Diesel Exhaust Thermometer, Rigid Mount

Crimped-on ring case stainless steel

TAS

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 304 (1.4301)

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):
- 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 models (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 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

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°)
- GOST version for Russia and Kazakhstan

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

Thermowells

See data sheets 8.8110ff.

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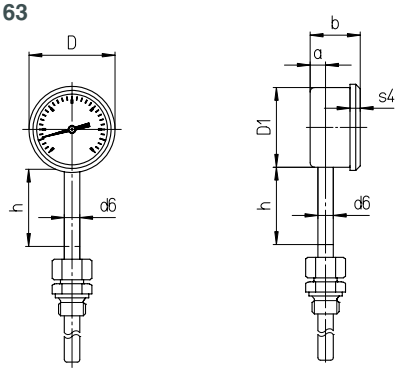
Stem Position, Code Letters, Dimensional Data and Weight

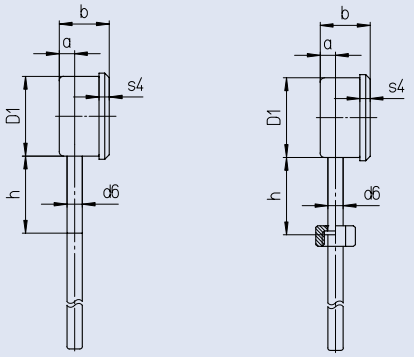
Vertical Bottom Stem Position

Stem model A5.5 | **Stem model A1.5** | **Stem model 3.5**

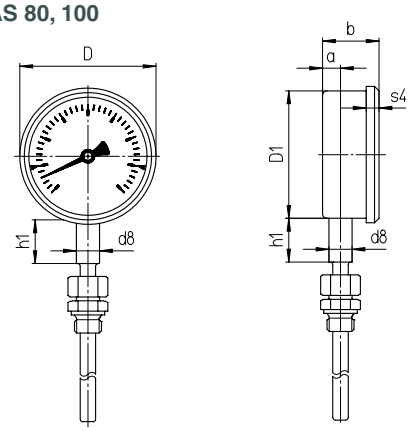
without code letters

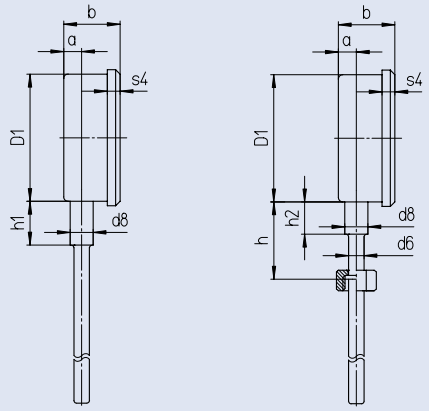
TAS 63





TAS 80, 100

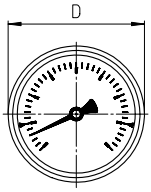


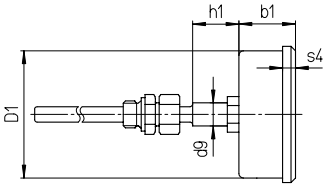


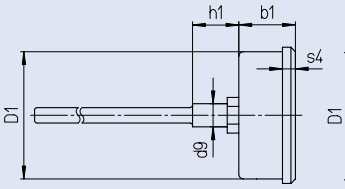
Centre Back Stem Position

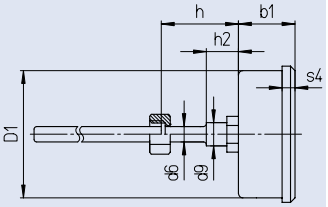
Stem model A5.5 | **Stem model A1.5** | **Stem model 3.5**

code letters **rm**









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

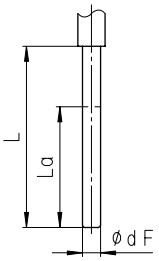
NCS	a	b	b1	D	D1	d6	d8	d9	h	h1	h2	s4	approx. weight[1] TAS
63 **2½"**	12 **0.47**	39 **1.54**	39 **1.54**	67 **2.64**	62 **2.44**	12 **0.47**	18 **0.71**	18 **0.71**	60 **2.36**	34 **1.34**	25 **0.98**	8 **0.31**	0.33 **0.73**
80 **3"**	15 **0.59**	42 **1.65**	42 **1.65**	86 **3.39**	79 **3.11**	12 **0.47**	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**

[1] The data are examples and relate to the version with stem A1.5, Ø 10 mm (0.39"), length 200 mm (7.87")

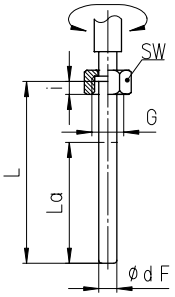
Stem Models

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)



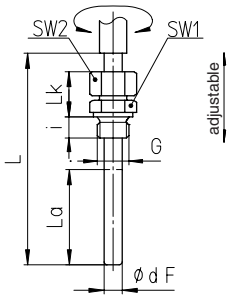
Process connection:	Union nut
Stem model:	**A3.5**
Form acc. to DIN EN 13 190:	Form 5
Stem material:	1.4571
Stem Ø dF:	10, 12, 13 mm
Screw fitting material:	1.4571
Order length L (standard length):	150, 200, 250, 300, 350, 400 mm
Suitable thermowell models: (data sheet)	SF4F (8.8112), SF4.1F (8.8113)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



Thread (dimensional data in mm/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
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/inch):

G	SW1	i	Lk
G ½B	27 / **1.06**	14 / **0.55**	35 / **1.38**
G ¾B	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 model:	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

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")		**63, 80, 100**
Stem position / case configuration:	vertical bottom position		without code letters
	centre back position		**rm**
Temperature ranges:	0 – 120 °C (32 – 248 °F)		**0–120 °C**
	50 – 650 °C (122 – 1202 °F)		
Stem in jacket version:	A1.5		**A1.5**
	A3.5		**A3.5**
	A5.5		**A5.5**
Stem Ø dF:	10, 12 or 13 mm (0.39, 0.47 or 0.51")		**dF 10, 12, 13**
Stem length:	L 150, 200, 250, 300, 350, 400 mm (5.91, 7.87, 9.84, 11.81 or 15.75")	e.g.	**L = 150 mm**
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	
	case polished		
	compression fitting	stainless steel	
	versions: DNV GL and Russian Sea Register **model TAS 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:			**TAS 80, 0–120 °C, A5.5, dF 12, L = 150 mm, G½B**

Special Versions: Please describe your requirements in cleartext!