

HYBRID Series



One-step



High efficacy



Easy to operate

The technology

ELOXIRAS® is an innovative process for the **treatment and reutilization of marine and brackish water**, developed to improve the productivity and reduce the environmental impact of Recirculating Aquaculture Systems (**RAS**).

Some of its main advantages are:

- **One step** - Removal of pollutants, such as TAN, nitrite, and organic matter, while providing in-situ disinfection.
- **High efficacy** - Elevated elimination of pollutants, increasing the capacity and productivity of the RAS.
- **Easy to operate** - Instant operation, without start-up or adapting periods (typical from biological systems).
- **Low environmental impact** - Minimum water exchange with the surrounding media.
- **Compact design** - Small footprint and no civil works required, maximizing its integration possibilities.
- **Efficient energy process** - Optimization through a fine tune-up of the treatment intensity to the pollutant production rate.

ELOXIRAS® **HYBRID Series** has been designed for the treatment and reuse of water at **large scale RAS facilities**,

Functionalities

Concept

4.0

Pre-treatment	-	●
Feed pump	-	●
Reactor	●	●
Rectifier	●	●
Reactor cleaning system	●	●
Post-treatment	-	●
Electrical control cabinet with PLC	●	●
Manual valves	●	●
Automatic valves	-	●
Compressed air system	-	●
ORP monitoring	-	●
pH monitoring	-	●
TAN monitoring	-	Optional
Total chlorine monitoring	-	●
Temperature control system	-	Optional
Oxygenation system	-	Optional
Remote supervision & operation	-	●
Protection against moisture and splash	Optional	Optional



Low environmental impact



Compact design



Efficient energy process

Standard models

	HYBRID-1500	HYBRID-3000	HYBRID-6000	HYBRID-12000	HYBRID-18000
Reactor	1 x ELOXrc75	1 x ELOXrc150	1 x ELOXrc225	2 x ELOXrc225	1 x ELOXrc750
Capacity (kg feed/day)	50	100	200	400	600
Water volume (m ³)	50	100	200	400	600
Flowrate (m ³ /h)	50	100	200	400	600
TAN removal (g TAN/day)*	1,800	3,600	7,200	14,400	21,600
Disinfection	> 3 log	> 3 log	> 3 log	> 3 log	> 3 log
Energy consumption (kWh/g TAN)**	0.16	0.13	0.13	0.13	0.13
Water exchange (L/kg feed)	50 - 200	50 - 200	50 - 200	50 - 200	50 - 200

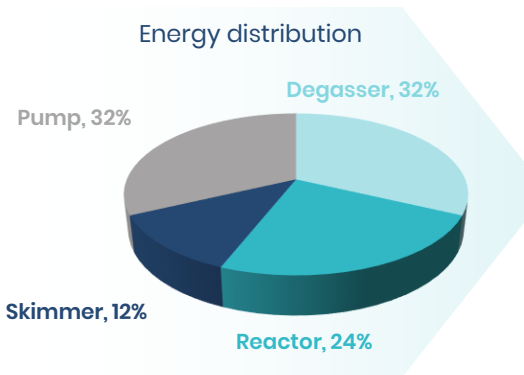
* Value estimated considering the pretreatment step recommended by Apria Systems

** For 4.0 models.

HYBRID-1500

Increasing the productivity of your RAS

ELOXIRAS® HYBRID-1500 provides flexibility with an immediate response to water treatment requirements. High TAN removal -with no significant nitrate accumulation- and disinfection efficacies are achieved.



TAN removal rate	1,800 g TAN/day (> 90% per pass)
Disinfection capacity	> 3 log
Water exchange rate	50 – 200 L/kg feed
Energy consumption	0.16 kWh/g TAN*

* For 4.0 models

Tank volume



Max. treatment capacity



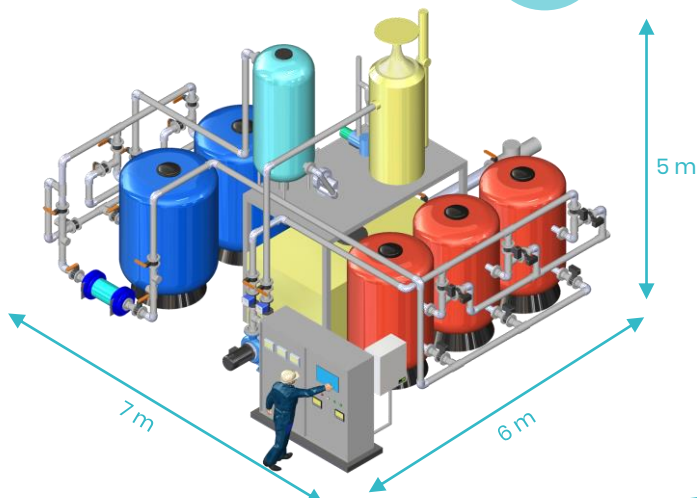
Flowrate



Dimensions

Estimated footprint for the 4.0 model

42 m²



Operation & maintenance costs

Energy consumption	82%
Post-treatment regeneration	10%
Reactor cleaning system	1%
Reactor maintenance*	7%

