



ADDRA Water Meter



Quick Start and Installation

add new tech to your business!

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Revision history

Version	Date	Editor	Comment
1.0	18.11.2024	Serghei Budigai	First edition
1.1	26.02.2025	Serghei Budigai	Revised to current implementation

Document purpose

This document is an installation guide for the ultrasonic Water Meters with copper body of ADDRA series. The document describes base specifications and main procedures to assist in the installation of a Water Meter.

Abbreviations

Table. Abbreviation meaning

Abbreviation	Description
BLE	Bluetooth Low Energy
DN	Diameter Nominal
LCD	Liquid Crystal Display
PN	Pressure Nominal
WAN	Wide Area Network
WM	Water Meter

Introduction

Ultrasonic Water Meter is designed to measure and store the cold tap water consumption.

General information

No part inside this product is intended to be replaceable. The meter requires no maintenance and can be remotely read by the water supply company. The technical parameters of the meter are indicated in the passport or technical description.

Overall view

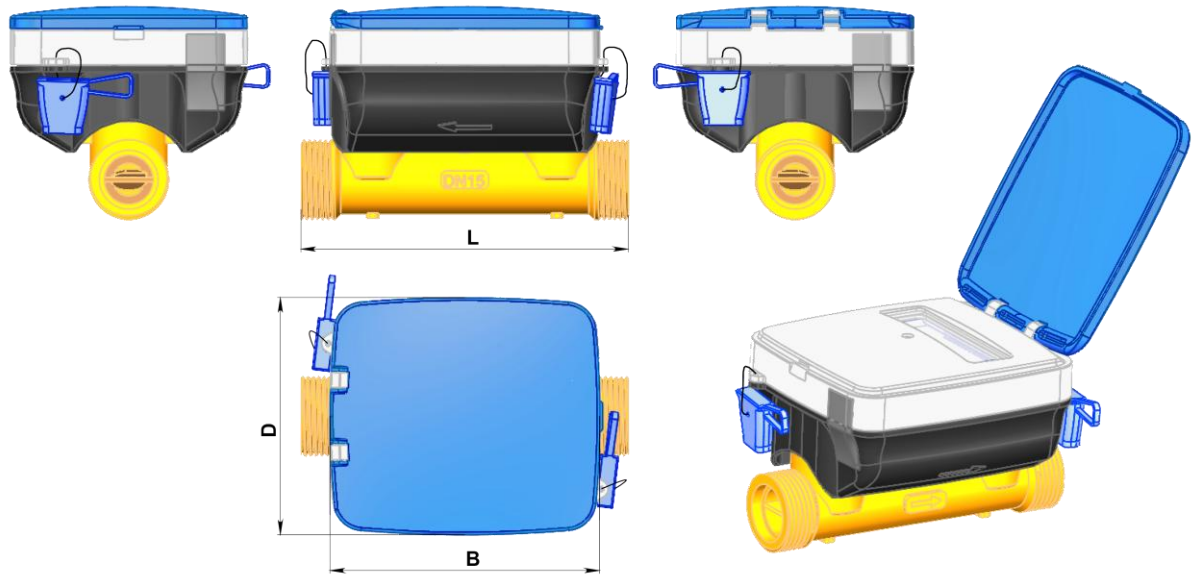
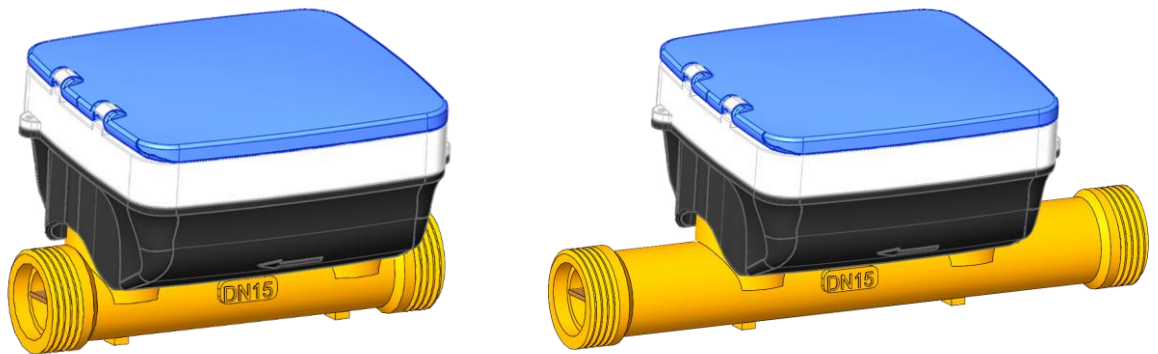


