

# Diesel Exhaust Thermometer, Rigid Mount

TAS

## 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 the 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 13190)

Class 1

#### Case

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

#### Degree of Protection (DIN EN 60529 / IEC 60529)

IP65

#### Case Filling

Silicone oil

#### Nominal Case Sizes

63, 80, 100 mm (2½, 3, 4")

#### Case Configuration

Connection temperature sensor (stem)

- rigid mount with neck tube

Stem position

- vertical bottom position

- centre back position (**rm**)

#### Temperature Ranges

0 – 120 °C (32 – 248 °F)

50 – 650 °C (122 – 1202 °F)

#### Temperature Sensor (Stem)

Made of stainless steel 316Ti (1.4571)

Max. static

operating pressure 25 bar

Stem types (jacket version) A5.5, A1.5 or A3.5

Stem Ø dF 10, 12 or 13 mm (0.39, 0.47 or 0.51")

Stem length (standard) 150, 200, 250, 300 or 400 mm

(5.91, 7.87, 9.84, 11.81 or 15.75")

Lmin 150 mm (5.91")

Compression fitting

for stem type A5.5 stainless steel 1.4571

#### Window

Instrument glass

#### Movement

Brass / German silver



#### Dial

0 – 120 °C (32 – 248 °F)

aluminum white, scale black

50 – 650 °C (122 – 1202 °F)

aluminum natural finish, scale black

#### Pointer

Aluminum black

#### Indication Adjustment (±6 %)

Externally via screw

### Ordering Information, Standard Ranges, Options

See page 4

### Further Options

- Version for particularly extreme loads
- Position of connection radial at 3 o'clock, 9 o'clock, 12 o'clock or other than vertical installation (90°)

### Special Versions Upon Request

- Other stem lengths and connection threads
- Other temperature ranges and / or special scales, e.g. dual scale °C / °F, coloured fields or ranges, dial inscriptions
- Case parts stainless steel 316L (1.4404)
- Other position of connection
- Certificates and approvals, e.g. GOST, DNV (see also website)

### Thermowells

See data sheets 8.8110ff.

[www.armano-messtechnik.com](http://www.armano-messtechnik.com)

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# Stem Position, Code Letters, Dimensional Data and Weight

## Vertical Bottom Stem Position

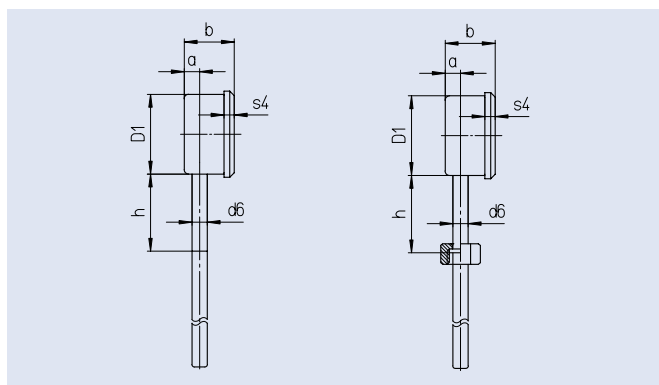
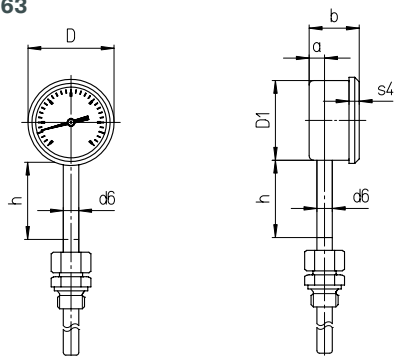
Stem type A5.5

Stem type A1.5

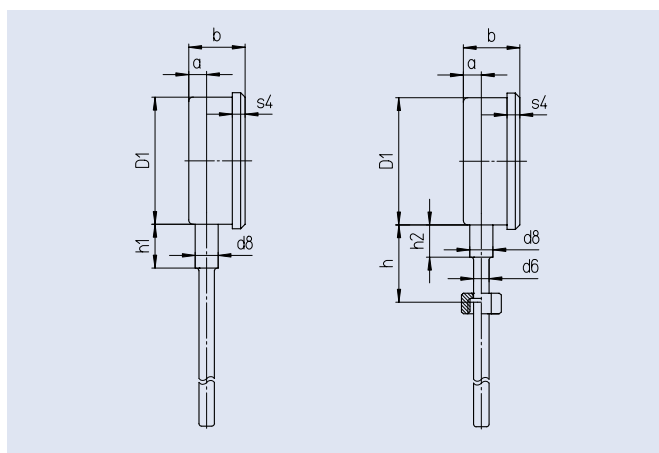
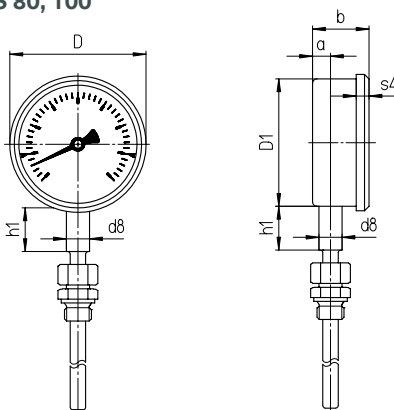
Stem type 3.5

without code letters

TAS 63



TAS 80, 100



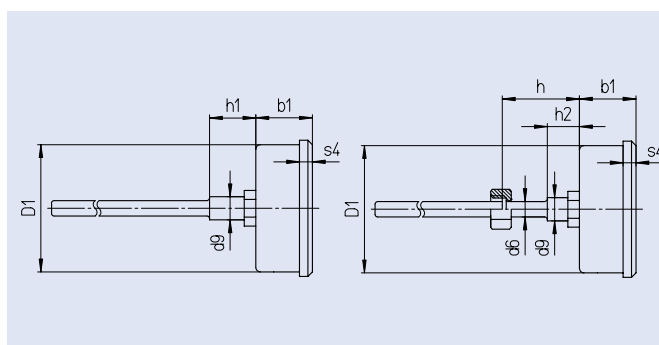
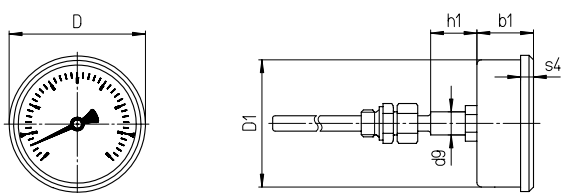
## Centre Back Stem Position

Stem type A5.5

Stem type A1.5

Stem type 3.5

code letters rm



## Dimensional Data (mm / inch) and Weight (kg / lb)

NCS	a	b	b1	D	D1	d6	d8	d9	h	h1	h2	s4	approx. weight <sup>1)</sup> TAS
63 2 1/2"	12 0.47	39 1.54	39 1.54	67 2.64	62 2.44	12 0.47	18 0.71	18 0.71	60 2.36	34 1.34	25 0.98	8 0.31	0.33 0.73
80 3"	15 0.59	42 1.65	42 1.65	86 3.39	79 3.11	12 0.47	18 0.71	18 0.71	60 2.36	34 1.34	25 0.98	8 0.31	0.5 1.1
100 4"	15 0.59	43 1.69	43 1.69	106 4.17	99 3.9	12 0.47	18 0.71	18 0.71	60 2.36	34 1.34	25 0.98	10 0.39	0.7 1.54

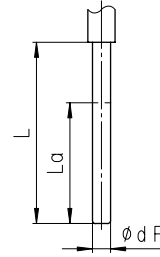
<sup>1)</sup> example, data for version with stem A1.5, Ø 10 mm (0.39"), length 200 mm (7.87")

# Stem Types

## Stem Types

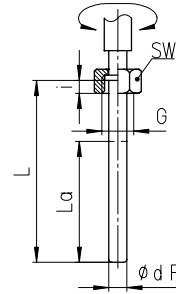
**Process connection** without screw fitting, plain stem

<b>Stem type</b>	<b>A1.5</b>
<b>Form acc. to DIN EN 13190</b>	form 1
<b>Stem material</b>	1.4571
<b>Stem Ø dF</b>	10, 12, 13 mm
<b>Order length L (standard length)</b>	150, 200, 250, 300, 350, 400 mm
<b>Suitable thermowell models</b> (data sheet)	SK2 (8.8141)



**Process connection** union nut

<b>Stem type</b>	<b>A3.5</b>
<b>Form acc. to DIN EN 13190</b>	form 5
<b>Stem material</b>	1.4571
<b>Stem Ø dF</b>	10, 12, 13 mm
<b>Screw fitting material</b>	1.4571
<b>Order length L (standard length)</b>	150, 200, 250, 300, 350, 400 mm
<b>Suitable thermowell models</b> (data sheet)	SF4.1 (8.8111), SF4.1F (8.8113) SF9 (8.8131)

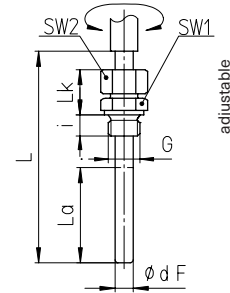


**Thread**  
(dimensional data in mm / inch)

G	SW	i
G ½	27 / 1.06	10 / 0.39
G ¾	32 / 1.26	12 / 0.47
M20x1.5	27 / 1.06	10 / 0.39
M27x2	32 / 1.26	12 / 0.47

**Process connection** male thread / compression fitting

<b>Stem type</b>	<b>A5.5</b>
<b>Form acc. to DIN EN 13190</b>	form 2
<b>Stem material</b>	1.4571
<b>Stem Ø dF</b>	10, 12, 13 mm
<b>Screw fitting material</b>	1.4571
<b>Order length L (standard length)</b>	150, 200, 250, 300, 350, 400 mm
<b>Suitable thermowell models</b> (data sheet)	SF4 (8.8110), SF4F (8.8112) SF6, SF7 (8.8121)



**Thread**  
(dimensional data in mm / inch)

G	SW1	i	Lk
G ½ B	27 / 1.06	14 / 0.55	35 / 1.38
G ¾ B	32 / 1.26	16 / 0.63	37 / 1.46
M20x1.5	27 / 1.06	14 / 0.55	35 / 1.38
M27x2	32 / 1.26	16 / 0.63	37 / 1.46

Stem Ø	SW2
10 / 0.39	19 / 0.75
12 / 0.47	22 / 0.87
13 / 0.51	24 / 0.94

## Minimum Stem Length and Active Length (mm / inch)

stem type	length	
	La	Lmin
A1.5	80 / 3.15	150 / 5.91
A3.5	80 / 3.15	150 / 5.91
A5.5	80 / 3.15	150 / 5.91
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, Options

Basic Model	Diesel Exhaust Thermometer with Rigid Mount	TAS
Case filling	silicone oil	without code letters
Nominal case size	case Ø 63, 80, 100 mm (2½, 3, 4")	<b>63, 80, 100</b>
Stem position / case configuration	vertical bottom position centre back position	without code letters <b>rm</b>
Temperature ranges	0 – 120 °C (32 – 248 °F) 50 – 650 °C (122 – 1202 °F)	<b>0 – 120 °C</b> <b>50 – 650 °C</b>
Stem in jacket version	A1.5 A3.5 A5.5	<b>A1.5</b> <b>A3.5</b> <b>A5.5</b>
Stem Ø dF	10, 12 or 13 mm (0.39, 0.47 or 0.51")	<b>dF 10, 12, 13</b>
Stem length	L 150, 200, 250, 300, 350, 400 mm (5.91, 7.87, 9.84, 11.81 or 15.75")	e.g. <b>L = 150 mm</b>
Process connection	see page 3	e.g. <b>G ½ B</b>

**These options are to be ordered in written form. Please contact us to ensure compatibility when combining 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, 100
Case polished	
Instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17"), wire mounting sticker on the case

Example

TAS 80, 0 – 120 °C, A5.5, dF 12, L = 150 mm, G ½ B

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