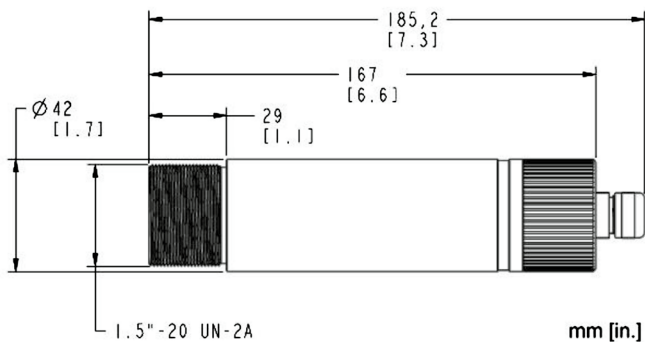


# Infrared measuring technology

## Infra-red transmitter for measuring the surface temperature AMiR 7834 probe head for industrial application, with mA output (two-wire technology)



- Precise measurement of the surface temperature in industrial processes.
- Sturdy stainless steel housing, protection class IP65.
- Broad temperature range from -40 to 2000 °C.
- Several spectral ranges for a variety of materials and use cases.
- Emissivity of the measuring surface can be manually adjusted on the probe head.
- Several optical resolutions and focal points.
- Integrated laser (except 7834-10) for easy positioning of the probe head. Supply of the laser via the USB port.
- Analog output 4 to 20 mA in two-wire technology.
- USB port for configuring the analog output range, further probe head parameters and the signal processing (average value, maximum value, and minimum value).
- Easy installation. Extensive range of accessories, i.a. a high temperature protective housing.
- Connection cable for ALMEMO® data logger. Sensor power supply via the ALMEMO® device.

! On request:  
Intrinsically safe probe heads approved for various purposes in areas with potentially explosive atmosphere (gas/dust).

| Type  | Measuring range | Spectral range | Optical resolution / focal point (refer to Measuring Field Diagrams) | Order no.          |
|---|-----------------|----------------|--|--------------------|
| <b>AMiR 7834-10x</b> without laser, with plastic lens, i.a. suitable for food etc.  |                 |                |  |                    |
| AMiR 7834-10SF0   | -20 to 600 °C   | 8 to 14 µm     | 15:1 / 101.3 mm at 1520 mm   | <b>MR783410SF0</b> |
| AMiR 7834-10CF0   | -20 to 600 °C   | 8 to 14 µm     | 7:1 / 7.1 mm at 50 mm  | <b>MR783410CF0</b> |
| <b>AMiR 7834-11x/-12x</b><br>with laser, for low temperature measurements, i.a. thick plastics, asphalt, carpets, coated papers, thermoforming etc. |                 |                |  |                    |
| AMiR 7834-11SF0   | -20 to 600 °C   | 8 to 14 µm     | 33:1 / 46.1 mm at 1520 mm  | <b>MR783411SF0</b> |
| AMiR 7834-11CF1   | -20 to 600 °C   | 8 to 14 µm     | 33:1 / 2.3 mm at 76 mm   | <b>MR783411CF1</b> |
| AMiR 7834-11CF2   | -20 to 600 °C   | 8 to 14 µm     | 33:1 / 6.1 mm at 200 mm  | <b>MR783411CF2</b> |
| AMiR 7834-12SF0   | -40 to 1000 °C  | 8 to 14 µm     | 50:1 / 30.4 mm at 1520 mm  | <b>MR783412SF0</b> |
| AMiR 7834-12CF2   | -40 to 1000 °C  | 8 to 14 µm     | 50:1 / 4 mm at 200 mm  | <b>MR783412CF2</b> |
| <b>AMiR 7834-21x</b> with laser, for blast furnace lining, flame hardening, brazing etc.  |                 |                |  |                    |
| AMiR 7834-21SF0   | 200 to 1000 °C  | 3.9 µm         | 33:1 / 46.1 mm at 1520 mm  | <b>MR783421SF0</b> |
| AMiR 7834-21CF1   | 200 to 1000 °C  | 3.9 µm         | 33:1 / 2.3 mm at 76 mm   | <b>MR783421CF1</b> |
| AMiR 7834-21CF2   | 200 to 1000 °C  | 3.9 µm         | 33:1 / 6.1 mm at 200 mm  | <b>MR783421CF2</b> |
| <b>AMiR 7834-31x</b> with laser, for surface temperatures of glass for bending, hardening, glowing, sealing etc.                                    |                 |                |  |                    |
| AMiR 7834-31SF0   | 250 to 2250 °C  | 5 µm           | 33:1 / 46.1 mm at 1520 mm  | <b>MR783431SF0</b> |
| <b>AMiR 7834-41x</b> with laser, for foils PET, FEP, acryl, nylon, PU, PVC etc.   |                 |                |  |                    |
| AMiR 7834-41SF0   | 10 to 360 °C    | 7.9 µm         | 33:1 / 46.1 mm at 1520 mm  | <b>MR783441SF0</b> |
| <b>AMiR 7834-51x</b> with laser, for ferrous metals / non-ferrous metals, induction heating, blast furnaces etc.                                    |                 |                |  |                    |
| AMiR 7834-51SF0   | 500 to 2000 °C  | 2.2 µm         | 60:1 / 25.3 mm at 1520 mm  | <b>MR783451SF0</b> |
| AMiR 7834-51CF1   | 500 to 2000 °C  | 2.2 µm         | 60:1 / 1.3 mm at 76 mm   | <b>MR783451CF1</b> |
| AMiR 7834-51CF2   | 500 to 2000 °C  | 2.2 µm         | 60:1 / 3.3 mm at 200 mm  | <b>MR783451CF2</b> |

