



Image: NB Duplex pumps at Lerøy Belsvik, Hellandsjøen, Norway

Case | Lerøy

Pioneering Efficiency Together **Restoring Water Flow and Operational Efficiency Through a 100-Pump Upgrade**

Lerøy Seafood Group, established in 1899, is a global leader in sustainable seafood production.

Headquartered in Bergen, Norway, the company operates a fully integrated value chain, encompassing salmon and trout farming, whitefish harvesting, processing, product development, marketing, and distribution. Present in over 80 countries, Lerøy delivers seafood that translates to approximately 1.75 billion meals annually.

Lerøy's extensive operations include fish farms, fishing vessels, and production facilities across Norway and Europe, as well as sales offices in key markets like the USA, Japan, and China.

The situation

Over time, the systems at Lerøy Belsvik experienced a significant reduction in water flow across several departments. This affected the tank replacement process, which is designed to take approximately 30 minutes per tank, and created challenges throughout the facility's water treatment system.

Low sump levels reduced water pressure, increased CO₂ levels, lowered filtration capacity and contributed to unstable oxygen levels in the fish tanks. In addition, aging return pumps further restricted water flow and negatively impacted overall system performance.

To maintain optimal conditions for fish production and improve operational efficiency, Lerøy identified the need to modernise its return pump installation.



Image: Lerøy Belsvik, Hellandsjøen, Norway

Results at a glance

24% increase in water flow from 1,787 m³/h to 2,207 m³/h

Improved water circulation throughout the Presmolt tank system

Enhanced biofilter performance and water treatment processes

Increased operational reliability across the facility

The solution

Lerøy partnered with Grundfos to replace 100 aging return pumps across the facility. Following several on-site consultations and system assessments, Grundfos helped identify a solution designed to restore water flow, stabilise system performance and improve overall efficiency.

Lerøy selected Grundfos NB Duplex pumps due to their higher efficiency and suitability for demanding aquaculture applications. The upgraded pump solution was designed to improve hydraulic performance, strengthen operational reliability and support stable process conditions throughout the facility.

In line with their commitment to sustainability, Lerøy requested a responsible disposal plan for the old pumps. Grundfos added value by ensuring all 100 Grundfos pumps were recycled, making the upgrade process more environmentally friendly.



Grundfos NB/NBG

Grundfos NB end-suction close-coupled pumps are non-self-priming, single-stage, centrifugal volute pumps with axial-suction port, radial-discharge port and horizontal shaft.

High-efficiency motors configured to meet requirements from the power supply, the pumping environment and the pumped liquid. Optimised hydraulics in housing and impeller for unimpeded liquid flow through the pump.

O-ring seal between pump housing and cover means no risk of leakage, and housing, impeller and wear ring in different materials for improved corrosion resistance and no sticking elements.

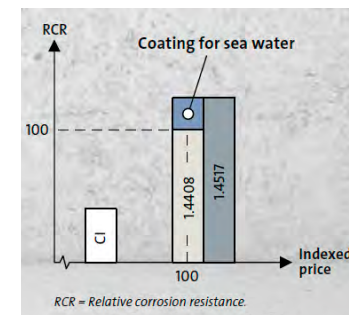


Ceramic COATING

Superior performance against erosion, corrosion and chemical attack, that ensures reliable performance and long lifetime. Grundfos provides coating for applications such as brackish water, sea water <25 °C and sea water between 25 °C and 65 °C. In addition to the internal coating on wetted parts, all coated pumps have two layers of external paint, providing a corrosion category of C4-M (or other categories).

When you buy a pump coated for sea water with a temperature less than 25 °C, you get a solution that is fully resistant to the application at an attractive cost.

This solution is about the same price level as a 1.4408 stainless pump but less expensive than the duplex quality 1.4517. Seen from the resistance perspective, you will have an RCR on at least the same level as a 1.4517 pump would provide.



The outcome

The collaboration between Lerøy Belsvik and Grundfos delivered measurable improvements across the facility's water management system. By replacing 100 outdated return pumps with high-efficiency NB Duplex pumps, Lerøy restored critical water flow, stabilised operating conditions and improved overall process performance.

Measurements showed an average 24% increase in water flow in the Pres-molt tank system, increasing from 1,787 m³/h to 2,207 m³/h. The improved flow contributed to more stable sump levels, better water pressure and enhanced biofilter performance, supporting more efficient water treatment throughout the facility.

In addition to improving system performance, the pump modernisation supports Lerøy's ambition to operate more efficiently by utilising modern high-efficiency pump technology that helps optimise energy use while improving reliability and process stability.

*Image: NB Duplex pumps at
Lerøy Belsvik, Hellandsjøen, Norway*



Grundfos Holding A/S
Poul Due Jensens Vej 7
DK-8850 Bjerringbro
Tel: +45 87 50 14 00
www.grundfos.com

GRUNDFOS 