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Bimetal Thermometers, Every Angle
Crimped-on ring case stainless steel, turnable and adjustable

Standard Versions

These thermometers are manufactured according to ASME B40.200, especially concerning the accuracy and the temperature ranges. Further information on selection and metrological features (e.g. temperature resistance) can be found in model overview 8000.

Measuring Unit
Bimetal coil

Accuracy (ASME B40.200)
Grade A ± 1% of the measuring range

Case
With polished crimped-on ring, stainless steel 304

Degree of Protection (DIN EN 60 529 / IEC 529)
IP65

Case Filling
For model TBiGelChgG
Temperature ranges:
- from 0 °F up to +210 °F: glycerin
- from −40 °F and above +210 °F up to +480 °F: silicone oil

Nominal Case Size
5”

Case Configuration
Connection temperature sensor (stem): pivot (every angle)
Stem position: centre back position,
compared to case approx. 135°
adjustable and 360° turnable
Mounting device: without

Temperature Ranges (ASME B40.200)
Spans from 110 °F to 900 °F
Measuring range = indication range

Temperature Sensor (Stem)
Made of stainless steel 316Ti
Max. static operating pressure: 25 bar
Stem models: B1 or B4.1
Stem Ø dF: 1⁄4” (6.35 mm), 5⁄16” (8 mm) or 3⁄8” (9.52 mm)
Stem length L: from Lmin up to 16” (400 mm)
Please regard the minimum stem length depending on the active length (La) and stem model, see page 2

Window
Instrument glass

Dial
Aluminum white, scale black

Pointer
Aluminum black

Indication Adjustment (±4 %)
Externally via screw

Ordering Information, Standard Ranges, Options
See page 3

Special Versions and Further Options
- Other stem models, connection threads and materials upon request
- Other temperature ranges and/or special scales, e.g. dual scale °C/°F, coloured fields or ranges, dial inscriptions
- Case parts stainless steel 316L (1.4404) upon request
- TBiGelChg, TBiGelChgG for ambient temperatures to −76 °F

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## Stem Models

<table>
<thead>
<tr>
<th>Process connection</th>
<th>B1</th>
<th>B4.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>without screw fitting, plain stem</td>
<td></td>
<td>male thread, rigid</td>
</tr>
</tbody>
</table>

### Dimensional Data (inch) and Weights (lb)

<table>
<thead>
<tr>
<th>NCS b1</th>
<th>D</th>
<th>D1</th>
<th>d6</th>
<th>d7</th>
<th>f1</th>
<th>f3</th>
<th>s4</th>
<th>(approx.) weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5&quot;</td>
<td>0.8</td>
<td>5.35</td>
<td>4.92</td>
<td>0.47</td>
<td>0.55</td>
<td>2.36</td>
<td>1.46</td>
<td>0.32</td>
</tr>
</tbody>
</table>

1) The data are examples and relate to the version with stem B1, Ø dF 5⁄16", L = 3.94".

2) The temperature difference ΔT = 150 °F corresponds e.g. to the temperature range 0 – 150 °F but also −30 / +120 °F, see table page 3.

### Minimum Stem Length and Active Length

<table>
<thead>
<tr>
<th>Stem Ø dF:</th>
<th>(\frac{1}{4}&quot; (6.35 mm)</th>
<th>(\frac{5}{16}&quot; (7.94 mm)</th>
<th>(\frac{3}{8}&quot; (9.52 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span (temperature difference) ΔT²</td>
<td>(\geq 180 , \text{°F}</td>
<td>= 150 , \text{°F}</td>
<td>= 110 , \text{°F}</td>
</tr>
<tr>
<td>all models</td>
<td>La –</td>
<td>1.6&quot;</td>
<td>2.4&quot;</td>
</tr>
<tr>
<td>B1</td>
<td>Lmin –</td>
<td>1.8&quot;</td>
<td>2.6&quot;</td>
</tr>
<tr>
<td>B4.1</td>
<td>Lmin</td>
<td>(\frac{1}{4}&quot; NPT; \frac{3}{8}&quot; NPT</td>
<td>2.35&quot;</td>
</tr>
<tr>
<td>others</td>
<td>upon request</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The minimum length Lmin is the smallest feasible stem length. Important: Please note the technical information sheet T08-000-031 on the metrologically optimal stem length.

The active length La is the temperature-sensitive part of the stem.

1) The data are examples and relate to the version with stem B1, Ø dF 5⁄16", L = 3.94".

2) The temperature difference ΔT = 150 °F corresponds e.g. to the temperature range 0 – 150 °F but also −30 / +120 °F, see table page 3.
Basic Model: Bimetal Thermometer Every Angle

<table>
<thead>
<tr>
<th>Case filling:</th>
<th>depending on version glycerin or silicone oil</th>
<th>TBiGeChg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal case size:</td>
<td>case Ø 5&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>Stem position / case configuration:</td>
<td>centre back position, with pivot (every angle)</td>
<td>without code letters</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature ranges:</th>
<th>scale:</th>
<th>( \Delta T (\degree F) ):</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 150 ( \degree F )</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>0 – 200 ( \degree F )</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>0 – 250 ( \degree F )</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>0 – 300 ( \degree F )</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>−50 / +130 ( \degree F )</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>−40 / +160 ( \degree F )</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>−30 / +120 ( \degree F )</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>−10 / +100 ( \degree F )</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>+20 / +240 ( \degree F )</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>+30 / +140 ( \degree F )</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>+40 / +400 ( \degree F )</td>
<td>360</td>
<td></td>
</tr>
<tr>
<td>+50 / +300 ( \degree F )</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>+50 / +500 ( \degree F )</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>+100 / +800 ( \degree F )</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>+100 / +1000 ( \degree F )</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>+150 / +700 ( \degree F )</td>
<td>550</td>
<td></td>
</tr>
</tbody>
</table>

| Stem: | without screw fitting, plain stem | B1 |

| Stem Ø dF: | \( \frac{1}{4} " , \frac{5}{16} " , \frac{3}{8} " \) | dF = \( \frac{1}{4} " \) |

| Stem length: | L in " | e.g. L = 10" |

| Process connection: | \( \frac{1}{2} " \) NPT or \( \frac{3}{4} " \) NPT | e.g. \( \frac{3}{4} " \) NPT |

| Options: | red mark on the dial plastic clip red or green, external at crimped-on ring window tempered safety glass case polished case filling temperature ranges from 0 \( \degree F \) to 210 \( \degree F \): silicone oil stem length > 16" (400 mm), max. 32" (800 mm) instrument tag stainless steel plate 12 x 55 mm (0.47 x 2.17") with wire mounting or sticker upon the case |

Example: TBiGeChg 5", −30/+120 \( \degree F \), B4.1, dF = \( \frac{3}{8} " \), L = 10", \( \frac{3}{4} " \) NPT

Special Versions: Please describe your requirements in cleartext!

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