



Precision Bi-Metal Dial Thermometers

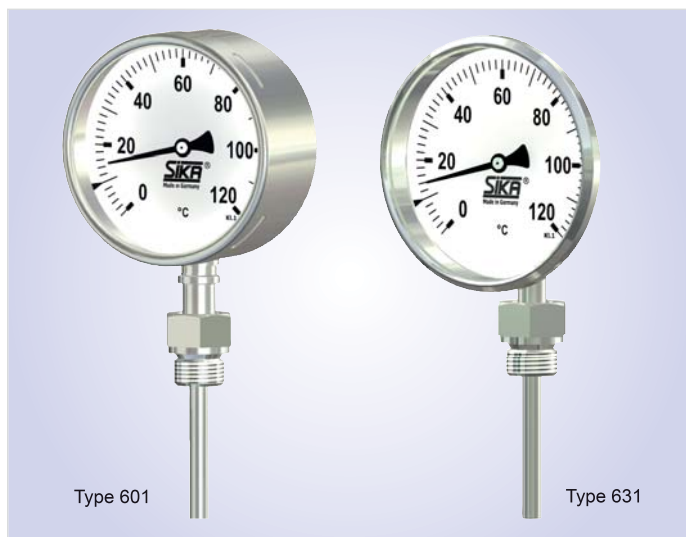
SIKA[®]
founded 1901
Dr. Siebert & Kühn GmbH & Co. KG



Precision Bi-Metal Dial Thermometers

SIKA Types 601-607 and 621-681

High-quality bi-metal dial thermometers with stainless steel case. Ideal for measuring gas and liquid temperatures in industrial applications. Designed for installation in pipes, containers, systems and machines in the food and chemicals industry as well as many other industrial processes.



Features

- Scale ranges from -40 to +500 °C
- Nominal case sizes: 63, 80, 100 and 160 mm
- Mounting versions: Vertical / axial / universally adjustable
- Stem diameter: 8 mm (6 mm and 10 mm on request)
- Measuring system: Bi-metal coil
- Accuracy: Class 1 / DIN EN 13190
- Dial: Aluminium, white, printed black scale
- Material:
 - Case and ring: Stainless steel 1.4301
 - Immersion tube: Stainless steel 1.4571
- Window: Instrument glass
- Ingress Protection: IP65 in accordance with EN 60529

SIKA types

- Bayonet ring case: Type 601-607
- Crimped-on ring case: Type 621-681



SIKA standard connections

SIKA bi-metal dial thermometers are available with various connections. The immersion tube lengths of the SIKA-specific connections are based on respective standardized protection tubes.

Connection B: Fixed male thread for direct installation or for protection tubes in accordance with DIN 43772, form 4, 5 and 6.

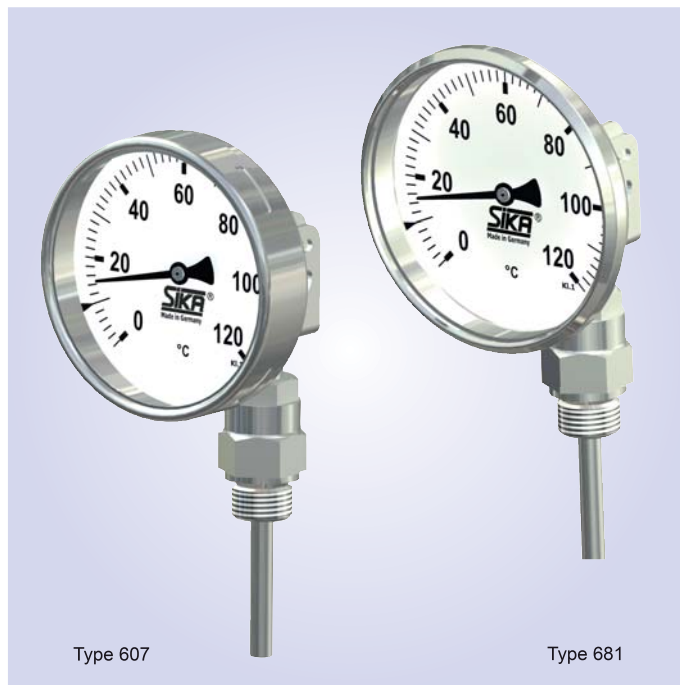
Connection Da: Union nut for protection tubes in accordance with DIN 43772, form 8 and 9 or DIN 16179 CS.

