

REPORT ON OIL ENGINE MACHINERY.

No. 16327

18 MAY 1925

Received at London Office

Date of writing Report 19th April 1925 When handed in at Local Office

Port of HAMBURG

Date in Survey held at
Date, First Survey 2nd May 1924 Last Survey 24th March 1925

Number of Visits 37

on the ^{Single} Twin ^{Screw vessels} Triple

"TOPEKA"

Tons { Gross 4991
Net 3030.

Built at Kiel By whom built DEUTSCHE WERKE A.G. Yard No. 128 When built 1925

Engines made at Kiel By whom made DEUTSCHE WERKE A.G. Engine No. 74 When made 1925

Monkey Boilers made at DUISBURG By whom made JACQUES DIEZBOEF Boiler No. 11744 When made 1925

Horse Power 2 x 1000. Owners With. Wilhelmsen. Port belonging to TONBERG.

Horse Power as per Rule 545 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &c. Type of Engines 2 Diesel engines Type Diesel Type A.G. 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 50 kg. No. of cylinders 2 x 6. No. of cranks 2 x 6. Diameter of cylinders 350 mm.

Length of stroke 900 mm. Revolutions per minute 135. Means of ignition Diesel principle. Kind of fuel used Diesel Oil.

Span of bearings (Page 92, Section 2, par. 7 of Rules) 706 mm.

Is a flywheel fitted Yes. Diameter of crank shaft journals as per Rule 330 mm. as fitted 335 mm. (80 mm. hole)

Breadth of crank webs as per Rule 399 mm. as fitted 430 mm. Thickness of ditto as per Rule 165 mm. as fitted 188 mm.

Diameter of tunnel shaft as per Rule 230 mm. as fitted 233 mm. Diameter of thrust shaft as per Rule 242 mm. as fitted 275 mm.

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes.

If the liner is in more than one length are the joints burned

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 without liners, is the shaft arranged to run in oil

Length of stern bush 1210 mm. from 1250 mm. Diameter of propeller 3300 mm.

Total surface 37.67 square feet

Thickness of cylinder liners 50 mm.

Are the exhaust pipes and silencers water cooled or lagged with

Means of lubrication Forced lubrication

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared

Diameter of ditto Stroke

No. of auxiliary pumps connected to the main bilge lines 3 (incl. galley) How driven electric driven

In engine room 14 1/2 in. 2 of 110-4 of 80 mm. double acting.

How driven electric driven. Sizes of pumps 2 of 220 mm. 2 of 250 mm.

Is a separate auxiliary pump suction fitted in

Are all the bilge suction pipes fitted with roses Yes. Are the roses in Engine Room always accessible Yes.

Are all connections with the sea direct on the skin of the ship Yes.

Are they fired sufficiently high on the ship's side to be seen without lifting the floor plates Yes.

Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes.

Are the bilge suction pipes, cocks and valves arranged so as to prevent any

Is the screw shaft tunnel watertight Yes. Is it fitted with a watertight door Yes.

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

Driven by lever by main engine.

Driven by Port. aux. Diesel engine.

Driven by Aux. steam engine.

Are the air compressors and their coolers made so as to be easy of access Yes.

No. of high pressure air receivers 2 Internal diameter 54 1/2 in. 3 of 26 1/2 in. 3 of 26 1/2 in.

Range of tensile strength 58-60 kg. / cm²

Internal diameter 1000 mm.

Seamless, lap welded or riveted longitudinal joint riveted.

Working pressure by rules 62.5 kg. / cm² Is each receiver, which can be isolated,

Can the internal surfaces of the receivers be examined Yes. What means are provided for cleaning their

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

Machinery altered to "Archa" Solid injection system. Got 10.35 Report 10449

Port Compressor & Port aux. Diesel engine removed. 10.35

IS A DONKEY BOILER FITTED? *ye*

If so, is a report now forwarded? *ye*

HYDRAULIC TESTS:—

Crown	DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
No. 1	ENGINE CYLINDER <i>linear</i>	<i>3/9 - 18/11/24.</i>	<i>35 kg/cm²</i>	<i>70 kg/cm²</i>	<i>HT.</i>	
Screw	" " COVERS	<i>3/9 - 16/12/24.</i>	<i>35 kg.</i>	<i>70 .</i>	<i>HT.</i>	
Area	" " JACKETS	<i>3/9 - 16/12/24.</i>	<i>1.5 .</i>	<i>5 .</i>	<i>HT.</i>	
Tube	" " PISTON WATER PASSAGES	<i>3/9 - 18/11/24.</i>	<i>1.5 .</i>	<i>5 .</i>	<i>HT.</i>	
No. 2	MAIN COMPRESSORS—1st STAGE	<i>28/10/24</i>	<i>3.5 .</i>	<i>8 .</i>	<i>HT.</i>	
Manh	" " 2nd "	<i>21/10/24</i>	<i>12 .</i>	<i>25 .</i>	<i>HT.</i>	
of riv	" " 3rd "	<i>31/10/24</i>	<i>65 .</i>	<i>120 .</i>	<i>HT.</i>	
Uptal	AIR RECEIVERS—STARTING	<i>20/12/24.</i>	<i>60 .</i>	<i>74 .</i>	<i>HT.</i>	
Cross	" " INJECTION	<i>28/1/25</i>	<i>75 . (2130 lbs)</i>	<i>150 .</i>	<i>HT. J.L. 7283-44.</i>	
	AIR PIPES	<i>20/3/25</i>	<i>65 .</i>	<i>130 .</i>	<i>HT.</i>	
	FUEL PIPES	<i>20/3/25</i>	<i>65 .</i>	<i>130 .</i>	<i>HT.</i>	
	FUEL PUMPS	<i>10/11/24.</i>	<i>65 .</i>	<i>130 .</i>	<i>HT.</i>	
	SILENCER	<i>13/11/24.</i>	<i>0.5 .</i>	<i>3 .</i>	<i>HT.</i>	
	" " WATER JACKET	<i>13/11/24.</i>	<i>1.5 .</i>	<i>6 kg.</i>	<i>HT.</i>	
	SEPARATE FUEL TANKS	<i>30/12/24.</i>	<i>0.5 .</i>	<i>1 .</i>	<i>HT.</i>	

