Anchor Handling and Towing Vessels

State of the art solutions for Anchor handling - and towing vessels



MACGREGOR

Designed to perform with the sea

Passion for performance – united by the sea

MacGregor is a family of innovators. By engineering solutions that make the sea more accessible, safe and reliable, we support you whose livelihood depends on the changing conditions of the sea. To enable that we have a variety of strong product brands and committed experts with a passion for solving challenges – and the power of the sea is sure to provide those.

Our founders braved new frontiers in different times and places. Those origins merge at today's MacGregor, inspiring us to continue the stories, and create new ones. The spirit of our founders lives on in the pride we have for what we do, and our determination to find new solutions for the people we work with. Together with you we will write the next chapters.

We are a global team of professionals, who create value for you; the owners, operators, and ship builders in the offshore and marine industries. Understanding your business and way of life is key to our work. It is the foundation to addressing your needs with tailored solutions for load handling, cargo handling, mooring or essential auxiliary equipment. Your productivity, sustainability, and equipment lifetime benefit from our combination of expertise and technology. As innovators, we work together with you to set benchmarks in innovative solutions and value creation.

Our deep respect for and experience of the sea lays the foundation for adapting to its challenging conditions. Wherever we work around the world, we work together with a passion for performance and a love of challenges — united by the sea.





Improving your fleet's efficiency

We provide safe, reliable and innovative solutions that will help you accomplish your mission in the toughest of environments. Our products stem from a long history within the marine industry and a vision to provide our customers with products to improve your fleets efficiency and safety. With products suited for all aspects of the offshore industry, MacGregor offers a variety of deck machinery for the offshore industry inclusive of electrical as well as high and low pressure hydraulic winches, safe deck handling equipment and a variety of services to avoid downtime and ensure a long product lifecycle.




MACGREGOR
TRIPLEX

Offshore winches

We understand the offshore industry's ever growing demand for operational flexibility and increased equipment reliability. MacGregor offers solutions designed to reduce operational costs and expand the operational envelope on all fronts. That means longer hours, more days, in more demanding conditions, while maintaining safety, reliability and efficiency with top precision.



Main winches

Electric anchor handling- and towing winches are designed with the latest version of variable frequency electric drives and advanced technology for safe, reliable and cost efficient anchor handling- and towing jobs. They offer a wide range of smooth speed controls including high-speed operations. With optimised control software and minimised inertia of the drive units, the winches provide excellent constant tension capabilities for anchor handling and towing operations. Hydraulically operated, water cooled multi disc-brakes allow dynamic lowering at high speeds and high loads. Length and tension monitoring, electronic maintenance plans and remote diagnostics are also available as additional options.

Secondary winches

Electric secondary or storage winches offer a huge storage capacity for large diameter steel wire or synthetic ropes that have considerably lower specific weight characteristics than steel wire. The winch drives have adapted advanced variable frequency drive technology, which offers smooth control of the tension and speed of the winches. A freshwater-cooled and hydraulically-driven multi-disc brake can be fitted to offer a significantly increased speed for dynamic braking.

All winches are also available with low pressure hydraulic drives.

Emergency release and peak load clutch

Emergency release by the use of our proved and praised innerfriction clutch offer a clear and improved benefit in critical operational situations. Furthermore the system offers complete control over the maximum torque in drive train to reduce stiffnes and peak loads. All electrically driven main anchor handling and towing winches as well as secondary winches are equipped with this system.

Chain handling winches

Electric chain handling winches have variable frequency drives and allow for the safe use of various chain sizes by limiting the load on the chain to a preset value. They can be supplied as portable units with taylormade foundation for installation in chain locker hatches. Chain guide rollers and adjustable guide rollers for various chain sizes are also available.

