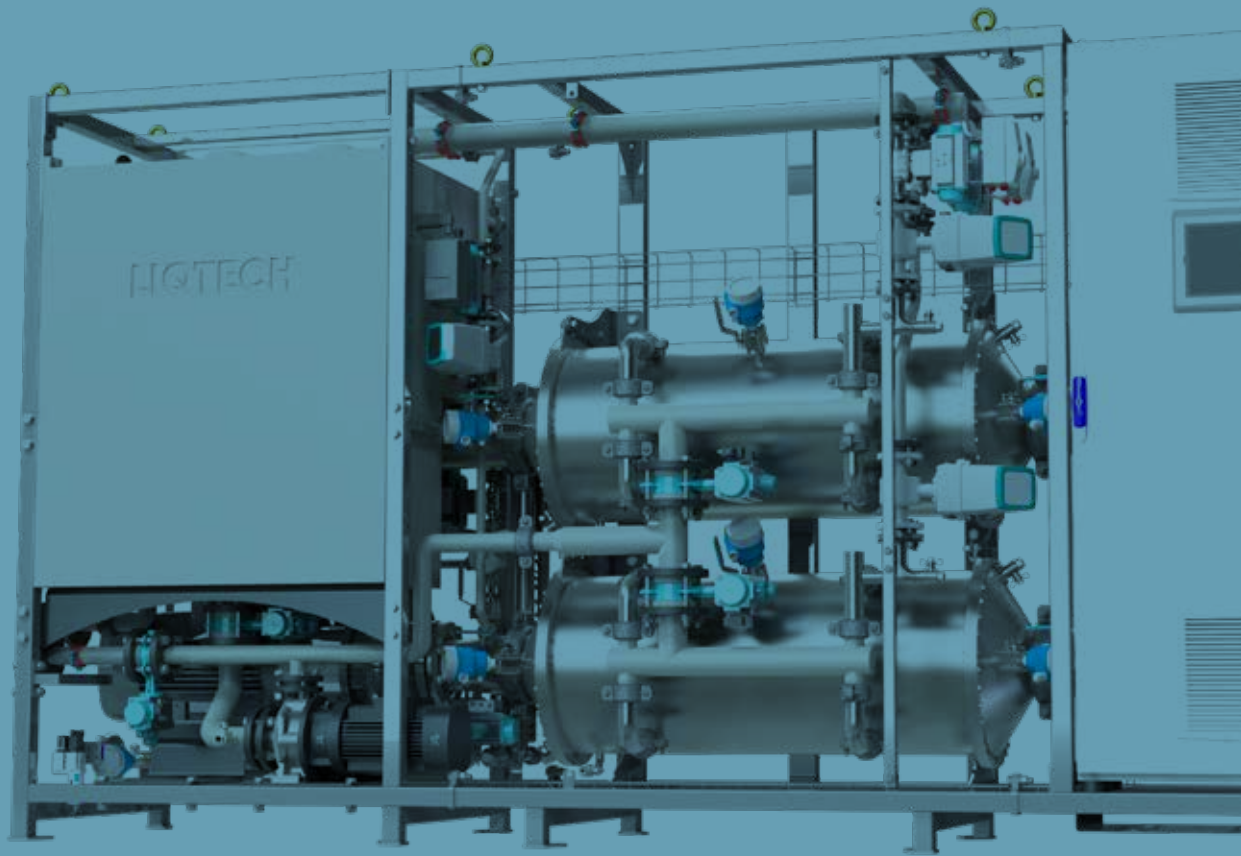


LIQTECH



**Flue Gas Condensate
Cleaning System**



LIQTECH

IMPROVING OUR FUTURE

The world is running out of clean water resources, which makes it essential that we treat the resources we have with respect and care. LiqTech has developed a unique ceramic membrane capable of removing oil, pathogens, heavy metals, etc., from water, thus providing robust filtration solutions for essential applications.



Even the Strictest Discharge Limits Are Always Maintained

The increased level of conversion from coal to biomass power plants sets new requirements for the cleaning of flue gas. With a LiqTech wastewater treatment solution, we offer guaranteed filtration levels under the most extreme conditions—without using any polymers.

LiqTech's ultrafiltration membrane water-treatment system is suitable for cleaning scrubber water and flue gas condensate to comply with national regulations for limit values of heavy metals and other particulate matter.

Turnkey water-treatment solutions for power plants

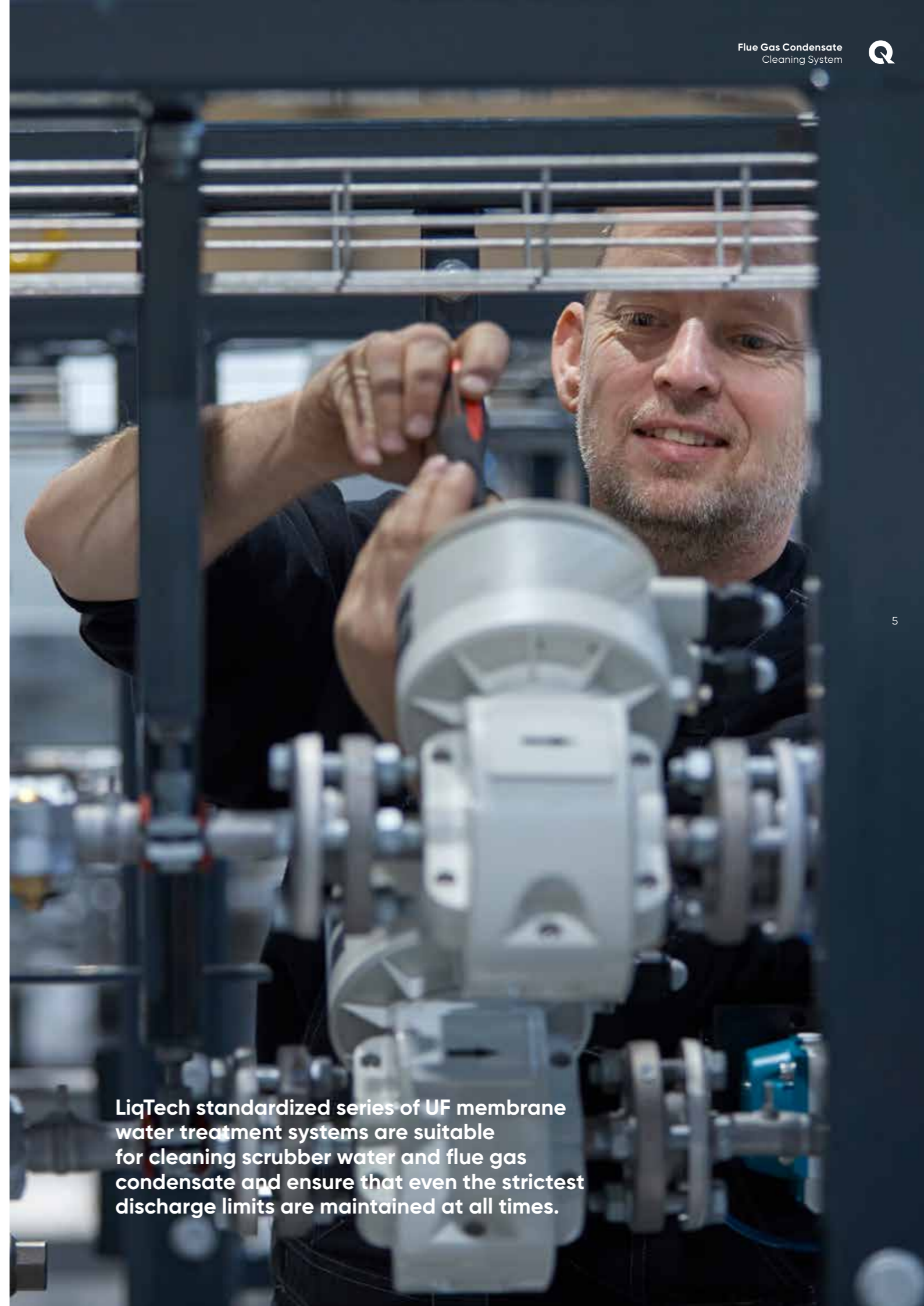
LiqTech's wastewater treatment for power plants and industrial wastewater is available in various versions capable of handling flows from 0.1 m³/h to as much as 1000 m³/h, with options and accessories covering any needs. The wastewater system for power plants requires only minimal maintenance and is easy-to-use with our intuitive human-machine interface (HMI). The system has

built-in Cleaning-In-Place (CIP), as well as the possibility of integrating backflush, precipitation, pretreatment, and with the option of remote monitoring and control via an online connection, etc. This frees up many working hours relating to traditional wastewater handling at power plants and district heating facilities.

