

MOPS Systems for Offshore Cranes



Photo courtesy of COMANSA



 **Stromag**[®]
Altra Industrial Motion

STROMAG SUPPLIES COMPLETE BRAKING SYSTEMS TO EQUIP OFFSHORE TOWER CRANES

An offshore lifting operation will always contain risks caused by irregular waves. Freak waves can actually lead to higher loads on the crane than expected during the selection of the applicable rating chart.

The crane driver must be able to activate an emergency release system to avoid these overload situations: The Manual Overload Protection System must be operational in all configurations and can be activated at any time, including after an emergency stop and a power failure. It must respond quickly and when activated it will maintain a constant tension on the hoisting wire of 10% to 20% of the maximum wire tension allowed.

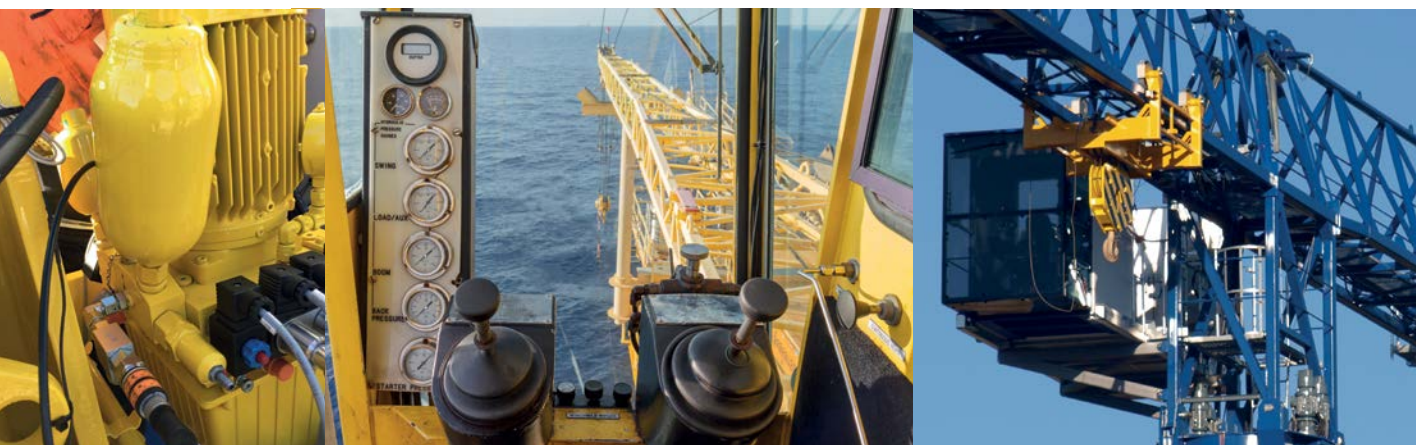


Photo courtesy of COMANSA

Stromag braking systems meet the safety requirements of offshore cranes: they bring solutions for Manual Overload Protection operations according to the standard NF EN 13852 with emergency braking functions.

The crane driver controls 3 operating modes through the remote control panel of the installation:

- Manual Overload Protection System which can be applied in all configurations (brake opened, brake closed, power failure);
- Brake Closing: application of the full braking force;
- Soft Braking: progressive application of the braking force, non-application of the full braking force at the beginning of the braking.

These 3 different operating modes are processed by a specific electrical unit following a priority order to protect the installation against unintended use.

This electrical unit controls the brakes operation through a Hydraulic Power Pack and indicates all possible faults that could occur on the system (lining wear, battery defective,...). A reset push-button allows the crane driver to activate the normal operation mode in a safe manner.

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STROMAG BRAKING SOLUTIONS FOR MANUAL OVERLOAD PROTECTION SYSTEM (MOPS)

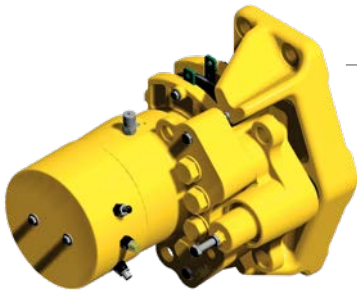


SIME Brakes Caliper Type SHD9

This fail-safe single-spring hydraulic caliper is associated with a Hydraulic Power Pack type CSH. Its robust construction and simple operation bring high reliability to this caliper.

Characteristics:

- compact: operation in restricted spaces
- weight = 148 kg
- a large range of dynamic braking force from 43 to 100 kN
- proximity switches with protective cover for opening and lining wear monitoring



SIME Brakes Caliper Type SHD5A

This fail-safe single-spring hydraulic caliper is associated with a Hydraulic Power Pack type CSH. Its compact and light weight design allows an easy mounting and operation in restricted spaces.

Characteristics:

- compact: operation in restricted spaces
- weight = 108 kg
- dynamic braking force from 15 to 56 kN
- proximity switches with protective cover for opening and lining wear monitoring



CSH Hydraulic Power Pack

Associated with calipers type SHD, for MOPS systems, the CSH HPP allows:

- when the caliper is open and the load is blocked, the application of 10 to 20% of the maximum load of the crane capacity;
- when the caliper is closed and the load must be lowered, a decrease of the maximum load of the crane capacity down to 10 to 20% of its nominal value;
- Soft Braking: adjustable and progressive application of the braking force with non-application of the full braking force at the beginning of the braking.



KSH Electrical Control Unit

This electrical control unit is designed to offer a tailor-made braking solution.

- It receives:
 - information on the state of the caliper and the HPP components
 - orders from the remote control of the crane driver
- It controls the opening and closing of the emergency brakes.
- It enables 3 different modes which are processed following a priorities order.
- It displays detailed information on all the different possible faults.
- It includes a push-button for reset, an uninterruptible power supply and an optional refrigeration unit.
- It can be delivered with all the connection cables (optional).

Stromag proposes 2 different technologies: hard-wired logic or programmable logic with PLC, according to the customer request.

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