

REPORT ON OIL ENGINE MACHINERY.

No. 25731
JUN 26 1937

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Date of writing Report 23-6-37 When handed in at Local Office 10 Port of Rotterdam

No. in Survey held at Alblasvordam Date, First Survey 1-4-37 Last Survey 10-6-1937
Reg. Book. "BOTHNIA" Number of Visits 1

Single motor
Twin screw vessel
Triple
Quadruple

Tons Gross
Net

Built at Alblasvordam By whom built M. J. Jan Smit Co. Yard No. 521 When built 1937

Engines made at Cologne By whom made Humboldt-Deutz motor Engine No. 397112/49 When made 1937

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

Brake Horse Power 400 Owners ✓ Port belonging to ✓

Nom. Horse Power as per Rule 94 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

Trade for which vessel is intended ✓

TL ENGINES, &c.—Type of Engines Please see Susselhof Rep. 164 2 or 4 stroke cycle ✓ Single or double acting ✓

Maximum pressure in cylinders ✓ Diameter of cylinders ✓ Length of stroke ✓ No. of cylinders ✓ No. of cranks ✓

Mean Indicated Pressure ✓

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

Revolutions per minute 300 Flywheel dia. ✓ Weight ✓ Means of ignition Compression Kind of fuel used diesel oil

Crank Shaft, dia. of journals as per Rule ✓ Crank pin dia. ✓ Crank Webs Mid. length breadth ✓ Thickness parallel to axis ✓
as fitted ✓ Mid. length thickness ✓ shrunk Thickness around eyehole ✓

Flywheel Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule app. Thrust Shaft, diameter at collars as per Rule ✓
as fitted ✓ as fitted 136 mm as fitted 160 mm

Tube Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule app. Is the tube shaft fitted with a continuous liner no
as fitted ✓ as fitted 140 mm ✓

Bronze Liners, thickness in way of bushes as per Rule ✓ Thickness between bushes as per rule ✓ Is the after end of the liner made watertight in the
as fitted ✓ as fitted ✓ propeller boss ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

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 ✓

two liners are fitted, is the shaft lapped or protected between the liners no Is an approved Oil Gland or other appliance fitted at the after end of the tube no
If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 600 mm

Propeller, dia. 1800 mm Pitch 1200 mm No. of blades 3 Material bronze whether Moveable solid Total Developed Surface 0.94 m² sq. feet

Method of reversing Engines by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication by hand
Thickness of cylinder liners as per Rule ✓ Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
as fitted ✓ as fitted ✓ conducting material no If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine funnel

Boiling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Large Pumps worked from the Main Engines, No. one Diameter 100 mm Stroke 85 mm Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line { No. and Size 2 1 a 60 f.p.h. 1 a 20 f.p.h.
How driven electrically

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

Fast Pumps, No. and size one a 60 f.p.h. one a 20 f.p.h. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 tooth wheel pump
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 3 a 2" 1 one a 3" In Pump Room ✓

Folds, &c. four wells 1 a 65 after well 1 a 65 four peaks 1 a 50

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 a 3" 1 a 2"
all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

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

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

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 ✓

pipes pass through the bunkers ✓ How are they protected ✓

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

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

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
partment to another Yes Is the Shaft Tunnel watertight ✓ Is it fitted with a watertight door no worked from no

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Auxiliary Air Compressors, No. one No. of stages 2 Diameters 125-110 mm Stroke 75 mm Driven by aux engine

Auxiliary Air Compressors, No. one No. of stages 2 Diameters 45-110 mm Stroke 72 mm Driven by hand

Enging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule Susselhof Rep. No. 160 No. one
as fitted ✓ Position Port side engine room

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. Total cubic capacity Internal diameter thickness
 Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED? *no* 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 Shafting *10-2-37* Receivers Separate Fuel Tanks *13-4-37*
 (If not, state date of approval) *16-12-36*
 Donkey Boilers General Pumping Arrangements *22-4-37* Pumping Arrangements in Machinery Space *22-4-37*
 Oil Fuel Burning Arrangements *20-4-37*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*
 State the principal additional spare gear supplied *one set of coupling bolts, one cylinder cover and piston complete, a number of piston rings, valves, springs, fuel pumps, crank pin & bearing bolts, nuts and braces etc.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops --
 During erection on board vessel -- *1-20-22/4* *3-10-20/5* *10/6-37*
 Total No. of visits *7*

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
 Crank shaft Flywheel shaft Thrust shaft *22-4-37* Intermediate shafts Tube shaft
 Screw shaft *20-4-37* Propeller *22-4-37* Stern tube *22-4-37* Engine seatings *3-5-37* Engines holding down bolts *20-5-37*
 Completion of fitting sea connections *2-8-37* Completion of pumping arrangements *10-6-37* Engines tried under working conditions *10-6-37*
 Crank shaft, Material Identification Mark *Lloyds* Flywheel shaft, Material Identification Mark *Lloyds*
 Thrust shaft, Material *SM steel* Identification Mark *353.F.S. H.B. 24-3-37* Intermediate shafts, Material *SM steel* Identification Marks *Lloyds 2781 HB 293 20 29-11-37*
 Tube shaft, Material Identification Mark Screw shaft, Material *SM steel* Identification Mark *HB 294-20-4-37*

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 *Yes*
 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 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery has been made and fitted in accordance with approved plans. Society's Rules and Secretary's letters. Main and auxiliary engines and centrifugal pumps have been tested under full working condition and found working and manoeuvring satisfactorily and in my opinion eligible for the records of 4 RMC. 6-37 oil engines.*

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

The amount of Entry Fee .. £ *Charged*
 Special ... £ *on successful report*
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £ *12.50*
 When applied for, *25.6.1937*
 When received, *3.8.1937*

W. Bounce
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned + RMC 6.37 oil eng.

