



Alfa Laval filter upgrade protects engine from catalytic fines 10 microns or less in size

China Shipping Tanker Company Limited, China

Case story



To protect ship engines from catalytic fines, CS Tanker upgraded to Alfa Laval FM-152-DE filters on five of its tankers.

Based on updated recommendations from its marine diesel engine manufacturers, China Shipping Tanker Company Ltd. decided to upgrade its current fuel oil filters to 10-micron filters for better protection against pollutants such as catalytic fines. After reviewing tenders from four manufacturers, CS Tanker chose long-time partner Alfa Laval. The filter of choice to improve engine performance, prevent engine wear and reduce maintenance requirements? The Alfa Laval FM-152-DE filter range for effective full-flow filtration of fuel oil (FO), heavy fuel oil (HFO) and marine diesel oils.

Headquartered in Shanghai, CS Tanker is a major global independent tanker owner and one of China's largest water-way transporters of oil for domestic and foreign companies. Each year, the company transports over 80 million tons of oil each year on some 60 vessels – to and from more than 100 countries worldwide.

CS Tanker prides itself on quality, safety and environmental stewardship so upgrading its fuel oil filtration system was high on the company agenda. Based on the company's positive experience in upgrading its fuel oil filtration system

on its crude oil tanker, Ye Chi, CS Tanker selected Alfa Laval to replace its 35-micron fuel oil filters from another maker with Alfa Laval FM-152-DE filters to remove catalytic fines of 10 microns or less in size on four additional tankers. CS Tanker also enjoys the outstanding performance and low maintenance requirements of Alfa Laval separators, freshwater generators, and fuel conditioning modules on board several other of its oil tankers.

Minimal investment, maximum engine uptime

There are many reasons why CS Tanker chose the Alfa Laval FM-152-DE filter range. Among them are minimal investment and maximum engine uptime as well as superior performance, low wear and tear, and durability and reliability.

"Full-flow filtration is an important aspect of protecting our vessel's engines and ensuring safe, environmentally sound operation," notes says Mr. Wang, Technical Supervisor at CS Tanker. "The Alfa Laval FM-152-DE filter range goes a long way in ensuring that we comply with IMO regulations and engine maker recommendations. Using these filters helps us optimize engine performance while at the same time reducing maintenance."



The Alfa Laval FM-152-DE filter.

Proven reliability

Reliability is the key for continuous operation. CS Tanker was familiar with the Alfa Laval FM-152-DE filter range delivered with Alfa Laval Fuel Conditioning Modules used on board some of its vessels due to a recent upgrade of its fuel oil filters. With its start-and-forget operation, robust mechanical design and rigid triple mesh elements, the Alfa Laval FM-152-DE filter range delivered on its promise of optimal filtration and minimal maintenance requirements. CS Tanker decided to upgrade the fuel oil filtration systems based on the filter's proven performance on four additional oil tankers: the Zun Yi Tan, the Lu Ding Tan, the Rui Jin Tan and the Li Ping Tan.

20% smaller footprint

Alfa Laval fuel oil filters pack a lot of value into a small footprint. Its robust, space-saving design makes these filters easy to install whether designing a new installation or upgrading an existing one.

The Alfa Laval FM-152-DE filter range takes up about 20% less space than the existing filters on CS Tanker vessels.

What's more, the Alfa Laval fuel oil filter has a built-in diversion chamber that acts as a second automatic filter, cleaning the backflushed oil. As such, the filtered backflushed oil can be recirculated into the engine fuel line, thereby minimizing oil losses.

Comparable filter solutions often do not include self-cleaning features and therefore require:

- additional equipment, such as a separate sludge treatment unit
- consumables purchased to handle the oily waste, and
- frequent maintenance.

Smooth and successive upgrading

To date, the Alfa Laval FM-152-DE filters have been installed and commissioned on three of the four CS Tanker vessels slated for upgrading. Not only did Alfa Laval provide engineering services to retrofit the fuel oil filter systems on these vessels, but also provided installation supervision and commissioning services on the Zun Yi Tan. CS Tanker's Mr. Wang then was in close contact with Alfa Laval experts while handling the installation and commissioning of the upgraded filters on the Lu Ding Tan and Rui Jin Tan.

The upgrade process had been smooth, and the fourth filter retrofit is scheduled to take place on the Li Ping Tan soon.

Savings in time and money

The new Alfa Laval FM-152-DE filter range have provided CS Tanker with long-lasting engine performance, highly efficient sludge removal and low life cycle costs.

“With Alfa Laval filters, we have finer 10-micron fuel oil filtration that meets engine maker recommendations.”

– Mr. Wang, Technical Supervisor at CS Tanker

“We also have a compact and reliable solution that requires very little attention from our crew,” says Mr. Wang. “This saves us time and money in the long run.”

How to contact Alfa Laval

Contact details for all countries are continually updated on our web site. Please visit www.alfalaval.com to access the information direct.