

REPORT ON OIL ENGINE MACHINERY.

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5-JUL 1956

Received at London Office
Date of writing Report 10.4. 1956 When handed in at Local Office 19 Port of Köln

Survey held at Köln-Deutz Date, First Survey 5.3.56 Last Survey 5.4. 1956
Number of Visits 6

Single on the Twin Triple Quadruple Screw vessel
Mainz-Kastel
By whom built Chr. Ruthof
Yard No. 1399
When built 56

Köln-Deutz By whom made Klöckner-Humboldt-Deutz
Engine No. 2079345-50
When made 4.56

Boilers made at By whom made Boiler No. When made
Horse Power { Maximum 230 Service 46
Owners
Port belonging to

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Ferry- Water Boat for the Rangoon River

ENGINES, &c. - Type of Engines Airl. Inj. Heavy Oil SA6M 428 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 60 kg/cm² Diameter of cylinders 220 mm Length of stroke 280 mm No. of cylinders 6 No. of cranks 6

Indicated Pressure 5.96 kg/cm² Span of bearings (i.e., distance between inner edges of bearings in
of a crank) 241 mm Is there a bearing between each crank yes Revolutions per minute { Maximum 650 Service 500

Flywheel dia. 950mm Weight 795 kg Moment of inertia of flywheel (lbs. in² or Kg. cm²) 470 kg² Means of ignition compr. Kind of fuel used Diesel

Balance wts. (" " " ") appr. 5.2.51
Crank pin dia. 130 mm Crank webs Mid. length breadth 57 mm shrunk Thickness parallel to axis
Mid. length thickness Thickness around eye-hole

Propeller Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Propeller Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Stem Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted 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 fitted at the after
end of stern tube If so, state type Length of bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether moveable Total developed surface sq. feet
Moment of inertia of propeller including entrained water (lbs. in² or Kg. cm²) Kind of damper, if fitted vibration damper

Method of reversing Engines not reversible Is a governor or other arrangement fitted to prevent racing of the engine yes Means of
lubrication forced Thickness of cylinder liners 15 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled

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 Cooling Water Pumps, No. and how driven one by M.E. equipped with recoler Working F.W.

S.W. Spare F.W. S.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Bilge Pumps worked from the Main Engines, No. and capacity one capacity 6.2 m³/h. Can one be overhauled while the other is at work

Bilge Pumps connected to the Main Bilge Line No. and capacity of each How 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 capacity Power Driven Lubricating Oil Pumps, including spare pump, No. and size one driven by M.E.
capacity 46.5 ltr. p.m.
Are two independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions
No. and size: - In machinery spaces In pump room

Overboard discharges, &c. In pump room

Direct Bilge 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 suction 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

Are all Sea Connections fitted direct on the skin of the Ship Are they fitted with valves or cocks Are they fixed
efficiently 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

How are they protected
How are they protected
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

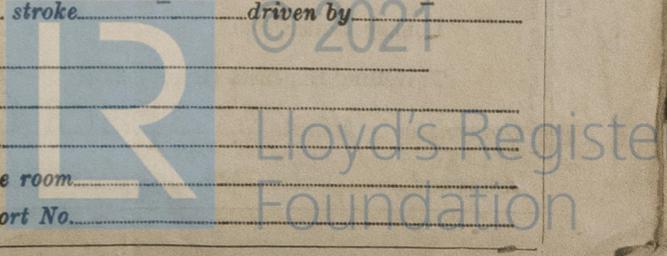
Main Air Compressors, No. No. of stages diameters stroke driven by
Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by
Is that provision is made for first charging the air receivers

Scavenging Air Pumps or Blowers, No. How driven
Auxiliary Engines Have they been made under survey Engine Nos.
Makers' name Main engine only supplied. Position of each in engine room
Report No.

27-11-56

014582-014545-0303



46 84

Cert. HNO.C.56/34

AIR RECEIVERS:—Have they been made under survey yes State No. of report or certificate Cert. HNO.C.56/34

State full details of safety devices each receiver head has been equipped with a safety valve.

Can the internal surfaces of the receivers be examined and cleaned - Is a drain fitted at the lowest part of each receiver -

Injection Air Receivers, No - Cubic capacity of each - Internal diameter - thickness -

Seamless, welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -

Starting Air Receivers, No two Total cubic capacity 240 ltrs. Internal diameter 304 mm thickness 8 mm

Seamless, welded or riveted longitudinal joint welded Material SM. Steel Range of tensile strength 47/53 kg/mm² Working pressure 30 kg/cm²

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 shafting appr. 5.2.51 Receivers appr. 5.2.53 Separate fuel tanks -

(If not, state date of approval)

Donkey boilers - General pumping arrangements - Pumping arrangements in machinery space -

Oil fuel burning arrangements -

Have Torsional Vibration Characteristics been approved - calculations have been forwarded to London for approval on the 23rd May, 1956 Date and particulars of approval 5.7.56

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes State if for "short voyages" only -

State the principal additional spare gear supplied -

See hammer to report

The foregoing is a correct description, Klückner-Humboldt-Deutz Manufacturer.

Dates of Survey while building

- During progress of work in shops 1956 March 5 to 10
- During erection on board vessel -
- Total No. of visits 6

Dates of examination of principal parts—Cylinders 10.3. 22.3. Covers 10.3. 22.3. Pistons 22.3. Rods - Connecting rods 9.3. 22.3.

Crank shaft 5.3. 22.3. Flywheel shaft - Thrust shaft - Intermediate shafts - Tube shaft -

Screw shaft - Propeller - Stern tube - Engine seatings - Engine holding down bolts -

Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under working conditions 21.3.

Crank shaft, material SM. Steel Identification mark Lloyd's KLN.942 H.D. Flywheel shaft, material SM. Steel Identification mark 34.1.56

Thrust shaft, material - Identification mark - Intermediate shafts, material - Identification marks -

Tube shaft, material - Identification mark - Screw shaft, material - Identification mark -

Identification marks on air receivers LLOYD'S TEST HNO. T.P. 48.5 ATM, W.P. 30 ATM. No. 14176 H.L. 15.2.56

LLOYD'S TEST HNO. T.P. 48.5 ATM, W.P. 30 ATM. No. 14179 H.L. 15.2.56

Welded receivers, state Makers' Name Ruhrstahl A.G., Brackwede

Is the flash point of the oil to be used over 150°F -

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

Full description of fire extinguishing apparatus fitted in machinery spaces -

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 -

What is the special notation desired -

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, Speed restrictions, &c.)

This engine has been constructed under special survey of tested materials and is in accordance with the Secretary's letters, approved plans and Rule Requirements. The materials and workmanship are good and the engine, when tested in the shops under full and overload conditions was found to function satisfactorily. The governor tests were also satisfactory. This engine in my opinion is suitable for main propelling purposes and when satisfactorily installed and reported will be eligible to receive the notation LMC. (with date).

Explosion relief devices have been fitted in accordance with the Rules Chapter H. Section 8, Pa. 8

The amount of Entry Fee ... £DM : 300.-

Running Tests ... DM : 100.-

Special ... £ : : When applied for ... 19

Donkey Boiler Fee... £ : : When received ... 19

Travelling Expenses (if any) £DM : 40.-

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

L Lloyd's Register Foundation

THURSDAY 21 MAY 1956

Committee's Minute BIC R 295

Assigned Sir Rpt. 1.

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