

# Bourdon tube pressure gauge, copper alloy Stainless steel case, liquid filling, NS 50, 63 and 100 Model 213.53

WIKA data sheet PM 02.12

for further approvals see  
page 3

## Applications

- For measuring points with high dynamic pressure loads and vibrations
- For gaseous and liquid media that are not highly viscous or crystallising and will not attack copper alloy parts
- Hydraulics
- Compressors, shipbuilding

## Special features

- Vibration and shock-resistant
- Especially robust design
- Type approval for the shipbuilding industry
- Scale ranges up to 0 ... 1,000 bar



**Bourdon tube pressure gauge, model 213.53.100,  
lower mount**

## Description

The liquid-filled model 213.53 Bourdon tube pressure gauge is constructed with a case from stainless steel and wetted parts from copper alloy.

The model 213.53 meets the requirements of the international industry standard EN 837-1 for Bourdon tube pressure gauges.

Due to the liquid filling in the case, the pressure element and movement are efficiently damped. Therefore, these instruments are particularly suited to measuring points with high dynamic loads, such as fast load cycles or vibrations.

The cases of the model 213.53 are available in nominal sizes of 50, 63 and 100 mm and fulfil IP65 ingress protection. With an accuracy of up to class 1.0, this pressure gauge is suitable for a wide range of applications in industry.

For mounting in control panels, the pressure gauges with a back mount process connection can be fitted with a mounting flange or with a triangular bezel and mounting bracket.

## Specifications

### Design

EN 837-1

### Nominal size in mm

50, 63, 100

### Accuracy class

NS 50, 63: 1.6

NS 100: 1.0

### Scale ranges

NS 50: 0 ... 1 to 0 ... 1,000 bar

NS 63, 100: 0 ... 0.6 to 0 ... 1,000 bar

### Pressure limitation

NS 50, 63:	Steady:	Full scale value
	Fluctuating:	3/4 x full scale value
	Short time:	2/3 x full scale value
NS 100:	Steady:	Full scale value
	Fluctuating:	0.9 x full scale value
	Short time:	1.3 x full scale value

### Permissible temperature

Ambient: -20 ... +60 °C

Medium: +60 °C maximum

### Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C): max.  $\pm 0.4 \text{ \%}/10 \text{ K}$  of the span

### Ingress protection per IEC/EN 60529

IP65

### Process connection

Copper alloy

Lower mount or back mount

NS 50, 63: G ¼ B (male), SW 14

NS 100: G ½ B (male), SW 22

### Pressure element

NS 50:

Copper alloy, C-type or helical type

NS 63:

≤ 400 bar: Copper alloy, C-type or helical type

> 400 bar: ≥ 400 bar: Stainless steel 316L, helical type

NS 100:

< 100 bar: Copper alloy, C-type

≥ 100 bar: Stainless steel 316L, helical type

### Movement

Copper alloy

### Dial

NS 50, 63: Plastic ABS, white, with pointer stop pin

NS 100: Aluminium, white, black lettering

### Pointer

NS 50, 63: Plastic, black

NS 100: Aluminium, black

### Case

Stainless steel, natural finish

Sealing towards process connection with O-ring

With all scale ranges, the filling plug can be vented for internal pressure compensation.

Position of blow-out device

NS 50: Case back, at 12 o'clock

NS 63, 100: Case circumference, at 12 o'clock

### Window

Plastic, crystal-clear

### Ring

Crimped triangular bezel, stainless steel, glossy finish








### Filling liquid

Glycerine

## Options

- Other process connection
- Sealings (model 910.17, see data sheet AC 09.08)
- Measuring system and movement from stainless steel (model 233.53)
- NS 100: Zero point adjustment (in front)
- Increased medium temperature with special soft solder
  - NS 50, 63: 100 °C
  - NS 100: 150 °C
- Extended ambient temperature range -40 ... +60 °C with silicone oil filling
- Panel mounting flange, stainless steel, for back mount connection
- Surface mounting flange, stainless steel (only NS 63, 100)
- Mounting clamp, for back mount