Chain wheel manipulator

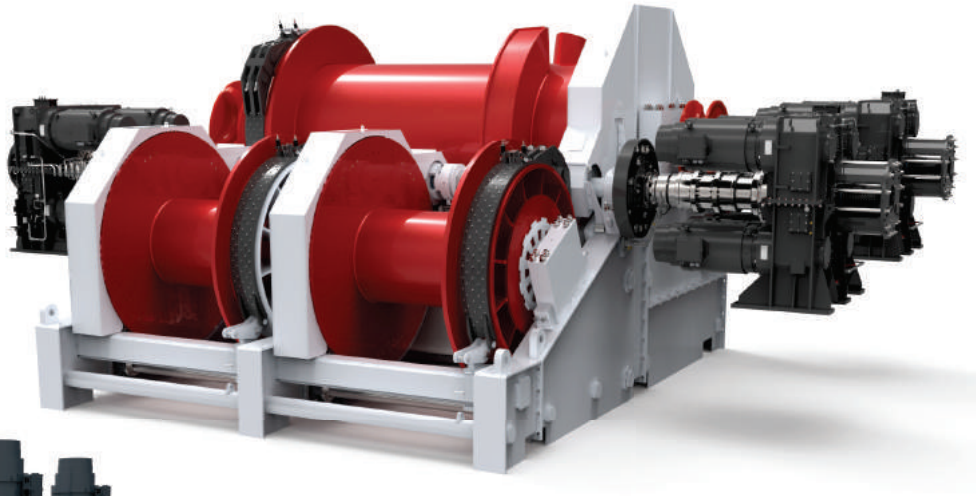
Chain wheel manipulators are remotely-controlled systems, specifically designed to perform continuous successive cycles of chain wheel installation/replacement when necessary, onto an anchor handling/towing winch while the vessel is at sea even in adverse weather conditions. CWMs substantially reduce the necessity for heavy manual labour, ensuring the cost efficiency of operations and the safety of personnel and equipment. The system is designed in compliance with DNV's Rules for Certification of Lifting Appliances, 2008.

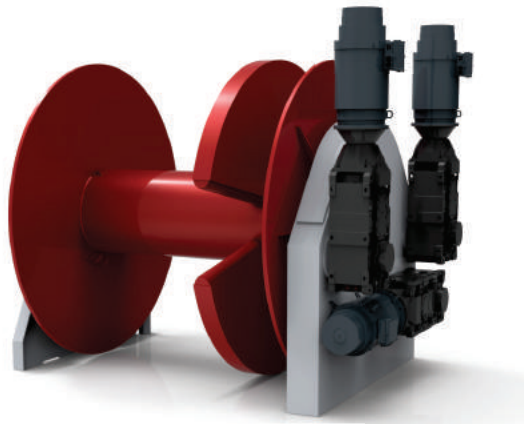


We also offer

- Sternrollers
- Anchor and mooring winches
- Capstans
- Tugger winches
- Rope reels

Right: Electricically driven main winch
Below: Electrically driven secondary winch





AHC subsea cranes

MacGregor range of semi-electric or hydraulic active heave compensated subsea cranes is designed for safe and accurate offshore and deepwater subsea lifting operations, including offshore construction and subsea installation, deck- and ship-to-ship lifts in most severe offshore environments.

General description

Utilizing the finest and most reliable MRU (Motion Reference Unit), position sensors and control system, MacGregor cranes provide top-precision active heave compensation for the vertical heave motion of the vessel directly through the crane's winch. AHC directly on crane's winch vs. traditional AHC cylinder compensation allows for most accurate lifts without the limitation of cylinder stroke assures more accurate wave stroke compensation vs. traditional AHC cylinder compensation. MacGregor cranes are delivered with a complete electro-hydraulic power unit (HPU) fully enclosed and mounted in the cranes' king structure. AHC, auto-tension and auxiliary winch and tugger winch functions are integrated within a powerful and intuitive control system, assuring precision and safety of critical operations.

State-of-the-art, in-house developed, large screen-based PLC system (Programmable Logic Controller) allows crane operator to have full control of crane's functions, ensuring total safety of critical lifting operations at different sea states and operating positions, reducing the possibility of overloading the crane at any given radius. MacGregor subsea cranes deliver this safety feature in accordance with all the latest class requirements for MOPS (Manuel Overload Protection System) and AOPS (Automatic Overload Protection System).







Standard features

- Lifting capacity range from 15t and up to 600t single line / 900t double fall
- Cranes can be delivered as fixed-boom or knuckle-jib type
- AHC direct on winch
- In-house developed control system
- Prepared for ROV monitoring
- Main winch wire capacity up to 4000m
- Main winch may be mounted on crane or below deck
- Auxiliary winches with up to 40t SWL and 3000m wire capacity
- Tugger winches are a standard feature on larger cranes
- Fully-equipped, spacious, air-conditioned, ergonomically designed operator cabin

Optional features

- Special high-lift mode for knuckle-jib cranes
- Wire rope integrity monitoring system
- Certified for ship-to-ship operations
- Constant tension for increased lifting height
- Certified for personnel lift
- Winterization package
- Dynamic load calculator / Planning tool integrated with crane's control system
- C-HOW simulation platform
- MacGregor OnWatch – satellite-based online support system with remote diagnostics

Safe deck handling

Safety is a pivotal aspect of any work and is especially important in challenging and ever-changing conditions. The Triplex Safe Deck Handling products not only allow you to keep your workers safe, but ensure the maximum safety of your cargo and crew.



Shark jaws and towing pins

Triplex Shark jaws/towing pins are designed to meet the most stringent offshore standards, including those set by the Norwegian Maritime Directorate. The designs have Det Norske Veritas and American Bureau of Shipping Type approval. Shark jaws are used to secure chains or wires during anchor handling operations. A wide range of insert plates, made from abrasion-resistant and highly durable materials, are provided and are easily interchangeable for handling various chain sizes. A wire lifter is provided between the jaws to secure the wire socket in the top position. The angular-type towing pins have a simple design and strong construction, easily trapping the chain or wire when the pins meet at the top. Rollers are provided along the pin body to reduce friction when handling the chain or wire. Towing pins can also be provided in a vertical type.





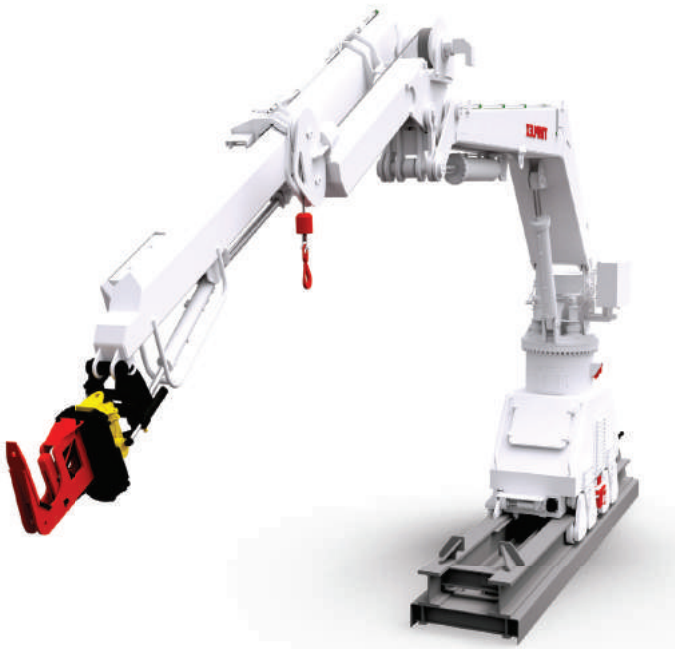


Multi deck handlers

The Triplex branded Multi Deck Handler is the ultimate lifting equipment for all large anchor handling vessels. The large lifting and pulling capacity allows for the safe handling of large anchors, buoys and chains on deck of the vessel by “deck-hands”. The MDH has revolutionized the safe handling of anchors at sea by controlling the spin-out of wires by a dedicated wire-clamp, remote controlled buoy catching as well as catching the pennant wire by remote control all from a safe distance to the handler.

Cargo rail cranes

MacGregor shipboard cranes of luffing, knuckle-jib and telescoping type are designed for safe and accurate deck lifts onboard ships and offshore installations, and cargo handling within harbors. The cranes may be delivered with safe working load of up to 20 tons and various slew bearing dimensions and height of pedestal to accommodate operational requirements and industry regulations. MacGregor shipboard cranes may be delivered in Cargo-rail version, mounted onto our cargo rail vehicle trolley system, the cranes can travel along the cargo rail covering the entire length of the aft deck.Triplex Cargo Rail Cranes offer reliable and effective methods of lifting and moving cargo for offshore vessels.



Triplex cargo rail cranes offer reliable and effective methods of moving cargo for offshore vessels.

