

Autonomous Discharging Crane

The future of safe, smart and efficient cargo handling



Maximised efficiency, minimised discharging times

MacGregor leads the development of autonomous discharging technology. Our latest innovation is the Autonomous Discharging Crane for bulk carriers, enabling the safe, smart and efficient unloading of dry bulk cargo. Driverless operation, combined with automatic cargo unloading, maximises efficiency and minimises total discharging times.

A path to smarter cargo handling

By working with our customers, we aim to design the future together; a future where autonomous systems and operations will reduce increasing operational complexities and inefficiencies, while minimising risks and increasing safety. With the MacGregor Autonomous Discharging Crane customers can maximise efficiency and increase the flexibility of their cargo handling operations.





Maximised efficiency

- Each crane pre-calculates suggested routes to optimise discharge paths, ensure pendulum-free motion and minimise total discharging times
- The topographic software module creates a map above each cargo hold to identify optimal lifting points and ensure smooth operations
- Machine learning for optimised filling of the grab

Environmentally-friendly solution

- The Autonomous Discharging Crane reduces wear, which extends component lifetimes and minimises service costs

Smooth operation

- A stable discharge point is ensured as the system uses numerous sensors to compensate for changes in list and trim during operations
- Unloading to a hopper or flat storage area is possible
- Remote operation from the bridge

Increased safety

- Safety advances are a key benefit of autonomous discharging bulk cranes
- Better working conditions for system operators
- Speed and crane movement are continuously monitored to ensure cargo is handled without causing pendulation

Collaboration between cranes

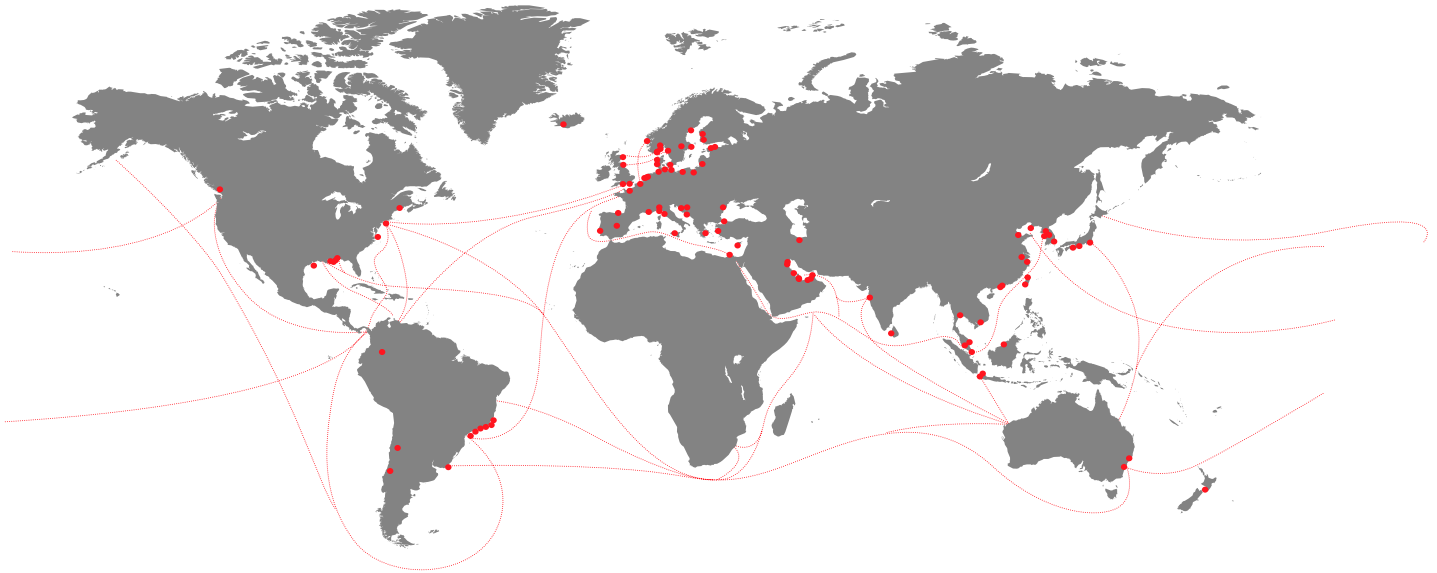
- Avoids collision
- Queues and prioritises crane movements to minimise unloading times and ship motions, and optimise cargo distribution
- Adjustable discharge rates to match hopper capacity

Future possibilities

- Bulk material can be loaded from a flat storage area
- Autonomous loading/unloading of containers
- Remote operation of cranes from port

Wherever needed, you can rely on our support.
We serve our brands globally:

- Ankerlökken Marine
- Allset
- ASCA
- Becker
- BMH
- Conver-OSR
- Grampian Hydraulics
- Flintstone
- Greer Marine
- Hamworthy
- Hatlapa
- Hydramarine
- Hägglunds
- Interschalt
- KGW
- KYB - ASCA
- KYB - Kayaba Industries / Navire Cargo Gear
- Luezhoe
- MacGregor
- MacGregor-Conver
- MacGregor-Hägglunds
- MacGregor-Kayaba
- MacGregor-Navire
- Navire Cargo Gear
- Nordströms
- Ozean Service & Reparatur
- Platform Crane Services (PCS)
- Plimsoll
- Pusnes
- Porsgrunn
- Rapp Marine
- Triplex
- Vestnorsk Hydraulikkservice (VNH)



MacGregor shapes the offshore and marine industries by offering world-leading engineering solutions and services with a strong portfolio of MacGregor, Hatlapa, Porsgrunn, Pusnes and Triplex brands. Shipbuilders, owners and operators are able to optimise the lifetime profitability, safety, reliability and environmental sustainability of their operations by working in close cooperation with MacGregor.

MacGregor solutions and services for handling marine cargoes, vessel operations, offshore loads, crude/LNG transfer and offshore mooring are all *designed to perform with the sea*.

MacGregor is part of Cargotec (Nasdaq Helsinki: CGCBV).

Published by MacGregor. Copyright © MacGregor August 2018. All rights reserved. No part of this publication may be reproduced, stored, photocopied, recorded or transmitted without permission of the copyright owner.