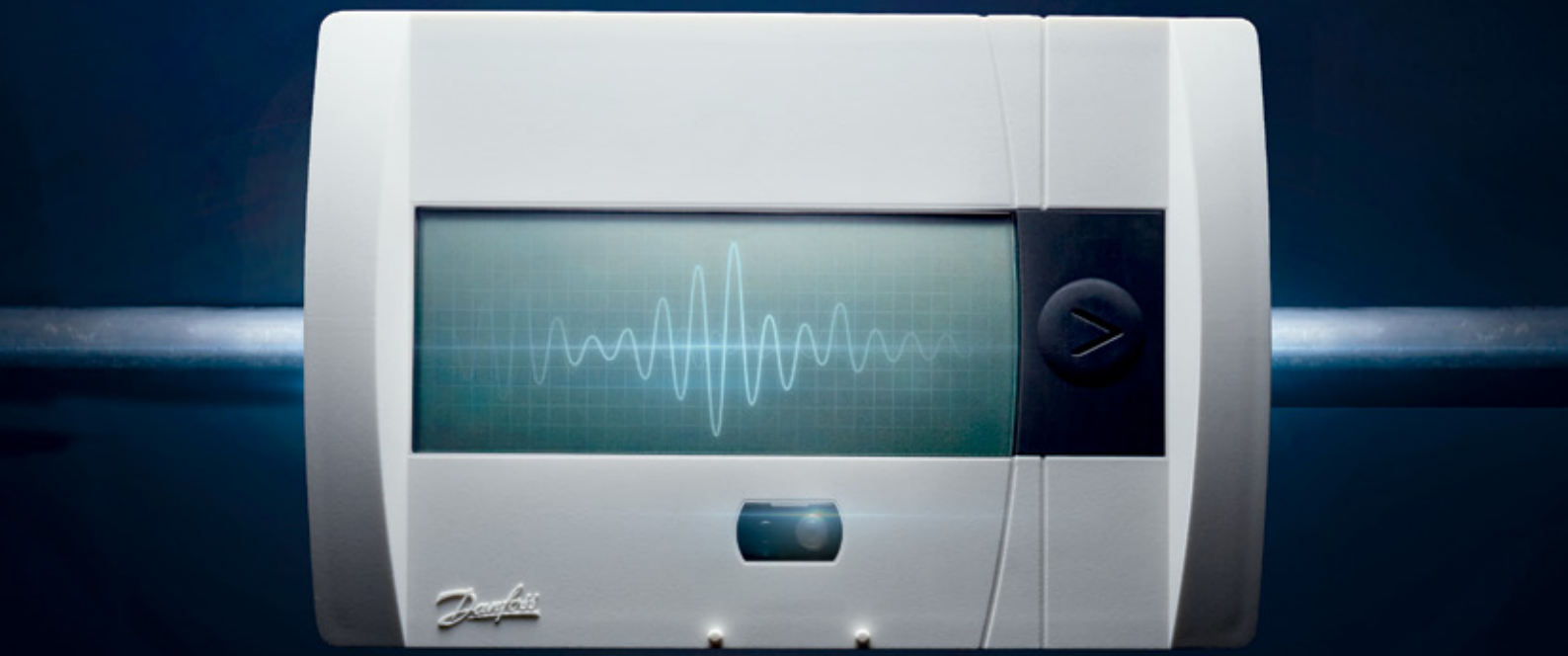
ENGINEERING
TOMORROW

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.

