

REPORT ON OIL ENGINE MACHINERY.

No. 10343

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MAY 1928

Date of writing Report 20/4/29 19... When handed in at Local Office 30/4/29 19... Port of GENOA.
No. in Survey held at GENOA. Date, First Survey SEPT. 10th 1927. Last Survey APRIL 25th 1928.
Reg. Book. Number of Visits 50.

38265 on the ^{Single} Twin ^{Triple} Screw vessel "VIRGILIO". Tons Gross 11218. Net -

Built at BAIA. By whom built CANTIERE LO. OFFICINE MERIDIONALE. Yard No. 15. When built 1928.
Engines made at TRIESTE. By whom made STABILIMENTO TECNICI TRIESTINO. Engine No. 5106/7. When made 1928.
Donkey Boilers made at HAMBURG. By whom made DEUTSCHE WERT. A.G. Boiler No. When made 1928.
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 YES. Is Electric Light fitted YES.
Trade for which vessel is intended SOUTH AMERICAN (WEST COAST) PASSENGER & GENERAL CARGO.

IL ENGINES, &c. Type of Engines BURMEISTER WAIN DIESEL. 2 or 4 stroke cycle + Single or double acting SINGLE.
Maximum pressure in cylinders 35 Kg/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.
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.
Tube Shaft, diameter as per Rule APP 375 mm. Screw Shaft, diameter as per Rule APP 383 mm. Is the screw shaft fitted with a continuous liner YES.
Bronze Liners, thickness in way of bushes as per Rule 17.5 mm. Thickness between bushes as per rule 17.5 mm. Is the after end of the liner made watertight in the propeller boss YES.
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner YES.
If two liners are fitted, is the shaft lapped or protected between the liners YES. Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft YES.

Propeller, dia. 4540 mm. Pitch 4170 mm. No. of blades 3. Material BRONZE 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 YES. Means of lubrication FORCED. Thickness of cylinder liners 58.5 to 41 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 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. 4. 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 SIX. FOUR 160 mm x 270 mm. TWO 300 mm x 300 mm. How driven MAIN ENGINES. ELECTRIC MOTORS.
Ballast Pumps, No. and size TWO, 300 mm x 300 mm. Lubricating Oil Pumps, including Spare Pump, No. and size TWO, 65 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 SIX, 100.5 mm DIA. FOUR 83 mm DIA. (COFFERDAMS).

In Holds, &c. FORWARD FIVE 110 mm DIA. THREE 60 mm DIA. ONE 100.5 mm DIA. AFT. SIX 110 mm DIA. FIVE 60 mm DIA. TWO 100.5 mm DIA.
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size TWO, 100.5 mm DIA.
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES. Are the Bilge Suctions in the Machinery Spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges YES.
Are all Sea Connections fitted direct on the skin of the ship YES. Are they fitted with Valves or Cocks VALVES.
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates YES. Are the Overboard Discharges above or below the deep water line ABOVE.
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel YES. Are the Blow Off Cocks fitted with a spigot and brass covering plate YES.
What pipes pass through the bunkers. How are they protected.
What pipes pass through the deep tanks HEATING PIPES. Have they been tested as per Rule YES.

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES.
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 YES. Is the Shaft Tunnel watertight YES. Is it fitted with a watertight door YES. worked from ABOVE MAIN DECK.
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. ONE EACH ENGINE. No. of stages THREE. Diameters 150, 175, 750 mm. Stroke 560 mm. Driven by MAIN ENGINES.
Auxiliary Air Compressors, No. THREE. No. of stages THREE. Diameters 70, 270, 320 mm. Stroke 370 mm. Driven by AUX. DIESEL ENG.
Small Auxiliary Air Compressors, No. ONE. No. of stages TWO. Diameters 34, 106 mm. Stroke 80 mm. Driven by STEAM ENGINE.
Scavenging Air Pumps, No. NONE. Diameter. Stroke. Driven by.
Auxiliary Engines crank shafts, diameter as per Rule APPROVED. 204 mm. as fitted 204 mm.

AIR RECEIVERS:—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 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 2-500 LITRES. Internal diameter 480 mm. thickness 24 mm.
Seamless, lap welded or riveted longitudinal joint. WELDED R SEAMLESS. Material STEEL. Range of tensile strength 36/47 WELDED. Working pressure by Rules 65 KGS.
Starting Air Receivers, No. TWO. Total cubic capacity 22 M³. Internal diameter 1953 mm. thickness 26.5 mm.
Seamless, lap welded or riveted longitudinal joint. RIVETED. Material STEEL. Range of tensile strength 44/50.5 KGS. Working pressure by Rules 25 KGS/CM².

IS A DONKEY BOILER FITTED? YES. If so, is a report now forwarded? YES.

