

REPORT ON OIL ENGINE MACHINERY.

No. 331

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No. in Survey held at Winterthur Date, First Survey 1.4.54 Last Survey 15.9.1954 49
Reg. Book. 2 on the Twin Triple Quadruple Screw vessel Coastal vessels "KARLOVAC"
Tons Gross - Net -
Built at Split, Yugoslavia By whom built Brodogradiliste Split Yard No. 126 When built -
Engines made at Winterthur By whom made Messrs. Sulzer, Bros. Ltd. Engine No. 27717 When made 1954
Donkey Boilers made at - By whom made - Boiler No. - When made -
Brake Horse Power { Maximum 2x 495 Owners Fadranska Linea, Yugoslavia Port belonging to -
Service 2x 450
I.N. as per Rule 2x 90 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -
Trade for which vessel is intended -

OIL ENGINES, &c. — Type of Engines Sulzer Solid Injection 6TW24 2 or 4 stroke cycle 2 Single or double acting single
Maximum pressure in cylinders 250 lb/in. 2 Diameter of cylinders 240 mm Length of stroke 400 mm No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 80 lb/in. 2 Span of bearings (i.e., distance between inner edges of bearings in
way of a crank) 290 mm Is there a bearing between each crank yes Revolutions per minute { Maximum 413
Service 400
Kg/cm. s2
Flywheel dia. 775 mm Weight 610 Kg. Moment of inertia of flywheel (lb. in. 2 or Kg. cm. 2) 1170.45 Means of ignition Comp. Kind of fuel used heavy oil
" " " " balance wts. (" " " ") -

Crank { Solid forged dia. of journals as per Rule App. 19.8.54 as fitted 155 mm Crank pin dia. 155 mm Crank webs Mid. length breadth 265 mm Thickness parallel to axis -
Semi-built All built as fitted 155 mm Mid. length thickness 75 mm shrunk Thickness around eyehole -
Rev' Gear. as per Rule Appd. 19.8.54 as fitted -
Flywheel Shaft, diameter as fitted 140/128 Intermediate Shafts, diameter as fitted - Thrust Shaft, diameter at collars as fitted 155 mm
Tube Shaft, diameter as fitted - Screw Shaft, diameter as fitted - Is the { tube screw } shaft fitted with a continuous liner { - - }

Iron Liners, thickness in way of bushes as per Rule - Thickness between bushes as fitted - 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 fitted at the after
end of stern tube - If so, state type - Length of bearing in Stern Bush next to and supporting propeller -

Propeller, dia. - Pitch - No. of blades - Material - whether moveable - Total developed surface - sq. feet
Moment of inertia of propeller including entrained water (lb. in. 2 or Kg. cm. 2) 351.39 Kind of damper, if fitted -

Method of reversing Engines Rev. Gear Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of
brication forced Thickness of cylinder liners 17 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled
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 - Cooling Water Pumps, No. and how driven 2 D.A. on Engine Working F.W. Centr. pump in Dup
W. 30x90mm Spare F.W. Bilge PPS.W Bilge PPS. Is the sea suction provided with an efficient strainer which can be cleared within the vessel 14.4 m3/Hr.

Bilge Pumps worked from the Main Engines, No. and capacity 1 D.A. 80 Dia. 90 Stroke Can one be overhauled while the other is at work -
Also spare for fresh water and sea water cooling.
Pumps connected to the Main Bilge Line { No. and capacity of each - How driven - }

Is the cooling water led to the bilges - If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
arrangements - 8 m3/Hr.

