

Background Information MTU Ship Propulsion Systems

Contact:

Mirko Gutemann

Phone: +49 7541 90-4741

E-mail: mirko.gutemann@tognum.com



Powerful propulsion systems for ships around the globe

- **MTU engines for yachts, commercial and naval vessels up to 9,100 kilowatts**
- **Combined diesel engine and gas turbine propulsion systems for even more power**
- **MTU automation for optimal operation of propulsion plant**
- **All-round service with MTU ValueCare**

Friedrichshafen/Hamburg, September 2010. Engines designed for marine applications must meet a wide variety of requirements.

Workboats often operate day and night in all weathers, whereas yachts are often required to deliver their maximum performance and provide maximum travel comfort for short periods of time. The Tognum subsidiary MTU Friedrichshafen provides the appropriate propulsion solution for every area of application. The Series 60, Series 2000, Series 396, Series 4000, Series 1163 and Series 8000 diesel engines cover a broad power range that extends from 260 to 9,100 kW, with combined propulsion systems consisting of diesel engines and gas turbines designed for maximum speeds. As a systems partner, MTU supplies complete propulsion packages that include all subsystems such as gearbox, onboard power supply system and MTU ship automation

systems. The extensive services provided under the MTU ValueCare program round out the company's range of products.



Engines

The manufacture of diesel engines for marine applications at MTU has a long tradition. MTU and its predecessor companies have developed and manufactured fast running and compact four-stroke diesel engines since the 1930s. They are used on board ships as the main propulsion and auxiliary systems, or as gensets to supply electric power. All marine engines are designed, manufactured and certified in accordance with internationally recognized classification societies. They comply with the IMO rules covering Safety of Life at Sea (SOLAS) and can be operated with no restrictions at 100 percent capacity.

Marine engines of the Series 60, Series 2000, Series 4000 and Series 8000 comply with all key emission regulations worldwide, such as IMO Tier II, EPA Tier 2, RheinSchUO II, for example, and EU III A Marine. For specific projects, Series 396 and 1163 engines complying with IMO Tier II are also supplied. All the current emission levels can be met with internal engine measures, with low fuel consumption and thus low CO₂ emissions.

For a further reduction of emission levels or to exceed the current emission guidelines, MTU as a systems supplier offers both product and project-specific exhaust aftertreatment systems for all engine series.

The biggest selling engines for marine applications are the Series 2000 and 4000 units. The Series 2000 engine, with 8, 10, 12 and 16 cylinders, covers a power range of 600 to 1,940 kW and is extremely reliable and maintenance-friendly. Due to their excellent power-to-weight ratio and compact format, the engines are easy to install.

At the next power level, MTU offers the Series 4000 with 8, 12, 16 and 20 cylinders. It covers the power range from 700 to 4,300 kW and is used in yachts, workboats and ferries, in addition to government vessels, police and patrol boats. As is the case with the Series 2000 engine, these engines have a reputation of being extremely reliable, maintenance-friendly, economic and low-emission units. This has been made possible due to the continuous development of technologies such as common rail fuel injection and high-performance turbocharging, in addition to an electronic control and monitoring system that precisely matches the engine.



Propulsion systems

Combined diesel engine and gas turbine propulsion systems are available for even higher speeds, and are primarily used in ferries, yachts and naval vessels. The TF40, TF50 and LM2500 gas turbines with a power output of up to 30,110 kW enable ships to achieve maximum speeds of over 50 knots. MTU supplies and installs complete propulsion plants that offer an optimal combination of compact power and low weight. CODOG, CODAG and CODELAG plants are among the most advanced marine plants available today and combine the benefits of both propulsion systems: for long-distance cruising or when traveling at low speed, the propulsion diesel engine only is used, whereas for high-speeds, the gas turbine can be added. Another benefit is the independent availability of both propulsion systems: if one system fails, the other is immediately available as a backup.

Automation

As a systems provider, MTU also supplies ship's automation and monitoring systems. These include the advanced and user-friendly Callosum automation system to provide optimal control and operation of the propulsion plants: custom designed to meet the specific requirements of each propulsion system and the vessel's technology,

Callosum provides simple monitoring and control of all connected functions.



Service

As a reliable partner, MTU not only supplies its customers with first-rate products, but also supports them with MTU ValueCare services at over 1,200 service locations worldwide. These include tailor-made maintenance contracts, extended warranty coverage, plus the reliable and fast supply of original, high-quality spare parts, in addition to remanufacturing services.

– End –