

WATER METER STORAGE, HANDLING AND INSTALLATION INSTRUCTIONS

Thank you for purchasing our water meters for the automated metering system. We ask for your attention to the following storage, handling and installation procedures of the water meters. It is vital that the meters are cared for in a proper manner prior, during and after installation. The following requirements are in accordance with standard manufacturer recommendations and must be followed to prevent voiding the warranty.

Handling and Storage

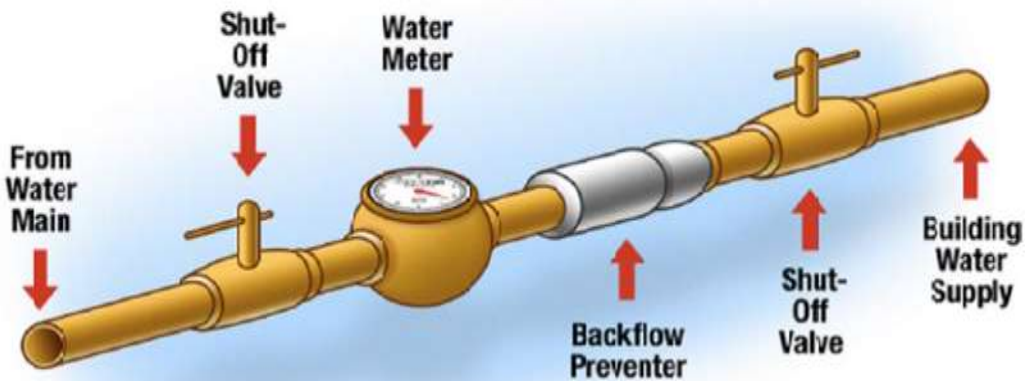
1. Protect water meters from cold temperatures: water meters are not to be exposed to temperatures below 3° Celsius to prevent freeze damage and void warranty.
2. Water meters are to be kept in clean and dry environment and not exposed to particulates (dust, grim etc.) which could impair/damage the flow mechanisms.
3. Do not remove the protective caps in order to prevent the inside from debris during storage.
4. Do not drop or cause sudden impact to water meters: Physical impact could impair/damage the flow mechanisms and produce cracks in casings and collars causing leaks.
5. Do not disassemble the display register housing.
6. Do not lift or carry water meters by the pulse output leads.

Standard Installation

It is recommended the installation of water meters be performed by a qualified tradesperson

1. Use proper tools with good workmanship.
2. Water system should be pressure tested to confirm pressure regulation to meet the meter specification. Excessive pressure could damage operation and integrity of the meter
3. Thoroughly flush the water service line upstream of the meter to remove dirt and debris before installing the meter.
4. Set the meter inline horizontally with the register facing up and level. (vertical meters are available through special orders).
5. Make sure the water flow follows the arrow indicators on the meter.
6. Slowly open upstream valves to prevent damage to the meter.
7. It is recommended to visually inspect the connections for correct tightness and leaks using standard practices.
8. Protect water meter from damage (impact, foreign matter and freezing) after installation during construction to avoid damage.
9. Only use supplied washers for pipe connections.
10. Provide adequate support to the meter to relieve stress on connections.
11. Locate where the meter will not be affected by continuous vibration.
12. Consider ease of installation, replacement and access for reading and maintenance.

13. To secure precise measurement, maintain 5 times diameter straight pipe length for upstream and at least 3 times for downstream.
14. Remove air from inside of meter: temporarily install the meter on slant or upside-down and run water through the meter to expel the air inside. After all the air is expelled, install the meter in the proper position.
15. To ensure accurate pulse count we recommend the installation of a back flow preventer (check valve) upstream from the meter:

