

## REPORT ON OIL ENGINE MACHINERY.

No. 8420.

28 JAN 1931

Date of writing Report 16/1 1931 When handed in at Local Office 31 19 Port of Copenhagen.  
 No. in Survey held at Copenhagen & Odense Date, First Survey 6/5 1930 Last Survey 13/1 1931  
 Reg. Book 1776 on the Single Twin Triple Quadruple Screw vessel "NIEL MÆRSK" Number of Visits 80

Tons { Gross 5086.02  
 Net 3168.22

Built at Odense By whom built Odense Haalskibsværft Yard No. 38 When built 1930-1  
 Engines made at Copenhagen By whom made 1/2 Birnbaums & Wau Engines No. 1762 When made 1930  
 Donkey Boilers made at Humau By whom made Lochran & Co., Lunan, LI Boiler No. 11842 When made 1930  
 Brake Horse Power ca. 4500 Owners 1/2 "Pundborg" of "1/2 of 1912", 1/2 Port belonging to Pundborg  
 Com. Horse Power as per Rule 709 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted yes.  
 Trade for which vessel is intended Ocean trade, general cargo. 24 1/16 51 3/16

L ENGINES, &c. Type of Engines Diesel, crosshead type, solid injection or 4 stroke cycle 4 Single or double acting single  
 Maximum pressure in cylinders 39 kg/cm<sup>2</sup> Diameter of cylinders 630 mm Length of stroke 1300 mm No. of cylinders 2x6 No. of cranks 2x6  
 Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank yes.  
 Revolutions per minute 138 Crank pin dia. 1902 mm Weight 1120 kg Means of ignition compression and of fuel used crude oil  
 Crank Shaft, dia. of journals as fitted 404 mm Crank pin dia. 404 mm Crank Webs Mid. length breadth 660 mm Thickness parallel to axis 266 mm  
 Flywheel Shaft, diameter as fitted 404 mm Intermediate Shafts, diameter as per Rule 11.10" Thrust Shaft, diameter at collars as per Rule 11.81"  
 Tube Shaft, diameter as fitted 404 mm Screw Shaft, diameter as fitted 12.50" Is the screw shaft fitted with a continuous liner yes.  
 Bronze Liners, thickness in way of bushes as per Rule 0.68" Thickness between bushes as fitted 3/4" - 13/16" Is the after end of the liner made watertight in the  
 Propeller boss yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes.  
 If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube  
 If so, state type Length of Bearing in Stern Bush next to and supporting propeller 6'-3"

Propeller, dia. 13'-0" Pitch 10'-6" No. of blades 3 Material bronze whether Moveable no Total Developed Surface 37 sq. feet  
 Method of reversing Engines direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when started yes. Means of lubrication

Forced. Thickness of cylinder liners 46 mm Are the cylinders fitted with safety valves yes. Are the exhaust pipes and silencers water cooled or lagged with  
 non-conducting material yes. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine led to funnel.

Cooling Water Pumps No. 2 off, 200 t/h. each Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes.  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 127 mm Stroke 230 mm Can one be overhauled while the other is at work yes.

Pumps connected to the Main Bilge Line No. and Size 2 off 127 mm dia. x 230 mm stroke, trunk 1 off 150 t/h. 1 off 30 t/h.  
 How driven by main engines electrically electrically.

Ballast Pumps, No. and size 1 off, rotating, 150 t/h. Lubricating Oil Pumps, including Spare Pump, No. and size 2 off 90 t/h. by wheel.  
 Are two independent means arranged for circulating water through the Oil Cooler yes. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces 4 off 3" In Pump Room TUNNEL WELL: 1 off 3"  
 In Holds, &c. No. 1 HOLD: 2 off 3"; No. 2 HOLD: 2 off 3 1/2"; DEEP TANK: 2 off 8"; No. 3 HOLD: 3 off 3"; No. 4 HOLD: 1 off 3 3/4" DRAIN COCK FROM TUNNEL TOP

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off 6", 1 off 3"  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes. Are the Bilge Suctions in the Machinery Spaces

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes.  
 Are all Sea Connections fitted direct on the skin of the ship yes. Are they fitted with Valves or Cocks Valves.

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes. Are the Overboard Discharges above or below the deep water line above except  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes. Are the Blow Off Cocks fitted with a spigot and brass covering plate yes.

What pipes pass through the bunkers How are they protected  
 What pipes pass through the deep tanks 2 off 3", 2 off 3 1/2" bilge pipes, 1 off 2 1/2" suction to F.P. tank. Have they been tested as per Rule yes.

