TM 54.01

# Bimetal Thermometers

## Heavy Duty Series • Model 54

## Thermometers

**German Lloyd Approval**
(with feature liquid damping only)


**Service intended**
Universally suitable in plant, machinery, tank and apparatus construction. With liquid damping also suitable for applications with extreme vibrations.

**Nominal size**
63, 80 and 100 mm

**Temperature element**
Coiled bimetal

**Accuracy**
Class 1 per DIN 16 203

**Working range**
Permanent: measuring range per DIN 16 203
Short time (≤ 1 h): 1.1 x measuring range per DIN 16 203

**Pressure rating of stem**
25 bar maximum

**Ingress protection**
IP 56 per EN 60 529 / IEC 529

### Standard features

**Location of stem**
Centre back or radial bottom

**Case material**
Stainless steel

**Connection**
G ½ A, stainless steel 1.4571

**Stem**
8 mm diameter, stainless steel 1.4571

**Dial**
White aluminium with black lettering per DIN 16 203

**Pointer**
Black aluminium pointer

**Window**
Instrument glass

### Approval

German Lloyd with feature liquid damping
(vibratory stresses conditions 25 Hz up to 200 Hz, 5 g)

### Optional extras

- Case and stem with liquid damping (250 °C max.)
- Scale °F; dual scale °C/°F
- Window of safety glass or non-splintering plastic
- Stem 6 or 10 mm diameter
- Plain stem or thread other than G ½ A
- Thermowells per DIN 43 772 or to user specifications

**Scale-, measuring ranges [1], limits of error per DIN 16 203, class 1**

| Scale range °C | Scale spacing °C | Measuring range [1] °C | Limit of error °C |
|---|---|---|---|
| **- 70 ... + 30** | 1 | - 60 ... + 20 | 1 |
| **- 50 ... + 50** | | - 40 ... + 40 | |
| **- 30 ... + 50** | | - 20 ... + 40 | |
| **- 20 ... + 60** | | - 10 ... + 50 | |
| **0 ... 60** | | + 10 ... + 50 | |
| **0 ... 80** | | + 10 ... + 70 | |
| **0 ... 100** | | + 10 ... + 90 | |
| **0 ... 120** | 2 | + 20 ... + 100 | 2 |
| **0 ... 160** | | + 20 ... + 140 | |
| **0 ... 200** | | + 20 ... + 180 | |
| **0 ... 250** | 5 | + 30 ... + 220 | 2.5 |
| **0 ... 300** | | + 30 ... + 270 | 5 |
| **0 ... 400** | | + 50 ... + 350 | |
| **0 ... 500** | | + 50 ... + 450 | |

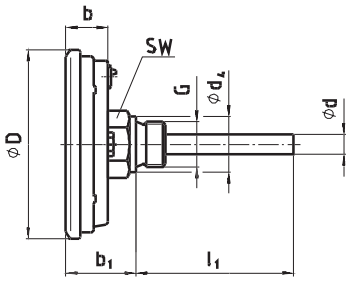
**Models**

| Model | Nominal size | Location of stem |
|---|---|---|
| A 5400 | 63 | Centre back |
| A 5401 | 80 | |
| A 5402 | 100 | |
| R 5440 | 63 | Radial bottom |
| R 5441 | 80 | |
| R 5442 | 100 | |

1) The measuring range is indicated on the dial by two triangular marks. Within this range the stated limit of error is valid according to DIN 16 203.

## Dimensions

Centre back stem

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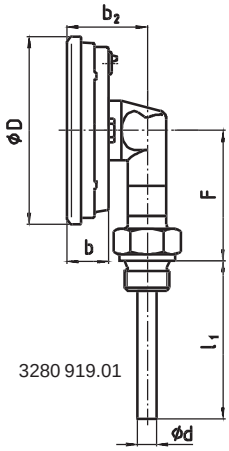
Radial bottom stem

