

Water treatment for land-based fish farms

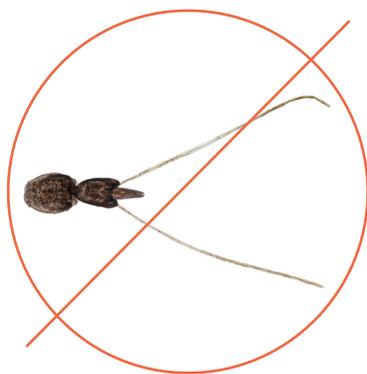
✓ Feed water polishing

✓ Sea lice elimination

✓ Waste water polishing

Clean Water Unit

RAS (Recirculating Aquaculture System) is commonly used in aquaculture on land. This system has many advantages, and it is essential for fish farms. However, feed water quality needs to be secured, and allocated to ensure sufficient fresh water supply. Sunstone's water purification system (Clean Water Unit=CWU) makes this possible: sea water can be filtered and used as feed water.



Pathogen-free water

Next to solving the problem of water supply, the Clean Water Unit acts as a total barrier against pathogens and sea lice. These threaten the fish, thereby affecting production capacity. The CWU delivers clean water, free of bacteria, viruses and pathogens.

Waste water polishing

Handling of waste water constitutes another challenge. The waste water that is discharged, must fulfill legislative requirements. The waste water may contain, for example, pharmaceutical residues as some fish are given medicine. To prevent pollution in the aquatic environment, Sunstone's water purification system can be used to ensure the discharge of treated waste water.

Details

Industry	Fish farms on land
Water source	Sea water
Treated water	Process water- free of bacteria, viruses, pathogens
Components	Ceramic UF filter, UV-light, Back-flush, CIP, Advanced anti-fouling system

Silicon Carbide (Sic) Ceramic membranes



Reliable



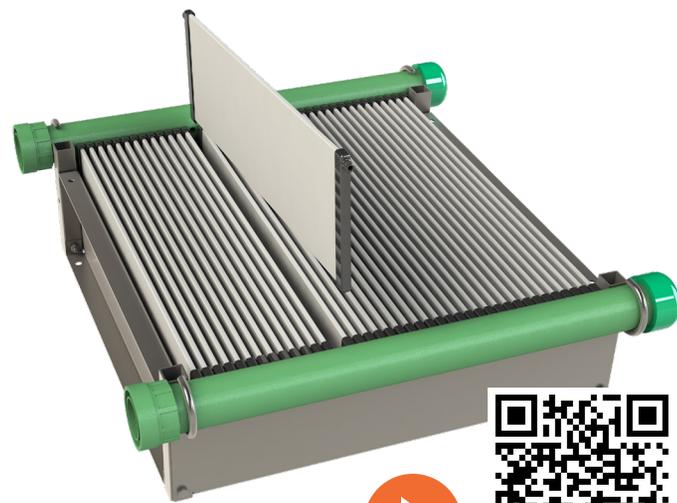
Compact



Sustainable

Ultra-filtration membranes

The Ultra-filtration membranes are the core technology, based on "outside-in" filtration. These membranes are made from Silicon Carbide, a hydrophilic material, with a 10-year life expectancy. The membranes are not affected by any chemicals or solvent, thus there is no degradation. Possibility for clogging and bio-fouling is limited.



Details

Pore size	0,1 µm
High flux	5000 LMH/bar
pH range	1-14
Cleaning methods	Backwash/Ozone/High pressure jet/Chemical cleaning
Maximum backwash pressure	2 bars
Operating temperature	5-800° C
Stackable	✓
Certifications	NSF61 drinking water approval



Reliable

Pre-fabricated modules, automated system with remote monitoring and service options



Compact

Integrated CIP and backwash ensure constant operations



Sustainable

Reduced chemicals due to sprinkler system for membrane wash and "outside in" filtration