

Marine Selfunloaders

# Transloading system



TECHNICAL INFORMATION

## *Boca Grande II*

# MacGregor transloading system

Transloading system with grab cranes and gravity self-unloading system installed on the transfer terminal *Boca Grande II* for efficient transshipment of iron ore off Venezuela

In 2007, the 135,000 dwt vessel *Boca Grande II* was converted into a transfer terminal at Chengxi Shipyard in China, for Cargoport Logistics, N.V. It is the largest vessel, so far, to be equipped with a MacGregor self-unloading system. *Boca Grande II* transships iron ore at a rate of 6,000t/h (2,500 m<sup>3</sup>/h) from shuttle vessels to ocean-going capesize vessels in the Rio Orinoco delta, just off Venezuela.

*Boca Grande II* is the first vessel ever to be equipped with a MacGregor travelling C-conveyor. The C-conveyor is fitted in a gantry that has a travelling length of 147m and a telescopic boom conveyor, which provides a great advantage by making it possible to load a capesize vessel without hauling.

## System description

### Loading the terminal

The transfer terminal receives iron ore from two self-unloading Panamax shuttle vessels or from conventional bulk carriers. It is also equipped with four MacGregor grab cranes, each with a

capacity of 800 t/h, feeding four hoppers on deck. From the hoppers, the material is fed either directly to the export vessel or into storage compartments in the terminal.

### Unloading the terminal

Discharge is performed by gravity through hydraulically-operated gates, fitted to outlet hoppers in the bottom of the cargo holds and onto longitudinal hold conveyors on the tank top level. The hold conveyors discharge material onto cross conveyors located mid-ships, which transfer the material to the inclined conveyor. The inclined conveyor runs forward and discharges material onto a further transfer conveyor on deck, which feeds a longitudinal tripper conveyor. The tripper conveyor discharges to a travelling ship loader with an integrated C-conveyor elevating the material to a slewable and hoistable boom conveyor for loading capesize vessels.

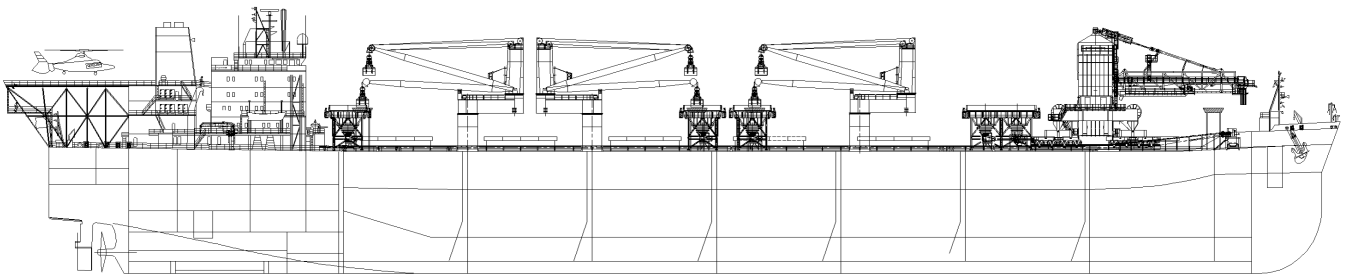
Operation of all conveyors is managed from the control room.

## Terminal dimensions

Length, oa	249.1m
Length, pp	240m
Breadth, mld	45m
Depth	23m
Draft	16.8m
Deadweight	135,000 dwt

## System data

Discharge capacity	6,000 t/h or 2,500m <sup>3</sup> /h
Length of boom conveyor	28.5 - 43.2m
Travelling length of ship loader	147m
Material	Iron ore



7/06SU01-NOV2011



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

Cargotec improves the efficiency of cargo flows on land and at sea – wherever cargo is on the move. Cargotec's daughter brands Hiab, Kalmar and MacGregor are recognised leaders in cargo and load handling solutions around the world.

MacGregor is the global market-leading brand in marine cargo handling and offshore load-handling solutions. Customer-driven MacGregor engineering and service solutions for the maritime transportation industry and the offshore load-handling and naval logistics markets are used onboard merchant ships, offshore support vessels, and in ports and terminals.

Published by Cargotec Corporation. Copyright © Cargotec November 2011. All rights reserved. No part of this publication may be reproduced, stored, photocopied, recorded or transmitted without permission of the copyright owner.



**Cargotec Sweden AB**  
**Marine Selfunloaders**

Gesällgatan 7, P.O. Box 914  
SE-745 25, Enköping, Sweden  
tel. +46 (0)171 232 00  
susales.enk@cargotec.com  
**www.cargotec.com**