

Diesel Exhaust Thermometers, with Capillary Line

TAF

Crimped-on ring case stainless steel

Diesel exhaust thermometers are particularly being used for the measurement of exhaust-and cooling water temperatures at diesel engines.

They are particularly construed for this high mechanical and technical loads, amongst others by the "jacket version" and the standard case filling with a highly viscous silicone oil. For a longer service life, diesel exhaust thermometers should always be applied in combination with a thermowell.

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

Silicone oil

Nominal Case Sizes

63, 80, 100 (mm) (2½", 3", 4")

Case Configuration

Connection temperature
sensor (stem): capillary line

Capillary line position: vertical bottom position,
optional: centre back position (**rm**),
see page 2

Mounting device:

for bottom capillary line position:
back flange for surface mounting (**Rh**) or
mounting device for
gauge holder bracket (**Mgh**)

for centre back

capillary line position (**rm**): u-clamp for panel mounting (**BFr**)
back flange for surface mounting (**Rh**)

Capillary line (standard) 1m stainless steel Ø 2mm, with buckle
protection tubes at both ends
capillary line length L_{FL} selectable from
1m up to 15 m (> 15 m upon request)

Temperature Ranges

0 - 120 °C

50 - 650 °C

Temperature Sensor (Stem)

1.4571 (316 stainless steel),
max. static operating pressure: 25 bar
Stem models (jacket version): A5.5, A1.5 or A3.5
Stem- Ø dF: 10, 12 or 13 mm
Stem length (standard): 150, 200, 250, 300 or 400 mm
Compression fitting
for stem model A5.5: steel galvanised



Window

Instrument glass

Movement

Brass/German silver

Dial

Aluminum, black figures, white background

Pointer

Aluminum, black

Zero Adjustment ($\pm 6\%$)

Externally by a screw

Ordering Information, Standard Temperature Ranges, Options

See page 4

Special Versions and further Options among others

- Other stem-Ø, connection thread and materials upon request
- Version for extreme loads
- Capillary line $F_{FL} > 15$ m 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
- Position of the connection at 3 o'clock, 9 o'clock, 12 o'clock, others upon request or other than vertical installation (90°)
- GOST-version for Russia, Ukraine, Kazakhstan

Thermowells

See DB 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

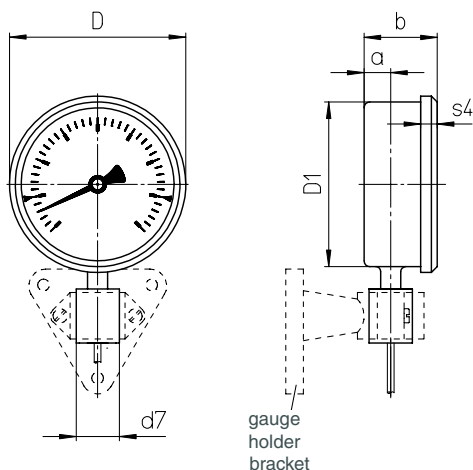
Am Gewerbepark 9 • D-08344 Grünhain-Beierfeld
Tel.: +49 (0)37 74/58-0 • Fax: +49 (0)37 74/58-545
manotherm.com • mail@manotherm.com

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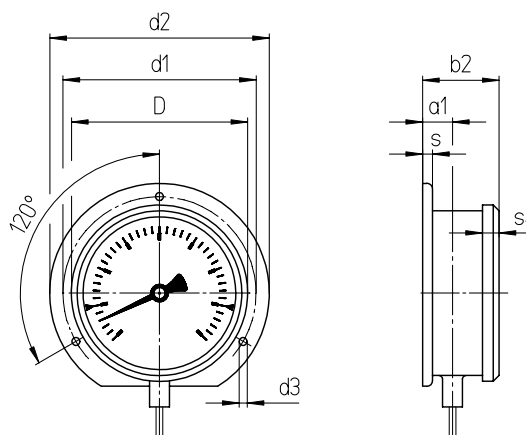
Capillary Line Position / Case Configurations, Code Letters, Dimensional Data and Weights