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval) YES. Receivers YES. Separate Tanks YES.

Donkey Boilers YES. General Pumping Arrangements YES. Oil Fuel Burning Arrangements YES.

SPARE GEAR ONE PROPELLER SHAFT. 2 PROPELLER BLADES (RIGHT & LEFT HAND)
 ONE CYLINDER COVER COMPLETE FOR BOTH MAIN AND AUXILIARY ENGINES.
 ONE COMPLETE SET OF VALVES, SEATS, SPRINGS ETC FOR ONE MAIN AND AUXILIARY ENGINE COMPLETE.
 ONE PISTON COMPLETE FOR BOTH MAIN AND AUXILIARY ENGINES.
 ONE COMPLETE SET OF SPARE RINGS FOR ONE MAIN & AUXILIARY PISTONS.
 ONE COMPLETE SET OF SKEW WHEELS FOR ONE MAIN ENGINE.
 TWO CONNECTING ROD TOP AND BOTTOM END BOLTS, AND MAIN BEARING BOLTS COMPLETE. MAIN & AUXILIARY
 ONE SET OF COUPLING BOLTS COMPLETE FOR CRANK AND INTERMEDIATE SHAFTS.
 ONE COMPLETE SET OF PISTON RINGS AND VALVES FOR MAIN AND AUXILIARY COMPRESSORS.
 ONE FUEL PUMP COMPLETE FOR MAIN AND AUXILIARY ENGINES.
 ONE COMPLETE SET OF VALVES FOR ALL AUXILIARY PUMPS, QUANTITIES OF ASSORTED BOLTS AND NUTS,
 LENGTHS OF PIPES (VARIOUS DIAMETERS) AND NUMEROUS OTHER SPARE PARTS FOR ALL SECTIONS OF THE
 MACHINERY INSTALLATIONS ON BOARD.

The foregoing is a correct description,

Stabilimento Tecnico Triestino
 Fabbrica macchine S. Andrea - Trieste

OFFICINE ALLESTIMENTO E RIPARAZIONI NAVI - GENOVA
 Società Anonima - Capitale L. 10.000.000 Interamente Versato
 Manufacturer.

SEE TRIESTE REPORT NO 7818. NO 175.

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - -
 Total No. of visits

1927 SEPT. 10, 29. OCT. 26. NOV. 4, 28. DEC. 3, 12, 13, 28. 1928 JAN. 3, 5, 5, 7, 12, 14, 15, 18, 19, 20, 26, 27. FEB. 20.
 MARCH 8, 13, 14, 15, 16, 20, 22, 27, 24, 28, 30, 31. APRIL 2, 3, 4, 5, 5, 6, 6, 7, 7, 11, 10, 17, 18, 22, 25.

175 + 50 = 225 TOTAL.

Dates of Examination of principal parts - Cylinders Covers Pistons Rods Connecting rods

Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller 16.3.28. Stern tube Engine seatings Engines holding down bolts 20/2/28, 22/2/28.

Completion of fitting sea connections Completion of pumping arrangements 10/4/28. Engines tried under working conditions 11/4/28.

Crank shaft, Material STEEL Identification Mark 423 N.G. 424 N.G. Flywheel shaft, Material STEEL Identification Mark 382 N.G. 383 N.G.

Thrust shaft, Material STEEL Identification Mark 382 N.G. 383 N.G. Intermediate shafts, Material STEEL Identification Marks 332, 374, 84, 405, 414, N.G.

Tube shaft, Material Identification Mark Screw shaft, Material STEEL Identification Mark 329, 331 N.G. 453 N.G. 574.

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

Is this machinery duplicate of a previous case YES. If so, state name of vessel "ORAZIO" GENOA REPORT NO 1008

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

The Machinery of this vessel has been constructed under Special Survey at Trieste, see Trieste report no. 7818.

It has now been satisfactorily fitted on board in accordance with the approved plans, rule requirements and Secretary's letters and when examined under working conditions was found satisfactory.

In our opinion the vessel is eligible for the record of + LLOYDS MACHINERY CERTIFICATE (L.M.C.) 4-28 and the notation OIL ENGINE. CL. 2 DB 100 LBS.

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

The amount of Entry Fee ... £
 Special 5. ... £1,2800.00 When applied for, 30/4/28
 Donkey Boilers Fee ... £1,300.00 When received, 18/6/28
 Travelling Expenses (if any) ... £1,500.00
 SUNDAY FEE, ... £1,200.00
 Committee's Minute ... FRE 18 MAY 1928

J.W. Leicester
 Engineer Surveyor to Lloyd's Register of Shipping.

DUAL SURVEY
 L.R. & R.I.

Assigned + L.M.C. 4-28 Oil Engines 259.100lb

