



SUCCESS STORY ALLSEAS (NL)

Full Steam ahead: Heading for sustainability with RetroFIT+.

Making new waves with Belimo Energy Valves

Allseas is a global leader in the offshore energy sector, specialising in the planning and implementation of large and complex projects in four areas: pipeline installation, heavy-lift crane operations, deep-sea mining of manganese nodules, and waste removal from rivers. Ever since it was founded in 1985, Allseas has been promoting pioneering changes in the sector. With its giant ship "Pioneering Spirit", which was commissioned in 2015, Allseas is setting new standards: It can lift offshore platforms weighing up to 60,000 tons in one piece.

To ensure sustainable operation and optimum room comfort for the up to 500 employees on each ship, the heating/cooling systems of the Allseas' fleet are gradually being equipped with Belimo Energy Valves. This targeted Belimo RetroFIT+ measure can save up to 300 kW of current per ship every hour.

BUILDING TYPE

Ships

PROJECT

RetroFIT+

TRADES

Heating and Cooling

PRODUCTS

Belimo Energy Valves

BELIMO[®]

Anchors away for innovation and sustainability.

Allseas' slogan, "Dare to pioneer", applies not only to large projects, but also to smaller initiatives such as sustainability measures on its ships. "In shipping, reliability was always the primary concern," says Taco Straathof, sustainability engineer at Allseas. "But now reliability and sustainability must be of equal importance in view of the climate challenges we are facing today. The implementation of the Belimo Energy Valve™ in our air conditioning systems is a great example of this," adds Straathof.

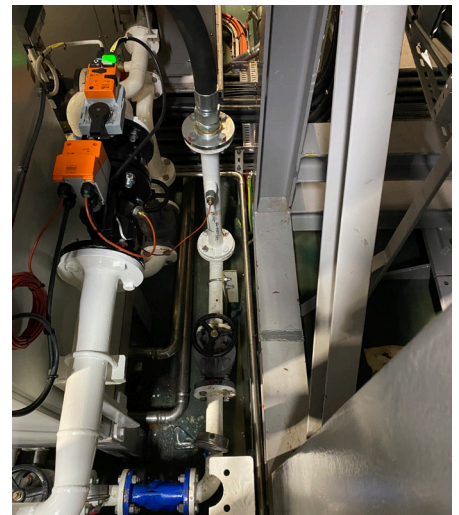
The heating and cooling system on the ships was generally outdated, as was the case on the "Lorelay": "In its original configuration, cold water was continuously pumped through at maximum power," explains Straathof. "The system was designed for extreme conditions, such as high air humidity in Malaysia or high outside temperatures in Australia, where large cooling capacities are required. However, this approach resulted in massive energy consumption, particularly when the ship was subsequently operated in cooler regions such as the North Sea. We wanted to change this and, at the same time, expand the capacity of the air conditioning system on the "Lorelay" by around 30% without fundamentally overhauling the entire chilled water system. Precise control and monitoring of the flow of water were essential for this."

The "Lorelay", like other ships in the Allseas fleet, originally had a static 3-way system with a constant flow rate. "If you connect additional consumers to such a system, the balance has to be adjusted manually. It is necessary to measure the flow of water for every consumer and readjust the static valves, because the flow rates influence each other," explains Straathof. Working together with Belimo, the 3-way system was converted to a 2-way system with Belimo Energy Valves. An important prerequisite was the integration of a frequency-controlled pump that enables flexible adjustment of the flow of water.

The air conditioning of the "Lorelay" is now based on a pressure-controlled system in which the 2-way valves precisely regulate the flow of water. If the consumers require less water, the pump can run more slowly, thereby drastically reducing current consumption. Straathof continues: "We have already been able to reduce the pump frequency from 60 to 45 Hertz, which means considerable energy savings."



In consultation with Allseas, the 3-way system was optimised and converted to a 2-way system with Belimo Energy Valves.



With the RetroFIT+ approach, Belimo and Allseas have paved the way for more sustainable shipping.

Small device, big impact

The latest generation of Belimo Energy Valve™ combines numerous functions in a single unit, including energy data recording, electronic pressure control, and power monitoring, along with both delta T and delta P control. Thanks to this intelligent control system, data such as supply and return temperatures, flow rates, energy consumption, and pressure differences can be recorded in real time. This not only enables optimum remote monitoring and control, but also further energy savings. The Belimo Energy Valve™ also enables centralised control of the valves via a network. "However, we deliberately opted for a hybrid solution: Every valve is controlled locally, meaning that the system will continue to function, even in the event of a network failure. We use the network connection exclusively for data collection and for adjusting the settings," explains Straathof.

A valuable partnership

Straathof looks back with satisfaction on the collaboration with Belimo: "Thanks to Belimo's technical expertise and willingness to solve our challenges creatively, we were quickly able to make significant progress. This proactive support was crucial for the successful implementation of Belimo Energy Valves in our systems. The partnership with Belimo allows us to integrate innovative technologies efficiently into our systems and to pave the way for sustainable shipping."

Following the successful completion of the RetroFIT+ optimisation on the "Lorelay" and the "Sandpiper", Allseas is planning similar measures on other ships. "On the 'Pioneering Spirit', a central cooling system is being optimised that had previously been run continuously at maximum power. By using the Belimo Energy Valves, we expect to reduce hourly energy consumption by around 300 kW," explains Straathof. "We have already been given the green light to order an additional 160 Belimo Energy Valves, which will bring the total number of valves in this system to 174." New valves are also being integrated on other ships to further increase efficiency.

The integration of the Belimo Energy Valves and the RetroFIT+ optimisations on the Allseas' ships are a prime example of the combination of reliability and sustainability in shipping. With precise control and comprehensive data collection, Allseas is not only setting new standards in terms of energy efficiency, but is also strengthening its position as a pioneer in the offshore sector.



Thanks to Belimo RetroFIT+ measures on the "Lorelay" (top) and the "Sandpiper" (bottom), Allseas is recording low current consumption and ensuring optimum comfort for its employees. Retrofits of other ships are already in the planning stages.

All-inclusive.

Belimo as a global market leader develops innovative solutions for the controlling of heating, ventilation and air conditioning systems. The focus of our core business is on damper actuators, control valves and sensors and meters.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range of actuator and sensor solutions for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries furthermore ensure short delivery times and comprehensive support throughout the entire product life. Belimo does indeed include everything.

The "small" Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance.

In short: Small devices, big impact.



5-year warranty



On site around the globe



Complete product range



Tested quality



Short delivery times



Comprehensive support



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