

Industrial thermometer

Bimetal



Features:

- Stainless steel case and stem
- Stem length available from 50mm
- Bottom / back / every angle entry
- Silicon oil filled (optional)
- With or without thermowell
- External zero adjustment (optional)

Applications:

- Chemical
- Refinery
- Fertilizer
- Petrochemicals
- Pharmaceuticals
- Power
- Cement
- Sugar
- Food
- Beverages
- Pulp
- Paper

Standard:

- EN 13190

Standard Parameters

- Accuracy : Class 1 as per EN 13190
- Ambient temperature : -25 to +65°C
- Operating pressure : 15 Kg/cm² (without thermowell)
- Over range limit : 110 % of full scale
- Over Pressure Limit : 8 mm
- Process connection : 1/2" BSP [M]

Materials of Construction

- Case & bezel & clamp : AISI 304 SS
- Stem & connection : AISI 316 SS
- Joints : Tig Argon Arc Welding
- Protection : IP 65
- Sensing element : Bi-metal strip coiled
- Dial : Aluminium, black graduation on white background
- Pointer : Aluminium, black coloured, slotted adjustable
- Window : Sheet glass
- Gasket : Neoprene

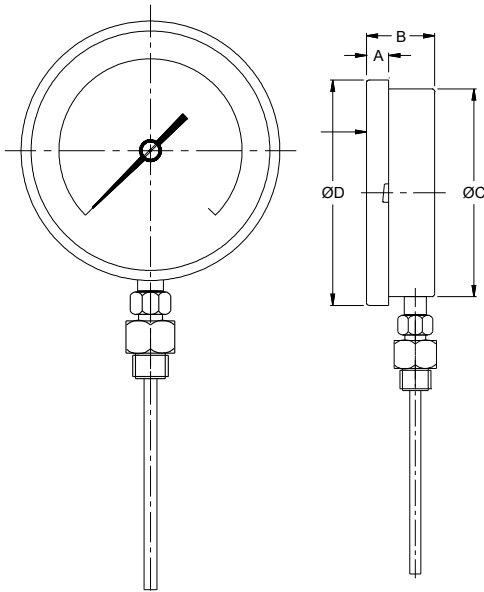
Silicon Oil Filled Version

- Accuracy : Class 1 as per EN 13190
- Ambient Temperature : Maximum 65°C
- Window : Plexi Glass
- Dampening Liquids : Glycerine 99.7%
- Gasket & filling plug : Viton

| | | | | | | | | | | | | | | | | | | | | |
|--------------------|------------|------------|-------------|------------|------------|------------|------------|------------|-------------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Nominal Range | -20 to +40 | -20 to +60 | -20 to +120 | -30 to +30 | -30 to +50 | -30 to +70 | -40 to +40 | -40 to +60 | -65 to 100 to +60 | 0 to 60 | 0 to 80 | 0 to 100 | 0 to 120 | 0 to 160 | 0 to 200 | 0 to 250 | 0 to 300 | 0 to 400 | 0 to 500 | 0 to 600 |
| Measuring Range | -10 to +30 | -10 to +50 | -10 to +110 | -20 to +20 | -20 to +40 | -20 to +60 | -30 to +30 | -30 to +50 | -80 to +40 | 10 to 50 | 10 to 70 | 10 to 90 | 10 to 110 | 20 to 140 | 20 to 180 | 30 to 220 | 30 to 270 | 50 to 350 | 50 to 450 | 100 to 500 |
| Limits of Error °C | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2.5 | 5 | 5 | 5 | 10 |

Dimensional drawing

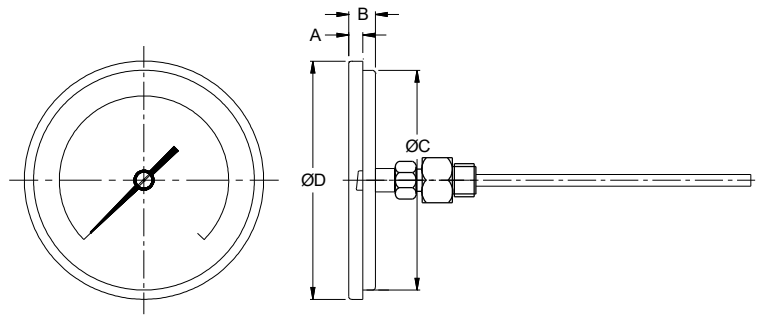
TYPE 1



| NS | A | B | ØC | ØD | W |
|-----|------|----|------|------|------|
| 63 | 12.5 | 46 | 66.5 | 77.5 | 200 |
| 80 | 11 | 46 | 80 | 89.5 | 250 |
| 100 | 12.5 | 47 | 100 | 111 | 500 |
| 125 | 15 | 48 | 119 | 131 | 750 |
| 150 | 15 | 49 | 149 | 161 | 1000 |

