

## REPORT ON OIL ENGINE MACHINERY.

No. 21017  
19 JAN 1934

Received at London Office

Date of writing Report 8<sup>th</sup> Janr., 1934 When handed in at Local Office

Port of Hamburg

No. in Survey held at Kiel  
Reg. Book.

Date, First Survey 29/12/32

Last Survey 14/1/34 19

Number of Visits 96

41763 on the <sup>Single</sup> Twin <sup>Triple</sup> Screw vessel  
<sup>Quadruple</sup>

44 Bonbousse 44

Tons { Gross 7026.79  
Net 4308.68

Built at Kiel By whom built Deutsche Werke Kiel A.G. Yard No. 228 When built 1924  
Engines made at Kiel By whom made Deutsche Werke Kiel A.G. Engine No. 454/63 When made 1934  
Donkey Boilers made at Kiel By whom made Deutsche Werke Kiel A.G. Boiler No. 1091 When made 1934  
Brake Horse Power 6800 Owners Wilhelm Wilhelmsen Port belonging to Tönsberg  
Nom. Horse Power as per Rule 1345 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended Australia & Far East 29 55 8

OIL ENGINES, &amp;c.—Type of Engines Deutsche Herke's type M5VD 14075 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 40 kg/cm<sup>2</sup> Diameter of cylinders 750 mm Length of stroke 1400 mm No. of cylinders 16 2 x 8 No. of cranks 2 x 8

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1000 mm Is there a bearing between each crank Yes

Revolutions per minute 115 Flywheel dia. 2720 mm Weight 14,166 kg Means of ignition Diesel system Kind of fuel used Persian Diesel Oil

Crank Shaft, dia. of journals as per Rule 492 mm Crank pin dia. 480 mm Crank Webs Mid. length breadth 740 mm Thickness parallel to axis 300 mm  
as fitted 480 mm with 192 mm cent. hole Mid. length thickness 300 mm Thickness around eye hole 209 mmFlywheel Shaft, diameter as per Rule 472 mm Intermediate Shafts, diameter as per Rule 290 mm Thrust Shaft, diameter at collars as per Rule 305 mm  
as fitted 480 mm as fitted 325 mm as fitted 430 mmTube Shaft, diameter as per Rule 323 mm Screw Shaft, diameter as per Rule 390 mm Is the tube screw shaft fitted with a continuous liner Yes  
as fitted 323 mm as fitted 390 mmBronze Liners, thickness in way of bushes as per Rule 19.5 mm Thickness between bushes as per rule 15 mm Is the after end of the liner made watertight in the  
as fitted 20 mm as fitted 15 mm

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 in 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 Length of Bearing in Stern Bush next to and supporting propeller 2065 mm

Propeller, dia. 4650 mm Pitch 4550 mm No. of blades 3 Material Bronze whether Moveable solid Total Developed Surface 6.132 each 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 57.8 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Yes If 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. 2 of 300 tons/h each 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, 50 tons/h each 1 Ballast pump 150 tons/h  
How driven electr. centrifugal electr. centrifugal

Ballast Pumps, No. and size 1 centrifugal 150 tons/h Lubricating Oil Pumps, including Spare Pump, No. and size 2 cog wheel of 60 tons/h each

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 2 of 100 mm, 1 of 150 mm, 3 of 90 mm, Tunnel 3 of 90 mm, Fore &amp; Aft Peak 1 of 90 mm each

In Holds, &amp;c. No 1 hold 2 of 90 mm, No 2 hold 2 of 90 mm, No 3 hold 2 of 80 mm, No 4 hold 2 of 90 mm

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 150 mm, 2 of 200 mm to cooling water pumps

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 Are they fitted with Valves or Cocks valves &amp; 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 heating coils How are they protected

What pipes pass through the deep tanks heating coils 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 Yes Is it fitted with a watertight door Yes worked from freeb. deck

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork in engine room

Main Air Compressors, No. none No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 369/305/105 mm Stroke 265 mm Driven by Aux. Oil Engines

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 110/40 mm Stroke 80 mm Driven by hand, or alternat.

Scavenging Air Pumps, No. Diameter Stroke Driven by supplied by secondary battery.

