London

4b.

No. 684910

REPORT ON OIL ENGINE MACHINERY.

No. 327

Received at London Office JUN 15 1939

of writing Report 7.6. 1939 When handed in at Local Office 13. 6. 1939 Port of Düsseldorf

in Survey held at Cologne Date, First Survey 25. 4. 1938 Last Survey 5. 6. 1939.

Book. Number of Visits 10

on the Single / Twin / Triple / Quadruple } Screw vessel Tons { Gross / Net

t at Goole By whom built Goole Shipbuilding & Rep.Coy Yard No. 345 When built

ines made at Cologne By whom made Klöckner-Humboldt-Deutz AG Engine No. 585223/28 When made 1939

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

ke Horse Power 350 BHP Owners Port belonging to

n. Horse Power as per Rule 71 NHP Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

de for which vessel is intended

ENGINES, &c.—Type of Engines Heavy oil engine R.V.6 M 345 2 or 4 stroke cycle 4 Single or double acting single

imum pressure in cylinders 50 kgs/cm² Diameter of cylinders 280 mm Length of stroke 450mm No. of cylinders 6 No. of cranks 6

n Indicated Pressure 6.6 kgs/cm²

of bearings, adjacent to the Crank, measured from inner edge to inner edge 307.5 mm Is there a bearing between each crank yes

olutions per minute 350 Flywheel dia. 1250 mm Weight 1660 kgs Means of ignition sol.inject Kind of fuel used on test bed gas oil

nk haft, { Solid forged / Semi built / All built } dia. of journals as per Rule / as fitted 190 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 325 mm Mid. length thickness 70 mm shrunk Thickness parallel to axis Thickness around eyehole

wheel 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

pe 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

onze 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

peller boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

he 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

wo 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

ft If so, state type Length of Bearing in **Stern Bush** next to and supporting propeller

opeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

thod of reversing Engines directly by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

orced Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes ~~xxxxxxx~~ water cooled or lagged with

-conducting material water cooled If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

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

lge Pumps worked from the **Main Engines,** No. one Diameter 100 mm Stroke 85 mm Can one be overhauled while ~~xxxx~~ is at work yes

mps connected to the **Main Bilge Line** { No. and Size / How driven

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 1 tooth wheel pump two stages

rangements Main engine

allast Pumps, No. and size ~~xxxxx~~ **Driven Lubricating Oil Pumps,** ~~xxxxxxxxxxxxxxxx~~ No. and size capacity 80 lts/min. at 1400 rev.per min.

re two independent means arranged for circulating water through the **Oil Cooler** **Suctions,** connected to both Main Bilge Pumps and Auxiliary Bilge

umps, No. and size:—In Machinery Spaces In Pump Room

Holds, &c.

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

re all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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

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

re 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

re 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

That pipes pass through the bunkers How are they protected

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

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

s 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

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

f 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. one No. of stages two Diameters 145/60 Stroke 85 mm Driven by main engine

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

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule / as fitted No. Position

Have the Auxiliary Engines been constructed under special survey Is a report sent herewith

22/6/39

AIR RECEIVERS:—*Have they been made under survey* yes *State No. of Report or Certificate* attached to the r. 4
copy sent to Hull

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

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

Injection 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* 2 x 500 lts. *Internal diameter* 458 mm *thickness* 11 mm

Seamless, lap welded or riveted longitudinal joint fusion welded *Material* S.M.Steel *Range of tensile strength* 41-47 kgs/mm² *Working pressure* *by Rules* *Actual* 30 kgs/

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* 212481 13.2.35. *Receivers* 552 1.6.38. *Separate Fuel Tanks*
(If not, state date of approval)

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 yes

State the principal additional spare gear supplied

The foregoing is a correct description,

Klöckner-Humboldt-Deutz AG

Manufacturer.

Dates of Survey while building
During progress of work in shops— 25.4.38., 26.1., 2.3., 13.3., 20.3., 13.5., 17.5., 22.5., 3.6., 5.6
During erection on board vessel—
Total No. of visits

Dates of Examination of principal parts—*Cylinders* Liners 17/5 5/6 13/5 17/5 *Covers* 13/5 5/6 *Pistons* 5/6 *Rods* *Connecting rods* 26/1 2 13/3 5

Crank shaft 25/4 5/6 22/5 *Flywheel shaft* *Thrust shaft* *Intermediate shafts* *Tube shaft*

Screw shaft *Propeller* *Stern tube* *Engine seatings* *Engines holding down bolts*

Completion of fitting sea connections *Completion of pumping arrangements* *Engines tried under working conditions* 3.6. on t

Crank shaft, Material S.M.Steel *Identification Mark* LLOYD'S 13781 M.B. 25.4.39 *Flywheel shaft, Material* *Identification Mark*

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

No. 3757
LLOYD'S TEST
48.5 atm
W.P. 30.0 atm
H.B. 2.3.39.

No. 3794
LLOYD'S TEST
48.5 atm
W.P. 30.0 atm
H.B. 20.3.39.

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

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* Goole Shipbuilding & Rep.Co., Ya
(Düsseldorf Report No. 125)

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

This heavy oil engine has been constructed under special survey in accordance with the Society Rules and Regulations as well as in accordance with the approved plans and instructions there The material used in the construction is good and the workmanship satisfactory. The engine ha been tested on the Makers' test bed in the presence of the undersigned during 10 hours consecu running under full load and 10 % overload and was found to be in safe working condition during these trials. After the trials all working parts of the engine have been opened out for inspection and were found in good condition. In my opinion the vessel for which the above engine is intended will be eligible for the notation + L.M.C. (with date) when the whole machi has been fitted satisfactorily on board and tried under full working condition.

A copy of this report has been forwarded to the Hull Office.

		When applied for,
The amount of Entry Fee ..	£ RM : 40.—	13.6. 1939
Special	£ RM 355.—	When received,
Donkey Boiler Fee ...	£ : :	21.7. 1939
Travelling Expenses (if any)	£ RM : 60.—	

Düsseldorf
A/c No. 12554

1/3 of fees credited to the Hull Office

Engineer Surveyor to Lloyd's Register of Shipping.

FRI 18 AUG 1939

Committee's Minute

Assigned See FE. machy rpt.

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

Certificate (if required) to be sent to