BOA

- Submersible to 2 m forward / 6.3 m aft above deck
- Heavy cargo up to 11,200 t
- Voluminous cargo up to 2,700 m^2

BOABARGE 21/22

Semi Submersible Heavy Lift Barges

BOABARGE 21/22

General Information

Vessel's Name	BOABARGE 21 BOABARGE 22
Flag	Norwegian, NOR
Port of Registry	Trondheim
Call Sign	BB21: LK6896, BB22: LK6897
Year built	2001
Builder	Jinling Shipyard, Nanjing, China
Owner	Boa Barges AS
Manager	Boa Management AS
Class Society	DnV
Class Notation	DnV 1A1
Barge for Deck Loading Class id. No.	BB21: DnV id. 22113 BB22: DnV id. 22114

Dimensions

Length, Overall	92 m
Breadth, moulded	31.5 m
Breadth, max	~31.9 m
Depth, moulded	6.71 m
Draught, fully loaded	5.3 m
Web Frame Spacing	2 m
Long. Stiffener Spacing	0.61 m
Gross tonnage	5,074
Net tonnage	1,522

Tonnage

Deadweight (T = 5,3 m)	11,178 tonnes
Deck space	~2,700 m^2
Max lifting capacity (T = 6,71 m)	15,300 tonnes

Submerging

When the barge is submerged down to the grounding site the stern is seated firmly on the ocean floor (sea bottom). Special consideration must be given to the grounding site because is must facilitate both a secure placement and easy retrieval.

Maximum submerging depth

Fwd part of deck	8.7 m above BL (2 m above deck)
Aft part of deck	13 m above BL (trimmed conditions, 6.3 m above deck)

Ballasting

General

The barge is equipped with a ballast system with a total capacity of 1500 m^3/hour at 1 bar pressure. The ballast system is operated locally from the pump room, except major valves and ballast pumps that also can be remotely controlled from the control room on top of the superstructure

Tanks

The ballast system consists of a total of 17 ballast tanks, all located in the pontoon. Each tank equipped with a separate ballast pipe running from the ballast system in the pump room. All tanks connected to a remote sounding system (BB 22 only)

Machinery Equipment

Generators

1. 1 x diesel electric generator, type Valemt 620, equipped with a Stamford Newage generator supplying 119 kVA at 440 V / 60 Hz to the main switchboard for powering one of the ballast pumps and general electric supply.

2. 1 x diesel engine, type Valmet 420, directly coupled to the second ballast pump via a flexible connection.

Ballast pumps

1 x 750 m^3/hour at 1 bar, direct diesel driven

1 x 750 m^3/hour at 1 bar, electrically powered

The 2 pumps are fully independent from each other, and give redundancy to the ballast system

Mooring/Anchoring & Cargo Handling Equipment

Winch

An electric multipurpose winch is used for cargo handling and for retrieving towing equipment during sumersible operations. This winch is "locally operated" and mounted on top of a superstructure. The winch also acts as an anchor windlass.

Anchor

A 2.5 tonnes stockless SPEC type anchor installed, positioned in the bow. The anchor is installed with an 8-meter chain fore runner and a total wire length of 180 m. The wire is of type Ø 41 mm, certified for a breaking force of 98 tonnes.

Bollards

- 4 double bollards, located 1 in each corner of the barge.
- 8 double post cleats, located 4 on each side recessed in the deck at the deck edge.

The cleats are cast steel with a dimension of 1.200 mm. The double bollards are according to NS 2584 (Norwegian Standard) Ø 315 and have the following capacities:

When mooring	205 kN
When towing	540 kN

Towing Equipment

Main towing equipment

- 2 smith brackets located at main deck level fwd, SB and Port side approx. 7.3 m from CL.
- A chain towing bridle consisting of:
  - 2 x type 58 mm U3 chainlegs of approx. 17 m length each
  - 1 x triangular (delta) plate
  - 1 x type 58 mm U3 chain "pigtail" of approx. 9 m length
- Complete with shackles and endlinks

The delta plate, pigtail and bridle legs can be hoisted up at main deck level by the multipurpose winch and the A-frame located at the bow in CL.

Emergency towing equipment

- 1 smith bracket located at the main deck in CL fwd.
- 1 chain of length approx. 4 m connecting the emergency towing wire to the smith bracket
- An emergency towing wire of length approx. 100 m, Ø 100 mm, secured to SB side of the barge, and with a spelter socket located at main deck aft.

