Bimetal Thermometers, every angle

Bayonet ring case stainless steel, turnable and adjustable

TBiGelCh

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 bayonet ring, 1.4301 (304 stainless steel)

Case Protection Type (EN 60 529 / IEC 529)
IP 65

Nominal Case Sizes
63, 100, 160 (mm) (2½", 4", 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
- For ambient temperatures up to -60°C upon request. For ambient temperatures below -20 °C we recommend: Thermometers mit crimped-on ring case models TBiGelChg resp. TBiGelChgG
- GOST-version for Russia, Ukraine, Kazakhstan

Thermowells

See DB 8.8110 ff

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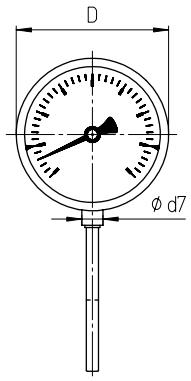
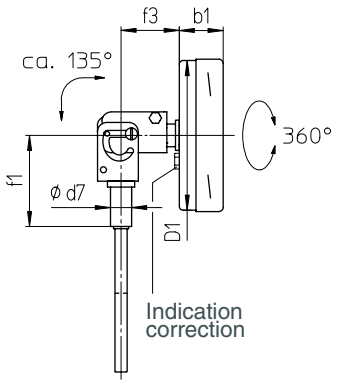
Stem Position / Case Configurations, Code Letters, Dimensional Data and Weights

Centre Back Stem Position, with pivot / every angle

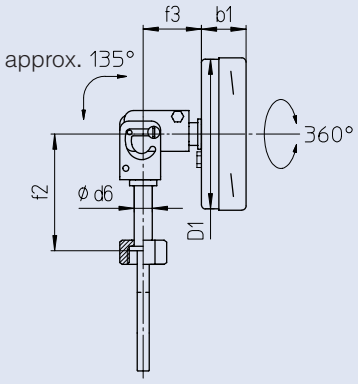
without additional code letter



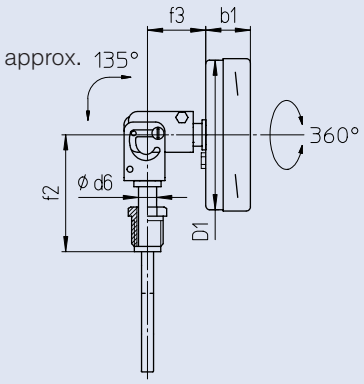
B1
also B5



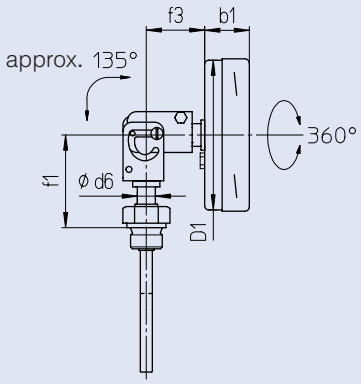
Further Stem Models



B3
also B6



B4



B4.1

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

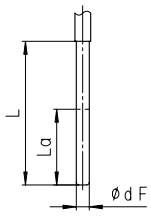
NCS	b1	D	D1	d6	d7	f1	f2	f3	approx. weight [1] TBiGelCh
63	26	64	62	12	14	63	80	40	0.29
2½"	**1.02**	**2.52**	**2.44**	**.47**	**.55**	**2.48**	**3.15**	**1.57**	**0.63**
100	28	101	99	12	14	63	80	40	0.42
4"	**1.10**	**3.98**	**3.9**	**.47**	**.55**	**2.48**	**3.15**	**1.57**	**0.93**
160	27	161	159	12	14	63	80	40	0.76
6"	**1.06**	**6.34**	**6.26**	**4.76**	**.55**	**2.48**	**3.15**	**1.57**	**1.67**

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

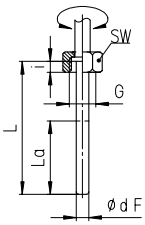
Stem Models

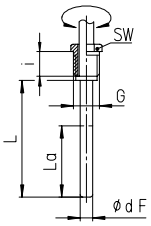
Stem Models

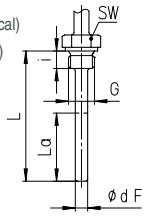
Process connection:	without screw fitting, plain stem
Stem model:	**B1**
Form according to DIN 13 190:	Form 1
Stem material:	1.4571
Stem-Ø dF:	6 or 8
Order length:	L
Accessories:	
Data sheet (suitable thermowell models):	8.8140 (SK1) 8.8141 (SK2)



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):

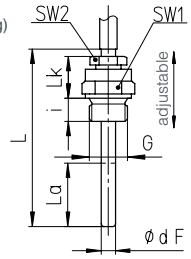
G	SW	i
G ½	27	10
G ¾	32	12
M 20 x 1.5	27	10
M 24 x 1.5	32	12
M 27 x 2	32	12

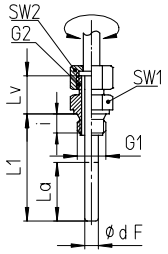
G	SW	i
G ½ B	27	20
G ¾ B	32	23
M 18 x 1.5	22	14
M 20 x 1.5	27	20

Thermowell required!

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

Process connection:	Male thread / compression fitting	Male thread, turnable / double male adpater
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)	—
Stem material:	1.4571	1.4571
Stem-Ø dF:	6 or 8	6 or 8
Screw fitting material:	1.4571	1.4571
Order length:	L	L1
Accessories:		
Data sheet (suitable thermowell models):	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):

G	SW1	SW2	i	Lk
G ½ B	27	22	14	42
G ¾ B	32	22	16	42
½" NPT	27	22	19	42
¾" NPT	27	22	19	42
M 20 x 1.5	27	22	14	42

G1	G2	SW1	SW2	i	Lv
G ½ B	G ½ B	27	27	14	28
G ¾ B	G ½ B	32	27	16	28
½" NPT	G ½ B	27	27	19	28
¾" NPT	G ½ B	27	27	19	28
M 20 x 1.5	M 20 x 1.5	27	27	14	28
M 24 x 1.5	M 20 x 1.5	32	27	14	28
M 27 x 2	M 20 x 1.5	32	27	16	28

Minimum Stem Length, Active Length and maximum realisable Stem Length

			Stem-Ø dF:				
			6			8	
			Temperature difference ΔT[1)]				
Stem model:	Length:	Thread:	≥ 100 K	= 80 K	= 60 K	≥ 80 K	= 60 K
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			TBiGelCh
Case filling:	without			without code letters
Nominal case size:	case-Ø 63, 100,160 (mm) (2½", 4", 6")			**63, 100, 160**
Stem position / case configuration:	centre back position, with pivot / every angle			without code letters
Temperature ranges:		ΔT (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 bayonet ring for NCS 100 and 160		
	window	laminated safety glass		
		acrylic glass (PMMA)		
		polycarbonate (PC)		
	case polished			
	bayonet ring polished			
	stem-Ø dF 10 mm			
	stem length > 400 mm, max. 800 mm			
	measuring point marking	stainless steel-plate12 mm x 55 mm (0.47" x 2.17"), wire mounting or sticker on case coverage		

Example: **TBiGelCh 80, 0-100 °C, B3, dF 8, L = 140 mm, G ½**

Special Versions: Please describe your requirements clearly

Technical changes, replacement of materials and errors excepted.