

FRAMO AQUACULTURE

# Innovative solutions for the future of fish farming



# Because healthy fish means everything

Aquaculture is a cornerstone of the world's food supply and stands as the fastest-growing food production sector. Sustaining this momentum into the future, while simultaneously improving efficiency and minimizing the environmental footprint, demands advanced technologies and a commitment to innovative thinking.

Based in Bergen, Norway, Framo has been the recognized leader in pumping systems for the marine industry for more than half a century. We are applying this unrivalled expertise to our mission of revolutionizing the aquaculture industry. Through close collaboration with our customers, we develop innovative solutions to enhance sustainability, improve fish health, and – importantly – increase profitability for farmers.

To help you meet – and exceed – your goals for the future, we offer a portfolio of specialized aquaculture equipment designed to combat sea lice and disease, optimize sludge management, and ensure efficient mortality handling.

# Framo innovative products

Framo provides a comprehensive range of high-performance products designed for optimal water quality and fish welfare. Developed in close collaboration with our customers, our solutions are engineered for maximum reliability in demanding marine environments – ensuring a more sustainable and productive future for your operations.

## Framo LiftUP systems

Framo's suite of LiftUP systems provides a continuous, automated solution for more sustainable handling of morts and sludge.



### LiftUP mort pumps

With thousands of units already in operation, Framo's mort pumps is the industry standard for year-round mortality removal.

### LiftUP central system

Our automated network connects multiple pens to a single processing point. When configured as a "Back-to-Barge" system, dead fish are pumped directly to a central sorting station.

### LiftUP sludge collection system

The Framo LiftUP sludge system captures feed residues and faeces, converting waste into resources like fertilizer.

## Framo circulation pumps

Your preferred pumping system for both open or closed solutions – on land or at sea.



## Framo SR/SX pumps

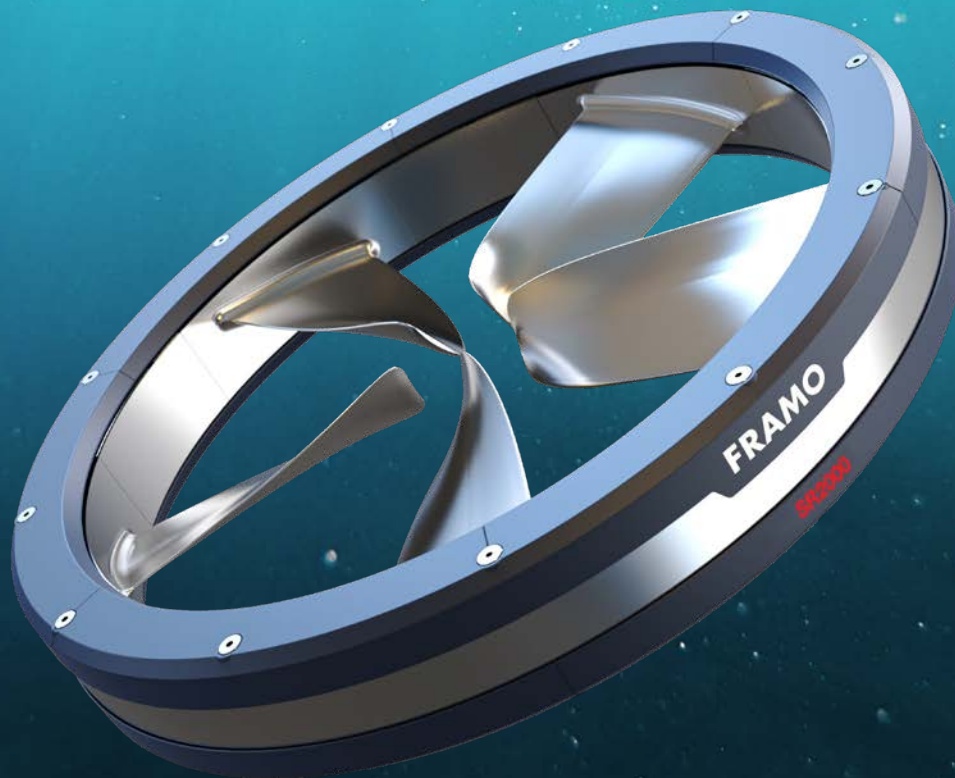
Developed specifically for the demands of modern aquaculture, Framo SR/SX pumps feature a proprietary rim-driven motor cooled and lubricated directly by seawater.

