

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY

No. 8026 =

JUL 14 1921

Received at London Office

Date of writing Report 4. 7. 21 When handed in at Local Office 4. 7. 21 Port of GENOA
 No. in Survey held at LEGNANO GENOA, SAVONA Date, First Survey 21. 3. 1919 Last Survey 30. 6. 1921
 Reg. Book. 9366 on the Single Twin Screw vessels 'PRIMULA' Tons { Gross 2311 Net 1336
 Master Francesco Vivaldi Built at SAVONA By whom built Migliardi Yard No. 1 When built 1921
 Engines made at LEGNANO By whom made Francesco Tosi Engine No. — When made 1920
 Donkey Boilers made at ANNAN By whom made Cochran Boiler No. 856 When made 1919
 Brake Horse Power 1000 Owners Edoardo Mazzia Port belonging to Savona
 Nom. Horse Power as per Rule 221 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

IL ENGINES, &c.—Type of Engines Tosi standard L type Diesel 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 35 kg. cmq. No. of cylinders 12 No. of cranks 12 Diameter of cylinders 430 mm.
 Length of stroke 640 mm. Revolutions per minute 165 Means of ignition Compression Kind of fuel used heavy oil
 Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 570 mm.
 Distance between centres of main bearings 860 mm. Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 252 as fitted 265 60 bore
 Diameter of crank pins 265 mm. 60 bore Breadth of crank webs as per Rule 335 as fitted 400 Thickness of ditto as per Rule 141 as fitted 138
 Diameter of flywheel shaft as per Rule 252 as fitted 265 Diameter of tunnel shaft as per Rule 200 as fitted 200 Diameter of thrust shaft as per Rule 210 as fitted 240
 Diameter of screw shaft as per Rule 214 as fitted 230 85 bore Is the screw shaft fitted with a continuous liner the whole length of the stern tube no — 2 liners
 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 joints burned ✓
 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 Yes If without liners, is the shaft arranged to run in oil ✓
 Type of outer gland fitted to stern tube No gland - hanning Length of stern bush 924 mm. Diameter of propeller 2450 mm. Total surface 1.89 square feet
 Pitch of propeller 2500 mm. No. of blades 3 state whether moveable no Thickness of cylinder liners 48 1/30 mm.
 Method of reversing Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Are the cylinders fitted with safety valves Yes Means of lubrication Forced Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓
 No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes No. of bilge pumps fitted to the main engines 2 Diameter of ditto 120 mm. Stroke 180 mm.
 Can one be overhauled while the other is at work Yes No. of auxiliary pumps connected to the main bilge lines 2 How driven Steam
 Sizes of pumps 2-170 mm. x 160 x 340 No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps: — In engine room 4-65 mm. Cur. 8
 and in holds, etc. N° 1 hold - 4-65 mm. N° 2 hold 2-65 mm. of ballast pumps 2 How driven Steam Sizes of pumps Cur. 7 1/2 x 7 1/2 x 12" Oil Cur. 150 x 120 x 50
 Is the circulating pump fitted with a direct suction from the engine room bilges Yes State size 80 mm. Is a separate auxiliary pump suction fitted in Engine Room and size Yes - 65 mm. Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine Room always accessible Yes
 Are the sluices on Engine Room bulkheads always accessible none Are all connections with the sea direct on the skin of the ship Yes
 Are they valves or cocks Both Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates Yes
 Are the discharge pipes 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 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges Yes Is the screw shaft tunnel watertight none 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 ✓
 No. of main air compressors 2 No. of stages 3 Diameters 200/160/70 Stroke 425 Driven by crank shaft
 No. of auxiliary air compressors 1 No. of stages 3 Diameters 250/130/54 Stroke 280 Driven by steam engine
 No. of small auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 No. of scavenging air pumps ✓ Diameter ✓ Stroke ✓ Driven by ✓
 Diameter of auxiliary Diesel Engine crank shafts as per Rule ✓ as fitted ✓ Are the air compressors and their coolers made so as to be easy of access Yes
 IR RECEIVERS:—No. of high pressure air receivers 80 2 injection 8 starting internal diameter 292 mm. Cubic capacity of each ing. 3.2 cu. ft.
 material steel Seamless, lap welded or riveted longitudinal joint seamless Range of tensile strength 44/50 kg. mmq.
 thickness 13 mm. working pressure by Rules 50 kg. cmq. No. of starting air receivers 8 Internal diameter 292 mm.
 Total cubic capacity 72.4 cu. ft. Material steel Seamless, lap welded or riveted longitudinal joint seamless
 Range of tensile strength 44/50 kg. mmq. thickness 13 mm. Working pressure by rules 50 kg. cmq. 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 loose flanges on bottom Is there a drain arrangement fitted at the lowest part of each receiver Yes

