
	AC13: I <sub>e</sub> = 0.25 A; U <sub>max</sub> = 250 V AC
	DC12: I <sub>e</sub> = 1 A; U <sub>max</sub> = 60 V DC DC13: I <sub>e</sub> = 0.5 A; U <sub>max</sub> = 60 V DC
Short-circuit protection device	0.25 A fuse, type 1500 A interrupting rating (IEC 60127-2/1)
	1 A fuse, application category gG (IEC 60269) or type 1500 A interrupting rating (IEC 60127-2/1)
Intrinsically safe circuit data	Refer to supplementary instructions or approval certificates

	MS15 series	MS40 series
Cable entry	M20 × 1.5; 1/2 NPT	M16 × 1.5
Cable gland	None; M20 × 1.5; 1/2 NPT	M16 × 1.5

### Approvals and certification

CE / UKCA	The device meets the essential requirements of the EU Directives and UK Regulations. The manufacturer certifies successful testing of the product by applying the CE or UKCA marking.	
	For more data about the European Standards and UK Designated Standards related to this device, refer to the EU and the UKCA Declarations of Conformity. You can download this document free of charge from the website (Download Center).	
<b>Explosion protection</b>		
ATEX (EU Type Approval)	II 1 G Ex ia IIC T6...T1 or II 2 G Ex ia IIC T6...T1 Gb	
	II 2 G Ex db IIC T6...T1 Gb	N/A
IECEX	Ex ia IIC T6...T1 Ga or Ex ia IIC T6...T1 Gb	
	Ex db IIC T6...T1 Gb	N/A
UKEX - pending	II 1 G Ex ia IIC T6...T1 or II 2 G Ex ia IIC T6...T1 Gb	
	II 2 G Ex db IIC T6...T1 Gb	N/A
<b>Other standards and approvals</b>		
LVD	MS15 / MS40: EU Low-Voltage Directive (LVD); UK Electrical Equipment (Safety) Regulations	
	MS15 NAMUR / MS40 NAMUR: N/A	
Vibration resistance (EN 60721-3-4)	Aluminium housing: vibration class 4M7 (1...200 Hz:3g, 25g shock ½ sinus: 11 ms)	
	Stainless steel housing: vibration class 4M4 (1...200 Hz:1g, 10g shock ½ sinus: 11 ms)	N/A

Table 2-5: MS15-series and MS40-series limit switches: technical data

- ① The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the limit switch housing. Refer to the "Temperature limits: MS15-series limit switch" and "Temperature limits: MS40-series limit switch" sections in this chapter.
- ② The operating temperature is the temperature of the electronic parts

## 2.2 Dimensions

### 2.2.1 BM26A-7000 / PN40 - Class 300

#### Side - side process connections

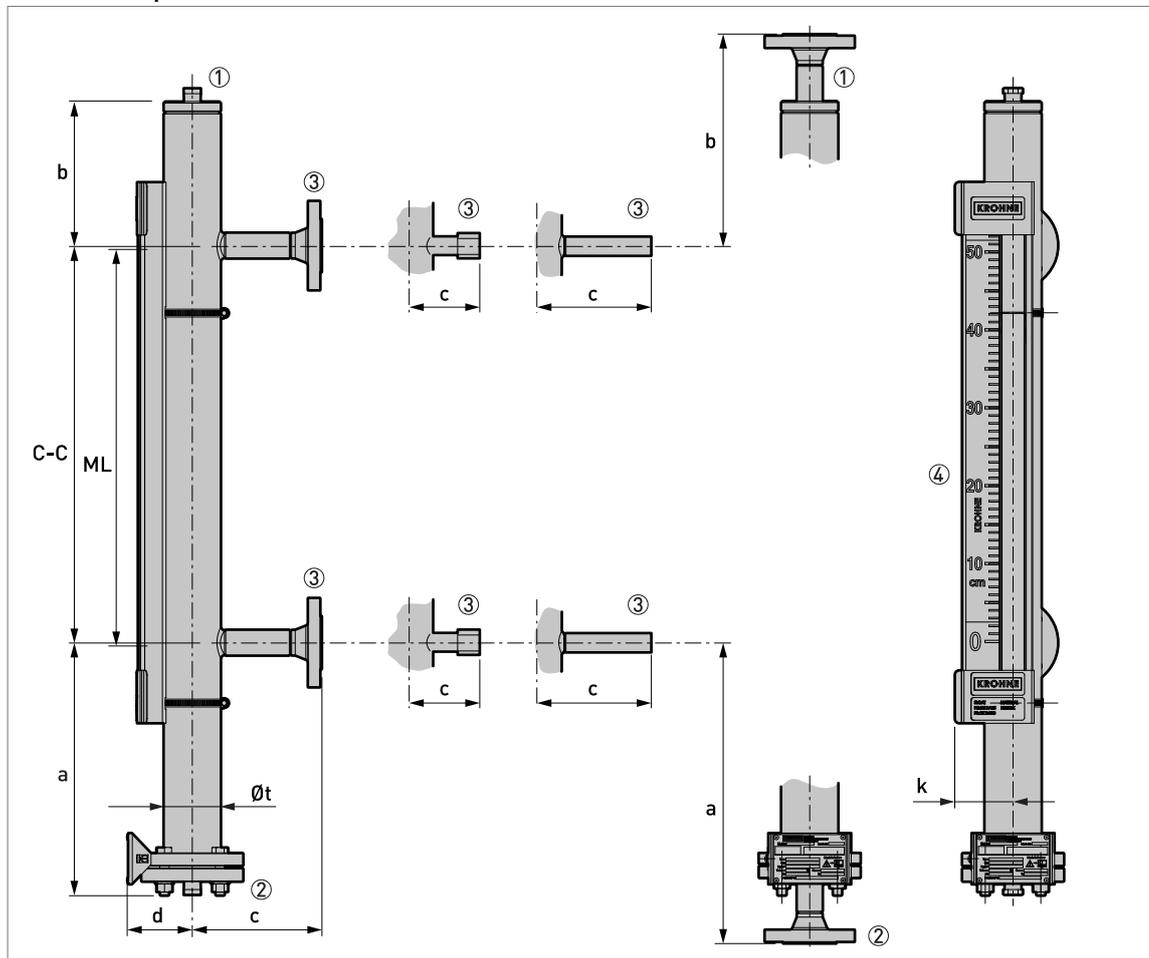


Figure 2-1: BM26A-7000 PN40 / Class 300: side - side process connections

- ① Optional vent with 3/8...3/4 NPT or G 3/8...3/4 threaded connection (with plug), or DN15...50 / NPS 1/2...2 flange
- ② Optional drain with 3/8...3/4 NPT or G 3/8...3/4 threaded connection (with plug), or DN15...50 / NPS 1/2...2 flange
- ③ Process connection (flange, welded pipe, or pipe with male or female threaded connection)
- ④ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom connection to the bottom of the device
- $b$  = distance from the center axis of the top connection to the top of the device
- $C-C$  = distance between the center axes of the top and bottom process connections
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "FF",  $c - 2 \text{ mm} / 0.08''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ . This is applicable to Class 300 flanges.

Flanged vent and drain options have the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]							
	a	b	C-C	ML	c	d	k	Øt
370...500	520 ①	185 ②	300... 5500 ③	③	④	82 ⑤	74.1	73.03
500...1200	335 ⑥							

Table 2-6: BM26A-7000 PN40 / Class 300 (side - side process connections): general dimensions in mm

- ① Drain options are available. NPT or G connection (female) + plug: 520 mm. Flange, DN15...25 and NPS 1/2...1: 574 mm. Flange, DN40...50 and NPS 1 1/2...2: 649 mm.
- ② Vent options are available. NPT or G connection (female) + plug: 201 mm. Flange, DN15...25 and NPS 1/2...1: 270 mm. Flange, DN40...50 and NPS 1 1/2...2: 345 mm.
- ③ This value agrees with the "C-C" dimension given in the customer order
- ④ NPT or G connection (male) + plug: 162 mm. 1/2...3/4 NPT or G connection (female) + plug: 71 mm. 1 NPT or G connection (female) + plug: 76 mm. Flange: 165 mm. Welded pipe: 162 mm.
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).
- ⑥ Drain options are available. NPT or G connection (female) + plug: 335 mm. Flange, DN15...25 and NPS 1/2...1: 389 mm. Flange, DN40...50 and NPS 1 1/2...2: 464 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]							
	a	b	C-C	ML	c	d	k	Øt
23.10...31.21	20.47 ①	7.91 ②	11.8... 216.5 ③	③	④	3.2 ⑤	2.9	2.9
31.21...74.91	13.19 ⑥							

Table 2-7: BM26A-7000 PN40 / Class 300 (side - side process connections): general dimensions in inches

- ① Drain options are available. NPT or G connection (female) + plug: 20.47". Flange, DN15...25 and NPS 1/2...1: 22.60". Flange, DN40...50 and NPS 1 1/2...2: 22.55".
- ② Vent options are available. NPT or G connection (female) + plug: 7.28". Flange, DN15...25 and NPS 1/2...1: 10.63". Flange, DN40...50 and NPS 1 1/2...2: 13.58".
- ③ This value agrees with the "C-C" dimension given in the customer order
- ④ NPT or G connection (male) + plug: 6.38". 1/2...3/4 NPT or G connection (female) + plug: 2.80". 1 NPT or G connection (female) + plug: 2.99". Flange: 6.50". Welded pipe: 6.38".
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +212°F, then d = 4.7" (PLEXIGLAS® cover).
- ⑥ Drain options are available. NPT or G connection (female) + plug: 13.19". Flange, DN15...25 and NPS 1/2...1: 15.31". Flange, DN40...50 and NPS 1 1/2...2: 18.27".

## Axial - axial process connections

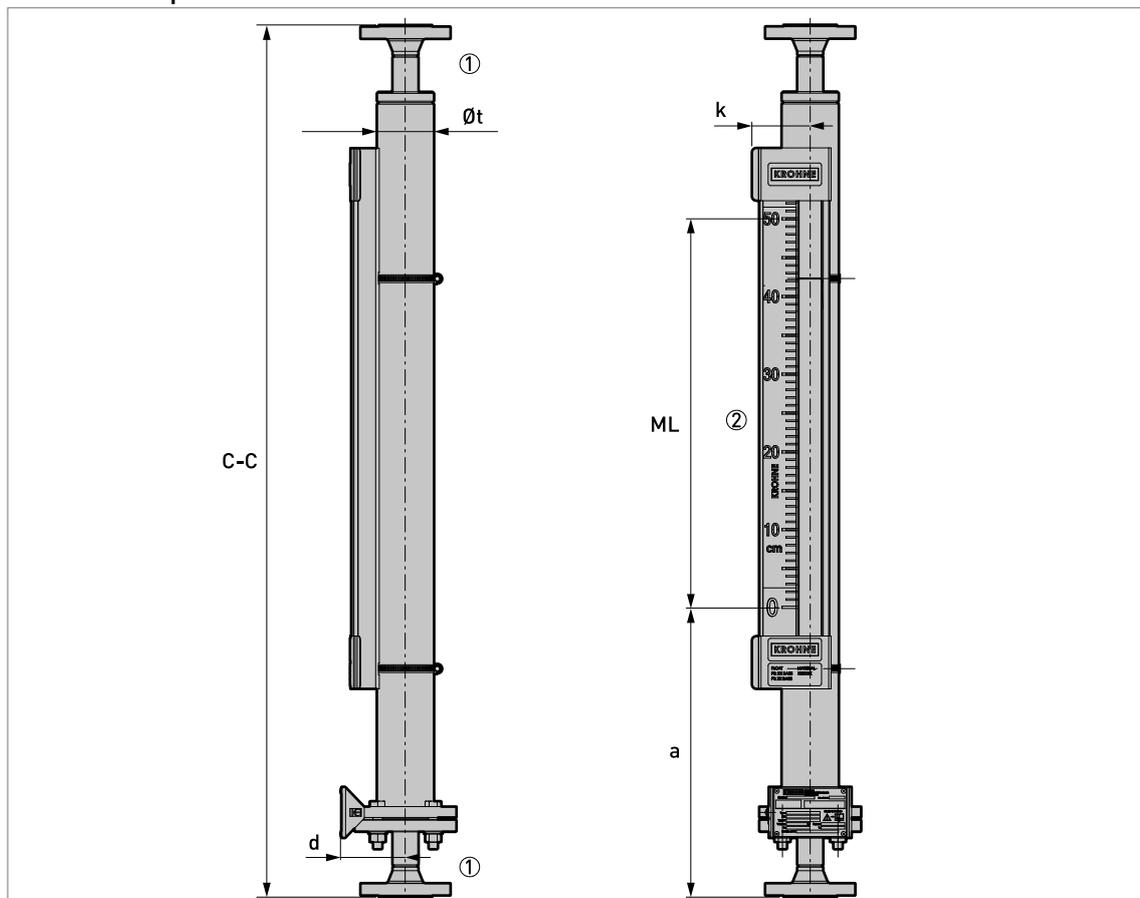


Figure 2-2: BM26A-7000 PN40 / Class 300: axial - axial process connections

- ① Process connection (flange)  
 ② Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = bottom dead zone
- $b$  = top dead zone
- $C-C$  = distance between the flange facings of the top and bottom process connections
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "FF",  $c - 2 \text{ mm} / 0.08''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ . This is applicable to Class 300 flanges.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]					
	a	C-C	ML	d	k	Øt
370...500	①	300...5500 ②	③	82 ④	74.1	73.03
500...1200	⑤		⑥			

Table 2-8: BM26A-7000 PN40 / Class 300 (axial - axial process connections): general dimensions in mm

- ① Flange, DN15...25 and NPS 1/2...1: 560 mm. Flange, DN40...50 and NPS 1 1/2...2: 635 mm.  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...25 and NPS 1/2...1: C-C - 685 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 835 mm.  
 ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).  
 ⑤ Flange, DN15...25 and NPS 1/2...1: 360 mm. Flange, DN40...50 and NPS 1 1/2...2: 435 mm.  
 ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 495 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 645 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]					
	a	C-C	ML	d	k	Øt
23.10...31.21	①	11.8...216.5 ②	③	3.2 ④	2.9	2.9
31.21...74.91	⑤		⑥			

Table 2-9: BM26A-7000 PN40 / Class 300 (axial - axial process connections): general dimensions in inches

- ① Flange, DN15...25 and NPS 1/2...1: 22.04". Flange, DN40...50 and NPS 1 1/2...2: 25.00".  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...25 and NPS 1/2...1: C-C - 26.97". Flange, DN40...50 and NPS 1 1/2...2: C-C - 32.87".  
 ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 4.7" (PLEXIGLAS® cover).  
 ⑤ Flange, DN15...25 and NPS 1/2...1: 14.17". Flange, DN40...50 and NPS 1 1/2...2: 17.13".  
 ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 19.49". Flange, DN40...50 and NPS 1 1/2...2: C-C - 25.39".

## Top side - bottom axial process connections

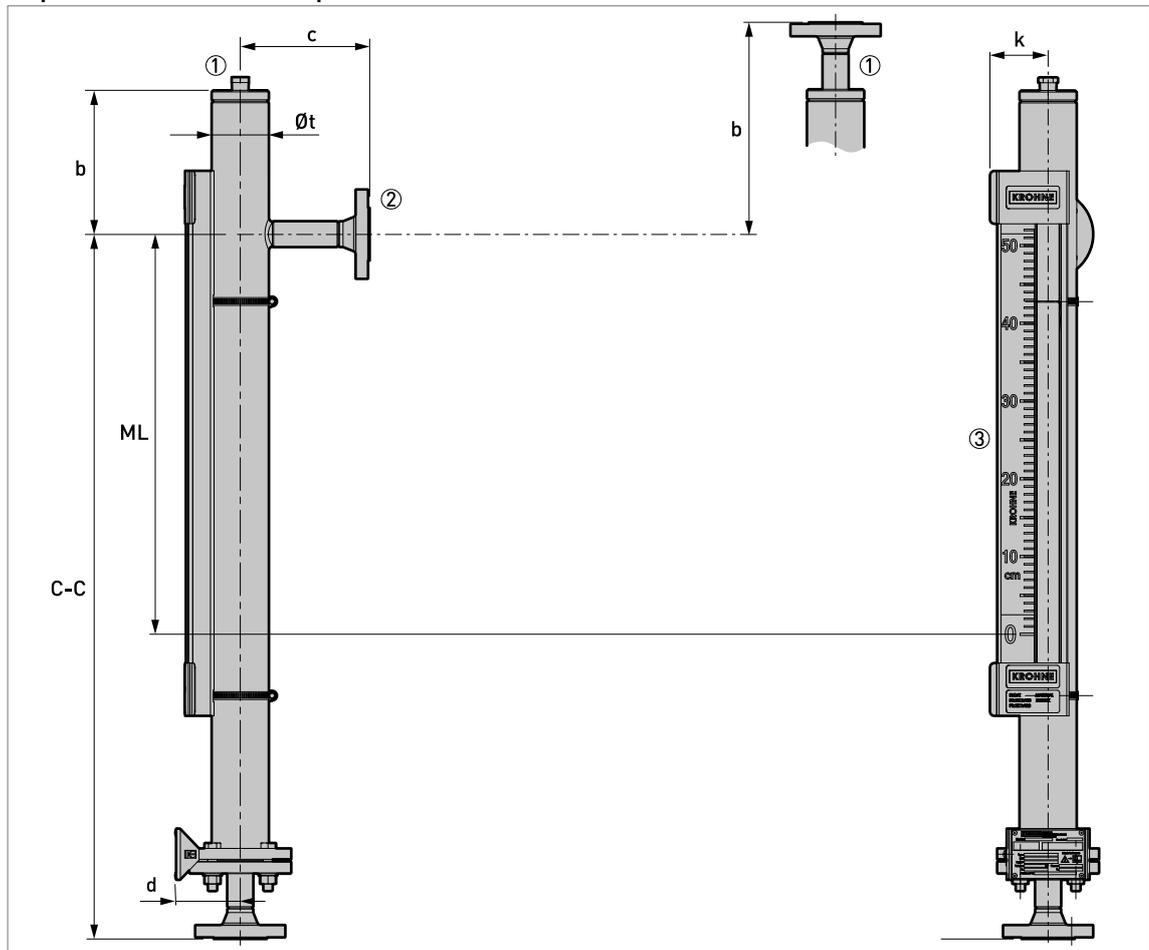


Figure 2-3: BM26A-7000 PN40 / Class 300: top side - bottom axial process connections

- ① Optional vent with 3/8...3/4 NPT threaded connection (with plug), G 3/8...3/4 threaded connection on a plate flange (with plug), or DN15...50 / NPS 1/2...2 flange
- ② Process connection (flange)
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = bottom dead zone
- $b$  = distance from the center axis of the top process connection to the top of the device
- $C-C$  = distance between the center axis of the top process connection and the flange facing of the bottom process connection
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "FF",  $c - 2 \text{ mm} / 0.08''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ . This is applicable to Class 300 flanges.

If the magnetic level indicator has the flanged vent option, then this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]						
	b	C-C	ML	c	d	k	Øt
370...500	185 ①	300...5500 ②	③	165	82 ④	74.1	73.03
500...1200			⑤				

Table 2-10: BM26A-7000 PN40 / Class 300 (top side - bottom axial process connections): general dimensions in mm

- ① Vent options are available. NPT or G (female) connection + plug: 201 mm. Flange, DN15...25 and NPS 1/2...1: 270 mm. Flange, DN40...50 and NPS 1 1/2...2: 345 mm.
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 515 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 590 mm.
- ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).
- ⑤ Flange, DN15...25 and NPS 1/2...1: C-C - 335 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 410 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]						
	b	C-C	ML	c	d	k	Øt
23.09...31.21	7.28 ①	11.8...216.5 ②	③	6.5	3.2 ④	2.9	2.9
31.21...74.91			⑤				

Table 2-11: BM26A-7000 PN40 / Class 300 (top side - bottom axial process connections): general dimensions in inches

- ① Vent options are available. NPT or G (female) connection + plug: 7.91". Flange DN15...25 and NPS 1/2...1: 10.63". Flange DN40...50 and NPS 1 1/2...2: 13.58".
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 20.28". Flange, DN40...50 and NPS 1 1/2...2: C-C - 23.23".
- ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 4.7" (PLEXIGLAS® cover).
- ⑤ Flange, DN15...25 and NPS 1/2...1: C-C - 13.19". Flange, DN40...50 and NPS 1 1/2...2: C-C - 16.14".

## Top axial - bottom side process connections

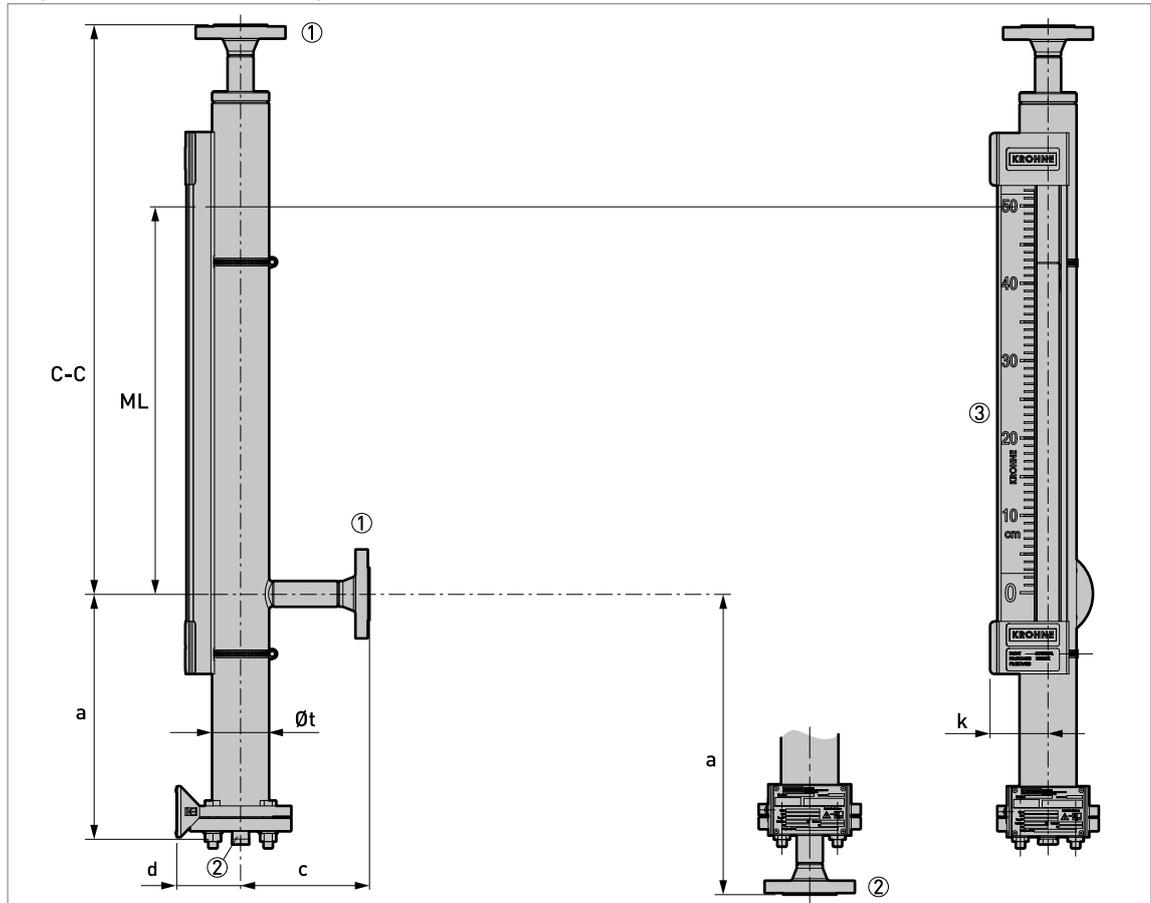


Figure 2-4: BM26A-7000 PN40 / Class 300: top axial - bottom side process connections

- ① Process connection (flange)
- ② Optional drain with 3/8...3/4 NPT threaded connection (with plug), G 3/8...3/4 threaded connection on a plate flange (with plug), or DN15...50 / NPS 1/2...2 flange
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom process connection to the bottom of the device
- $b$  = top dead zone
- $C-C$  = distance between the flange facing of the top process connection and the center axis of the bottom process connection
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "FF",  $c - 2 \text{ mm} / 0.08''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ . This is applicable to Class 300 flanges.

