

Gas-in-Metal Expansion Thermometers

Process Industry Series • Model 73

Thermometers

Service intended

All stainless steel thermometer. Suitable for corrosive media and environments in chemical process, petroleum and food industry. The instruments meet highest standards of measurement technique.

Nominal size

100 and 160 mm

Temperature element

Inert gas expansion system (non-toxic)

Accuracy

Class 1 per DIN 16 203

Working range

Permanent: measuring range per DIN 16 203
Short time (≤ 1 h): 1.2 x measuring range per DIN 16 203,
> 500 °C 1.1 x measuring range per DIN 16 203

Pressure rating of stem

25 bar maximum (without thermowell)

Nominal use

See DIN 16 203

Weather protection

IP 56 per EN 60 529 / IEC 529

Standard features

Location of stem

Centre back or radial bottom

Case material

Stainless steel

Bezel

Cam ring (bayonet type) bezel, stock finish stainless steel

Connection

G $\frac{1}{2}$ A, stainless steel 1.4571

Stem

8 mm diameter, stainless steel 1.4571
The active length of the stem depends upon the diameter and the scale range (see data sheet TM 90.02).

Dial

White aluminium with black lettering per DIN 16 203

Pointer

Adjustable black aluminium pointer

Window

Instrument glass

Optional extras

- Liquid filling
- Other scale ranges, graduation other than °C, 2nd scale
- Radial connection other than bottom
- Plain stem or thread other than G $\frac{1}{2}$ A
- Stem 6, 10 or 12 mm diameter
- Window of safety glass or non-splintering plastic
- Thermowells per DIN (see data sheet TM 90.01) or to user specifications
- Alarm contacts (see data sheet AE 08.01)



Scale ranges

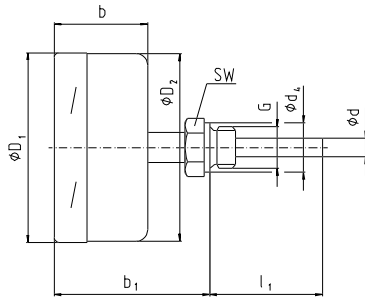
Scale range °C	Scale spacing °C
- 80 ... + 60	2
- 60 ... + 40	1
- 40 ... + 60	
- 30 ... + 50	
- 20 ... + 60	
- 20 ... + 80	
0 ... 60	2
0 ... 80	
0 ... 100	
0 ... 120	5
0 ... 160	
0 ... 200	
0 ... 250	
0 ... 300	
0 ... 400	10
0 ... 500	
0 ... 600	
0 ... 700	

Models

Model	Nominal size	Location of stem
A 7300	100	Centre back
A 7301	160	
R 7302	100	Radial bottom
R 7303	160	

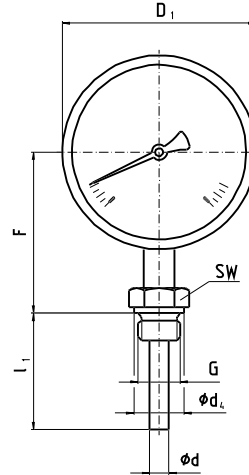
Dimensions

Centre back stem



3073 068

Radial bottom stem



3073 076

Nominal size	Dimensions [mm]												Weight [kg]	
	alarm contacts of model 811, 821 or 831						d	d ₄	D ₁	D ₂	F ¹⁾	G		SW
	without		1 or 2		3									
b	b ₁ ¹⁾	b	b ₁ ¹⁾	b	b ₁ ¹⁾	d	d ₄	D ₁	D ₂	F ¹⁾	G	SW		
100	50	83	88	121	—	8	26	101	99	83	G ½ A	27	1.100	
160	50	83	88	121	96, 129	8	26	161	159	113	G ½ A	27	1.400	

1) 40 mm wider with scale ranges ≥ 0 ... 400 °C

Design of connection per DIN

Standard connection

Male thread G ½ A, G ¾ A, ½ NPT or ¾ NPT

Length of stem l₁ = 63, 100, 160, 200 or 250 mm

Stainless steel 1.4571

Connection no. 1

Plain stem

Length of stem l = 140, 200, 240 or 290 mm

Stainless steel 1.4571

To fit compression fitting of connection no. 4

Connection no. 2

Male nut G ½ A

Length of stem l₁ = 80, 140, 180 or 230 mm

Stainless steel 1.4571

To fit DIN thermowells of form BD, BE, BS

Connection no. 3

Union nut G ½ or G ¾

Length of stem l₁ = 89, 126, 186, 226 or 276 mm

Stainless steel 1.4571

To fit DIN thermowells of form CD, CE, CS

Union nut M 24 x 1.5 suitable to DIN 43 763

Connection no. 4

Compression fitting (sliding on stem)

G ½ A, G ¾ A, M 18 x 1.5, ½ NPT or ¾ NPT

Minimum insertion ca. 60 mm, min. stem diameter 8 mm

Length of stem l₁ = variable

Length L = l₁ + 40 mm

Stainless steel 1.4571

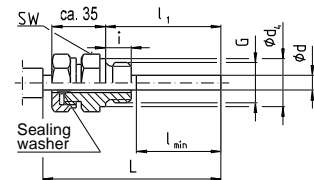
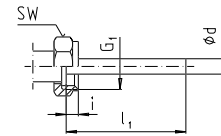
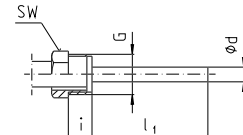
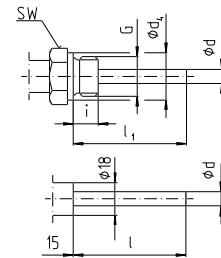
Dimensions [mm]

Male thread G	SW	d ₄	i
G ½ A	27	26	14
G ¾ A	32	32	16
½ NPT	22	—	19
¾ NPT	30	—	20

Male thread G	SW	i
G ½ A	27	20

Female thread G ₁	SW	i
G ½	27	8.5
G ¾	32	10.5
M 24 x 1.5	32	13.5

Male thread G	SW	d ₄	i
G ½ A	27	26	14
G ¾ A	32	32	16
M 18 x 1.5	24	23	12
½ NPT	22	—	19
¾ NPT	30	—	20



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Ordering information

State: Model / Nominal size / Scale range / No. and size of connection / Location and length of stem l, l₁ / Optional extras required

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.

Modifications may take place and materials specified may be replaced by others without prior notice.



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