

## Bourdon tube pressure gauge

per EN 837-1, NS 63

Type series BA41.../BA44...



### Application area

- Machinery construction
- Chemical and petrochemical industry
- Water / wastewater
- Shipping

### Features

- Bourdon tube pressure gauge
- Nominal range -0.6...0 to -1...24 bar, 0...0.6 to 0...1000 bar
- High quality case with bajonet ring NS 63 per EN 837-1, optional safety case per EN 837-1 S3
- Case and measuring element of stainless steel
- Degree of protection IP 65
- Accuracy class 1.6 or 2.5 per EN 837-1

### Options and additional features

- Labom REconnect quick coupling device for easy and safe separation and connection of diaphragm seal systems; Type series MK1000, see data sheet DB\_D6-022
- Accuracy class 1.0 per EN 837-1
- Approvals/Certificates
  - Explosion protection (ATEX/UKEX) for mechanical devices
  - Calibration certificate as per EN 10204
- As per UKCA regulations
- Case with liquid filling
- Damping of movement
- Electronical angle-of-rotation sensor, Type series PL1100, see data sheet D6-020
- Mounting: Front flange for flush mounting, rear flange for surface mounting
- Connection to Zone 0 by using the flame arrester MF21xx, see data sheet D6-025
- Oxygen free of oil and grease
- Autoclavable design

### Application

The bourdon tube pressure gauge is suitable for use in various industries. Stainless steel design for measuring gaseous, liquid and aggressive media, designed according to safety standards per EN 837-1.

## Technical data

### Constructional design / case

Design:	High quality case with bajonet ring per EN 837-1, material: stainless steel mat.-no. 1.4301 (304), ventilation valve, material: PUR
Option:	Safety case with blow-out back and solid baffle wall per EN 837-1 S3, material: stainless steel mat.-no. 1.4301 (304)
Nominal size:	NS 63
Degree of protection per EN 60529:	IP 65
Case filling:	Option: Glycerine-water  In combination with electrical angle-of-rotation sensor PL11: Labofin  Further liquid fillings upon request
Atmosph. pressure compensation:	Via ventilation valve.
Case seal:	Material gasket: NBR
Window:	Non splintering laminated glass  Autoclavable design: single strength glass
Measuring element:	Bourdon tube  < 60 bar: c-type ≥ 60 bar: spiral
Movement:	Stainless steel segment Option: with integrated damping system
Scale:	Pure aluminium, white with black inscription Option: with red marking, special scale upon request
Pointer:	Pure aluminium, black with adjusting unit
Mounting:	Via process connection. Optional with flange for surface mounting or for flush mounting with DIN mounting flange.
Weights:	Without filling approx. 0.2 kg With filling approx. 0.3 kg

### Process connection

Design:	Per EN 837-1. G 1/4 B or 1/4" NPT. Bottom or back centric connection, option: eccentric back connection.  Further process connections upon request.
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### Material wetted parts

Measuring element:	Bourdon tube and process connection: stainless steel 316ss
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### Nominal range

See order details, further ranges upon request

Overload protection:	Short-term 1.3times, at steady pressure max. scale value  1.1times for nominal ranges 0...600 and 0...1000 bar  Option: 2times up to and including 40 bar
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### Measuring accuracy

Accuracy class	1.6 per EN 837-1 Optional 1.0 per EN 837-1
	2.5 per EN 837-1 (for 0...600 and 0...1000 bar)
Temperature influence:	Max. ± 0.4% / 10K of measuring span per EN 837-1

### Temperature ranges

	without liquid filling	with liquid filling
Ambient:	-40...60 °C	-20...60 °C
Media:	-20...150 °C	-20...100 °C
Storage:	-20...60 °C	-20...60 °C

Extended temperature range upon request.

