



Photo by Henk Zuur-Delfzijl, The Netherlands

ODERTAL

ECONOMIC AND VERSATILE DRY CARGO & CONTAINER SHIP IN THE TRADER 4400 CLASS

*Builders: Bodewes Shipyards, Hoogezand.
Owners: Harren & Partners, Germany*

On 28th of August, the latest delivery from Bodewes Shipyards was christened as 'Odertal'. The 90 m coaster is built for the carriage of dry cargo and containers. She will be chartered by the Norwegian company DFDS Lys Line. She will sail the flag of Antigua and is classed by Germanischer Lloyd. The 'Odertal' belongs to Bodewes Shipyards' successful 4400 DWAT series. The hull was built in the ATG yard in Giurgiu, Romania. She was towed to the shipyard in Hoogezand, after being loaded with her first cargo in Costanta (Romania): some grain bulkheads, tweendecks and crane pedestals for other ships in construction at the yard. The vessel arrived at the yard for final outfitting on 14 May 2007.

International shipbuilder

Bodewes Shipyards makes extensive use of its international network. Besides the homebase "Jachtwijk" yard at Hoogezand, the ships are built at yards in Poland, Romania, Ukraine and China. By ordering pre-cut steel plates and profiles from the suppliers, Bodewes can focus on the shipbuilding core activities: hull assembly and outfitting. The construction of the hull is done by welding ring-shaped sections together and placing the accommodation on top afterwards.

Unlimited sailing

The Bodewes Trader 4400 evolved out of the Trader 4300 series, which was initiated in

2003 with the delivery of the 'Almadiep'. The focus of this series has been on maximum versatility in terms of cargo and the ability to sail almost anywhere in an economical way. The design is characterised by a single hold which can be subdivided using two separation bulkheads which can be located in four positions.

A relatively wide beam of 15.2 metres allows for a shallow draught of 5.25 metres with a payload of 4400 tons. The air draught has been kept as low as possible, which allows these coasters to bring their cargo further inland. The ice-strengthening to the Finnish-Swedish Ice Class 1B extends the range to the North in the winter months.

Main characteristics

The 'Odertal' is built to the rules of Germanische Lloyd with class notation \star 100 A 5, E2, Multi Purpose Dry Cargo Ship equipped for Containers, Strengthened for Heavy Cargo, SOLAS II - 2 Reg. 19 \star MC AUT, Unrestricted Service. The ship will sail the flag of Antigua.

Principal particulars

Length o.a.	89.98 m
Length b.p.	84.98 m
Breadth moulded	15.20 m
Depth to maindeck	6.60 m
Design draught	5.25 m
Corresp. deadweight	4400 ton
Tonnage	aprox. 3.183 GT
Grain capacity	225.000 cbft
Speed	12.5 knots

Tank capacities

Heavy fuel oil198 cu.m
Gas oil30 cu.m
Ballast water	1989 cu.m
Fresh water60 cu.m

Cargo hold

The clear opening of the cargo hold measures 61.5 m by 12.65 m. A strong removable beam is positioned approximately halfway. The free height inside the hold is 8.3 m. The pontoon-type hatch covers can be manoeuvred by the gantry crane and positioned forward and aft of the hatch opening.

The 'Odertal' can carry 126 TEU containers in the hold and 95 TEU on deck. The hold is properly equipped for the carriage of dangerous goods.

Propulsion

The single main engine make MaK type 6M25 has an output of 1850 kW at 750 rpm which is transferred to the shaft through a Renk gearbox. A power take-off (PTO) on the gearbox drives a 350 kW shaft generator, which gives economic onboard power. The main engine will be running on fuel oil IFO 180. The propeller is a 2500 mm 4-bladed controllable pitch propeller (CPP) which turns in a nozzle. Elastic couplings from Vulkan isolate both the shaft generator and the main engine from the gearbox and shaftline. The CPP installation gives an increased manoeuvrability and better efficiency at load cases which differ from the design condition, which is often the case for a general cargo ship like the 'Odertal'.

In ballast condition, the trial speed at maximum power is about 12.5 knots. A large bulbous bow brings down the fuel consumption. The shape of the bulb is quite unusual, being much wider at its root than usually seen.

