

Bourdon tube pressure gauge

per EN 837-1, NS 63

Type series BA41.../BA44...



Application area

- Plant and mechanical engineering
- Chemical and petrochemical industry
- Water / Waste water
- 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

- Approvals / Certificates
 - Explosion protection (ATEX/UKEX) for mechanical devices
 - Calibration certificate as per EN 10204
- Accuracy class 1.0 per EN 837-1
- 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 DB_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 information upon request

Overload limit:	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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For information on definitions of terms regarding the Pressure Equipment Directive, see Technical Instruction TA_068.

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. $\pm 0.4\%$ / 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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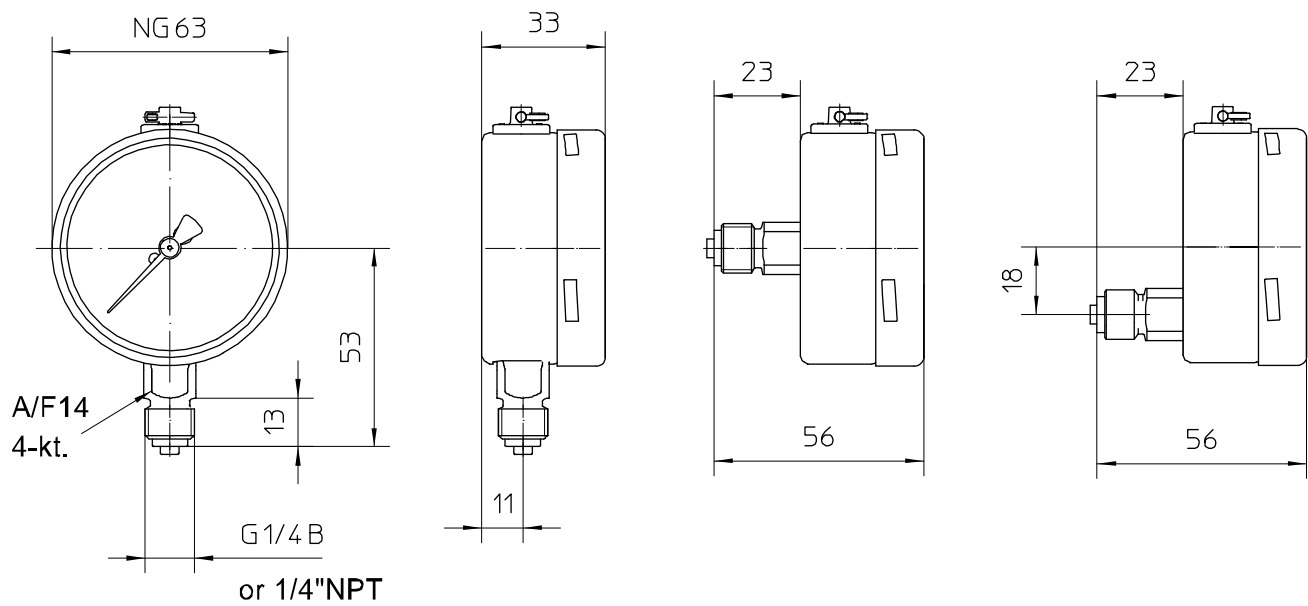
Further details see Ex Instructions XA_005.

- EAC declaration (upon request)

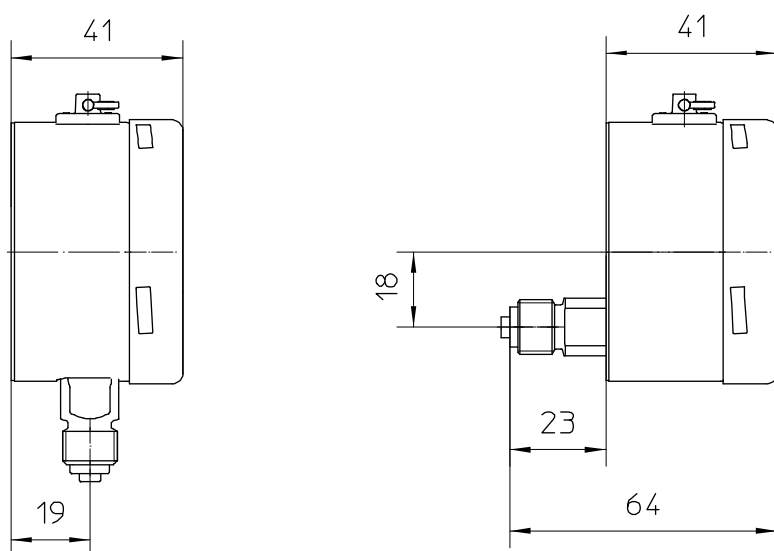
Information on other models see order details or upon request.

