

# Bourdon tube pressure gauge, stainless steel

## XSEL<sup>®</sup> process pressure gauge

### Models 232.34 and 233.34, NS 4 1/2" and 6"

WIKA data sheet PM 02.10



For further approvals,  
see page 5

#### Applications

- For applications with highly dynamic pressure loads and vibrations
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive environments
- Process industry: Plant construction, chemical industry, petrochemical industry, power plants, mining, on-/offshore and environmental technology
- Machine building and general plant construction

#### Special features

- Excellent load-cycle stability and shock resistance
- Safety version with solid baffle wall designed in compliance with the requirements and test conditions of ASME B 40.100
- With case filling (model 233.34) for applications with high dynamic pressure loads and vibrations
- Scale ranges from 0 ... 10 to 0 ... 30,000 psi [0 ... 0.6 to 0 ... 2,000 bar]
- QR code on dial links to instrument-specific information



Bourdon tube pressure gauge, model 232.34, NS 4 1/2"

#### Description

This high-quality Bourdon tube pressure gauge has been designed especially for the process industry.

The use of high-quality materials and the robust design are geared to applications in the chemical and process engineering industries.

Scale ranges of 0 ... 10 to 0 ... 30,000 psi [0 ... 0.6 to 0 ... 2,000 bar] ensure the measuring ranges required for a wide variety of applications.

WIKA manufactures and qualifies the pressure gauge in accordance with the standard ASME B40.100. As a safety function, this instrument has a solid baffle wall with blow-out back.

In the event of a failure, the operator is protected at the front side, as media or components can only be ejected via the back of the case. The glass-fibre reinforced PBT case offers the necessary stability for reproducible measurements, even under aggressive ambient conditions.

With the model 233.34, the case filling in combination with a screwed-in restrictor enables use in applications with highly dynamic pressure loads and vibrations.

The QR code on the dial allows instrument-specific information such as the serial number, the order number, certificates and other product data to be retrieved from the internet easily and in the long term.

## Specifications

Basic information	
Standard	ASME B40.100
Special design feature	<ul style="list-style-type: none"> <li>■ Without</li> <li>■ For oxygen service, cleanliness per ASME B40.1 level IV</li> <li>■ Silicone-oil-free version</li> <li>■ Per NACE <sup>1)</sup> MR0175 / ISO 15156, use in H<sub>2</sub>S-containing environments in oil and gas production</li> </ul>
Nominal size (NS)	<ul style="list-style-type: none"> <li>■ 4 ½" [115 mm]</li> <li>■ 6" [160 mm]</li> </ul>
Connection location	<ul style="list-style-type: none"> <li>■ Lower mount (radial)</li> <li>■ Lower back mount</li> </ul>
Window	Sealing from NBR
4 ½" [115 mm]	<ul style="list-style-type: none"> <li>■ Plastic, crystal-clear, non-splintering</li> <li>■ Laminated safety glass</li> <li>■ Instrument glass</li> </ul>
6" [160 mm]	<ul style="list-style-type: none"> <li>■ Laminated safety glass</li> <li>■ Plastic, crystal-clear, non-splintering</li> <li>■ Instrument glass</li> </ul>
Case	
Design	With solid baffle wall (Solidfront) and blow-out back
Internal pressure compensation <sup>2)</sup>	<ul style="list-style-type: none"> <li>■ With diaphragm</li> <li>■ Without</li> </ul>
Material	PBT thermoplastic, glass-fibre reinforced, black <sup>3)</sup>
Ring	Threaded bezel, PBT thermoplastic, glass-fibre reinforced, black <sup>3)</sup>
Mounting	<ul style="list-style-type: none"> <li>■ Surface mounting flange (integrated into case)</li> <li>■ Adapter kit for panel mounting incl. front bezel from polished stainless steel <sup>4)</sup></li> </ul>
Case filling (model 233.34)	<ul style="list-style-type: none"> <li>■ Without</li> <li>■ Glycerine</li> <li>■ Glycerine-water mixture for scale ranges ≤ 0 ... 40 psi [≤ 0 ... 2.5 bar]</li> <li>■ Silicone oil</li> <li>■ Halocarbon oil</li> </ul>
Movement	<ul style="list-style-type: none"> <li>■ Stainless steel</li> <li>■ Stainless steel, dampened with silicone oil</li> </ul>
	Internal movement stop set at 1.1-fold full scale value

1) General information about NACE standards; see technical information IN 00.21

2) Filled instruments or instruments with radial lower mount connection are always equipped with a diaphragm for internal pressure compensation

3) Case and ring also available in red or yellow (only for NS 4 ½" [115], lower mount (radial))

