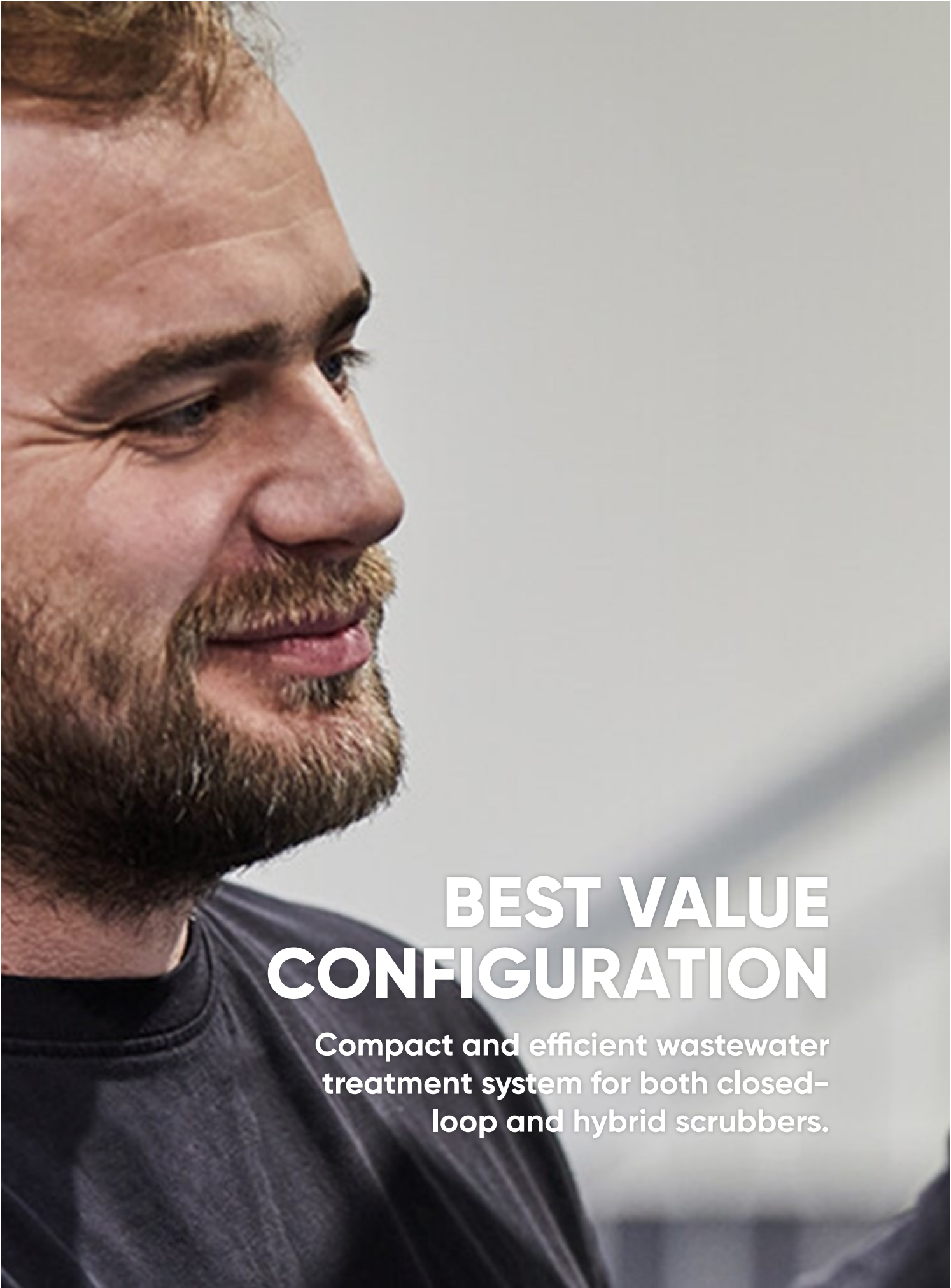




BEST VALUE CONFIGURATION

**Compact and efficient wastewater
treatment system for both closed-
loop and hybrid scrubbers.**

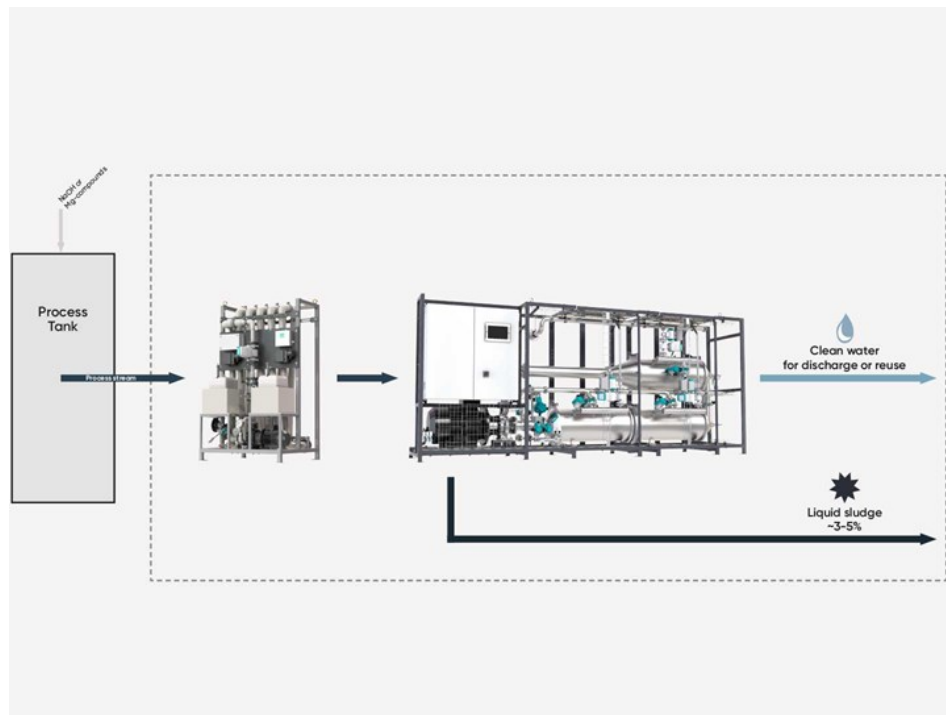


Marine Scrubber Water Treatment

Comply with the IMO sulphur cap and other authorities' discharge limits.

LiqTech's marine scrubber wastewater treatment system is a water scrubber treatment