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Dial Thermometer

Type 608201

Special features

- Class 1.5
- Display ranges from -40° C to +600° C
- Temperature indicator as built-in or add-on device in the stainless steel case
- Case size Ø: 60 mm, 80 mm and 100 mm
 Front panel: 72x72 mm and 96x96 mm
- Protection type IP 55, also available IP 65



608201/2060



608201/2572

Brief description

Dial thermometers are temperature indicators for universal use. The units come in a stainless steel case with a liquid- or gas-filled measuring system.

The temperature-dependent volume change in a measuring system filled with liquid or the temperature-dependent pressure change in a measuring system filled with gas is converted to a rotational movement of the actual value indicator by a bourdon tube; no transmission gear is required.

Technical data

Case and/or front panel	Stainless steel (1.4301), design type 2496 and 2572, steel zinc-plated	
Protection type	IP 55 according to DIN EN 60529 (IP 65 with extra code 404) Basic type extension, at front and rear: 1060, 1080, 1010, 2260, 2280, 2010, 2360, 2380, 2310 Basic type extension, at front only: 2060, 2080, 2010, 2160, 2180, 2110, 2496, 2572	
Front pane	Glass in design types 2496 and 2572, and with extra codes 473 and 404 made of acrylic glass (PMMA)	
Scale	White, with black lettering (silver, with black lettering in the case of extra code 473 and 404)	
Display	Class 1.5 similar to EN 13190	
Display correction	On the rear of the case, no display correction with extra code 473 and 404	
Limit value temperatures	Transport and storage -30°C to +70°C (for display range -40 to +40°C up to max. 50°C; -30 to +50°C up to max. 60°C)	
Rated position	Any	
	Liquid filling	Gas filling
Measuring system	Display range (AB) ≤ 350°C	Display range (AB) ≥ 400°C
Time constant $\tau_{0.632}$	Approx. 12 s, measured in flowing water, with a probe Ø of 6 mm made of copper.	Approx. 4 s, measured in flowing oil, with a probe Ø of 10 mm made of stainless steel.
Influential effect of the ambient temperature	In % of the display range (referring to the deviation from the reference value +23°C)	
On case	0.15% of the display range per K ambient temperature change	0.05% of the display range per K ambient temperature change
On capillary (per m)	0.03% of the display range per K ambient temperature change	No influence
	At higher ambient temperature – higher temperature display	

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**Technical data**

Display range (AB)	Display range in °C	Measuring range in °C	Tolerance in K (+/-)
469	-40 to +40	-30 to +30	1.5
566	-30 to +50	-20 to +40	1.5
643	-20 to +120	0 to +100	3.0
807	0 to +60	+10 to +50	1.5
814	0 to +100	+10 to +90	1.5
818	0 to +120	+20 to +100	3.0
826	0 to +160	+20 to +140	3.0
832	0 to +200	+20 to +180	3.0
834	0 to +250	+30 to +220	4.0
926	+50 to +250	+70 to +230	3.0
840	0 to +300	+30 to +270	6.0
927	+50 to +300	+80 to +270	4.0
843	0 to +350	+50 to +300	6.0
932	+50 to +350	+80 to +320	6.0
848	0 to +400	+50 to +350	6.0
851	0 to +450	+50 to +400	6.0
854	0 to +500	+50 to +450	8.0
858	0 to +600	+100 to +500	10.0

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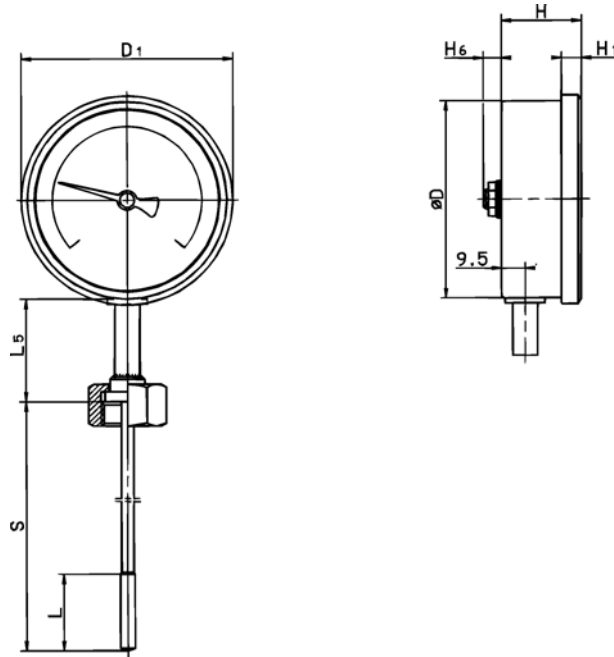
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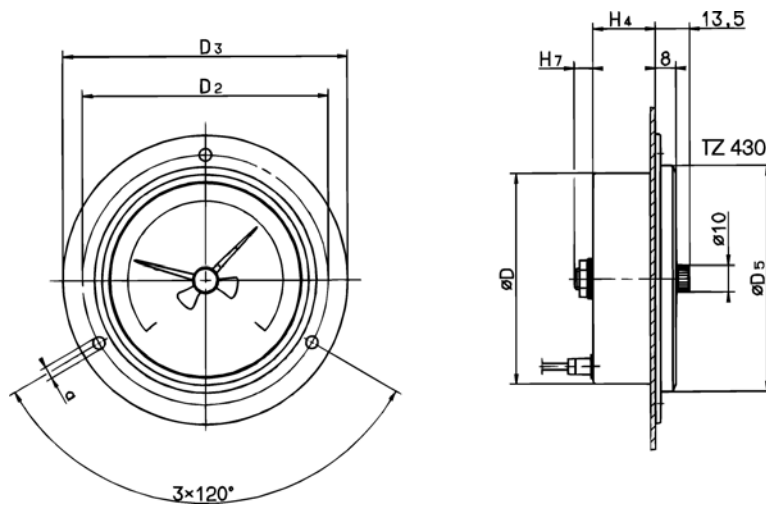


Dimensions

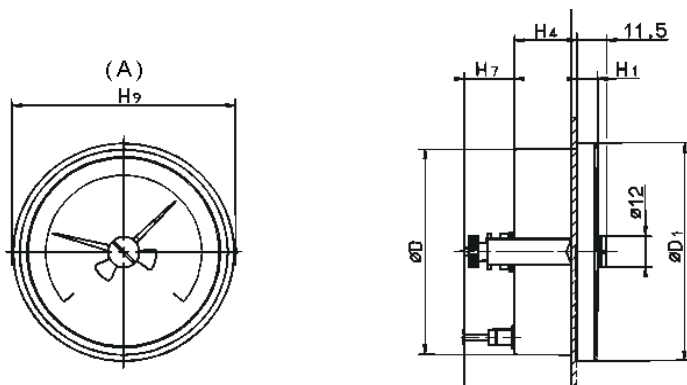
Types: 608201/1060
 608201/1080
 608201/1010



Types: 608201/2060
 608201/2080
 608201/2010



Types: 608201/2160
 608201/2180
 608201/2110



(A) Fastening bar width

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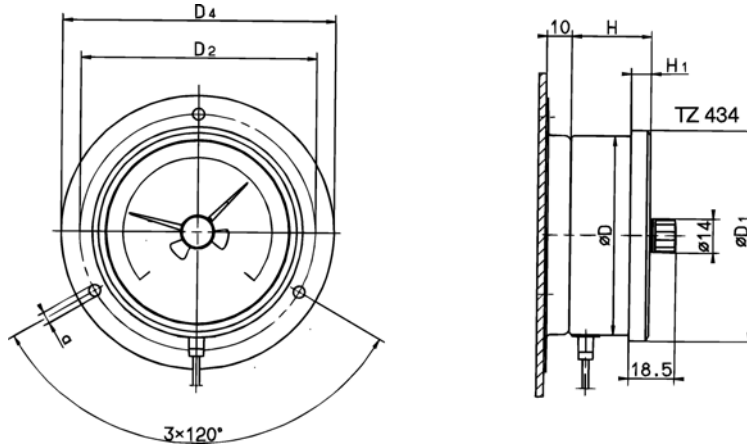
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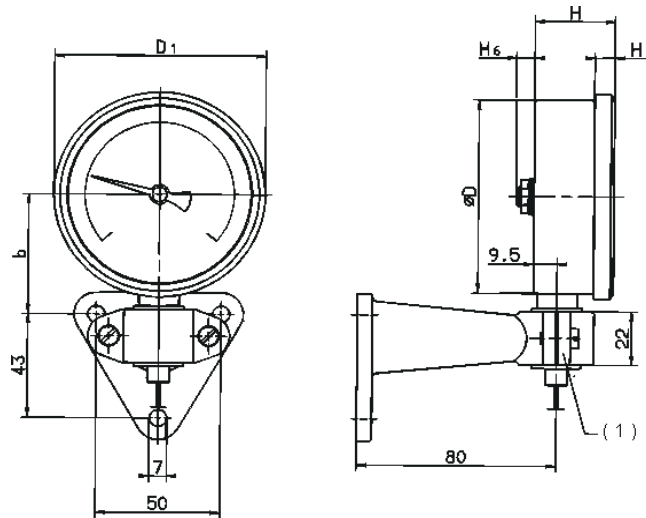


