

# Energy self-sufficient, high-resolution sensor system for flow measurement

## The innovation

Magnetic induction flow measurement technology is used in a wide range of areas, from private household through to large-scale industry. Current and future development is focussed on sensor systems that are network-independent and can be used without an external power supply.

### Challenge:

In order to be able to carry over the impressive benefits of the magnetic induction measurement principle to future energy self-sufficient versions, energy requirements must be minimised. With conventional systems, this is only possible by reducing the magnetic field and the measurement frequency with a corresponding loss in measurement quality.

### Solution:

By using powerful permanent magnets as a replacement for electromagnets, this benefit can be realised. Using modern magnetic materials makes it possible to significantly increase magnetic fields compared to alternating fields, which also makes it possible to increase measuring accuracy. Capacitive contact elements made of new

materials enable a low-noise measurement signal for a wide variety of applications.

In combination with highly developed amplifier electronics, it was possible to develop a flow measurement system that is extremely impressive compared to conventional systems, due to its high accuracy, high measurement dynamics, compact construction and network-independency due to low energy consumption.

### Areas of application:

The new technology improves the application of flow measurement technology in many areas. Moreover, new areas can be developed in which the given benefits of network-independency and high measurement accuracy are the conditions needed for use in magnetic induction measurement technology. The use of distributed, energy self-sufficient systems in inaccessible areas is simplified even more through the use of modern bus systems for information networking.

The new sensor system can be used for example in the food technology, pharmaceutical, medical, chemical and water supply and distribution sectors.



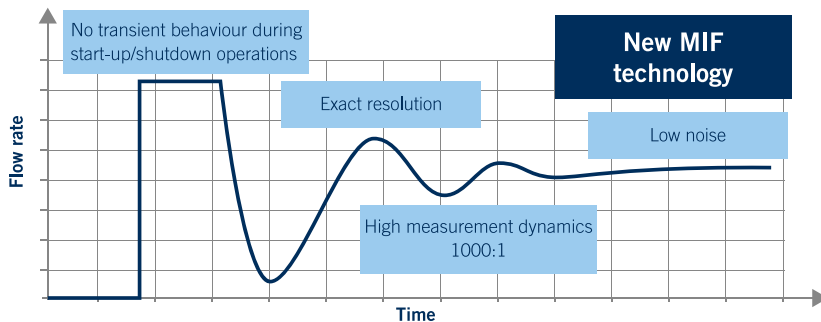
## Areas of application

- Flow sensor
- Metering device
- Compound water meter
- Dry running protection
- Cold/heat meter

## Advantages

- Network-independent operation
- High accuracy
- High measurement dynamics
- Abrasion/corrosion resistance
- Compact construction
- Can be applied universally

### Energy self-sufficient MIF sensor system



## Patent status

The invention is filed internationally and partially granted. It is owned by ZYLUM Beteiligungsgesellschaft mbH & Co. Patente II KG. The application was filed in May 2002.

**To acquire a licence for this new technology, please don't hesitate to contact us!**



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