

Machine Glass Thermometers Model 32, V-Form

WIKA Data Sheet TM 32.02



Applications

- Universal application
- Machine building
- Tank construction
- Central heating systems
- Plant construction

Special Features

- Vibration resistant
- Non-toxic thermometer liquid
- Measuring ranges from -30 ... +200 °C



Maschine Glass Thermometer Model 32, 90° angle design

Description

Nominal size in mm
110, 150 and 200

Measuring principle
Liquid expansion

Limit of error
DIN 16195

Approval
Germanischer Lloyd for straight design and 90° angle design

Pressure rating of stem
Max. 6 bar

Stem
Ø 10 mm
Ø 6.5 mm with NS 200 x 36 with union nut M24 x 1.5

Case
Aluminium, brass colour anodised

Lettering
Print with special ink, protected by anodised finish

Thermometer glass insert
Rod shape, prismatic capillaries

Nominal size 110 x 30 mm

Design of connection

Design E, male thread

■ Straight design per DIN 16181

Male thread

- G ½ B, M20 x 1.5 (Form B per DIN)
- G ¾ B, M16 x 1.5 (Form B1 per DIN)

Male thread screwed into case

Stem length $l_1 = 30, 40, 63, 100, 160, 250$ mm

Cu-alloy

■ 90° angle design per DIN 16182

Male thread

- G ½ B, M20 x 1.5 (Form S per DIN)
- G ¾ B, M16 x 1.5 (Form S1 per DIN)

Male thread inserted into case, removable

Stem length $l_1 = 30, 40, 63, 100, 160, 250$ mm

Cu-alloy

■ 135° angle design

Male thread

- G ½ B, M20 x 1.5
- G ¾ B, M16 x 1.5

Male thread screwed into case

Stem length $l_1 = 30, 40, 63, 100, 160, 250$ mm

Cu-alloy

Scale ranges

| Scale range in °C | Scale spacing in °C | Limit of error in °C | Thermometric liquid |
|-------------------|---------------------|----------------------|---------------------|
| -30 ... +50 | 1 | 2 | blue, wetting |
| 0 ... +60 | 1 | 1.5 | blue, wetting |
| 0 ... +100 | 2 | 2 | blue, wetting |
| 0 ... +120 | 2 | 2 | blue, wetting |
| 0 ... +160 | 4 | 4 | blue, wetting |
| 0 ... +200 | 5 | 5 | blue, wetting |

Models

| Model | Location of stem | DIN |
|--------|------------------|-----------|
| G 3200 | straight | DIN 16181 |
| W 3201 | 90° angle | DIN 16182 |
| W 3202 | 135° angle | - |

Nominal size 150 x 36 mm

Design of connection

Design E, male thread

■ Straight design per DIN 16185

Male thread

- G ½ B, M20 x 1.5 (Form B per DIN)
- G ¾ B, M27 x 2

Male thread screwed into case

Stem length $l_1 = 63, 100, 160, 250$ mm

Cu-alloy

■ 90° angle design per DIN 16186

Male thread

- G ½ B, M20 x 1.5 (Form S per DIN)
- G ¾ B, M27 x 2

Male thread inserted into case, removable

Stem length $l_1 = 63, 100, 160, 250$ mm

Cu-alloy

■ 135° angle design

Male thread

- G ½ B, M20 x 1.5
- G ¾ B, M27 x 2

Male thread screwed into case

Stem length $l_1 = 63, 100, 160, 250$ mm

Cu-alloy

Scale ranges

| Scale range in °C | Scale spacing in °C | Limit of error in °C | Thermometric liquid |
|-------------------|---------------------|----------------------|---------------------|
| -30 ... +50 | 1 | 2 | blue, wetting |
| 0 ... +60 | 1 | 1.5 | blue, wetting |
| 0 ... +100 | 2 | 2 | blue, wetting |
| 0 ... +120 | 2 | 2 | blue, wetting |
| 0 ... +160 | 2 | 4 | blue, wetting |
| 0 ... +200 | 2 | 4 | blue, wetting |

Models

| Model | Location of stem | DIN |
|--------|------------------|-----------|
| G 3210 | straight | DIN 16185 |
| W 3211 | 90° angle | DIN 16186 |
| W 3212 | 135° angle | - |

