

Application

- Measurement of temperature in ducts and furnaces with air and flue gasses
- The operating range is up to 600°C in the low-pressure range
- Typically used in
 - Power plants
 - Incinerators
 - Boilers

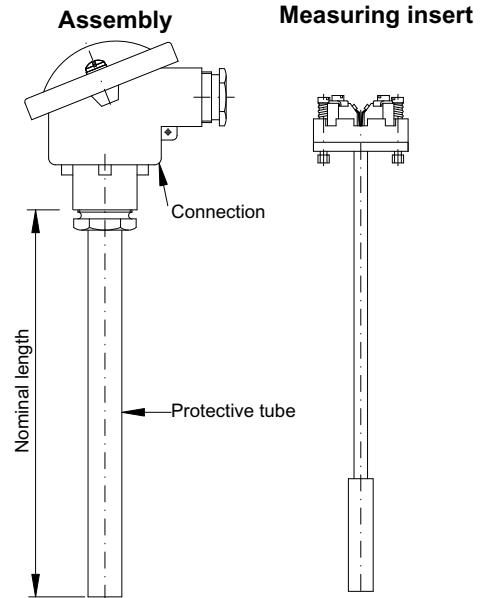
Technical features

- Pt100 resistance thermometer (RTD) acc. to IEC 751
- Built acc. to DIN 43764
- 3-wire connection is standard
- Connected to the process by adjustable flange or compression fitting
- The measuring insert can be exchanged or calibrated without closing down the process
- Protective tube in stainless and acid proof steel
- Modular design and standard length minimize the necessary number of spares
- Optionally, can be supplied with head mounted transmitter

Ordering

The requested sensor is selected from the table below
The colour code means:

- 0 Standard: Built of standard modules (short delivery time)
- 1 Variant: Modified standard modules
- s Special: Special versions and material. We are specialist in temperature measurement. Please contact us and we will do our best to solve your specific measuring task



Ordering information

| Specification number | 1401- | Sensor | | | | | | | | Transmitter | | | |
|----------------------|-------|--------|--|--|--|--|--|--|--|-------------|----|-------|-------|
| | | | | | | | | | | 4mA: | °C | 20mA: | °C 1) |

Protective tube

Stainless, acid proof steel, W.no. 1.4571 (AISI 316Ti)
Max. 800°C
15mm OD. 1.5mm wall
Special:

0
s

Nominal length (mm)

| | | | | |
|--------------------------------------|--|--|--|--|
| 500 | 0 | 5 | 0 | 0 |
| 710 | 0 | 7 | 1 | 0 |
| 1000 | 1 | 0 | 0 | 0 |
| 1400 | 1 | 4 | 0 | 0 |
| 2000 | 2 | 0 | 0 | 0 |
| Interim lengths (Min.100, max. 3000) | x | x | x | x |

Process connection (see page 2)

| | |
|---|--|
| None | 0 |
| Fig. 1 Adjustable flange | 1 |
| Fig. 1+2 Adjustable flange + counter flange | 2 |
| Fig. 3 3/4" BSP compression fitting w/ceramic sealing | 3 |
| Fig. 4 3/4" BSP compression fittings, SS steel | 4 |
| Fig. 4 3/4" BSP compression fitting, galvanized steel | 5 |
| Special: | s |

Connection head

| | |
|--|---|
| B: Degree of protection IP 65 | 0 |
| BHS: Degree of protection IP 65 | 1 |
| BHSH: Degree of protection IP 65, high cap for transmitter | 2 |
| Special: | s |

| | |
|--|---|
| 0 | Transmitter, 2-wire, 4-20mA output |
| 1 | None |
| 2 | FPTM as terminal block (Sensor only 3-wire) |
| 3 | FPTM in high cap, B-head. (Sensor only 3-wire) |
| 4 | FPTU standard version. As terminal block |
| 5 | FPTU standard version. In high cap, B-head |
| 6 | FPTU galvanic isolated. As terminal block |
| 7 | FPTU galvanic isolated. In high cap, B-head |
| 8 | FPTU galvanic isolated. EEXiaIICT4/6. As terminal block |
| 9 | FPTU galvanic isolated. EEXiaIICT4/6. In high cap, B-head |
| s | Special: |

