

# Gas-actuated thermometer Highly vibration resistant Model 75, stainless steel version

WIKA data sheet TM 75.01



for further approvals  
see page 5

## Applications

- For the local measurement of exhaust gas temperatures or oil temperatures in diesel engines, turbines, compressors and strongly vibrating machinery

## Special features

- Instruments meet the highest mechanical and measurement-technology standards
- Very high vibration resistance
- Especially robust design with cushioning fluid for a long service life
- All stainless steel design



Gas-actuated thermometer model R75.100

## Description

This series of thermometers has been designed for applications where strong shocks and vibrations occur. These thermometers measure accurately and reliably, even when exposed to extremely high mechanical loads. They are also resistant to high ambient temperatures and humidity.

The thermometers are completely made of stainless steel. Various insertion lengths and process connections are available to optimally match the requirements of each process.

## Standard version

### Temperature element

Inert gas expansion system (non-toxic)

### Nominal size in mm

100

### Design of connection

- 2 Male nut
- 3 Union nut
- 4 Compression fitting (sliding on stem)

### Models

Model	NS	Version
A75.100	100	Back mount (axial)
R75.100	100	Lower mount (radial)

### Accuracy class

Class 1 per EN 13190  
at 23 °C ±20 °C ambient temperature

### Working range

Normal (1 year): Measuring range per EN 13190  
Short time (24 h max.): Scale range per EN 13190

### Nominal use

EN 13190

### Case, bezel ring

Stainless steel 1.4301 (304)

### Stem, process connection

Stainless steel 1.4571 (316Ti)

### Stem diameter

13 mm

### Dial

Aluminium, white, black lettering

### Window

Laminated safety glass

### Pointer

Aluminium, black, adjustable pointer

### Liquid damping

Silicon oil, M10.000

### Temperature limits for storage and transport

-40 ... +70 °C with liquid damping

### Permissible ambient temperature

0 ... 60 °C

### Pressure rating of stem

max. 25 bar, static with design 4  
max. 40 bar, static with design 2 and 3

### Ingress protection

IP 66 per EN/IEC 60529

## Options

- Scale range °F, °C/°F (dual scale)
- With fabricated or solid machined thermowell
- Various extension neck an insertion length available
- Various process connections available
- Thermometers with electrical output signal (data sheet TV 17.02)

### Scale, measuring ranges <sup>1)</sup>, limits of error (EN 13190)

#### Scale graduation per WIKA standard

Scale range in °C	Measuring range in °C	Scale spacing in °C	Error limit ±°C
50 ... 600	150 ... 500	10	10
50 ... 650	150 ... 550	10	10
50 ... 700	150 ... 600	10	10

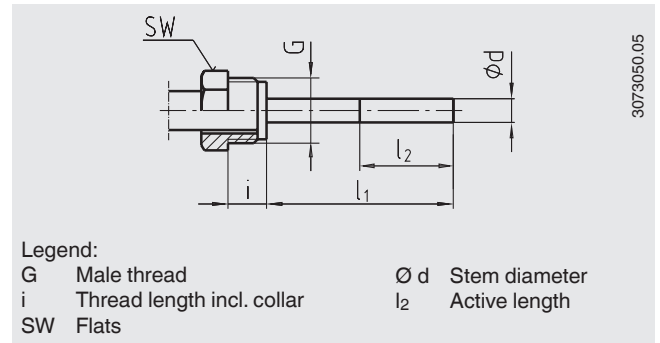
<sup>1)</sup> The measuring range is indicated on the dial by two triangular marks.  
Only within this range the stated limit of error is valid according to EN 13190.

## Design of connection

### Design 2, male nut

Standard insertion length  $l_1 = 120, 140, 180, 230$  mm

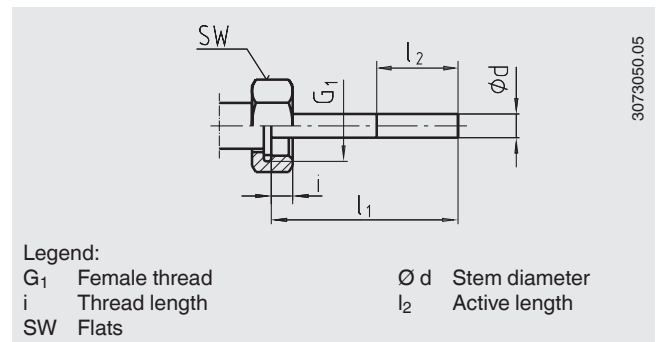
Nominal size	Process connection		Dimensions in mm		
NS	G	i	SW	$\varnothing d$	
100	G 3/4 B	22	32	13	



### Design 3, union nut

Standard insertion length  $l_1 = 89, 126, 186, 226, 276$  mm

Nominal size	Process connection		Dimensions in mm		
NS	G	i	SW	$\varnothing d$	
100	G 3/4 B	10,5	32	13	