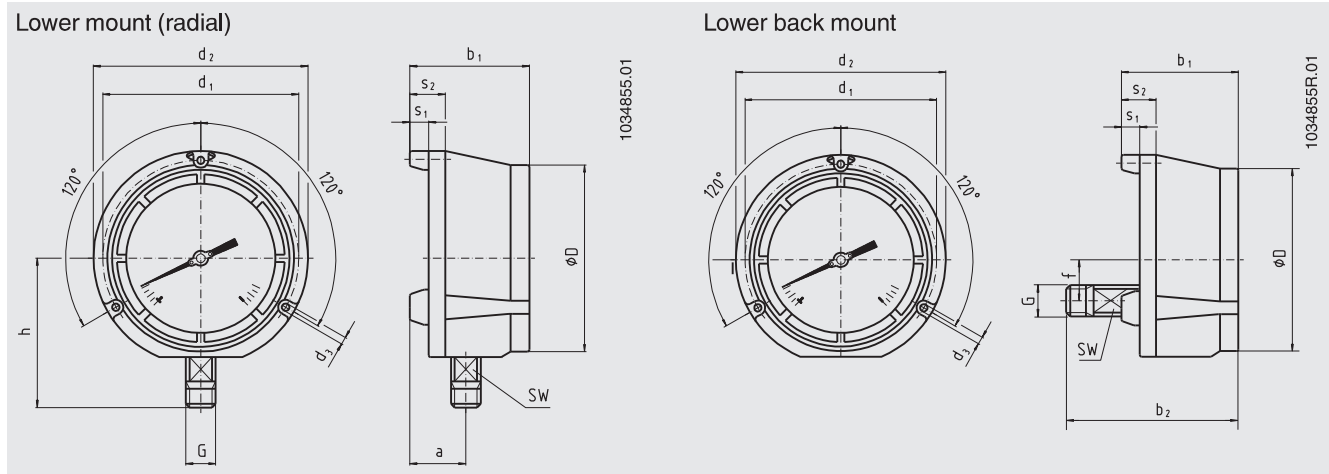
4) Only available for NS 4 ½" [115]

Measuring element	
Type of measuring element	Bourdon tube, C-type or helical type
Material	Stainless steel 316L

Accuracy specifications	
Accuracy class	±0.5 % of measuring span (grade 2A) <sup>1)</sup>
Temperature error	On deviation from the reference conditions at the measuring system: ≤ ±0.4 % per 18 °F [≤ ±0.4 % per 10 °C] of full scale value
Reference conditions	
Ambient temperature	+68 °F [+20 °C]

1) ±1 % of measuring span (grade 1A) for scale range ≥ 0 ... 20,000 psi [0 ... 1,600 bar]

## Dimensions in inch [mm]



### Process connection with thread per ANSI/ASME B1.20.1

NS	G	Dimensions in inch [mm]											
		a	b <sub>1</sub>	b <sub>2</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	f	h	s <sub>1</sub>	s <sub>2</sub>	SW
4 ½" [115]	¼ NPT	1.57 [40]	3.31 [84]	4.49 [114]	5 [128]	5.37 [136.5]	5.83 [148]	0.248 [6.3]	1.12 [28.5]	3.91 [99]	0.49 [12.5]	0.99 [25]	0.87 [22]
	½ NPT	1.57 [40]	3.31 [84]	4.74 [120]	5 [128]	5.37 [136.5]	5.83 [148]	0.248 [6.3]	1.12 [28.5]	4.06 [103]	0.49 [12.5]	0.99 [25]	0.87 [22]
6" [160]	¼ NPT	1.58 [40.2]	3.46 [88]	4.62 [117.4]	6.46 [164]	7 [177.8]	7.5 [190]	0.28 [7.1]	1.12 [28.5]	4.58 [116.5]	0.5 [12.7]	1 [25.4]	0.87 [22]
	½ NPT	1.58 [40.2]	3.46 [88]	4.86 [123.4]	6.46 [164]	7 [177.8]	7.5 [190]	0.28 [7.1]	1.12 [28.5]	4.82 [122.5]	0.5 [12.7]	1 [25.4]	0.87 [22]

### Process connection with thread per EN 837-1

NS	G	Dimensions in inch [mm]											
		a	b <sub>1</sub>	b <sub>2</sub>	D	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	f	h	s <sub>1</sub>	s <sub>2</sub>	SW
4 ½" [115]	G ¼ B	1.57 [40]	3.31 [84]	4.49 [114]	5 [128]	5.37 [136.5]	5.83 [148]	0.248 [6.3]	1.12 [28.5]	3.82 [97]	0.49 [12.5]	0.99 [25]	0.87 [22]
	G ½ B	1.57 [40]	3.31 [84]	4.76 [121]	5 [128]	5.37 [136.5]	5.83 [148]	0.248 [6.3]	1.12 [28.5]	4.09 [104]	0.49 [12.5]	0.99 [25]	0.87 [22]
6" [160]	G ¼ B	1.58 [40.2]	3.46 [88]	4.62 [117.4]	6.46 [164]	7 [177.8]	7.5 [190]	0.28 [7.1]	1.12 [28.5]	4.58 [116.5]	0.5 [12.7]	1 [25.4]	0.87 [22]
	G ½ B	1.58 [40.2]	3.46 [88]	4.89 [124.4]	6.46 [164]	7 [177.8]	7.5 [190]	0.28 [7.1]	1.12 [28.5]	4.86 [123.5]	0.5 [12.7]	1 [25.4]	0.87 [22]

NS	Weight	
	Model 232.34	Model 233.34
4 ½" [115]	approx. 2 lbs [0.9 kg]	approx. 3 lbs [1.4 kg]
6" [160]	approx. 3 lbs [1.4 kg]	approx. 4 lbs [1.8 kg]