Note 1: Please specify measuring range in °C

Connection. Wiring configuration

| | |
|--|--------|
| 0 | 3-wire |
| 1 | 4-wire |
| 2 | 2-wire |

Tolerance acc to IEC 751

| | |
|--|--|
| 0 | Class B, i.e. ± (0.3°C + 0.005 x t _{actual})°C |
| 1 | Class A, i.e. ± (0.15°C + 0.002 x t _{actual})°C |
| 2 | 1/3 Class B @ 0°C, i.e. ± (0.10°C + 0.005 x t _{actual})°C |
| 3 | 1/6 Class B @ 0°C, i.e. ± (0.05°C + 0.005 x t _{actual})°C |
| 4 | Paired in groups, deviation ± 0.1°C @ 0°C and 100°C |
| 5 | Special, i.e. ± (0.045°C + 0.001x t _{actual})°C (Max 400 °C) |
| s | Special: |

Resistance value (ohm) acc. to IEC 751

| | |
|--|----------|
| 0 | 1xPt100 |
| 1 | 2xPt100 |
| 2 | 1xPt1000 |
| s | Special: |

Measuring insert: Type and measuring range

| | |
|--|--|
| 0 | MK60: -50 +600°C Mineral insulated, vibration proof |
| 1 | MK40: -50 +400°C Mineral insulated (only f/tolerance 2, 3, 4, 5) |
| s | Special: |