Connection Dc: Union nut specifically for weld-in protection tubes in accordance with DIN 43772, form 4.

Connection SN: Rotatable male thread for protection tubes in accordance with DIN 43772, form 4, 5 and 6.

Connection A: Plain immersion tube for universal application.

Connection AK: With adjustable compression fitting for direct installation or for protection tubes in accordance with DIN 43772, form 4, 5 and 6.



Special designs

- Special scales / Dual scales
- Other scale ranges, connecting threads or types of connection
- Dial with customer logo
- Models with neck tubes
- Case with acrylic glass or laminated safety glass
- Case filled with liquid (only types 621-681)

Specifications

Conditions of Use for Bi-Metal Dial Thermometers

SIKA bi-metal dial thermometers can be used, transported and stored at ambient temperatures of -40 to $+60$ °C; with silicone oil filling at temperatures of -20 to $+60$ °C. They can be permanently used for measuring tasks within their measuring range: For short-time operation, the thermometer can be used at the scale end value. The reference temperature is $+23$ °C ± 2 °C.

Installation of bi-metal dial thermometers (Fig. 1)

Make sure that the immersion tube's active length ET_{min} with the bi-metal coil is fully inserted in the medium (see table for the min. insertion depth), otherwise measuring errors will occur. Up to 25 bar static pressure is permissible at the immersion tube. Protection tubes must be used for pressures above 25 bar.

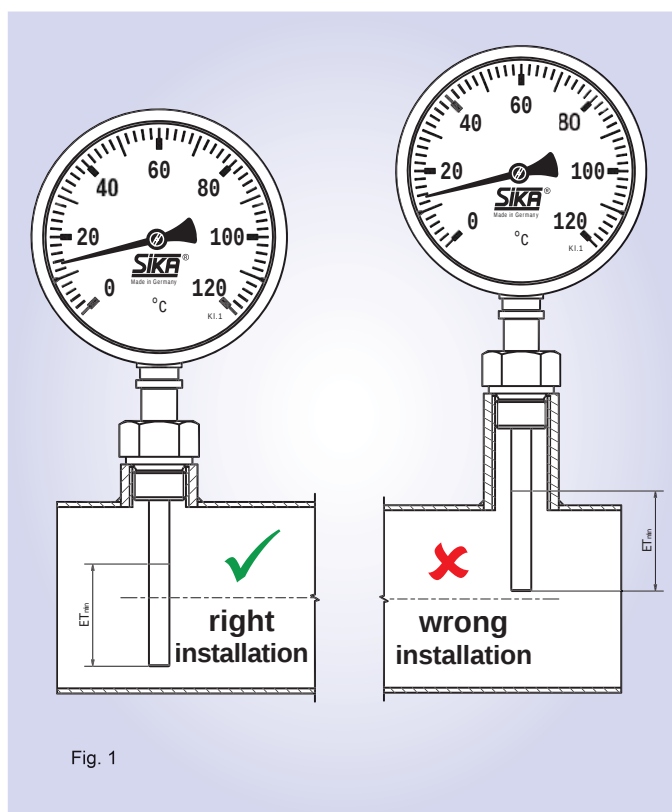


Fig. 1

Protection tube application

Also ensure the min. insertion depth when using immersion tubes. For detailed information about our protection tubes, please refer to the SIKA catalogue "Thermometer Protection Tubes".

Scale range, measuring range and error limits

Bi-metal dial thermometers distinguish between the scale range and the measuring range. Thermometers of the

respective scale range can be permanently used within the defined measuring range. The measuring range is determined at each instrument via the arrows printed on the scale. The fault limits are specified in DIN EN 13190 and correspond to the values in the table below.

Case filling

SIKA bi-metal thermometers are available with a filled case up to a scale range of max. $+250$ °C. These thermometers can also be used for vibration applications.

