

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

Application	For chemical industry, oil refineries, food industry and various industrial applications
Temperature range	-70 ... 600°C / -100 ... 1100°F
Accuracy	According to EN 13190, up to 250°C, class 1 above 250°C, class 2
Dial	White, graduations black, according to EN 13190
Pointer	Aluminium alloy black, according to EN 13190
Indicator correction device	Adjustable pointer
Window	Normal glass Plastic for auxiliary units with adjusting device
Protection	IP 67 according to DIN EN 60529
Accessories	Thermowells as in section T6.215 for Ø 8 mm T6.210 for Ø 6 mm
Certification	ATEX: Application in explosive environments, in zone 1 and 2, according to the directive 94/9/EC.

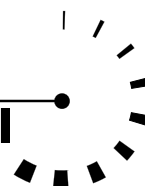


Application notes

The instruments operate within the specified accuracy only if the distance (l_d) 50 resp. 55 for Ø 8 mm and 65 resp. 70 for Ø 6 mm is adhered.

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 ³⁾	120
NS 130 ⁴⁾	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 ⁵⁾	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 ⁶⁾	/ 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) only available in NS 100 and 130	/ 0110
Silicon free, label marking	/ 0973
Silicon free, marking on dial	/ 0974

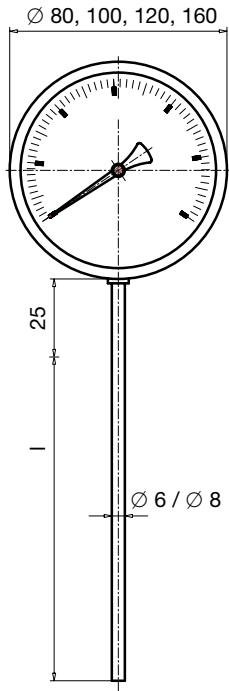
Range				
Order No.	Range °C	Order No.	Range ¹⁾ °C	°F
53 T ²⁾	-10 ... 30	51V	-30 ... 70	- 40 ... 160
52 T	-20 ... 40	68V	-70 ... 50	-100 ... 100
54 T	-20 ... 60	55V	-30 ... 170	0 ... 350
84 T	-20 ... 100	11V	0 ... 60	30 ... 140
55 T	-30 ... 170	20V	0 ... 120	30 ... 250
51 T	-30 ... 70	13V	0 ... 160	30 ... 320
68 T	-70 ... 50	14V	0 ... 250	30 ... 500
10 T ²⁾	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%

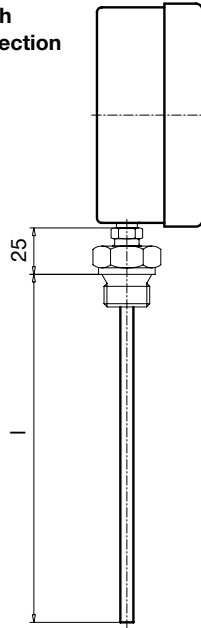
Notes

- 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.
- 6) Acrylic glass: is not suitable for the applications in explosive environments.

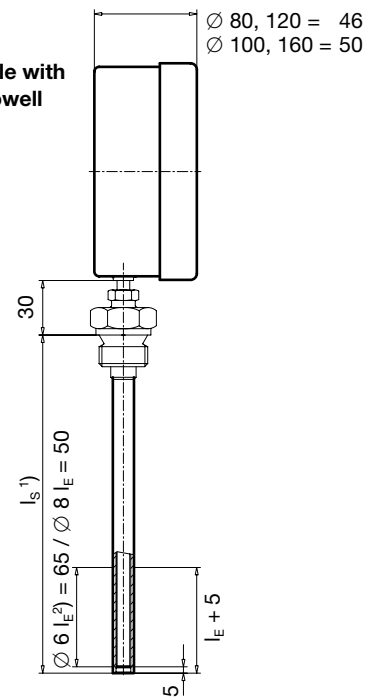
Dimensions, bottom (in mm)



