

# Bimetal Thermometers TBI Ø 80 - 100 - 120 - 130 - 160

<b>Application</b>	For chemical industry, oil refineries, food industry and various industrial applications in weather resistant environment
<b>Temperature range</b>	-70 ... 600°C / -100 ... 1100°F
<b>Accuracy</b>	Up to 250°C, EN 13190 class 1 Above 250°C 6 1,6% of the full scale
<b>Dial</b>	White, graduation black DIN 16109, 16128 For graduation marking and layout see T0.305
<b>Pointer</b>	Aluminium alloy black, DIN 16099
<b>Indicator correction device</b>	Adjustable pointer
<b>Window</b>	Normal glass Plastic for auxiliary units with adjusting device
<b>Protection</b>	IP 67 according DIN 40050
<b>Accessories</b>	Thermowells as in section T6.215 for Ø 8 mm T6.210 for Ø 6 mm
<b>Certification</b>	ATEX (pending)



## Application notes

The instruments operate within the specified accuracy only if the distance  $l_E$  is adhered to (50 or 55).

The case must not be heated above 110°C by the heat given off. When there is no insulation between the assembly point and case, the distance  $l_H$  between the case and screw connection or protective pipe must be increased.

**BOURDON  
HAENNI**  
made to measure



## Selection chart

System design Standard

TBI xxx / xxx.xxx

Nominal size	
NS 80	80
NS 100	100
NS 120 <sup>3)</sup>	120
NS 130 <sup>4)</sup>	130
NS 160	160

Case	
Stainless steel 1.4301 (ANSI 304), brush finished	2

Structural shape	
Direct mounting, without flange	1
With sliding connection G $\frac{1}{2}$ "	5
With sliding connection $\frac{1}{2}$ " NPT	6
With sliding connection G $\frac{3}{4}$ "	7
With sliding connection G1"	8
With sliding connection G $\frac{1}{2}$ " female	9
With sliding connection G $\frac{3}{4}$ " female	A
With sliding connection G1" female	B

Immersion tube outlet	
Bottom	1
Center back	2
Center back, every angle	4

Indicator	
Standard	1

Immersion tube / diameter / material	
6 mm, stainless steel 1.4571 (ANSI 316 ti)	4
8 mm, stainless steel 1.4571 (ANSI 316 ti)	6

Immersion tube / installed length l	
60 mm <sup>5)</sup>	1
100 mm	2
160 mm	4
250 mm	6
400 mm	7
600 mm	8
1000 mm	9
Customer specific length	0

Options	
Safety glass	/ 0751
Acrylic glass	/ 0752
Dampening grease	/ 0581
Red mark	/ 9700
Adjustable knob (for version center back and every angle only)	/ 0727
Customer specific length	/ 9003 / nnnn; nnnn = length in mm
Stainless steel housing 1.4435 (316L) <b>only available in NS 100 and 130</b>	/ 0110
Silicon free, label marking	/ 0973
Silicon free, marking on dial	/ 0974

### Range

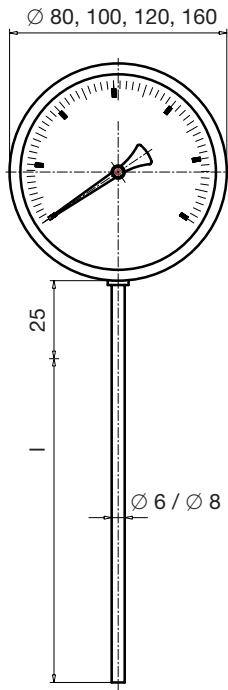
Order No.	Range °C	Order No.	Range <sup>1)</sup> °C	°F
53 T <sup>2)</sup>	-10 ... 30	51V	-30 ... 70	- 40 ... 160
52 T	-20 ... 40	68V	-70 ... 50	-100 ... 100
54 T	-20 ... 60	55V	-30 ... 170	0 ... 350
84 T	-20 ... 100	11V	0 ... 60	30 ... 140
55 T	-30 ... 170	20V	0 ... 120	30 ... 250
51 T	-30 ... 70	13V	0 ... 160	30 ... 320
68 T	-70 ... 50	14V	0 ... 250	30 ... 500
10 T <sup>2)</sup>	0 ... 40	15V	0 ... 400	30 ... 750
11 T	0 ... 60	16V	0 ... 600	100 ... 1100
27 T	0 ... 80	68U		-100 ... 120
12 T	0 ... 100	09U		- 50 ... 120
20 T	0 ... 120	08U		- 40 ... 160
13 T	0 ... 160	54U		0 ... 140
22 T	0 ... 200	02U		0 ... 200
14 T	0 ... 250	03U		0 ... 250
23 T	0 ... 300	04U		0 ... 300
15 T	0 ... 400	05U		0 ... 400
25 T	0 ... 500	06U		0 ... 500
16 T	0 ... 600	11U		30 ... 140
30 T	100 ... 500	20U		30 ... 250
		13U		30 ... 320
		22U		30 ... 400
		23U		30 ... 580
		15U		30 ... 750
		28U		100 ... 800
		29U		200 ... 1000

Over temperature limits: up to 400°C, 35%

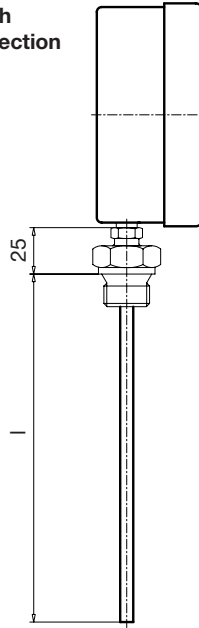
#### Notes

- 1) °C range outside / °F range inside
- 2) Only  $\varnothing$  80 et 100 mm, maximum length 160 mm, center back version. Other version not available.
- 3) Only center back, NS 120
- 4) Only for center back, every angle and bottom version.
- 5) Only for temperature 120°C and below.

