

Please destroy this report numbered 8558

pt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 8558  
FEB. 1924

Received at London Office

11/4 1924 When handed in at Local Office 11/11 1924 Port of Genoa

in Survey held at Legnano & Date, First Survey 20/6/22 Last Survey 12/7/23

Book. HPL

Number of Visits LEGNANO 20

1923

on the <sup>Single</sup> Twin { Screw vessels SYCAMORE Tons { Gross 3500  
Triple Net 1965

Master Built at Middlesbrough By whom built Furness S.B. & Co. Ltd Yard No. When built

Engines made at LEGNANO By whom made FRANCO TOSI Engine No. 2534 When made 1924

Boilers made at HARTLEPOOL By whom made RICHARDSON, WESTGARTH Boiler No. When made

Indicated Horse Power 2400 (1200 PER MOTOR) Owners Shustone Line Ltd Port belonging to Liverpool

Net Horse Power as per Rule 553 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Type of Engines Diesel-Tosi 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 500 lb/sq. in. No. of cylinders 12 No. of cranks 12-6 PER MOTOR Diameter of cylinders 620 7/8 = 24 1/8"

Length of stroke 975 = 38 3/8" Revolutions per minute 125 Means of ignition Compression-Air Kind of fuel used Heavy Oil

Where a bearing between each crank Span of bearings (Page 92, Section 2, par. 7 of Rules)

Distance between centres of main bearings Is a flywheel fitted Diameter of crank shaft journals as per Rule as fitted

Diameter of crank pins Breadth of crank webs as per Rule as fitted Thickness of ditto as per Rule as fitted

Diameter of flywheel shaft as per Rule as fitted Diameter of tunnel shaft as per Rule as fitted Diameter of thrust shaft as per Rule as fitted

Diameter of screw 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 made watertight in the propeller boss If the liner is in more than one length are the joints burned

Is 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

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

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

No. of blades state whether moveable Total surface square feet

Method of reversing Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Thickness of cylinder liners 50 1/2 average 57 1/2 at top.

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

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

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

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 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 the 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

Is 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 2 (1 PER MOTOR) No. of stages 3 Diameters 620x550x135 Stroke 300 Driven by Main 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 Diameter Stroke Driven by

Diameter of auxiliary Diesel Engine crank shafts as per Rule 194 1/2 (AUX ENG. SIZE) as fitted 205 1/2 (TOSI H2 TYPE) FOR DRIVING GENERATOR Are the air compressors and their coolers made so as to be easy of access Yes

RECEIVERS:—No. of high pressure air receivers Internal diameter Cubic capacity of each

Material Seamless, lap welded or riveted longitudinal joint Range of tensile strength

Thickness working pressure by Rules No. of starting air receivers Internal diameter

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

Range of tensile strength thickness Working pressure by rules Is each receiver, which can be isolated,

Fitted with a safety valve as per Rule Can the internal surfaces of the receivers be examined What means are provided for cleaning their

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

## 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 & LINERS	12/7/23 & PREVIOUS DATES	500 $\frac{1}{2}$ in	6 kg/cm <sup>2</sup> JACKET		Plain form - J thick
" " COVERS	10/3/23 " " "	"	"		
" " JACKETS	12/7/23 " " "	10 $\frac{1}{2}$ in	"	PB 8 9L	
" " PISTON WATER PASSAGES	10/3/23 " " "	10 $\frac{1}{2}$ in	"	TEST PRESS.	
MAIN COMPRESSORS—1st STAGE	29/3/23 " " "	70 kg/cm <sup>2</sup>	150 kg/cm <sup>2</sup>	DATE	Back compress Completion was under working for at least 60 with satisfactory
" 2nd "	29/3/23 " " "	16 kg/cm <sup>2</sup>	32 "		
" 3rd "	6/4/23 " " "	4 kg/cm <sup>2</sup>	10 "		
AIR RECEIVERS—STARTING					
" INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS	16/2/23 " " "	900 $\frac{1}{2}$ in	150 kg/cm <sup>2</sup>	" "	
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

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

Receivers

Separate Tanks

## SPARE GEAR

List attached - parts to check on board

The foregoing is a correct description.

FRANCO TOSI

Societa' Italiana

Legnano  
for parts manufactured at Legnano.

Manufacturer.

Dates of Survey while building

During progress of work in shops - LEGNANO 1922 - JUNE 20 JULY 12 SEPT. 6 14 21 26 OCT 4, 14 NOV 15, 22, 23, 30, 1923

During erection on board vessel - 1923 FEB 15, 16, MAR. 9, 21, 24, 31, APR. 4, 11, 12

Total No. of visits LEGNANO 20

Dates of Examination of principal parts—Cylinders 12/7/23 Covers 10/3/23 Pistons 10/3/23 Rods

Crankshaft 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 Identification Mark on Do. 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 "PINZON" (Main Motor)

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

at Legnano under special survey. The materials and workmanship are good:— viz

Cylinders for main motor complete with covers, pistons, valves, camshaft, Main Fuel pump

Main compressor complete. — Certain spare gear parts. Also one H<sub>2</sub> Type Motor pump

(2 G. 345  $\frac{1}{2}$  in Dia x 870  $\frac{1}{2}$  in Stroke) for Electric Light & Power Generation.

The amount of Entry Fee ... £

Special LEGNANO LIT. 7650

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

Committee's Minute

TUE 26 FEB 1924

FRI MAR 21 1924

Assigned

Alex Lawrance for self and P. T. Barr

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation