

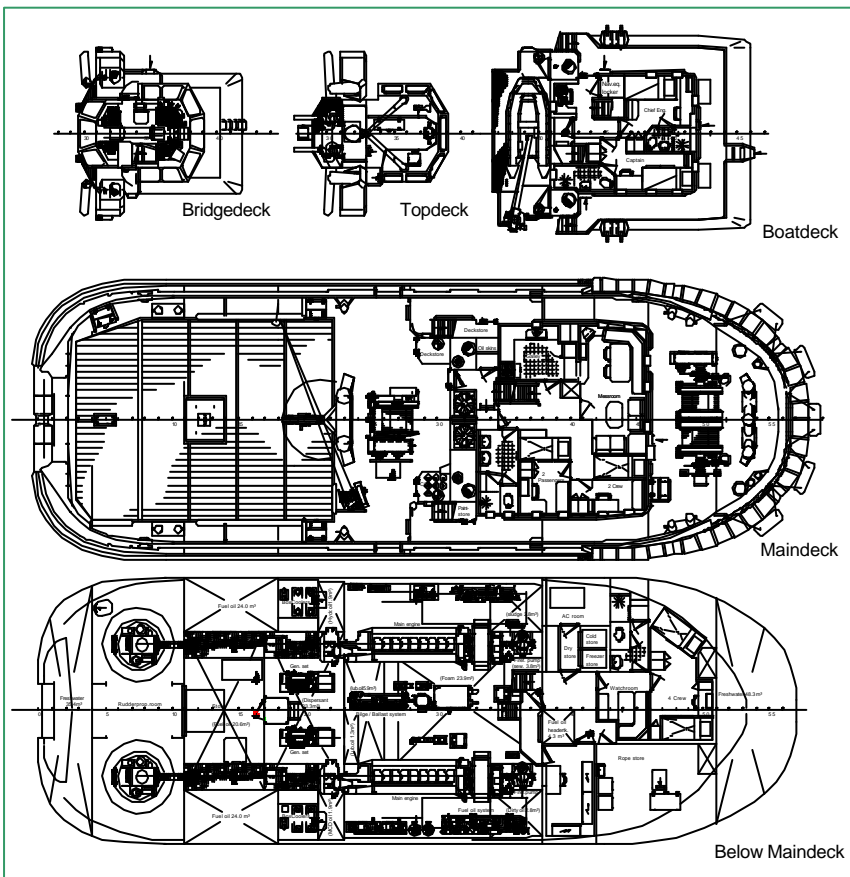


Double azimuth stern drive tugs

KIANDA & LUEGI

72 metric ton bollard pull ahead

67 metric ton bollard pull astern



DAMEN DESIGN Type ASD 3211. KIANDA and LUEGI are designed to assist offshore oil and gas off-loading tankers.

Highly manoeuvrable, with two azimuth thrusters, these boats have their double drum towing winch located on the forecastle, thus allowing to switch from towing to pushing within seconds. Each drum is equipped with a complete tow line giving redundancy. A towing winch is fitted on the main deck aft, giving an even higher operational flexibility.

In addition, they offer a 75m² deck space for material and 20 ft containers, even refrigerated, as well as a fire-fighting capability.

They also have two oil dispersant spray booms.

07-10-2006



Double azimuth stern drive tugs

KIANDA & LUEGI

72 metric ton bollard pull ahead
67 metric ton bollard pull astern

MAIN CHARACTERISTICS

Length overall:32.50 m.
Beam overall (incl. rubber fender): 12.00 m.
Depth main deck midship:5.00 m.
Loaded draft:4.90 m.
Deadweight:170 mt

REGISTRATION

Type:Double Azimuth Stern Driven Offshore Tug.
Owner:Navegaceano Shipping Company Lda.
Year built:2001.
Builder:DAMEN SHIPYARDS (Holland).
Flag:French.
Classification:BUREAU VERITAS. 1 3/3 E ✦ Tug-Fire fighting ship/water spray.
Deep Sea. ✦ AUT MS. ✦ MACH.

