



Rolls-Royce

The MT7 Marine Gas Turbine

Compact power... for the most demanding marine applications



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Powerful

The Rolls-Royce MT7 marine gas turbine features the very latest in gas turbine technology offering a proven combination of a market leading power to weight ratio and low through life costs. Delivering power of between 4 to 5MW, the MT7 is a compact power plant with excellent fuel efficiency and performance retention.

MT7 is well suited to a variety of system configurations offering ship designers and builders increased flexibility in terms of propulsion system layout, and can be configured for either mechanical or electrical drive.

Heritage

The MT7 is a member of the successful AE family of aero engines that has accumulated over 48 million operating hours and shares proven common core architecture with the AE 1107C-Liberty aero engine that powers the unique Bell Boeing V-22 Osprey tilt-rotor aircraft.

Rolls-Royce has delivered over 4,500 AE family engines, a heritage which allows MT7 to draw upon well established methods and processes at our production facilities, and a supply chain that delivers hundreds of engines annually. A global aftermarket support network ensures availability. MT7 is the proven and low-risk engine solution for today's modern marine applications.

Through life support and service

Commonality within the AE family allows the MT7 to benefit from well established production facilities, a supply chain that delivers hundreds of engines annually, and an aftermarket support network that quickly and efficiently returns engines to service.

The MT7 shares a proven common core architecture with the AE 1107, AE 2100 and AE 3007 aero engines, incorporating high efficiency components with reduced maintenance requirements for a long service life. Field-proven AE family upgrades exist today to increase the MT7 available power by up to 20 per cent or extend engine life. This power growth capability can accommodate larger payloads or realise life cycle cost savings making the MT7 the engine of choice in its class.



The MT7 shares proven common core architecture with the AE1107C-Liberty aero engine that powers the V-22 Osprey tilt-rotor aircraft.

Advanced design.....proven technology

Unique cold-end drive technology

The twin-shaft axial design of the MT7 comprises a 14-stage compressor followed by an effusion-cooled annular combustor, a two-stage gas generator turbine and a two-stage power turbine. The engine is cold-end drive featuring six stages of variable compressor vanes, dual channel Full Authority Digital Electronic Control system (FADEC), modular construction and an 'on-condition' maintenance capability. Proven components are utilised throughout the engine, with key parts protectively coated to resist sand erosion and salt corrosion to ensure optimum performance in the most challenging of marine environments. Fuel and oil systems are fully integrated on the engine assembly, making it a compact, lightweight yet powerful unit.

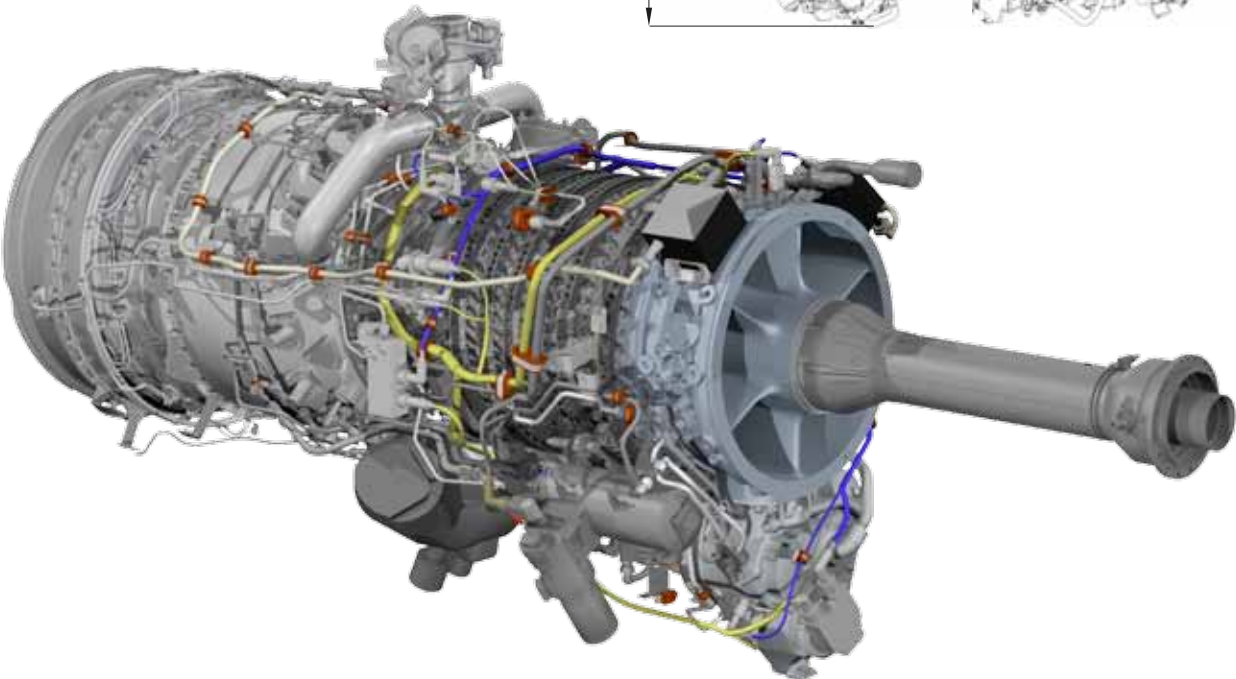
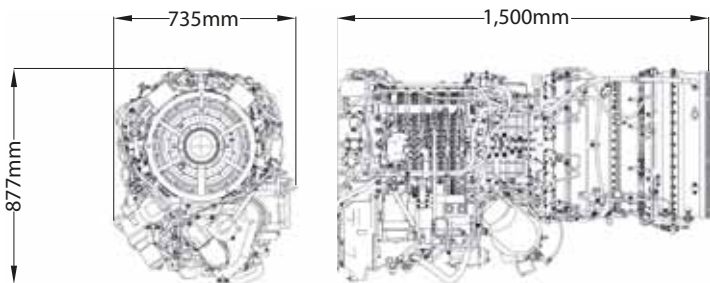
Features

- Unique 4-5MW powerplant capable of meeting the demanding requirements of hovercraft and ship propulsion.
- Shares a common core with AE 1107, AE 2100 and AE 3007 family of engines proven over 48 million operating hours.
- Due to enter service with the US Navy's new Ship-to-Shore Connector (SSC) hovercraft built by Textron Marine & Land Systems.
- Low-cost, performance-enhancing upgrade options to improve performance.

Technical Specifications

Power output	4 - 5MW (6,000 - 7,000SHP)
RPM	15,000
Rotation	Anti-clockwise when viewed from exhaust
Length	1,500mm
Diameter	877mm
Weight (unpacked)	441kg (971lb)
Fuel	Marine diesel, kerosene and F76 Military Diesel
Specific Fuel Consumption (SFC)	243.2g/kW/hr (0.4lb/hp/hr)

Dimensions





(1)



(2)



(3)

MT7 gas turbines have been selected to power the US Navy's new Ship-to-Shore Connector hovercraft. In its aero configuration it powers the V22 Osprey tilt-rotor aircraft. (1 – courtesy Textron Marine & Land Systems. 3 – courtesy US Navy)



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