Accessories

Process connection: See data sheet 9113
Transmitter: See data sheet 9168

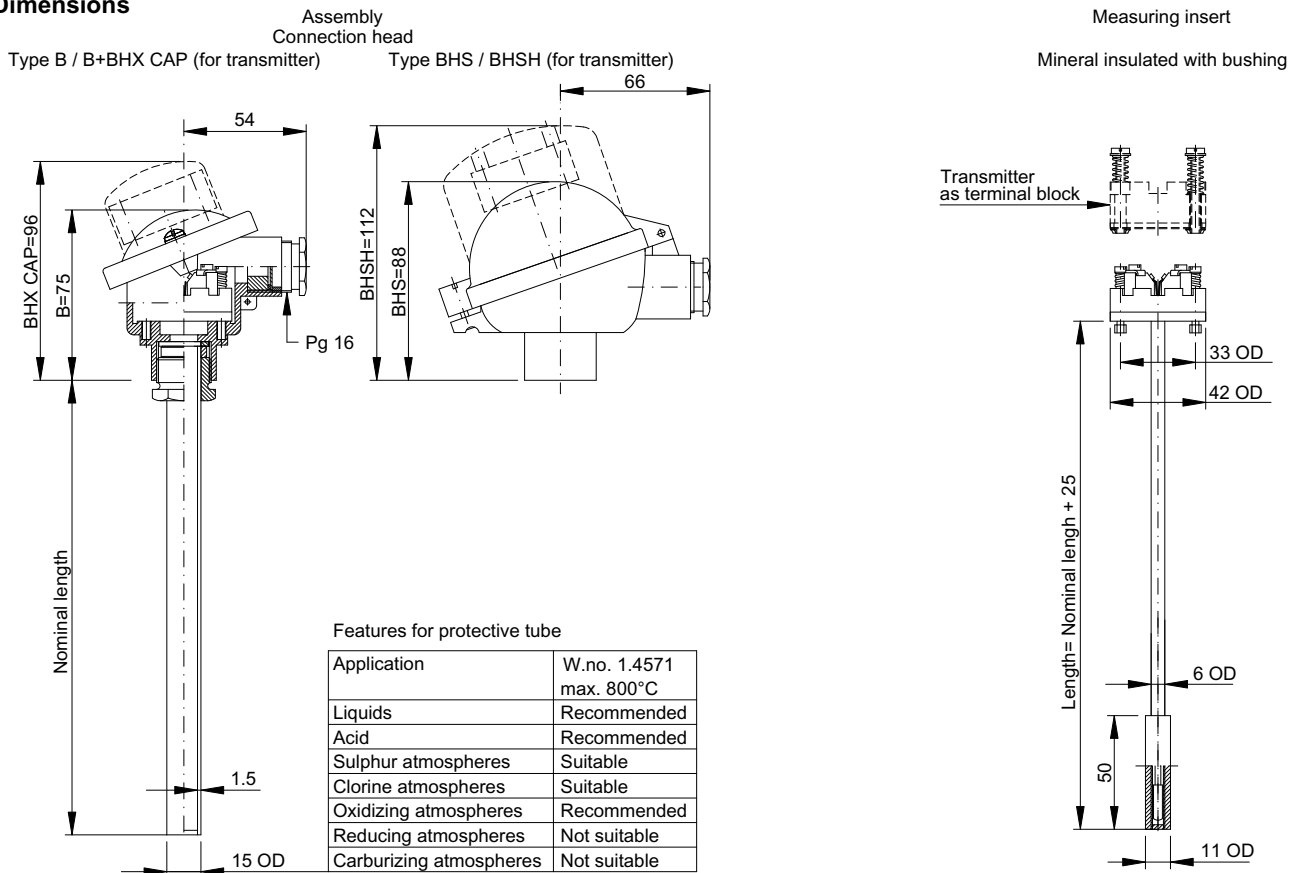
Customer information

Name:
Tel.:

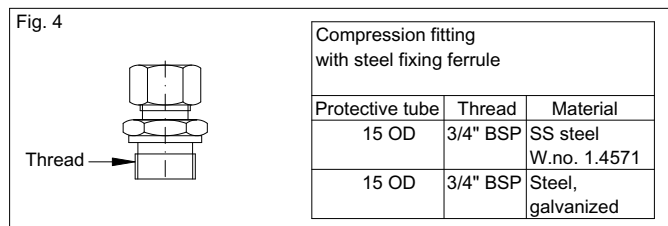
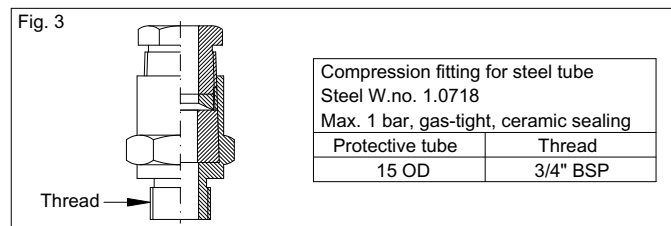
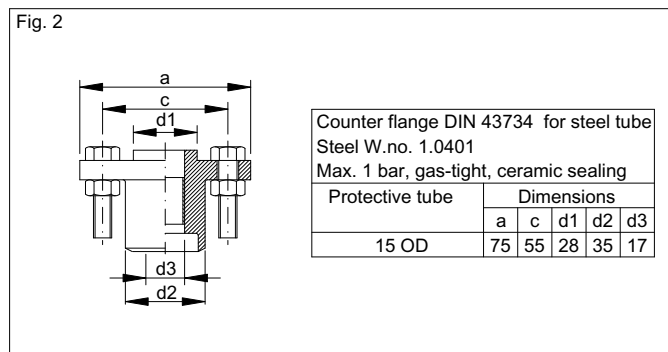
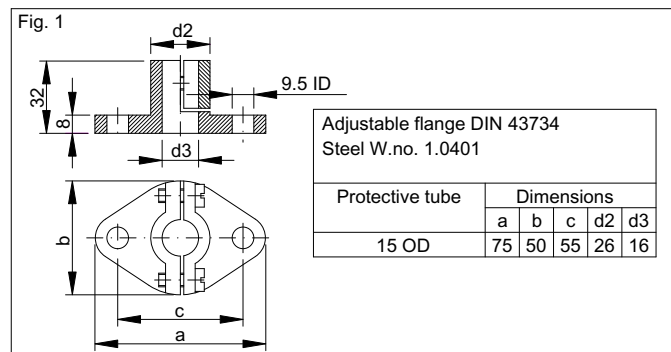
TECHNICAL DATA

All dimensions in mm

Dimensions



Process connection



Response time

| Protective tube | Response time in seconds (guidelines) | | | |
|-----------------|---------------------------------------|------------------|------------------|------------------|
| | In water @ 0.4m/sec. | | In air @ 3m/sec. | |
| | t _{0.5} | t _{0.9} | t _{0.5} | t _{0.9} |
| 15 OD | 30 | 90 | 135 | 410 |

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.

Connection diagram

