

# Bourdon tube pressure gauge, copper alloy

## With capillary, NS 27 [1"] and 40 [1 ½"]

### Model 101.00

WIKA data sheet PM 01.22



For further approvals,  
see page 4

#### Applications

- For gaseous and liquid media that are not highly viscous or crystallising and will not attack copper alloy parts
- Heating technology

#### Special features

- Process connection: G ¼ B or plug connection
- Scale range: 0...4 bar [0 ... 60 psi] or 0... 6 bar [0 ... 100 psi]
- Very simple to install (snap-in mounting)
- No bending or coiling of plastic capillary necessary
- Suitability of plastic capillary confirmed in long-term tests under characteristic application conditions



Fig. left: NS 40 [1 ½"]

Fig. right: NS 27 [1"]

#### Description

The model 101.00 is a Bourdon tube pressure gauge with a capillary. This instrument is based on the proven Bourdon tube measuring system. The plastic case is available in nominal sizes of 27 mm [1"] and 40 mm [1 ½"].

#### Capillary features

Due to the length and flexibility of the capillary, the mounting position of the pressure gauge can be independent of the measuring point. The plastic capillary version uses a specific material, maintaining the long-term resistance also at high temperatures. An advantage of plastic capillaries, as against brass or copper capillaries, is that these do not need to be bent or coiled. Thus, the plastic capillary makes installation much easier and eliminates the risk of any fatigue fracture.

#### Application area in heating technology

These instruments are particularly suitable for application in the heating industry. The suitability of the instrument was confirmed in long-term tests under characteristic application conditions.

#### Individual customer variants

Based on many years of experience in manufacturing and development, WIKA is also happy to offer customer-specific solutions. The G ¼ B standard process connection can, on request, also be completed with a plastic sealing ring at the thread. This eliminates the time-consuming and error-prone sealing during mounting. For customer-specific process connection designs, WIKA also offers the development of plastic plug connections to meet the requirement.

## Specifications

Basic information	
<b>Standard</b>	Following EN 837-1 → For information on the "Selection, installation, handling and operation of pressure gauges", see technical information IN 00.05.
<b>Nominal size (NS)</b>	<ul style="list-style-type: none"> <li>■ Ø 27 mm [1"]</li> <li>■ Ø 40 mm [1 ½"]</li> </ul>
<b>Connection location</b>	Centre back mount
<b>Window</b>	Plastic, crystal-clear, snap-fitted in case
<b>Case</b>	<ul style="list-style-type: none"> <li>■ Plastic, black</li> <li>■ Plastic, white</li> </ul>
Mounting	
NS 27 [1"]	Slip-in mounting
NS 40 [1 ½"]	Snap-in mounting with lateral locating lugs
<b>Movement</b>	Copper alloy

Measuring element	
<b>Type of measuring element</b>	Bourdon tube, C-type
<b>Material</b>	Copper alloy
<b>Leak tightness</b>	Leakage rate: $< 5 \cdot 10^{-3}$ mbar l/s

Accuracy specifications	
Accuracy class	
NS 27 [1"]	Class 4.0
NS 40 [1 ½"]	Class 2.5
<b>Temperature error</b>	On deviation from the reference conditions at the measuring system: $\leq \pm 0.4$ % per 10 °C [ $\leq \pm 0.4$ % per 18 °F] of full scale value
Reference conditions	
Ambient temperature	+20 °C [68 °F]

### Scale ranges

bar	
0 ... 4	0 ... 6

kg/cm <sup>2</sup>	
0 ... 4	0 ... 6

kPa	
0 ... 400	0 ... 600

MPa	
0 ... 0.4	0 ... 0.6

psi	
0 ... 60	0 ... 100

Further details on: Scale ranges	
<b>Special scale ranges</b>	→ Other scale ranges on request
<b>Unit</b>	<ul style="list-style-type: none"> <li>■ bar</li> <li>■ psi</li> <li>■ kg/cm<sup>2</sup></li> <li>■ kPa</li> <li>■ MPa</li> </ul>
<b>Dial</b>	
Scale colour	Black
Material	Plastic
Special scale	→ Other scales or customer-specific dials, e.g. with red mark, circular arcs or circular sectors, on request
<b>Pointer</b>	
Mark pointer/drag pointer	<ul style="list-style-type: none"> <li>■ Without</li> <li>■ Red mark pointer on window</li> </ul>
Instrument pointer	Plastic, black
<b>Pointer stop pin</b>	At zero point

