

Bimetal Thermometers, every angle

Crimped-on ring case stainless steel, turnable and adjustable

TBiGelChg
TBiGelChgG

Standard Versions

Information on general and metrological features (e.g. temperature resistance) and temperature ranges / error limits / smallest subdivision can be found in model overview 8000.

Measuring Unit

Bimetal coil

Accuracy (EN 13 190)

Class 1

Case

With polished crimped-on ring, 1.4301 (304 stainless steel)

Case Protection Type (EN 60 529 / IEC 529)

IP 65

Case Filling

For model TBiGelChgG

temperature ranges - 20 °C up to +100 °C:

glycerine

temperature ranges - 40 °C and +100 °C and above up to 250 °C:

silicone oil

Nominal Case Sizes

63, 80, 100, 125, 160 (mm) (2½", 3", 4", 5", 6")

Case Configuration

Connection temperature

sensor (stem): pivot/every angle

Stem position: centre back position,
compared to the case adjustable by 135°,
turnable by 360°

Mounting device: without

Temperature Ranges (EN 13 190)

Temperature differences from 60 K to 600 K

Temperature Sensor (Stem)

1.4571 (316 stainless steel),

max. static operating pressure: 25 bar

Stem models: B1, B3, B4, B4.1, B5 or B6

Stem- Ø dF: 6 or 8 mm

Stem length L: Lmin resp. L1min up to max. 400 mm

Please regard the minimum stem length against the active length (La) and stem model, see page 3.

Window

Instrument glass

Dial

Aluminum, black figures, white background

Pointer

Aluminum, black

Zero Adjustment (± 4%)

Externally by a screw



Ordering Information, Standard Temperature Ranges, Options

See page 4

Special Versions and further Options among others

- Other connection threads and materials upon request
- Other temperature ranges and/or special scales, e.g. double scale °C/°F, coloured fields or areas, dial inscriptions, etc.
- Case parts 1.4404 (316 stainless steel) upon request
- Model TBiGelChg for ambient temperatures up to -60°C;
Model TBiGelChgG for ambient temperatures up to -40 °C,
up to -60°C NCS 100,125 and 160
- GOST-version for Russia, Ukraine, Kazakhstan

Thermowells

See DS 8.8110 ff



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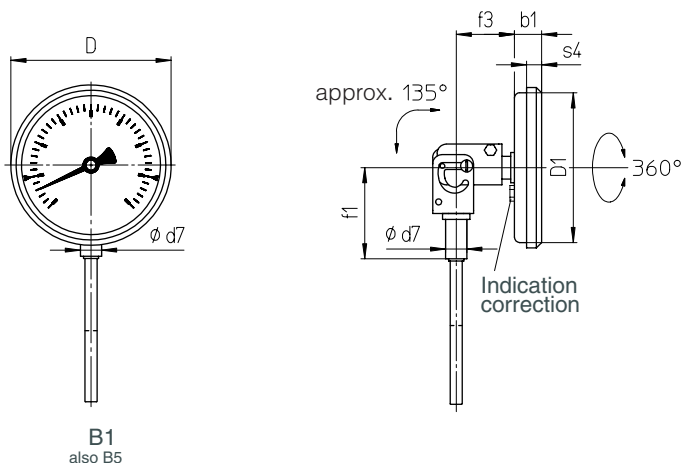
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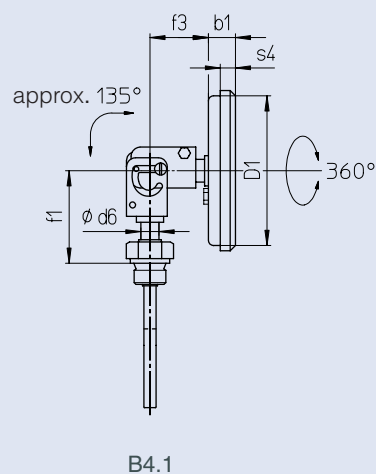
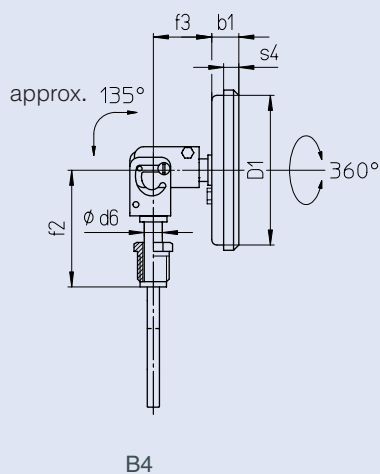
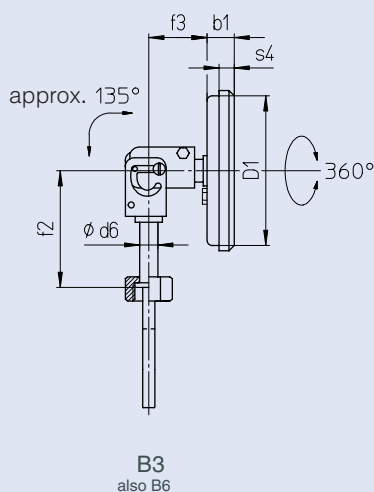
Stem Position / Case Configurations, Code Letters, Dimensional Data and Weights

