

# Industrial thermometer

## Bimetal



### Features:

- Stainless steel case and stem
- Stem length available from 50mm
- Bottom / back / every angle entry
- Silicon oil filled (optional)
- With or without thermowell
- External zero adjustment (optional)

### Applications:

- Chemical
- Refinery
- Fertilizer
- Petrochemicals
- Pharmaceuticals
- Power
- Cement
- Sugar
- Food
- Beverages
- Pulp
- Paper

### Standard:

- EN 13190

### Standard Parameters

- Accuracy : Class 1 as per EN 13190
- Ambient temperature : -25 to +65°C
- Operating pressure : 15 Kg/cm<sup>2</sup> (without thermowell)
- Over range limit : 110 % of full scale
- Over Pressure Limit : 8 mm
- Process connection : 1/2" BSP [M]

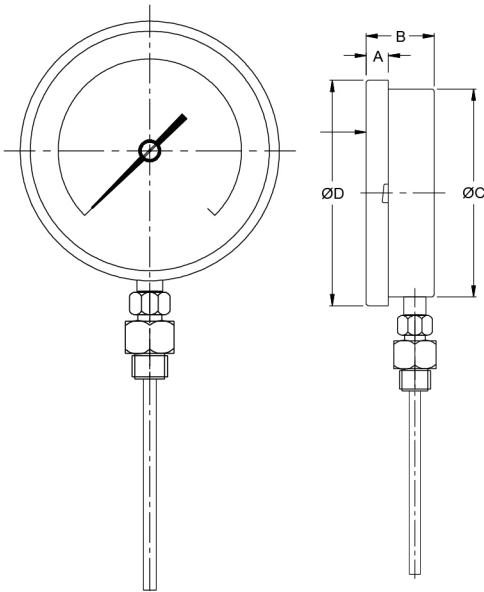
### Materials of Construction

- Case & bezel & clamp : AISI 304 SS
- Stem & connection : AISI 316 SS
- Joints : Tig Argon Arc Welding
- Protection : IP 65
- Sensing element : Bi-metal strip coiled
- Dial : Aluminium, black graduation on white background
- Pointer : Aluminium, black coloured, slotted adjustable
- Window : Fixed for NS 50mm & 63mm
- Gasket : Sheet glass
- Gasket : Neoprene

### Silicon Oil Filled Version

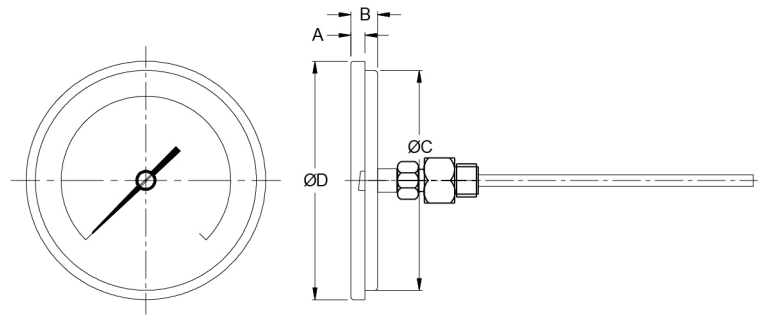
- Accuracy : Class 1 as per EN 13190
- Ambient Temperature : Maximum 65°C
- Window : Plexi Glass
- Dampening Liquids : Glycerine 99.7%
- Gasket & filling plug : Viton

Nominal Range	-20 to +40	-20 to +60	-20 to +120	-30 to +30	-30 to +50	-30 to +70	-40 to +40	-40 to +60	-65 to +60	0 to 60	0 to 80	0 to 100	0 to 120	0 to 160	0 to 200	0 to 250	0 to 300	0 to 400	0 to 500	0 to 600
Measuring Range	-10 to +30	-10 to +50	-10 to +110	-20 to +20	-20 to +40	-20 to +60	-30 to +30	-30 to +50	-80 to +40	10 to 50	10 to 70	10 to 90	10 to 110	20 to 140	20 to 180	30 to 220	30 to 270	50 to 350	50 to 450	100 to 500
Limits of Error °C	1	1	2	1	1	1	1	1	2	1	1	1	2	2	2	2.5	5	5	5	10

