



## Electronic Water Meters

**WFC3x**  
**WFH3x**

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Electronic, mains-independent meters to acquire water consumption in autonomous domestic water plants.  
Storage and display of the cumulated consumption values on a selectable set day.  
Available as single-jet meters with flow rates of 1.5 m<sup>3</sup>/h or 2.5 m<sup>3</sup>/h.  
The electronic water meter is a component of the QAMR system and can be read out or programmed via an IrDA interface.

### Use

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The electronic water meters are used for measuring water consumption. Their major field of use are central domestic water plants, where water is delivered to several individual consumers.

Plants of this type are used in buildings such as

- multifamily houses
- office and administrative buildings

Typical users are:

- Private building owners
- Property associations
- Building maintenance companies
- Housing estate agents

## Functions

- Acquisition of water consumption
- Cumulation of the consumption values
- Storage of the cumulated consumption values on the set day
- Display of the consumption values
- Display of key operational data
- Self-supervision, with fault indication
- Wireless data transmission
- Leakage detection
- Optional programming and reading via an optical interface (IrDA-compatible) with a handheld terminal

## Type summary

### List of electronic single-jet cold water meters (max. water temperature 30 °C) Q AMR

Nominal flow rate $q_n$	Mounting length [mm]	Connecting thread ["]	Communication	Type reference **
1.5 m <sup>3</sup> /h	80	G <sup>3</sup> / <sub>4</sub>	Radio 868 MHz	<b>WFC36.D080</b>
1.5 m <sup>3</sup> /h	110	G <sup>3</sup> / <sub>4</sub>	Radio 868 MHz	<b>WFC36.D110</b>
2.5 m <sup>3</sup> /h	130	G1	Radio 868 MHz	<b>WFC36.E130</b>

\*\* Short-form

### List of electronic single-jet hot water meters (max. water temperature 90 °C) Q AMR

Nominal flow rate $q_n$	Mounting length [mm]	Connecting thread ["]	Communication	Type reference **
1.5 m <sup>3</sup> /h	80	G <sup>3</sup> / <sub>4</sub>	Radio 868 MHz	<b>WFH36.D080</b>
1.5 m <sup>3</sup> /h	110	G <sup>3</sup> / <sub>4</sub>	Radio 868 MHz	<b>WFH36.D110</b>
2.5 m <sup>3</sup> /h	130	G1	Radio 868 MHz	<b>WFH36.E130</b>

\*\* Short-form

### List of electronic single-jet cold water meters (max. water temperature 30 °C)

Nominal flow rate $q_n$	Mounting length [mm]	Connecting thread ["]	Communication	Type reference **
1.5 m <sup>3</sup> /h	80	G <sup>3</sup> / <sub>4</sub>	IrDA	<b>WFC37.D080</b>
1.5 m <sup>3</sup> /h	110	G <sup>3</sup> / <sub>4</sub>	IrDA	<b>WFC37.D110</b>
2.5 m <sup>3</sup> /h	130	G1	IrDA	<b>WFC37.E130</b>

\*\* Short-form

### List of electronic single-jet hot water meters (max. water temperature 90 °C)

Nominal flow rate $q_n$	Mounting length [mm]	Connecting thread ["]	Communication	Type reference **
1.5 m <sup>3</sup> /h	80	G <sup>3</sup> / <sub>4</sub>	IrDA	<b>WFH37.D080</b>
1.5 m <sup>3</sup> /h	110	G <sup>3</sup> / <sub>4</sub>	IrDA	<b>WFH37.D110</b>
2.5 m <sup>3</sup> /h	130	G1	IrDA	<b>WFH37.E130</b>

\*\* Short-form

## List of accessories

<i>Accessory</i>	<i>Description, scope of delivery</i>	<i>Type reference</i>
Spacer	For mounting length 80 mm (¾" male)	<b>WFZ.R80</b>
Spacer	For mounting length 110 mm (¾" male))	<b>WFZ.R110</b>
Spacer	For mounting length 130 mm (1" male)	<b>WFZ.R130</b>
Threaded joints	½" external thread, ¾" union nut	<b>WFZ.R2</b>
Threaded joints	¾" external thread, 1" union nut	<b>WFZ.R2-1</b>
Threaded joints	Profipress G-Adapter with SC-Contur, gunmetal, female thread, 15x ½"	<b>WFZ.P2</b>
Threaded joints	Profipress G-Adapter with SC-Contur, gunmetal, female thread, 18x ¾"	<b>WFZ.P2-1</b>
Readout software	on inquiry	
Parameterization and diagnoses tool	Parameterization and diagnoses tool for PC on CD	<b>ACT20</b>
Programming stick	Tool for starting radio installation telegrams	<b>WFZ.PS</b>

## Ordering

When ordering, please give type reference according to «Type summary».  
The electronic water meter comes standard with an IrDA interface.  
If a set day other than December 31 is required, the desired month is to be added to the type reference when ordering (normally, the last day of the month is the set day).  
Ordering example for a water meter, 110 mm mounting length, set day April 30:  
**WFC36.D110, set day: April**

## Technical design

### Measuring principle

The meter operates based on the single-jet measuring principle where the water jet hits the impeller tangentially. The impeller's speed is sensed magnetically with a GMR sensor.