Manoeuvrability

Steering is done by a single freehanging flap rudder supplied by Barkemeijer. It has a sur-



A single MaK main engine combined with a CPP provides for economic propulsion



The engine room freshly painted



The hydraulic propeller control unit



The navigation bridge is spacious and uncluttered

face area of 6.3 square metres and is driven by an electro-hydraulic steering gear with two pumps. For additional manoeuvrability, a 300 kW Jastram tunnel bowthruster BU 50 F is fitted in the forefoot.

Electric power

A single diesel-driven 140 eKW genset is used in harbour during loading and unloading. While at sea, the shaft generator can be put online to deliver 350 ekW at 400V. The emergency diesel generator is identical to the main genset and can be used as a harbour generator. It can also run in parallel with the main generator. The harbour generator is equipped with a noise damper.

The electrical installation was done by Alewijnse Noord and includes PRAXIS with Maxi-Guard Alarm and Monitoring System consisting of:

- 1 of Operator Workstation with 15" TFT and Operator Keyboard with Trackball;
- 1 of Group Alarm panel in Bridge;
- 3 of Alarm Extension Units are installed in accommodation areas;
- 1 of Patrol Alarm Timer;
- 152 of alarm and monitoring input points.

The unique feature of the Maxi-Guard AMS is, that the complete system is operates on 24VDC with very low power consumption and without moving parts.

The wing stations on the bridge are equipped with full controls, shielded by a plastic cover.

Fresh water cooling

The engine room is protected by a CO2 system installed by Ajax. Two Azcue ballast

pumps are installed with a capacity of 150 m3/h each. A general service pump has a capacity of 50 m3/h, equal to the fire fighting pump located in the foreship.

The main and auxiliary engines are cooled by fresh water through a box cooling system.

The Sandfirden 140 kW genset



Eefting Engineering HFO booster unit



The boxcoolers are fitted in a single seachest on portside in the engine room. The advantage of this system is that the engine cooling systems are spared of the corrosion caused by salt water.

The engine room installation was carried out by Wolfard & Wessels from Foxhol.

Accommodation

In way of the accommodation on the aft ship, the main deck is raised by half a deck height. This gives a lot of extra accommodation space on the tweendeck below, where the full beam can be used. This tweendeck is located approximately at the waterline level and houses 5 crew cabins, the galley, the mess, the switchboard room, the CO2 room and a provision store.

The aft mooring deck is located on the raised maindeck above, along with the captains cabin, the officers cabin and the engineers cabin. The boatdeck above houses the laundry and a large void space without interior carpentry. To increase visibility from the wheelhouse, and provide ample space for navigation equipment, the bridge is located above a ca. 1 m high void deck. The funnel is located on centreline just aft of the accommodation.

All living spaces onboard are air-conditioned and due attention has been given to a healthy supply of fresh air. The interior carpentry was carried out by Scheen from Hoogezaand.

Deck gear

On the forecastle deck is a combined electric hydraulic driven anchor-/mooring winch with two warping huds and one drum. On the aft deck, one mooring winch is placed on the centreline.



The bridge wings are equipped with navigation consoles



The hatch covers are handled with a gantry crane

The ship has two high holding power anchors, each weighing 1710 kg. A single manually operated aluminium gangway can be used on either port side or starboard side of the ship. A Hatecke open lifeboat can be launched from the starboard side of the boat deck. The DSB liferafts are also located on this deck.

Conclusion

With the 'Odertal', Bodewes shipyards has delivered another economical and versatile general cargo ship in the Trader 4400 class. After successful seatrials, the vessel was christened on the 28th of August 2007 by Mrs. Hedda G. Andersson, daughter of Mr. Andersson from the charter company Lys Line.

The owner of the ship is Harren & Partner from Germany, who currently owns a fleet of approximately 42 ships and has another 15 under construction to be delivered by 2009. The 'Odertal' is chartered to Lys Line at 3.850 euro per day for the first two years.

