



AZIMUTH STERN DRIVE 35/105 TERMINAL SUPPORT/ESCORT TUG



BRIEF DESCRIPTION

This tug is a fully automated stern drive tug designed in response to a worldwide demand for highly efficient class of ship-assist/oil and gas terminal tug. Highly maneuverable, with two azimuth thrusters, this tug is dedicated for maximum efficiency in the performance of ship-handling, tank escort and related terminal support activities services. The tug is equipped with two completely independent escort towing winches forward allowing to switch from towing to pushing within seconds and heavy bow fendering for ship-assist and escort work; on the main deck aft is fitted a double drum waterfall type winch for anchor-handling and deep-sea towage purposes. Each drum is equipped with a complete tow line giving redundancy.

Thanks to the very high bollard pull performance and to the fact that it is the first application of a FiFi II equipment on such kind of vessel, this tug represents a very leading case in this market.

Fratelli Neri S.p.A.

Via Pisa n. 1, 57100 Livorno, Italy

Ph. +39 0586 234111 – Fax +39 0586 892025

www.nerigroup.net – E-mail: info@nerigroup.net



Although this vessel is intended as dedicated terminal support/escort tug for the offshore oil and LNG off-loading tankers, this tug can be deployed for these services too:

- Tanker escort service
- Fire –fighting activities
- Anchor handling/supply activities
- Antipollution services
- Salvage operations
- Transportation of spares/cargo to and from the offshore terminal

MAIN CHARACTERISTICS

Length overall:	35,00 m.
Beam overall:	14,00 m.
Depth main deck midship:	6,00 m.
Loaded draft:	5,50 m.
Gross register tonnage:	733 ton.
Net register tonnage:	219 ton.

REGISTRATION

Type:	Double Azimuth Stern Drive Offshore Terminal Escort Tug
Owner:	Fratelli Neri S.p.A.
Year built:	June 2009
Builder:	Astilleros Gondan S.A. (Spain)
Flag:	Italian
Port of registry:	Genoa, Italy
Call sign:	IOL2
IMO number:	9443748
RINA number:	85378
Classification:	R.I.NA. C * HULL * MACH, TUG, UNRESTRICTED NAVIGATION AUT-UMS, OIL RECOVERY SHIP, FIRE-FIGHTING SHIP-2, WATER SPRAYING, SALVAGE TUG, ESCORT TUG, IW, SYS-NEQ 1

PERFORMANCE

Maximum speed:	13,50 knots
Economic speed:	11,00 knots
Bollard pull ahead:	110 m. t.
Bollard pull astern:	104 m. t.
Steering bollard pull:	120 m. t. at 10 knots

Fratelli Neri S.p.A.

Via Pisa n. 1, 57100 Livorno, Italy

Ph. +39 0586 234111 – Fax +39 0586 892025

www.nerigroup.net – E-mail: info@nerigroup.net



PROPULSION – MACHINERY

Main diesel engines:	2 MAN 9L27/38, MCR 6120 kW at 800 rpm each; total 8.300 Hp Fuel oil consumption at max continuous rating: 182 g/kWh NOX Certificates and EIAPP Certificate According to MARPOL 73/78
Azimuth propellers:	2 SCHOTTEL SRP 3030CP (diameter 3000 m)
Auxiliaries generators:	2 MAN-LINDEBERG 150 kW, 190 kVA – 380V – 50 Hz each
Emergency generator:	1 MAN-LINDEBERG 60 kW, 75 kVA, radiator cooled
Bow thruster:	1 Veth 150 kW hydraulic driven

ACCOMODATION

Officers:	2 cabins with one berth + 2 cabins with two berths
Crew:	1 cabin with four berths
Passengers:	1 cabin with two berths (the regular crew being 5, five additional bunks remain available for charterer's personnel, except during tug's crew changes)

Every cabin has its toilet with sanitary and shower.

Galley, messroom, freezing store, dry store, sanitary spaces, sickbay, changing and drying room, laundry, stores, engine control room sound and dust proof and fully equipped office.

All accommodations are fully air-conditioned.

