

REPORT ON OIL ENGINE MACHINERY.

No. 1925.
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No. in Survey held at BREMEN & WESERMÜNDE Date, First Survey 11th Aug. 1936 Last Survey 8th June 1937
Reg. Book. Number of Visits 79

38442 on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel **GAMBIAN** Tons ^{Gross} 5452 ^{Net} 3106

Built at WESERMÜNDE By whom built DEUTSCHE SCHIFF UND MASCHINENBAU A.G. WERK: SEEBECK Yard No. 571 When built 1937

Engines made at BREMEN By whom made DEUTSCHE SCHIFF UND MASCHINENBAU A.G. WERK: A.G. WESER Engine No. 138/39 When made 1937

Donkey Boilers made at HAMBURG By whom made DEUTSCHE WERFT Boiler No. 695 When made 1937

Brake Horse Power 2 x 1200, ^{AT PROP. SHAFT} 2300 Owners LEVER BROS. TORONTO Port belonging to FREETOWN

Nom. Horse Power as per Rule 577 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

Trade for which vessel is intended OPEN SEA SERVICE 16 2/16

OIL ENGINES, &c.—Type of Engines TWO OIL ENGINES SINGLE REDUCTION GEARED TO ONE PROP. SHAFT WESER-MAN. G.6.Z.U. 42/58 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 45 kg/cm² Diameter of cylinders 420 Z Length of stroke 580 Z No. of cylinders 2 x 6 No. of cranks 2 x 6
Mean Indicated Pressure 5.3 kg/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 510 Z Is there a bearing between each crank yes
Revolutions per minute 275 Flywheel dia. Weight Means of ignition ^{Direct principle} kind of fuel used ^{Time die}

Crank Shaft, ^{Solid forged} ~~semi built~~ dia. of journals as per Rule ^{app.} Crank pin dia. 270 Z Crank Webs Mid. length breadth 330 Z Thickness parallel to axis ^{shrunk}
as fitted 270 Z Mid. length thickness 140 Z Thickness around eye-hole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule ^{app.} Thrust Shaft, diameter at collars as per Rule ^{app.}
as fitted 300 Z as fitted 330 Z

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule ^{app.} Is the ^{tube} ~~screw~~ shaft fitted with a continuous liner ^{yes}
as fitted 336 Z

Bronze Liners, thickness in way of bushes as per Rule 18 Z Thickness between bushes as per Rule 13.5 Z Is the after end of the liner made watertight in the
as fitted 23 Z as fitted 17.5 Z 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
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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller 1640 Z

Propeller, dia. 4980 Pitch 4690 No. of blades 4 Material bronze whether Moveable no Total Developed Surface 88 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 27 Z 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 for funnel
Cooling Water Pumps, No. 3 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. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line { No. and Size 1 rotary self-priming 200 m³/h, 2 piston pumps, 200 dia 203 Z stroke
How driven electrically

Is the cooling water led to the bilges no 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 size 1 rotary 200 m³/h Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 3 cog wheel 45 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 5 of 90 Z dia. in Tunnel 2 of 90 Z In Pump Room
In Holds, &c. V-I 2 of 90 Z, V-II 2 of 90 Z, V-III (Deck tank) 2 of 90 Z, V-IV 4 of 90 Z V-V 1 of 50 Z 2 of 65 Z

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 125 Z dia, 1 of 180 Z dia
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes 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 yes
Are all Sea Connections fitted direct on the skin of the ship yes, these direct Are they fitted with Valves or Cocks valves or cocks

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 none How are they protected
What pipes pass through the deep tanks none 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 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 yes Is it fitted with a watertight door yes worked from upper Eng. Room

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. No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 200/75 Z Stroke 188 Z Driven by Aux. Time Eng.

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 98/38 Z Stroke 75 Z Driven by
What provision is made for first Charging the Air Receivers 1 hand compressor, 2 steps 120/40 Z dia by 75 Z stroke

Scavenging Air Pumps, No. 2 Diameter 11200 m³/h Driven by Main Engines
Auxiliary Engines crank shafts, diameter as per Rule No. 3 of 165 BHP, 1 of 85 KW.
as fitted 130 Z Position Engine Room Star. side

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

AIR RECEIVERS:—Have they been made under survey *yes* Are reports or certificates now forwarded *yes*
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes*
 Can the internal surfaces of the receivers be examined and cleaned *yes* Is a drain fitted at the lowest part of each receiver *yes*
STARTING INJECTION AIR RECEIVERS, No. 1 Cubic capacity of each 275 cu. Internal diameter 416 Z thickness 12 Z
 Seamless, lap welded or riveted longitudinal joint *seamless* Material *P.M. Steel* Range of tensile strength 50 as found 50.6 kg/cm² Working pressure by Rules 60 kg/cm² Actual 50
Starting Air Receivers, No. 2 Total cubic capacity 2 x 3800 lbs. Internal diameter 1195 Z thickness 27.5 Z
 Seamless, lap welded or riveted longitudinal joint *lap welded* Material *P.M. Steel* Range of tensile strength 38-44 kg/cm² Working pressure by Rules 30 kg/cm² Actual 30

IS A DONKEY BOILER FITTED?
 Is the donkey boiler intended to be used for domestic purposes only *yes* If so, is a report now forwarded? *yes*

PLANS. Are approved plans forwarded herewith for Shafting 3.6.36, 24.6.36. Receivers 3.9.36. Separate Fuel Tanks
 Donkey Boilers *from Hamburg* General Pumping Arrangements 18.12.36 Pumping Arrangements in Machinery Space 18.12.36
 Oil Fuel Burning Arrangements *—*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*
 State the principal additional spare gear supplied *For Main Engines 1 piston except. 2/2 main bearing brasses; 2 sets of linked pipes for piston cooling; 1 cylinder liner, 1 cylinder cover; 2 wings for rearing Hovers and 3 driving chains; 1 driving chain for fuel pumps*

The foregoing is a correct description,
Deutsche Schiff- und Maschinenbau Aktiengesellschaft
Hamburg Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 1936 Aug. 11, 12, 20, 22, Sept. 5, 11, 17, 19, 21, 23, 24, 30, Oct. 1, 9, 13, 14, 20, 31, 22, 26, Nov. 2, 5, 6, 7, 10, 14, 19, 23, 28, Dec. 2, 8, 10, 15, 16, 18, 23, 29, 30, 1937 Jan. 6, 13, 15, 20, 22, 27, Feb. 8, 9, 10, 15, 17, 18, 19, 25, March 3, 5, 8, 9, 11, 16, 17, 19, 1937 April 1, 2, 7, 10, 15, 20, 27, May 3, 7, 12, 18, 21, 25, 28, June 1, 4, 5, 7, 8
 Total No. of visits 79

Dates of Examination of principal parts—Cylinders 19/9.36-6.12.36 Covers 26/10.36-27/2.37 Pistons 26/10.36-15.2.36 Rods 26/10.36-19.3.37 Connecting rods 26/10.36-19.3.37
 Crank shaft 26/10.36-25.2.37 Flywheel shaft — MAIN WHEEL Thrust shaft 27.1.37 Intermediate shafts 16.3.37 Tube shaft —
 Screw shaft 16.3.37 Propeller 16.3.37 Stern tube 23.11.36 Engine seatings 9.4.37 Engines holding down bolts 27.4.37
 Completion of fitting sea connections 16.3.37 Completion of pumping arrangements 8.6.37 Engines tried under working conditions 8.6.37
 Crank shaft, Material *P.M. Steel* Identification Mark *LLOYD'S K.H. 16461 & K.H. 16470* Flywheel shaft, Material —
 Thrust shaft, Material *P.M. Steel* Identification Mark *LLOYD'S M.B. 12382-27.7.36* Intermediate shafts, Material *P.M. Steel* Identification Mark *J.L. 1159/92/95-3.12, J.L. 11656 17.12, LLOYD'S M.B. 12700 7.12, M.B. 12705 2.12, G.S. 3358 30.12, LLOYD'S J.L. 11653 17.12, Identification Mark 3.L. 11737 11.1*
 Tube shaft, Material — Identification Mark — Screw shaft, Material *P.M. Steel* Identification Mark 3.L. 11737 11.1

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 *in 2 deep tanks* If so, have the requirements of the Rules been complied with *yes*
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *no*
 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, &c.) *This Machinery has been built under Special Survey in accordance with the approved plans, the Plans are letters, and in conformity with the requirements of the Rules. The materials used in the construction are made at works recognized by the Committee and tested as per Rule. The workmanship is of good quality. During two trial trips all the machinery has been tested under full working and maneuvering condition and found satisfactory in all respects. This machinery is eligible in our opinion to be classed in the Port. Reg. Book with records of: * LMC. 6.37. OIL ENGINES. TRAIL SHAFT CL.*

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

The amount of Entry Fee	RM 120.-	When applied for,
Special	2222.-	23.6.1937
Donkey Boiler Fee	1	When received,
Travelling Expenses (if any)	200.-	14.8.1937

S. Rantmann G.H.C. Kahr
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned + Lmc 6.37 should be 2062.
 Air tug 2 1 SB 100 lb
 2 AB (WTB) 100 lb

