

Interactive comment on “Effects of network pressure on water meter under-registration: an experimental analysis” by C. M. Fontanazza et al.

Anonymous Referee #1

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According to the Authors and given the title of the manuscript “Effects of network pressure on water meter under-registration. . .” I cannot recommend its publication in Drinking water engineering and science.

The main reason for this recommendation is that Authors have not proved that network pressure has any effect on meter under-registration. On the one hand, they use equation 2 to describe the error curve of a water meter. Later, in line 22 - page 128 they recognise that pressure has not effect over two of the parameters used: k and Per . So the effect of pressure in the error curve has to be reflected through the starting flow rate (the only parameter that is left in the proposed equation).

However, the results shown in Figure 7 are not definitive. The differences found are not significant given the size of the sample taken in the study and the variability of

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the results (Figure 7). Differences between pressure levels are negligible. In fact, I doubt that their assumption that the starting flow rate of a meter depends on the network would pass a formal statistical hypothesis test (which, by the way, have not been included). I would also recommend the Authors to expand their test to higher pressure values. In most cases pressure levels are well above 3 bar (they have only tested to 2 bar)

Finally, it should be not forgotten that there are many different metering technologies. The Authors have only focused in one: single jet meters. They have not tested positive displacement meters, multijet meter, etc. At least, the title of the manuscript should be changed to make only reference to this technology and not to water meters in general.

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