Nominal size 200 x 36 mm

Design of connection

Design E, male thread

■ Straight design per DIN 16189

Male thread

- G ½ B, M20 x 1.5 (Form B1 per DIN)
- G ¾ B, M27 x 2 (Form B per DIN)

Male thread screwed into case

Stem length l_1 = 63, 100, 160, 250 mm

Cu-alloy

■ Bauart 90° winklig nach DIN 16190

Male thread

- G ½ B, M20 x 1.5 (Form S1 per DIN)
- G ¾ B, M27 x 2 (Form S per DIN)

Male thread inserted into case, removable

Stem length l_1 = 63, 100, 160, 250 mm

Cu-alloy

■ Bauart 135° winklig

Male thread

- G ½ B, M20 x 1.5 (Form B1 per DIN)
- G ¾ B, M27 x 2 (Form B per DIN)

Male thread screwed into case

Stem length l_1 = 63, 100, 160, 250 mm

Cu-alloy

Scale ranges

| Scale range in °C | Scale spacing in °C | Limit of error in °C | Thermometric liquid |
|-------------------|---------------------|----------------------|---------------------|
| -30 ... +50 | 1 | 2 | blue, wetting |
| 0 ... +60 | 1 | 1.5 | blue, wetting |
| 0 ... +100 | 1 | 2 | blue, wetting |
| 0 ... +120 | 1 | 2 | blue, wetting |
| 0 ... +160 | 2 | 4 | blue, wetting |
| 0 ... +200 | 2 | 4 | blue, wetting |

Models

| Model | Location of stem | DIN |
|--------|------------------|-----------|
| G 3220 | straight | DIN 16189 |
| W 3221 | 90° angle | DIN 16190 |
| W 3222 | 135° angle | DIN 16191 |

Options (for all nominal sizes)

- Dual scale °F/°C
- Other scale ranges
- Male thread made of other materials
- Thermowells per DIN made of Cu-alloy, steel, stainless steel or other materials

Design of connection (of choice)

Design 3, union nut

■ Straight design per DIN 16189

Union nut

- G ½, M20 x 1.5 (Form C1 per DIN)
- G ¾, M27 x 2 (Form C per DIN)
- M24 x 1.5 (Form F per DIN)

Connection piece screwed into case, removable

Stem length l_1 :

- Form C1: l_1 = 89, 126, 186, 276, 426 mm
- Form C: l_1 = 93, 130, 190, 280, 430 mm
- Form F: l_1 = 155, 215, 275, 295, 355, 415 mm

Union nut and connection piece in Cu-alloy, tube in St. 35 steel

■ 90° angle per DIN 16190

Union nut

- G ½, M20 x 1.5 (Form C1 per DIN)
- G ¾, M27 x 2 (Form C per DIN)
- M24 x 1.5 (Form F per DIN)

Connection piece inserted into case, removable

Stem length l_1 :

- Form C1: l_1 = 89, 126, 186, 276, 426 mm
- Form C: l_1 = 93, 130, 190, 280, 430 mm
- Form F: l_1 = 155, 215, 275, 295, 355, 415 mm

Union nut and connection piece in Cu-alloy, tube in St. 35 steel

■ 135° angle per DIN 16191

Union nut

- G ½, M20 x 1.5 (Form C1 per DIN)
- G ¾, M27 x 2 (Form C per DIN)
- M24 x 1.5 (Form F per DIN)

Connection piece inserted into case, removable

Stem length l_1 :

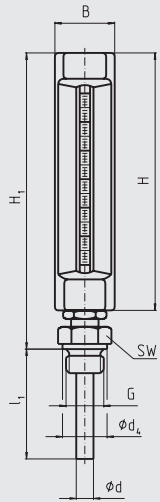
- Form C1: l_1 = 89, 126, 186, 276, 426 mm
- Form C: l_1 = 93, 130, 190, 280, 430 mm
- Form F: l_1 = 155, 215, 275, 295, 355, 415 mm

