

# REPORT ON OIL ENGINE MACHINERY.

No. 7365

Received at London Office - 7 DEC 1926

Date of writing Report 16<sup>th</sup> Nov 26 When handed in at Local Office Dec 3 1926 Port of Trieste  
No. in Survey held at Trieste Date, First Survey Oct 8, 1925 Last Survey Nov 9 1926  
Reg. Book. 3263 on the Single Twin Triple Quadruple Screw vessel "Arabia" Number of Visits 153

Built at Trieste By whom built Cantini San Rocco S.A. Yard No. 744 When built 1926.  
Engines made at Trieste By whom made Stabilimento Leonico Priestino Engine No. 5059 When made 1926.  
Donkey Boilers made at Annan By whom made Cochran & Son Boiler No. 9431 When made 1925.  
Brake Horse Power Owners Societa Marittima Italiana Port belonging to Genoa.  
Nom. Horse Power as per Rule 652 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted y/s.  
Trade for which vessel is intended Indian.

**L ENGINES, &c.**—Type of Engines *Burmeister & Wain Diesel* 2 or 4 stroke cycle 4 Single or double acting *Single*  
Maximum pressure in cylinders *35 kg/cm<sup>2</sup>* Diameter of cylinders *740* Length of stroke *1500* No. of cylinders *8* No. of cranks *8*  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *1004* Is there a bearing between each crank *y/s.*  
Revolutions per minute *95* Flywheel dia. *2900* Weight *10,000 kg* Means of ignition *Compression* Kind of fuel used *Diesel oil*  
Crank Shaft, dia. of journals as per Rule *481* as fitted *482* Crank pin dia. *482* Crank Webs Mid. length breadth *460* Mid. length thickness *310* Thickness parallel to axis *310* Thickness around eye-hole *208*  
Flywheel Shaft, diameter as per Rule *481* as fitted *482* Intermediate Shafts, diameter as per Rule *344* as fitted *345* Thrust Shaft, diameter at collars as per Rule *361* as fitted *362*  
Propeller Shaft, diameter as per Rule *348* as fitted *385* Is the *hub* screw shaft fitted with a continuous liner *y/s.*  
Bronze Liners, thickness in way of bushes as per Rule *19* as fitted *19.5* Thickness between bushes as per rule *15* as fitted *15* Is the after end of the liner made watertight in the propeller boss *y/s.* If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *y/s.*  
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 *y/s.*  
If two liners are fitted, is the shaft lapped or protected between the liners *y/s.* Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft *No.* Length of Bearing in Stern Bush next to and supporting propeller *1880*

Propeller, dia. *4860* Pitch *4380* No. of blades *4* Material *bronz* whether Moveable *y/s.* Total Developed Surface *7.24* sq. feet m.  
Method of reversing Engines *Comp. Air (Brown)* Is a governor or other arrangement fitted to prevent racing of the engine when detached *y/s.* Means of lubrication *oil.*  
Thickness of cylinder liners *53.5/41* Are the cylinders fitted with safety valves *y/s.* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *y/s.* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *to funnel*  
Cooling Water Pumps, No. *2 centrifugal, 120 Tonpu h* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *y/s.*  
Bilge Pumps worked from the Main Engines, No. *3* Diameter *160* Stroke *280* Can one be overhauled while the other is at work *y/s.*  
Pumps connected to the Main Bilge Line No. and Size *2 duplex @ 170 x 150, 1 duplex @ 300 x 300* How driven *Electric motor*

Last Pumps, No. and size *1 duplex 300 x 300* Lubricating Oil Pumps, including Spare Pump, No. and size *2 @ 30 Tonpu hour.*  
Two independent means arranged for circulating water through the Oil Cooler in double bottom Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces *2 @ 90, 2 drain pots @ 80, Cofferdam, 2 @ 80 Tunnel well @ 80*  
Holds, &c. *Forward 6 @ 80, deep tank 2 @ 90 + 2 @ 80. Off 4 @ 80.*  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *2 @ 90 to h/p pumps, 1 @ 180 to ballast pump.*  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *y/s.* 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 *y/s.*  
Are all Sea Connections fitted direct on the skin of the ship *y/s.* 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 *y/s.* 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 *y/s.* Are the Blow Off Cocks fitted with a spigot and brass covering plate *y/s.*  
Are all pipes pass through the bunkers *y/s.* How are they protected *y/s.*  
Are all pipes pass through the deep tanks *y/s.* Have they been tested as per Rule *y/s.*  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *y/s.*  
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 *y/s.* Is the Shaft Tunnel watertight *See hull Report* Is it fitted with a watertight door *y/s.* worked from *top platform.*  
If the vessel is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *y/s.*

