

REPORT ON OIL ENGINE MACHINERY.

No. 7596

Date of writing Report 10 June 27th 1927 Port of Trieste
 Received at London Office 27 JUN 1927 14 NOV 1927
 No. in Survey held at Trieste Date, First Survey April 17th, 1926 Last Survey June 18th, 1927
 Reg. Book. Number of Visits 141

70372 on the ^{Single} Twin ^{Triple} Screw vessel "ORAZIO"
 Built at Baia By whom built Cantieri ed Officine Meridionale Yard No. 14 When built 1927
 Engines made at Trieste By whom made Stabilimento Tecnico Triestino Engine No. 570/2 When made 1927
 Donkey Boilers made at Hamburg By whom made Deutsche Werft A.G. Boilers Nos. 2367238 When made 1926.
 Brake Horse Power Owners Navigazione Generale Italiana Port belonging to Genoa.
 Nom. Horse Power as per Rule 1312 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted *yes*
 Trade for which vessel is intended

IL ENGINES, &c.—Type of Engines *Burmeister & Wain Diesel* 2 or 4 stroke cycle 4 Single or double acting *Single*
 Maximum pressure in cylinders 35 Kgs/cm² Diameter of cylinders 740 mm Length of stroke 1300 mm No. of cylinders 16 No. of cranks 16
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 mm Is there a bearing between each crank *yes*
 Revolutions per minute 125 Flywheel dia. 2150 mm Weight 5600 Kilos Means of ignition *Compression* Kind of fuel used *Diesel Oil*
 Crank Shaft, dia. of journals as per Rule *app. 487 mm* Crank pin dia. 487 mm Crank Webs Mid. length breadth 928 mm Thickness parallel to axis 310 mm
 as fitted 487 mm Mid. length thickness 310 mm Thickness around eye-hole 217 mm
 Flywheel Shaft, diameter as per Rule *app. 343 mm* Intermediate Shafts, diameter as per Rule *app. 325 mm* Thrust Shaft, diameter at collars as per Rule *app. 343 mm*
 as fitted 343 mm as fitted 325 mm as fitted 343 mm
 Tube Shaft, diameter as per Rule — Screw Shaft, diameter as per Rule *app. 375 mm* Is the tube shaft fitted with a continuous liner *yes*
 as fitted — as fitted 323 mm

BRONZE LINERS, thickness in way of bushes as per Rule *app. 19 mm* Thickness between bushes as per rule 14.25 mm Is the after end of the liner made watertight in the stern tube *yes*
 as fitted 19 mm as fitted 15 mm
 Propeller boss — If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner — *one length*
 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 — 2530 mm *Japan. Iron*

PROPELLER, dia. 4540 mm Pitch 4170 mm No. of blades 3 Material *Brongze* whether Moveable *yes* Total Developed Surface 5.90 sq. feet
METHOD OF REVERSING ENGINES *Comp. Air* Is a governor or other arrangement fitted to prevent racing of the engine when disengaged *yes* Means of lubrication *forced*
 Thickness of cylinder liners 5.2 to 4 mm Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *both*
 If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *led to funnel*
COOLING WATER PUMPS, No. *Two centrifugal* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *yes*
BILGE PUMPS worked from the Main Engines, No. *Two* Diameter 160 mm Stroke 270 mm Can one be overhauled while the other is at work *yes*
PUMPS CONNECTED TO THE MAIN BILGE LINE No. and Size *Two duplex @ 300 x 300 mm*
 How driven *Electric Motor*

BALLAST PUMPS, No. and size *Two duplex 300 x 300 mm* Lubricating Oil Pumps, including Spare Pump, No. and size *2 @ 6.5 tons per hour*
 Are two independent means arranged for circulating water through the Oil Cooler *yes* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces —
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 Spaces 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 —
 How are they protected —
 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 —
 On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork —
AUXILIARY AIR COMPRESSORS, No. *One Each Engine* No. of stages *three* Diameters 150, 675 x 750 mm Stroke 560 mm Driven by *Main Eng. C.S.*
Auxiliary Air Compressors, No. *Three* No. of stages *three* Diameters 70, 270 x 320 mm Stroke 370 mm Driven by *Aux. Diesel Engine*
Small Auxiliary Air Compressors, No. *One* No. of stages *two* Diameters 34, 106 mm Stroke 80 mm Driven by *Steam*
Scavenging Air Pumps, No. *None* Diameter — Stroke — Driven by —

