

RoRo

First eco-friendly PCTC fitted with fully electrically-driven RoRo access equipment



CLEAN SEAS AND EFFICIENT SHIPS

A decade of electric drive deliveries



Electric drive for RoRo cargo access equipment is nothing new. The first generation of electric driven equipment were introduced over 30 years ago. MacGregor delivered electrically-driven hoisting platforms and locking of bow visors and bow ramps for two RoRo vessels in 1976 and 1977. But, the reasons were not really the same as those behind the new development in adopting electric drives on board.

Growing electric drive portfolio

MacGregor's R&D experts started developing the first generation of modern environmentally-friendly electrically-operated products in 2001 and they have been further developed since then. As shipowners switch to electric drives for both commercial and environmental reasons, our electric drive reference portfolio is growing every year.

No hydraulic oil in the system

Initially limited to electric winches used to operate internal doors and car decks, electric drives underwent a change thanks to the demand from the Japanese car industry, which was looking for cleaner ways to transport its products, and considerable improvements in the available technology.

One of the greatest benefits that is gained from switching to electric drives is the elimination of potential hydraulic oil leaks that can cause sea pollution or damage cargo.

Iris Ace – the first PCTC fitted with fully electrically-driven RoRo access equipment

When the first ships with electrically-driven RoRo equipment were delivered in 2006, this equipment was limited to internal systems.

The first generation of fully electrically-driven PCTC's entered service in 2011, when MacGregor delivered internal and external cargo access equipment for the pure car and truck carrier (PCTC), *Iris Ace*, delivered from Shin Kurushima Dockyard Co., Ltd in Japan in 2011.

All the equipment is operated by electric winches and actuators, eliminating the use of hydraulic oil in the operating system.

MacGregor's scope of supply for the 4,000-unit PCC, *Iris Ace*

- one electrically-driven stern quarter ramp/door
- one electrically-driven side ramp
- two electrically-driven movable ramps

Shin Kurushima Dockyard, Mitsui O.S.K. Lines (MOL) and MacGregor are all committed to clean seas. The cooperation between the companies has resulted in this efficient environmentally-friendly vessel and the collaboration was an essential part of this technology's development. Shin Kurushima Dockyard are focused on protecting the environment, by improving fuel efficiency and reducing exhaust emissions of their ships.

Benefits

- Energy is saved. Electric drives run only when manoeuvring equipment. Power can also be fed back into the system, for example when winches are lowering a stern or side ramp.
- Energy losses are much smaller, because electrically-driven systems are not affected by pressure drops.
- Easy to monitor and service, enabling peak efficiency.
- Time, money and energy are saved while shipbuilding. It is easier to install electrical cable than piping and no pump units are needed.



Easy operation and monitoring via the user-friendly operating panel.

User-friendly control system for operating and monitoring

Electric drives are maintenance friendly and easy to monitor and service. They are also ideal for linking to onboard system monitoring (OSM) diagnostics technology for real time condition monitoring. The drives are operated and monitored via a user-friendly operating panel, with the option of including a radio remote control and/or touch-screen interface.



Lloyd's Register Quality Assurance certifies that the Quality Management System for MacGregor is ISO 9001:2008 compliant.

MacGregor is the world's leading brand of engineering solutions and services for handling marine cargoes and offshore loads. MacGregor products serve the maritime transportation, offshore and naval logistics markets, in ports and terminals as well as on board ships. Our cargo flow solutions integrate cargo access, stowage, care and handling functions to suit a particular ship's cargo profile. This benefits its productivity, environmental impact and profitable service lifetime. www.macgregor.com

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