



Electronic Water Meters in Measuring Cell Design

**WMC3x
WMH3x**

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 multi-jet meters with flow rates of 1.5 m³/h or 2.5 m³/h.

The electronic water meter is a component of the Q AMR system and can be read out or programmed via an IrDA interface.

Use

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

- multi-family 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 multi-jet cold water meters (max. water temperature 30 °C) Q AMR

<i>Nominal flow rate q_n</i>	<i>Communication</i>	<i>Type reference **</i>
1.5 m ³ /h	Radio 868 MHz	WMC36.D
2.5 m ³ /h	Radio 868 MHz	WMC36.E

** Short-form

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

<i>Nominal flow rate q_n</i>	<i>Communication</i>	<i>Type reference **</i>
1.5 m ³ /h	Radio 868 MHz	WMH36.D
2.5 m ³ /h	Radio 868 MHz	WMH36.E

** Short-form

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

<i>Nominal flow rate q_n</i>	<i>Communication</i>	<i>Type reference **</i>
1.5 m ³ /h	IrDA	WMC37.D
2.5 m ³ /h	IrDA	WMC37.E

** Short-form

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

<i>Nominal flow rate q_n</i>	<i>Communication</i>	<i>Type reference **</i>
1.5 m ³ /h	IrDA	WMH37.D
2.5 m ³ /h	IrDA	WMH37.E

** Short-form

List of accessories

<i>Accessory</i>	<i>Description, scope of delivery</i>	<i>Type reference</i>
Meter body (EAT) 15mm solder	Meter body ½" external thread, 15mm solder, overall length 110 mm	WME.L15/H
Meter body (EAT) 18mm solder	Meter body ¾" external thread, 18mm solder, overall length 110 mm	WME.L18/H
Meter body (EAT) 22mm solder	Meter body without external thread, 22mm solder, overall length 130 mm	WME.L22/H
Meter body (EAT) 80mm	Meter body ¾" internal thread, overall length 80 mm	WME.G20/H
Meter body (EAT) 130mm	Meter body 1" external thread, overall length 130 mm (only for measuring cell Q_n=2.5m³/h)	WME.G22
Cover	EAT cover	WME.VRING
Seal	EAT seal	WME.PRODICHT
Seal	EAT seal for SAMECO-EAT	WME.FLDICHT
Plastering aid	EAT plastering aid	WME.EINPUTZ1
Intermediate ring	Intermediate ring (extension by 15.5 mm)	WME.DE
Bezel I	Set of bezels for recess depths * 68...82 mm (bezel I)	WFZ.B1
Bezel III	Set of bezels for recess depths * 25...55 mm (bezel III)	WFZ.B3
Bezel VI	Round bezel, chromium-plated, including covering pipe and PVC-ring	WFZ.B6-1
Bezel VI (radio)	Round bezel, silver-metallic, including covering pipe and PVC-ring	WFZ.B6-2
Rosette round	Rosette, chromium-plated, outside diameter 140 mm	WFZW.B1
Special key 1	Special key for fitting the measuring cell	WMZ.K
Special key 2	Special key for fitting the measuring cell	WMZ.K2
Mounting block	Mounting block	WMZ.MB1
Readout software	on inquiry	
Parameterization and diagnoses tool	Parameterization and diagnoses tool	ACT20
Programming stick	Tool for starting radio installation telegrams	WFZ.PS

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 cold water meter, set day April 30: **WMC36.D, set day: April**

