

iSENSE Flow – For measuring flow and temperature of the district energy networks

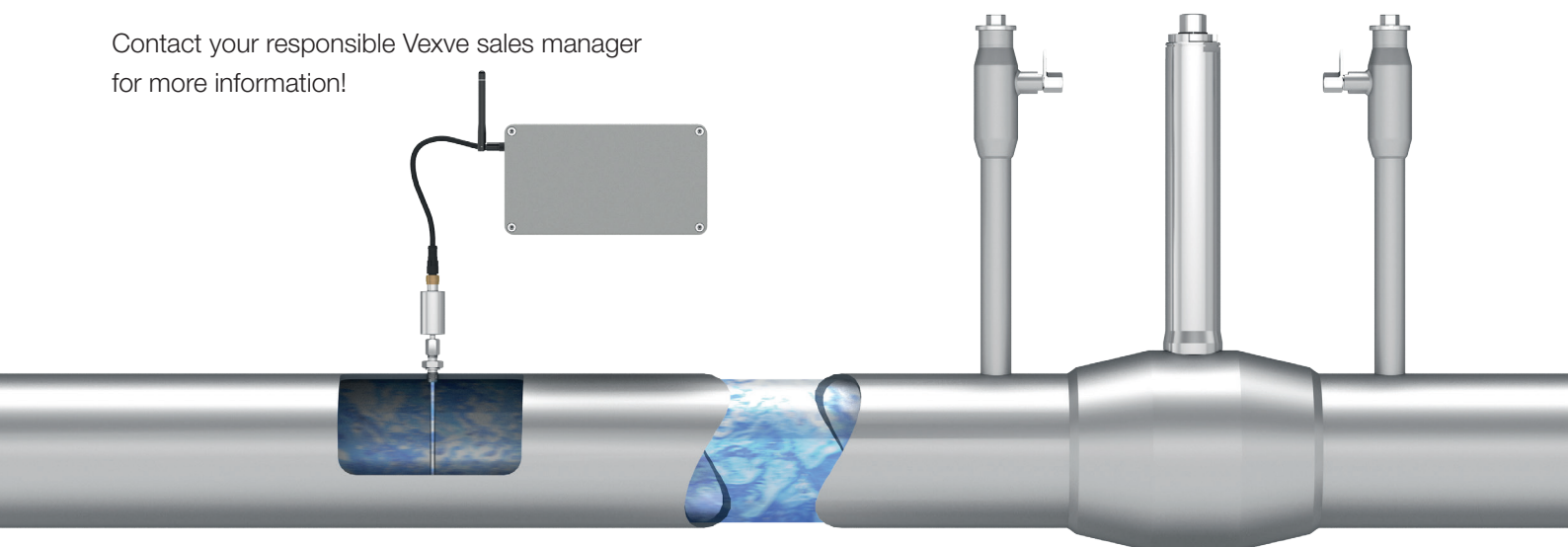
Vexve's iSENSE product family is expanding as Vexve launches a new smart flow measurement solution. The new [iSENSE Flow solution](#) enables cost-effective flow and temperature measurement of the district energy network.

The measurement of iSENSE Flow is based on a calorimetric sensor that is used to measure the flow rate of the network. Accurate measurement data can be utilized to optimize network operations more efficiently. In addition to flow data, iSENSE Flow can be used to monitor regional heat consumption, validate computational models, and detect changing flow trends in the network.

iSENSE Flow includes a separate, compact-sized measuring device and a calorimetric sensor. The calorimetric sensor is also possible to retrofit into a pressurized network. The monitoring device can be easily mounted on the chamber's wall and the device is battery-powered, which is why an external power supply is not required. The data is transferred wirelessly to the iSENSE Online cloud service, providing up-to-date flow and temperature measurement data.

Contact your responsible Vexve sales manager for more information!

Vexve's iSENSE product family consists of smart monitoring solutions specifically designed for underground district heating and cooling networks. The real-time measurement data provided by iSENSE product family helps to improve network efficiency, provides tools for condition monitoring and enables fast leakage detection.