**Dimensional drawing**
**TYPE 1**


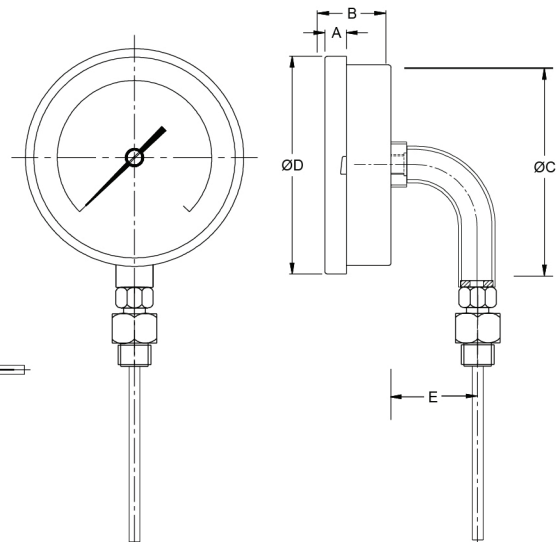
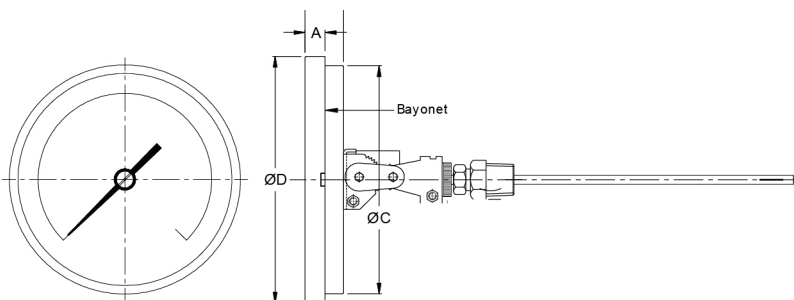
NS	A	B	ØC	ØD	W
63	12.5	46	66.5	77.5	200
80	11	46	80	89.5	250
100	12.5	47	100	111	500
125	15	48	119	131	750
150	15	49	149	161	1000

W = Weight in grams with box for 300mm stem length

**TYPE 4**


NS	A	B	ØC	ØD	W
50	6.5	12	51.5	57.5	115
63	9.5	16	60	69.5	150
80	11	16	80	89.5	250
100	9.5	18	100	111	350
125	10	20	119	131.5	500
150	15	25.5	149	161	750

W = Weight in grams with box for 300mm stem length

**TYPE 11**

**TYPE 9**


NS	A	B	ØC	ØD	W
80	11	17	80	89.5	500
100	12.5	19	100	111	750
125	15	23	119	129	900
150	15	23	149	161	1000

W = Weight in grams with box for 300mm stem length

NS	A	B	ØC	ØD	E	W
63	12.5	16	66.5	77.5	35	150
80	11	17	80	89.5	35	200
100	12.5	19	100	111	35	250
125	15	21	118.5	129	35	350
150	15	21	149	161	35	500

W = Weight in grams with box for 300mm stem length

Note: ● Drawings are not to scale ● All dimensions are in mm

### Range table

The following table indicates the minimum and maximum stem lengths in mm, per stem diameter per range, the lower values indicated are the minimum immersion length (below thread) for all type of threads. During stem length selection, please select between the limits mentioned below.

