

# Filtration Group application example – Separation Technology

## Fuel treatment for diesel engines - KFWA



Marine Industry

### Initial situation

Large common-rail engines of the latest generation require highly efficient filtration and dewatering of the supplied fuel. While the first generation of these engines worked at 1,000 bar, the latest generation of engines reach pressures of up to 2,500 bar. For the operation of engines with common-rail injection systems, high demands are placed on fuel quality ahead of high-pressure pumps and injectors. Particles and water in the fuel reduce the operating times of the main engine filters. Our customer is one of the world's leading manufacturers of large diesel engines. He confirmed the excellent suitability of the newly developed FG coalescer filter elements in long test series on various ships.

### Solution statement

- The KFWA system is used for dewatering fuels and for simultaneous filtration according to the latest ISO standard
- Flexible configuration of system components according to customer requirements
- KFWA systems are designed for use between bunker and day tank as well as directly in front of an engine
- Filtration Group supplies NATO and other Navies in all their complexity
- For the technically and economically optimal design of the systems, Filtration Group offers constructive adaptations to the engine room design for a smooth installation on board.



### Customer value

- High operational safety
- Mature technology and robust design
- Safe, fully automatic filtration and water separation
- Filtration and water separation in one system
- Residual water content less than 70 ppm free water content and thus significantly more efficient than conventional treatment systems
- Worldwide distribution and service by Filtration Group



### Challenge

The system developed by Filtration Group is a device for the filtration and dewatering of diesel fuels. The KFWA dewaterers and filters diesel fuels highly efficiently and protects the injection system of a common rail diesel engine from the dreaded corrosion phenomena. A feed pump and a separator are supplied with this system. The evacuation of the separated water is fully automatic, the separator is additionally monitored for differential pressure.

#### Information

On ships, fuel contamination is often caused by tank ventilation and an already contaminated fuel. Increased water content leads to corrosion in the high-pressure pumps and injectors, which significantly reduces their service life. Since microorganisms can only survive in an environment with fuel and water, the concentration of free water must be reduced **to below 70 ppm**.



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