

# Customized turnkey solutions for aquaculture effluent treatment

With more than 40 years of experience in the industry, and an established and broad international network of knowledge-intensive employees and collaborators, Alumichem is built on solid expertise in water treatment chemicals, equipment, and consulting.

## Solutions designed to your need

As a trustworthy partner, Alumichem offers unique turnkey effluent treatment solutions for landbased fish farms regardless of species. Our solutions are designed, engineered, and will perform according to your discharge requirements.

Our energy-efficient solutions for effluent treatment have the following advantages:

- Removal of solids, nitrogen, phosphorous and heavy metals to comply with any requirements
- Lower cost of sludge handling and conversion into a valuable resource
- Modular and automated design allows easy integration into new and existing fish farms
- Limited footprint
- Reuse of treated wastewater
- Perfect chemistry and technology interaction



## Our services

Let us help you maximize performance and minimize risk by supporting you before, during and after start-up.

- Start-up and commissioning
- Installation and ongoing technical support
- Chemical testing and optimization
- Our experts guide you to the best solution
- Upgrade of existing facilities
- Operator training

## Meeting your stringent discharge requirements

The requirements for wastewater treatment and discharge are becoming stricter - both in Europe and globally.

By partnering with Alumichem, you are guaranteed the system solutions comply with your current environmental legislations and you will receive peace of mind that they can be adapted for any future requirements.

# Solutions for RAS intake and effluent treatment

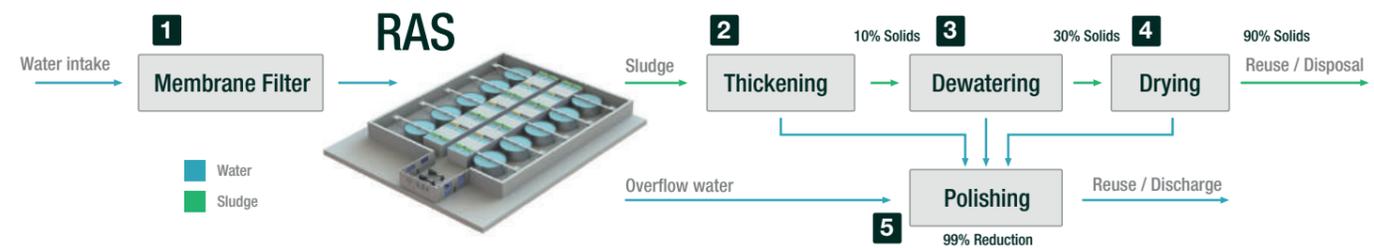
We deliver customized turnkey solutions to treat intake water and effluents from Recirculating Aquaculture Systems (RAS). The effluents are typically from backwash of drum filters and biofilters as well as overflow water. Our solutions are designed specifically for your need, local conditions and any environmental regulation.

## Fish farms benefits

- Easy and cost-effective treatment of sludge
- Ensure your discharge water safely complies with environmental regulation
- Lower your cost of final sludge handling
- Tap into decades of experience and innovation in aquaculture effluent treatment

## RAS suppliers benefits

- Experienced and trustworthy partner for aquaculture effluent treatment and water treatment
- Easy and safe outsourcing of full sludge treatment solutions, so you can focus on fish farm construction
- Easy integration into RAS facility



## 1. Water intake filtration

Alumichem supplies solutions for membrane ultrafiltration of your intake water to ensure safe fish farm operation. This will be designed according to your needs ensuring protection against harmful substances like bacteria, vira, heavy metals etc.

## 2. Sludge thickening

The initial sludge thickening step takes the dry matter content from 0-1% and up to 10% solids and significantly reduces the sludge amount.

The process consists of two parts:

- Chemical conditioning of the sludge to build large flocs
- Mechanical filtration to separate these floc particles from water

After thickening, the sludge is ideal for biogas production.

## 3. Sludge dewatering

The thickened sludge can be further dewatered in a dewatering step, in which the dry matter content can reach 30% solids and the sludge amount is further reduced for easy transportation. After the sludge dewatering step, the sludge is ideal as fertilizer in local agriculture or as carbon source in a composting facility.

## 4. Sludge drying

The dewatered sludge can be further treated in a sludge dryer. In this step the dry matter content can reach >90% solids and the dried sludge is hygienized for easy and safe handling and storage, e.g., in bigbags.

Alumichem uses very energy efficient heat pump dryers. The dried sludge contains high value nutrients and energy, which can be utilized in production of fertilizer or thermal energy.

## 5. Polishing of discharge water

The reject water from the sludge treatment steps and any overflow water from the RAS plant is polished before discharge/reuse to ensure compliance with any environmental regulation.

The water can be treated for any remaining solids, nitrogen, phosphorous, TOC, heavy metals etc.

Contact us to learn more about our complete solutions for aquaculture effluent treatment, or to discuss your next project with our experts.

## Proven technology

Alumichem has a long history developing custom solutions for effluent treatment partners.



# Aquaculture effluent treatment

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Please contact your local Alumichem partner for more information  
about our solutions for aquaculture effluent treatment

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