PERFORMANCE

Maximum speed:13 knots.
Economic speed:10 knots.
Consumption:17 t/24 h at 100% bollard pull.
10 t/24 h at economic speed.

ACCOMMODATION

- Officers:2 cabins with 1 berth.
1 cabin with 2 berths.
- Crew:1 cabin with 4 berths.
- Passengers:1 cabin with 2 berths.
(the regular crew being 6, 2 additional bunks remain available for charterer's personnel, except during tug's crew changes).
- Messroom, sanitary spaces, stores.
- Fully air-conditioned.

PROPULSION - MACHINERY

MACHINERY

- **Main diesel engines:**2 BERGEN KRM B9.
Cont. output:2 x 2,030 kW.
- **Gear boxes:**2 MCD Twin-Disc.
- **Azimuth propellers:**2 AQUAMASTER US 3001
(diameter: 2,700 mm).
- **Bollard pull ahead:**72.1 m.t.
- **Bollard pull astern:**67.5 m.t.
- **Auxiliary generators:**2 CATERPILLAR 3304 T
100 kVa - 380 V - 50 Hz each.

TOWING EQUIPMENT

Forecastle deck:

- 1 double drum towing winch.
 - Line pull (towing drums): 27 t. on 2nd layer.
 - Brake hold (towing drums):145 t. on 2nd layer.
 - Speed (towing drums):up to 20 m/min. at 2nd layer.
 - Wire capacity (towing drums):up to 300 m each.
 - Tow line: 150 m of steelite rope.
 - Spare tow line:1 complete tow line per tug (ready for use on the 2nd drum).

Aft deck:

- 1 single drum towing winch.
 - Line pull:up to 60 t on 2nd layer.
 - Brake hold:110 t on 2nd layer.
 - Speed:up to 20 m/min. at 2nd layer.
 - Wire capacity:700 m.
 - Tow line:600 m of galvanized steel wire.

SPECIAL EQUIPMENT

Tugger winch:

An electro-hydraulic driven tugger winch is fitted on aft deck.

- Pull:5 t.
- Speed:18 m/min.
- Drum capacity:30 m of 15 mm wire.

Stern roller:

- Diameter:900 mm.
- Length:2 m.
- SWL:125 t.

Dispersant booms:

- Length:6.50 m.
- Flow:50 to 200 liters per 10,000 m².

CARGO CAPACITIES, PUMPS

Cargo deck area75 m².
Deck cargo:75 m.t.
Deck loading:5 t/m².
Total fuel oil:130 m³. Pump-1 x 100 m³/hr at 30 m.
Total water:100 m³. Pump-1 x 100 m³/hr at 30 m.
Foam:35 m³.
Dispersant:25 m³.
Sewage:4 m³.

ELECTRONICS

- 2 radars.
- 1 gyrocompass.
- 1 echo sounder.
- 1 speed log.
- 1 autopilot.
- 1 GPS (DGPS).
- 1 anemometer.
- 1 INMARSAT M telephone and fax.
- 1 radio system compliant with GMDSS (A3) rules
including: 2 INMARSAT STD C, 2 VHF, 1 NAVTEX, 1 SSB.

LIFE-SAVING EQUIPMENT

- 2 x 20 persons inflatable liferafts.
- 1 x ZODIAC RB6 rescue-boat (SOLAS IMO 47 compliant)
with 1 YANMAR D27 diesel engine.

FIRE-FIGHTING SYSTEM CLASS FI-FI I (2,400 m³/hr)

- Monitors:2.
- Water capacity:1,200 m³/hr. each.
- Fire-fighting pumps:2 x 1,300 m³/hr. each.
- Foam system.
- Deluge system.

All particulars believed to be correct but not guaranteed.

Bourbon Offshore

148, rue Sainte - 13007 Marseille - France

Phone +33 (0)4 91 13 08 00 - Fax +33 (0)4 91 13 08 61

www.bourbon-online.com - E-mail: bourbon-offshore@bourbon-online.com