

Bimetal Thermometers Process Industry Series, Model 55

WIKA Data Sheet TM 55.01



Applications

- Chemical industry, petrochemical industry, process technology and food industry
- For aggressive medium

Special Features

- Universal application
- Case and stem material stainless steel
- Optional with alarm contacts

Description

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

The stem and the case of the instrument are made of stainless steel. Various insertion lengths and process connections are available to match the requirements of any process optimally. Due to their high ingress protection (IP 65) and liquid damping these thermometers can be used in applications with extreme vibrations.



Fig. left: Bimetal Thermometer Model R5502
Fig. right: Bimetal Thermometer, Adjustable Stem and Dial Model S5550

Standard version

Temperature element

Bimetal helix

Nominal size in mm

63, 100, 160

Design of connection

- S Standard (male thread connection)
- 1 Plain stem (without thread)
 - 2 Male nut
 - 3 Union nut
 - 4 Compression fitting (sliding on stem)
 - 5 Union nut with fitting

Location of stem

A55XX centre back (axial)
R55XX bottom (radial)
S55XX centre back, adjustable stem and dial

Accuracy class

DIN EN 13 190

Working range

Normal (1 year): Measuring range (DIN EN 13 190)
Short time (24 h max.): Scale range (DIN EN 13 190)

Case and cam ring (bayonet type)

Stainless steel

Stem and process connection

Stainless steel 1.4571

Dial

Aluminium white, lettering black

Window

Instrument glass

Pointer

Aluminium, black, micro adjustable pointer

Zero adjustment

on case back side, external only adjustable stem/dial (option)

Pressure rating of stem

max. 25 bar, static

Ambient temperature limit at the case

+60 °C max. (others on request)

Ingress protection

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

Options

- Scale range °F, °C / °F (dual scale)
- Liquid damping to 250 °C max. (at stem)
- Window of laminated safety glass or acrylic plastic
- Stem diameter 6, 8, 10 mm
- Ingress protection IP 66
- Special temperature range or dial printing to customer specifications (on request)
- Alarm contact

Scale range, measuring range ¹⁾, error limit (DIN EN 13 190)

Scale graduation per WIKA standard

Scale range in °C	Scale spacing in °C	Measuring range ¹⁾ in °C	Error limit in °C
-70 ... +30	1	-60 ... +20	1
-50 ... +50	1	-40 ... +40	1
-30 ... +50	1	-20 ... +40	1
-20 ... +60	1	-10 ... +50	1
0 ... 60	1	10 ... 50	1
0 ... 80	1	10 ... 70	1
0 ... 100	1	10 ... 90	1
0 ... 120	2	10 ... 110	2
0 ... 160	2	20 ... 150	2
0 ... 200	2	20 ... 180	2
0 ... 250	5	30 ... 220	2.5
0 ... 300	5	30 ... 270	5
0 ... 400	5	50 ... 350	5
0 ... 500	5	40 ... 450	5
0 ... 600	10	100 ... 500	10

¹⁾ The measuring range is limited by two triangular marks on the dial. Within this range the specified error limit applies per DIN EN 13 190.

Models

Version		Nominal size			Design					
		63	100	160	S	1	2	3	4	5
Model 55	axial, lower back	A5525	A5500	A5501	x	x	x	x	x	x
	radial, bottom	R5526	R5502	R5503	x	x	x	x	x	x
Model 55	adjustable stem/dial	-	S5550	S5551	-	x	x	x	x	x

Design of connection

Design standard

Connection, male: G ½ B, G ¾ B, ½ NPT, ¾ NPT

Stem lengths: $l_1 = 63, 100, 160, 200, 250$ mm

Nominal size	Process connection	Dimensions in mm			
NS	G	i	SW	d_4	$\varnothing d$
63, 100, 160	G ½ B	14	27	26	6, 8, 10
	G ¾ B	16	32	32	6, 8, 10
	½ NPT	19	22	-	6, 8, 10
	¾ NPT	20	30	-	6, 8, 10

Design 1, plain stem (without thread)

Stem lengths: $l = 140, 200, 240, 290$ mm

Nominal size	Dimensions in mm	
NS	d_1	$\varnothing d$
63	14	6, 8, 10
100, 160	18	6, 8, 10

Design 2, male nut

Stem lengths: $l_1 = 80, 140, 180, 230$ mm

Nominal size	Process connection	Dimensions in mm		
NS	G	i	SW	$\varnothing d$
63, 100, 160	G ½ B	20	27	6, 8, 10

Design 3, union nut

Stem lengths: $l_1 = 89, 126, 186, 226, 276$ mm

Nominal size	Process connection	Dimensions in mm		
NS	G_1	i	SW	$\varnothing d$
63, 100, 160	G ½	8.5	27	6, 8, 10
	G ¾	10.5	32	6, 8, 10
	M24 x 1.5	13.5	32	6, 8, 10

