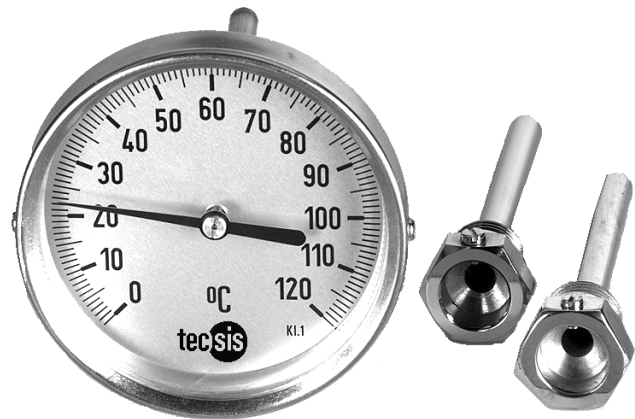


## Bimetal thermometer Heavy Duty

Accuracy class 1



### Description

These types of thermometers have been developed for industrial applications. Case, ring and stem are made of stainless steel.

The measuring element of the bimetal thermometer is a quick reacting bimetal coil. It is manufactured from two cold-welded metal strips with different thermal expansion coefficients and rotates in proportion to temperature. The rotary movement is conveyed to the pointer with low friction.

A comprehensive range of standard versions enables a wide range of applications and uses. Special versions are also manufactured to customer specifications.

### Features

- Short response time
- Various versions available ex stock
- Wide selection of standard versions
- Special versions to customer specifications

### Ranges

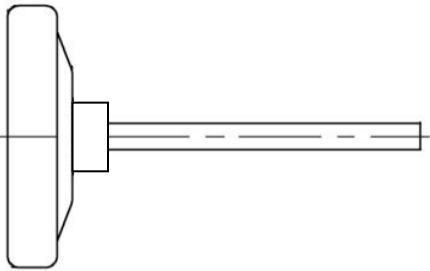
-30 ... 50 °C to 0 ... 500°C

### Applications

Machine construction,  
Container and pipe construction,  
building services and  
a wide range of applications in industry

**Models: TM206, TM207, TM208, TM209**

## Technical Data

Models	TM206	TM207	TM208	TM209
				
Nominal size (mm)	63	80	100	160
Accuracy	Class 1 (acc. to EN13190)			
Display range	Display range [°C]	measuring range [°C]	Max. error [°C]	
Measuring ranges	-30 ... 50	-20 ... 40	± 1	
Max. error	-20 ... 60	-10 ... 50	± 1	
	0 ... 60	10 ... 50	± 1	
	0 ... 120	10 ... 110	± 2	
	0 ... 160	20 ... 140	± 2	
	0 ... 200	20 ... 180	± 2	
	0 ... 250	30 ... 220	± 2,5	
	0 ... 300	30 ... 270	± 5	
	0 ... 400	50 ... 350	± 5	
	0 ... 500	50 ... 450	± 5	
Range of use	Constant load: Measuring range Short-time (≤ 1h): Display range			
Process connection (stem)	Back mount			
Design of connection	Plain stem Standard, male thread Male nut Union nut Compression fitting, sliding on stem			
material of case / ring / stem	Stainless steel			
Window	Flat instrument glas			
dial	Aluminium matfinished, with fine graduation, scale and marking black			
Measuring element	Bimetal coil			
Pointer	Aluminium black, adjustable pointer			
Protection class	IP43 acc. to EN 60529			
Max. pressure at stem	Max. 25 bar statical			
Weight (kg)	0,16	0,20	0,25	0,45

## Options

- Scale in °F
- Second dial skale C/°F
- customised Logo
- drag pointer
- set pointer on window or dial

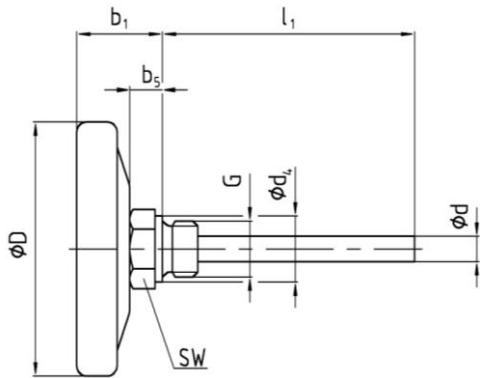
## Design of process connection

	Male thread	Plain	Male nut	Union nut	Compression fitting, sliding on stem											
Stem-length $l_1$	63 mm 100 mm 160 mm 200 mm 250 mm	45 mm 63 mm 100 mm 160 mm 200 mm 240 mm	80 mm 140 mm 180 mm 230 mm	89 mm 126 mm 186 mm 226 mm 276 mm	variable Minimum-immersion length $l_{\min} = 60 \text{ mm}$  Length $l \geq l_1 + 40 \text{ mm}$											
Dimensions																
stem-diameter $\varnothing d$	standard 8 mm option: 6mm															
Thread and dimensions in mm		SW	d4	i	d1		SW	i		SW	i		SW	d4	i	
	G 1/4	17	16	8	18		G 1/2	27	20	G 1/2	27	8,5	G 1/4	17	16	8
	G 1/2	27	26	14			M18x1,5	24	12	G 3/4	32	10,5	G 1/2	27	26	14
	M18x1,5	24	23	12									M18x1,5	24	23	12
	1/2 NPT	22	-	19									1/2 NPT	22	-	19
													3/4 NPT	30	-	20

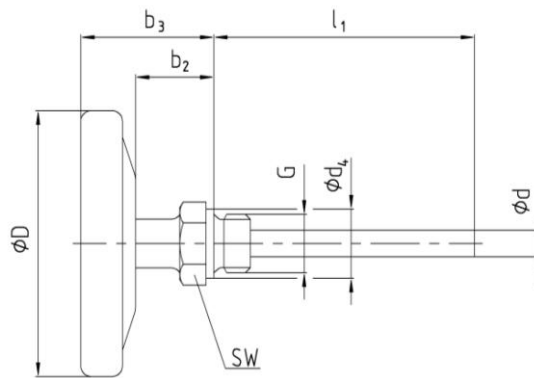
## Thermowell with retaining screw for thermometer with plain connection

Models		TW988	TW998	TW999
material		Copper alloy	1.4571	1.4571
connection		Thermowell with thread G1/2		Welding-in thermowell
Suitable thermowells for thermometer with plain connection and 8mm stem diameter	thermometer insertion length $l_1$	Articlenumber thermowell		
	45 mm	TW988X404001	TW998X404001	Not available
	63 mm	TW988X404002	TW998X404002	TW999X404002
	100 mm	TW988X404003	TW998X404003	TW999X404003
	160 mm	TW988X404004	TW998X404004	TW999X404004
	200 mm	TW988X404005	TW998X404005	TW999X404005

## Dimensions (mm)



Design for temperatures up to 250°C



Design for temperatures above 300°C  
(with spacer  $b_2 = 30\text{mm}$ )

Nominal size ( $=\phi D$ [mm])	$b_1$ ( $\leq 250^\circ\text{C}$ )	$b_3$ ( $\geq 300^\circ\text{C}$ )
63	29 mm	46 mm
80	30 mm	47 mm
100	35 mm	52 mm
160	39 mm	57 mm

Other dimensions see design of process connection (Page 3)

Subject to technical modifications