Energy metering | Ultrasonic technology

Precision and reliability through advanced ultrasonic technology

Advanced ultrasonic technology optimizes total cost of ownership.

High measurement accuracy ensures long operational life.
Precision and reliability

**Principle of ultrasonic metering**

When water flows through the meter, an ultrasonic signal is simultaneously sent and received. The time difference between the signals is measured and used to calculate flow velocity.

The flow volume can then be precisely calculated based on the internal diameter of the meter.

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**Ultrasonic vs. mechanical**

**Advantages of ultrasonic technology**

Ultrasonic technology offers a number of distinct advantages compared with conventional mechanical energy metering solutions.

**Longer lifetime**

Ultrasonic energy meters have no moving parts meaning that there is nothing to wear out - result: ultrasonic energy meters maintain the same high level of accuracy permitting several re-verification and little to no maintenance during their lifetime.

**Improved accuracy**

Because of a higher measurement frequency, low pressure losses and a high dynamic range, ultrasonic meters provide more reliable data even with low flow rates or poor quality water.

**Long battery life**

Ultrasonic technology offers low power consumption. This enables ultrasonic energy meters to operate reliably for a longer period than mechanical meters.

**Rapid payback**

In recent years the cost of ultrasonic energy meters has come down, lowering the price difference between mechanical and ultrasonic meters and the payback time of your initial investment significantly.

Ultrasonic energy meters improve accuracy and reduce total cost of ownership.
A pair of transducers working together enables an ultrasonic flow meter to alternately transmit and receive an ultrasonic signal.

Piezo ceramic crystal creates ultrasonic signals when voltage is applied.

**SonoSelect™ Ultrasonic energy meter**

The new SonoSelect™ energy meter from Danfoss sets a whole new standard in energy metering:

- Next generation ultrasonic energy meter
- Easy and flexible installation with no in-/outlet restrictions (MID supported)
- Continuous high-performance measurement
- Meter validation without dismantling the meter
- Best-in-class battery or 230V mains powered secures long operational life
- Used in heating, cooling or combined heating+ cooling applications
- Genuine diagnostics

**Benefits for everyone**

Ultrasonic technology gives value in all project stages from system designer to end user.

**SYSTEM DESIGNER**
- Best performing system
- Flexible installation
- Low pressure loss, high accuracy

**BUILDING OWNER**
- Longer lifetime
- Short payback time
- Reduced maintenance and ownership costs

**END USER**
- Reliable data
- Precise measurement
- Accurate billing
Danfoss: pioneers in ultrasonic metering technology

Danfoss has decades of experience in energy meters and is a pioneer in the development of ultrasonic technology. Our R&D facility in Denmark has been developing and testing energy meters for over 40 years. Danfoss was among the first to apply ultrasound technology in this field.

We control all stages of product development, from transducer design to software. With our global sales and technical support networks, a presence in all major markets, short lead times and smooth logistics, we provide comprehensive service and support, wherever you are in the world.

When it comes to meeting the next generation of challenges in energy metering and energy consumption reduction, you can rely on Danfoss expertise.

To learn more about SonoSelect™ visit sono.danfoss.com