DAkks- oder Factory calibration KI9xxx temperature for sensor, see chapter „Calibration certificates“.  
DAkks calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

## Technical data:

|                        |  |
|------------------------|--|
| Accuracy:              | $\pm 1\%$ of the measured value respectively $\pm 1.0\text{ K}$ for the measured temperature $> 0\text{ }^\circ\text{C}$ , (whichever value is higher). for measured temperature $< 0\text{ }^\circ\text{C}$ : $\pm(1.0\text{ K} + 0.1 \times (0\text{ }^\circ\text{C} - \text{measured temperature}))$ . measured temperature in $^\circ\text{C}$ |
| Reproducibility:       | $\pm 0.3\%$ of measured value respectively $\pm 0.3\text{ K}$ (whichever value is higher)  |
| Response time:         | 130 ms, for 7834-11 30 ms, for 7834-31 60 ms   |
| Nominal conditions:    | $+23\text{ }^\circ\text{C} \pm 5\text{ K}$ , Emissivity factor 1.0 and calibration geometry  |
| Emissivity:            | 0.10 to 1.00 manually adjustable on the probe head   |
| Signal processing:     | Averaging, maximum and minimum value retention, extended maximum and minimum value retention, compensation of background temperature   |
| Power supply:          | 12 to 24 VDC   |
| Analog output:         | via terminals, 4 to 20 mA linear, two-wire technology, load $< 500\text{ Ohm}$<br>Analog output range can be configured via USB  |
| ALMEMO® application:   | To acquire and save measured values, we recommend our ALMEMO® 4390-2 panel meters.<br>For further ALMEMO® devices, see chapter ALMEMO® Measuring Instruments   |
| Alarm relay:           | via terminals, load capacity 24 V 150 mA<br>1 limit value configurable via USB   |
| Digital interface:     | USB 2.0, micro B-plug (only for sensor set-up)   |
| Laser:                 | for positioning of the probe head, power supply via USB  |
| Operating temperature: | without cooling: $-20$ to $85\text{ }^\circ\text{C}$<br>with air-cooling: $10$ to $120\text{ }^\circ\text{C}$<br>with water-cooling: $10$ to $175\text{ }^\circ\text{C}$<br>with Thermo jacket protection housing and water cooling: $10$ to $315\text{ }^\circ\text{C}$   |
| Air humidity:          | $10$ to $95\%$ RH at $30\text{ }^\circ\text{C}$ , non-condensing during operation and storage  |
| Material:              | stainless steel (housing)  |
| Protection class:      | IP 65 (IEC 60529)  |
| Dimension:             | without water cooling housing: Length 186 mm, $\varnothing$ 42 mm  |
| Weight:                | without water cooling housing: 500 g   |

