



YOUR WATER  
OUR BUSINESS



Aquadren  
TECHNOLOGIES

Total solutions for treatment  
of problematic industrial wastewater

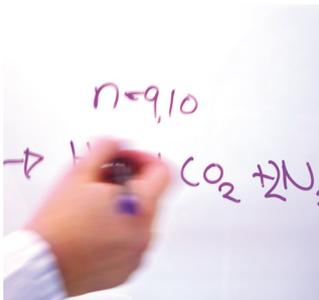
# OUR VISION

## Valuing wastewater as a resource

At Aquarden Technologies, our vision is to provide the best solutions to some of the most challenging wastewater problems on our planet. For the benefit of our aquatic environment, wildlife and future generations. We spearhead innovation and development that focuses on purifying industrial wastewater while simultaneously recycling resources such as water and heat.

We are experts in problematic wastewater and provide sustainable solutions for treating or destroying toxic pollutants in industrial wastewater. We provide tailor-made turnkey solutions to our customers for purifying wastewater onsite, thereby saving transport and disposal costs. In addition, we offer full consultation, service and support.

Aquarden was established in 2005, with headquarters in Denmark, comprising R&D, production, assembly, laboratory, test, and consultation facilities.



## Winner of the EU's environmental award

In 2016, Aquarden won the EU's environmental award for the most sustainable product in Denmark for our Aquarden SCWO-system – a patented purification system based on SCWO technology (supercritical water oxidation). Aquarden's SCWO System destroys all toxic organic substances in industrial wastewater, purifies the water completely and utilizes the energy from surplus heat. We are the only developer on the market able to offer this unique system for purifying toxic wastewater.

# OUR SOLUTIONS -



## Pure water is our aim

We are interested in all types of problematic wastewater. Our aim is always to purify your wastewater to satisfy future environmental legislation and discharge requirements, allowing water to be reused or released directly back into the aquatic environment.

We provide solutions for a wide range of industries who are unable to treat their wastewater at municipal treatment plants or by other conventional means. This typically applies to wastewater with high levels of toxic organic components.

We manage wastewater containing many types of hazardous substances, such as:

- Hardly-degradable organic components
- Heavy metals
- Pesticides
- APIs (Active Pharmaceutical Ingredients)
- Endocrine disruptors
- Detergents
- Solvents
- Phthalates
- Phenols
- BTEXN
- CMR substances (Carcinogenic, Mutagenic and Reprotoxic)

## INDUSTRIES WE SERVE



### Pharmaceutical & biotech

We purify wastewater streams containing many environmentally hazardous substances, including hormones, APIs, solvents, organic components and carcinogens. Using Aquarden SCWO-system, pollutants are completely destroyed.



### Chemical

Chemicals such as EDTA and solvents are completely destroyed. Aquarden's SCWO System is typically a good solution here, allowing reuse of the treated water.

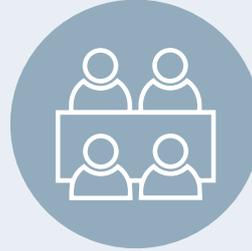


### Metal surface treatment

Heavy metals – such as chromium 6, titanium and zirconium – and fluorides are removed, while the purified water can be reused, e.g. as wash water. Waterbrane is a great solution for filtrating precipitated heavy metals.

### Consulting

- Environmental permits
- Cost-benefit analyses
- Solution design
- Ad hoc consultancy



### Testing and lab

- Laboratory analyses
- Pilot tests



### Biological treatment

- Sedimentation
- Bioreactor



### Membrane filtration

- Microfiltration (Waterbrane)
- Ultrafiltration
- Nanofiltration
- Reverse osmosis



# Great solution A-

In order to design and build always make your specific starting point – regardless a small auxiliary system facility tailored to your needs. This results in efficient, friendly and managed.

# – YOUR BENEFITS

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## Service and support

- Plant maintenance and supervision
- Flexible service and support packages



## Oxidation

- Supercritical water oxidation - SCWO
- Ozone



## Other separation and treatment methods

- Flocculation
- Coagulation
- Ion exchange
- Electrodialysis
- Evaporation
- Activated carbon
- UV



## Benefits

Here are some advantages when you choose to work together with Aquarden:

- Save money. With our solutions, you reduce disposal costs. Overall, it's good business.
- Benefit from our expertise in managing problematic industrial wastewater. Our team has all the competencies and know-how in-house to customize solutions which meet your needs and discharge requirements.
- Get onsite solutions that are easy to manage - with full service and support.
- Comply with tightening environmental regulations with our eco-friendly solutions, and allow resources such as water and energy to be reused. Thus, you take an active part in the green transition and demonstrate your social responsibility.
- Rely on proven results. After many years of development and innovation, we have a wide range of tests and case studies to prove that our solutions and technologies work.



## Laundries

A sector where water consumption is significant and where wastewater streams often contain phthalates, oil, or detergents. Our membrane solutions allow the treated water to be reused.



## Landfill

Landfill leachate contains hardly-degradable organics and heavy metals, which can potentially contaminate groundwater. Technologies such as Aquarden's SCWO System and membranes are effective ways of purifying leachate.



## Hospitals

Without additional measures for purification, medicinal residues risk ending up in our aquatic environment. Waterwall - our special combination of technologies - neutralizes and destroys these substances.

