Bimetal Thermometers
Process Industry Series, Model 53

Applications

- Chemical process, petroleum and food industry
- Facility management
- For corrosive temperature media

Special features

- Universal application
- Case and stem material stainless steel
- Bimetal with zero-point adjustment at the back of the case
- Nominal size 3" and 5"

Fig. left: Bimetal Thermometer Model A5301
Fig. right: Bimetal Thermometer, adjustable Stem and Dial Model S5301

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.

The imperial nominal sizes are commonly used in North American and related markets.

Standard version

Temperature element
Bimetal helix

Nominal size
3", 5"

Design of connection
S Standard (male thread connection)
1 Plain stem
2 Male nut
3 Union nut
4 Compression fitting (sliding on stem)
5 Union nut with fitting

Location of stem
A53XX centre back (axial)
S53XX 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, bezel ring, stem, process connection
Stainless steel

Elbow behind the case
Aluminium, only with radial entry version

Dial
Aluminium white, lettering black

Window
Instrument glass

Pointer
Aluminium, black, adjustable pointer

Zero adjustment
Externally at back of case

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

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)

Scale range and measuring range [1] (DIN EN 13 190)
Scale graduation per WIKA standard

Scale range in °C	Measuring range [1] in °C	Scale spacing in °C	Scale range in °F	Measuring range [1] in °F	Scale spacing in °F
-60 ... +50	-50 ... +40		-80 ... +120	-60 ... +100 °F	2
-50 ... +50	-40 ... +40	1			
-30 ... +50	-20 ... +40	0.5	-20 ... +120	0 ... 100 °F	2
-20 ... +100	-10 ... +90		0 ... 210	20 ... 140 °F	2
-20 ... +120	-10 ... +110		0 ... 250	30 ... 220 °F	2
0 ... 60	10 ... 50	0.5			
0 ... 100	10 ... 90	1			
0 ... 120	10 ... 110	1			
0 ... 160	20 ... 150	2			
0 ... 200	20 ... 180	2	30 ... 400	80 ... 350 °F	5
0 ... 250	30 ... 220	2			
0 ... 300	30 ... 270	5			
0 ... 400	50 ... 350	5			
0 ... 500	40 ... 450	5			

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

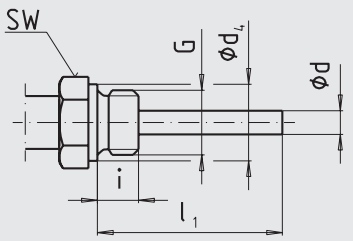
Version	Nominal size		Design					
	3"	5"	S	1	2	3	4	5
Model 53	A5300	A5301	x	x	x	x	x	x
Model 53, adjustable stem/dial	S5300	S5301	-	x	x	x	x	x

Design of connection

Design standard

Connection, male: ¼ NPT, ½ NPT, G ¼ B, G ½ B
Stem lengths: l_1 = 2.5", 4", 6", 9", 12", 15", 18", 24"
l_1 = 63, 100, 150, 225, 305, 380, 455, 610 mm

Nominal size	Process connection		Dimensions in mm		
NS	G	i	SW	d_4	Ø d
3", 5"	¼ NPT	15	17	–	6, 8, 10
	½ NPT	19	22	–	6, 8, 10
	G ¼ B	12	22	18	6, 8, 10
	G ½ B	14	27	26	6, 8, 10



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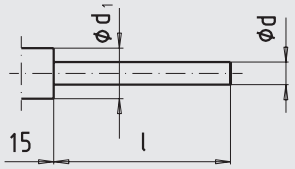
Legend:
G Male thread
i Thread length
Ø d_4 Diameter of the sealing collar
SW Flats
Ø d Stem diameter

