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Report for work 3809/2018 – TipaTech

Comparison between water purifiers by weighing

The Israel Institute of Metals had been asked by TipaTech LTD. to perform a comparison test between two water purifiers (for home water tanks – "boilers") by measuring the weight of the boiler deposits after two weeks of working time (10 min of water emptying every hour during continuous heating).

The system was built by "SP" Kibbutz Mezer (see fig.1) and was delivered already close to the Technion (no measurements were done before the experiment). According to TipaTech all the boilers are new (30 liters boilers). No flowmeters were used in the system, the only control was of filling/empting time using timer.

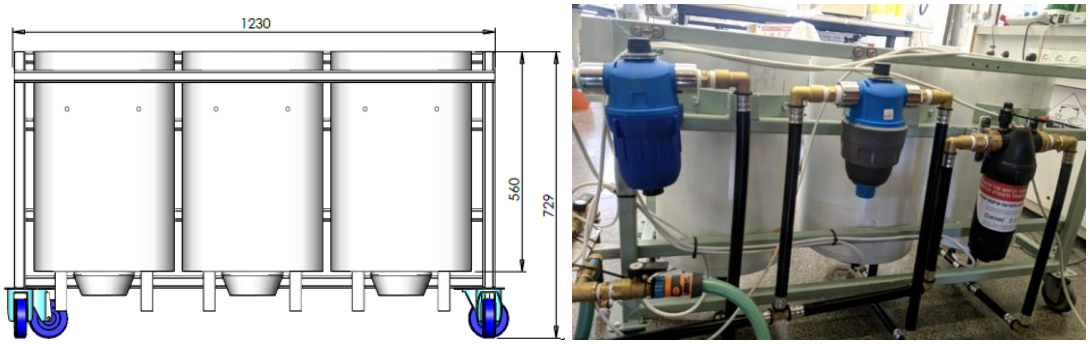

Fig.1: experimental setting

Three boilers that were compared during the experiment (according to the client):

1. Reference – without any purifier (only mechanical filter).
2. Boiler with "XXXXX" purifier.
3. Boiler with "TipaTech" purifier.

The results are as follows:

Table 1 – experiment results:

Filter type	Wight of deposits [gr]
Ref.	1397
XXXXX	714
TipaTech Lotus	19

The deposits were not characterized but it seems that they contain mostly $CaCO_3$ and rust, with some other elements.

To summarize, it's obviously seen that the deposit amount in the boiler using "TipaTech" system is much lower (see table 1).

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