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Dial Thermometer

Type 608225

Particularities

- temperature indicator for panel mounting or self-supporting stainless steel housing with bayonet lock
- Class 1
- IP 65 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 ≤ 350°C	indication range ≥ 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	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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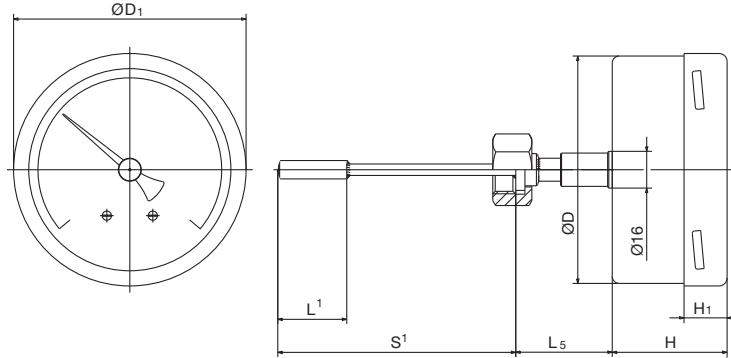
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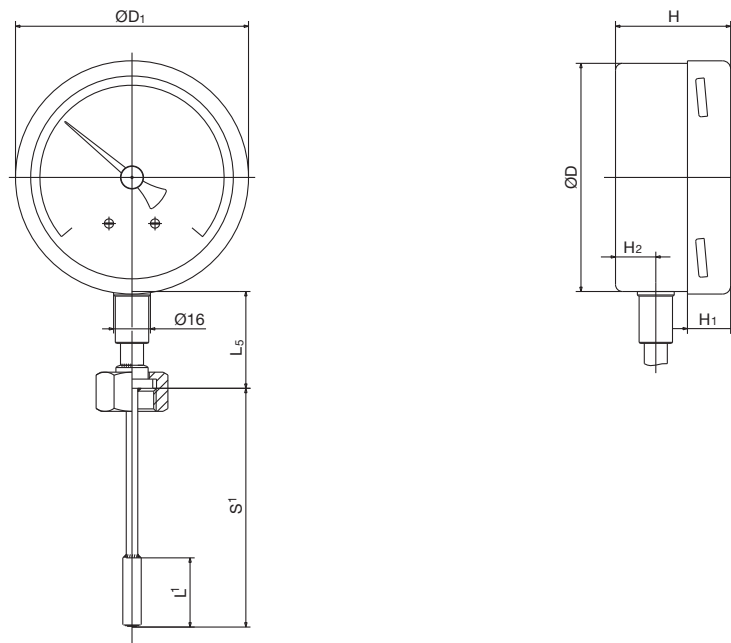


Dimensions

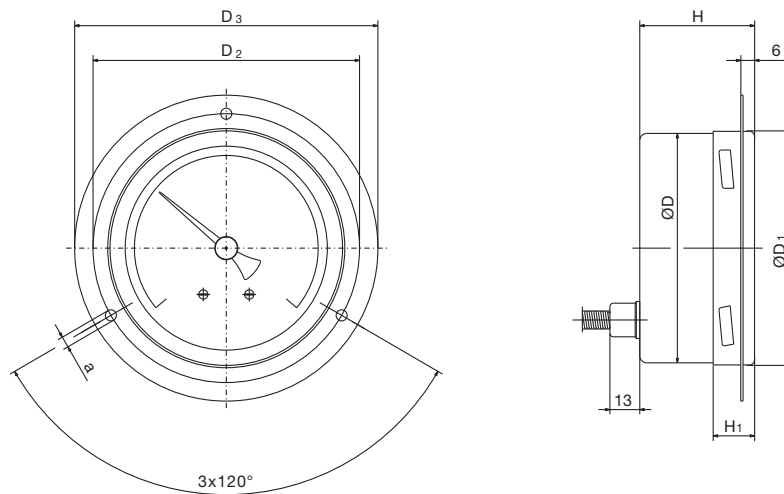
Types: 608225/0110
 608225/0116



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 608730 for details about lengths

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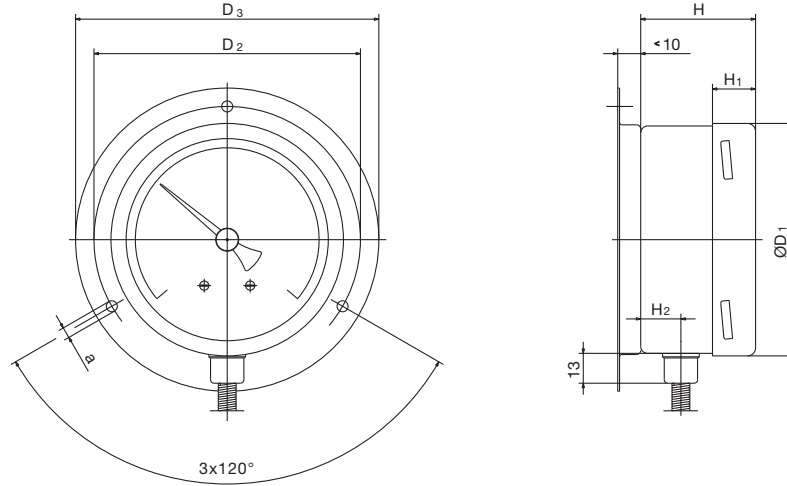
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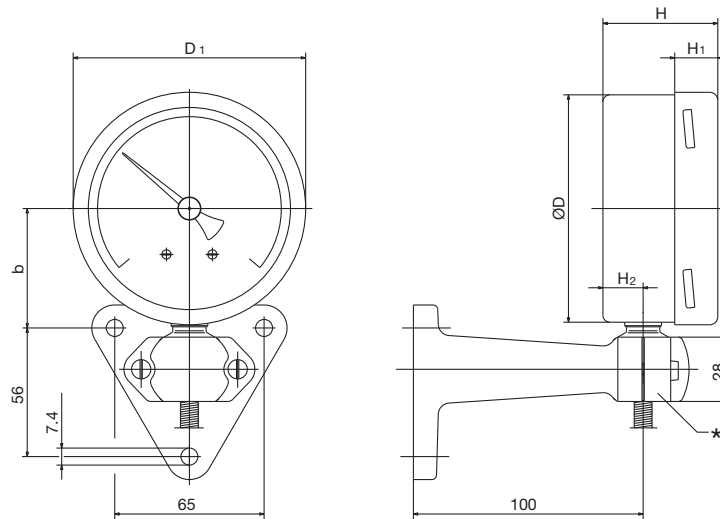


Dimensions

Types: 608225/2210
 608225/2216



Types: 608225/2310
 608225/2316



* Spigot 26 mm dia.

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

Note:

Physical and toxic features of the expansion means, which could emerge in the event of a measuring system break.

Control range with scale limit value	Hazardous re- actions	Fire and explosion hazard		hazardous to waters	Information about toxicology		
		Ignition tem- perature	Explosion limit		irritant	dangerous to health	toxic
< +200°C	no	+ 355°C	0,6 - 8 V%	yes	yes	¹⁾	no
≥ 200°C ≤ +350°C		+ 490°C	--	yes	yes	¹⁾	
> 350°C ≤ +500°C		no	no	no	no	no	

¹⁾ There is currently no statement by the health authority concerning hazards to health in the event of short-term exposure and low concentration, e.g. measuring system break.

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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