## Framo AquaStream

Framo AquaStream is a upwelling system for open-sea cages that draws deep water from below the surface layer.

## Framo Active Flow Control

Framo Active Flow Control combines how pumps, installation layout, water logistics, inlet and outlet configurations, hydrodynamics in the tank, and sludge/dead-fish collection systems all work together – increasing fish welfare and maximizing value creation.



## Framo SR/SX pumps

### Optimised solutions for your operations

All Framo SR/SX pumps are based on the same technological platform, featuring a proprietary rim-driven permanent magnet motor that provides high efficiency across a wide operating range.

The pump is cooled by the pumped media – such as seawater – while the hermetically sealed, pressure-compensated design ensures stable operation under the most demanding conditions. There is no grease, no oils, no gears, and no shafts.

Framo SR/SX technology is made for aquaculture. The pumps are built with high-quality materials to ensure long service life, resistance to corrosion, and reliable performance in the most challenging environments.

### Uncompromising design and flexibility

#### Framo SR600

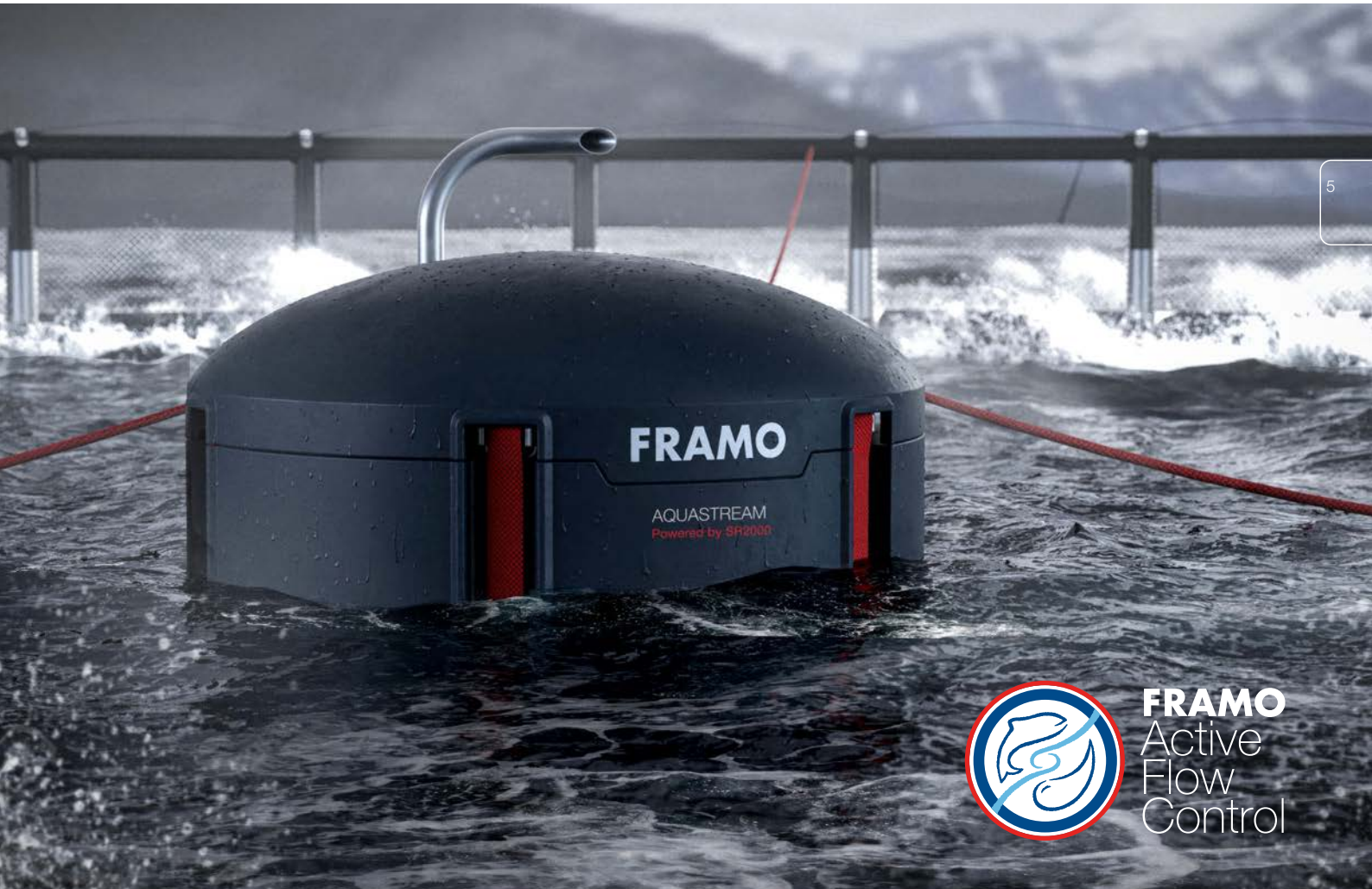
The SR600 is a solid choice for circulation systems in closed installations or land-based tanks where operational reliability, space-saving design, and predictable performance are paramount.

