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Dial Thermometer

- temperature indicator for panel mounting or self-supporting
- stainless steel housing with bayonet lock
- Class 1
- IP65 protection
- housing sizes: 100 mm and 160 mm dia.

Brief description

Dial thermometers are universal instruments for temperature measurement and monitoring. The volume change in a liquid-filled measuring system as an effect of temperature, or the change of pressure with temperature inside a gas-filled system, is converted into a rotation of the pointer by means of a Bourdon tube, without any intermediate gearing.

The pointer is directly linked to the measuring system, which makes the overall system extremely torsionally rigid. Vibrations are transmitted to the pointer only to a minor extent.



Type 608225/1016

Technical data

| | |
|------------------------------|---|
| Housing | housing with bayonet lock in stainless steel (1.4301) |
| Enclosure protection | IP65 to EN 60 529 |
| Window | glass, with extra code 434: polycarbonate |
| Scale | white, black lettering |
| Accuracy class | Class 1 to EN 13190 |
| Reinforcement spring | instruments with capillary: on housing and temperature probe |
| Indication adjustment | at the back (no indication adjustment on Style 01) |
| Limit temperatures | for transport and storage -20°C to +70°C (for the 0 to +60°C range: up to 65°C) |
| Nominal position (NL) | unrestricted |

| | liquid-filled | gas-filled |
|-------------------------------------|---|---|
| Measuring system | indication range $\leq 350^{\circ}\text{C}$ | indication range $\geq 400^{\circ}\text{C}$ |
| Time constant $t_{0.632}$ | approx. 12 sec, measured in water bath, with a 6 mm dia. copper probe | approx. 4 sec, measured in oil bath, with a 10 mm dia. stainless steel probe |
| Ambient temperature effect | in % of indication range (referred to the deviation from the +23°C reference value) | |
| on housing | 0.15% of indication range per °C ambient temperature change | 0.05% of indication range per °C ambient temperature change |
| on capillary (per m) | 0.03% of indication range per °C ambient temperature change | no effect |
| | higher ambient temperature – higher temperature indication – lower switching point | |

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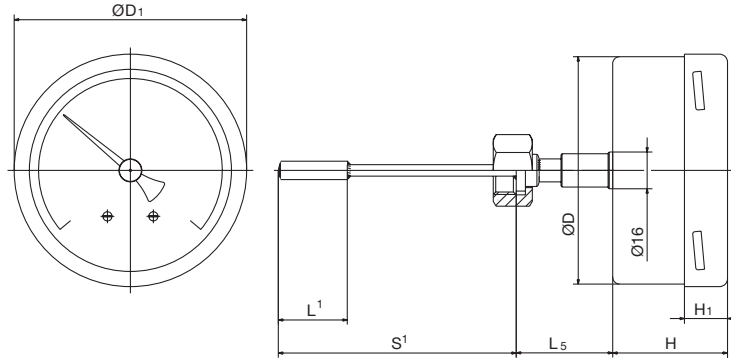
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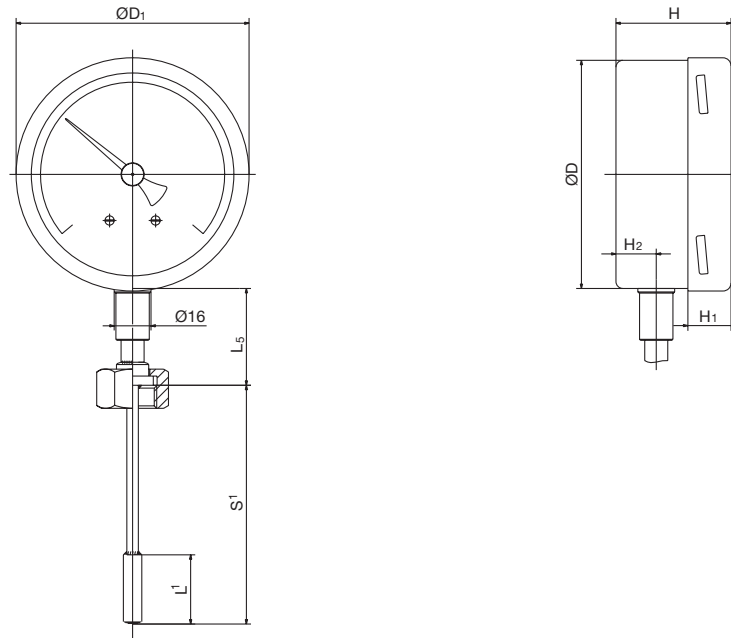