Fig. 1. Overall view of water meter.

Models view



WMP15 brass-110 bl

WMP15 brass-165 bl

Fig. 2. View of water meter models.

Safety instructions

All installations of products must be done according to safety regulations and rules. The instructions detailed in this guide must be carefully followed to prevent from any form of danger for the installation, for the installer or for the end-user.

The following safety instructions must always be observed:

- The installation must only be performed by a qualified and trained installer, authorized to work on domestic water installations. This Installer must carefully read and scrupulously follow this meter user manual.
- The installation must conform to the standard for potable water installation.
- Local safety regulations must be observed.
- Any inappropriate behavior not described in this document can lead to injuries or damages of the meter.
- If an installed product is removed from installation and intended to be shipped through air transportation, the radio function must be disabled.

Protect from:

- high temperatures;
- ultraviolet radiation;
- vibration;
- shocks;
- hydraulic shocks.

Do not:

- use near sources of acids, gases and/or electrical systems;
- dispose of the device with household waste.

Keep the installation site clean.

When the meter has been mounted in the system, neither welding nor freezing is allowed.

Mounting

It can be installed whatever the pipe orientation.

The direction of the arrow on water meter body should match the direction of water flow in the pipeline.

Upstream and backstream water lines must be aligned and must have a connection distance compatible with the product pipe length.

The flow direction.

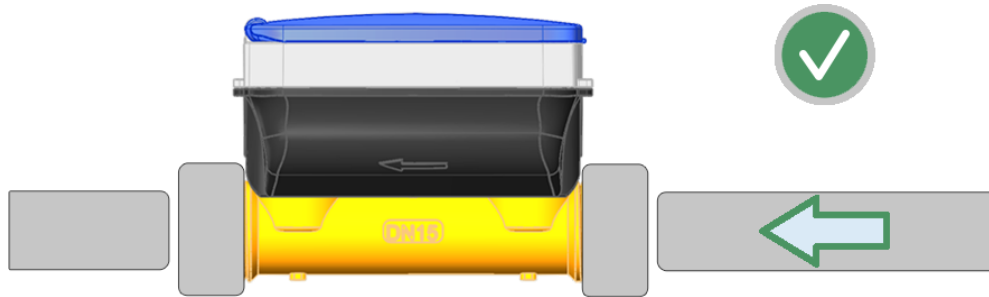


Fig. 3. The flow direction is indicated by an arrow on the side of the water meter housing.

The piping.

Mount the Water Meter with the matching **couplings** or adapters if needed.

