

REPORT ON OIL ENGINE MACHINERY.

No. 9951

15 JUL 1927

Survey held at **TURIN** Date, First Survey **July 29th 1926** Last Survey **June 8th 1927**
Port of **GENOA** Number of Visits **65**

on the **Trieste** **Quadruple** Screw vessel **"ARARANGUA"** Tons **Gross**
made at **Turin** By whom built **Cantiere Navale Triestino** Yard No. **175** When built **1927**
Boilers made at **Turin** By whom made **FIAT - Stab. Grandi Motori** Engine No. **1389** When made **1927**
Horse Power **1008** Is Refrigerating Machinery fitted for cargo purposes **Is Electric Light fitted**
for which vessel is intended

Engines, &c.—Type of Engines **Fiat Diesel** 2 or 4 stroke cycle **2** Single or double acting **Single**
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**
cranks, adjacent to the Crank, measured from inner edge to inner edge **950 m/m.** Is there a bearing between each crank **Yes**
as per minute **125** Flywheel dia. **3000** Weight **12000 Kg.** Means of ignition **Compression** Kind of fuel used **Diesel Oil**
shaft, dia. of journals **407.5** as per Rule **407.5** Crank pin dia. **420 m/m.** Crank Webs **530** Mid. length breadth **265** Thickness parallel to axis **291.2**
as fitted **420** as fitted **277.3** as fitted **290** as fitted **310**
Shaft, diameter **420 to 300** Intermediate Shafts, diameter **315.3** as per Rule **315.3** Thrust Shaft, diameter at collars **310**
as fitted **420** as fitted **335** as fitted **335** Is the **tube** shaft fitted with a continuous liner **No Liners**

liners, thickness in way of bushes **as per Rule** Thickness between bushes **as per Rule** Is the after end of the liner made watertight in the
If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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
ers are fitted, is the shaft lapped or protected between the liners Is an approved **Oil Gland** or other appliance fitted at the after

tube shaft **Yes Cedeval** Length of Bearing in Stern Bush next to and supporting propeller **1860**
r, dia. **3800** Pitch **4050** No. of blades **3** Material **Bronze** whether Moveable **No** Total Developed Surface **Proj. 5.27 m²**

of reversing Engines **Direct** Is a governor **as per Rule** fitted to prevent racing of the engine when declutched **Yes** Means of lubrication
Thickness of cylinder liners **55 m/m.** Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled or lagged with
pipes lagged **Yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Water Pumps, No. **2 - Each engine** Is the sea suction provided with an efficient strainer which can be cleared within the vessel
pumps worked from the Main Engines, No. **-** Diameter **-** Stroke **-** Can one be overhauled while the other is at work

connected to the Main Bilge Line **No. and Size**
How driven
Pumps, No. and size **3-150 ton 210 dia. X 250 stroke** Lubricating Oil Pumps, including Spare Pump, No. and size
dependent means arranged for circulating water through the **Oil Cooler** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

o. and size: **In Machinery Spaces**

ent Power Pump Direct Suctions to the Engine Room Bilges, No. and size
Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

asily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges
Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

ed 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

h 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
pass through the bunkers How are they protected

pass through the deep tanks Have they been tested as per Rule

es, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

gement 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
t to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

essel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

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

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

illary Air Compressors, No. **1** No. of stages **3** Diameters **42-165-185** Stroke **140** Driven by **Hot bulb engine**

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

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

CEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule **Yes** What means are provided for cleaning the inner surfaces **Plugs in ends.**

ernal surfaces of the receivers be examined **Yes** Train arrangement fitted at the lowest part of each receiver **Yes**

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

Material **S.M. Steel** Range of tensile strength **45 Kg. m/m²** Working pressure by Rules **80 Kg. cm²**

ir Receivers, No. **2 Auxiliary** Total cubic capacity **800 litres** Internal diameter **291 m/m.** thickness **12.5 m/m.**

Material **S.M. Steel** Range of tensile strength **45 Kg. m/m²** Working pressure by Rules **80 Kg. cm²**

014175-014184-0092

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shifting

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR

"A R A N G U A"

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops - -	1926 - July 26, Sept. 2, 9, 23, 30, Oct. 7, 14, 20, 21, 29, Nov. 5, 11, 18, 25, 30, Dec. 3, 7, 10, 15, 23, 28, 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, 16, 18, 22, 25, 29, April 1, 5, 8, 14, 15, 20, 22, 26, 29, May 3, 6, 7, 10, 13, 14, 17, June 3
During erection on board vessel - -	
Total No. of visits	Sixtyfive (65)

Dates of Examination of principal parts

Cylinders	1/4/27	Covers	1/4/27	Pistons	1/4/27	Rods	22/4/27	Connecting rods	22/4/27
Crank shaft	22/4/27	Flywheel shaft	1/2/27	Thrust shaft	22/4/27	Intermediate shafts	22/4/27	Tube shaft	22/4/27
Screw shaft	22/4/27	Propeller	1/2/27	Stern tube	22/4/27	Engine seatings	22/4/27	Engines holding down bolts	22/4/27
Completion of fitting sea connections		Completion of pumping arrangements		Engines tried under working conditions					
Crank shaft, Material	S.M. Steel	Identification Mark	M.B. 7131-2	Flywheel shaft, Material		Identification Mark			
Thrust shaft, Material		Identification Mark	J.L. 1764-6	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 No If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery consisting of 2 main Motors

(No. 1389 & 1390), 3 Auxiliary Motors Type L.252. 1 Hot bulb Engine Type A.241. 1 Compressor type C.300
1 Compressor type C.65. has been built of tested materials under special survey, in accordance with
the approved plans the Secretary's letters & 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 entitle
such vessel to the record of * L.M.C. (with date) & notation of Oil Engine.

Main engine	1	each engine	1
Electric motor	2		1
Hot bulb engine	1		1
Main engine	1	each engine double	1

The amount of Entry Fee ... £1000.00

When applied for,

Special

Donkey Boiler Fee

Travelling Expenses (if any)

Committee's Minute

Assigned

See Minute on

FRI 16 SEP 1927

When received,

17.10.27

R. Mackintosh for Self and

Engineer Surveyor to Lloyd's Register of Shipping.

A. Lawrence

Lloyd's Register
Foundation