Vertical Bottom Capillary Line Position

Mounting device for gauge holder brackets¹⁾
code letters **Mgh**

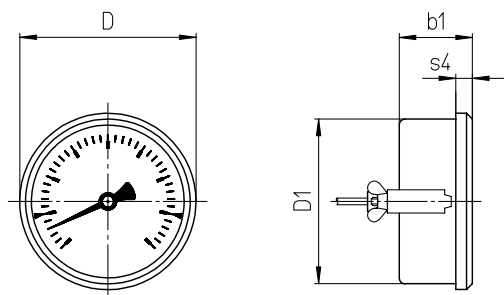


Back flange for surface mounting
code letters **Rh**

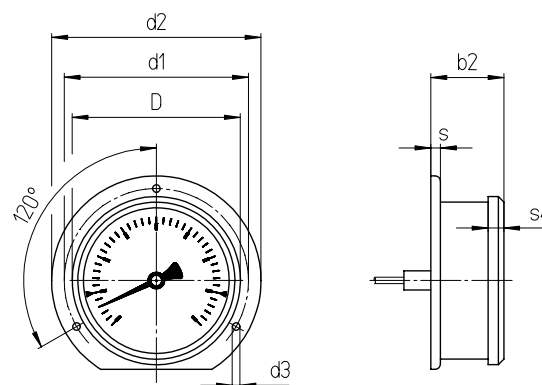


Centre Back Capillary Line Position

U-clamp for panel mounting
code letters **rmBFr**



Back flange for surface mounting
code letters **rmRh**



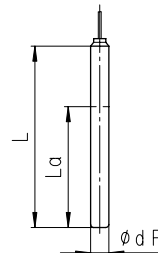
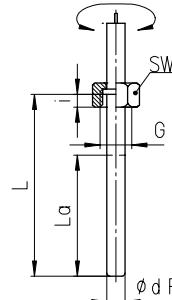
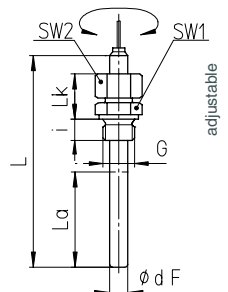
Dimensional Data (mm / inches) and Weights (kg / lb)

NCS	a	a1	b	b1	b2	D	D1	d1	d2	d3	d7	s	s4	weight ²⁾ TAF
63	12	15	39	39	42	67	62	75	85	3.6	26	5	8	0.45
2½"	.47	.59	1.54	1.54	1.65	2.63	2.44	2.95	3.35	.14	1.02	.02	.31	0.99
80	15	18	42	42	45	86	79	95	110	4.8	26	5	8	0.6
3"	.59	.71	1.65	1.65	1.77	3.39	3.11	3.74	4.33	.19	1.02	.02	.31	1.32
100	15	18.5	43	43	46.5	106	99	116	112	4.8	26	6	10	0.78
4"	.59	.73	1.70	1.70	1.83	4.17	3.90	4.57	4.41	.19	1.02	.24	.40	1.72

¹⁾ Details concerning gauge holder brackets can be found in the additional data sheets of catalogue-heading 8.

²⁾ The information is an example and relates on version with mounting device for gauge holder bracket and stem A1.5, Ø 10 mm (0.4"), length 200 mm (8").

