Focus on the taste of the drinking water

Intelligent drinking water-chlorine system is developed in the framework of a research project

Together with Inno-Water Zrt., consortium leader for SmartChlor project, Budapest Waterworks and Water Science Faculty of the National Public University are also participating in the research project, which aims to develop an intelligent drinking water disinfection system.

As a result of the work of OKOSKLÓR (SMARTCHLOR) project, drinking water safety can be further increased in a way that besides being a method resulting in a significant cost reduction also improves the recreational value of the drinking water. Based on the actual quality of the extracted water and the water consumption, the system being developed will be able to automatically control the disinfection process.

Instead of the current procedure which performs disinfection depending on water volume, the new system will adapt to the treated water quality, taking into account chemical and biological changes. In addition, by following the daily or seasonal fluctuations of the water consumption in a greater extent also greatly improves operation efficiency.

To recent days regarding water disinfection procedures applied in our country, our approach is primarily that drinking water is to suit both the domestic and European Union standards even on the farthest point of the network, which due to the length of the broad networks can be only achieved with higher starting chlorine dosage. In contrast, a state of the art system based on multiple chlorination points, which also monitors actual water quality and with optimal control of dosage sites and the amount of disinfectant allow to reduce the amount of chlorine added to the drinking water. This results in a significant improvement in the sensory properties of the drinking water provided.

The benefit of the OKOSKLÓR (SMARTCHLOR) system, supported by the National Research, Development and Innovation Office through research conducted by the Israeli CQM Ltd., is that it is capable of adjusting chlorine dosage in accordance with changing water quality parameters, water retention time and water consumption forecasting. Another great advantage is that it is mobile or can be mobilized so it is easy to deploy and it can be installed in the field beyond utilities where water purity is of utmost importance (e.g. in pharmaceutical companies).

In July of this year, the consortium developing domestic OKOSKLÓR (SMARTCHLOR) system has reached another milestone in its work. In the second year of the research based on laboratory and pilot experiment results, as well as tests in Budapest's "living" network, it has become possible to model how the measured active chlorine concentration in the supplied water turns out as the effect of a given amount of administered chlorine under specific operating conditions and water quality parameters. Using the algorithm developed during the research, which was based on the hydraulic model of Budapest supplied by Budapest Waterworks, and following the refinements planned for the third year of the project, the on-line control of the entire system and the optimal allocation of chlorination points will ensure that no excess chlorine is present beyond the operational needs in every point of the water network, providing all consumers with safe and at the same time pleasing drinking water.

Project data
Project name: „Development of smart chlorination system for the reduction of operational costs and public health risk"
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