Design 1, plain stem

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

Nominal size	Dimensions in mm	
NS	d_1	Ød
3", 5"	18	6, 8, 10



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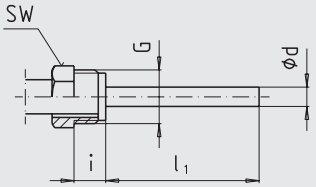
Legend:
Ø d_1 Plain diameter
Ø d Stem diameter

Design 2, male nut

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

Nominal size	Process connection		Dimensions in mm	
NS	G	i	SW	Ød
3", 5"	G ½ B	20	27	6, 8, 10
	M18 x 1.5	12	24	6, 8, 10



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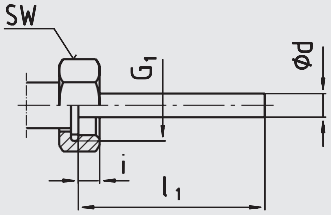
Legend:
G Male thread
i Thread length incl. plain
SW Flats
Ø d Stem diameter

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	Ød
3", 5"	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



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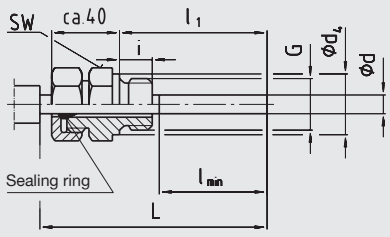
Legend:
G_1 Female thread
i Thread length
SW Flats
Ø d Stem diameter

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		Dimenstions in mm		
NS	G	i	SW	d_4	Ød
3", 5"	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



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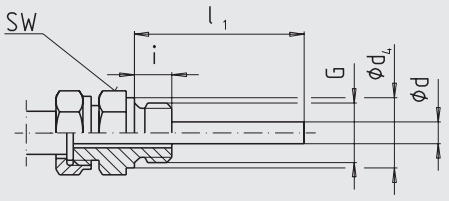
Legend:
G Male thread
i Thread length
Ø d_4 Diameter of the sealing collar
SW Flats
Ø d Stem diameter

Design 5, Union nut G ½ with fitting

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

Nominal size NS	Process connection G	i	Dimensions in mm SW	d_4	Ød
3", 5"	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



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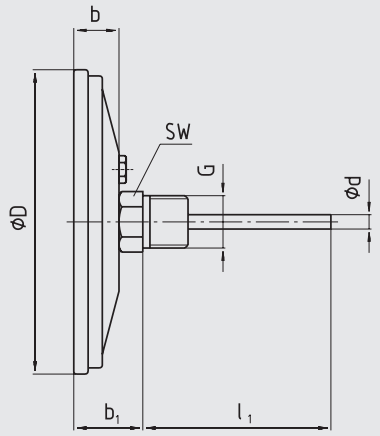
Legend:

G	Male thread
i	Thread length
Ø d_4	Diameter of the sealing collar
SW	Flats
Ø d	Stem diameter

Dimensions and location of stem

Centre back model A53xx (axial)



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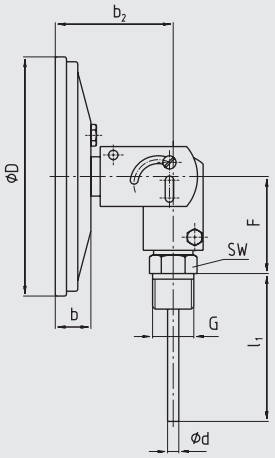
Radial bottom model S53xx (radial)



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NS	Dimensions in mm Ø D	Ø d	b	b_2	F	b_1 G ¼ B	¼ NPT	G ½ B	½ NPT	Weight in kg Model A53xx	Model S53xx
3"	76	6	20	63	55	32	28	35	35	0.30	0.40
5"	127	6	20	63	55	32	28	35	35	0.40	0.50

Ordering information

Model / Nominal size / Scale range / Connetion size / Connection location / Length of stem l, l_1 / Options

WIKA Alexander Wiegand GmbH & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. (+49) 9372/132-0
Fax (+49) 9372/132-406
E-mail info@wika.de
www.wika.de

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