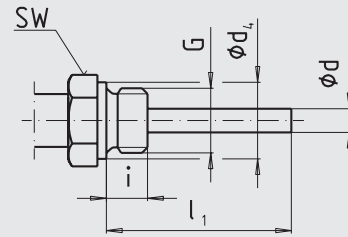
Design 4, compression fitting (sliding on stem)

Minimum insertion depth l_{min} approx. 60 mm

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

Lengths $L = l_1 + 40$ mm

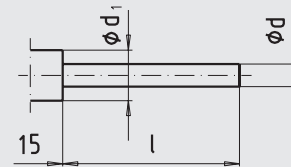
Nominal size	Process connection	Dimensions in mm			
NS	G	i	SW	d_4	$\varnothing d$
63, 100, 160	G ½ B	14	27	26	6, 8, 10
	G ¾ B	16	32	32	6, 8, 10
	M18 x 1.5	12	24	23	6, 8, 10
	½ NPT	19	22	-	6, 8, 10
	¾ NPT	20	30	-	6, 8, 10



Legend:

- G Male thread
- i Thread length
- $\varnothing d_4$ Diameter of the sealing collar
- SW Flats
- $\varnothing d$ Stem diameter

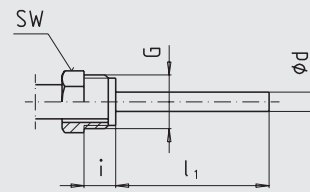
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Legend:

- $\varnothing d_1$ Plain diameter
- $\varnothing d$ Stem diameter

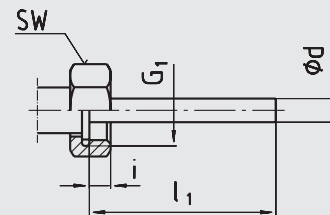
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Legend:

- G Male thread
- i Thread length incl. plain
- SW Flats
- $\varnothing d$ Stem diameter

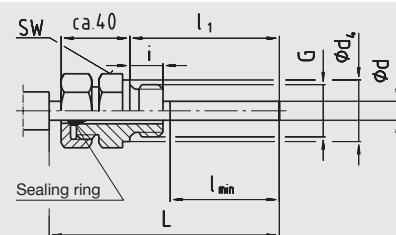
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Legend:

- G_1 Female thread
- i Thread length
- SW Flats
- $\varnothing d$ Stem diameter

3073050X



Legend:

- G Male thread
- i Thread length
- $\varnothing d_4$ Diameter of the sealing collar
- SW Flats
- $\varnothing d$ Stem diameter

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Design 5, union nut with fitting

G 1/2 B, G 3/4 B, M18 x 1.5 as well as 1/2 NPT, 3/4 NPT

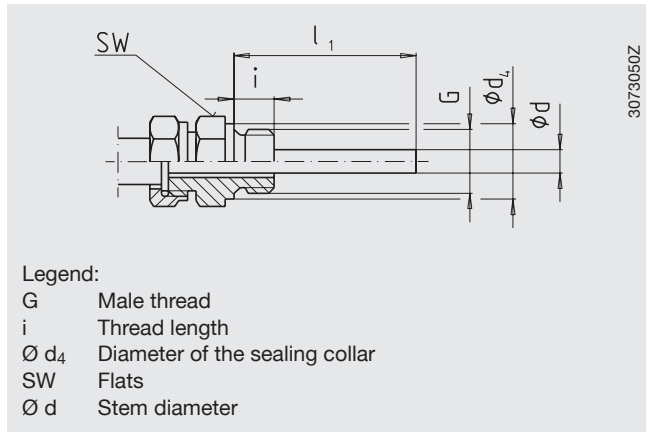
Minimum insertion depth l_{min} approx. 60 mm

