

REPORT ON OIL ENGINE MACHINERY.

No. 6492
28 JUL 1926

Received at London Office

Date of writing Report 20th July 1926 When handed in at Local Office 21st July 1926 Port of Gothenburg
 Date, First Survey Sept. 9 - 1924 Last Survey July 15 1926
 Number of Visits 58
 Tons { Gross 5066
 Net 2862
 Built at GOTHENBURG By whom built A.B. GÖTAVERKEN Yard No. 364 When built 1926
 Engines made at GOTHENBURG By whom made A.B. GÖTAVERKEN Engine No. 701 When made 1926
 Monkey Boilers made at LONGBROUGH By whom made W.W. COLTMAN & CO. LD. Boiler No. 4745 When made 1926
 Brake Horse Power Owners TRAFIK A.B. GRÄNGESBERG-OXELÖSUNDB Port belonging to STOCKHOLM
 Nom. Horse Power as per Rule 489 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

ENGINES, &c.—Type of Engines One Diesel Oil Engine 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 35 kg/cm² No. of cylinders 6 Diameter of cylinders 740 mm [29 1/8"] No. of cranks 6 Length of stroke 1500 mm [59 1/16"]
 Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 mm Is there a bearing between each crank Yes
 Revolutions per minute 95 Flywheel dia. 2900 mm Weight 18600 kgs Means of ignition Diesel system Kind of fuel used Diesel oil
 Crank Shaft, dia. of journals as per Rule 472 mm Crank pin dia. 472 mm Crank Webs Mid. length breadth shrunk Thickness parallel to axis 310 mm
 as fitted 472 mm Mid. length thickness Thickness around eye-hole 195 mm
 Flywheel Shafts, diameter as per Rule 472 mm Intermediate Shafts, diameter as per Rule 392 mm Thrust Shaft, diameter at collars as per Rule 338 mm
 as fitted 472 mm as fitted 398 mm as fitted 365 mm
 Main Shafts, diameter as per Rule 374 mm Screw Shaft, diameter as per Rule 380 mm Is the { tube } shaft fitted with a continuous liner { No }
 as fitted Thickness between bushes as per rule Is the after end of the liner made watertight in the
 Bronze Liners, thickness in way of bushes as fitted Thickness between bushes as fitted
 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 or other appliance fitted at the after
 end of the tube shaft Yes, Cedervall's Length of Bearing in Stern Bush next to and supporting propeller 1700 mm
 Propeller, dia. 4877 mm Pitch 3581 mm No. of blades 4 Material Metal whether Moveable No Total Developed Surface 7.3 sq. feet
 Method of reversing Engines B&H system Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
 pumps Thickness of cylinder liners TOP 53.52 BOTTOM 22.02 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
 insulating material Both 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 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Bilge Pumps fitted to the Main Engines, No. 1 Diameter 165 mm Stroke 230 mm Can one be overhauled while the other is at work
 Pumps connected to the Main Bilge Line { No. and Size One 20 tons trunk piston pump & One 110 tons double acting piston pump (Bilge & ballast pump) }
 How driven By electric motors
 Main Pumps, No. and size One 110 tons & One 350 tons Lubricating Oil Pumps, including Spare Pump, No. and size Two 30 tons
 Are two independent means arranged for circulating water through the Oil Cooler No oil cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 pumps, No. and size:—In Engine and Boiler Room Two 3" connected to the main bilge line, One 3 1/2" main engine pump direct suction & One 3 1/2" in Tunnel
 Holds, &c. Two 3" in each hold
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Three, 3 1/2", 6" & 8"
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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 Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates No by lifting of small plates 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 Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate
 Do all pipes pass through the bunkers No bunkers How are they protected
 Do all pipes pass through the deep tanks Bilge pipes 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 worked from upper engine room platform

If not given 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. 1 No. of stages 3 Diameters 50, 675 & 750 mm Stroke 480 mm Driven by Main engine
 Auxiliary Air Compressors, No. 3 No. of stages 3 Diameters 70, 285 & 318 mm Stroke 220 mm Driven by Auxil. engine
 Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 35 & 106 mm Stroke 80 mm Driven by Steam engine
 Ventilating Air Pumps, No. None Diameter Stroke Driven by
 Auxiliary Engines crank shafts, diameter as per Rule 162 mm
 as fitted 162 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 by means of caustic soda steam
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
 High Pressure Air Receivers, No. 2 Cubic capacity of each 500, 250 & 35 litres Internal diameter 450, 358 & 197 mm thickness 25, 21 & 9.5 mm
 Material S.A. Steel Range of tensile strength seamless 44.1-44.4 kg/cm² lap welded 36.5-38 Working pressure by Rules 65 kg/cm²
 Working Air Receivers, No. 2 Total cubic capacity 19.7 & 11.3 cubic metres Internal diameter 1850 & 1800 mm thickness 25.5 & 25 mm
 Material S.A. Steel Range of tensile strength 44.5-47.1 kg/cm² Working pressure by Rules 25 kg/cm²
 Are all receivers, lap welded or riveted longitudinal joint Riveted

