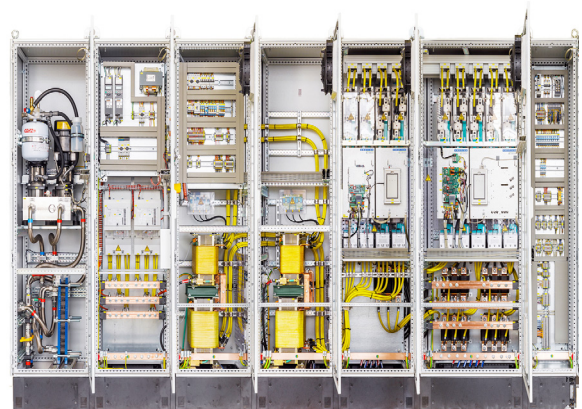
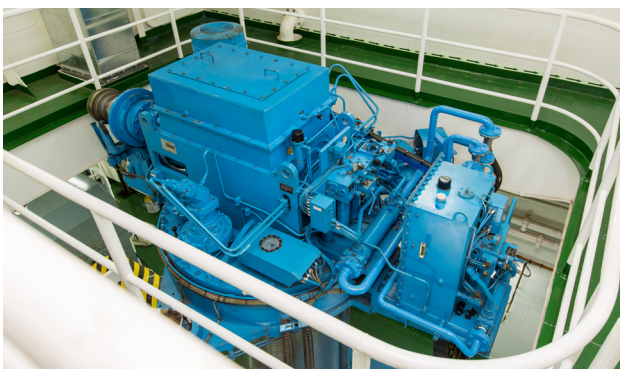


Emotron Slim-LC Active Front End drive solves retrofit challenge aboard pipe laying vessel

When CG Drives & Automation was asked to supply a replacement drive for a retractable thruster, the main challenge was the tight schedule and strict space requirement.

The energy saving Emotron Slim Liquid Cooled AFE drive now runs the Azimuth propulsion thruster with minimal heat losses and increased redundancy due to a brand new liquid cooled modular drive construction.



Creating a new AFE design

When the RFQ for a replacement drive for the retractable thruster of a DP3 construction, pipe laying accommodation vessel arrived, the Emotron team went straight down to the dry docks in Cape Town, South Africa.

Cabinet size, cable entry and cooling system details were obtained in order to construct a new solution. Since the details on the control requirements were not documented, details had to be gathered directly from the operating crew.

Installing a separate PLC

The requirements dictated that a separate PLC had to be installed. The new PLC now communicates with the AFE drive over Modbus TCP and signals such as IGBT temperature, motor temperature etc. are given to the ship's control system.

Liquid cooling to reduce both size and heat loss

The width available at the site was max. 4300mm and an adapted design 480V Slim Liquid Cooled Active Front End was proposed. The redundant cooling system now ensures higher reliability and keeps heat losses to air to a minimum.

Modular system for further redundancy

Redundancy is further improved by the modular PEBB (Power Electronic Building Block) system. The modules are self-monitored and interchangeable. It is easy to keep a spare module in case of emergency.

Commissioning and sea trials in 12 weeks

Engineering, procurement & manufacturing was done by CG Drives & Automation in Germany, and the power electronic building blocks were manufactured at CG Drives & Automation in Sweden.

The commissioning and sea trials were successfully completed and the entire system handed over in just 12 weeks.



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