Auxiliary Engines crank shafts, diameter as per Rule *app. 204 mm*
 as fitted 204 mm

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve *Yes, on charging line*
 Are the internal surfaces of the receivers be examined *yes* What means are provided for cleaning their inner surfaces *accessible for cleaning*
 Is there a drain arrangement fitted at the lowest part of each receiver *yes*
High Pressure Air Receivers, No. *4 Main + 3 Aux* Cubic capacity of each *20,500 litres* Internal diameter 480 mm thickness 24 mm
 as fitted 20,500 " Internal diameter 360 mm thickness 19 mm
 Material *Welded & Seamless steel* Range of tensile strength *36/47 welded 20.9 mm 41/47 Seamless* Working pressure by Rules 6.5
Starting Air Receivers, No. *Two* Total cubic capacity 22 m³ Internal diameter 1953 mm thickness 26.5 mm
 Material *Riveted Steel* Range of tensile strength *44/50.5 Kgs/cm²* Working pressure by Rules 25 Kgs/cm²

IS A DONKEY BOILER FITTED? *Yes.*

If so, is a report now forwarded? *Ham. Rpt. 17044 forwarded for completion*

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

Receivers *Yes.*

Separate Tanks *Yes.*

Donkey Boilers *No.*

General Pumping Arrangements *At Naples*

Oil Fuel Burning Arrangements *No.*

SPARE GEAR *Remains to be fitted on board at Genoa*

The foregoing is a correct description,
Stabilimento Tecnico Triestino
Fabbrica macchine S. Andrea - Trieste

Manufacturer.



Dates of Survey while building

During progress of work in shops --	1926 Apr 17, July 16, 19, 20, 21 Aug 4, 26, Sep 4, 11, 14, 15, 17, 21, 23, Oct 9, 15, 20, 23, Nov 5, 6, 8, 10, 12, 18, 19, 20, 22,
	Dec 7, 8, 9, 16, 21, 22, 23, 24, 28, 30, 31, 1927 Jan 3, 4, 5, 7, 11, 13, 18, 19, 20, 21, 24, 25, 26, 27, 28, 29, 31, Feb 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 14, 15,
During erection on board vessel --	26, 29, 30, May 2, 3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 16, 19, 20, 21, 26, 27, June 2, 14, 18 --
Total No. of visits	<i>One hundred and fortyone</i>

Dates of Examination of principal parts—Cylinders 11.9.26 to 14.5.27 Covers 13.3.26 to 31.2.27 Pistons 29.1.27 to 16.4.27 Rods 21.12.26 to 7.3.27 Connecting rods 21.12.26 to 7.3.27

Crank shaft 25.9.26 + 30.11.26 Flywheel shafts 10.9.26 + 17.9.26 Thrust shaft 10.9.26 + 17.9.26 Intermediate shafts — Tube shaft —

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 —

Crank shaft, Material *S.M.S.* Identification Mark *295 NG 296 NG 323 NG 324 NG* Flywheel shaft, Material *S.M.S.* Identification Mark *280 NG 291 NG*

Thrust shaft, Material *S.M.S.* Identification Mark *280 NG 291 NG* 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.)

This machinery has been constructed under Special Survey in accordance with the Rules and Approved Plans; the materials and workmanship are good. The machinery, which has been forwarded to Genoa to be installed on board the vessel at that port, is eligible, in my opinion, for classification, and to have the record L.M.C. (with date) when it has been satisfactorily installed on board the vessel and examined under working conditions.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ 6 : 0

4/16 Special ... £ 106 : 4

2 ~~Wanted as receivers~~ Donkey Boiler Fee ... £ 8 : 8

Travelling Expenses (if any) *See* : 260

H. G. Forster
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 18 NOV 1927**

Assigned *See Gen. Rpt. attached no 106817*

