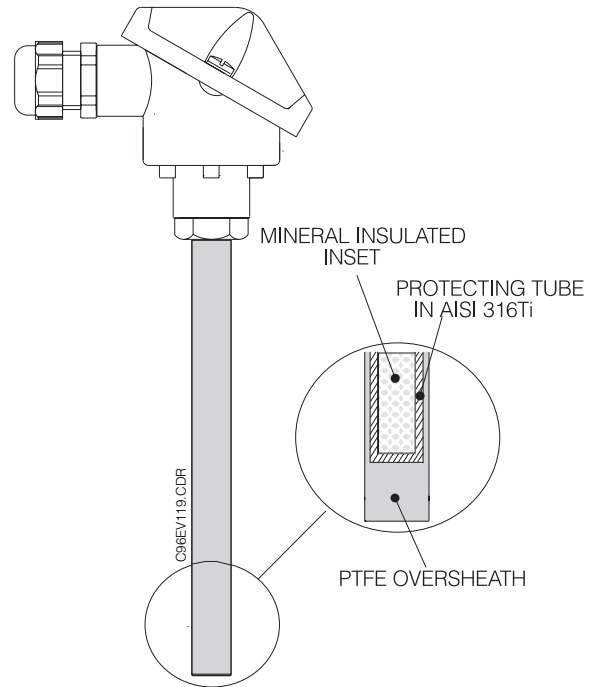


# RTD Thermometer *omnigrad TST720*

**Special duty - PTFE lined  
M.I. replaceable inset  
with protecting tube and PTFE oversheath  
requiring separate compression fitting**



## Description

TST720 RTD thermometer assembly includes a replaceable single or double Pt100 inset, in mineral insulated cable, which can be selected between standard or glass version (for high vibration level application). From the TET family, the inset is available either with free wires for head transmitter mounting or with terminal board.

The terminal head can be selected from a wide choice of standard items (see the Order key or TA20 Technical Information for more details).

The protecting tube has an external PTFE oversheath to protect from corrosion of acids.

## Application

Typical applications for TST720 chemical and pharmaceutical industries.

# Technical data

## Mineral Insulated Replaceable Inset

Versions:

Model	Sheath diameter (mm)	RTD element type
TET100	6 mm	standard
TET102	6 mm	glass
TET200	2 x 3 mm	standard

Sensing element:

Platinum resistance, 1 or 2 x Pt100  $\Omega$  at 0°C

Tolerances:

class A or B to IEC 751, 1/3 DIN B

Wiring:

3 or 4 wire connections

Insulation resistance:

$\geq 100 \text{ M}\Omega$ , test voltage 250 V at ambient temperature

Electrical connections:

washer with 45 or 70 mm wires or terminal board

Stem:

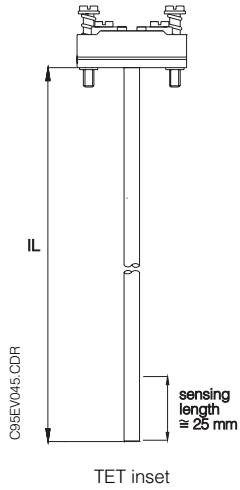
mineral insulated cable

Sheath:

AISI 316L / W.1.4404

Replacement:

inset length IL is calculated as follows  
 $IL = TL + 20 \text{ mm}$



### Protecting tube

Version:

TA12 thermowell

Standard diameter:

11 x 7 mm pipe

Standard material:

AISI 316Ti / W.1.4571

Ext. oversheath diameter:

15 x 11.5 mm

Ext. oversheath material:

PTFE

Connection to head:

M24 x 1.5

Operating temperature:

+0°C to +150°C

Response time values:

according to IEC 751, in moving water at 0.4 m/s  
 $T_{50} = 170 \text{ s}$ ;  $T_{90} = 435 \text{ s}$

### Connection to process

Version:

G 1/2" threaded compression fitting - 15 mm hole

Standard material:

AISI 316Ti / W. 1.4571

Compression element:

PTFE

### Terminal head

Version:

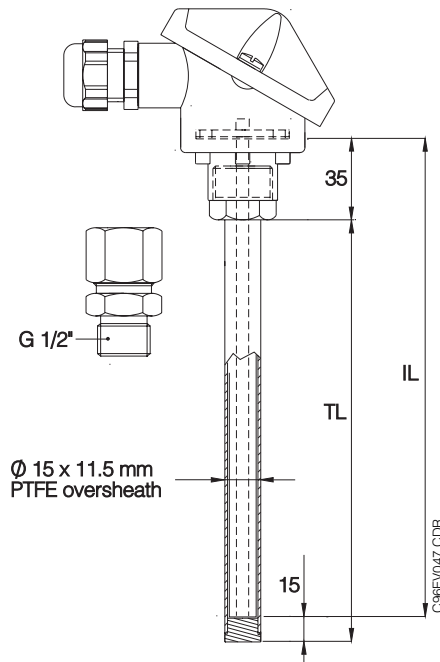
refer to Order key

Protection class:

typical IP55

Electrical connections:

