

Bimetal Thermometers Model 52, Industrial Series

WIKA Data Sheet TM 52.01

Applications

- Versatile thermometers for machine, tank, pipeline and apparatus construction
- Industrial heating

Special Features

- Scale ranges from -30 °C to +500 °C
- Case and stem material stainless steel
- 5 different designs of connection
- Combination with many thermowell designs



Bimetal Thermometer Model A52.100

Description

This series of thermometers is designed for installation in pipes and tanks.

Versions with and without thermowell offer many possibilities for temperature measurement in liquid and gaseous media.

Use of the thermometers in potentially explosive atmospheres is possible without any Ex-specific marking in zones 1 and 2. (gases, ignition groups IIA, IIB, IIC)

Standard features

Temperature element

Coiled bimetal

Nominal size

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

Design of connection

S Standard (male thread connection)

- 1 Plain stem
- 2 Male nut
- 3 Union nut
- 4 Compression fitting (sliding on stem)

Location of stem

A52.XXX centre back (axial)

R52.XXX bottom (radial)

Accuracy class

- 1 per DIN EN 13 190 for nominal size 63, 80, 100, 160
- 2 per DIN EN 13 190 for nominal size 25, 33, 40, 50

Working range

Normal: measuring range per DIN EN 13 190

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

Case, bezel ring, stem, process connection and spacer

Stainless steel

Note: for radial entry version, the elbow behind the case is aluminium.

Dial

Satin finish aluminium with black lettering

Window

Instrument glass, acrylic plastic with NS 33 only

Pointer

Black aluminium, for nominal size 25, 33, 40

Black aluminium, adjustable pointer, for nominal size 50, 63, 80, 100, 160

Pressure rating of stem

6 bar max., static for nominal size 25, 33, 40, 50

25 bar max., static for nominal size 63, 80, 100, 160

Ingress protection

IP 54 (EN 60 529 / IEC 529) for nominal size 25, 33, 40

IP 43 (EN 60 529 / IEC 529) for nominal size 50, 63, 80, 100, 160

Optional extras

- Scale range °F, °C/°F (dual scale)
- Other scale ranges
- Other connections

Scale , measuring ranges ¹⁾ , limits of error per DIN EN 13 190

Scale graduation according to WIKA standard

Scale range in °C	Measuring range in °C	Scale spacing		Limit of error	
		up to NS 63 in °C	from NS 80 in °C	up to NS 50 ± °C	from NS 63 ± °C
-30 ... +50	-20 ... +40	1	0.5	2	1
-20 ... +60	-10 ... +50	1	0.5	2	1
0 ... 60	+10 ... +50	1	0.5	2	1
0 ... 80	+10 ... +70	1	0.5	2	1
0 ... 100	+10 ... +90	2	1	2	1
0 ... 120	+10 ... +110	2	1	4	2
0 ... 160	+20 ... +140	2	1	4	2
0 ... 200 ²⁾	+20 ... +180	5	2	4	2
0 ... 250 ²⁾	+30 ... +220	5	2	5	2.5
0 ... 300 ³⁾	+30 ... +270	5	2	-	5
0 ... 400 ³⁾	+50 ... +350	5	5	-	5
0 ... 500 ³⁾	+50 ... +450	5	5	-	5

1) 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 EN 13 190.

2) Not with NS 33

3) Not with NS 25 up to NS 50

Models

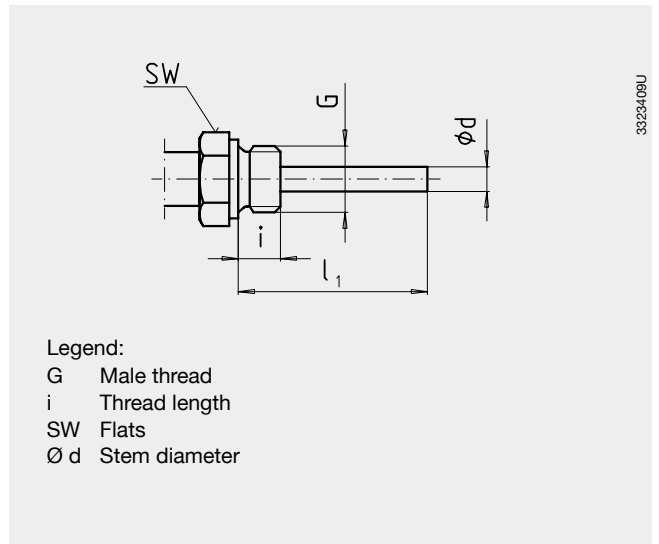
Nominal size	25	33	40	50	63	80	100	160
Design	S / 1				S / 1 / 2 / 3 / 4			
Model	A52.025	A52.033	A52.040	A52.050	A52.063	A52.080	A52.100	A52.160
					R52.063	R52.080	R52.100	R52.160

