

GustoMSC 500 t Offshore Crane

GCC-500-HD

Make	GustoMSC
Crane model	GCC-500-HD
Drive system	Hydraulic
Type	Column crane

The GCC series - a GustoMSC product

Description

The GustoMSC GCC series is a range of heavy lift Offshore Column cranes that can be positioned on a pedestal onboard any vessel, barge or jack-up.

The GCC-500-HD is capable of lifting and slewing its maximum load of 500 tons at a maximum radius of 31 m with a dynamic factor of 1.1 and 500 t @ 24 m with a dynamic factor of 1.4. This Column crane is a hydraulic driven, rope luffing, pedestal mounted crane revolving 360° unrestricted on a slewing bearing system. The GCC-500-HD, with limited tail swing, combines a high capacity & high outreach with an extreme short minimum radius and makes it ideally suited for installation of wind turbine parts and/or any other heavy components.

General Specifications

Capacities

• Main hoist (DAF 1.1)	500 t @ 31 m
Main hoist (DAF 1.4)	500 t @ 24 m
Minimum outreach	
Short boom	14 m
Long boom	18.5 m
Hoisting height (above heel point)	
Short boom	73.5 m
Long boom	96 m
• Auxiliary hoist	160 t @ 70 m
Minimum outreach	
Short boom	16 m
Long boom	22.5 m
Hoisting height (above heel point)	
Short boom	78.5 m
Long boom	99 m
• Whip hoist (DAF 2.0)	10 t @ all radii
Man riding capacity	3 t
• Tugger winches	2 x 10 t
Operational wind speed	16 m/s
Slewing speed	0.3 rpm
Slewing range	n x 360°
Boom hoist time	approx. 7 min

Main dimensions & weights

Tail swing	approx. 9.0 m
Crane weight	approx. 690 t



Power supply

Main hydraulic power supply to crane by vessel HPU	
Total crane power consumption	1,600 kW

Rules & Regulations

These cranes will be built, equipped and tested to obtain a Class certificate (such as ABS, BV, DNV, GL, LRS, etc.). For the crane's main mechanical components as well as for the total crane, a Class of Utilization, a Class of Loading and a Group Classification are determined according to the FEM rules for the design of hoisting appliances.

Transit / Survival condition

WTI Jack-up crane vessels are classed "worldwide unrestricted service" and transit conditions are defined as long distance travel. Based on the DNV rule the maximum accelerations are included in the design of the crane.

Crane lay out

The crane consists of a fixed part (pedestal) and a revolving column, which houses the winches, hydraulic & electric & control equipment. On top of the pedestal is an integrated slewing bearing which provides unrestricted continuous slewing of the column.

The crane boom attached to the column is a lattice tubular structure made of extra high strength steel and the boom tip is specially designed to lift wind turbine components at high heights. Hoist winches have Lebus grooved drums, driven by hydraulic motors connected to the drum by means of a gearbox. Hoisting speeds are continuously variable and load dependent. Two constant tension load tugging winches, to control the main load, are installed on the cranes column platform and are operated from the control cabin.

The Operator control cabin, air-conditioned/heated, is placed on the column platform to ensure clear view on the load and working area. Controllers and instrumentation are ergonomically placed within the crane driver's reach and view. All driver controls can electronically be monitored via a TFT-screen and the hoist winch drums and load can be viewed by means of the CCTV system.

Hydraulic & Electrical & Control System

The hydraulic & electrical & control installation are suitable for a humid, salt laden atmosphere with vibrations and accelerations normal to a marine environment.

The control system is a PLC based system with remote I/O's, with a redundant LAN Ethernet able to connect to the vessel management system for monitoring.

The primary hydraulic power is supplied from the vessel's HPU through the crane's swivel assembly. An electrical slip ring system provides the auxiliary power, low voltage power and control system interface signals, between the vessel and the unrestricted revolving crane column.

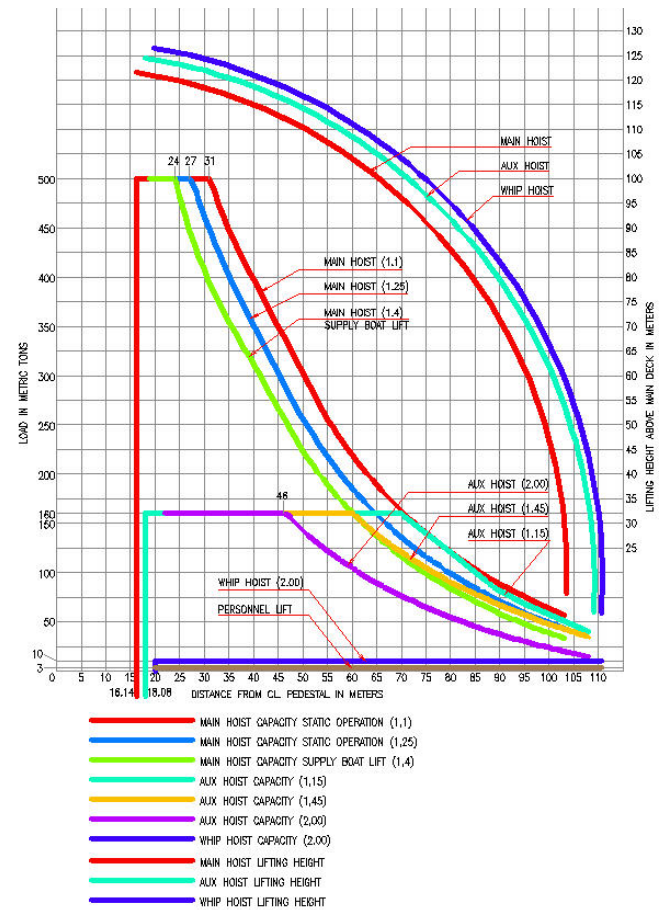
Safety equipment

The crane is equipped with the latest safety equipment such as overload protection, limit switches, wind speed meter with indicator and alarm, slewing alarm signal device, emergency stop push buttons, slack rope detection, active boom stopper, fire extinguishers and fire detectors, CCTV monitors.

Track Record

GustoMSC has a substantial reference list in special heavy lift offshore cranes, ranging in capacities from 500 tons to 5,000 tons. These cranes have been performing reliably for more than 40 years. The market segment, in which GustoMSC is active, focuses on tailor-made designs for specific offshore applications. The GCC-500-HD is engineered to meet the specific requirements for the job.

Data presented in this product sheet is for information only and subject to change without notice.



**All lifting capacities are in metric tons. Outreach is measured from the center of rotation of the cranes (CL of crane tub).*