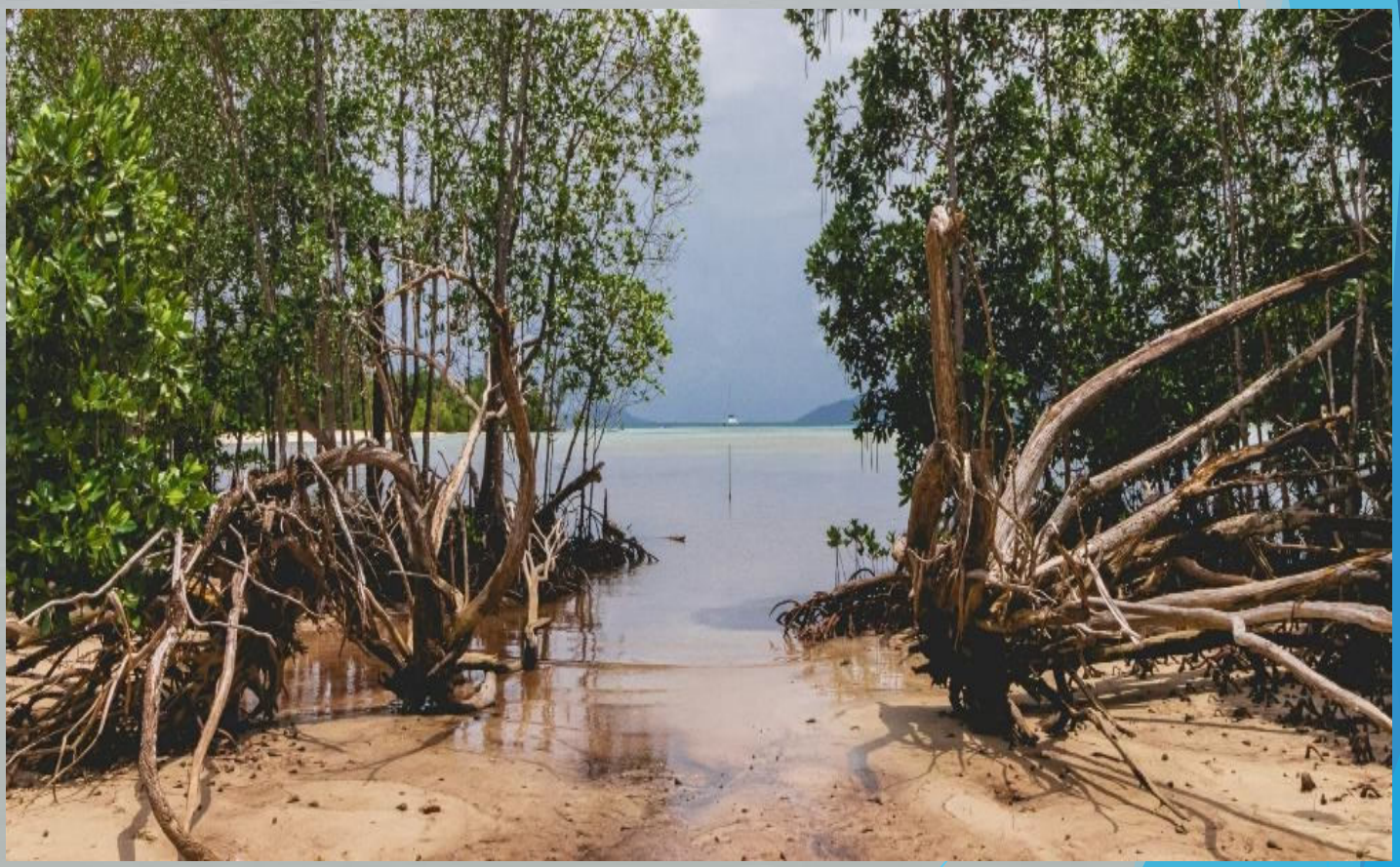
AQUATHEA

CALIPSEA



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The essential similarity :
desalination as a pillar of sustainability

1. Natural ingenuity and technological performance

Mangroves use sophisticated biological mechanisms to manage salt and survive in brackish water. In the same way, our Aquathea containers reproduce this natural principle by using cutting-edge technologies capable eliminating salt from . This convergence of natural and technological solutions demonstrates that innovation can draw inspiration from living organisms to meet critical challenges such as access to drinking water.