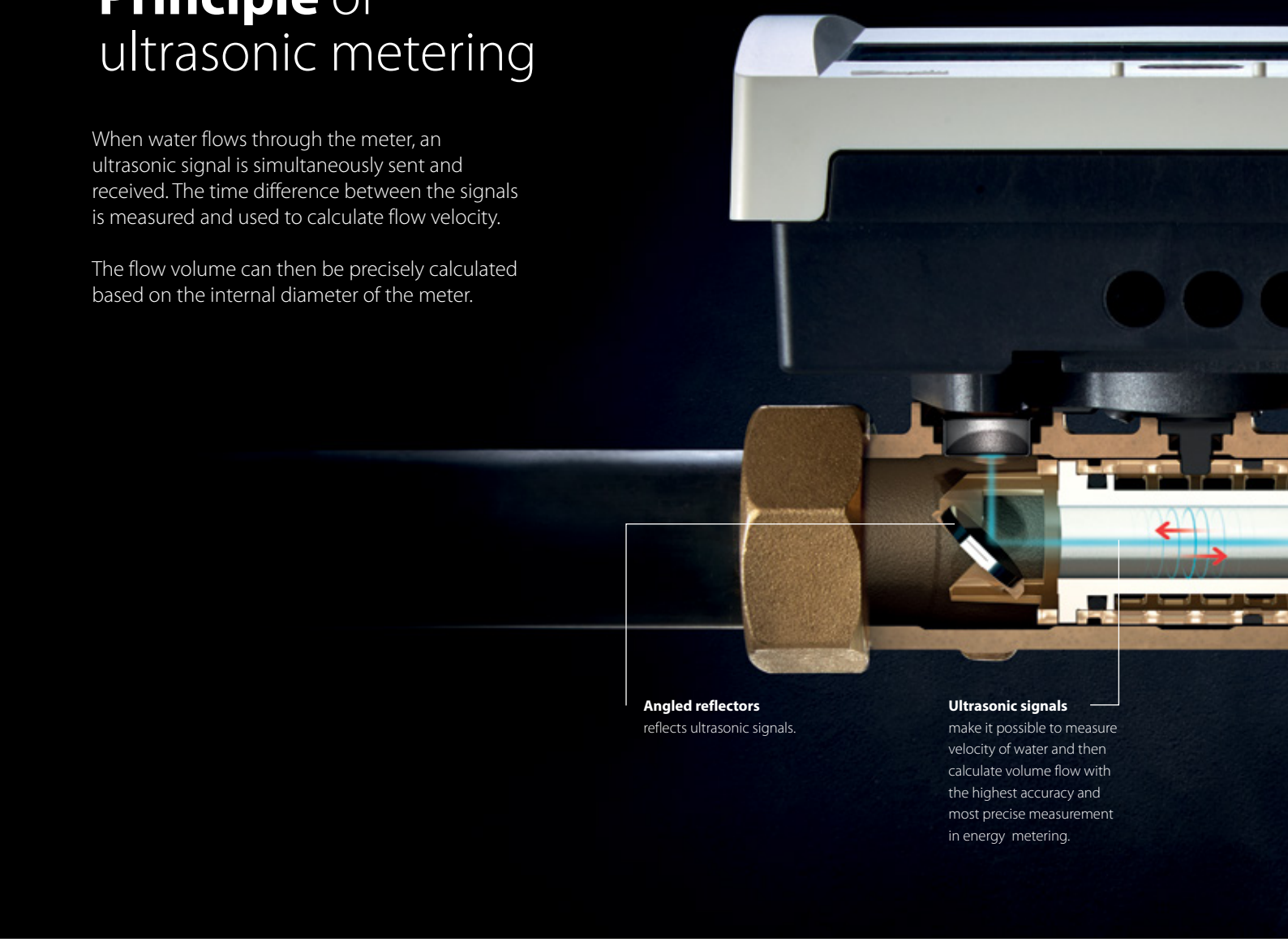
sono.danfoss.com

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.