If the magnetic level indicator has the flanged drain option, then this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]						
	a	C-C	ML	c	d	k	Øt
370...500	520 ①	300...5500 ②	③	165	82 ④	74.1	73.03
500...600	335 ⑤		⑥				
600...1200	335 ⑤		⑦				

Table 2-12: BM26A-7000 PN40 / Class 300 (top axial - bottom side process connections): general dimensions in mm

- ① Drain options are available. NPT or G (female) connection + plug: 520 mm. Flange, DN15...25 and NPS 1/2...1: 574 mm. Flange, DN40...50 and NPS 1 1/2...2: 649 mm.
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 258 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 333 mm.
- ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).
- ⑤ Drain options are available. NPT or G (female) connection + plug: 335 mm. Flange, DN15...25 and NPS 1/2...1: 389 mm. Flange, DN40...50 and NPS 1 1/2...2: 464 mm.
- ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 186 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 261 mm.
- ⑦ Flange, DN15...25 and NPS 1/2...1: C-C - 244 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 319 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]						
	a	C-C	ML	c	d	k	Øt
23.10...31.21	20.47 ①	11.8...216.5 ②	③	6.50	3.2 ④	2.9	2.9
31.21...37.46	13.19 ⑤		⑥				
37.46...74.91	13.19 ⑤		⑦				

Table 2-13: BM26A-7000 PN40 / Class 300 (top axial - bottom side process connections): general dimensions in inches

- ① Drain options are available. NPT or G (female) connection + plug: 20.47". Flange, DN15...25 and NPS 1/2...1: 22.60". Flange, DN40...50 and NPS 1 1/2...2: 25.55".
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 10.16". Flange, DN40...50 and NPS 1 1/2...2: C-C - 13.11".
- ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 4.7" (PLEXIGLAS® cover).
- ⑤ Drain options are available. NPT or G (female) connection + plug: 13.19". Flange, DN15...25 and NPS 1/2...1: 15.31". Flange, DN40...50 and NPS 1 1/2...2: 18.27".
- ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 7.32". Flange, DN40...50 and NPS 1 1/2...2: C-C - 10.28".
- ⑦ Flange, DN15...25 and NPS 1/2...1: C-C - 9.61". Flange, DN40...50 and NPS 1 1/2...2: C-C - 12.56".

## 2.2.2 BM26A-7000 / PN100 - Class 600

## Side - side process connections

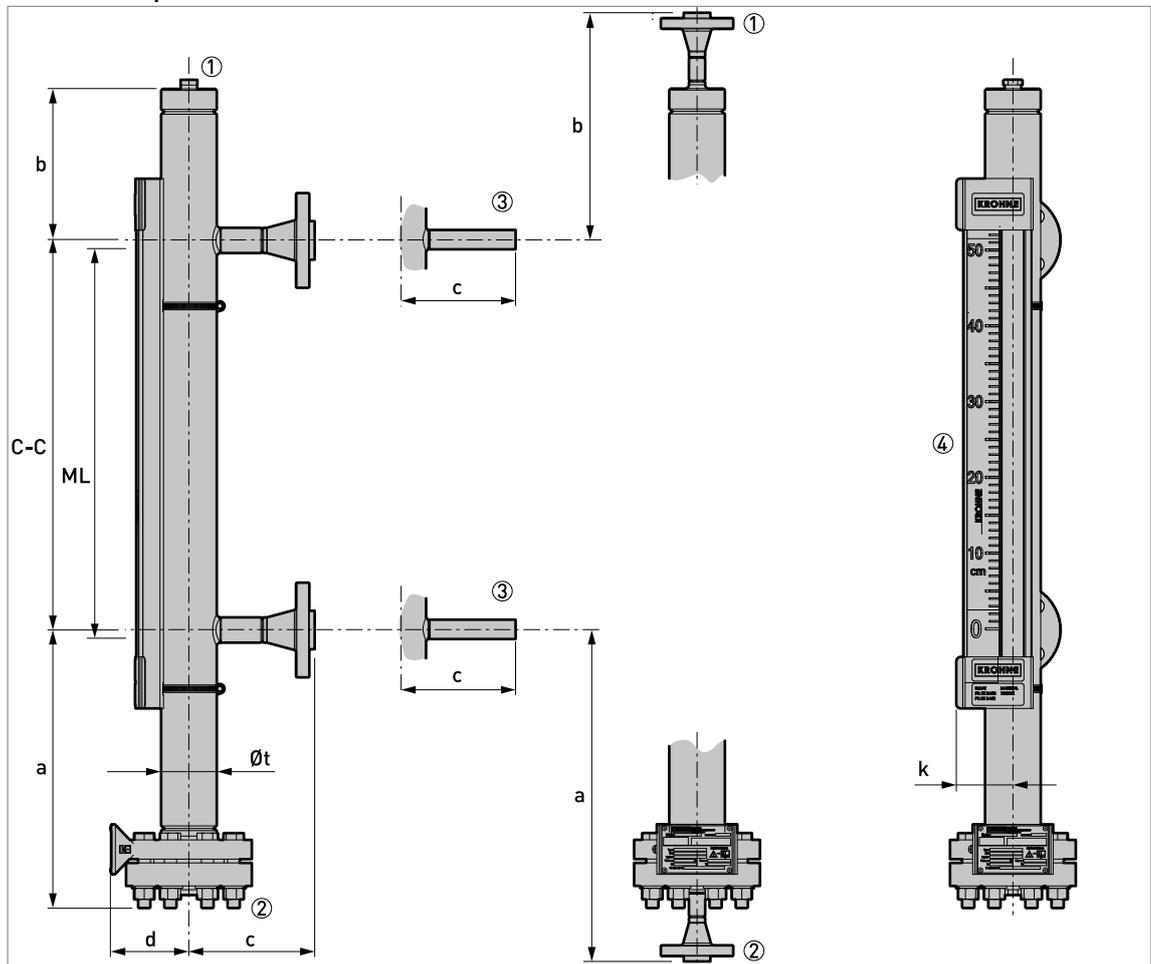


Figure 2-5: BM26A-7000 PN100 / Class 600: side - side process connections

- ① Optional vent with 3/8...3/4 NPT threaded connection (with plug), or DN15...50 / NPS 1/2...2 flange
- ② Optional drain with 3/8...3/4 NPT threaded connection (with plug), or DN15...50 / NPS 1/2...2 flange
- ③ Process connection (flange or welded pipe)
- ④ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom connection to the bottom of the device
- $b$  = distance from the center axis of the top connection to the top of the device
- $C-C$  = distance between the center axes of the top and bottom process connections
- $ML$  = measuring length

Flanged vent and drain options have the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]							
	a	b	C-C	ML	c	d	k	Øt
500...580	450 ①	200 ②	300... 5500 ③	③	④	102 ⑤	74.1	73.03
580...850	380 ⑥							
850...1200	380 ⑥							

Table 2-14: BM26A-7000 PN100 / Class 600 (side - side process connections): general dimensions in mm

- ① Drain options are available. NPT connection (female) + plug: 450 mm. Flange, DN15...25 and NPS 1/2...1: 510 mm. Flange, DN40...50 and NPS 1 1/2...2: 576 mm.
- ② Vent options are available. NPT connection (female) + plug: 216 mm. Flange, DN15...25 and NPS 1/2...1: 300 mm. Flange, DN40...50 and NPS 1 1/2...2: 366 mm.
- ③ This value agrees with the "C-C" dimension given in the customer order
- ④ 1 NPT connection (male) + plug: 165 mm. Flange DN15: 165 mm, DN20: 165 mm, DN25: 165 mm, DN40: 192 mm, DN50: 210 mm, NPS 1/2: 165 mm, NPS 3/4: 165 mm, NPS 1: 165 mm, NPS 1 1/2: 207 mm and NPS 2: 222 mm. Welded pipe: 165 mm.
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).
- ⑥ Drain options are available. NPT connection (female) + plug: 380 mm. Flange, DN15...25 and NPS 1/2...1: 440 mm. Flange, DN40...50 and NPS 1 1/2...2: 506 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]							
	a	b	C-C	ML	c	d	k	Øt
31.21...36.21	17.72 ①	7.87 ②	11.8... 216.5 ③	③	④	4.0 ⑤	2.9	2.9
36.21...53.06	14.96 ⑥							
53.06...74.91	14.96 ⑥							

Table 2-15: BM26A-7000 PN100 / Class 600 (side - side process connections): general dimensions in inches

- ① Drain options are available. NPT connection (female) + plug: 17.72". Flange, DN15...25 and NPS 1/2...1: 20.08". Flange, DN40...50 and NPS 1 1/2...2: 22.68".
- ② Vent options are available. NPT connection (female) + plug: 8.50". Flange, DN15...25 and NPS 1/2...1: 11.81". Flange, DN40...50 and NPS 1 1/2...2: 14.41".
- ③ This value agrees with the "C-C" dimension given in the customer order
- ④ 1 NPT connection (male) + plug: 6.50". Flange DN15: 6.50", DN20: 6.50", DN25: 6.50", DN40: 7.56", DN50: 8.27", NPS 1/2: 6.50", NPS 3/4: 6.50", NPS 1: 6.50", NPS 1 1/2: 8.15" and NPS 2: 8.74". Welded pipe: 6.50".
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 4.7" (PLEXIGLAS® cover).
- ⑥ Drain options are available. NPT connection (female) + plug: 14.96". Flange, DN15...25 and NPS 1/2...1: 17.3". Flange, DN40...50 and NPS 1 1/2...2: 19.92".

## Axial - axial process connections

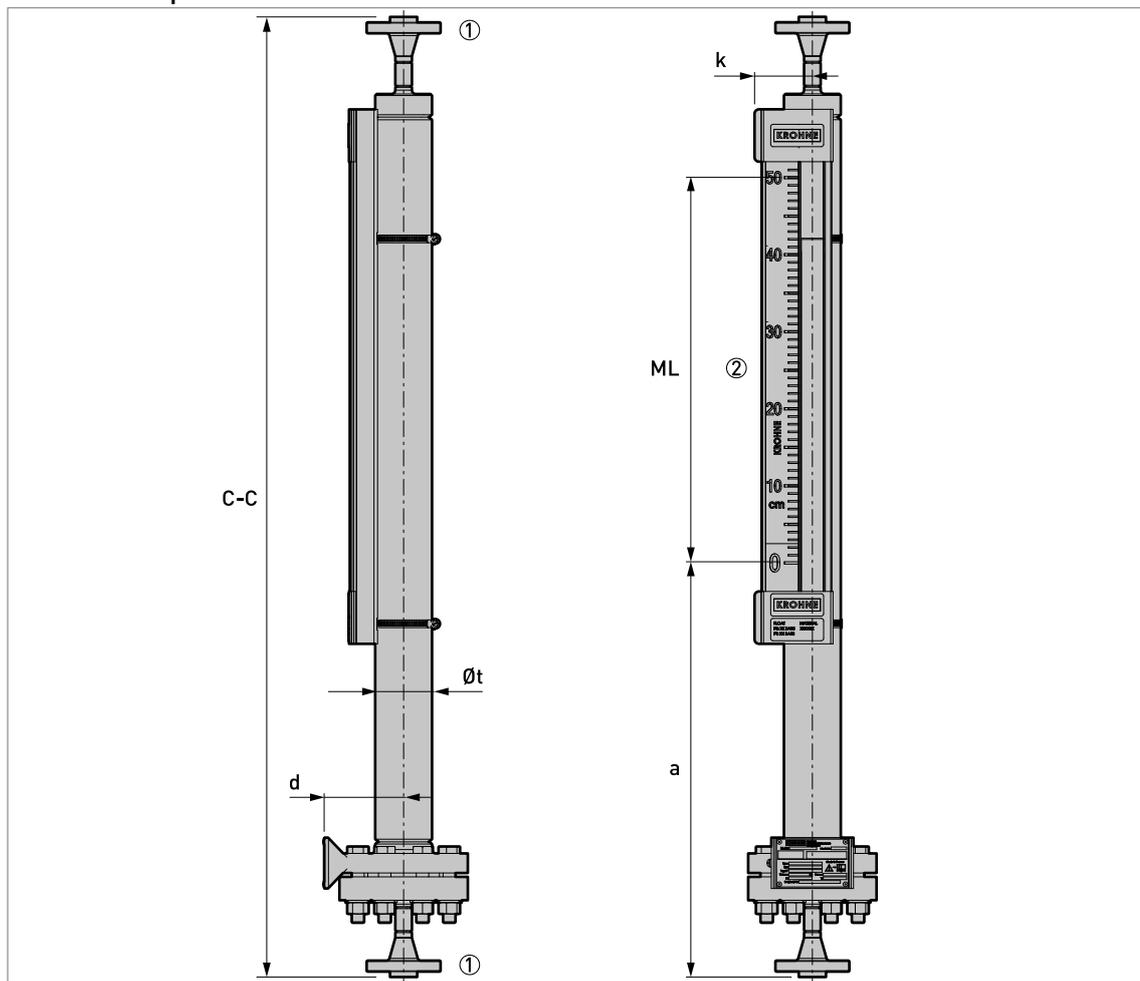


Figure 2-6: BM26A-7000 PN100 / Class 600: axial - axial process connections

- ① Process connection (flange)
- ② Level indicator column with optional scale (mm, inch, % or volume)

- *a* = bottom dead zone
- *b* = top dead zone
- *C-C* = distance between the flange facings of the top and bottom process connections
- *ML* = measuring length

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]					
	a	C-C	ML	d	k	Øt
500...580	①	300...5500 ②	③	102 ④	74.1	73.03
580...1200	⑤		⑥			

Table 2-16: BM26A-7000 PN100 / Class 600 (axial - axial process connections): general dimensions in mm

- ① Flange, DN15...25 and NPS 1/2...1: 402 mm. Flange, DN40...50 and NPS 1 1/2...2: 468 mm.  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...25 and NPS 1/2...1: C-C - 668 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 800 mm.  
 ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).  
 ⑤ Flange, DN15...25 and NPS 1/2...1: 340 mm. Flange, DN40...50 and NPS 1 1/2...2: 406 mm.  
 ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 569mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 711 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]					
	a	C-C	ML	d	k	Øt
31.21...36.21	①	11.8...216.5 ②	③	4.0 ④	2.9	2.9
36.21...74.91	⑤		⑥			

Table 2-17: BM26A-7000 PN100 / Class 600 (axial - axial process connections): general dimensions in inches

- ① Flange, DN15...25 and NPS 1/2...1: 15.83". Flange, DN40...50 and NPS 1 1/2...2: 18.43".  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...25 and NPS 1/2...1: C-C - 26.30". Flange, DN40...50 and NPS 1 1/2...2: C-C - 31.50".  
 ④ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 4.7" (PLEXIGLAS® cover).  
 ⑤ Flange, DN15...25 and NPS 1/2...1: 13.39". Flange, DN40...50 and NPS 1 1/2...2: 15.98".  
 ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 22.40". Flange, DN40...50 and NPS 1 1/2...2: C-C - 27.99".

## Top side - bottom axial process connections

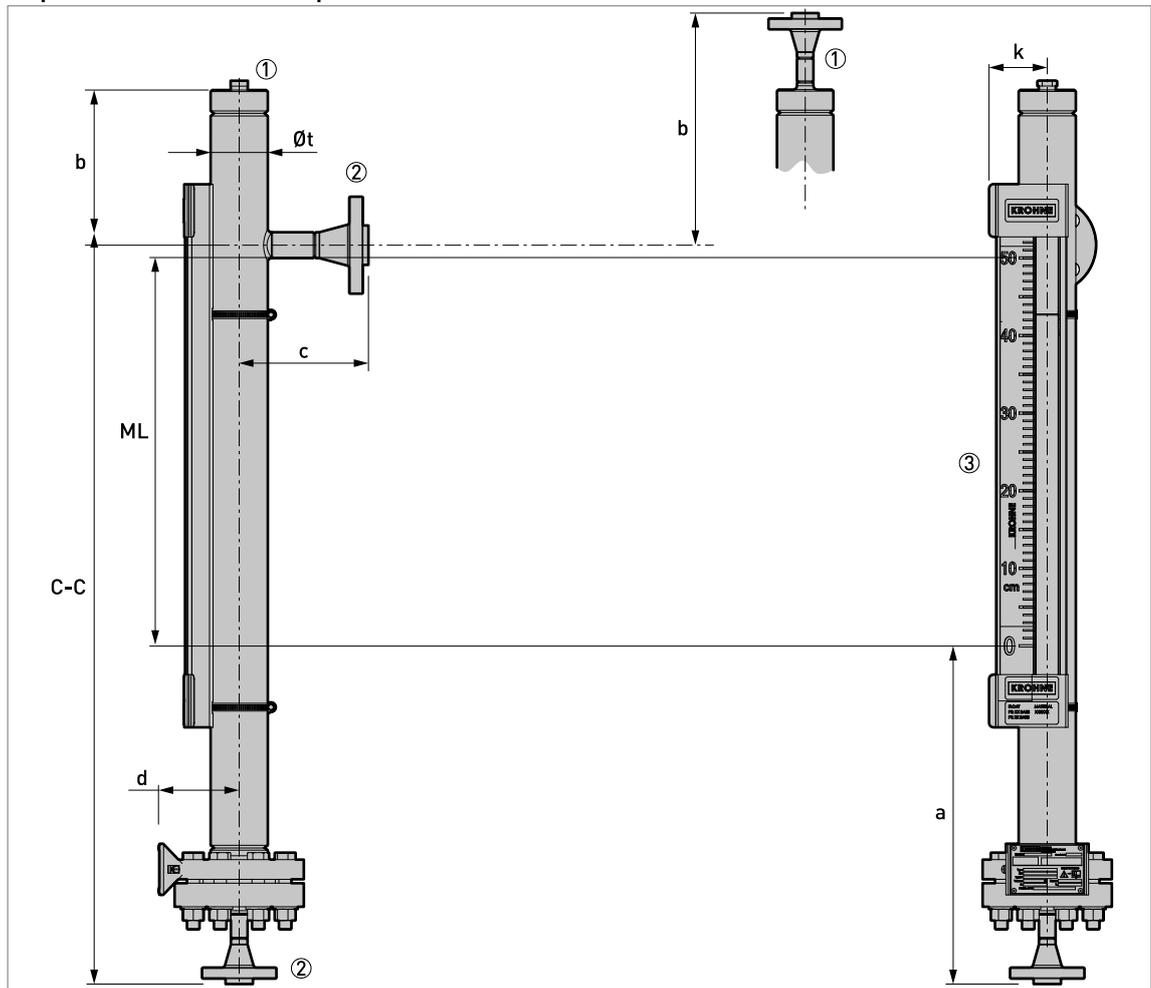


Figure 2-7: BM26A-7000 PN100 / Class 600: top side - bottom axial process connections

- ① Optional vent with 3/8...3/4 NPT threaded connection (with plug), G 3/8...3/4 threaded connection on a plate flange (with plug), or DN15...50 / NPS 1/2...2 flange
- ② Process connection (flange)
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = bottom dead zone
- $b$  = distance from the center axis of the top process connection to the top of the device
- $C-C$  = distance between the center axis of the top process connection and the flange facing of the bottom process connection
- $ML$  = measuring length

If the magnetic level indicator has the flanged vent option, then this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]						
	b	C-C	ML	c	d	k	Øt
500...580	200 ①	300...5500 ②	③	④	102 ⑤	74.1	73.03
580...850			⑥				
850...1200			⑥				

Table 2-18: BM26A-7000 PN100 / Class 600 (top side - bottom axial process connections): general dimensions in mm

- ① Vent options are available. NPT (female) connection + plug: 216 mm. Flange, DN15...25 and NPS 1/2...1: 300 mm. Flange, DN40...50 and NPS 1 1/2...2: 366 mm.
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 470 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 536 mm.
- ④ Flange DN15: 136 mm, DN20: 140 mm, DN25: 165 mm, DN40: 167 mm, DN50: 195 mm, NPS 1/2: 151 mm, NPS 3/4: 156 mm, NPS 1: 165 mm, NPS 1 1/2: 182 mm and NPS 2: 197 mm.
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).
- ⑥ Flange, DN15...25 / NPS 1/2...1: C-C - 413 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 479 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]						
	b	C-C	ML	c	d	k	Øt
31.21...36.21	7.87 ①	11.8...216.5 ②	③	④	4.0 ⑤	2.9	2.9
36.21...53.06			⑥				
53.06...74.91			⑥				

Table 2-19: BM26A-7000 PN100 / Class 600 (top side - bottom axial process connections): general dimensions in inches

- ① Vent options are available. NPT (female) connection + plug: 8.50". Flange, DN15...25 and NPS 1/2...1: 11.81". Flange, DN40...50 and NPS 1 1/2...2: 14.41".
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 18.50". Flange, DN40...50 and NPS 1 1/2...2: C-C - 21.10".
- ④ Flange DN15: 5.35", DN20: 5.51", DN25: 6.50", DN40: 6.57", DN50: 7.68", NPS 1/2: 5.94", NPS 3/4: 6.14", NPS 1: 6.50", NPS 1 1/2: 7.17" and NPS 2: 7.76".
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 4.7" (PLEXIGLAS® cover).
- ⑥ Flange, DN15...25 / NPS 1/2...1: C-C - 16.25". Flange, DN40...50 and NPS 1 1/2...2: C-C - 18.86".

## Top axial - bottom side process connections

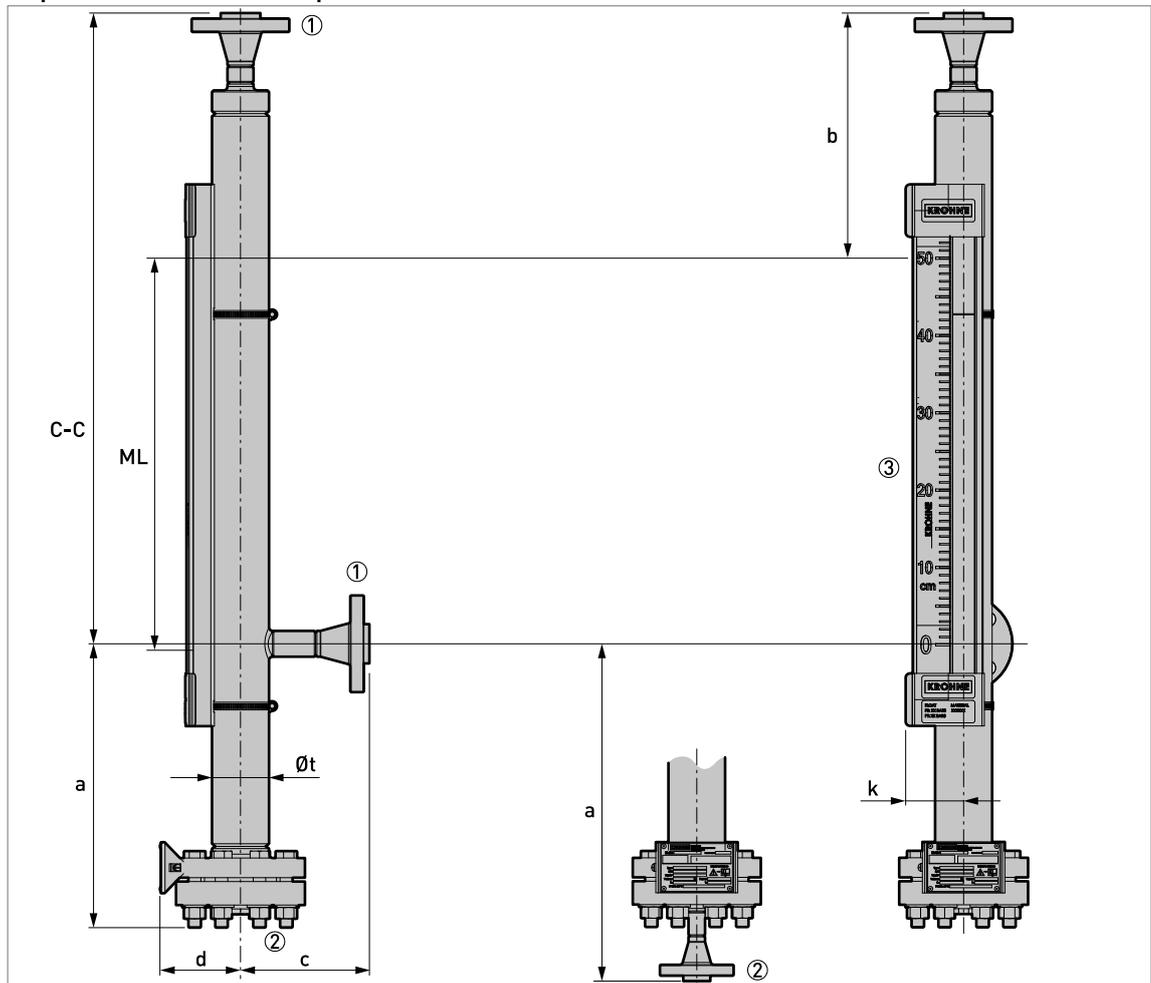


Figure 2-8: BM26A-7000 PN100 / Class 600: top axial - bottom side process connections

- ① Process connection (flange)
- ② Optional drain with 3/8...3/4 NPT threaded connection (with plug), G 3/8...3/4 threaded connection on a plate flange (with plug), or DN15...50 / NPS 1/2...2 flange
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- *a* = distance from the center axis of the bottom process connection to the bottom of the device
- *b* = top dead zone
- *C-C* = distance between the flange facing of the top process connection and the center axis of the bottom process connection
- *ML* = measuring length

If the magnetic level indicator has the flanged drain option, then this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]						
	a	C-C	ML	c	d	k	Øt
500...580	450 ①	300...5500 ②	③	④	102 ⑤	74.1	73.03
580...850	380 ⑥						
850...1200	380 ⑥						

Table 2-20: BM26A-7000 PN100 / Class 600 (top axial - bottom side process connections): general dimensions in mm

- ① Drain options are available. NPT (female) connection + plug: 450 mm. Flange, DN15...25 and NPS 1/2...1: 510 mm. Flange, DN40...50 and NPS 1 1/2...2: 576 mm.
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 245 mm. Flange, DN40...50 and NPS 1 1/2...2: C-C - 311 mm.
- ④ Flange DN15: 165 mm, DN20: 165 mm, DN25: 165 mm, DN40: 192 mm, DN50: 210 mm, NPS 1/2: 165 mm, NPS 3/4: 165 mm, NPS 1: 165 mm, NPS 1 1/2: 207 mm and NPS 2: 222 mm.
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 98 mm (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 120 mm (PLEXIGLAS® cover).
- ⑥ Drain options are available. NPT (female) connection + plug: 380 mm. Flange, DN15...25 and NPS 1/2...1: 440 mm. Flange, DN40...50 and NPS 1 1/2...2: 506 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [mm]						
	a	C-C	ML	c	d	k	Øt
31.21...36.21	17.72 ①	11.8...216.5 ②	③	④	4.0 ⑤	2.9	2.9
36.21...53.06	14.96 ⑥						
53.06...74.91	14.96 ⑥						

Table 2-21: BM26A-7000 PN100 / Class 600 (top axial - bottom side process connections): general dimensions in inches

- ① Drain options are available. NPT (female) connection + plug: 17.72. Flange, DN15...25 and NPS 1/2...1: 20.08". Flange, DN40...50 and NPS 1 1/2...2: 20.68".
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 9.65". Flange, DN40...50 and NPS 1 1/2...2: C-C - 12.24".
- ④ Flange DN15: 6.50", DN20: 6.50", DN25: 6.50", DN40: 7.56", DN50: 8.27", NPS 1/2: 6.50", NPS 3/4: 6.50", NPS 1: 6.50", NPS 1 1/2: 8.15" and NPS 2: 8.74".
- ⑤ If the indicator column has the PLEXIGLAS® anti-icing cover option, then d = 3.9" (anti-icing cover). If the indicator column has a floating index and T < +100°C, then d = 4.7" (PLEXIGLAS® cover).
- ⑥ Drain options are available. NPT (female) connection + plug: 14.96". Flange, DN15...25 and NPS 1/2...1: 17.32". Flange, DN40...50 and NPS 1 1/2...2: 19.92".

## 2.2.3 BM26A-7000 / PN250 - Class 1500

## Side - side process connections

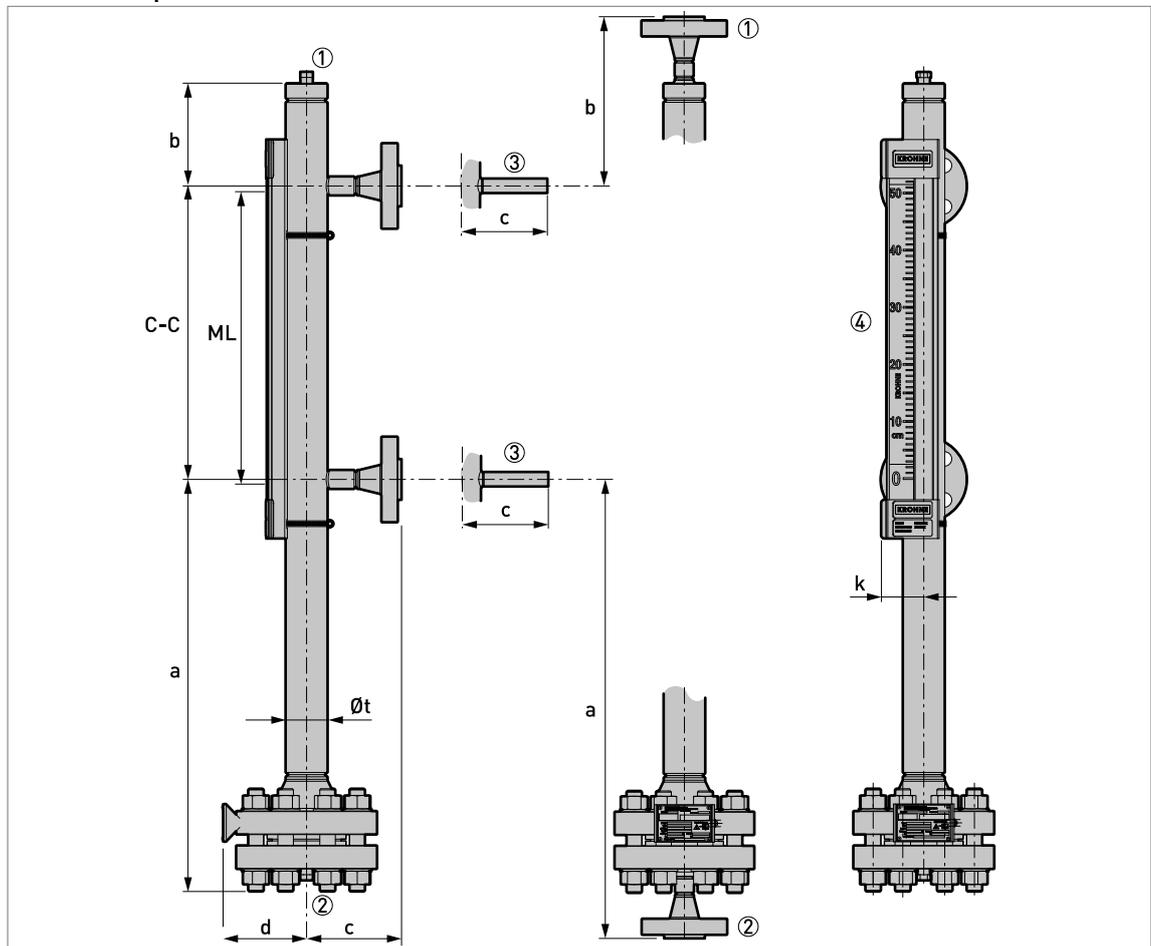


Figure 2-9: BM26A-7000 PN250 / Class 1500: side - side process connections

- ① Optional vent with 3/8...3/4 NPT threaded connection (with plug), or DN15...50 / NPS 1/2...2 flange
- ② Optional drain with 3/8...3/4 NPT threaded connection (with plug), or DN15...50 / NPS 1/2...2 flange
- ③ Process connection (flange or welded pipe)
- ④ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom connection to the bottom of the device
- $b$  = distance from the center axis of the top connection to the top of the device
- $C-C$  = distance between the center axes of the top and bottom process connections
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "FF" or "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ .

Flanged vent and drain options have the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]							
	a	b	C-C	ML	c	d	k	Øt
660...720	730 ①	216 ②	300... 5500 ③	③	④	145	74.1	73.03
720...850	560 ⑤							
850...1200	405 ⑥							

Table 2-22: BM26A-7000 PN250 / Class 1500 (side - side process connections): general dimensions in mm

- ① Drain options are available. NPT connection (female) + plug: 730 mm. Flange, DN15...25 and NPS 1/2...1: 815 mm. Flange, DN50 and NPS 1 1/2...2: 892 mm.
- ② Vent options are available. NPT connection (female) + plug: 216 mm. Flange, DN15...25 and NPS 1/2...1: 318 mm. Flange, DN50 and NPS 1 1/2...2: 395 mm.
- ③ This value agrees with the "C-C" dimension given in the customer order
- ④ Flange DN15: 165 mm, DN25: 165 mm, DN50: 227 mm, NPS 1/2: 165 mm, NPS 3/4: 165 mm, NPS 1: 165 mm, NPS 1 1/2: 220 mm and NPS 2: 251 mm. Welded pipe: 165 mm.
- ⑤ Drain options are available. NPT connection (female) + plug: 560 mm. Flange, DN15...25 and NPS 1/2...1: 645 mm. Flange, DN50 and NPS 1 1/2...2: 722 mm.
- ⑥ Drain options are available. NPT connection (female) + plug: 405 mm. Flange, DN15...25 and NPS 1/2...1: 490 mm. Flange, DN50 and NPS 1 1/2...2: 567 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]							
	a	b	C-C	ML	c	d	k	Øt
41.20...44.95	28.74 ①	8.50 ②	11.8... 216.5 ③	③	④	5.7	2.9	2.9
44.95...53.06	22.05 ⑤							
53.06...74.91	15.94 ⑥							

Table 2-23: BM26A-7000 PN250 / Class 1500 (side - side process connections): general dimensions in inches

- ① Drain options are available. NPT connection (female) + plug: 28.74". Flange, DN15...25 and NPS 1/2...1: 32.09". Flange, DN50 and NPS 1 1/2...2: 35.12".
- ② Vent options are available. NPT connection (female) + plug: 8.50". Flange, DN15...25 and NPS 1/2...1: 12.52". Flange, DN50 and NPS 1 1/2...2: 15.55".
- ③ This value agrees with the "C-C" dimension given in the customer order
- ④ Flange DN15: 6.50", DN25: 6.50", DN50: 8.94", NPS 1/2: 6.50", NPS 3/4: 6.50", NPS 1: 6.50", NPS 1 1/2: 8.66" and NPS 2: 9.88". Welded pipe: 6.50".
- ⑤ Drain options are available. NPT connection (female) + plug: 22.05". Flange, DN15...25 and NPS 1/2...1: 25.39". Flange, DN50 and NPS 1 1/2...2: 28.43".
- ⑥ Drain options are available. NPT connection (female) + plug: 15.94". Flange, DN15...25 and NPS 1/2...1: 19.29". Flange, DN50 and NPS 1 1/2...2: 22.32".

## Axial - axial process connections

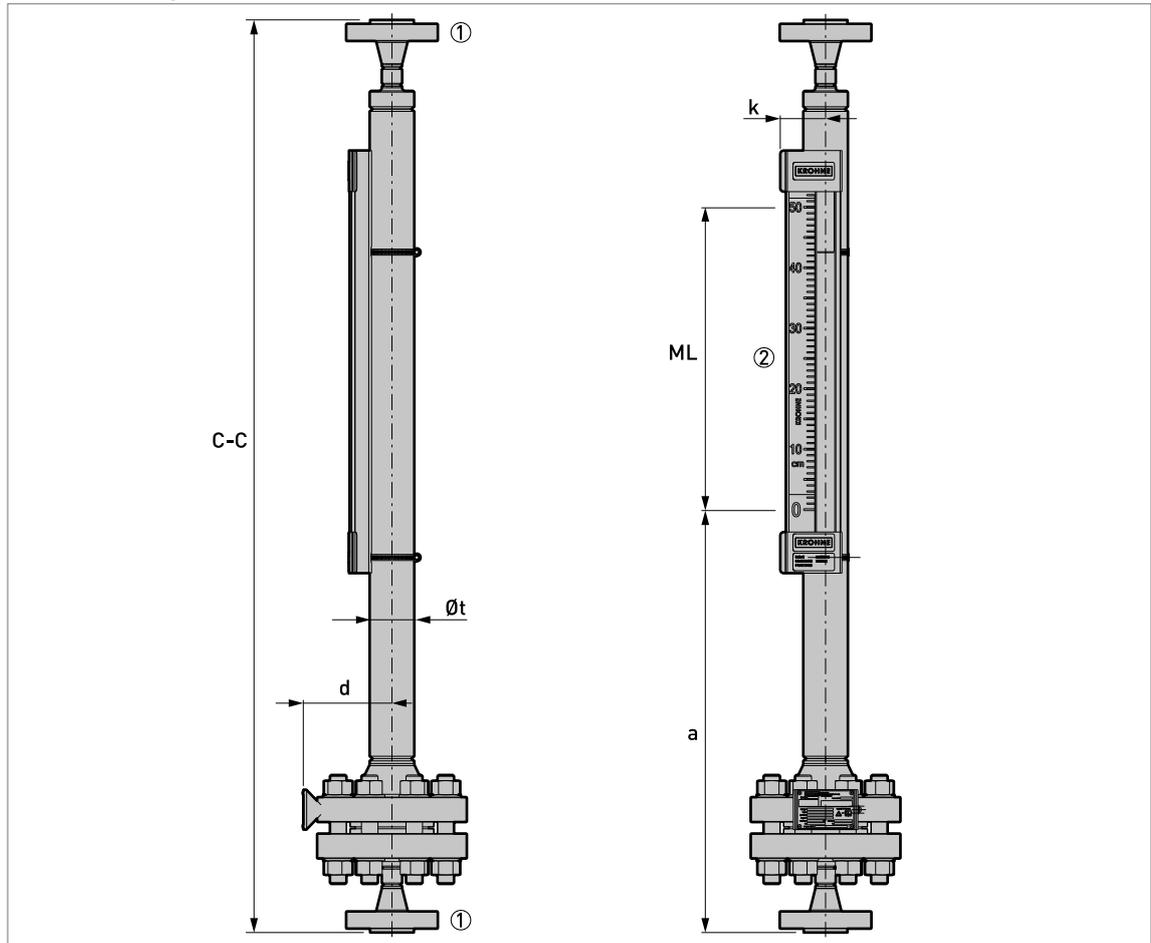


Figure 2-10: BM26A-7000 PN250 / Class 1500: axial - axial process connections

- ① Process connection (flange)
- ② Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = bottom dead zone
- $b$  = top dead zone
- $C-C$  = distance between the flange facings of the top and bottom process connections
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "FF" or "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ .

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]					
	a	C-C	ML	d	k	Øt
660...720	①	300...5500 ②	③	145	74.1	73.03
720...850	④		⑤			
850...1200	⑥		⑦			

Table 2-24: BM26A-7000 PN250 / Class 1500 (axial - axial process connections): general dimensions in mm

- ① Flange, DN15...25 and NPS 1/2...1: 739 mm. Flange, DN50 and NPS 1 1/2...2: 816 mm.  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...25 and NPS 1/2...1: C-C - 945 mm. Flange, DN50 and NPS 1 1/2...2: C-C - 1135 mm.  
 ④ Flange, DN15...25 and NPS 1/2...1: 560 mm. Flange, DN50 and NPS 1 1/2...2: 637 mm.  
 ⑤ Flange, DN15...25 and NPS 1/2...1: C-C - 815 mm. Flange, DN50 and NPS 1 1/2...2: C-C - 970 mm.  
 ⑥ Flange, DN15...25 and NPS 1/2...1: 433 mm. Flange, DN50 and NPS 1 1/2...2: 510 mm.  
 ⑦ Flange, DN15...25 and NPS 1/2...1: C-C - 650 mm. Flange, DN50 and NPS 1 1/2...2: C-C - 800 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]					
	a	C-C	ML	d	k	Øt
41.20...44.95	①	11.8...216.5 ②	③	5.7	2.9	2.9
44.95...53.06	④		⑤			
53.06...74.91	⑥		⑦			

Table 2-25: BM26A-7000 PN250 / Class 1500 (axial - axial process connections): general dimensions in inches

- ① Flange, DN15...25 and NPS 1/2...1: 29.09". Flange, DN50 and NPS 1 1/2...2: 32.13".  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...25 and NPS 1/2...1: C-C - 37.20". Flange, DN50 and NPS 1 1/2...2: C-C - 44.69".  
 ④ Flange, DN15...25 and NPS 1/2...1: 22.05". Flange, DN50 and NPS 1 1/2...2: 25.08".  
 ⑤ Flange, DN15...25 and NPS 1/2...1: C-C - 32.09". Flange, DN50 and NPS 1 1/2...2: C-C - 38.19".  
 ⑥ Flange, DN15...25 and NPS 1/2...1: 17.05". Flange, DN50 and NPS 1 1/2...2: 20.08".  
 ⑦ Flange, DN15...25 and NPS 1/2...1: C-C - 25.59". Flange, DN50 and NPS 1 1/2...2: C-C - 31.50".

## Top side - bottom axial process connections

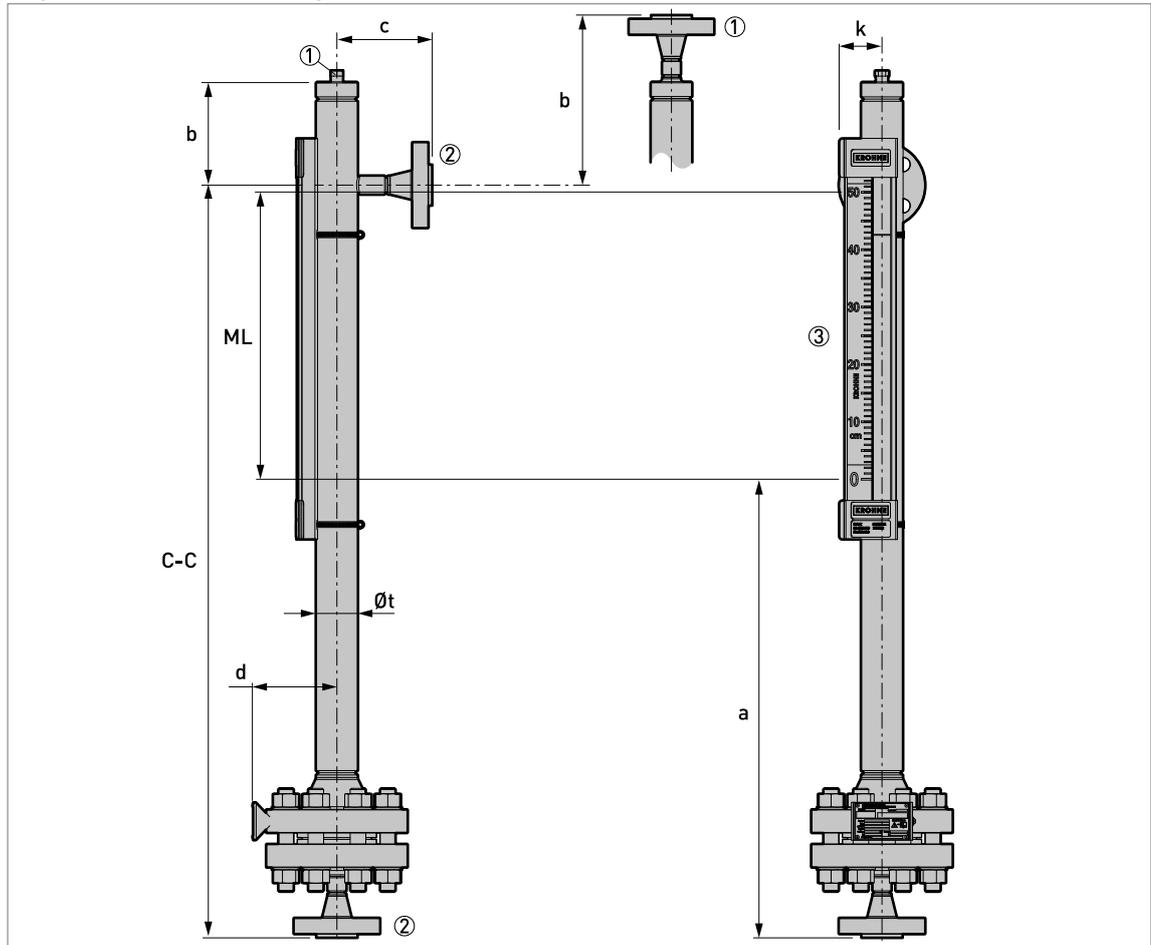


Figure 2-11: BM26A-7000 PN250 / Class 1500: top side - bottom axial process connections

- ① Optional vent with 3/8...3/4 NPT threaded connection (with plug) or DN15...50 / NPS 1/2...2 flange
- ② Process connection (flange)
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = bottom dead zone
- $b$  = distance from the center axis of the top process connection to the top of the device
- $C-C$  = distance between the center axis of the top process connection and the flange facing of the bottom process connection
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "FF" or "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ .

If the magnetic level indicator has the flanged vent option, then this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]						
	b	C-C	ML	c	d	k	Øt
660...720	216 ①	300...5500 ②	③	④	145	74.1	73.03
720...850			⑤				
850...1200			⑥				

Table 2-26: BM26A-7000 PN250 / Class 1500 (top side - bottom axial process connections): general dimensions in mm

- ① Vent options are available. NPT (female) connection + plug: 216 mm. Flange, DN15...25 and NPS 1/2...1: 318 mm. Flange, DN50 and NPS 1 1/2...2: 395 mm.
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 785 mm. Flange, DN50 and NPS 1 1/2...2: C-C - 860 mm.
- ④ Flange DN15: 165 mm, DN25: 165 mm, DN50: 227 mm, NPS 1/2: 165 mm, NPS 3/4: 165 mm, NPS 1: 165 mm, NPS 1 1/2: 220 mm and NPS 2: 251 mm.
- ⑤ Flange, DN15...25 and NPS 1/2...1: C-C - 615 mm. Flange, DN50 and NPS 1 1/2...2: C-C - 690 mm.
- ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 460 mm. Flange, DN50 and NPS 1 1/2...2: C-C - 540 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]						
	b	C-C	ML	c	d	k	Øt
41.20...44.95	8.50 ①	11.8...216.5 ②	③	④	5.7	2.9	2.9
44.95...53.06			⑤				
53.06...74.91			⑥				

Table 2-27: BM26A-7000 PN250 / Class 1500 (top side - bottom axial process connections): general dimensions in inches

- ① Vent options are available. NPT (female) connection + plug: 8.50". Flange, DN15...25 and NPS 1/2...1: 12.52". Flange, DN50 and NPS 1 1/2...2: 15.55".
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...25 and NPS 1/2...1: C-C - 30.91". Flange, DN50 and NPS 1 1/2...2: C-C - 33.86".
- ④ Flange DN15: 6.50", DN25: 6.50", DN50: 8.94", NPS 1/2: 6.50", NPS 3/4: 6.50", NPS 1: 6.50", NPS 1 1/2: 8.66" and NPS 2: 9.88".
- ⑤ Flange, DN15...25 and NPS 1/2...1: C-C - 24.21". Flange, DN50 and NPS 1 1/2...2: C-C - 27.17".
- ⑥ Flange, DN15...25 and NPS 1/2...1: C-C - 18.11" Flange, DN50 and NPS 1 1/2...2: C-C - 21.26".

## Top axial - bottom side process connections

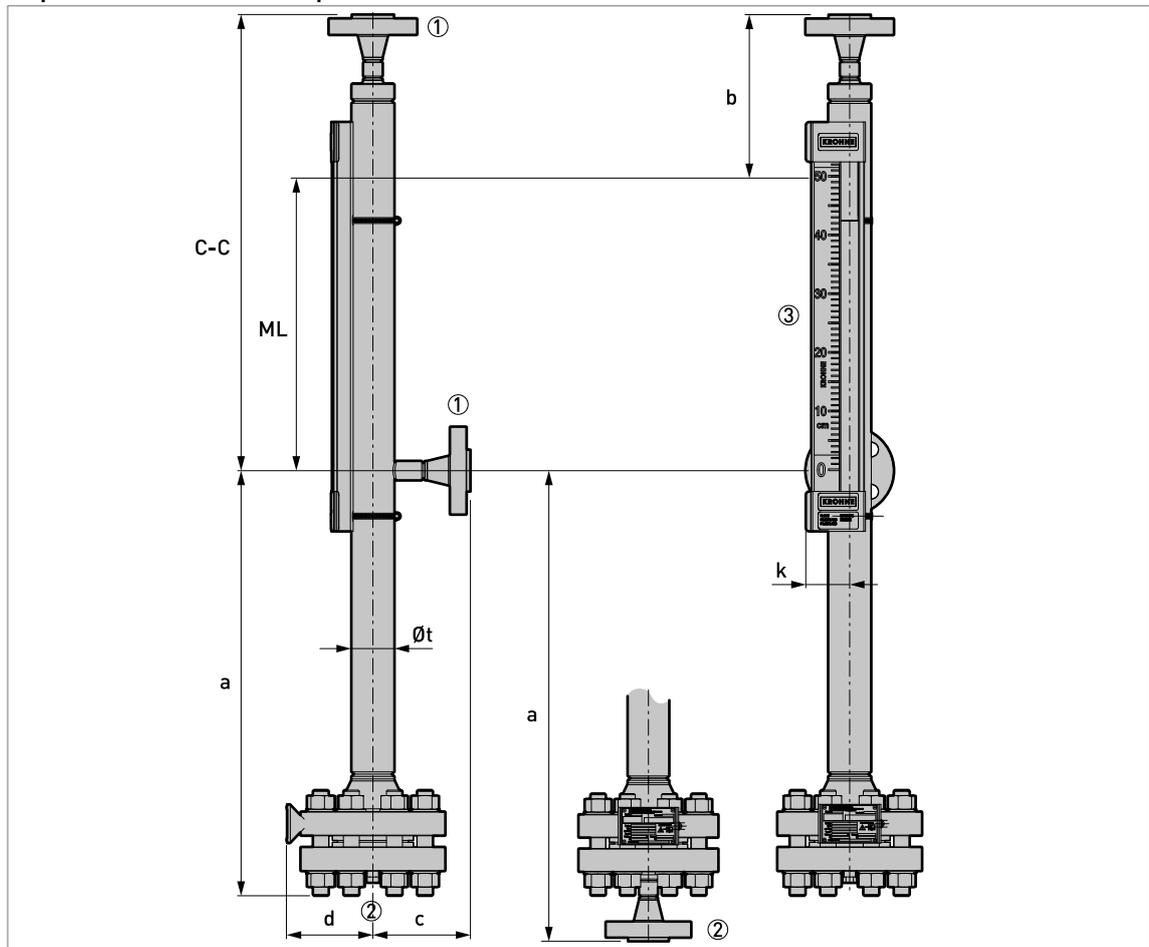


Figure 2-12: BM26A-7000 PN250 / Class 1500: top axial - bottom side process connections

- ① Process connection (flange)
- ② Optional drain with 3/8...3/4 NPT threaded connection (with plug), G 3/8...3/4 threaded connection on a plate flange (with plug), or DN15...50 / NPS 1/2...2 flange
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom process connection to the bottom of the device
- $b$  = top dead zone
- $C-C$  = distance between the flange facing of the top process connection and the center axis of the bottom process connection
- $ML$  = measuring length

If the device has ASME flanges, then the flange facing type can change the dimension "c". If the flange facing type is "FF" or "RF",  $c + 0 \text{ mm} / 0''$ . If the flange facing type is "LG", "LF", "SG" or "SF",  $c + 3 \text{ mm} / 0.1''$ . If the flange facing type is "LT", "LM", "ST" or "SM",  $c + 5 \text{ mm} / 0.2''$ .

If the magnetic level indicator has the flanged drain option, then this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]						
	a	C-C	ML	c	d	k	Øt
660...720	730 ①	300...5500	②	③	145	74.1	73.03
720...850	560 ④		⑤				
850...1200	405 ⑥		⑦				

Table 2-28: BM26A-7000 PN250 / Class 1500 (top axial - bottom side process connections): general dimensions in mm

- ① Drain options are available. NPT connection (female) + plug: 730 mm. Flange, DN15...25 and NPS 1/2...1: 815 mm. Flange, DN50 and NPS 1 1/2...2: 892 mm.
- ② Flange DN15...25 and NPS 1/2...1: C-C - 245 mm. Flange DN50 and NPS 1 1/2...2: C-C - 320 mm.
- ③ Flange DN15: 165 mm, DN25: 165 mm, DN50: 227 mm, NPS 1/2: 165 mm, NPS 3/4: 165 mm, NPS 1: 165 mm, NPS 1 1/2: 220 mm and NPS 2: 251 mm.
- ④ Drain options are available. NPT connection (female) + plug: 560 mm. Flange, DN15...25 and NPS 1/2...1: 645 mm. Flange, DN50 and NPS 1 1/2...2: 722 mm.
- ⑤ Flange DN15...25 and NPS 1/2...1: C-C - 235 mm. Flange DN50 and NPS 1 1/2...2: C-C - 310 mm.
- ⑥ Drain options are available. NPT connection (female) + plug: 405 mm. Flange, DN15...25 and NPS 1/2...1: 490 mm. Flange, DN50 and NPS 1 1/2...2: 567 mm.
- ⑦ Flange DN15...25 and NPS 1/2...1: C-C - 220 mm. Flange DN50 and NPS 1 1/2...2: C-C - 295 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]						
	a	C-C	ML	c	d	k	Øt
41.20...44.95	28.74 ①	11.8...216.5	②	③	5.7	2.9	2.9
44.95...53.06	22.05 ④		⑤				
53.06...74.91	15.94 ⑥		⑦				

Table 2-29: BM26A-7000 PN250 / Class 1500 (top axial - bottom side process connections): general dimensions in inches

- ① Drain options are available. NPT connection (female) + plug: 28.74". Flange, DN15...25 and NPS 1/2...1: 32.09". Flange, DN50 and NPS 1 1/2...2: 35.12".
- ② Flange DN15...25 and NPS 1/2...1: C-C - 9.65". Flange DN50 and NPS 1 1/2...2: C-C - 12.60".
- ③ Flange DN15: 6.50", DN25: 6.50", DN50: 8.94", NPS 1/2: 6.50", NPS 3/4: 6.50", NPS 1: 6.50", NPS 1 1/2: 8.66" and NPS 2: 9.88".
- ④ Drain options are available. NPT connection (female) + plug: 22.05". Flange, DN15...25 and NPS 1/2...1: 25.39". Flange, DN50 and NPS 1 1/2...2: 28.43".
- ⑤ Flange DN15...25 and NPS 1/2...1: C-C - 9.25". Flange DN50 and NPS 1 1/2...2: C-C - 12.20".
- ⑥ Drain options are available. NPT connection (female) + plug: 15.94". Flange, DN15...25 and NPS 1/2...1: 19.29". Flange, DN50 and NPS 1 1/2...2: 22.32".
- ⑦ Flange DN15...25 and NPS 1/2...1: C-C - 8.66". Flange DN50 and NPS 1 1/2...2: C-C - 11.61".

## 2.2.4 BM26A-7000 / PN400 - Class 2500

## Side - side process connections

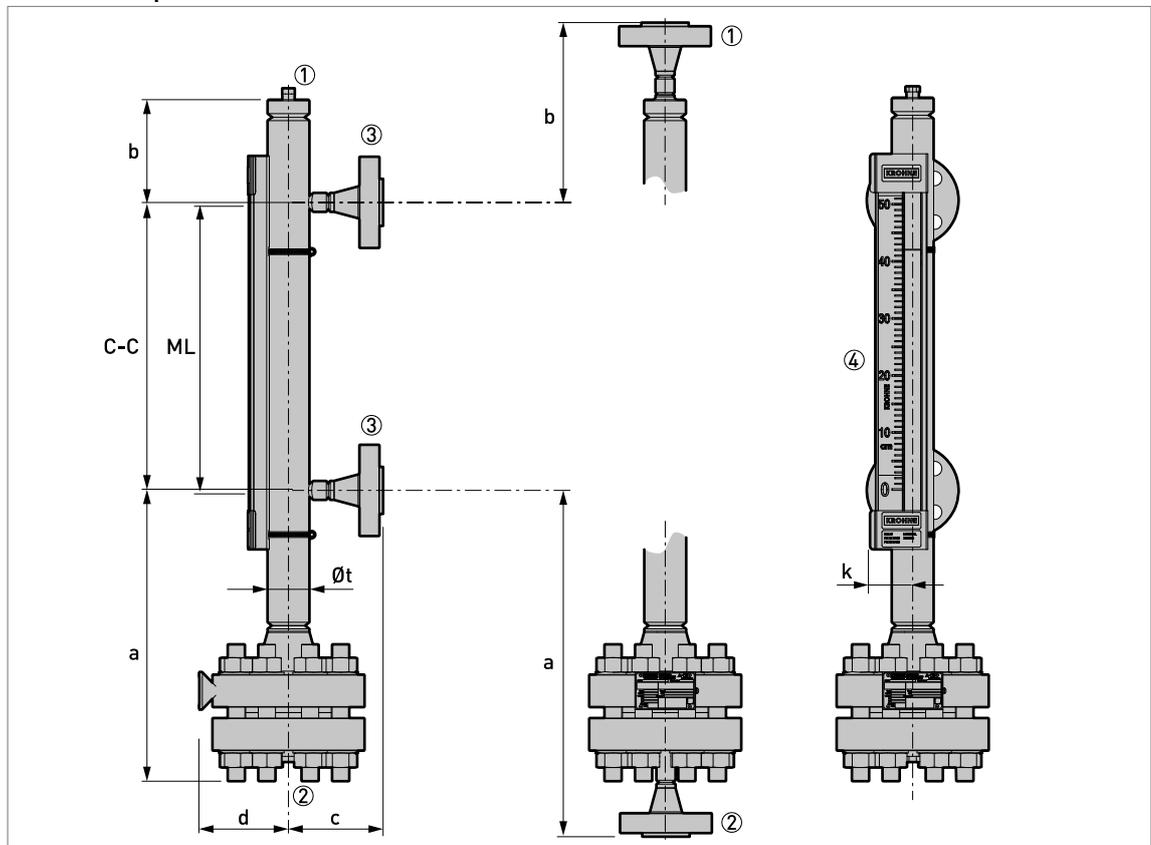


Figure 2-13: BM26A-7000 PN400 / Class 2500: side - side process connections

- ① Optional vent with 3/8...3/4 NPT threaded connection (with plug), or NPS 1/2 or NPS 1 flange
- ② Optional drain with 3/8...3/4 NPT threaded connection (with plug), or NPS 1/2 or NPS 1 flange
- ③ Process connection (flange)
- ④ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom connection to the bottom of the device
- $b$  = distance from the center axis of the top connection to the top of the device
- $C-C$  = distance between the center axes of the top and bottom process connections
- $ML$  = measuring length

Flanged vent and drain options have the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Dimensions [mm]							
	a	b	C-C	ML	c	d	k	Øt
740...800	680 ①	184 ②	300... 5500 ③	③	④	155	74.1	73.03
800...1200	510 ⑤							

Table 2-30: BM26A-7000 PN400 / Class 2500 (side - side process connections): general dimensions in mm

- ① Drain options are available. NPT connection (female) + plug: 680 mm. Flange, DN15...25 and NPS 1/2 or 1: 782 mm.  
 ② Vent options are available. NPT connection (female) + plug: 200 mm. Flange, NPS 1/2 or 1: 323 mm.  
 ③ This value agrees with the "C-C" dimension given in the customer order  
 ④ Flange NPS 1: 165 mm and NPS 2: 251 mm.  
 ⑤ Drain options are available. NPT connection (female) + plug: 510 mm. Flange, NPS 1/2 or 1: 612 mm.

Liquid density [lb/ft <sup>3</sup> ]	Dimensions [inches]							
	a	b	C-C	ML	c	d	k	Øt
46.20...49.94	26.77 ①	7.24 ②	11.8... 216.5 ③	③	④	6.1	2.9	2.9
49.94...74.91	20.08 ⑤							

Table 2-31: BM26A-7000 PN400 / Class 2500 (side - side process connections): general dimensions in inches

- ① Drain options are available. NPT connection (female) + plug: 26.77". Flange, DN15...25 and NPS 1/2 or 1: 30.79".  
 ② Vent options are available. NPT connection (female) + plug: 7.87". Flange, NPS 1/2 or 1: 12.72".  
 ③ This value agrees with the "C-C" dimension given in the customer order  
 ④ Flange NPS 1: 6.50" and NPS 2: 9.88".  
 ⑤ Drain options are available. NPT connection (female) + plug: 20.08". Flange, NPS 1/2 or 1: 24.09".

## 2.2.5 BM26A-7000 / PN40 - Class 300 / PTFE-lined

## Side - side process connections

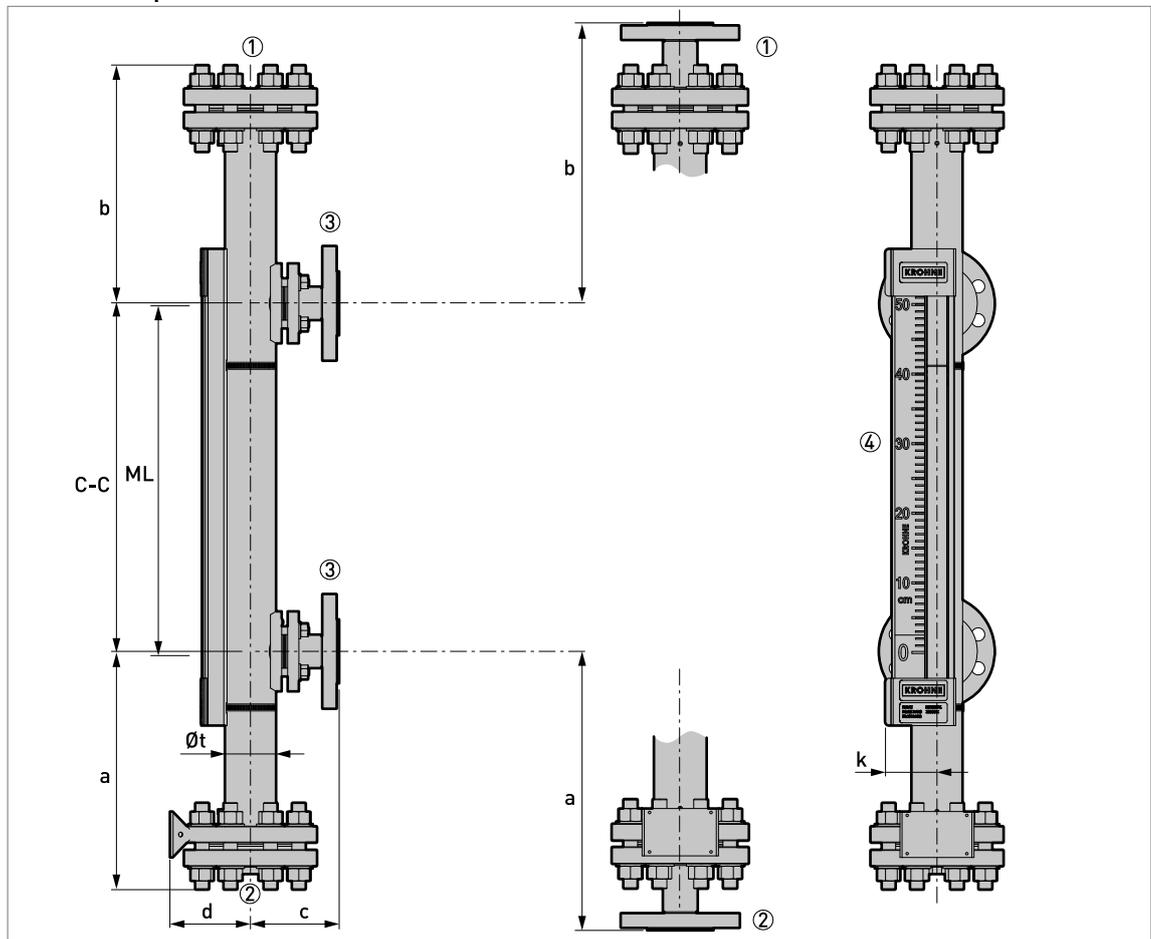


Figure 2-14: BM26A-7000 PN40 / Class 300 (PTFE-lined): side - side process connections

- ① Optional vent with 1/2...3/4 NPT threaded connection (with plug) or DN20...50 / NPS 3/4...2 flange
- ② Optional drain with 1/2...3/4 NPT threaded connection (with plug), or DN20...50 / NPS 3/4...2 flange
- ③ Process connection (flange, welded pipe, or pipe with male or female threaded connection)
- ④ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom connection to the bottom of the device
- $b$  = distance from the center axis of the top connection to the top of the device
- $C-C$  = distance between the center axes of the top and bottom process connections
- $ML$  = measuring length

If the magnetic level indicator has the flanged vent and drain options, these flanges have the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Dimensions [mm]							
a	b	C-C	ML	c	d	k	Øt
345 ①	345 ②	300...5500 ③	③	124.5	113	74.1	73.03

**Table 2-32: BM26A-7000 PN40 / Class 300 - PTFE-lined (side - side process connections): general dimensions in mm**

- ① Drain options are available. NPT or G connection (female) + plug: 345 mm. Flange, DN15...50 and NPS 1/2...1 1/2: 380 mm. Flange, NPS 2 Class 300: 400 mm.
- ② Vent options are available. NPT or G connection (female) + plug: 345 mm. Flange, DN15...50 and NPS 1/2...1 1/2: 380 mm. Flange, NPS 2 Class 300: 400 mm.
- ③ This value agrees with the "C-C" dimension given in the customer order

Dimensions [inches]							
a	b	C-C	ML	c	d	k	Øt
13.58 ①	13.58 ②	11.8...216.5 ③	③	4.90	4.4	2.9	2.9

**Table 2-33: BM26A-7000 PN40 / Class 300 - PTFE-lined (side - side process connections): general dimensions in inches**

- ① Drain options are available. NPT or G connection (female) + plug: 13.58". Flange, DN15...50 and NPS 1/2...1 1/2: 14.96". Flange, NPS 2 Class 300: 15.75".
- ② Vent options are available. NPT or G connection (female) + plug: 13.58". Flange, DN15...50 and NPS 1/2...1 1/2: 14.96". Flange, NPS 2 Class 300: 15.75".
- ③ This value agrees with the "C-C" dimension given in the customer order

## Axial - axial process connections

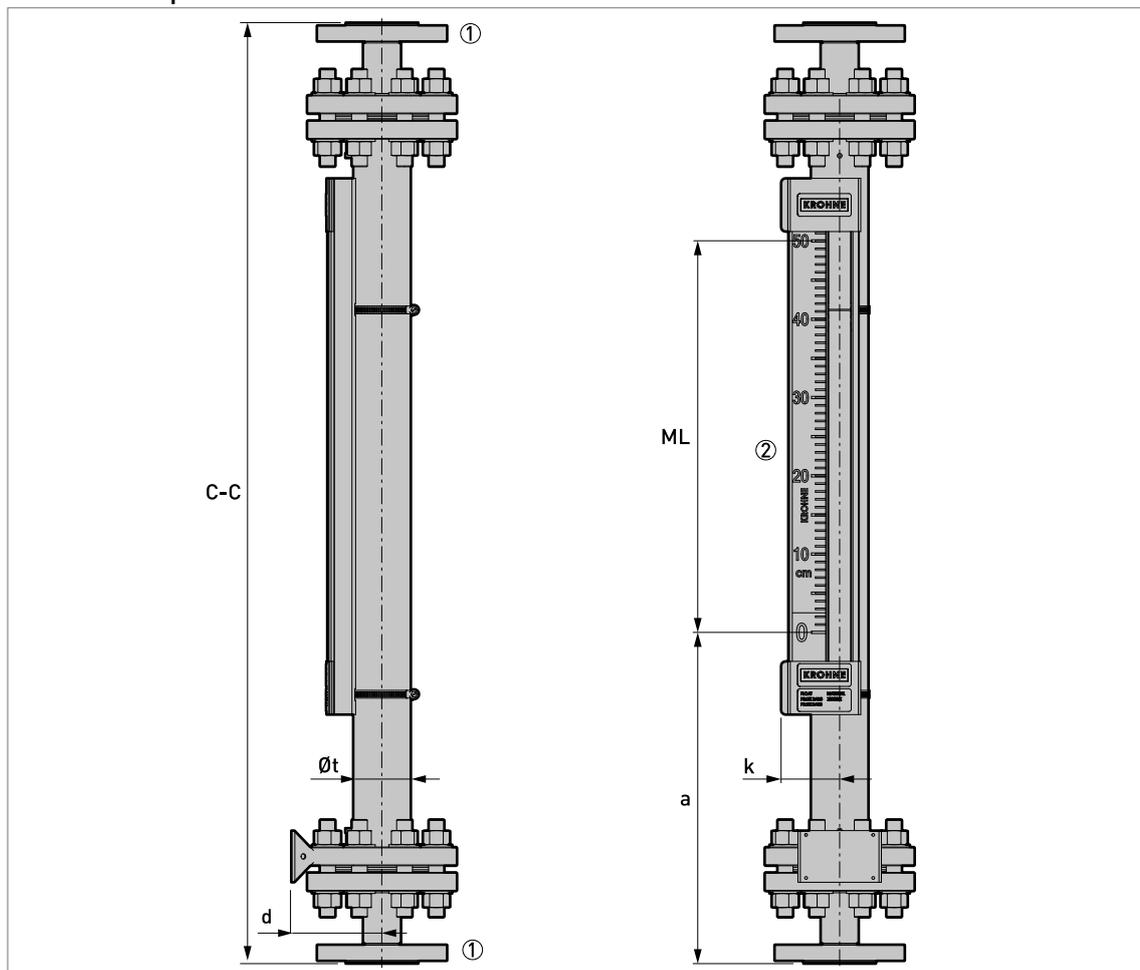


Figure 2-15: BM26A-7000 PN40 / Class 300 (PTFE-lined): axial - axial process connections

- ① Process connection (flange)
- ② Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = bottom dead zone
- $b$  = top dead zone
- $C-C$  = distance between the flange facings of the top and bottom process connections
- $ML$  = measuring length

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Float material	Dimensions [mm]					
		a	C-C	ML	d	k	Øt
800...1200	Halar® ECTFE-coated titanium	①	300... 5500 ②	③	113	74.1	73.03
680...850	Borosilicate glass	④		⑤			
850..1200	Borosilicate glass	①		③			

Table 2-34: BM26A-7000 PN40 / Class 300 - PTFE-lined (axial - axial process connections): general dimensions in mm

- ① Flange, DN15...50 and NPS 1/2...1 1/2: 263 mm. Flange, NPS 2 Class 300: 283 mm.  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...50 and NPS 1/2...1 1/2: C-C - 590 mm. Flange, NPS 2 Class 300: C-C - 630 mm.  
 ④ Flange, DN15...50 and NPS 1/2...1 1/2: 363 mm. Flange, NPS 2 Class 300: 383 mm.  
 ⑤ Flange, DN15...50 and NPS 1/2...1 1/2: C-C - 690 mm. Flange, NPS 2 Class 300: C-C - 730 mm.

Liquid density [lb/ft <sup>3</sup> ]	Float material	Dimensions [inches]					
		a	C-C	ML	d	k	Øt
49.94...74.91	Halar® ECTFE-coated titanium	①	11.8... 216.5 ②	③	4.4	2.9	2.9
42.45...53.06	Borosilicate glass	④		⑤			
53.06...74.91	Borosilicate glass	①		③			

Table 2-35: BM26A-7000 PN40 / Class 300 - PTFE-lined (axial - axial process connections): general dimensions in inches

- ① Flange, DN15...50 and NPS 1/2...1 1/2: 10.35". Flange, NPS 2 Class 300: 11.14".  
 ② This value agrees with the "C-C" dimension given in the customer order  
 ③ Flange, DN15...50 and NPS 1/2...1 1/2: C-C - 23.23". Flange, NPS 2 Class 300: C-C - 24.80".  
 ④ Flange, DN15...50 and NPS 1/2...1 1/2: 14.29". Flange, NPS 2 Class 300: 15.08".  
 ⑤ Flange, DN15...50 and NPS 1/2...1 1/2: C-C - 27.17". Flange, NPS 2 Class 300: C-C - 28.74".

## Top side - bottom axial process connections

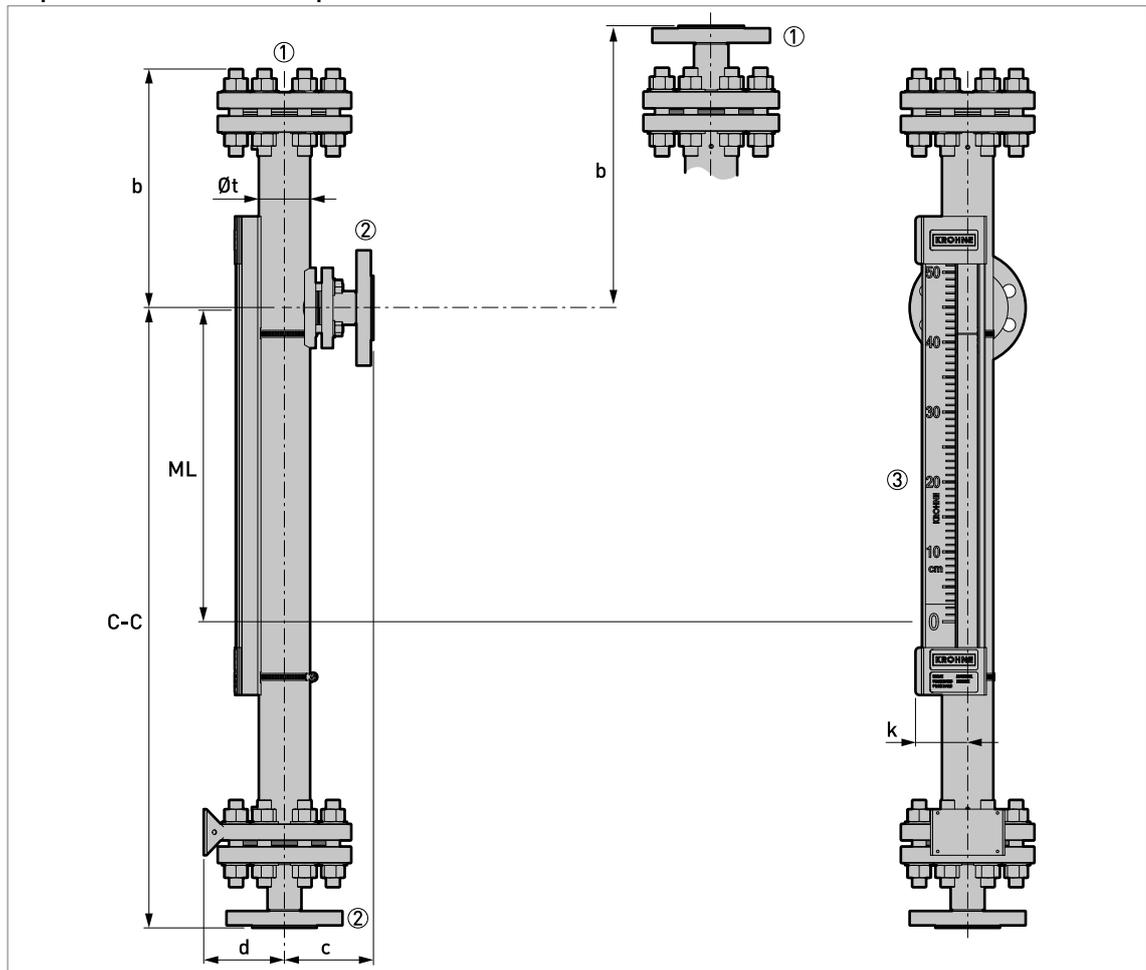


Figure 2-16: BM26A-7000 PN40 / Class 300 (PTFE-lined): top side - bottom axial process connections

- ① Optional vent with 1/2...3/4 NPT threaded connection (with plug) or DN20...50 / NPS 3/4...2 flange
- ② Process connection (flange)
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- *a* = bottom dead zone
- *b* = distance from the center axis of the top process connection to the top of the device
- *C-C* = distance between the center axis of the top process connection and the flange facing of the bottom process connection
- *ML* = measuring length

If the magnetic level indicator has the flanged vent option, this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Liquid density [kg/m <sup>3</sup> ]	Float material	Dimensions [mm]						
		b	C-C	ML	c	d	k	Øt
800...1200	Halar® ECTFE-coated titanium	345 ①	300... 5500 ②	③	124.5	113	74.1	73.03
680...850	Borosilicate glass			④				
850...1200	Borosilicate glass			③				

Table 2-36: BM26A-7000 PN40 / Class 300 - PTFE-lined (top side - bottom axial process connections): general dimensions in mm

- ① Vent options are available. NPT or G connection (female) + plug: 345 mm. Flange, DN15...50 and NPS 1/2...1 1/2: 380 mm. Flange, NPS 2 Class 300: 400 mm.
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...50 and NPS 1/2...1 1/2...1: C-C - 329 mm. Flange, NPS 2 Class 300: C-C - 349 mm.
- ④ Flange, DN15...50 and NPS 1/2...1 1/2...1: C-C - 421 mm. Flange, NPS 2 Class 300: C-C - 441 mm.

Liquid density [lb/ft <sup>3</sup> ]	Float material	Dimensions [inches]						
		b	C-C	ML	c	d	k	Øt
49.94...74.91	Halar® ECTFE-coated titanium	13.58 ①	11.8... 216.5 ②	③	4.90	4.4	2.9	2.9
42.45...53.06	Borosilicate glass			④				
53.06...74.91	Borosilicate glass			③				

Table 2-37: BM26A-7000 PN40 / Class 300 - PTFE-lined (top side - bottom axial process connections): general dimensions in inches

- ① Vent options are available. NPT or G connection (female) + plug: 13.58". Flange, DN15...50 and NPS 1/2...1 1/2: 14.96". Flange, NPS 2 Class 300: 15.75".
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...50 and NPS 1/2...1 1/2...1: C-C - 12.95". Flange, NPS 2 Class 300: C-C - 13.74".
- ④ Flange, DN15...50 and NPS 1/2...1 1/2...1: C-C - 16.57". Flange, NPS 2 Class 300: C-C - 17.36".

## Top axial - bottom side process connections

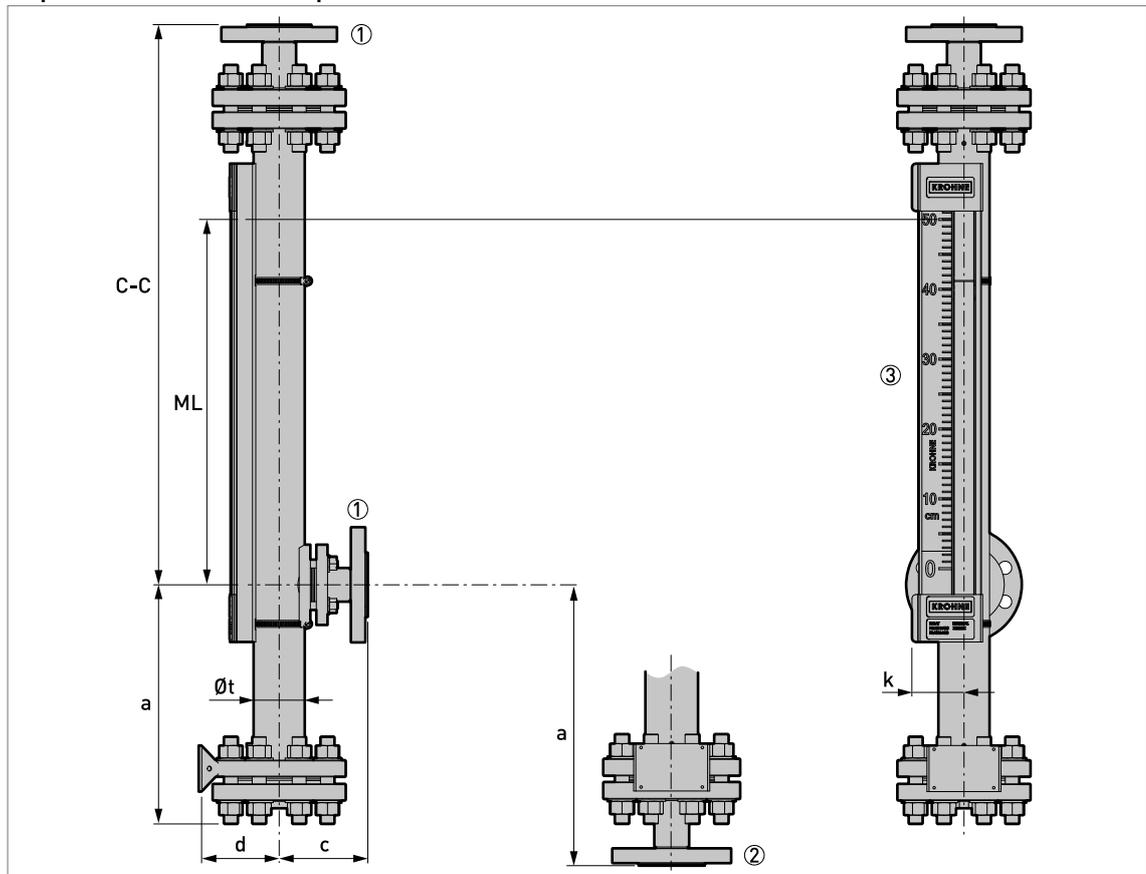


Figure 2-17: BM26A-7000 PN40 / Class 300 (PTFE-lined): top axial - bottom side process connections

- ① Process connection (flange)
- ② Optional drain with 1/2...3/4 NPT threaded connection (with plug) or DN20...50 / NPS 3/4...2 flange
- ③ Level indicator column with optional scale (mm, inch, % or volume)

- $a$  = distance from the center axis of the bottom process connection to the bottom of the device
- $b$  = top dead zone
- $C-C$  = distance between the flange facing of the top process connection and the center axis of the bottom process connection
- $ML$  = measuring length

If the magnetic level indicator has the flanged drain option, this flange has the same pressure rating as the flanges for the process connections.

Other dimensions are available on request.

Dimensions [mm]						
a	C-C	ML	c	d	k	Øt
350 ①	300...5500 ②	③	124.5	113	74.1	73.03

**Table 2-38: BM26A-7000 PN40 / Class 300 - PTFE-lined (top axial - bottom side process connections): general dimensions in mm**

- ① Drain options are available. NPT or G connection (female) + plug: 350 mm. Flange, DN15...50 and NPS 1/2...1 1/2: 380 mm. Flange, NPS 2 Class 300: 400 mm.
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...50 and NPS 1/2...1 1/2...1: C-C - 333 mm. Flange, NPS 2 Class 300: C-C - 353 mm.

Dimensions [inches]						
a	C-C	ML	c	d	k	Øt
13.78 ①	11.8...216.5 ②	③	4.90	4.4	2.9	2.9

**Table 2-39: BM26A-7000 PN40 / Class 300 - PTFE-lined (top axial - bottom side process connections): general dimensions in inches**

- ① Drain options are available. NPT or G connection (female) + plug: 13.78". Flange, DN15...50 and NPS 1/2...1 1/2: 14.96". Flange, NPS 2 Class 300: 15.75".
- ② This value agrees with the "C-C" dimension given in the customer order
- ③ Flange, DN15...50 and NPS 1/2...1 1/2...1: C-C - 13.11". Flange, NPS 2 Class 300: C-C - 13.90".

2.2.6 Options

LT40 C reed-chain level transmitter - compact version

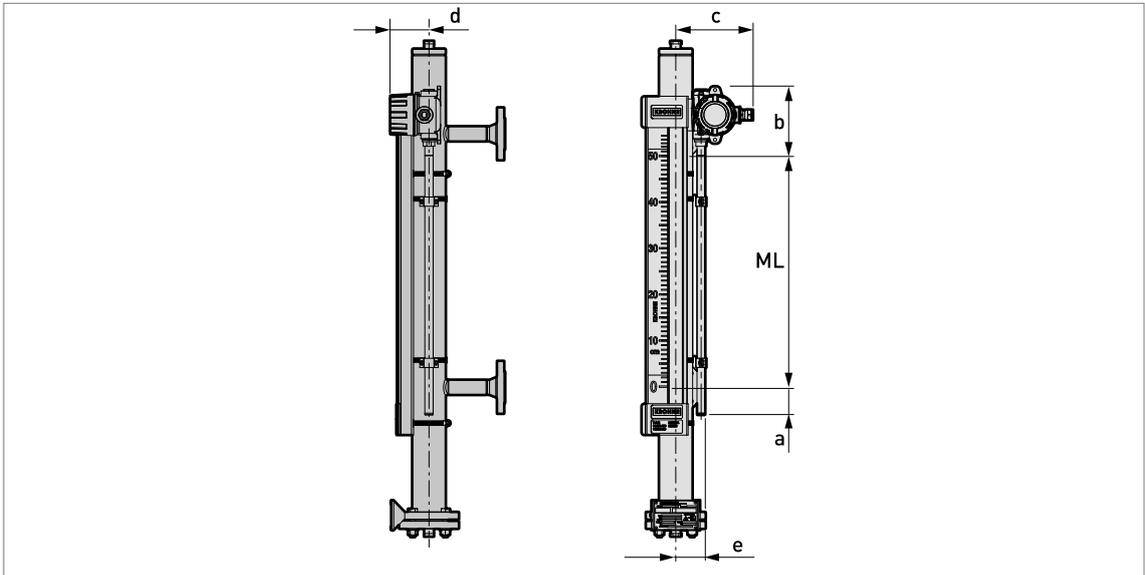


Figure 2-18: LT40 C reed-chain level transmitter - compact version

Dimensions [mm]					
a	b	c	ML	d	e
66.5	157	167.4	300...5500	84	50

Table 2-40: LT40 C reed-chain level transmitter: dimensions in mm

Dimensions [inches]					
a	b	c	ML	d	e
2.6	6.2	6.6	11.8...216.5	3.3	2.0

Table 2-41: LT40 C reed-chain level transmitter: dimensions in inches

LT40 F reed-chain level transmitter - remote version

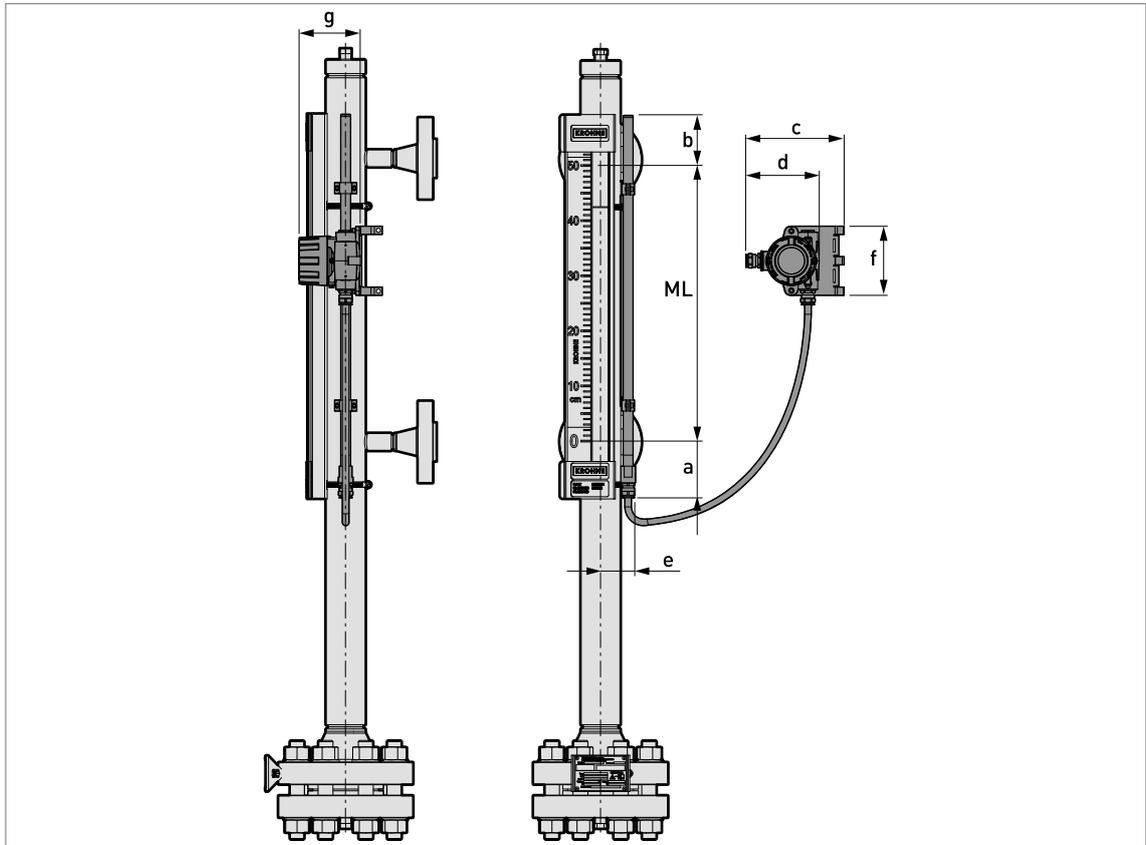


Figure 2-19: LT40 F reed-chain level transmitter - remote version

Dimensions [mm]							
a	b	c	d	ML	e	f	g
81.5	66.5	176	133	300...5500	50	125.5	62

Table 2-42: LT40 F reed-chain level transmitter: dimensions in mm

Dimensions [inches]							
a	b	c	d	ML	e	f	g
3.21	2.62	6.93	5.24	11.8...216.5	1.97	4.94	2.44

Table 2-43: LT40 F reed-chain level transmitter: dimensions in inches

Support for the LT40 F reed-chain level transmitter

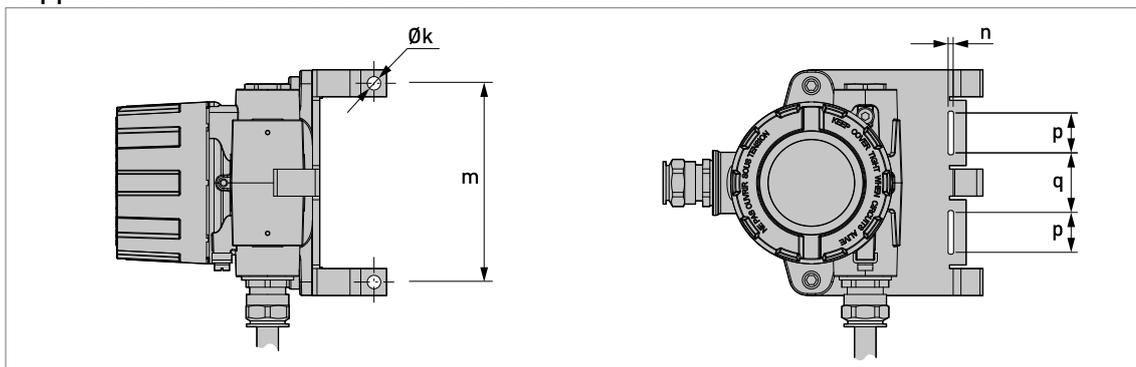


Figure 2-20: Support for the LT40 F reed-chain level transmitter

Dimensions [mm]				
Øk	m	n	p	q
7.5	107.75	3	24.25	31

Table 2-44: Support for the LT40 F reed-chain level transmitter: dimensions in mm

Dimensions [inches]				
Øk	m	n	p	q
0.30	4.24	0.12	0.95	1.22

Table 2-45: Support for the LT40 F reed-chain level transmitter: dimensions in inches

MS15 -series and MS40-series limit switches

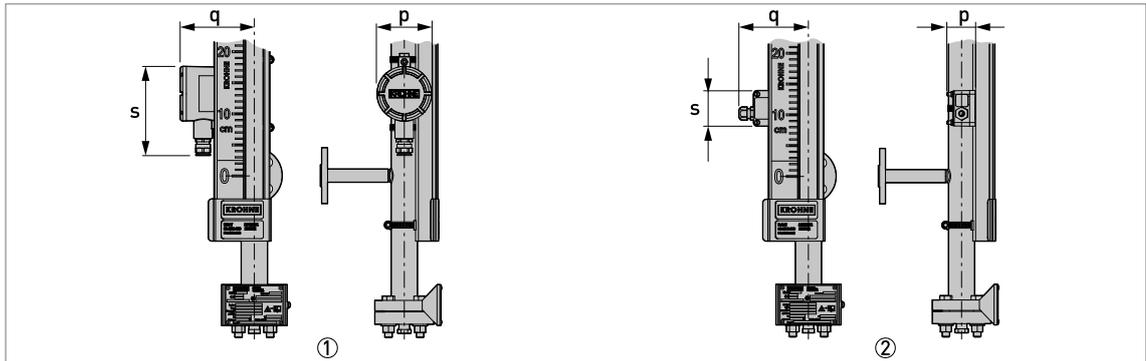


Figure 2-21: MS15-series and MS40-series limit switches

- ① Magnetic level indicator with an MS15-series limit switch
- ② Magnetic level indicator with an MS40-series limit switch

Limit switch version	Dimensions [mm]		
	p	q	s
MS15 series	88	138.9	143.5
MS40 series	46	129.6	56

Table 2-46: MS15-series and MS40-series limit switches: dimensions in mm

Limit switch version	Dimensions [inches]		
	p	q	s
MS15 series	3.46	5.47	5.65
MS40 series	1.81	5.10	2.20

Table 2-47: MS15-series and MS40-series limit switches: dimensions in inches

2.2.7 Accessories

Support bracket

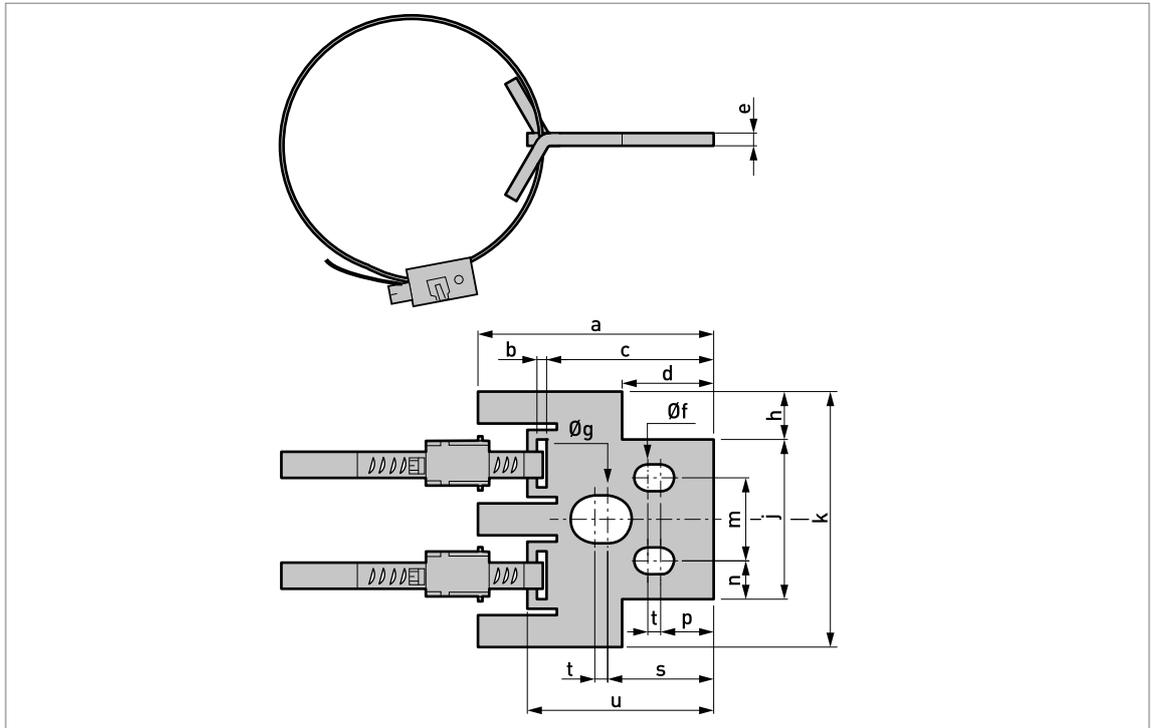


Figure 2-22: Support bracket

The support bracket is an accessory. If necessary, send an order to your supplier.