Dimensions

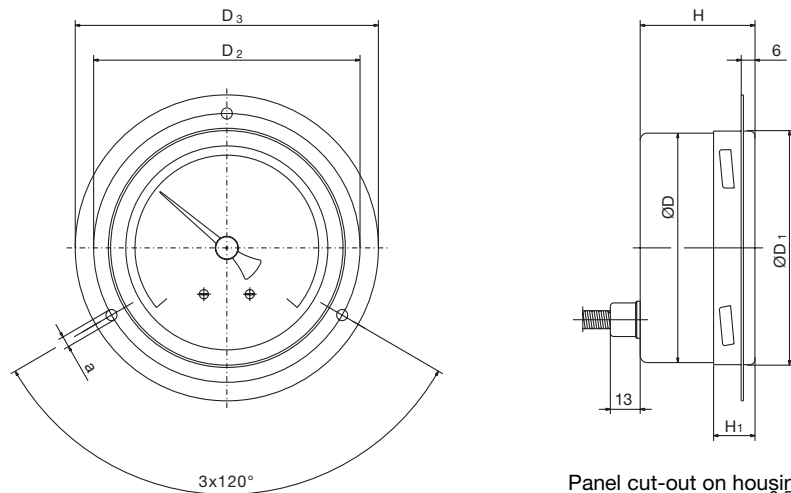
Types: 608225/0110
 608225/0116



Types: 608225/1010
 608225/1016



Types: 608225/2010
 608225/2016



Panel cut-out on housing:
 100mm dia. = $105.5^{+0.5}$ mm
 160mm dia. = $165.5^{+0.5}$ mm

¹ see Data Sheet 60.8730 for details about lengths

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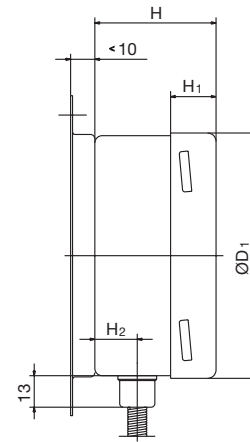
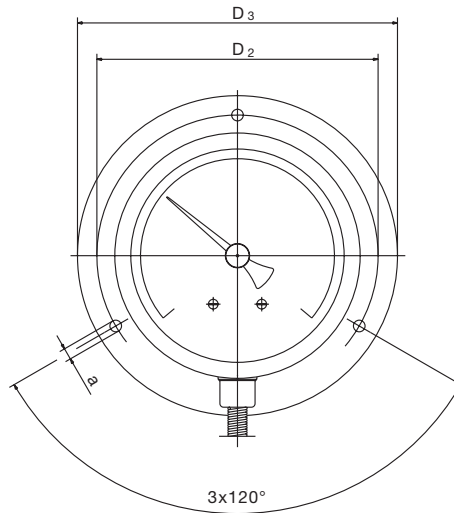
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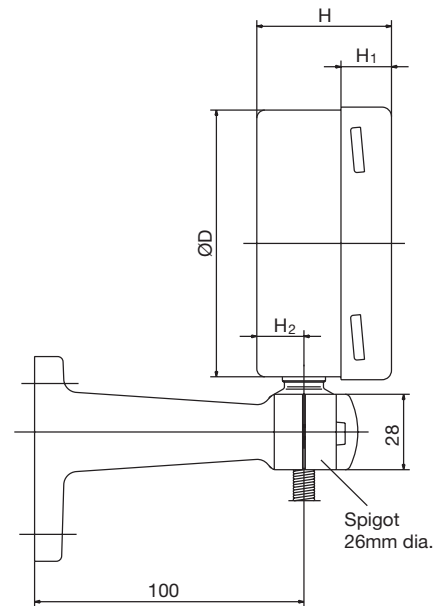
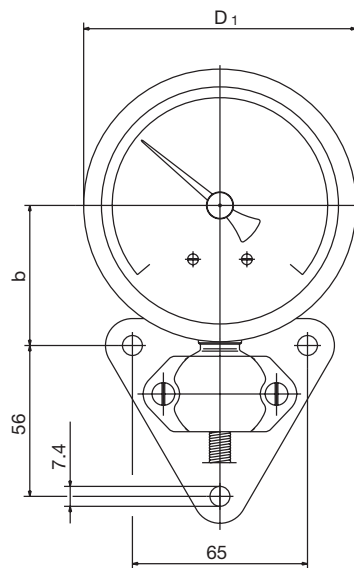


Dimensions

Types: 608225/2210
 608225/2216



Types: 608225/2310
 608225/2316



Mounting bracket to DIN 16 281

| Housing dia. | H | H ₁ | H ₂ | D | D ₁ | D ₂ | D ₃ | a | b | L ₅ |
|--------------|----|----------------|----------------|-----|----------------|----------------|----------------|-----|----|-----------------|
| 100 | 50 | 19 | 17.5 | 99 | 101.5 | 116 | 132 | 4.8 | 52 | 40 ¹ |
| 160 | 50 | 21 | | 159 | 161.5 | 178 | 196 | 5.8 | 82 | |

