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Demonstrated reliability secures another repeat order for Alfa Laval's PureSO_x

As the marine industry struggles to prepare for 2015 and the first wave of sulphur emission limits, Alfa Laval technology is proving its worth. Following a similar order from DFDS earlier in 2013, a repeat order for PureSO_x was placed by Dutch ship owner Spliethoff near the end of the year. The order confirms not only the commercial viability of the exhaust gas cleaning system, but also customer confidence in the system's performance within Emission Control Areas (ECAs).

Signed in November, the order from Spliethoff comprises PureSO_x systems for five Con-Ro vessels. The vessels will be retrofitted between June and December of 2014.

PureSO_x is a hybrid scrubber system, able to operate with either seawater or fresh water. And while the technology is relatively new, it has been demonstrated to reduce sulphur content in vessel exhaust by more than 98%. "This is the true significance of the order," says René Diks, Manager Marketing & Sales, Exhaust Gas Cleaning at Alfa Laval. "The five new systems are a vote of confidence from Spliethoff, given after observing PureSO_x during thousands of hours of actual use."

An order based on real-world experience

Spliethoff, one of the largest ship owners in the Netherlands, has been operating with PureSO_x aboard the M/V Plyca. Alfa Laval delivered the system in 2012, and it has been in continuous use aboard the vessel ever since it was installed. Sailing within the North European ECA, the M/V Plyca has logged more than 6000 hours in full compliance with the new IMO regulations.

"As a frontrunner with the M/V Plyca, we've gained a lot of practical experience with scrubber technology," says Frank Louwers, Director of Spliethoff. "The PureSO_x system works well, and

we're convinced that scrubbers are the right way to proceed in complying with upcoming legislation.”

Cleaning exhaust from multiple engines

The PureSO_x system installed aboard the M/V Plyca is a multiple-inlet system, able to clean the exhaust gas from both the main and auxiliary engines. The same will be true for the deliveries in the new order. Each will serve four Wärtsilä engines with a combined power of 28 MW, handling an exhaust gas mass flow of 132,000 kg/h.

Spliethoff's experience with the multiple-inlet installation aboard the M/V Plyca is that it is both efficient and reliable. As Diks explains, this can be expected no matter how many of the inlets are used at a given time. “With PureSO_x, we've established very effective means of closing off the pathways from engines that aren't in use,” he says.

Centrifugal separation – a key to success

Another area where PureSO_x has proven effective is the cleaning of the scrubber wash water. PureSO_x saves on caustic soda and fresh water by operating in an open loop with seawater. But in low-alkalinity waters or in harbours and other areas where discharge is strictly regulated, a closed loop with fresh water is an alternative.

The fresh water in a closed loop must be cleaned, which has proven an Achilles heel for many exhaust gas cleaning systems. The roll and pitch of rough seas, for example, can make it difficult for filtering, settling or flocculation processes to manage their job. In PureSO_x, however, Alfa Laval's expertise in high-speed centrifugal separation has provided an answer.

“Alfa Laval's PureSO_x H₂O water cleaning unit reliably cleans wash water to within IMO discharge limits, which makes it a key component of the PureSO_x technology,” says Diks. “Despite having a century of experience in centrifugal separation, it took us three years to perfect the separator at its heart. So any supplier without that experience faces an uphill battle to perfect closed-loop operation by 2015.”

Looking ahead with confidence

Spliethoff is convinced by the results already seen with PureSO_x, both in closed-loop and open-loop operation. And in managing the new requirements of 2015 effectively, the ship

owner sees great benefit in the operating flexibility of a hybrid scrubber.

For Alfa Laval, confidence and flexibility in meeting emission limits are a major focus as the Alfa Laval Test & Training Centre now opens its doors. “At our new centre in Aalborg, Denmark, exhaust gas cleaning solutions take pride of place,” says Diks. “As customers see what we can achieve, either in onboard installations or at the test centre, I think more of them will share the belief and experience of Spliethoff and DFDS, namely that IMO limits can be met – reliably, cost-effectively and in time for 2015.”

To learn more about PureSO_x and Alfa Laval's approach to exhaust gas cleaning, visit www.alfalaval.com/marine

To see a short movie showing actual footage of the installation process on-board the M/V Plyca during its dry dock in 2012, visit <http://www.youtube.com/watch?v=Nc4oVodo3NY&feature=youtu.be>

Editor's notes

About Alfa Laval

Alfa Laval is a leading global provider of specialized products and engineering solutions based on its key technologies of heat transfer, separation and fluid handling.

The company's equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. The solutions help them to heat, cool, separate and transport products in industries that produce food and beverages, chemicals and petrochemicals, pharmaceuticals, starch, sugar and ethanol.

Alfa Laval's products are also used in power plants, aboard ships, in the mechanical engineering industry, in the mining industry and for wastewater treatment, as well as for comfort climate and refrigeration applications.

Alfa Laval's worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena.

Alfa Laval is listed on Nasdaq OMX, and, in 2012, posted annual sales of about SEK 29.8 billion (approx. 3.5 billion Euros). The company has today about 16,400 employees.

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