Rescue davits

Rescue and work-boat davits including pivoting and telescoping types are available for handling small or large daughter craft including MOB and other rescue boats. SOLAS approved davits incorporate emergency backup power systems for guaranteed operation even during dead-ship conditions. Davits can make use of optional shock absorbers, heave compensation and/or constant tension features for safer handling in severe weather conditions and for heavy boats. An associated towing boom (slewing, luffing or telescoping) with optional jigger winch keeps the boat under control during launch and recovery.





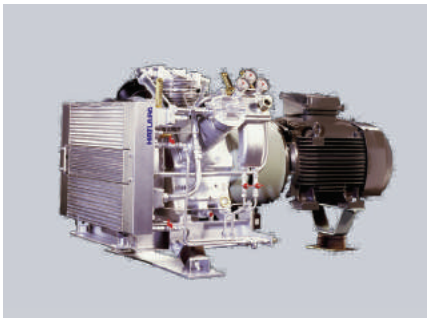
We can supply a robust **G-type** davit, especially suited for operations in rough conditions. Our **T-type** davit has a compact design which allows for installation in hangar with limited height and/or depth. The space-saving design of this telescoping davit leaves the vessel deck and bulkhead clear, supporting the davit only by the overhead ship's structure. MacGregor **A-type** davit is a cost-efficient alternative that offers proven performance and reliability.



Deck machinery and auxiliary systems

Winches, windlasses and capstans are generally supplied with power packs and control systems as a complete package. Hydraulic ringline connections, electric or air motors are also available. Our winches hold the ship safely in position berthed at pier and windlasses secure it while anchored at sea. Integrated winch, windlass and capstan systems are available to provide maximum flexibility for all types of line and chain handling. Our Hatlapa and Pusnes branded deck machinery serves the needs of any IMR/OCV.





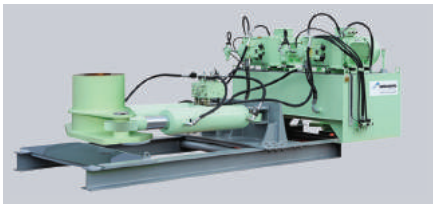
Compressor (L90, L140, L160)
Our Hatlapa branded air compressor can be used for starting air, service air and control air. Every compressor is put through its paces on a modern test bench, and all well-known classification societies are present on a regular basis to carry out testing procedures.



Steering gear

The steering gear controls the rudder that turns the ship while in motion. Our Hatlapa and Porsgrunn branded rotary vane steering gear is compact and suitable for the smallest compartments.

The maximum torque can be applied at all angles, thus increasing safety, particularly when sailing in narrow straights. It also enhances maneuverability during berthing.



Your partner in all situations

Our customer-driven engineering and service solutions support customers in their onboard, port and offshore operations worldwide. Today, half of the world's oceangoing ships are fitted with MacGregor equipment. Turn to us when you want a reliable partner to keep that equipment up and running throughout your ship's lifetime.



Economy and ecology go hand-in-hand

MacGregor continues to develop environmentally-friendly cranes, hatch covers, RoRo cargo handling solutions on board and in port, winches and other equipment with electric drives, as well as dust-free conveying systems with totally enclosed loading and unloading equipment for dry bulk materials. We focus intensively on our environmental responsibilities, adapting our bulk handling systems for operation even in densely populated areas.

MacGregor offers you lifecycle support for ships, ports and terminals, offshore and rigs. We complement our products with original spare parts and support services around the clock.

Global Presence, 24/7

Our service portfolio covers all equipment on board, offshore and in port. Armed with our world class expertise in cargo and load handling, we can provide service to our customers all over the world. Our worldwide service network means that we are able to respond rapidly to our customer's needs.

Product experts

MacGregor's product experts are on standby worldwide to provide a rapid response to your needs. We operate in approximately 50 countries and we are constantly strengthening our local presence to meet changing market needs. MacGregor's service network consists of more than 60 service centres in major ports around the globe, staffed by specialists. We supply original MacGregor spare parts and repair services on a planned schedule, on demand or on an emergency basis.



We are only a phone call away, often just around the corner and we serve our customers in their own languages. Our goal is to provide top-of-the-line service and sustainability.



