Press Release
MAN Diesel

Greater propulsion efficiency with Alpha propellers

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MAN Diesel Expands CP Propeller Portfolio

In response to the market demand for very large CP propellers up to and beyond 30,000 kW and with diameters over 8 metres, MAN Diesel is expanding its propeller portfolio to add two new, propeller hub-sizes – VBS2080 and VBS2240 (2080 mm and 2240 mm hub diameters respectively).

These propeller sizes are typically destined for ConRo vessels, shuttle tankers and special vessels with high ice classes, and powered by MAN B&W two-stroke MC-C or ME-C main engines that directly drive a CP propeller.

Potential for greater efficiency

As the potential for improving propeller propulsive efficiency aft-ship optimisation is far greater than that for improving diesel-engine fuel-oil economy, MAN Diesel has devoted more resources to its CP propeller programme and associated aft-ship systems in recent years, with the aim of improving total propulsive efficiency by 8-10% within the next 3-5 years.

Backed up by industry demand, MAN Diesel focuses on low environmental impact and optimal fuel-oil consumption. While these two factors can play against each other in diesel-engine design, they go hand-in-hand with propellers since an increase in propeller efficiency results in lower propulsion power and fewer emissions.

Where the correct approach to the vessel-design process is taken and MAN Diesel are involved at an early stage in propeller and aft-ship optimisation, propeller efficiency improvements and bollard-pull increases of (respectively) 5-7% and 8-12% can be attained compared to a standard, conventional, CP propeller solution. Such solutions offer even greater potential in retrofit projects where fuel-consumption reductions of up to 12.5% have been reported.

Alpha characteristics

The new Alpha propeller hubs, like the smaller, well-proven ones, focus on reliability, low wear-rates and service-friendliness as they are serviceable from the aft-end, with no dismantling required.

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Alpha is also the first CP market series where both the stern-tube system and propeller hub can operate on biodegradable oil, eliminating any risk to the environment and guaranteeing internal propeller lubrication, even in the event of seawater contamination.

Programme history

MAN Diesel has produced Alpha Controllable Pitch propellers for over 100 years and received its first patent in 1903. In the early '90s, MAN Diesel expanded its propeller programme to cover the power-range of all medium-speed, four-stroke engines. As a result, the competitive Alpha CP propeller programme is the leading brand in today's merchant-marine segment with an unrivalled technical know-how. To date, more than 7,000 Alpha propellers have entered service.

Much of the existing MAN Diesel CP propeller range is manufactured in Frederikshavn, Denmark

About MAN Diesel

MAN Diesel is the world's leading provider of large bore diesel engines for marine and power plant applications. The company designs two-stroke and four-stroke engines, generating sets, turbochargers, CP propellers and complete propulsion packages that are manufactured both by MAN Diesel and its licensees. The engines have power outputs ranging from 450 to 97,300 kW. MAN Diesel employs approx. 8,000 staff, primarily in Germany, Denmark, France, the Czech Republic, India and China. The global after-sales organisation, MAN Diesel PrimeServ, comprises a network of the company's own service centres, supported by authorised partners. MAN Diesel is a company of MAN SE, which is listed on the DAX share index of the 30 leading companies in Germany.

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