

October 2018

Alfa Laval's groundbreaking HCO filter technology has been approved by MAN Diesel & Turbo



Alfa Laval Moatti 290 filter



The Alfa Laval Moatti 290 filter for hydraulic control oil (HCO) has now been approved by MAN Diesel & Turbo on its modern two-stroke engines. The decision follows validation tests aboard four Stena Bulk IMOIIIMAX vessels, where the HCO filter's performance has exceeded all expectations.

The Alfa Laval Moatti 290 filter is a high-performance solution suited to the new generation of MAN Diesel & Turbo two-stroke engines, in which hydraulic control systems have replaced traditional camshafts. The valves of these systems are actuated by a small flow of lube oil, which must be very finely filtered without creating additional pressure drop. The new filter achieves this using Alfa Laval Atrium technology, which provides a tremendous increase in filtering surface within a compact space.

The Alfa Laval filter has now been approved based on the results seen on four Stena Bulk vessels. “We are extremely proud to have the Alfa Laval Moatti 290 filter validated for use with HCO systems,” says Herve Gourdon, Business Manager, Filters at Alfa Laval. “This is the culmination of 10 years of intense cooperation, development and testing.”

Outstanding performance at sea

Alfa Laval began discussing the filter with MAN Diesel & Turbo in 2008, when the engine manufacturer started its transition from camshafts to hydraulic control systems. The fine HCO filtration required by the engine design demanded an entirely new filter technology. Alfa Laval's prototype HCO filter, presented in 2014, spent over 24,000 hours in concept testing aboard the Suezmax crude oil tanker Stena Suède.

“After almost two years of operation on Stena Suède, we tested the finalized design for 3000 hours on three other vessels,” says Gourdon. “MAN Diesel & Turbo approval was issued when the first vessel passed that mark, acknowledging our filter's performance with hydraulic control oil.”

Meeting MAN Diesel & Turbo and cleanliness demands

The Alfa Laval Moatti 290 filter is built to the most recent MAN Diesel & Turbo recommendations, which require both an automatic filter and a redundant filter with high enough efficiency to retain particles of 6 µm and below. These are incorporated into the same frame, with a specially designed changeover valve to prevent any leakage during maintenance. “Alfa Laval makes sure to stay on top of changing engine maker specifications,” says Gourdon. “Our HCO filter reflects the latest developments and eliminates the need for any disposable filter.”

The redundant filter, which is manually cleanable, can be used not only during maintenance, but also for initial oil cleaning or when new oil is added into the system. It is not used, however, to clean the small flow of oil that provides continuous backflushing. Instead, this flow is cleaned in a diversion chamber before it is returned to the sump. “Our solution is designed so that the redundant filter is not continuously employed, for example to treat the backflush,” Gourdon explains. “Rather, the redundant filter is fully separated in order to ensure it will be fully operational in the case of emergency.”

Easy installation combined with low cost of ownership

The continuous backflushing of the Alfa Laval Moatti 290 filter is driven by the pressure of the oil itself. This means no electricity or air supply is needed, which is one of several ways the filter simplifies installation. Because backflushing is performed in the automatic filter stage, with a cleanable surface-filter cartridge used to provide redundancy, reliance on disposable filters is eliminated.

“Ship owners are looking for an economical long-term solution, rather than a quick fix,” says Gourdon. “Disposable filter elements add up to a significant cost over time, whereas components in the Alfa Laval Moatti 290 filter can be removed for cleaning and simply put back into operation. Combined with the reliability achieved by continuous backflushing, that means a lower operating cost for the filter overall.”

At present, the Alfa Laval Moatti 290 filter covers the vast majority of MAN Diesel & Turbo two-stroke engines, with focus on the more common mid-range sizes. Coverage for the very largest and smallest engines will follow.

“Having both MAN Diesel & Turbo approval and extremely successful results to present, we’re looking forward to discussing the Alfa Laval Moatti 290 filter directly with customers,” says Gourdon.

To learn more about the Alfa Laval Moatti 290 filter and Alfa Laval’s approach to HCO filtration, visit www.alfalaval.nl/290-filter

Specific enquiries by e-mail can be directed to: 290.filter@alfalaval.com

For further information, please contact:

Heleen van Hout
Marketing Communication Coordinator
Phone: +31 (0)76 57 91 210
E-mail: heleen.vanhout@alfalaval.com

You can also stay up-to-date with marine industry news at Alfa Laval by visiting the [Marine Division’s LinkedIn page](#).

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.

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