Dimensions

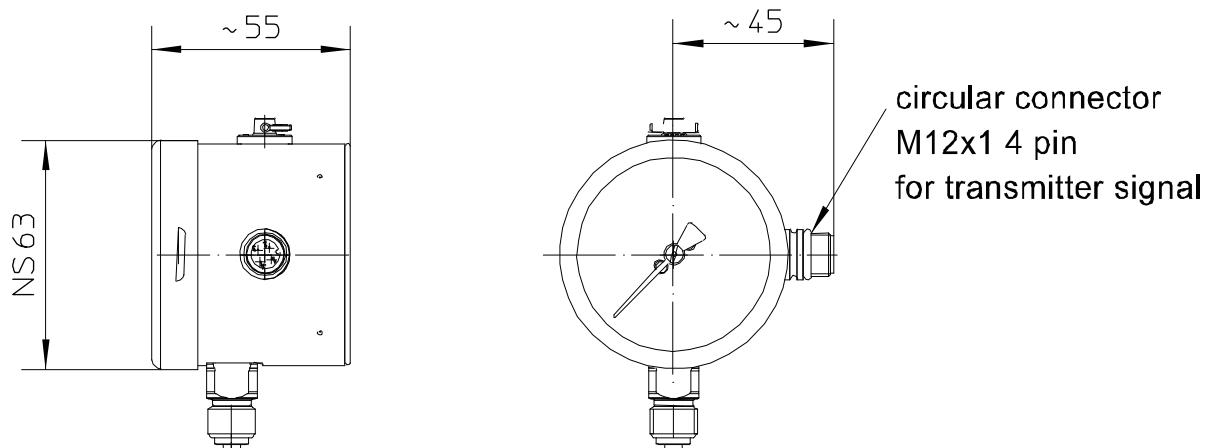
Case with bajonet ring per EN 837-1



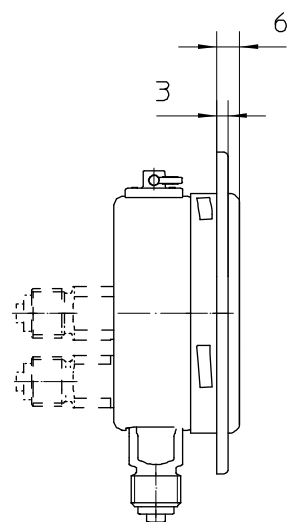
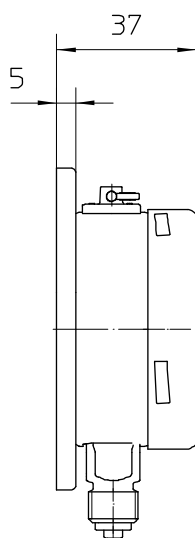
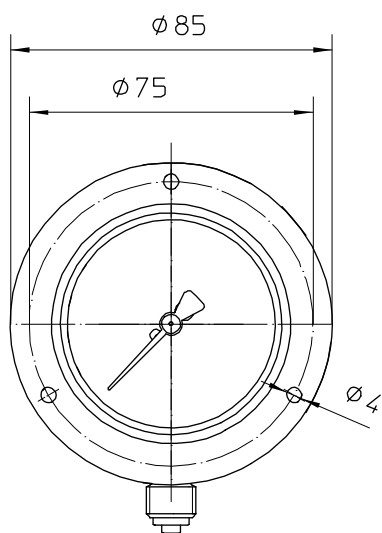
Safety case per EN 837-1 S3



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 ¹
BA4400				NS 63 safety design S3
BA4110			process connection eccentric back	NS 63 ¹
BA4410				NS 63 safety design S3 ¹
BA4170			process connection centre back	NS 63 ¹
BA4120		with case filling ²	process connection bottom	NS 63 ¹
BA4420				NS 63 safety design S3
BA4130			process connection eccentric back	NS 63 ¹
BA4430				NS 63 safety design S3 ^{1,3,4,5,6}
BA4180			process connection centre back	NS 63 ¹
A...	process connection	G1/4 B		
B...		1/4" NPT		
85	nominal range [bar]	-0.6...0 ¹		
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 ¹		
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 ^{1,2,3,4,6}		
66		0...400 ^{1,2,3,4,6}		
68		0...600 ^{1,2,3,6,7}		
70		0...1000 ^{1,2,3,6,7}		

Additional features (to be indicated if required)		
Q22	accuracy class 1.0 per EN 837-1	
S30	Ex-protection (ATEX/UKEX) for mechanical devices ^{1,2}	II 2G Ex h IIC T1...T6 Gb X
		II 2D Ex h IIIC Txx°C Db X

Additional features (to be indicated if required)		
H2	overload protection	2 times up to and including 40 bar ¹
T2	marking	on scale (please specify)
U2	system damping	restrictor screw 0.3 mm
U3		restrictor screw 0.6 mm
U4		restrictor screw 1.0 mm
V2	mounting	rear flange for surface mounting
V3		front flange for flush mounting
V4		front flange with clamp clip for flush mounting ^{1,8,9}
W1020	material certificate	per EN 10204-3.1, wetted parts
W1204	calibration certificate	per EN 10204-3.1, 3 measuring points
W1201		per EN 10204-3.1, 5 measuring points
W2660	as per UKCA regulations	
W4001	Oxygen free of oil and grease ⁶	
W4102	damping of movement with integrated damping system ¹	
W4126	autoclavable at 121 °C for 30 minutes ^{1, 3,6,10}	
PL110.	output signal	4...20 mA (20...4 mA) via electronical angle-of-rotation sensor (see data sheet D6-020)

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

¹ Not possible with electronical angle-of-rotation sensor PL11.

² Not autoclavable.

³ Not for devices with Ex-protection.

⁴ Not with accuracy class 1.0 per EN 837-1.

⁵ For overload protection 1.3 times only.

⁶ Not available with integrated damping system.

⁷ With accuracy class 2.5 per EN 837-1 only.

⁸ Not for safety case S3.

⁹ With process connection at back only.

¹⁰ Before autoclaving the ventilation valve is to be removed.