

# Gas-in-Metal Expansion Thermometers

## Extra Quality Series • Model 71

### Thermometers

#### Service intended

Industrial heating and general purpose

#### 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 ( $\leq 1$  h): 1.2 x measuring range per DIN 16 203

#### Degree of protection

IP 56 per EN 60 529 / IEC 529

#### Standard features

##### Location of stem

Centre back

##### Case material

Stainless steel

##### Bezel

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

##### Connection

Plain stem with neck 18 mm diameter to fit thermowell

##### Stem

13 mm diameter, stainless steel 1.4571

Stem length: to suit thermowell

##### Dial

White aluminium with black lettering per DIN 16 203

##### Pointer

Adjustable black aluminium pointer

##### Window

Instrument glass

#### Thermowell to be separately ordered (of choice)

##### - Thermowell with thread

Connection to thermometer: retainer screw

Process connection: thread G  $\frac{1}{2}$  A or G  $\frac{3}{4}$  A

Material: Cu-alloy, carbon steel or stainless steel 1.4571

Length  $l_1 = 63, 100, 160, 200$  mm, diameter 16 mm

##### - Thermowell with welding neck

Connection to thermometer: retainer screw

Material: carbon steel or stainless steel 1.4571

Length  $l_2 = 43, 80, 140, 180$  mm, diameter 16 mm

#### Pressure rating of thermowell

Cu-alloy: 6 bar maximum

Carbon steel or stainless steel: 25 bar maximum

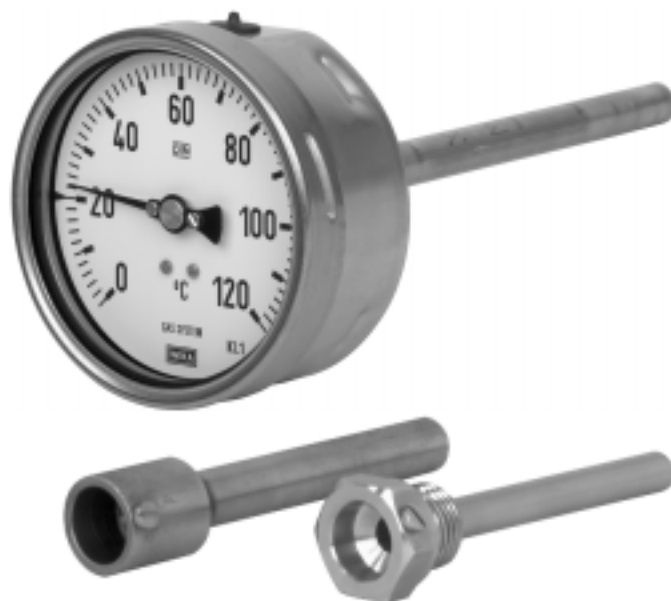
#### Special version

##### Distant reading with capillary (Nominal size 100 mm only)

Capillary entry: radial bottom

Mounting provision: 3-hole surface mounting flange

Capillary: length 3000 mm, 2 mm diameter, st.st. 1.4571



#### Scale-, measuring ranges<sup>1)</sup>, limits of error per DIN 16 203, class 1

Scale range °C	Scale spacing °C	Measuring range <sup>1)</sup> °C	Limit of error °C
- 30 ... + 50	1	- 20 ... + 40	1
0 ... 60		+ 10 ... + 50	
0 ... 120	2	+ 20 ... + 100	2
0 ... 160		+ 20 ... + 140	
0 ... 200		+ 20 ... + 180	

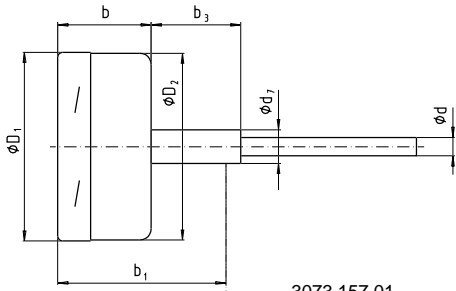
#### Models

Model	Nominal size	Location of stem
A 7150	100	Centre back
A 7170	160	
H 7180	100	Radial bottom capillary entry

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 16 203.

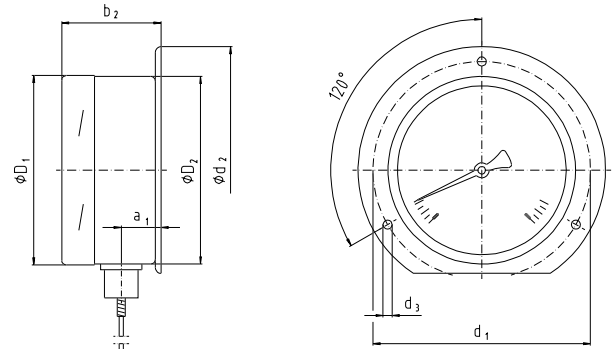
## Dimensions

Location of stem: centre back



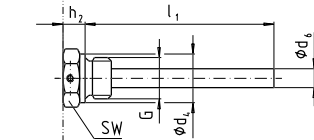
3073 157.01

Radial bottom capillary entry

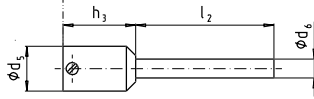


3159 302.01

Thermowell with thread



Thermowell with welding neck



Nom. size	Dimensions in mm																			Weight in kg
	$a_1$	$b$	$b_1$	$b_2$	$b_3$	$d$	$d_1$	$d_2$	$d_3$	$d_4$	$d_5$	$d_6$	$d_7$	$D_1$	$D_2$	$G$	$h_2$	$h_3$	$SW$	
100	19	50	92	53	50	13	116	132	4.8	26	24	16	18	101	99	$G \frac{1}{2} A$	12	27	27	0.600
160 <sup>1)</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	161	159					1.000

1) NS 160 not available with capillary

## Ordering information

State:  
Model / Nominal size / Scale range / Location of stem / Thermowell: version, thread, material, Length  $l_1$ ,  $l_2$  / Optional extras required

Specifications and dimensions given in this leaflet are correct at the time of printing.  
Modifications may take place and materials specified may be replaced by others without prior notice.



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