

aquastill

Sustainable Thermal Desalination

powered by process heat.

Produce **cost competitive** green hydrogen
from **desalinated** sea water.

Aquastill B.V.

Sittard - The Netherlands

info@aquastill.nl

+31 (0)46 820 03 73

[in](https://www.linkedin.com/company/aquastillbv) /aquastillbv

www.aquastill.nl

more
information:



Sustainable Thermal Desalination powered by **process heat.**

Produce cost competitive green hydrogen from desalinated sea water.

Green hydrogen (H_2) production is a rapidly growing global industry. The production of green hydrogen is a route to decarbonise our energy systems. Green hydrogen is produced through water electrolysis in which only electricity from renewable energy sources is used. Green hydrogen production via water electrolysis requires purified water for the process.



Aquastill provides water treatment solutions based on membrane distillation (MD) for the green hydrogen industry, which meet the polymer electrolyte membrane (PEM) manufacturer's water quality requirements. These are typically $< 5 \mu S/cm$ deionised water (DI water) or Ultrapure Water (UPW) to prevent damage to systems over long term use.

Membrane distillation is a thermal desalination technology. It can operate using the residual heat from the PEM electrolyzer as a driving force. At the same time the membrane distillation process is providing cooling for the PEM electrolyzer.

By using the residual heat from the PEM electrolyzer producing clean water for the process and providing cooling, makes membrane distillation a competitive technology compared to other water treatment solutions like reverse osmosis (RO). Using reverse osmosis will result in an overall reduction of electrical efficiency of the entire hydrogen system because RO is an electrically driven process.

On-site desalination of sea water based on MD offers a lot of added value compared to the current standard process, like:

- higher product quality
- less electricity
- less chemical consumption