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes.  
 Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

compartment to another yes. Is the Shaft Tunnel watertight yes. Is it fitted with a watertight door yes. worked from upper deck  
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. 1 No. of stages 2 Diameters 320-280 mm Stroke 170 mm Driven by auxiliary Diesel engines  
 MANEUVERING Air Compressors, No. 3 No. of stages 2 Diameters 320-280 mm Stroke 170 mm Driven by hand.

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 320-280 mm Stroke 170 mm Driven by hand.  
 Scavenging Air Pumps, No. 1 Diameter 320 mm Stroke 170 mm Driven by hand.

Auxiliary Engines crank shafts, diameter as per Rule 161.8 mm 3 off 2-cyl 4 s.c.s.t. Diesel, 310 mm dia. x 350 mm stroke, solid injection, 105 EHP.  
 as fitted 170 mm 400 R/H.

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes.  
 Can the internal surfaces of the receivers be examined and cleaned yes. Is a drain fitted at the lowest part of each receiver yes.

EMERGENCY High Pressure Air Receivers, No. 1 Cubic capacity of each 250 litres Internal diameter 380 mm thickness 11 mm  
 Seamless, lap welded or riveted longitudinal joint lap welded Material S.H. steel Range of tensile strength 37.7 kg/cm<sup>2</sup> Working pressure by Rules 31.7 kg/cm<sup>2</sup>  
 Actual 25 kg/cm<sup>2</sup>

Starting Air Receivers, No. 2 Total cubic capacity 2.720 = 1440 cb' Internal diameter 6' x 6'-1/16" thickness 15/16" x 1/2" ENDS 13/16"  
 Seamless, lap welded or riveted longitudinal joint 36 lb riveted Material S.H. steel Range of tensile strength 44-50 kg/cm<sup>2</sup> Working pressure by Rules 25.0, ENDS 27.3 kg/cm<sup>2</sup>  
 Actual 25 kg/cm<sup>2</sup>



IS A DONKEY BOILER FITTED? *yes.*

Is the donkey boiler intended to be used for domestic purposes only? *yes.*

PLANS. Are approved plans forwarded herewith for Shafting *yes.*

Donkey Boilers *yes.*

General Pumping Arrangements *yes.*

Receivers *yes.*

Separate Tanks *yes.*

Oil Fuel Burning Arrangements *yes.*

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *yes.*

State the principal additional spare gear supplied.

*as per accompanying list.*

The foregoing is a correct description,

*AKTIESELSKABET  
BURMEISER & SØN, MASKIN- & SKIBSBYGGERI*

Manufacturer.

Dates of Survey while building	During progress of work in shops -	16/30, 17/30, 18/30, 19/30, 20/30, 21/30, 22/30, 23/30, 24/30, 25/30, 26/30, 27/30, 28/30, 29/30, 30/30, 31/30, 1/31, 2/31, 3/31, 4/31, 5/31, 6/31, 7/31, 8/31, 9/31, 10/31, 11/31, 12/31, 13/31, 14/31, 15/31, 16/31, 17/31, 18/31, 19/31, 20/31, 21/31, 22/31, 23/31, 24/31, 25/31, 26/31, 27/31, 28/31, 29/31, 30/31, 31/31, 1/32, 2/32, 3/32, 4/32, 5/32, 6/32, 7/32, 8/32, 9/32, 10/32, 11/32, 12/32, 13/32, 14/32, 15/32, 16/32, 17/32, 18/32, 19/32, 20/32, 21/32, 22/32, 23/32, 24/32, 25/32, 26/32, 27/32, 28/32, 29/32, 30/32, 31/32, 1/33, 2/33, 3/33, 4/33, 5/33, 6/33, 7/33, 8/33, 9/33, 10/33, 11/33, 12/33, 13/33, 14/33, 15/33, 16/33, 17/33, 18/33, 19/33, 20/33, 21/33, 22/33, 23/33, 24/33, 25/33, 26/33, 27/33, 28/33, 29/33, 30/33, 31/33, 1/34, 2/34, 3/34, 4/34, 5/34, 6/34, 7/34, 8/34, 9/34, 10/34, 11/34, 12/34, 13/34, 14/34, 15/34, 16/34, 17/34, 18/34, 19/34, 20/34, 21/34, 22/34, 23/34, 24/34, 25/34, 26/34, 27/34, 28/34, 29/34, 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