

# BIMETAL-POINTER-THERMOMETER

Chemical version acc. EN 13190

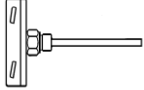
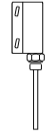
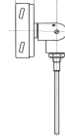
bayonet case

IP 65

With or without filling



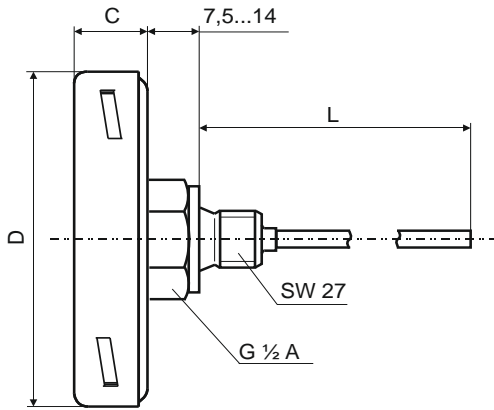
Suitable for chemical and petrochemical industry, food, pulp and paper industry and for machine and apparatus construction.

Model	B11	B12	B13	Options
Diameter	63, 100, 160			
Symbol				
Connection	back	bottom	rotatable	
Accuracy class	cl. 1 (without filling) / gl. 2 (filled)			
Measuring range °C	0-60, 0-80, 0-100, 0-120, 0-160, 0-200, 0-250, 0-300, 0-400, 0-500, 0-600, -50 / +50, -40 / +40, -40 / +60, -30 / +50, -30 / +70, -20 / +40, -20 / +60, -20 / +80, +50 / +300			Other on request, dual scale
Applications	Permanent exposure: measurement range short-term up to 1h: 1.1 x measuring range			
Case / ring	bayonet case, stainless steel, 1.4301 (304)			1.4571 on request
Dial	White aluminum with black lettering			
Window	Instrument class			Acrylic glass, safety glass
Measuring element	Bimetal coil			
Sensor	stainless steel 1.4571			
Working pressure	25 bar			
Sensor types	B1, B3, B4, B4.1, B5, B6			
Sensor length	63 up to 400 mm, The minimum probe length is a function of active length (La) and sensor type			
Neck tube	useful up to 300°C			
Process connection	see page 3			Other on request
Filling	depending on the version glycerine or silicone oil			
Protection	IP 65 acc. EN 60 529/IEC 529			
Additional equipment				Mark pointer

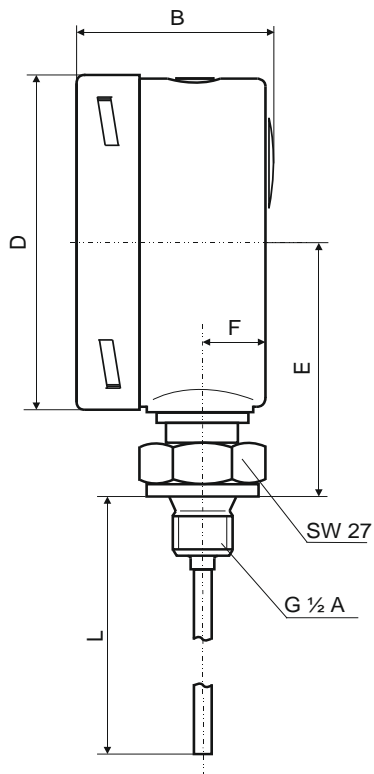
**Dimension drawings**

**Dimensions in mm**

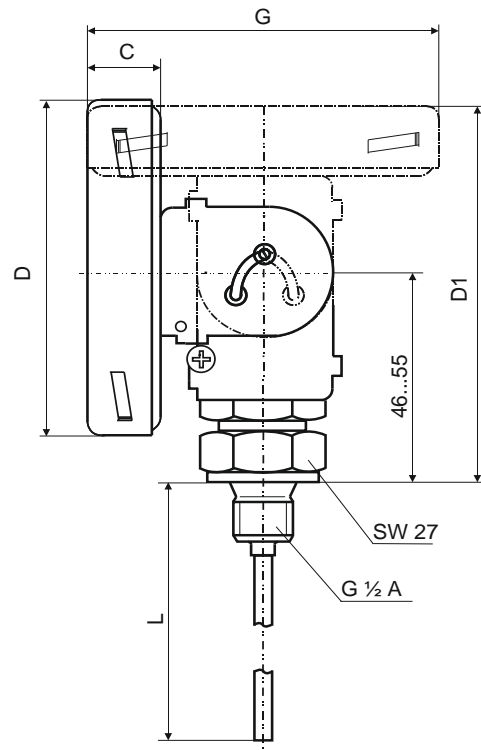
NG	D	B	C	D1	E	F	G
100	101	54	21	94...103	65...73	18,5	53
160	162	53	28	101...110	95...101	17	60



