

# REPORT ON OIL ENGINE MACHINERY

No. 975.  
23 JUL 1927

Received at London Office

pt. 4b

a

of writing Report 18th July 1927 When handed in at Local Office

Port of Bremen

in Survey held at

Date, First Survey 5th Jan. 1927 Last Survey 15th July 1927  
Number of Visits 41

Book.

Single  
on the Twin } Screw vessels  
Triple

"ADRIA"

Tons { Gross 6358  
Net 3637

ill at

Bremen

By whom built Deutsche Schiff- u. Maschinenbau A.G.  
Werk Act. G.m. H. Bremen

Yard No. 864 When built 1927

gines made at

—

By whom made —

Engine No. 499 When made 1927

nkey Boilers made at

—

By whom made —

Boiler No. 1466/67 When made 1926/27

ake Horse Power

2100

Owners Bremer Oel-Transport G.m. b. H. Port belonging to Bremen

m. Horse Power as per Rule

438

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINE, &c. Type of Engines Water. M. A. H. Oil Engines 2 or 4 stroke cycle 4 Single or double acting Single

imum pressure in cylinders 35 kg/cm<sup>2</sup> No. of cylinders 6 Diameter of cylinders 700 mm No. of cranks 6 Length of stroke 1400 mm

n of bearings, adjacent to the Crank, measured from inner edge to inner edge 970 mm Is there a bearing between each crank Yes

olutions per minute 110 Flywheel dia. 2490 mm Weight 4555 kg. Means of ignition Air Injection Kind of fuel used Gas Oil

unk Shaft, dia. of journals as per Rule 443 mm as fitted 450 " Crank pin dia. 450 mm Crank Webs Mid. length breadth 840 mm Thickness parallel to axis 455 mm

Thrust Shaft, diameter at collars as per Rule 353 mm as fitted 410 "

Wheel Shafts, diameter as per Rule 450 " as fitted 450 " Intermediate Shafts, diameter as per Rule 336 mm as fitted 336 "

be Shafts, diameter as per Rule 366 mm as fitted 366 " Is the screw shaft fitted with a continuous liner Yes

onze Liners, thickness in way of bushes as per Rule 19 mm as fitted 22 " Thickness between bushes as per rule 17.5 " Is the after end of the liner made watertight in the

beller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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

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

of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 1770 mm

opeller, dia. 4400 mm Pitch 3300 mm No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 6.72 sq. feet

thod of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

2222 Thickness of cylinder liners 52.5/40 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

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

meur lagged 2 flywheel each 105 cub. m. per hour Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

oling Water Pumps, No. 2 flywheel each 105 cub. m. per hour Can one be overhauled while the other is at work

ge Pumps fitted to the Main Engines, No. 2 acting Diameter 160 mm Stroke 150 mm

water centrifugal No. and Size 2 bilge pump each 30 cub. m. per hour 1 ballast pump 100 cub. m. per hour

mps connected to the Main Bilge Line How driven by electric motors.

last Pumps, No. and size 1-100 cub. m. per hour Lubricating Oil Pumps, including Spare Pump, No. and size 2 tooth wheel each 21 cub. m. per hour

two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

mps, No. and size:—In Engine and Boiler Room 1-90 mm. dia., 3-70 mm. dia., in boiler room: 1-70 mm. dia.

Holds, &c. In each hold 1-300 mm. dia., 1-150 mm. dia., in each tank 1-150 mm. dia., 1 in after plate 100 mm. dia., 1 in fore plate 100 mm. dia.

dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-150 mm.

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes. Yes Are the Bilge Suctions in the Machinery Space

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Valve

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

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

all pipes pass through the bunkers None How are they protected

hat pipes pass through the deep tanks None Have they been tested as per Rule Yes

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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

partment to another. Yes Is the Shaft Tunnel watertight None Is it fitted with a watertight door worked from

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

ain Air Compressors, No. one No. of stages 3 Diameter 200/620/150 mm Stroke 500 mm Driven by main engines

ixiliary Air Compressors, No. two No. of stages 3 Diameters 270/240/56 mm Stroke 180 mm Driven by electric motor

all Auxiliary Air Compressors, No. one No. of stages 2 Diameters 100/35 mm Stroke 100 mm Driven by electric motor driven from steam driven generator

avenging Air Pumps, No. Diameter Stroke Driven by

Water as per Rule 142.5 mm as fitted 155 "

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

in the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces flanges

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

High Pressure Air Receivers, No. one Cubic capacity of each 200 Liters Internal diameter 400 mm thickness 25 mm.

unless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 36-42 kg/cm<sup>2</sup> Working pressure by Rules 84 kg/cm<sup>2</sup>

arting Air Receivers, No. 4 for main engines 8800 liter Total cubic capacity 150 " Internal diameter 300 mm thickness 17.5 "

unless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 40-45 kg/cm<sup>2</sup> Working pressure by Rules 104.5 kg/cm<sup>2</sup>