## Accessories

### Order no.

ALMEMO® connecting cable, directly mounted on the probe head, length 2 meters, with ALMEMO® connector, programmed for the probe head's temperature range, sensor supply via ALMEMO® device (use of the device mains unit is recommended)

**ZA7838AK**

For further accessories (protective window, cooling housing, thermo jacket etc.), see the following pages

## Option

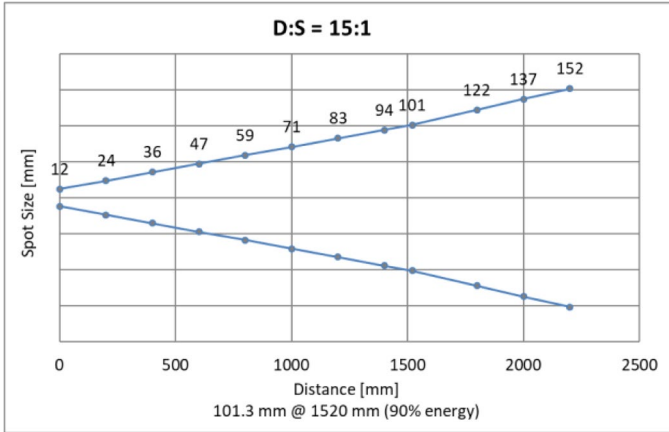
### Order no.

Factory test certificate (only with delivery of new devices)

