

REPORT ON OIL ENGINE MACHINERY.

No. 15910

TUE. OCT. 31 1922

Received at London Office

Date of writing Report 22nd Oct. 1922 When handed in at Local Office 1922 Port of HAMBURG

No. in Survey held at HAMBURG Date, First Survey 24th January 22 Last Survey 27th Sep. 1922

Reg. Book. 1004 on the Single Twin Triple Screw vessels "TIRADENTES" Tons Gross 4960 Net 2913

Master Built at HAMBURG By whom built DEUTSCHE WERFT Yard No. 10 When built 1922

Engines made at BERLIN By whom made Allgemeine Electricitäts Ges Engine No. 14/42 When made 1922

Donkey Boilers made at HAMBURG By whom made DEUTSCHE WERFT A. G. Boiler No. 21 When made 1922

Brake Horse Power 1150 each Owners W. H. Mehlhausen Port belonging to TÖNENBERG

Nom. Horse Power as per Rule 865 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

ENGINES, &c.—Type of Engines 2 - Diesel Engine - Type Pann. Main. 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 40 atm. No. of cylinders 6 No. of cranks 6 Diameter of cylinders 630 mm.

Length of stroke 260 mm. Revolutions per minute 126 Means of ignition Spark princip. Kind of fuel used Diesel Gas Oil.

Is there a bearing between each crank yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 860 mm.

Distance between centres of main bearings 1300 mm. Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 375 mm. as fitted 384 mm.

Diameter of crank pins 384 mm. Breadth of crank webs as per Rule 830 mm. Thickness of ditto as per Rule 250 mm. as fitted 264 mm.

Diameter of flywheel shaft as per Rule 375 mm. as fitted 375 mm. Diameter of tunnel shaft as per Rule 251 mm. as fitted 280 mm. Diameter of thrust shaft as per Rule 204 mm. as fitted 330 mm.

Diameter of screw shaft as per Rule 282 mm. as fitted 310 mm. Is the screw shaft fitted with a continuous liner the whole length of the stern tube no

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 joints burned no

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 - rubber

If two liners are fitted, is the shaft lapped or protected between the liners yes rubber If without liners, is the shaft arranged to run in oil yes

Type of outer gland fitted to stern tube Length of stern bush 1900 mm. Diameter of propeller 3600 mm.

Pitch of propeller 3500 mm. No. of blades 4 state whether moveable not moveable Total surface 4.48 square feet

Method of reversing Reversing Gear Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Thickness of cylinder liners 51 mm.

Are the cylinders fitted with safety valves yes Means of lubrication forced lubrication Are the exhaust pipes and silencers water cooled yes 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 scummers

No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes No. of bilge pumps fitted to the main engines none Diameter of ditto Stroke

Can one be overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines 2, also Jellon Pump How driven electric driven

Sizes of pumps See below No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 5 each of 90 mm. duplex double acting

and in holds, etc. 10 of 90 mm. 2 from funnel well of 90 mm. No. of ballast pumps 1 How driven electric driven Sizes of pumps 220 Dia - 250 mm. stroke

Is the ballast pump fitted with a direct suction from the engine room bilges yes State size 150 mm. Is a separate auxiliary pump suction fitted in Engine Room and size yes, 90 mm. Are all the bilge suction pipes fitted with roses yes Are the roses in Engine Room always accessible yes

Are the sluices on Engine Room bulkheads always accessible no sluices Are all connections with the sea direct on the skin of the ship yes

Are they valves or cocks valves & cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates yes

Are the discharge pipes 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 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges yes Is the screw shaft tunnel watertight yes Is it fitted with a watertight door yes

worked from cylinder 704 mm. If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork converted to solid suction

No. of main air compressors 1 for each main engine No. of stages 3 Diameters 600-540-120 Stroke 350 mm. Driven by main engine

No. of auxiliary air compressors 1 No. of stages 3 Diameters 345-310-60 Stroke 260 mm. Driven by electric

No. of small auxiliary air compressors 1 No. of stages 2 Diameters 100-40 Stroke 100 mm. Driven by single cyl. steam eng.

No. of scavenging air pumps Diameter Stroke Driven by

Diameter of auxiliary Diesel Engine crank shafts as per Rule 176 mm. as fitted 180 mm. Are the air compressors and their coolers made so as to be easy of access yes

3 of 446 B) 5 of 360 mm. C) 2 of 450 mm. D) 2 of 346 B) 5 of 360 mm. E) 2 of 450 mm. F) 0.05-2) 0.2-3) 0.4 cm.

AIR RECEIVERS:—No. of high pressure air receivers 10 Internal diameter Cubic capacity of each

material Steel Seamless, lap welded or riveted longitudinal joint seamless Range of tensile strength 55 kg/cm² 61 kg/cm²

thickness 12-2) 15-3) 20 mm. Working pressure by Rules No. of starting air receivers 2 Internal diameter 1800 mm.

