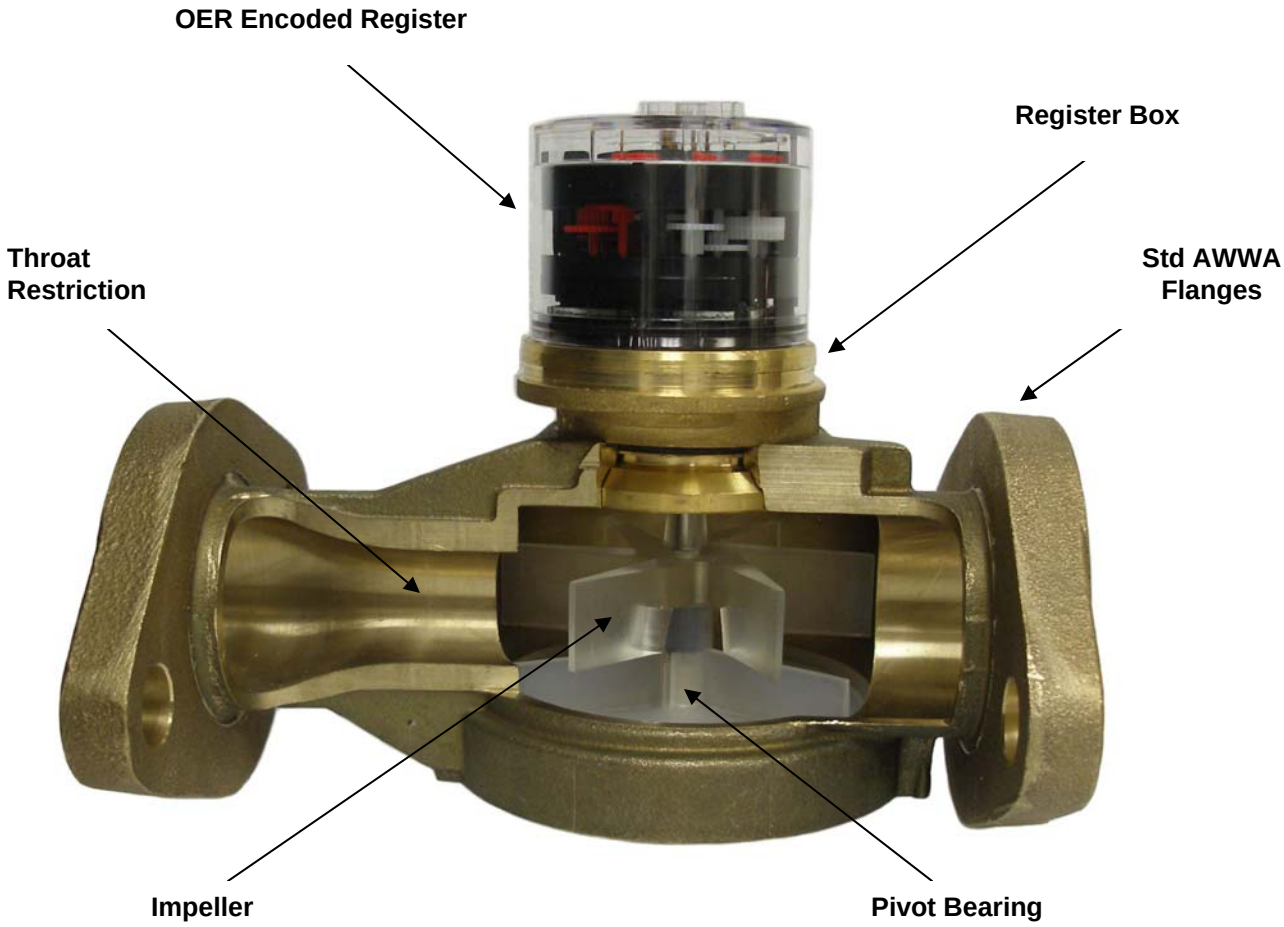
TECHNICAL APPLICATION NOTE	Metron-Farnier Advanced Single-Jet Technology

Operation Brief

Single-jet water meters were designed to offset the limitations of existing meter technologies. In particular, they were designed for high accuracy and longevity for billing applications. Precision engineering and high-quality manufacturing ensure the product delivers the best performance.

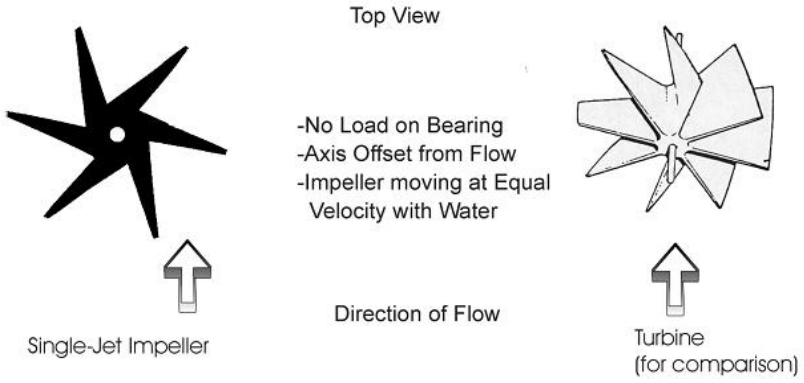


On average, the normal period of operation before servicing is at least 7-12 years. In most cases, single-jet type meters will test to a higher degree of accuracy after 7-12 years of service than compound, turbine, and displacement meters test when new.

TECHNICAL APPLICATION NOTE	Metron-Farnier Advanced Single-Jet Technology

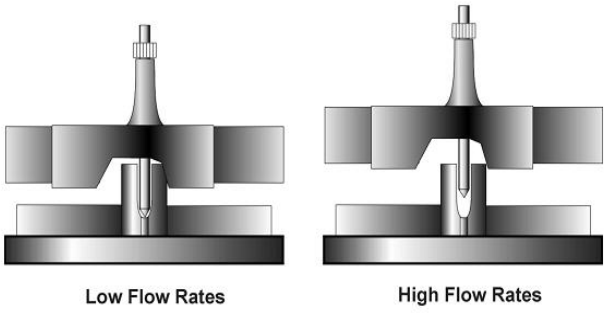
Single-Jet measurement

A single-jet is a velocity type meter that incorporates a “single” tangential jet, which flows across a paddle wheel or impeller. The impeller is offset from the water flowing through the tangential jet such that the water travels *perpendicular* to the rotational axis of the impeller. This is the characteristic that separates the single-jet from Class I or Class II turbines where water flows *along* the rotational axis as opposed to perpendicular.



From a design standpoint, the effects of this operation are significant. By operating perpendicular to the impeller, water flow through the single-jet meter exerts very little, if any, force on the bearings (either the top thrust bearing or the bottom pivot bearing) carrying the impeller. Said another way; the maximum force on the bearing is the weight of the impeller.

In addition to the tangential jet, Metron-Farnier single-jet meters incorporate a “lifting” function whereby the impeller actually floats during operation. With the impeller afloat, the pivot bearing at the bottom of the impeller is relieved of wear. This allows for an extremely sensitive bearing and thus excellent low flow measurement characteristics.



The combination of the single tangential jet and the floating impeller allows for extremely precise water measurement without periodic maintenance.