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Dial Thermometer

- Temperature indicator for panel or surface mounting
- Class 1.5
- IP65 protection max.
- Housing sizes: 60 mm dia., 80 mm dia. and 100 mm dia.
 Bezel: 72 x 72 mm and 96 x 96 mm

Brief description

Dial thermometers are temperature indicators for universal use. The instruments feature a stainless steel housing with a liquid-filled or gas-filled measuring system.

The temperature-dependent change in volume of a liquid-filled measuring system (or the temperature-dependent change of pressure in a gas-filled system) is converted into a rotary movement of the pointer by a Bourdon tube, without any intermediate gearing.



Type 608201/2160



Type 608201/2572

Technical data

Housing or bezel	stainless steel (1.4301)	
Protection	IP53 as per EN 60 529 (IP65 with extra code 404)	
Window	glass, with styles 24 and 25, and with extra codes 473 and 404: PMMA (plexiglass)	
Scale	white, black lettering (silver, black lettering with extra codes 473 and 404)	
Accuracy class	Class 1,5 to EN 13190	
Indication adjustment	at the housing rear, no indication adjustment with extra codes 473 and 404	
Limit temperatures	storage and transport -30 to +70°C (for indication range -40 to +40°C: up to 50°C; -30 to +50°C: up to 60°C)	
Nominal position	unrestricted	
	liquid-filled	gas-filled
Measuring system	indication range (AB) ≤ 350°C	indication range (AB) ≥ 400°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 on housing	in % of indication range (referred to the deviation from the reference value +23°C)	
	0.15% of indication range per °C change in ambient temperature	0.05% of indication range per °C change in ambient temperature
on capillary (per meter)	0.03% of indication range per °C change in ambient temperature	no effect
	at higher ambient temperature – higher temperature indication	

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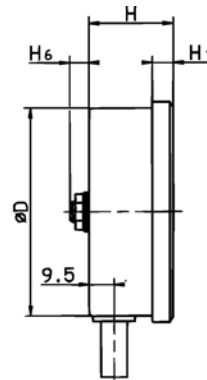
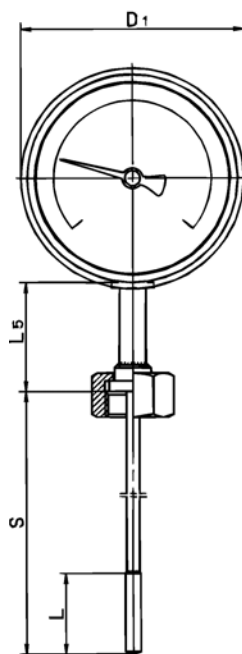
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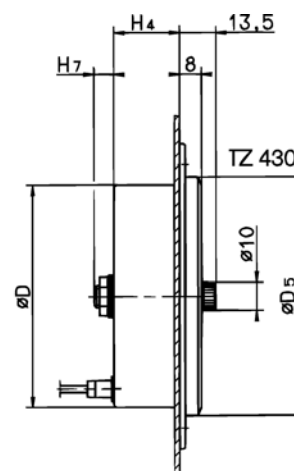
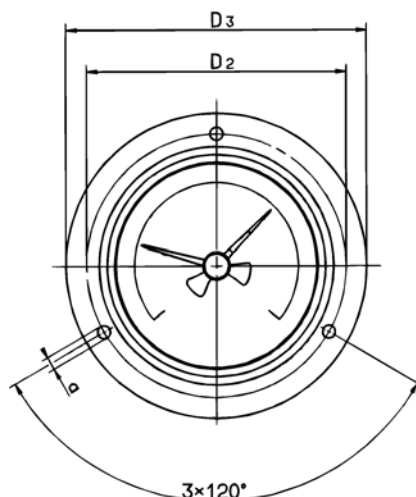


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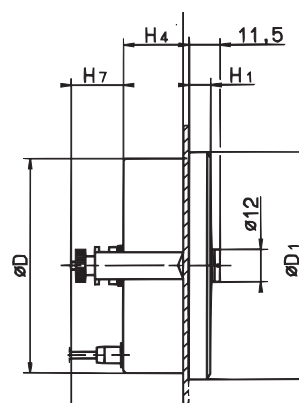
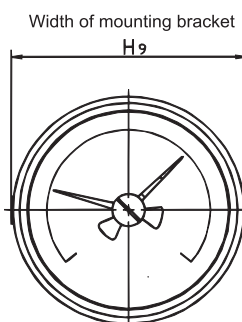
Types: 608201/1060
 608201/1080
 608201/1010



