# SIKA Thermometers

founded 1901
Dr. Siebert & Kühn GmbH & Co. KG

## Version for heating - air conditioning - ventilation (HVAC)

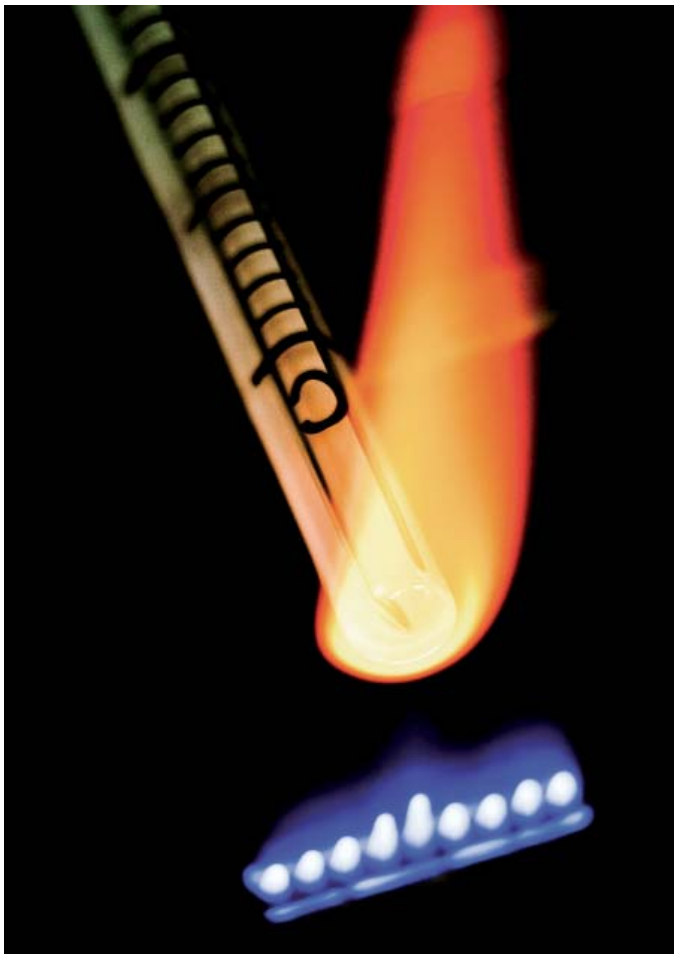
# Quality by Tradition

## SIKA thermometers for heating and air conditioning applications

As their name implies, industrial thermometers have their origin in industrial applications. They found their way early on into heating and later air conditioning technology and today it is hard to imagine these areas without them.

The advantages of a glass thermometer over other thermometers which are commonly found in heating technology, such as dial thermometers or electronic versions, are obvious: no mechanically moving parts, no material fatigue, no electrical energy requirement, but a high level of accuracy and a very long service life. In other words, as long as a glass thermometer is not mechanically destroyed, it remains accurate for the duration of its service life.

SIKA, which both developed and gave its name to this type of thermometer, has been producing the SIKA thermometer for over 70 years.The SIKA thermometer is characterised by quality and durability and ultimately offers a price-performance ratio that has yet to meet its match.

Industrial thermometers specifically for heating and air conditioning applications are available in two separate versions:

### With aluminium casing

Industrial thermometers with gold-coloured aluminium casing make up the standard range of glass thermometers for heating and air conditioning. There are three different casing sizes available, each in a straight or 90° angle version, with eight different temperature ranges up to 200 °C and immersion tube lengths up to 250 mm. All thermometers have a brass immersion tube with G ½ connection thread.

If thermometers with other measuring ranges, other immersion tube materials or connection types and threads are required, please refer to our industrial versions in the „Industrial thermometers for industrial applications“ data sheet.

### With polyamide casing

Thermometers with black polyamide casing complete the established range of glass thermometers for heating and air conditioning applications. The plastic versions are particularly suited to price-critical large quantity applications in the lower temperature range (measuring range up to 200 °C), at which ambient temperatures of 160 °C are not exceeded. A further area of use for these versions are refrigeration applications, since thanks to its smaller heat dissipation, the polyamide casing prevents the formation of condensation.

# Details of Construction

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## Casing

Aluminium, v-shaped, painted in a gold colour, (types 271 HBZ to 175 WBZ). Alternatively, versions with plastic casing top section made from polyamide PA6, black-coloured, are available (types 471 B to 475 B). The numbers of the measuring range are printed on the right side and are long-lasting. Connection of casing and immersion tube through grooved adapter piece and locking screw. Advantage: When mounting the thermometer, it is not necessary to turn the casing.