#### Framo SX1000

The Framo SX1000 is an electric submersible pump developed for applications with large water volumes and moderate lift heights – suitable for both land-based and sea-based aquaculture.

#### Framo SR2000

Framo SR2000 is an electric submersible pump developed for applications that require high capacity and low head (lift height). It delivers stable and reliable circulation in demanding environments where continuous high capacity is essential.



**FRAMO**  
Active  
Flow  
Control

# Framo AquaStream

Framo AquaStream is a high-capacity upwelling system for open-sea cages. It draws deep water from below the lice belt, delivering improved oxygen levels and optimal temperature conditions for healthier fish. Integrated in Framo AquaStream are the SR2000 propeller pump, duct tunnel with nozzles, transport skid with integrated strainer, buoy with winch system and feeding spreader.

As a system supplier, Framo also offers the complete AquaStream control system. The SR2000 is operated with stepless capacity control, provided by a variable-speed drive. It can be operated locally or remotely, and the control system can easily be integrated with your main control systems.

## Why choose Framo AquaStream

Framo AquaStream has proven to increase fish welfare and output by:

- Significantly reducing the need for lice treatment
- Stabilising seawater conditions inside the pen
- Increasing fish appetite and feeding ratio
- Reducing mortalities
- Combatting algae and jellyfish events



Contact us for more information



**FRAMO**  
LiftUP  
Sustainable  
Technology

## Framo LiftUP systems

The Framo LiftUP suite of systems represents a breakthrough in responsible waste management for the aquaculture industry.

### **LiftUP sludge collection system**

Designed with efficiency and environmental responsibility in mind, this innovative solution enables effective pumping of waste back to the feeding platform or to land for filtration, preventing sludge buildup on the seabed and minimising the ecological impact of fish farms. As we like to say, sludge is a resource gone astray.

### **LiftUP mort pumps**

Dead fish should be removed as quickly as possible to minimise potential negative impact on the aquaculture process and the environment. The Framo range of LiftUP mort pumps collect dead fish through various stages of the farming cycle. To suit our customers' different needs, we also offer a range of collectors.



Contact us for  
more information



### LiftUP central system

In collaboration with aquaculture companies, Framo has developed a fully automated, compressed air-based, and closed system that transforms the traditionally risky and resource-intensive task of dead fish removal into a streamlined operation – easily managed by a single operator in any weather conditions. The benefits are significant:

- Improved staff safety
- Enhanced water quality, fish health, and odour control
- Increased production
- Reduced environmental impact





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