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JUMO Process Control, Inc.
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Bimetal Dial Thermometer Chemistry version

Special features

- Class 1
- Display ranges -50°C to +500°C
- Stainless steel case with bayonet connection
- Case sizes Ø: 100 mm and 160 mm
- Protection type IP65

Brief description

The locally displaying bimetal thermometers (chemistry version) work according to the principle of a bimetal coil. The measuring principle is based on the fact that the bimetal coil is exposed to the medium temperature in a stainless steel protection tube. The coil rotates as the temperature increases or falls. The rotation acts directly on the indicator via an axis. The indicator deflection is therefore proportional to the change of temperature.

All versions of the JUMO bimetal dial thermometer 608003 comply with DIN EN 13190, class 1. JUMO precision bimetal dial thermometers are the proven solution for local temperature measurements of both liquids and gases. They are suitable for insertion in pipelines, containers, machines and plants and do not require any external power source. Thanks to the high protection rating (IP65) and the lack of sensitivity to fluctuations in the ambient temperature due to the measuring principle, we also recommend these versions for outdoor use.



608003/1010

Technical data

| | |
|--|---|
| Basic type extension | 0110, 0116, 1010, 1016 |
| Case | Stainless steel case with bayonet connection (1.4301) |
| Protection type | IP65 according to DIN EN 60529 (IP54 with extra code 434) |
| Front pane | Glass with extra code 434 made of acrylic glass (PMMA) |
| Scale | Polished aluminum, with black lettering |
| Display | Linear, class 1 according to DIN EN 13190 |
| Time constant $t_{0.632}$ | Approx. 20 s, measured in flowing water with a probe Ø of 10 mm made of stainless steel |
| Influential effect of the ambient temperature | No influence |
| Limit value temperatures | -30 to +80°C (storage and transport) |
| Rated position | Any |

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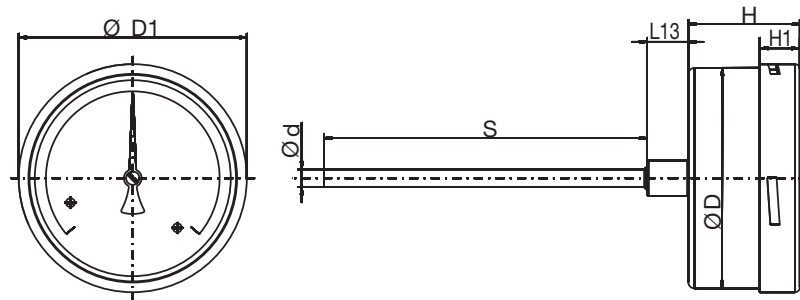
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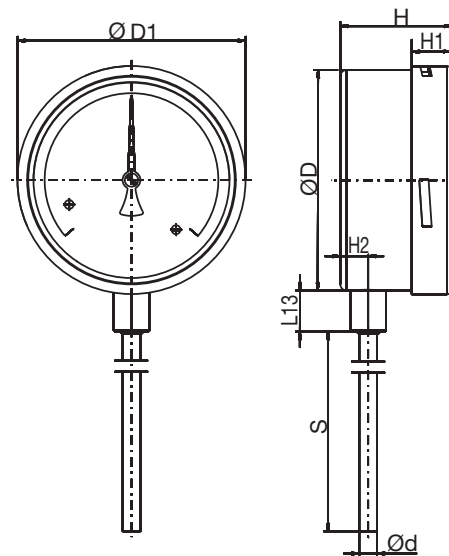
| Display range (AB) | Display range in °C | Measuring range in °C | Tolerance in K (+/-) |
|--------------------|---------------------|-----------------------|----------------------|
| 643 | -20 to +120 | 0 to +100 | 2.0 |
| 357 | -50 to +50 | -40 to +40 | 1.0 |
| 810 | 0 to +80 | +10 to +70 | 1.0 |
| 814 | 0 to +100 | +10 to +90 | 1.0 |
| 818 | 0 to +120 | +20 to +100 | 1.0 |
| 826 | 0 to +160 | +20 to +140 | 2.0 |
| 832 | 0 to +200 | +20 to +180 | 2.0 |
| 834 | 0 to +250 | +30 to +220 | 2.5 |
| 840 | 0 to +300 | +30 to +270 | 5.0 |
| 854 | 0 to +500 | +50 to +450 | 5.0 |

Dimensions

Types:
 608003/0110
 608003/0116



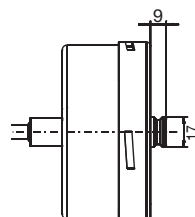
Types:
 608003/1010
 608003/1016



For dimensional specifications about Ø d and L₁₃ see data sheet 608730.