### Storage of consumption values

The water consumption values are continuously cumulated. At 23.59 hours of the next set day, the actual meter reading will be stored.  
The set day is factory-set, the standard setting being December 31 (also refer to «Ordering»).

At the time the annual consumption values are stored, the meter calculates a verification code. Tenants who make their own reading need to give this code to the billing center, along with the set day reading. This enables the billing center to verify the reading.

The stored set day value will be retained for one year.

## Display

The water meter has a rolling display which shows the following values and variables:

- Cumulated water consumption since the meter was first installed
- Segment test

With the parameterization tools, the following displays can be switched step by step:

- Cumulated water consumption since the last set day
- Set day
- Verification code
- Actual flow rate
- Indication of faults (also refer to section below)

The units displayed are  $\text{m}^3$  and  $\text{m}^3/\text{h}$ .

Standard display is the cumulated water consumption.

## Fault status signals

The meter monitors itself and can display faults that it has detected.

In case of a leak in the piping system, the flow direction arrow on the meter's display will start flashing after 60 minutes

## Mechanical design

The water meter is comprised of flow measuring section and electronic unit. The flow measuring section is mounted in the piping with the help of fittings. It is made of brass and contains the measuring chamber with the single-jet impeller. The inlet has a strainer to retain larger dirt particles.

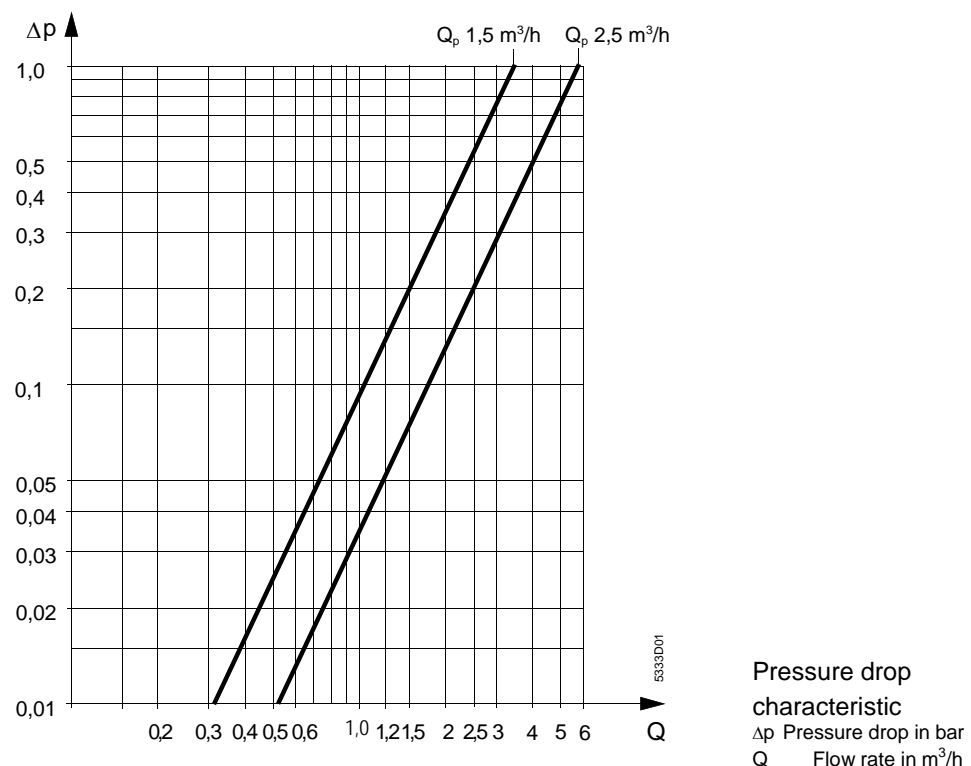
The meter is supplied as a compact all-in-one unit.

## Electronic display unit

The electronic display unit houses the electronics and the 8-digit LCD. Operating voltage of DC 3 V is supplied by a lithium battery. Underneath the display, there is the IrDA interface for automatic meter readout.

The electronic display unit on the flow measuring section can be swiveled through  $360^\circ$ .

