

REPORT ON OIL ENGINE MACHINERY.

No. 12972

MAY 20 1940

Received at London Office

Date of writing 14th April 40 When handed in at Local Office 19th April 40 Port of **GOTHENBURG**
No. in Survey held at **GOTHENBURG** Date, First Survey 30th May 1939 Last Survey 4th April 40
Number of Visits 78
SUPPL. No. 13 Single on the **Triple** Screw vessel
11519 **M/S VARDEFJELL.**

Tons Gross 8315.99
Net 4938.99

built at **GOTHENBURG** By whom built **ERIKSBERGS M.V. A.B.** Yard No. 292 When built 1940
Engines made at **GOTHENBURG** By whom made **ERIKSBERGS M.V. A.B.** Engine No. 234 When made 1940
Donkey Boilers made at **GOTHENBURG** By whom made **ERIKSBERGS M.V. A.B.** Boiler No. 608 When made 1940
Brake Horse Power 3700 Owners **A/S FILEFJELL** Port belonging to **OSLO**
Nom. Horse Power as per Rule 644 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended **OPEN SEA SERVICE**

L ENGINES, &c. Type of Engines **Heavy oil engine, solid injection 2 or 4 stroke cycle 2** Single or double acting **Double**
Maximum pressure in cylinders **49 kg/cm²** Diameter of cylinders **450 mm** Length of stroke **1200 mm** No. of cylinders **6** No. of cranks **6**
Mean Indicated Pressure **7.0 kg/cm²** **TURN. CO² 3900 kgm² BALANCE CO² 19520 kgm²** Weight **854 mm** Is there a bearing between each crank **Yes**
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **360 mm** Crank pin dia. **360 mm** Crank Webs **443 mm** Mid. length breadth **443 mm** Kind of fuel used **Diesel fuel oil**
Revolutions per minute **125** **360 mm** as fitted **360 mm** Mid. length thickness **443 mm** Thickness parallel to axis **216-224 mm**
Crank Shaft, **Solid forged** dia. of journals **360 mm** as fitted **360 mm** Thrust Shaft, diameter at collars **360 mm** as fitted **360 mm**
Flywheel Shaft, diameter **360 mm** as fitted **360 mm** Intermediate Shafts, diameter **443 mm** as fitted **443 mm** Is the shaft fitted with a continuous liner **Yes**
Main Shaft, diameter **450 mm** as fitted **450 mm** Is the shaft fitted with a continuous liner **Yes**
Bronze Liners, thickness in way of bushes **22 mm** as fitted **22 mm** Thickness between bushes **22 mm** as fitted **22 mm** Is the after end of the liner made watertight in the
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 **Yes in one length**

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** Is an approved Oil Gland or other appliance fitted at the after end of the tube **Yes**
If so, state type **Vickers Vistagland, No. 3 Simplex** Length of Bearing in Stern Bush next to and supporting propeller **2180 mm**
Propeller, dia. **4800 mm** Pitch **3325 mm** No. of blades **4** Material **Bronze** whether Movable **No** Total Developed Surface **8.56 sq. m.**

Method of reversing Engines **Direct reversible** Is a governor or other arrangement fitted to prevent racing of the engine when detached **Yes** Means of lubrication **Forced**
Thickness of cylinder liners **31 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 funnel**
Cooling Water Pumps, No. **2** **freshwater** **175 tons/hour** 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. **None** Diameter **190 mm** Stroke **150 mm** Can one be overhauled while the other is at work **Yes**
Pumps connected to the Main Bilge Line **One piston pump, 20 tons/hour / 1 duplex 190x150x250 mm / 1 ballast pump, 150 tons/hour.**
How driven **electrically** **steam** **electrically**

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, 150 tons/hour** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **Two, 175 tons/hour each.**
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 **Four - 3 1/2"** In Pump Room **None**
Holds, &c. **2-2 1/2" from hold, 1-2 1/2" from forward pump room, 2-4" from main pump room.**

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **1-3 1/2", 1-4", 1-5"**
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **Yes** Are the Bilge Suctions in the Machinery Spaces

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **Yes** Are they fitted with Valves or Cocks **Yes**

Are all Sea Connections fitted direct on the skin of the ship **Yes** Are the Overboard Discharges above or below the deep water line **Above**

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates **Yes** Are the Blow Off Cocks fitted with a spigot and brass covering plate **Yes**

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel **Yes** How are they protected **Yes**

Do all pipes pass through the bunkers **None** Have they been tested as per Rule **Yes**

Do all pipes pass through the deep tanks **Cargo pipes and heating coils** 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 **None** Is it fitted with a watertight door **Yes** worked from **Yes**

In 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 **2** Diameters **250 & 280 mm** Stroke **190 mm** Driven by **Steam engines**
Auxiliary Air Compressors, No. **Two** No. of stages **2** Diameters **9 cub. feet** Stroke **at 500 rev.** Driven by **Steam engine**
Small Auxiliary Air Compressors, No. **1** No. of stages **2** **Small, steam driven, air compressor**
What provision is made for first Charging the Air Receivers **Small, steam driven, air compressor**
Scavenging Air Pumps, No. **None** Diameter **150 mm** Stroke **150 mm** Driven by **3 cylinder heavy oil engines**
Auxiliary Engines crank shafts, diameter **150 mm** Position **Port and starb. sides in eng. room.**
Have the Auxiliary Engines been constructed under special survey **Yes** Is a report sent herewith **Yes**

AIR RECEIVERS:—Have they been made under survey

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No.

None

Cubic capacity of each

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

Starting Air Receivers, No.

2

Total cubic capacity

16 m³

Internal diameter

1600 mm

thickness

22.5 mm

Seamless, lap welded or riveted longitudinal joint

Riveted

Material S.M. Steel

Range of tensile strength

41-47 kg/cm²

Working pressure

25 kg/cm²

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Donkey Boilers

No, 13.4.38.

General Pumping Arrangements

No, 13.10.38.

Pumping Arrangements in Machinery Space

No, 13.4.38.

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

One top- and one bottom cylinder liner, one top- and one bottom exhaust piston valve, one piston with rod and rodliner, two impellers for scavenging air blowers, one propeller shaft.

The foregoing is a correct description,

Lloyds Register of Shipping

Manufacturer.

Dates of Survey while building
During progress of work in shops--
During erection on board vessel--
Total No. of visits

Dates of Examination of principal parts—Cylinders

Crank shaft

Screw shaft

Completion of fitting sea connections

Crank shaft, Material

Thrust shaft, Material

Tube shaft, Material

Identification Marks on Air Receivers

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

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

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

The main- and auxiliary engines of this vessel have been built under special survey and all the requirements of the Rules have been complied with. The shafting as per forging reports attached. Test sheets of donkey boilers and starting air receiver materials are also attached. The workmanship is good and the materials fulfil the requirements of the Rules. The dimensions are as specified and in accordance with the approved plans. Regarding the auxiliary machinery see separate report now sent. The machinery has been tested under working condition on a trial trip and found to work satisfactorily.

The machinery of this vessel is eligible in my opinion to be classed in the Register Book of this Society with notation of LMC 4.40. Working pressure of donkey boilers 142 lb.

The amount of Entry Fee

Special

Donkey Boiler Fee

START. AIR REC. FEE

Travelling Expenses (if any)

Committee's Minute

Assigned

When applied for

When received

Engine Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned

Oil Lf.

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