Gas operations commence at the newly expanded Alfa Laval Test & Training Centre

**On 1 March 2017, marine customers and industry representatives gathered at the Alfa Laval Test & Training Centre in Aalborg, Denmark for the opening of the expansion into gas testing. The expansion, which extends the testing space to five times its original size, makes this the world’s most advanced test centre for environmental and combustion technology – regardless of fuel type.**

Since its inauguration in 2014, the Alfa Laval Test & Training Centre has been a hub of Alfa Laval research and development in exhaust gas cleaning, ballast water treatment, steam production, fuel cleaning and other key areas. Its original 250 m3 testing space is essentially a full-size machine room on land, equipped with Alfa Laval products that are installed and integrated into major process lines around a 2 MW marine engine.

Now a further 1100 m3 have been added to focus on combustion technologies for gas and other fuel alternatives. Among the new equipment are burner systems, inert gas systems and also the Alfa Laval Gas Combustion Unit (GCU), which is installed at the centre in full scale.

“Our investment in the Alfa Laval Test & Training Centre reflects the extraordinary changes we see in the marine industry,” says Peter Leifland, President of Alfa Laval’s Marine Division. “Tightening emissions legislation is driving many customers from residual fuels towards LNG and other alternatives. As a comprehensive marine supplier, we must be at the cutting edge in supporting our customers, no matter what fuel they choose.”

**New solutions vital for wider gas operations**

Already today, Alfa Laval has a substantial portfolio of solutions for gas as fuel and gas as cargo. It includes Alfa Laval Aalborg dual-fuel boiler systems, the Alfa Laval FCM One Gas booster system, Alfa Laval Smit inert gas systems and the Alfa Laval GCU, as well as a complete range of heat exchangers for working gas at different pressures. Yet even more will be required in the very near future.

“Within 15 years, it is expected that thousands of vessels will be sailing with LNG as fuel, compared to the hundreds using gas today,” says Lars Skytte Jorgensen, Vice President, Alfa Laval Product Centre Boilers. “We can clearly see emission regulations driving the trend. But the success of the transition will depend in large part on advanced technology, much of which has yet to be developed.”

In the newly expanded Alfa Laval Test & Training Centre, that development is already underway. Alfa Laval is currently testing a new dual-fuel burner for gas-diesel applications on smaller boilers, which will later be developed into a multi-fuel solution in partnership with the Danish Technical University in Copenhagen. Elsewhere in the centre, a development project is running for large burners and boilers, involving comprehensive tests with both gas and diesel flames. The GCU, as well, will be subjected to test flame and heat flow characteristics in different conditions and this way identify possibilities for improving performance even further.

**A large measure of commitment**

The GCU itself provides some idea of scale when it comes to Alfa Laval’s investment in the centre’s gas expansion. Designed to deal with LNG boil-off gas in a safe, reliable and environmentally responsible manner, the GCU measures 23 m from bottom to top and can burn up to 4.5 tonnes of LNG per hour – the rough equivalent of 60 MW. To enable indoor work with the unit, extensive preparations were necessary.

“The GCU fans move 458 cubic metres of air per hour at full load, so automatic systems connect its control with the large doors of the facility, which must be open during operation,” says Lars Skytte Jorgensen

**Faster and better innovation for a changing industry**

The costs of investing in the centre, however, are far outweighed by the benefits according to Peter Leifland. “After just three years of operation, we can point to many areas where the Alfa Laval Test & Training Centre has accelerated our R&D and improved its quality,” he says. “Exhaust gas cleaning, where our Alfa Laval PureSOx platform is fully ready for the 2020 global sulphur cap, is just one example.”

Both in meeting new regulations and in paving the way for gas, the centre’s technological edge will be vital in bringing customers the most environmental and energy-efficient solutions. “The rate of change in marine legislation is increasing, and ship owners and operators are forced to keep in step,” Leifland concludes. “With the expanded capabilities of the Alfa Laval Test & Training Centre, we will ensure that onboard technologies are ready to meet their technical challenges – whether the fuel is diesel, gas or something else altogether.”

To learn more about the Alfa Laval Test & Training Centre and Alfa Laval’s approach to gas solutions, visit www.alfalaval.com/marine

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**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, oil and gas exploration, 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’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 2016, posted annual sales of about SEK 35.6 billion (approx. 3.77 billion Euros). The company has about 17 000 employees.

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