Stem Models

Stem Models												
Process connection:		without screw fitting, plain stem										
Stem model:	A1.5											
Form according to DIN 13 190:	Form 1											
Stem material:	1.4571											
Stem-Ø dF:	10, 12, 13											
Order length L (standard length):	150, 200, 250, 300, 350, 400											
Data sheet (suitable thermowell models):	8.8141 (SK2)											
												
Process connection:		Union nut										
Stem model:	A3.5											
Form according to DIN 13 190:	Form 5											
Stem material:	1.4571											
Stem-Ø dF:	10, 12, 13											
Screw fitting material:	1.4571											
Order length L (standard length):	150, 200, 250, 300, 350, 400											
Data sheet (suitable thermowell models):	8.8112 (SF4F), 8.8113 (SF4.1F) 8.8131 (SF9)											
Thread (dimension in mm):	G	SW	i									
	G ½	27	10									
	G ¾	32	12									
	M 20 x 1.5	27	10									
	M 27 x 2	32	12									
												
Process connection:		Male thread / compression fitting										
Stem model:	A5.5											
Form according to DIN 13 190:	Form 2											
Stem material:	1.4571											
Stem-Ø dF:	10, 12, 13											
Screw fitting material:	steel galvanised											
Order length L (standard length):	150, 200, 250, 300, 350, 400											
Data sheet (suitable thermowell models):	8.8110 (SF4), 8.8112 (SF4F) 8.8121(SF6+SF7)											
Thread (dimension in mm):	G	SW1	i	Lk								
	G ½ B	27	14	35								
	G ¾ B	32	16	37								
	M 20 x1.5	27	14	35								
	M 27 x 2	32	16	37								
												
				<table><tr><th>Stem-Ø</th><th>SW2</th></tr><tr><td>10</td><td>19</td></tr><tr><td>12</td><td>22</td></tr><tr><td>13</td><td>24</td></tr></table>	Stem-Ø	SW2	10	19	12	22	13	24
Stem-Ø	SW2											
10	19											
12	22											
13	24											
Minimum Stem Length, Active Length and maximum realisable Stem Length												
Capillary line including stem ≤ 5 m			Capillary line > 5 m									
Stem model:	Length:		Length:									
	La	Lmin	La	Lmin								
A1.5	80	150	120	175								
A3.5	80	150	120	150								
A5.5	80	150	120	175								
others	upon request											
The minimum length Lmin of the stem is the smallest possible stem length. 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. The maximum realisable stem length is 400 mm.												

Ordering Information with Indication- and Temperature Ranges, Options

Basic Model:		Diesel exhaust thermometers with capillary line	TAF
Case filling:		silicone oil	G
Nominal case size:		case-Ø 63, 80, 100 (mm) (2½", 3", 4")	63, 80, 100
Stem position / case configuration:		vertical bottom position, mounting device for gauge holder bracket	Mgh
		vertical bottom position, back flange for surface mounting	Rh
		centre back position, back flange for surface mounting	rmRh
		centre back position, u-clamp	rmBFr
Temperature ranges:		0 - 120 °C	0-120 °C
		50 - 650 °C	
Stem (jacket version):	A1.5		A1.5
	A3.5		A3.5
	A5.5		A5.5
Stem-Ø dF:		10, 12 or 13 mm	dF 10, 12, 13
Stem length:		L 150, 200, 250, 300, 350, 400	e. g. L = 150 mm
Capillary line length:		L _{FL} ≥ 1 to 15 m	L _{FL} = 3 m
Process connection:		see page 3	e. g. G ½ B
Options:		red mark plastic clip window movement stainless steel case polished compression fitting stainless steel protective hose for capillary line on the dial red or green external at the crimped-on ring for NCS 80 and 100 tempered safety glass for NCS 80 and 100 flexible armour made of stainless steel	(order at the moment still as cleartext)
Version:		dial marking with symbol	
German Lloyd or Russian Sea Register			
Typ TAF 63, 80, 100		copy of the certificate upon request	
measuring point marking		stainless steel-plate 12 mm x 55 mm (0.47" x 2.17"), wire mounting or sticker on case coverage	

Example: TAF 100, unten Mgh, 0-120 °C, A3.5, dF 8, L = 150 mm, L_{FL} = 3 m, G ½

Special Versions: Please describe your requirements clearly

Technical changes, replacement of materials and errors excepted.