

Report on Oil Engine Machinery.

No. 14111

Received at London Office

Date of writing Report... 31st Dec. 1944 When handed in at Local Office... 8th Jan. 1945 Port of... Gothenburg.

No. in Survey held at... Gothenburg Date, First Survey... 1st. March... Last Survey... 9th. Dec. 1944.
Reg. Book. Number of Visits... 59Single
92569 on the ~~Boat~~ ~~Ship~~ Screw vessel... "WILHELMINA" Tons {Gross 2076
Net 1040

Built at... Gothenburg By whom built... Eriksbergs Mek. Verkst. AB. Yard No. 327... When built 1944-12.

Engines made at... Gothenburg By whom made... Eriksbergs Mek. Verkst. AB. Engine No. 354. When made 1944-12.

Donkey Boilers made at... Gothenburg By whom made... Eriksbergs Mek. Verkst. AB. Boiler No. 724. When made 1944-12.

Brake Horse Power... 2440 Owners... Rederi A-B. Fredrika Port belonging to... Stockholm

Nom. Horse Power as per Rule... 607 Is Refrigerating Machinery fitted for cargo purposes... Yes Is Electric Light fitted... Yes.

Trade for which vessel is intended... Open sea service.

OIL ENGINES, &c.—Type of Engines... B&W-type, trunk piston, solid injection 4 stroke cycle... 2 Single or double acting... Single

Maximum pressure in cylinders... 48 kg/cm² Diameter of cylinders... 500 mm. Length of stroke... 900 mm. No. of cylinders... 9 No. of cranks... 9Mean Indicated Pressure... 6.5 kg/cm² 19.11/16" 35.7/16"

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge... 704 mm. Is there a bearing between each crank... Yes

Revolutions per minute... 130 Turning wheel dia... 1652 mm. Weight... 882 kgs Means of ignition... Compression Kind of fuel used... Diesel oil

Crank Shaft, { ~~xxxx~~ as ~~xxxx~~ appd. 344 mm. ~~xxxx~~ dia. of journals as fitted 344 mm. Crank pin dia... 344 mm. Crank Webs Mid. length breadth... --- Thickness parallel to axis... 214 mm.
All built as fitted 344 mm. Mid. length thickness... --- shrunk Thickness around eye hole... 194 mm.Flywheel Shaft, diameter as per Rule... --- Intermediate Shafts, diameter as appd. 272 mm. Thrust Shaft, diameter at collars as appd. 306 mm.
as fitted --- as fitted 272 mm. as fitted 306 mm.Tube Shaft, diameter as per Rule... --- Screw Shaft, diameter as appd. 330 mm. Is the { ~~xxxx~~ } shaft fitted with a continuous liner { Yes
as fitted --- as fitted 330 mm. screwBronze Liners, thickness in way of bushes as per Rule... 17.7 mm. Thickness between bushes as per Rule... 12 mm. Is the after end of the liner made watertight in the
as fitted 18.5 mm. as fitted 17 mm. propeller boss... Yes

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... No If so, state type... --- Length of Bearing in Stern Bush next to and supporting propeller... 1339 mm.

Propeller, dia. 13'-6" Pitch 11.8 (mean) o. of blades... 4 Material... Stainless steel whether Moveable... No Total Developed Surface... 67.4 sq. feet

Method of reversing Engines... Compr. 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... 33.5-36 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... Tunnel

Cooling Water Pumps, No. Two 1750 litr/Min. Is the sea provided with an efficient strainer which can be cleared within the vessel... Yes

Bilge Pumps worked from the Main Engines, No. One Diameter... 150 mm. stroke 175 mm. Can one be overhauled while the other is at work... --- direct driven

Pumps connected to the Main Bilge Line { No. and Size 1 ballast pump 120 tons/hour, 1 sep. bilge pump, 30 t/h., bilge pump 20t/h.
How driven Electrically Electrically Main engine

Is the cooling water led to the bilges... No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements... ---

Ballast Pumps, No. and size One 120 tons/hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 1750 lit/min.

Are 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 4-2 1/2" and 1 2", bore 2" from RMC space, 1-2 1/4" for tunnel well In Pump Room...

In Holds, &c... No. 1 hold - Two 2 1/2", No. 2 hold - Two 2 1/2" from each refr. room, No. 3 hold - Two 2 1/2", No. 4 - Four 2 1/2"

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

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

What pipes pass through the bunkers... No coal bunkers How are they protected... ---

What pipes pass through the deep tanks... No 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... 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 2nd deck above

If 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. None No. of stages... --- Diameters... --- Stroke... --- Driven by... ---

Auxiliary Air Compressors, No. 2 No. of stages... 2 Diameters... 250&280 mm. Stroke... 190 mm. Driven by... Aux. engines

Small Auxiliary Air Compressors, No. 1 No. of stages... 2 Diameters... 32&80 mm. Stroke... 140 mm. Driven by... Manual

What provision is made for first Charging the Air Receivers... Aug. starting air bottle to be charged by means of the handdriven compr.