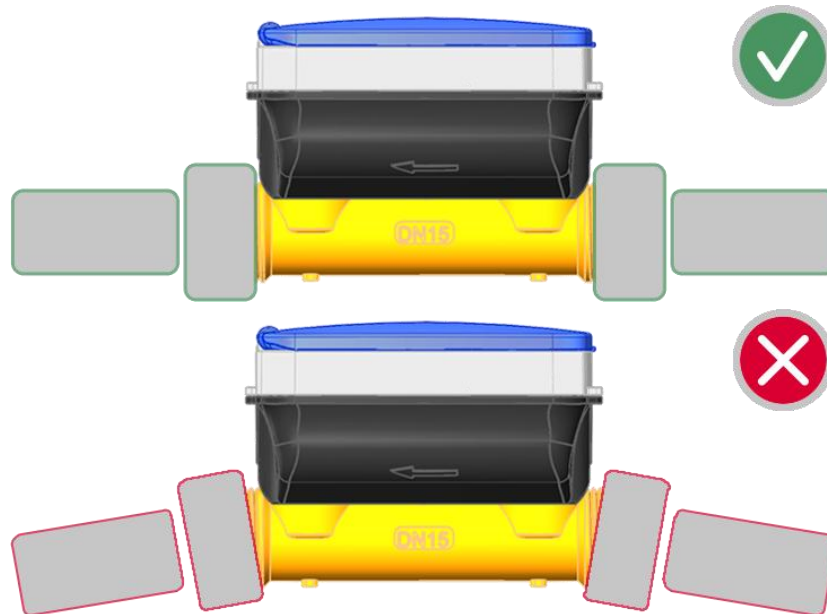


Fig. 4. The piping must be parallel and match the meter.

The tightness must be proved by pressurizing with cold water, slowly filling the pipe on completion of the installation.

Use standard tools to install the water meter.

Be sure, that the length of the water meter thread will not prevent sufficient tightening of the sealing surface, and make sure that the relevant couplers are used.

Prior to the installation of the ADDRA water meter the pipe system should be flushed while a pipe or fitting piece is in the place of a water meter installation.

The installation position.

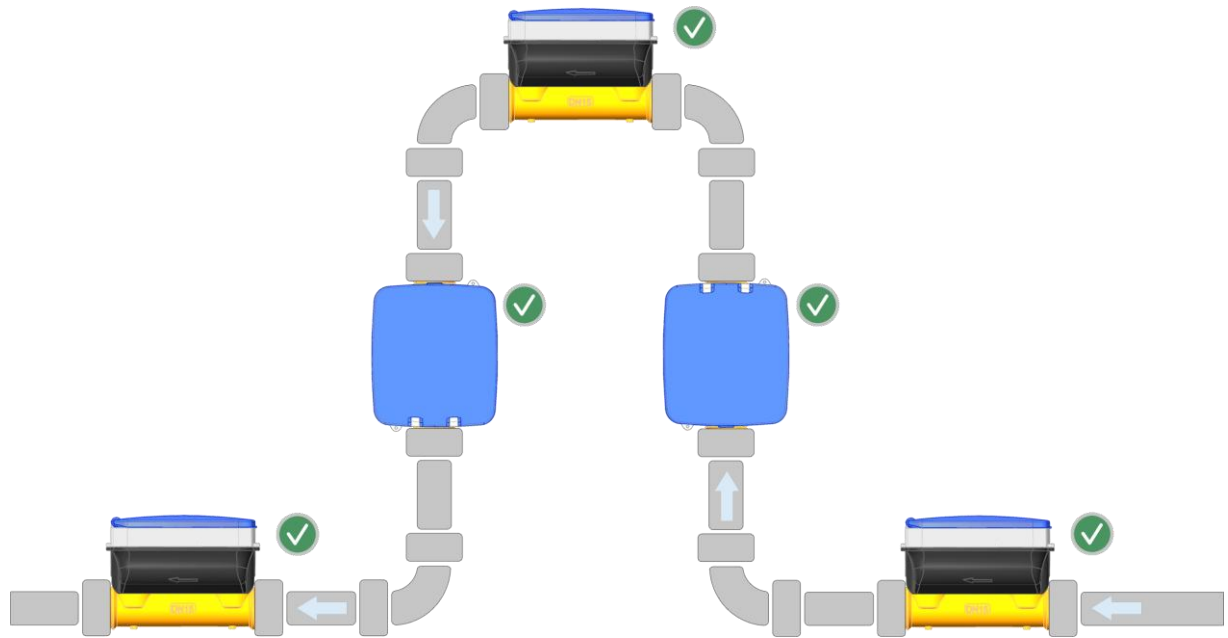


Fig. 5. Choose the correct position for installation.

WM requires neither straight inlet nor outlet to meet the Measuring Instruments Directive (MID) 2004/22/EC and OIML R49.

Only in case of heavy flow disturbances, before the meter, a straight inlet section is necessary.

In order to avoid formation of air bubbles or vapour in the meter (cavitation) and to ensure correct measurement under all normal circumstances, the operating pressure in the pipe installation must observe the test conditions of OIML R49, which means that the static pressure downstream, immediately after the meter must always be at least 0.03 MPa (0.3 bar). WM must not be subjected to pressure lower than the ambient pressure (vacuum).

The gaskets.

It is recommended to use EPDM gaskets for cold water.

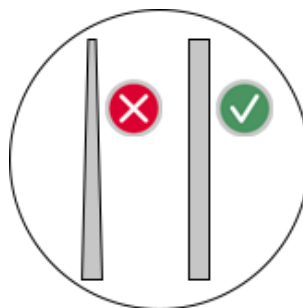


Fig. 6. Always use **new gaskets**.

For proper mounting, press the rotating nut against the thread of the meter. Make one turn by unscrewing slowly to make sure the thread is correctly engaged. Then engage, screw the nut by hand, and finish with a wrench without holding the main housing.

When installing a water meter, hold the brass tube of the meter with your hand or plumbing pliers and tighten the nuts with an adjustable wrench. Since the seal in this place is provided by gaskets (rubber, silicone, paronite, etc.), you do not need to apply much force when tightening the nuts.

The tightening torque should not exceed 40 Nm.

A typical delivery set contains a Meter or a Meter with a Valve.

The distance between the Meter and the Valve should not exceed 1 m to ensure stable communication.

The Valve should be installed in a position convenient for reading the nameplates.

Often the company supplies a Meter and a Valve that are linked together via hardware and software.

When directly connecting the Meter to the Valve, use the fitting shown in the figure below.



Fig. 7. Typical connection of a Meter with a Valve.

Preparation

Observe the dimensions of the meter and check whether there is sufficient space available.
Prepare the necessary items and accessories before installation.

Installation recommendations

Installation, removal, repair and verification of the water meters should be carried out by the authorized representatives only.

The water meter maintenance requires corresponding qualification from the maintenance personnel.
Make an external inspection of the water meter before the installation and make sure that there is no mechanical damage.

You should define what type of water meter installation you need:

- installation of the single water meter;
- replacement of the old water meter.

These may be mandatory requirements for installation of additional equipment like a strainer (filter) and non-return valve. There may be requirements for installing shut-off valves before and after water meters. Usually, several types of pipes are available. Prepare the necessary materials depending on the type of water supply pipe. The adapters for different types of pipe may be needed.

Different types of seals can be used when installing a water meter. Seals of connection can be done with a flax or sealing paste.

You should locate a water main shut-off tap. This may be a tap that blocks the flow of the water into the house or apartment from the water line. It can also be a tap that stops the flow of water to a separate section, for example, into a bathroom or a courtyard.

Prepare the necessary accessory and the tools for work, depending on the cases described above. These may be the plumbing tools, sealing materials, and additional equipment like the strainer.

Check the water meter compatibility. This may be the diameter of the holes of the pipes and the diameter of the holes of the water meter. The adapters for different diameters of the pipe may be needed.

The product must not be exposed to mechanical stress during installation.

The intake and outcome piping must be aligned and match the product pipe dimension.

The meter can be installed after a general closing tap.

Preparation steps

Step 1. Arrange all components in one direction with the arrows in the following order as shown in the Figure 3.

Step 2. Connect the water tap and the strainer parts "to dry" (with no sealing) counting the turns. It is noted at which turn (~ 5) the strainer settling tank was at the bottom.

Step 3. Connect the other parts. Check the water meter size and the distance between the couplers.

Step 4. Unwind the parts.

Step 5. Close the upstream and downstream valves before installing/removing the product.

Installation


Typical new installation

Installation of the new water meter.



Step 1. Prepare the plumbing for the water meter tapping (this step in the instructions is not considered).

Step 2. Prepare the tools and accessory: water meter, new gaskets, flax fibers or sealing paste, wrench.

Step 3. Close  the shut-off tap of the water main pipe.

Step 4. Drain the remaining water.

Connect the water tap with the upstream pipe end using the flax fibers.

Connect the strainer with the water tap on the upstream pipe end using the flax fibers.

Connect the first coupler with strainer on the upstream pipe end using the flax fibers.

Connect the check valve with the downstream pipe end using the flax fibers.

Connect the second coupler with the check valve on the downstream pipe end using the flax fibers.

Step 5. Clean the connections of the couplers.

Step 6. Use the flax fibers for the sealing coupler.

Step 7. Install the new gaskets.

Step 8. Screw  the new water meter  with the couplers.

Step 9. Open the shut-off tap of the water main pipe.


Step 10. Check the leakage.

Typical replacement



Replacement of the old water meter by the new water meter.



Step 1. Prepare the tools and accessories: water meter, new gaskets, flax fibers or sealing paste, wrench.

Step 2. Close  the shut-off tap of the water main pipe.

Step 3. Drain the remaining water.

Unscrew  the old water meter .

Step 4. Clean the connections of couplers.

Step 5. Use the flax fibers for sealing the coupler.

Step 6. Install the new gaskets.

Step 7. Screw  the new water meter  with the couplers.

Step 8. Open the shut-off tap of the water main pipe.

Step 9. Check the leakage.

The installation instructions

- Remove the old sealings and residues of Teflon tape and hemp.
- Clean the union nuts thread and the sealing surfaces at the screw connections.
- During installation of the meter, the water supply must be cut.
- Do not hold the product casing but the pipe during the installation screwing.

- Fit the meter horizontally or vertically so that the arrow on the housing and the flow direction match.
- Pay attention to the correct placement of the union nut.
- Always use new gaskets for mounting the product onto the piping.
- First, the water meter is tightened manually. Then it is tightened with an adjustable wrench with a little force.
- After that, the presence or absence of water leakage is checked. If there is a leak, it is necessary to tighten it additionally.
- The torque applied to screw of the product must be higher than 15 Nm and not overpass 30 Nm whatever the thread and pipe material.
- Ensure that all connectors are tightened securely, and the meter is properly installed.
- Seal the screw connection to protect it against manipulation.
- The water supply must be re-opened smoothly, enabling air bubbles to be removed without mechanical impact.
- Once water flows, the radio attachment process starts, and it indicates the radio link quality to the network.

Commissioning

Open the shut-off valves carefully and check the installation for leakage.

While the piping system is operating, check whether the volume displays correctly.

The operating hours are counted from the initial connection of the battery. The date is incremented daily. As a standard, the meter is delivered with the local time, or destination time if required.

States

In normal conditions the Water Meter is **Active** Powered. The water meter measures and displays the current parameter on the LCD. Can exchange data via BLE and WAN modem.

In case of no battery operating voltage, the meter is not operating.

See [reference 1](#): WM User Manual, section 5. Meter States.

Display and info codes

The meter features easily readable LCD to visualize measurement data, states, info codes etc.

Each measurement value is accompanied by its measurement unit.

The number of decimals is configurable.

Measured values and states are cyclically displayed on the meter local LCD. The list of parameters to be displayed is configured and includes legally relevant data (consumed water volume).

Display segments, display icons, WAN channel signal indicator and water meter readings vary depending on the device model.

See details in [reference 1](#): WM User Manual, section 10. Indication.

Accessories

Smartphone: Android

Smartphone app: Android

ADDRA CT Application for WMP local management.

References

Reference 1. WM User Manual.