If needed, LiqTech offers turnkey installations comprising other water treatment technologies, such as reverse osmosis (RO), nanofiltration (NF), carbon filter (GAC), and several other relevant technologies, depending on your specific requirements.

Our power-plant water treatment solution ensures that even the strictest discharge limits are always maintained. Furthermore, the system facilitates condensate reuse through additional treatment with an RO unit. This remarkably reduces effluent levies, providing a typical return on investment in less than three years.

- ⊕ Market Proven
- ⊕ Cleaning & Reuse of Flue Gas Condensate
- ⊕ Future-proof Solution
- ⊕ Minimizes water consumption
- ⊕ Guarantees consistent water quality
- ⊕ Complies with the most stringent environmental requirements
- ⊕ Higher removal rate than conventional technologies



LiqTech standardized series of UF membrane water treatment systems are suitable for cleaning scrubber water and flue gas condensate and ensure that even the strictest discharge limits are maintained at all times.



We have installed more than 300 water treatment systems around the world and we have more than 20 years of experience in the filtration industry.

Industrial Water Treatment Experience

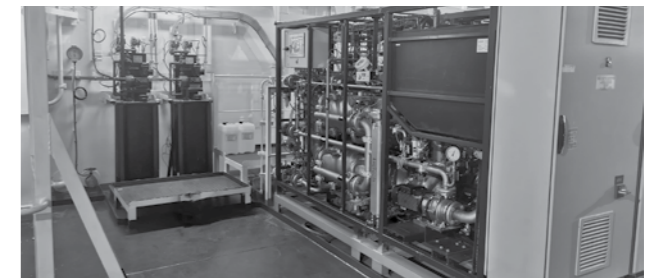
LiqTech's industrial wastewater systems are installed at hundreds of sites worldwide. LiqTech has been working with critical industrial applications such as oil and gas production, energy providers, mining, and pharmaceutical companies—characterized by zero tolerance of any risk that can terminate the operation.

LiqTech's water-treatment solution ensures compliance with environmental requirements and reduces the costs of handling scrubber sludge.

The SiC UF membrane systems from LiqTech are installed in and have been awarded for installations such as:

Power plants (woodchip-fired), condensate treatment for discharge

- Power plants (incineration of solid waste), condensate treatment
- Power plants (coal-fired), scrubber wastewater treatment
- Marine scrubbers, wet scrubber wastewater treatment
- Removal of heavy metals from a metal refinery wastewater (12,000 m³/day, turnkey plant)
- 65 m³/h oil-water separation of surface water before RO
- 24,000 m³/day, drinking water plant
- and many more...





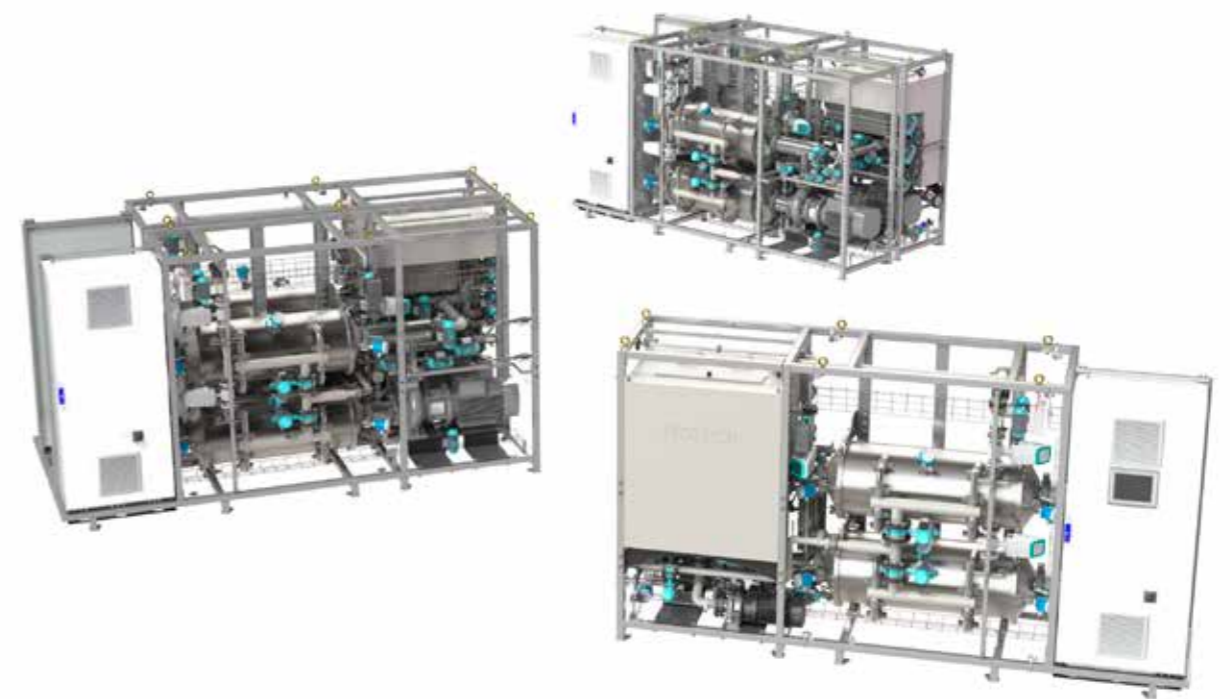
We have long-standing experience of providing industrial wastewater treatment in a variety of industries, and our solution is market-proven.

