



Household Water Meter Accuracy

How accurate is my meter?

- The American Water Works Association standardizes accuracy ranges for the entire water industry to ensure fair and accurate measurements. This is typically set at +/- 2%.
- Each individual meter is tested and the results posted by the manufacturer before placement in the field.
- Meter accuracy is an element of the meter's warranty, and if tested out of range, can be rejected and returned to the manufacturer.

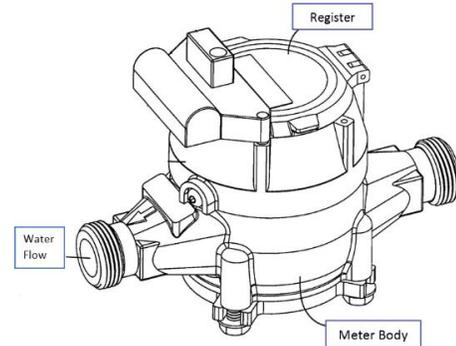
Can a meter over-register?

- The short answer is, "No." A household style water meter cannot over-register.
- This is because this style of meter functions like a measuring cup or bucket. Excess water cannot be measured.
- "How is it like a measuring cup?"
It is filled, measured, and then dumped before being filled again.

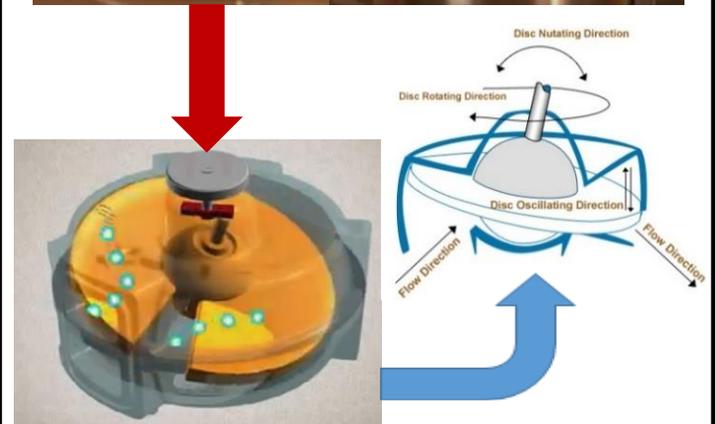
What may cause accuracy "changes"?

- This may occur when an old, worn meter is replaced by a new meter which more accurately measures water consumption.
- A leak in the homeowners plumbing may also cause higher than average water bills.
- A meter's accuracy will reduce over time, but it does not fluctuate up and subsequently back down over the course of a few months.

How does my meter work?



- Water flows into the Meter Body, entering the measuring chamber. The motion of the water causing the measuring element (the "nutating" disc) to rotate.
- The number of rotations of the disc is transmitted by a system of gearing to the register which records the flow.
- Any number of factors can cause the disc to make other than the required number of cycles per unit of volume, the meter reading will not be accurate. In every case, these factors will cause the meter to under-register. See back for more details.

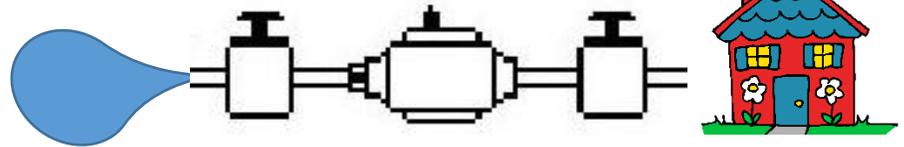




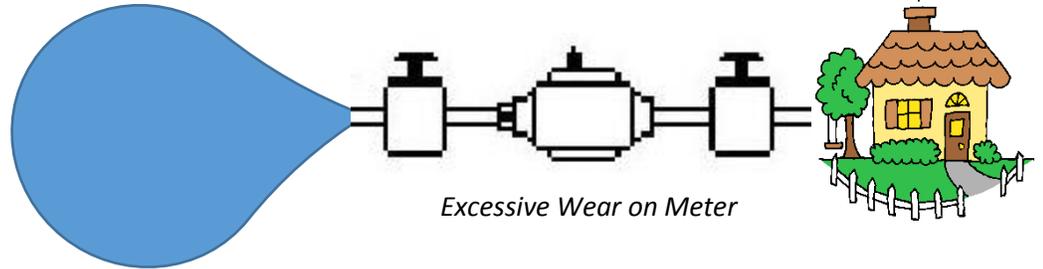
Factors Affecting Meter Accuracy

Excessive Wear

- Wear and tear is a natural process for all meters.
- Excessive wear occurs when meters are incorrectly sized, causing the meter's gears and parts wear down more quickly.
- Meters should be sized for the typical continuous flow rates it will experience.



Normal Conditions



Excessive Wear on Meter

Corrosion & Scaling

- Corrosion is the process of a pipe wearing down or building up with minerals over time.
- It is caused by a variety of factors, such as piping material, pH, oxygen, temperature, water velocity, etc. It may cause visual or taste changes to the aesthetics of your water.
- Scaling occurs when naturally occurring minerals, mainly calcium and magnesium, build up in pipes and fixtures.



Image taken from Armstrong Plumbing.com

Foreign Materials

- Meter strainers can become clogged occasionally if the water is not kept reasonably clean from suspended materials.
- Because the measuring chamber functions like a measuring cup, any suspended matter will cause a bind between the measuring element and the chamber, slowing it down and resulting in under-registering meter usage.

