

# Bimetal Thermometers

## Industrial Series

### Thermometers

### Model 52

#### Service intended

General purpose industrial thermometer

#### Nominal size

25, 33, 40, 50, 63, 80, 100 and 160 mm

#### Temperature element

Coiled bimetal

#### Accuracy

Class 1 per DIN 16 203 NS 63 and above

Class 2 per DIN 16 203 NS 50 and below

#### Working range

Normal: measuring range per DIN 16 203

Short time ( $\leq 1$  h): scale range per DIN 16 203

#### Pressure rating of stem

6 bar maximum NS 50 and below

25 bar maximum NS 63 and above

#### Degree of protection

IP 54 (EN 60 529 / IEC 529) NS 40 and below

IP 43 (EN 60 529 / IEC 529) NS 50 and above



#### Standard features

##### Location of stem

Centre back

Centre back with spacer

Radial bottom

##### Case material

Stainless steel

With location of stem radial bottom: angle piece made of aluminium

##### Bezel ring

Stainless steel

##### Connection

Stem with male thread, see table page 2.

##### Stem

Diameter: see table page 2

Material: stainless steel

##### Dial

Satin finish aluminium with black lettering

##### Pointer

Black aluminium NS 40 and below

Adjustable pointer NS 50 and above

##### Window

Instrument glass

Acrylic plastic with NS 33 only

#### Optional extras

- Scale range °F, °C/°F (dual scale)
- Stem 6 mm or 10 mm diameter
- Stem 4 mm diameter with tip
- Other connections
- Thermowell per DIN 43 772 or to user specifications

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

Scale range °C	Scale spacing °C		Measuring range <sup>1)</sup> °C	Limit of error °C	
	NS 63 and below	NS 80 and above		NS 50 and below	NS 63 and above
- 30 ... + 50	1	0.5	- 20 ... + 40	2	1
- 20 ... + 60			- 10 ... + 50		
0 ... 60			+10 ... + 50		
0 ... 80			+10 ... + 70		
0 ... 100	2	1	+10 ... + 90	4	2
0 ... 120			+ 20 ... + 100		
0 ... 160			+ 20 ... + 140		
0 ... 200			+ 20 ... + 180		
0 ... 250 <sup>2)</sup>	5	2	+ 30 ... + 220	5	2.5
0 ... 300 <sup>3)</sup>			+ 30 ... + 270		
0 ... 400 <sup>3)</sup>			+ 50 ... + 350		
0 ... 500 <sup>3)</sup>			+ 50 ... + 450		
		5		-	5

1) With class 1 thermometers the measuring range is indicated on the dial by two triangular marks. Only within this range the stated limit of error is valid according to DIN 16 203.

2) not with NS 33

3) not with NS 50 and below

## Models

Location of stem: centre back  
(up to 250 °C)

Model	NS
A 5230	25
A 5200	33
A 5201	40
A 5202	50
A 5203	63
A 5204	80
A 5205	100
A 5206	160

Location of stem: centre back with spacer  
(from 300 °C or on request)

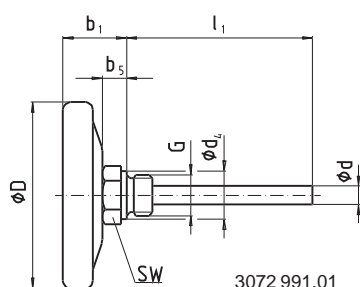
Model	NS
A 5219	63
A 5220	80
A 5221	100
A 5222	160

Location of stem: radial bottom

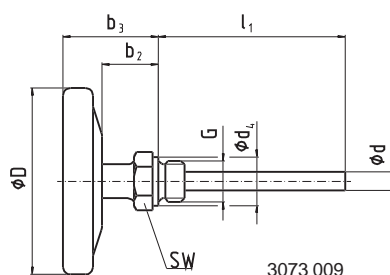
Model	NS
R 5240	63
R 5241	80
R 5242	100
R 5243	160

## Dimensions

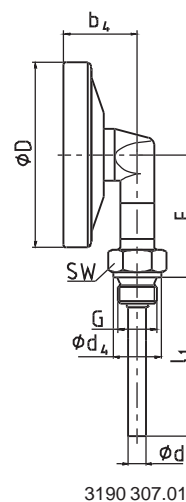
Location of stem: centre back  
(up to 250 °C)