Types: 608201/2060
 608201/2080
 608201/2010



Types: 608201/2160
 608201/2180
 608201/2110



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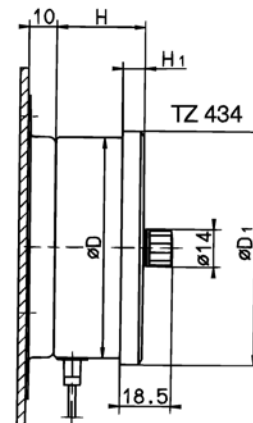
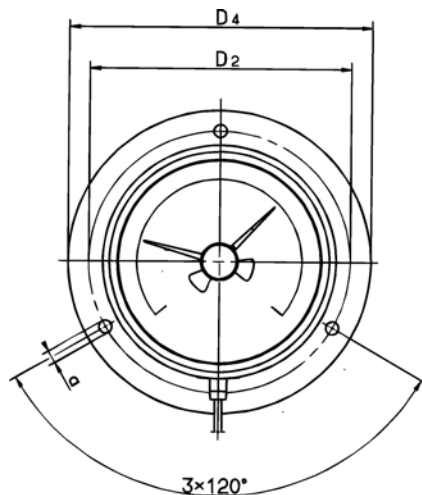
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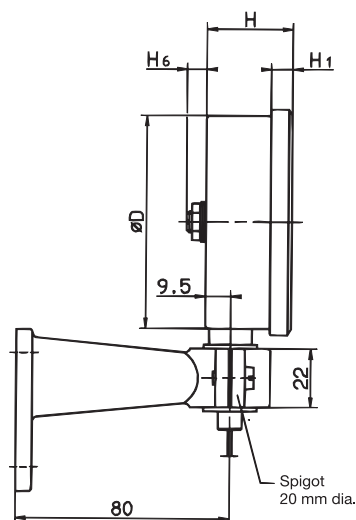
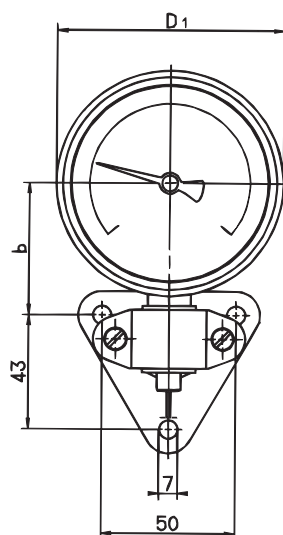


Dimensions

Types: 608201/2260
 608201/2280
 608201/2210



Types: 608201/2360
 608201/2380
 608201/2310



Housing dia.	Diameter of panel cut-out
60 mm	62 ^{0.5} ₀ mm
80 mm	82 ^{0.5} ₀ mm
100 mm	102 ^{0.5} ₀ mm

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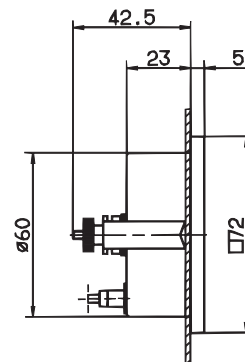
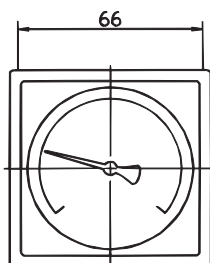
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Dimensions

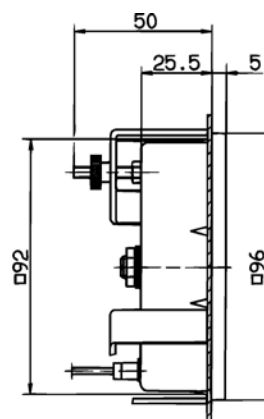
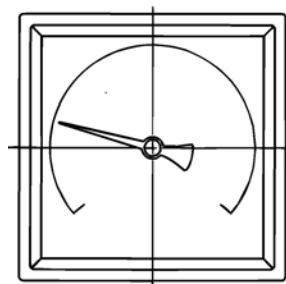
Type: 608201/2572

Width of mounting bracket



Panel cut-out: $62^{+0.5}_0$ mm dia.

Type: 608201/2496



Panel cut-out: $92 \times 92^{+0.8}_0$ mm

Housing dia.	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)	approx. 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 dimensions in mm