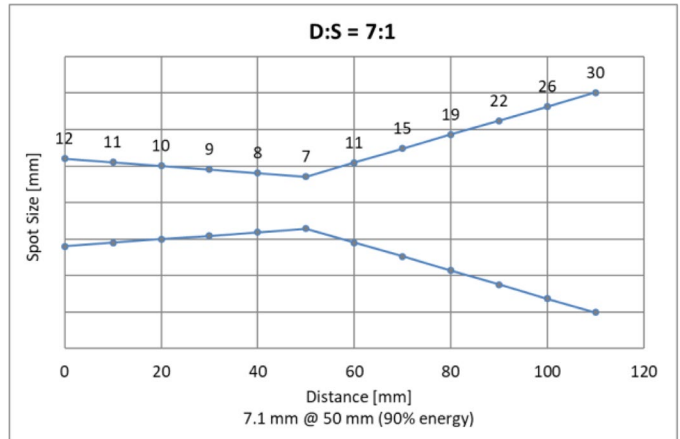
**OR7834KZ1**

# Infrared measuring technology

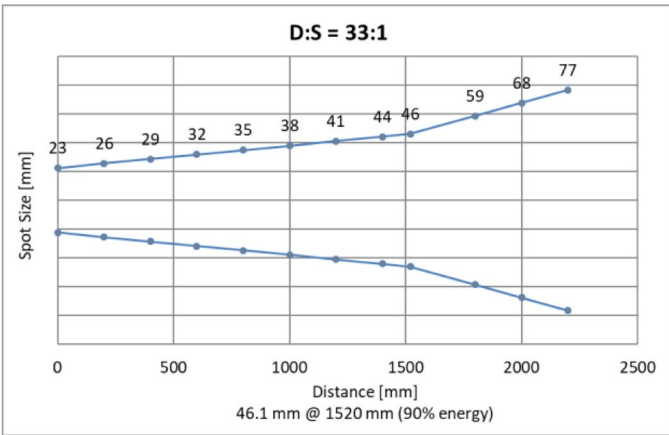
## Measuring Field Diagrams



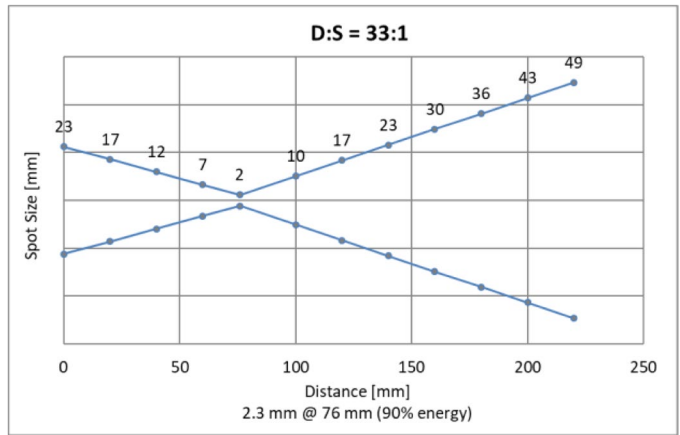
AMiR 7834-10SF0



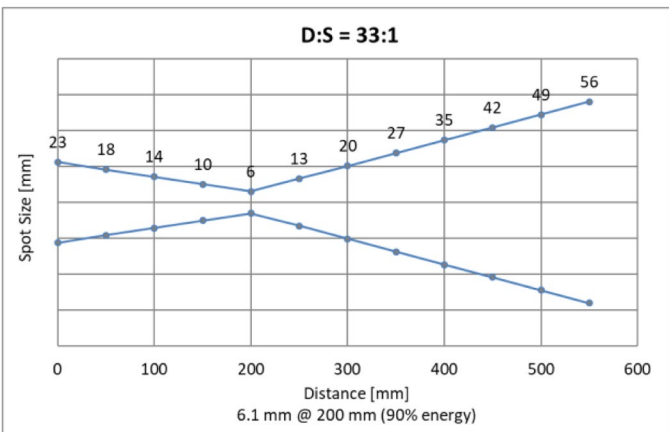
AMiR 7834-10CF0



AMiR 7834-11SF0  
AMiR 7834-21SF0  
AMiR 7834-31SF0  
AMiR 7834-41SF0

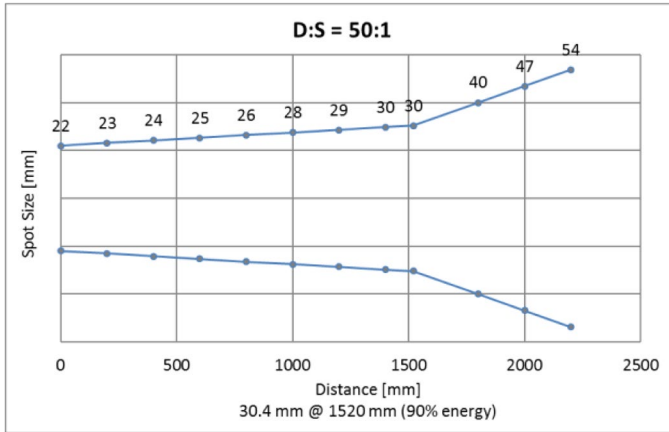


AMiR 7834-11CF1  
AMiR 7834-21CF1

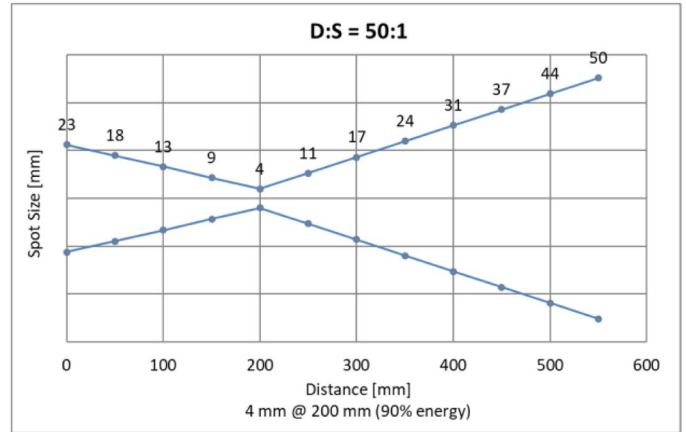


AMiR 7834-11CF2  
AMiR 7834-21CF2

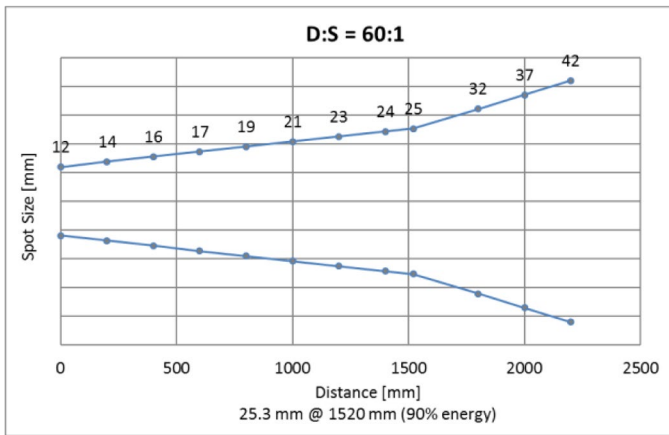
# Infrared measuring technology



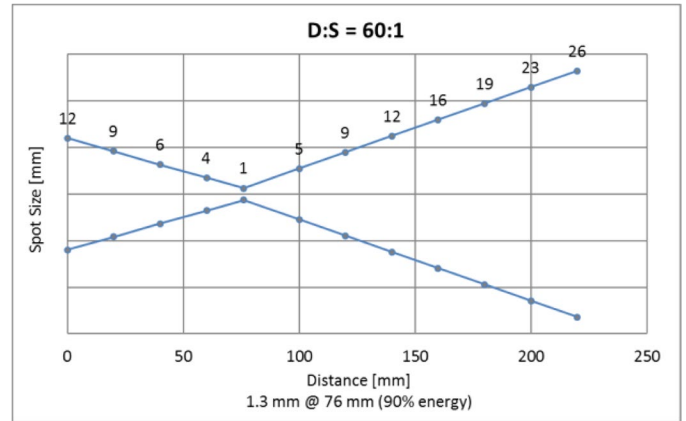
AMiR 7834-12SF0



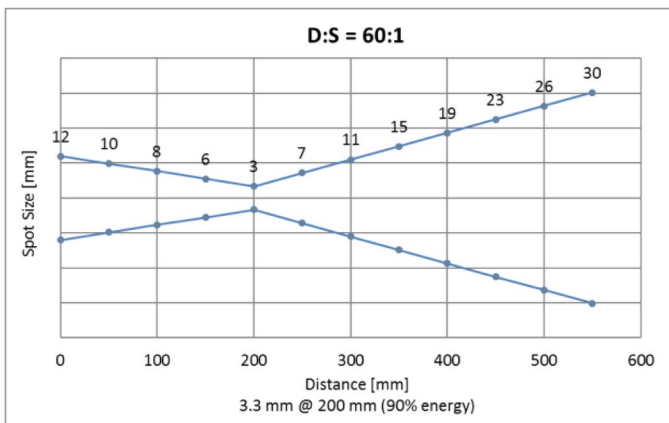
AMiR 7834-12CF2



AMiR 7834-51SF0