Capacities

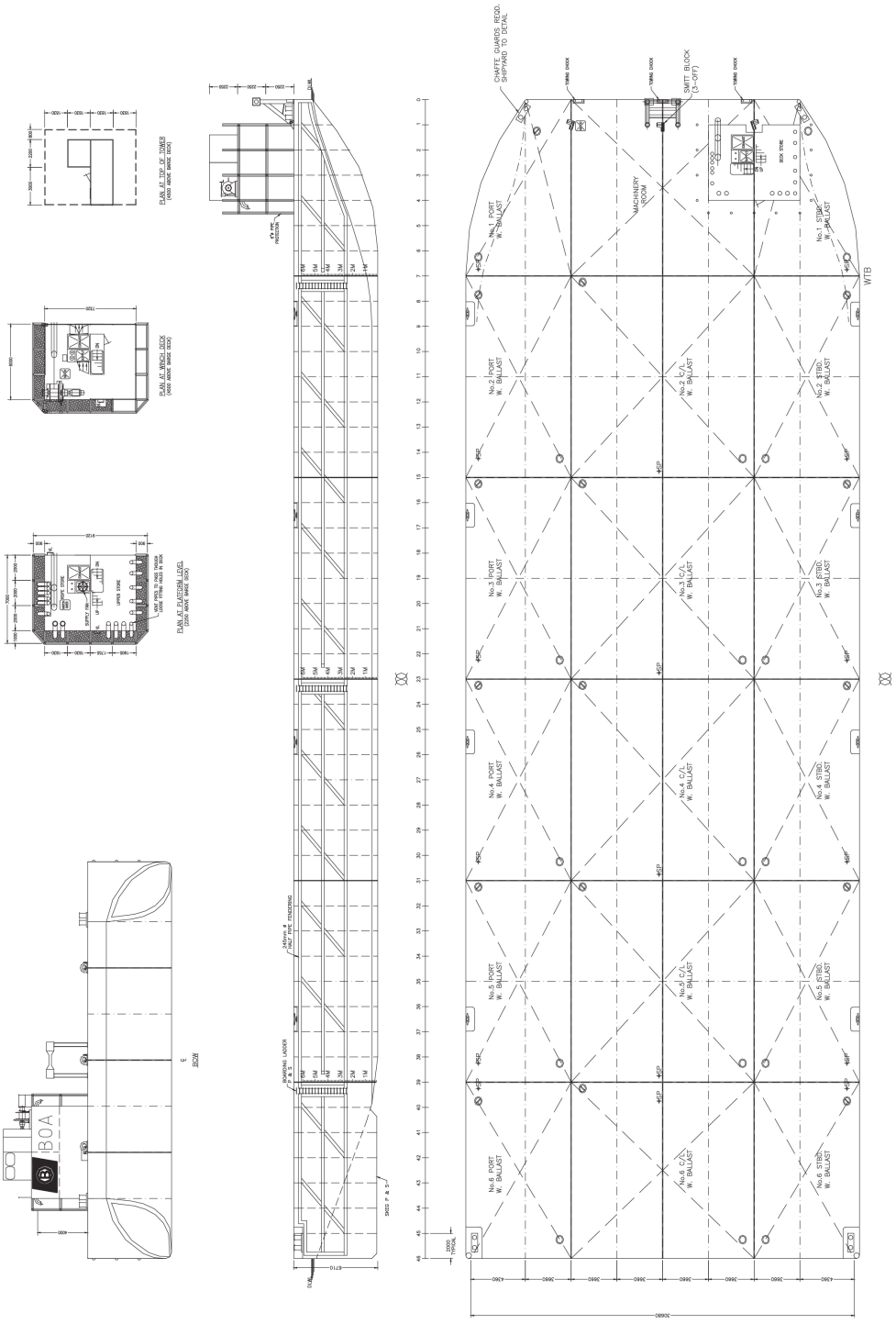
- The main equipment has a SWL of 85 tonnes, i.e. according to the typical class rules, tugs with a bollard pull up to 116 tonnes can be used without restrictions on the towing force.

Navigational Lights & Safety Equipment

Navigational lights are powred by the vessel's electric system and by solar cells as set forth by governing laws within country of registry (flagging authority). Properly maintained and serviced safety equipment is always kept onboard.

Design Loads (Total Loads)

Deck loads	
Distributed	20 t/m^2
Line loads	
Transverse bulkheads	100 t/m
Transverse girders	80 t/m
Transverse frames	60 t/m
Longitudinal bulkheads	110 t/m
Point loads	
Transverse bulkhead/Long bulkhead	360 t
Transverse bulkhead/Sideshell	450 t
Transverse frame/Long bulkhead	360 t



CORPORATE HEADQUARTERS

BOA Management AS
Strandveien 43
7067 Trondheim
Norway
+47 73 99 11 99
chartering@boa.no

www.boa.no