TEMPERATURE GAUGES
Bimetal Dial Thermometer

The Bimetal thermometer employs a bimetal strip in the form of helix (it works on the principle of thermal expansion - two metals having different coefficient of expansions are joined to form a bimetal. The resultant expansion of bimetal is proportional to temperature). Bimetal dial thermometers are simple in construction, yet rugged. They are used for measurement of temperature in most of the industrial applications. They are offered in the range of (-) 50°C to 600°C. With rigid stem having bottom or back entry. It can also be offered in every angle rotatable construction.

Features

- Rugged construction
- Bottom/Back entry, every angle construction
- Fast response
- Protection class IP-68
- Accuracy ± 1% FSD
- High repeatability, low hysteresis
- Hermetically sealed case

Specifications

<table>
<thead>
<tr>
<th>Ref. Standard</th>
<th>ASME B 40.200, EN 13190</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dial</td>
<td>100mm / 150mm / 250mm in aluminium white background, black markings</td>
</tr>
<tr>
<td>Case</td>
<td>SS304 with bayonet bezel / SS316 optional</td>
</tr>
<tr>
<td>Protection</td>
<td>Weatherproof to IP - 68 (IS/IEC : 60947 / IEC : 60529)</td>
</tr>
<tr>
<td>Window</td>
<td>Shatterproof glass</td>
</tr>
<tr>
<td>Pointer</td>
<td>Aluminium, black, micrometer adjustable</td>
</tr>
<tr>
<td>Stem</td>
<td>SS304 or SS316 in 6 mm, 8 mm, 10 mm, 12 mm dia and length from 100 mm to 1000 mm as standard</td>
</tr>
<tr>
<td>Connection</td>
<td>½” NPT (M) as standard in SS304 or SS316 adjustable three piece compression fitting</td>
</tr>
<tr>
<td>Range</td>
<td>(-) 50°C to 600°C with a minimum span of 60°C</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 1% FSD</td>
</tr>
<tr>
<td>Over range</td>
<td>125% FSD (upto max temp range of 500°C)</td>
</tr>
<tr>
<td>Reset</td>
<td>Micrometer Pointer (standard) External (optional)</td>
</tr>
<tr>
<td>Optional</td>
<td>1) Silicon Oil Filled Case (Suitable upto 339°C Max)</td>
</tr>
<tr>
<td></td>
<td>2) Contacts: Single SPST, normally open to close on rise / fall in temperature (specify action required) adjustable over the entire range, rating 30 VA @ 230 V AC (100 mm dia, back entry only)</td>
</tr>
<tr>
<td>Note</td>
<td>1) For minimum insertion length essential for proper sensing, contact our design department.</td>
</tr>
<tr>
<td></td>
<td>2) Three point calibration certificate accompanies each thermometer.</td>
</tr>
</tbody>
</table>
### Ordering Information

**MODEL : BDT**

**MOUNTING**
- **V**: Bottom Entry, Local Mounting
- **C**: Back Entry, Local Mounting
- **E**: Every Angle, Local Mounting

**DIAL**
- 100 - 100 mm
- 150 - 150 mm
- 250 - 250 mm

**CASE**
- S4S - SS304
- S6S - SS316

**STEM-OD**
- S06: 6 mm
- S08: 8 mm
- S10: 10 mm
- S12: 12 mm

**STEM LENGTH**
Specify in mm

**STEM MATERIAL**
- S4S - SS304
- S6S - SS316
- 310 - SS310*

**OPTION**
- TW: Thermowell
- CLB: Colour Band
- DUS: Dual Scale
- 1ST: 1 SPST Electrical contact
- DCZ: Silicon Oil Filled Case *
- L: Nil

**UNIT**
- DGC: Deg C
- DGF: Deg F

**RANGE**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-) 50 to (+) 30</td>
<td>0 to 200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-) 30 to (+) 50</td>
<td>0 to 250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-) 20 to (+) 60</td>
<td>0 to 300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 60</td>
<td>0 to 350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 80</td>
<td>0 to 400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 100</td>
<td>0 to 500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 120</td>
<td>0 to 600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 160</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Silicon Oil Filled Case shall be suitable up to maximum temperature of 339°C only.

**Note**: Stem material of SS310 is recommended for Temperature 600 Deg. C

**Sample Model Code**: BDT-E-150-S4S-S10-400-S6S-T15NTM-(0-250)-DGC-L

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Gas Filled Dial Thermometer

Gas filled Temperature Gauge overcomes most of the limitations of other members of family. It is offered in a very wide temperature range i.e. (-)200 to 800°C. Practically any stem length can be offered and capillary length as long as 30 mtr, without any loss of accuracy. Inert, non hazardous, non toxic nature of the filled system makes it virtually ideal choice of cross section of industries.

