

REPORT ON OIL ENGINE MACHINERY.

No. 13723

19 JUN 1926

Received at London Office

Date of writing Report 10 June 1926 When handed in at Local Office

Port of Amsterdam

No. in Survey held at Amsterdam Reg. Book.

Date, First Survey 2 Sept 1925 Last Survey 10 June 1926

Number of Visits 62

Single
Twin
Triple
Quadruple

Screw vessel MOTOR VESSEL "SOLARIUM"

Tons { Gross
Net

Built at Montefalcone By whom built Cantieri Riuniti dell'Adriatico Yard No. 1126 When built 1926

Engines made at Amsterdam By whom made N.V. Werkspoor Engine No. When made

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 2000 Owners Port belonging to

Nom. Horse Power as per Rule 377 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Diesel oilless injection supercharge 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 700 lbs Diameter of cylinders 650 mm Length of stroke 140 mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 120 lbs

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 834 mm Is there a bearing between each crank Yes

Revolutions per minute 110 Flywheel dia. 2260 mm Weight 6000 kg Means of ignition Airless Kind of fuel used Crude oil

Crank Shaft, dia. of journals as per Rule approved as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Mid. length thickness 290 mm Thickness parallel to axis shrunk Thickness around eye-hole

Flywheel Shaft, diameter as per Rule approved as fitted 340 mm Intermediate Shafts, diameter as per Rule approved as fitted 350 mm Thrust Shaft, diameter at collars as per Rule approved as fitted 340 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule approved as fitted 370 mm Is the screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule approved as fitted 19.5 mm Thickness between bushes as per rule approved as fitted 15 mm Is the after end of the liner made watertight in the propeller boss

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

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

Propeller, dia. 4270 mm Pitch 2500 mm No. of blades 4 Material SMS whether Moveable No Total Developed Surface 62 sq. feet

Method of reversing Engines by Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged

Cooling Water Pumps, No. 3 Salt & 2 fresh water Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. 2 Rotary type 35 ton each Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size 2 rotary 35 ton each & 1 general service pump 8"x8"x10" How driven Main Motor Steam driven

Is the cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size One 8"x8"x10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 rotary 40 ton each & 1 duplex 8"x8"x10"

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 In Pump Room

In Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks Have they been tested as per Rule

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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

Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

On 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. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 206-104 Stroke 160 mm Driven by one by steam engine one by Diesel engine

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule approved as fitted 110 mm Position



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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*

High Pressure Air Receivers, No. *—* Cubic capacity of each *—* Internal diameter *—* thickness *—*

Seamless, lap welded or riveted longitudinal joint *—* Material *—* Range of tensile strength *—* Working pressure *—* by Rules *—* Actual *—*

Starting Air Receivers, No. *2* Total cubic capacity *200 cub feet* Internal diameter *1495 mm* thickness *21 mm*

Seamless, lap welded or riveted longitudinal joint *welded* Material *SMS* Range of tensile strength *29.75-24 ton* Working pressure *—* by Rules *Approved* Actual *350 lbs*

IS A DONKEY BOILER FITTED? *—* If so, is a report now forwarded? *—*

Is the donkey boiler intended to be used for domestic purposes only *—*

PLANS. Are approved plans forwarded herewith for Shaffling *E 10 and 29 March 35* Receivers *E 9-4-35* Separate Fuel Tanks *—*

Donkey Boilers *—* General Pumping Arrangements *—* Pumping Arrangements in Machinery Space *—*

Oil Fuel Burning Arrangements *—*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *—*

State the principal additional spare gear supplied *—*

The foregoing is a correct description,

WERKSPOR N.V.

Manufacturer.

Dates of Survey while building: During progress of work in shops - *Sept 2, 16, 20, 25, Oct 1, 2, 4, 9, 17, 21, 22, 23, 30 Nov 6, 7, 10, 13, 26, 29 Dec 2, 5, 6, 13, 20, 22, 23, 28, 29 Jan 2, 3, 14 Feb 5, 5, 7, 10, 14, 10, 27, 28 March 2, 3, 10, 13, 16, 17, 18, 27, 30 April 1, 2, 10, 16, 23 May 6, 8, 13, 18, 19, 20 June 10*

Dates of Examination of principal parts—Cylinders *10, 13, 16* Man covers *6 Dec 10* Pistons *2-5 Dec* Rods *3, 14* Connecting rods *3, 14*

Crank shaft *2, 16 Dec* Flywheel shaft *2, 16 Dec* Thrust shaft *17, 30 Oct* Intermediate shafts *2, 25 Sept* Tube shaft *—*

Screw shaft *9, 30 Oct* Propeller *—* Stern tube *13 Dec* Engine seatings *—* Engines holding down bolts *—*

Completion of fitting sea connections *—* Completion of pumping arrangements *—* Engines tried under working conditions *—*

Crank shaft, Material *SMS* Identification Mark *4406-4487* Flywheel shaft, Material *SMS* Identification Mark *440403*

Thrust shaft, Material *SMS* Identification Mark *440403* Intermediate shafts, Material *SMS* Identification Marks *440403*

Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *SMS* Identification Mark *440403*

Is the flash point of the oil to be used over 150° F. *Yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *—*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *—* If so, have the requirements of the Rules been complied with *—*

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *—*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *MV. "ENA" Ans rep. 13658.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery has been made in accordance with the approved plans Secretary's letters and the Society's rules Workmanship throughout good

The Machinery has been shipped to Montfolcone and will be fitted aboard Messrs Lombini Piombi dell' Adriatico Yard N° 1136

Certificate (if required) to be sent to the Registrar of Shipping (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee *£ 60.-* When applied for, *19*
Special *4/5 Feb 1935* *£ 703.-* When received, *19*
Donkey Boiler Fee *£*
Travelling Expenses (if any) *£ 29.-* *1-7 367D 117*

Committee's Minute *FRI. 18 SEP 1936*
Assigned *see Tri 11375*

B. Dingeloff
Engineer Surveyor to Lloyd's Register of Shipping.