Location of stem: centre back with spacer  
(from 300 °C or on request)



Location of stem: radial bottom



NS	Dimensions in mm											Weight in kg		
	$b_1$	$b_2$	$b_3$	$b_4$	$b_5$	$\phi d$	$\phi d_4$	$\phi D$	F	G	SW	centre back	centre back with spacer	radial bottom
25	15				2	4		25		M 8	12	0.035		
33												0.040		
40	21				8			40		G 1/8 A	17	0.050		
50								0.060						
63	29	30 <sup>1)</sup>	46	34	13	8	26	63	47	G 1/2 A	27	0.160	0.200	0.220
80	30		47	36				80	56			0.200	0.240	0.270
100	35		52	40				100	66			0.250	0.290	0.330
160	39		57	42.5				160	96			0.450	0.490	0.560

1) from 300 °C or on request

**Design of connection per DIN**

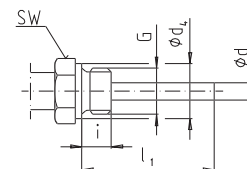
**Dimensions in mm**

**Standard connection**

**Male thread**

NS 25 and NS 33: M8 x 1.25, G 1/8 A  
 NS 40 and NS 50: G 1/8 A, G 1/4 A  
 NS 63 and above: G 1/2 A, G 3/4 A, 1/2 NPT, 3/4 NPT  
 Length of stem  $l_1 = 63, 100, 160, 200$  or 250 mm  
 Stainless steel

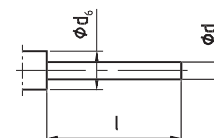
Male thread G	SW	d <sub>4</sub>	i
M8 x 1.25	12	-	8
G 1/8 A	17	-	8
G 1/4 A	17	-	8
G 1/2 A	27	26	14
G 3/4 A	32	32	16
1/2 NPT	22	-	19
3/4 NPT	30	-	20



**Connection 1**

**Plain stem**

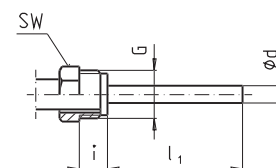
NS 25 and NS 33: d<sub>6</sub> = 8 mm  
 NS 40 and NS 50: d<sub>6</sub> = 12 mm  
 NS 63 and above: d<sub>6</sub> = 18 mm, to suit for thermowells SWT52G and SWT52S  
 and compression fitting of connection 4  
 Length of stem  $l = 140, 200, 240$  or 290 mm  
 Stainless steel



**Connection 2 (only NS 63 and above)**

Male nut G 1/2 A, G 3/4 A  
 Length of stem  $l_1 = 80, 140, 180$  or 230 mm  
 Stainless steel

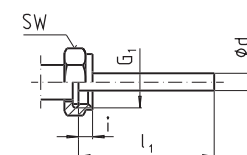
Male thread G	SW	i
G 1/2 A	27	20
G 3/4 A	32	23



**Connection 3 (only NS 63 and above)**

Union nut G 1/2, G 3/4  
 Length of stem  $l_1 = 89, 126, 186, 226$  or 276 mm  
 Stainless steel

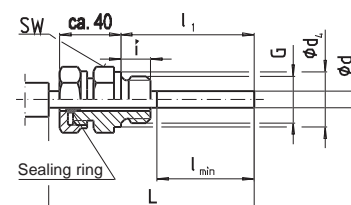
Female thread G <sub>1</sub>	SW	i
G 1/2	27	8.5
G 3/4	32	10.5



**Connection 4 (only NS 63 and above)**

Compression fitting (sliding on stem)  
 G 1/2 A, G 3/4 A, 1/2 NPT or 3/4 NPT  
 Minimum insertion depth  $l_{min}$  approx. 60 mm  
 Length of stem  $l_1 =$  variable  
 Length  $L = l_1 + 40$  mm  
 Stainless steel

Male thread G	SW	d <sub>4</sub>	i
G 1/2 A	27	26	14
G 3/4 A	32	32	16
1/2 NPT	22	-	19
3/4 NPT	30	-	20



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## Ordering information

State: Model / Nominal size / Scale range / Location of stem / Design and size of connection / Length of stem I, I<sub>1</sub> / 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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