

# K4 Heavy Duty Crane

To meet the toughest conditions



**MACGREGOR**

Designed to perform with the sea

# K4 HD crane

Meeting the toughest capacity demands and environmental conditions

## Crane type

K4 electro-hydraulic four-wire grab cranes are self-contained units with all machinery enclosed in the crane housing, protecting it from weather, corrosion, dust and mechanical damage. The K4 HD range covers lifting capacities from 30 to 50 tonnes in grab operation, with outreaches of up to 36 m.

To further improve outreach, cycle time and positioning performance, the crane can be installed on an eccentric platform.

Each crane is tested electrically, hydraulically and mechanically before delivery.

## General design

K4 cranes are designed to meet the rules of all recognized classification societies.

K4 crane design is calculated according to the latest FEM rules, 1.001. For K4 heavy-duty units, where U7-A8-Q3 applies to the whole crane, this equates to 1,800, 000 hoisting cycles during the life time of the crane.

## Crane operation

The MacGregor control system ensures smooth, fast and stepless crane control. Hoisting, luffing and slewing motions are independent of each other. This means that at their maximum capacity, K4 cranes can operate at full speed using all three movements at the same time.

The three main crane movements – hoisting, luffing and slewing – are hydraulically driven. All crane movements are smooth and fast, with stepless speed control within the speed limit.

## Control system CC3000

The crane has CC3000, MacGregor's own design of control system, intended for use in tough marine environments. It provides excellent control and optimisation of cargo handling.

The system has logging services. The required data – such as pressure, speed, angle and temperature – is gathered from sensors connected to the CC3000.

## Display in cabin and ships office

The crane display in the cabin has the MacGregor software system, MacHeavyvisor. The display shows the operator real time information including weight and outreach data. The display can also be used for troubleshooting.

The crane display can also be shown at ship's office or bridge to monitor the crane operation, and to access all available crane system information. This will facilitate troubleshooting and monitoring of the cranes, and the information can be shared with MacGregor office.





# Technical data

Specification	K 3030-4 'Heavy Duty'	K5036-4 'Heavy Duty'
Hoisting capacity, SWL grab:	30t	50t
Hoisting capacity, SWL hook:	32.5t	52.5t
Hoisting speed full load grab:	50 m/min	50 m/min
Lowering speed full load grab:	55 m/min	55 m/min
Hoisting and lowering speed empty grab:	75 m/min	75 m/min
Hoisting and lowering speed hook:	30 m/min	30 m/min
Luffing time:	75 sec	75 sec
Slewing speed:	1.2 r/min	0.9 r/min
Jib radius, min:	6m	7m
Jib radius, max:	30m	36m
Electric motor continuous:	345kW	2x345kW
Starting current:	1280A	1500A
Main power supply, AC:	440V, 60Hz	440V, 60Hz
Weight, total:	76t	150t



Data is based on a maximum of 5° list/2°trim, crane speeds are independent of the main power supply. Other specifications, capacities and speeds are available.

## Human Machine Interface (HMI) MacGregor Crane Information System



- Real-time information on active systems
- Load/speed/outreach information
- Logs information for analysis
- Errors/warnings/events
- Touchscreen display

### K4 Standard functions and features:

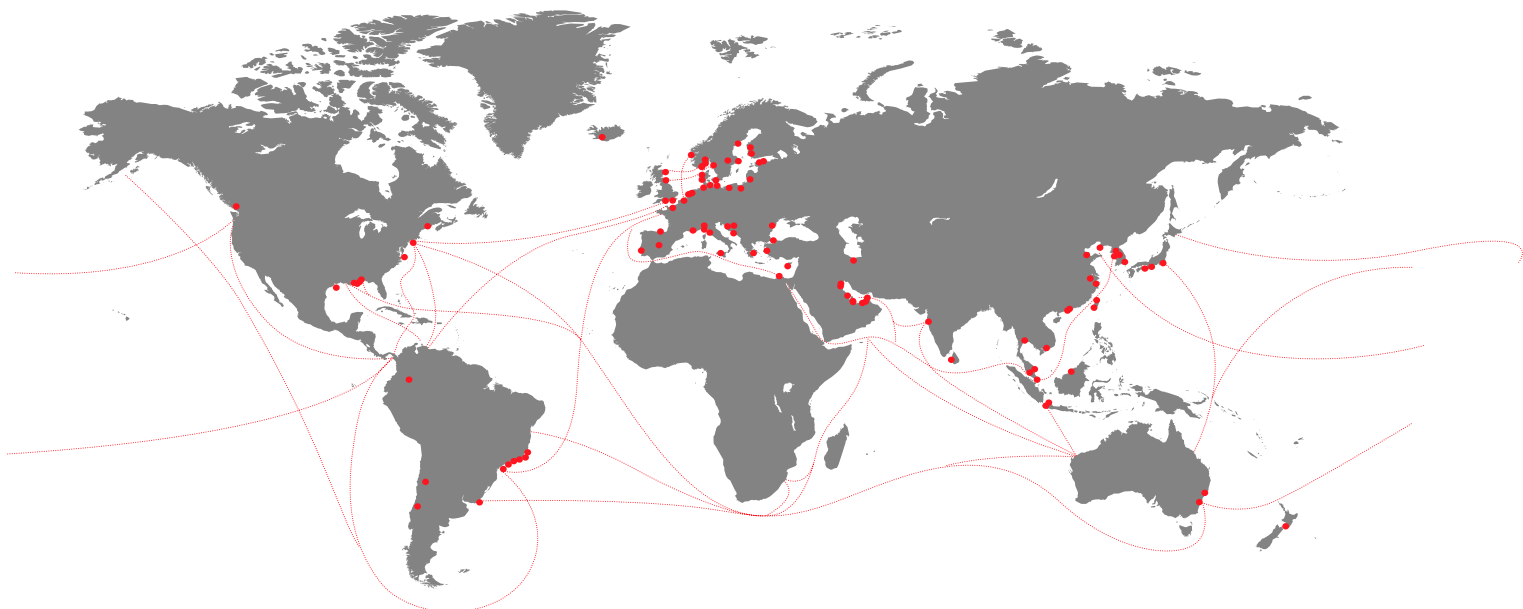
- FEM-rules, 1.001
- High rated capacity, tonne/hours
- Positioning performance
- Low power consumption
- Robust design
- Machinery with fail-safe brakes
- Operator convenience with redundant AC and spacious cabin

### K4 Optional functions and features:

- Anti-collision system
- Active Pendulation Control (APC) to reduce swing
- Auto-team, one driver operates two cranes for team lifts, increases safety and facilitates operation
- Automatic lubrication of slewing bearing
- Camera system in jib top
- Increased speeds for K50
- Sea state selector

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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*.

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