

New Electric Drives from Motech



EBA business members Motech describe the development of their new range of marine electric drives which they will be launching this summer.

Motech have been manufacturing industrial electric drives for almost 20 years and have supplied some of the UK's largest companies. With this experience the company designed and manufactured electric drives which were fitted into two manned rescue submarines. This project gave Motech's Managing Director, Bill Eunson the idea of developing electric drives for the leisure boating marketplace.

As Bill explains: "Learning from our previous work we had no doubt that electric propulsion was superior to conventional diesel but we had to find a way for it to be feasible, in terms of boat range and cost. So we explored a number of different options before choosing to develop an electric drive that could power a boat on its own or in conjunction with a diesel generator to extend the range. Of course the generator can then be used to supply all the on-board electricity, making the total system very cost effective."

Prototype trials have been ongoing since March 2011 with *Worcester*, a 38ft narrow boat. *Worcester* is moored

in Oxford and is owned by Edwin Osborn. Edwin had previously converted the boat to electric propulsion and very generously replaced his electric motor and controller with Motech's new 10kW electric drive.

The Motech drive consists of a brushless permanent magnetic electric motor with reduction belt gearing and an electronic controller all contained in a single robust enclosure, making the unit compact and easy to install. The drive is powered by a 72V battery bank that is charged by an on-board 6kW Fischer Panda diesel generator.

As well as extending the boat's range the diesel generator also provides an abundant supply of electricity. There is round-the-clock power for all home comforts, such as a fridge, kettle, hairdryer or television. The generator is exceptionally quiet and charges the battery bank faster and more efficiently than is possible with a standard alternator. If shore power is available, charging the batteries using this supply can cut the consumption of diesel and dramatically reduce the overall cost of running the boat.

As well as plentiful electricity, the hybrid electric drive offers quiet power and relaxed, reassured boating. With delicate controls and instant acceleration the electric drive makes the boat easy to manoeuvre, especially when docking or negotiating locks.

Worcester's owner Edwin Osborn is

very pleased with his boat conversion. "When we decided to convert *Worcester* to hybrid electric drive, our principle aim was to have a boat that could be used in exactly the same way

as a conventional diesel craft. The system more than satisfied our hopes; top power cruising is more effective than the previous 1.8 litre BMC unit, showing that headline power numbers can be misleading. In fact a smaller electric drive can often provide as much usable power as a larger diesel engine. Furthermore the rapid thrust available for acceleration and control is vastly greater. It is all so quiet and free of vibration."

The Motech 10kW electric drive will be the first of the range available, followed by 2.5kW and 5kW units. Finally an 18kW water-cooled drive is planned for larger boats. Motech provide all the add-on items needed to complete the installation such as batteries, battery chargers, 230V inverters and solar panels, together with expert advice.

"All the products we supply have been tested by us and we know they work together efficiently and properly" says Bill. "Our main aim has been to develop a quality system that is well engineered, is simple to install and is financially attractive."

To find out more about the new Motech electric drives and how they can let you enjoy life on your boat quietly and economically while reducing your carbon footprint, please contact Bill Eunson on +44 (0) 1293 440710 or via email at sales@motech.co.uk

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