Dimensions in mm

Design S, standard (male thread connection)

Standard stem lengths l_1 : 63, 100, 160, 200, 250 mm

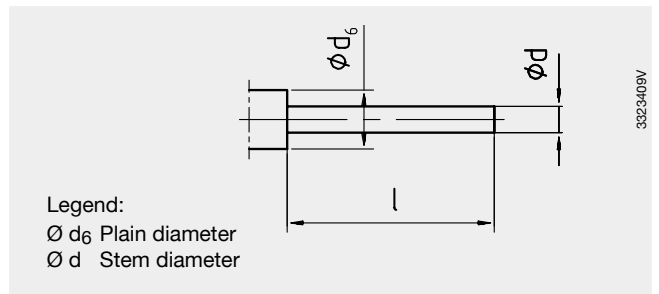
Nominal size NS	Process connection		Dimensions in mm	
	G	i	SW	$\varnothing d$
25, 33	M8 x 1.25	8	12	4
	G 1/8 B	8	17	4
	G 1/4 B	8	17	4
40, 50	M8 x 1.25	8	17	4
	G 1/8 B	8	17	4
	G 1/4 B	8	17	4
63, 80, 100, 160	G 1/4 B	8	17	6; 8
	G 1/2 B	14	27	6; 8
	M18 x 1.5	12	24	6; 8
	1/2 NPT	19	22	6; 8



Design 1, plain stem

Standard stem lengths l : 45, 63, 100, 140, 160, 200, 240, 290 mm

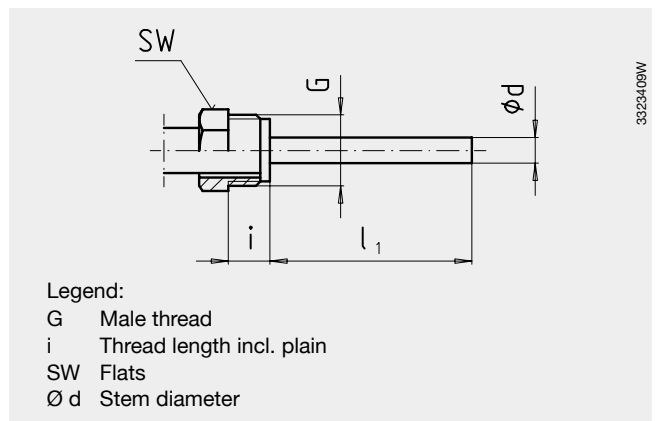
Nominal size NS	Dimensions in mm	
	d_6	$\varnothing d$
25, 33	8	4
40, 50	12	4
63, 80, 100, 160	18	6; 8



Design 2, male nut

Standard stem lengths l_1 : 80, 140, 180, 230 mm

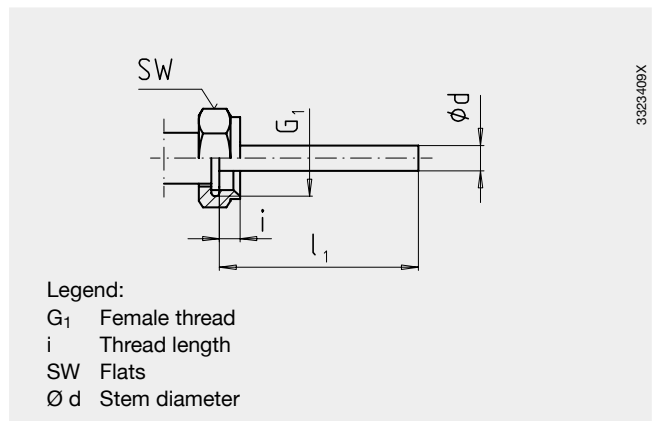
Nominal size NS	Process connection		Dimensions in mm	
	G	i	SW	$\varnothing d$
63, 80, 100, 160	G 1/2 B	20	27	6; 8
	M18 x 1.5	12	24	6; 8



Design 3, union nut

Standard stem lengths l_1 : 89, 126, 186, 226, 276 mm

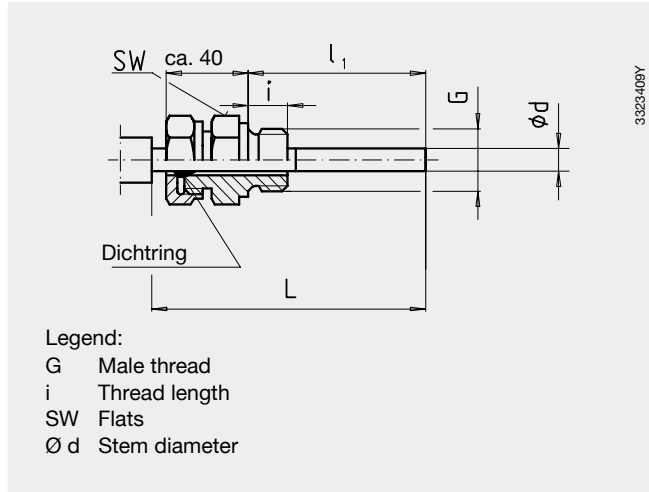
Nominal size NS	Process connection		Dimensions in mm	
	G	i	SW	$\varnothing d$
63, 80, 100, 160	G 1/2	8.5	27	6; 8
	G 3/4	10.5	32	6; 8



Design 4, Compression fitting (sliding on stem)

Length of stem l_1 = variable

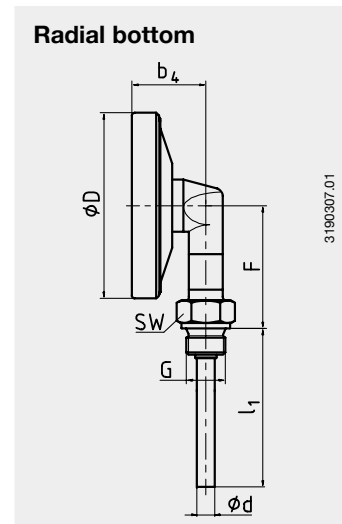
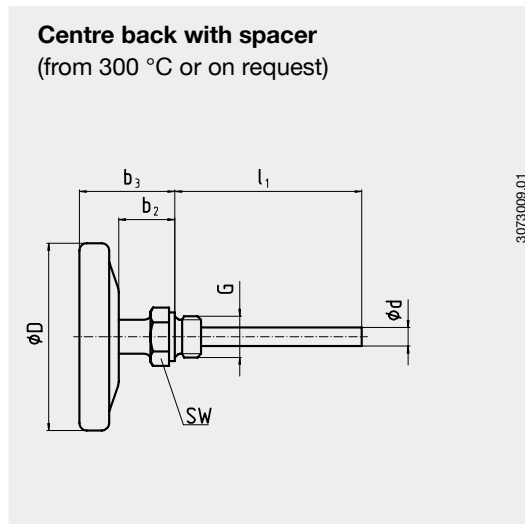
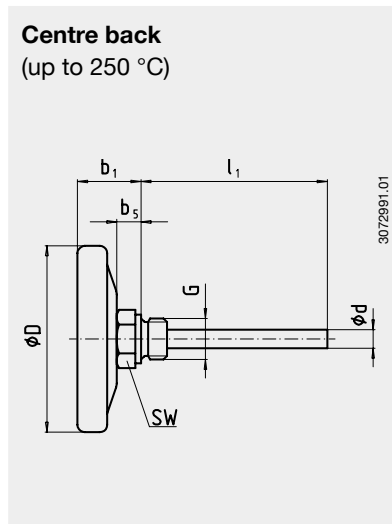
Length $L = l_1 + 40$ mm



Legend:
 G Male thread
 i Thread length
 SW Flats
 ϕd Stem diameter

Nominal size NS	Process connection		Dimensions in mm		
	G	i	SW	ϕd	
63, 80, 100, 160	G 1/4 B	8	17	6; 8	
	G 1/2 B	14	27	6; 8	
	M18 x 1.5	12	24	6; 8	
	1/2 NPT	19	22	6; 8	
	G 3/4 B	14	27	6; 8	
	3/4 NPT	20	30	6; 8	

Location of stem



NS	Dimensions in mm					ϕD	F	Weight in kg		
	b_1	b_2	b_3	b_4	b_5			R	RD	U
25	15	-	-	-	2	25	-	0.035	-	-
33	15	-	-	-	2	33	-	0.040	-	-
40	21	-	-	-	8	40	-	0.050	-	-
50	21	-	-	-	8	50	-	0.060	-	-
63	29	30 ¹⁾	46	34	13	63	47	0.160	0.200	0.220
80	30	30 ¹⁾	47	36	13	80	56	0.200	0.240	0.270
100	35	30 ¹⁾	52	40	13	100	66	0.250	0.290	0.330
160	39	30 ¹⁾	57	42.5	13	160	96	0.450	0.490	0.560

1) From 300 °C or on request

R Location of stem centre back
 RD Location of stem centre back with spacer
 U Location of stem radial bottom

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



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