

Side ports and hatches

Technical Datasheet



MACGREGOR

Reliable solutions for challenging operations

High sea states demand special design considerations and MacGregor equipment has been specifically developed to fulfil rigorous operational requirements to support the offshore sector. We supply side ports and hatches for a variety of ship types including AHTS, DSV, OSV, construction and special purpose vessels.

Innovative offshore solutions

Over the years MacGregor has specialized in the design and supply of doors and hatches for the marine industry. Drawing on this expertise MacGregor has developed a range of equipment specifically to suit the challenging demands of the offshore sector.

Side ports

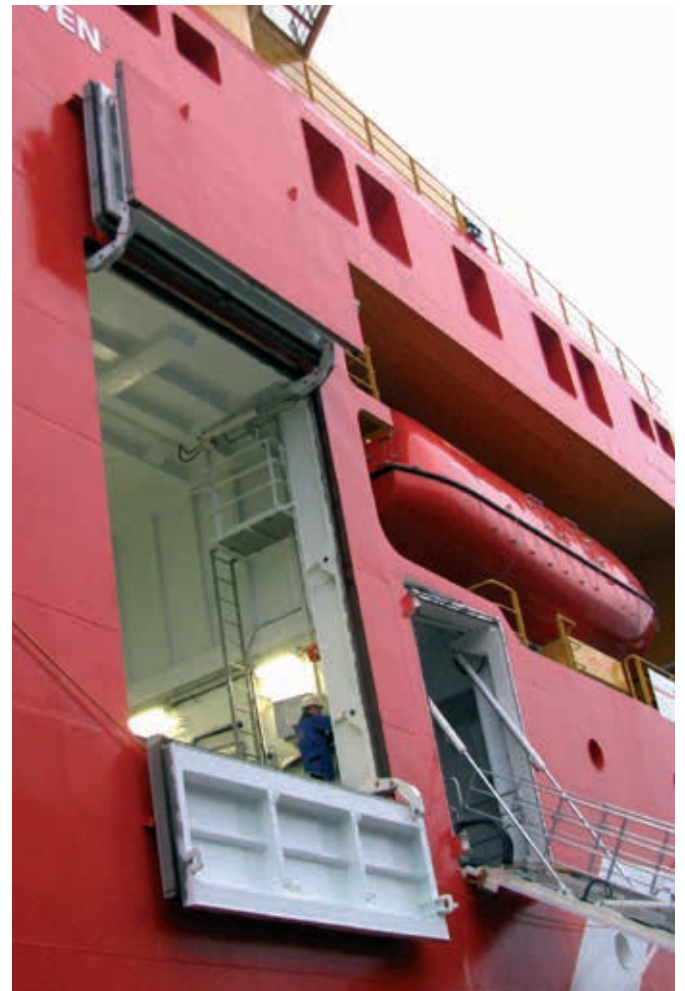
A variety of side ports are available whether to provide cargo and personnel access into the ship or arranged at the ROV hangar to protect personnel and Launch-and-recovery systems (LARS) equipment. All door types are suitable for use in extreme environments where heavy weather is common and operational continuity essential.

Hangar doors must be able to support operations in high sea-states and high winds to cope with the effects of adverse weather. Structural integrity and operation suitability is critical to ensuring sustained functionality of ROV operations. Doors are selected to suit ship arrangement and operator requirements.

Options include partially opening lower doors, to provide operator protection, or fully opened depending upon the end users operational requirements.

We ensure that your door will meet your needs in terms of quality, efficiency, security and overall economy. Yet it will be standardised in all major functions. You will be supplied with well-proven, reliable equipment which is

easy to repair in the event of an accident and easy to maintain for long-term trouble-free operation. We believe in high quality in every respect.



Door type and size

In order to establish the type and size of door, we require information about the purpose of the door and drawings of the ship, surrounding the door area. Doors typically are arranged in one or two sections, top hinged, side hinged or a combination of both. Doors are hydraulically operated, secured and designed according to Classification Society rules and regulations.