	Dimensions [mm]															
	a	b	c	d	e	$\varnothing f$	$\varnothing g$	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

Table 2-48: Support bracket: dimensions in mm

	Dimensions [inches]															
	a	b	c	d	e	$\varnothing f$	$\varnothing g$	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

Table 2-49: Support bracket: dimensions in inches

## 2.3 Maximum process pressure: measuring chamber

*Do not use the device at a process pressure more than the maximum limit for a given process temperature.*

*The process temperature must agree with the temperature limits of the gasket material.*

### 2.3.1 Magnetic level indicator with a 316 / 316 L measuring chamber

**Maximum process pressure [barg] for a given maximum process temperature [°C]**

EU PED, EN 13445 and UK PE(S)R								
Standard	Pressure rating	Maximum process temperature [°C]						
		-196	-70	-20	+20	+38	+50	+100
		Maximum process pressure [barg]						
EN 1092-1	PN40	40	40	40	40	40	40	40
	PN100	100	100	100	100	100	100	100
	PN160	160	160	160	160	160	160	160
	PN250	250	250	250	250	250	250	250
	PN400	400	400	400	400	400	392.3	358.1
ASME B16.5	Class 150	19	19	19	19	19	18.4	16
	Class 300	40	40	40	40	40	40	40
	Class 600	99.3	99.3	99.3	99.3	99.3	96.3	84.5
	Class 1500	248.2	248.2	248.2	248.2	248.2	240.6	210.9
	Class 2500	400	400	400	400	400	392.3	358.1
JIS B 2220	20K	34	34	34	34	34	34	34
ASME B36.19M	10S	40	40	40	40	40	40	40
	40S	100	100	100	100	100	100	100
	80S	250	250	250	250	250	250	250
ISO 228-1	G	40	40	40	40	40	40	40
ASME B1.20.1	NPT	100	100	100	100	100	100	100

Table 2-50: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [barg] for a given maximum process temperature [°C]

EU PED, EN 13445 and UK PE(S)R							
Standard	Pressure rating	Maximum process temperature [°C]					
		+150	+200	+250	+300	+350	+400
		Maximum process pressure [barg]					
EN 1092-1	PN40	36.3	33.7	31.8	29.7	28.5	27.4
	PN100	90.9	84.2	79.5	74.2	71.4	68.5
	PN160	145.5	134.8	127.2	118.8	114.2	109.7
	PN250	227.3	210.7	198.8	185.7	178.5	171.4
	PN400	324	298.4	281.4	264.3	255.8	247.2
ASME B16.5	Class 150	14.8	13.6	12	10.2	8.4	6.5
	Class 300	36.3	33.7	31.8	29.7	28.5	27.4
	Class 600	77.1	71.2	66.7	63.1	61	58.9
	Class 1500	192.4	178.4	167	158.1	152.2	147.1
	Class 2500	324	298.4	281.4	264.3	255.8	247.2
JIS B 2220	20K	31	31	31	29	26	23
ASME B36.19M	10S	36.3	33.7	31.8	29.7	28.5	27.4
	40S	90.9	84.2	79.5	74.2	71.4	68.5
	80S	227.3	210.7	198.8	185.7	178.5	171.4
ISO 228-1	G	36.3	33.7	31.8	29.7	28.5	27.4
ASME B1.20.1	NPT	90.9	84.2	79.5	74.2	71.4	68.5

Table 2-51: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [barg] for a given maximum process temperature [°C]

**Maximum process pressure [psig] for a given maximum process temperature [°F]**

EU PED, EN 13445 and UK PE(S)R								
Standard	Pressure rating	Maximum process temperature [°F]						
		-320.8	-94	-4	+68	+100.4	+122	+212
		Maximum process pressure [psig]						
EN 1092-1	PN40	580.2	580.2	580.2	580.2	580.2	580.2	580.2
	PN100	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4
	PN160	2320.6	2320.6	2320.6	2320.6	2320.6	2320.6	2320.6
	PN250	3625.9	3625.9	3625.9	3625.9	3625.9	3625.9	3625.9
	PN400	5801.5	5801.5	5801.5	5801.5	5801.5	5689.1	5193.8
ASME B16.5	Class 150	275.6	275.6	275.6	275.6	275.6	266.9	232.1
	Class 300	580.2	580.2	580.2	580.2	580.2	580.2	580.2
	Class 600	1440	1440	1440	1440	1440	1396.7	1225.6
	Class 1500	3599.8	3599.8	3599.8	3599.8	3599.8	3489.6	3058.8
	Class 2500	5801.5	5801.5	5801.5	5801.5	5801.5	5689.1	5193.8
JIS B 2220	20K	493.1	493.1	493.1	493.1	493.1	493.1	493.1
ASME B36.19M	10S	580.2	580.2	580.2	580.2	580.2	580.2	580.2
	40S	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4
	80S	3625.9	3625.9	3625.9	3625.9	3625.9	3625.9	3625.9
ISO 228-1	G	580.2	580.2	580.2	580.2	580.2	580.2	580.2
ASME B1.20.1	NPT	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4

Table 2-52: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [psig] for a given maximum process temperature [°F]

EU PED, EN 13445 and UK PE(S)R							
Standard	Pressure rating	Maximum process temperature [°F]					
		+302	+392	+482	+572	+662	+752
		Maximum process pressure [psig]					
EN 1092-1	PN40	526.5	488.8	461.2	430.8	413.4	397.4
	PN100	1318.4	1221.2	1153.1	1076.2	1035.6	993.5
	PN160	2110.3	1955.1	1844.9	1723	1656.3	1591.1
	PN250	3296.7	3055.9	2883.4	2963.4	2588.9	2485.9
	PN400	4699.2	4327.9	4081.4	3833.3	3710.1	3585.3
ASME B16.5	Class 150	214.7	197.3	174	147.9	121.8	94.3
	Class 300	526.5	488.8	461.2	430.8	413.4	397.4
	Class 600	1118.2	1032.7	967.4	915.2	884.7	854.3
	Class 1500	2790.5	2587.5	2422.1	2293	2207.5	2133.5
	Class 2500	4699.2	4327.9	4081.4	3833.3	3710.1	3585.3
JIS B 2220	20K	449.6	449.6	449.6	420.6	377.1	333.6
ASME B36.19M	10S	526.5	488.8	461.2	430.8	413.4	397.4
	40S	1318.4	1221.2	1153.1	1076.2	1035.6	993.5
	80S	3296.7	3055.9	2883.4	2693.4	2588.9	2485.9
ISO 228-1	G	526.5	488.8	461.2	430.8	413.4	397.4
ASME B1.20.1	NPT	1318.4	1221.2	1153.1	1076.2	1035.6	993.5

Table 2-53: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [psig] for a given maximum process temperature [°F]

**Maximum allowable working pressure [barg] for a given maximum process temperature [°C]**

ASME B31.3										
Standard	Pressure rating	Maximum process temperature [°C]								
		-196	-70	-20	+20	+38	+50	+100		
		Maximum allowable working pressure [barg]								
ASME B16.5	Class 150	19	19	19	19	19	18.4	16		
	Class 300	40	40	40	40	40	40	40		
	Class 600	84.5	84.5	84.5	84.5	84.5	84.5	84.5		
	Class 1500	216	216	216	216	216	216	216	207	
	Class 2500	282	282	282	282	282	282	282	275	
ASME B36.19M	10S	40	40	40	40	40	40	40	40	
	40S	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	
	80S	216	216	216	216	216	216	216	207	
ASME B1.20.1	NPT - Class 300 ①	40	40	40	40	40	40	40	40	
	NPT - Class 600 ②	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	

**Table 2-54: ASME B31.3: Maximum allowable working pressure [barg] for a given maximum process temperature [°C]**

① These values are applicable to NPT process connections for the BM26A-6000 and the BM26A-7000 PN40 / Class 300

② These values are applicable to NPT process connections for the BM26A-7000 PN100 / Class 600

ASME B31.3									
Standard	Pressure rating	Maximum process temperature [°C]							
		+150	+200	+250	+300	+350	+400		
		Maximum allowable working pressure [barg]							
ASME B16.5	Class 150	14.8	13.6	12	10.2	8.4	6.5		
	Class 300	36.3	33.7	31.8	29.7	28.5	27.4		
	Class 600	77.1	71.2	66.7	63.1	61	58.9		
	Class 1500	207	202	191	181	175	172		
	Class 2500	275	275	275	275	275	274		
ASME B36.19M	10S	36.3	33.7	31.8	29.7	28.5	27.4		
	40S	77.1	71.2	66.7	63.1	61	58.9		
	80S	207	202	191	181	175	172		
ASME B1.20.1	NPT - Class 300 ①	36.3	33.7	31.8	29.7	28.5	27.4		
	NPT - Class 600 ②	77.1	71.2	66.7	63.1	61	58.9		

**Table 2-55: ASME B31.3: Maximum allowable working pressure [barg] for a given maximum process temperature [°C]**

① These values are applicable to NPT process connections for the BM26A-6000 and the BM26A-7000 PN40 / Class 300

② These values are applicable to NPT process connections for the BM26A-7000 PN100 / Class 600

Maximum allowable working pressure [psig] for a given maximum process temperature [°F]

ASME B31.3										
Standard	Pressure rating	Maximum process temperature [°F]								
		-320.8	-94	-4	+68	+100.4	+122	+212		
		Maximum allowable working pressure [psig]								
ASME B16.5	Class 150	275.6	275.6	275.6	275.6	275.6	266.9	232.1		
	Class 300	580.2	580.2	580.2	580.2	580.2	580.2	580.2		
	Class 600	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6		
	Class 1500	3132.8	3132.8	3132.8	3132.8	3132.8	3132.8	3132.8	3002.3	
	Class 2500	4090.1	4090.1	4090.1	4090.1	4090.1	4090.1	4090.1	3988.5	
ASME B36.19M	10S	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	
	40S	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6	
	80S	3132.8	3132.8	3132.8	3132.8	3132.8	3132.8	3132.8	3002.3	
ASME B1.20.1	NPT - Class 300 ①	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	
	NPT - Class 600 ②	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6	1225.6	

Table 2-56: ASME B31.3: maximum allowable working pressure [psig] for a given maximum process temperature [°F]

① These values are applicable to NPT process connections for the BM26A-5000 PN40 / Class 300

② These values are applicable to NPT process connections for the BM26A-5000 PN100 / Class 600

ASME B31.3									
Standard	Pressure rating	Maximum process temperature [°F]							
		+302	+392	+482	+572	+662	+752		
		Maximum allowable working pressure [psig]							
ASME B16.5	Class 150	214.7	197.3	174	147.9	121.8	94.3		
	Class 300	526.5	488.8	461.2	430.8	413.4	397.4		
	Class 600	1118.2	1032.7	967.4	915.2	884.7	854.3		
	Class 1500	3002.3	2929.8	2770.2	2625.2	2538.2	2494.7		
	Class 2500	3988.5	3988.5	3988.5	3988.5	3988.5	3988.5	3585.3	
ASME B36.19M	10S	526.5	488.8	461.2	430.8	413.4	397.4		
	40S	1118.2	1032.7	967.4	915.2	884.7	854.3		
	80S	3296.7	3055.9	2770.2	2625.2	2538.2	2494.7		
ASME B1.20.1	NPT - Class 300 ①	526.5	488.8	461.2	430.8	413.4	397.4		
	NPT - Class 600 ②	1118.2	1032.7	967.4	915.2	884.7	854.3		

Table 2-57: ASME B31.3: maximum allowable working pressure [psig] for a given maximum process temperature [°F]

① These values are applicable to NPT process connections for the BM26A-5000 PN40 / Class 300

② These values are applicable to NPT process connections for the BM26A-5000 PN100 / Class 600

### 2.3.2 Magnetic level indicator with a 304 L measuring chamber

Maximum process pressure [barg] for a given maximum process temperature [°C]

EU PED, EN 13445 and UK PE(S)R								
Standard	Pressure rating	Maximum process temperature [°C]						
		-196	-70	-20	+20	+38	+50	+100
		Maximum process pressure [barg]						
EN 1092-1	PN40	40	40	40	40	40	40	34.4
	PN100	100	100	100	100	100	100	86.1
ASME B16.5	Class 150	15.9	15.9	15.9	15.9	15.9	15.3	13.3
	Class 300	40	40	40	40	40	40	34.4
	Class 600	82.7	82.7	82.7	82.7	82.7	79.9	69.1
JIS B 2220	20K	34	34	34	34	34	34	34
ASME B36.19M	10S	40	40	40	40	40	40	34.4
	40S	100	100	100	100	100	100	86.1
ISO 228-1	G	40	40	40	40	40	40	34.4
ASME B1.20.1	NPT	100	100	100	100	100	100	86.1

Table 2-58: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [barg] for a given maximum process temperature [°C]

EU PED, EN 13445 and UK PE(S)R							
Standard	Pressure rating	Maximum process temperature [°C]					
		+150	+200	+250	+300	+350	+400
		Maximum process pressure [barg]					
EN 1092-1	PN40	30.8	28	26	24.1	23	22
	PN100	77.1	70	65.2	60.4	57.6	55.2
ASME B16.5	Class 150	12	11.1	10.2	9.7	8.4	6.5
	Class 300	30.8	28	26	24.1	23	22
	Class 600	62.6	57.4	53.5	50.5	48	46.1
JIS B 2220	20K	31	31	31	29	26	23
ASME B36.19M	10S	30.8	28	26	24.1	23	22
	40S	77.1	70	65.2	60.4	57.6	55.2
ISO 228-1	G	30.8	28	26	24.1	23	22
ASME B1.20.1	NPT	77.1	70	65.2	60.4	57.6	55.2

Table 2-59: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [barg] for a given maximum process temperature [°C]

Maximum process pressure [psig] for a given maximum process temperature [°F]

EU PED, EN 13445 and UK PE(S)R									
Standard	Pressure rating	Maximum process temperature [°F]						Maximum process pressure [psig]	
		-302.8	-94	-4	+68	+100.4	+122		+212
		EN 1092-1	PN40	580.2	580.2	580.2	580.2		580.2
	PN100	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4	1248.8	
ASME B16.5	Class 150	230.6	230.6	230.6	230.6	230.6	221.9	192.9	
	Class 300	580.2	580.2	580.2	580.2	580.2	580.2	498.9	
	Class 600	1199.5	1199.5	1199.5	1199.5	1199.5	1158.9	1002.2	
JIS B 2220	20K	493.1	493.1	493.1	493.1	493.1	493.1	493.1	
ASME B36.19M	10S	580.2	580.2	580.2	580.2	580.2	580.2	498.9	
	40S	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4	1248.8	
ISO 228-1	G	580.2	580.2	580.2	580.2	580.2	580.2	498.9	
ASME B1.20.1	NPT	1450.4	1450.4	1450.4	1450.4	1450.4	1450.4	1248.8	

Table 2-60: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [psig] for a given maximum process temperature [°F]

EU PED, EN 13445 and UK PE(S)R								
Standard	Pressure rating	Maximum process temperature [°F]						Maximum process pressure [psig]
		+302	+392	+482	+572	+662	+752	
		EN 1092-1	PN40	446.7	406	377.1	349.5	
	PN100	1118.2	1015.3	945.6	876	835.4	880.6	
ASME B16.5	Class 150	174	161	147.9	140.7	121.8	94.3	
	Class 300	446.7	406	377.1	349.5	333.6	319.1	
	Class 600	907.9	832.5	776	732.4	696.2	668.6	
JIS B 2220	20K	449.6	449.6	449.6	420.6	377.1	333.6	
ASME B36.19M	10S	446.7	406	377.1	349.5	333.6	319.1	
	40S	1118.2	1015.3	945.6	876	835.4	880.6	
ISO 228-1	G	446.7	406	377.1	349.5	333.6	319.1	
ASME B1.20.1	NPT	1118.2	1015.3	945.6	876	835.4	880.6	

Table 2-61: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [psig] for a given maximum process temperature [°F]

### 2.3.3 Magnetic level indicator with a PTFE-lined 316 L measuring chamber

Maximum process pressure [barg] for a given maximum process temperature [°C]

EU PED, EN 13445 and UK PE(S)R										
Standard	Pressure rating	Threaded vent and drain options Yes / No	Maximum process temperature [°C]							
			-70	-20	+20	+38	+50	+100	+150	+200
			Maximum process pressure [barg]							
EN 1092-1	PN40	No	40	40	40	40	40	40	36.3	33.7
		Yes	16	16	16	16	16	16	14.5	13.4
ASME B16.5	Class 150	No	15.9	15.9	15.9	15.9	15.3	13.3	12	11.1
		Yes	15.9	15.9	15.9	15.9	15.3	13.3	12	11.1
ASME B16.5	Class 300	No	40	40	40	40	40	40	36.3	33.7
		Yes	15.9	15.9	15.9	15.9	15.3	13.3	12	11.1

Table 2-62: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [barg] for a given maximum process temperature [°C]

Maximum process pressure [psig] for a given maximum process temperature [°F]

EU PED, EN 13445 and UK PE(S)R										
Standard	Pressure rating	Threaded vent and drain options Yes / No	Maximum process temperature [°F]							
			-94	-4	+68	+100.4	+122	+212	+302	+392
			Maximum process pressure [psig]							
EN 1092-1	PN40	No	580.2	580.2	580.2	580.2	580.2	580.2	526.5	488.8
		Yes	232.1	232.1	232.1	232.1	232.1	232.1	210.3	194.4
ASME B16.5	Class 150	No	230.6	230.6	230.6	230.6	221.9	192.9	174	161
		Yes	230.6	230.6	230.6	230.6	221.9	192.9	174	161
ASME B16.5	Class 300	No	580.2	580.2	580.2	580.2	580.2	580.2	526.5	488.8
		Yes	230.6	230.6	230.6	230.6	221.9	192.9	174	161

Table 2-63: EU PED, EN 13445 and UK PE(S)R: maximum process pressure [psig] for a given maximum process temperature [°F]

Maximum allowable working pressure [barg] for a given maximum process temperature [°C]

ASME B31.3										
Standard	Pressure rating	Threaded vent and drain options Yes / No	Maximum process temperature [°C]							
			-70	-20	+20	+38	+50	+100	+150	+200
			Maximum allowable working pressure [barg]							
ASME B16.5	Class 150	No	15.9	15.9	15.9	15.9	15.3	13.3	12	11.1
		Yes	15.9	15.9	15.9	15.9	15.3	13.3	12	11.1
ASME B16.5	Class 300	No	40	40	40	40	40	40	36.3	33.7
		Yes	15.9	15.9	15.9	15.9	15.3	13.3	12	11.1

Table 2-64: ASME B31.3: maximum allowable working pressure [barg] for a given maximum process temperature [°C]

Maximum allowable working pressure [psig] for a given maximum process temperature [°F]

ASME B31.3										
Standard	Pressure rating	Threaded vent and drain options Yes / No	Maximum process temperature [°F]							
			-94	-4	+68	+100.4	+122	+212	+302	+392
			Maximum allowable working pressure [psig]							
ASME B16.5	Class 150	No	230.6	230.6	230.6	230.6	221.9	192.9	174	161
		Yes	230.6	230.6	230.6	230.6	221.9	192.9	174	161
ASME B16.5	Class 300	No	580.2	580.2	580.2	580.2	580.2	580.2	526.5	488.8
		Yes	230.6	230.6	230.6	230.6	221.9	192.9	174	161

Table 2-65: ASME B31.3: maximum allowable working pressure [psig] for a given maximum process temperature [°F]

Threaded vent and drain options include G (ISO 228-1) and NPT (ASME B1.20.1) connections.

## 2.4 Temperature limits: LT40 C/F reed-chain level transmitter

*Do not use the device at an ambient temperature more than the maximum limit for a given process temperature. Do not use the device at an ambient temperature less than the minimum limit for a given process temperature.*

*The temperature limit calculations for these graphs include plots for devices that have thermal insulation options (ROCKWOOL® and FOAMGLAS®) supplied by the manufacturer.*

### 2.4.1 Without a thermal insulation option and without the LCD indicator module

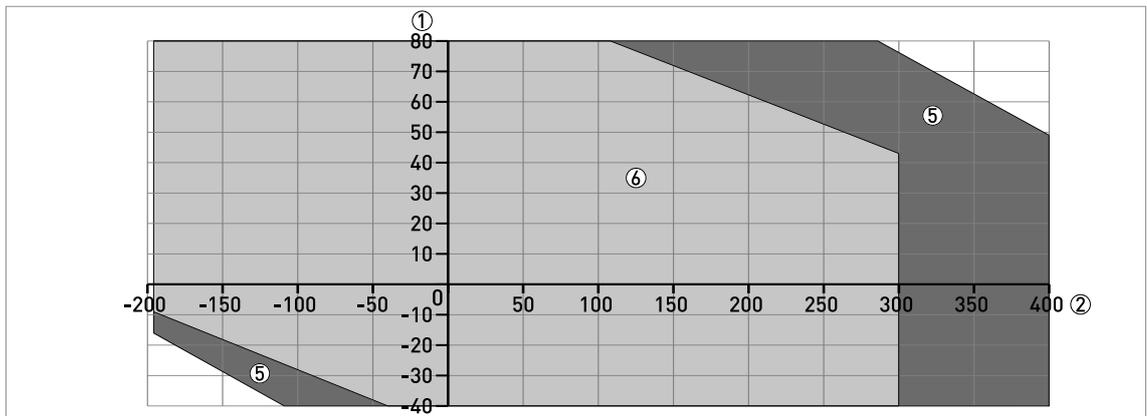


Figure 2-23: Ambient temperature / process temperature, in °C - without a thermal insulation option and without the LCD indicator module

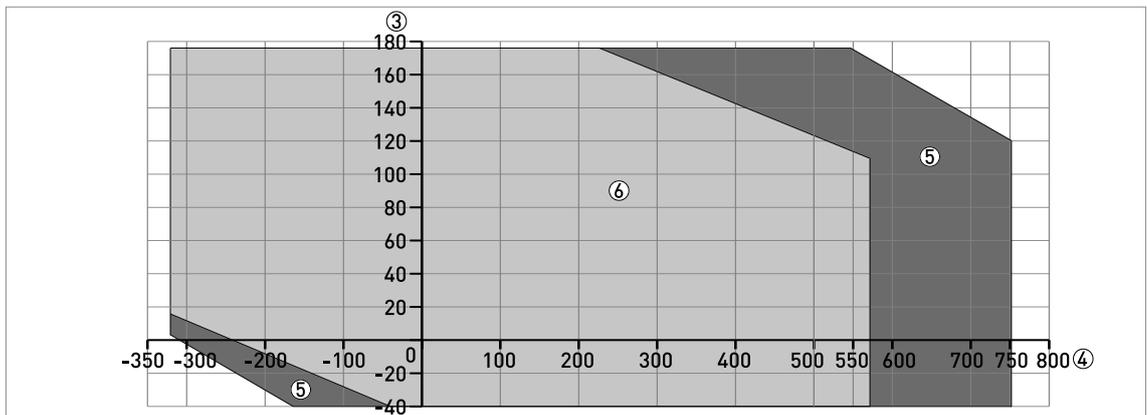


Figure 2-24: Ambient temperature / process temperature, in °F - without a thermal insulation option and without the LCD indicator module

- ① Ambient temperature, °C
- ② Process temperature, °C
- ③ Ambient temperature, °F
- ④ Process temperature, °F
- ⑤ LT40 F
- ⑥ LT40 C and LT40 F

2.4.2 Without a thermal insulation option and with the LCD indicator module

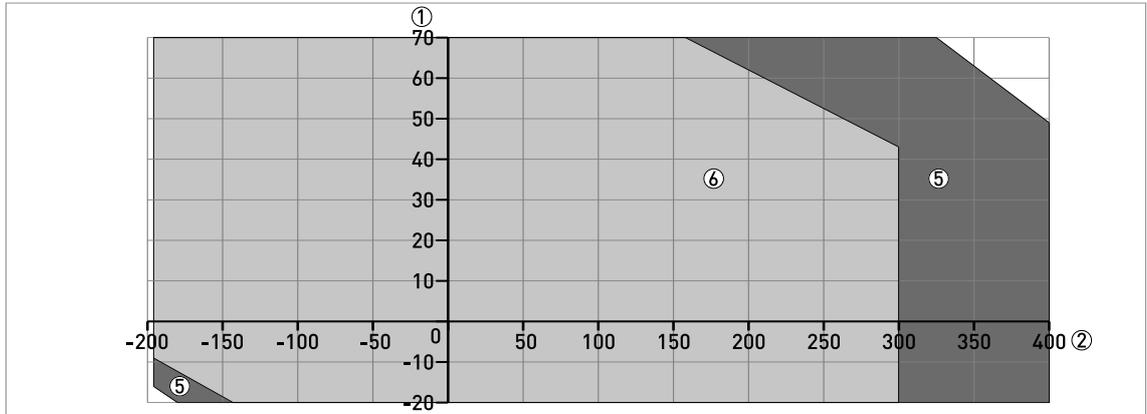


Figure 2-25: Ambient temperature / process temperature, in °C - without a thermal insulation option and with the LCD indicator module

