



# Heat meter Q heat 5.5 US

STATIC ULTRASONIC HEAT- / COLDMETER

- » Ultrasonic measurement - precise and durable
- » Flow and return of the device can be parameterised on site
- » Intelligent, adaptive measuring cycle
- » Any installation possible without any restrictions
- » Full metal measuring tube
- » Available as heat meter, as heat meter with optional cooling range and as nationally approved cooling meter
- » Qp 0.6 - 2.5 m<sup>3</sup>/h available
- » Integrated radio communication interfaces, M-Bus and Impuls-out

## Application

Remote meter reading can be either stationary or mobile, as the devices transmit the data telegrams including 13 monthly values in a short transmission interval. The mobile readout takes place via Q log and ACT46. The stationary readout is carried out exclusively via Q gateway 5.5 direct and Q SMP. This means that a change to stationary readouts can be made at any time without reconfiguration.

## Features

The products are equipped with a QUNDIS-specific data matrix code. The code is located on the top of the meter, on the packaging and on the outer packaging and contains the serial number, the complete article number, the year of conformity assessment and the number of products.

## Technical data

| General               |   |
|-----------------------|---|
| Measuring accuracy    | Class 2 (EN 1434)                                       |
| Environment class     | A (EN 1434) for indoor installation                     |
| Mechanical class      | M1 / M2 *)  |
| Electromagnetic class | E1 *)   |
| Ambient humidity      | < 93 % relative humidity at 25 °C, without condensation |
| Max. height           | 2000 m above sea level                                  |
| Storage temperature   | -20 ... 60 °C   |

\*) acc. to 2004/22/EU Directive on Measuring Instruments

| Electronic unit                    |  |
|------------------------------------|--|
| Ambient temperature                | 5 ... 55 °C  |
| Housing protection rating          | IP 54 acc. to EN 60529   |
| Power supply                       | Battery for 6 or 11 years  |
| Operation threshold for $\Delta T$ | 0.2 K  |
| Temperature difference $\Delta T$  | 3 K ... 80 K   |
| Temperature measurement range      | 0 ... 180 °C   |
| Measuring cycle (Adaptive)         | Temperature measurement: Every 60 seconds, temporarily 4 seconds with fast change of volume flow rate<br>Volume measurement: Every 4 seconds |
| LCD                                | 7 digit  |
| Optical interface                  | Standard, EN 62056-21  |
| Communication                      | Optional   |
| Removable electronic unit          | Standard, cable length 1.5 m   |

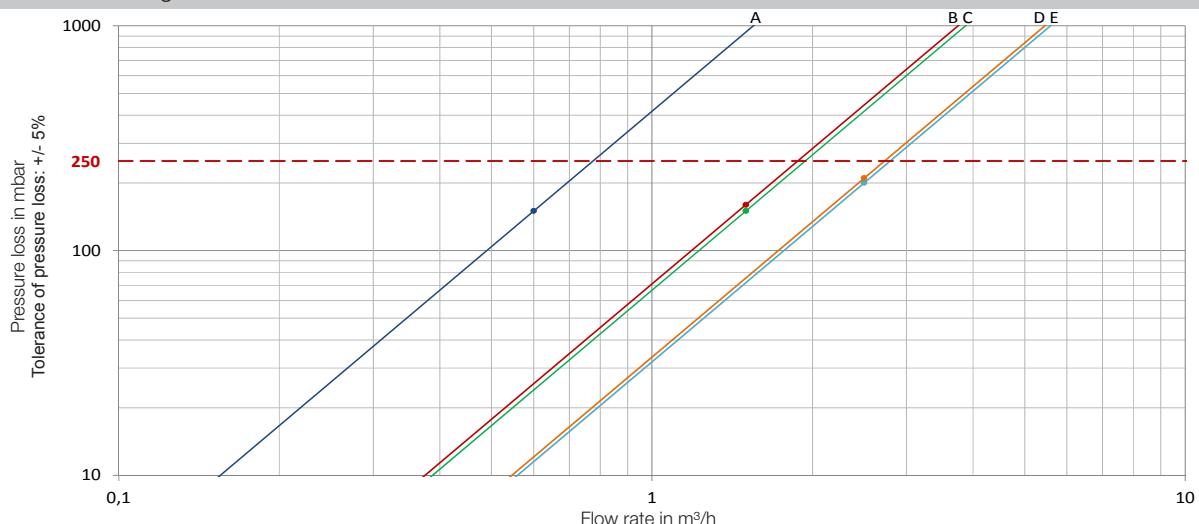
| Temperature sensor |   |
|--------------------|---|
| Type               | Pt500 acc. to EN 60751, not detachable                      |
| Connection type    | Pt500, 2 wire technology                                    |
| Cable length       | 1.5 m   |
| Construction type  | Bulb sensor Ø 5.2 x 45 mm<br>DS direct short, M10 x 27.5 mm |
| Temperature range  | 0 ... 105 °C  |

