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# AUXILIARY ENGINE. REPORT ON OIL ENGINE MACHINERY

No. 19

Received at London Office JUL 5 1922

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of writing Report 12<sup>th</sup> June 1922 When handed in at Local Office 12<sup>th</sup> June 1922 Port of Winterthur

in Survey held at Date, First Survey 4<sup>th</sup> July 1921. Last Survey 12<sup>th</sup> June 1922.

on the ~~factory~~ <sup>Single</sup> Twin } Screw vessels ~~Triple~~

ter Built at ~~factory~~ Winterthur By whom built ~~factory~~ Sulzer Freres. S.A. Yard No. - When built -

ines made at Winterthur By whom made - Engine No. 5197 When made 1922

key Boilers made at - By whom made - Boiler No. - When made -

ke Horse Power 90 Owners - Port belonging to -

n. Horse Power as per Rule 14. Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

ENGINES, &c.—Type of Engines Sulzer Auxiliary Diesel Engine 2 or 4 stroke cycle 4 Single or double acting Single

imum pressure in cylinders 38 ATs. No. of cylinders 2 No. of cranks 2 Diameter of cylinders 310 mm = 12 3/16

th of stroke 360 mm = 14 1/16 Revolutions per minute 300 Means of ignition Temperature due to Compression Kind of fuel used Heavy fuel oil

ere a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 390 mm

nce between centres of main bearings 620 mm Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 166 mm 169  
as fitted 175 mm

eter of crank pins 175 mm Breadth of crank webs as per Rule 221 mm 225 Thickness of ditto as per Rule 93 mm 95  
as fitted 270 mm as fitted 98 mm

eter of flywheel shaft as per Rule 166 mm 169 Diameter of tunnel shaft as per Rule -  
as fitted 185 & 200 mm as fitted -

eter of screw 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 -

after end of the liner made watertight in the propeller boss - If the liner is in more than one length are the joints burned -

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 -

o liners are fitted, is the shaft lapped or protected between the liners - If without liners, is the shaft arranged to run in oil -

of outer gland fitted to stern tube - Length of stern bush - Diameter of propeller -

of propeller - No. of blades - state whether moveable - Total surface - square feet

nd of reversing non reversible Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Thickness of cylinder liners 24 mm

the cylinders fitted with safety valves Yes Means of lubrication forced Are the exhaust pipes and silencers water cooled or lagged with  
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 -

No. of cooling water pumps 1 Is the sea suction provided with an efficient strainer which can be cleared

in the vessel - No. of bilge pumps fitted to the main engines - Diameter of ditto - Stroke -

one be overhauled while the other is at work - No. of auxiliary pumps connected to the main bilge lines - How driven -

of pumps - No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room -

in holds, etc. - No. of ballast pumps - How driven - Sizes of pumps -

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

the sluices on Engine Room bulkheads always accessible - Are all connections with the sea direct on the skin of the ship -

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

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 -

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  
unication between the sea and the bilges - Is the screw shaft tunnel watertight - Is it fitted with a watertight door -

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

of main air compressors 1 No. of stages 3 Diameters 205 | 180 | 140 mm Stroke 150 mm Driven by main shaft

of auxiliary air compressors - No. of stages - Diameters - Stroke - Driven by -

of small auxiliary air compressors - No. of stages - Diameters - Stroke - Driven by -

of scavenging air pumps - Diameter - Stroke - Driven by -

eter of auxiliary Diesel Engine crank shafts as per Rule - Are the air compressors and their coolers made so as to be easy of access Yes  
as fitted -