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	✓ 12/17/5/26	1.0 kg/cm ²	5.46 kg/cm ²	B	Injection air receiver found marked. The main engine working.
COVERS	10/11/25, 16/12/25	1.0 "	7.88 "	B	Nº 322.
JACKETS	27/11/25, 26/12/26	65.0 "	130 "	B	LLOYDS TEST 1850 lbs/d
PISTON WATER PASSAGES	14/9/25, 8/2/26	1.0 "	6 "	B	WP 925 "
MAIN COMPRESSORS—1st STAGE	28/9/25, 27/28/10/25, 4/9/11/25	5.420 "	10.440 "	B	NB. 14.8.24
HP cooling coil	9/9/24, 26/11/24	25 "	39.440 "	B	Initial date. Main engine working.
cooling water spaces	12/14/6/26	65 "	130 "	B	LLOYDS TEST 3732.7
air coolers	3/5/6/26	25.465 "	75.4130 "	B	2000 LBS/d
AIR RECEIVERS—STARTING	5/6/26	65 "	130 "	B	HP 925 "
INJECTION	26/3/26	65 "	130 "	B	NB. 14.8.25
AIR PIPES & VALVES	✓ 10/11/25	1.0	4.0 "	B	LLOYDS TEST 1850 LBS/d
FUEL PIPES	5/2/26	✓	0.8 "	B	WP 925 "
FUEL PUMPS	✓	✓	✓	✓	NB. 14.8.25
SILENCER	✓	✓	✓	✓	✓
WATER JACKET	✓	✓	✓	✓	✓
SEPARATE FUEL TANKS	✓	✓	✓	✓	✓

PLANS. Are approved plans forwarded herewith for Shafting 3/5/24 Receivers 11/4/24 & 24/5/24 Separate Tanks 16/10/24
(If not, state date of approval)
Donkey Boilers General Pumping Arrangements 3/5/24 Oil Fuel Burning Arrangements

SPARE GEAR For the main engine:

Cylinder cover complete with all valves, valve seats & springs etc and in addition 5 complete sets of discharge valves which can be used as air inlet valves and 3 extra valves for same, 1 complete set of starting air valves & 5 complete sets of fuel valves and 2 extra valves and 3 seats for same, 1 cylinder liner and cooling jacket with bolts & nuts for connecting to the cylinder cover, 1 piston with rod complete with piston rings and in addition 3 sets of piston rings for one piston.
To be continued.

The undersigned is a description,

Trust S. Nedra

Manufacturer.

Dates of Survey while building	During progress of work in shops - - -	1924: Sept 9, Nov 26. 1925: Feb. 5, April 27, May 4, 16, June 13, Aug. 4, 7, 10, 20, 28, Oct 6, 7, Nov. 4, 7, 9, 20, 27.
	During erection on board vessel - - -	Dec. 1, 9, 11, 16, 17, 22, 29. 1926: Jan 4, 18, 26, Feb. 1, 8, 23, 27, March 23, 24, 26, May 12, 17, 27, June 4, 12, 14, July 3, 5.
	Total No. of visits	58

Dates of Examination of principal parts—Cylinders	12/17/5/26	Covers	12/17/5/26	Pistons	10/11/25	Rods	7/12/25	Connecting rods	7/12/25 & 24/5/26
Crank shaft	26/3/24, 24/4/25	Propeller	5/6/26	Stern tube	26/4/26	Engine seatings	23/4/26	Engines holding down bolts	26/4/26
Completion of fitting sea connections	23/4/26	Completion of pumping arrangements	10/9/26	Engines tried under working conditions	15/7/26				
Crank shaft, Material S.M. Steel	Identification Mark CRH CRH 25.7.24	Flywheel shaft, Material	✓	Identification Mark	✓				
Combined flywheels	✓	Identification Mark	✓	Intermediate shafts, Material S.M. Steel	✓	Identification Marks	See below		
Thrust shaft, Material S.M. Steel	Identification Mark GA.10.11.24	Intermediate shafts, Material S.M. Steel	✓	Identification Mark	GA.24.9.24				
Tube shaft, Material	✓	Identification Mark	✓	Screw shafts, Material S.M. Steel	✓	Identification Mark	GA.24.9.24		
Is the flash point of the oil to be used over 150° F.	Yes	✓		Spare screw shaft	✓	Identification Mark	GA.26.8.24		

Is this machinery duplicate of a previous case Yes If so, state name of vessel 1/5. MURJEK

General Remarks (State quality of workmanship, opinions as to class, &c. Identification marks: See engine crank shafts: Tunnel shafts.