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iSENSE Flow – For measuring changing flow and network conditions

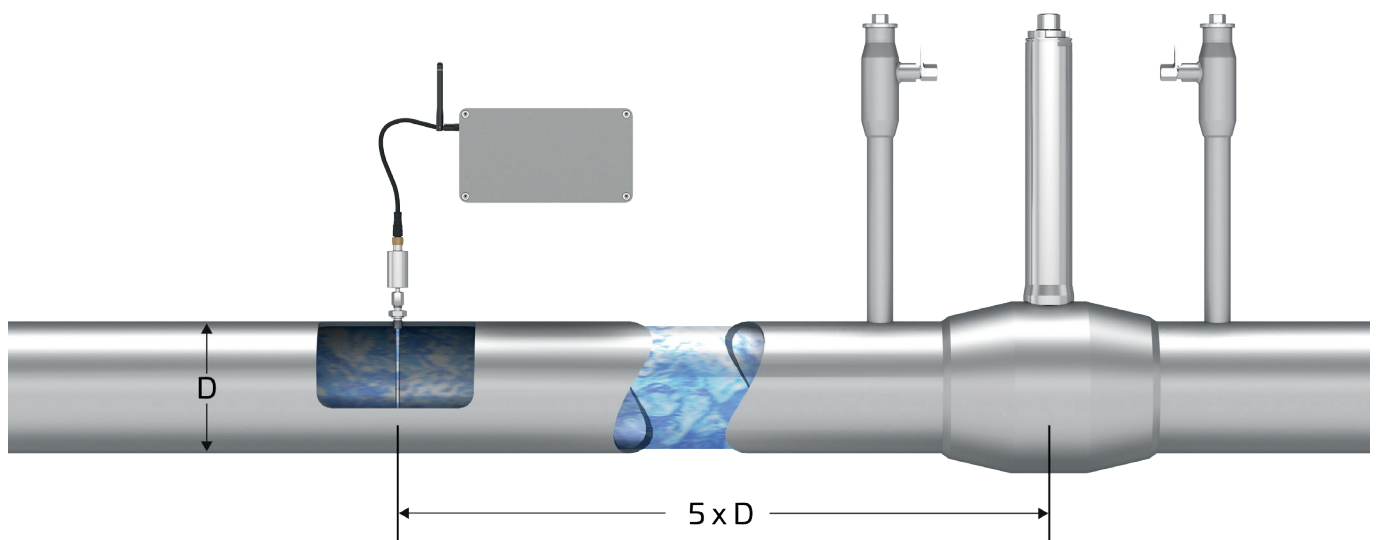
iSENSE Flow is a wireless monitoring solution for measuring changing flow and network conditions. The measurement data produced by iSENSE Flow supports energy companies in the network optimization, monitoring of regional heat consumption, and validation of computational models.

Including flow and temperature measurement:

- suitable for detecting changing flow trends
- the flow measurement is based on a calorimetric sensor that measures the flow rate
- sensor max. temperature 125 °C
- measurement range: 0-400 cm/s
- volumetric flow rate is determined by the flow rate and surface area
- sensor accuracy 2 % in laminar flow
- temperature measurement range: -25–125 °C

iSENSE Flow measuring device:

- one equipment to collect and transfer all the measured data
- sends information to iSENSE Online cloud service every 15 minutes
- data transfer method: LoRaWAN network
- durable and easy attachment to the wall of the chamber with DIN rail
- designed for demanding underground conditions
- includes wireless LoRaWAN transmitter and external antenna
- ambient temperature range: -40 - +85 °C
- device dimensions: 160 x 240 x 90 mm
- power supply: batteries 8 pcs D 3,6 V
- IP rating: IP67



Data transmission

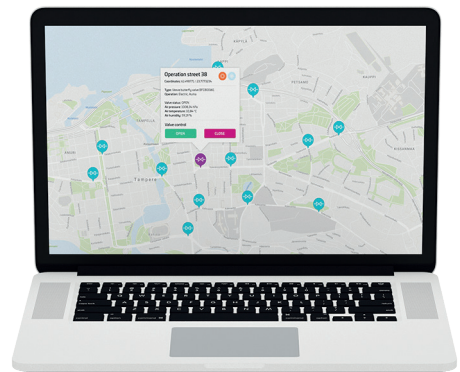
iSENSE smart monitoring product family uses the LoRaWAN data transmission network for data transfer. For those areas where there is no existing LoRaWAN network coverage, the network can be built regionally by the base station.

Benefits of LoRaWAN communication network for use in district energy networks:

- wireless
- energy efficient
- good underground penetration
- possibility of two-way communication
- easy deployment in LoRaWAN coverage areas

Cloud service

Real-time monitoring of iSENSE monitoring solutions is done through the iSENSE Online cloud service. Cloud service is available from all devices, anytime, anywhere, with SSL-protected login.



Services

Commissioning of the system and training is done by Vexve experts.



Measurement and reading

- The system is real-time, remote, reliable and accurate. We take care of the correctness of the readings and the transfer of data to the cloud service.



Service and maintenance

- We maintain a user-friendly interface and help with the interface solutions related to your system.
- Our service organization ensures that the system is always up-to-date and in working order and that the components are of the latest technology.