Modular System Design, Easy to Upgrade

- ⊕ Separation of filter skid for ease of installation
- ⊕ Possibility to increase capacity
- ⊕ Low maintenance

LiqTech's wastewater treatment for power plants is available in various versions capable of handling flows from 0.1 m³/h to as much as 1000 m³/h with options and accessories to meet any needs.

LiqTech's innovative modular design makes it easy to install the wastewater filtration solution in retrofits and new builds. The solution makes it possible to further increase capacity after installation if needed.





Benefits of the LiqTech System

- ⊕ Complies with the most stringent environmental requirements
- ⊕ Removes heavy metals and other particulate matter from wastewater
- ⊕ Higher removal rate than conventional technologies
- ⊕ Minimizes sludge production and handling costs in combination with dewatering
- ⊕ Most robust membrane technology, providing system durability
- ⊕ Ensures high-quality water for discharge or reuse in district heating, etc.
- ⊕ Fully automated solution
- ⊕ Modular system design for flexible installation and capacity upgrades
- ⊕ Low-pressure system with low energy consumption
- ⊕ Mechanical separation, providing consistently high water quality
- ⊕ Highest recovery rate in the market



Low-pressure system with the highest recovery rate in the market, minimizing energy consumption and maximizing efficiency.



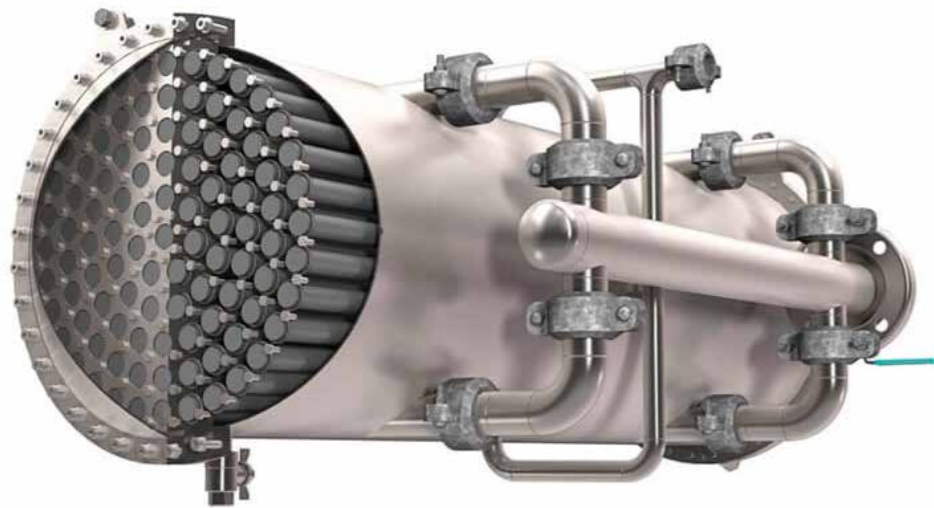
Benefits of SiC Membrane Technology

We have been manufacturing recrystallized Silicon Carbide (SiC) products for more than two decades. Our SiC membrane technology and systems will provide unique advantages for your business.

