

Bourdon tube pressure gauge, high quality design

Degree of protection IP 65, NS 100/160

Type series BA42../BA43..



Application area

- Machinery construction
- Chemical and petrochemical industry
- General process technology
- Water / wastewater

Features

- Bourdon tube pressure gauge
- Nominal ranges -0.6...0 bar to -1...24 bar, 0...0.6 to 0...1000 bar
- High quality case with bajonet ring NS 100/160 per EN 837-1 S1
- Case and measuring element of stainless steel
- Degree of protection IP 65
- Accuracy class 1.0 or 1.6 per EN 837-1

Options

- Approvals/Certificates
 - Explosion protection (ATEX/UKEX) for mechanical devices
 - Material certificate per EN 10204
 - Calibration certificate per EN 10204
- As per UKCA regulations
- Case with liquid filling
- Damping of movement
- Electrical contact device, see data sheet D3-025 (depending on design)
- Electronical angle-of-rotation sensor, Type series PL1100, see data sheet D6-020
- Mounting: Front flange for flush mounting, rear flange for surface mounting
- Extended temperature range
- Connection to Zone 0 by using the flame arrester MF21xx, see data sheet D6-025

Application

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

Technical data

Constructional design / case

Design:	High quality case with bayonet ring per EN 837-1 S1, material: stainless steel mat.-no.-1.4301 (304) ; with blow-out device, material: PUR, ventilation valve, material: PUR	
Nominal size:	NS 100 or NS 160	
Degree of protection per EN 60529:	IP 65	
Case filling:	Option:	Glycerine-water
	In combination with electronical 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.	
	Option: Non-splintering plastic (Polycarbonate)	
Measuring element:	Bourdon tube	
	< 60 bar: c-type	
	≥ 60 bar: spiral	
Movement:	Stainless steel segment	
	optional: movement with integrated damping system	
Scale:	Pure aluminium, white with black inscription.	
	Option: with red marking, special scale upon request.	
Pointer:	Pure aluminium, black.	
	Option: with micro adjustment for zero point correction.	
Mounting:	Via process connection. Optional with flange for surface mounting or for flush mounting with DIN mounting flange.	
Weights:	NS 100 without filling:	approx. 0.7 kg
	NS 160 without filling:	approx. 1.3 kg
	NS 100 with filling:	approx. 1.0 kg
	NS 160 with filling:	approx. 2.5 kg

Process connection

Design:	Per EN 837-1. G1/2 B, 1/2" NPT or M20 x 1.5, bottom or back eccentric connection. Optional with throttle screw for system damping, further process connections upon request
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Material wetted parts

Measuring element:	Bourdon tube and shanks stainless steel mat.-no. 1.4571 / 1.4404 (316Ti / 316L)
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Nominal range

See order details, further ranges upon request

Overload limit:	standard: 1.3 times higher overload protection see order details
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For information on definitions of terms regarding the Pressure Equipment Directive, see Technical Instruction TA_068.

Accuracy

Accuracy class:	1.0 per EN 837-1 (for nominal ranges < 1000 bar) 1.6 per EN 837-1 (for nominal range 1000 bar)
Temperature influence:	Max. ± 0.4% / 10K of measuring span per EN 837-1

Temperature ranges

	without filling	with filling
Ambient:	-20...70 °C	-20...70 °C
Media: ¹	-20...150 °C	-20...100 °C
Storage:	-40...70 °C	-40...70 °C

Extended temperature range for nominal ranges ≤ 600 bar (optional):

	without filling	with filling
Ambient:	-40...100 °C	-40...80 °C
Media: ¹	-40...200 °C	-40...200 °C

¹ Nominal range ≤ 1 bar up to 100 °C

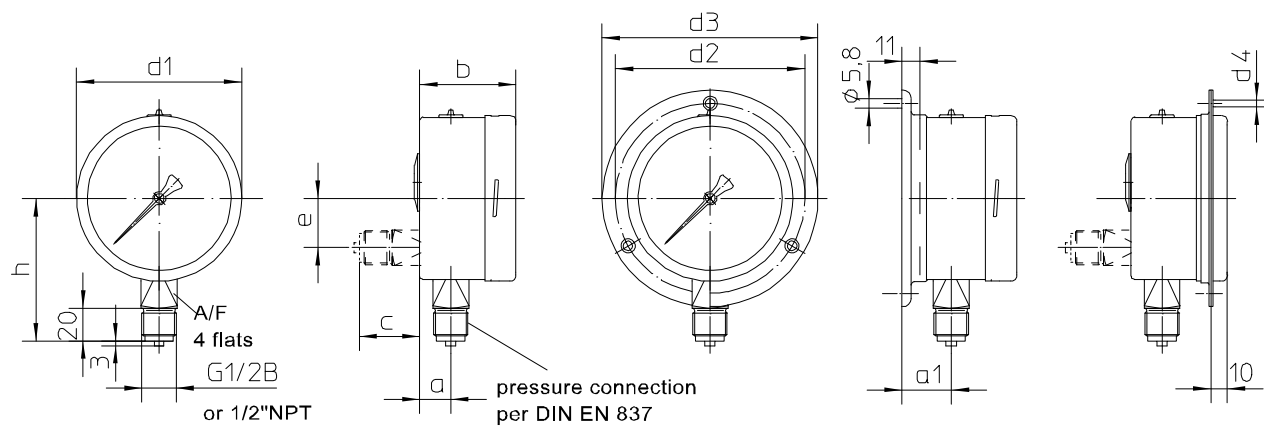
Tests and certificates

Explosion protection:	Ex-protection (ATEX/UKEX) for mechanical devices Ex II 2G Ex h IIC T1...T6 Gb X Ex 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



Further process connections see order code

dimensions (mm)											
case	d1	a	b	d2	d3	d4	e	h	a1	c	A/F
NS 100	100	19	55.5	116	132	4.8	30	83	30	37	22
NS 160	160	19	55.5	178	196	5.8	60	113	30	37	22

Order details

Bourdon tube pressure gauge, NS 100/160, EN 837-1
high quality design, degree of protection IP 65, Type series BA42 . /BA43 . .

Order details BA42../BA43..				
BA4200	case design	degree of protection IP 65	process connection bottom	NS 100
BA4300				NS 160
BA4210			process connection at back	NS 100
BA4310				NS 160
BA4220		degree of protection IP 65, with case filling	process connection bottom	NS 100
BA4320				NS 160
BA4230			process connection at back	NS 100
BA4330				NS 160
A2...	process connection	G1/2 B		
B2...		1/2" NPT		
C2...		M 20 x 1.5		
085	nominal range [bar]	-0.6...0		
086		-1...0		
087		-1...0.6		
088		-1...1.5		
089		-1...3		
090		-1...5		
091		-1...9		
092		-1...15		
093		-1...24		
052		0...0.6		
053		0...1		
054		0...1.6		
055		0...2.5		
056		0...4		
057		0...6		
058		0...10		
059		0...16		
060		0...25		
061		0...40		
062		0...60		
063		0...100		
064		0...160		
065		0...250		
066		0...400		
068		0...600		
070		0...1000 ¹		

Additional features (to be indicated if required)		
S30	Ex-protection (ATEX/UKEX) for mechanical devices ²	II 2G Ex h IIC T1...T6 Gb X
		II 2D Ex h IIC Txx°C Db X
H2	overload protection	2 times (measuring range 1...4 bar)
H3		2 times (measuring range 6...40 bar)
H4		1.5 times (measuring range 60...160 bar)
I2	pointer	with micro adjustment
R2	window	non-splintering glass with max. pointer
R3		non-splintering glass with adjustable reference pointer
R12		Polycarbonate with max. pointer ³
R13		Polycarbonate with adjustable reference pointer ³
T2	marking	on scale (please specify)
T3		fixed reference pointer (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
W1020	material certificate	per EN 10204, 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	
W4090	extended temperature range	
W4102	damping of movement	with integrated damping system
PL110.	output signal	4...20 mA (20...4 mA) with electronic angle-of-rotation sensor (see data sheet D6-020) ⁴

Order code (example): BA4200 – A2057 – T2 – V2 - ...

¹ accuracy class 1.6 per EN 837-1

² for devices with non-splintering glass only

³ not for devices with ex-protection

⁴ not possible with damping of movement