

# Gas Actuated 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 the highest standards of measurement technique.

#### Nominal size

100 and 160 mm

#### Temperature element

Inert gas expansion system (non-toxic)

#### Accuracy

Class 1 per DIN EN 13 190

#### Working range

Permanent (1 year): measuring range per DIN EN 13 190

Short time (24 h max.): scale range per DIN EN 13 190

#### Pressure rating of stem

25 bar maximum

#### Nominal use

DIN EN 13 190

#### Ingress protection

IP 56 / IP 65 per EN 60 529 / IEC 529

IP 65 per EN 60 529 / IEC 529 for gauges with alarm contacts

#### Standard features

##### Location of stem

Centre back or radial bottom

##### Case material

Stainless steel

##### Bezel

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

##### Connection

G ½ B, 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.

##### Dial

White aluminium with black lettering per DIN EN 13 190

##### Pointer

Adjustable black aluminium pointer

##### Window

Laminated safety glass

#### Optional extras

- Liquid damping
- Ingress protection IP 66 (not for gauges with alarm contacts)
- Scale °F, K; dual scale °C/°F
- Window of non-splintering plastic
- Radial connection other than bottom
- Stem 6, 10 or 12 mm diameter
- Plain stem or thread other than G ½ B
- Thermowells per DIN 43 772 or to user specifications
- Alarm contacts (see data sheet AC 08.01)



Scale, measuring ranges<sup>1)</sup>, limits of error per DIN EN 13 190, class 1

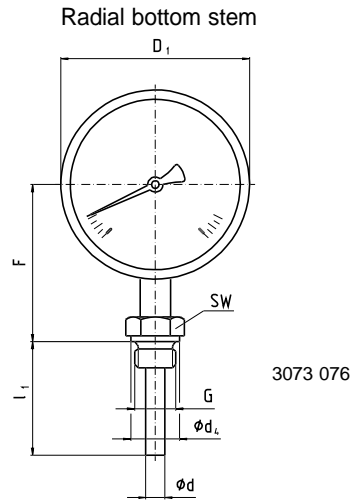
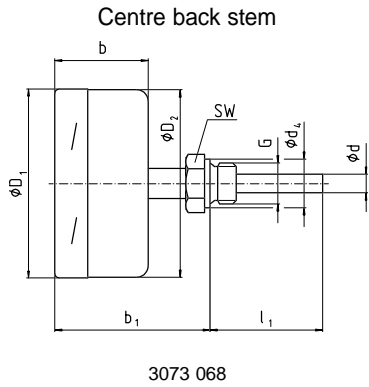
Scale range °C	Scale spacing °C	Measuring range <sup>1)</sup> °C	Limit of error °C
- 80 ... + 60	2	- 60 ... + 40	2
- 60 ... + 40	1	- 50 ... + 30	1
- 40 ... + 60		- 30 ... + 50	
- 30 ... + 50		- 20 ... + 40	
- 20 ... + 60		- 10 ... + 50	
- 20 ... + 80		- 10 ... + 70	
0 ... 60		+10 ... + 50	
0 ... 80	+10 ... + 70	2	
0 ... 100	+10 ... + 90		
0 ... 120	+10 ... + 110		
0 ... 160	+ 20 ... + 140		
0 ... 200	2	+ 20 ... + 180	2.5
0 ... 250		+ 30 ... + 220	
0 ... 300		+ 30 ... + 270	
0 ... 400	5	+ 50 ... + 350	5
0 ... 500		+ 50 ... + 450	
0 ... 600		+100 ... + 500	
0 ... 700	10	+100 ... + 600	10

#### Models

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

1) The measuring range is indicated on the dial by two triangular marks. Within this range the stated limit of error is valid according to DIN EN 13 190.

## Dimensions



Nominal size	Dimensions in mm													Weight in kg
	alarm contacts of model 811, 821 or 831						d	d <sub>4</sub>	D <sub>1</sub>	D <sub>2</sub>	F <sup>1)</sup>	G	SW	
	without	1 or 2		3										
b	b <sub>1</sub> <sup>1)</sup>	b	b <sub>1</sub> <sup>1)</sup>	b	b <sub>1</sub> <sup>1)</sup>									
100	50	83	88	121	-		8 <sup>2)</sup>	26	101	99	83	G ½ B	27	1.100
160					161	159			113	1.400				

1) 40 mm wider with scale ranges  $\geq 0 \dots 500 \text{ }^\circ\text{C}$

2) Option: stem diameter 6, 10, 12 mm

### Design of connection

#### Standard connection

Male thread G ½ B, G ¾ B, ½ NPT or ¾ NPT  
Length of stem  $l_1 = 63, 100, 160, 200$  or 250 mm  
Stainless steel 1.4571

#### Connection 1

Plain stem  
Length of stem  $l = 140, 200, 240$  or 290 mm  
Stainless steel 1.4571  
To suit compression fitting of connection 4

#### Connection 2

Male nut G ½ B  
Length of stem  $l_1 = 80, 140, 180$  or 230 mm  
Stainless steel 1.4571

#### Connection 3

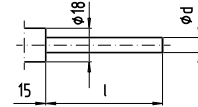
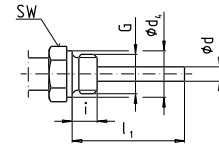
Union nut G ½, G ¾ or M 24 x 1.5  
Length of stem  $l_1 = 89, 126, 186, 226$  or 276 mm  
Stainless steel 1.4571

#### Connection 4

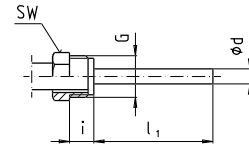
Compression fitting (sliding on stem)  
G ½ B, G ¾ B, M 18 x 1.5, ½ NPT or ¾ NPT  
Minimum insertion length  $l_{\min}$  approx. 60 mm,  $d_{\min} = \varnothing 8$  mm  
Length of stem  $l_1 = \text{variable}$   
Length  $L = l_1 + 40$  mm  
Stainless steel 1.4571

### Dimensions in mm

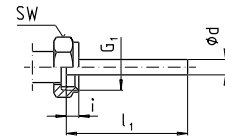
Male thread G	SW	d <sub>4</sub>	i
G ½ B	27	26	14
G ¾ B	32	32	16
½ NPT	22	-	19
¾ NPT	30	-	20



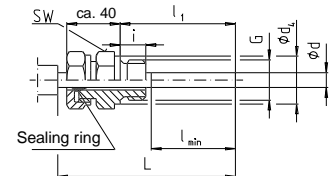
Male thread G	SW	i
G ½ B	27	20



Female thread G <sub>1</sub>	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 <sub>4</sub>	i
G ½ B	27	26	14
G ¾ B	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

Model / Nominal size / Scale range / Design and size of connection / Location and length of stem  $l, l_1$  / 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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