The LiqTech ultrafiltration system for flue gas condensate cleaning in the power plant industry utilizes LiqTech's patented silicon SiC membranes which ensure effective, consistent retention of particles and heavy metals. SiC ceramic membranes provide stable operation even at a recovery rate typically as high as $\geq 95\%$.

Ultrafiltration (UF) membrane technology is based on pure mechanical retention of unwanted particles, meaning that 100% of the wastewater volume is filtered/treated by the membrane, providing consistent quality of the treated water.

SiC is chemically inert, temperature resistant, has a high affinity to water (small footprint), high capacity, extreme hardness and can handle abrasive feeds, which makes it a very durable product that is perfect for wastewater.



Unmatched flux

SiC membranes have the highest flux of any membrane



Chemically inert

Our systems can withstand the entire pH spectrum from 0 to 14



Small footprint

One of the smallest footprints of complete systems in the market



Efficient cleaning

Efficient CIP and automated backwash, resulting in low membrane fouling



Excellent thermal properties

Our SiC membranes can withstand temperatures of 800°C



Robustness

SiC is the second hardest material in the world after diamonds



Unmatched performance

High performance, low total cost of ownership and low maintenance

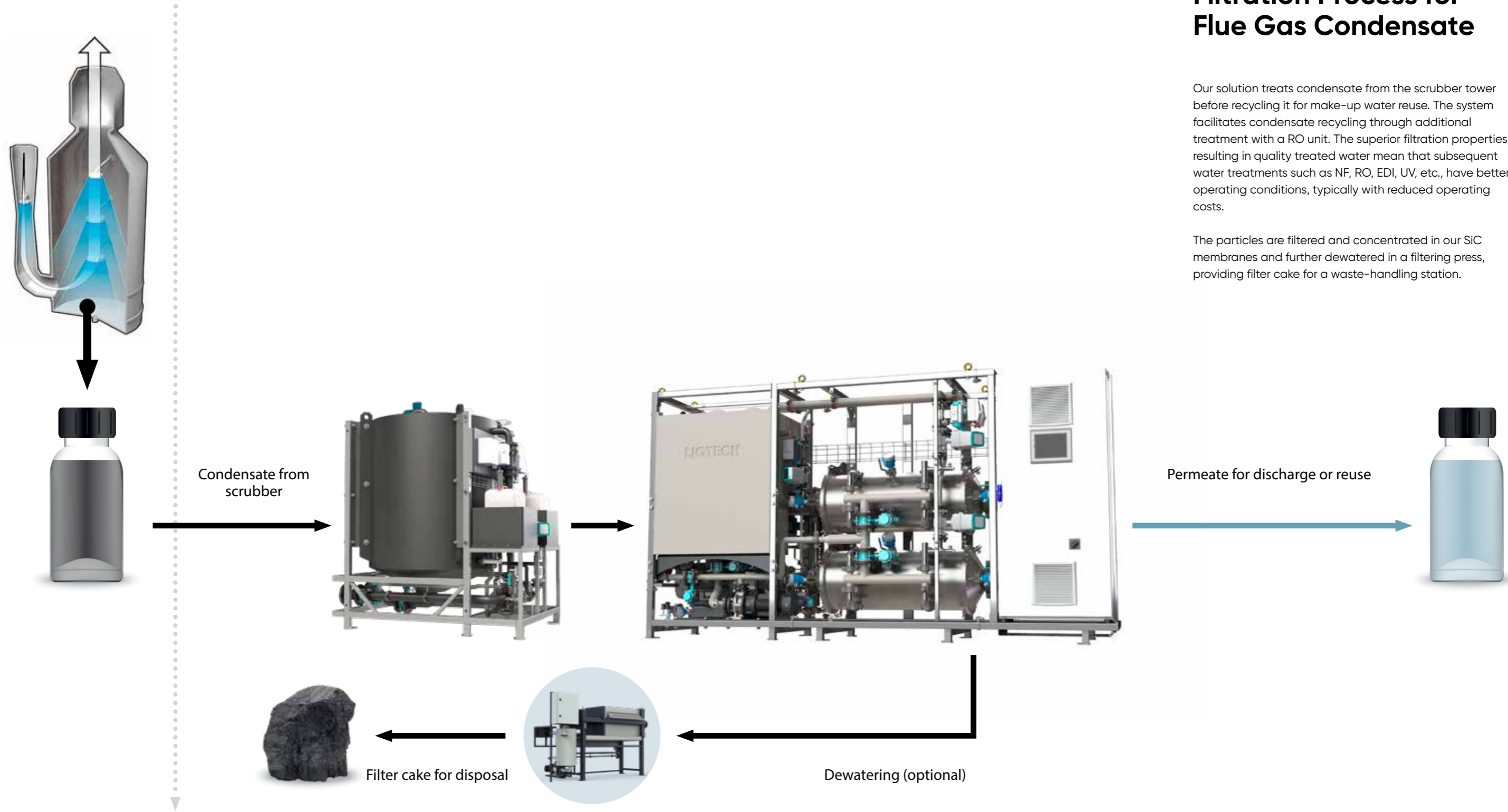


Long service life, less maintenance

Fully automated system with stable operations and less downtime



Our revolutionary SiC ceramic membranes are based on 20 years of experience.



Filtration Process for Flue Gas Condensate

Our solution treats condensate from the scrubber tower before recycling it for make-up water reuse. The system facilitates condensate recycling through additional treatment with a RO unit. The superior filtration properties resulting in quality treated water mean that subsequent water treatments such as NF, RO, EDI, UV, etc., have better operating conditions, typically with reduced operating costs.

The particles are filtered and concentrated in our SiC membranes and further dewatered in a filtering press, providing filter cake for a waste-handling station.



End-To-End Service

At LiqTech, we have everything in-house. This is crucial for our customers because they want to work with filtration experts, and they want to work with a company that knows its technology and equipment in detail.

Technical sales support

Our technical sales team are highly experienced, expert engineers with years of experience, which enables them to discuss with and advise our customers on the best system configuration for any type and size.

Process Engineering Consulting & Chemistry