unit designed to remove unburned fuel oil, soot particles, ash, heavy metals, and other particles captured by the water scrubber process. It produces an outstanding water quality with an NTU/FNU value well below 25.

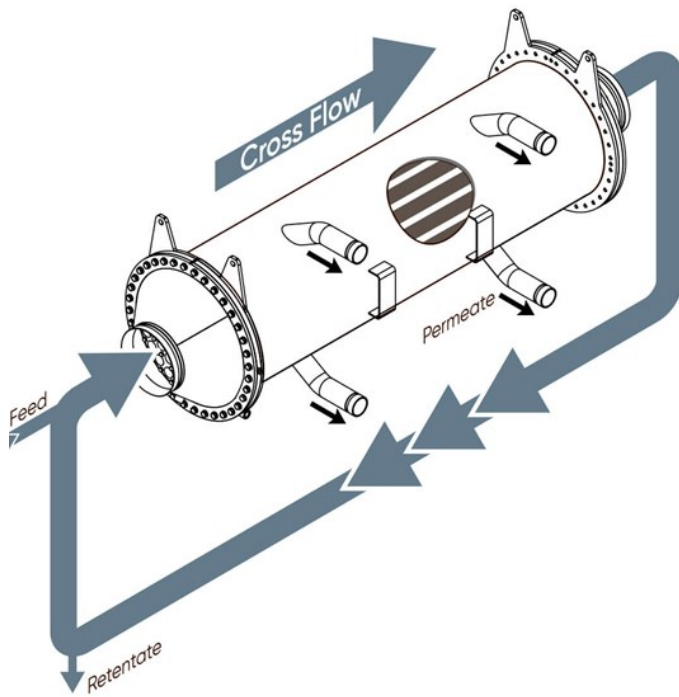
We have different solutions, meaning that we can customize a unique scrubber wastewater treatment solution based on your ship's requirements.



