



PrimeServ retrofit

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Diesel Switch Eliminates Fuel Changeover Problems

New legislation prompts growing interest in retrofit

With the recent introduction of stringent environmental regulations, such as those from the IMO, ship owners and operators are increasingly obliged to operate their MAN B&W two-stroke main engines on ultra-low sulphur fuels in defined marine zones. Furthermore, CARB (the Californian Air Resource Board) has enforced the use of diesel oils (MDO) or gas oils (MGO) in Californian waters since 1 July, 2009, while European harbours introduced similar requirements at the start of 2010. These new requirements ultimately mean more frequent, running changeovers in fuel type aboard marine vessels.

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When entering/leaving such defined marine zones, the changeover from preheated HFO to cold MDO/MGO and vice versa represents a risk for fuel-pump sticking or seizure if not performed properly due to the very small clearances within fuel pumps. In response, MAN Diesel & Turbo has developed the Diesel Switch, building on its own patent, to handle this fuel changeover in a controlled way and avoid rapid temperature deviations and fuel-pump seizures.

In particular, the changeover between HFO and distillate fuels can be problematic for fuel equipment, with a high degree of automation necessary to avoid negative incidents. The Diesel Switch ensures the necessary flexibility and safety when changing between HFO and MDO/MGO and comes in two variants: for retrofits and newbuildings.

The Diesel Switch principle

While MAN Diesel & Turbo currently recommends vessels to reduce loads to 25-40% before changing fuel type, the Diesel Switch retrofit enables a controlled and safe changeover independent of engine load. It does this through continuously checking temperature versus time. If the fuel temperature at the engine inlet exceeds 2 degrees/minute, the Diesel Switch emits an alarm and automatically halts the changeover process.

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The Diesel Switch also logs the entire changeover process for subsequent use as official documentation for port authorities if required.

The Diesel Switch hardware is controlled by a touch-screen control panel and has software to operate an MGO cooler to adjust fuel temperatures. The changeover valve uses magnetic couples that dispense with mechanical seals and are 100% leak-proof. It also has integrated sensors for detecting current and end positions. As back-up, the entire system has a manual override.



The Diesel Switch changeover valve

Press Release

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About MAN Diesel & Turbo

MAN Diesel & Turbo SE, based in Augsburg, Germany, is the world's leading provider of large-bore diesel engines and turbomachinery for marine and stationary applications. It designs two-stroke and four-stroke engines that are manufactured both by the company and by its licensees. The engines have power outputs ranging from 450 kW to 87 MW. MAN Diesel & Turbo also designs and manufactures gas turbines of up to 50 MW, steam turbines of up to 150 MW and compressors with volume flows of up to 1.5 million m³/h and pressures of up to 1,000 bar. The product range is rounded off by turbochargers, CP propellers, gas engines and chemical reactors. MAN Diesel & Turbo's range of goods includes complete marine propulsion systems, turbomachinery units for the oil & gas as well as the process industries and turnkey power plants. Customers receive worldwide after-sales services marketed under the MAN PrimeServ brand. The company employs around 12,700 staff at more than 100 international sites, primarily in Germany, Denmark, France, Switzerland, the Czech Republic, Italy, India and China. MAN Diesel & Turbo is a company of the Power Engineering business area of MAN SE, which is listed on the DAX share index of the 30 leading companies in Germany.

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