TOWING AND SPECIAL EQUIPMENT

1 Heavy duty Rolls-Royce Bratvaag Waterfall type double drum towing winch on the aft deck

-Upper Drum:

-Rendering:	-1 st speed: 80 m. t. at 10 m/min. on 1 st layer
	-2 nd speed: 28 m. t. at 25 m/min.
	-3 rd speed: 8 m. t. at 52 m/min.
-Brake hold:	250 m. t.
-Wire capacity:	150 m. of steel wire or steelite rope of 72 mm. diameter

-Lower Drum:

-Rendering:	-1 st speed: 80 m. t. at 10 m/min. on 1 st layer
	-2 nd speed: 28 m. t. at 25 m/min.
	-3 rd speed: 8 m. t. at 52 m/min.
-Brake hold:	250 m. t.

Fratelli Neri S.p.A.

Via Pisa n. 1, 57100 Livorno, Italy

Ph. +39 0586 234111 – Fax +39 0586 892025

www.nerigroup.net – E-mail: info@nerigroup.net



-Wire capacity: up to 600 m. of steel wire or steelite rope of 72 mm. diameter

2 Independent combined Rolls-Royce single drum escort towing winch on the forecastle deck

-Duty:	1 st speed:	Haul:	100 m. t. at 9 m/min.
		Rendering:	150 m. t. at 11 m/min.
	2 nd speed:	Haul:	70 m. t. at 12 m/min.
		Rendering:	110 m. t. at 14 m/min.
	3 rd speed:	Haul:	30 m. t. at 24 m/min.
		Rendering:	55 m. t. at 28 m/min.
	4 th speed:	Haul:	9 m. t. at 58 m/min.
		Rendering:	15 m. t. at 70 m/min.

-Brake hold: 420 m. t.

-Wire capacity: 300 m. of 78 mm. diameter Dyneema rope

Bow fender: bore cylindrical upper and W block type under system; max pressure at full ahead 28,5 t. x sqm at any contact point

After deck: 5 t. x sqm load capacity with space for 3 x 20 feet ISO containers

Towing hooks: 2 of 110 t. SWL; one on the foredeck and one on the aft; local and remote controlled

1 Towing pins 150 t. SWL, remote operated

1 Stern roller 150 t. SWL

1 Hydraulic capstan of 5 t. pull

1 Hydraulic deck crane, max. lifting capacity 1,8 t. at 18,30 m. / 12,5 t. at 4,00 m.

TANK CAPACITIES

Fuel oil: 301 m³

Water: 69 m³

Lub-oil: 14 m³

Sewage: 7 m³

Foam: 7 m³

Rec-oil: 146 m³

Dispersant: 22 m³

Foam: 45 m³

ELECTRONICS

-1 radio system compliant with GMDSS (A1+A2+A3) rules including:

-2 INMARSAT STD C

-2 VHF with DSC 3001

-1 NAVTEX

Fratelli Neri S.p.A.

Via Pisa n. 1, 57100 Livorno, Italy

Ph. +39 0586 234111 – Fax +39 0586 892025

www.nerigroup.net – E-mail: info@nerigroup.net



- 3 Portable VHF for GMDSS
- 2 Satellite console standard C
- 1 SSB for GMDSS with DSC
- 1 ARPA radar 23,1" LCD TFT
- 1 ARPA radar 15" LCD TFT
- 2 DGPS Navigator
- 1 Trasponder
- 1 Echo sounder
- 1 Speed log
- 1 Autopilot
- 1 Anemometer
- 2 Gyrocompass
- 1 AIS
- 1 Barometer
- 1 Thermometer
- 1 Inclinometer
- 4 Video Surveillance remote controlled cameras monitored from wheelhouse
- Internal communication system

LIFE-SAVING AND RESCUE EQUIPMENT

- 2 x 12 persons inflatable liferafts
- 1 x SOLAS approved crane
- 1 x ZODIAC rescue-boat (SOLAS IMO 47 compliant) with 25 hp four stroke outboard engine
- Rescue zone each side
- 2 scrambling nets: one for each side

