SIEMENS

5346

SIEMECA™

Electronic Valve and Bath tub Meters

WFC3x.D... WFH3x.D...

Electronic, mains-independent meters to acquire water consumption in autonomous domestic water plants. Can be retrofitted to stop valves that have already been installed.
Storage and display of the cumulated consumption values on a selectable set day. Available as Valve meter compact version.
Nominal flow rates of Valve and Bath tub meters 1,5 m^3/h.
The electronic Siemeca™ Valve and Bath tub meter is a component of the Siemeca™ AMR system and can be read out or programmed via an IrDA interface.

Use

The electronic Siemeca™ 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 Valve cold water meters (max. water temperature 30 °C) with fittings, stop valve and wall rose

Nominal flow rate q_n	*Surface*	*Communication*	*Type reference*
1,5 m^3/h	chrome	Funk 868 MHz	**WFC36.DVN**
1,5 m^3/h	polish chrome	Funk 868 MHz	**WFC36.DVC**
1,5 m^3/h	chrome	IrDA	**WFC37.DVN**
1,5 m^3/h	polish chrome	IrDA	**WFC37.DVC**

List of electronic Valve hot water meters (max. water temperature 90 °C) with fittings, stop valve and wall rose

Nominal flow rate q_n	*Surface*	*Communication*	*Type reference*
1,5 m^3/h	chrome	Funk 868 MHz	**WFH36.DVN**
1,5 m^3/h	polish chrome	Funk 868 MHz	**WFH36.DVC**
1,5 m^3/h	chrome	IrDA	**WFH37.DVN**
1,5 m^3/h	polish chrome	IrDA	**WFH37.DVC**

List of electronic Bath tub cold water meters (max. water temperature 30 °C) with Connecting part ¾“

Nominal flow rate q_n	*Surface*	*Communication*	*Type reference*
1,5 m^3/h	chrome	Funk 868 MHz	**WFC36.DBN**
1,5 m^3/h	polish chrome	Funk 868 MHz	**WFC36.DBC**
1,5 m^3/h	chrome	IrDA	**WFC37.DBN**
1,5 m^3/h	polish chrome	IrDA	**WFC37.DBC**

List of electronic Bath tub hot water meters (max. water temperature 90 °C) with Connecting part ¾“

Nominal flow rate q_n	*Surface*	*Communication*	*Type reference*
1,5 m^3/h	chrome	Funk 868 MHz	**WFH36.DBN**
1,5 m^3/h	polish chrome	Funk 868 MHz	**WFH36.DBC**
1,5 m^3/h	chrome	IrDA	**WFH37.DBN**
1,5 m^3/h	polish chrome	IrDA	**WFH37.DBC**

List of electronic Replacement meter cold water meters (max. water temperature 30 °C)

Nominal flow rate q_n	*Surface*	*Communication*	*Type reference*
1,5 m^3/h	chrome	Funk 868 MHz	**WFC36.DVNA**
1,5 m^3/h	polish chrome	Funk 868 MHz	**WFC36.DVCA**
1,5 m^3/h	chrome	IrDA	**WFC37.DVNA**
1,5 m^3/h	polish chrome	IrDA	**WFC37.DVCA**

List of electronic Replacement meter hot water meters (max. water temperature 90 °C)

Nominal flow rate q_n	*Surface*	*Communication*	*Type reference*
1,5 m^3/h	chrome	Funk 868 MHz	**WFH36.DVNA**
1,5 m^3/h	polish chrome	Funk 868 MHz	**WFH36.DVCA**
1,5 m^3/h	chrome	IrDA	**WFH37.DVNA**
1,5 m^3/h	polish chrome	IrDA	**WFH37.DVCA**

List of accessories

Accessory	*Type reference*
Connection set VZ ½”, 40 mm	WFZ2.SN1540
Connection set VZ ¾”, 40 mm	WFZ2.SN1840
Connection set VZ 1”, 40 mm	WFZ2.SN2240
Connection set VZ ½”, 90 mm	WFZ2.SN1590
Connection set VZ ¾”, 90 mm	WFZ2.SN1890
Connection set VZ 1”, 90 mm	WFZ2.SN2290
Extension VZ 25 mm	WFZ2.VN25
Direction of flow changer VZ ½”	WFZ2.FN15
Direction of flow changer VZ ¾”	WFZ2.FN18
Direction of flow changer VZ 1”	WFZ2.FN22
Installation key VZ	F13011-2070
Allan key SW12	F13011-2071
Spacer ¾“	WFZ.BZES