Ultrasonic vs. mechanical

Advantages of ultrasonic technology

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

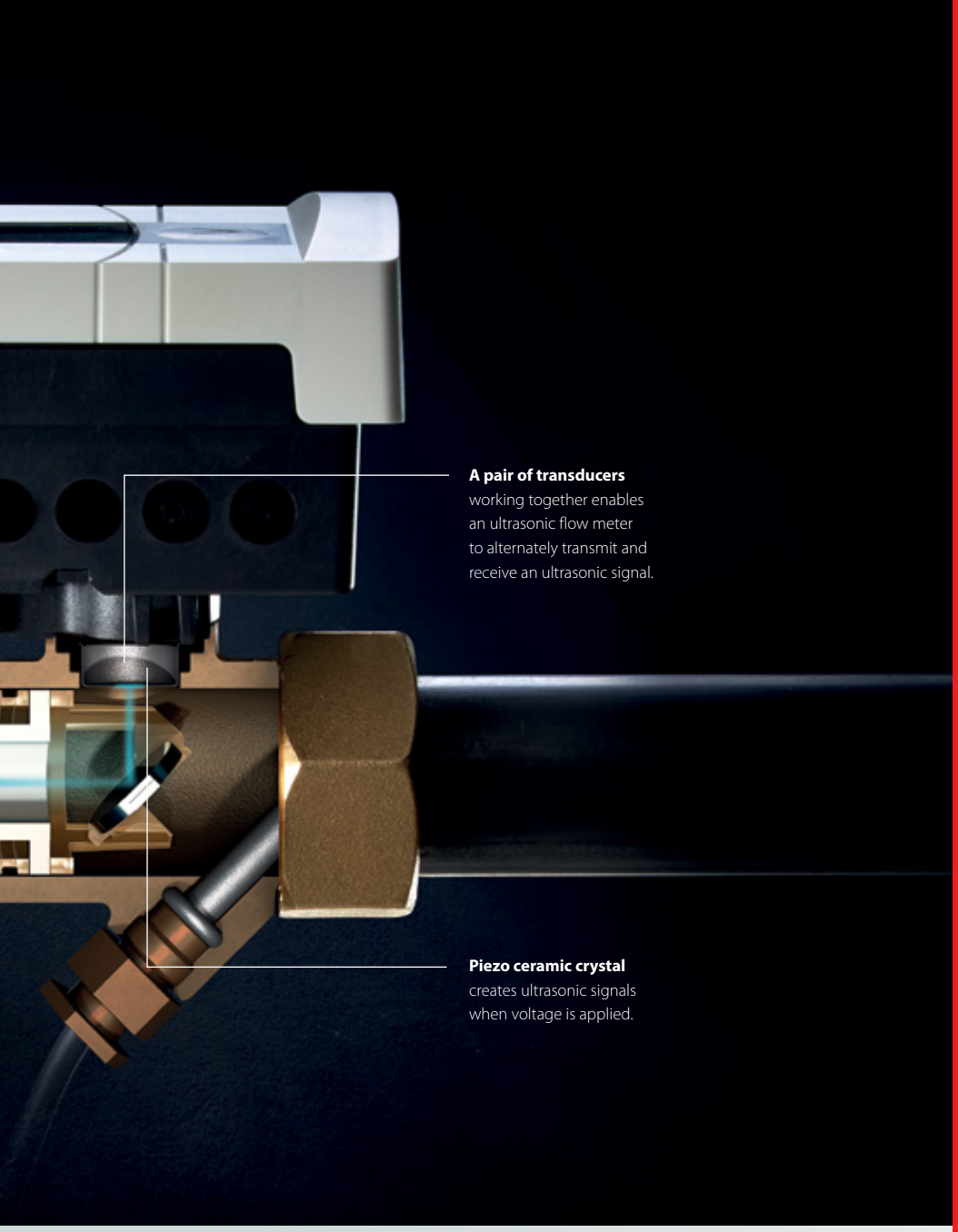
Longer lifetime
Ultrasonic energy meters have no moving parts meaning that there is nothing to wear out - result: ultrasonic energy meters maintain the same high level of accuracy permitting several re-verification and little to no maintenance during their lifetime.

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.



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

ENGINEERING
TOMORROW

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**

Danfoss A/S
Heating Segment • heating.danfoss.com • +45 7488 2222 • E-Mail: heating@danfoss.com

VBIGB202