## Technical data

| Volume measurement unit |   |
|-------------------------|---|
| Protection class        | IP 54 acc. to EN 60529, optional IP 65                          |
| Mounting place          | return flow (standard)<br>return flow (parameterizable on site) |
| Installation position   | Any, horizontal or vertical                                     |
| Flow straightening      | None  |
| Measuring range         | 1:100   |
| Temperature range       | 5 ... 105 °C  |
| Maximum overload        | $q_s = 2 \times q_p$ , permanent                                |
| Nominal pressure        | PN16 (1.6 MPa; PS16)<br>PN25 (2.5 MPa; PS25)                    |

|                                 |                  |                  |      |      |                     |
|---------------------------------|------------------|------------------|------|------|---------------------|
| Nominal flowrate $q_p$          | 0.6              | 1.5              | 1.5  | 2.5  | [m <sup>3</sup> /h] |
| Overall length                  | 110              | 110              | 130  | 130  | [mm]                |
| Connection                      | G <sup>3/4</sup> | G <sup>3/4</sup> | G1   | G1   | G/DN                |
| Maximum flowrate $q_s$          | 1.2              | 3                | 3    | 5    | [m <sup>3</sup> /h] |
| Minimum flowrate $q_i$          | 6                | 15               | 15   | 25   | [l/h]               |
| Response threshold (variable)   | 1.2              | 3                | 3    | 5    | [l/h]               |
| Pressure loss at $q_p$          | 150              | 150              | 160  | 200  | [mbar]              |
| Kv-value at $\Delta p$ 1 bar    | 1.5              | 3.9              | 3.9  | 5.6  | [m <sup>3</sup> /h] |
| Kv-value at $\Delta p$ 100 mbar | 0.5              | 1.2              | 1.2  | 1.8  | m <sup>3</sup> /h   |
| Weight                          | 0.8              | 0.8              | 0.8  | 0.8  | [kg]                |
| Pack size (LxWxH)               | Length           | 15.5             | 15.5 | 15.5 | [mm]                |
|                                 | Wide             | 13.5             | 13.5 | 13.5 | [mm]                |
|                                 | Height           | 12.0             | 12.0 | 12.0 | [mm]                |

## Pressure loss diagram



## Technical data

Dimensions ( $q_p$  0.6 – 2.5 m<sup>3</sup>/h)

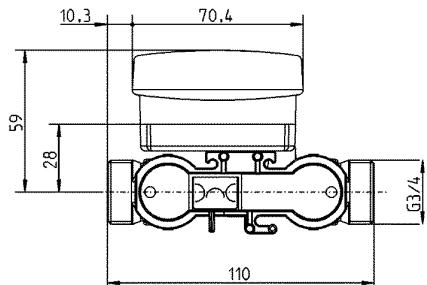


Fig. 1: Overview dimensions overall length 110 mm

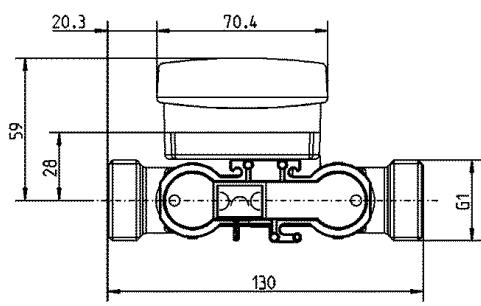


Fig. 2: Overview dimensions overall length 130 mm (thread)

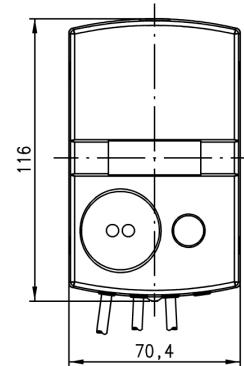


Fig. 3: Electronic unit

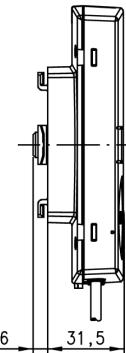


Fig. 4: Wall adapter (view from above and side)

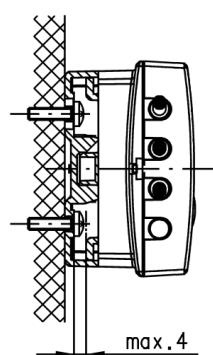


Fig. 5: Maximum screw head height  
(if using the wall bracket)

