

BIMETALL-POINTER-THERMOMETER

**Chemical version
with crimped-on ring
IP 65
With or without filling
external zero adjustment**

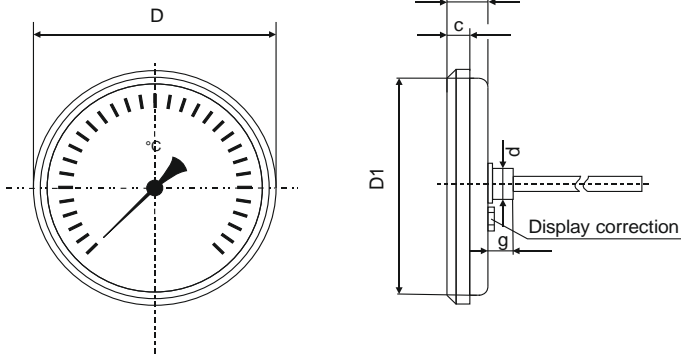


Suitable for chemical and petrochemical industry, food, pulp and paper industry and for machine and apparatus construction.

| Model | B14 | | | B15 | | | B16 | | | Options |
|---------------------|--|----|-----|--------|----|-----|----------|----|-----|--------------------------------|
| Nominal size | 63 | 80 | 100 | 63 | 80 | 100 | 63 | 80 | 100 | |
| Symbol | | | | | | | | | | 3" (80 mm) 5" (125 mm) |
| Connection | back | | | bottom | | | turnable | | | |
| Accuracy class | 1 | | | | | | | | | |
| Measuring ranges °C | 0-60, 0-80, 0-100, 0-120, 0-160, 0-200, 0-250, 0-300, 0-400, 0-500, 0-600, -50 / +50, -40 / +40, -40 / +60, -30 / +50, -30 / +70, -20 / +40, -20 / +60, -20 / +80, +50 / +300 | | | | | | | | | Dual scale other on request |
| Applications | Permanent exposure: measurement range short-term up to 1h: 1.1 x measuring range | | | | | | | | | |
| Case / ring | Crimped-on ring, stainless steel 1.4301 (304) | | | | | | | | | 1.4571 on request |
| Dial | White aluminum with black lettering | | | | | | | | | |
| Window | Instrument class | | | | | | | | | Acrylic glass, safety glass |
| Measuring element | Bimetal coil | | | | | | | | | |
| Sensor | Stainless steel 1.4571 | | | | | | | | | |
| Working pressure | 25 bar | | | | | | | | | |
| Sensor types | B1, B3, B4, B4.1, B5, B6 | | | | | | | | | |
| Sensor length | 63 up to 400 mm, The minimum probe length is a function of active length (La) and sensor type | | | | | | | | | |
| Neck tube | useful up to 300°C | | | | | | | | | |
| Process connection | see page 3 | | | | | | | | | |
| Filling | Measuring range up-20 to +100°C: Glycerine Measuring range -40 bis >100 to 250°C: silicone oil | | | | | | | | | |
| Protection | IP 65 (EN 60 529/ IEC 529) | | | | | | | | | |
| Display correction | externally - screw see dimensional drawings | | | | | | | | | |