2. Environmental regeneration

By maintaining the balance of coastal zones, mangroves play an essential role in the protection of the environment.
protecting ecosystems and reducing local salinity. By desalinating water responsibly, our solutions provide communities and industries with a vital resource without compromising the natural balance, thereby reducing their water footprint.

3. Resilience to extreme conditions

Mangroves are capable of growing in hostile environments, withstanding high salt concentrations, storms and floods. Our containers are inspired by this resilience, offering reliable, continuous desalination, even in demanding industrial contexts or in areas subject to water stress. They are designed to adapt to the most complex challenges while guaranteeing high-quality water.

The gentle revolution of sustainable desalination :

Calipsea is transforming the desalination paradigm by combining technological performance with respect for environment. Inspired by the natural water cycle, this hybrid solution combining assisted evaporation and advanced distillation enables :

- Direct production drinking water with low energy consumption (5 kWh/m³)
- Treatment of saline waste from reverse osmosis , with 94% recovery rate water
- A 6-fold reduction in discharges into the sea, protecting marine biodiversity
- Recycling salt residues into useful resources industry, agriculture and energy.

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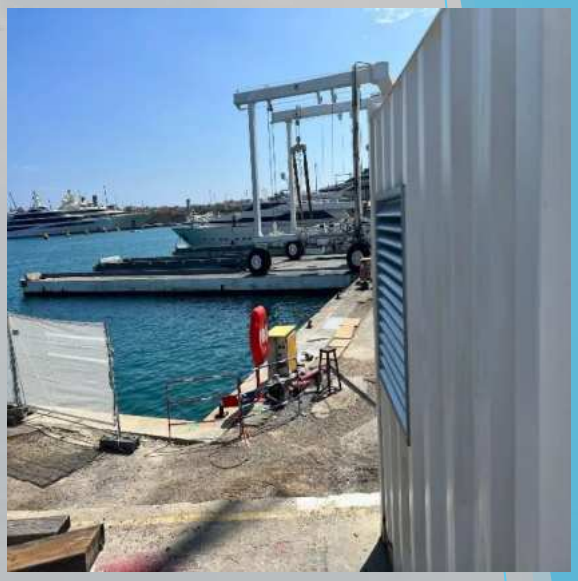
SOLUTION FOR COASTAL AREAS

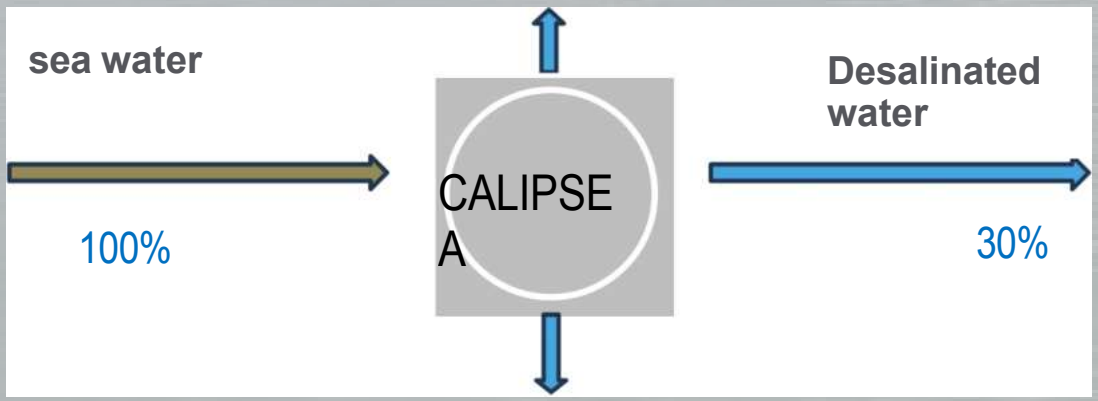
Rethink water, preserve the oceans

Designed for islands, coastal , tourist complexes or industrial facilities, Calipsea can be adapted to scale thanks to its modular design.

With Calipsea, every drop counts, every reject is transformed, and every installation becomes a concrete act in favour of a bluer future.