FIRE-FIGHTING SYSTEM CLASS FI-FI 2

- 2 x stainless steel monitors of 7200 m³/h. capacity each at 220 m. length
- 1 x stainless water/foam monitor of 600 m³/h. capacity
- 2 x fire-fighting pumps of 3749 m³/h. capacity
- Foam system of 600 m³/h. capacity
- Deluge system: self protecting water spray system

SALVAGE EQUIPMENTS

- 2 x Grundfos submersible pumps of 277 m³/h capacity each at 29 mt.
- 2 x Breathing Apparatus for divers
- 2 x Gas masks with filter
- 4 x Water stops of approximately 1 x 2 mt
- 1 x Complete set of equipment for flame cutting with 25 mt of flexible piping
- 2 x Lamps for underwater operation

Fratelli Neri S.p.A.

Via Pisa n. 1, 57100 Livorno, Italy

Ph. +39 0586 234111 – Fax +39 0586 892025

www.nerigroup.net – E-mail: info@nerigroup.net



- 4 x Tackles with lifting capacity from 1 to 3 tons.
- 4 x Hydraulic jackets with lifting capacity from 10 to 20 tons.

OIL RECOVERY EQUIPMENTS

- 1 x Skimmer Float Discoil of 50 m³/h
- 1 x Oil Boom Reel
- 1 x 200 mt of Oil Booms
- 1 x 150 mt of absorbing booms
- 2 x Dispersant booms of 6,50 m. length and 900 lt./h. capacity
- 1 x 22 m³ of dispersant on board
- 2 x Air Portable Inflator
- Chains
- Anchors

OTHER

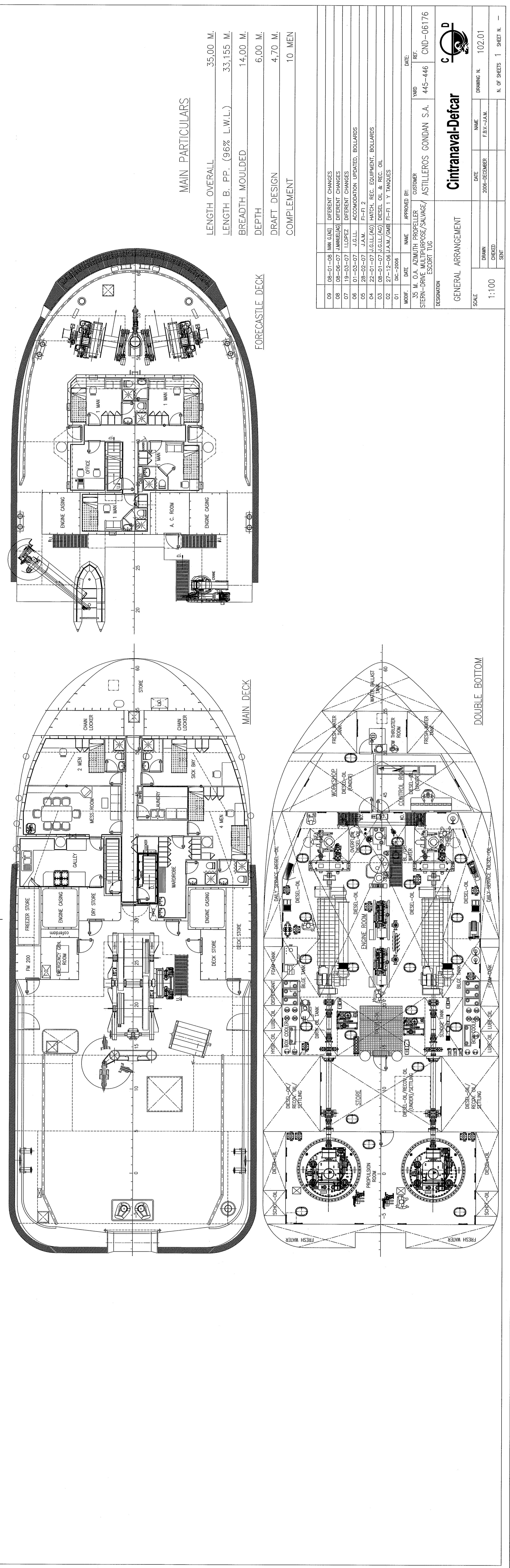
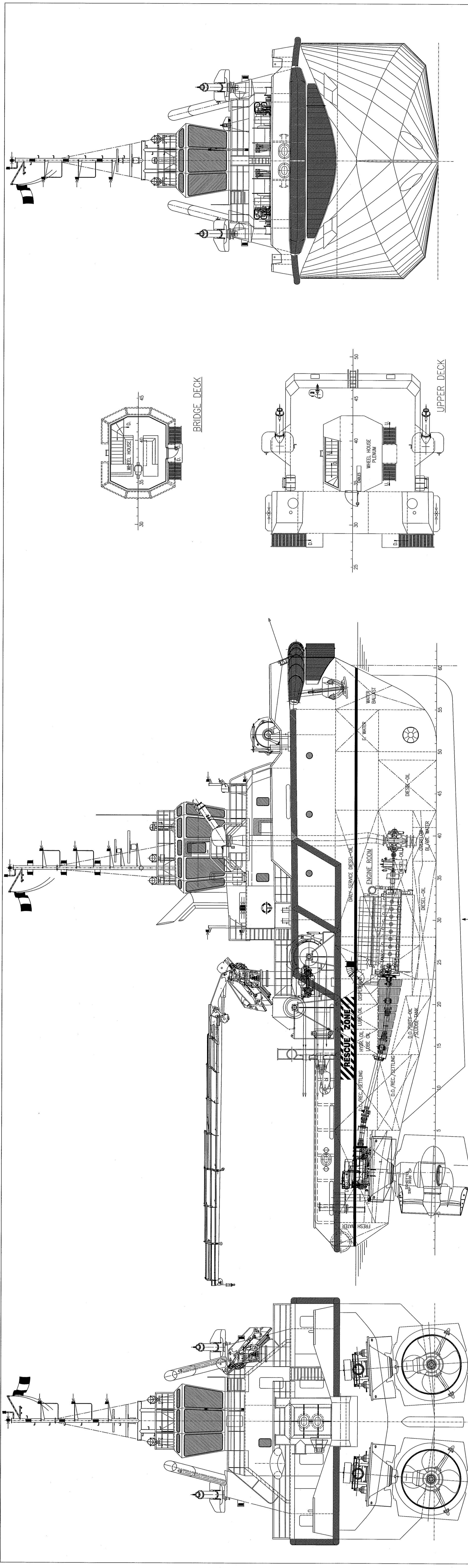
- 1 x Bilge separator
- 1 x Fuel separator
- 1 x Oil separator
- 1 x Waste water treatment
- 2 x Air compressors