Centre Back Stem Position, with pivot / every angle

without additional code letter



Further Stem Models

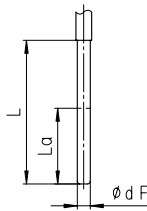


Dimensional Data (mm / inches) and Weights (kg / lb)

NCS	b1	D	D1	d6	d7	f1	f2	f3	s4	approx. weight ¹⁾	
										TBiGelChg	TBiGelChgG
63 2½"	17 .67	67 2.63	62 2.44	12 .47	14 .55	63 2.48	80 3.15	40 1.57	8 .31	0.28 0.62	0.31 0.68
80 3"	18 .71	86 3.39	79 3.11	12 .47	14 .55	63 2.48	80 3.15	40 1.57	8 .31	0.32 0.70	0.37 0.81
100 4"	18 .71	106 4.17	98 3.86	12 .47	14 .55	63 2.48	80 3.15	40 1.57	10 .4	0.39 0.86	0.46 1.01
125 5"	20 .79	136 5.35	125 4.92	12 .47	14 .55	63 2.48	80 3.15	40 1.57	11 .43	0.49 1.08	0.65 1.43
160 6"	21 .83	167 6.57	159 6.26	12 .47	14 .55	63 2.48	80 3.15	40 1.57	11 .43	0.64 1.41	0.84 1.85

¹⁾ The information is an example and relates on version with stem B1, Ø 8 mm (0.3"), length 100 mm (4").

Stem Models

Stem Models																																																																																									
Process connection:		without screw fitting, plain stem																																																																																							
Stem model:		B1																																																																																							
Form according to DIN 13 190:		Form 1																																																																																							
Stem material:		1.4571																																																																																							
Stem-Ø dF:		6 or 8																																																																																							
Order length:		L																																																																																							
Accessories:																																																																																									
Data sheet (suitable thermowell models):		8.8140 (SK1) 8.8141 (SK2)																																																																																							
																																																																																									
Process connection:		Union nut		Male thread, turnable			Male thread, rigid																																																																																		
Stem model:		B3		B4			B4.1																																																																																		
Form according to DIN 13 190:		Form 5		Form 4			Form 6 (thread cylindrical) Form 7 (thread conical)																																																																																		
Stem material:		1.4571		1.4571			1.4571																																																																																		
Stem-Ø dF:		6 or 8		6 or 8			6 or 8																																																																																		
Screw fitting material:		1.4571		1.4571			1.4571																																																																																		
Order length:		L		L			L																																																																																		
Accessories:																																																																																									
Data sheet (suitable thermowell models):		8.8111 (SF4.1), 8.8113 (SF4.1F) 8.8130 (SF8), 8.8131 (SF9)			8.8110 (SF4), 8.8112 (SF4F) 8.8120 (SF5), 8.8121 (SF6+SF7)			8.8110 (SF4), 8.8112 (SF4F) 8.8120 (SF5), 8.8121 (SF6+SF7)																																																																																	
Thread (dimensions in mm):		<table><tr><th>G</th><th>SW</th><th>i</th></tr><tr><td>G ½</td><td>27</td><td>10</td></tr><tr><td>G ¾</td><td>32</td><td>12</td></tr><tr><td>M 20 x 1.5</td><td>27</td><td>10</td></tr><tr><td>M 24 x 1.5</td><td>32</td><td>12</td></tr><tr><td>M 27 x 2</td><td>32</td><td>12</td></tr></table>			G	SW	i	G ½	27	10	G ¾	32	12	M 20 x 1.5	27	10	M 24 x 1.5	32	12	M 27 x 2	32	12	<table><tr><th>G</th><th>SW</th><th>i</th></tr><tr><td>G ½ B</td><td>27</td><td>20</td></tr><tr><td>G ¾ B</td><td>32</td><td>23</td></tr><tr><td>M 18 x 1.5</td><td>22</td><td>14</td></tr><tr><td>M 20 x 1.5</td><td>27</td><td>20</td></tr></table>			G	SW	i	G ½ B	27	20	G ¾ B	32	23	M 18 x 1.5	22	14	M 20 x 1.5	27	20	<table><tr><th>G</th><th>SW</th><th>i</th></tr><tr><td>G ½ B</td><td>27</td><td>14</td></tr><tr><td>G ¾ B</td><td>32</td><td>16</td></tr><tr><td>½" NPT</td><td>27</td><td>19</td></tr><tr><td>¾" NPT</td><td>27</td><td>19</td></tr><tr><td>M 18 x 1.5</td><td>24</td><td>14</td></tr><tr><td>M 20 x 1.5</td><td>27</td><td>14</td></tr></table>				G	SW	i	G ½ B	27	14	G ¾ B	32	16	½" NPT	27	19	¾" NPT	27	19	M 18 x 1.5	24	14	M 20 x 1.5	27	14																								
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Thermowell required!																																																																																									
Process connection:		Male thread / compression fitting				Male thread, turnable / double male adapter																																																																																			
Stem model:		B5 (= basic stem B1 with compression fitting)				B6 (stem B3 with double male adapter)																																																																																			
Form according to DIN 13 190:		Form 2 (thread cylindrical) Form 3 (thread conical)				—																																																																																			
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Fühler-Ø dF:		6 or 8				6 or 8																																																																																			
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Minimum Stem Length, Active Length and maximum realisable Stem Length																																																																																									
			Stem-Ø dF:																																																																																						
			6			8																																																																																			
			Temperature difference ΔT ¹⁾																																																																																						
			≥ 100 K	= 80 K	= 60 K	≥ 80 K	= 60 K																																																																																		
Stem model:	Length:	Thread:																																																																																							
all models	La	all standard threads	40	60	70	40	60																																																																																		
B1 B4	Lmin	all standard threads	40	60	70	40	60																																																																																		
B3	Lmin	all standard threads	52	72	82	52	72																																																																																		
B4.1	Lmin	all standard threads	60	80	90	60	80																																																																																		
B5	Lmin	all standard threads	95	115	125	95	115																																																																																		
B6	L1min	all standard threads	60	80	90	60	80																																																																																		
others			upon request			upon request																																																																																			
The minimum length Lmin / L1min of the stem is the smallest possible stem length against the active length La (vessel) and the stem model. The active length La of the stem (vessel) has to immerse completely into the medium, to grant a measuring result, which corresponds to the accuracy class.																																																																																									

