Diesel Exhaust Thermometer, with Capillary Line

TAF

Crimped-on ring case stainless steel

Diesel exhaust thermometers are primarily used for the measurement of exhaust and cooling water temperatures at diesel engines. They are specially designed for these high mechanical and technical loads, among others due to the “stem in jacket version” and the standard case filling with highly viscous silicone oil.
To increase their durability, diesel exhaust thermometers should always be applied in combination with a thermowell.

Standard Versions

This data sheet contains detailed information on our standard versions and available options. In overview 8000 you will find additional information on selection, metrological features, permissible ambient and storage temperatures as well as error limits, etc. Information on the metrologically optimal design of thermometers can be found in our technical information sheet T08-000-031.

Measuring Unit
With nitrogen filling (inert gas, physiologically safe)

Accuracy (DIN EN 13 190)
Class 1

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

Degree of Protection (DIN EN 60 529/IEC 529)
IP65

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
- centre back position (**rm**)

Mounting device:
- for bottom capillary line position:
  - back flange for surface mounting (**Rh**)
  - mounting device for gauge holder bracket (**Mgh**)
- for centre back capillary line position:
  - u-clamp for panel mounting (**rmBFr**)
  - back flange for surface mounting (**rmRh**)

Capillary Line
1 m stainless steel Ø 2 mm
with buckle protection tube at both ends
capillary line length L_{FL} selectable from 1 m to 15 m

Temperature Ranges
0 – 120 °C
50 – 650 °C

Temperature Sensor (Stem)
Made of stainless steel 1.4571 (316Ti)

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:	galvanised steel

Window
Instrument glass

Movement
Brass/German silver

Dial

0 – 120 °C	aluminum white, scale black
50 – 650 °C	aluminum natural finish, scale black

Pointer
Aluminum black

Indication Adjustment (±6 %)
Externally via screw

Ordering Information, Standard Ranges, Options

See page 4

Special Versions and Further Options

- Other stem lengths and connection threads upon request
- Version for particularly extreme loads
- Capillary line F_{FL} > 15 m upon request
- Other temperature ranges and/or special scales, e.g. dual scale °C/°F, coloured fields or ranges, dial inscriptions
- Case parts stainless steel 1.4404 (316L) upon request
- Position of connection radial 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, Belarus

Thermowells

See data sheets 8.8110 ff.

Sales and Export South, West, North
ARMATURENBAU GmbH
Manometerstraße 5 • D – 46487 Wesel-Ginderich
Tel.: +49 2803 9130 – 0 • Fax: +49 2803 1035
www.armaturenbau.com • mail@armaturenbau.com

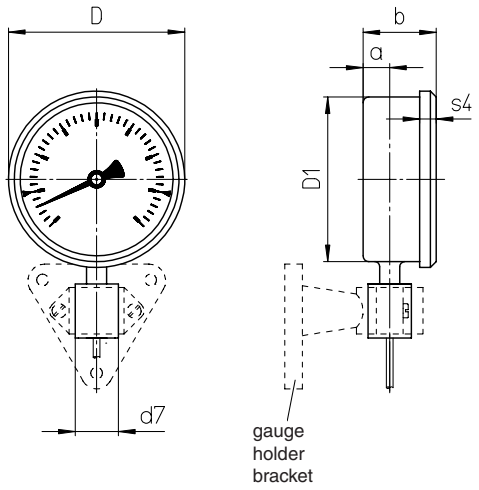
Subsidiary Company, Sales and Export East
MANOTHERM Beierfeld GmbH
Am Gewerbepark 9 • D – 08344 Grünhain-Beierfeld
Tel.: +49 3774 58 – 0 • Fax: +49 3774 58 – 545
www.manotherm.com • mail@manotherm.com

8292
04/18

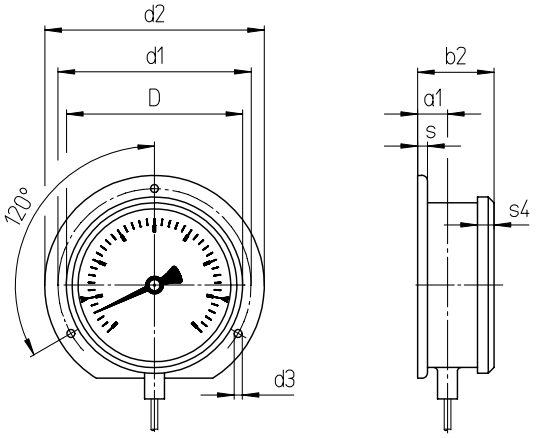
Capillary Line Position, Code Letters, Dimensional Data and Weights

Vertical Bottom Capillary Line Position

mounting device for gauge holder bracket[1)]
code letters **Mgh**

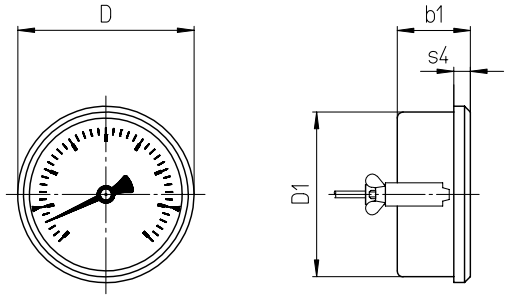


back flange for surface mounting
code letters **Rh**

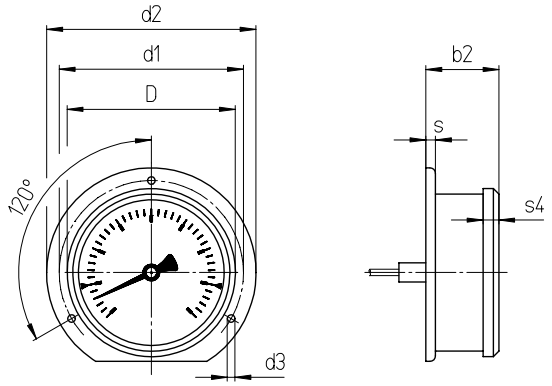


Centre Back Capillary Line Position

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



back flange for surface mounting (except NCS 80)
code letters **rmRh**



Dimensional Data (mm) and Weights (kg)

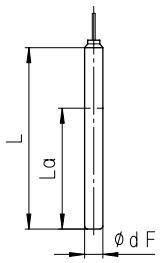
NCS	a	a1	b	b1	b2	D	D1	d1	d2	d3	d7	s	s4	approx. weight[2)] TAF
63	12	15	39	39	42	67	62	75	85	3.6	26	5	8	0.45
80	15	18	42	42	45	86	79	95	110	4.8	26	5	8	0.6
100	15	18.5	43	43	46.5	106	99	116	112	4.8	26	6	10	0.78

[1)] Available versions can be found on our website in section Product Range, heading Accessories.
[2)] The data are examples and relate to the version with mounting device for gauge holder bracket Mgh and stem A1.5, Ø 10 mm, length 200 mm and 1 m capillary line.

Stem Models

Stem Models

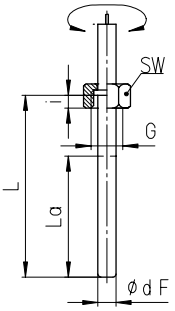
Process connection:	Without screw fitting, plain stem
Stem model:	**A1.5**
Form acc. to DIN EN 13 190:	Form 1
Stem material:	1.4571
Stem Ø dF:	10, 12, 13 mm
Order length L (standard length):	150, 200, 250, 300, 350, 400 mm
Suitable thermowell models: (data sheet)	SK2 (8.8141)



Process connection:	Union nut
Stem model:	**A3.5**
Form acc. to DIN EN 13 190:	Form 5
Stem material:	1.4571
Stem Ø dF:	10, 12, 13 mm
Screw fitting material:	1.4571
Order length L (standard length):	150, 200, 250, 300, 350, 400 mm
Suitable thermowell models: (data sheet)	SF4F (8.8112), SF4.1F (8.8113) SF9 (8.8131)

Thread (dimensional data in mm):

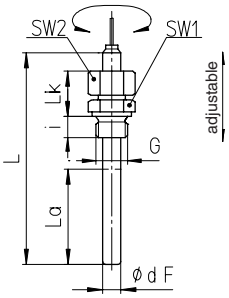
G	SW	i
G ½	27	10
G ¾	32	12
M20x1.5	27	10
M27x2	32	12



Process connection:	Male thread/compression fitting
Stem model:	**A5.5**
Form acc. to DIN EN 13 190:	Form 2
Stem material:	1.4571
Stem Ø dF:	10, 12, 13 mm
Screw fitting material:	galvanised steel
Order length L (standard length):	150, 200, 250, 300, 350, 400 mm
Suitable thermowell models: (data sheet)	SF4 (8.8110), SF4F (8.8112) SF6, SF7 (8.8121)

Thread (dimensional data in mm):

G	SW1	i	Lk
G ½ B	27	14	35
G ¾ B	32	16	37
M20x1.5	27	14	35
M27x2	32	16	37



Stem Ø	SW2
10	19
12	22
13	24

Minimum Stem Length and Active Length (mm)

	Capillary line incl. 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 is the smallest feasible stem length.
Important: Please note the technical information sheet T08-000-031 on the metrologically optimal stem length.

The active length La is the temperature-sensitive part of the stem.

Ordering Information

Basic Model:	Diesel Exhaust Thermometer with Capillary Line		TAF
Case filling:	silicone oil		without code letters
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 for panel mounting		**rmBFr**
Temperature ranges:	0 – 120 °C		**0–120 °C**
	50 – 650 °C		
Stem in 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 mm	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.	**G½B**
Options:	red mark	on the dial	
	plastic clip	red or green, external at crimped-on ring for NCS 80, 100	
	window	tempered safety glass for NCS 80 and 100	
	movement stainless steel		
	case polished		
	compression fitting stainless steel		
	protection hose for capillary line	spiral protection hose made of stainless steel	
	versions: DNV GL and Russian Sea Register **model TAF 63, 80, 100**	dial marking with symbol	
		copy of the certificate upon request	
	instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17") with wire mounting or sticker upon the case	
Example:			**TAF 100, bottom Mgh, 0 –120 °C, A3.5, dF 8, L = 150 mm, L_{FL} = 3 m, G½**

Special Versions: Please describe your requirements in cleartext!