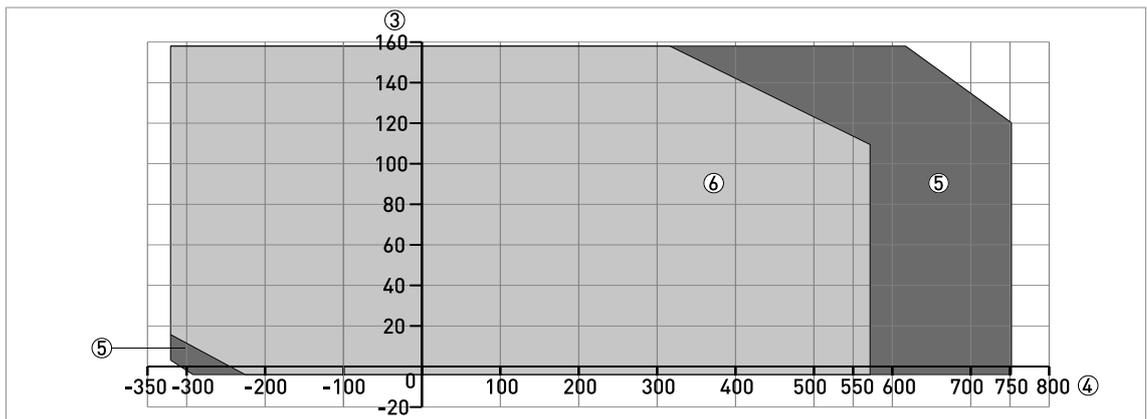


Figure 2-26: Ambient temperature / process temperature, in °F - without a thermal insulation option and with the LCD indicator module

- ① Ambient temperature, °C
- ② Process temperature, °C
- ③ Ambient temperature, °F
- ④ Process temperature, °F
- ⑤ LT40 F
- ⑥ LT40 C and LT40 F

2.4.3 With a thermal insulation option and without the LCD indicator module

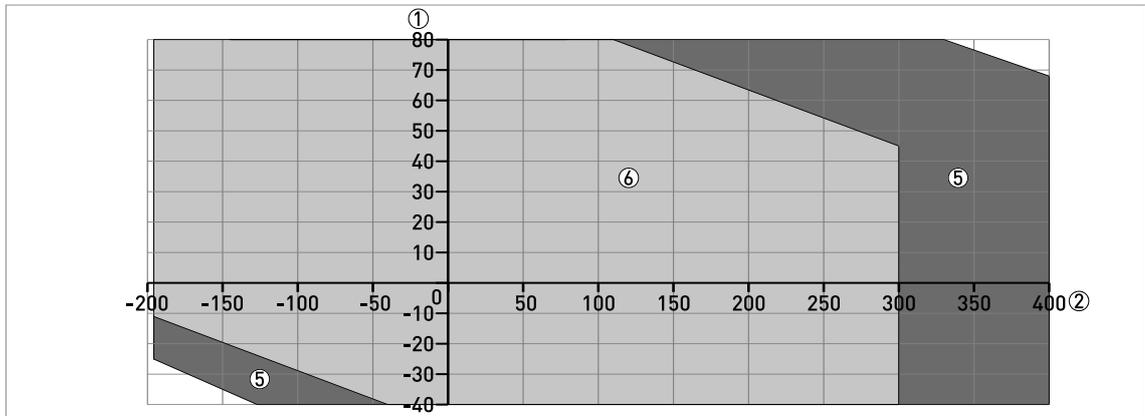


Figure 2-27: Ambient temperature / process temperature, in °C - with a thermal insulation option and without the LCD indicator module

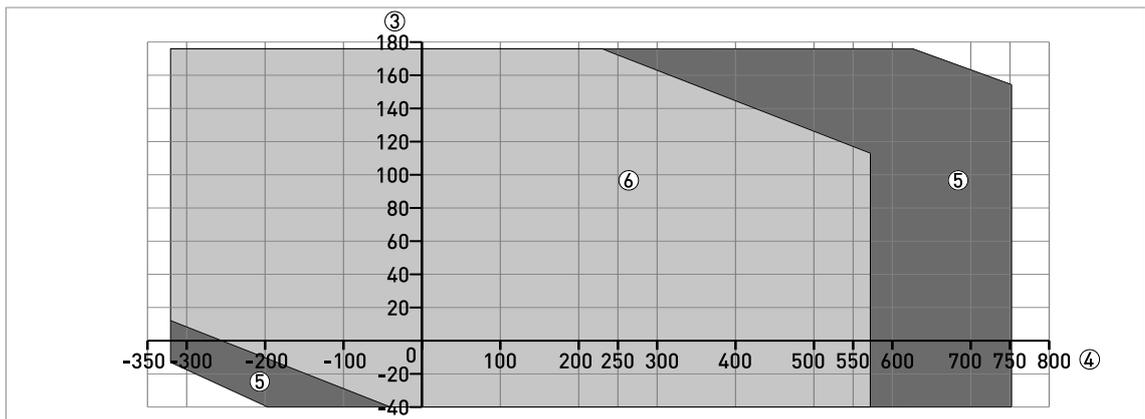


Figure 2-28: Ambient temperature / process temperature, in °F - with a thermal insulation option and without the LCD indicator module

- ① Ambient temperature, °C
- ② Process temperature, °C
- ③ Ambient temperature, °F
- ④ Process temperature, °F
- ⑤ LT40 F
- ⑥ LT40 C and LT40 F

2.4.4 With a thermal insulation option and with the LCD indicator module

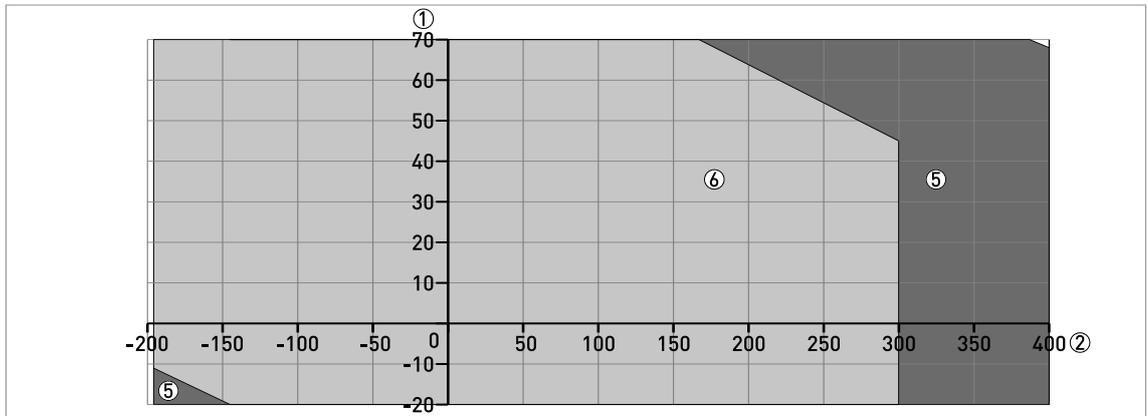


Figure 2-29: Ambient temperature / process temperature, in °C - with a thermal insulation option and with the LCD indicator module

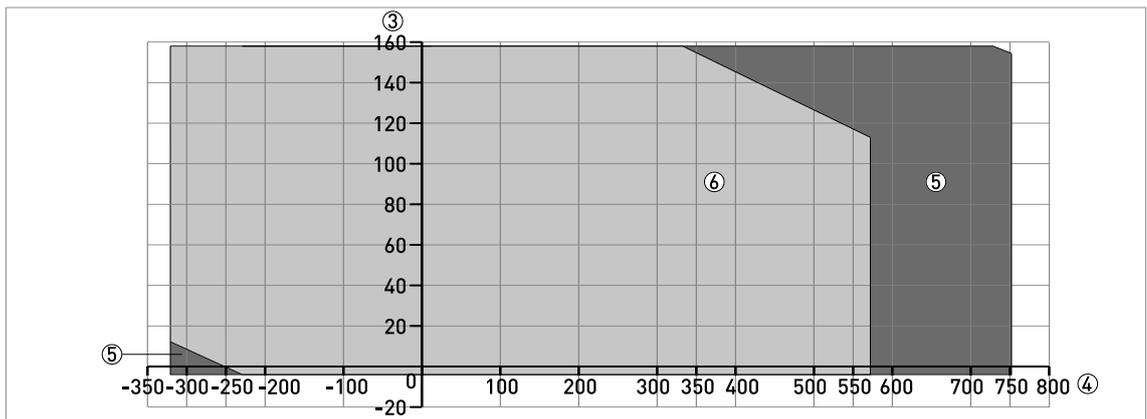


Figure 2-30: Ambient temperature / process temperature, in °F - with a thermal insulation option and with the LCD indicator module

- ① Ambient temperature, °C
- ② Process temperature, °C
- ③ Ambient temperature, °F
- ④ Process temperature, °F
- ⑤ LT40 F
- ⑥ LT40 C and LT40 F

## 2.5 Temperature limits: MS15-series limit switch

*Do not use the device at an ambient temperature more than the maximum limit for a given process temperature. Do not use the device at an ambient temperature less than the minimum limit for a given process temperature.*

*The temperature limit calculations for these graphs include plots for devices that have thermal insulation options (ROCKWOOL® and FOAMGLAS®) supplied by the manufacturer.*

### 2.5.1 Aluminium housing

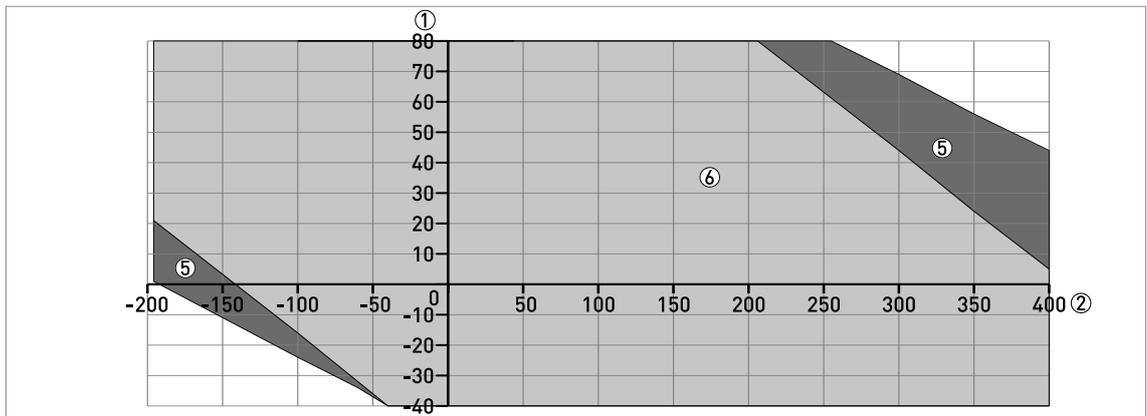


Figure 2-31: Ambient temperature / process temperature, in °C - MS15-series limit switch with the aluminium housing option

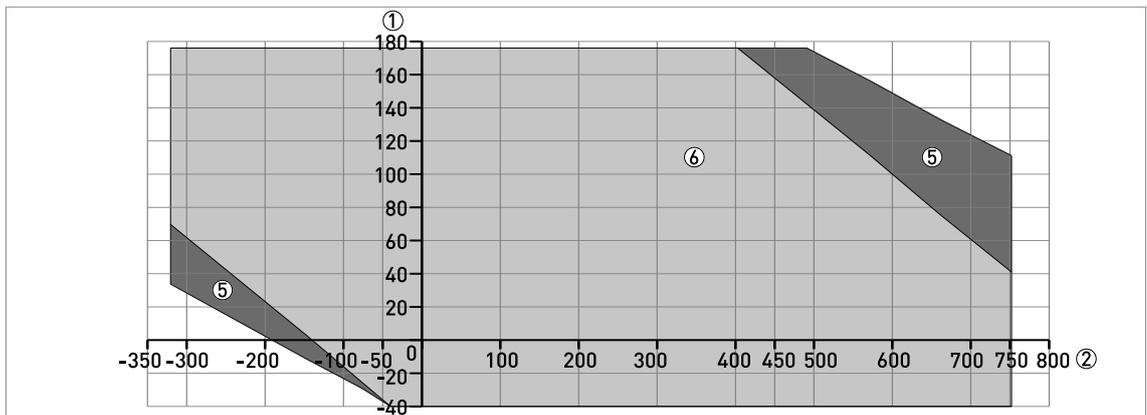


Figure 2-32: Ambient temperature / process temperature, in °F - MS15-series limit switch with the aluminium housing option

- ① Ambient temperature, °C
- ② Process temperature, °C
- ③ Ambient temperature, °F
- ④ Process temperature, °F
- ⑤ MS15-series limit switch - without a thermal insulation option
- ⑥ MS15-series limit switch - with or without a thermal insulation option

2.5.2 Stainless-steel housing

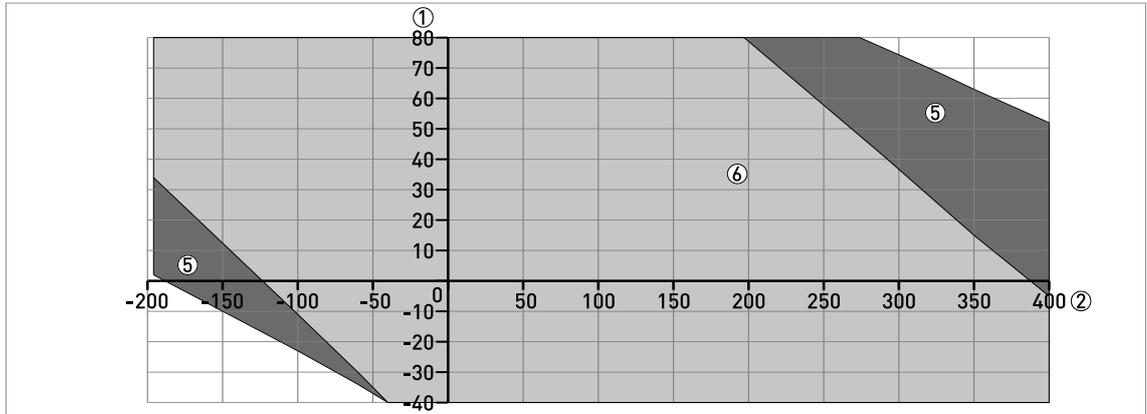


Figure 2-33: Ambient temperature / process temperature, in °C - MS15-series limit switch with the stainless-steel housing option

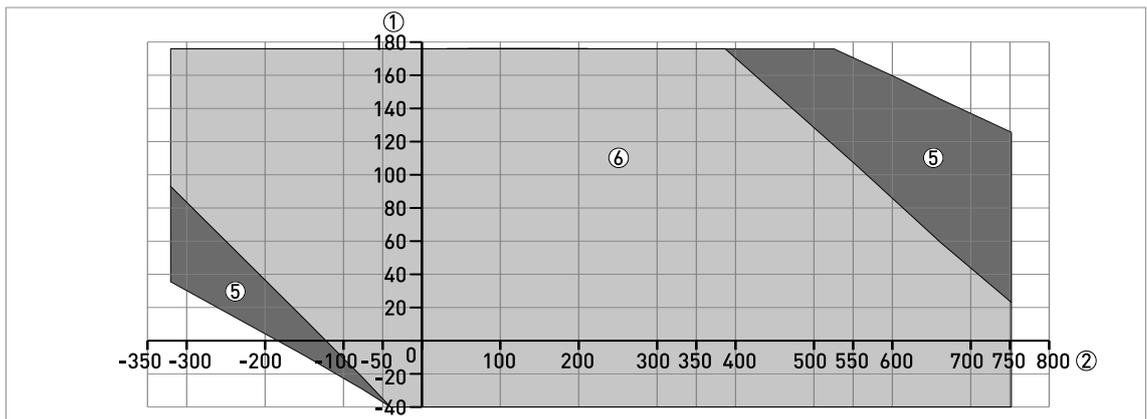


Figure 2-34: Ambient temperature / process temperature, in °F - MS15-series limit switch with the stainless-steel housing option

- ① Ambient temperature, °C
- ② Process temperature, °C
- ③ Ambient temperature, °F
- ④ Process temperature, °F
- ⑤ MS15-series limit switch - without a thermal insulation option
- ⑥ MS15-series limit switch - with or without a thermal insulation option

## 2.6 Temperature limits: MS40-series limit switch

*Do not use the device at an ambient temperature more than the maximum limit for a given process temperature. Do not use the device at an ambient temperature less than the minimum limit for a given process temperature.*

*The temperature limit calculations for these graphs include plots for devices that have thermal insulation options (ROCKWOOL® and FOAMGLAS®) supplied by the manufacturer.*

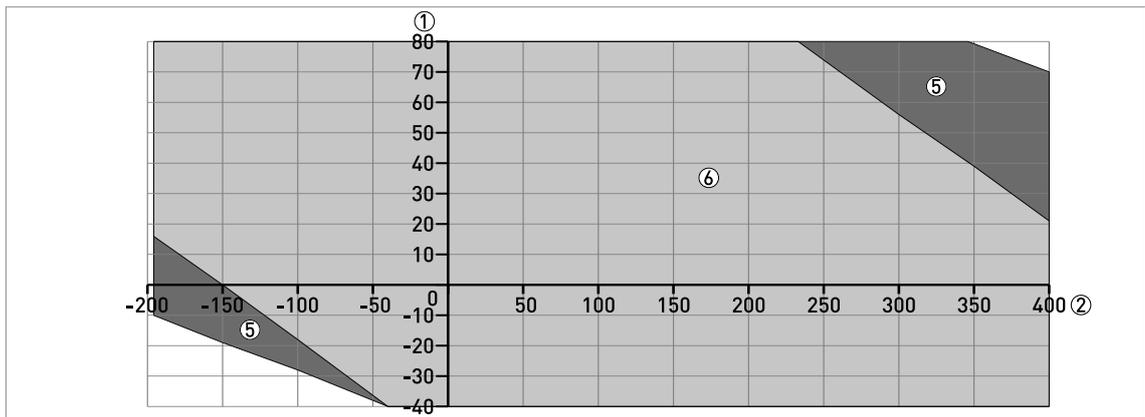


Figure 2-35: Ambient temperature / process temperature, in °C - MS40-series limit switch

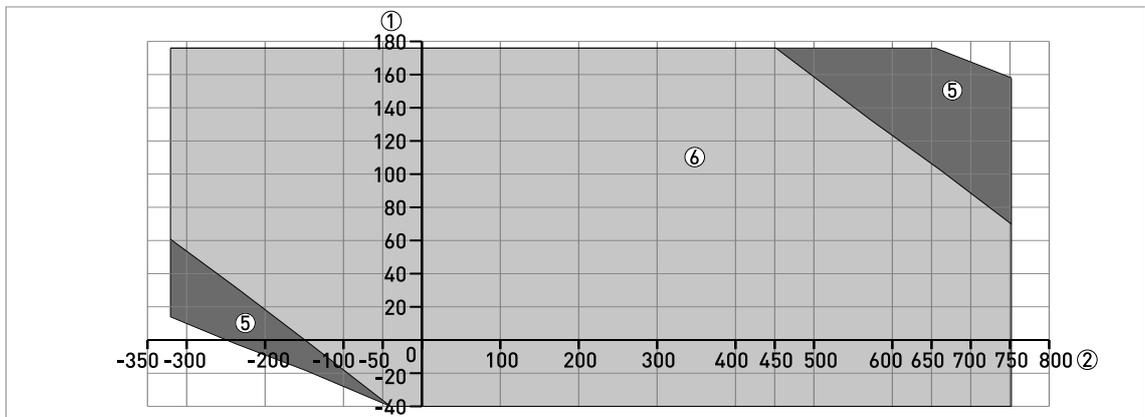


Figure 2-36: Ambient temperature / process temperature, in °F - MS40-series limit switch

- ① Ambient temperature, °C
- ② Process temperature, °C
- ③ Ambient temperature, °F
- ④ Process temperature, °F
- ⑤ MS40-series limit switch - without a thermal insulation option
- ⑥ MS40-series limit switch - with or without a thermal insulation option

## 3.1 Intended use

The BM26A-7000 is a magnetic level indicator that measures the level, interface or volume of liquids at high or low temperatures and high pressures.

These devices are installed next to open or pressurized tanks. With the applicable options, they are resistant to difficult service conditions and liquids that are poisonous or flammable.

*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 Pre-installation requirements

### 3.2.1 General notes

Obey the installation conditions that follow. For technical data about the device, refer to *Technical data* on page 7.

Make sure that the installation conditions obey the design constraints related to PED. For more data, refer to *Pressure equipment regulations* on page 79.

#### Other installation conditions

- Install the magnetic level indicator vertically on the tank.
- Select bolts and gaskets (not supplied) that agree with the pressure rating of the process connection and the process pressure.
- We recommend that you use braces to prevent damage to the process connections.
- If you install ROCKWOOL® or FOAMGLAS® insulation after you receive the device, write to the manufacturer for the installation procedure.

*Make sure that the outer surface temperature of the device is less 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.*

*Customer order data is used to adjust the device. If liquid density changes, the device will not measure correctly. For example, if liquid density decreases, then the float does not follow the surface of the liquid and goes down to the bottom of the measuring chamber.*

### 3.2.2 Isolation valves

We recommend that you install isolation valves between the device and the tank. The device can then be easily removed from the tank for the cleaning procedure. Drain the device only when it is isolated from the tank.

### 3.3 Pressure equipment regulations

#### PED

These devices are designed, assembled and tested to agree with the PED. The PED conformity assessment is approved by a Notified Body.

#### PE(S)R

These devices are designed, assembled and tested to agree with the PE(S)R. The PE(S)R conformity assessment is approved by an Approved Body.

#### ASME B31.3

If the device has the "ASME B31.3" option, it is designed, assembled and tested to agree with the ASME B31.3 Code for Process Piping.

*If the device has an Ex approval, then you must obey other temperature limits. For more data, refer to the Ex supplementary instructions.*

The manufacturer did a risk analysis on the device that agrees with the EU Pressure Equipment Directive and the UK Pressure Equipment (Safety) Regulations. All personnel must know the design and operating conditions that follow to prevent the risk of damage and injury:

- This device is designed to function at almost constant pressure and temperature conditions. A maximum of 500 cycles is permitted along the full pressure range. A maximum of 2000 cycles is permitted along the full temperature range.
- This device is not designed for operating conditions where vibration or fatigue stress is present.
- Events that are not taken into account in the calculations include exceptional risks such as: earthquakes, bad weather, fire etc..
- The standard design calculation does not take into account the theoretical coefficient of corrosion. The product circulating in the device must not have properties that cause surface erosion.
- Our conformity declaration is limited to the parts of the device that are pressurized. It does not include parts that can be dismantled (valves etc.).
- 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 pressure permitted by the pressure-limiting valve) must never be more than the maximum permitted pressure. The maximum permitted pressure is 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 device is designed to measure a liquid with a gas phase. It is not designed to measure liquids that change to a solid phase because of changes in pressure (solidification) and temperature (freezing), e.g. water and ice.
- Make sure that there are no magnetic particles in the liquid. These particles can have an effect on the performance of the device.

- Make sure that the size of the particles in the liquid are less than 0.05 mm / 0.002" in diameter.
- Make sure that the device is correctly sealed. Do a leakage check between the device and the tank.
- The external pressure,  $P_{ext}$ , must be equal to atmospheric pressure,  $P_{atmos}$  ( $P_{ext} = P_{atmos}$ ).

## 3.4 Reed-chain level transmitter (LT40)

### 3.4.1 General notes

*Customer order data is used to adjust the device. If liquid density changes, the device will not measure correctly. For example, if liquid density decreases, then the float does not follow the surface of the liquid and goes down to the bottom of the measuring chamber.*

#### LT40 C

The compact converter of the LT40 C is attached to the reed-chain tube.

