EU TYPE EXAMINATION CERTIFICATE

0402-MID-C600001

Issued by Notified Body No. 0402 according to Directive 2014/32/EU MID annex II Module B, regarding:

Water meter , “V-15U” and “V-15UD”

Issued to

Smartvatten Oy

Jasperintie 290, FI-33960 Pirkkala, Finland

In accordance with

Annex II Module B of the Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments. RISE Certification Rule SPCR 302 has been applied.

Type of instrument

Water meter

Type designation

V-15U, VertoBlue ultrasonic water meter
V-15UD, water meter

Conclusion of the examination

The measuring instrument's technical design which is described in this Certificate complies with the essential requirements specified in the appendix to this Certificate.
With this Certificate, permission is given to attach the number of this Certificate to the instruments that have been manufactured in compliance with this Certificate.

Date of issue

2026-09-23

Valid until

2030-10-16

The validity of this certificate can be verified at RISE homepage.
This issue of the certificate replaces previous issues.

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Accred. no. 1002 Certification of Products ISO/IEC 17065

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Applied requirements

For the instruments mentioned in this Certificate, the following essential requirements of Directive 2014/32/EU apply:

- Annex I, Essential requirements
- Annex III, (MI-001), Water meter

For the instruments, the following harmonized standards or normative documents will be applied:

- OIML R49-1, and -2, edition 2013, Water meters for cold water and hot water
- OIML R49-1, and -2, edition 2024, Water meters for cold water and hot water

For the instruments, the following technical specifications will be applied additionally:

- WELMEC CT-001, 2019 (Oktober) Corresponding table
- WELMEC 7.2, Software Guide (Issue 2023)
- Applicable parts of WELMEC 13.1, Measuring Instruments Directive 2014/32/EU Common application for utility meters (water meters and thermal energy meters) (version 2025)
- Applicable parts of WELMEC 13.3, Guide for sealing of Water and Thermal energy meters (Version 2021)

The instruments must meet the following provisions:

1. Design of the instrument

1.1 General description/Construction

Product names

Figure 1: Flow sensor V-15U

Figure 2: Flow sensor V-15U

Figure 3: Water meter V-15UD

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Figure 4: Apartment unit EVH-RB or EVH-R230

Figure 5: Display EVN-R

Figure 6: Display EVN-RB

Figure 7: Display EVN-RC

Measuring system description

Combinations including the sensor V-15U:

- The measuring instrument consists of an ultrasonic flow sensor V-15U (including ancillary fittings and a ball valve or shorter couplings), together with apartment unit types EVH-RB, or EVH-R230, or display units EVN-R, EVN-RB or EVN-RC. The measuring system is intended to measure the water consumption in an apartment or household.

V-15U is intended for cold and heated water (T70 according to OIML R49).
The data from the sensor is interpreted as a cold water signal or a hot water signal by apartment unit channels 1-4 according to programming.

Combinations including the water meter V-15UD:

- The water meter V-15UD (including ancillary fittings and a ball valve or shorter couplings) can work as a complete standalone meter or as a replacement for the sensor V-15U in an already existing system. The meter is intended to measure the water consumption in an apartment or household.

V-15UD is intended for cold and heated water (T70 according to OIML R49).
The data from the meter is interpreted as a cold water signal or a hot water signal by apartment unit channels 1-4 according to programming.

The apartment unit EVH-RB or EVH-R230 can be connected to an ultrasonic flow sensor V-15U and water meter V-15UD at the same time.

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Technical documentation

The manufacturers technical file, latest dated 2026-04-09.

1.2 Sensor

The flow sensor V-15 U is installed with 2 variant of accompanying fittings, short couplings or ball valve and back flow valve (downstream). The ultrasonic flow sensor transmits data to the apartment unit.

The apartment unit is only providing the water meter V-15UD with a power supply.

1.3 Measurement value processing

Hardware

The hardware consists of a flow sensor, apartment unit and a display.
The wall mounted apartment unit EVH-RB, and EVH-R230 receives data from the flow sensors. It can handle 1-4 sensors. Sensors for cold and/or hot water are connected to channels 1-4 according to programming. The apartment processes the data from the sensors for cold and hot water

Software

The validation of software was based on the essential requirements given in MID and WELMEC Guide 7.2.

Software version

The following program versions are approved:

Part	Model	SW version and checksum	Comment, identification of SW (Software)
Apartment unit	EVH-R230, or EVH-RB	V.1.3 Checksum: FABFC3A or V.1.4 Checksum: B68F6B71 V1.6.7 Checksum:0x12BD4ABE V1.7.5 Checksum: 0x09E62384 V.1.7.8 Checksum: 0x2A6DE09E	SW version is readable from the display units service view
Display unit	EVN-R	V.1.3 Checksum: F5EAA01C or V.1.4 Checksum: 527C8CA2 V.1.6.7 Checksum: 0x94F8AE92 V1.7.3 Checksum: 0xDD66BBB5	SW version is readable from the service view
	EVN-RB EVN-RC	V.1.6.7 Checksum: 0x94F8AE92 V1.7.3 Checksum: 0xDD66BBB5	SW version is readable from the service view
Flow sensor	V-15U	1.96 or 1.97 or 2.0	SW version is readable from the display units service view
Water meter	V-15UD	V3.0 Checksum: 0x127366BB	SW version is readable from the meters LCD display in service view

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Software specification according to Welmec Guide 7.2:

Software type	P
Risk class	C
Extension	T, D, I

1.4 Indication of the measurement results

The indication from flow sensor V-15U is presented on a separate display that can be mounted separately or on the apartment unit (if wall mounted the data is sent to the display using a 434 MHz radio link).

Display units EVN-R, ENV-RB and ENV-RC has two flow measurement lines;
XXXXXX.XXX m^3 (hot water)
XXXXXX.XXX m^3 (cold water)

The volume information is updated typically once a second.

The display may be replaced without losing volume information.

Figure 8: example of displayed information.

The water meter V-15UD is displaying the water consumption in an LCD screen on the side of the meter.

1.5 Optional equipment and functions

None identified.

1.6 Technical documents

For market surveillance, the construction and included components are described in this certificate and the following technical documentation:
Manual: Instruction for installation and use (in Finnish and Swedish), available at web page:
smartvatten.com/fi/smartvatten-vertomateriaalipankki

1.7 Integrated equipment and functions which do not fall into the validity range of this Type-examination Certificate

Not applicable.

2. Technical data

2.1 Rated operating conditions

Measurand

Volume of water expressed in m^3, separate registers for hot and cold water.

Measurement range etc.

Pressure	PN 10
Working position	Horizontal and vertical

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Power supply	230 VAC or 230 via external adapter (EVH-230), or internal battery (EVH-RB)
Meter connection	G1/2”
Overall meter length	196 mm (including fittings and ball valve) or 110 mm (including short couplings)
Width of flow sensor	36 mm
Reverse flow	Not possible (equipped with pressure relief valve) Possible for V-15UD

Meter flow range, R40 V15U	Q_4 2000 l/h Q_3 1600 l/h Q_2 64 l/h Q_1 40 l/h

Meter flow range, R160 V-15UD	Q_4 2000 l/h Q_3 1600 l/h Q_2 16 l/h Q_1 10 l/h
Water temperature range	0,1-70 °C, (T70 according to OIML R49)

Environmental conditions / influence quantities

Mechanic	Class M1
Electromagnetic	Class E1
Ambient temperature limits	+5°C to +55°C
Humidity	Condensing
Location	Closed
Water temperature range	0,1-70 °C, (T70 according to OIML R49)
Acrassy class	2

2.2 Other operating conditions

Not applicable.

