

# 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>

49 **Toussoussé** 49

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. **452/63** When made **1924**  
 Donkey Boilers made at **Kiel** By whom made **Deutsche Werke Kiel A.G.** Boiler No. **1091** When made **1924**  
 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, &c.**—Type of Engines **Deutsche Herke's type MSVO 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** No. of cranks **2x8**

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 eyehole **209 mm**

Flywheel 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 mm**

Tube Shaft, diameter as per Rule **323 mm** Screw Shaft, diameter as per Rule **390 mm** Is the shaft fitted with a continuous liner **Yes**  
as fitted **390 mm**

Bronze 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 **4650 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 **5.8 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 & aft Peak 1 of 90 mm each**  
In Holds, &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 & 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 bunters **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 **free b. deck**  
in engine 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. **none** No. of stages **—** Diameters **—** Stroke **—** Driven by **—**

Auxiliary Air Compressors, No. **2** No. of stages **3** Diameters **360/305/105 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.**  
**By electr. motor Current**  
Driven by **supplied by**  
**secondary battery.**

Scavenging Air Pumps, No. **—** Diameter **—** Stroke **—**

Auxiliary Engines crank shafts, diameter as per Rule **156 mm** Deutsche Herke's **STANDATA** 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 & doors**

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

Starting **for Aux. Oil Engines** Air Receivers, No. **1** Cubic capacity of each **200 Liters** Internal diameter **368 mm** thickness **10 mm**

Seamless, lap welded or riveted longitudinal joint **lap welded** Material **O.H. Steel** Range of tensile strength **34 ÷ 41 kg/cm<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/cm<sup>2</sup>** Working pressure by Rules **30 kg/cm<sup>2</sup>**

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.*  
23650660

The foregoing is a correct description.  
**Deutsche Werke Kiel**  
 Aktiengesellschaft  
 Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- 1932: 29/2, 1933: 17-27/1, 10/2, 3-15-17-3/4, 2-6-7-11-25/4, 2-12-16-19-23-26-30/5, 2-30/6, 4-7-12-21-25-25/7  
 During erection on board vessel -- 10-20-31/10, 7-10-14-17-21-24-25/11, 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 shafts 4/2/33, 29/9/33 Thrust shafts 31/10/33 Intermediate shafts 31/10/33 Tube shaft —  
 Screw shafts 25/7/33 Propellers 3/10/33 Stern tubes 12-19/9/33 Engine sealings Aux. Eng. 29/9/33 Engines holding down bolts 17/11/33  
 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 LLOYD'S Pt. 108/5 F.S. 13-3-30 Flywheel shaft, Material O.H. Steel Identification Mark see crankshaft  
 Thrust shafts Material O.H. Steel Identification Mark G.L.L. 506 20 Intermediate shafts, Material O.H. Steel Identification Marks K.H. 3-8-33  
 Tube shaft, Material — Identification Mark — Screw shaft, Material O.H. Steel Identification Mark LLOYD'S Pt. 14992 K.H. 3-8-33  
 Spare: 14993

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. Decree No 3 hold in 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 with dowel pins being fitted in webs actually.*

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 **FRI. 23 JAN 1934**  
 Assigned **+ Lmb 1 34 Oil Eng. of 2 13-1000s**  
 Subject

*J.A. White*  
 Engineer Surveyor to Lloyd's Register of Shipping.  
**FRI. 27 APR 1934**  
**TUE. 3 JUL 1934**  
**TUE. 16 JUL 1934**

Certificate (if required) to be sent to Messrs. Wilhelm Wilhelmsen.

The Surveyors are requested not to write on or below the space for Committee's Minute.

