

## Compact Azipod® Propulsion for Ambrosia III

The 65-meter luxury vessel *Ambrosia III*, built by Italian yacht builders Benetti Yachts, will be delivered to a private owner in the second half of 2005. Designed for long distance global travel, the vessel is equipped with the highest standards in both comfort and power & propulsion technology. *Ambrosia III* is the third Megayacht to be equipped with Compact Azipod propulsion from ABB.

### ABB's Scope of Supply:

- 2 x 1070 kW Compact Azipod® Propulsion
- 690V Main Switchboard
- Distribution Transformers
- Harmonic Filters
- Remote Control
- Integrated Machinery Automation System
- Basic & Detailed Design
- Commissioning & Sea-trials

### A Global Technology Partner to the Marine Industry

ABB Marine is the leading supplier of electric power and propulsion systems. We are a highly competent maritime organization with over half a century of experience. Through our global presence, we provide reliable, safe and environmentally-friendly solutions and qualified services to ship owners, operators and yards - reducing operational costs and ensuring optimum vessel lifecycle.



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# Ambrosia III

Cruising the world in quiet comfort

Compact Azipod®



65-meter Diesel-Electric Motor Yacht

Built by Benetti Yachts, Italy

ABB Delivery:

- Compact Azipod® Propulsion
- Main Switchboard
- Distribution Transformers and Filters
- Integrated Machinery Automation System

Sundheim-Madsen Business Communication a.s. 09-05



A uniquely innovative yacht...

From inside or out, it is plain to see that the *Ambrosia III* is no ordinary yacht. To achieve an optimal combination of design, comfort and efficiency, one of the world's leading builders of superyachts, Benetti Yachts of Italy, assembled a team of specialized experts to create a truly remarkable vessel. As well as the Benetti shipyard itself, the team included interior designer Francois Zuretti, exterior stylist Stefano Natucci and ABB for design, engineering and commissioning of the electric power, automation and Compact Azipod® propulsion system.

The results of their efforts are impressive. Combining beauty with functionality, *Ambrosia III* features art deco themed accommodations for 12 guests plus a crew of 20, a piano bar, auditorium, gymnasium, beauty salon, observatory and a swimming pool with counter-current on the aft deck.



... equipped with uniquely innovative propulsion

The luxury yacht *Ambrosia III* is designed for long-distance global cruising. For this type of service - requiring high performance and comfort in port and on the open seas - Compact Azipod® propulsion offers a number of advantages. For onboard comfort, the submerged motors of Compact Azipod provide quiet and smooth operation, with far less vibration and noise than traditional shaftline propulsion. With silent electric steering and 100% performance immediately available in all directions, the superior maneuverability of Compact Azipod® increases passenger safety in restricted waters and adverse weather conditions.

Compact Azipod® performs extremely well in transit as well as under maneuvering. Superb hydrodynamics and high transmission efficiency provide significant fuel savings and reduced NOx emissions.

*Ambrosia III* is a 65-meter steel and aluminum luxury yacht built by Benetti Yachts of Viareggio, Italy, for a private owner. This megayacht features a level of comfort, seaworthiness and maneuverability seldom found in privately owned vessels.

