

PRESS RELEASE

MS BREMEN receives a UV ballast water system from Zeppelin Power Systems

Hamburg, November 2, 2016. Zeppelin Power Systems has installed an Optimarin ballast water treatment system (OBS) on board the MS BREMEN, on behalf of shipping company Hapag-Lloyd Cruises. The BREMEN is the third Hapag-Lloyd Cruises cruise ship to be fitted with an OBS, following MS EUROPA and MS HANSEATIC.

The environmentally-friendly ballast water system from Optimarin meets the IMO D2 standard and therefore enables vessels to sail to all regions, even those with particularly sensitive ecosystems such as the Arctic and Antarctic. As a result, Hapag-Lloyd Cruises already complies with IMO international standards which will apply from September 2017 for the treatment of ballast water.

By choosing to invest in the OBS 125-FS, the shipping company has opted for sustainable operation for the expedition cruise ship, with a resource-efficient, environmentally-friendly system that helps to protect our ecosystems.

Following successful onshore and offshore testing, the Norwegian BWT manufacturer Optimarin became the first company worldwide to request United States Coast Guard type approval in September 2016 for its environmentally-friendly OBS. Approval is expected by the end of 2016.

UV treatment for ballast water – low-maintenance and cost-efficient

The OBS 125-FS is designed for a maximum volume flow of 125 m³ per hour for ballast. The ballast water is first filtered and then treated effectively using a single medium-pressure UV light with a broad energy spectrum. Ballast water is treated reliably without the use of chemicals or biocides, and therefore helps to protect ecosystems. A self-cleaning effect is achieved through high surface temperatures of up to 800 °C on the quartz glass – as a result, there is no longer a need for cleaning modules, wiper systems or skimmers.

At the shipping company's request, the system was installed with an additional remote panel so that it can be easily operated from the bridge.

Installation in parallel with planned dock times

During the project, Hapag-Lloyd Cruises was able to rely on Zeppelin Power Systems, who provided a full end-to-end service from selecting the components and liaising with the classification institute DNV GL, to preparing all documentation. To achieve this, Zeppelin Power Systems used the docking time planned for general ship maintenance work and

renovations.

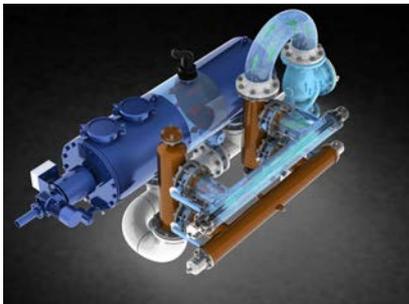
Ballast water convention enters into force in 2017

Zeppelin Power Systems has been an official partner to Optimarin, one of the largest providers of ballast water systems, since 2014. The company has been active in the market since 2000 and since then has sold more than 600 systems, 250 of which have already been installed, and the remainder are part of fleet contracts. With more than 100 refitted BWTS, Optimarin is one of the leading providers in the retrofitting sector. The systems meet the IMO D2 standard and therefore the requirements for all conventional marine classification companies.

The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention of the IMO) has been ratified and enters into force on September 8, 2017. This is the last date for all new ships to have a recognized ballast water system on board. The existing 40,000 plus ships worldwide must be retrofitted within five years. With the recent accession of Panama, 53 states, and therefore 53.28% of the worldwide commercial tonnage, have signed the Convention.

Images:

Caption: Ballast water treatment system OBS 125-FS.



Caption: The MS Bremen is equipped with an Optimarin ballast water system. Photos: Hapag-Lloyd Cruises



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About Zeppelin Power Systems

Zeppelin Power Systems is the official partner of Caterpillar for Cat, MaK and EMD engines and a leading provider of drive, propulsion, traction and energy systems and has been partnering with Caterpillar for 60 years. With about 800 employees, Zeppelin Power Systems offers their customers individual, highly efficient system solutions with comprehensive services for industrial and marine applications, the oil and gas industry, rail vehicles and power generation.

About Zeppelin GmbH

The Zeppelin Group operates 190 sites around the world. In the 2015 fiscal year, its 7,800 employees generated sales of over 2.3 billion euros. Group-wide collaboration in the Zeppelin Group revolves around a management holding company and six strategic business units: Construction Equipment EU (sales and servicing of construction machines), Construction Equipment CIS (sales and servicing of construction and agricultural machines), Rental (rental and project solutions for the construction and industry sectors), Power Systems (drive, propulsion, traction, and energy systems) and Plant Engineering (engineering and plant engineering) as well as Digital Services and Solutions (new digital business models). Zeppelin GmbH is the Group holding company. It is legally domiciled in Friedrichshafen and has its head office in Garching near Munich, Germany. For more information, please visit www.zeppelin.com.

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