007412-007421-0101



4B. 973

IS A DONKEY BOILER FITTED? *yes*

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

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE. Hgr./cm.	TEST PRESSURE. Hgr./cm.	STAMPED. LLOYD'S TEST No. 352	REMARKS.
ENGINE CYLINDERS <i>from MAN Augsburg</i>	10, 18, 28/2, 11, 30/5 1927	35	75	75 atm. 10, 18, 28/2, 11, 30/5, 1927. <i>Y.A.</i>	
" " COVERS	13, 14, 20, 28/6/27	2	20	20 atm. 13, 14, 20, 28/6.27. <i>P.H.</i>	
" " JACKETS	9/5/27	2	6	6 atm. 9/5/27. <i>Y.A.</i>	
" " PISTON WATER PASSAGES	20/4/27	2	10	10 atm. 20/4/27. <i>Y.A.</i>	
MAIN COMPRESSORS—1st STAGE	20, 27/4/27	air 3 water 2	air 35 water 6	20, 27/4/27. <i>Y.A.</i>	
" 2nd "	— " —	16 2	35 6	20, 27/4/27. <i>Y.A.</i>	
" 3rd "	23, 25/1/27	75 2	150 6	23, 25/1/27. <i>Y.A.</i>	
AIR RECEIVERS—STARTING	7/1, 18/2/27	75	150	150 atm. 7/1, 18/2/27. <i>Y.A.</i>	
" INJECTION	17/3/27	75	150	150 atm. 17/3/27. <i>Y.A.</i>	
AIR PIPES	6/7/27	80	240	<i>Y.A.</i>	
FUEL PIPES	6/7/27	80	240	<i>Y.A.</i>	
FUEL PUMPS <i>from MAN Augsburg</i>	18/10/26	75	150	150 atm. 18/10/26. <i>P.H.</i>	
SILENCER	✓				
<i>Tahayut</i> WATER JACKET	7/3/27	2	6	6 atm. 7/3/27. <i>Y.A.</i>	
SEPARATE FUEL TANKS	✓				

PLANS. Are approved plans forwarded herewith for Shafting *3/3/26.* Receivers *25/7/26. 11/8/26* Separate Tanks *24/9/26.*  
(If not, state date of approval)  
Donkey Boiler *26/3/26. 21/5/26.* General Pumping Arrangements *23/12/26* Oil Fuel Burning Arrangements *23/12/26.*

SPARE GEAR *As per Rules. ✓*

The foregoing is a correct description,  
*Deutsche Schiff- und Maschinenbau Aktiengesellschaft*

*Wolfschlaggen 16 N. 11111111*

Manufacturer.

Dates of Survey while building { During progress of work in shops - *1927: 5, 7, 23, 25/1, 5, 10, 18, 28/2, 4, 7, 15, 17, 18, 22, 25, 28/3, 4, 7, 8, 12, 13, 17, 20, 27, 28, 29/4, 4, 5, 9, 11, 16, 30/5*  
During erection on board vessel - *27/5, 28/6, 4, 6, 8, 11, 12, 14/7, 15/7.*  
Total No. of visits *41.*

Dates of Examination of principal parts—Cylinders *9/5/27* Covers *4/7/27* Pistons *20/4/27* Rods *4/3/27* Connecting rods *4/3/27*  
Crank shaft *4/3, 22/3/27* Flywheel shaft *✓* Thrust shaft *11/5/27* Intermediate shafts *11/5/27* Tube shaft *11/5/27*  
Screw shaft *11/5/27* Propeller *4/4/27* Stern tube *18/3/27* Engine seatings *27/5/27* Engines holding down bolts *27/5/27*  
Completion of fitting sea connections *16/5/27* Completion of pumping arrangements *6/7/27* Engines tried under working conditions *15/7/27*  
Crank shaft, Material *J.M. steel* Identification Mark *M.H. 29.12.26* Flywheel shaft, Material *✓* Identification Mark *✓*  
Thrust shaft, Material *J.M. steel* Identification Mark *M.H. 20.7.26* Intermediate shafts, Material *J.M. steel* Identification Marks *M.H. 30.7.26*  
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *J.M. steel* Identification Mark *J.B. 14.7.26.*

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 *"Piscaya" and "Wittelsmeer"*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These Diesel Engines and their accessories have been constructed under Special Survey in accordance with the approved plans and instructions and in conformity with the Rules. The materials used in the construction and the workmanship are good. The main engine and the auxiliary have been tried under working conditions and were found to work well.*

*In my opinion these Diesel Engines and their accessories are eligible to be classed in the Register Book with the notation of + LMC 7, 27, CL, Oil Engines.*

The amount of Entry Fee ... £ 5 : 0 :  
Special ... £ 90 : 14 : 19.7.1927  
Donkey Boiler Fee ... £ 1 : 10 :  
Travelling Expenses (if any) ... £ 1 : 10 :  
When applied for, 19.7.1927  
When received, 1.9.27

Committee's Minute

FRI. 29 JUL 1927

Assigned

*+ LMC 7.27  
Oil Engines C.L.  
2W.T. SB 200lb*

*G. H. B. Ham*

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation