



# POOL FILTRATION CASE



## **LiqTech Turnkey Installation in Randers Water & Wellness**

### **The Case**

In correlation with the construction of a new leisure center in Randers, Denmark, the customer requested a water treatment system capable of accommodating any future high demands. The system was required to be able to treat the water from five pools with a total capacity of 1650 m<sup>3</sup>/h / 7264 GPM.



## The Solution

**One of the main objectives in Randers was to find a solution with a very compact system, yet still with a focus on water, chemicals-, and energy savings.**

The solution was a microfiltration water treatment system from LiqTech. It was chosen based on its ability to provide the best water quality and total cost of ownership. The LiqTech system also saved vast amounts of water used for backwashing the system, while running flawlessly and reliably.

Today, the microfiltration systems run smoothly in Randers, providing superior water quality while delivering remarkable savings on backwash, electricity, chemicals, and maintenance.

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We wanted to build the most modern and energy-efficient swimming pool in Denmark. The project was originally specified with regular sand filters, but when we came across the ceramic filters from LiqTech, we were immediately convinced that this was the right solution for us. The compact design of the filters allowed us to downsize the basement area and save a lot of construction costs, but the decisive factor was the low consumption of water and energy. The facility is a PPP (Public-Private Partnering) and we are going to run the facility for 30 years, because of this it was important for us to choose the system with the lowest life cycle cost.

**Anders Skak**

CEO, Gribskov Gruppen A/S

# LiqTech System Design

## Materials and Components

Our membrane systems are standardized and built-in either corrosion-resistant stainless steel (SS316L) or plastic (PP). High-quality pumps, valves, and sensors are used to ensure operational stability and longevity. Materials of construction and sealings are selected depending on the water composition and end-user requirements. LiqTech also offers customized solutions such as containerized units.

## Modular Systems

The LiqTech membrane system is based on standardized membrane modules. This facilitates the option of expanding the system with additional membrane modules to further increase the capacity if necessary. LiqTech offers systems for water in a flow range as low as 0.5 m<sup>3</sup>/h (2 GPM) and up to more than 1000 m<sup>3</sup>/h (4,400 GPM). These units are designed and manufactured with the objectives of easy maintenance, an efficient and compact footprint.

## Cleaning tools

The membrane systems are built with automatic backwash. Automatic CIP (cleaning in place) is recommended but optional.

## Membrane

The heart of the system is based on LiqTech's patented SiC ceramic membranes. These membranes are extremely robust, tolerating high water flow, aggressive cleaning and they provide a long lifetime. The SiC membranes are available with pore sizes in the microfiltration (MF) spectrum and the ultrafiltration (UF) spectrum as well, serving a wide range of applications.

## Control

The systems are fully automated and may be remotely monitored and controlled.

# LiqTech Installation



- 5 pools: 50 m pool, children's pool, whirlpool, warm water pool, wellness area and pool with waterslides
- Temperature is 34°C / 93°F in warm water pool
- Turnover of 1650 m<sup>3</sup>/h / 7264 GPM
- Used by up to 20.000 people per month.
- LiqTech 54 membranes, Microfiltration system
- Remote management control system Chemical control system
- Pipes and UV lights

**We are here to help you**