Scale ranges:

From -20 °C to $+100$ °C	►	Glycerine
From -40 °C to more than $+100$ °C	►	Silicone oil

Adjusting the display

SIKA bi-metal thermometers can, if necessary, be adjusted by $\pm 4\%$. Instruments with a bayonet ring case are adjusted directly at the pointer after removing the bayonet ring. The display value for instruments with a crimped-on ring case can be set via an adjustment screw on the rear.

Table

Scale range	Measuring range	Division	Error limits	ET_{min} Ø 6 mm	ET_{min} Ø 8 mm
-40 $+40$ °C	-30 $+30$ °C	1 °C	1 °C	60 mm	40 mm
-40 $+60$ °C	-20 $+50$ °C	1 °C	1 °C	40 mm	40 mm
-30 $+50$ °C	-20 $+40$ °C	1 °C	1 °C	60 mm	40 mm
-30 $+70$ °C	-20 $+60$ °C	1 °C	1 °C	40 mm	40 mm
-20 $+40$ °C	-10 $+30$ °C	1 °C	1 °C	70 mm	60 mm
-20 $+60$ °C	-10 $+50$ °C	1 °C	1 °C	60 mm	40 mm
-20 $+80$ °C	-10 $+70$ °C	1 °C	1 °C	40 mm	40 mm
0 $+60$ °C	$+10$ $+50$ °C	1 °C	1 °C	70 mm	60 mm
0 $+80$ °C	$+10$ $+70$ °C	1 °C	1 °C	60 mm	40 mm
0 $+100$ °C	$+10$ $+90$ °C	1 °C	1 °C	40 mm	40 mm
0 $+120$ °C	$+10$ $+100$ °C	2 °C	2 °C	40 mm	40 mm
0 $+160$ °C	$+20$ $+140$ °C	2 °C	2 °C	40 mm	40 mm
0 $+200$ °C	$+20$ $+180$ °C	2 °C	2 °C	40 mm	40 mm
0 $+250$ °C	$+30$ $+220$ °C	2 °C	2,5 °C	40 mm	40 mm
0 $+300$ °C	$+30$ $+270$ °C	5 °C	5 °C	40 mm	40 mm
0 $+400$ °C	$+50$ $+350$ °C	5 °C	5 °C	40 mm	40 mm
0 $+500$ °C	$+50$ $+450$ °C	5 °C	5 °C	40 mm	40 mm

SIKA Types 601 - 607

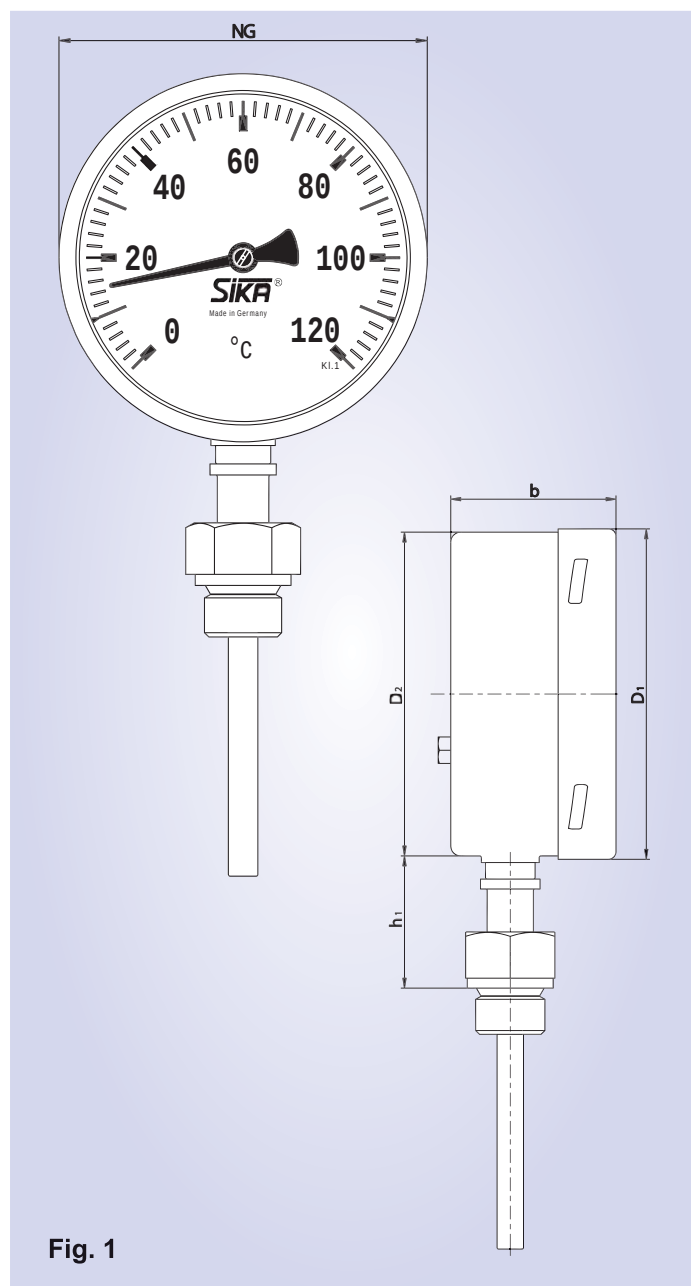
Dimensions for Units with Bayonet Ring Case