Ballast Pumps, No. and capacity - Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 Gear Pump each engine

Are two independent means arranged for circulating water through the Oil Cooler - Branch Bilge Suctions -

No. and size:—In machinery spaces - In pump room -

Holds, &c. -

Direct Bilge 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 suction 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 -

On 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. - No. of stages - diameters - stroke - driven by -

Auxiliary Air Compressors, No. 1 each engine No. of stages 1 diameters 55 mm stroke 170.5 mm driven by levers

Small Auxiliary Air Compressors, No. - No. of stages - diameters - stroke - driven by -

Is that provision is made for first charging the air receivers -

Saving Air Pumps or Blowers, No. 6 D.A. each engine How driven Engine levers 170.5 mm Stroke 310 mm Dia.

Auxiliary Engines Have they been made under survey - Engine Nos. -

Makers name - Position of each in engine room -

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AIR RECEIVERS: Have they been made under survey... yes State No. of report or certificate... Genoa 99/3
State full details of safety devices... Safety valve, as per Rule
Can the internal surfaces of the receivers be examined and cleaned... yes Is a drain fitted at the lowest part of each receiver... yes
Injection Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -
Seamless, welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -
Starting Air Receivers, No. 4 Total cubic capacity 994 litres Internal diameter 410 mm thickness 9 mm Test - 80
Seamless, welded or riveted longitudinal joint Seamless Material SM-Steel Range of tensile strength 55/65Kg Working pressure 40

IS A DONKEY BOILER FITTED - If so, is a report now forwarded -
Is the donkey boiler intended to be used for domestic purposes only -

PLANS. Are approved plans forwarded herewith for shafting - Receivers - Separate fuel tanks -
(If not, state date of approval)
Donkey boilers - General pumping arrangements - Pumping arrangements in machinery space -
Oil fuel burning arrangements -
Have Torsional Vibration characteristics been approved yes Date and particulars of approval 19.8.1954

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes State if for "short voyages" only yes
State the principal additional spare gear supplied -

Sulzer Brothers

The foregoing is a correct description, *Kildrumm* *Steiger* Manufacturer.

Dates of Survey while building
During progress of work in shops - 1.4.54 to 15.9.54 - 20 visits
During erection on board vessel - -
Total No. of visits -
Dates of examination of principal parts - Cylinders 1.4.54 Covers 21.6.54 Pistons 10.5.54 Rods - Connecting rods 10.4.
Crank shaft 23.12.53 Rev. Gear Flywheel shaft 23.12.53 Thrust shaft - Intermediate shafts - Tube shaft -
Screw shaft - Propeller - Stern tube - Engine seatings - Engine holding down bolts -
Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under shop trials 3.9.5
Crank shaft, material S.M. Steel Identification mark Lloyd's No. F.2421 Flywheel shaft, material S.M. Steel Identification mark LLOYD'S F.
Thrust shaft, material - Identification mark - Intermediate shafts, material - Identification marks -
Tube shaft, material - Identification mark - Screw shaft, material - Identification mark -
Identification marks on air receivers 246 litres -2-7006 250-2-6998 250 litres 2-6994 litres 248 2
G.M. Dalmine 10.12.51 G.M. Dalmine 10.12.1951 G.M. Dalmine 10.12.1951 G.M. Dalmine 13.12.1951
Welded receivers, state Makers' Name -
Is the flash point of the oil to be used over 150°F yes
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with -
Full description of fire extinguishing apparatus fitted in machinery spaces -
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo - If so, have the requirements of the Rules been complied with -
What is the special notation desired -
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with -

Is this machinery duplicate of a previous case - If so, state name of vessel -

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

These main propulsion engines have been constructed under Special Survey in accordance with the requirements of the Rules, the Secretary's letters and the approved plans. Materials, and Workmanship are good. Full power trials in the shop were satisfactory.

The amount of Entry Fee ... £ :
Special ... £ 2'480 : When applied for Monthly 15/C.
Donkey Boiler Fee... £ C 41.18 : When received 19
Travelling Expenses (if any) £ C 41.25

(Committee's Minute)

Assigned

FRIDAY - 5 AUG 1955

See Sp 1 1870

Engineer Surveyor to Lloyd's Register of Shipping

Lloyd's Register Foundation