3. Interfaces and compatibility conditions

Data is transferred wirelessly from the apartment units to a central unit EVG-S or EVG-E (not included in the certificate) using 434 MHz radio. Configuration data is delivered from the central unit to the apartment unit, and further to the display.

4. Requirements on production, putting into use and utilization

4.1 Requirements on production

No special requirements identified.

4.2 Requirements on putting into use

- The flow sensors must be mounted in accordance with the installation instruction listed in 1.6.

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- Meters with couplings, total length 196 mm: Either straight pipe length 200 mm (upstream) is required for the flow sensor or flow straightener is used. If straightener is used, straight pipe length 200 mm is not needed.
- Meters with couplings, total length 110 mm: No need for straight pipe length or flow straightener
- For V-15UD no need for straightener
- Horizontal and vertical working position.

4.3 Requirements for consistent utilizations

By manufacturer estimated durability period is 15 years/1000 m3 at maximum temperature of 70°C. Model EVH-RB has replaceable battery pack.

5. Checking of instruments which are in operation

5.1 Documents required for the test

No special requirements identified.

5.2 Special test facilities or software

No special requirements identified.

5.3 Identification of hardware and software

See 1.1 through 1.4.

5.4 Calibration/adjustment procedure

The water meter is not adjustable.

6. Security measures

6.1 Mechanical seals

Type plate is a non-transferable label or laser engraved on sensor.

6.2 Electronic seals

The metering system is controlled with alarms, and this replaces sealing of parts. The central unit (not included in the certificate) receives and monitors the following information of the apartment units:

- Sensor disconnection/communication error
- Sensor exchange
- Sensor reported error bits
- Leakage (prolonged uninterrupted flow)
- External supply disconnection
- Apartment unit enclosure opened

6.3 Software seals

The software is sealed with a checksum.

6.4 Data logger

The official cumulative water volume is stored in and maintained by the apartment unit. The values are stored and handled in one millilitre resolution. The display values are updated once a second.

7. Labelling and inscriptions

7.1 Information to be enclosed with the instrument

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For installation purposes se the manufacturers web-page: smartvatten.com/fi/smartvatten-vertomateriaalipankki

7.2 Markings and inscriptions

The type plates/labels mounted on the instrument shall contain at least the following information:

- EU-type examination certificate number, 0402-MID-C600001
- Manufacturer´s name, registered trade name or registered trade mark
- Type identification
- Year of manufacture
- Serial number
- Permanent flow rate Q3
- Flow rate range Q3/Q1 (R)
- Limits of temperature or temperature class
- Identification of the direction of flow
- Maximum permissible working pressure (PN-class)

Figure 9: marking plate of V-15UD.

Figure 10: marking plate of display unit.

7.3 Conformity marking in accordance with MID article 21

The instrument shall be marked in accordance with MID article 21 which e.g. describes the CE-marking together with M, year of marking and the id number of the notified body responsible for module D or F.

7.4 Further inscriptions, if necessary

No special requirements identified.

8. Testing and examination

Testing and examination have been carried out in accordance with Evaluation Report 1323032 in accordance with Directive 2014/32/EU Annex II, module B, paragraph 5. The principal characteristics, approval conditions are set out in this certificate.

9. Revision history

Certificate

Issue	*Dated*	*Description*
1	2020-10-15	Certificate issued.
2	2022-02-24	Certificate revised, update with reduction of pulses from flow sensor and new SW version (minor change). Vercon Oy has changed name to VertoNordic Oy.

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3	2022-05-16	Certificate revised, update for the use of two versions of couplings, new total length 110 mm and old 196 mm.
4	2023-03-20	Certificate revised, new typo in clause 2.1 (working position).
5	2023-04-17	Certificate revised, new address to the manufacturer and removal of old measurement instrument name. Added a new software version of flow sensor.
6	2024-04-15	Certificate revised, new displays was added and new software version and checksum.
7	2026-04-14	Certificate revised with a new water meter, V-15UD.
8	2026-09-23	Certificate revised with a new software for apartment unit.

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