

REPORT ON OIL ENGINE MACHINERY.

No. 19951

23 JUN 1931

Date of writing Report 11th June 1931 When handed in at Local Office

Received at London Office

Port of HAMBURG

No. in Survey held at KIEL

Date, First Survey 2nd June 1930 Last Survey 22nd May 1931

Reg. Book.

Number of Visits 86

on the ~~Single~~ ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel

FJORDAAS

Tons Gross 7361
Net 4360

Built at KIEL By whom built DEUTSCHE WERKE KIEL A.G. Yard No. 227 When built 1931
Engines made at KIEL By whom made DEUTSCHE WERKE KIEL A.G. Engine No. 491-98 When made 1931
Donkey Boilers made at KIEL By whom made DEUTSCHE WERKE KIEL A.G. Boiler No. 1073/74 When made 1931
Brake Horse Power 2 x 1600 Owners AGDESIDENS REDERI A/S. Port belonging to ARENDAL
Nom. Horse Power as per Rule 726 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
Trade for which vessel is intended TANKER TRADE CARRYING PETROLEUM IN BULK

OIL ENGINES, &c.—Type of Engines DEUTSCHE WERKE KIEL 2 or 4 stroke cycle 4 Single or double acting single
Maximum pressure in cylinders 40 kg/cm² Diameter of cylinders 550 mm Length of stroke 900 mm No. of cylinders 2 x 8 No. of cranks 2 x 8
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 780 mm Is there a bearing between each crank yes
Revolutions per minute 155 Flywheel dia. 2150 mm Weight 7000 kg Means of ignition Diesel principle Kind of fuel used gas oil
Crank Shaft, dia. of journals as per Rule 342 mm as fitted 350 mm Crank pin dia. 350 mm Crank Webs Mid. length breadth 470 mm Mid. length thickness 195 mm Thickness parallel to axis — Thickness around eye-hole —
Flywheel Shaft, diameter as per Rule in one m/m as fitted Thrust shaft Intermediate Shafts, diameter as per Rule as fitted 285 mm Thrust Shaft, diameter at collars as per Rule 245 mm as fitted 360 mm
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 259 mm as fitted 278 mm Is the tube screw shaft fitted with a continuous liner { }
Bronze Liners, thickness in way of bushes as per Rule 15.5 mm as fitted 17.5 & 18.5 mm Thickness between bushes as per rule 12.6 mm as fitted 16 mm Is the after end of the liner made watertight in the propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length
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 yes
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 Length of Bearing in Stern Bush next to and supporting propeller 1540 mm
Propeller, dia. 3500 mm Pitch 2650 mm No. of blades 4 Material bronze whether Moveable yes Total Developed Surface 39.34 sq. feet
Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine led to funnel
Cooling Water Pumps, No. 2 of 65 m³/h chain driven from the main shaft 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. none Diameter — Stroke — Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line No. and Size 2 Bilge Pumps each 50 m³/h 190 x 160 300 1 Ballast Pump
How driven Steam driven
Ballast Pumps, No. and size 1, 150 m³/h 230 x 280 350 Lubricating Oil Pumps, including Spare Pump, No. and size { 2 rotary each 10 m³/h 2 30 m³/h 1 steam driven 20 m³/h 50 m³/h
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 3 of 110 mm f
Holds, &c. 2 in fore. Holds of 80 mm f connected to four Ballast pumps 60 m³/h 190 x 190 260
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 150 mm f connected to Ballast Pump
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 sea water chests Are they fitted with Valves or Cocks valves
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 above
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 1 pipe to copper dam How are they protected steel pipe
What pipes pass through the deep tanks 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
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 yes Is the Shaft Tunnel watertight Machinery aft 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. Main Engines compressors No. of stages — Diameters 400/345/90 Stroke 250 mm Driven by Aux. Diesel Eng.
Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters — Stroke — Driven by —
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 110/40 mm Stroke 140 mm Driven by Mr. Diesel Eng.
Savenging Air Pumps, No. — Diameter — Stroke — Driven by —
Auxiliary Engines crank shafts, diameter as per Rule 161 mm as fitted 170 mm

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 yes What means are provided for cleaning their inner surfaces covers fitted
Is there a drain arrangement fitted at the lowest part of each receiver yes
High Pressure Air Receivers, No. 3 Cubic capacity of each 3.5 m³ Internal diameter 1000 mm thickness 40 mm
Seamless, lap welded or riveted longitudinal joint lap welded Material 1 m. Steel Range of tensile strength 41-47 kg/cm² Working pressure by Rules 60 kg/cm²
Starting Air Receivers, No. 1 Total cubic capacity 0.2 m³ Internal diameter 368 mm thickness 16 mm
Seamless, lap welded or riveted longitudinal joint lap welded Material 1 m. Steel Range of tensile strength 34-41 kg/cm² Working pressure by Rules 46 kg/cm²

IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

PLANS. Are approved plans forwarded herewith for Shafting

yes

Receivers

yes

Separate Tanks

yes

Donkey Boilers

yes

General Pumping Arrangements

yes

Oil Fuel Burning Arrangements

yes

SPARE GEAR

All spare articles as required by Section 9 of the Rules for Survey & Commission of Heavy Oil Engines and their Auxiliaries 1930-31 have been supplied.

The foregoing is a correct description.

Denschope Werke, Kiel
Reibungsschiffbau

Manufacturer.

Dates of Survey while building
During progress of work in shops --
From 2. July 1930 to 25. Aug. 1930
During erection on board vessel --
From 1.3.31 to 14.3.31
Total No. of visits 86

Dates of Examination of principal parts—Cylinders 19.30, 19.31 Covers 19.30, 19.31 Pistons 19.30, 19.31 Rods 19.30, 19.31 Connecting rods 19.30, 19.31

Crank shaft 19.30, 19.31 Flywheel shaft 19.30, 19.31 Thrust shaft 19.30, 19.31 Intermediate shafts 19.30, 19.31 Tube shaft 19.30, 19.31

Screw shaft 19.30, 19.31 Propeller 19.30, 19.31 Stern tube 19.30, 19.31 Engine seatings 19.30, 19.31 Engines holding down bolts 19.30, 19.31

Completion of fitting sea connections 19.30, 19.31 Completion of pumping arrangements 19.30, 19.31 Engines tried under working conditions 19.30, 19.31

Crank shaft, Material S. M. Steel Identification Mark 2214/30 F.K. 29.11.30 Flywheel shaft, Material in one with Crankshaft Identification Mark 2214/30 F.K. 29.11.30

Thrust shaft, Material S. M. Steel Identification Mark 2228 F.K. 29.11.30 Intermediate shafts, Material S. M. Steel Identification Mark 2301 F.K. 10.2.31

Tube shaft, Material S. M. Steel Identification Mark 2228 F.K. 29.11.30 Screw shaft, Material S. M. Steel Identification Mark 2228 F.K. 29.11.30

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 oil tanker If so, have the requirements of the Rules been complied with

Is this machinery duplicate of a previous case yes If so, state name of vessel M.V. VARDAAAS yard No 226

General Remarks (State quality of workmanship, opinions as to class, &c.) This Machinery has been built under Special Survey in accordance with the approved plans, the Secretary's letters and otherwise in conformity with the requirements of the Rules. The materials used in the construction are made at works recognised by the Committee and tested by the Soc. Surveyors. Materials & workmanship are of good quality. I attend to a 10 hours trial trip on which all the machinery has been tested under full working and manoeuvre condition and has given full satisfaction. The machinery is eligible in my opinion for records of:

* LMC 5.31. OIL ENGINES, TRAIL SHAFTS (CH), ELECTRIC LIGHT.

The amount of Entry Fee ... £ 6 : 0 :
Special ... £ 111 : 6 :
Donkey Boiler Fee ... £ 16 : 0 :
3 mt. AIR RECEIVERS ... £ 6 : 6 :
Travelling Expenses (if any) ... £ 32 : 8 :
When applied for, 4.6.1931
When received, 6.7.1931

Committee's Minute

Assigned

+ L.M.C. 5.31 C.L.

Oil Eng.

226.114.08

CERTIFICATE WRITTEN.

A. Carstensen
Engineer Surveyor to Lloyd's Register of Shipping.

pt. 9a.

ort of HAMBURG

Continuation of Report No. 19951 dated

on the

STEEL TWIN MOTOR TANKER FJORDAAS

DESCRIPTION OF PUMPS

DESCRIPTION	Nº	DIMENSIONS	HOW DRIVEN	CAPACITY
Coolingwater pump for Main Eng	2	rotary type	Chain driven from main shaft	63 1/2 h
Coolingwater pump for Aux. Cond.	1	190 x 190 1/2 350	Steam driven	80 1/2 h
Spare Piston cooling oil pump	1	190 x 180 1/2 350	"	50 1/2 h
Spare lubricating oil pump	1	150 x 150 1/2 200	"	20 1/2 h
Ballast pump (spare for main Eng overboard)	1	230 x 280 1/2 350	"	150 1/2 h
Sanitary & Bilge Pump	1	190 x 160 1/2 300	"	50 1/2 h
"	1	190 x 160 1/2 300	"	50 1/2 h
Fuel oil - Pump	1	230 x 220 1/2 350	"	100 1/2 h
Fuel oil - Transfer pump	1	110 x 110 1/2 150	"	10 1/2 h
Boiler - Feed pump	2	150 x 80 1/2 150	"	5 1/2 h
Freshwater pump	1	80 x 80 1/2 80	"	2 1/2 h
Fuel oil - Pre-mix pump	2	110 x 45 1/2 100	"	0.5 1/2 h
Cargo - oil Pump	3	360 x 360 1/2 550	"	325 1/2 h
Ballast pump in foreship Pump Room	1	190 x 190 1/2 260	"	60 1/2 h
Fuel oil - Transfer pump	1	150 x 150 1/2 200	"	20 1/2 h
Bilge - Pump in forew. Pump Room	1	150 x 150 1/2 200	"	20 1/2 h
Bilge - Pump in aft.	1	150 x 150 1/2 200	"	20 1/2 h

Hamburg 11th June 1931
A. Carstensen

Certificate (if required) to be sent to the Surveyors at the port of destination or to the Committee's Minute.



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