The MacGregor scope

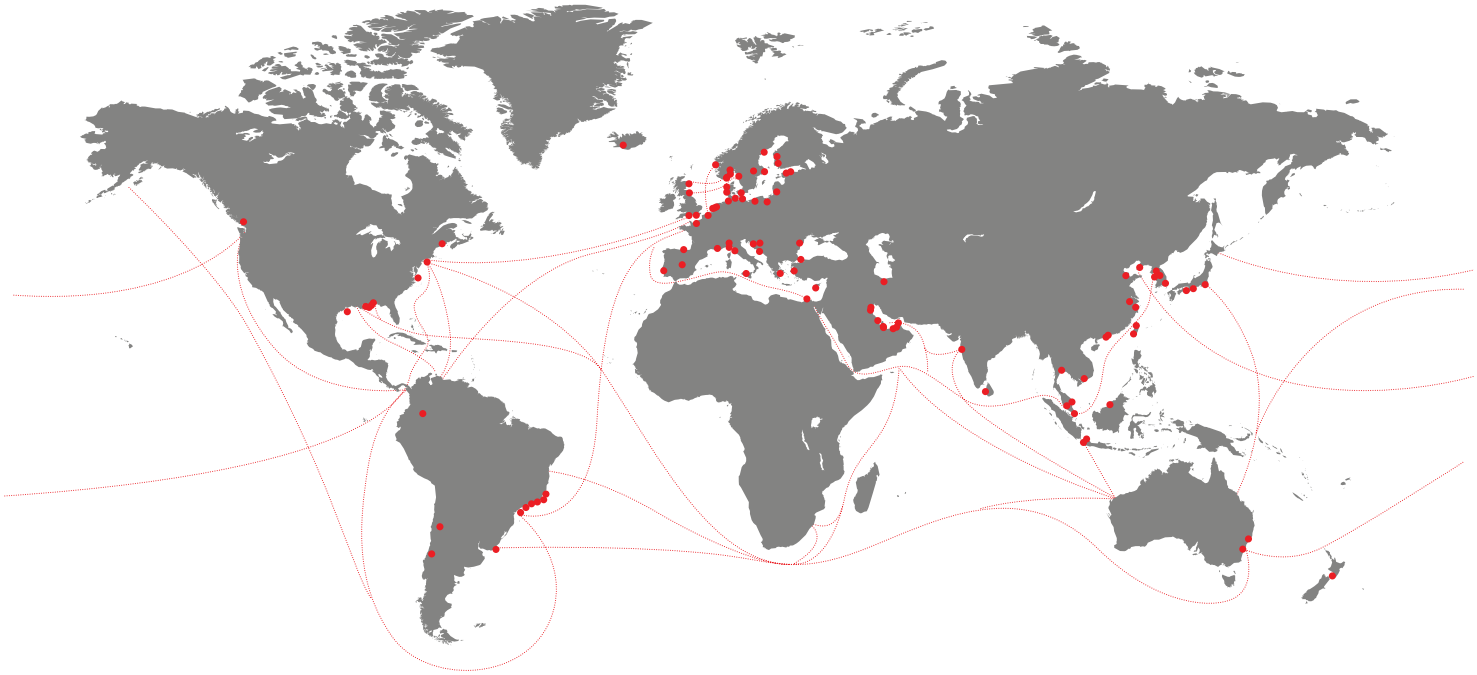
MacGregor offers integrated cargo flow solutions for maritime transportation and offshore industries. We are a global company with facilities near ports worldwide. Once our system is in service, we provide lifetime support in the form of maintenance and service solutions that take care of the full lifetime of your equipment.

Our offering for ships includes hatch covers, cranes, RoRo cargo and passenger access equipment, self-unloading systems, lashing systems and Hatlapa deck machinery, steering gears and compressors, Pusnes deck machinery and Porsgrunn steering gear. For ports and terminals, MacGregor delivers linkspans, shore ramps and passenger gangways. For the offshore industry, our product portfolio includes a broad range of advanced solutions for subsea load handling, anchor handling and towing and mooring operations, a wide range of products for maritime research, as well as mooring and loading systems.



MACGREGOR
Designed to perform with the sea

Wherever needed, you can rely on our support.



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. Cargotec's (Nasdaq Helsinki: CGCBV) sales in 2015 totalled approximately EUR 3.7 billion and it employs over 11,000 people. www.cargotec.com

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