## Glass Inserts (Capillaries)

Capillary tube of solid glass, bar-shaped, prismatic, diameter approx. 6 to 8 mm, with white background for blue fluid column. Scale is deeply burnt in black, thus being absolutely resistant. The main graduations, which correspond with the printing on the casing, are especially clearly outlined.

## Thermometric liquid

In the standard version up to 200 °C blue wetting liquid („Fü“).

## Immersion tube

Standard version made from brass, type B with connection thread G ½. The diameter of this immersion tube is 10 mm, with a wall thickness of 1 mm.

## Scale intervals and error limits

SIKA thermometers fulfil the requirements of DIN 16195 „Requirements and testing of industrial glass thermometers“. Scale intervals and error limits are defined in relation to the casing size and the measuring range. For example, a 291 HBZ thermometer, typical for heating applications, with a temperature range of 0 to 120 °C, has a scale interval of 2 °C and an error limit of 1 °C.

# Thermometers with aluminium casing

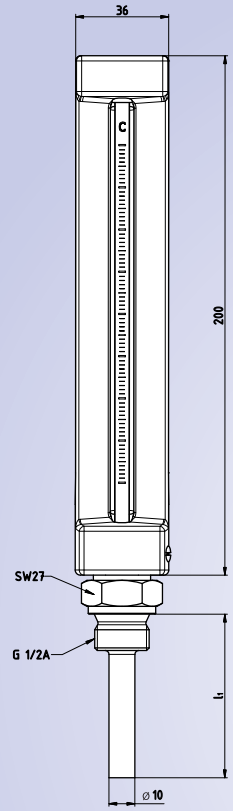
## Painted in a gold colour - max. ambient temperature 160 °C

| Order-Example | | 271 | 8 | 35 | 1 | 1 | 063 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|
| Thermometer type | | | | | | | | | |
| Nominal size 200 | | | | | | | | | |
| | gold-coloured, straight | 271 | | | | | | | |
| | gold-coloured, angle 90° | 272 | | | | | | | |
| Nominal size 150 | | | | | | | | | |
| | gold-coloured, straight | 291 | | | | | | | |
| | gold-coloured, angle 90° | 292 | | | | | | | |
| Nominal size 110 | | | | | | | | | |
| | gold-coloured, straight | 174 | | | | | | | |
| | gold-coloured, angle 90° | 175 | | | | | | | |
| **Immersion tube type** | | | | | | | | | |
| Straight | HBZ = | | 8 | | | | | | |
| Angle 90° | WBZ = | | 4 | | | | | | |
| **Measuring range** | | | | | | | | | |
| -30...50 °C = | | | | 35 | | | | | |
| -10...50 °C = | | | | 04 | | | | | |
| 0...30 °C = | | | | 83 | | | | | |
| 0...60 °C = | | | | 06 | | | | | |
| 0...100 °C = | | | | 10 | | | | | |
| 0...120 °C = | | | | 12 | | | | | |
| 0...160 °C = | | | | 16 | | | | | |
| 0...200 °C = | | | | 20 | | | | | |
| **Scale** | | | | | | | | | |
| Celsius (°C) | | | | | 1 | | | | |
| **Filling** | | | | | | | | | |
| Standard blue fluid for measuring ranges up to 200 °C | Fü = | | | | | 1 | | | |
| **Immersion tube length** | | | | | | | | | |
| $l_1$ in mm | | | | | | | | | |
| | 63 = | | | | | | 63 | | |
| | 100 = | | | | | | 100 | | |
| | 160 = | | | | | | 160 | | |
| | 250 = | | | | | | 250 | | |
| **Fixed brass external thread** | | | | | | | | | |
| (other threads on request) | G ½ / SW 27 = | | | | | | | 2 | |
| **Immersion tube material** | | | | | | | | | |
| Brass (hexagon CW614N / tube CW702R or CW508L), brazed, or up to immersion tube length l1 = 63, G ½ from CW614N. | | | | | | | | | 1 |
| Solid material possible at our discretion. | | | | | | | | | |
| Steel (hexagon 1.0718 / tube 1.0308, welded in) | | | | | | | | | 2 |
| Stainless steel 1.4571 (hexagon and tube) | | | | | | | | | 3 |

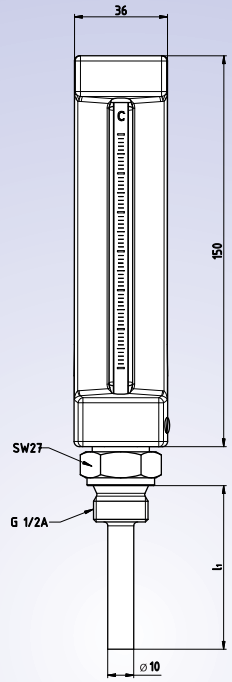
* Dimensions in accordance with DIN 16181-16190, accuracy in accordance with DIN 16195

## Dimensions

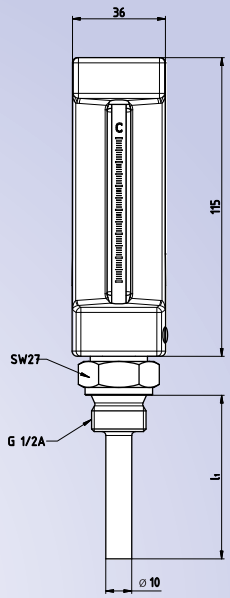
Type 271 HBZ



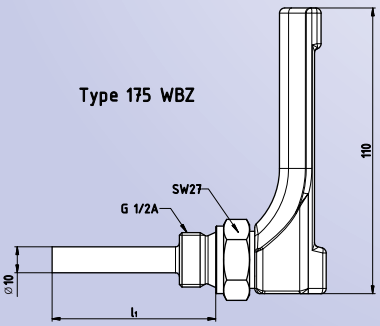

Type 291 HBZ



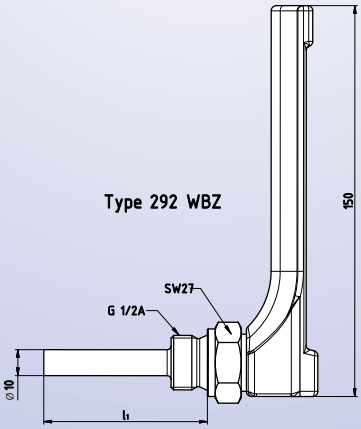

Type 174 HBZ



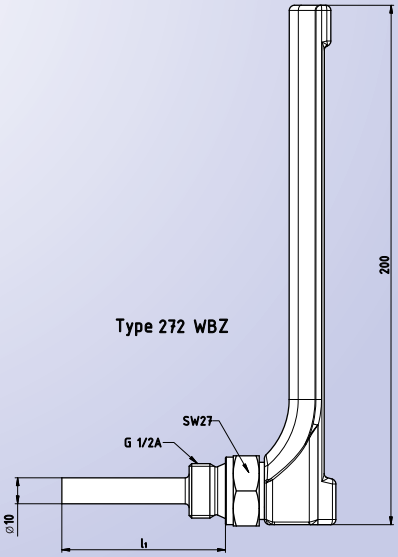

Type 175 WBZ




Type 292 WBZ




Type 272 WBZ



# Thermometers with polyamide casing

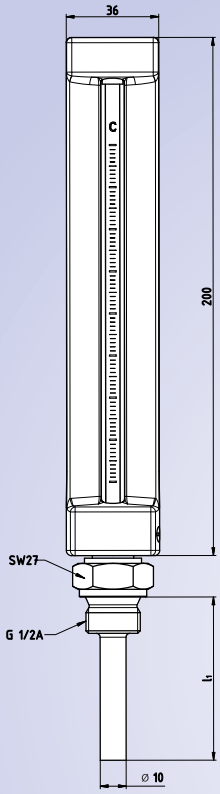
## Polyamide PA 6, black-coloured, max. ambient temperature 160 °C

| Order-Example | | | 471 | 2 | 35 | 1 | 1 | 063 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Thermometer type | | | | | | | | | | |
| Nominal size 200 | | | | | | | | | | |
| | black, straight | | 471 | | | | | | | |
| | black, angle 90° | | 472 | | | | | | | |
| Nominal size 150 | | | | | | | | | | |
| | black, straight | | 491 | | | | | | | |
| | black, angle 90° | | 492 | | | | | | | |
| Nominal size 110 | | | | | | | | | | |
| | black, straight | | 474 | | | | | | | |
| | black, angle 90° | | 475 | | | | | | | |
| **Immersion tube type** | | | | | | | | | | |
| Straight + Angle 90° | | B = | | 2 | | | | | | |
| **Measuring range** | | | | | | | | | | |
| -30...50 °C = | | | | | 35 | | | | | |
| -10...50 °C = | | | | | 04 | | | | | |
| 0...60 °C = | | | | | 06 | | | | | |
| 0...100 °C = | | | | | 10 | | | | | |
| 0...120 °C = | | | | | 12 | | | | | |
| 0...160 °C = | | | | | 16 | | | | | |
| 0...200 °C = | | | | | 20 | | | | | |
| **Scale** | | | | | | | | | | |
| Celsius (°C) | | | | | | 1 | | | | |
| **Filling** | | | | | | | | | | |
| Standard blue fluid for measuring ranges up to 200 °C | | Fü = | | | | | 1 | | | |
| **Immersion tube length** | | | | | | | | | | |
| $l_1$ in mm | | | | | | | | | | |
| | | 63 = | | | | | | 63 | | |
| | | 100 = | | | | | | 100 | | |
| | | 160 = | | | | | | 160 | | |
| | | 250 = | | | | | | 250 | | |
| **Fixed brass external thread** | | | | | | | | | | |
| (other threads on request) | | G ½ / SW 27 = | | | | | | | 2 | |
| **Immersion tube material** | | | | | | | | | | |
| Brass (hexagon CW614N / tube CW702R or CW508L), brazed, or up to immersion tube length l1 = 63, G ½ from CW614N. | | | | | | | | | | 1 |
| Solid material possible at our discretion. | | | | | | | | | | 2 |
| Steel (hexagon 1.0718 / tube 1.0308, welded in) | | | | | | | | | | 2 |
| Stainless steel 1.4571 (hexagon and tube) | | | | | | | | | | 3 |