Design

Stainless steel case with bayonet ring. Replaceable instrument glass window. Adjustment of $\pm 4\%$ possible directly at the pointer after removing the bayonet ring.

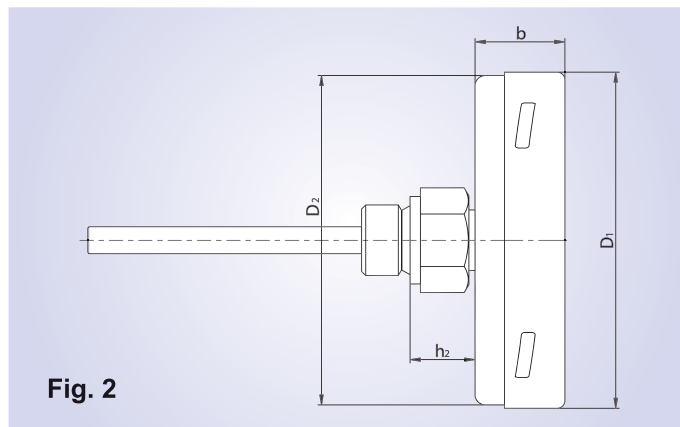
Type 601 B – vertical

NG	D ₁ [mm]	D ₂ [mm]	b [mm]	h ₁ [mm]
63	63	62	50	40
100	100	98	54	40
160	160	158	50	40



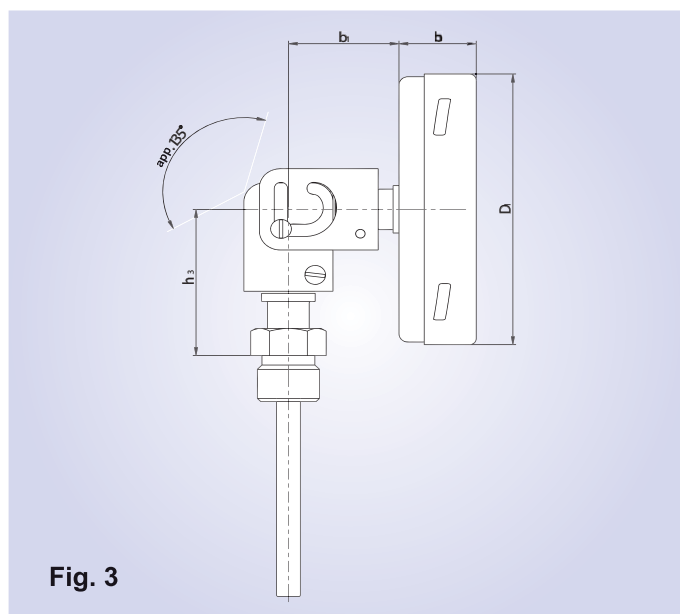
Type 602 B – axial

NG	D ₁ [mm]	D ₂ [mm]	b [mm]	h ₂ [mm]
63	63	62	26	18,8
100	100	98	28	18,8
160	160	158	27	18,8



Type 607 B – universally adjustable

NG	D ₁ [mm]	D ₂ [mm]	b [mm]	b ₁ [mm]	h ₃ [mm]
63	63	62	26	40	63
100	100	98	28	40	63
160	160	158	27	40	63