¹⁾ The temperature difference ΔT = 60 K corresponds to the e.g. the temperature range 0/60 °C, but also -20/40 °C, see table on page 4

Ordering Information with Indication- and Temperature Ranges, Options

Basic Model:		Bimetal thermometers with pivot / every angle		TBiGelChg
Case filling:	according to version glycerine or silicone oil			G
Nominal case size:	case-Ø 63, 80, 100, 125, 160 (mm) (2½", 3", 4", 5", 6")			63, 80, 100, 125, 160
Stem position / case configuration:	centre back position, with pivot / every angle			without code letters
Temperature ranges:	Δ T (K):			
	0 — 60 °C	60		
	0 — 80 °C	80		
	0 — 100 °C	100	e. g.	0-100 °C
	0 — 120 °C	120		
	0 — 160 °C	160		
	0 — 200 °C	200		
	0 — 250 °C	250		
	0 — 300 °C	300		
	0 — 400 °C	400		
	0 — 500 °C	500		
	0 — 600 °C	600		
	-50 / + 50 °C	100		
	-40 / + 40 °C	80		
	-40 / + 60 °C	100		
	-30 / + 50 °C	80	e. g.	-30/+50 °C
	-30 / + 70 °C	100		
	-20 / + 40 °C	60		
	-20 / + 60 °C	80		
	-20 / + 80 °C	100		
	+50 / +300 °C	250		
Stem:	without screw fitting, plain stem			B1
	union nut			B3
	male thread, turnable			B4
	male thread, rigid			B4.1
	male thread, compression fitting			B5
	male thread, turnable / double male adapter			B6
Stem-Ø dF:	6 or 8 mm			dF 6, 8
Stem length:	L resp. L1 in mm			e. g. L = 100 mm
Process connection:	see page 3			e. g. G ½ B
Options:	red mark	on the dial		(Order at the moment still as cleartext)
	plastic clip	red or green external at crimped-on ring NCS 80, 100, 125 and 160		
	window	tempered safety glass for NCS 80, 100, 125 and 160		
		acrylic glass (PMMA) for NCS 80 and 100		
		polycarbonate (PC) NCS 63, 80 and 100		
	case polished			
	stem- Ø dF 10 mm			
	case filling indication ranges from - 20 °C up to +100 °C: silicone oil			
	stem length > 400 mm, max. 800 mm			
	measuring point	stainless steel-plate 12 mm x 55 mm (0.47" x 2.17"), wire mounting or		
	marking	sticker on case coverage		

Example: TBiGelChg 80, 0-100 °C, B3, dF 8, L = 100 mm, G ½

Special Versions: Please describe your requirements clearly

Technical changes, replacement of materials and errors excepted.