

New water treatment technology to be tested for removal of pharmaceuticals

The Swedish Environmental Research Institute and the Royal Institute of Technology, both in Stockholm will test a new type of water treatment technology called membrane distillation at the experimental Water Treatment plant Sjöstadsverket in Stockholm.

The technology will be tested for removal of a large range of contaminants, notably pharmaceuticals, in an ongoing research effort.

A full size industrial demo will be delivered by Xzero AB (publ). Xzero, meaning everything to zero, has specialized in developing Ultra Pure Water technology for industry and especially for semiconductor industry which presently has the highest demands on water purity. Pharmaceutical industry and feed water for power plants are second and third in quality standards.

In the future it is believed that also drinking water must be treated to similar high Ultra Pure standards. Reports on Mixture Toxicity in the US and EU has increased awareness that negative synergies of the more than 80 000 man made chemicals that may find their way into drinking water may pose a stealth effect on human health.

US research has found more than 300 man made chemicals in the blood of the umbilical cord of babies and EU research has identified more than 200 chemical compounds in new born babies. More will of course be added as the babies grow.

There is certainly a need to reduce this toxic body burden by removing chemicals from air, food and water. The best way to mitigate is obviously to prevent these chemicals to get into the air, food and water. However, among them are thousands of pharmaceutical chemicals that – in small quantities – find their way through the human body and the toilet to the sources of drinking water. These substances are difficult to stop from getting into the water. They are, by the nature of their use, designed to be potent in small quantities. And they are not removed by state-of-art water plants.

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