

REPORT ON OIL ENGINE MACHINERY

No. 7219.

-6 APR 1926

Received at London Office

Date of writing Report 29th March 1926. When handed in at Local Office

10

Port of

Copenhagen

No. in Survey held at
Reg. Book.

Copenhagen

Date, First Survey 24th October 1925 Last Survey 17th March 1926

Number of Visits 40

on the ^{Single} ~~Triple~~ ^{Motor} ~~Screw~~ vessels

Tons

Gross

Net

Built at Dunkirk

By whom built

Societe des Ateliers et
Chantiers de France

Yard No. 137 When built

Engines made at

Copenhagen

By whom made

Akt. Burmeister & Wain's
Maskin og Skibsbyggeri

Engine No. 1218 When made 1925-26

Donkey Boilers made at

By whom made

Boiler No. Designated "SAGAI" When made

Brake Horse Power

1000

Owners

Port belonging to

Nom. Horse Power as per Rule 222

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

OIL ENGINES, &c.—Type of Engines Vertical Diesel Oil Engines (Cross head type) 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 35 $\frac{1}{2}$ cm² No. of cylinders 6 Diameter of cylinders 500 mm = 19 $\frac{1}{16}$ No. of cranks 6 Length of stroke 250 mm = 49 $\frac{1}{32}$

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 698 mm Is there a bearing between each crank No

Revolutions per minute 120 Flywheel dia. 2280 mm Weight 7200 kg Means of ignition Air Compression Kind of fuel used Crude oil, - flash point above 150°F

Crank Shaft, dia. of journals as per Rule 334.97 mm as fitted 336 mm Crank pin dia. 336 mm Crank Webs Mid. length breadth 190 mm Mid. length thickness 630 mm shrunk Thickness parallel to axis 210 mm Thickness around eye hole 63 mm

Flywheel Shafts, diameter as per Rule 334.97 mm as fitted 336 mm Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule 334.97 mm as fitted 336 mm

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the

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

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 Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

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

Thickness of cylinder liners 36 mm Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Lagged 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. One off 50 tons Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps fitted to the Main Engines, No. One off Diameter of trunk 150 mm Stroke 80 mm Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size How driven

Ballast Pumps, No. and size One off 100 tons Lubricating Oil Pumps, including Spare Pump, No. and size 2 off 25 tons each

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

Pumps, No. and size:—In Engine and Boiler Room

in Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

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

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

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

That pipes pass through the bunkers How are they protected

That pipes pass through the deep tanks Have they been tested as per Rule

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

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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

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. One off No. of stages 3 Diameters 480 mm - 430 mm - 98 mm Stroke 490 mm Driven by the main engine

Auxiliary Air Compressors, No. 3 No. of stages 2 Diameters 225 mm - 68 mm Stroke 220 mm Driven by the auxiliary engine

Small Auxiliary Air Compressors, No. One off No. of stages 2 Diameters 2 $\frac{1}{2}$ - 1 $\frac{1}{16}$ Stroke 5 Driven by hand

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule 161.6 mm as fitted 162 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 Starting air receiver is fitted with man hole

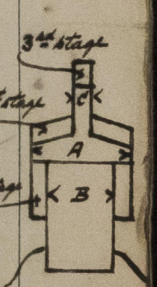
Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 3 Cubic capacity of each I - 250 litres II - 150 " III - 25 " Internal diameter I - 494 mm II - 312 mm III - 7 $\frac{1}{4}$ " thickness I - 23 mm II - 19 mm III - 3 $\frac{1}{8}$ "

Seamless, lap welded or riveted longitudinal joint III - Seamless Material S.M. Steel Range of tensile strength I - 29.9-32.8 " Working pressure by Rules 65 ATM

Starting Air Receivers, No. One off Total cubic capacity 10 M³ - 353 cubic feet Internal diameter 6'0" thickness 1 $\frac{1}{16}$ " Working pressure by Rules 25 ATM

Seamless, lap welded or riveted longitudinal joint III - Seamless Material S.M. Steel Range of tensile strength I - 29.9-32.8 " Working pressure by Rules 25 ATM



009418-009427-6048

IS A DONKEY BOILER FITTED?

