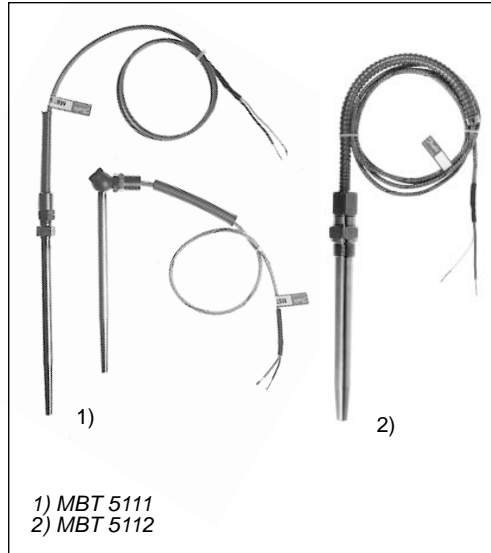


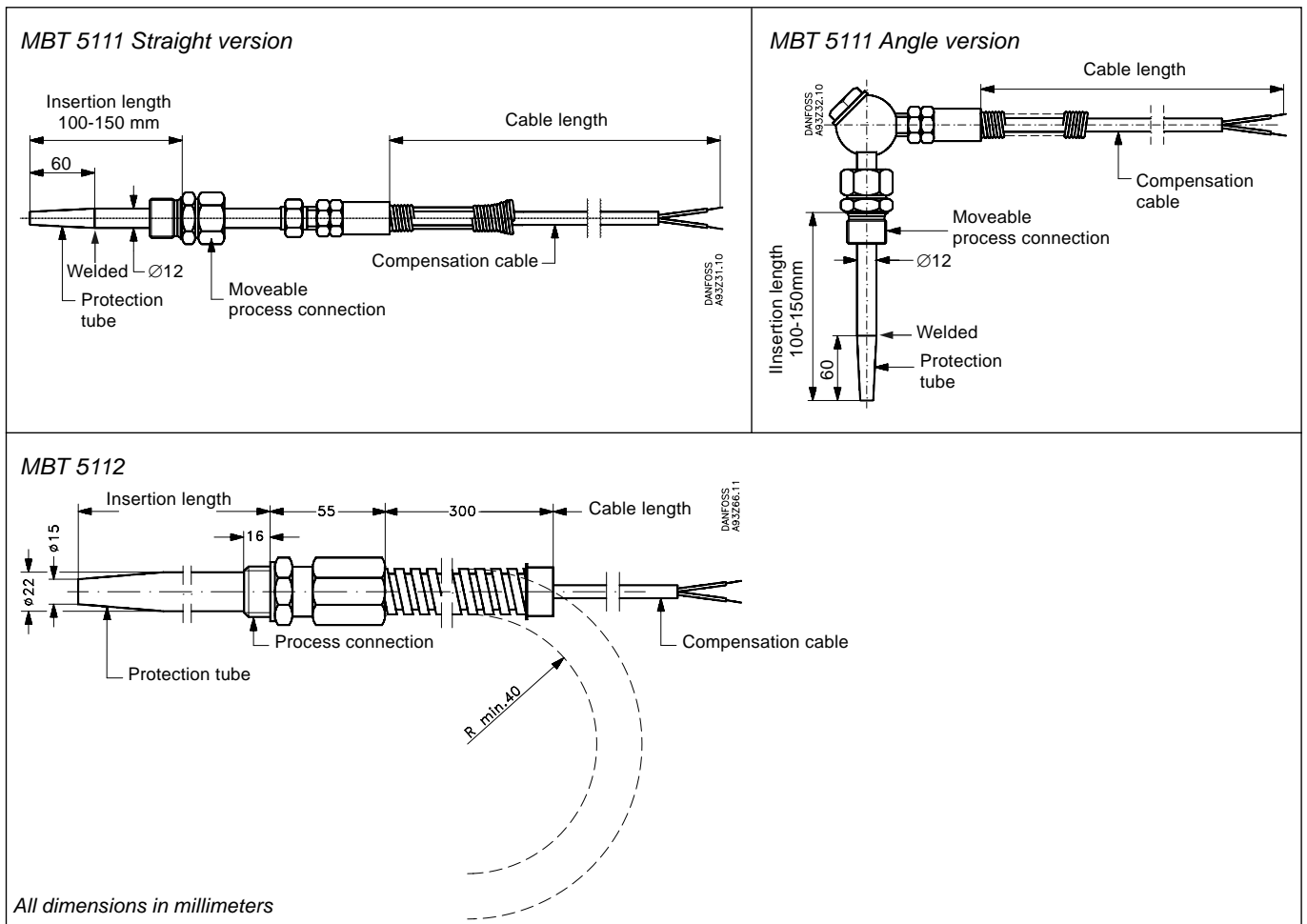
Exhaust gas temperature sensor types MBT 5111 & 5112

Features and application



- For measuring and regulating exhaust gas in stationary and marine
 - diesel engines
 - turbines
 - compressors
- With thermocouple for up to 800°C media temperature
- MBT 5111 with adjustable insertion length, up to 150 mm using moveable compression fitting
- MBT 5111 with fixed measuring insert
- MBT 5112 with interchangeable measuring insert
- Approvals
 - Lloyds Register of Shipping, LR
 - Germanischer Lloyd, GL
 - Bureau Veritas, BV
 - Det Norske Veritas, DNV
 - Nippon Kaiji Kyokai, ClassNK

Dimensions



Technical data

Response times

| | Indicative response times. Typical measured values. | | | |
|-----------------|---|-----------|--------------|-----------|
| | Change from 800°C to 20°C by insertion in water | | | |
| | MBT 5111 | | MBT 5112 | |
| Protection tube | Ø12 mm | | Ø22 → Ø15 mm | |
| Response times | $t_{0.5}$ | $t_{0.9}$ | $t_{0.5}$ | $t_{0.9}$ |
| | 15 s | 45 s | 40 s | 120 s |

Weight

| Type | MBT 5111 | MBT 5112 |
|---------------------------|----------|---------------------|
| Weight with 2000 mm cable | 450 g | 610 g ¹⁾ |

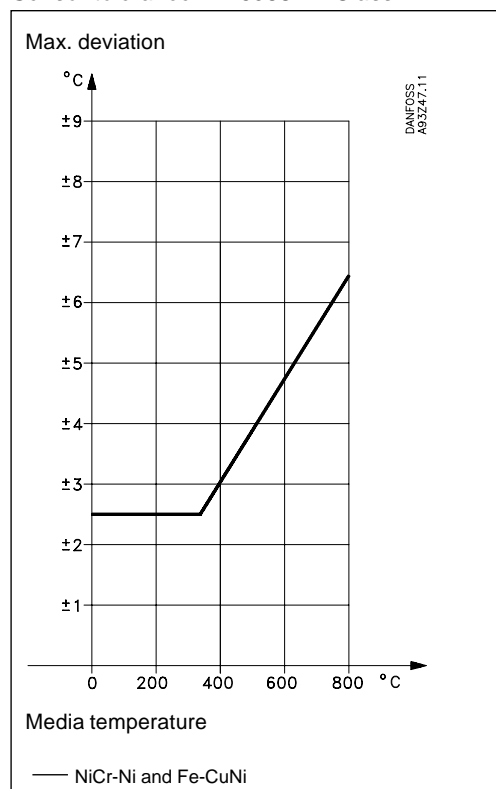
¹⁾ Weight by 125 mm insertion length. Weight increases with 130g/50 mm insertion length

1 m cable increases weight with approx. 150 g

Mechanical and environmental specifications

| | | |
|---------------------|--|-----------------------------|
| Ambient temperature | The temperature is limited by the silicone cable which can withstand max. 200°C | |
| Vibration stability | Shock: 100 g in 6 ms Vibrations: 4g sine function 2 - 100 Hz, measured acc. to IEC 68-2-6 | |
| Compensation cable | 2 × 1.5 mm ² , armoured silicone | |
| Materials | Protection tube: | W. no. 1.4571 (AISI 316 Ti) |
| | Compression fitting for MBT 5111: | Free-cutting steel |