Dimensions

Types: 608201/2260
 608201/2280
 608201/2210



Types: 608201/2360
 608201/2380
 608201/2310



(1) Spigot Ø 20 mm

Case Ø	Panel cut-out Ø
60 mm	62 ^{0.5} mm
80 mm	82 ^{0.5} mm
100 mm	102 ^{0.5} mm

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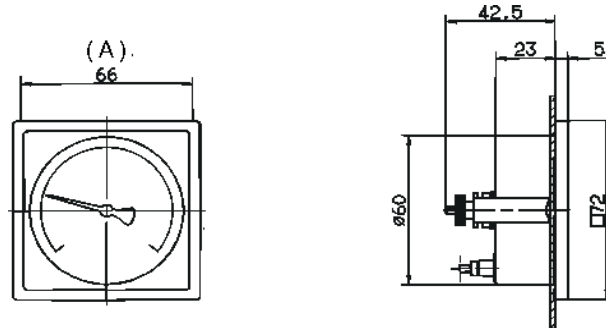
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Dimensions

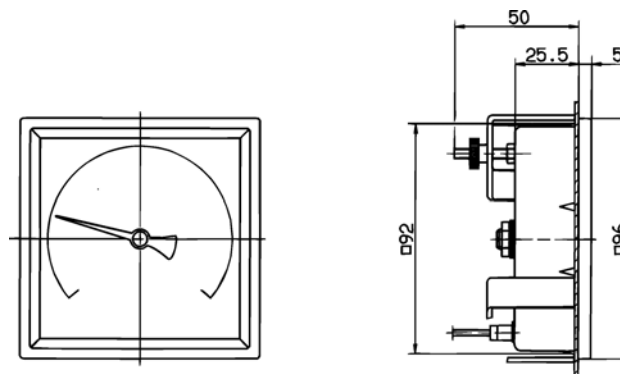
Type: 608201/2572



(A) Fastening bar width

Panel cut-out: $\varnothing 62^{+0.5}$ mm

Type: 608201/2496



Panel cut-out: $92 \times 92^{+0.8}$ mm

Case \varnothing	H	H ₁	H ₄	H ₆	H ₇	H ₉	D	D ₁	D ₂	D ₃	D ₄	D ₅	a	b	L ₅
60	30 (36)	7	23 (28)	Appro x. 7.5	19.5	66	60	65	75	85	86	66	3.6	39.5 (50)	41.5*
80	32.5	8	24.5			86	80	85	95	110	110	86	4.8	49.5	
100	33 (36)		25 (28)			106	100	106	116	132	132	107.5	59.5 (70)		

All specifications in mm

* With protection tube connection type TA 02, L₅ is ≤ 70.5 mm
 With protection tube connection types TA 22 and TA 31, L₅ is = 49.5 mm
 () -Values apply for TZ 473 or TZ 404

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Order details

Dial thermometer, class 1.5, type 608201

Order code:	(1) Basic type	
608201	Mechanical dial thermometer, class 1.5	
(2) Basic type extension		
1060	Design type: 10; case size: \varnothing 60 mm	
1080	Design type: 10; case size: \varnothing 80 mm	
1010	Design type: 10; case size: \varnothing 100 mm	
2060	Design type: 20; case size: \varnothing 60 mm	
2080	Design type: 20; case size: \varnothing 80 mm	
2010	Design type: 20; case size: \varnothing 100 mm	
2160	Design type: 21; case size: \varnothing 60 mm	
2180	Design type: 21; case size: \varnothing 80 mm	
2110	Design type: 21; case size: \varnothing 100 mm	
2260	Design type: 22; case size: \varnothing 60 mm	
2280	Design type: 22; case size: \varnothing 80 mm	
2210	Design type: 22; case size: \varnothing 100 mm	
2360	Design type: 23; case size: \varnothing 60 mm	
2380	Design type: 23; case size: \varnothing 80 mm	
2310	Design type: 23; case size: \varnothing 100 mm	
2496	Design type: 24; case size: 96 x 96 mm	
2572	Design type: 25; case size: 72 x 72 mm	
(3) Display range (AB)		
469	-40 to + 40°C	
566	-30 to + 50°C	
643	-20 to +120°C	
807	0 to + 60°C	
810	0 to + 80°C	
814	0 to +100°C	
818	0 to +120°C	
826	0 to +160°C	
832	0 to +200°C	
834	0 to +250°C	
926	+50 to +250°C	
840	0 to +300°C	
927	+50 to +300°C	
843	0 to +350°C	
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848	0 to +400°C	
851	0 to +450°C	
854	0 to +500°C	
858	0 to +600°C	