* on probe mounting TA 02 L₅ = ≤ 70.5 mm
 on probe mountings TA 22 and TA 31 L₅ = 49.5 mm
 values in brackets apply to 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 extensions	
1060	Style: 10; housing size: 60 mm dia.
1080	Style: 10; housing size: 80 mm dia.
1010	Style: 10; housing size: 100 mm dia.
2060	Style: 20; housing size: 60 mm dia.
2080	Style: 20; housing size: 80 mm dia.
2010	Style: 20; housing size: 100 mm dia.
2160	Style: 21; housing size: 60 mm dia.
2180	Style: 21; housing size: 80 mm dia.
2110	Style: 21; housing size: 100 mm dia.
2260	Style: 22; housing size: 60 mm dia.
2280	Style: 22; housing size: 80 mm dia.
2210	Style: 22; housing size: 100 mm dia.
2360	Style: 23; housing size: 60 mm dia.
2380	Style: 23; housing size: 80 mm dia.
2310	Style: 23; housing size: 100 mm dia.
2496	Style: 24; housing size: 96 x 96 mm
2572	Style: 25; housing size: 72 x 72 mm
(3) Indication range (AB)	
469	-40 to + 40°C; measuring range -30 to + 30°C, accuracy 1.5°C
566	-30 to + 50°C; measuring range -20 to + 40°C, accuracy 1.5°C
643	-20 to +120°C; measuring range 0 to +100°C, accuracy 3.0°C
807	0 to + 60°C; measuring range +10 to + 50°C, accuracy 1.5°C
810	0 to + 80°C; measuring range +10 to + 70°C, accuracy 1.5°C
814	0 to +100°C; measuring range +10 to + 90°C, accuracy 1.5°C
818	0 to +120°C; measuring range +20 to +100°C, accuracy 3.0°C
826	0 to +160°C; measuring range +20 to +140°C, accuracy 3.0°C
832	0 to +200°C; measuring range +20 to +180°C, accuracy 3.0°C
834	0 to +250°C; measuring range +30 to +220°C, accuracy 4.0°C
926	+50 to +250°C; measuring range +70 to +230°C, accuracy 3.0°C
840	0 to +300°C; measuring range +30 to +270°C, accuracy 6.0°C
927	+50 to +300°C; measuring range +80 to +270°C, accuracy 4.0°C
843	0 to +350°C; measuring range +50 to +300°C, accuracy 6.0°C
932	+50 to +350°C; measuring range +80 to +320°C, accuracy 6.0°C
848	0 to +400°C; measuring range +50 to +350°C, accuracy 6.0°C
851	0 to +450°C; measuring range +50 to +400°C, accuracy 6.0°C
854	0 to +500°C; measuring range +50 to +450°C, accuracy 8.0°C
858	0 to +600°C; measuring range +100 to +500°C, accuracy 10.0°C

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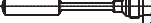
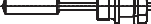
Order details

Dial thermometer Class 1.5, Type 608201

Order code

(4) Capillary type (FL)¹	
00	none (with rigid connection)
02	FL02 copper capillary with copper braiding, approx. 2.5 mm dia. (up to +300°C top of indication range)
11	FL11 copper capillary with PE sleeve, approx. 3.5 mm dia. (up to +120°C top of indication range)
17	FL17 stainless steel capillary, 1.5 mm dia.
21	FL21 copper capillary, 1.0 mm dia. (up to +300°C top of indication range)

(5) Capillary length¹	
0	none (with rigid connection)
1000	1000 mm
2000	2000 mm
3000	3000 mm
4000	4000 mm
5000	5000 mm
...	special length (specify in plain text: 1000 mm steps, maximum length 10000 mm)

(6) Process connection (PA)¹	
750	TF 01; temperature probe with stepped support tube 
752	TF 11; temperature probe without support tube 
843	TA 02; immersion tube with union nut and loose nipple ² 
161	TA 03; immersion tube with loose union nut 
847	TA 06; sliding clamp fitting on support tube ² 
311	TA 20; immersion tube with loose nipple and shoulder ² 
872	TA 21; immersion tube with loose plug and conical seal 
873	TA 22; immersion tube with loose plug, conical seal and loose nipple ² 
401	TA 23; immersion tube with plug and spring clip 
848	TA 25; sliding clamp fitting on capillary ² (with FL 17 and FL 21 only) 
913	SH 07; screw-in pocket, assembled, with clamping clip and fixing screw ² (with TF 01) 
820	SH 09; screw-in pocket, assembled, with clamping clip and fixing screw (not with FL21 - welding shoulder with steel 1.4515) (with TF 01) 
876	SH10; screw-in pocket, assembled ² 
871	SH11; screw-in pocket, assembled ² 

(7) Diameter of process connection (PA)¹	
6	6 mm dia.
8	8 mm dia.
10	10 mm dia.
11	11 mm dia.
12	12 mm dia.

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Order details

Dial thermometer Class 1.5, Type 608201

Order code

(8) Thread for process connection (PA) ¹	
000	no thread (with TF 01 and TF 11)
103	G ³ / ₈ thread
104	G ¹ / ₂ thread
105	G ³ / ₄ thread
114	M 10 x 1 thread (with TA 23 and SH 11 only)
(9) Material of probe / support tube ¹	
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 (above 250°C)
(10) Material of process connection (PA) ¹	
00	none (TF01 and TF11 only)
01	steel (St)
26	stainless steel (CrNi, 1.4571)
46	brass (CuZn)
(11) 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 (specify in plain text, in 50 mm steps)
(12) Extra codes (TZ)	
000	no extra code
430	peak-reading pointer, with housing diameters 60, 80 and 100 mm (not with TZ 473 or TZ 404)
440	housing with bimetal compensation
473	housing with damping fluid (only with basic type extension: 2060, 2260, 2360, 2010, 2210, 2310)
410	metal bezel ring, bezel or flange, black
315	capillary reinforcement on housing and probe (not with FL 21)
404	IP65 enclosure protection to EN 60 529 (only with basic type extension: 2060, 2260, 2360, 2010, 2210, 2310)
522	customized scale
651	peak-reading pointer adjustable with screwdriver; protected by screw-on cap (not available with TZ 473 or TZ 404)

Special versions on request!

Order code

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

Order example

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

¹ See Data Sheet 60.8730 for description and features

² Screw-in spigot to DIN 3852 Form A.

³ List extra codes in sequence, separated by commas.