

Gas-Actuated Thermometers, every angle

Bayonet ring case stainless steel, turnable and adjustable

TGelCh
TGelChG

Standard Versions

Information on selection and metrological features (temperature-resistance, among others) and temperature ranges / smallest subdivision / error limits can be found in model overview 8000.

Measuring Unit

With nitrogen filling
(inert gas, physiologically safe)

Accuracy (EN 13 190)

Class 1

Case

With bayonet ring, stainless steel 1.4301

Case Protection Type (EN 60 529 / IEC 529)

IP 65

Case Filling

For model TGelChG: silicone oil

Nominal Case Sizes

63, 100, 160 mm (2½", 4", 6")

Case Configuration

Connection temperature
sensor (stem): every angle

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

Mounting device : without

Temperature Ranges (EN 13 190)

Temperature differences from 80 K to 600 K

Temperature Sensor (Stem)

made of stainless steel 1.4571 (316 L),
max. static operating pressure: 25 bar.
Stem models optionally: A1, A3, A4, A4.1, A5 or A6
Stem- Ø dF: 8, 10 or 12 mm
Stem length L: Lmin resp. L1min up to max. 2.50 m
Please consider the minimum stem length depending on the active
length (La) and stem model, see page 3.

Window

Instrument glass

Movement

Brass/German silver

Dial

Aluminium white, scaling black

Pointer

Aluminium, black

Indication Adjustment (±6%)

From the outside via screw



Ordering Information, Standard Temperature Ranges, Options

See page 4

Special Versions and further Options among others

- Other stem models, stem-Ø, connection threads and materials upon request
- Other temperature ranges and/or special scales, e.g. dual scale °C/°F, coloured fields or ranges, dial inscriptions, etc.
- Stationary red pointer, min. or max. drag indicator upon request
- Case parts stainless steel 316 L (1.4404) upon request
- Model TGelCh for ambient temperatures to -60 °C upon request;
Model TGelChG for ambient temperatures to -40 °C.
For ambient temperatures below -20 °C we recommend:
thermometers with crimped-on ring case,
model TGelChg resp. TGelChgG
- GOST-version for Russia, Ukraine, Kazakhstan

Accessories

Mechanical: thermowells, see data sheet 8.8110 ff.
Electrical: limit switch contact assemblies,
see catalogue heading 9.1



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Subsidiary Company, Sales and Export East

MANOTHERM Beierfeld GmbH

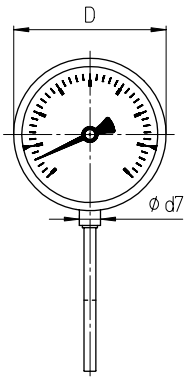
Am Gewerbepark 9 • D-08344 Grünhain-Beierfeld
Tel.: +49 (0)37 74/58-0 • Fax: +49 (0)37 74/58-545
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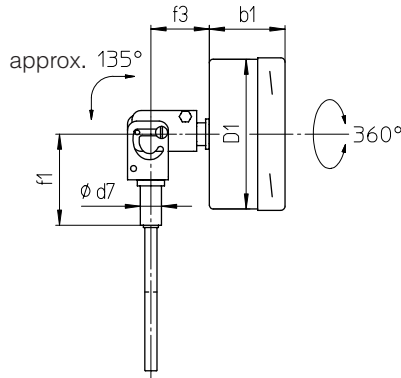
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Dimensional Data and Weights