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Order details

Dial thermometer, class 1.5, type 608201

Order code:

	(4) Capillary type (FL)¹	
00	Without (with rigid connection)	
02	FL 02 Cu capillary with Cu textile braiding, approx. Ø 2.5 mm (up to AB end value +300°C)	
11	FL11 Cu capillary with PE coating, approx. ø 3.5 mm (up to AB end value +120°C)	
17	FL 17 Stainless steel capillary, Ø 1.5 mm	
21	FL21 Cu capillary, Ø 1.0 mm (up to AB end value +300°C)	
	(5) Capillary length¹	
0	Without (with rigid connection)	
1000	1000 mm	
2000	2000 mm	
3000	3000 mm	
4000	4000 mm	
5000	5000 mm	
....	Special length (specifications in plain text: 1,000 mm increments, maximum length 10,000 mm)	
	(6) Process connection (PC)¹	
750	TF01; Temperature probe with stepped support tube	
752	TF11; Temperature probe without support tube	
843	TA02; Protection tube with union nut and loose screw connection ²	
161	TA03; Protection tube with loose union nut	
847	TA06; Displaceable threaded fitting on support tube ²	
311	TA20; Protection tube with loose screw connection and connection collar ²	
872	TA21; Protection tube with loose pressure screw and conical seal	
873	TA22; Protection tube with loose pressure screw, conical seal, and loose screw connection ²	
401	TA23; Protection tube with pressure screw and contact pressure spring	
848	TA25; Displaceable threaded fitting on capillary ² (with FL 17 and FL 21 only)	
913	SH 07; Screw-in sleeve, multi-sectional, with clamping piece and fixing screw ² (with TF 01)	
820	SH 09; Weld-in sleeve, multi-sectional, with clamping piece and fixing screw (not with FL 21 – weld collar with steel 1.4515) (with TF 01)	
876	SH10; Screw-in sleeve, multi-sectional ²	
871	SH11; Screw-in sleeve, multi-sectional ²	
	(7) Diameter of process connection (PC)¹	
6	Ø 6 mm	
8	Ø 8 mm	
10	Ø 10 mm	
11	Ø 11 mm	
12	Ø 12 mm	

¹ For description and special features refer to data sheet 608730.

² Screw-in spigot according to DIN 3852 form A).

³ List extra codes in sequence, separated by commas.

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Order details

Dial thermometer, class 1.5, type 608201

Order code:

	(8) Thread type of process connection (PC)¹
000	Without thread (for TF 01 and TF 11)
103	Screw connection G ³ / ₈
104	Screw connection G ¹ / ₂
105	Screw connection G ³ / ₄
114	Screw connection M 10 × 1 (only for TA 23 and SH 11)
	(9) Material, probe / support tube¹
26	Stainless steel (CrNi, 1.4571)
96	Copper (Cu) / brass (CuZn) (up to 200°C)
95	Stainless steel (CrNi, 1.4571) – probe / brass (CuZn) – support tube (from 250°C)
	(10) Material of process connection (PC)¹
00	Without (only TF 01 and TF 11)
26	Stainless steel (CrNi, 1.4571)
46	Brass (CuZn)
	(11) Insertion length, process connection (PC)¹ (dimension "EL" or "S")
0	Minimum insertion length TF 11 (active probe dimension)
50	50 mm
100	100 mm
150	150 mm
200	200 mm
...	Special length (specifications in plain text – 50 mm increments)
	(12) Extra codes (TZ)
000	Without extra code
315	Strain relief spring on case and probe (not with FL 21)
404	Protection type IP 65 according to EN 60529 (only with basic type extension: 2060, 2260, 2360, 2010, 2210, 2310)
430	Drag indicator, with case diameter 60, 80 and 100 mm (not with TZ 404)
434	Drag indicator can be adjusted with a screwdriver, protected by a cover (not possible with TZ 404)
522	Customized scale

Special versions upon request!

Order code:

(1) 608201 / (2) ... - (3) ... - (4) ... - (5) ... - (6) ... - (7) ... - (8) ... - (9) ... - (10) ... - (11) ... / (12) ... , ...

Order example:

608201 / 1010 - 818 - 00 - 0 - 750 - 8 - 000 - 26 - 26 - 100 / 000³

¹ For description and special features refer to data sheet 608730.

² Screw-in spigot according to DIN 3852 form A.

³ List extra codes in sequence, separated by commas.