### Reliable, low maintenance cruising

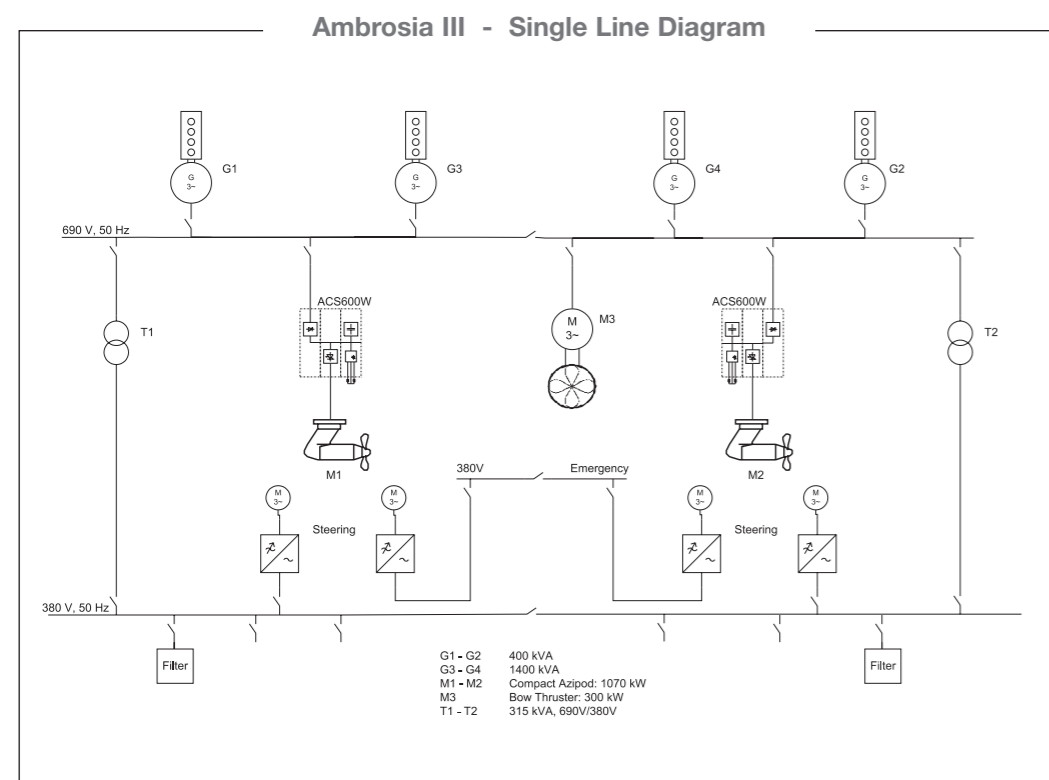
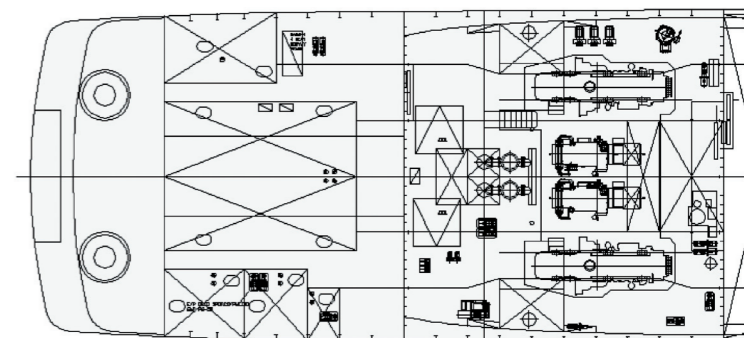
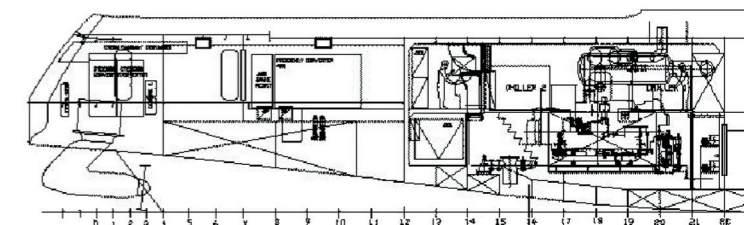
As *Ambrosia III* travels the far corners of the globe, the owner can relax, knowing that Compact Azipod will propel his yacht safely and reliably from port to port. This is due to the combination of simple and robust mechanical design and state-of-the-art electric motor and drive technology.

The inherent low-maintenance design of Compact Azipod features a minimum of moving parts, eliminating wear-and-tear suffered by complex gearing. The pod requires no cooling system as cooling of the high efficiency permanent magnet motor is provided naturally by the surrounding sea-water. When it is time for scheduled maintenance, the modular construction of Compact Azipod makes it easily accessible and serviceable.

### Fully integrated vessel automation

*Ambrosia III* features some of the most advanced technology of any vessel of its kind in the world. Even so, it is surprisingly simple to control and maintain as it is equipped with an Integrated Automation and Machinery Control System (IAMCS) from ABB.

The fully integrated architecture of the IAMCS provides comprehensive vessel control and maintenance functions in a single system. These functions include remote propulsion control, power management, alarm and monitoring, ballast/pump/valve control and data trending. Based on a distributed architecture, the IAMCS is designed to meet the highest requirements in terms of operational safety and availability.



This single line diagram shows *Ambrosia III*'s electrical installation, with the prime mover gensets on top, powering the main 690V switchboard.

The two 1070 kW Compact Azipod units and tunnel thruster are fed directly from the main busbar. Ship's service, steering motors and "hotel" loads are fed from the auxiliary 380V busbar through redundant transformers. The back-up steering motors are fed from the emergency switchboard.

Filters are provided to minimize harmonic distortion.