Editorial

November 2017

# UV ballast water treatment systems highly competitive for large flows

**Recent market developments show a shift in thinking when it comes to ballast water treatment systems for tankers and other large vessels. Today more and more ship owners see advantages in choosing UV ballast water treatment over electrochlorination for large flows, even with respect to power consumption and footprint.**

The idea that electrochlorination is more suitable for large flows than UV technology has persisted since the early days of ballast water treatment. Indeed, the first generations of UV treatment systems were often larger and more power-intensive. But modern systems such as Alfa Laval PureBallast 3.1 are changing this preconception.

UV treatment systems now compete easily on power and footprint parameters, even at flows of 1500–3000 $m^3$/h or above. As a result, their simplicity and lower operating costs are tipping the balance in major projects. Earlier this year, for example, Alfa Laval signed a deal to supply multiple vessels with PureBallast 3.1 systems for 3000 $m^3$/h.

**Power and footprint on equal footing**

As many ship owners have realized, the power consumption of today's UV and electrochlorination systems is similar in practice. Electrochlorination systems are dependent on seawater temperature and salinity, which means they use considerably more power in low-temperature or low-salinity conditions. PureBallast 3.1, as well as having effective power management, is certified for all water types and is completely unaffected by temperature or salinity.

In terms of footprint, UV systems can actually be smaller than electrochlorination systems. With a range of four different reactor sizes, PureBallast 3.1 can be optimally configured to match the vessel and its ballast water flow. In part because no heaters or major auxiliaries are needed, UV systems are also easier and less costly to install.

**Operational advantages with UV technology**

When power consumption and footprint are largely equivalent, the additional advantages of UV treatment become compelling arguments. With no chemical dosing or active substances to store and manage, UV treatment systems are safer and easier for the crew to operate. Likewise, they require no measures to prevent corrosion or neutralize residual oxidants. In total, such factors mean less risk, less maintenance and less operating cost for the vessel.

**Making an informed decision**

Given the advances of recent years and the complexity of ballast water management, ship owners are wise to inform themselves about the current capabilities of ballast water treatment systems. “Making sense of ballast water management”, a comprehensive guide that includes detailed evaluations of both UV and electrochlorination technologies, is available from Alfa Laval at the following link: http://www.alfalaval.com/pureballast/knowledge/

To learn more about Alfa Laval PureBallast 3.1 and Alfa Laval’s approach to ballast water treatment, visit www.alfalaval.com/pureballast

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**Editor’s notes**

About Alfa Laval PureBallast

PureBallast, which was the first commercially available ballast water treatment system, is a chemical-free system sold and serviced by Alfa Laval. A vital component of the system is the Enhanced UV Reactor, which was developed jointly by Alfa Laval and Wallenius Water based on Wallenius Water Technology.

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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