ELOXIRAS®

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 productivity and reduce the environmental impact of Recirculating Aquaculture Systems (**RAS**).

Some of its main advantages are:

- **One step –** Eliminating pollutants such as TAN, nitrite, and organic matter, while disinfecting.
- **High efficacy –** Enhanced removal rate of contaminants, increasing the capacity and productivity of the RAS.
- **Easy to operate –** Instant operation, without start-up or adapting periods (typical from biological systems).
- **Reduced environmental impact –** Due to lower requirement of water exchange with the surrounding media.
- **Compact design -** Small footprint and no civil work required, maximizing its integration possibilities.
- **Energy efficiency –** Adapting the intensity of the treatment to the fluctuating generation of pollutants.

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 and operation	-	●
Moisture and splash protection	Optional	Optional

Reduced environmental impact

Compact design

Energy efficiency

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

NOTE: Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems

For more information: comercial@apriasystems.es

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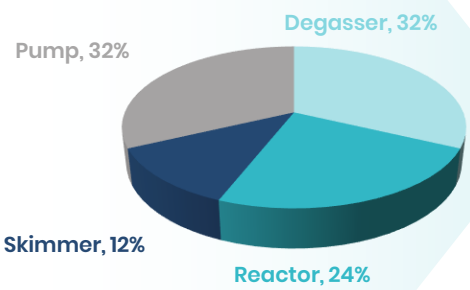
ELOXIRAS® HYBRID Series

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.

Energy distribution



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

NOTE: Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems

Tank volume

50 m³

Max. treatment capacity

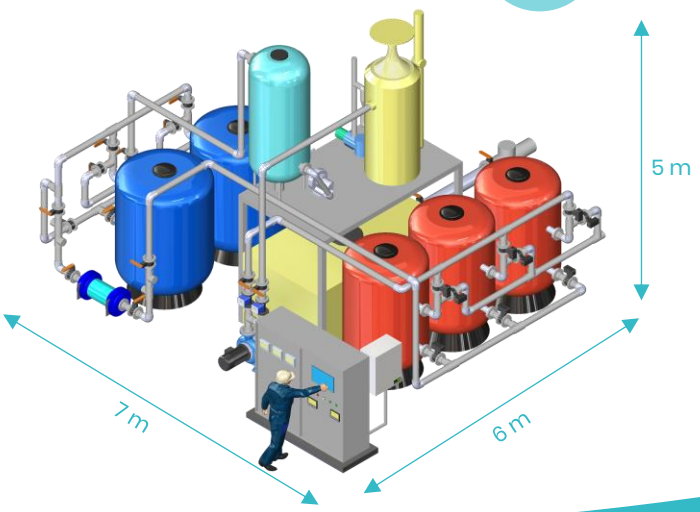
50 kg feed /day

Flowrate

50 m³/h

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%

NOTES:

- Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems
- Software license cost not included

* Value based on a lifetime of 2 years

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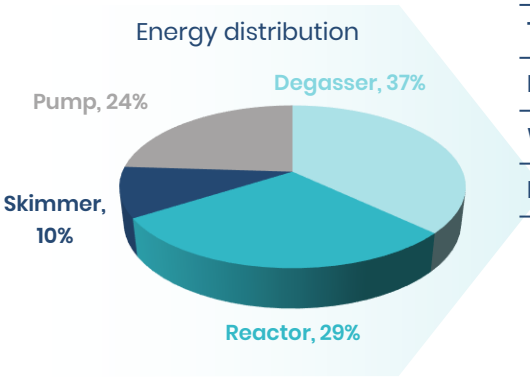
ELOXIRAS® HYBRID Series

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

NOTE: Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems

Tank volume

100 m³

Max. treatment capacity

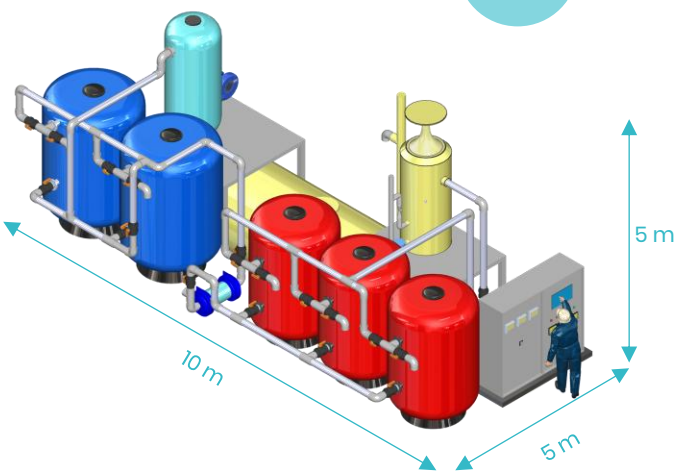
100 kg feed /day

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%

NOTES:

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- Software license cost not included

* Value based on a lifetime of 2 years

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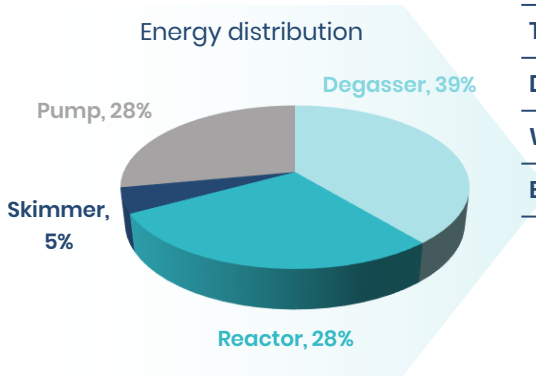
ELOXIRAS® HYBRID Series

