

# 4,000 MT DERRICK LAY BARGE

CONSTRUCTION

The GustoMSC 4,000 mt derrick laybarge is a combination derrick and pipelay vessel and capable of laying rigid pipe in up to 300 m water depth.

The vessel is designed as a non-self propelled barge, but with provisions for the addition of a dynamic positioning system for station keeping and self propulsion. In the base design a 12-point mooring system is provided for station keeping of the vessel during offshore construction operations.

The vessel is provided with a 4,000 mt revolving offshore crane located at the stern of the vessel. In fixed mode the lifting capacity is increased to 5,000 mt.

The pipelay capacity is provided for 4"- 48" pipes including storage capacity, a tensioning system of 3 x 80 t complemented with a 270 t A&R capacity. A fixed truss type stinger is provided at centerline of the vessel. Traveling cranes are provided at both sides of the vessel for pipe transfer.

## MAIN PARTICULARS

### Principal dimensions

Length overall	160.00 m
Length between perpendiculars	156.50 m
Breadth moulded	44.00 m
Depth moulded	12.60 m
Design draught (maximum freeboard)	7.70 m
Light draught	4.00 m
(10% consumables + 1,500 ton deck load cons.)	

### Classification

ABS ✕ A1 (P) Heavy derrick / Lay barge

### Power generation

3 main diesel generator sets of 2,760 kW  
1 harbour diesel generator set of 1,340 kW

### Propulsion

Provision is made for future installation of a dynamic positioning system for a DPS-2 notation with ABS.

### Tank and storage capacities

Deadweight 25,700 t @ 7.7 m draught

#### Tank capacities

Ballast water	28,300 m <sup>3</sup>
Fuel oil storage	2,700 m <sup>3</sup>
Fresh water	2,100 m <sup>3</sup>
Potable water	1,500 m <sup>3</sup>
Lubrication oil	40 m <sup>3</sup>
Sewage holding	160 m <sup>3</sup>
Dirty oil	25 m <sup>3</sup>

#### Deck capacity

Work deck area	3,100 m <sup>2</sup>
Deckload	10 t/m <sup>2</sup>

### Pipelay capacity

#### Pipelay capacity

6" to 48" outer diameter (steel), maximum 60" including coating

#### Main firing line

6x welding, 1x combined NDT/repair and 2 coating stations laid out for handling of single joints (40') Vessel is suitable for conversion to double jointing (80')



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## Tensioner capacity

240 t with 3x 80 t two-track tensioners

## A&R capacity

270 t with 2000 m wire storage capacity

## Stinger

Fixed (mechanically adjustable) stinger, 90 m long in three sections

## **Crane capacity**

Fixed over stern	5,000 mt
Slewing	4,000 mt
Auxiliary hook 1	800 mt
Auxiliary hook 2	200 mt
Whiphoist	50 mt

Auxiliary hoist 1 with subsea capabilities to a maximum water depth of 300 m.

## **Accommodation**

An accommodation deckhouse suitable for 330 persons is located forward on the vessel. All accommodation spaces are located above maindeck and are fully air-conditioned.

## **Helideck**

A helicopter landing deck suitable for a Sikorsky S61N is provided on top of the accommodation deckhouse.

## **DESIGN CRITERIA**

### **Operating conditions for lifting operation**

Water depth	9 - 150 m
Significant wave height, ( $H_s$ )	< 1.5 m

Wave period, ( $T_p$ )	4-6 s
Wind speed, 1 min. sust. ( $V_w$ )	10 m/s
Current speed, ( $V_c$ )	2 knots

### **Operating conditions for pipe laying operation**

Water depth	6 - 150 m
Significant wave height, ( $H_s$ )	< 3 m
Wave period, ( $T_p$ )	7 - 9 s
Wind speed, 1 min. sust. ( $V_w$ )	20 m/s
Current speed, ( $V_c$ )	2 knots

### **Pipelay operations standby mode**

Water depth	20-150 m
Significant wave height, ( $H_s$ )	< 5 m
Wave Period ( $T_p$ )	10 -12 s
Wind speed, 1 min. sust. ( $V_w$ )	26 m/s
Current speed, ( $V_c$ )	2 knots

### **Pipelay operations pipe transfer mode**

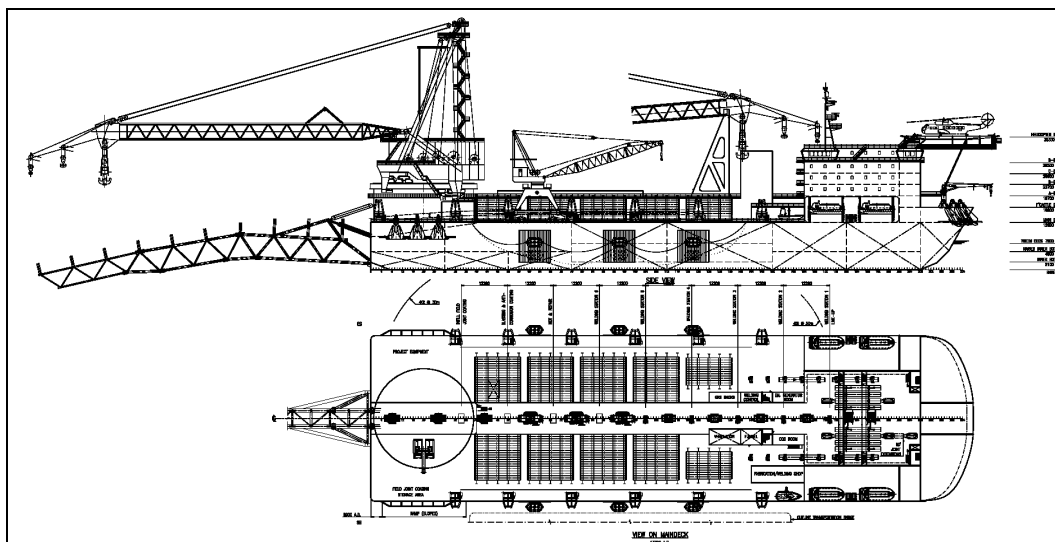
Water depth	6 -150 m
Significant wave height, ( $H_s$ )	< 2 m
Wave Period ( $T_p$ )	7-9 s
Wind speed, 1 min. sust. ( $V_w$ )	15.4 m/s
Current speed, ( $V_c$ )	2 knots

### **Survival conditions**

Significant wave height, ( $H_s$ )	12 m
Wave period, ( $T_p$ )	11.6 - 18.5 s
Wind speed, 1 min. sust. ( $V_w$ )	56 m/s
Current speed, ( $V_c$ )	4 knots

### **Transit conditions**

The vessel is designed for worldwide unrestricted service (except arctic areas) in transit conditions.



**FORESIGHT IN OFFSHORE**

**GustoMSC**