(Range) °C	Ø 6 mm/ 3.4 mm	Ø 8, 9.5 & 10 mm	Ø 12 mm
-20/40	115/500	95//600	95/600
-20/60	95/500	75/600	75/600
-20/120	65/500	55/600	55/600
-30/30	115/500	95/600	95/600
-30/50	95/500	75/600	75/600
-30/70	85/500	55/600	75/600
-40/40	95/500	75/600	75/600
-40/60	85/500	75/600	75/600
-80/80	65/500	55/600	55/600
0/60	115/500	95/600	95/600
0/80	95/500	75/600	75/600
0/100	65/500	50/600	75/600
0/120	50/500	40/600	55/600
0/160	45/500	35/600	55/600
0/200	40/500	30/600	45/600
0/250	45/500	45/600	45/600
0/300	65/500	55/600	55/600
0/400	55/500	45/600	45/600
0/500	55/500	45/600	45/600

**Note:** We offer national/ International scales like °C, °F and dual scale in °C & °F and scales as per the requirement can be provided on request. Following are the example tables for range in °C.

#### Standard Ranges

Positive Range single scale in °C									
0/60	0/80	0/100	0/120	0/160	0/200	0/250	0/300	0/400	0/500
Compound range single scale in °C									
-20/40	-20/60	-20/120	-30/30	-30/50	-30/70	-40/40	-40/60	-80/80	

**Note:** other scales are available on request

#### Accessories

Thermowell
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## Ordering codes

1. Dial Size		E	4. Process Connection Type #		AD
<b>Code</b>	<b>Nominal size</b>			<b>AD</b>	
B	50 mm		<b>FI</b>	Fixed	
C	63 mm		<b>RV</b>	Revolving / Swivel	
D	80 mm		# Welded with stem / case & not suitable for taper threaded connections)		
E	100 mm		5. Stem Diameter		8mm
F	125 mm		<b>6mm</b>	6 mm	
G	150 mm		<b>6.35mm</b>	6.35 mm	
2. Mounting		1	<b>8mm</b>	8 mm	
1	Direct bottom*		<b>9.5mm</b>	9.5 mm	
4	Direct center back entry		<b>10mm</b>	10 mm	
9	Every angle back entry♦		<b>12mm</b>	12 mm	
11	Bottom entry through elbow*		6. Stem Length		100mm
* Not applicable for NS 50 mm			Below thread Max 600mm. Please specify in mm		
♦ Not applicable for NS 50 mm & 63 mm			Refer scale for min & max stem lengths		
3. Gauge Connection		10B	7. Range		0/100°C
<b>03B</b>	1/8" BSP[M]* (Max stem dia 6.35 mm)		Refer range table		
<b>03N</b>	1/8" NPT[M]* (Max stem dia 6.35 mm)		8. Options		5C
<b>06B</b>	1/4" BSP[M]* (Max stem dia 6.35 mm)	<b>S6</b>	AISI 316 SS case & bezel (For NS 100 mm & above)		
<b>06N</b>	1/4" NPT[M]* (Max stem dia 6.35 mm)	<b>5C</b>	Five-point calibration certificate		
<b>10B</b>	3/8" BSP[M]♦ (Max stem dia 10 mm)	<b>LS</b>	Dampening liquid silicon oil (up to 200°C)		
<b>15B</b>	1/2" BSP[M]♦ (Max stem dia 12 mm)	<b>CD</b>	Custom dial design		
<b>15N</b>	1/2" NPT[M]♦ (Max stem dia 12 mm)	<b>EA</b>	External zero adjustment		
<b>M20</b>	M20 X 1.5[M]♦ (Max stem dia 12 mm)	<b>SG</b>	Shatterproof / safety glass		
<b>TC</b>	1 1/2" Triclover♦ (Max stem dia 12 mm)	<b>TG</b>	Toughened glass		
* Applicable only for NS 50mm & 63mm		<b>DT</b>	Dial tag marking		
♦Not applicable for NS 50mm		<b>MT</b>	Material test certificate**		
		<b>ST</b>	SS tag plate		

**Ordering Example: TB-E-1-10B-AD-8mm-100mm-0/100°C-5C**

\*\*Material test certificate will be provided for wetted parts only. For others, pls contact factory.

Note: Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.