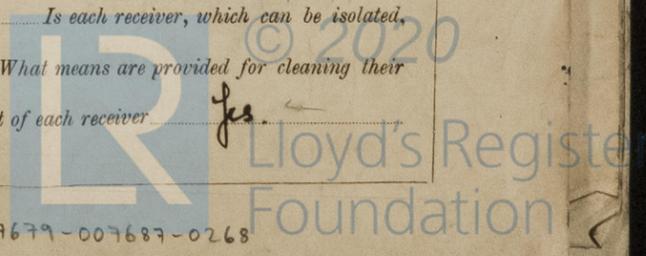
RECEIVERS:—No of high pressure Injection air receivers 1 Internal diameter 190 mm Cubic capacity of each 20 litres

ial S.M. Steel Seamless, lap welded or riveted longitudinal joint seamless Range of tensile strength 28 To 32 Tons per sq

ess 10 mm working pressure by Rules 96 ATs. No. of starting air receivers - Internal diameter -

cubic capacity - Material - Seamless, lap welded or riveted longitudinal joint -

of tensile strength - thickness - Working pressure by rules - Is each receiver, which can be isolated,  
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  
surfaces Opening 120 mm dia. at upper end. Is there a drain arrangement fitted at the lowest part of each receiver Yes



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 .....	25-1-22.	38 ATs.	75 ATs. ✓	R	Test satisfactory
" " COVERS .....	25-1-22.	-do-	-do- ✓	R	-do-
" " JACKETS.....	30-1-22.	1 ATs.	3 ATs. ✓	R	-do-
" PISTON WATER PASSAGES.....	-	-	-	-	-
MAIN COMPRESSORS—1st STAGE.....	30-1-22, 31-2-22	3 ATs	10 ATs. ✓	R	Test satisfactory
" 2nd " .....	2-2-22, 6-2-22	17.5 ATs.	35 ATs. ✓	R	-do-
" 3rd " .....	-do- -do-	40 ATs	140 ATs. ✓	R	-do-
AIR RECEIVERS—STARTING .....	-	-	-	-	-
" INJECTION .....	17-1-22.	70 ATs.	140 ATs. ✓	R	Test satisfactory
AIR PIPES .....	10-4-22	-do-	-do- ✓	R	-do-
FUEL PIPES .....	-do-	-do-	-do- ✓	R	-do-
FUEL PUMPS AND VALVES.....	9-6-22, 9-2-22.	-do-	-do- ✓	R	-do-
SILENCER .....	✓	✓	✓	✓	-
" WATER JACKET .....	2-6-22	1 ATs.	3 ATs. ✓	✓	-do-
SEPARATE FUEL TANKS .....					

PLANS. Are approved plans forwarded herewith for shafting 23-7-21 Receivers 4-6-20. Separate Tanks

SPARE GEAR

The foregoing is a correct description.

Sulzer, Frères  
Société Anonyme  
Coul. Paris

Manufacturer.

Dates of Survey while building { During progress of work in shops-- 4-7-21, 22-7-21, 7-11-21, 2-12-21, 29-12-21, 17-1-22, 25-1-22, 30-1-22, 31-1-22, 2-2-22, 6-2-22, 9-2-22, 21-2-22.  
During erection on board vessel-- 24-2-22, 22-3-22, 10-4-22, 20-4-22, 2-6-22, 9-6-22, 12-6-22.  
Total No. of visits 20.

Dates of Examination of principal parts—Cylinders 9-6-22. Covers 9-6-22. Pistons 9-6-22. Rods ✓. Connecting rods 12-6-22

Crank shaft 12-6-22 Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓

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

Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller ✓

Material of crank shaft S.M. Ing. Steel Identification Mark on Do. 3846 R 7-11-21 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 No. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. Stock Engine constructed under special survey in accordance with the requirements of the Rules, the Secretary's letters, and the approved plans. Materials and workmanship good. Full power trials of Engine in ships satisfactory

The amount of Entry Fee ... £ : : When applied for,  
Special ... £ 15-0-0 : : 29<sup>th</sup> June 1922  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 1<sup>st</sup> July 1922.

W.S. Gallie  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 20 FEB 1925  
Assigned Not for Classing Committee

TUES. 12 MAY 1925  
FRI. 19 JUN 1925



Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)