## Approvals

Logo	Description	Country
	<b>EU declaration of conformity</b> Pressure equipment directive PS > 200 bar, module A, pressure accessory	European Union
	<b>GOST (option)</b> Metrology, measurement technology	Russia
	<b>KazInMetr (option)</b> Metrology, measurement technology	Kazakhstan
-	<b>MTSCHS (option)</b> Permission for commissioning	Kazakhstan
	<b>BelGIM (option)</b> Metrology, measurement technology	Belarus
	<b>UkrSEPRO (option)</b> Metrology, measurement technology	Ukraine
	<b>Uzstandard (option)</b> Metrology, measurement technology	Uzbekistan
-	<b>CPA</b> Metrology, measurement technology	China
	<b>GL</b> Ships, shipbuilding (e.g. offshore)	International
-	<b>KBA</b> Automotive	European Union
-	<b>CRN</b> Safety (e.g. electr. safety, overpressure, ...)	Canada

## Certificates (option)

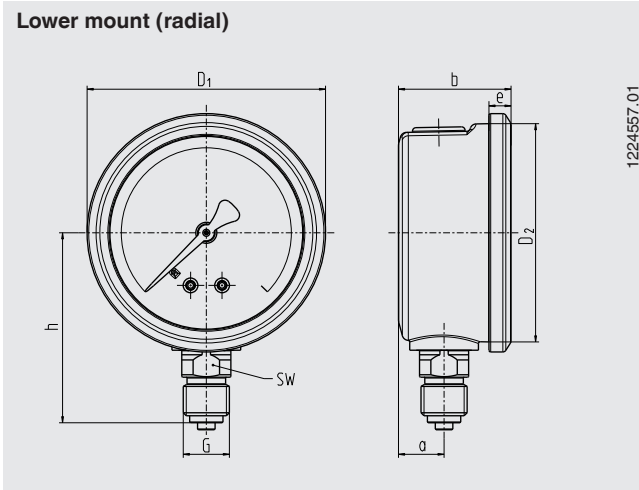
- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metallic parts, indication accuracy)

Approvals and certificates, see website

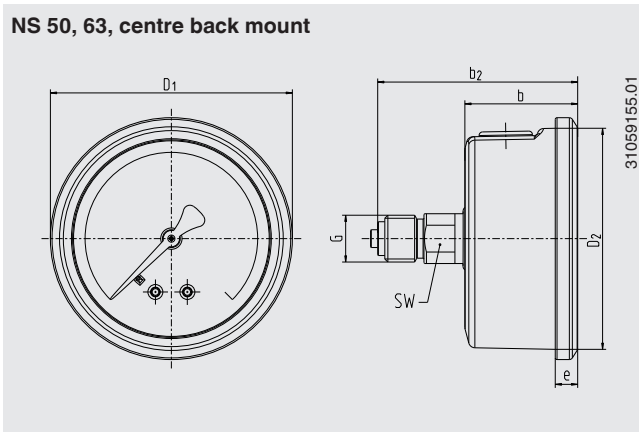
# Dimensions in mm

## Standard version

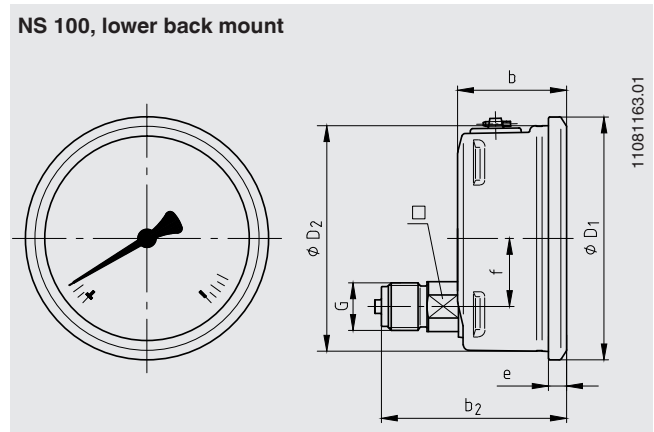
### Lower mount (radial)



### NS 50, 63, centre back mount



### NS 100, lower back mount



NS	Dimensions in mm										Weight in kg
	a	b ±0.5	b <sub>2</sub> ±0.5	D <sub>1</sub>	D <sub>2</sub>	e	f	G	h ±1	SW	
50	12	30	55	55	50	5.5	-	G ¼ B	48	14	0.15
63	13	32	56	68	62	6.5	-	G ¼ B	54	14	0.21
100	15.5	48	81.5	107	100	8	30	G ½ B	87	22	0.80

Process connection per EN 837-1 / 7.3

## Ordering information

Model / Nominal size / Scale range / Process connection / Connection location / Options

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