Process connection		
<b>Standard</b>	<ul style="list-style-type: none"> <li>■ EN 837-1</li> <li>■ Metric fine thread</li> <li>■ Plug connection</li> </ul>	
<b>Size</b>		
EN 837-1	G ¼ B, male thread <sup>1)</sup>	
Metric fine thread	<ul style="list-style-type: none"> <li>■ M14 x 1, male thread</li> <li>■ M14 x 1, female thread</li> </ul>	
Plug connection	Custom dimensions	
<b>Capillary</b>		
Material	<ul style="list-style-type: none"> <li>■ Plastic (PE-LLD) <sup>2)</sup></li> <li>■ Copper <sup>3)</sup></li> <li>■ Copper, PE-coated <sup>3)</sup></li> </ul>	
Length	Plastic capillary (PE-LLD)	170 ... 2,000 mm
	Copper capillary	86 ... 2,000 mm
	Copper capillary, PE-coated	195 ... 2,000 mm
<b>Material (wetted)</b>		
Bourdon tube	Copper alloy	
Process connection	EN 837-1, metric fine thread	Copper alloy
	Plug connection	<ul style="list-style-type: none"> <li>■ Plastic</li> <li>■ Copper alloy</li> </ul>
Capillary	According to the chosen material	

1) A version with PTFE sealing at the thread is available

2) Not available in combination with metric fine thread process connections



3) Only available with process connections made of copper alloy

→ Other process connections on request

Operating conditions	
Medium temperature	-20 ... +60 °C [-4 ... +140 °F]
Ambient temperature	-20 ... +60 °C [-4 ... +140 °F]
Pressure limitation	
Steady	3/4 x full scale value
Fluctuating	2/3 x full scale value
Short time	Full scale value
Ingress protection per IEC/EN 60529	IP41

## Approvals

### Optional approvals

Logo	Description	Region
	<b>PAC Kazakhstan</b> Metrology, measurement technology	Kazakhstan
-	<b>PAC Ukraine</b> Metrology, measurement technology	Ukraine
	<b>PAC Uzbekistan</b> Metrology, measurement technology	Uzbekistan

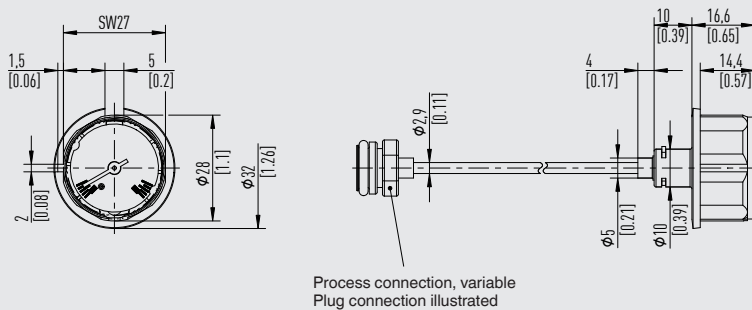
## Certificates (option)

Certificates	
Certificates	2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy)
Recommended calibration interval	1 year (dependent on conditions of use)

→ For approvals and certificates, see website

## Dimensions in mm [in]

### NS 27 [1"]

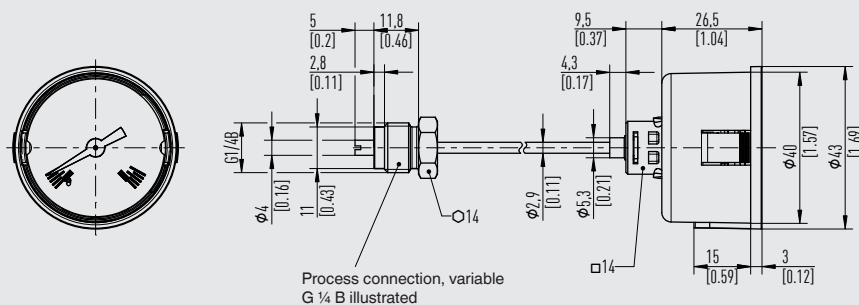


Process connection, variable  
Plug connection illustrated

Weight: approx. 22 g [0.78 oz]

11596768.04

### NS 40 [1 1/2"]



Process connection, variable  
G 1/4 B illustrated

Weight: approx. 50 g [1.76 oz]

11597021.05

## Ordering information

Model / Scale range / Process connection / Capillary length / Options

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