

REPORT ON OIL ENGINE MACHINERY.

No. 1389

10 SEP 1931

Received at London Office

Date of writing Report 27th Aug 31 When handed in at Local Office 1st Sept 31 Port of Bremen

No. in Survey held at Mannheim
Reg. Book.

Date, First Survey 15th June 1931 Last Survey 21st August 1931

Number of Visits 17

Tons } Gross
Neton the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel

Built at Eekhuizen, Holland

By whom built N.V. Werf "Vooruit"

Yard No. 118 When built 1931

Engines made at Mannheim

By whom made Motoren Werke vorm. Benz

Engine No. 31891 When made 1931

Boilers made at

By whom made

Boiler No. When made

Horse Power 320

Owners Mms. Wilder u. v. d. Heyde

Port belonging to Rotterdam

Horse Power as per Rule 87

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

for which vessel is intended

ENGINES, &c.—Type of Engines RH 45 Su

2 or 4 stroke cycle 4 Single or double acting single

Pressure in cylinders 45 atm Diameter of cylinders 310 mm

Length of stroke 450 mm No. of cylinders 6 No. of cranks 6

Bearings, adjacent to the Crank, measured from inner edge to inner edge 416 mm

Revolutions per minute 250

Flywheel dia. 1100 mm

Weight 2100 kg

Means of ignition pre-combustion chamber

Kind of fuel used Gas oil on test bed

Shaft, dia. of journals as per Rule

Crank pin dia. 190 mm

Crank Webs Mid. length breadth 240 mm

Thickness parallel to axis

Shaft, dia. of journals as fitted 190 mm

Crank pin dia. 190 mm

Crank Webs Mid. length thickness 100 mm

Thickness around eye hole

Propeller Shaft, diameter as per Rule

Intermediate Shafts, diameter as per Rule

Thrust Shaft, diameter at collars as per Rule

Shaft, diameter as fitted

Screw Shaft, diameter as fitted

Is the tube screw shaft fitted with a continuous liner

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

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 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

If so, state type

Length of Bearing in Stern Bush next to and supporting propeller

Pitch 1800

No. of blades

Material

whether Moveable

Total Developed Surface

sq. feet

Method of reversing Engines direct by hand

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

Means of lubrication

Thickness of cylinder walls 24 mm

Are the cylinders fitted with safety valves yes

Are the exhaust pipes and silencers water cooled or lagged with

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

No. of Water Pumps, No. 1

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Special arrangements are made for dealing with cooling water if discharged into bilges

Pumps worked from the Main Engines, No. 1

Diameter 140 mm

Stroke 90 mm

Can one be overhauled while the other is at work yes

If necessary as spare cooling water pump

Is connected to the Main Bilge Line

How driven

No. and size

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size of double cog wheel pump fitted to the main engine 4.15/min

Independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size:—In Machinery Spaces

In Pump Room

Is, &c.

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

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

Are the Bilge Suctions in the Machinery Spaces

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

Sea Connections fitted direct on the skin of the ship

Are they fitted with Valves or Cocks

Are 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 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

Do pipes pass through the bunkers

How are they protected

Do pipes pass through the deep tanks

Have they been tested as per Rule

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

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 oil 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.

No. of stages

Diameters

Stroke

Driven by

Suctioning Air Pumps, No.

Diameter

Stroke

Driven by

Main Engines crank shafts, diameter as per Rule

No.:

Main Engines crank shafts, diameter as fitted

Position

Auxiliary Engines crank shafts, diameter as per Rule

No.:

Auxiliary Engines crank shafts, diameter as fitted

Position

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

Are the internal surfaces of the receivers be examined and cleaned yes

Is a drain fitted at the lowest part of each receiver no

Pressure Air Receivers, No.

Cubic capacity of each

Internal diameter

Thickness

Are the receivers, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

Actual

Suctioning Air Receivers, No. 1

Total cubic capacity 250 ft³

Internal diameter 387 mm

Thickness 9.5 mm

Are the receivers, lap welded or riveted longitudinal joint seamless

Material S.M. Steel

Range of tensile strength 55-60 kg/cm²

Working pressure

Actual 30 atm

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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 *27.5.31, 36.31*
(If not, state date of approval)Receivers *16.7.31*

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied *as per Rules*

The foregoing is a correct description.

MOTOREN-WERKE MANNHEIM A.-G.
VORM. BENZ AGT. STATIONÄRER MOTORENBau

Manufacturer.

Dates
of Survey
while
buildingDuring progress of
work in shops - -
During erection on
board vessel - -
Total No. of visits*15.16.17.18.19.20. June; 9.10.11.13 July; 3.4.5.18.19.20.21. August 1931*Dates of Examination of principal parts—Cylinders *10.7.31, 21.8.31* Covers *10.7.31, 21.8.31* Pistons *15.6.31, 21.8.31* Rods *15.6.31*Crank shaft *13.7.31, 21.8.31* 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

Crank shaft, Material *S. M. Steel* Identification Mark *LLOYD'S M.K.4129* 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

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 a 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 *F. Smith, Fexhol, yard No 76 for M'y "Ocean" of Groningen, Holland*General Remarks (State quality of workmanship, opinions as to class, &c. *This heavy oil engine has been constructed in accordance*)

with the Society's Rules and Regulations as well as with the approved plans and instructions thereto. The materials used in the constructions are good and the workmanship is satisfactory. The engine has been tested running on the makers test bed during 13 hours incl. 2 hours 20% overload and 3 hours partial loads in the presence of the undersigned and was found to work satisfactorily. In my opinion the vessel for which this engine is intended will be eligible for the notation of \otimes LMC [with date] when the machinery has been fitted satisfactorily on board and tried under full working conditions.

Working pressure in the cylinders not to exceed 45 atm.

It is recommended that the 250 lb air receiver No 600 F.S. 24.6.31 be fitted with drain on the bottom.

A copy of this report has been sent to the Rotterdam surveyors.

The amount of Entry Fee .. £ 1 : 12 : When applied for.

4/5 Special .. £ 14 : 12 : *5.9.1931**Test bed trials* .. £ 4 : 4 : When received.Travelling Expenses (if any) .. £ 8 : 11 : *£10 - 17.9.31 Ebb*
£21.19/- 14/10/31 Ebb

Committee's Minute

FRI. 5 FEB 1932

Assigned

See F.C. Rpt.

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 4 MAR 1932



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Foundation