Scavenging Air Pumps, No. 2 blowers Diameter... Rotary type Stroke... --- Driven by... Main engine

Auxiliary Engines crank shafts, diameter as ~~xxxx~~ approved 150 mm. No... 3

as fitted 150 mm. Position... On port side in the machinery space

Have the Auxiliary Engines been constructed under special survey... Yes Is a report sent here with... Yes

AIR RECEIVERS:—Have they been made under survey..... **Yes**..... State No. of Report or Certificate..... **Nos. 1104, 1105 & 1021.**
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule..... **Main-yes (Aux.-fusible plug & safety valves on compr.)**.....
 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. **None**..... Cubic capacity of each..... ---..... Internal diameter..... ---..... thickness..... ---.....
 Seamless, lap welded or riveted longitudinal joint..... ---..... Material..... ---..... Range of tensile strength..... ---..... Working pressure by Rules..... ---.....
 Starting Air Receivers, No. **1 aux. 180 litres 370 mm. 14 mm.**..... Total cubic capacity..... **2x65 m³**..... Internal diameter..... **1361 mm.**..... thickness..... **19.5 mm.**.....
 Seamless, lap welded or riveted longitudinal joint..... **El. welded**..... Material..... **S.M. Steel**..... Range of tensile strength..... **41-47 kg/mm²**..... Working pressure by Rules..... **53.8 & 25.5**.....
 IS A DONKEY BOILER FITTED?..... **Yes**..... If so, is a report now forwarded?..... **Yes**.....
 Is the donkey boiler intended to be used for domestic purposes only..... **No**.....
 PLANS. Are e approved plans forwarded herewith for Shafting..... **Got. 12&13.5.42**..... Receivers..... **Got. 28.7.1942**..... Separate Fuel Tanks..... **Got. 13.5.42**.....
 (If not, state date of approval) Plan 'as fitted' attached.....
 Donkey Boilers..... **Got. 14.10.42**..... General Pumping Arrangements..... **(Got. 20.4.42)**..... Pumping Arrangements in Machinery Space..... **Got. 20.4.42**.....
 Oil Fuel Burning Arrangements..... ---.....

SPARE GEAR.

Has the spare gear required by the Rules been supplied..... **Yes**.....
 State the principal additional spare gear supplied..... **1 propeller shaft, 1 cylinder cover, 1 cylinder liner with cooling jacket, 7 complete sets of fuel valves, 5 complete sets of exhaust valves, 1 piston with gudgeon pin, 4 sets of pistons rings, 1 connecting rod.**

The foregoing is a correct description.

Åne Rinch.

Manufacturer.

Dates of Survey while building { During progress of work in shops..... **1st March 1944 - 5th December 1944.**
 { During erection on board vessel..... **18th August 1944 - 9th December 1944.**
 Total No. of visits..... **59**
 Dates of Examination of principal parts—Cylinders..... **27&29.9.**..... Covers..... **27&29.9.**..... Pistons..... **14.10.**..... Rods..... ---..... Connecting rods..... **26.9.1944**
 Crank shaft..... **26.8.**..... Flywheel shaft..... ---..... Thrust shaft..... **26.8.**..... Intermediate shafts..... **16 & 18.9.**..... Tube shaft..... ---.....
 Screw shaft..... **25.8&16.9.**..... Propeller..... **22.9, 28.9, 9.10.1944**..... Stern tube..... **2.8.**..... Engine seatings..... **23.10.**..... Engines holding down bolts..... **8.11.**.....
 Completion of fitting sea connections..... **29.11.**..... Completion of pumping arrangements..... **6.12.**..... Engines tried under working conditions..... **9.11.**.....
 Crank shaft, Material..... **S.M. Steel**..... Identification Mark..... **LLOYDS 2206/7 BG 28.5.43**..... Flywheel shaft, Material..... ---..... Identification Mark..... ---.....
 Thrust shaft, Material..... **S.M. Steel**..... Identification Mark..... **LLOYDS 2208 BG 28.5.43**..... Intermediate shafts, Material..... **S.M. Steel**..... Identification Marks..... **See below**
 Tube shaft, Material..... ---..... Identification Mark..... ---..... Screw shaft, Material..... **S.M. Steel**..... Identification Mark..... **LLOYDS 1341& SA 16.9.44**

Identification Marks on Air Receivers.....
 Main rec. **Nos. 1104 & 1105 LLOYDS TEST 41 KG. WP 25 KG. SJ 15.5.43**
 Aux. rec. **No. 1021 LLOYDS TEST 80 KG. WP 40 KG. FC 5.3.42**
Lloyds 1396, 1426/7 SA 16.9.44

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..... **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..... **Yes**.....
 Is this machinery duplicate of a previous case..... **Yes**..... If so, state name of vessel..... **M.S. "Fylgia", Got. rpt. No. 13676.**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)..... **The main and auxiliary engines of this vessel have been constructed under special survey in accordance with the Rules and approved plans. The workmanship and materials are good and test sheets for the shafting, donkey boiler material and air receiver are attached.**

The machinery has been securely fitted in the vessel under my inspection and to my satisfaction and has been tested under full power conditions on a trial trip and found to work satisfactorily.

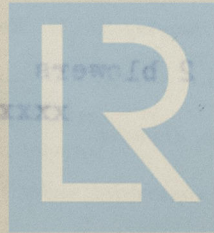
The propellers of stainless steel were made by A/S Strømmens Verksted, Strømmen, and tested by the Society's former surveyors at Oslo in January 1943. Brinell check tests and chemical analysis were carried out on same with satisfactory results. The remaining important forgings and castings are of Swedish make.

The amount of Entry Fee..... **Kr. 114:00**..... When applied for,.....
 Special..... **Kr. 2001:65**..... **29/12 1944.**
 Donkey Boiler Fee..... **£**..... When received,.....
 Travelling Expenses (if any)..... **£**..... **29/12 1944.**

COMMITTEE'S MINUTE.

ASSIGNED

Engineer Surveyor to Lloyd's Register of Shipping.



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