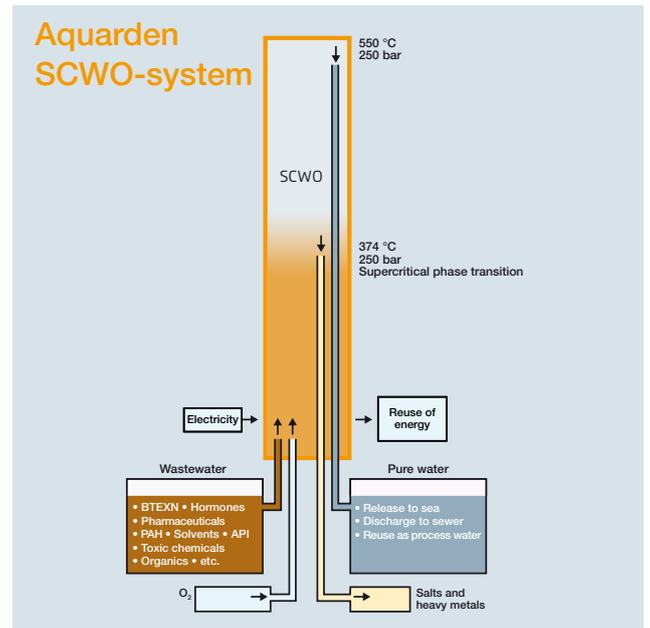
# MAIN PRODUCTS

## Aquarden SCWO-system

When discharge requirements are extraordinarily stringent due to large amounts of organic and toxic substances.

Our unique and prize-winning Waterox system, based on supercritical water oxidation (SCWO), is specifically designed for the onsite treatment of wastewater containing hardly-degradable organic compounds from e.g. pharmaceutical, biotech and chemical industries. Even the most persistent organic compounds are destroyed.

- Environmentally friendly solution with complete elimination of organic pollutants
- One-step removal of organics at the source of pollution
- No toxic by-products
- Fully automated continuous-flow system
- Reuse of energy and water

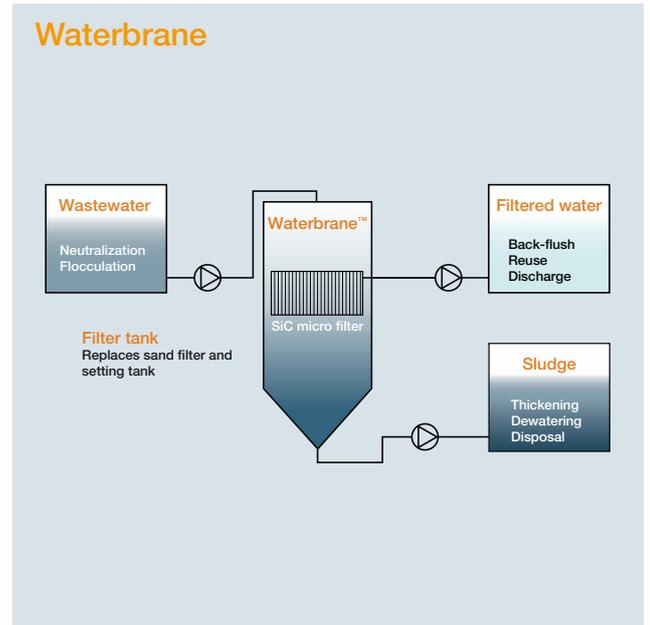


## Waterbrane™

Next-generation ceramic microfilter for wastewater with heavy metals and oil residues.

Aquarden's Waterbrane can be used for many types of microfiltration applications. Ideal for the treatment of oily wastewater, or removal of sludge and heavy metals in wastewater from metal surface finishing processes.

- Robust and chemically resistant silicon carbide membranes
- Removes particles larger than 0.1µm
- Higher flux than most standard microfiltration systems
- Automated back-flush
- Small footprint – replaces a traditional settling tank and sand filter
- Allows reuse of water
- Sub-atmospheric operation pressure minimizes power consumption and removes the need for expensive pressure tanks
- In-situ application – membranes can be installed directly in existing tanks

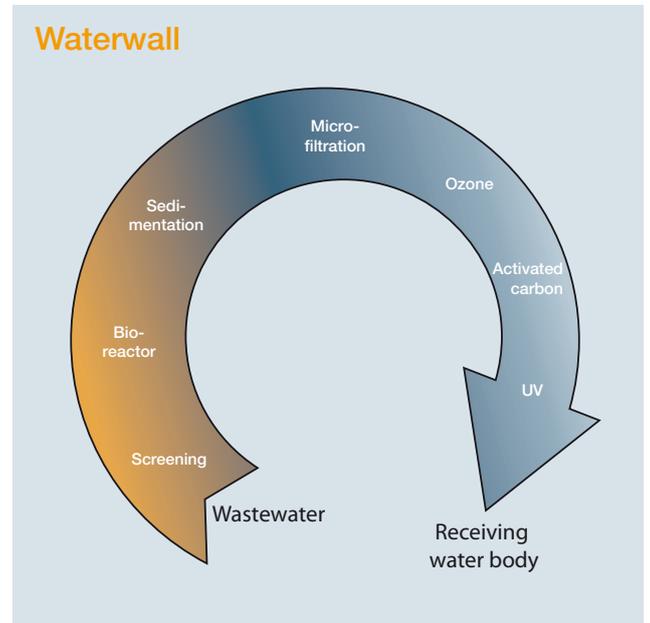


## Waterwall™

Suitable for large quantities of wastewater containing many different substances.

Waterwall is a purification plant suitable for large-volume wastewater containing both biologically degradable and persistent substances (e.g. hospital wastewater with medicines, pathogens and endocrine disruptors). Waterwall typically comprises a series of treatment technologies:

- Bioreactor
- Microfiltration
- Ozone
- Activated Carbon
- UV



# YOU ARE INVITED!

We invite anyone interested in the purification and reuse of toxic wastewater to visit us in Denmark.

Check us out at **[www.aquarden.com](http://www.aquarden.com)** to learn more about our technologies and sustainable wastewater treatment.

We are always open for a professional dialogue with focus on building long-term partnerships and customer relations.

Welcome to our future.



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**TECHNOLOGIES**

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