¹ for probe mounting TA 02 L₅ is ≤69 mm

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Order details

Dial thermometer Class 1, Type 608225

| | | |
|-------------------|---|----------------|
| Order code | (1) Basic type | |
| 608225 | Mechanical dial thermometer | |
| | (2) Basic type extension | |
| 0110 | Style: 01; housing size: 100 mm dia. | |
| 0116 | Style: 01; housing size: 160 mm dia. | |
| 1010 | Style: 10; housing size: 100 mm dia. | |
| 1016 | Style: 10; housing size: 160 mm dia. | |
| 2010 | Style: 20; housing size: 100 mm dia. | |
| 2016 | Style: 20; housing size: 160 mm dia. | |
| 2210 | Style: 22; housing size: 100 mm dia. | |
| 2216 | Style: 22; housing size: 160 mm dia. | |
| 2310 | Style: 23; housing size: 100 mm dia. | |
| 2316 | Style: 23; housing size: 160 mm dia. | |
| | (3) Indication range (AB) | |
| 469 | -40 to +40°C; range -30 to + 30°C | Accuracy 1.0°C |
| 566 | -30 to +50°C; range -20 to + 40°C | Accuracy 1.0°C |
| 807 | 0 to +60°C; range +10 to + 50°C | Accuracy 1.0°C |
| 810 | 0 to +80°C; range +10 to + 70°C | Accuracy 1.0°C |
| 814 | 0 to +100°C; range +10 to + 90°C | Accuracy 1.0°C |
| 818 | 0 to +120°C; range +20 to +100°C | Accuracy 2.0°C |
| 826 | 0 to +160°C; range +20 to +140°C | Accuracy 2.0°C |
| 832 | 0 to +200°C; range +20 to +180°C | Accuracy 2.0°C |
| 834 | 0 to +250°C; range +30 to +220°C | Accuracy 2.5°C |
| 840 | 0 to +300°C; range +30 to +270°C | Accuracy 5.0°C |
| 843 | 0 to +350°C; range +50 to +300°C | Accuracy 5.0°C |
| 848 | 0 to +400°C; range +50 to +350°C | Accuracy 5.0°C |
| 854 | 0 to +500°C; range +50 to +450°C | Accuracy 5.0°C |
| | (4) Capillary type (FL)¹ | |
| 00 | none (for rigid stem mounting) | |
| 04 | FL04 stainless steel capillary (1.4571), 2.2 mm dia. | |
| | (5) Capillary length¹ | |
| 0 | none (for rigid stem mounting) | |
| 1000 | 1000 mm | |
| 2000 | 2000 mm | |
| 3000 | 3000 mm | |
| 4000 | 4000 mm | |
| 5000 | 5000 mm | |
| ... | special length (details in plain text: in 1000 mm steps, maximum length 10000 mm) | |
| | (6) Process connection (PA)¹ | |
| 750 | TF01 temperature probe with shouldered support tube | |
| 753 | TF05 temperature probe with plain support tube | |
| 752 | TF11 temperature probe without support tube | |
| 843 | TA02 stem with union nut and loose nipple ² | |
| 161 | TA03 stem with loose union nut (on TF01) | |
| 846 | TA04 stem with fixed hexagon screw-in spigot ² | |
| 847 | TA06 sliding clamp fitting on support tube ² | |
| 891 | SH05 screw-in pocket, assembled ² (with 14 mm dia. only) | |
| 913 | SH07 screw-in pocket, assembled, with clamping clip and fixing screw ² | |

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Order details

Dial thermometer Class 1, Type 608225

| | |
|-------------------|---|
| Order code | (7) Diameter of process connection (PA)¹ |
| 6 | ø 6 mm |
| 8 | ø 8 mm |
| 10 | ø 10 mm |
| 14 | ø 14 mm (SH05 only) |
| | (8) Thread for process connection (PA)¹ |
| 000 | no thread (TF01, TF05 and TF11) |
| 103 | thread G 3/8 |
| 104 | thread G 1/2 |
| 105 | thread G 3/4 |
| | (9) Material of process connection (PA)¹ |
| 26 | stainless steel (1.4571) |
| 97 | stainless steel (1.4571)-TF / brass -TA, SH |
| | (10) Fitting length of process connection (PA)¹ (dimension "EL" or "S") |
| 0 | minimum fitting length TF 11 (active probe dimension) |
| 50 | 50 mm |
| 100 | 100 mm |
| 150 | 150 mm |
| 200 | 200 mm |
| ... | special length (details in plain text, in 50 mm steps) |
| | (11) Extra codes (TZ) |
| 000 | no extra code |
| 434 | peak-reading pointer adjustable with screwdriver, protected by cover |
| 522 | scale to customer specification |

Special versions on request !

Order code

(1) 608225 / (2) - (3) ... - (4) .. - (5) - (6) ... - (7) .. - (8) ... - (9) .. - (10) ... / (11) ... , ...

Order example

608225 / 2010 - 818 - 04 - 2000 - 750 - 8 - 000 - 26 - 100 / 000³

¹ For description and special features see Data Sheet 60.8730

² Screw-in spigot to DIN 3852 Form A

³ List extra codes in sequence, separated by commas