

FRODE PEDERSEN

Application

- Measurement of exhaust temperature in ships- and stationary diesel engines
- The operating range is up to 800°C in gaseous media with high flow velocity
- Fields of application
 - Ship engines
 - Generators

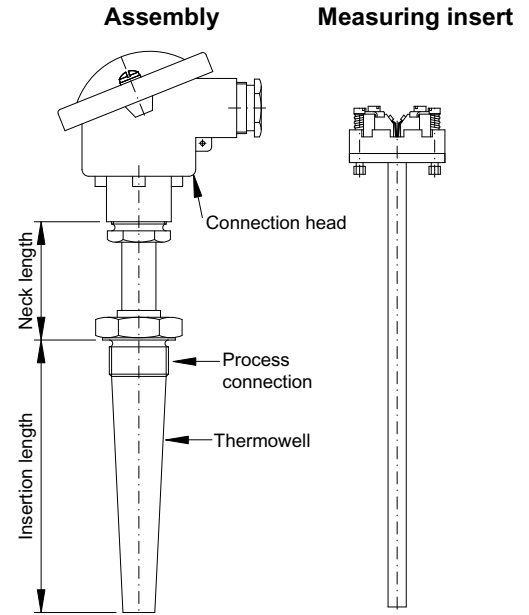
Technical features

- Thermocouple type K acc. to IEC 584-1
- Solid construction with high resistance against vibration acc. to IEC 68-2-6
- The measuring insert can be exchanged or calibrated without closing down the process
- Thermowell drilled from bar stock for optimum strength
- Type approved by classification societies (see page 2)
- Connected to the process with a screwed attachment on the thermowell
- Can be supplied with head mounted transmitter as an option

Ordering

Please select the requested sensor from the table below
The colour code means:

- Standard:** Built of standard modules (short delivery time)
- Variant:** Modified standard modules
- Special:** Special versions and material. We are specialists in temperature measurement. Please contact us and we shall do our utmost to solve your specific measuring tasks



Ordering information

Specifications number	1803-	Sensor										Transmitter				
												4mA:	°C	20mA:	°C	2)

Thermowell (drilled, bar stock)

Bar stock: Stainless, acidproof steel, 800°C
W.no. 1.4571 (AISI 316Ti)
Conus 24 → 14 mm OD 0
Special: s

Neck length (mm)

52 0 5 2
102 1 0 2
Special: (max. 102) x x x

Insertion length (mm)

100 1 0 0
150 1 5 0
200 2 0 0
250 2 5 0
300 3 0 0
Special (Min. 100, max. 400mm) x x x

Process connection

3/4" BSP 0
M24x2: 1
M33x2 2
Special: s

Connection head

B: Degree of protection IP 65 0 0
Special: s s

Transmitter, 2-wire, 4-20mA output

- 0 None
- 1 FPTU galvanic isolated. As terminal block
- 2 FPTU galvanic isolated. In high cap (B-head)
- 3 FPTU galvanic isolated. EEXialICT4/6. As terminal block (in high cap)
- 4 FPTU galvanic isolated. EEXialICT4/6. In high cap (B-head)
- a FPTT galvanic isolated. As terminal block
- b FPTT galvanic isolated. In high cap (B-head)
- c FPTTU galvanic isolated. EEXialICT4/6. As terminal block (in high cap)
- d FPTU galvanic isolated. EEXialICT4/6. In high cap (B-head)
- s Special

Tolerance acc to IEC 584-2

- 0 Class 2 for K, i.e. $\pm 2.5^\circ\text{C}$ or $0.0075 \times t_{\text{actual}} (^\circ\text{C})$ 1)
- s Special

Note 1: The highest value apply

Number of thermocouples

- 0 1
- 1 2

Measuring insert

Model Termocouple Type
TS85 NiCr-Ni K
Special:

Max. temperature

Continuously
800°C

Accessories

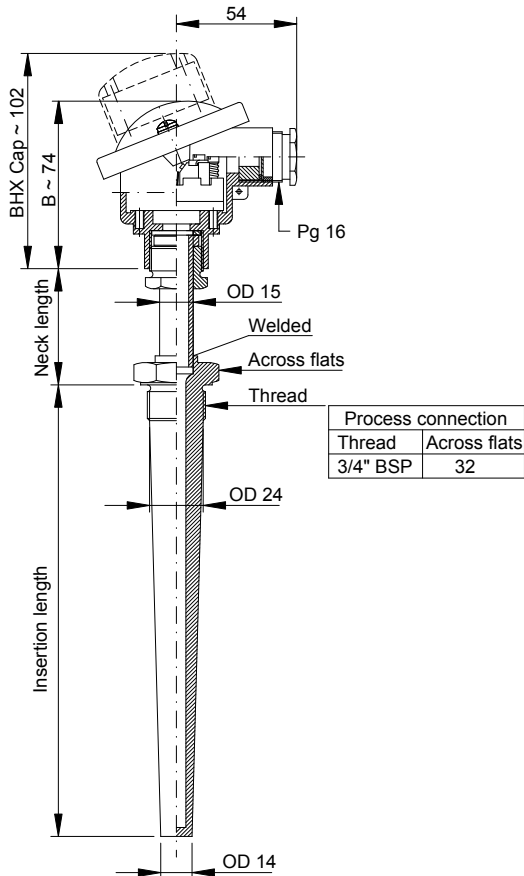
Measuring insert: See data sheet 9108-01
Transmitter: See data sheet 9168

Customer information

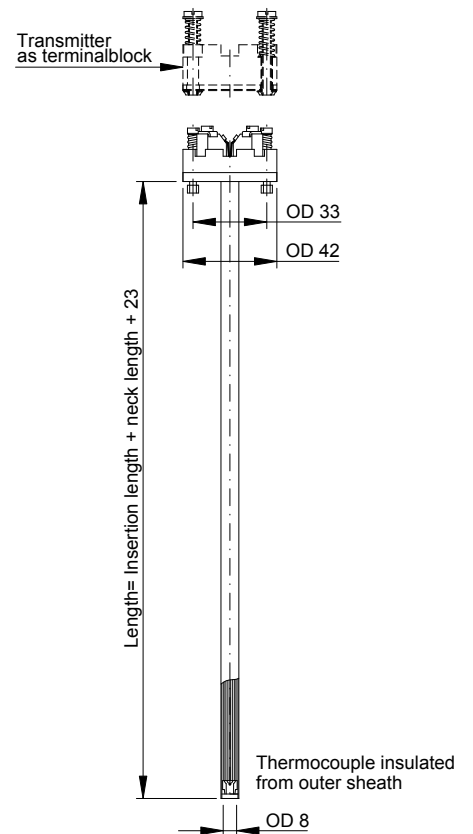
Name:
Tel.:

Dimensions

Assembly UST 3
 Connection head
 Type B / B+BHX Cap (for transmitter)



Measuring insert



Insulation resistance

Versus temperature

Test temperature °C	U Volts	Rmin M ohm
20±15	500	1000
500±15	500	5

Response time

Thermowell Conus OD 24 → OD 14	Response time acc. to representative measurement Temp. changed from 800°C to 20°C (immersed in water)	
	t _{0.5}	t _{0.9}
	40	120

Note:

The 0.5/0.9 time is the time that it takes the sensor to reach 50%/90% of the final value of a temperature change of a medium.
 If media and velocity are different from the ones stated, the time can change significantly.

Type Approvals

- Lloyd's Register of Shipping
- Det Norske Veritas

Connection diagram