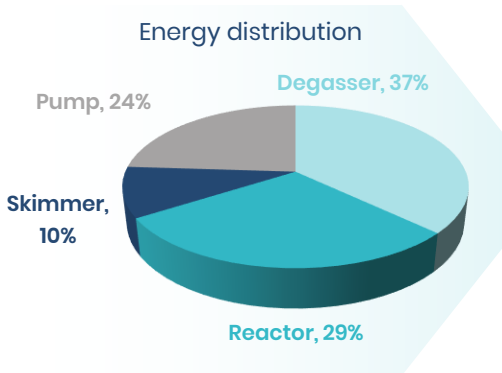
NOTE: Software license cost not included

* Value based on a lifetime of 2 years

HYBRID-3000

Increasing the productivity of your RAS

ELOXIRAS® HYBRID-3000 provides flexibility with an immediate response to water treatment requirements. High TAN removal -with no significant nitrate accumulation- and disinfection efficacies are achieved.



TAN removal rate	3,600 g TAN/day (> 90% per pass)
Disinfection capacity	> 3 log
Water exchange rate	50 – 200 L/kg feed
Energy consumption*	0.13 kWh/g TAN

* For 4.0 models

Tank volume



100 m³

Max. treatment capacity



100 kg feed /day

Flowrate

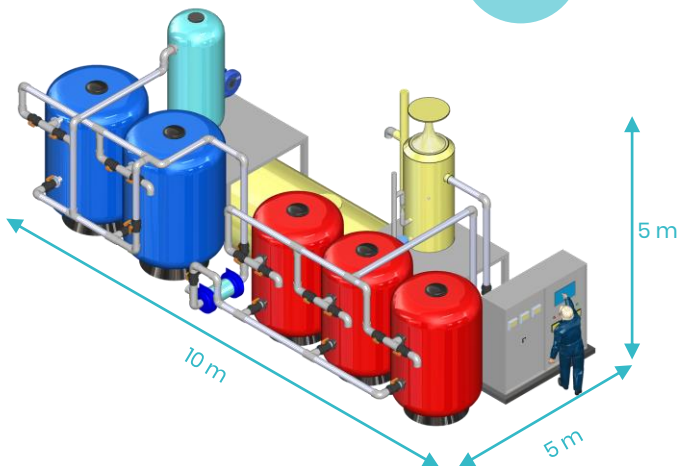


100 m³/h

Dimensions

Estimated footprint for the 4.0 model

50 m²



Operation & maintenance costs

Energy consumption	80%
Post-treatment regeneration	9%
Reactor cleaning system	2%
Reactor maintenance*	9%

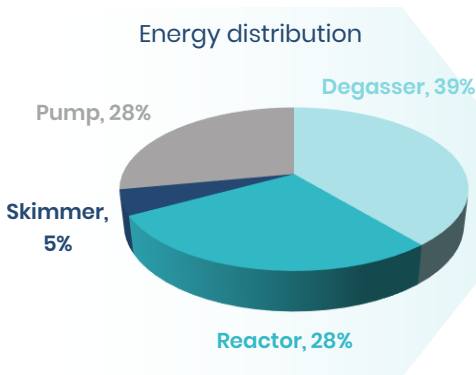
NOTE: Software license cost not included

* Value based on a lifetime of 2 years

HYBRID-6000

Increasing the productivity of your RAS

ELOXIRAS® HYBRID-6000 provides flexibility with an immediate response to water treatment requirements. High TAN removal -with no significant nitrate accumulation- and disinfection efficacies are achieved.



TAN removal rate	7,200 g TAN/day (> 90% per pass)
Disinfection capacity	> 3 log
Water exchange rate	50 – 200 L/kg feed
Energy consumption*	0.13 kWh/g TAN

* For 4.0 models

Tank volume



200 m³

Max. treatment capacity



200 kg feed /day

Flowrate

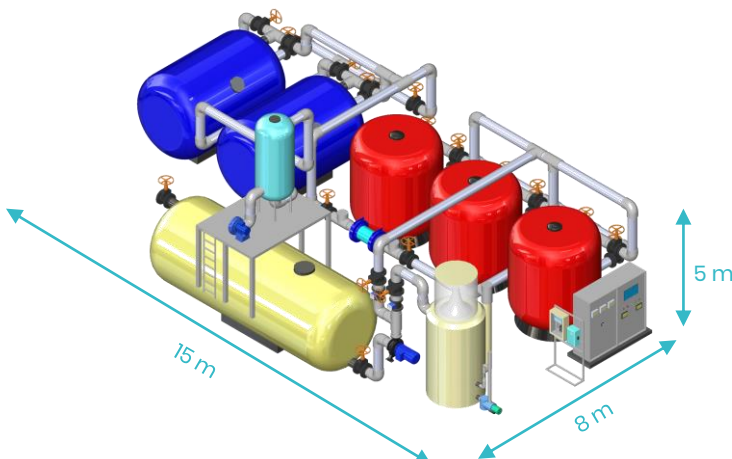


200 m³/h

Dimensions

Estimated footprint for the 4.0 model

120 m²



Operation & maintenance costs

Energy consumption	82%
Post-treatment regeneration	9%
Reactor cleaning system	2%
Reactor maintenance*	7%

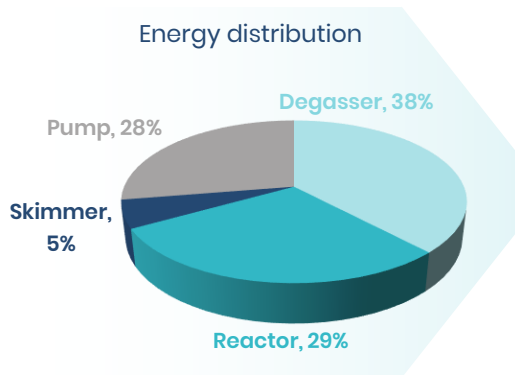
NOTE: Software license cost not included

* Value based on a lifetime of 2 years

HYBRID-12000

Increasing the productivity of your RAS

ELOXIRAS® HYBRID-12000 provides flexibility with an immediate response to water treatment requirements. High TAN removal -with no significant nitrate accumulation- and disinfection efficacies are achieved.



TAN removal rate	14,400 g TAN/day (> 90% per pass)
Disinfection capacity	> 3 log
Water exchange rate	50 – 200 L/kg feed
Energy consumption*	0.13 kWh/g TAN

* For 4.0 models

Tank volume



400 m³

Max. treatment capacity



400 kg feed /day

Flowrate

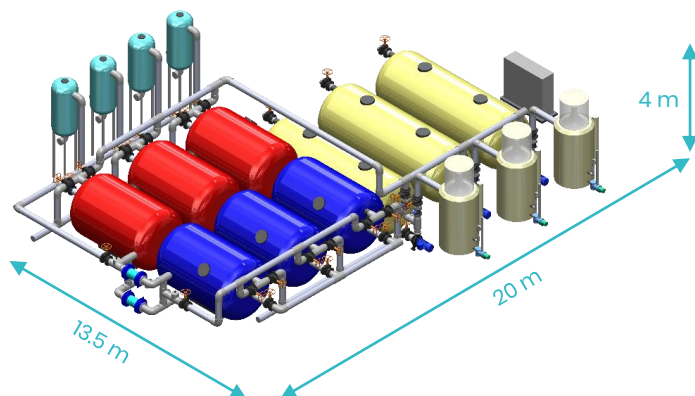


400 m³/h

Dimensions

Estimated footprint for the 4.0 model

270 m²



Operation & maintenance costs

Energy consumption	82%
Post-treatment regeneration	9%
Reactor cleaning system	2%
Reactor maintenance*	7%

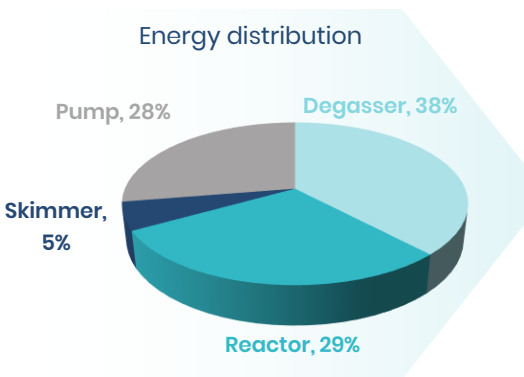
NOTE: Software license cost not included

* Value based on a lifetime of 2 years

HYBRID-18000

Increasing the productivity of your RAS

ELOXIRAS® HYBRID-18000 contributes to increase the production capacity, as well as to decrease the environmental impacts. High TAN removal -with no significant nitrate accumulation- and disinfection efficacies are achieved.



TAN removal rate	21,600 g TAN/day (> 90% per pass)
Disinfection capacity	> 3 log
Water exchange rate	50 – 200 L/kg feed
Energy consumption*	0.13 kWh/g TAN

* For 4.0 models

Tank volume



600 m³

Max. treatment capacity



600 kg feed /day

Flowrate

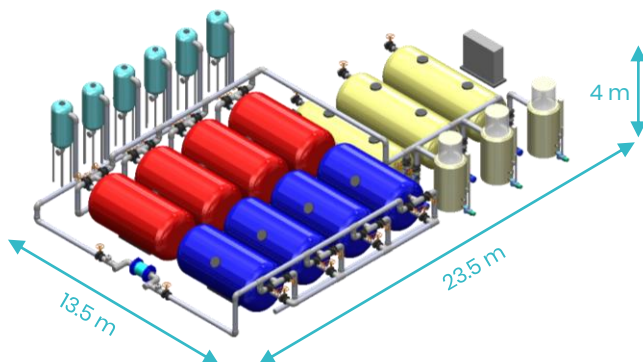


600 m³/h

Dimensions

Estimated footprint for the 4.0 model

317 m²



Operation & maintenance costs

Energy consumption	83%
Post-treatment regeneration	9%
Reactor cleaning system	2%
Reactor maintenance*	6%

NOTE: Software license cost not included

* Value based on a lifetime of 2 years