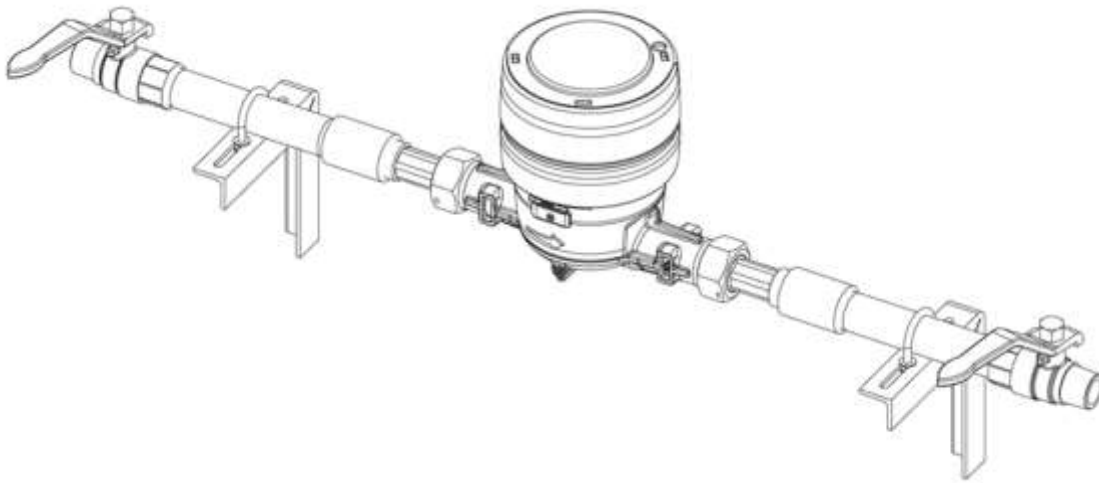


Intellimeter Canada Inc. assumes no responsibility for the installation, handling or storage of the water meters supplied. Water meters are tested for operation before leaving factory.

Water Meter Installation Guide

Prior to Installation, Inspect and Ensure:

1. Service lines, valves, connections and meters must be watertight.
2. Repair the piping system if pipes are corroded or damaged.
3. Provide an upstream and downstream shut-off valve of high quality and with low pressure drop.
4. Provide an upstream back flow preventer.
5. (A valve before the meter will allow local shutoff of the water if change or repair is later needed. A valve or check valve on the outlet side of the meter will keep water from draining from the building if you change or remove the meter.)
6. Provide a drain cock between the meter and the downstream valve.
7. Install and support the meter horizontally in the line to obtain optimum performance.



8. Ensure that the installed meter will be easily accessible for reading, inspection, and service.
9. Protect the meter and piping against frost, flooding, mechanical damage and tampering.
10. The installed meter must not be an obstacle or a hazard to the customer or interfere with public safety
11. Standard water meters are for cold potable water only. For hot water (temperatures greater than 50°C(120°F)), you must order a "hot water meter" which is designed with materials that will withstand heat.
12. If you have high pressure you must install a pressure regulator. Most meters are rated to 16 BAR (150 psi). If you already have a pressure regulator, verify that the regulator works and is adjusted correctly.
13. The service pipe entering and exiting the meter box should be properly bedded to insure that it is not axially misaligned. Ensure that pipe alignment is maintained so that the service pipe or meter will not be damaged by eventual ground shifts.

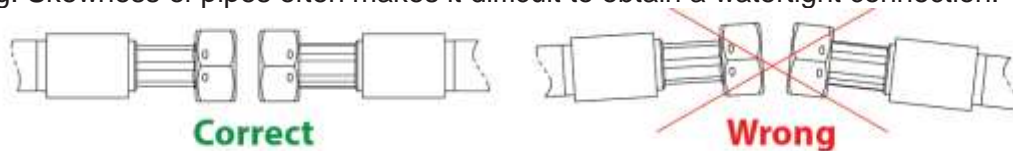
CAUTION!

DO NOT attempt to use any meter as a lever or crowbar to straighten misaligned meter settings.

DO NOT attempt to set a meter into a meter opening which is too long and attempt to force the piping into place with the coupling nuts on the meter setting. This can cause serious damage to the threaded ends of the meter and to the meter itself. This can also cause leaks because of improper seal of the rubber gasket.

Installation:

1. Verify the existing setting for proper alignment and spacing. Correct any misalignment and spacing in the setting. Skewness of pipes often makes it difficult to obtain a watertight connection.



2. Place the connection gaskets inside the connection coupling nuts.
3. Set the meter between the coupling nuts, properly positioned so that the flow indication/arrow on the meter housing points in the direction of flow.
4. **Start the coupling nuts at the threaded meter ends. Verify that the coupling nuts are properly aligned to avoid cross threading damage (stripping) to the meter ends. This is especially important for the engineered composite/polymer meter.**
5. The best method for properly starting meter coupling nuts is to position the nuts squarely against the meter spud end. Turn the nut counterclockwise (in reverse) while holding the nut against the meter spud end. When the first threads on both the coupling nut and the meter spud end coincide, a slight click will be heard and the movement of the nut into the starting position will be felt. At this point, turn the nut clockwise to complete the connection. In a good installation, this can be accomplished by turning the nut by hand until it is tight. When firmly hand-tight, apply an additional 1/4 to 1/2 turn using an open-end wrench with a short handle.
6. **DO NOT over tighten (TIGHTENING TORQUE SHALL NOT EXCEED 8 Nm for a 3/4" nut, and 17 Nm for a 1" nut). Do not use pipe dope or sealants.**

Installation Alignment:

