



OOS ENERGY B.V.

MULTI ACTIVITY UNIT

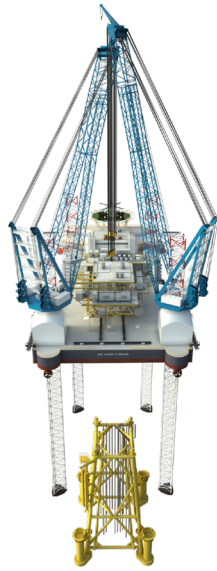


revision 4.6

OOS
LUCTOR ET EMERGO



Large deck space with cantilever in parking position



Tandem lift with vessel cranes



Working envelope rig with patented skidding system

GENERAL

The MAU is a 4-legged self-elevating, self-propelled DP2, multi-purpose unit built to operate in harsh environment areas such as the North Sea. The unit can operate in 55 m water depth in North Sea conditions (sustaining 10.000-year wave). In benign circumstances the unit can operate in 80 m water depth.

ACCOMMODATION

The accommodation is suitable for 200 persons. The cabins are equally equipped, laid out with 2 cabins sharing a common shower/toilet cabinet. A full entertainment system is available in each cabin.

The vessel offers all facilities to allow smooth operation with full accommodation of 200 person. This includes galley and mess room facilities allowing queue-less catering. The facilities also include ample changing rooms, recreational rooms, hospital, gym, laundry and a well-positioned dirty coffee lounge. The hotel facilities also include a reception area with heli-launch with a briefing room. Office facilities for client use includes offices and conference rooms.

POWER AND PROPULSION

The unit is self-propelled by 4 steerable thrusters. The DP2 system ensures a safe positioning near the platform.

Four main diesel generators, located in two separate engine rooms, provide power for propulsion, cranes, the drilling package and all auxiliary functions. The unit is dual fuel ready.

WIND & INSTALLATION

The unit is equipped with two Le Encircling Cranes (LEC) of 1.200 mt lifting capacity each and a hook height above deck of 122 m. For safe handling, a tagline system is built in the crane. Sufficient accommodation capacity is available to accommodate the crew required for the installation of the wind turbines. The unit is designed to operate in 55 m of water depth 'all year around' and in 80 m benign environment. If needed for lifting at high elevation, the airgap can be increased to 40 m enabling a hook height of $40+8+122 = 170$ m above sea level.

MAU SPECIFICATION

LUCTOR ET EMERGO

GENERAL

Built	: China Merchants
Jack-up type	: Self-propelled, DP-2
Flag	: Dutch
Classification	: DNV-GL
Helideck	: SN61N/S92
Helideck compliance	: CAP437
Accommodation	: 200 POB
POB Cantilever - X	: 24,4 m
- Y	: +/- 20 m

PRINCIPAL DIMENSIONS

Length x breadth	: 106 m x 65/52 m (Aft/Fwd)
Transit Draft	: 5 m
Leg Length	: 127 m
Leg spacing longitudinal	: 63 m
Leg spacing – transverse – fwd	: 38 m
Let spacing – transverse – aft	: 45 m
Design water depth - harsh	: 55 m
Design water depth - benign	: 80 m
Variable load (with cantilever)	: 6.000 mt
Variable load (cantl removed)	: 7.600 mt
Deck space	: 3.400 m ²

MUD SYSTEM

Mud pumps	: 2x 1.200 kW
	: 5.000 psi
Shale shakers	: 2x MudCube
Swarf unit	: 1.200 GPM
	: 3.500 kg/hr

STORAGE CAPACITIES

Fuel	: 1.750 m ³
Drill water	: 714 m ³
Potable water	: 417 m ³
Liquid mud	: 700 m ³
Barite / Bentonite / Cement	: 4x 60 m ³

WELL CONTROL

BOP – Rams	: 1x double 13 5/8
	: 1x single 13 5/8
	: 10.000 psi
BOP – Annular	: 1x 13 5/8
	: 5.000 psi

POWER & PROPULSION

Main Engines	: 4x 3.800 kW
Main Generators	: 4x 3.500 kW
Thrusters	: 4x 2.350 kW

DRILLING EQUIPMENT

Mast	: 454 mt
Hookload	: 454 mt
Drawworks	: 1.100 kW
Racking capacity	: 18.000 ft.
Top Drive	: 52.000 ft. lbs cont
Pipe handling	: Automated
Coiled Tubing support	: 50 mt
Coiled tubing handl height	: 9,1 m

CRANES

Standard boom

Max hook height above deck	: 92 m
Main	: 1.200 mt @ 27 m
Aux	: 50 mt all radii

Extended boom

Max hook height above deck	: 122 m
Main	: 1.200 mt @ 27 m
Aux	: 50 mt all radii

PLUG AND ABANDONMENT PACKAGE

The pipe handling equipment is fully automated, limiting manual handling. Tripping speed is up to 4000 ft/hr and a specific tubing P&A iron roughneck is available for a safe and efficient handling of the production string. The cantilever has an extended reach of 24,4 m.

The mud system located in the hull contains 2x 1200 kW, 5000 psi mud pumps, mudpits, mud mixing facilities and 4 bulk tanks for cement/bentonite/barite storage. The mud system located in the cantilever contains high performance shakers, a swarf unit to remove steel cuttings and a vacuum degasser and mud treatment tanks.

The well control equipment consists of a BOP (Blow Out Preventer) 1x double ram, 1x single ram – 13 5/8 10.000 psi a 5.000 psi Annular Preventer and a standard Kill & Choke Manifold.

Features for an efficient P&A operation: The unit is equipped with a Swarf unit for the removal of steel cuttings.

The cantilever has an extended reach of 24,4 m and a side-way reach of 20,0 m each way. A dual well center is available to facilitate coiled tubing or wireline operations on a second well slot. This enables to work on two wells simultaneously. The handling of the tubulars is automated with high tripping speeds.

During the P&A operations, preparations can take place to enable the platform removal such as steel reinforcements or auxiliary structures such as the helideck, tanks, crane, removal of formation cuttings from the seabed, flush and disconnect flowlines etc. Therefore, there is no need to mobilise a hotel accommodation platform. The MAU has sufficient capacity (crane / bed space) to perform all preparation work.

There is no need for a heavy lift vessel for the removal of the platform. The MAU is designed to do this. The shallow draft of the unit enables the MAU to deliver the decommissioned topside/ jacket on the quayside for further disposal.

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