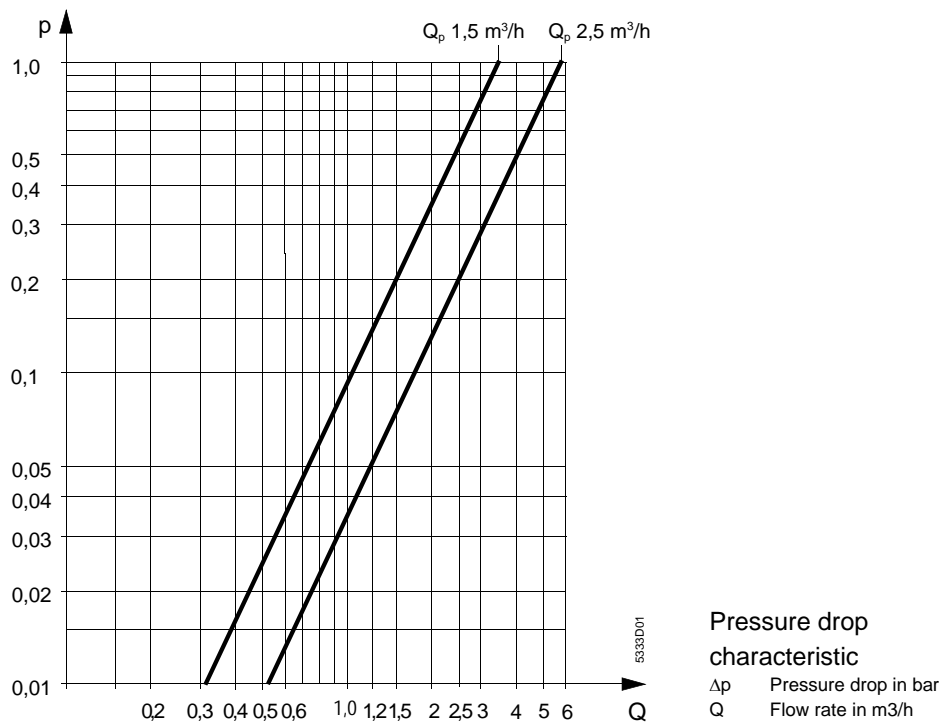
Technical design

Measuring principle	The meter operates based on the multi-jet measuring principle. The impeller's speed is sensed magnetically with a GMR sensor.
Storage of consumption values	<p>The water consumption values are continuously cumulated. At 23.59 hours of the next set day, the actual meter reading will be stored.</p> <p>The set day is factory-set, the standard setting being December 31 (also refer to «Ordering»).</p> <p>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.</p> <p>The stored set day value will be retained for one year.</p>
Display	<p>The water meter has a rolling display which shows the following values and variables:</p> <ul style="list-style-type: none">• Cumulated water consumption since the meter was first installed• Segment test <p>With the parameterization tools, the following displays can be switched step by step:</p> <ul style="list-style-type: none">• Cumulated water consumption since the last set day• Set day• Verification code• Actual flow rate• Indication of faults (also refer to section below) <p>The units displayed are m³ and m³/h.</p> <p>Standard display is the cumulated water consumption.</p>
Fault status signals	<ul style="list-style-type: none">• The meter monitors itself and can display faults it has detected• In case of a leak in the piping system, the flow direction arrow in the meter's display will start flashing after 60 minutes

Mechanical design

	<p>The water meter is comprised of flow measuring section and electronic unit. The flow measuring section is installed in the single-pipe connector located in the pipe. It is made of brass and contains the multi-beam measuring chamber with the flow meter. The water intake contains a filter to trap larger dirt particles.</p> <p>The meter is supplied as a compact all-in-one unit.</p>
Electronic display unit	<p>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.</p> <p>The electronic display unit on the flow measuring section can be swiveled through 360°.</p>

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
- If the system is only used after commissioning, the single-pipe connecting piece with gasket and sealing cap can be installed beforehand
- Before fitting the meter, the pipe must be thoroughly flushed; the single-pipe connecting piece must be mounted for this purpose
- When installing the single-pipe connecting piece, the flow sign – an arrow on the single-pipe connecting piece – 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

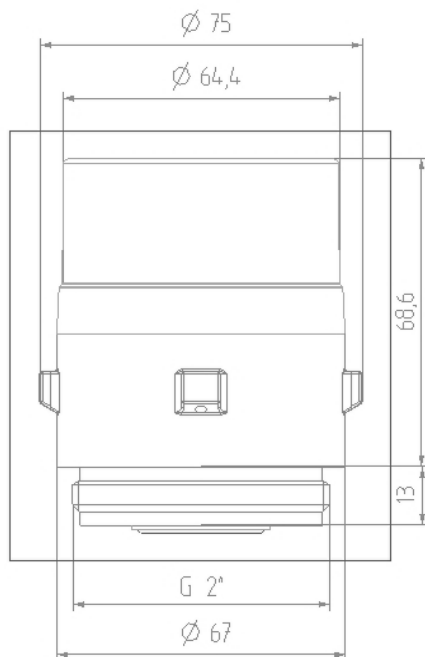
Operating notes

- For recalibration, the local regulations must be observed

Technical data

Measurement accuracy class (DIN ISO 4064/1)		
Horizontally	B	
Vertically	A	
Unit	m ³	
Flow rates	1.5 m ³ /h	2.5 m ³ /h
Min. flow rate Q _{min} H / V	30 l/h / 60 l/h	50 l/h / 100 l/h
Lower limit of flow rate Q _t	120 l/h	200 l/h
Nominal flow rate Q _{nenn}	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	
Behavior 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 64	
Battery life	12 years + 6 months (storage)	
Weight	0.51 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.

©2010 QUNDIS GmbH
Subject to alterations