World Record Achieved with 18 MW High-Speed Motor

Next generation of motor-compressor units

By achieving ATEX certification for a newly developed 18 MW high-speed electric motor, MAN Diesel & Turbo reached a crucial step in further enhancing its compressor technology for the worldwide Oil & Gas industry, extending the company’s lead in the field of hermetically-sealed motor-compressor units.

The current step of development is a result of MAN Diesel & Turbo’s comprehensive R&D programme, preparing the motor-compressor series MOPICO® and HOFIM™ for the field of subsea applications (MOPICO® = Motor Pipeline Compressor, HOFIM™ = High-speed Oil-Free with Integrated Motor). This concept has been especially designed for Oil & Gas upstream applications. MAN Diesel & Turbo in Zurich established itself as the clear market leader in this technology since the introduction of the concept in the late 1980’s. Today, more than 75 units are in operation or on order.

Each motor-compressor unit consists of a single or tandem compressor arrangement. The complete rotating assembly levitates in magnetic bearings and is installed in a hermetically sealed housing, thus eliminating the need for shaft seals to atmosphere. The entire unit is oil-free and creates no gas emissions, thereby fulfilling strongest governmental requirements and environmental needs.
A unique motor design allows the unit to handle a wide range of gas qualities including wet and sour gas as found in upstream oil & gas applications. MAN Diesel & Turbo has demonstrated the robustness and operational reliability of the motor-compressor unit, after more than 9,000 operating hours under severe testing conditions at the Karstoe Laboratory in Norway as part of an extensive subsea qualification programme with Statoil.

For two years now, HOFIM™ M33 units have been equipped with an integrated 10 MW high-speed motor design. With the latest development step, the HOFIM™/MOPICO® family can now be provided with an upscaled motor to boost the power up to 18 MW. This new ‘M43’ motor-compressor unit received its ATEX certification operating at 10,000 rpm and holds the world record for such high-speed machines in terms of power and speed.

With the present development, MAN Diesel & Turbo offers the most powerful high-speed motor-compressor unit worldwide in its field of operation. Due to its unique design features and the eco-friendly concept, MAN Diesel & Turbo emphasizes its commitment to develop leading technology with environmental responsibility.