Total cubic capacity 14.5 cbm. Material Steel Seamless, lap welded or riveted longitudinal joint double butt. lapped

Range of tensile strength 34-41 kg/cm² thickness 24 mm. Working pressure by rules 24.4 atm. Is each receiver, which can be isolated, filled 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 manhole & removed covers Is there a drain arrangement fitted at the lowest part of each receiver yes

IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

HYDRAULIC TESTS:--

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	4/5/20 to 11/6/20.	35 atm.	60 atm.	E.L.	These parts were fitted & tested by the Germ. Lloyd when the classification of the Society has been commenced.
" " COVERS	9/7/20 to 15/2/21.	35 atm.	60 atm.	"	
" " JACKETS		2 atm.	6 atm.	"	
" PISTON WATER PASSAGES	24/4/20 to 5/7/20.	2 atm.	10 atm.	"	
MAIN COMPRESSORS—1st STAGE	1/7/20 to 20/8/20.	3.5 atm.	100 atm.	"	
" 2nd "		13.5 atm.	30 atm.	"	
" 3rd "		64 atm.	100 atm.	"	
AIR RECEIVERS—STARTING	24/5/22 & 30/5/22.	25 atm.	41 atm.	L. Lloyd Test. N° 58. T.G.	N° 59 F.W.
" INJECTION	26/9/22.	65 atm.	130 atm.	" F.W.	
AIR PIPES	26/9/22.	65 atm.	130 atm.	" F.W.	
FUEL PIPES	26/9/22.	65 atm.	130 atm.	" F.W.	
FUEL PUMPS	26/9/22.	65 atm.	130 atm.	" F.W.	
SILENCER					
" WATER JACKET	24/5/22	2 atm.	6 atm.	" F.W.	
SEPARATE FUEL TANKS	26/8/22.	.5 atm.	1 atm.	" F.W.	

PLANS. Are approved plans forwarded herewith for shafting

yes

Receivers

yes

Separate Tanks

yes

SPARE GEAR

The articles required by Section 6, page 93 of the Society's Rules have been supplied.

The foregoing is a correct description.

AEG TURBINENFABRIK

Thornwallt Manufacturer.

Dates of Survey while building
During progress of work in shops - 24/1-3/3-10/3-15/3-22/3-8/4-13/4-29/5-30/5-19/6-26/6-1922.
During erection on board vessel - 12/7-19/7-26/8-9/9-20/9-23/9-24/9-25/9-26/9-27/9-1922.
Total No. of visits 24

Dates of Examination of principal parts—Cylinders 24/1/22 Covers 24/1/22 Pistons 24/1/22 Rods 24/1/22 Connecting rods 24/1/22
Crank shaft 24/1/22 Thrust shaft 19/6/22 Tunnel shafts 19/6/22 Screw shaft 12/6/22 Propeller 6/6-19/6/22 Stern tube 30/5-19/6/22 Engine seatings 26/6/22
Engines holding down bolts 10/7-26/8/22. Completion of pumping arrangements 27th Sept. Engines tried under working conditions 24/9-27/9/22
Completion of fitting sea connections 19th June 1922. Stern tube 30/5-19/6/22. Screw shaft and propeller 26/5-12/7/1922.
Material of crank shaft Steel Identification Mark on Do. 75th Material of thrust shaft Steel Identification Mark on Do. 75th
Material of tunnel shafts Steel Identification Marks on Do. 75th Material of screw shafts Steel Identification Marks on Do. 75th

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

Is this machinery duplicate of a previous case yes If so, state name of vessel "Lois" (Classed with the Germanischer Lloyd)

General Remarks (State quality of workmanship, opinions as to class, &c. Description of auxiliary N° 2)

Cylinder, plunger type. 2 cylinders of which having 160th diam. by 200th stroke. Single acting.
3rd cylinder having 2 plunger of 160th and 115th diam. by 150th stroke and being used.
No 1 for bridge purposes - 20 tons per hour. - No 2 for discharging of cooling water - 20 tons per hour
No 3 for fire sanitary & deck. 15 tons per hour. - Material and workmanship of main & auxiliary machinery are of best quality. The materials used in the construction are made at works recognized by the Committee and tested in conformity with the Rules by the Surveyors of the Germanischer Lloyd. All working parts were found on examination to satisfactory, the shafting found free from defects. The machinery being built in accordance with the approved plans and the Secretary's letters and otherwise in conformity with the requirements of the Rules is eligible in my opinion for certification L.N. 1-9, 22. and "Oil engines".

The amount of Entry Fee ... £ 6. : 0. : When applied for.

Special ... £ 10. : 0. : 16. Oct. 1922.

Donkey Boiler Fee ... £ 4. : 4. : When received.

Travelling Expenses (if any) £ 2. : 10. : 7. 12. 1922

Committee's Minute FRI 15 MAY 1923

Assigned

L.N. 6. 9. 22.
oil engines

TUE JUL 24 1923

FRI. 14 SEP. 1923



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