Centre Back Stem Position, with pivot / every angle

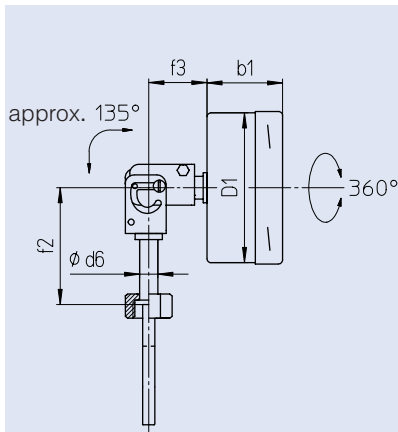


A1
also A5

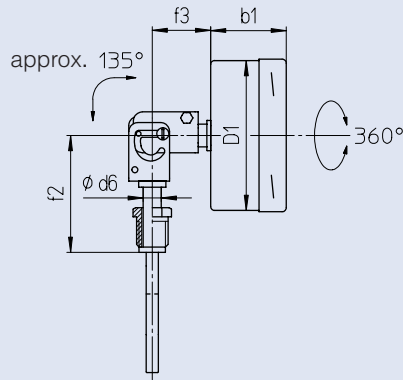


A1
also A5

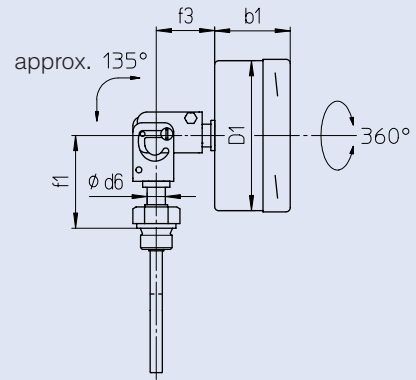
Further Stem Models



A 3
also A6



A 4



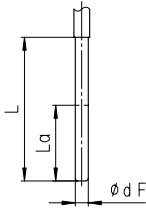
A 4.1

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

NCS	b1	D	D1	d6	d7	f1	f2	f3	approx. weight *	
									TGelCh	TGelChG
63 2½"	39 1.54	64 2.52	62 2.44	12 .47	14 .55	63 2.48	80 3.15	40 1.57	0.36 0.79	0.44 0.97
100 4"	50 1.97	101 3.98	99 3.9	12 .47	14 .55	63 2.48	80 3.15	40 1.57	0.58 1.28	0.84 1.85
160 6"	50 1.97	161 6.34	159 6.26	12 .47	14 .55	63 2.48	80 3.15	40 1.57	0.92 2.03	1.64 3.62

* The indications serve as example and relate to versions with stem A1, Ø 10 mm (0.4"), length 200 mm (8").

Stem Models

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Process connection:		without screw fitting, plain stem																																																																																					
Stem model:		A1																																																																																					
Form according to DIN 13 190:		Form 1																																																																																					
Stem material:		1.4571																																																																																					
Stem-Ø dF:		8, 10, 12																																																																																					
Order length:		L																																																																																					
Data sheet (suitable thermowell models):		8.8140 (SK1), 8.8141 (SK2)																																																																																					
																																																																																							
Process connection:		Union nut			Male thread, turnable			Male thread, rigid																																																																															
Stem model:		A3			A4			A4.1																																																																															
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:		8, 10, 12			8, 10, 12			8, 10, 12																																																																															
Screw fitting material:		1.4571			1.4571			1.4571																																																																															
Order length:		L			L			L																																																																															
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)																																																																															
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Stem model:		A5 (= basic stem A1 with compression fitting)				A6 (= basic stem A3 with double male adapter)																																																																																	
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Minimum Stem Length, Active Length and Maximum Realisable Stem Length																																																																																							
Stem model:		Length:		Thread:		up to max. 500 °C			500 °C and above			The minimum length Lmin / L1min of the stem is the smallest possible stem length depending on the active length La (temperature-sensitive part) and the stem model.																																																																											
						Stem-Ø dF:			Stem-Ø dF:																																																																														
all models		La		all standard threads		12 10 8			12 10 8			The active length La of the stem (temperature-sensitive part) has to immerse completely into the medium, in order to obtain a measuring result that corresponds to the accuracy class.																																																																											
A1 A3 A4		Lmin		all standard threads		35 45 75			75 105 165																																																																														
A4.1		Lmin		G 1/2 B, M 18x1.5, M 20x1.5		49 59 89			89 119 179			The maximum realisable stem length is 2.50 m. Greater lengths can be obtained with a capillary line, e.g. with special stems A3.2, A4.2 and A4.3 (data sheet 8299.1).																																																																											
A5		Lmin		G 3/4 B		51 61 91			91 121 181																																																																														
A6		L1min		1/2" NPT, 3/4" NPT		54 64 94			94 124 184																																																																														
others				all standard threads		90 100 130			130 160 220																																																																														
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				upon request		upon request			upon request																																																																														

Ordering Information with Indication and Temperature Ranges, Options

Basic Model: Gas-actuated Thermometers with every angle Stem		TGeICh
Case filling:	without silicone oil	no code letters G
Nominal case size:	case-Ø 63, 100, 160 mm (2½", 4", 6")	63, 100, 160
Case configuration:	centre back connection, with pivot / every angle	no code letters
Temperature ranges:	scale: ΔT (K):	
	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	
	-100 / + 100 °C 200	
	-50 / + 50 °C 100	
	-40 / + 40 °C 80	
	-40 / + 60 °C 100	
	-30 / + 50 °C 80	e.g. -30/+50 °C
	-20 / + 60 °C 80	
	-20 / + 80 °C 100	
	+50 / +300 °C 250	
	+50 / +400 °C 350	
	+100 / +500 °C 400	
Stem:	without screw fitting, plain stem	A1
	union nut	A3
	male thread, turnable	A4
	male thread, rigid	A4.1
	male thread / compression fitting	A5
	male thread, turnable / double male adapter	A6
Stem-Ø dF:	8, 10 or 12 mm	dF 8, 10, 12
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	<i>(order at present still in cleartext)</i>
	plastic clip red or green external on bayonet ring for NCS 100 and 160	
	stationary red pointer on the dial	
	adjustable with removable ring	
	window laminated safety glass	
	acrylic glass (PMMA)	
	polycarbonate (PC)	
	movement stainless steel	
	case ventilation no. 22 for outdoor installation	
	case polished	
	bayonet ring polished	
	measuring point stainless steel plate 12 mm x 55 mm (0.47" x 2.17")	
	marking with wire mounting or sticker on case coverage	
Example:	TGeICh 100, 0 – 100 °C, A3, dF 8, L = 100 mm, M 27x2	
Special Versions: Please describe your requirements in cleartext		