#### LT40 F

The remote converter of the LT40 F is connected to the reed-chain tube by an electrical cable. The electrical cable has a maximum length of 25 m / 82 ft. The remote converter can be attached to a pipe with two hose clamps or attached to a wall with two bolts. Refer to the illustration that follows:

*Do not attach the remote converter of the LT40 F reed-chain level transmitter to the BM26A series bypass level indicator, or a hot or cold pipe.*

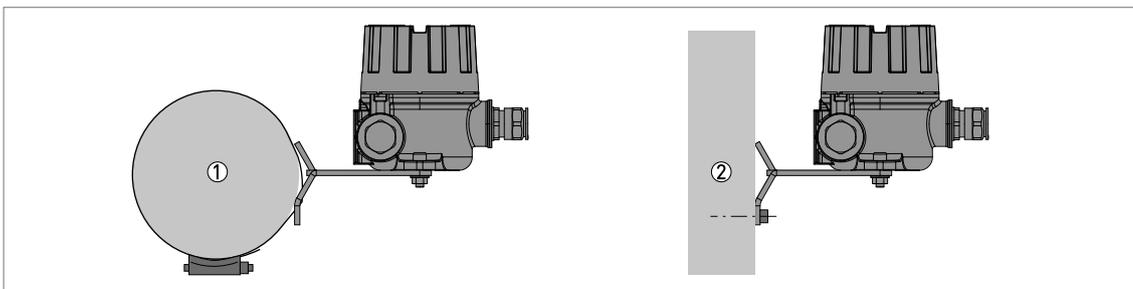


Figure 3-1: LT40 F: Installation of the remote converter - examples of locations (top view)

- ① The remote converter is attached to a tube with two hose clamps
- ② The remote converter is attached to a wall with two bolts

### 3.4.2 Thermal insulation

If you put thermal insulation around the magnetic level indicator, do not cover the housing of the reed-chain level transmitter. Make sure that there is approximately 15 mm / 0.6" of empty space between the housing and the thermal insulation.

## 3.5 Limit switches (MS15 series and MS40 series)

### 3.5.1 General notes

#### Limit switch condition - LOW limit:

The limit switch is open when the float moves **below** the switching point.

#### Limit switch condition - HIGH limit:

The limit switch is open when the float moves **above** the switching point.

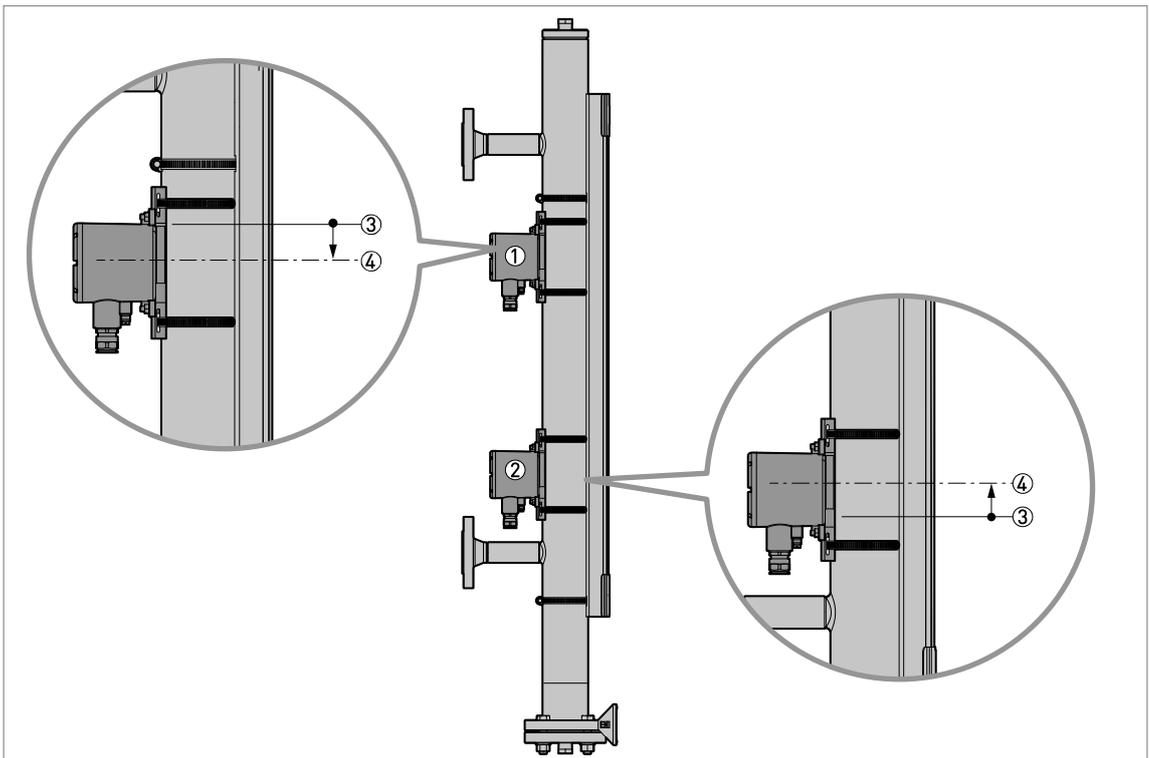


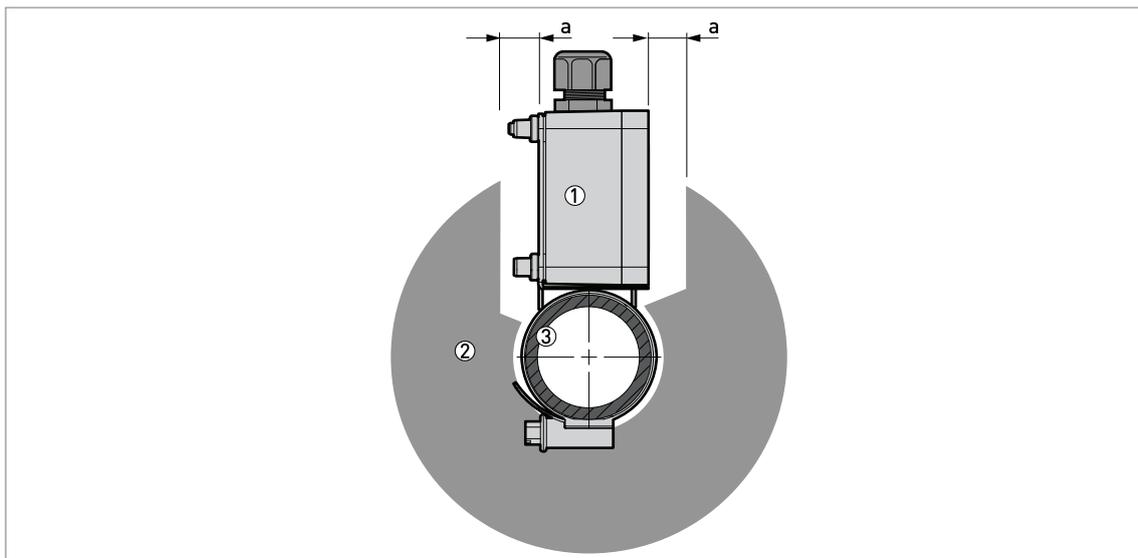
Figure 3-2: Definitions

- ① Limit switch in "HIGH limit" position
- ② Limit switch in "LOW limit" position
- ③ Switching point (the level at which the limit switch changes its condition from "closed" to "open")
- ④ Correct position of the limit switch in relation to the switching point. If it is a "HIGH limit" switch, put it below the switching point (at a distance equal to the switching point offset value). If it is a "LOW limit" switch, put it above the switching point (at a distance equal to the switching point offset value).

### 3.5.2 Thermal insulation

If you put thermal insulation around the magnetic level indicator, do not cover the housing of the limit switch. Make sure that there is approximately 15 mm / 0.6" of empty space between the housing and the thermal insulation.

*Too much heat can cause damage to the limit switch.*



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

- ① Limit switch housing
- ② Thermal insulation around the measuring chamber (cross-section)
- ③ Measuring chamber (cross-section)

Empty space between the limit switch and the thermal insulation for the measuring chamber,  $a \geq 15 \text{ mm} / 0.6''$ .

## 4.1 Reed-chain level transmitter

### 4.1.1 General notes

The reed-chain level transmitter has 4 output options:

- 4...20 mA
- 4...20 mA + HART®
- PROFIBUS PA
- FOUNDATION™ fieldbus

Obey the wiring instructions that follow.

For more data about the reed-chain level transmitter, refer to *LT40 reed-chain level transmitter* on page 15.

*Make sure that the current is not more than 5 A or that there is 5 A-rated fuse in the electrical circuit that energizes the device.*

### 4.1.2 Electrical schematics and procedure

#### 4...20 mA and 4...20 mA + HART output modules

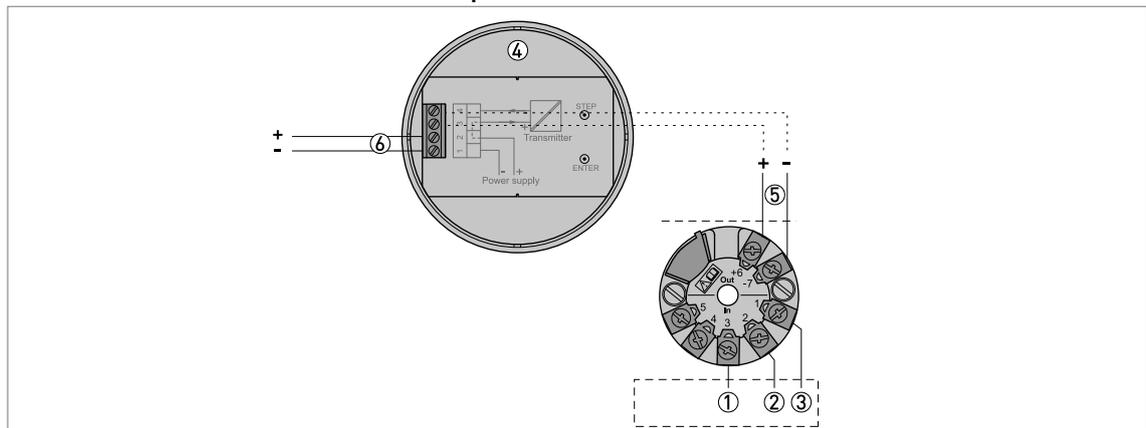


Figure 4-1: Electrical schematic for the 4...20 mA and 4...20 mA + HART output module

- ① Internal wiring - brown wire
- ② Internal wiring - red wire
- ③ Internal wiring - orange wire
- ④ Optional LCD indicator
- ⑤ Power supply terminals +/-, without LCD indicator (DC voltage range: 10...35 V (non-Ex or Ex db) or 10...30 V (Ex ia))
- ⑥ LCD indicator power supply terminals +/- (DC voltage range: 17...35 V)

*If the reed-chain level transmitter has the LCD indicator option, then there is a red wire between the positive (+) terminals and a black wire between the negative (-) terminals of the output module and the LCD indicator. Use the +/- terminals on the back the LCD indicator to connect the reed-chain level transmitter to the power supply.*

FOUNDATION™ fieldbus / PROFIBUS PA module

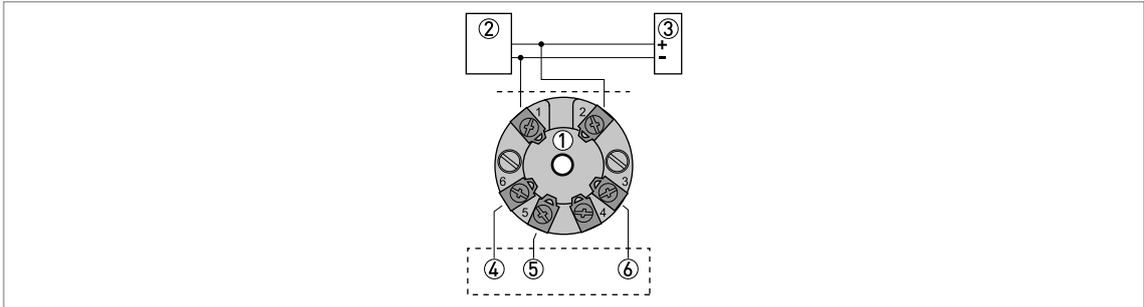


Figure 4-2: Electrical schematic for the FOUNDATION™ fieldbus / PROFIBUS PA module

- ① Bus connection terminals
- ② Segment coupler
- ③ Bus termination
- ④ Internal wiring - orange wire
- ⑤ Internal wiring - red wire
- ⑥ Internal wiring - brown wire

## 4.2 Limit switches

### 4.2.1 General notes

There are four limit switch models:

- MS15
- MS15 NAMUR
- MS40
- MS40 NAMUR

Obey the wiring instructions that follow.

For more data, refer to *MS15-series and MS40-series limit switches* on page 19.

### 4.2.2 Electrical schematics and procedure

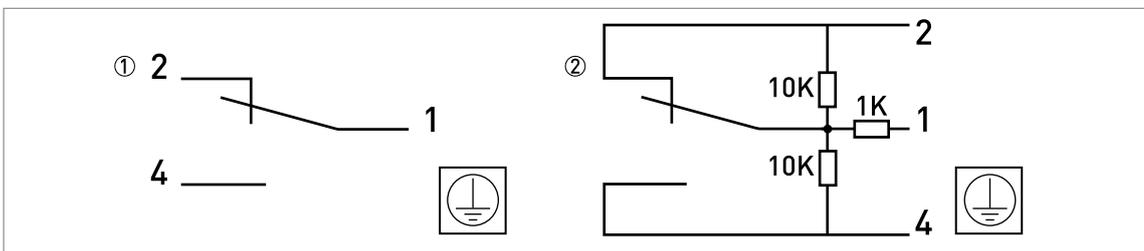
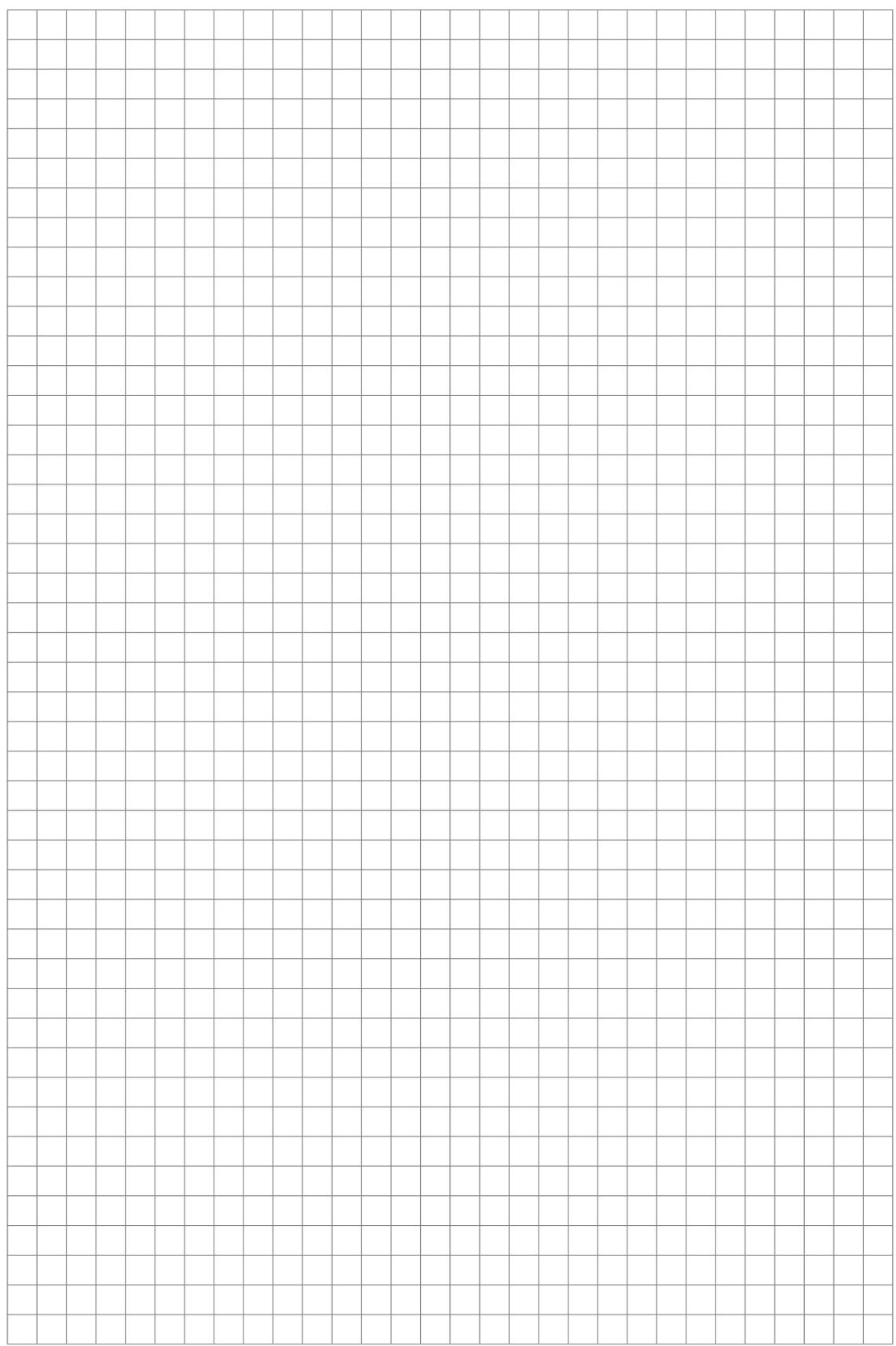
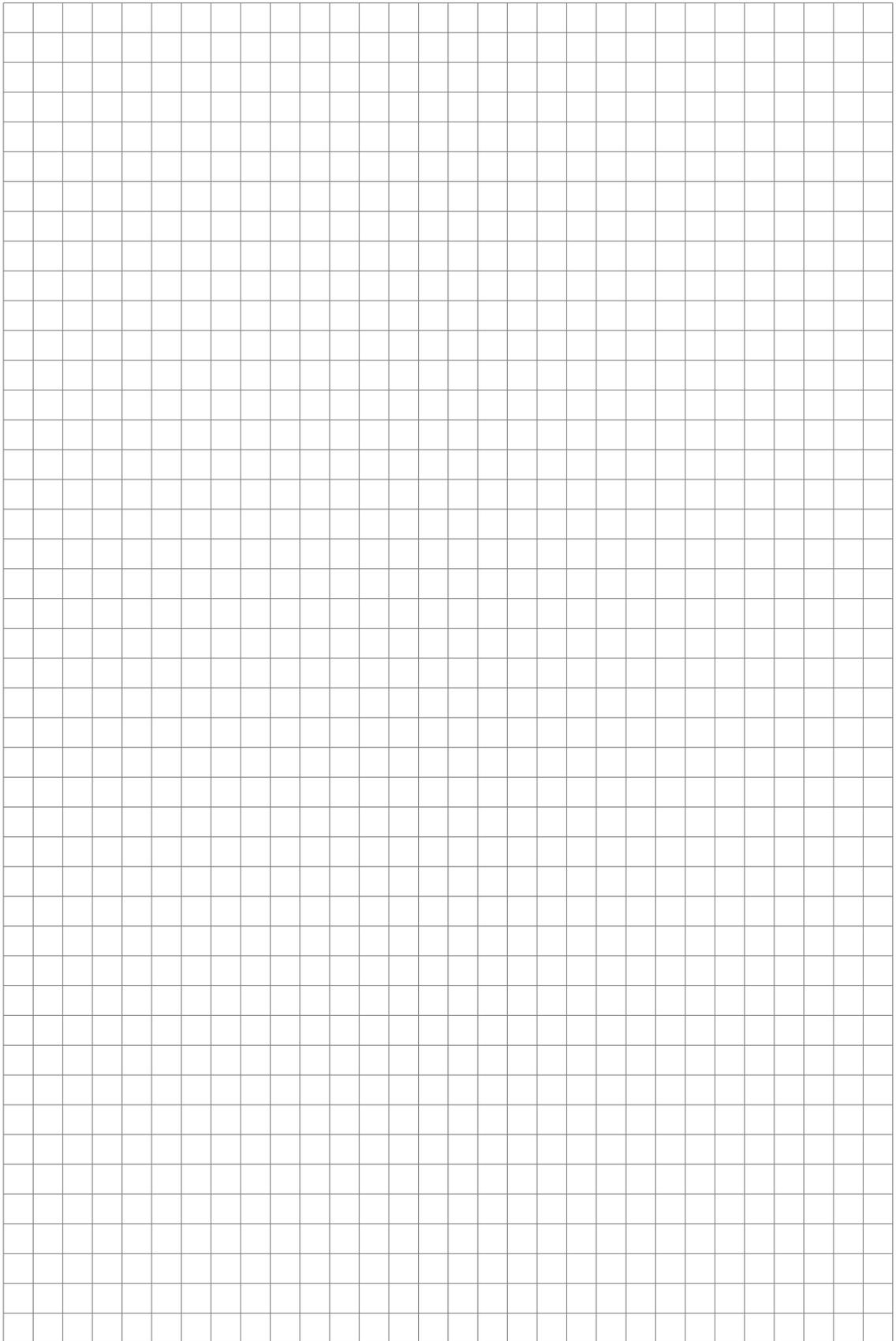


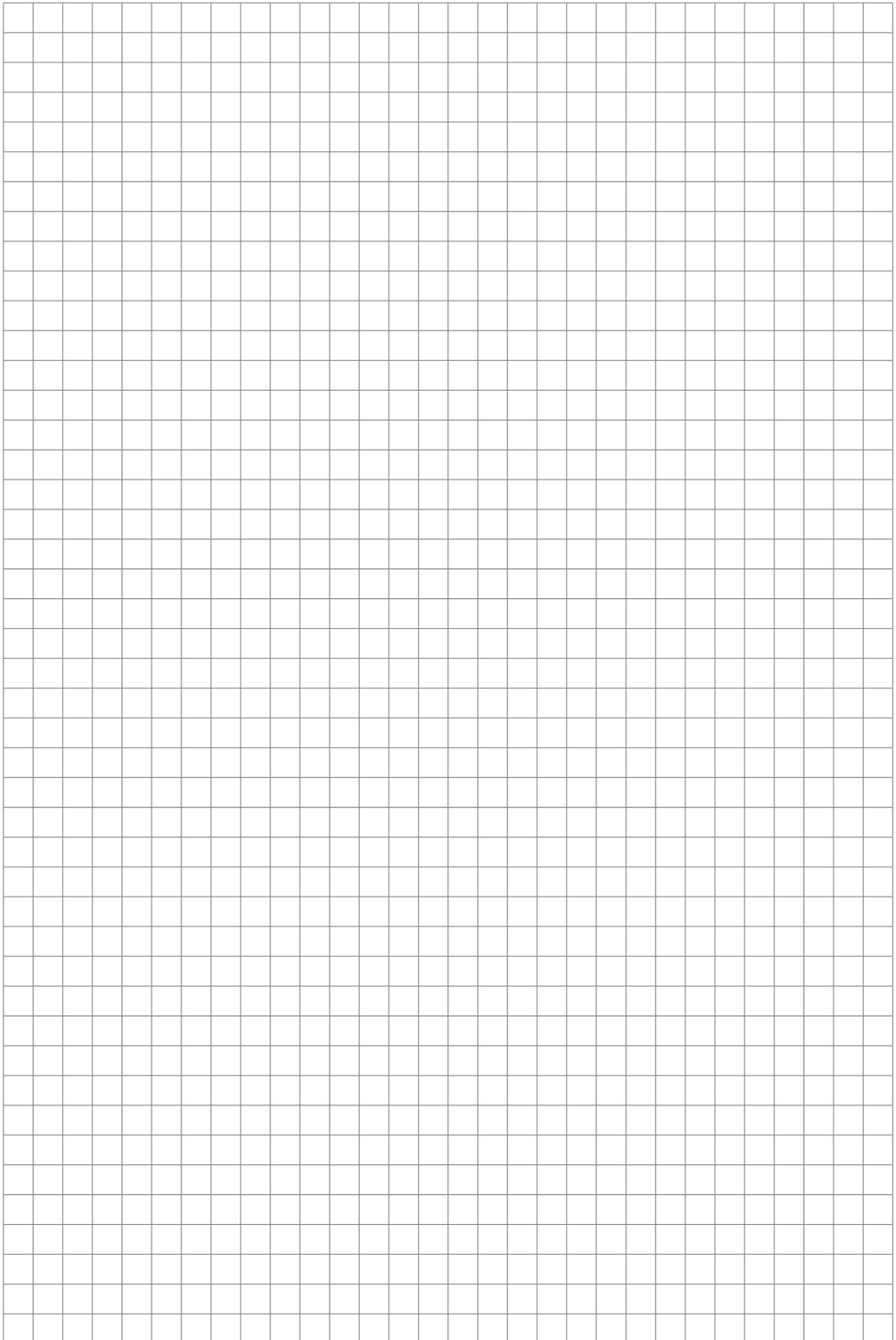
Figure 4-3: Electrical schematics for the MS15-series and MS40-series limit switches

- ① MS15 or MS40 limit switch
- ② MS15 or MS40 limit switch with a NAMUR output

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







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