Three measurements are vital for the planning: the height between the decks, the depth of the shell girders and the door clear opening (fig. 1).

Designs may need to cater for specific operating requirements for example allowing a completely unrestricted hangar opening or, with the lower section secured in place, a partially protective barrier.

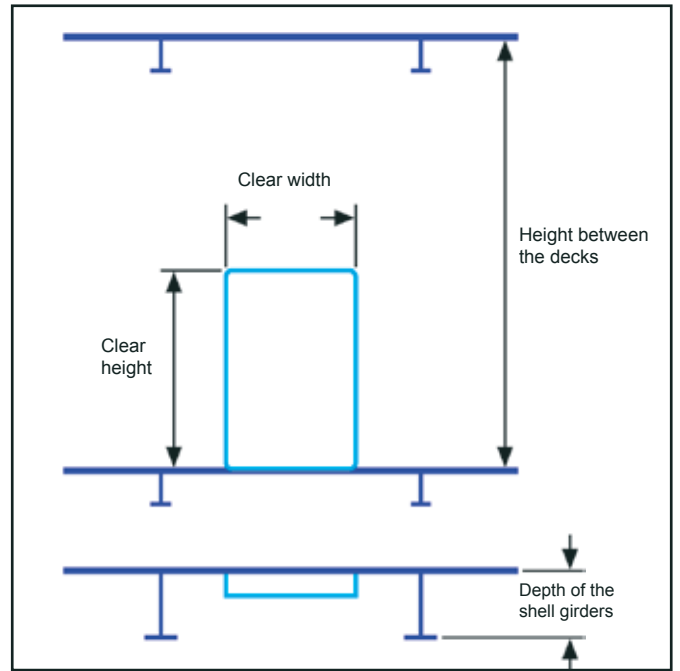


Fig. 1

Flush hatches

Flush hydraulic closures may be needed for main deck, tween deck, above the engine room or mounted on top of the ROV hangar. Hatches are supplied as single panels or larger split arrangements.

Whether the intended application is for cargo or equipment movement from deck to deck, or to support a container we can assist.

Hatches may be supplied as 'stand-alone' or 'plug and play' type where the hatch is supplied complete with a dedicated deck insert for ease of installation.

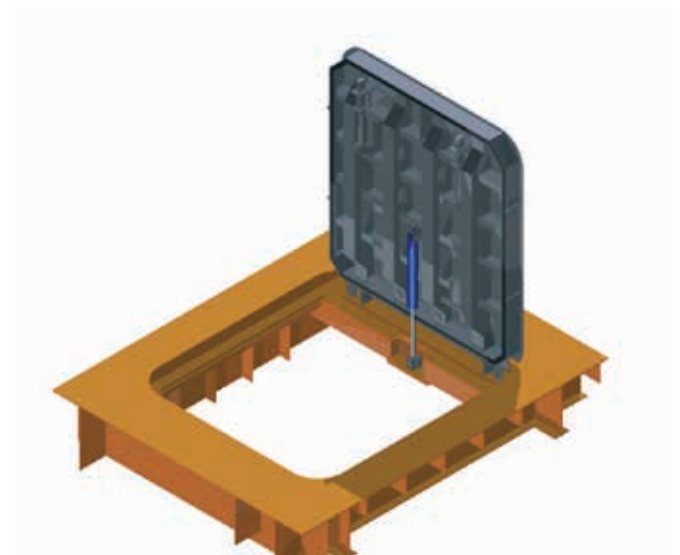
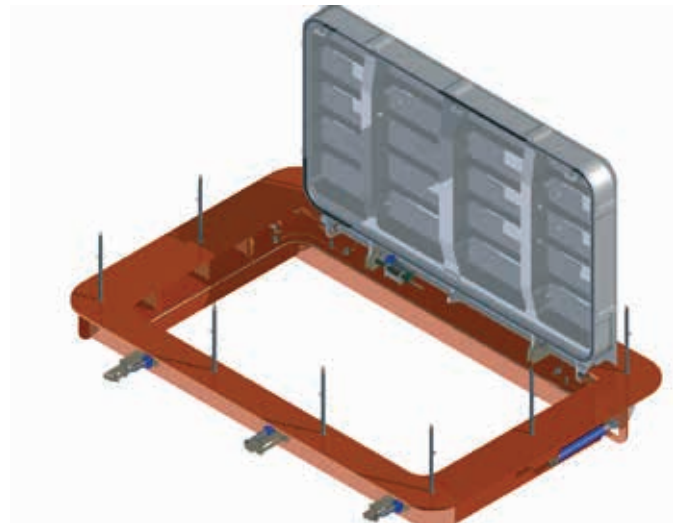
Design