## Sizing



## Mounting notes

- The local regulations for the use of water meters (mounting, sealing, operation, etc.) must be complied with
- To facilitate readout and service work, the meter should be easily accessible
- A settling path is required just upstream of the meter:
  - 150 mm with the mounting lengths of 80 mm and 110 mm
  - 200 mm with the mounting length of 130 mm
- If the meter is only used after commissioning, it is possible to fit the spacer first
- Prior to mounting the meter, the piping must be thoroughly flushed; for this purpose, the spacer is required
- When mounting the meter, the direction of flow (indicated by an arrow on the body) must be observed
- The display unit should be located such that it is easy to read
- After mounting, the required test pressure must be applied to the plant
- The display unit and the fittings must be sealed to ensure protection against tampering.

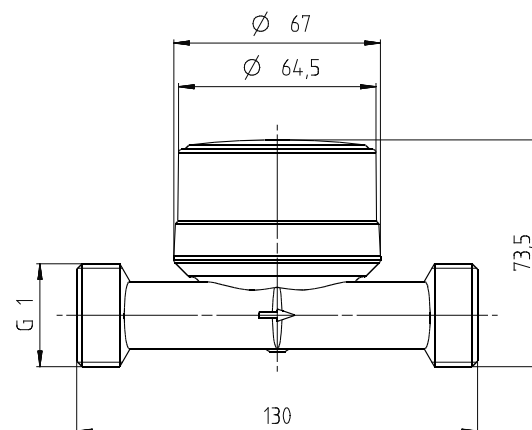
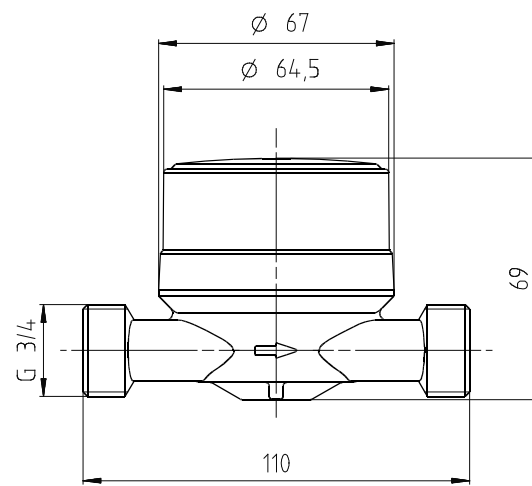
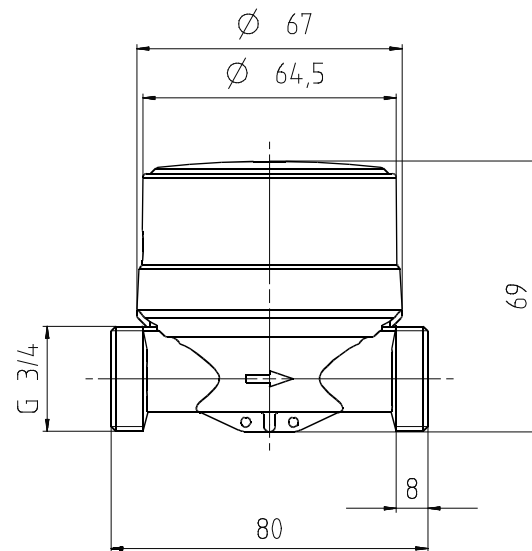
## Operating notes

- For recalibration, the local regulations must be observed
- For sending out the installation telegrams, the relevant parameterization tools are required

## Technical data

Measurement accuracy class (DIN ISO 4064/1)			
Horizontally	B		
Vertically	B		
Unit	m <sup>3</sup>		
Flow rates	1.5 m <sup>3</sup> /h	2.5 m <sup>3</sup> /h	
Min. flow rate $Q_{\min}$ H / V	30 l/h	50 l/h	
Lower limit of flow rate $Q_t$	120 l/h	200 l/h	
Nominal flow rate $Q_{\text{enn}}$	1,500 l/h	2,500 l/h	
Max. flow rate $Q_{\max}$	3,000 l/h	5,000 l/h	
Starting flow, horizontal	6 l/h	10 l/h	
Max. perm. operating pressure	10 bar		
Range of use of flow measuring section	1... 90 °C		
Behaviour in the event of excessive flow			
Flow rate = 2 $q_{\max}$	linear		
Flow rate > 2 $q_{\max}$	constant		
Perm. ambient temperature			
Transport und storage	5...55 °C		
Operation	max. 55 °C		
Degree of protection	IP 65		
Battery life (depending on strain of the battery)	12 years + 6 months (storage),		
Connections and weight	1.5 m <sup>3</sup> /h	1.5 m <sup>3</sup> /h	2.5 m <sup>3</sup> /h
Pipe connection (inlet and outlet)	¾"	¾"	1"
Mounting length	80 mm	110 mm	130 mm
Weight	0.55 kg	0.6 kg	0.7 kg

## Dimensions



This Data Sheet only contains general descriptions and technical features which, in the case of specific applications, may not necessarily apply, or which may change due to further development of the product. Technical details and features are binding only if explicitly agreed upon at the time of contract closure.

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