

## Removal of pharmaceuticals and micro-pollutants from several water flows

### The background

Almost all our water streams contain more and more micro pollutants. These persistent agricultural, industrial and pharmaceutical compounds have many effects on our health expected to grow in magnitude and impact in the future. Antibiotic resistance is growing to the point that WHO deems it the biggest health risk for our future, but also fertility of males in the west is decreasing rapidly and many aquatic species and insects like bees are negatively affected by these new active compounds that increase in our water streams and environment.

### The case

For these and other reasons IVL Swedish Environmental Research Institute wanted a pilot-scale research installation to be used at their unique R&D-facility Hammarby Sjöstadsvverk ([www.hammarbysjostadsverk.se](http://www.hammarbysjostadsverk.se)) in projects aiming to reduce the impact of micro pollutants in our water and environment. The demand was to supply an extreme flexible system that was completely integrated into an easy to use control interface with two sets of UV-C reactors so optimal performance and efficiency could be maintained over a wide range of water qualities from wastewater to drinking water.



### The solution

Together with Jotem Waterbehandeling BV a small but elegant system was built with two sets of reactors to give the optimal geometry for a given water quality while still staying small. Integrated peroxide dosing and catalytic removal bed was also present as well as an intuitive operation screen based on SEMCA that can show all recipes, trends and operational parameters within a click.

### Results

Just check any publication IVL makes the coming years using UV-C light with or without hydrogenperoxide, we bet these results are from tests done on our installation.

### Facts

**Contractor**  
IVL Swedish

**Location**  
Sweden,  
Stockholm

**Purpose**  
Removal of pharmaceuticals and other micro-pollutants

**Solution**  
Advanox™

### Customer quote:

*Christian Baresel, IVL: "Van Remmen UV Technology was capable to understand our needs and quickly came up with a flexible AOP system for us that has been an valuable tool in the essential environmental research we do."*