

Gas-Actuated Thermometers, every angle

Crimped-on ring case stainless steel, turnable and adjustable

TGelChg
TGelChgG

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

With nitrogen filling
(inert gas, physiological harmless)

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): 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 80 K to 600 K

Temperature Sensor (Stem)

1.4571 (316 stainless steel),

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

Window

Instrument glass

Movement

Brass/German silver

Dial

Aluminum, black figures, white background

Pointer

Aluminum, black

Zero Adjustment (± 6%)

Externally by a screw



Ordering Information, Standard Temperature Ranges, Options

See page 4

Special Versions and further Options among others

- Other stem models, stem-Ø, connection thread 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 TGelChg for ambient temperatures up to -60°C;
Model TGelChgG for ambient temperatures up to -40 °C,
up 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

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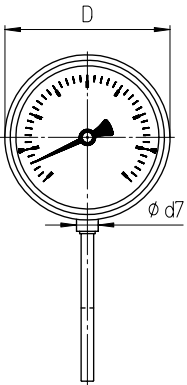
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Tel.: +49 (0)37 74/58-0 • Fax: +49 (0)37 74/58-545
manotherm.com • mail@manotherm.com

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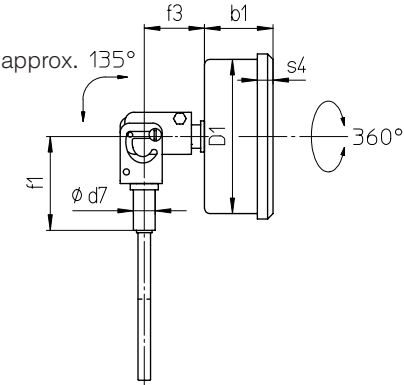
02/11

Dimensional Data and Weights

Centre Back Stem Position, with pivot / every angle

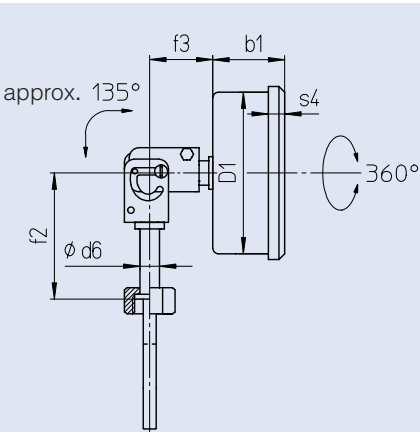


A1
also A5

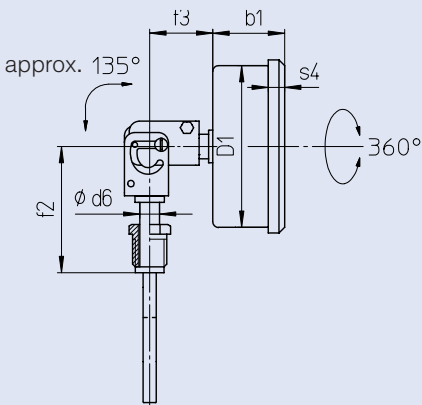


A1
also A5

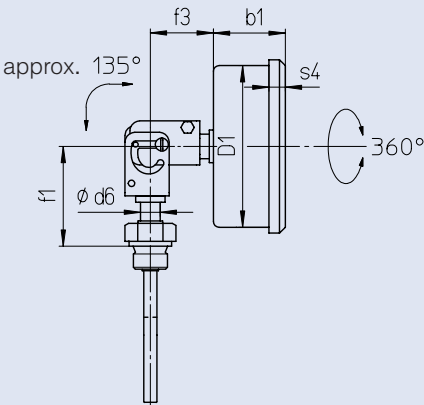
Further Stem Models



A 3
also A6



A 4

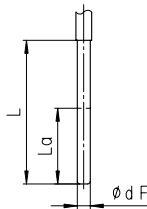


A 4.1

Dimensional Data (mm / inches) and Weights (kg / lb) *											
NCS	b1	D	D1	d6	d7	f1	f2	f3	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 information is an example and relates on version with stem A1, Ø 10 mm (0.4"), Länge 200 mm (8").

Stem Models

Stem Models																																																																																										
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)																																																																																		
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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Process connection:			Male thread / compression fitting				Male thread, turnable / double male adapter																																																																																			
Stem model:			A5 (= basic stem A1 with compression fitting)				A6 (= basic stem A3 with double male adapter)																																																																																			
Form according to DIN 13 190:			Form 2 (thread cylindrical) Form 3 (thread conical)				—																																																																																			
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Minimum Stem Length, Active Length and maximum realisable Stem Length																																																																																										
			up to max. 500 °C			500 °C and above			The minimum length Lmin / L1min of the stem is the smallest possible stem length against the active length La (vessel) and the stem model.																																																																																	
			Stem-Ø dF:			Stem-Ø dF:																																																																																				
Stem model:	Length:	Thread:	12	10	8	12	10	8	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.																																																																																	
all models	La	all standard threads	35	45	75	75	105	165																																																																																		
A1 A3 A4	Lmin	all standard threads	55	65	95	95	125	185	The maximum realisable stem length is 2.50 m. Larger lengths are realisable with a capillary line, e. g. with special stems A3.2, A4.2 and A4.3 (data sheet 8299.1).																																																																																	
A4.1	Lmin	G ½ B, M 18x1.5, M 20x1.5	49	59	89	89	119	179																																																																																		
		G ¾ B	51	61	91	91	121	181																																																																																		
		½" NPT, ¾" NPT	54	64	94	94	124	184																																																																																		
A5	Lmin	all standard threads	90	100	130	130	160	220																																																																																		
A6	L1min	G ½ B, M 20x1.5	49	59	89	89	119	179																																																																																		
		G ¾ B, M24x1.5, M27x2	51	61	91	91	121	181																																																																																		
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others			upon request			upon request																																																																																				

Ordering Information with Indication- and Temperature Ranges, Options

Basic Model:		Gas-actuated thermometers with pivot / every angle	TGelChg
Case filling:	without		without code letters
	silicone oil		G
Nominal case size:	case-Ø 63, 80, 100, 160 (mm) (2½", 3", 4", 6")		63, 80, 100, 160
Case configuration:	centre back connection, with pivot / every angle		without code letters
Temperature ranges:	scale:	Δ T (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	
	plastic clip	red or green external at the 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"), wire mounting or	
	marking	sticker on case coverage	

Example: TGelChg 100, 0-100 °C, A3, dF 8, L = 100 mm, M 27 x 2

Special Versions: Please describe your requirements clearly

Technical changes, replacement of materials and errors excepted.