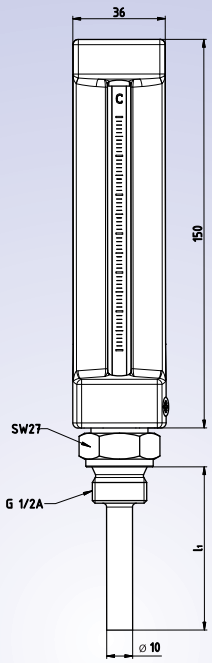
* Dimensions in accordance with DIN 16181-16190, accuracy in accordance with DIN 16195

## Dimensions

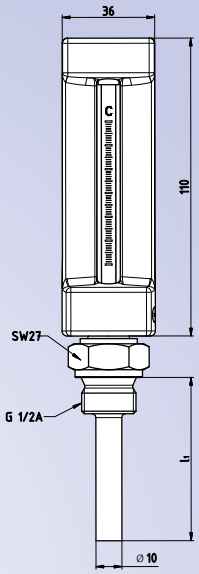
Type 471 B



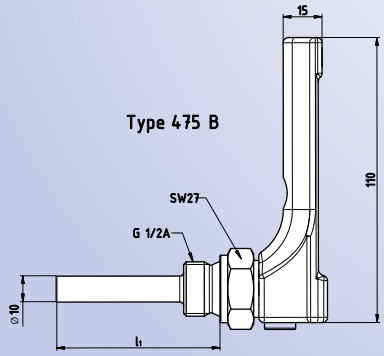

Type 491 B



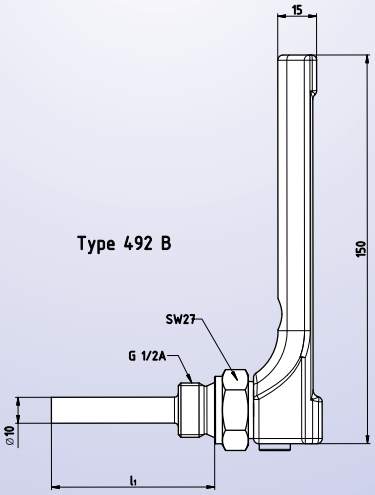

Type 474 B



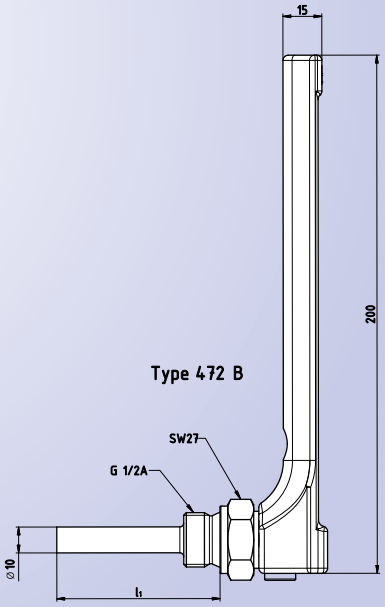

Type 475 B




Type 492 B




Type 472 B



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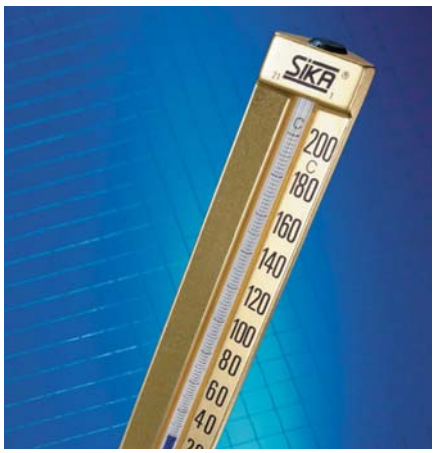


Industrial Thermometers


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# Your competent partner for measurement and control

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