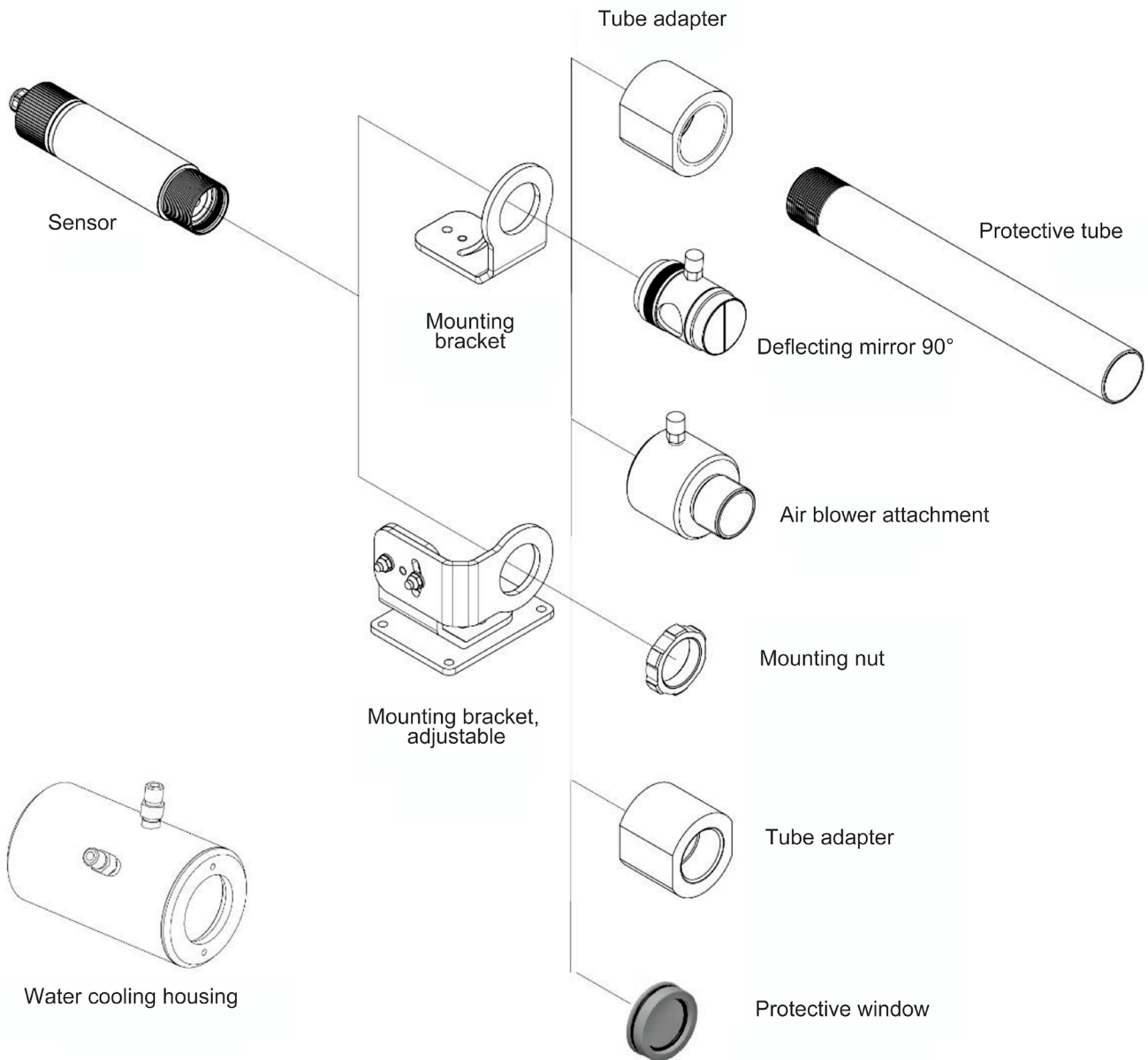
AMiR 7834-51CF1



AMiR 7834-51CF2

# Infrared measuring technology

## Accessories for the probe heads AMiR 7834 without the use of the thermo jacket protection housing

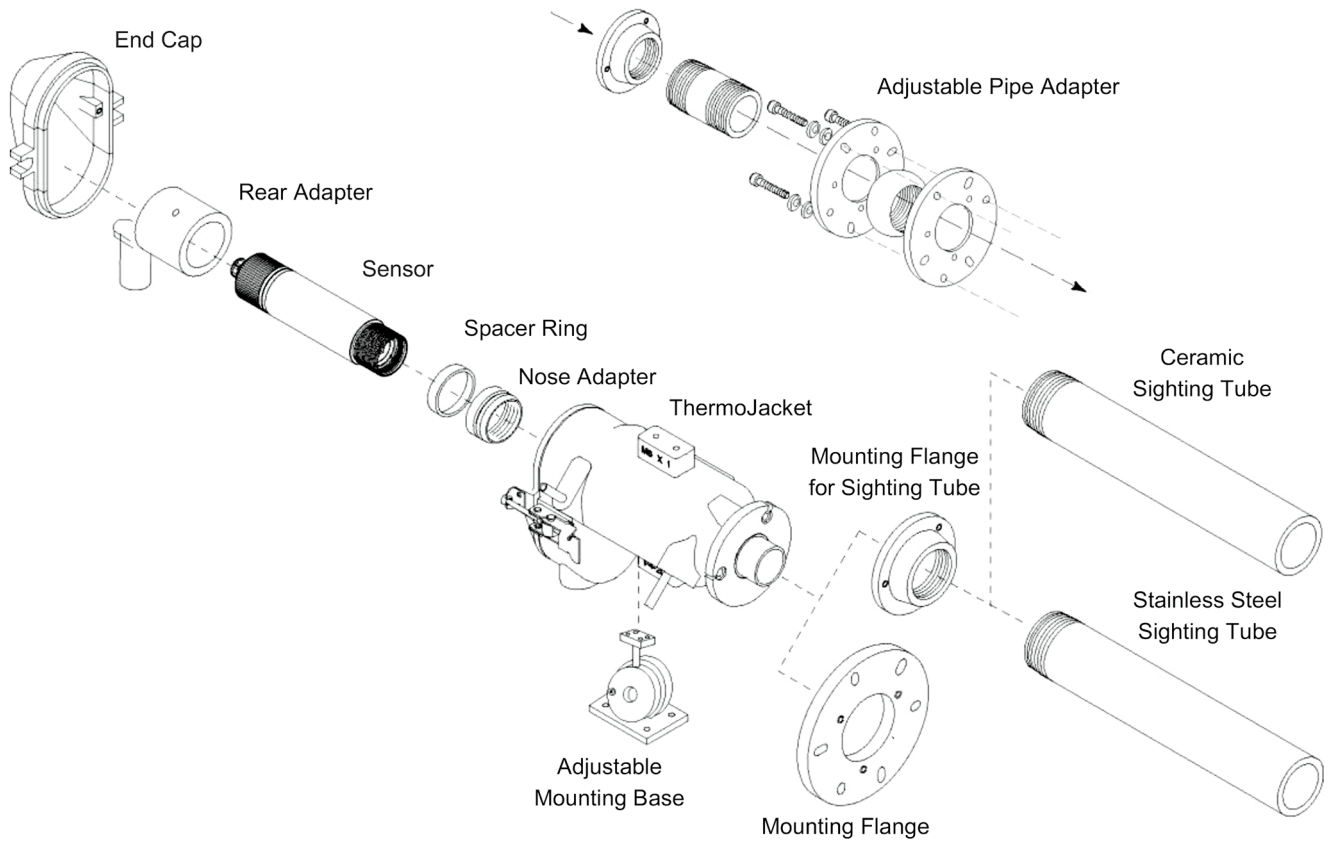


### Accessories

### Order no.

|  |              |
|--|--------------|
| Protective window attached for probe head MR 7834-10x, material: plastic foil          | ZR7834SFLTPF |
| Protective window attached for probe head MR 7834-11x/-12x, material: zinc sulfide     | ZR7834SFLT   |
| Protective window attached for probe head MR 7834-21x, material: sapphire              | ZR7834SFMT   |
| Protective window attached for probe head MR 7834-31x/-41x, material: calcium fluoride | ZR7834SFG5P7 |
