



## APPLICATION NOTE Water & Wastewater

### Equipping district metering areas (DMA) with electromagnetic water meters

- Technical upgrade of drinking water network of a public utility
- 1:1 replacement of mechanical bulk water meters
- Use of electromagnetic water meters with pre-fitted spool pieces to compensate for existing installation lengths

#### 1. Background

A large utility company is responsible for power generation, water abstraction and distribution as well as management of the drinking water network for a town in Southern Germany. Thanks to a process of continuous modernisation, the water distribution networks are state-of-the-art.

#### 2. Measurement requirements

The infrastructure measures are also based on strategic considerations. The company's objective is to optimise the district metering areas (DMA) and thus create the conditions for cutting-edge drinking water management. This requires a wide range of measuring data and values being made available and evaluated in a flexible way. Flow measurement allows detailed consumption profiles to be created from time-related flow values, which can then be used for the efficient management of water towers or for leak monitoring. Modern measuring technology offers a range of options here.

In the past, the company used mechanical water meters, which were only able to indicate the total cumulative flow consumption in the drinking water network because of their measuring principle. These measuring devices were also prone to wear due to their moving mechanical components. This resulted in high maintenance costs. The water supplier was therefore looking for an alternative, maintenance-free flow measurement that was also able to provide detailed information about the flow per unit of time. The latest generation of electromagnetic flowmeters (EMF) can do this. The customer was initially hesitant because of the different installation lengths. EMF require much less space than mechanical WS meters and do not require inlet and outlet runs. The only option for the water supplier was, therefore, a 1:1 replacement.

### 3. KROHNE solution

KROHNE supplied battery-powered WATERFLUX 3070 water meters with a pre-fitted spool piece to replace the mechanical bulk water meters. The integrated spool piece compensates for the shorter ISO/DIN total length of the electromagnetic water meters.

The total length of the WATERFLUX 3070 is 100 mm shorter than the previously used mechanical bulk water meters with a nominal size of DN80. This is bridged with the pre-fitted spool piece.

In this application, the customer opted for the pre-fitted version without calibration. He could, however, also have ordered a calibrated solution. Alternatively, KROHNE can always supply the spool pieces to the water supplier separately. They are available as standard for all conventional nominal diameters.



WATERFLUX 3070 with pre-fitted spool piece

### 4. Customer benefits

KROHNE provided the utility company with a one-stop, custom-fit solution for the 1:1 replacement of bulk water meters. KROHNE's water meter can be easily fitted in the pipelines of the relevant measuring points without the customer having to modify his infrastructure. The pre-fitted solution can be easily installed via the existing counterflange.

Thanks to the WATERFLUX 3070 the operator also benefits from lots of available measuring data and diagnostics functions as well as a much greater measuring range (1000:1), especially where there are fluctuations. In addition, much less maintenance is required as the WATERFLUX 3070 is an electromagnetic water meter without any wearing paddle wheel, working without any pressure loss.

### 5. Product used

#### WATERFLUX 3070 C

- Electromagnetic water meter for drinking water district metering and custody transfer
- Spool pieces available for all conventional nominal diameters as standard
- Optionally available as pre-installed measuring section with calibrated spool piece for 1:1 replacement of bulk water meters (water meter type Woltmann WS)
- Battery or mains operated with optional battery backup (incl. modbus)
- Integrated temperature and pressure measurement for leak monitoring
- Custody transfer: MI-001, OIML R49 to DN600 / 24"
- No inlet/outlet run required
- Subsoil installation possible (IP68)



#### Contact

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