

DATA SHEET

BDTB18 – BIMETAL THERMOMETER

Badotherm thermometer model BDTB18 is available in 63 to 160 mm diameter. The BDTB18 is available with various connections, such as: fixed stem on back, bottom, or every angle connection. These bimetal thermometers are suitable for corrosive media and environments in chemical process, petroleum, and food industries.



DESIGN INFORMATION

| | |
|--------------------|------------------------------|
| DESIGN NORM | INGRESS PROTECTION |
| EN 13190 | IP 65 per EN 60529 / IEC 529 |

STANDARD MODEL MATERIAL SPECIFICATIONS

| | | | |
|---------------|------------------|--------------------------------------|------------------|
| STEM | SOCKET | CASE | BEZEL |
| AISI316(L) | AISI316(L) | AISI304, bayonet | AISI304, bayonet |
| WINDOW | POINTER | DIAL | |
| glass | aluminium, black | aluminium, white with black markings | |

TECHNICAL SPECIFICATIONS

| | BDTB18 | BDTE18 |
|----------------------------|------------------------------|-------------------------|
| Diameter | 63 / 80 / 100 / 125 / 160 mm | 80 / 100 / 125 / 160 mm |
| Connection | 1/2" BSP/NPT adjustable | 1/2" BSP/NPT adjustable |
| Stem diameter | 6 mm | 6 mm |
| Minimum temperature | -50°C | -50°C |
| Maximum temperature | 600°C | 600°C |
| Accuracy | class 1 | class 1 |
| Mounting variation | A / D | every angle |
| Window gasket | NBR | NBR |
| Pointer | fixed | fixed |
| Zero adjustment | on the back | on the back |

SPECIAL EXECUTIONS

| | |
|-----------------|--------------------------------|
| BDTB18-S | casing and bezel in AISI316(L) |
|-----------------|--------------------------------|

OPTIONS

| | |
|---------------------------------|--|
| WINDOW | laminated safety glass (except 125 mm) |
| PROCESS CONNECTION | other |
| STEM DIAMETER | 1/4", 3/8", 1/2", 8 mm, 10 mm, 12 mm |
| POINTER | adjustable slotted (except 125 mm), red pointer on dial, or drag pointer |
| FILLING | BPF01 (glycerine), BPF02 (silicone), BPF04 (foaming service), BPF05 (ECTFE Inert for oxygen service) |
| CALIBRATION CERTIFICATES | 5 points (rising and falling) |
| ATEX | EX II 2 GD c (ATEX 94/9/EC) |
| ACCESSORIES | thermowells in various executions and materials |

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TEMPERATURE AND PRESSURE DETAILS

WORKING TEMPERATURE

| | limitations |
|----------------------------|------------------------------|
| steady | measuring range per EN 13190 |
| short time (<1h) | 1.1 x measuring range |

WORKING PRESSURE

maximum 25 bar at 20°C

FILLING FLUID

| | | ambient | process |
|--------------|-----------------|---------------|---------|
| - | without | -40°C to 90°C | 600°C |
| BPF01 | glycerine | -20°C to 65°C | 90°C |
| BPF02 | silicone | -40°C to 65°C | 90°C |
| BPF04 | foaming service | -40°C to 60°C | 90°C |
| BPF05 | oxygen service | -40°C to 60°C | 90°C |

WINDOW

| | ambient |
|---------------------|---------|
| glass | <400°C |
| safety glass | <200°C |

GASKETS

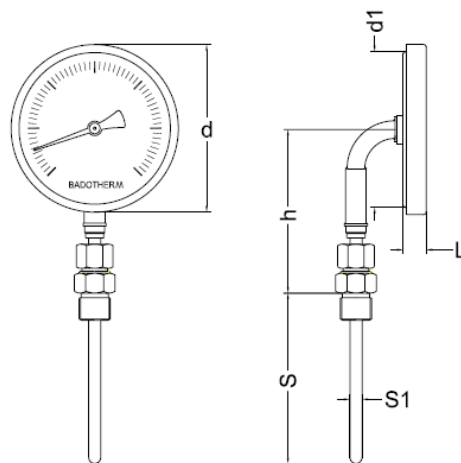
| | ambient |
|----------------------|---------|
| window NBR | <100°C |
| fill plug NBR | <100°C |

MODEL AND MOUNTING VARIATIONS

- **BDTB18** type A bottom connection, direct mounting, fixed stem
type D back connection, direct mounting, fixed stem
- **BDTE18** type every angle connection, direct mounting, fixed stem