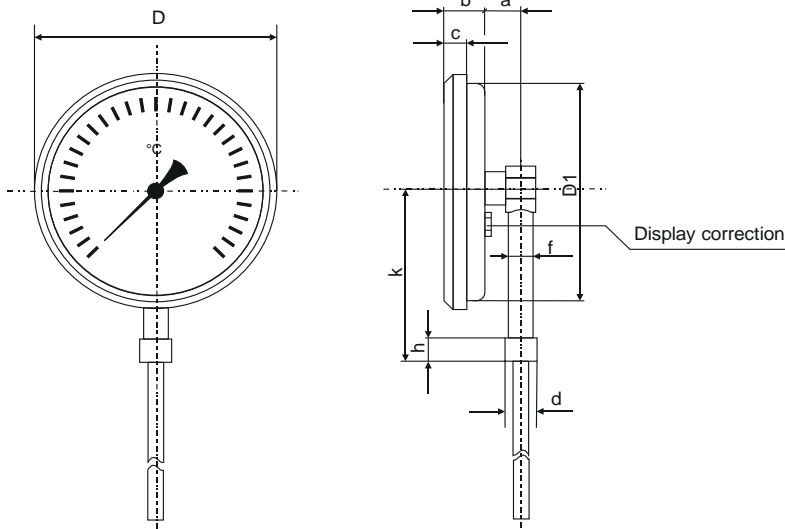
Dimension drawings

B14



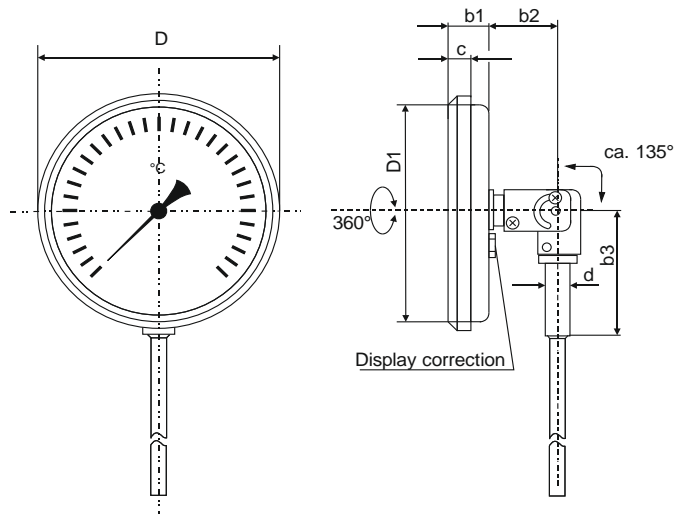
| NS | 63 | 80 | 100 |
|------------------|------|------|------|
| Dimensions in mm | | | |
| D | 67 | 86 | 106 |
| D1 | 62 | 79 | 98 |
| c | 8 | 8 | 10 |
| d | 14 | 14 | 14 |
| e | 17 | 18 | 18 |
| g | 12,5 | 12,5 | 12,5 |
| Weight in kg | | | |
| unfilled | 0,18 | 0,22 | 0,29 |
| filled | 0,2 | 0,27 | 0,37 |

B15



| NS | 63 | 80 | 100 |
|------------------|------|------|------|
| Dimensions in mm | | | |
| D | 67 | 86 | 106 |
| D1 | 62 | 79 | 98 |
| a | 18,5 | 18,5 | 18,5 |
| b | 17 | 18 | 18 |
| c | 8 | 8 | 10 |
| d | 12,5 | 12,5 | 12,5 |
| e | 14 | 14 | 14 |
| f | 12 | 12 | 12 |
| h | 10,5 | 10,5 | 10,5 |
| k | 55 | 65 | 75 |
| Weight in kg | | | |
| unfilled | 0,18 | 0,22 | 0,29 |
| filled | 0,2 | 0,27 | 0,37 |

B16



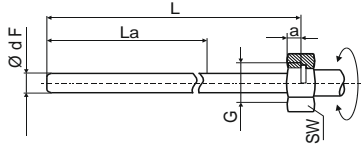
| NS | 63 | 80 | 100 |
|------------------|------|------|------|
| Dimensions in mm | | | |
| D | 67 | 86 | 106 |
| D1 | 62 | 79 | 98 |
| c | 8 | 8 | 10 |
| d | 14 | 14 | 14 |
| b1 | 17 | 18 | 18 |
| b2 | 40 | 40 | 40 |
| b3 | 63 | 63 | 63 |
| Weight in kg | | | |
| unfilled | 0,28 | 0,32 | 0,39 |
| filled | 0,31 | 0,37 | 0,46 |

Sensor types

| Type | Designation | Type acc. DIN 13 190 | Dimensions |
|------|-------------|-------------------------|------------|
|------|-------------|-------------------------|------------|

suitable protection tubes

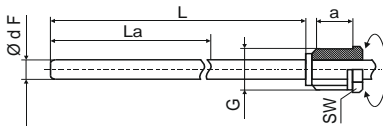
B3 Turnable union nut Form 5



| G | SW | a |
|---------|----|----|
| G½ | 27 | 10 |
| G¾ | 32 | 12 |
| M20x1,5 | 27 | 10 |
| M24x1,5 | 32 | 12 |
| M27x2 | 32 | 12 |

Form 4.1
Form 4.1F
Form 8
Form 9

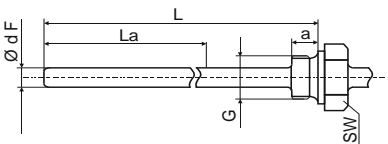
B4 Male thread, turnable Form 4



| G | SW | a |
|---------|----|----|
| G½B | 22 | 20 |
| G¾B | 27 | 23 |
| M18x1,5 | 22 | 14 |
| M20x1,5 | 22 | 20 |

Form 4
Form 4F
Form 5
Form 6 and 7

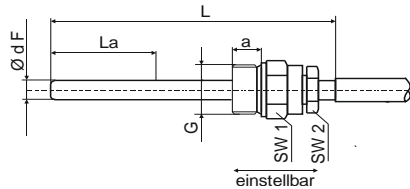
B4.1 Male thread, rigid Form 6
Form 7



| G | SW | a |
|---------|----|----|
| G½B | 27 | 14 |
| G¾B | 32 | 16 |
| ½"NPT | 27 | 19 |
| ¾"NPT | 27 | 19 |
| M18x1,5 | 24 | 14 |
| M20x1,5 | 27 | 14 |

Form 4
Form 4F
Form 5
Form 6 und 7

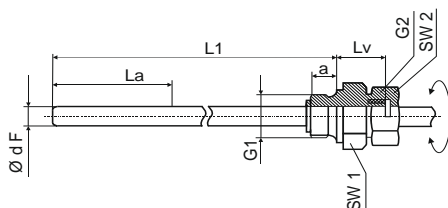
B5 Male thread compression fitting Form 2
Form 3



| G | SW1 | SW2 | a | Lk |
|---------|-----|-----|----|----|
| G½B | 27 | 22 | 14 | 42 |
| G¾B | 32 | 22 | 16 | 42 |
| ½"NPT | 27 | 22 | 19 | 42 |
| ¾"NPT | 27 | 22 | 19 | 42 |
| M20x1,5 | 27 | 22 | 14 | 42 |

Form 4
Form 4F
Form 5
Form 6 and 7

B6 Male thread turnable double male adapter



| G1 | G2 | SW1 | SW2 | a | Lv |
|---------|---------|-----|-----|----|----|
| G½B | G½B | 27 | 27 | 14 | 28 |
| G¾B | G½B | 32 | 27 | 16 | 28 |
| ½"NPT | G½B | 27 | 27 | 19 | 28 |
| ¾"NPT | G½B | 27 | 27 | 19 | 28 |
| M20x1,5 | M20x1,5 | 27 | 27 | 14 | 28 |
| M24x1,5 | M20x1,5 | 32 | 27 | 14 | 28 |
| M27x2 | M20x1,5 | 32 | 27 | 16 | 28 |

Form 4
Form 4F
Form 5
Form 6 and 7

La - active stem length
L / L1 Ordering length
Ø dF - 6 or 8 mm

Details
see datasheet
protection tube

Minimum stem length, Active lengths and maximum realisable stem length

| | | Stem Ø F | | | | | |
|------------------|---------|---------------------------------|--------|------|------|-------|------|
| | | 6 mm | | | 8 mm | | |
| | | Span (temperature difference) Δ | | | | | |
| Model | Lenghts | Thread | ≥100 K | =80K | =60K | ≥80 K | =60K |
| all models | La | all standard threads | 40 | 60 | 70 | 40 | 60 |
| B1 B4 | L1min | all standard threads | 45 | 65 | 75 | 45 | 65 |
| B3 | L1min | all standard threads | 52 | 72 | 82 | 52 | 72 |
| B4.1 | L1min | all standard threads | 60 | 80 | 90 | 60 | 80 |
| B5 | L1min | all standard threads | 95 | 115 | 125 | 95 | 115 |
| B6 | Lmin | all standard threads | 60 | 80 | 90 | 60 | 80 |
| Other on request | | | | | | | |

The temperature difference ΔT = 60K correspond to e.g. the temperature range 0/60°C but also -20/40°C.

The minimum length Lmin/ L1min of the stem is the smallest possible stem length depending on the active length La (sensitive portion) and the stem model.

The active length La of the stem has to immerse completely into the medium, to grant a measuring result, which correspond to the accuracy class.

Indication ranges/Measuring ranges, Limits of error

| Nominal ranges °C | Measuring ranges °C | Scale subdivision °C | Max. error +/- °C |
|-------------------|---------------------|----------------------|-------------------|
| 0 - 60 | 10 - 50 | 1 | 1 |
| 0 - 80 | 10 - 70 | 1 | 1 |
| 0 - 100 | 10 - 90 | 1 | 1 |
| 0 - 120 | 10 - 110 | 2 | 2 |
| 0 - 160 | 20 - 140 | 2 | 2 |
| 0 - 200 | 20 - 180 | 2 | 2 |
| 0 - 250 | 30 - 220 | 5 | 2,5 |
| 0 - 300 | 30 - 270 | 5 | 5 |
| 0 - 400 | 50 - 350 | 10 | 5 |
| 0 - 500 | 50 - 450 | 10 | 5 |
| 0 - 600 | 100 - 500 | 10 | 10 |
| - 50 - 50 | - 40 - 40 | 1 | 1 |
| - 40 - 40 | - 30 - 30 | 1 | 1 |
| - 40 - 60 | - 30 - 50 | 1 | 1 |
| - 30 - 50 | - 20 - 40 | 1 | 1 |
| -30 - 70 | - 20 - 60 | 1 | 1 |
| - 20 - 40 | - 10 - 30 | 1 | 1 |
| - 20 - 60 | - 10 - 50 | 1 | 1 |
| - 20 - 80 | - 10 - 70 | 1 | 1 |
| 50 - 300 | 80 - 270 | 5 | 2,5 |
| 50 - 400 | 100 - 350 | 5 | 5 |
| 100 - 400 | 150 - 450 | 10 | 5 |