# Resourcing the world

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**Thermal Desalination** for green H2

Distillate production driven by Heat Recovery





Green hydrogen is mainly produced by water electrolysis using renewable electricity.

Entropie is continuously seeking solutions that turn the tide in responding to major challenges associated with ecological transformation.

Our thermal distiller for green hydrogen production is a solution towards a carbon neutral future. It indeed allows the Hydrogen electrolyser or the e-fuel plant to reduce their carbon footprint by making use of their waste heat and reducing their electrical consumption.

## SAFE & RELIABLE

Our solution is a thermal system that has no High Pressure connection, making it safer than any membrane RO system. Thermal distillation units are robust and renowned for their reliability.

The quality of the water produced is maintained throughout the life duration of the installation.

# FAST & EASY TO INSTALL

Our distiller is skid-mounted and is delivered to site as a plug & play system. It does not require any building or shelter and is therefore suitable for fast-track projects.

# SUSTAINABLE

Thermal distillation, does not require any chemicals to clean or maintain the performance of the system. This is a great advantage compared to membrane RO systems that will need CIP (cleaning in place) and regular maintenance. Moreover, no pre-treatment is required to protect the system and the quality of the distillate matches the requirements of most H2 Electrolysers

# THE PROCESS



#### **HOW DOES IT WORK ?**

Seawater is pumped and directly feeds the thermal distillation cell.

H2 electrolysers produce a lot of heat : instead of dumping this heat, thermal desalination units use it to evaporate seawater. In this evaporation process, all salts remain in the brine. The salt-free vapour which is produced is condensed and high purity water is thereby recovered.

### **ABOUT ENTROPIE**

Entropie as a SIDEM's subsidiary has a long standing expertise in MED systems. Founded in 1980, it is an engineering company specializing in the design and manufacturing of sea water desalination plants based on Multiple Effect Distillation (MED, MED-TVC, MVC) and Reverse Osmosis.

ENTROPIE supplies equipment of its own design, performing all detailed engineering, procurement and manufacturing management. ENTROPIE also provides Start-up & commissioning as well as plant operation services.

## **MAINTENANCE-FREE**

- Our solution does not require any maintenance. No stoppage of the production is required and the availability of the system is optimised. Therefore it is particularly appropriate for off-shore, remote applications and continuous processes .
- Whatever the variation of seawater quality, our distillers can guarantee reliable production of high purity distillate, essential for long-term performance of H2 electrolysers.

ENTROPIE operates a Quality Management System which conforms with the requirement of ISO standards 9001 : 2015 & and Environmental Management System and a Quality and Environmental Policy.

In permanent search of new technical developments, ENTROPIE offers bespoke equipment optimised to fit the requirements of our industrial customers.