

REPORT ON OIL ENGINE MACHINERY.

No. 9994

26 AUG 1927

Date of writing Report 22/8/27 When handed in at Local Office 22/8/27 Port of GENOA
No. in Survey held at TURIN Date, First Survey 29/7/26 Last Survey 26/7/27 19 27
Reg. Book. Number of Visits 88

on the Single Twin Triple Quadruple Screw vessel " ARARAQUARA " Tons { Gross Net
Built at Trieste By whom built Cantiere Navale Triestino Yard No. 176 When built 1927
Engines made at Turin By whom made FIAT - Stab. Grandi Motori Engine No. 1391 When made 1927
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 1750 each engine Owners Port belonging to
Nom. Horse Power as per Rule 1008 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines Fiat Diesel 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 35 Kg. Diameter of cylinders 680 m/m Length of stroke 960 m/m No. of cylinders 4 No. of cranks 4

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 950 m/m. Is there a bearing between each crank Yes

Revolutions per minute 125 Flywheel dia. 3000 Weight 12000 Kg. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 407.5 as fitted 420 Crank pin dia. 420 m/m Crank Webs Mid. length breadth 530 shrunk Thickness parallel to axis Mid. length thickness 265 Thickness around eyehole

Flywheel Shaft, diameter as per Rule 407.5 as fitted 420 to 300 Intermediate Shafts, diameter as per Rule 277.3 as fitted 290 Thrust Shaft, diameter at collars as per Rule 291.2 as fitted 310

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 315.3 as fitted 335 Is the { tube { shaft fitted with a continuous liner { No liners

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule Is the after end of the liner made watertight in the

propeller boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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 Yes Length of Bearing in Stern Bush next to and supporting propeller 1860

Propeller, dia. 3800 Pitch 4050 No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 5.27 m²

Method of reversing Engines Direct Is a governor fitted to prevent racing of the engine when declutched Yes Means of lubrication

Forced Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

Exhaust pipes lagged non-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

Cooling Water Pumps, No. 2 - Each engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line { No. and Size How driven

Ballast Pumps, No. and size 3-150 ton 210 dia. x 250 stroke Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces

In 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

led 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

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks 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

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. 1 each engine No. of stages 3 Diameters 120/530/600 Stroke 620 Driven by Main Engine

Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 70/270/310 Stroke 250 Driven by Electric motor

Small Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 42/165/185 Stroke 140 Driven by Hot bulb engine

Scavenging Air Pumps, No. 2 each engine double acting Diameter 850 Stroke 800 Driven by Main engine

Auxiliary Engines crank shafts, diameter as per Rule 154.3 as fitted 160

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 Plugs in ends.

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

High Pressure Air Receivers, No. 4 Cubic capacity of each 190 liters Internal diameter 291 m/m thickness 12.5 m/m

Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Range of tensile strength 45 kg/mm² Working pressure by Rules 80 kg/cm²

Starting Air Receivers, No. 2 Auxiliary Total cubic capacity 800 liters Internal diameter 291 m/m thickness 12.5 m/m

Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Range of tensile strength 45 Kg. mm² Working pressure by Rules 80 Kg. cm

148-0117

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

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

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR

The foregoing is a correct description;

STABILIMENTO GRANDI MOTORI

34 Direttore

(ING. GIOVANNI CHIERA)

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1926 - July 29, Sep. 2, 9, 23, 30, Oct. 7, 14, 20, 21, 29, Nov. 5, 11, 18, 25, 30, Dec. 3, 7, 10, 15, 28, 31, 1927 Jan. 4, 7, 11, 14, 19, 25, Feb. 1, 5, 8, 10, 11, 15, 18, 22, 25, March 1, 4, 8, 9, 12, 15, 18, 22, 25, 29, April 1, 5, 8, 11, 14, 15, 20, 22, 26, 29 May 3, 7, 10, 13, 14, 17, 19, 20, 24, 27, June 3, 7, 8, 10, 14, 20, 24, 25, 28 July 1, 6, 9, 12, 14, 18, 20, 25, 26.
During erection on board vessel -
Total No. of visits 88

Dates of Examination of principal parts - Cylinders 18/7/27 Covers 18/7/27 Pistons 18/7/27 Rods 18/7/27 Connecting rods 18/7/27
Crank shaft 11/4/27 Flywheel shaft 28/6/27 Thrust shaft 28/6/27 Intermediate shafts 28/6/27 Tube shaft 28/6/27
Screw shaft 20/5/27 Propeller 28/6/27 Stern tube 28/6/27 Engine seatings 28/6/27 Engines holding down bolts 28/6/27

Completion of fitting sea connections 1391
Completion of pumping arrangements LLOYD'S NO 3155-3154-3070 GRH 4/2/27 & 22/10/27
Engines tried under working conditions
Crank shaft, Material S.M. Steel Identification Mark LLOYD'S NO 3128-3164-3071 CRH 8/10/26
Flywheel shaft, Material S.M. STEEL Identification Mark
Thrust shaft, Material Identification Mark 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.

Is this machinery duplicate of a previous case Yes If so, state name of vessel "ARARANGUA" C.N.T. No 175

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery consisting of 2 main motors (No 1391 - 1392), 3 Auxiliary Motors Type L.252, 1 Hot Bulb Engine Type A.241, 1 Compressor type C.3 1 Compressor type C.65, has been built of tested materials under special survey, in accordance with the approved plans the Secretary's letters and the requirements of the Rules.

The machinery has been shipped to Trieste where it is to be fitted on board. A copy of the report has been sent to the Trieste Surveyors for their guidance. The approved plans are retained for dealing with machinery for sister vessels.

In our opinion this machinery when satisfactorily fitted in a classed vessel will title such vessel to the record of L.M.C. (with date) & notation of Oil Engine.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ :
Special ... £ :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
Ret-9000
Ret-4500

When applied for, 22/2/1927
When received, 24/10/27

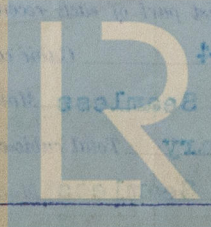
Committee's Minute

FRI. 4 NOV 1927

Assigned

See Tri F.E. Rpt 7742

Engineer-Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation