

# CORROSION STOPPED

## by water treatment equipment

Around five years ago in Kirkkonummi, leaks started appearing on a terraced house's copper plumbing. In a short period of time, five leaks were found. Samples were taken and the reason proved to be pitting corrosion inside the pipe. Three years after Bauer water treatment equipment was installed the leaks have stopped and the pipes have gained more lifetime.

“When the leaks were detected, we were informed that we would have a possibility of becoming a study area to test how the installed non-chemical Bauer water treatment equipment provides benefits for the conditions of the copper pipes.”, says the Chairman of the Board of Directors of the apartment complex Ari Ahonen.”

The study, lead by Dr Martti Latva, investigated using scientifically valid methods which kind of effects magnetic water equipment (MWT) would have on copper and polyethylene pipes' walls, both in laboratory conditions and in the apartment complex in Kirkkonummi. The study showed that thanks to the magnetic water equipment, the corrosion products of the walls of the pipes release in to water and this removes the iron and copper deposit that have generated.

Before the field trials the scientists performed a more thorough condition survey than normally, and it was found that the inside walls of the hot water side of the copper pipes had sedimented impurities, that had caused punctured erosions in several points. After the condition survey, an electromagnetic Bauer water treatment equipment was installed. The device removed especially lime and rust layers that had stuck to the pipes' walls.

Three years after the installation, no more leakage has happened. Ahonen says with this,

the pipes have gained at least ten more years of lifespan. The sediment of the pipes' inner surfaces has been removed and the water is pure.

The benefits of the Magnetic water treatment equipment (MWT) aren't news in itself. For over decades we've known that the technique is effective in preventing the formation of deposit layers and in removing already formed deposits, both in industrial water systems and in apartment complex buildings boilers and hot/tap water systems. Now this has been scientifically proven.

Mutual Pension Insurance Company Varma's Property Manager Mika Kaasalainen says that they have installed Bauer water treatment equipments in 2012 to an office complex building in Vantaankoski. The equipment is in use for tap water, heating and cooling systems.

The positive effects of the Bauer equipment have appeared in several essential parts of systems operations. Hot water system's motor valves now shut and open properly, when the pipes don't have excessive impurities. Air conditioning radiators insulating layer has been removed and the system gives off heat better. The same has happened also with the hot water radiators. Hence it has been possible to decrease the temperature of the heating systems water. There's no more need to remove the radiator

valves for cleaning, compared to before, when around ten valves needed removal at the start of the heating season.

Before at every cooling season the cooling system had 6-7 valves that needed to be replaced, now there hasn't been a need to change those in the last three years. The calcification of the steam ovens used in the kitchen has stopped and the oven manufacturers maintenance hasn't had to do any descaling. The tap water system's aerators haven't needed changing and in the shower facilities no more white blotches have appeared on the tile walls.

Now the most predominant maintenance operation is the regular filter change in every 3-4 months, Erkki Risunen states.

The non-chemical Bauer water treatment equipment preserves water's natural minerals, says Product Manager Mikko Timonen. The equipment can be installed into the building complex's all hot water, heating and cooling systems, excluding the sewer network.

Mutual Pension Insurance Company Varma's Mika Kaasalainen tells an example about the equipment's cleaning ability from Oulu, where they had a workshop building that had been unused for a longer period. When the building was put to use again, it was found that the water running through the pipes was



undrinkable. Three months after the installation of the equipment the water was again drinkable.

Bauer water treatment equipment includes a water processing section and a control unit that are installed into the pipeline. The water processing section gets a frequency variable magnetic field that edits the hardness factors to such form, that they won't stick to the pipes. The equipment is easy and fast to install and it fits both new and old systems.



From left: Mikko Timonen Bauer Wt Oy, Mika Kaasalainen Varma, Joonas Korpela and Erkki Risunen Caverion Oy

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