Sensor tolerance EN 60584-2 Class 2



Ordering - Standard programme

- Measuring range: Max. 800°C
- Thermocouple: 1 × NiCr-Ni, type K
- Protection tube: MBT 5111: Ø12, W. no. 1.4571 (AISI 316 Ti)
MBT 5112: Tapered Ø22 → Ø15, W. no. 1.4571 (AISI 316 Ti)
- Tolerance: EN 60584-2 Class 2
- Design of MBT 5111: Straight (MBT 5112 is always straight)

| Type | Insertion length | Process connection | Cable length [mm] | Specification code | Code no. |
|----------|------------------------|-----------------------------|-------------------|--------------------|-----------------|
| MBT 5111 | adjustable max. 150 mm | G 1/2 A compression fitting | 6.000 | 5111-0000012 | 084Z0924 |
| MBT 5111 | adjustable max. 150 mm | G 3/4 A compression fitting | 6.000 | 5111-0000022 | 084Z0925 |
| MBT 5112 | 125 mm | G 3/4 A | 6.000 | 5112-0000002 | 084Z0609 |
| MBT 5112 | 200 mm | G 3/4 A | 6.000 | 5112-0001002 | 084Z0926 |
| MBT 5112 | 250 mm | G 3/4 A | 6.000 | 5112-0002002 | 084Z0927 |

Ordering - Special versions

| | | | | | | | | |
|---|-------------------|-------------|---|---|---|--|---|--------------------------|
| Type | MBT 5111 - | Sensor 0 | | | | | | |
| Measuring range, sensor element | | | | | | | | |
| Max. 800°C, thermocouple, type K, NiCr-Ni | | 0 | | | | | 0 | 2000 mm |
| Max. 600°C, thermocouple, type J, Fe-CuNi | | 1 | | | | | 1 | 4000 mm |
| | | | | | | | 2 | 6000 mm |
| | | | | | | | 9 | Other |
| Thermocouple | | | | | | | | |
| 1 × NiCr-Ni, type K | | | 0 | | | | | |
| 1 × Fe-CuNi, type J | | | 1 | | | | | |
| Protection tube, W. no. 1.4571 (AISI 316 Ti) | | | | | | | | |
| Acid-proof steel, Ø12 mm | | | | 0 | | | | |
| Design | | | | | | | | |
| Straight | | | | | 0 | | | |
| Angle | | | | | 1 | | | |
| | | | | | | | | |
| | | | | | | | 0 | None |
| | | | | | | | 1 | G 1/2 A |
| | | | | | | | 2 | G 3/4 A |
| | | | | | | | 3 | M 18 × 1.5 |
| | | | | | | | 4 | M 22 × 1.5 |
| | | | | | | | 5 | M 27 × 2 |
| | | | | | | | 9 | Other |
| | | | | | | | | |
| | | | | | | | 0 | EN 60584-2 Class 2 |
| | | | | | | | 9 | Other |

| | | | | | | | | |
|---|-------------------|-------------|--|---|---|---|---|--------------------------|
| Type | MBT 5112 - | Sensor 0 | | | | | | |
| Measuring range, sensor element | | | | | | | | |
| Max. 800°C, thermocouple, type K, NiCr-Ni | | 0 | | | | | 0 | 2000 mm |
| Max. 600°C, thermocouple, type J, Fe-CuNi | | 1 | | | | | 1 | 4000 mm |
| | | | | | | | 2 | 6000 mm |
| | | | | | | | 9 | Other |
| Thermocouple | | | | | | | | |
| 1 × NiCr-Ni, type K | | | | 0 | | | | |
| 1 × Fe-CuNi, type J | | | | 1 | | | | |
| Protection tube, W.nr. 1.4571 (AISI 316 Ti) | | | | | | | | |
| Acid-proof steel, plain hole pipe, tapered Ø22 → Ø15 mm | | | | | 0 | | | |
| Insertion length | | | | | | | | |
| 125 mm | | | | | | 0 | | |
| 200 mm | | | | | | 1 | | |
| 250 mm | | | | | | 2 | | |
| 300 mm | | | | | | 3 | | |
| Other | | | | | | 9 | | |
| | | | | | | | | |
| | | | | | | | 0 | EN 60584-2 Class 2 |
| | | | | | | | 9 | Other |

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