

# Gas-Actuated Thermometers, every angle

Crimped-on ring case stainless steel, turnable and adjustable

**TGelChg**  
**TGelChgG**

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

### Case Protection Type (EN 60 529 / IEC 529)

IP 65

### Case Filling

For model TGelChgG: silicone oil

### Nominal Case Sizes

63, 80, 100, 160 mm (2½", 3", 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)

Spans 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.
- Case parts stainless steel 316 L (1.4404) upon request
- Model TGelChg for ambient temperatures to -60 °C;  
Model TGelChgG for ambient temperatures to -40 °C,  
to -60 °C NCS 100 and 160
- GOST-version for Russia, Ukraine, Kazakhstan

## Thermowells

See data sheet 8.8110 ff.



Sales and Export South, West, North

**ARMATURENBAU GmbH**

Manometerstraße 5 • D-46487 Wesel-Ginderich  
Tel.: +49 (0)28 03 / 91 30-0 • Fax: +49 (0)28 03 / 10 35  
armaturenbau.com • mail@armaturenbau.com

Subsidiary Company, Sales and Export East

**MANOTHERM Beierfeld GmbH**

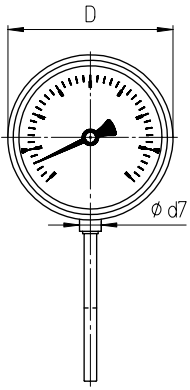
Am Gewerbepark 9 • D-08344 Grünhain-Beierfeld  
Tel.: +49 (0)37 74 / 58-0 • Fax: +49 (0)37 74 / 58-545  
manotherm.com • mail@manotherm.com

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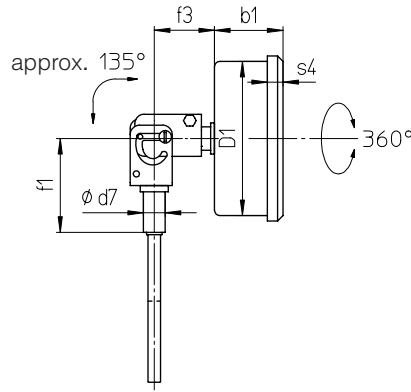
04/14

# Dimensional Data and Weights

## Centre Back Stem Position, every angle

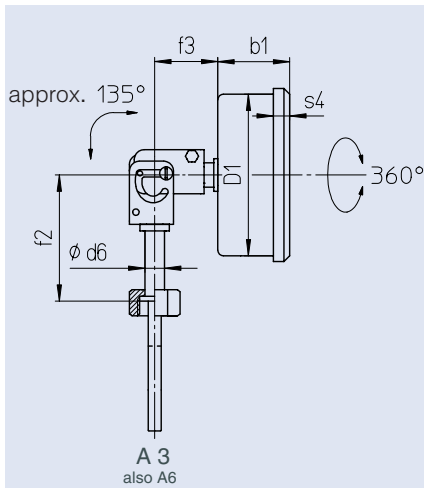


A1  
also A5

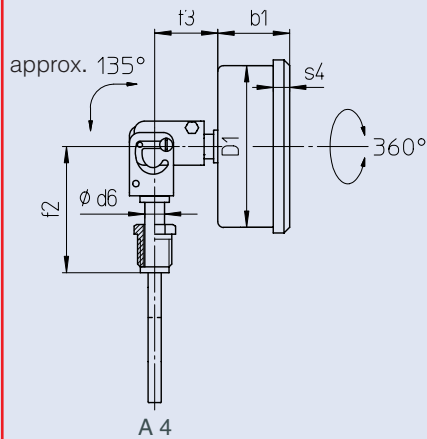


A1  
also A5

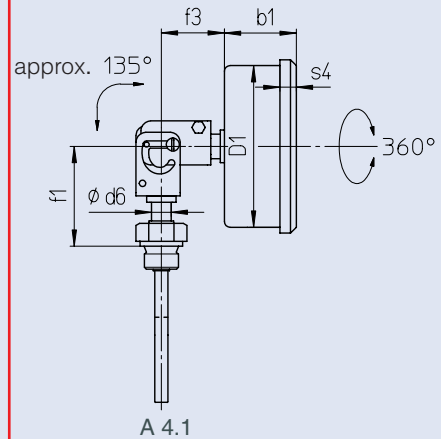
## Further Stem Models



A 3  
also A6



A 4



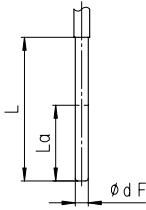
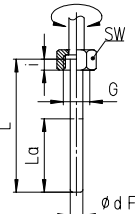
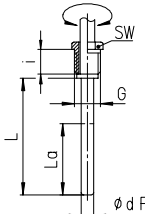
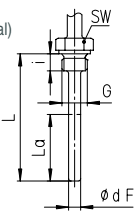
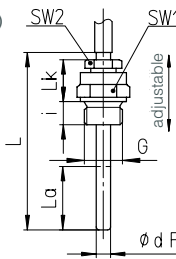
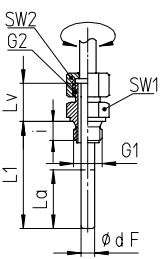
A 4.1