PLANS. Are approved plans forwarded herewith for shafting *ye*
(If not, state date of approval)

Receivers *ye*

Separate Tanks *ye*

SPARE GEAR *All spare articles as required by Section 6, page 99 of the Rules (1924-25) have been supplied with.*

The foregoing is a correct description,

Deutsche Werke Aktiengesellschaft

Werft Kiel.

Manufacturer.

Dates of Survey while building
During progress of work in shops: *7/5 - 20/5 - 30/6 - 9/7 - 23/7 - 9/8 - 3/9 - 7/10 - 24/10 - 28/10 - 31/10 - 4/11 - 10/11 - 13/11 - 16/12 - 23/12 - 30/12/24 - 6/1 - 9/1/25*
During erection on board vessel: *16/1 - 20/1 - 30/1 - 3/2 - 5/2 - 10/2 - 13/2 - 16/2 - 21/2 - 25/2 - 27/2 - 3/3 - 13/3 - 17/3 - 20/3 - 24/3/25*
Total No. of visits *37*

Dates of Examination of principal parts—Cylinders *7/5 - 13/11/24.* Covers *3/9 - 18/11/24.* Pistons *3/9 - 18/11/24.* Rods *9/8 - 28/8/24.* Connecting rods *23/8 - 21/10/24.*

Crank shaft *7/5/24.* Thrust shaft *9/8/24.* Tunnel shafts *5/2/25* Screw shaft *30/12/24* Propeller *30/12/24* Stern tube *16/12/24.* Engine seatings *16/1 -*

Engines holding down bolts *10/2/25* Completion of pumping arrangements *17/3/25* Engines tried under working conditions *24/3/25*

Completion of fitting sea connections *9/1/25* Stern tube *9/1/25* Screw shaft and propeller *9/1/25.*

Material of crank shaft *Steel.* Identification Mark on Do. *HT. 3631 F.W.* Material of thrust shaft *Steel.* Identification Mark on Do. *3632. 9.7.24.*
1099. J.A. 26.1.25. 1084-85-86. J.A. 17.1.25 Spare *(12108-K.H. 5.12.3)*

Material of tunnel shafts *Steel.* Identification Marks on Do. *12105 K.H. 12106. 28.11.24.* Material of screw shafts *Steel.* Identification Marks on Do. *(12403) K.H. 28.11. (12104)*

Is the flash point of the oil to be used over 150° F. *ye*

Is this machinery duplicate of a previous case *ye*. If so, state name of vessel

'Uranus' (class with the German Lloyd)

General Remarks (State quality of workmanship, opinions as to class, &c. *Specification of Aux. Pumps: No. 2, of plunger type having 3 cylinders, 2 of which of 160 mm diam. and 200 mm stroke. The 3rd cylinder has two stages of 160 mm and 115 mm diam. and 150 mm stroke. Cyl. No. 1 being used for bilge purposes, No. 2 for cooling water discharge & No. 3 for fire, sanitary and deck wash purposes. Material - Workmanship of main and auxiliary engines are of good quality, the outfit is ample. The material used in the construction are made at works recognized by the Committee and tested in accordance with the requirements of the Rules. The crank shaft, which were tested by the Surveyor to the Germanischer Lloyd were found to be sound and free from surface defects. The machinery is built under Special Survey in accordance with the approved plans, the Society's letter and otherwise in conformity with the requirements of the Rules. The tail shafts have been fitted with continuous liners at request of the Owners. I attended to a 6 hour trial trip, where the machinery has given full satisfaction, and it is eligible in my opinion for certification. L.M.C. 3.25, Oil engines. Tail shafts C.L.*

The amount of Entry Fee ... £ 6 : 0 : 0

Special ... £ 102 : 5 : 0

Harbour Fee ... £ 4 : 4 : 0

Travelling Expenses (if any) £ 20 : 8 : 0

Committee's Minute

FRI. 12 JUN 1925

Assigned

+ L.M.C. 3.25 Oil Engines C.L. 100 lbs



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