MacGregor hatches are designed in accordance with Classification Society requirements to suit deck loads and water pressure from below where applicable.

Hydraulic securing devices around the perimeter are positioned to suit the appropriate degree of tightness i.e. weathertight or watertight.

Signals sent to a bridge indication panel ensure ship personnel are aware of the hatch open or closed status.

Operating cylinders are mounted between hatch beams or under the coaming depending upon the specific type required. This is to ensure that mechanisms are protected when the hatch is open during cargo transfer.



Steel structure quality

The MacGregor equipment is designed as a flat top plate and open web construction to meet the demands for torsional strength due to the movements of the hull or heel of the ship. High tensile steel is used as standard.

Quality of fittings

Shafts, pins and hard piping exposed to the weather are of stainless steel. Main hinges and cylinders are fitted with spherical bearings.

Sealing and securing quality

MacGregor's engineers have spared no effort in developing an efficient and secure weathertight seal.

The result is a simple but high-performance design. A rubber packing is placed in and around the perimeter of the opening of the hull and is pressed against compression bars made of stainless steel. These have a very smooth surface to guard against any penetration of water.

There are two types of seal design as standard (fig. 2 and 3). When the equipment requires sealing without a sill, a sliding packing design is chosen. This allows relatively large racking deflection of the opening. In all other cases a conventional design is used.

The equipment is secured in the closed watertight position by hydraulically operated securing devices of well-proven design (fig. 4). They are well-proven innovations which can be relied upon.

Safety quality

Being the market leader, MacGregor is invited by national authorities and classification societies to use its expertise, gained from numerous installations, to develop and evaluate new rules and regulations.

Your MacGregor equipment will incorporate a number of items of safety equipment regulated by classification societies and authorities. Indication lamps on the operating and bridge panels energise to confirm the equipment is closed and secured.

Custom designed load control valves are normally fitted directly on the cylinders. This will prevent the door from any uncontrolled movement in the event of hydraulic or electrical failure.

Only high quality components of marine design from recognised suppliers are used in our equipment.

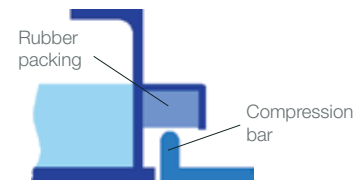


Fig. 2: Conventional door seal design

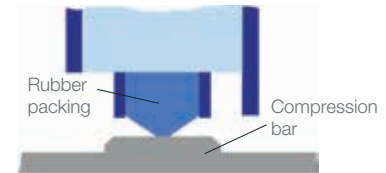


Fig. 3: Sliding door seal design



Fig. 4: Bolt cleat for top-hinged doors

MacGregor offers world leading engineering solutions and services for handling marine cargoes and offshore loads. The scope of our integrated packages is growing and now also includes Hatlapa, Porsgrunn, Pusnes and Triplex products.

MacGregor is part of Cargotec. Cargotec's class B shares are quoted on NASDAQ OMX Helsinki Ltd.

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