HYDRAULIC TESTS:—

If so, is a report now forwarded? ✓

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
and " " COVERS	1/2. 12/2 26.	15 lbs per sq"	30 lbs per sq"	LLOYD'S TEST 30 LBS K 1/2 26. Q 12/2 26.	
" " JACKETS					
" PISTON WATER PASSAGES	The pistons are oil cooled.				
MAIN COMPRESSORS—1st STAGE	13/1 26.	4 ATM.	100 lbs per sq"	LLOYD'S TEST 100 LBS. K 13.1.26.	
" 2nd "	13/1 26.	16 ATM.	35 ATM.	LLOYD'S TEST 35 ATM. K 13.1.26.	
" 3rd "	30/1 26.	65 ATM.	130 ATM.	LLOYD'S TEST 130 ATM. K 30.1.26.	
AIR RECEIVERS—STARTING	8/3 26.	25 ATM.	39 ATM.	LLOYD'S TEST 39 ATM. W.P. 25 ATM. Q 8.3.26.	
" INJECTION	13/3 26.	65 ATM.	130 ATM.	LLOYD'S TEST 130 ATM. W.P. 65 ATM. Q 13.3.26.	
AIR PIPES ... for starting purpose.	13/3 26.	25 ATM.	50 ATM.	LLOYD'S TEST 50 ATM. Q 13.3.26.	
FUEL PIPES	13/2. 26.	1 ATM.	10 ATM.	LLOYD'S TEST 10 ATM.	
FUEL PUMPS	13/2. 26.	75 ATM.	150 ATM.	LLOYD'S TEST 150 ATM. Q 13.2.26.	
SILENCER	The silencer and exhaust pipes are lagged.				
" WATER JACKET					
SEPARATE FUEL TANKS	22/2. 26.	0	10 lbs per sq"	LLOYD'S TEST 10 LBS K 22.2.26.	

PLANS. Are approved plans forwarded herewith for Shafting *no. crank shaft 23/6. 7/1. 25.* Receivers *no. starting air receiver 4/1. 25.* Separate Tanks *no. 4/1. 25.*
(If not, state date of approval)

Donkey Boilers *none*General Pumping Arrangements *none*Oil Fuel Burning Arrangements *none*

SPARE GEAR *As per accompanying list. - to be checked when placed on-board. -*

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building
During progress of work in shops - 24. 27 Oct. - 6. 9. 20. 23. Nov. - 3. 7. 15. 30 Dec. 1925 - 5. 9. 13. 23. 25. 26. 30 Jan. - 1. 12. 13. 15. 16. 19. 23. 24. 25. 26 Feb. - 1. 2. 4. 5. 8. 9. 10. 12. 13. 15. 16. 17. 40
During erection on board vessel -
Total No. of visits

Dates of Examination of principal parts—Cylinders — and — Covers 5/1. 23/11. 12/12. 26. Pistons 26/1. 13/2. 26. Rods 9/11. 3/12. 25. 26/1. 26. Connecting rods 27/10. 3/12. 25. 26/1. 26.
Crank shaft 25/11. 19/12. 26. Flywheel shaft Combined with Thrust shaft 23/30. 1/4. 25. 26/1. 19/2. 26. Intermediate shafts
Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions in shop 10/12. 13/13. 13/13.

Crank shaft, Material S.M.I. Steel Identification Mark LLOYD'S N° 8022. Flywheel shaft, Material *See Thrust shaft* Identification Mark
Thrust shaft, Material S.M.I. Steel Identification Mark LLOYD'S N° 8023. Intermediate shafts, Material Identification Marks
Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F. *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.) *In accordance with the Rules for Special Survey we have examined the material and workmanship from the commencement of construction until the test of the main and auxiliary engines with their air compressors etc. under full power working condition on the test bench in shop and found them to work satisfactorily.*

The material used in the construction of the engines and the air receivers have been tested as required by the Rules either by us or as per certificates produced. - except the 3 working air receivers for auxiliary engines, which have been tested by the Surveyor to Bureau Veritas, but have, according to London letter E. dated 15th March 26. been accepted by the Committee.

The dimensions are as specified and in accordance with the Rules, the approved plans, and the requirements contained in London letters E. dated the 23rd June, 3rd & 9th July 1925.

Recommend the machinery to have notation in the Register Book of LMC with date, and OIL ENGINES, when it has been fitted on board the vessel under supervision and to the satisfaction of the local Surveyor to this Society.

The amount of Entry Fee ... £ 59.42

" 1/3 " Special ... £ 886.90

Donkey Boiler Fee ... £

Travelling Expenses (if any) ... £ 3.50

Committee's Minute TUES. 19 OCT 1928

Assigned *See Minute on*

Drk J. E. Rpt 2750



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