Ordering

When placing an order, state the type designation as listed in the type overview. Included with valve meter are the fittings with stop valve, a wall rose, a threaded pin M3x3 and appropriate Allan key as well as a seal.
The connection sets and accessories are not supplied with valve meter; these parts must be ordered separately.
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 Valve cold water meter set day April 30: **WFC36.DVN, set day: April**

Technical design

Measuring principle

The Valve and the Bath tub meter is designed as a single-pointer vane-type counter. 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 Siemeca™ 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 m^3 and m^3/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 meter comprises a vane-type transducer, the counter which is of the dry-rotor type, and the fittings. The fittings comprise a stop valve and a filter to remove coarse dirt particles. The valve meter is fitted to the existing installation with the appropriate connection set. The meter casing, fittings and connection set are in high-polish, chrome-plated or chrome-plated brass.

The valve meter can be rotated about various axes:

- The meter can be turned about its own axis for optimal read-off
- The meter itself can be turned through 360° about the vertical axis.
- In the valve, the valve meter fittings can also be turned.

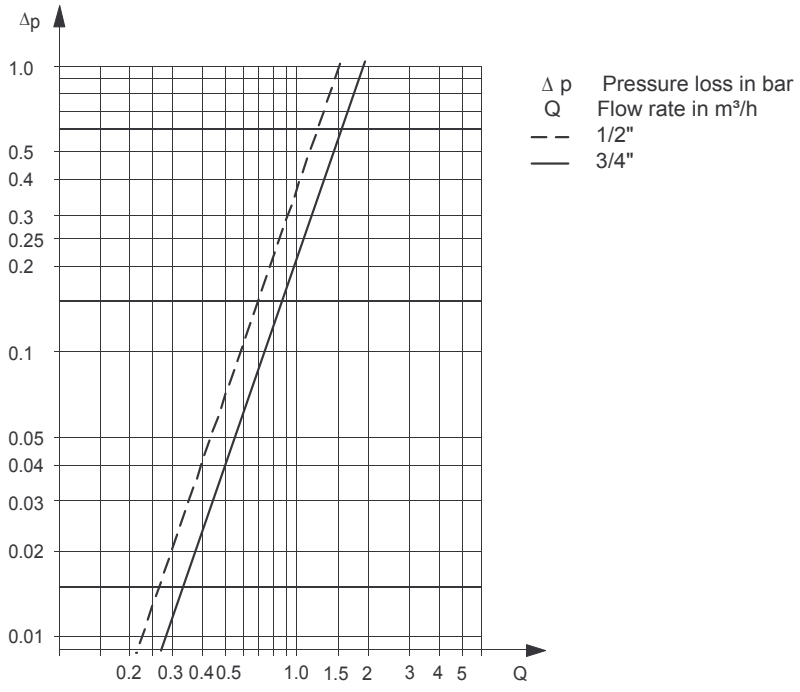
The valve meter can be fitted to straight and slanted-seat valves to DIN 3512 or similar. It provides depth compensation of the valve seat by ±7 mm and so can be accommodated by a wide variety of valves.
A flap rose with a 34mm internal diameter is provided to cover the installation point. This diameter has been chosen so that other roses can be used. There is a wide selection available commercially as accessories.

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°.

Sizing

Pressure loss characteristics with straight-through valve



Mounting notes

- The local regulations for the use of water meters (mounting, sealing, operation, etc.) must be complied with
- Rinse out the pipe thoroughly before fitting the meter
- If the total length of the connection set and the extension set exceeds 90 mm, fit a support to prevent fracture due to lever effects.
- Refer to installation instructions, which are supplied with every meter, for more details
- To facilitate readout and service work, the meter should be easily accessible
- 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.

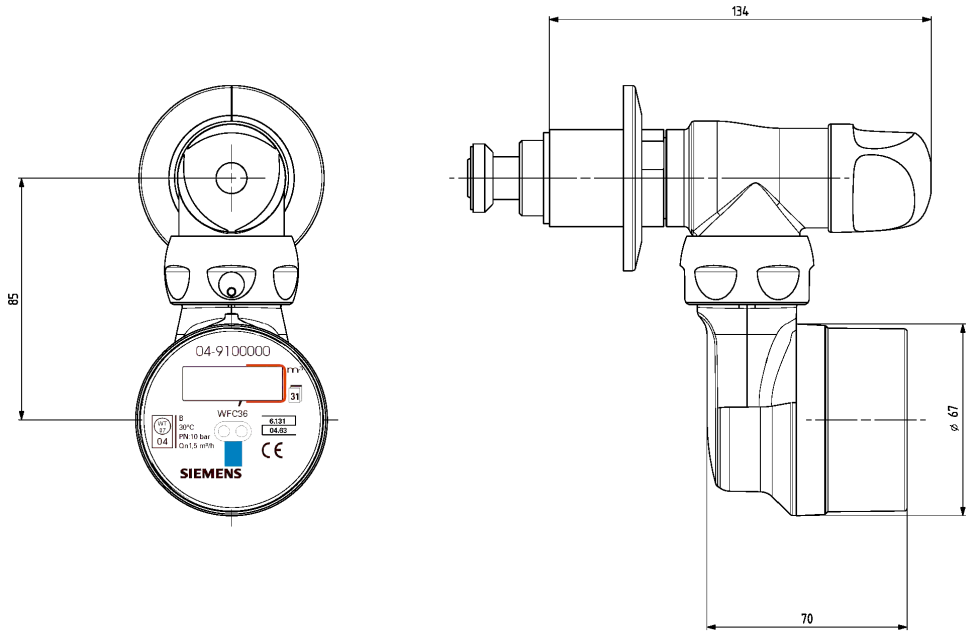
Operating notes

Please note that when valve meters are fitted, the pressure loss is generally higher that would be the case with other types of water meter. Under certain circumstances, this may reduce the functionality of pressure-controlled equipment (e.g. flow heaters). In such cases, use the specified minimum flow pressure. Observe the local regulations regarding operation, recalibration and replacement of water meters.

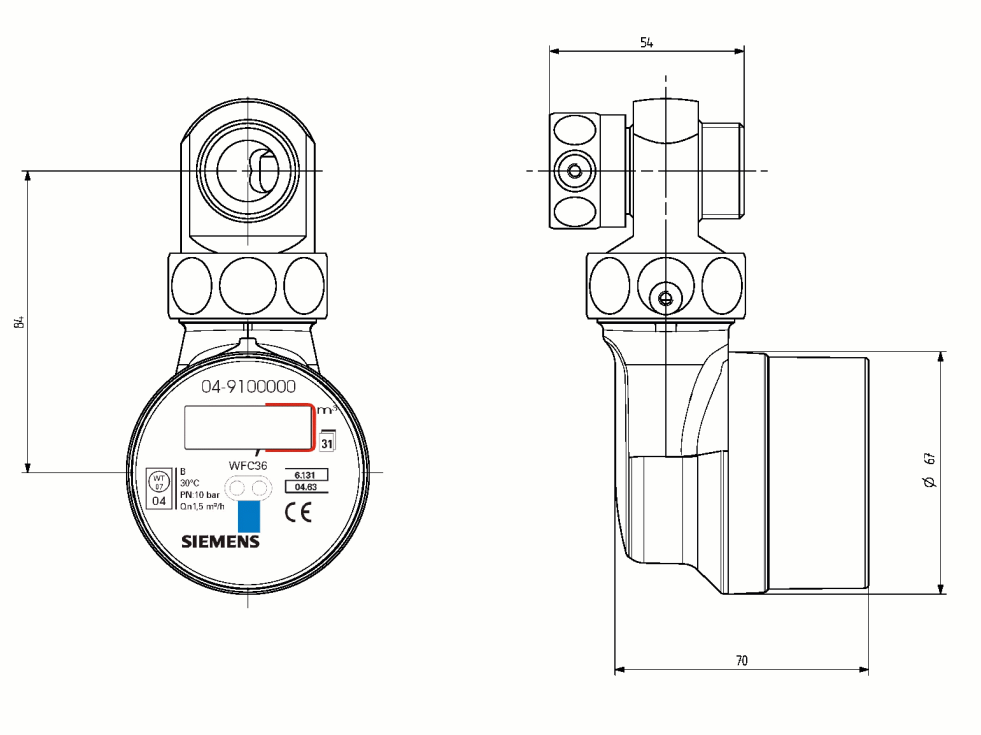
Technical data

Measurement accuracy class (DIN ISO 4064/1)	
Horizontally	B
Vertically	B
Unit	m^3
Flow rates	1.5 m^3/h
Min. flow rate Q_{min} H / V	30 l/h
Lower limit of flow rate Q_t	120 l/h
Nominal flow rate Q_{nenn}	1,500 l/h
Max. flow rate Q_{max}	3,000 l/h
Starting flow, horizontal	6 l/h
Nom. pressure PN	10 bar
Pressure drop (¾“) at Q_n	< 670 mbar
Pressure drop (¾“) at Q_{max}	< 2.7 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)
Connector sizes	
½“	
¾“	
1“	
Weights (mass)	
Valve meter with fittings	1,25 kg
Bath tub meter with fittings	0,88 kg
Replacement meter	0,52 kg

Dimensions



Valve meter with connection set WFZ2.SN1840



Bath tub meter with connecting part ¾”

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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