DRAWINGS AND DIMENSION BDTB18 - A

DRAWINGS

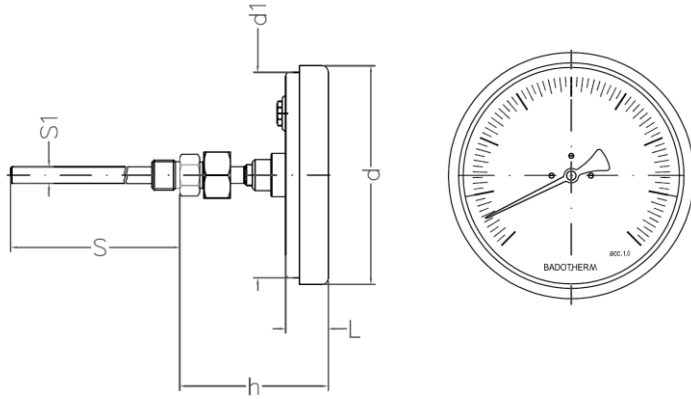


type A

DIMENSIONS

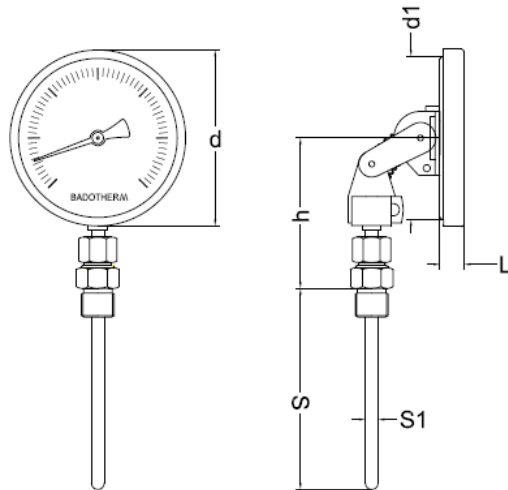
| ns | d | d1 | L | h | S | S1 |
|------------|-------|-------|------|-----|------------|----|
| 63 | 68 | 63 | 15.5 | 79 | to specify | 6 |
| 80 | 89 | 80 | 16 | 92 | to specify | 6 |
| 100 | 110.5 | 100.5 | 19 | 100 | to specify | 6 |
| 125 | 130 | 119 | 20 | 109 | to specify | 6 |
| 160 | 160 | 149 | 20 | 127 | to specify | 6 |

All dimensions in mm

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BDTB18 – BIMETAL THERMOMETER
DRAWINGS AND DIMENSION BDTB18 - D
DRAWINGS

DIMENSIONS

| ns | d | d1 | L | h | S | S1 |
|------------|-------|-------|------|------|------------|----|
| 63 | 68 | 63 | 15.5 | 55.5 | to specify | 6 |
| 80 | 89 | 80 | 16 | 56 | to specify | 6 |
| 100 | 110.5 | 100.5 | 19 | 59 | to specify | 6 |
| 125 | 130 | 119 | 20 | 60 | to specify | 6 |
| 160 | 160 | 149 | 20 | 60 | to specify | 6 |

All dimensions in mm

DRAWINGS AND DIMENSION BDTE18
DRAWINGS

DIMENSIONS

| ns | d | d1 | L | h | S | S1 |
|------------|-------|-------|----|----|------------|----|
| 80 | 89 | 80 | 16 | 80 | to specify | 6 |
| 100 | 110.5 | 100.5 | 19 | 80 | to specify | 6 |
| 125 | 130 | 119 | 20 | 80 | to specify | 6 |
| 160 | 160 | 149 | 20 | 80 | to specify | 6 |

All dimensions in mm

ACCURACY RANGE AND IMMERSION LENGTHS

| Nominal range °C | Limits of error ± °C | Min. immersion length (mm) | Min. immersion BDTE 160MM |
|------------------|----------------------|----------------------------|---------------------------|
| -20 40 | 1 | 100 | 100 |
| -20 50 | 1 | 80 | 100 |
| -20 60 | 1 | 63 | 100 |
| -20 80 | 1 | 63 | 100 |
| -20 100 | 2 | 63 | 100 |
| -20 120 | 2 | 63 | 100 |
| -20 140 | 2 | 63 | 100 |
| -25 40 | 1 | 80 | 100 |
| -30 50 | 1 | 63 | 100 |
| -30 70 | 1 | 80 | 100 |
| -30 100 | 2 | 63 | 100 |
| -40 60 | 1 | 80 | 100 |
| -40 120 | 2 | 63 | 100 |
| -50 50 | 1 | 80 | 100 |
| -50 550 | 10 | 100 | 100 |
| 0 60 | 1 | 80 | 100 |
| 0 80 | 1 | 100 | 100 |
| 0 100 | 1 | 63 | 100 |
| 0 120 | 2 | 63 | 100 |
| 0 150 | 2 | 63 | 100 |
| 0 160 | 2 | 63 | 100 |
| 0 200 | 2 | 63 | 100 |
| 0 250 | 2.5 | 150 | 150 |
| 0 300 | 5 | 150 | 150 |
| 0 350 | 5 | 150 | 150 |
| 0 400 | 5 | 150 | 150 |
| 0 450 | 5 | 150 | 150 |
| 0 500 | 5 | 150 | 150 |
| 0 550 | 10 | 150 | 150 |
| 0 600 | 10 | 150 | 150 |



Holland – United Kingdom – Romania – India – Thailand – Dubai

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