

SSM-AQUO

NB-IoT

Quick guide to use and installation



SSM-AQUO is an ultrasonic water meter for residential applications.

1. GENERAL INFORMATION

Water temperature	0.1 °C to 50 °C
Ambient temperature	-25 °C to +55 °C
Environmental class	M1/E1
Maximum operating pressure	16 bar
Protection rating	IP68
MID accuracy class	2
Battery life	up to 13 years*
Frequency band	B3, B20

* based on radio transmission settings and environmental conditions

Tab. 1.1. Technical data

2. ENVIRONMENTAL CLASSIFICATION

- Class B, O according to ISO 4064:2017-A.2 Appendix A item A.2
- Class M1 according to European Directive 2014/32/EU
- Class E1 according to ISO 4064:2017 and European Directive 2014/32/EU

3. PACKAGE CONTENT

- Meter
- Gasket kit (if ordered) and gaskets

4. SAFETY INFORMATION

- Consult this document before use.
- Installation should only be performed by qualified and authorized personnel.

5. TRANSPORTATION AND STORAGE

- Protect against vibrations and falls during transport;
- Storage temperature between -25°C and +55°C;
- Once the meter is taken out, do not handle it by the cover;
- Avoid blows, impacts and falls when installing and handling the meter.

6. INSTALLATION PRE-REQUISITES

Check for proper alignment of upstream and downstream pipes.



Fig. 1.1. correct alignment



Fig. 1.2. incorrect alignment

Check the distance between couplings to avoid mechanical stresses. $U+D < 5 \text{ mm}$

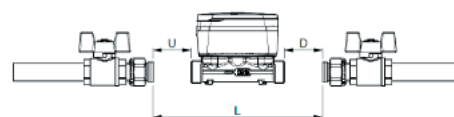


Fig. 1.3. distance between the meter and the joints

SSM-AQUO is class U0D0 (does not require straight pipe section before and after the meter).

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7. COMPONENTS NEEDED FOR INSTALLATION

- Gaskets
- Fittings



Always use new gaskets.



Gaskets and fittings are not standard equipment (see par. 3. PACKAGE CONTENTS)

8. INSTALLATION GUIDE



The SSM-AQUO meter can be installed in any position.

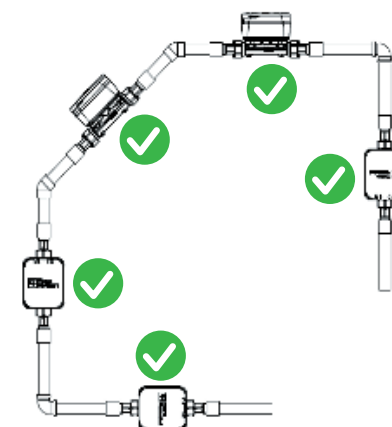


Fig. 1.4. possible installation positions

Remove any packaging or protection of the meter.

Install new gaskets in the connections of the connecting pipes.

Place the meter respecting the direction of flow.

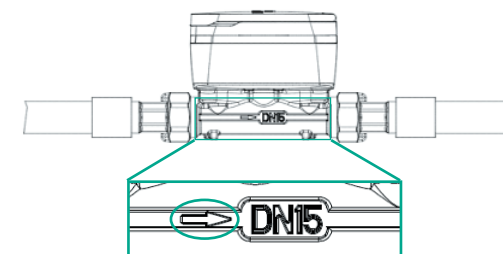


Fig. 1.5. flow indication

Fasten the nuts according to the tightening torques shown in the table.

Open the upstream valve to allow water to flow into the meter.

Open the downstream valve to allow air to escape from the pipeline.

Close the downstream valve.

Check that there are no leaks from the fittings.

9. TIGHTENING TORQUES

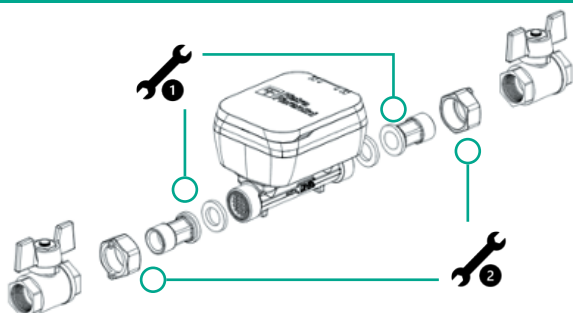


Fig. 1.6. meter joints

DN	1	2	
15	17	29	30 Nm
20	23	36	35 Nm
25	30	46	35 Nm
32	36	53	40 Nm
40	44	66	45 Nm

Tab. 1.2. Tightening torques

10. METER DISPLAY

The display cycles through the information described below:

Display design A	Display design B
Functional display test (1/2)	Functional display test (1/2)
Functional display test (2/2)	Functional display test (2/2)
Accumulated volume (1/1)	Accumulated volume (1/1)
Firmware version and signature (1/4)	Firmware version and signature (1/4)
Firmware version and signature (2/4)	Firmware version and signature (2/4)

Firmware version and signature (3/4)	Firmware version and signature (3/4)
Firmware version and signature (4/4)	Firmware version and signature (4/4)

Tab. 1.3. display information

Measuring card error detected	Measuring card error detected
Number of active errors	Number of active errors

Tab. 1.4. errors shown on display

11. DISPLAY ERRORS

Display design A	Display design B
No water in the meter or partially empty pipe	No water in the meter or partially empty pipe
Leakage detected, continuous flow	Leakage detected, continuous flow
Pipe rupture, sudden flow at high flow rate	Pipe rupture, sudden flow at high flow rate
Meter installed in the wrong direction	Meter installed in the wrong direction
Reverse flow reading	Reverse flow reading
Flow reading beyond maximum flow rate	Flow reading beyond maximum flow rate
Attempted fraud	Attempted fraud
Nearly flat battery	Nearly flat battery
Temperature reading below the lower limit	Temperature reading below the lower limit

12. AUTOMATIC METER READING

The meter is preconfigured to allow the transmission of consumption via radio frequency. Radio transmissions are automatically activated upon reaching 5 liters of the volume totalizer and according to the settings agreed upon in the order.

13. DISPOSAL



This product contains a lithium battery and electronic circuits. Do not dispose together with household waste, follow your municipality's directions for disposal of WEEE.



Disposal should be carried out only by qualified and authorized personnel, following the requirements of Directive 2012/19/EU for the disposal of electrical and electronic components (WEEE).

14. EU DECLARATION OF CONFORMITY

Pietro Fiorentini S.p.A. declares under its sole responsibility that the SSM-AQUO series meters to which this statement refers are IN COMPLIANCE with the directives listed below in accordance with the European directives listed:

Directive 2014/32/EU of the European Parliament and of the Council of February 26, 2014, on the harmonization of the laws of the Member States relating to the making available on the market of measuring instruments (recast).

Directive 2014/53/EU of the European Parliament and of the Council of April 16, 2014 on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.

Type B certificate: IT-028-21-MI001-2213, first issued on March 9, 2022 by Pa.L.Mer. Soc. Cons.a.r.l., Italy, (Notified Body Number 2213).

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