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| Nominal size | Dimensions in mm | | | | | | | | | Weight in kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | b | $b_1$ | $b_2$ | Ø D | Ø d | Ø $d_4$ | F | G | SW | Centre back | Radial bottom |
| 63 | 20 | 35 | 38 | 68 | 8 [1] | 26 | 47 | G ½ A | 27 | 0.200 | 0.300 |
| 80 | 20 | 35 | 38 | 77 | | | 56 | | | 0.250 | 0.350 |
| 100 | 22 | 37 | 40 | 107 | | | 66 | | | 0.350 | 0.450 |

1) Option: stem diameter 6 mm or 10 mm

### Design of connection per DIN

Standard connection
Male thread G ½ A, G ¾ A, ½ NPT or ¾ NPT
Length of stem $l_1$ = 63, 100, 160, 200 or 250 mm
Stainless steel 1.4571

Connection 1
Plain stem
Length of stem l = 140, 200, 240 or 290 mm
Stainless steel 1.4571
To suit compression fitting of connection 4

Connection 2
Male nut G ½ A
Length of stem $l_1$ = 80, 140, 180 or 230 mm
Stainless steel 1.4571

Connection 3
Union nut G ½, G ¾, M24 x 1.5
Length of stem $l_1$ = 89, 126, 186, 226 or 276 mm
Stainless steel 1.4571

Connection 4
Compression fitting (sliding on stem)
G ½ A, G ¾ A, M18 x 1.5, ½ NPT or ¾ NPT
Minimum insertion $l_{min}$ approx. 60 mm
Length of stem $l_1$ = variable
Length L = $l_1$ + 40 mm
Stainless steel 1.4571

Connection 5
- Union nut G ½
  with fitting G ½ A, G ¾ A, ½ NPT or ¾ NPT
  Length of stem $l_1$ = 63, 100, 160, 200 or 250 mm
  Stainless steel 1.4571
- Union nut M24 x 1.5 with fitting M18 x 1.5

### Dimensions in mm

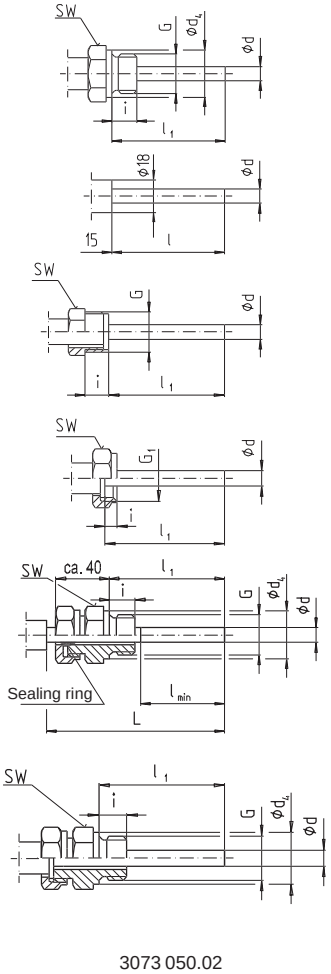
| Male thread G | SW | $d_4$ | i |
|---|---|---|---|
| G ½ A | 27 | 26 | 14 |
| G ¾ A | 32 | 32 | 16 |
| ½ NPT | 22 | – | 19 |
| ¾ NPT | 30 | – | 20 |

| Male thread G | SW | i |
|---|---|---|
| G ½ A | 27 | 20 |

| Female thread $G_1$ | SW | i |
|---|---|---|
| G ½ | 27 | 8.5 |
| G ¾ | 32 | 10.5 |
| M24 x 1.5 | 32 | 13.5 |

| Male thread G | SW | $d_4$ | i |
|---|---|---|---|
| G ½ A | 27 | 26 | 14 |
| G ¾ A | 32 | 32 | 16 |
| M18 x 1.5 | 24 | 23 | 12 |
| ½ NPT | 22 | – | 19 |
| ¾ NPT | 30 | – | 20 |

| Male thread G | SW | $d_4$ | i |
|---|---|---|---|
| G ½ A | 27 | 26 | 14 |
| G ¾ A | 32 | 32 | 16 |
| M18 x 1.5 | 24 | 23 | 12 |
| ½ NPT | 22 | – | 19 |
| ¾ NPT | 30 | – | 20 |

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## Ordering information

State: Model / Nominal size / Scale range / Location of stem / Design and size of connection / Length of stem l, $l_1$ / Optional extras required