

# Bourdon tube pressure gauge, stainless steel

## For high pressure applications to 85,000 psi

### Model PG23HP-P, performance version

WIKA data sheet PM PG23HP-P



#### Applications

- For liquid media in high-pressure applications (e.g. water, hydraulic oil)
- Test benches (e.g. for auto frettage, burst pressure)
- Water jet cutting
- High-pressure cleaning
- High-pressure generators

#### Special features

- Safety pressure gauge in solid front design with blow-out back.
- In compliance with the requirements and test conditions of the DIN 16001 high-pressure standard
- High load cycle stability
- Standard accuracy  $\pm 1\%$  of full span, optionally  $\pm 0.5\%$  per ASME B40.100
- Scale ranges from 0 ... 30,000 psi up to 0 ... 85,000 psi



Bourdon tube pressure gauge model PG23HP-P

#### Description

The model PG23HP-P Bourdon tube pressure gauge has been designed specifically for high-pressure applications up to 85,000 psi (6000 bar).

Typical applications for this pressure gauge can be found in water jet cutting, high-pressure cleaning and test bench construction.

WIKA manufactures and qualifies model PG23HP-P in accordance with the requirements of the new DIN 16001 high pressure standard in the "S3" safety version. The safety version solid-front design features a laminated safety glass, a solid wall between the measuring system and a blow-out back. In the event of a Bourdon tube failure, the release of energy and media is directed to the back of gauge, protecting the operator in front of the gauge.

Due to the use of high-quality stainless steel and nickel based alloys model PG23HP-P features excellent load cycle stability and a long service life. The gauge performs with great reliability and repeatability in both static and highly dynamic pressure applications.

The standard accuracy of model PG23HP-P is  $\pm 1.0\%$  of full span per ASME B40.100 Grade 1A. For pressure ranges up to 60,000 psi an increased accuracy of  $\pm 0.5\%$  of full span per ASME B40.100 Grade 2A is available as an option. A silicone oil case filling to increase the dampening effect in applications where shocks and vibrations are present is available as an option.

## Specifications

### Design

DIN 16001

### Nominal size in mm

4" (100 mm) and 6" (160 mm)

### Accuracy class

±1.0% of full span per ASME B40.100 Grade 1A

Class 1.0 per EN 837-1

For range 0...85,000 psi (6,000 bar) ±2/1/2% of full span

per ASME B40.100 Grade A and class 1.6 per EN 837-1

### Scale ranges

0 ... 30,000 psi (2,000 bar)    0 ... 60,000 psi (4,000 bar)

0 ... 40,000 psi (2,500 bar)    0 ... 75,000 psi (5,000 bar)

0 ... 50,000 psi (3,500 bar)    0 ... 85,000 psi (6,000 bar)

### Pressure limitation

Steady:        3/4 x full scale value

Fluctuating:  2/3 x full scale value

Short time:    Full scale value

### Permissible temperature

Ambient:      -40 ... +140°F (-40...+60 °C)

Medium:       +392°F (+200 °C) maximum (dry gauges)

                  +212°F (+100 °C) maximum (liquid filled gauges)

### Temperature effect

Additional temperature error if the media temperature deviates from the reference temperature of +67°F (+20°C):

Max. ±0.4 % of full scale value per 18°F temperature change

### Ingress protection

IP65 per IEC/EN 60529

### Process connection

Stainless steel 316L

NS 100: Lower mount or back mount

NS 160: Lower mount only

■ G½B (up to max. 40,000 psi / 2,500 bar)

■ 9/16 - 18 UNF (female) with 60° sealing cone per Autoclave Engineers

■ M16 x 1.5 (female) with inner sealing cone 60°

■ 5/8 - 18 UNF (female) with inner sealing cone 60°

### Pressure element

NiFe-alloy, helical type

### Movement

Stainless steel

### Dial

Aluminium, white, black lettering

### Pointer

Aluminium, black, adjustable

### Case

Stainless steel, safety design with solid front and blow-out back

### Window

Laminated safety glass

### Ring

Bayonet ring, stainless steel

### Filling liquid (option)

Silicone oil M50

## Options

■ Increased accuracy ±0.5% of full span per ASME B40.100 Grade 2A for ranges up to 60,000 psi (4,000 bar)

■ Ingress protection IP66 (NEMA 4/4X)


