

# 5,000 T DUAL-DRAUGHT CRANE VESSEL

CONSTRUCTION

## 5,000 T DUAL-DRAUGHT CRANE VESSEL

GustoMSC has been involved in the design of a multitude of crane and pipelay vessels. The design of these vessels is traditionally a compromise between stability during heavy lifting, motion behavior and transit speed.

For Seaway Heavy Lifting a new design has been developed based on the patented dual-draught hull shape. This design provides the optimum solution for all operating modes. The vessel is currently under construction and is due to enter service in 2010.

### “Oleg Strashnov”

The “Oleg Strashnov” will have a fully revolving offshore crane with a lifting capacity of 5,000 metric tons. The vessel design allows for a high transit speed and, as a secondary function, is suitable to be fitted out for S-lay pipelaying operations. The 5,000 t crane on the vessel will be a GustoMSC turn-key supply.

The vessel is designed to provide high redundancy meeting DP-3 requirements and an 8-point position mooring system enabling crane and pipelay operations in deep and shallow water areas worldwide.

For station keeping operations two (2) retractable azimuthing fixed pitch propellers in nozzles below keel level, of 3,500 kW each, and two (2) changeable pitch tunnel thrusters in the bow, of 1,012 kW each, are provided. Two (2) non-retracting azimuthing fixed pitch

propellers in nozzles at the stern, with a capacity of 5,000 kW each, achieve the service speed.

The vessel is provided with a 5,000 ton revolving crane located at the stern of the vessel. Additional lifting versatility is included with 800 ton and 200 ton auxiliary hoists and a 110 ton whip hoist. A special feature of the crane is a 30 ton trolley hoist, which is also suitable for man-riding.

The vessel is designed for future pipelay capability for single and double jointing systems of 6" - 60" pipes with a tensioning system of up to 675 ton A & R capacity. A fixed truss type stinger is situated at the aft of the vessel incorporating a stinger adjustment system.

### Principal dimensions and main particulars

• Length overall	183.0 m
• Length between perpendiculars	171.6 m
• Breadth moulded	37.8 / 47.0 m
• Depth at side	18.2 m
• Operational draught (pipe laying)	8.50 m
• Operational draught (crane lifting mode)	13.50 m

### Classification

The vessel, including the crane is designed according to the rules and regulations of Det Norske Veritas to obtain the Class notation:

✕ 1A1 CRANE VESSEL CLEAN DK(+) HELDK-SH DYNPOS AUTRO E0 BIS

The vessel is designed in accordance with the requirements of Norwegian Maritime Directorate (NMD).



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## Machinery

Power generation:

- Main diesel generators 6 x 4,500 kW
- Emergency diesel generator 1 x 1,200 kW

## Propulsion and DP

- Main propulsion azimuthing thrusters 2 x 5,000 kW
- Retractable azimuthing thrusters 2 x 3,500 kW
- Tunnel thrusters 2 x 1,012 kW

## Crane

Fully revolving offshore crane

- Mainhoist (slewing) 5,000 t @ 32 m
- Auxiliary hoist 1 800 t @ 72 m
- Auxiliary hoist 1 200 t @ 90 m
- Whiphoist 110 t @ 118 m
- Trolley hoist 30 t  
(travelling on underside of boom from base of boom beyond main hoist)

## Pipe-lay system (future capability)

Capability to install an S-lay system with the following characteristics:

- Main firing line below maindeck leaving unobstructed maindeck
- Pipe diameter range 6" - 60"
- A & R system capacity 675 t
- Fixed type stinger with stinger adjustments system

## Accommodation & Helideck

Accommodation unit 220 / 395 persons  
Helideck Sikorsky S61N / S92

## Tanks and storage capacities

- Fuel oil MDO 3,800 m<sup>3</sup>
- Fresh water 2,300 m<sup>3</sup>
- Ballast water 50,500 m<sup>3</sup>

## Design criteria

### Maximum operating conditions lifting

- Significant wave height ( $H_s$ ) 2.5 m
- Wave period ( $T_p$ ) 3.5 – 14 s
- Wind speed 1 hour mean, ( $V_w$ ) 17 m/s
- Current speed, ( $V_c$ ) 1 m/s

### Maximum operating conditions pipelaying

- Significant wave height ( $H_s$ ) 4 m
- Wave period ( $T_p$ ) 7.5 – 9.5 s
- Wind speed 1 hour mean, ( $V_w$ ) 12.5 m/s
- Current speed, ( $V_c$ ) 1 m/s

### Maximum operating conditions standby / abandoning pipe

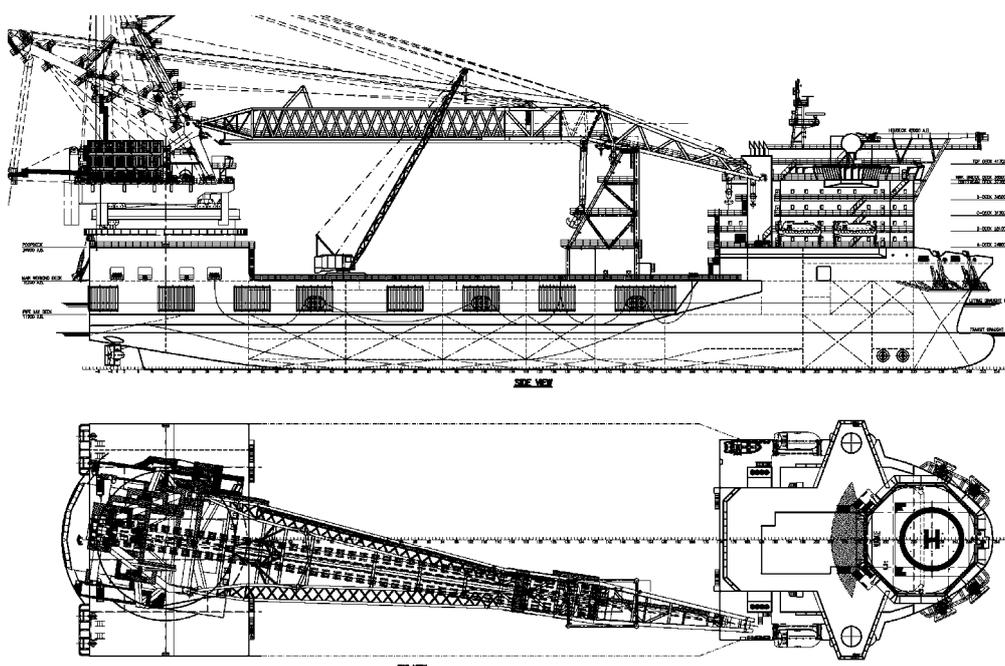
- Significant wave height ( $H_s$ ) 6 m
- Wave period ( $T_p$ ) 10 – 12 s
- Wind speed, 1 hour mean ( $V_w$ ) 17 m/s
- Current speed ( $V_c$ ) 1 m/s

## Transit conditions

In transit condition, unrestricted worldwide service is ensured. The service speed is 14 knots.

## Water depth

Pipe lay operations can be executed in maximum 2,500 meters water depth.



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