Stem lengths l_1 = variable

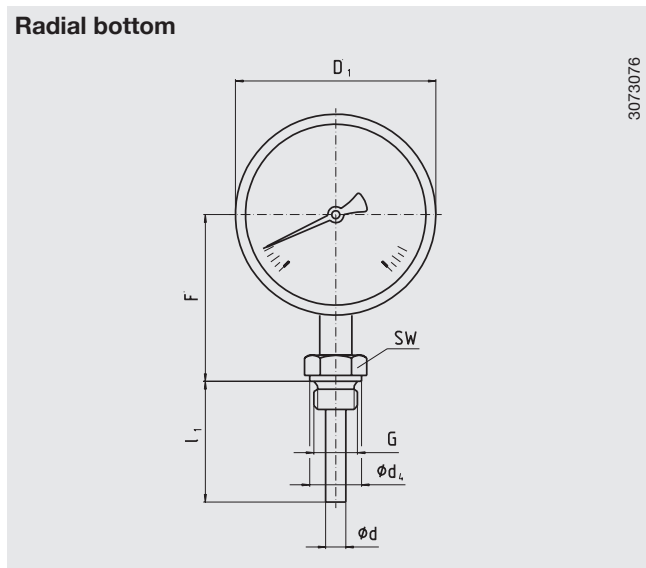
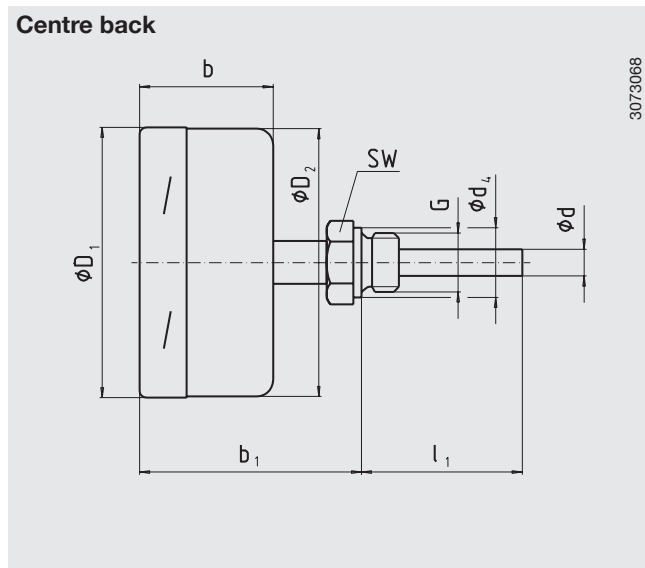
Lengths $L = l_1 + 40$ mm

Stainless steel 1.4571

Nominal size NS	Process connection		Dimensions in mm		
	G	i	SW	d_4	$\varnothing d$
63, 100, 160	G 1/2 B	14	27	26	6, 8, 10
	G 3/4 B	16	32	32	6, 8, 10
	M18 x 1.5	12	24	23	6, 8, 10
	1/2 NPT	19	22	-	6, 8, 10
	3/4 NPT	20	30	-	6, 8, 10



Dimensions in mm



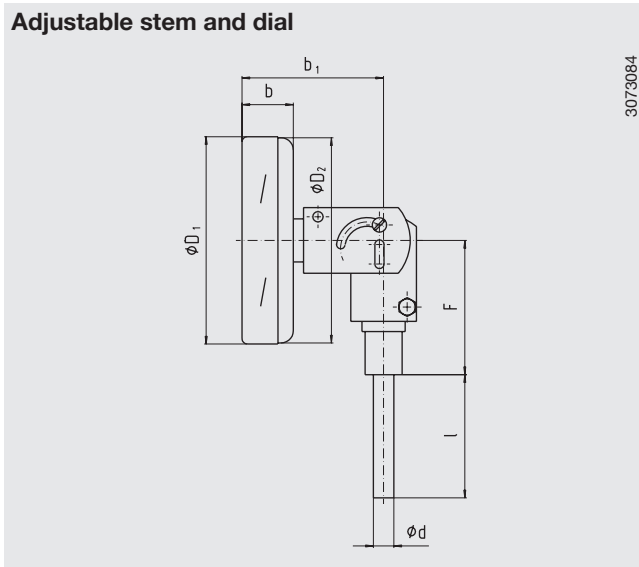
NS	Dimensions in mm						Weight in kg	Model A55xx	Model R55xx	Model S55xx
	$d^{1)}$	d_4	$\varnothing D_1$	$\varnothing D_2$	F	G				
63	8	26	64	62	57	G 1/2 B	0.25	0.25	-	
100	8	26	101	99	83	G 1/2 B	0.8	0.8	0.5	
160	8	26	161	159	113	G 1/2 B	1.1	1.1	0.7	

1) Option: Stem diameter 6, 10, 12 mm

NS	Dimensions in mm		Model 811 or Model 831				Model 831.11 or Model 831.22	
	Alarm contact		1- or 2-way		3-way			
	without		b	b_1	b	b_1	b	b_1
63	b	b_1	-	-	-	-	-	-
100	50	83	88	121	-	-	88	121
160	50	83	100	133	115	148	115	148

Dimensions in mm

Adjustable stem and dial



NS	Dimensions in mm				Weight in kg Model S55xx
	d ¹⁾	Ø D ₁	Ø D ₂	F	
100	8	101	99	68	0.5
160	8	161	159	68	0.7

1) Option: Stem diameter 6, 10, 12 mm

NS	Dimensions in mm Alarm contact							
	without		Model 811 or Model 831				Model 831.11 or Model 831.22	
	b	b ₁	1- or 2-way		3-way		b	b ₁
100	25	68	88	131	-	-	88	131
160	25	68	100	143	115	158	115	158

Ordering information

Model / Nominal size / Scale range / Connection size / Connection location / Options

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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