IS A DONKEY BOILER FITTED? *Yes - two* If so, is a report now forwarded? *Yes Glasgow N. 390*
HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	4. 6. 19	35 kg. cmq.	60 kg. cmq.	not stamped	
" " COVERS	8. 4. 19	35 "	60 "	do.	
" " JACKETS	8. 4. 19	1.1 "	4 "	do.	
" " PISTON WATER PASSAGES	24. 4. 19	1.1 "	4 "		
MAIN COMPRESSORS—1st STAGE	12. 6. 19	2 1/4 "	48 "		
" " 2nd "	12. 6. 19	10 1/2 "	80 "		
" " 3rd "	14. 6. 19	5 1/2 "	150 "		
AIR RECEIVERS—STARTING	24. 5. 19	50 1/2 "	60 "		
" " INJECTION	24. 5. 19	50 "	60 "		
AIR PIPES	24. 5. 19	50 "	60 "		
FUEL PIPES	24. 5. 19	80 "	150 "		
FUEL PUMPS	30. 4. 19	80 "	150 "		
SILENCER	27. 5. 19	1.1 "	4 "		
" " WATER JACKET	27. 5. 19	1.1 "	4 "		
SEPARATE FUEL TANKS					

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

SPARE GEAR *In accordance with the Rule Requirements*

FRANCO TOSI
Società Anonima
STAB. MECCANICI E FONDERIE

The foregoing is a correct description,
[Signature] Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1919. Mar. 21 May 26 Oct 21 1920. June 29 July 14
During erection on board vessel -- 1920. Aug. 12 Sept 2 1921. Jan 8, 20 Apr. 15, 21 May 13, 20, 28, 29 June 7, 15, 17, 27
Total No. of visits 28.

Dates of Examination of principal parts—Cylinders 21. 3. 19 Covers 21. 3. 19 Pistons 21. 3. 19 Rods 21. 3. 19 Connecting rods 21. 3. 19
Crank shaft 21. 3. 19 Thrust shaft 14. 7. 20 Tunnel shafts ✓ Screw shaft 3. 6. 20 Propeller 29. 6. 20 Stern tube 29. 6. 20 Engine seatings 12. 8. 17. 6. 21
Engines holding down bolts 15. 4. 21 Completion of pumping arrangements 7. 6. 21 Engines tried under working conditions 30. 6. 21
Completion of fitting sea connections 8. 1. 21 Stern tube 2. 9. 20 Screw shaft and propeller 2. 9. 20
Material of crank shaft *Steel* Identification Mark on Do. *M.R* Material of thrust shaft *Steel* Identification Mark on Do. *LLOYDS No 1 4. 7. 20 R*
Material of tunnel shafts *none* Identification Marks on Do. ✓ Material of screw shafts *Steel* Identification Marks on Do. *R*
Is the flash joint 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.) *The materials and workmanship are good. This machinery has been tried under special survey in accordance with the Rules, securely fitted aboard and tested under working conditions with satisfactory results and is, in my opinion, suitable for classification with record + L.M.C. 6. 21, subject to the after length of counter shaft of cam shaft of port engine being renewed before the end of this year. The groove actuating cam roller No 2 was damaged on the 1st trial and it has been therefore arranged to fit a new shaft at the earliest opportunity. The present shaft is effective for the limited period arranged.*

The amount of Entry Fee *£4* Special *£55.5.0* Lit. 4820. 4. 7. 1921.
Donkey Boiler Fee *£4.4.0*
Travelling Expenses (if any) *Lit 750* 19. 7. 19 *Hbb*

M. M. Rau for secy of M. Pitson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 21 OCT. 1921*
Assigned *+ L.M.C. 6. 21*
2203. oil engine subject

TUE. NOV. 7 1922

FRI. 10 MAR. 1922