■ Panel mounting flange, stainless steel or polished stainless steel

■ Surface mounting lugs on the back, stainless steel

■ Mark pointer adjustable from the outside

■ Mark pointer on bayonet ring adjustable from the outside

## Approvals

Logo	Description	Country
	<b>EU declaration of conformity</b> <ul style="list-style-type: none"><li>■ Pressure equipment directive</li><li>PS &gt; 200 bar, module A, pressure accessory</li></ul>	European Union

## Certificates (option)

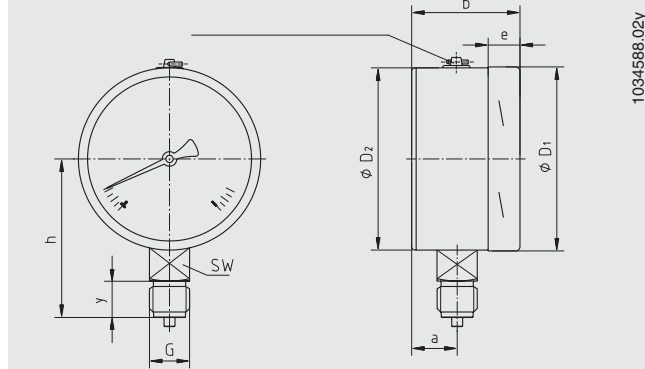
- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metallic parts, indication accuracy)

Approvals and certificates, see website

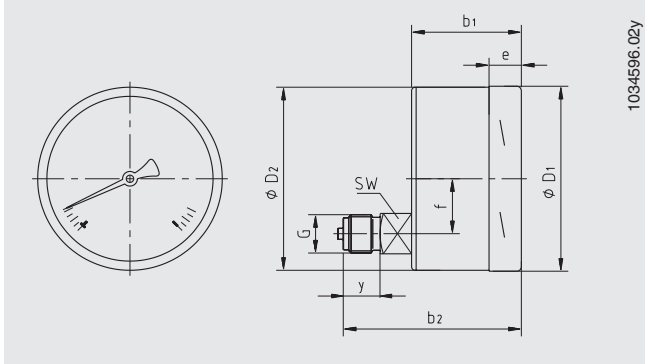
# Dimensions in mm

## Standard version

### Lower mount (radial)

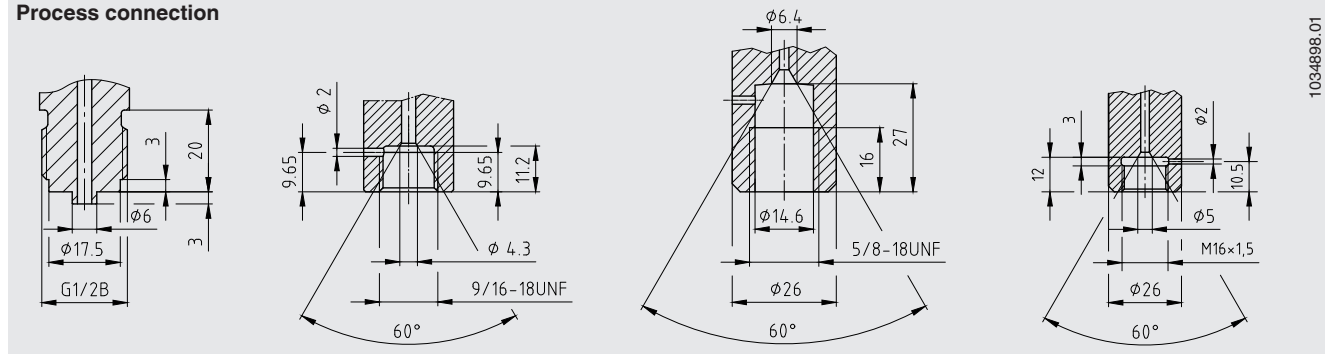


### Lower back mount (only NS 100)



NS	Dimensions in mm												Weight in kg	
	a	b	b <sub>1</sub>	b <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	e	f	G	h ±1	y	SW	unfilled	filled
100	25	59	59.5	93	101	99	17	30	G ½ B	87	23	22	0.65	1.08
160	27	65	-	-	161	159	17.5	-	G ½ B	118	23	22	1.30	2.34

### Process connection



### Ordering information

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

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