Features
- Use of inert gas - N2
- Suitable for sanitary application
- All SS construction
- Rigid stem or capillary type
- Fast response
- Non-polluting, environment friendly
- Non-hazardous for the service
- High reliability
- IP-68 protection
- Accuracy ± 1% FSD

Specifications

<table>
<thead>
<tr>
<th>Ref. Standard</th>
<th>ASME B 40.200, EN 13190</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Gas (N2) filled, case compensated in accordance with SAMA Cl. III B</td>
</tr>
<tr>
<td>Dial</td>
<td>100 mm / 150mm / 250mm in aluminium, white background, black marking</td>
</tr>
<tr>
<td>Case</td>
<td>SS304 / SS316 with bayonet bezel</td>
</tr>
<tr>
<td>Protection</td>
<td>Weatherproof to IP-68 (IS/IEC : 60947 / IEC : 60529)</td>
</tr>
<tr>
<td>Window</td>
<td>Shatterproof glass</td>
</tr>
<tr>
<td>Pointer</td>
<td>Aluminium, black with micrometer adjustment</td>
</tr>
<tr>
<td>Stem</td>
<td>SS316 in 6 mm, 8 mm, 10 mm, 12 mm dia as standard</td>
</tr>
<tr>
<td>Capillary</td>
<td>SS316 with SS304 / SS316 armouring or SS316 with SS304 / SS316 armouring, with PVC covering</td>
</tr>
<tr>
<td>Connection</td>
<td>1/2&quot;NPT (M) adjustable three piece compression fitting in SS304 or SS316</td>
</tr>
<tr>
<td>Range</td>
<td>(-) 200°C to 800°C with minimum span of 80°C</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 1% FSD</td>
</tr>
<tr>
<td>Overrange</td>
<td>125% FSD</td>
</tr>
<tr>
<td>Reset</td>
<td>Micrometer Pointer</td>
</tr>
<tr>
<td>Optional</td>
<td>Silicon Oil Filled Case</td>
</tr>
</tbody>
</table>
| Note          | 1) For minimum insertion length essential for proper sensing, contact our design department.  
                   2) Three point calibration certificate accompanies each thermometer.  
                   3) For operating temp>600°C; stem of SS310 / Inconel 600 shall be recommended. |

Under Technical Collaboration with M/s. Gauges Bourdon, France
Ordering Information

**GDT-R - Rigid Stem**

**GDT-C - Capillary Type**

**MODEL : GDT-R / GDT-C**

### MOUNTING

- V: Bottom Entry, Local Mounting
- C: Back Entry, Local Mounting
- E: Every Angle, Local Mounting
- S: Bottom Entry, Surface Mounting
- P: Back Entry, Panel Mounting
- Y: Bottom Entry, 2" Pipe Mounting

### DIAL

- 100: 100 mm
- 150: 150 mm
- 250: 250 mm

### CASE

- **SS304**
- **SS316**
- S4S
- S6S

### STEM-OD

- S06: 6 mm
- S08: 8 mm
- S10: 10 mm
- S12: 12 mm

### STEM LENGTH

Specify in mm

### STEM MATERIAL

- S6S: SS316
- S06: SS304
- S310: SS310**

### CAPILLARY

- 4AR(*): SS 316 Capillary, SS 304 Armoured
- 4PV(*): SS 316 Capillary, SS 304 Armoured + PVC Covered
- 6AR(*): SS 316 Capillary, SS 316 Armoured
- 6PV(*): SS 316 Capillary, SS 316 Armoured + PVC Covered
- NIL: Not Applicable for GDT-R type.

* Specify the length of Capillary in Meters.

**Note:** Stem material of SS310 is recommended for Temperature 600 Deg. C and Inconel 600 for temperature above 600 Deg. C

### OPTION

- TW: Thermowell
- CLS: Colour Band
- DUS: Dual Scale
- L: Nil
- DC2: Silicone Oil Filled Case

### UNIT

- DGC: Deg C
- DGF: Deg F

### RANGE #

<table>
<thead>
<tr>
<th>Range</th>
<th>0 to 80</th>
<th>0 to 100</th>
<th>0 to 120</th>
<th>0 to 160</th>
<th>0 to 200</th>
<th>0 to 250</th>
<th>0 to 350</th>
<th>0 to 400</th>
<th>0 to 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>(-) 30 to (+) 50</td>
<td>0 to 80</td>
<td>(-) 20 to (+) 80</td>
<td>(-) 50 to (+) 30</td>
<td>(-) 50 to (+) 50</td>
<td>(-) 100 to (+) 150</td>
<td>(-) 200 to (+) 50</td>
<td>(-) 200 to (+) 100</td>
<td></td>
</tr>
</tbody>
</table>

### CONNECTION

**Sample Model Code:** GDT-C-P-150-S4S-S10-400-S6S-4AR(5)-T15NTM-(0-250)-DGC-TW

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