



## Measure your Energy Performance Accurately

### Danfoss Heat Meters for Heating and Cooling

The energy performance of any heating, district heating and cooling system matters. With the increased focus on energy saving and individual billing according to consumption; perhaps more than ever. It simply drives customer satisfaction and retention!

#### **Proven Technology**

The range of SONOMETER™ heat meters from Danfoss helps you to get a precise and easy measure of your system performance. SONOMETER™ uses patented ultrasonic technology that guarantees highly accurate and reliable measurement and long-term stability. Its robust and dirt-resistant design makes it really service-friendly.

In all aspects the meters assure low cost of ownership.

## Danfoss Heat Meters for Heating and Cooling

### Easy and remote metering

Its unlimited system capability makes SONOMETER™ the perfect meter for smart metering: Data transmission by line or radio to the EN 1434-3 M-BUS standard provides future-proof energy data management. No hardware changes or reconfiguration are necessary for adapting to different system engineering.

### First-class measuring accuracy:

The patented free-beam system eliminates noise signals and measuring errors. Only signals that actually pass through the measuring tube are measured. SONOMETER™ is also extremely accurate at flow rates above the maximum value of  $q_s$  (nominal

flow). Flow up to 2 times  $q_s$  can be measured.



### Lasting service friendliness:

The dynamic flow design gives dirt particles no chance of settling. The natural 'hydrofoil principle' of the reflectors creates a high flow velocity – SONOMETER™ practically cleans itself!



### Core features of the SONOMETER™ heat meters:

- "No wear and tear" due to static metering with no moving parts
- 1st approval in Europe for ultrasonic heat meter with dynamic range of  $q_p/q_i$  1:250 in class 2
- EN 1434 class 2 approval
- Replacing of the measuring insert without dismantling the transducers
- Power supply: battery, main units 230 V AC or 24 V AC
- Remote reading via M-bus, Radio, RS 232 or optical interface
- Optional pulse input and pulse output module
- Radio module for easy data transfer
- Battery life time up to 16 years
- MID examination certificate

### SONOMETER™1000

The SONOMETER™1000 as a compact heat meter consists of the following components:

- Ultrasonic flow sensor
- Calculator with integral hardware and software for measuring flow rate, temperature and energy consumption
- Temperature sensors



### SONOMETER™2000

The SONOMETER™2000 consists of:

- Ultrasonic flow sensor, type SONO 1500 CT or SONO 2500 CT
- Heat calculator, type INFOCAL 6
- Temperature sensors.



### √ We recommend!

To achieve optimum control and full performance of your heating and cooling system Danfoss recommends combining the use of the heat meter with an electronic controller ECL Comfort, temperature sensors and motorized control valves. It simply pays off!



Danfoss A/S • DK-6430 Nordborg • Denmark • Tel.: +45 74 88 22 22 • Fax: +45 74 49 03 95  
E-mail: [heating@danfoss.com](mailto:heating@danfoss.com) • [www.dh.danfoss.com](http://www.dh.danfoss.com)

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.