SIKA Types 621 - 681

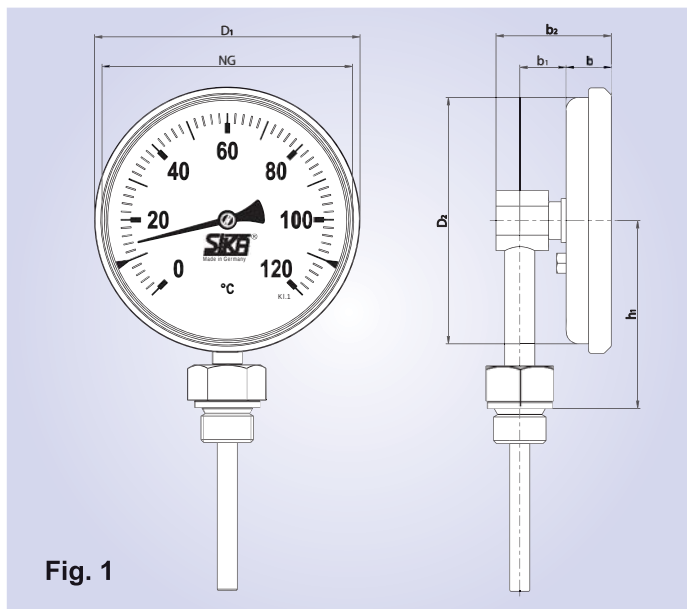
Dimensions for Units with Crimped-on Ring Case

Design

Stainless steel case with crimped-on ring. Instrument glass window. Adjustment of $\pm 4\%$ possible via an external adjustment screw. This model enables extremely compact dimensions.

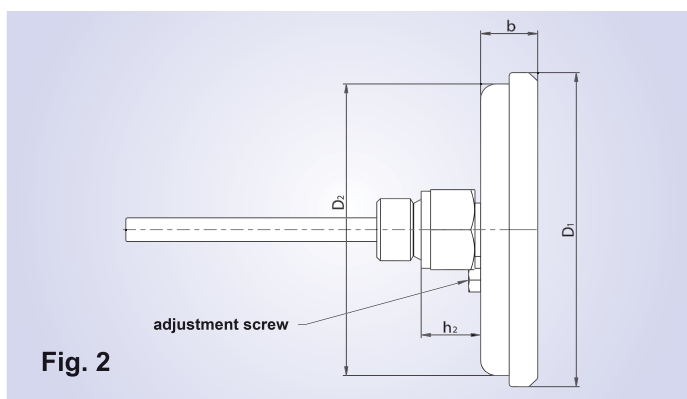
Type 631 B – vertical

NG	D1 [mm]	D2 [mm]	b [mm]	b1 [mm]	h1 [mm]
63	67	62	17	18,5	55
80	86	79	18	18,5	65
100	108	98	18	18,5	75



