

Best practice

Precise fish feed weighing on the high sea



The Norwegian company Aqua Shipping sought a new way of optimising processes by relocating fish feed weighing from land to sea. For a reliable, precise weighing solution, products from Minebea Intec were brought on board.

Key facts

Aqua Shipping supplies its Norwegian fish farms with special feed by sea. In the past, the feed was filled on shore in big bags, weighed and then transported by ship to the floating fish farm. New silo ships now go directly to the farm and fill up there.

Application

For precise traceable weighing of the feed, load cells were installed under the silos. For each silo, a weighing indicator transmits the measurement signals to a PC, which simultaneously corrects the gravitational constant via GPS.

Products

- Load cells PR 6201
- Weighing indicator X3

Benefits for the customer

Aqua Shipping achieved the desired process optimisation with the weighing solution by Minebea Intec:

- maximum reliability with German Quality
- precise measurement results for an exact account of the load
- optimum protection against waterlogging, frost and salt

Customer

With over two decades of experience in the international export market, Aqua Shipping delivers high-quality seafood of Norwegian origin to places all over the world. This mainly includes unprocessed and semi-processed fish such as stockfish, but also pre-prepared meals.



Project goal and implementation

The Norwegian supplier of fish and seafood Aqua Shipping sought to optimise its processes in the field of fish farm logistics. In the past, the storage, filling of and accounting for fish feed took place on land. The fish feed was transported by a freighter to a logistics base on land, unloaded on conveyor belts and filled into silos with the aid of a nozzle, before being filled into big bags, weighed and transported on a transport ship to the fish farms on the high seas.

The plan to fill and deliver fish feed directly on the spot – on the high seas – and not via land, was a challenge in many respects. The Danish company Fjordvejs Maskinfabrik A/S designed a special freighter with several silos. A large number of security aspects were taken into account in the process. Among other things, wishbones and hydraulic cylinders stabilise the silos during the voyage to prevent the cargo from slipping at sea. For more stability in rough seas, water is pumped into chambers specially designed for this purpose while the fish feed is unloaded.

High demands were also placed on the weighing solution. Fjordvejs Maskinfabrik brought the Minebea Intec Sales Partner Global Weighing A/S into the project, which opted for load cells and weighing electronics by Minebea Intec: the PR 6201 load cell distinguishes itself particularly through its reliability and precise measurement results. Together with the X3 weighing indicator, the load cells provide a durable solution – even in challenging environments.

“Minebea Intec is a reliable partner for us in industrial weighing – especially because of the quality of technical advice. The products are reliable, precise and distinguish themselves by their long service life. Perfect for complex applications in challenging environments.”

*Thyge Samuelson,
CEO Global Weighing A/S*

An important parameter of the project was the calibration of the silo scale by the Norwegian Metrology Institute. The Norwegian Metrology Institute was concerned that the position of the ship – at alternating latitudes – could influence the measurement result of the weighing solution. Global Weighing solved the problem by using a PC with GPS to correct the gravitational constant on board and thus ensure the reliability of the measurement results. The silo scale was then calibrated on the ship with weights of up to 300 tonnes and then successfully approved by the Norwegian Metrology Institute.



The silo scales were calibrated on the ship with weights of up to 300 tonnes



Six load cells were installed under each silo, with capacities of up to 75 tonnes



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