Union nut and connection piece in Cu-alloy, tube in St. 35 steel

Dimensions in mm

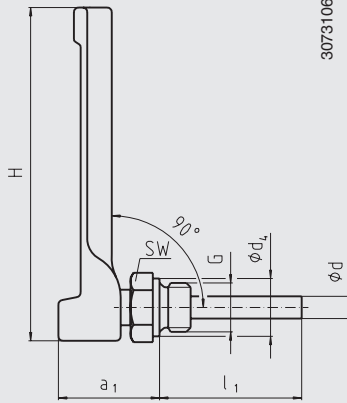
Design of connection E, male thread

straight



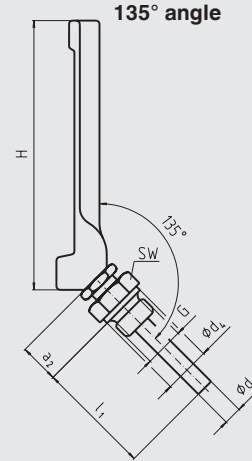
3073092.01

90° angle



3073106.01

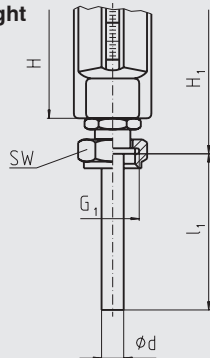
135° angle



3073114.01

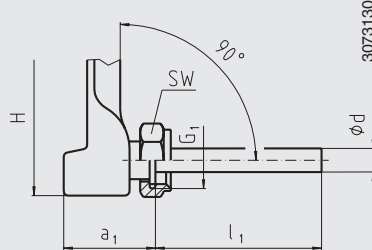
Design of connection 3, union nut (only with NS 200)

straight



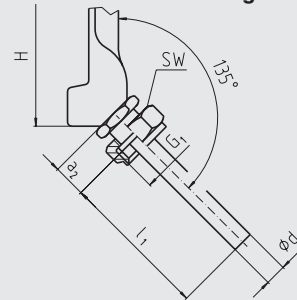
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90° angle



3073130.01

135° angle



3073181.01

| NS | Dimensions in mm | | | | | | | | | | Weight in kg |
|-----|------------------|----------------|----|-----|------------------|-----------|----------------|-----|----------------|----|--------------|
| | a ₁ | a ₂ | B | Ø d | Ø d ₁ | G | G ₁ | H | H ₁ | SW | |
| 110 | 44 | 20 | 30 | 10 | 22 | G 3/8 B | - | 110 | 130 | 22 | 0.25 |
| 110 | 44 | 20 | 30 | 10 | 21 | M16 x 1.5 | - | 110 | 130 | 22 | 0.25 |
| 110 | 44 | 20 | 30 | 10 | 26 | G 1/2 B | - | 110 | 130 | 27 | 0.25 |
| 110 | 44 | 20 | 30 | 10 | 25 | M20 x 1.5 | - | 110 | 130 | 27 | 0.25 |
| 150 | 46 | 21 | 36 | 10 | 26 | G 1/2 B | - | 150 | 170 | 27 | 0.30 |
| 150 | 46 | 21 | 36 | 10 | 25 | M20 x 1.5 | - | 150 | 170 | 27 | 0.30 |
| 150 | 46 | 21 | 36 | 10 | 32 | G 3/4 B | - | 150 | 170 | 32 | 0.30 |
| 150 | 46 | 21 | 36 | 10 | 32 | M27 x 2 | - | 150 | 170 | 32 | 0.30 |
| 200 | 46 | 21 | 36 | 10 | 26 | G 1/2 B | G 1/2 | 200 | 220 | 27 | 0.35 |
| 200 | 46 | 21 | 36 | 10 | 25 | M20 x 1.5 | M20 x 1.5 | 200 | 220 | 27 | 0.35 |
| 200 | 46 | 21 | 36 | 10 | 32 | G 3/4 B | G 3/4 | 200 | 220 | 32 | 0.35 |
| 200 | 46 | 21 | 36 | 10 | 32 | M27 x 2 | M27 x 2 | 200 | 220 | 32 | 0.35 |
| 200 | 46 | 21 | 36 | 6.5 | - | - | M24 x 1.5 | 200 | 220 | 32 | 0.35 |

Ordering information

Model / Nominal size / Scale range / Design of connection / Length l₁ / Options

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