Fratelli Neri S.p.A.

Via Pisa n. 1, 57100 Livorno, Italy

Ph. +39 0586 234111 – Fax +39 0586 892025

www.nerigroup.net – E-mail: info@nerigroup.net



MAIN PARTICULARS

LENGTH OVERALL 35,00 M.
 LENGTH B. PP. (96% L.W.L.) 33,155 M.
 BREADTH MOULDED 14,00 M.
 DEPTH 6,00 M.
 DRAFT DESIGN 4,70 M.
 COMPLEMENT TO MEN

05	18-01-05	MAN/CO	DIFFERENT CHANGES
06	18-06-07	MAN/CO	DIFFERENT CHANGES
07	19-03-07	LOPEZ	DIFFERENT CHANGES
08	01-03-07	J.GILL	ACCOMMODATION (PANELS, BOLLARDS)
09	28-02-07	J.GILL	MAN/CO
10	18-01-07	J.GILL/CO	MAN/CO
11	18-01-07	J.GILL/CO	REC. EQUIPMENT BOLLARDS
12	27-12-06	J.A.M./A.M.E	PI-PI 1 Y. TANKS
01	06-2006		

APPROVED BY: _____ DATE: _____
 MAN/CO: _____ MAN/CO: _____
 STERN-DRIVE MULTIPURPOSE/SALVAGE / ASTILLEROS CONDAN S.A. 445-446 CND-06176
 ESCORT TUG

GENERAL ARRANGEMENT

SCALE 1:100

DRAWN DATE 2006-DECEMBER

CHECKED DATE FEB.-JAN.

NO. OF SHEETS 1 SHEET N. -

