

REPORT ON OIL ENGINE MACHINERY.

No. 67.

-5 FEB 1926

Date of writing Report 28th Jan. 1926 When handed in at Local Office 28th Jan. 1926 Port of Winterthur
 No. in Survey held at Winterthur Date, First Survey 12th August, 1925 Last Survey 28th Jan. 1926
 Reg. Book. Single on the Triple Screw vessels "KYBRA" Tons Gross Net
 Built at Montrose By whom built Messrs. The Coaster Construction Co. Yard No. 124 When built 1926
 Engines made at Winterthur By whom made Messrs. Sulzer Bros. Engine No. 5517 When made 1926
 Donkey Boilers made at Winterthur By whom made Winterthur Boiler No. 780 When made 1926
 Brake Horse Power 780 Owners Winterthur Port belonging to Winterthur
 Nom. Horse Power as per Rule 233 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c. — Type of Engines Sulzer Diesel Engines 2 or 4 stroke cycle 2 Single or double acting single
 Maximum pressure in cylinders 38 ATG. No. of cylinders 6 Diameter of cylinders 380 mm No. of cranks 6 Length of stroke 660 mm
 No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 500 mm Is there a bearing between each crank Yes
 Revolutions per minute 170 Flywheel dia. 1600 mm Weight 2100 kg. Means of ignition Compression Kind of fuel used Heavy fuel oil
 Crank Shaft, dia. of journals as per Rule 246 mm Crank pin dia. 250 mm Crank Webs Mid. length breadth 340 mm Thickness parallel to axis shrunk
 as fitted 250 mm Mid. length thickness 140 mm Thickness around eye-hole shrunk
 Wheel Shafts, diameter as per Rule 246 mm Intermediate Shafts, diameter as per Rule 183 mm Thrust Shaft, diameter at collars as per Rule 192 mm
 as fitted 250 mm as fitted 250 mm
 Propeller Shafts, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner No
 as fitted No as fitted No
 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
 as fitted No as fitted No after end of the liner
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner No
 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 No
 If no liners are fitted, is the shaft lapped or protected between the liners Yes 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 140 mm
 Propeller, dia. 400 mm Pitch 1.5 No. of blades 4 Material Steel whether Moveable No Total Developed Surface sq. feet
 Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication
Oil Thickness of cylinder liners at top 30 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
 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
 Bilge Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Pumps fitted to the Main Engines, No. 2 Diameter 100 mm Stroke 100 mm Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line { No. and Size 2 How driven Electric
 Main Pumps, No. and size 2 Lubricating Oil Pumps, including Spare Pump, No. and size 2 Driven by Electric
 two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 Pumps, No. and size:—In Engine and Boiler Room 2
 Folds, &c. 2

Dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-bones Yes Are the Bilge Suctions in the Machinery Space
 from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes 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 Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate
 Do the pipes pass through the bunkers Yes How are they protected Yes
 Do the pipes pass through the deep tanks Yes Have they been tested as per Rule Yes
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 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 Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes
 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 Yes
 Main Air Compressors, No. 1 No. of stages 3 Diameters 450/410/95 Stroke 400 mm Driven by Crank shaft
 Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 350/120 Stroke 120 mm Driven by Electric motor
 All Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 110/35 Stroke 120 mm Driven by Hot Bull Engine
 Reversing Air Pumps, No. 1 Double acting Diameter 1000 mm Stroke 500 mm Driven by Crank shaft
 Auxiliary Engines crank shafts, diameter as per Rule 124 mm
 as fitted 120 mm

