

REPORT ON OIL ENGINE MACHINERY.

No. 56
MAR 2 1938

Received at London Office

Date of writing Report 23-2-1938 When handed in at Local Office

10. Port of Groningen

No. in Survey held at Hesterbrack

Date, First Survey 9-12-1937 Last Survey 19-2-1938

Reg. Book.

Number of Visits 8

Single
on the Twin
Triple
Quadruple

Screw vessel

MARALI

Tons Gross 535.41
Net 258.68

Built at Hesterbrack

By whom built N. V. E. J. Smid & Zn

Yard No. 653 When built 1938

Engines made at Cologne

By whom made Humboldt Deutz Motoren AG Engine No. 439456 When made 1937

Donkey Boilers made at

By whom made

Boiler No. 4 When made

Brake Horse Power 400

Owners London Owners

Port belonging to London

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 Sea going Trade

as per Dusseldorf report No 197.

OIL ENGINES, &c. Type of Engines Heavy Oil Engine R.V.M. 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 50 kgs/cm²

Diameter of cylinders 280 mm Length of stroke 450 No. of cylinders 0 No. of cranks 0

Mean Indicated Pressure 6.6 kgs/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307.5 mm

Is there a bearing between each crank yes

Revolutions per minute 300

Flywheel dia. 1250 mm

Weight 2600 kgs

Means of ignition Solid inj.

Kind of fuel used on hot bed gas oil

Crank Shaft, dia. of journals as per Rule

Crank pin dia. 170 mm

Crank Webs

Mid. length breadth 370 mm

Thickens parallel to axis

as fitted 190 mm

Mid. length thickness 70 mm

Thickens around eyehole

Flywheel Shaft, diameter as per Rule

Intermediate Shafts, diameter as per Rule

Thrust Shaft, diameter at collars as per Rule

as fitted 190 mm

as fitted 125 mm

as fitted 160 mm

Tube Shaft, diameter as per Rule

Screw Shaft, diameter as per Rule

Is the shaft fitted with a continuous liner

as fitted

as fitted 150 mm

no

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

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

shaft no If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 540 mm

Propeller, dia. 1980 mm

Pitch 1120 mm

No. of blades 4

Material Cast iron

Whether Moveable no

Total Developed Surface 1.526 m²

Method of reversing Engines direct reversing

Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes

Means of lubrication

forced Thickness of cylinder liners

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. up in funnel

Cooling Water Pumps, No. one

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. one

Diameter 100 mm

Stroke 100 mm

Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line

No. and Size

four one 2 90 tons, one 2 15 tons, one 100 tons, stroke 100 mm

How driven

two by auxiliary diesel motor, one by main engine, one pump 2 1/4 by hand

Is the cooling water led to the bilges no

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 of 90 tons

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

capacity 80 lts/min

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 three

2 1/2"

In Pump Room

Holds, &c. four 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 2 1/2"

Are 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

Are all Sea Connections fitted direct on the skin of the ship

yes

Are they fitted with Valves or Cocks values & cocks

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

yes

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

none

How are they protected

yes

What pipes pass through the deep tanks

yes

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

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

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

yes

In Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. one

No. of stages two

Diameters 145/60

Stroke 100

Driven by main engine hand

All Auxiliary Air Compressors, No. one

No. of stages two

Diameters

Stroke

Driven by Deutz 10 HP diesel

Venting Air Pumps, No.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter as per Rule

please see Dusseldorf Report No. 198

Position

two 10 BHP.

Port and Harbours

011079-011088-015

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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. *Two* Total cubic capacity *2 x 500 lbs* Internal diameter *450 mm* thickness *12 mm*
Seamless, lap welded or riveted longitudinal joint *lap welded* Material *S.H. Steel* Range of tensile strength *30/44 kg/mm²* Working pressure *—* by Rules *—* Actual *30 kg/cm²*

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 *12-11-37* Receivers *21-7-32* Separate Fuel Tanks *—*
(If not, state date of approval)

Donkey Boilers *✓* General Pumping Arrangements *9-12-37* Pumping Arrangements in Machinery Space *6-12-37*
Oil Fuel Burning Arrangements *6-12-37*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes, except spare propeller. Cast iron propeller now fitted with*
State the principal additional spare gear supplied *be substitutable by a bronze propeller if vessels of cast iron propeller*
are satisfactory.
none

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- }
{ During erection on board vessel -- } *9, 27-12-1937; 7-1-1938; 3, 5, 10, 17, 19-2-1938.*
Total No. of visits *9.*

Dates of Examination of principal parts—Cylinders *—* Covers *—* Pistons *—* Rods *—* Connecting rods *—*
Crank shaft *—* Flywheel shaft *—* Thrust shaft *3-2-38* Intermediate shafts *3-2-38* Tube shaft *✓*
Screw shaft *7-2-38* Propeller *7-2-38* Stern tube *7-2-38* Engine seatings *27-12-37* Engines holding down bolts *10-2-38*
Completion of fitting sea connections *7-2-38* Completion of pumping arrangements *18-2-38* Engines tried under working conditions *19-2-38*
Crank shaft, Material *✓* Identification Mark *✓* Flywheel shaft, Material *✓* Identification Mark *✓*
Thrust shaft, Material *S.H. Steel* Identification Mark *4LOYD'S N°335* Intermediate shafts, Material *S.H. Steel* Identification Marks *P.F.W. 16-12-*
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S.H. Steel* Identification Mark *4LOYD'S. 48.84*
P.F.W. 16-12-

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 *no*

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 *no* If so, state name of vessel *—*

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

The machinery has been fitted in accordance with the approved plans and Secretary's letters. In the two auxiliary heavy oil engines of 10 B.H.P. (duty) the crankshafts have been substituted by the tested crankshafts as per certificates, (marks of identification 4LOYD'S N°2000 & 2001. H.B. 6-1-38.) On completion both engines tested under working condition and found good.
The machinery examined during the trial and found working satisfactory. We are of opinion that this vessel is eligible for the notation of + LMC 2-38 oil engine.

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 .. £ : : When applied for, 19
Special % ... £ : :
Donkey Boiler Fee ... £ 33.50 : : When received, 22/3 1938
Travelling Expenses (if any) £ 42.50 : :
FRI 18 MAR 1938

Committee's Minute

Assigned + Lmb 2-38 oil eng.

W. Williams & J. H. Williams
Engineer Surveyor to Lloyd's Register of Shipping.



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