Auxiliary Engines crank shafts, diameter as per Rule 156 mm Deutsche Herke's standard type

as fitted 170 mm

AIR RECEIVERS:—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 Yes What means are provided for cleaning their inner surfaces manholes &amp; doors

Is there a drain arrangement fitted at the lowest part of each receiver Yes

Starting for Aux. Oil Engines Starting Air Receivers, No. 1 Cubic capacity of each 200 Liters Internal diameter 368 mm thickness 16 mm

Seamless, lap welded or riveted longitudinal joint lap welded Material O.H. Steel Range of tensile strength 34 ÷ 41 kg/mm<sup>2</sup> Working pressure by Rules 46.2 kg/cm<sup>2</sup>

Starting Air Receivers, No. 2 Total cubic capacity 48 cubic meters Internal diameter 1512/1575 mm thickness 31.5/33 mm

Circ. seams riveted Seamless, lap welded or riveted longitudinal joint Material O.H. Steel Range of tensile strength 41 ÷ 47 kg/mm<sup>2</sup> Working pressure by Rules 30.1 kg/cm<sup>2</sup>

003727-003733-0058



IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes  
PLANS. Are approved plans forwarded herewith for Shafting 30/12/32, 6/1/33, 28/4/33 Receivers 10/5/29, 20/2/33 Separate Tanks 2/5/33  
(If not, state date of approval)  
Donkey Boilers 20/4/33 24/4/33 General Pumping Arrangements 13/2/33 Oil Fuel Burning Arrangements ✓

SPARE GEAR

Supplied as per Rules and a number of parts in addition.

The foregoing is a correct description,

**Deutsche Werke Kiel**  
Aktiengesellschaft

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1933: 29/2, 1933: 12-27/1, 18/2, 3-15-17-30/4, 3-6-7-11-28/4, 2-12-16-19-23-26-30/5, 2-30/6, 4-7-12-21-25-28/7  
During erection on board vessel -- 10-28-31/10, 7-10-14-17-21-24-28/11, 1-5-8-12-15-24/12, 1934: 4/1 1-11-22-25/3, 1-12-15-19-29/9, 3-7/10  
Total No. of visits 57 + 39 (See Rpt No 19324, dated Ham. 31-3-31)

Dates of Examination of principal parts—Cylinders 15-17/3/33 Covers 23-30/5/33 Pistons 25/8/33, 31/10/33 Rods 25/8/33 Connecting rods 31/10/33

Crank shafts 4/2/33, 29/9/33 Flywheel shaft 4/2/33, 29/9/33 Thrust shafts 31/10/33 Intermediate shafts 31/10/33 Tube shaft —

Screw shafts 25/2/33 Propellers 3/10/33 Stern tubes 12-19/9/33 Engine seatings Aus. Eng. 29/9/33 Engines holding down bolts 12/11/33

Completion of fitting sea connections 29/9/33 Completion of pumping arrangements 12/12/33 Engines tried under working conditions 4/1/34

Crank shafts Material O.H. Steel Identification Mark See Lloyd's Pt. 14994 S.F. 5.18.33 Flywheel shaft, Material O.H. Steel Identification Mark See crankshaft

Thrust shafts Material O.H. Steel Identification Mark G.L.L. 806 28 Intermediate shafts, Material O.H. Steel Identification Marks See Lloyd's 14994 S.F. 5.18.33

Tube shaft, Material — Identification Mark — Screw shaft, Material O.H. Steel Identification Mark See Lloyd's Pt. 14992 H.H. 3.8.33

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  
Yes. Dec. plants No 3 hold 2 tunnel tanks

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo F.P. above 150° F If so, have the requirements of the Rules been complied with Yes

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.)

Please <sup>see</sup> also Hamburg Rpt. No. 19884, dated 31.3.31

Material and workmanship of this machinery are of good quality and the outfit is ample. The materials used in the construction are made at works recognized by the Committee and have been tested by the Society's Surveyors in compliance with the Rules. It has been constructed under Special Survey in accordance with the approved plans, the Secretary's letters and otherwise in compliance with the requirements of the Rules. During the trial trip the ~~trial~~ machinery has given full satisfaction under working and manoeuvring conditions. In my opinion the machinery is eligible for notation of **⊕ LMC-1, 34 (Oil Engines)** and **TS (CL)**

One main engine originally built for stock without dower pins being fitted in cranks as above. Lf

x) Balance amounting to £ 86-18-0  
was charged Ham. 31/3/31

The amount of Entry Fee	£ 6 : 0 0	When applied for,
Special	£ 46 : 14 6	16/11 1934
Donkey Boiler Fee	£ 8 : 10 :	When received,
2 large Air Receivers	£ 8 : 8 0	8-2-1934
Travelling Expenses (if any)	£ 24 : 2 6	

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 27 APR 1934

TUE. 3 JUL 1934

TUE. 16 JUL 1934

Lloyd's Register  
Foundation