**Model B11**

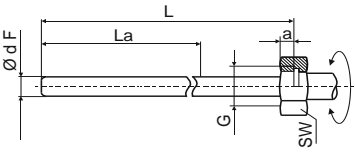
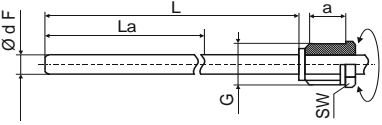
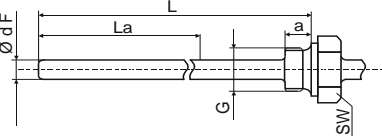
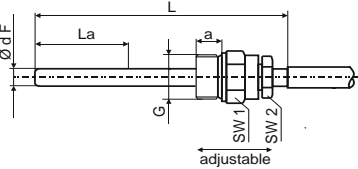
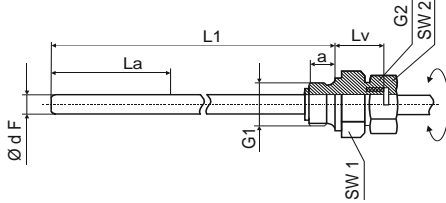


**Model B12**



**Model B13**

## Sensor types

Type	Designation	Type acc. DIN 13 190	Dimensions							
<b>B3</b>	Turnable union nut	Form 5		<b>G</b>	<b>SW</b>	<b>a</b>	suitable protection tubes			
				G½	27	10		Form 4.1 Form 4.1F Form 8 Form 9		
				G¾	32	12				
				M20x1,5	27	10				
				M24x1,5	32	12				
M27x2	32	12								
<b>B4</b>	Male thread, turnable	Form 4		<b>G</b>	<b>SW</b>	<b>a</b>	Form 4 Form 4F Form 5 Form 6 and 7			
				G½B	22	20				
				G¾B	27	23				
				M18x1,5	22	14				
				M20x1,5	22	20				
<b>B4.1</b>	Male thread, rigid	Form 6 Form 7		<b>G</b>	<b>SW</b>	<b>a</b>	Form 4 Form 4F Form 5 Form 6 und 7			
				G½B	27	14				
				G¾B	32	16				
				½"NPT	27	19				
				¾"NPT	27	19				
				M18x1,5	24	14				
				M20x1,5	27	14				
<b>B5</b>	Male thread compression fitting	Form 2 Form 3		<b>G</b>	<b>SW1</b>	<b>SW2</b>	<b>a</b>	<b>Lk</b>	Form 4 Form 4F Form 5 Form 6 and 7	
				G½B	27	22	14	42		
				G¾B	32	22	16	42		
				½"NPT	27	22	19	42		
				¾"NPT	27	22	19	42		
				M20x1,5	27	22	14	42		
<b>B6</b>	Male thread turnable double male adapter			<b>G1</b>	<b>G2</b>	<b>SW1</b>	<b>SW2</b>	<b>a</b>	<b>Lv</b>	Form 4 Form 4F Form 5 Form 6 and 7
				G½B	G½B	27	27	14	28	
				G¾B	G½B	32	27	16	28	
				½"NPT	G½B	27	27	19	28	
				¾"NPT	G½B	27	27	19	28	
				M20x1,5	M20x1,5	27	27	14	28	
				M24x1,5	M20x1,5	32	27	14	28	
M27x2	M20x1,5	32	27	16	28					

La - Active stem length  
L / L1 Ordering length  
Ø d F - 6 or 8 mm

Details  
see datasheet  
protection tube

## Minimum stem length, Active lengths and maximum realisable stem length

			Stem Ø F				
			6 mm		8 mm		
			Span (temperature difference) Δ				
Model	Lengths	Thread	≥100 K	=80K	=60K	≥80 K	=60K
all models	La	all standard threads	40	60	70	40	60
B1 B4	L1min	all standard threads	45	65	75	45	65
B3	L1min	all standard threads	52	72	82	52	72
B4.1	L1min	all standard threads	60	80	90	60	80
B5	L1min	all standard threads	95	115	125	95	115
B6	Lmin	all standard threads	60	80	90	60	80
Other on request							

The temperature difference  $\Delta T = 60K$  correspond to e.g. the temperature range 0/60°C but also -20/40°C.

The minimum length  $L_{min}$ /  $L1min$  of the stem is the smallest possible stem length depending on the active length  $L_a$  (sensitive portion) and the stem model.

The active length  $L_a$  of the stem has to immerse completely into the medium, to grant a measuring result, which correspond to the accuracy class.

## Indication ranges/Measuring ranges, Limits of error

Nominal ranges °C	Measuring ranges °C	Scale subdivision °C	Max. error +/- °C
0 - 60	10 - 50	1	1
0 - 80	10 - 70	1	1
0 - 100	10 - 90	1	1
0 - 120	10 - 110	2	2
0 - 160	20 - 140	2	2
0 - 200	20 - 180	2	2
0 - 250	30 - 220	5	2,5
0 - 300	30 - 270	5	5
0 - 400	50 - 350	10	5
0 - 500	50 - 450	10	5
0 - 600	100 - 500	10	10
- 50 - 50	- 40 - 40	1	1
- 40 - 40	- 30 - 30	1	1
- 40 - 60	- 30 - 50	1	1
- 30 - 50	- 20 - 40	1	1
-30 - 70	- 20 - 60	1	1
- 20 - 40	- 10 - 30	1	1
- 20 - 60	- 10 - 50	1	1
- 20 - 80	- 10 - 70	1	1
50 - 300	80 - 270	5	2,5
50 - 400	100 - 350	5	5
100 - 400	150 - 450	10	5