

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 8324
26 MAY 1931

Received at London Office

Date of writing Report 19th May 1931 When handed in at Local Office 21st May 1931 Port of GOTHENBURG

No. in Survey held at GOTHENBURG Date, First Survey 27th Sept, 1930 Last Survey 12th May 1931

Number of Visits 68

Reg. Book. Supplement) Single
89702 on the Twin Screw vessel
Triple
Quadruple

"BARFONN"

Tons Gross 9739
Net 6035

Built at GOTHENBURG By whom built A.B. GÖTAVERKEN Yard No. 443 When built 1931-5

Engines made at GOTHENBURG By whom made A.B. GÖTAVERKEN Engine No. 1947 When made 1931

Donkey Boilers made at STOCKTON By whom made RILEY BROS (BOILER MAKERS) LTD Boiler No. 16818 When made 1931

Owners SHIBSANTIESELSK DALFONN Port belonging to STAVANGER

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended General

Type of Engines Two Diesel Oil Engines 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 550 mm Length of stroke 1000 mm No. of cylinders 16 No. of cranks 16

Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 724 mm Is there a bearing between each crank Yes

Revolutions per minute 155 as per Rule 347 mm Crank pin dia. 350 mm Weight 880 kg Means of ignition Diesel system Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as fitted 350 mm Crank Webs Mid. length breadth 620 mm Thickness parallel to axis 197-213 mm

Intermediate Shafts, diameter as fitted 255 mm Thrust Shaft, diameter at collars as fitted 300 mm

Propeller Shaft, diameter as fitted 288 mm Is the tube screw shaft fitted with a continuous liner Yes

Screw Shaft, diameter as fitted 288 mm Thickness between bushes as per rule 12.3 mm Is the after end of the liner made watertight in the

Bronze Liners, thickness in way of bushes as fitted 17.19 mm If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner in one length.

Propeller boss Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube

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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of Bearing in Stern Bush next to and supporting propeller 1345 mm

Propeller, dia 18'-0 1/2" Pitch 8'-8" No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 2.50 = 100 sq. feet

Method of reversing Engines Direct reversible by means of compound air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Forced Thickness of cylinder liners Top 38 mm Bottom 27.5 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

Non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Led to a funnel

Cooling Water Pumps, No. Two centrifugal pumps Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 150 mm Stroke 135 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and size Two direct driven pumps 20 tons each, 1 petrol pump 20 tons, 1 Ballast pump 10 tons, 100 tons

How driven By main engines Electric Electric

Ballast Pumps, No. and size One 100 tons rotary pump in mach. space, 100 tons rotary pump in mach. space, 100 tons rotary pump in mach. space

Are there 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 Machinery Spaces Three 3 1/2" two 2 1/2" two 2" four 1 1/2" four 1" four 1/2" four 1/4" in way of mach. space In Pump Room None

In Holds, &c. None Two 2 1/2" in hold, one 2 1/2" in forward pump room & two 4" in pump room amidship connected to separate pumps

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 3 1/2" to bilge pumps & one 5" to ballast pump

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

Are they fitted with Valves or Cocks Yes

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes

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 Yes

That pipes pass through the bunkers No bunkers How are they protected Yes

That pipes pass through the deep tanks Main cargo lines & heating coils 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 No tunnel Is it fitted with a watertight door Yes worked from Yes

If 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. 2 No. of stages 3 Diameters 120, 540 & 600 Stroke 440 mm Driven by Main engines

Auxiliary Air Compressors, No. 3 No. of stages 3 Diameters 78, 285 & 318 Stroke 170 mm Driven by Suction engines

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 34 & 106 Stroke 80 mm Driven by steam engine

Scavenging Air Pumps, No. None Diameter Stroke Driven by 450 & 500

Auxiliary Engines crank shafts, diameter as fitted 170 mm Position — On a platform aft in mach. space

AIR RECEIVERS:—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 and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 8 Cubic capacity of each 30, 350 cfm. Internal diameter 450 mm thickness 25.5 mm

Seamless, lap welded or riveted longitudinal joint 3 lap welded Material M. Steel Range of tensile strength 37.7-39.3 kg/cm² Working pressure 20.2 kg/cm²

Starting Air Receivers, No. 2 Total cubic capacity 9 x 15.5 = 31 cub. m. Internal diameter 1800 & 1850 mm thickness 25 & 25.5 mm

Seamless, lap welded or riveted longitudinal joint Riveted Material M. Steel Range of tensile strength 37.7-39.3 kg/cm² Working pressure 25.5 kg/cm²