Concentrate
evacuated to the treatment centre (sewer or treatment centre)
1%



Water discharged into the sea at a concentration similar to the concentration seawater on the beach (around 45 gr/litre)
69%

THE SOLUTION

Advantages of the CALIPSEA solution

Ecological desalination: innovation par excellence at the service of populations
• Unique dual functionality
• drinking water from seawater
• Treats brine waste from the reverse osmosis process
• Exceptional water efficiency
• Up to 94% water recovery, compared to 70% with reverse osmosis alone
• 6-fold reduction in the volume of liquid waste
• Respect for environment
• Drastically reducing impact on marine ecosystems
• Less toxic waste, regulated salinity, protection of biodiversity
• Controlled energy
• Consumption of only 5 kWh/m³, competitive with reverse osmosis
• Operation without membranes or aggressive chemicals
• Simplified maintenance
• Less risk of clogging
• High tolerance to suspended solids (turbid or dirty water)
• Waste recovery
• Concentrated salts for reuse in the chemical, food and agricultural sectors or energy
• Modularity and adaptability
• Suitable for islands, seaside resorts, factories and isolated areas
• Can be integrated into existing installations (in addition to osmosis)
• Ethical and sustainable solution
• Inspired by the natural water cycle, without compromising the future of the oceans

• **Compatible with a circular economy and CSR commitments**

CALIPSEA

TECHNICAL DOCUMENTATION

Introduction

In a context where access fresh water is limited, pumping seawater is a key step in guaranteeing a continuous supply. Aquathea provides a robust system capable continuously pumping water, even demanding environments, effectively preparing it for a long-lasting, optimised desalination .

System organisation and components

Origin: Water taken directly from the sea at shallow depths. Network: Direct pumping through a short pipeline without prior treatment.
Advantages: Easy to install, with no need for major works or complex infrastructure.

2. Pre-treatment : Screening

- Function: To retain solid particles
- Equipment: Aquathea mechanical or static screen
- Fineness of filtration: Screens adapted from 1 to 5 mm.

3. Pre-filtration

- Function: Reduction of suspended matter (sand, residues, etc.).
- Technologies: Fine-mesh sieves or Aquathea filter cartridges.
- Easy maintenance with manual or semi-automatic cleaning options.

CALIPSEA

4. Main filtration: self-cleaning filter

- Function: Removal of microscopic particles for clear, reusable water.
- Technology: Fully automated non-return filter.
- Long life and low maintenance.

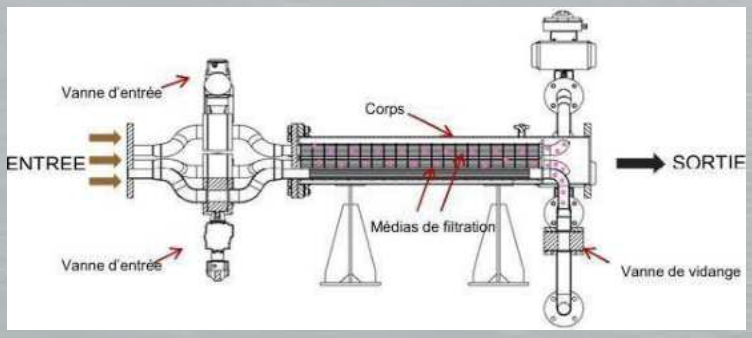
5. Disinfection (optional)

- Objective: To guarantee clean water for subsequent cycles.
- Possible technologies :

UV: Elimination of bacteria and viruses. Chlorination:

Prolonged effectiveness for storage.

Ozonation: powerful, environmentally-friendly disinfection.



6. Treated water storage

Features:

- 316 L stainless steel tanks (Genfisa patented design).
- Enhanced protection against secondary contamination.
- Advantages: Suitable for large volumes, up to 500 m³/day.

Water treatment

Pref iltration at 150.
Activated carbon filter or Aquathea filter Fine filtration at 50 µm.
UV lamp for disinfection.

Certifications and performance of filtration systems

The Aquasense, Aquarecoveri and Calipsea atmospheric water generators are equipped with patented f iltering systems developed in collaboration with renowned laboratories such as the Institut Pasteur, CNRS, LA FSBE and RAMS Institut de R&D en Santé au Travail. These f ilters ensure ef fective elimination of a wide range of contaminants, meeting the highest standards.

Heavy metals	PFAS (polyfluoroalkylated substances)	Other contaminants
- Lead: 99 .99 **- Manganese: 98.99** **- Copper: 99** **- Cadmium: 99.5** **- Iron: 100** **- Radium: 99** **- Nickel: 98** **- Uranium: 99** **- Ammonium: 98**	**- Elimination rate high**	**- Pesticide residues: 98** **- Organic solvents** **- Chlorinated hydrocarbons** **- Volatile organic compounds** **- Bisphenol: 99** **- E. coli** **- Medicinal waste**

CALIPSEA

7 - Distribution

- Equipment:
- High-efficiency pumps.
- Automation to adjust pressure and flow as required.

8 - Standards and certifications

- Our production and water network comply with standards
- ISO 24510 and ISO 46001 standards.
- Mineralization and PH management of the water produced are generally integrated into our generators.
- Directive 2006/42/EC: Safety of machinery

Spécifications	CALIPSEA 1 (2000 L/j)	CALIPSEA 10 (10000 L/j)	CALIPSEA 50 (50000 L/j)
Water production (Liters / Day)	2 000 Liters	10 000 Liters	50 000 Liters
Air filter	G4 Electrostatic Anti-bacterial	G4 Electrostatic Anti-bacterial	G4 Electrostatic Anti-bacterial
Water filtration system	Cartouche patented and UV	Cartouche patented and UV	Cartouche patented and UV
Dimensions W x D x H (cm)	330 x 110 x 170	600 x 240 x 250	600 x 240 x 250
Net Weight (kg)	945	7400	11100
Power Supply	400-3-50	400-3-50	400-3-50
Consommation (kWh)	de 1 à 3.4	de 2.1 à 21	de 2.1 à 33
Refrigerant	R32/R290	R32/R290	R32/R290
Condenser coil	Brine treatment	Brine treatment	Brine treatment
Evaporator coil	Stainless steel - Food quality	Stainless steel - Food quality	Stainless steel - Food quality
Evaporator Fan (Nm^3/h)	De 500 à 3600	De 1100 à 19800	De 1100 à 39600

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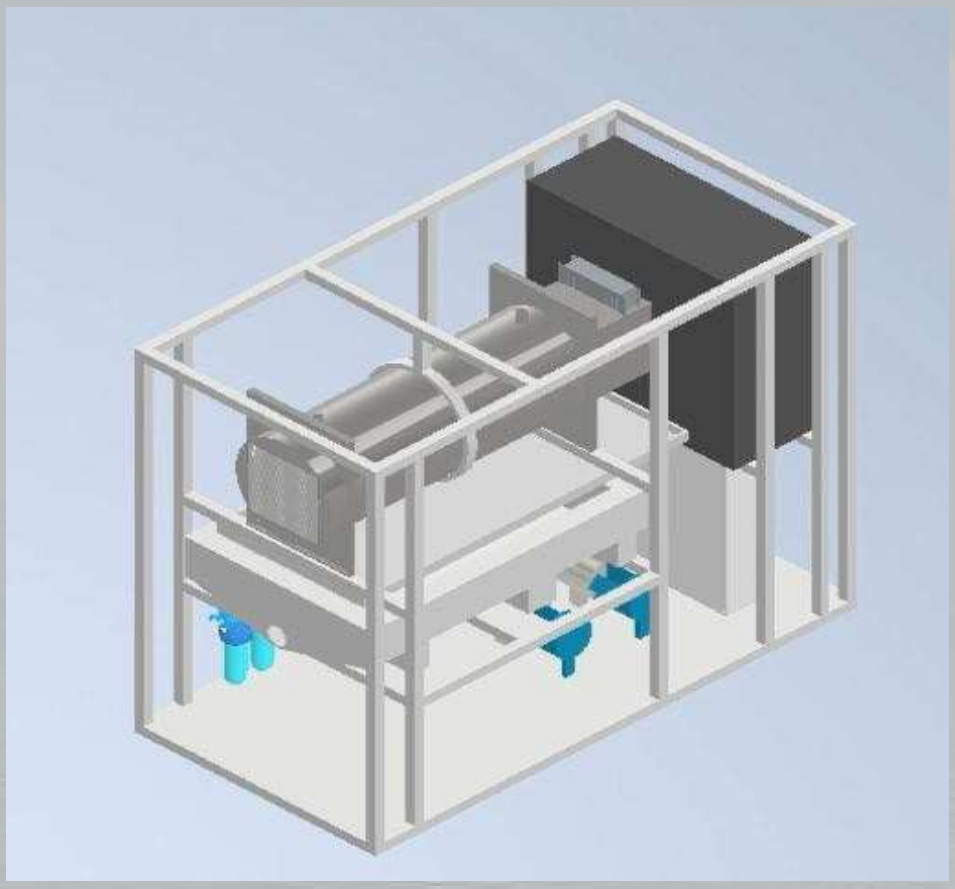

AQUATHEA

Join our movement

NGOs, institutions, hotels Industry: let's work together to build sustainable, autonomous, low-carbon access to water.

contact@aquathea.fr

Resellers :