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## Revision history

Version	Date	Editor	Comment
1.0	23.06.2026	Anastasia Salticova	First edition

## Document purpose

This document is an installation guide for the ultrasonic water meter with integrated flow control valve, composite housing and brass measuring pipe 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
ADR-V	Water Meter with integrated Valve
AMI	Advanced Metering Infrastructure
LoRaWAN	Long Range Wide Area Network
NFC	Near Field Communication
WM	Water Meter

## Introduction

Ultrasonic Water Meter is designed to measure and store the cold tap water consumption. ADR15-V is equipped with an integrated flow control valve for remote water supply management.

## General information

The ADDRA ADR-V smart water meter is static, based on the proven ultrasonic transit-time measurement technology. The device includes an integrated internal motorized flow control valve designed for remote water supply management (disconnection/reconnection). The meter and its integrated valve require no maintenance during their entire lifetime and are remotely read and controlled via advanced AMI network protocols.

## Overall view

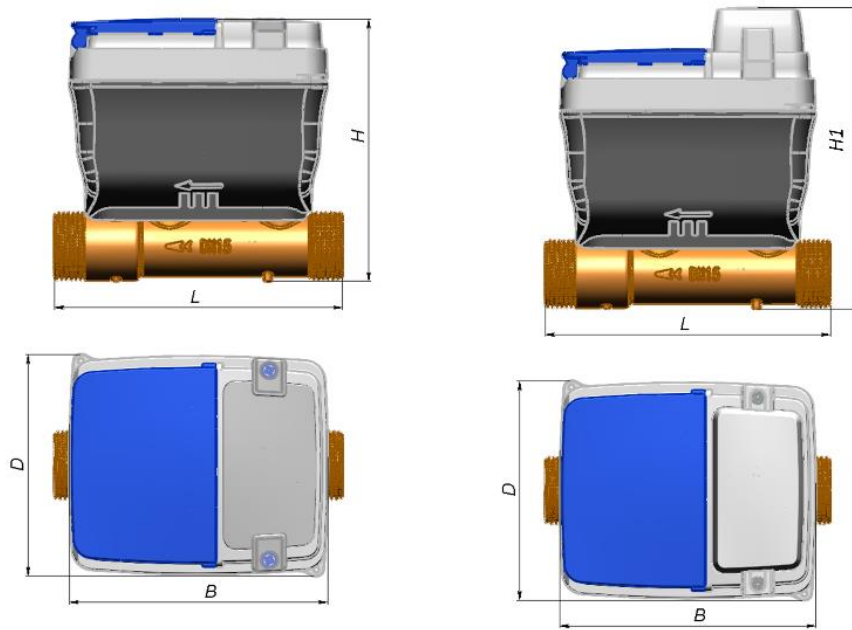


Fig. 1. Overall view of water meter.

## Model view



ADR15-V, brass- DN15, 110 mm

Fig. 2. View of water meter model.

## 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.
- Do not use the meter housing as leverage — hold the brass pipe with a wrench during installation.

Keep the installation site clean.

The integrated valve must not be operated outside the specified parameters.

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.

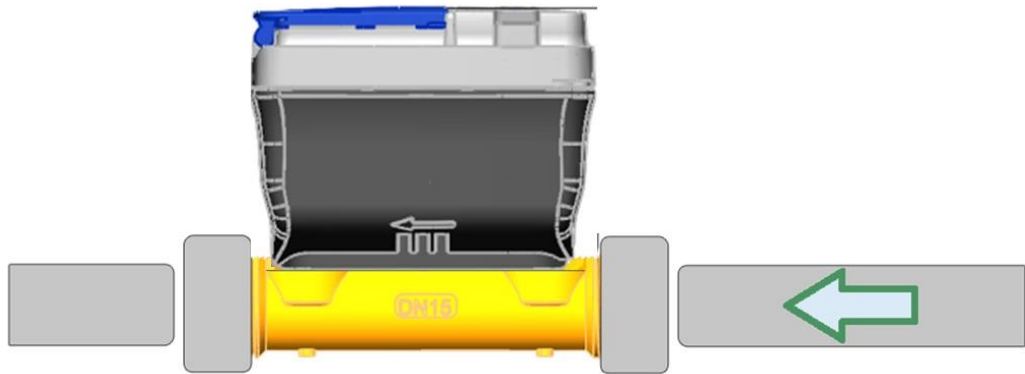


Fig. 3. The flow direction is indicated by an arrow on the side of the water meter housing.

### The piping.

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



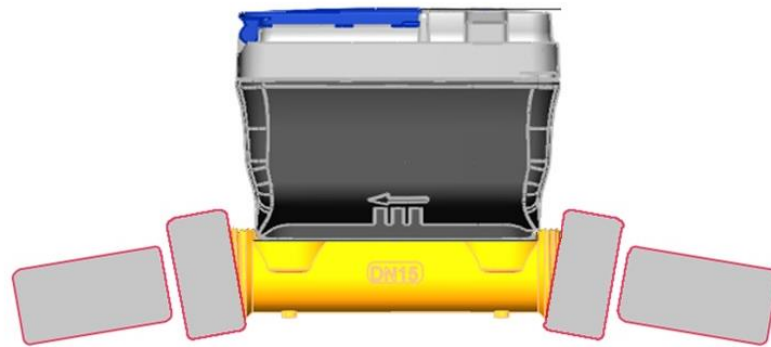


Fig. 4. The piping must be parallel and match the meter.

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 positions.**

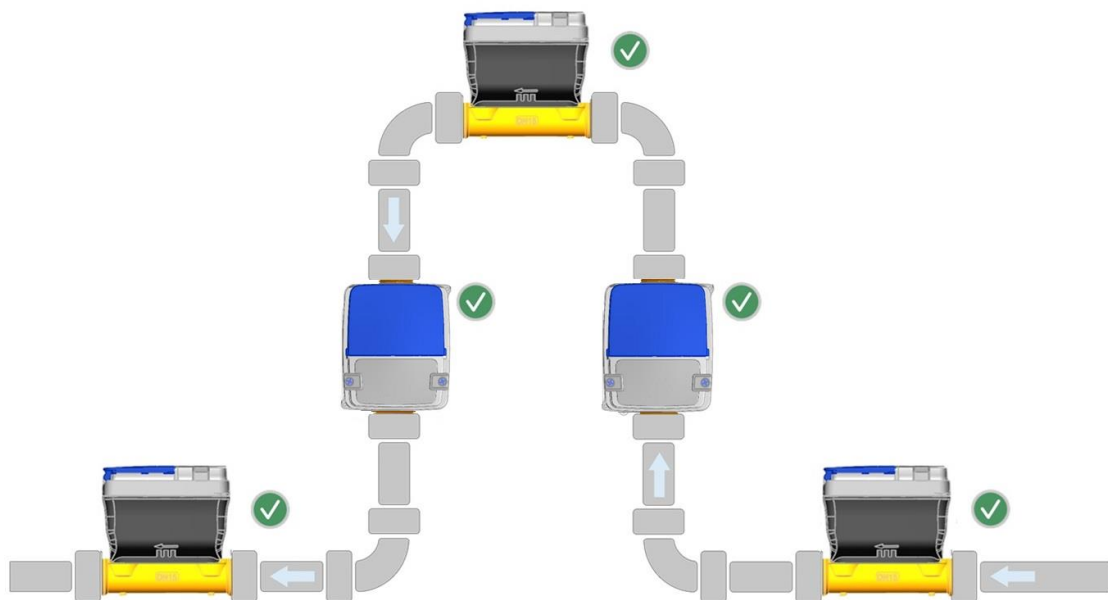


Fig. 5. Choose the correct position for installation.

The water meter (WM) requires neither straight inlet nor outlet to meet the Measuring Instruments Directive (MID) 2014/32/EU 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.

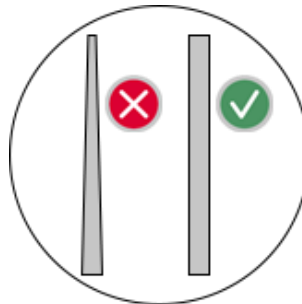


Fig. 6. Always use **new gaskets**.

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 must be between 15 Nm and 30 Nm.

## 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.

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.

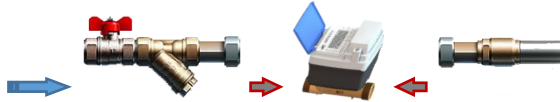
**Step 4.** Unwind the parts.

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

## Installation


### Typical new installation

Installation of the new ADR15-V water meter with integrated flow control valve.



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

**Step 2.** Prepare the tools and accessories: ADR15-V 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 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 ADR15-V water meter  with the couplers. Ensure the flow direction arrow on the meter matches the water flow direction.

**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 ADR15-V water meter with integrated flow control valve.



**Step 1.** Prepare the tools and accessories: ADR15-V 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 ADR15-V water meter  with the couplers. Ensure the flow direction arrow on the meter matches the water flow direction.

**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, vertically or at any angle 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, verify the integrated valve state via BLE using the ADDRA CT application — the valve must be in the Open (100%) position by default.

## 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 ADR-V 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.

The integrated flow control valve may be in one of the following states:

Valve State	Description
Open (100%)	Default state on first power-up. Full water flow.
Closed (0%)	Water supply interrupted. Commanded locally (BLE) or remotely (LoRaWAN).
Partially open (25%, 50%, 75%)	Flow modulation mode. Configurable upon customer request.
Position retained	Valve maintains its last known position in case of battery discharge — no manual intervention required.

See Reference 1: ADR\_Valve\_Technical\_Description v2.1, Section 6. Meter States.

## Display and info codes



The ADR-V features an 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. The volume resolution is 0.000001 m<sup>3</sup>.

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).

In addition to standard meter icons, the ADR15-V displays the following valve-specific icons:

Icon	Description
	Valve closed — displayed when the water supply valve is closed (e.g. due to non-payment).
	Water supply is limited

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

See details in Reference 1: ADR\_Valve\_Technical\_Description v2.1, Section 12. Indication.

## Accessories

Smartphone: Android

Smartphone app:

**ADDRA CT**

Application for ADR-V local commissioning and management

## References

Reference 1. ADR\_Valve\_Technical\_Description v2.1.