IS A DONKEY BOILER FITTED? *Yes, two boilers*

If so, is a report now forwarded? *Yes*

Is the donkey boiler intended to be used for domestic purposes only? *No*

PLANS. Are approved plans forwarded herewith for Shafting *No* 16/1/30, 20/3/30
(If not, state date of approval)

Receivers *No* 16/1/30, 20/3/30 Separate Tanks *✓*

Donkey Boilers *Yes* 26/4/30

General Pumping Arrangements *No* 20/3/30

Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Yes*

State the principal additional spare gear supplied *For the Main engines: 14 sets of exhaust valves complete and 4 extra valves for same, 4 air inlet valves complete, 14 fuel valves complete and 8 extra valves & 16 seats for same, 1 cam roller with pin of each size for the valve gear, 1 cylinder liner, 1 cylinder cooling gear, 4 halves of crosshead brasses, 4 halves of crank pin brasses, 4 halves of main bearing brasses, 4 sets of piston rings for one piston, 1 propeller shaft with nut, 2 cast iron propellers. For the auxiliary engines: 3 sets of exhaust valves complete and 6 extra valves for same, 2 air inlet valves complete, 3 fuel valves complete and 3 extra valves & 6 seats for same, 2 starting air valves complete, 2 pistons, 5 sets of piston rings for one piston, 1 quad gun pin with cross, 2 halves of crank pin brasses, 4 halves of main bearing brasses. For the Donkey boilers: 2 check valves, 2 safety valve springs, 15 ordinary & 5 stay tubes, spare parts for the fuel installation.*

The foregoing is a correct description,

AKTIEBOLAGET GOTAVÄRKEN

Wass. J. Meekum

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1930: Sept 27 Oct 3, 25, 25, 29, 29, Nov 15 Dec 15, 16, 18, 23
During erection on board vessel - 1931: Jan 2, 3, 9, 9, 12, 12, 13, 16, 17, 19, 19, 20, 21, 22, 22, 24, 24, 27, 28, 29, Feb 3, 3, 5, 6, 7, 9, 12, 19, 26, March 3, 9, 11, 13, 19, 23, 31, April 17, 28, 29
Total No. of visits *68*

Dates of Examination of principal parts—Cylinders and Covers 26/1/31, 9/4/31, 13/23, 13/19/31
Crank shafts 15/12/30 Flywheel shaft 26/1/31 Thrust shafts 26/1/31 Intermediate shafts 17/4/31 Tube shaft 23/1/30
Screw shaft 23/4/31 Propeller 21/4/31 Stern tube 22/1/31 Engine seatings 30/1/31 Engines holding down bolts 13/4/31
Completion of fitting sea connections 21/4/31 Completion of pumping arrangements 11/5/31 Engines tried under working conditions 12/5/31
Crank shaft, Material *L.M. Steel* Identification Mark *FS. 709.710 FS. 629.630*
Thrust shaft, Material *L.M. Steel* Identification Mark *LLOYDS No. 6549.724 EN. 26.1.31*
Tube shaft, Material *✓* Identification Mark *✓*
Screw shaft, Material *L.M. Steel* Identification Mark *LLOYDS No. 725.726 GA. 17.4.31*
Is the flash point of the oil to be used over 150° F. *No*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*
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 *✓*
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *No*
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 main & auxiliary engines of this vessel have been built 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. Shafting as per forging reports attached. Material of starting air receivers as per test sheets attached. The dimensions are as specified and in accordance with the Rules and approved plans. The auxiliary machinery of this vessel consists of three 2 cylinder, 4 stroke cycle, single acting oil engines with cylinder diam = 310 mm & stroke 350 mm, manufactured by Messrs AB Gotaverken, port, each working a dynamo of 66 kw. The main & auxiliary engines have been tested under full working power on a trial trip and found to work satisfactorily.*

The machinery of this vessel is eligible in our opinion to be entered in the Register Book of this Society with notation of *+LHC 5.31*

[Working pressure of donkey boilers 180 lbs/sq in]

The amount of Entry Fee *No* 109:20
Special *No* 2033:84
Donkey Boiler Fee *No* 152:88
STARTING AIR RECEIVERS *No* 152:88
Travelling Expenses (if any) *No*

When applied for, 21st May 1931

When received, 3. 6. 31

Committee's Minute **FRI. 29 MAY 1931**

Assigned *+ L.M.C. 5.31 C.L.*

Oil Eng. 2.25.180 lb

CERTIFICATE WRITTEN



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