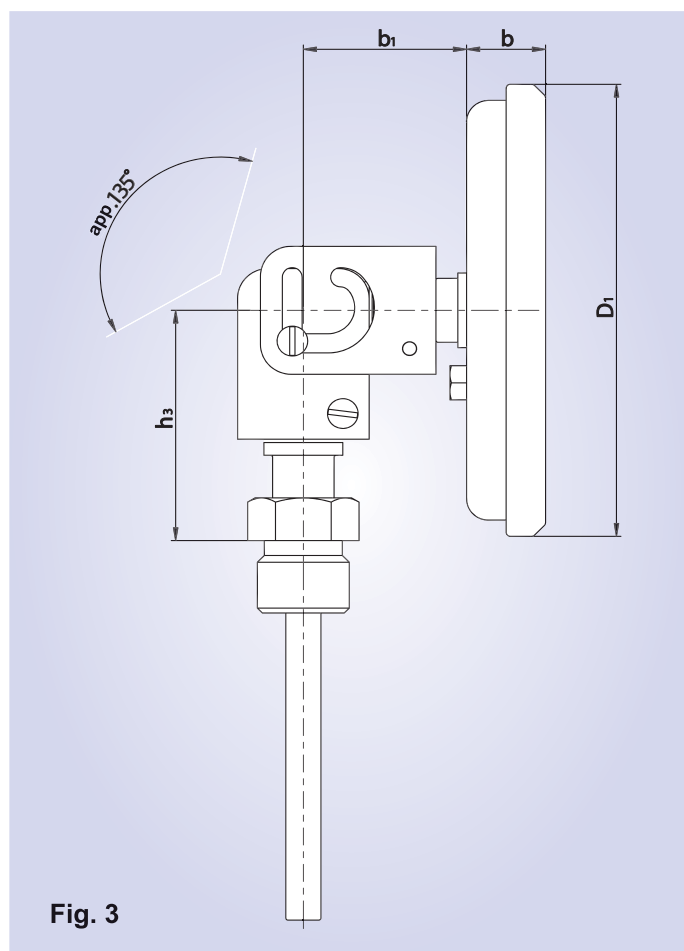
Type 621 B – axial

NG	D1 [mm]	D2 [mm]	b [mm]	h2 [mm]
63	67	62	17	18,8
80	86	79	18	18,8
100	108	98	18	18,8
160	168	159	21	18,8



Type 681 B – universally adjustable

NG	D1 [mm]	D2 [mm]	b [mm]	b1 [mm]	h3 [mm]
63	67	62	17	40	63
80	86	79	18	40	63
100	108	98	18	40	63
160	168	159	21	40	63*



Legend for types 601 - 607 and 621 - 681

- D1 Case diameter on front ring
- D2 Case diameter on back body
- b Case depth
- b1 Case distance b1
- h1 Length extension tube vertical
- h2 Length case distance axial
- h3 Length case distance universally adjustable
- * Only with fixed threaded connection

Standard Connection Types

Connections and Immersion Tube Lengths

Connection type B, fixed male thread (Fig. 1)

l ₁ [mm]	G½	G¾	M20x1,5	M27x2	½NPT	¾NPT
63	0632232	0632332	0632732	0632932	0632B32	0632C32
100	1002232	1002332	1002732	1002932	1002B32	1002C32
160	1602232	1602332	1602732	1602932	1602B32	1602C32
250	2502232	2502332	2502732	2502932	2502B32	2502C32
400	4002232	4002332	4002732	4002932	4002B32	4002C32

Connection type Da, union nut (Fig. 2)

l ₁ [mm]	G½	G¾	M20x1,5	M27x2
89	0893232	0933332	0893732	0933932
126	1263232	1303332	1263732	1303932
186	1863232	1903332	1863732	1903932
276	2763232	2803332	2763732	2803932
426	4263232	4303332	4263732	4303932

Connection type Dc, union nut with immersion tube Ø 6 mm (Fig. 3)

it-length l ₁ [mm]	M24x1,5
155	1555831
215	2155831
275	2755831
295	2955831
355	3555831
415	4155831

Connection type SN, rotatable male thread (Fig. 4)