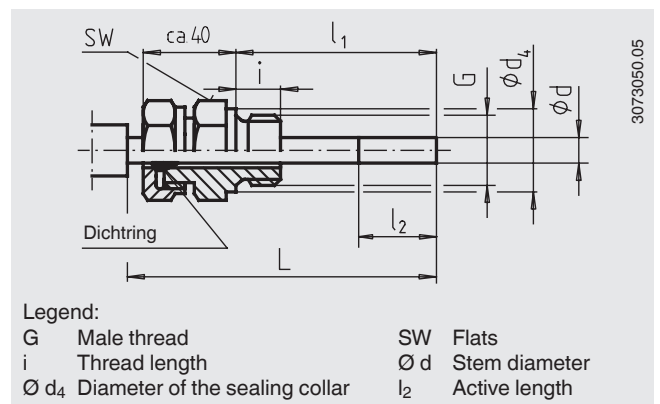


### Design 4, compression fitting (sliding on stem)

Insertion length  $l_1 =$  variable

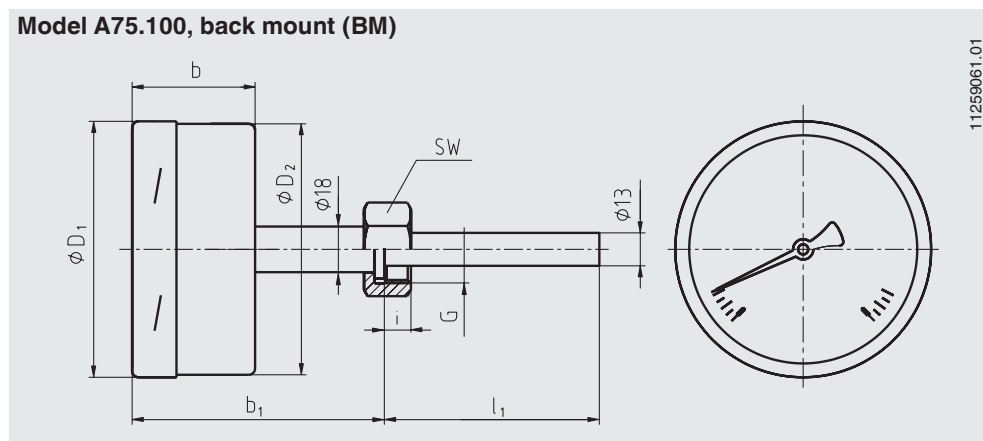
Length  $L = l_1 + 40$  mm

Nominal size	Process connection		Dimensions in mm			
NS	G	i	SW	$d_4$	$\varnothing d$	
100	G 3/4 B	16	32	32	13	
	3/4 NPT	20	30	-	13	

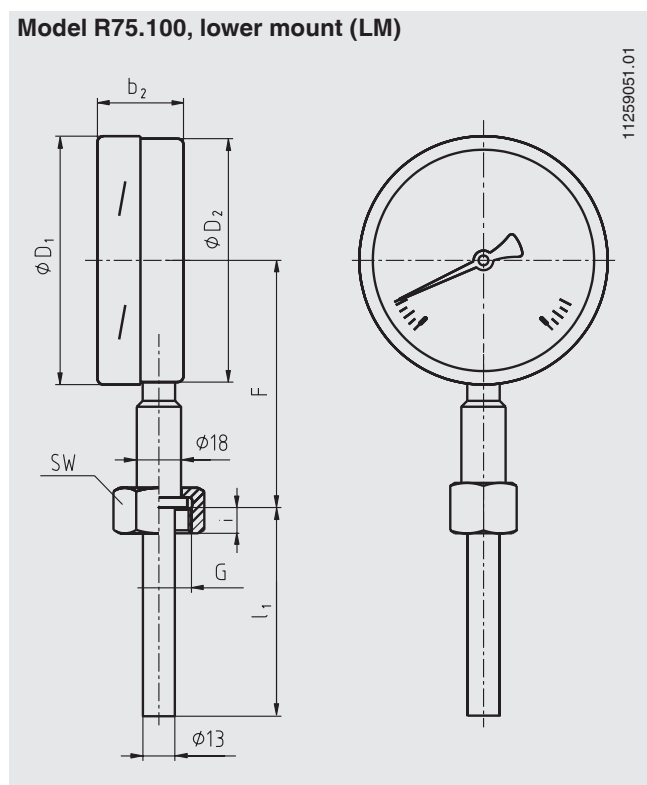


## Dimensions in mm

Model A75.100, back mount (BM)



Model R75.100, lower mount (LM)



Nominal size	Dimensions in mm						Weight in kg
	NS	b	b <sub>1</sub> <sup>1)</sup>	b <sub>2</sub>	F <sup>1)</sup>	D <sub>1</sub>	
100	50	110	35	110	101	99	0.75

1) Others on request

## Thermowell

In principle, the operation of a mechanical thermometer without a thermowell with low process-side loading (low pressure, low viscosity and low flow velocities) is possible.

However, in order to enable exchanging the thermometer during operation (e.g. instrument replacement or calibration) and to ensure a better protection of the instrument and also the plant and the environment, it is advisable to use a thermowell from the extensive WIKA thermowell portfolio.

For further information on the calculation of the thermowell, see Technical information IN 00.15.

## Approvals (options)

- **GOST**, metrology, measurement technology, Russia
- **CRN**, safety (e.g. electr. safety, overpressure, ...), Canada

## Certificates (options)

- 2.2 Test report
- 3.1 inspection certificate
- DKD/DAkkS calibration certificate

Approvals and certificates, see website

## Ordering information

Model / Nominal size / Scale range / Design of connection / Process connection / Length  $l_1$  / Options

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