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

NCS	b1	D	D1	d6	d7	f1	f2	f3	s4	approx. weight *	
										TGelChg	TGelChgG
63 2½"	39 1.54	67 2.63	62 2.44	12 .47	14 .55	63 2.48	80 3.15	40 1.57	8 .31	0.35 0.77	0.43 0.95
80 3"	42 1.65	86 3.39	79 3.11	12 .47	14 .55	63 2.48	80 3.15	40 1.57	8 .31	0.44 0.97	0.58 1.28
100 4"	43 1.70	106 4.17	99 3.9	12 .47	14 .55	63 2.48	80 3.15	40 1.57	10 .40	0.55 1.21	0.75 1.65
160 6"	51 2.01	167 6.57	159 6.26	12 .47	14 .55	63 2.48	80 3.15	40 1.57	11 .43	0.88 1.94	1.60 3.53

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

# Stem Models

Stem Models																																																																																									
<b>Process connection:</b>		<b>without screw fitting, plain stem</b>																																																																																							
<b>Stem model:</b>		<b>A1</b>																																																																																							
<b>Form according to DIN 13 190:</b>		Form 1																																																																																							
<b>Stem material:</b>		1.4571																																																																																							
<b>Stem-Ø dF:</b>		8, 10, 12																																																																																							
<b>Order length:</b>		L																																																																																							
<b>Data sheet</b> (suitable thermowell models):		8.8140 (SK1), 8.8141 (SK2)																																																																																							
																																																																																									
<b>Process connection:</b>		<b>Union nut</b>		<b>Male thread, turnable</b>			<b>Male thread, rigid</b>																																																																																		
<b>Stem model:</b>		<b>A3</b>		<b>A4</b>			<b>A4.1</b>																																																																																		
<b>Form according to DIN 13 190:</b>		Form 5		Form 4			Form 6 (thread cylindrical) Form 7 (thread conical)																																																																																		
<b>Stem material:</b>		1.4571		1.4571			1.4571																																																																																		
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<b>Data sheet</b> (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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<b>Minimum Stem Length, Active Length and Maximum Realisable Stem Length</b>																																																																																									
			up to max. 500 °C			500 °C and above			<b>The minimum length Lmin/L1min</b> 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:																																																																																			
<b>Stem model:</b>	<b>Length:</b>	<b>Thread:</b>	<b>12</b>	<b>10</b>	<b>8</b>	<b>12</b>	<b>10</b>	<b>8</b>																																																																																	
<b>all models</b>	La	all standard threads	35	45	75	75	105	165																																																																																	
<b>A1 A3 A4</b>	Lmin	all standard threads	55	65	95	95	125	185																																																																																	
<b>A4.1</b>	Lmin	G 1/2 B, M 18x1.5, M 20x1.5	49	59	89	89	119	179																																																																																	
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<b>A5</b>	Lmin	1/2" NPT, 3/4" NPT	54	64	94	94	124	184																																																																																	
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<b>others</b>			upon request			upon request																																																																																			
<b>The maximum realisable stem length</b> 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).																																																																																									

## Ordering Information with Indication and Temperature Ranges, Options

Basic Model: Gas-actuated thermometers with every angle at Stem		TGelChg
<b>Case filling:</b>	without silicone oil	no code letters <b>G</b>
<b>Nominal case size:</b>	case-Ø 63, 80, 100, 160 mm (2½", 3", 4", 6")	<b>63, 80, 100, 160</b>
<b>Case configuration:</b>	centre back connection, every angle	no code letters
<b>Temperature ranges:</b>	scale: $\Delta T$ (K):	
	0 – 80 °C 80	
	0 – 100 °C 100	e.g. <b>0 – 100 °C</b>
	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. <b>-30/+50 °C</b>
	-20 / + 60 °C 80	
	-20 / + 80 °C 100	
	+50 / +300 °C 250	
	+50 / +400 °C 350	
	+100 / +500 °C 400	
<b>Stem:</b>	without screw fitting, plain stem	<b>A1</b>
	union nut	<b>A3</b>
	male thread, turnable	<b>A4</b>
	male thread, rigid	<b>A4.1</b>
	male thread / compression fitting	<b>A5</b>
	male thread, turnable / double male adapter	<b>A6</b>
<b>Stem-Ø dF:</b>	8, 10 or 12 mm	<b>dF 8, 10, 12</b>
<b>Stem length:</b>	L resp. L1 in mm	e.g. <b>L = 100 mm</b>
<b>Process connection:</b>	see page 3	e.g. <b>G ½ B</b>
<b>Options:</b>	red mark on the dial	<i>(order at present still in cleartext)</i>
	plastic clip red or green external on crimped-on ring for NCS 80, 100 and 160	
	window tempered safety glass for NCS 80, 100 and 160	
	acrylic glass (PMMA) for NCS 80 and 100	
	polycarbonate (PC) NCS 63, 80 and 100	
	movement stainless steel	
	case ventilation no. 22 for outdoor installation	
	case polished	
	measuring point stainless steel plate 12 mm x 55 mm (0.47" x 2.17") with	
	marking wire mounting or sticker on case coverage	

**Example:** TGelChg 100, 0 – 100 °C, A3, dF 8, L = 100 mm, M 27x2

**Special Versions:** Please describe your requirements in cleartext