

-9 OCT 1925

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 2547

Received at London Office 14 MAR 1925

Date of writing Report 9 March 1925 When handed in at Local Office 19 Port of Stockholm
No. in Survey held at Sickle, Sam. Distr. Date, First Survey 2 Nov. 1924 Last Survey 4 March 1925
Reg. Book. Number of Visits 5
on the Single } Screw vessels
Twin }
Triple }
Master 430 Built at By whom built Yard No. 1196 When built
Engines made at Stockholm By whom made Aktub Atlas Diesel Engine No. 4647 When made 1925
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 65 Owners Swan, Hunter & Wigham Richardson Port belonging to Newcastle
Nom. Horse Power as per Rule 9 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Type of Engines Stationary Diesel Oil Engine Type MT2 or 4 stroke cycle Single or double acting.
Maximum pressure in cylinders 35 kg./sq. cm. No. of cylinders 2 No. of cranks 2 Diameter of cylinders 250 mm
Length of stroke 370 mm Revolutions per minute 300 Means of ignition Diesel Kind of fuel used Crude Oil
Is there a bearing between each crank Yes Span of bearings (Page 62, Section 2, par. 7 of Rules) 342 mm
Distance between centres of main bearings 600 mm Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 141 mm
as fitted 145 mm
Diameter of crank pins 145 mm Breadth of crank webs as per Rule 187 mm Thickness of ditto as per Rule 79 mm
as fitted 210 mm as fitted 82 mm
Diameter of flywheel shaft as per Rule Diameter of tunnel shaft as per Rule Diameter of thrust shaft as per Rule
as fitted Is the screw shaft fitted with a continuous liner the whole length of the stern tube
Is the after end of the liner made watertight in the propeller boss If the liner is in more than one length are the joints burned
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 If without liners, is the shaft arranged to run in oil
Type of outer gland fitted to stern tube Length of stern bush Diameter of propeller
Pitch of propeller No. of blades state whether moveable Total surface square feet
Method of reversing Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Thickness of cylinder liners 25 mm
Are the cylinders fitted with safety valves yes Means of lubrication pumps Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material 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 Is the sea suction provided with an efficient strainer which can be cleared
within the vessel No. of bilge pumps fitted to the main engines Diameter of ditto Stroke
Can one be overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines How driven
SIZES OF PUMPS No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
and in holds, etc. No. of ballast pumps How driven Sizes of pumps
Is the ballast pump fitted with a direct suction from the engine room bilges State size Is a separate auxiliary pump suction fitted in
Engine Room and size Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible
Are the sluices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship
Are they valves or cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates
Are the discharge pipes above or below the deep water line Are they each fitted with a discharge valve always accessible on the plating of the vessel
Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Are the bilge suction pipes, cocks and valves arranged so as to prevent any
communication between the sea and the bilges Is the screw 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
No. of main air compressors No. of stages 2 Diameters 155/45 mm Stroke 115 mm Driven by engine
No. of auxiliary air compressors No. of stages Diameters Stroke Driven by
No. of small auxiliary air compressors No. of stages Diameters Stroke Driven by
No. of scavenging air pumps none fitted Diameter Stroke Driven by
Diameter of auxiliary Diesel Engine crank shafts as per Rule Are the air compressors and their coolers made so as to be easy of access
as fitted

IR RECEIVERS:—No of high pressure air receivers Internal diameter 240 mm Cubic capacity of each 25 litres
material S.M. Steel Seamless, lap welded or riveted longitudinal joint lap welded Range of tensile strength minimum 23 tons/sq. inch
thickness 15.5 mm working pressure by Rules 1024 lbs/sq. inch No. of starting air receivers Internal diameter 300 mm
Total cubic capacity 96 litres Material S.M. Steel Seamless, lap welded or riveted longitudinal joint lap welded
Range of tensile strength min. 23 tons/sq. inch thickness 18.5 mm Working pressure by rules 1020 lbs/sq. inch 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 mach hole 120 mm Is there a drain arrangement fitted at the lowest part of each receiver yes

W351-0014

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:--

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	(The cylinder liners are more than $\frac{1}{15}$ of the cylinder diam.)				
" " COVERS <i>water passages</i>	20.2.25	—	4 kg/100 cm.	LLOYD'S TEST At 20.2.25 A	
" " JACKETS.....	20.2.25	—	ditto	ditto	
" PISTON WATER PASSAGES.....	(open pistons)				
MAIN COMPRESSORS—1st STAGE.....	20.2.25	10 kg/100 cm.	20 kg/100 cm.	A	
" 2nd "	20.2.25	70 —	140 —		
" 3rd "	—				
AIR RECEIVERS—STARTING	20.2.25	70 kg/100 cm.	140 kg/100 cm.	No 5294 LLOYD'S TEST WP 70 kg At 20.2.25 A	
" INJECTION	20.2.25	ditto	ditto	No 5295 LLOYD'S TEST WP 140 kg At 20.2.25 A	
AIR PIPES	20.2.25	70 kg/100 cm.	140 kg/100 cm.		
FUEL PIPES	20.2.25	ditto	ditto		
FUEL PUMPS	20.2.25	ditto	ditto	A	
SILENCER	(none ordered)				
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. *See Secret. letter E 17.7.23*
Are approved plans forwarded herewith for shafting
(If not, state date of approval)

Receivers E 17.7.23

Separate Tanks ✓

SPARE GEAR as per list, approved on the 17th July 1923, will be inspected when machinery is fitted in ship.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } $\frac{2}{11}$ $\frac{15}{12}$ $\frac{24}{2}$; $\frac{4}{2}$ $\frac{20}{3}$ $\frac{25}{3}$
 { During erection on board vessel - - }
 Total No. of visits in shop 5.

Dates of Examination of principal parts—Cylinders $\frac{4}{2}$ $\frac{20}{2}$ $\frac{25}{3}$ Covers $\frac{4}{2}$ $\frac{20}{2}$ $\frac{25}{3}$ Pistons 20.2.25 Rods ✓ Connecting rods 15/12

Crank shaft $\frac{2}{11}$ $\frac{24}{2}$; $\frac{20}{2}$ $\frac{25}{3}$ Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓

Engines holding down bolts ✓ Completion of pumping arrangements ✓ Engines tried under working conditions in shop ✓

Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller ✓
 Material of crank shaft *S.M. Steel* Identification Mark on Do. *LLOYD'S No 7360 2.H.2.V.B.A* Material of thrust shaft ✓ Identification Mark on Do.

Material of tunnel shafts ✓ Identification Marks on Do. Material of screw shafts ✓ Identification Marks on Do.

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

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *see Spm. report no. 2377.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

I am of opinion that this engine is of superior material and workmanship, and as has been designed and constructed under Special Survey, I have respectfully to submit that it be approved as auxiliary to the main engine.

The amount of Entry Fee ... £ 12 : 0 : 0 :
 Special ... £ : : :
 Donkey Boiler Fee ... £ : : :
 Travelling Expenses (if any) £ 1 : 1 : 0 :
 Total 13 : 1 : 0 :
 When applied for, 9.3.1925
 When received, 19.3.25

Committee's Minute TUES. 13 OCT 1925

Assigned

See Nwc 2E 79675



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