Example with sliding connection



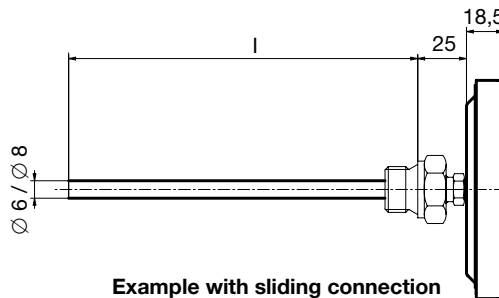
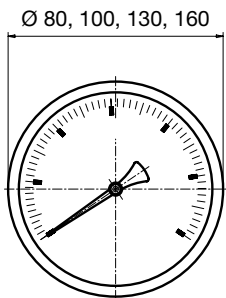
Example with thermowell



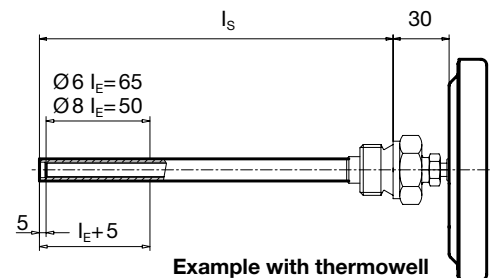
Weight Chart, bottom

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



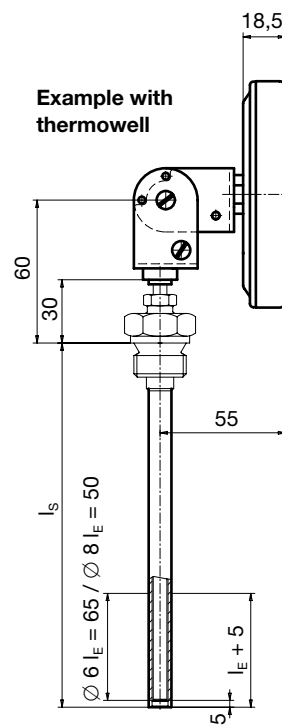
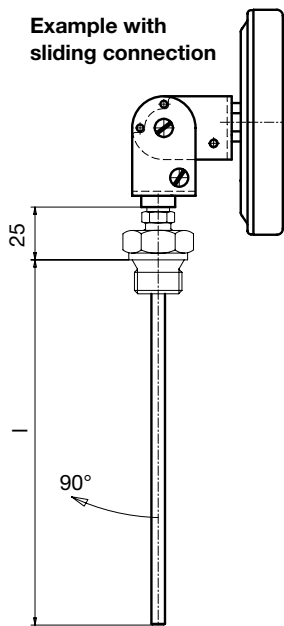
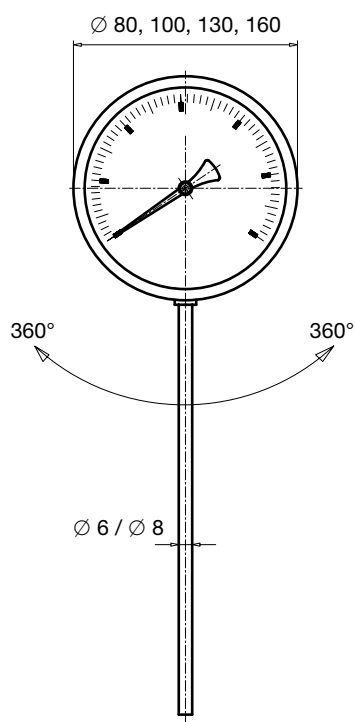
Example with thermowell

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	0,11	0,007	0,017
100	0,16	0,007	0,017
130	0,30	0,007	0,017
160	0,45	0,007	0,017

1) l_s = Thermowell length, refer to data sheet T6.210 and T6.215
 2) l_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

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