Press release

Copenhagen, 25.08.2021

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Milestone Order for World's Largest Methanol Dual-Fuel Engine

A.P. Møller-Mærsk specifies world's largest, dual-fuel, methanol engine, further empowering methanol as marine fuel within large-container-vessel segment

Hyundai's Ship-Building Division, HHI-SBD, has ordered 8 × MAN B&W 8G95ME-LGIM (-Liquid Gas Injection Methanol) engines in connection with the building of 8 × 16,000-teu container ships for A.P. Møller – Maersk, the global integrator of container logistics.

Hyundai Engine & Machinery Division, HHI-EMD, will build the engines. The order contains an option for a further four engines with the first of the confirmed vessels due to enter service in Q1, 2024.

Bjarne Foldager, Senior Vice President and Head of Two-Stroke Business, MAN Energy Solutions, said: "This is a massive milestone as these engines will be the largest methanol-burning engines ever constructed. They will be based on their well-proven 50-bore counterpart, which has already been in our engine portfolio for some time gathering more than 100,000 running hours on methanol alone. The 95-bore's development is another example of our commitment towards decarbonisation and providing solutions demanded by the market."

MAN Energy Solutions states that the new engines will be capable of burning bio-methanol as well as e-methanol

The new order closely follows that from July 2021 when MAN Energy Solutions won the order to supply the world's first, low-speed, dual-fuel engine to run on methanol within the container segment – a MAN B&W 6G50ME-LGIM type built by HHI-EMD – to a 2,100-teu vessel also ordered at Hyundai Mipo Dockyard by A.P. Møller – Maersk.

Thomas S. Hansen, Head of Promotion and Customer Support, MAN Energy Solutions, said: "As a fuel, methanol is quickly becoming an option within the large container-vessel segment where – up until now – conventional fuel and LNG have long reigned. We expect that this significant order will spur further market interest in methanol as a fuel, also within other ship segments such as bulkers. Our other ME-LGIM references show methanol to be a clean, efficient and safe, marine fuel that offers a clear path to decarbonisation through significant greenhouse-gas reductions when produced from renewable energy sources."

Brian Østergaard Sørensen. Vice President, Head of Research & Development, Two-Stroke at MAN Energy Solutions, said: "We have developed the G95 LGIM technology at our R&D test centre in Copenhagen based on the extensive knowledge and experience within dual-fuel technology that we have built up over the past decade. In general, as we move towards a zero-carbon future, MAN

Energy Solutions' dual-fuel engine portfolio is well positioned to handle whatever challenges the market brings."

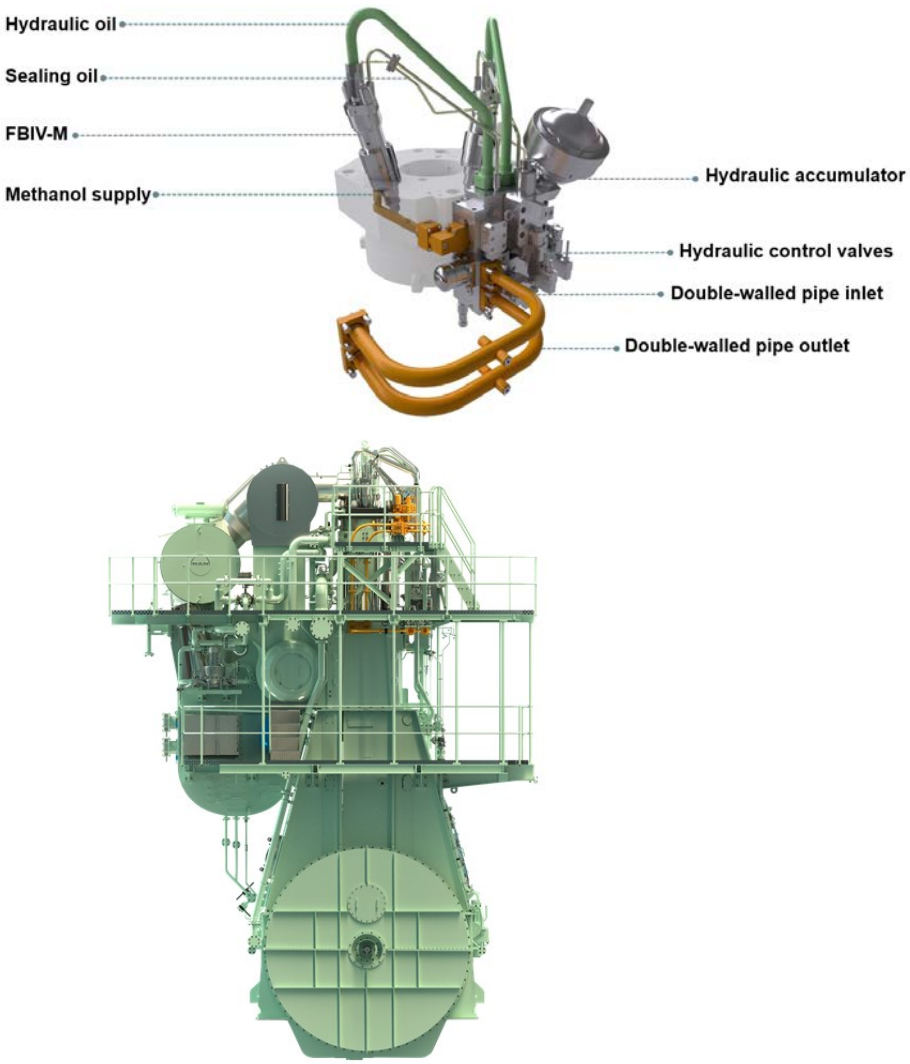
MAN Energy Solutions states that its low-speed, dual-fuel references now exceed 466 units, with its ME-GI type recording over 1.8 million operating hours on LNG alone, while the ME-LGI platform has accumulated more than 110,000 dual-fuel running hours.

About the MAN B&W ME-LGIM engine

MAN Energy Solutions developed the ME-LGIM dual-fuel engine for operation on methanol, as well as conventional fuel. The engine is based on the company's proven ME-series, with its approximately 5,000 engines in service, and works according to the Diesel principle. When operating on methanol, the ME-LGIM significantly reduces CO_2, greenhouse-gas, particles, NO_x and SO_x emissions.

Additionally, any operational switch between methanol and other fuels is seamless. Tests on the engine, when running on methanol, have recorded the same or a slightly better efficiency compared to conventional, HFO-burning engines.

MAN developed the ME-LGI engine in response to interest from the shipping world in operating on alternatives to heavy fuel oil. Methanol carriers have already operated at sea for many years using the engine, and, as such, the ME-LGIM has a proven trackrecord offering great reliability in combination with high fuel-efficiency.



ME-LGIM engine components (above) with graphical rendering of the LGI engine below

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.