

Research Reports: Quantitative Assessment of the Effectiveness of Permanent Magnetic Water Conditioning Devices (1985)

Paper #1

Author: Alleman, James E.

Six unidentified magnetic water conditioner devices were tested compared to untreated hard water each followed by their own water heaters equipped with coupons of different kinds. Testing lasted 240 days of operation. Both water quality parameters and scaling on coupons were monitored during the study.

No beneficial effect was seen for the magnetic treatment process.

One of the six units yielded higher scaling conditions. No explanation was given as to why.

Type of units tested were:

1. Exterior mounted circumferential
2. In line mounted circumferential
3. In line mounted axial
4. In line mounted axial and circumferential

Effectiveness of Magnetic Water Treatment in Suppressing CaCO₃ Scale Deposition/The Performance of a Magnetic Water Conditioner under Accelerated Scaling Conditions (1985)

Papers 31 & 32

Authors: Hasson, David
Bramson, Dan

These two papers are actually from the same work.

- One magnetic device (orthogonal unit – Class II) was tested in the laboratory under the following conditions:
- pH – 9.0, 9.5 – 9.7, 10.2
- Ca⁺⁺: 200 - 250 ppm, Mg⁺⁺: 165 -175 ppm, Alk: 300 -340 ppm, TDS: 800 - 900 ppm.
- pH adjustment with NaOH to 9.0 and higher.
- In all but one test, sodium sulfite was added at high levels of 150 - 300 ppm to prevent the effect of rust contamination, which in their opinion will have an effect of scale tenacity.
- Magnetic unit was preceded and followed by test segments. Segments prior to magnetic were before treatment for comparison with the segments afterward.
- Flow rate 2 m/s or 15gpm through 1 inch diameter pipe.
- Test temperature - 19 to 23°C