Extra code

434



| Type | Ø D | Ø D ₁ | H | H ₁ | H ₂ |
|-------------|-----|------------------|----|----------------|----------------|
| 608003/0110 | 99 | 101.5 | 50 | 18 | 12.5 |
| 608003/0116 | | | | 21 | |
| 608003/1010 | 159 | 161.5 | | 18 | 12.5 |
| 608003/1016 | | | | 21 | |

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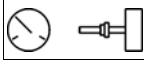
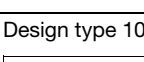

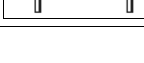
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Order details


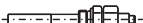








Order code (1) Basic type

| Order code | Basic type |
|-------------|--|
| | Mechanical dial thermometer, chemistry version, class 1 |
| | Design type 01 Case size Ø |
| 608003/0110 |  100 mm |
| 608003/0116 |  160 mm |
| | Design type 10 Case size Ø |
| 608003/1010 |  100 mm |
| 608003/1016 |  160 mm |

(2) Display range (AB) in °C

| | |
|-----|-------------|
| 357 | -50 to +50 |
| 643 | -20 to +120 |
| 810 | 0 to +80 |
| 814 | 0 to +100 |
| 818 | 0 to +120 |
| 826 | 0 to +160 |
| 832 | 0 to +200 |
| 834 | 0 to +250 |
| 840 | 0 to +300 |
| 854 | 0 to +500 |

(3) Process connection (PC)^b

| | | | |
|-----|-------|---|---|
| 010 | TA 01 | Protection tube with collar |  |
| 844 | TA 02 | Protection tube with union nut and loose screw connection ^a |  |
| 845 | TA 03 | Protection tube with loose union nut |  |
| 841 | TA 04 | Protection tube with fixed hexagon ^a |  |
| 847 | TA 06 | Protection tube with displaceable threaded fitting (max. 20 bar) |  |
| 018 | TA 08 | Protection tube with displaceable mounting plate made of zinc-plated steel and fixing screw |  |
| 858 | SH 04 | Single-section screw-in protection tube |  |
| 891 | SH 05 | Multi-sectional screw-in protection tube |  |
| 913 | SH 07 | Multi-sectional screw-in protection tube with fixing screw |  |
| 820 | SH 09 | Multi-sectional weld-in protection tube with fixing screw |  |

^a Screw-in spigot according to DIN 3852 form A (not for NPT threads)

^b For description and special features refer to data sheet 608730.

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(4) Ø Process connection (PC)^b

| | | |
|----|-------|---|
| 6 | 6 mm | (not with display ranges 628, 564, 807) |
| 10 | 10 mm | |
| 12 | 12 mm | (only with SH 05, SH 07) |
| 14 | 14 mm | (only with SH 05, SH 07, SH 09) |
| 17 | 17 mm | (only with SH 04) |

(5) Thread type of process connection (PC)^b

| | |
|-----|-----------------------------|
| 000 | Without thread (only TA 01) |
| 103 | Screw connection G 3/8 |
| 104 | Screw connection G 1/2 |
| 105 | Screw connection G 3/4 |
| 144 | Screw connection 1/2-14NPT |

(6) Material of process connection (PC)^b

| | |
|----|--------------------------------|
| 26 | Stainless steel (CrNi, 1.4571) |
|----|--------------------------------|

(7) Insertion length, process connection (PC) dimension "S"

| | |
|-----|--|
| 100 | 100 mm |
| 150 | 150 mm |
| 200 | 200 mm |
| ... | Special length (specifications in plain text – 50 mm increments) |

(8) Extra code (TZ)

| | |
|-----|--|
| 000 | Without extra code |
| 362 | Ex protection according to directive 2014/34/EU |
| 434 | Drag indicator can be adjusted with a screwdriver, protected by a cover, IP54 (front pane made of Plexiglas; max. ambient temperature +70°C) |
| 474 | Silicon-filled dial cushioning unit (only with basic type extension 0110, 0116, not in connection with TZ 434) |
| 522 | Customized scale |

Special versions upon request!

^b For the description and special features, refer to data sheet 608730.

Order code (1) (2) (3) (4) (5) (6) (7) (8)
 608003/..... - [] - [] - [] - [] - [] - [] / [] , ...
Order example 608003/0110 - 810 - 010 - 10 - 104 - 26 - 100 / 000^c , ...

^c List extra codes in sequence, separated by commas.