Option:

- Autoclavable at 121 °C for 30 minutes

### Tests and certificates

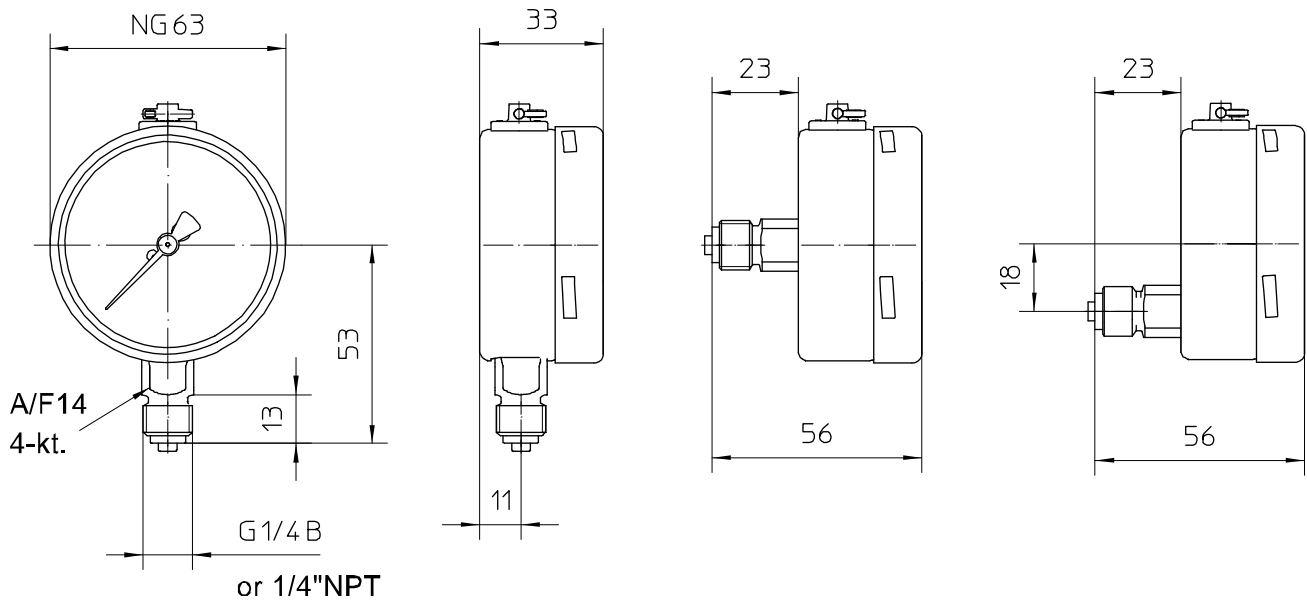
Explosion protection:	Ex-protection (ATEX/UKEX) for mechanical devices ⊕ II 2G Ex h IIC T1...T6 Gb X ⊕ II 2D Ex h IIIC Txx°C Db X
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Further details see Ex Instructions XA\_005.

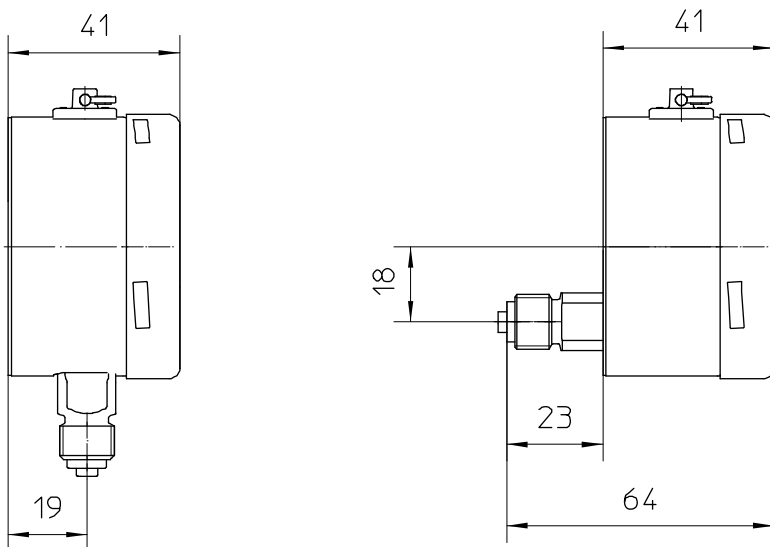
**Information on other models see order details or upon request.**

## Dimensions

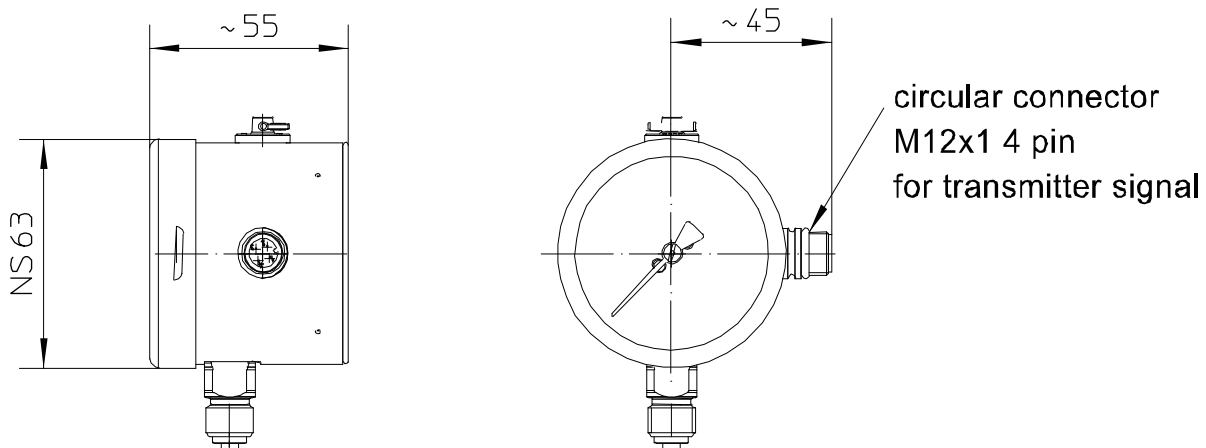
### Case with bajonet ring per EN 837-1



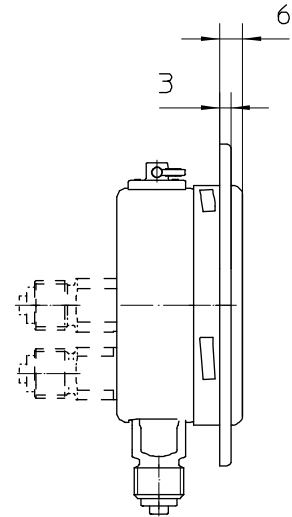
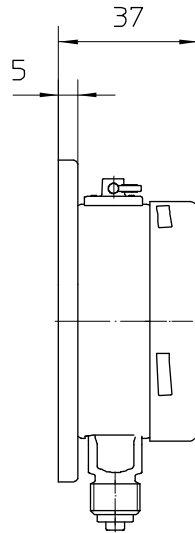
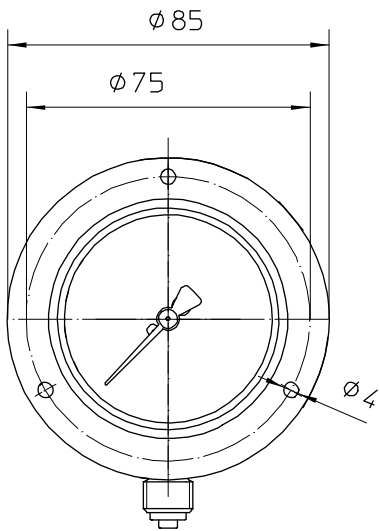
### Safety case per EN 837-1 S3



### Safety case per EN 837-1 S3 with electrical angle-of-rotation sensor PL11



**Surface mounting and flush mounting**



## Order details

### Bourdon tube pressure gauge per EN 837-1, NS 63, Type series BA41../BA44..

Order details BA41../BA44..				
BA4100	case design NS 63 degree of protection IP 65	without case filling	process connection bottom	NS 63 <sup>1</sup>
BA4400			process connection eccentric back	NS 63 safety design S3
BA4110			process connection centre back	NS 63 <sup>1</sup>
BA4410			process connection bottom	NS 63 safety design S3 <sup>1</sup>
BA4170			process connection eccentric back	NS 63 <sup>1</sup>
BA4120		with case filling <sup>2</sup>	process connection bottom	NS 63 <sup>1</sup>
BA4420			process connection eccentric back	NS 63 safety design S3
BA4130			process connection centre back	NS 63 <sup>1</sup>
BA4430			process connection bottom	NS 63 safety design S3 <sup>1,3,4,5,6</sup>
BA4180			process connection eccentric back	NS 63 <sup>1</sup>
A...	process connection	G1/4 B		
B...		1/4" NPT		
85	nominal range [bar]	-0.6...0 <sup>1</sup>		
86		-1..0		
87		-1...0.6		
88		-1...1.5		
89		-1...3		
90		-1...5		
91		-1...9		
92		-1...15		
93		-1...24		
52		0...0.6 <sup>1</sup>		
53		0...1		
54		0...1.6		
55		0...2.5		
56		0...4		
57		0...6		
58		0...10		
59		0...16		
60		0...25		
61		0...40		
62		0...60		
63		0...100		
64		0...160		
65		0...250 <sup>1,2,3,4,6</sup>		
66		0...400 <sup>1,2,3,4,6</sup>		
68		0...600 <sup>1,2,3,6,7</sup>		
70		0...1000 <sup>1,2,3,6,7</sup>		

Additional features (to be indicated if required)		
<b>Q22</b>	accuracy class 1.0 per EN 837-1	
<b>S30</b>	Ex-protection (ATEX/UKEX) for mechanical devices <sup>1,2</sup>	⊕ II 2G Ex h IIC T1...T6 Gb X
		⊕ II 2D Ex h IIIC Txx°C Db X
<b>H2</b>	overload protection	2 times up to and including 40 bar <sup>1</sup>
<b>T2</b>	marking	on scale (please specify)
<b>U2</b>	system damping	restrictor screw 0.3 mm
<b>U3</b>		restrictor screw 0.6 mm
<b>U4</b>		restrictor screw 1.0 mm
<b>V2</b>	mounting	rear flange for surface mounting
<b>V3</b>		front flange for flush mounting
<b>V4</b>		front flange with clamp clip for flush mounting <sup>1,8,9</sup>
<b>W1020</b>	material certificate	per EN 10204-3.1, wetted parts
<b>W1204</b>	calibration certificate	per EN 10204-3.1, 3 measuring points
<b>W1201</b>		per EN 10204-3.1, 5 measuring points
<b>W2660</b>	as per UKCA regulations	
<b>W4001</b>	Oxygen free of oil and grease	
<b>W4102</b>	damping of movement with integrated damping system <sup>1</sup>	
<b>W4126</b>	autoclavable at 121 °C for 30 minutes <sup>1,3,10</sup>	
<b>PL110.</b>	output signal	4...20 mA (20...4 mA) via electrical angle-of-rotation sensor (see data sheet D6-020)

**Order code (example): BA4100 – A56 – T2 – V2 - ...**

<sup>1</sup> not possible with electrical angle-of-rotation sensor PL11

<sup>2</sup> not autoclavable

<sup>3</sup> not for devices with Ex-protection

<sup>4</sup> not with accuracy class 1.0 per EN 837-1

<sup>5</sup> for overload protection 1.3 times only

<sup>6</sup> not available with integrated damping system

<sup>7</sup> with accuracy class 2.5 per EN 837-1 only

<sup>8</sup> not for safety case S3

<sup>9</sup> with process connection at back only

<sup>10</sup> before autoclaving the ventilation valve is to be removed