



ULSTEIN®

TURNING VISIONS INTO REALITY

ULSTEIN A101

Multifunctional Anchor Handling Tug Supply Vessel

M/V «NORMAND MARINER»

Hull No. 262

Designed by Ulstein Design AS

Delivered 2002 by Ulstein Verft AS, Norway

for Solstad Shipping AS, Norway





General

ULSTEIN A101 is a Multifunctional Anchor Handling / Tug / Supply Vessel designed by Ulstein Design AS. The vessel is designed and constructed according to the latest requirements and standards developed by well reputed operators to satisfy the requirements of the offshore industry as oil exploration and oil production moves into deeper waters.

ULSTEIN A101 is designed and arranged for a wide range of offshore operations like:

- ▶ Laying and handling of anchors and mooring lines for offshore floating drilling and production platforms.
- ▶ Towing of production platforms and drilling platforms.
- ▶ Handling and installation of subsea construction blocks and equipment.
- ▶ Trenching sea bed for pipe laying.
- ▶ Good manoeuvrability and high bollard pull.
- ▶ Considerable capacities of liquid cargo and deck cargo as Platform Supply Vessel.
- ▶ Low noise and vibration levels throughout the vessel.
- ▶ Power economic solutions and low fuel oil consumption, due to efficient hull form.

M/V "Normand Mariner" is built with a hotel complement of high standards and with capacity for 50 persons. The wheelhouse is very spacious, and has excellent visibility in all directions.

Main Dimensions

Length over all	approx. 82,1 m
Length between p.p.	72,7 m
Breadth moulded	20,0 m
Depth to main deck	9,5 m
Draught max	7,5 m
Design draught ³	7,0 m

Capacities

Fuel oil (MDO)	1210 m ³
Fresh water	753 m ³
Ballast water	3350 m ³
Brine	405 m ³
Liquid mud	545 m ³
Cargo (rig) chain lockers, 4 in number (VVB)	565 m ³
Cargo deck area	640 m ²
Cargo deck area dimensioning	10 T/m ²
Deck cargo (VGG 1,0 m above deck)	1550 T
Deadweight at max draught 7,50 m	3683 T
Gross tonnage, international	4462 GRT
Net tonnage, international	1338 NRT

Classification / Flag

DnV + 1A1, Tug, Supply Vessel, SF, OILREC, E0, DynPos AUTR, Ice C, DK(+), HL(+)
Flag: NOR.

Performance

Speed

Bollard Pull

Accommodation

The vessel is built with a complement for totally 50 persons, with the following room distribution:

- ▶ Two of one-bed state cabins with day room and bedroom

- ▶ Five of one-bed state cabins
- ▶ Eleven of one-bed cabins
- ▶ Sixteen of two-bed cabins
- ▶ All cabins with separate toilet/shower
- ▶ Mess room, Day room, and Smokers' lounge in vicinity of galley
- ▶ Laundries, hospital, wardrobe
- ▶ Dry provision room, refrigerated room, and freezer room
- ▶ Offices and Conference room

Technical data

DECK CRANES

- ▶ One knuckle boom ROV crane, 20 T at 13 m, 15 T at 16 m
- ▶ One knuckle boom crane, 10 T at 15 m
- ▶ One foldable crane, 930 kg at 17 m

LIQUID CARGO DISCHARGE SYSTEMS

- ▶ Two Fuel oil / ORO pumps, hydr. driven, 150 m³/h – 9 bar.
- ▶ Fresh water pump, 2-speed el. driven, 150 m³/h – 9 bar
- ▶ Fresh water pump, hydr. driven, 150 m³/h – 9 bar
- ▶ Brine / base oil pump, 2-speed el. driven, 90 m³/h – 24 bar
- ▶ Brine pump, hydr. driven, 75 m³/h – 24 bar
- ▶ Mud pump, 2-speed el. driven, 75 m³/h – 24 bar
- ▶ Mud pump, hydr. driven, 75 m³/h – 24 bar
- ▶ Two Ballast / ORO pumps, hydr. driven, 220 m³/h – 9 bar
- ▶ Mud agitator el. driven (4 tanks)
- ▶ Tank washing system for mud tanks
- ▶ Flowmeter for FO and Brine / Base oil cargo

