

AUXILIARY ENGINES.

Rept. no. 77086.

REPORT ON OIL ENGINE MACHINERY.

No. 37.

pt. 4b.

Writing Report 15th June 1923 When handed in at Local Office 15th June 1923 Port of Winterthur
 Date, First Survey 23rd March 1923 Last Survey 15th June 1923
 Number of Visits

Survey held at Winterthur
 on the ^{Single} ~~Twin~~ ~~Triple~~ Screw vessels
 Built at Wallsend By whom built Swan Hunter & Wigham Yard No. When built 1923
 Engines made at Winterthur By whom made Sulzer Freres. S.A. Engine No. 10107 When made 1923
 Boilers made at By whom made Boiler No. When made
 Horse Power 160 (2ENG). Owners Philippe Tobacco Co. Port belonging to
 Horse Power as per Rule 46 (2ENG). Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Replaced by new maker better type - 476 h.p. 500 h.p. 500 h.p.
 Type of Engines Airless Injection Internal Comb. Engines 2 or 4 stroke cycle 2 Single or double acting Single
 Minimum pressure in cylinders 35 ATS. 500 lb. No. of cylinders 2 No. of cranks 2 Diameter of cylinders 270 mm. 10 5/8"
 Length of stroke 370 mm. 14 9/16" Revolutions per minute 300 Means of ignition Temperature due to compression Kind of fuel used Heavy fuel oil
 Is there a bearing between each crank Yes Span of bearings (Page 87, Section 3, par. 1 of Rules) 640 mm.

Distance between centres of main bearings 640 mm. Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 139.5 mm. as fitted 150 mm.
 Diameter of crank pins 150 mm. Breadth of crank webs as per Rule 185.5 mm. as fitted 210 mm. Thickness of ditto as per Rule 48.12 mm. as fitted 84 mm.
 Diameter of flywheel shaft as per Rule 139.5 mm. as fitted 150 mm. Diameter of tunnel shaft as per Rule as fitted 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 liner 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 without liners, is the shaft arranged to run in oil

Length of stern bush Diameter of propeller
 Diameter of propeller
 Total surface square feet
 Thickness of cylinder liners 22 mm.
 Are the exhaust pipes and silencers water cooled or lagged with

Inducting material No. 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 SINGLE ACTING 400 L.S. 307 the sea suction provided with an efficient strainer which can be cleared
 No. of bilge pumps fitted to the main engines Diameter of ditto Stroke
 No. of auxiliary pumps connected to the main bilge lines How driven

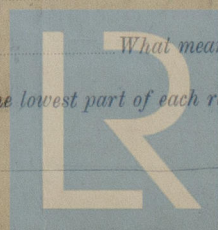
No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
 No. of ballast pumps How driven Sizes of pumps
 Is a separate auxiliary pump suction fitted in
 Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible

Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 Is the screw shaft tunnel watertight Is it fitted with a watertight door
 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. of stages Diameters Stroke Driven by
 auxiliary air compressors No. of stages Diameters Stroke Driven by
 small auxiliary air compressors No. of stages Diameters Stroke Driven by
 scavenging air pumps CRANK CASE SCAVENGING FOR ALL CYLINDERS Diameter 270 mm. Stroke 370 mm. Driven by Crank shaft

Are the air compressors and their coolers made so as to be easy of access
 RECEIVERS:—No. of high pressure air receivers Internal diameter Cubic capacity of each
 Seamless, lap welded or riveted longitudinal joint Range of tensile strength
 working pressure by Rules No. of starting air receivers STARTING AIR TAKEN FROM MAIN ENGINE RECEIVERS

Material Seamless, lap welded or riveted longitudinal joint
 thickness Working pressure by rules Is each receiver, which can be isolated
 Can the internal surfaces of the receivers be examined What means are provided for cleaning their
 Is there a drain arrangement fitted at the lowest part of each receiver



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48-0178

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	8-5-23	35 ATs.	45 ATs.	R	Test satisfactory
" " COVERS	15-5-23	" "	" "	R	-do-
" " JACKETS.....	8-5-23	1 "	3 "	R	-do-
" PISTON WATER PASSAGES.....					
MAIN COMPRESSORS—1st STAGE.....					
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING					
" INJECTION					
AIR PIPES					
FUEL PIPES	13-6-23	100 ATs.	200 ATs.	R	Test satisfactory
FUEL PUMPS & VALVES.....	13-6-23, 15-6-23	" "	" "	R	-do-
STARTING AIR VALVES	" 13-6-23	30 "	60 "	R	-do-
SILENCER			3 "	R	-do-
" WATER JACKET	1-6-23, 8-6-23	1 "	3 "		-do-
SEPARATE FUEL TANKS	15-6-23	0 "	5 "		-do-

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval) 20/3/23.

Receivers ✓

Separate Tanks 20/3/23.

SPARE GEAR 1 Fuel valve, 1 Starting air valve, 4 Fuel needles with guide bushes, 4 Flame, & 4 atomizing plates, 4 Suction valves for crank case scavenging, 4 Plungers with guide bushes for fuel pumps, 2 Suction & 2 delivery valves for fuel pumps, 2 Valves for cylinder lubricating pump, 2 Valves for cooling water pumps, 12 Piston rings, 2 Connecting rod bottom end bolts, 2 main bearing bolts, 2 Sets of working springs, 2 Cylinder cover bolts, 1 length of fuel pipe with connections, 2 Sets of joints, 2 Sets of gauge glasses for sight lubrication.

The foregoing is a correct description,

Superior Boilers
W. G. Vallis

Manufacturer.

Dates of Survey while building { During progress of work in shops - 23-3-23, 29-3-23, 4-5-23, 8-5-23, 15-5-23, 22-5-23, 1-6-23, 4-6-23, 8-6-23, 11-6-23, 13-6-23, 15-6-23
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts—Cylinders 4/6/23, 13/6/23 Covers 4/6/23, 13/6/23 Pistons 4/6/23, 13/6/23 Rods ✓
Crank shaft 4/6/23, 13/6/23 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 Ann. S.M. Ing. Steel Identification Mark on Do. 10109 R 4-5-23 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. *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.) *This machinery has been constructed under special survey in accordance with the requirements of the Rules, the Secretaries letters and the approved plans. Materials and workmanship good. Full power trials of Engines in shop satisfactory.*

The Engines fitted up on board. Tested under working conditions found efficient
L. G. Challinors

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

The amount of Entry Fee ... £
Special ... £ 20-0-0
Donkey Boiler Fee ... £
Travelling Expenses (if any) £
When applied for, *per month 19. Dec. Bulger Bros.*
When received, *Monthly account*

W. G. Vallis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 26 OCT. 1923

Assigned



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