Subcontractors and suppliers of equipment fitted on board the 'Odertal' (partial list)

ACV Nederland, Ridderkerk central heating unit
Ajax Fire Protection Systems, Amsterdam fire fighting CO₂ system
Alewijnse Noord, Drachten electrical installation
Alfa Laval Benelux, Breda fuel oil & lube oil separator
Atlas Copco Ketting Marine Centre, IJmuiden compressors

Barkemeyer Schiffstechnik, Reinbek (G) rudder
Berg Propulsion Europe AB, (S) controllable pitch propeller
Bloksma, Almere boxcoolers
Caldic Techniek, Rotterdam Stamford generators
Coops & Nieborg, Hoogezand hatch covers
Corrosion & Water-Control, Moerkapelle anodes/impressed current system

Damen Marine Components, Hardinxveld-Giessendam Van der Giessen optima nozzle

Discom, Alblasterdam exhaustsilencers
Econosto Nederland, Capelle a/d IJssel valves & fittings
Effting Engineering, Kolham HFO booster unit; tank sounding system

Germanischer Lloyd, Schiedam classification
Haan, v/h Gebr. De, Hoogezand air conditioning & ventilation

Hatecke GmbH, Drochtersen (G) rescue boat; Davit rescue boat

Helder & May, Europoort RT Nautec SX subfloors & tile works

Hempel (The Netherlands), Vlaardingen painting
IHC Lagersmit, Kinderdijk SUPREME® stern tube sealings with Ecoguard lubrication and ceramic layer; white metal bearings

Intersona, Adviesbureau, Heerde noise & vibration measurements

JVS Scheeps- en Industrie-techniek, Papendrecht Jastram bowthruster
Kraaijeveld, Sliedrecht deck machinery
Kroon Technische Groothandel, Hoogezand TNF accomodation systems; Alvedoor fire doors; ship's hardware; manhole rings & covers; engine room tools

Leroy-Somer (Marine Division), Soesterberg alternators; electrical motor

MacGregor - conver GmbH, Hamburg (G) container equipment
MaK (Nederland), Dordrecht main engine
Materiaal Metingen Europe (MME), Ridderkerk gangway
Miele, Vianen laundry equipment
Noordhof Schilderwerken, Kropswolde painting
Oceana Air Sea Trading, Rotterdam liferafts
Praxis Automation Technology, Leiden alarm & monitoring system
Pro-Nautas, Schiedam nautical & electrical installation

Reikon, Spijkenisse Azcue pumps
Resita Renk, Romania gearbox
Sandfirden Technics, Den Oever Sandfirden Marine & Sandfirden Marine emergency genset 140 kW electrical output, GL class, SISU diesel marine genset engine type 634 BSBIG; Stamford alternator UCM 274 H; RRR Marine reduction gearbox type AUS 63G, single stage design, shafts with vertically offset; rudder, type BRA 25-25-12/16; steering gear type BST 056-45

Scheen, Scheep-, Jacht- en Interieurbetimmering, Hoogezand/Harlingen carpentry
Trinox, Rotterdam windows
Velden® Marine Systems, van der, Krimpen a/d Lek steering gear

Vulkan Benelux, Hendrik ido Ambacht couplings
Winel, Assen Bolero tank vent check valves; ventilation cowls & Musketeer doors

Wolfard & Wessels, Werktuigbouw, Foxhol complete engine room installation
Wortelboer, Rotterdam anchors & chains