RUDDERS / STEERING GEARS

- ▶ Two High Lift Flap Rudders
- ▶ Two Steering Gears

SIDE THRUSTERS

- ▶ One Side Thruster forward, 1200 kW
- ▶ One Swing-up Compass Thruster forward, 1100 kW, frequency drive
- ▶ Two Side Thrusters aft, each of 880 kW

ROLL DAMPING SYSTEM

- ▶ Two Passive Stabilizing Tank Systems

MANOEUVERING/POSITIONING

- ▶ Joystick
- ▶ Dynamic Positioning System DnV AUTR with: Position Reference Systems: DGPS 200, Fanbeam, Hydro acoustic HiPAP 500

NAVIGATION / COMMUNICATION

- ▶ S-band ARPA radar and X-band TM radar
- ▶ Electronic chart system
- ▶ Radio installation according to GMDSS – area A3 Inmarsat C and Inmarsat B

INTERNAL COMMUNICATION

- ▶ Advanced digital automatic telephone system with analogue and digital extension ports, with integrated PA system
- ▶ Combined loudhailer and talkback system.
- ▶ Batteryless telephone system
- ▶ TV Satellite antenna

DECK MACHINERY

- ▶ Two Combined Windlasses / Mooring Winches
- ▶ One Mooring Winch, pull 15 T
- ▶ Two Tugger Winches, pull 22 T
- ▶ Two Capstans aft, pull 15 T
- ▶ Two Towing / Working Drums with Spooling Gears,

- Capacity: 2700 m of 83 mm dia. wire, Low gear 400 T at 0 – 21 m/min., Brake holding load 625 T on 1st layer
- ▶ One Anchor Handling Drum with Spooling Gear, Capacity: 2000 m of 109 mm dia. wire in 5 layers Low gear 500 T at 0 - 17 m/min., Brake holding load 575 T on 1st layer
- ▶ Two Secondary Winches with spooling device, Pull 170 T, Capacity: approx. 1600 m of 8 in. dia. synthetic rope.
- ▶ One Storage Winch for spare tow wire, pull 15 T, Capacity: 1500 m of 83 mm dia. wire rope
- ▶ Twin Stern Rollers, 650 T SWL, L2x3000, D4000
- ▶ Two Retractable Anchor Handling Forks, 750 T MBL
- ▶ Two sets of Retractable Towing Pins, 300 T Bollard Pull

LIFESAVING EQUIPMENT

- ▶ One MOB boat with approved one-armed davit
- ▶ 6 of life rafts for 25 persons

SANITARY SYSTEMS

- UV sterilizer and softening filter for FW supply
- Vacuum toilet system
- Sewage treatment plant

MACHINERY/PROPULSION SYSTEM

- Main propulsion with four main engines and two main propellers.
- Modularized engine room.
- ▶ Four main engines, each of 4320 kW at 750 rpm, flexibly mounted.
- ▶ Two reduction gears, twin-in single-out
- ▶ Two CP Main Propellers in Nozzles, each 8600 kW / dia. 4400 mm / speed 140 rpm

OIL PURIFICATION PLANT

- ▶ Two FO Separator, selfcleaning, automatic
- ▶ Four LO Separators, selfcleaning, automatic

FRESH WATER GENERATOR

- ▶ Two FW generator, each of capacity 6 m³ per 24 hours

FIRE DETECTION SYSTEM

- Addressable fire detection central

VIDEO AND MONITORING SYSTEM

- A CCTV system (8 cameras) for surveillance of main winches area

ELECTRIC POWER PLANT (690 VOLT AC – 50-60 HZ)

- ▶ Two shaft alternators, each of 3500 kVA, floating voltage
- ▶ Two auxiliary generator sets, one of 2000 kVA, and one of 700 kVA
- ▶ Emergency generator, 130 kVA

ELECTRIC EQUIPMENT

- ▶ Main Switchboard 690 V, 440 V, 230 V
- ▶ Emergency Switchboard
- ▶ 50 kW Clean Power rotating converter
- ▶ Motor Control Centres
- ▶ UMAS V Alarm and monitoring system
- ▶ 625 kVA 440 V outlet in deck store
- ▶ 50 kVA 230 V outlet in deck store
- ▶ 500 kVA 690 V outlet in deck store
- ▶ 1500 kVA 690 V outlet in deck store

PREPARATIONS

- ▶ A-frame SWL 150 tonnes on aft deck
- ▶ Fire Fighter I and II

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