PG11, PG16 or 1/2" NPT depending on head version



Note : all dimensions in millimeters

# Order key

- For inset replacement see Technical data.
- Accuracy statement is referred to the replaceable inset only as defined by IEC 751 without any protecting thermowell which may introduce thermal drift due to process connection heat dissipation in conjunction to short immersion lengths. For a correct temperature measurement the thermowell immersion length must be 20 times its diameter. Shorter immersion lengths can be supplied but the thermometer requires an external (process connection and connection head) thermal insulation.

## TST720 RTD Thermometer - Special duty - PTFE lined M.I. replaceable inset - With protecting tube and PTFE oversheath Requiring separate compression fitting

### Compression fitting: material ; process connection

- A - Compression fitting : none
- D - Compression fitting : PTFE ; G 1/2"

### Total length TL

- A - 140 mm
- B - 195 mm
- C - 255 mm
- D - 295 mm
- E - 355 mm
- F - 385 mm
- H - 505 mm
- K - 535 mm
- M - 715 mm
- Y - ..... mm to specification

### Price for 100 mm of thermowell with teflon oversheath

- B - 100 mm pipe in AISI316Ti/W. 1.4571, teflon oversheath

### Electrical connection

- 1 - washer with 45 mm wires
- 2 - washer with 70 mm wires (70 & 150 mm for 2 Pt100)
- 3 - terminal board

### RTD Class and type of construction

#### TET100 Standard RTD

- B - standard RTD 1 Pt100, class B, 3 wires
- D - standard RTD 2 Pt100, class B, 3 wires
- E - standard RTD 1 Pt100, class B, 4 wires
- H - standard RTD 1 Pt100, class A, 3 wires
- L - standard RTD 2 Pt100, class A, 3 wires
- M - standard RTD 1 Pt100, class A, 4 wires
- P - standard RTD 1 Pt100, class 1/3 DIN, 3 wires
- Q - standard RTD 2 Pt100, class 1/3 DIN, 3 wires
- R - standard RTD 1 Pt100, class 1/3 DIN, 4 wires

#### TET200 Double Standard RTD

- T - standard RTD, double, class B, 3 wires
- V - standard RTD, double, class A, 3 wires

#### TET102 Glass RTD

- 0 - glass RTD 1 Pt100, class B, 3wires
- 1 - glass RTD 2 Pt100, class B, 3 wires
- 2 - glass RTD 1 Pt100, class B, 4 wires
- 3 - glass RTD 1 Pt100, class A, 3 wires
- 4 - glass RTD 2 Pt100, class A, 3 wires
- 5 - glass RTD 1 Pt100, class A, 4 wires
- 6 - glass RTD 1 Pt100, class 1/3 DIN, 3 wires
- 7 - glass RTD 2 Pt100, class 1/3 DIN, 3 wires
- 8 - glass RTD 1 Pt100, class 1/3 DIN, 4 wires
- Y - RTD class and type to specification

### Heads: model, mat., el. conn., IP

- A1 - TA20A, Al, PG16, IP55
- A2 - TA20A, Al, 1/2" NPT, IP55
- A3 - TA20A, Al, PG16, IP68
- B1 - TA20B, PA, PG16, IP55
- C1 - TA20C, Al, PG16, IP65, grey
- D1 - TA20D, Al, PG16, IP55, Hing cap
- D2 - TA20D, Al, 1/2" NPT, IP55, Hing cap
- E1 - TA20E, Al, PG16, IP55
- F1 - TA20F, PP, PG16, IP55
- P1 - TA20P, Al, PG16, IP55, High cap
- P2 - TA20P, Al, 1/2" NPT, IP55, High cap
- T1 - TA20T, POM, PG16, IP65, dig. ind.
- U1 - TA20U, POM, PG16, IP65, IS dig.
- W1 - TA20W, Al, PG16, IP65
- W2 - TA20W, Al, 1/2" NPT, IP55
- X3 - TA20X, AISI, PG11, IP65

### Built-in transmitter

- 0 - Without built-in transmitter
- 1 - With built-in transmitter to be separately ordered

TST720-

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Complete Order Code

## Supplementary Documentation

- TET100 Ø 6 mm M.I. inset  
Technical Information TI071T/02/en
- TET102 Ø 6 mm M.I. inset  
Technical Information TI140T/02/en
- TET200 Ø 2 x3 mm M.I. inset  
Technical Information TI150T/02/en
- TA20 terminal heads  
Technical Information TI072T/02/en

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