



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

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



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 G½"		5
With sliding connection ½" NPT		6
With sliding connection G¾"		7
With sliding connection G1"		8
With sliding connection G½" female		9
With sliding connection G¾" 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 tj)		4
8 mm, stainless steel 1.4571 (ANSI 316 tj)		6
Immersion tube / installed length I		
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		/ 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

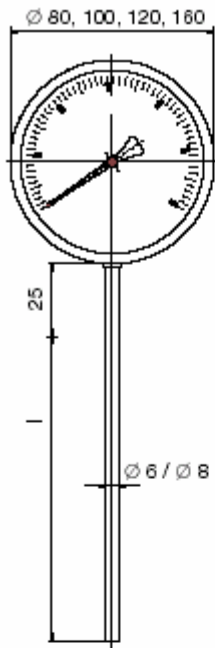
Order No.	Range °C	Order No.	Range ¹⁾ °C	°F
53 T ²⁾	-10 ... 30	51V	-30 ... 70	- 40 ... 160
52 T	-20 ... 40	68V	-70 ... 50	-100 ... 100
54 T	-20 ... 60	55V	-30 ... 170	0 ... 350
84 T	-20 ... 100	11V	0 ... 60	30 ... 140
55 T	-30 ... 170	20V	0 ... 120	30 ... 250
51 T	-30 ... 70	13V	0 ... 160	30 ... 320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

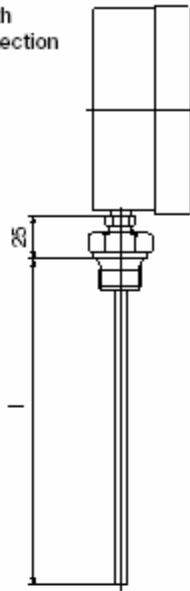
Notes

- 1) °C range outside / °F range inside
- 2) Only ∅ 60 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.

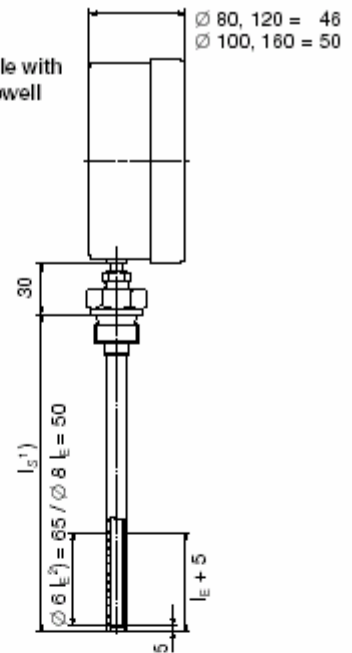
Dimensions, bottom (in mm)



Example with sliding connection



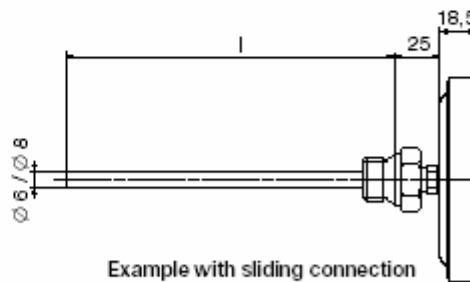
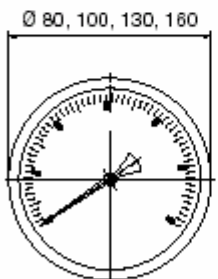
Example with thermowell



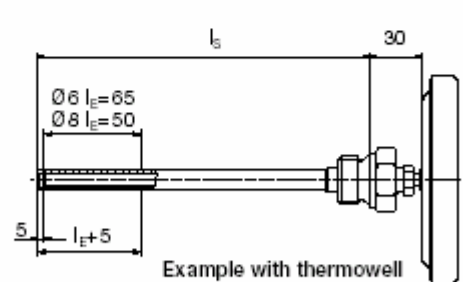
Weight Chart, bottom

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



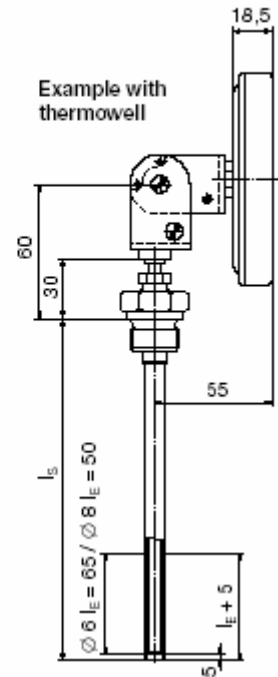
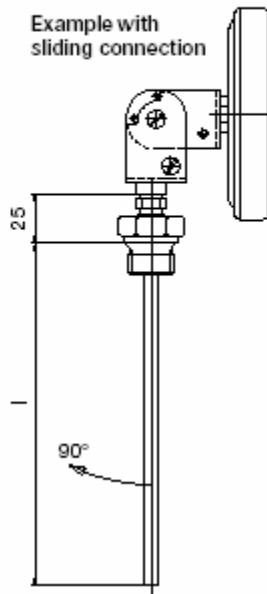
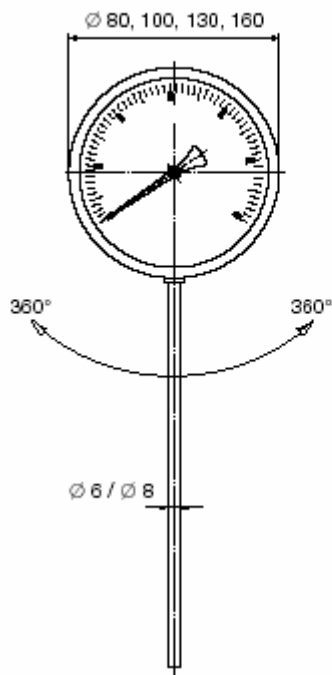
Example with thermowell

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) l_T = 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	
		$\varnothing 6$ mm	$\varnothing 8$ 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