

FRAMO LIFTUP CENTRAL SYSTEM

Automated dead fish handling



FRAMO
LiftUP
Sustainable
Technology

The system is operated and controlled by a single operator in all weather conditions

- Continuous dead fish removal all year round
- Lower equipment and personnel costs
- Reduced risk of occupational injuries and heavy lifting

Challenges of manual collection

Manual collection of dead fish requires skilled personnel, boats, and favourable weather conditions. With a fully automatic Fråmo LiftUP Central System, you gain complete control over biomass loss, simplifying environmentally friendly and efficient operation of salmon farming. Regardless of weather conditions, a single operator can manage the entire process, removing dead fish before they potentially spread diseases and unpleasant odours.

System description

The LIFTUP system comprises specially designed pumps that collect dead fish from the pen bottom and transport them through a closed pipe system to a floating sorting station on the feed barge, or land. The dead fish are sorted, recorded, and ground down for space-saving storage in tanks (any live fish are euthanised before grinding). Fråmo also collaborates closely with leading waste management companies to offer the entire value chain, from collection and storage to efficient logistics, where waste is collected directly from the tanks.



The Fråmo LiftUP Central System consists of one or two main pipes, known as collector pipes, extending from the dewatering bin on the platform and branching out to each pen. The collector pipe layout depends on the pen location. The distance from the pen to the platform can vary from 30 to 700 metres. Each pen has a permanently installed Fråmo LiftUP collector, which includes a hose and elbow on the pen. The Fråmo LiftUP Central System is installed and operational at over 150 sites.

From pen bottom to recycling

Dead fish should be removed as quickly as possible to minimise potential negative impacts on the aquaculture process and the environment. This is often a risky and resource-intensive operation. In collaboration with aquaculture companies, Framo has developed a fully automated, compressed air-based, and closed system that addresses these challenges and offers numerous other benefits:

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

Improved safety, faster handling, and a better environmental profile create ideal conditions for large-scale salmon farming. When the grinded waste is also recycled, the incentives to invest in automatic collection technology become even stronger. From a broader perspective, this carbon footprint reduction can strengthen the salmon farming standing and contribute to increased demand.



Tested and customised for customers

The Framo LiftUP Central System is operational at a significant number of aquaculture facilities and is the leading system in Norway for handling dead fish. Therefore, we can provide a proven and optimised system built to meet the specific needs of fish farmers.

Additional equipment

- Underwater camera for permanent installation on the LiftUP collection unit, providing visual monitoring during pumping, installation, treatment, and daily inspections.
- Camera mounted on the dewatering bin that records the number of dead fish, fish size, and takes photographs of each fish for analysis of the cause of death.
- Timers and remote controls.

Installation

- For a 10-ring system, approximately 4 days of welding are required at the quayside before towing to the facility.
- 5 days of on-site assembly and 1 day of post-installation inspection.
- The customer is responsible for towing the pipes from the quay to the aquaculture location.

Site requirements

- 8-inch LiftUP pumps with a ballast weight of 600 kg or more.
- A compressor with a capacity of 2.5–3.5 m³/min @ 10 bar.
- PE elbows be used over the railings of the pens.



Framo: Your partner for profitable and sustainable aquaculture

Over the past 50 years, Framo has grown into a world-leading supplier of pump systems for the marine and offshore markets. We have now applied our unique expertise to develop new pumps specifically designed for fish farming. Our focus has always been on reliability and low energy consumption.

In collaboration with fish farmers, we have developed new and sustainable systems to empower Norwegian fish farmers to transform the industry with comprehensive solutions for improved fish health, profitable operations, and sustainable aquaculture — from waste to resource.

Framo became part of the global conglomerate Alfa Laval in 2014, and LiftUP was acquired in 2021. Framo LiftUP products are now sold and manufactured at Framo locations in Venjanaset, located in the municipality of Bjørnafjorden.

LiftUP XXL

Specifications

- 150 cm diameter
- 8" and 10" hoses
- 8" for fish up to 20 kg
- 800–1000 kg ballast
- Supplied with lifting strap and quick coupling



Application

- Fish up to 20 kg
120–200 m pens

LiftUP XL

Specifications

- 120 cm diameter
- 8" and 10" hoses
- 8" for fish up to 20 kg
- 600–800 kg ballast
- Supplied with lifting strap and quick coupling



Application

- Fish up to 20 kg
120–200 m pens

LiftUP L

Specifications

- 120 cm diameter
- 8" and 10" hoses
- 8" for fish up to 10 kg
- 450 kg ballast
- Supplied with lifting strap and quick coupling



Application

- Fish up to 20 kg

LiftUP S

Specifications

- 90 cm diameter
- 6" and 8" hoses
- 8" for fish up to 5 kg
- 160 kg ballast
- Supplied with quick coupling



Application

- Fish up to 5 kg
- Steel cages and smaller pens

LiftUP XS

Specifications

- 50 cm diameter
- 4" hoses
- For fish up to 1/2 kg
- 50 kg ballast



Application

- Smolt up to 1/2 kg
- Steel cages and smaller pens

Flatnose

Specifications

- 90 cm diameter
- 8" and 10" hoses
- 8" for fish up to 20 kg
- 900 kg ballast
- Supplied with lifting strap and quick coupling



Application

- Fish up to 20 kg

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