Twenty years of manufacturing water filtration systems and filters has made LiqTech process and chemical engineers expert advisors in helping our customers choose the best filtration solution, chemicals, and dosage suited for the application. We provide the most reliable flue gas condensate wastewater treatment systems available on the market.

System Design

The LiqTech system is modular, enabling various treatment capacities to meet the requirements. Our flexible systems meet your needs for different water purity levels, processes, waste treatment and handling, and preferred choice of chemicals.

The LiqTech system components include:

- Neutralization tank: Neutralizes CIP fluids for further processing in the filtration system.
- Sedimentation and dewatering system: Facilitates improved system performance, waste volume limitations, and handling of solids or liquids.
- Post-treatment: Reverse osmosis (RO), nanofiltration (NF), carbon filter (GAC), etc.

You may have a unique filtration requirement in order to better match the scrubber and process, including water polishing. The LiqTech design team are happy to partner with you and optimize the complete system to meet your needs.

Project management

The LiqTech project management team have successfully delivered more than 300 high-quality industrial wastewater systems to our customers on schedule. The individual project managers are experienced in turnkey wastewater systems for power plants and are given ownership of separate projects, ensuring dedicated focus on customer contacts and systems. Leading up to a factory acceptance test (FAT) and system delivery, or whenever a current status update in the building process is needed, that appointed person is always available and ready to report to the customer's representative.

Service & commissioning

LiqTech will support your system. We support you by:

- Providing technical support to your staff, who get in-depth, expert assistance from our highly qualified team of service engineers throughout the process, from sales to operations and repair.
- Providing live demonstrations and in-house training
- Performing a preshipment FAT on every system, ensuring that every delivered system works according to specifications.
- Providing on-site system commissioning of every system
- Continuously upgrading our control module operating system and providing our customers with these upgrades to ensure the best possible operating performance.
- Providing 24/7 support, giving you complete confidence in your LiqTech system. The team is always ready to assist through remote service and support on system installation, commissioning, system status, and preventative maintenance.

Based on our extensive experience of industrial wastewater, your flue gas condensate cleaning system will be fully supported by experts to meet your specific needs and to meet or exceed compliance requirements.



Remote monitoring and control 24/7
anywhere in the world, provided by
highly skilled engineers.



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