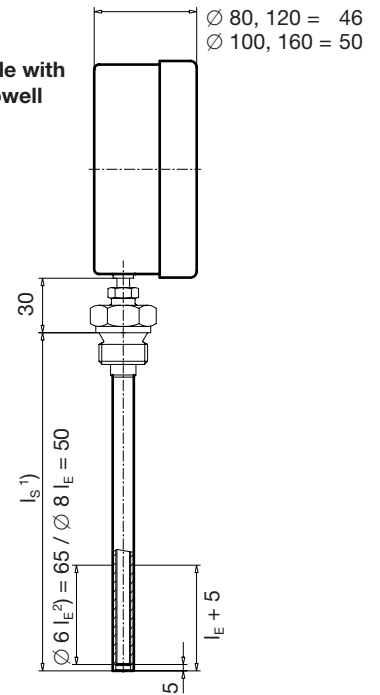
## Dimensions, bottom (in mm)



Example with sliding connection



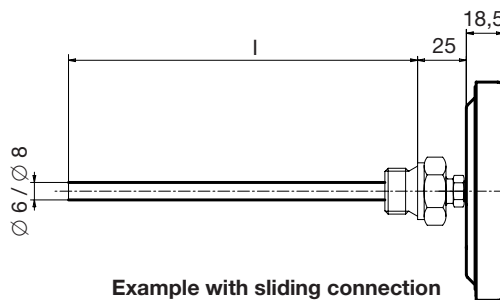
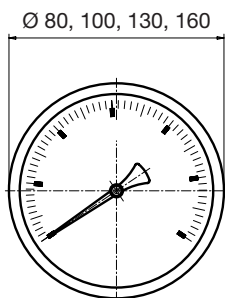
Example with thermowell



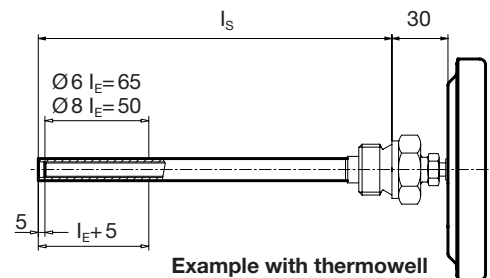
## Weight Chart, bottom

NS	Weight without immersion tube in kg	Weight per 100 mm of immersion tube in kg	
		Ø 6 mm	Ø 8 mm
80	0,25	0,007	0,017
100	0,30	0,007	0,017
120	0,40	0,007	0,017
160	0,70	0,007	0,017

## Dimensions, center back



Example with sliding connection



Example with thermowell

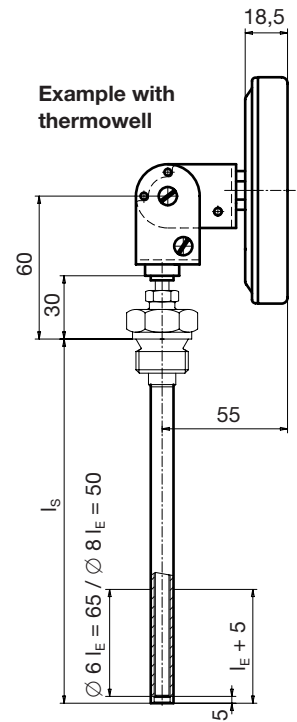
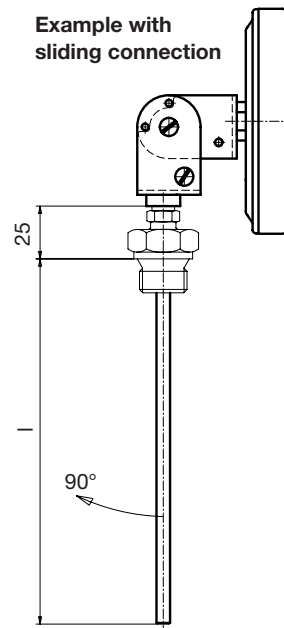
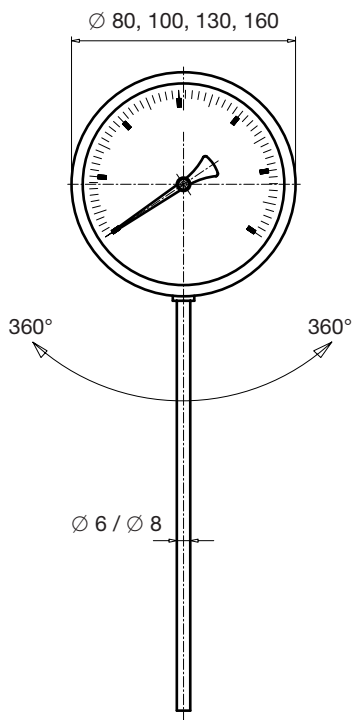
## Weight Chart, center back

NS	Weight without immersion tube in kg	Weight per 100 mm of immersion tube in kg	
		Ø 6 mm	Ø 8 mm
80	0,25	0,007	0,017
100	0,30	0,007	0,017
120	0,40	0,007	0,017
160	0,70	0,007	0,017

1)  $I_s$  = Thermowell length, refer to data sheet T6.210 and T6.215

2)  $I_E$  = minimum immersion length

## Dimensions, center back, every angle



## Weight Chart, center back, every angle

NS	Weight without immersion tube in kg	Weight per 100 mm of immersion tube in kg	
		Ø 6 mm	Ø 8 mm
80	0,30	0,007	0,017
100	0,35	0,007	0,017
130	0,47	0,007	0,017
160	0,61	0,007	0,017