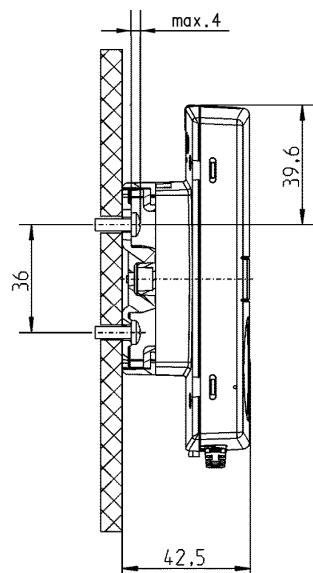


Fig. 6: Wall mounting

## Communication (optional)

| M-Bus                    |  |
|--------------------------|--|
| Versions                 | <ul style="list-style-type: none"> <li>• exclusively as heat meter</li> <li>• exclusively as cooling meter</li> <li>• as heat meter with optional cold range (outside the measuring instrument directive)</li> </ul>   |
| Standard                 | EN13757-2 / EN13757-3  |
| Address                  | Primary- or secondary address  |
| Transmission rate        | Autobaud: 300 / 2400 Baud  |
| Connection               | 1.5 m cable, 2-wired, fixed  |
| Reading interval         | > 1 min @ 2400 baud  |
| Data telegram            | 1 predefined data telegram ex works;<br>User-defined telegrams configurable with software  |
| Previous month values    | 24 prev. month telegram via roll frame function available;<br>24 prev. monthly values available in user defined telegram   |
| wM-Bus *)                |  |
| Versions                 | <ul style="list-style-type: none"> <li>• exclusively as heat meter</li> <li>• exclusively as cooling meter</li> </ul>  |
| Standard                 | Open Metering System Specification OMS (Issue 4.0.2)<br>EN 13757-4; Modus C1   |
| Transmission frequency   | 868,95 MHz   |
| Transmitting power       | Typical 10 dBm   |
| Transmission interval    | Predefined ex works and optimized for integration into the Q log and the Q gateway 5.5 direct, 120 seconds, 24 hours a day, 365 days a year  |
| Data telegram            | Predefined ex works and optimized for integration into the Q log and the Q gateway 5.5 direct <ul style="list-style-type: none"> <li>• Energy quantity heat (excluding heat meters)</li> <li>• Energy quantity cooling (excluding cooling meter)</li> <li>• Key date</li> <li>• Reference date value Energy quantity heat (excluding heat meter)</li> <li>• Key date value Energy quantity cooling (excluding cooling meter)</li> <li>• Date last month end</li> <li>• Value at the last end of the month Energy quantity heat (excluding heat meters)</li> <li>• Value at the end of the last month Energy quantity cooling (excluding cooling meter)</li> <li>• Time without measuring function</li> <li>• Current date/time</li> <li>• 13 monthly values</li> </ul> |
| Data telegram content    |  |
| Start of radio telegrams | <ul style="list-style-type: none"> <li>• Automatically after a cumulative volume of approx. 10 L</li> <li>• Alternatively via operating button on the device or via software</li> </ul>  |

\*) The devices as exclusively heat and cooling meters with integrated radio communication are optimised with regard to their transmission interval and telegram content. They are intended exclusively for reception by the Q gateway 5.5 direct, the Q SMP and the Q log and the ACT46. Changes to the factory-configured telegram content and transmission interval can lead to malfunctions.

## Communication (optional)

| wM-Bus **)               |  |
|--------------------------|--|
| Versions                 | <ul style="list-style-type: none"> <li>as heat meter with optional cold range (refrigeration sector outside the Measuring Instruments Directive)</li> </ul>  |
| Standard                 | Open Metering System Specification OMS (Issue 4.0.2)<br>EN 13757-4; Modus C1   |
| Transmission frequency   | 868.95 MHz   |
| Transmitting power       | Typical 10 dBm   |
| Transmission interval    | Predefined ex works and optimized for integration into the Q log and the Q gateway 5.5 direct, 120 seconds, 24 hours a day, 365 days a year  |
| Data telegram            | Predefined ex works and optimized for integration into Q log and Q gateway 5.5 direct <ul style="list-style-type: none"> <li>Energy quantity heat</li> <li>Energy quantity cooling</li> <li>Key date</li> <li>Key date value Energy quantity heat</li> <li>Key date value Energy quantity cooling</li> <li>Date last month end</li> <li>Value at the last end of the month Energy quantity heat</li> <li>Value at the end of the last month Energy quantity cooling</li> <li>Time without measuring function</li> <li>Current date/time</li> </ul> |
| Data telegram content    | <ul style="list-style-type: none"> <li>Automatically after a cumulative volume of approx. 10 L</li> <li>Alternatively via operating button on the device or via software</li> </ul>  |
| Start of radio telegrams | <ul style="list-style-type: none"> <li>Automatically after a cumulative volume of approx. 10 L</li> <li>Alternatively via operating button on the device or via software</li> </ul>  |

\*\*) The combined heat/cooling meters with integrated radio communication are optimised with regard to their transmission interval and telegram content. They are intended exclusively for reception by the Q gateway 5.5 direct and the Q SMP. Changes to the factory-configured telegram content and transmission interval can lead to malfunctions.

| Pulse output        |   |
|---------------------|---|
| Versions            | <ul style="list-style-type: none"> <li>exclusively as heat meter</li> <li>exclusively as cooling meter</li> </ul> |
| Output type         | open drain  |
| Classification      | OB/OC (acc. to EN 1434-2)   |
| Cable               | 1.5 m; 4-wired, LL84201 4xAWG28 / 0.2 mm <sup>2</sup>   |
| Cable diameter      | 4 mm  |
| Cable labelling     | passive pulse output  |
| Voltage             | max. 30 V   |
| Current             | max. 30 mA  |
| Dielectric strength | 500 V <sub>eff</sub> against ground   |
| ON/OFF resistance   | <74 Ω / 6 MΩ  |

Output connection



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