The steering gear from Van der Velden® Marine Systems



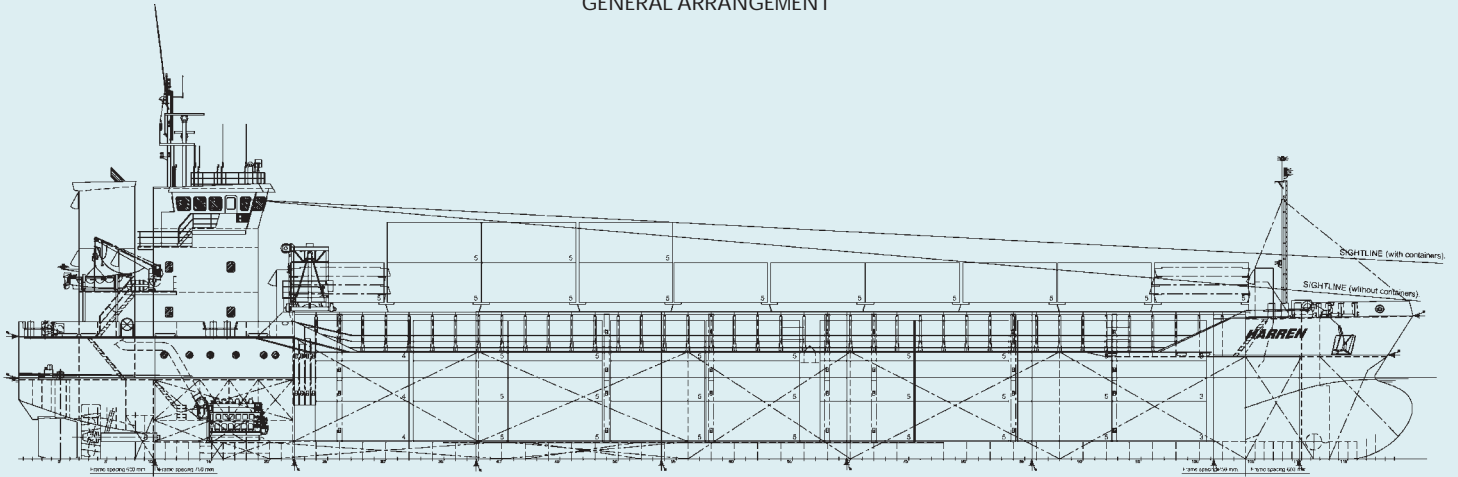
Reikon Azcue pumps



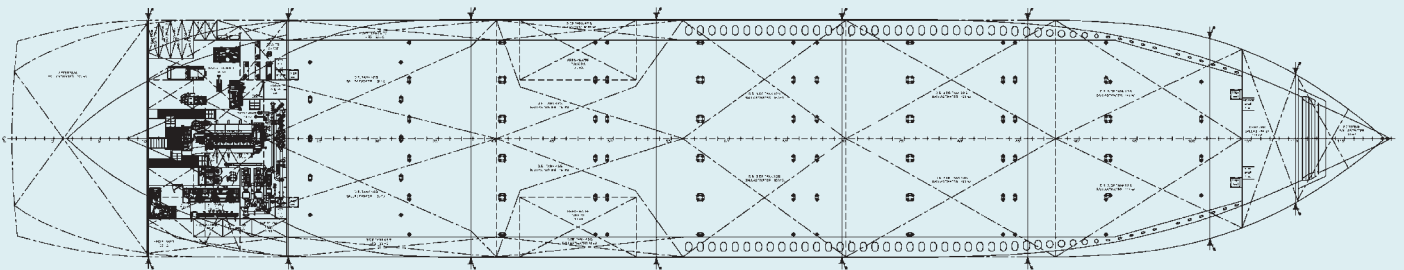
ACV central heating unit



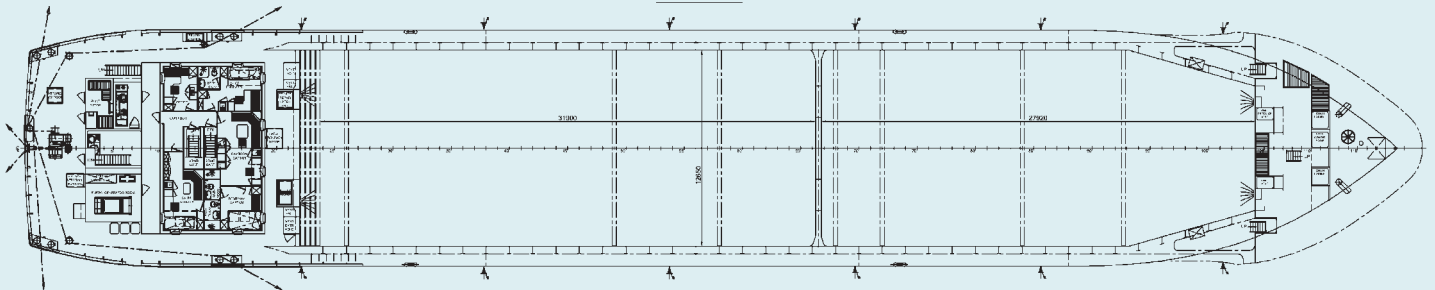
GENERAL ARRANGEMENT



TANKTOP



MAINDECK



VOIDDECK

FORECASTLEDECK