Simple Marine Filtration

Please have a look below at our simple filtration process LiqTech suggests for best-value configuration.

- 3-24 m³/h
- Up to 1500 mg/l TSS
- Scrubber alkali Mg-compounds or NaOH



Efficient Cross Flow Filtration

LiqTech Water's Marine Applications are installed with cross-flow filtration for reduced fouling and increased recovery rate.

LiqTech marine WTUs are low-pressure ultrafiltration systems installed with housings containing ceramic membranes arranged in a cross-flow configuration. Cross-flow filtration is a process in which the feed stream flows tangentially to the membrane surface. This tangential cross flow works as a rinsing mechanism due to the turbulence on the membrane surfaces, which helps redistribute particulate matter back into the feed water and maintain high flux. Thanks to the high cross-flow rate, fouling is reduced, and recovery is increased. The WTU can be customized to match various filtration needs.

Cross Flow Filtration

The pressure difference across the membrane drives clean water, i.e., permeate through the membrane. This process separates the feed water into two streams, named permeate and retentate. First, the permeate passes through the membrane layer. This is filtered liquid. The retentate is retained by the membrane layer and consists of rejected particles. The permeate is led to a permeate tank, while the retentate is upconcentrated and bled from the cross-flow loop. Due to the high cross-flow rate, the recovery is increased significantly, delivering a high concentration of liquid sludge.

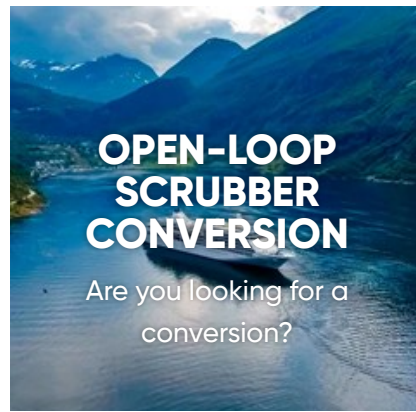
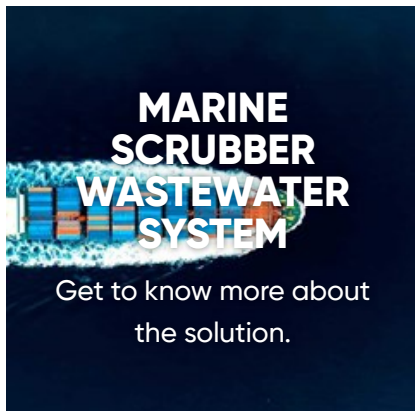
The cross-flow generates a shear force on the membrane surface, which sweeps away particles and solutes, ensuring minimal solids build-up. This is essential as solids build-up can block the filter. Cross-flow prolongs membrane efficiency by reducing fouling and the need for chemical cleaning, meaning operational downtime. It is crucial to preserve a high cross-flow velocity to continually sweep away particles and solutes to maintain clean membrane surfaces, ensuring a high recovery rate.

Thanks to the robust properties of our silicon carbide ceramic membranes, they can operate at extremely high cross-flow velocities. In addition, silicon carbide (SiC) is the second hardest material globally, ensuring a high degree of mechanical strength.

Advantages of Cross Flow Filtration:

- Reduces fouling
- Reduces need for backwash & CIP
- Reduces operational downtime
- Delivers a high concentration of liquid sludge

Learn More About Our Solutions



Talk to Our Experts