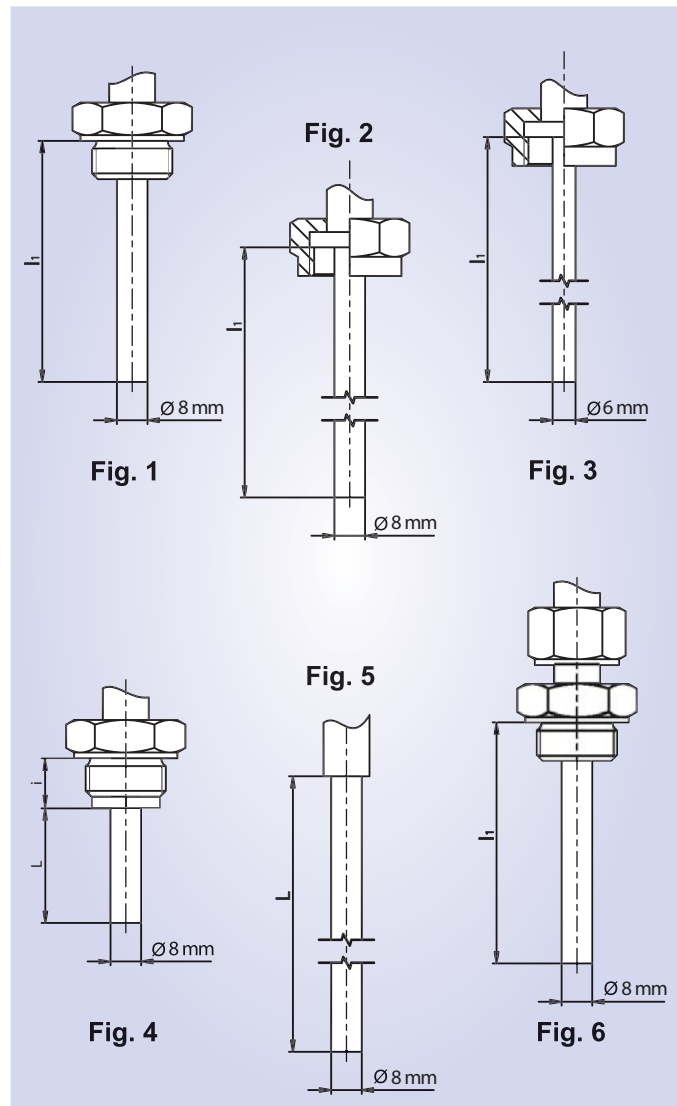
L [mm]	G½	G¾	M20x1,5	M27x2
43	0436232	0436332	0436732	0436932
80	0806232	0806332	0806732	0806932
140	1406232	1406332	1406732	1406932
230	2306232	2306332	2306732	2306932
380	3806232	4006332	4006732	4006932

Connection type A, plain immersion tube, basis for type AK (Fig.5)

L [mm]	plain
108	0631032
145	1001032
205	1601032
295	2501032
445	4001032

Connection type AK, adjustable compression fitting (Fig. 6)

l ₁ [mm]	G½	G¾	M20x1,5	M27x2	½NPT	¾NPT
63	0639232	0639332	0639732	0639932	0639B32	0639C32
100	1009232	1009332	1009732	1009932	1009B32	1009C32
160	1609232	1609332	1609732	1609932	1609B32	1609C32
250	2509232	2509332	2509732	2509932	2509B32	2509C32
400	4009232	4009332	4009732	4009932	4009B32	4009C32



Other connections and immersion tube lengths on request!

Thermometer Choice

Select your Individual Thermometer

Order example	601	32	12	1002232
Thermometer mounting				
Types with bayonet ring case				
- vertical	601			
- axial	602			
- universally adjustable	607			
Types with crimped-on ring case				
- vertical	631			
- axial	621			
- universally adjustable	681			
Nominal size				
- 63 mm	unfilled / with case filling	12 / A2		
- 80 mm*	unfilled / with case filling	22 / B2		
- 100 mm	unfilled / with case filling	32 / C2		
- 160 mm**	unfilled / with case filling	42 / D2		
Scale ranges				
-40 +40 °C			44	
-40 +60 °C			46	
-30 +50 °C			35	
-30 +70 °C			37	
-20 +40 °C			24	
-20 +60 °C			26	
-20 +80 °C			28	
0 +60 °C			06	
0 +80 °C			08	
0 +100 °C			10	
0 +120 °C			12	
0 +160 °C			16	
0 +200 °C			20	
0 +250 °C			25	
0 +300 °C			30	
0 +400 °C			40	
0 +500 °C			50	
Connection thread/Immersion tube length				
Please choose it from page 6 „Standard-Connection Types“ and insert here				xxxxxxx

*) only with crimped-on ring case

**) not available as Type 631

Order example

- Selection of mounting version e.g. bayonet ring case, vertical = 601
- Selection of Nominal case size e.g. 100 mm, unfilled = 601 32
- Selection of measuring range e.g. 0 +120°C = 601 32 12
- Selection connection type, imm. tube length & thread e.g. type B, G1/2, 100 = 601 32 12 1002232



You are interested in an offer tailored to your particular needs or a special design? Please supply us with your specifications. We assemble the proper thermometer for your requirements. Please contact us for any questions you might have - our product specialists are glad to give you expert advice!

Our Production and Sales Range



Flow Sensors without moving Parts



Axial Turbine Flow Sensor



Flow Switches



Pressure Gauges and Pressure Sensors



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Subject to technical modification

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