LLOYDS Nº 11838 G	LLOYDS Nº 5788 G	LLOYDS Nº 11858 G	LLOYDS Nº 11949	LLOYDS Nº 693	LLOYDS Nº 11947	LLOYDS Nº 1600	LLOYDS Nº 1631	LLOYDS Nº 1630
GA.24.9.24	GA.20.8.24	GA.28.8.24	GA.20.8.25	GA.20.8.25	GA.20.8.25	GA.9.12.25	GA.9.12.25	GA.9.12.25

The main and auxiliary engines of this vessel have been tested under Special Survey and all the requirements of the Rules have been complied with.
The workmanship is good and the material fulfils the requirements of the Rules.
To be continued.

The machinery of this vessel is worthy in our opinion to be classed in the Register Book of this Society with the notation of +LHC 7.26.

Working pressure of Donkey boiler 85 lbs per square inch

The amount of Entry Fee	£	91.00	When applied for, 16th July 1926
Special	£	1789.97	When received, 20/8/26
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Committee's Minute TUES, 27 JUL 1926
Assigned + L.M.C. 7:26 O.G.
Oil Engines



26 JUL 1928

of Gothenburg Continuation of Report No. 6492 dated 9th July 1926.

the Machinery of the single Screw Motor ship "ERIK FRISSELL".

The dimensions are as specified and in accordance with the Rules and approved plans.

The main engines was tested under full working power on a nine hours trial trip and proved to work satisfactorily both ahead and astern. The auxiliary engines have also been tested under full working conditions and found in good order.

The auxiliary engines consists of three, 2 cylinder, 4-stroke cycle single acting Diesel oil engines of cylinder diam 310 mm and stroke 350 mm each working a dynamo of 66 KW, 220 volts and 300 amperes.

The vessel has been fitted with wireless telegraphy of the Telefunken system.

Spare gear continued.

conn. rod top-end bolts & nuts and 2 halves of crosshead brasses, 2 conn. rod bottom-end bolts & nuts and 2 halves of conn. rod bottom-end brasses, 4 main bearing bolts & nuts and 2 halves of main bearing brasses, 4 compressor main bearing bolts & nuts and 2 halves of bearing brasses for same, 1 set of coupling bolts for the crank shaft, 1 set of ditto for the intermediate shaft, 1 propeller shaft with nut, 1 cast iron propeller, 1 set of all working parts for one fuel pump, 18 packing rings of white metal for the fuel pump plungers, 6 cam rollers with pins for the fuel valves, 1 ditto for the exhaust valves, air inlet and starting air valve respective, 6 oil fuel return valves, 1/2 set of springs for the engine & compressor, 1 set of valves for the compressor, 1 set of piston rings for the compressor, 1 compressor air cooling coil, 6 brass tubes for the L.P. & H.P. air coolers respective, 1 valve for the oil fuel overflow valve.

For the auxiliary engines: -

1 set of discharge valves which can be used as air inlet valves and 2 extra valves for same, 2 complete sets of fuel valves & 2 extra valves for same, 1 starting air valve complete, 2 sets of piston rings for one piston, 1 set of crosshead brasses, 2 conn. rod bottom-end bolts & nuts and 2 halves of conn. rod bottom-end brasses, 4 main bearing bolts & nuts and 4 halves of main bearing brasses, 1 set of all working parts for a fuel pump, 3 packing rings of white metal for the fuel pump plungers, 1 cam roller with pin for a fuel valve, 1 set of springs for one engine and compressor, 1 set of valves for one compressor, 2 sets of piston rings for one compressor, 1 compressor air cooling coil, 1 valve for the oil fuel overflow valve.

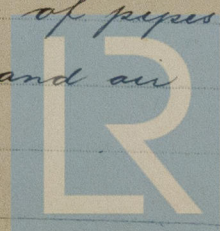
For the auxiliary pumps: -

1 set of valves for the bilge & sanitary pump, 1 set of valves for the bilge & ballast pump.

For the donkey boiler: -

1 safety valve spring, 1 check valve, 1/2 set of valves for the feed pump.

A quantity of assorted bolts and nuts and lengths of pipes with unions and flanges suitable for each for the fuel and air delivery for the main and auxiliary engines.



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