

Circulating and household waters purified
in an assisted living facility

Vattuvuori avoids unnecessary renovations with Bauer



Ismo Lind, the technical building manager of the Vattuvuori assisted living facility, says that he has had to change seven taps and clean several radiator valves during 2012. The hard water in Varkaus started to produce flow problems in the plumbing of the real estate that consists of eighty flats. Lind had heard about the Bauer water treatment system at a presentation and had the system installed on the circulating and household water system in January of 2013.

– Bauer water treatment system cleaned the pipes and has kept them clean, says technical building manager Ismo Lind.



The Vattuvuori assisted living facility is owned by the 50-year-old Varkauden Vanhaintukisäätiö and consists of four buildings. The buildings, finished in 1962 - 65 and 1995 have undergone district-heating renovation and are heated by the same heat exchanger. Lind says that heating houses of various ages evenly for assisted living by the elderly requires adjustments even when it works. Problems with radiator valves and riser flow problems make the job nearly impossible.

The indoor plumbing fixtures and appliances that need constant changing produce significant costs even if the work is done by the property's own superintendent. Lind calculates that a faucet costs 150 euros and changing it 50 euros. In 2012 broken faucets were replaced for 1400 euros worth in the Vattuvuori assisted living facility. The sum corresponds to the monthly rent from four flats.

Clean pipes

Lind and superintendent **Matti Hujanen** report that the indoor plumbing fixture and the radiator valve problems have ended completely since starting to use the Bauer water treatment system. It has not been necessary to change faucets due to malfunction since 2012. Clean pipes did cause a problem to the multifunction oven of the Justiina Hyvinvointipalvelut Oy, in charge of catering at the assisted living facility:

– When the deposits that had sealed the connectors of the oven water system were washed off, it started to leak, Lind grins.

Circulating water lacks oxygen

With his experience from several properties, Lind states with satisfaction that no plastic pipes were installed in the assisted living facility in Vattuvuori, built in the 90s. It was observed years later that the first generation of plastic pipes let in oxygen. Once the oxygen got into the circulating water it started to corrode the expansion tanks from within. The rust sediment started to accumulate in places where the flow decreases, in other words, right at the valves, thermostats, and the ends of the risers leading up to them. The deposits were also an efficient thermal insulator on the radiator interiors and the circulating water needed to be heated more and more to heat the flats to desired temperatures.

In addition to plastic pipes Lind adds to the list the flexible connectors that were commonly installed in the late 80s. Luckily they have not been installed between flats to prevent sound travelling in the pipes, as was usual at the time. The flexible connectors also underwent oxygen diffusion, the permeation of oxygen through the plastic walls into the circulating water. Hujanen says that the circulating plumbing system shared by all four buildings at Vattuvuori is so clean that the Bauer bypass filter is only exchanged once a year.

Long-term plans interpreted rationally

As the technical building manager, Lind's aim is to keep the property in shape at a reasonable cost. There also needs to be enough money left over for maintenance renovations. The surfaces at the Vattuvuori assisted living facility flats are renovated every time a new



Matti Holopainen and Ismo Lind are responsible for the real estate management at the Vattuvuori assisted living facility. Traditional janitors form part of the houses' atmosphere.

tenant moves in. He states directly that the long-term plans are often interpreted without using any common sense. It is foolish to replace a well-functioning heat exchanger only because its service life has been spelled out on paper. If the Bauer water treatment system increases the heater's service life 50% from what has been stated in the long-term plan, the price for the Bauer has been repaid and all the other savings are extra.

A profitable solution

According to Lind, installing the Bauer water treatment system saves on many sectors. The cleaners have been grateful to be scouring less limescale from off the surfaces. The warm household water comes out of the pipes immediately, saving water. There have been no more of indoor plumbing fixture and radiator valve repairs. The heat exchanger does not need to be replaced until later in the future. Lind, who lives in Kuopio, is particularly happy with the Vattuvuori household water.

– This tastes better than at home, he laughs.

Bauer water treatment system

The functionality of the German-Finnish Bauer's water treatment system has been proven indisputably both in research centers and in real-life buildings. An electromagnetic field of varying frequencies is directed at the water flowing through the unit made of acid-resistant steel. It forms microscopically small crystals from the mineral particles in the water that, instead of clogging, start to flush off the hard particles already attached to the pipes' inner surfaces. The loose deposits are gathered into a filter at the end of the system and the filtered water goes on to be re-circulated after the magnetic treatment. The sediment from the household water pipes is flushed down to the sewer with the water.

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