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Startling air receivers holes 205 & 65 mm
 Is there a drain arrangement fitted at the lowest part of each receiver Yes Injection receiver hole 125 mm
 Main Pressure Air Receivers, No. 7 Cubic capacity of each 405 litres Internal diameter 400 mm thickness 20 mm
 less, lap welded or riveted longitudinal joint Seamless Material Sm. Ing. Stl. Range of tensile strength 60 to 65 kg/mm² Working pressure by Rules 12.5 at 62 kg/mm²
 High Pressure Air Receivers, No. 1 Total cubic capacity 405 litres Internal diameter 400 mm thickness 20 mm
 less, lap welded or riveted longitudinal joint Seamless Material Sm. Ing. Stl. Range of tensile strength 60 to 65 kg/mm² Working pressure by Rules 12.5 at 62 kg/mm²

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	3-11-25.	38 ats.	80 ats.	R.	Test satisfactory
" " COVERS	"	" "	" "	R.	" "
" " JACKETS	"	1 "	6 "	R.	" "
" " PISTON WATER PASSAGES	10-11-25.	2 "	" "	R.	" "
MAIN COMPRESSORS—1st STAGE	"	3 "	50 "	R.	" "
" 2nd "	"	17.5 "	" "	R.	" "
" 3rd "	27-11-25.	75 "	150 "	R.	" "
AIR RECEIVERS—STARTING	23-12-25, 11-1-26.	" "	" "	R.	" "
" INJECTION	17-11-25.	" "	" "	R.	" "
AIR PIPES	11-12-25, 14-12-25	" "	" "	R.	" "
FUEL PIPES	" "	" "	" "	R.	" "
FUEL PUMPS VALVES	13-11-25, 18-11-25.	" "	" "	R.	" "
SILENCER	16-1-26.	1005.	2.5 "	R.	" "
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for Shafting 3-11-25

Receivers Starting 30-8-20
Injection 7-6-20
Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR

The foregoing is correct description.

Sulzer Brothers Limited

M. Bachmann

Manufacturer.

Dates of Survey while building	During progress of work in shops --	2-6-25, 19-8-25, 26-8-25, 31-8-25, 5-9-25, 16-9-25, 9-10-25, 15-10-25, 19-10-25, 26-10-25, 30-10-25, 3-11-25, 4-11-25, 10-11-25, 13-11-25, 17-11-25, 18-11-25, 27-11-25, 30-11-25, 1-12-25, 2-12-25, 3-12-25, 8-12-25, 9-12-25, 11-12-25, 14-12-25, 16-12-25, 18-12-25, 25-12-25, 5-1-26, 6-1-26, 7-1-26, 8-1-26, 9-1-26, 11-1-26, 12-1-26, 13-1-26, 16-1-26, 28-1-26.
	During erection on board vessel --	
	Total No. of visits	

Dates of Examination of principal parts—Cylinders 11-1-26. Covers 11-1-26. Pistons 11-1-26. Rods 11-1-26. Connecting rods 11-1-26.

Crank shaft 11-1-26. Flywheel shaft 11-1-26. Thrust shaft 11-1-26. Intermediate shafts. Tube shaft.

Screw shaft. Propeller. Stern tube. Engine seatings. Engines holding down bolts.

Completion of fitting sea connections. Completion of pumping arrangements. Engines tried under working conditions.

Crank shaft, Material Ann. Sm. Eng. Steel Identification Mark 7-2-25 R. 11-1-26. Flywheel shaft, Material Ann. Sm. Eng. Steel Identification Mark 20-8-25 R. 11-1-26.

Thrust shaft, Material Same as flywheel shaft Identification Mark Same as flywheel shaft. 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.

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.) This machinery together with three auxiliary engines N^o 14501-3 and 5 Type 2RH24, one auxiliary compressor, and one small auxiliary air compressor 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 good. Full power trials of main and auxiliary machinery in shop satisfactory.

The amount of Entry Fee ... £ 4-0-0: When applied for, 29th Jan. 1926.
Special ... £ 58-5-0:
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ : When received, 1st Feb. 1926.

Committee's Minute

Assigned

See Don. J.E. 2/1 85-59

W.G. Hallis

Engineer Surveyor to Lloyd's Register of Shipping.



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