Auxiliary Air Compressors, No. *1* No. of stages *3* Diameters *160, 675, 150* Stroke *610* Driven by *Crank Shaft.*  
Auxiliary Air Compressors, No. *1 each y/s. Inguis* No. of stages *3* Diameters *322, 288, 79* Stroke *170* Driven by *2 y/s. Diesel Engine*  
All Auxiliary Air Compressors, No. *1* No. of stages *3* Diameters *106 + 34* Stroke *80* Driven by *Single y/s. Steam Engine*  
Ventilating Air Pumps, No. *1* Diameter *106* Stroke *80* Driven by *y/s.*  
Auxiliary Engines crank shafts, diameter as per Rule *Quadruple Engines Nos. 665, 676 + 682 built by AEG, Berlin* as fitted *Blast. bottles marked Nos. 106, 118 + 120 - 1/8/15 - J.Q.*

**RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *y/s.* Starting air receivers + Air flask bottles  
Are the internal surfaces of the receivers be examined *y/s.* What means are provided for cleaning their inner surfaces *Covers (Removable)*  
Is there a drain arrangement fitted at the lowest part of each receiver *y/s.*  
High Pressure Air Receivers, No. *3 Drain 3 Air* Cubic capacity of each *2 @ 500 liter, 1 @ 250 "* Internal diameter *480* thickness *20*  
Seamless, lap welded or riveted longitudinal joint *Seamless* Material *S* Range of tensile strength *41-47* Working pressure by Rules *90.6*  
Starting Air Receivers, No. *2* Total cubic capacity *4000* Internal diameter *1953* thickness *26.5*  
Seamless, lap welded or riveted longitudinal joint *Seamless* Material *S* Range of tensile strength *44-50.5* Working pressure by Rules *25.*

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) *24/4/24*

Receivers *23/10/24*

Separate Tanks *30/11/24*

Donkey Boilers *Yes*

General Pumping Arrangements *Yes*

Oil Fuel Burning Arrangements *16/7/25*

SPARE GEAR *See attached list*



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 - - During erection on board vessel - - Total No. of visits *153*

*See attached list*

Dates of Examination of principal parts - Cylinders *30/1/26* Covers *22/1/26* Pistons *23/4/26* Rods *8/8/25* Connecting rods *8/9/25* Crank shaft *28/9/25* Flywheel shaft *and* Thrust shaft *28/9/25* Intermediate shafts *28/9/25* Tube shaft *✓* Screw shaft *28/9/25* Propeller *15/4/26* Stern tube *12/1/26* Engine seatings *10/8/26* Engines holding down bolts *16/10/26* Completion of fitting sea connections *15/5/26* Completion of pumping arrangements *15/10/26* Engines tried under working conditions *9/11/26* Crank shaft, Material *S.A. light steel* Identification Mark *661.706 x 12* Flywheel shaft, Material *S.A. light steel* Identification Mark *7. ASM-28* Thrust shaft, Material *-* Identification Mark *-* Intermediate shafts, Material *"* Identification Marks *8/14-ASM* Tube shaft, Material *-* Identification Mark *-* Screw shaft, Material *"* Identification Mark *5 x 6-ASM*

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 *Giulia & India*

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

The machinery of this vessel has been built under special survey and in accordance with the Rules. The materials and workmanship are good. On completion it has been tested under full working conditions with satisfactory results. The manoeuvring trials have been carried out in accordance with the Rules.

The machinery of this vessel is eligible, in my opinion to be classed in the Register Book with notation of + LMC 11.26.

Trieste Office

The amount of Entry Fee ... £ *697.-* When applied for, *26/11/26*  
Special ... £ *13,485.-*  
Donkey Boiler Fee ... £ : : When received, *10/1/27*  
Travelling Expenses (if any) £ *180.-*

*John Munro* *H. Lockney*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 10 DEC 1926

Assigned

*+ LMC 11:26*  
*Oil Engines*



TUES. 18 JAN 1927

FRI. 18 FEB 1927

Lloyd's Register Foundation

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