W = Weight in grams with box for 300mm stem length

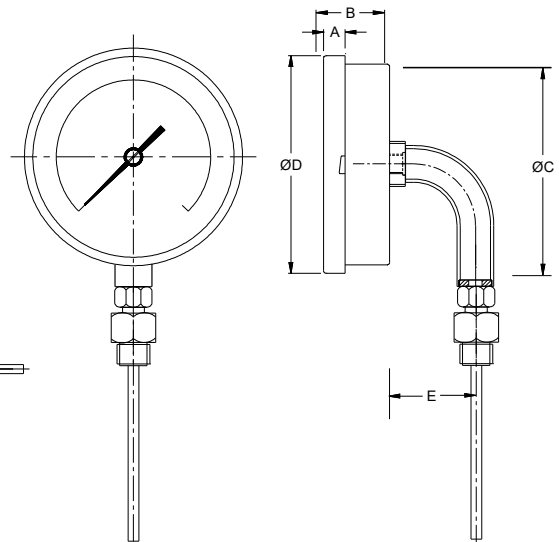
TYPE 4



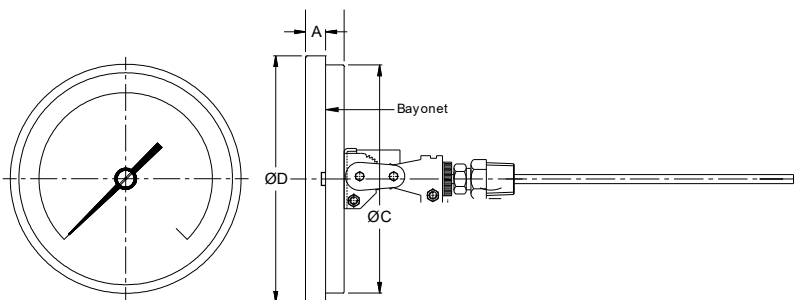
| NS | A | B | ØC | ØD | W |
|-----|-----|------|------|-------|-----|
| 50 | 6.5 | 12 | 51.5 | 57.5 | 115 |
| 63 | 9.5 | 16 | 60 | 69.5 | 150 |
| 80 | 11 | 16 | 80 | 89.5 | 250 |
| 100 | 9.5 | 18 | 100 | 111 | 350 |
| 125 | 10 | 20 | 119 | 131.5 | 500 |
| 150 | 15 | 25.5 | 149 | 161 | 750 |

W = Weight in grams with box for 300mm stem length

TYPE 11



TYPE 9



| NS | A | B | ØC | ØD | W |
|-----|------|----|-----|------|------|
| 80 | 11 | 17 | 80 | 89.5 | 500 |
| 100 | 12.5 | 19 | 100 | 111 | 750 |
| 125 | 15 | 23 | 119 | 129 | 900 |
| 150 | 15 | 23 | 149 | 161 | 1000 |

W = Weight in grams with box for 300mm stem length

| NS | A | B | ØC | ØD | E | W |
|-----|------|----|-------|------|----|-----|
| 63 | 12.5 | 16 | 66.5 | 77.5 | 35 | 150 |
| 80 | 11 | 17 | 80 | 89.5 | 35 | 200 |
| 100 | 12.5 | 19 | 100 | 111 | 35 | 250 |
| 125 | 15 | 21 | 118.5 | 129 | 35 | 350 |
| 150 | 15 | 21 | 149 | 161 | 35 | 500 |

W = Weight in grams with box for 300mm stem length

Note: ● Drawings are not to scale ● All dimensions are in mm

Range table

The following table indicates the minimum and maximum stem lengths in mm, per stem diameter per range, the lower values indicated are the minimum immersion length (below thread) for all type of threads. During stem length selection, please select between the limits mentioned below.

| (Range) °C | Ø 6 mm/ 3.4 mm | Ø 8, 9.5 & 10 mm | Ø 12 mm |
|------------|----------------|------------------|---------|
| -20/40 | 115/500 | 95//600 | 95/600 |
| -20/60 | 95/500 | 75/600 | 75/600 |
| -20/120 | 65/500 | 55/600 | 55/600 |
| -30/30 | 115/500 | 95/600 | 95/600 |
| -30/50 | 95/500 | 75/600 | 75/600 |
| -30/70 | 85/500 | 55/600 | 75/600 |
| -40/40 | 95/500 | 75/600 | 75/600 |
| -40/60 | 85/500 | 75/600 | 75/600 |
| -80/80 | 65/500 | 55/600 | 55/600 |
| 0/60 | 115/500 | 95/600 | 95/600 |
| 0/80 | 95/500 | 75/600 | 75/600 |
| 0/100 | 65/500 | 50/600 | 75/600 |
| 0/120 | 50/500 | 40/600 | 55/600 |
| 0/160 | 45/500 | 35/600 | 55/600 |
| 0/200 | 40/500 | 30/600 | 45/600 |
| 0/250 | 45/500 | 45/600 | 45/600 |
| 0/300 | 65/500 | 55/600 | 55/600 |
| 0/400 | 55/500 | 45/600 | 45/600 |
| 0/500 | 55/500 | 45/600 | 45/600 |

Note: We offer national/ International scales like °C, °F and dual scale in °C & °F and scales as per the requirement can be provided on request. Following are the example tables for range in °C.

Standard Ranges

| Positive Range single scale in °C | | | | | | | | | |
|-----------------------------------|--------|---------|--------|--------|--------|--------|--------|--------|-------|
| 0/60 | 0/80 | 0/100 | 0/120 | 0/160 | 0/200 | 0/250 | 0/300 | 0/400 | 0/500 |
| Compound range single scale in °C | | | | | | | | | |
| -20/40 | -20/60 | -20/120 | -30/30 | -30/50 | -30/70 | -40/40 | -40/60 | -80/80 | |

Note: other scales are available on request

Accessories

| |
|------------|
| Thermowell |
|------------|

Ordering codes

| 1. Dial Size | | E | 4. Process Connection Type # | | AD |
|---------------------------------------|--|-----|--|--|---------|
| Code | Nominal size | | | AD | |
| B | 50 mm | | FI | Fixed | |
| C | 63 mm | | RV | Revolving / Swivel | |
| D | 80 mm | | # Welded with stem / case & not suitable for taper threaded connections) | | |
| E | 100 mm | | 5. Stem Diameter | | 8mm |
| F | 125 mm | | 6mm | 6 mm | |
| G | 150 mm | | 6.35mm | 6.35 mm | |
| 2. Mounting | | 1 | 8mm | 8 mm | |
| 1 | Direct bottom* | | | 9.5mm | 9.5 mm |
| 4 | Direct center back entry | | 10mm | 10 mm | |
| 9 | Every angle back entry♦ | | 12mm | 12 mm | |
| 11 | Bottom entry through elbow* | | 6. Stem Length | | 100mm |
| * Not applicable for NS 50 mm | | | Below thread Max 600mm. Please specify in mm | | |
| ♦ Not applicable for NS 50 mm & 63 mm | | | Refer scale for min & max stem lengths | | |
| 3. Gauge Connection | | 10B | 7. Range | | 0/100°C |
| 03B | 1/8" BSP[M]* (Max stem dia 6.35 mm) | | | Refer range table | |
| 03N | 1/8" NPT[M]* (Max stem dia 6.35 mm) | | 8. Options | | 5C |
| 06B | 1/4" BSP[M]* (Max stem dia 6.35 mm) | | S6 | AISI 316 SS case & bezel (For NS 100 mm & above) | |
| 06N | 1/4" NPT[M]* (Max stem dia 6.35 mm) | | 5C | Five-point calibration certificate | |
| 10B | 3/8" BSP[M]♦ (Max stem dia 10 mm) | | LS | Dampening liquid silicon oil (up to 200°C) | |
| 15B | 1/2" BSP[M]♦ (Max stem dia 12 mm) | | CD | Custom dial design | |
| 15N | 1/2" NPT[M]♦ (Max stem dia 12 mm) | | EA | External zero adjustment | |
| M20 | M20 X 1.5[M]♦ (Max stem dia 12 mm) | | SG | Shatterproof / safety glass | |
| TC | 1 1/2" Triclover♦ (Max stem dia 12 mm) | | TG | Toughened glass | |
| * Applicable only for NS 50mm & 63mm | | | DT | Dial tag marking | |
| ♦Not applicable for NS 50mm | | | MT | Material test certificate** | |
| | | | ST | SS tag plate | |

Ordering Example: TB-E-1-10B-AD-8mm-100mm-0/100°C-5C

**Material test certificate will be provided for wetted parts only. For others, pls contact factory.

Note: Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.