

Order No.: 754605/06.

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 103.

27/5/35

Date of writing Report 29th July 1935 When handed in at Local Office

Port of Brissard 31 JUL 1935

No. in Survey held at Bologne
Reg. Book.

Date, First Survey 4th June 1935 Last Survey 18th July 1935
Number of Visits 5

Single
on the Twin
Triple
Quadruple } Screw vessel Twin

Tons } Gross
Net

Built at Kiel By whom built Messrs. Howaldtswerke A.G. Yard No. 741 When built 1935
Engines made at Bologne By whom made Messrs. Humboldt Deutzwerke A.G. Engine No. 3436 741 75 When made
Donkey Boilers made at By whom made
Boiler No. When made
Brake Horse Power 2 x 250 Owners
Port belonging to
Nom. Horse Power as per Rule 140 Is Refrigerating Machinery fitted for cargo purposes
Is Electric Light fitted
Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines Heavy Oil engine R.F. 6 No. 345 2 or 4 stroke cycle four Single or double acting single
Maximum pressure in cylinders 50 kg/cm² Diameter of cylinders 280 mm Length of stroke 450 mm No. of cylinders 2 x Six No. of cranks 2 x Six
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 250 Flywheel dia. 1250 mm Weight 2600 kg Means of ignition sol injection Kind of fuel used

Crank Shaft, dia. of journals 190 mm as per Rule 190 mm as fitted Crank pin dia. 170 mm Crank Webs Mid. length breadth 325 mm Thickness parallel to axis
Flywheel Shaft, diameter 190 mm as per Rule 190 mm as fitted Intermediate Shafts, diameter 190 mm as per Rule 190 mm as fitted Thrust Shaft, diameter at collars 140 mm as per Rule 140 mm as fitted
Tube Shaft, diameter 190 mm as per Rule 190 mm as fitted Screw Shaft, diameter 190 mm as per Rule 190 mm as fitted Is the tube screw shaft fitted with a continuous liner

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 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
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
Method of reversing Engines direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication
by pressure Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water cooled 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. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel
What special arrangements are made for dealing with cooling water if discharged into bilges
Bilge 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 How driven

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Tooth wheel pump in Space
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 In Pump Room
In Holds, &c.

Independent Power Pump Direct 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 Suctions 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 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 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

What pipes pass through the bunkers How are they protected
What pipes pass through the deep tanks 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
If 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. one No. of stages Two Diameters 145 mm 360 mm Stroke 85 mm Driven by Main engine
Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. Diameter Stroke Driven by

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

AIR RECEIVERS:—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 Is a drain fitted at the lowest part of each receiver
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. Four Total cubic capacity 2000 litres Internal diameter 450 mm thickness 12 mm Working pressure by Rules Actual
Seamless, lap welded or riveted longitudinal joint lap welded Material L.B. Steel Range of tensile strength 39 kg/mm² Working pressure by Rules Actual 30 kg/cm²

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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 ^{13/2.35 and 19/3.35} Receivers ^{25/7.1932} Separate Tanks
(If not, state date of approval)

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*

State the principal additional spare gear supplied *1 complete fuel pump, 1 top set of fuel pump, 1 cylinder cover, 2 cylinder line 2 complete fuel valves, 2 sets of motion and delivery valves of the fuel pump, 6 pins for fuel pumps and assortment of springs, fuel needles etc. as ordered by the owners.*

The foregoing is a correct description.

Humboldt-Deutz Motoren
Klat Manufacturer.

Dates of Survey while building { During progress of work in shops - *4th June, 3rd July, 5th July, 15th July and 18th July 1935.*
During erection on board vessel - *Five.*
Total No. of visits

Dates of Examination of principal parts—Cylinders *4th June* Covers *4th June* Pistons *4th June* Rods *4th June* Connecting rods *4th June*
Crank shaft *8th and 20th 6.35.* Flywheel shaft Thrust shaft *23rd May* Intermediate shafts *4th June* 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. N. 44* Identification Mark *9774 4.6.35.* Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark Intermediate shafts, Material *S. N. 44* Identification Marks *15882 14.36.*
Tube shaft, Material Identification Mark Screw shaft, Material Identification Marks *15883 4.6.35.*

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 *Messrs Gorte Shipbuilding Co. Yard No. 310.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines are built in accordance with the approved plans and the requirements embodied in the Secretary's letters of the 13/2.35, 19/3.35. and 25/7.1932. and otherwise in accordance with the requirements of the Rules. Materials and workmanship are of best quality, the outfit is ample. Both sets of engines have been tested under full working and manoeuvring conditions for six hours on the trial stage in machine shop, further half an hour with 10% overload and have given full satisfaction. After trial all working parts have been opened up and were found on examination in good condition. This machinery has been built under special survey and will be fitted on board the vessel No. 741 in construction at Messrs Howaldtswerke A.G. of the*
In my opinion these engines are eligible for notation of NE 8.35.

The amount of Entry Fee *No 60.00* : When applied for, *No. 8192.*
Special ... *No 700.00* : *July 23 1935.*
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) *No 80.00* : *8.8.35*

Committee's Minute

FRI. 4 OCT 1935

Assigned

see Stan 78 Machy 21627

Paul Haupt
Engineer Surveyor to Lloyd's Register of Shipping.



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