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

NOTE: Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems

Tank volume

200 m³

Max. treatment capacity

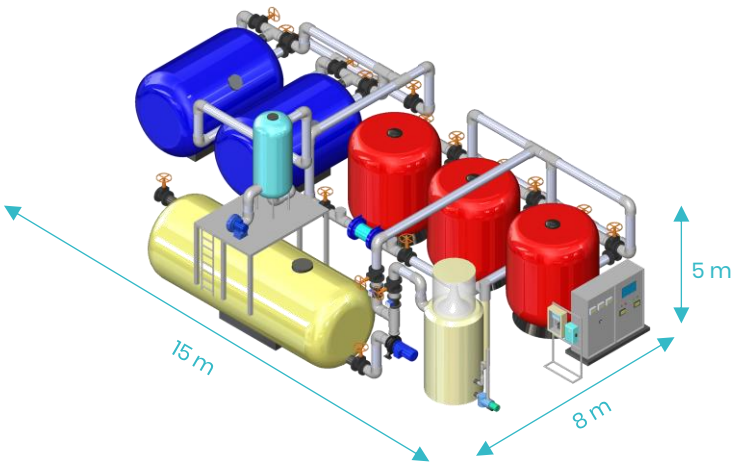
200 kg feed /day

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%

NOTES:

- Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems
- Software license cost not included

* Value based on a lifetime of 2 years

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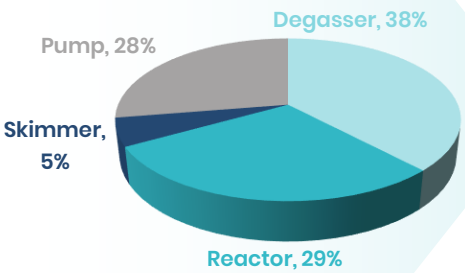
ELOXIRAS® HYBRID Series

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.

Energy distribution



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

NOTE: Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems

Tank volume

400 m³

Max. treatment capacity

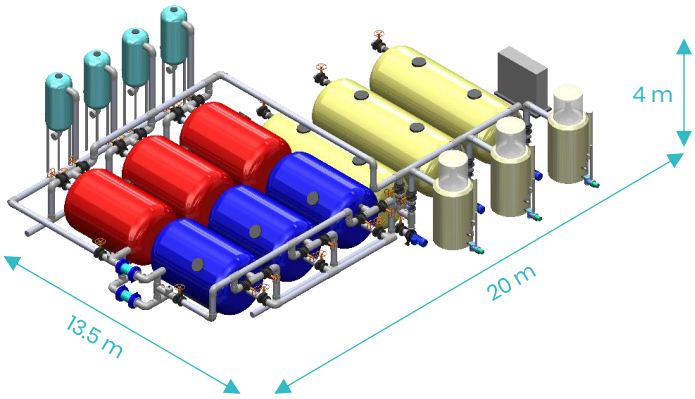
400 kg feed /day

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%

NOTES:

- Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems
- Software license cost not included

* Value based on a lifetime of 2 years

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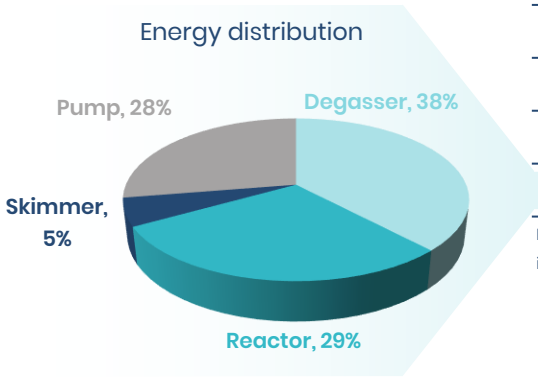
ELOXIRAS® HYBRID Series

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

NOTE: Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems

Tank volume

600 m^3

Max. treatment capacity

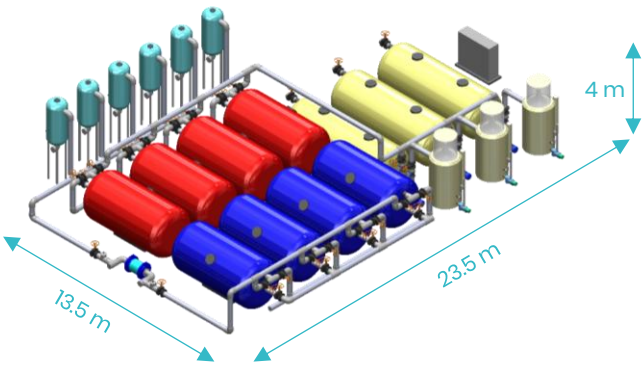
600 kg feed /day

Flowrate

600 m^3/h

Dimensions

Estimated footprint for the 4.0 model: 317 m^2



Operation & maintenance costs

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

NOTES:

- Values estimated considering water with a salinity of 35 ppt and 4.0 models implemented by Apria Systems
- Software license cost not included

* Value based on a lifetime of 2 years

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