| Protective window attached for probe head MR 7834-51x, material: glass                 | ZR7834SFHT   |
| Water cooling housing including air blower attachment                                  | ZR7834KL     |
| Air blower attachment  | ZR7834LB     |
| Deflecting mirror 90 °   | ZR7834US     |
| Mounting bracket, adjustable   | ZR7834JH     |
| Mounting bracket, rigid (spare)  | ZR7834H      |
| Securing nut (spare)   | ZR7834BM     |
| Tube adapter for protective tubes  | ZR7834RA     |
| Stainless steel protective tube, 30 cm   | ZR7834RE     |
| Ceramic protective tube, 30 cm   | ZR7834RK     |

## Accessories for the probe heads AMiR 7834 using the thermo jacket protection housing



### Accessories

|  |            |
|--|------------|
| Thermo jacket protection housing                       | ZR7834SH   |
| Mounting flange for thermo jacket                      | ZR7834TJMF |
| Adjustable mounting flange for thermo jacket           | ZR7834TJMB |
| Adjustable tube adapter for thermo jacket              | ZR7834JR   |
| Mounting flange for protective tubes for thermo jacket | ZR7834TJFR |
| Stainless steel protective tube, 30 cm                 | ZR7834RE   |
| Ceramic protective tube, 30 cm                         | ZR7834RK   |

### Order no.

|            |
|------------|
| ZR7834SH   |
| ZR7834TJMF |
| ZR7834TJMB |
| ZR7834JR   |
| ZR7834TJFR |
| ZR7834RE   |
| ZR7834RK   |