

 **Overview****CASE STUDY**

IDO Marmara Ferries | BTMavrasya | Türkiye

**PRODUCT**[16 x Baudouin 4W105S Gensets](#)**CLASSIFICATION SOCIETY**

Türk Loydu (TL) / BV Type approved

**DUTY**

P1 Continuous Duty

**POWER OUTPUT**4W105S: 84 kW<sub>e</sub> @ 1500 rpm (105 kVA, 50 Hz)**APPLICATION**

High-Speed Passenger Catamaran – Auxiliary Power

**PARTNERS**

Distributor: BTMavrasya

End User: Istanbul Deniz Otobüsleri (IDO)

Istanbul Deniz Otobüsleri (IDO), Türkiye's largest fast-ferry operator, has completed a major fleet-wide repowering of its Marmara-class passenger catamarans. These aluminium high-speed ferries, originally delivered in the late 1980s, are the workhorses of commuter and intercity sea transport across the Sea of Marmara. After decades of intense service, their auxiliary generator sets were due for renewal to meet modern efficiency, reliability, and comfort expectations. In partnership with BTMavrasya, IDO selected Baudouin's proven 4W105S marine gensets to provide robust, low-noise, and fuel-efficient ship-service power. The project encompassed eight vessels, each receiving two 4W105S units, for a total of sixteen installations. The compact footprint of the 4W105S allowed smooth integration into the ferries' existing machinery spaces, while retaining service access for crew and maintenance personnel.

Each new genset is class-approved by Bureau Veritas and accepted by Türk Loydu under the vessels' operating notations. Rated at approximately 84 kW<sub>e</sub> at 1500 rpm, the 4W105S delivers consistent hotel-load power for lighting, HVAC, ticketing systems, navigation electronics, CCTV, and passenger amenities. The units are coupled to high-efficiency marine alternators and integrated into the vessels' main switchboards, providing redundancy with automatic changeover to ensure uninterrupted supply. Commissioning took place between late 2023 and January 2024, with class surveyors witnessing dock and sea trials on each vessel.

The 4W105S is an inline 4-cylinder, 4.5 L marine-duty genset, turbocharged and equipped with modern fuel-injection for optimal combustion and reduced specific fuel consumption. Like its larger W-series siblings, it is built for serviceability: unit cylinder heads, wet liners, and generous inspection hatches enable quick turnaround for routine maintenance. Designed for low vibration and noise, the genset contributes to quieter passenger saloons and improved crew working conditions. In variable-load ferry operation, it maintains stable voltage and frequency, reducing fuel wastage during low-demand periods.

Initial operational feedback from IDO indicates measurable gains: lower fuel burn estimated between five and ten percent in typical duty cycles along with reduced downtime and fault incidence. Since entering service, the new gensets have operated without unplanned stoppages, supported by Baudouin's global service and parts network and BTMavrasya's on the ground technical team. By upgrading its Marmara class ferries with Baudouin's marine generator technology, IDO has extended the service life of its fleet, improved passenger comfort, and reduced operating costs, reinforcing its role as a reliable and forward-looking transport provider for Türkiye's busy maritime corridors.

Baudouin's marine range covers a complete spectrum from compact auxiliary generators like the W-series to high-power propulsion engines. This breadth allows operators to source both propulsion and auxiliary power from a single, integrated brand, ensuring technical compatibility, streamlined maintenance, and unified global support. With IMO-compliant designs, biofuel-ready capability, and options for hybrid integration, Baudouin's portfolio serves commercial, passenger, offshore, and defence vessels worldwide, backed by a service network in over 130 countries.

