

RECEIVED

YES 4b.1949

## REPORT ON OIL ENGINE MACHINERY.

No. 12900

D.O.

Received at London Office 5 DEC 1949

by Rules. Actual. of writing Report 18<sup>th</sup> Nov 49 When handed in at Local Office 19

Port of Copenhagen

by Rules. Book.

Survey held at Copenhagen

Date, First Survey 9<sup>th</sup> December 1948Last Survey 10<sup>th</sup> November 1949

Number of Visits 27

by Rules. Actual.

Single  
on the Twin  
Triple  
Quadruple  
Screw vessel.

RDSA MÆRSK

Tons  
Gross 8191.83  
Net 4827.10

separate fuel tanks

Blyth  
Copenhagen

By whom built Blyth Drydock &amp; Shipbuilding Co Ltd

Yard No. 343

When built

By whom made

H. Bannister &amp; Train's Masking &amp; Polishing

Engine No. 4359

When made 1949

Boilers made at

By whom made

Boiler No.

When made

Horse Power 3900

Owners

Port belonging to

Horse Power as per Rule 802

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

for which vessel is intended

ENGINES, &amp;c. — Type of Engines Heavy oil engines 2 stroke cycle 2 Single or double acting single

mean pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 740 1/4 Length of stroke 1400 1/4 No. of cylinders 5 No. of cranks 5Indicated Pressure 6.5 kg/cm<sup>2</sup> of bearings, adjacent to the crank, measured from inner edge to inner edge 948 1/4

Revolutions per minute 112 Flywheel dia 50 1/2 40000 lb BALANCE 2 Weights 50 5350 kg Means of ignition Compression Kind of fuel used Heavy oil

Is there a bearing between each crank yes

Solid forged dia. of journals 470 1/4 as per Rule 520 1/4 Crank pin dia 520 1/4 Crank webs Mid. length breadth 1180 1/4 Thickness parallel to axis 320 1/4

Semi built dia. of journals 520 1/4 as fitted Crank pin dia 520 1/4 Crank webs Mid. length thickness 260 1/4 shrunk Thickness around eye-hole 295 1/4

All built as per Rule 470 1/4 as fitted Crank pin dia 520 1/4 Crank webs Mid. length thickness 260 1/4 shrunk Thickness around eye-hole 295 1/4

Propeller Shaft, diameter as per Rule 342 1/4 Intermediate Shafts, diameter as per Rule 345 1/4 Thrust Shaft, diameter at collars as fitted 500 1/4 with central hole

as fitted 342 1/4 Intermediate Shafts, diameter as per Rule 345 1/4 Thrust Shaft, diameter at collars as fitted 500 1/4 with central hole

Screw Shaft, diameter as per Rule 390 1/4 Is the tube shaft fitted with a continuous liner yes

as fitted 390 1/4 Is the tube shaft fitted with a continuous liner yes

Liners, thickness in way of bushes as per Rule 21.5 1/4 Thickness between bushes as fitted 16.5 1/4 Is the after end of the liner made watertight in the

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length

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-

sive 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

tube shaft If so, state type Length of bearing in Stern Bush next to and supporting propeller 1585 1/4

Pitch 3450 1/4 No. of blades 4 Material bronze whether moveable No Total developed surface 8.20 sq. feet

Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of

Thickness of cylinder liners 52 1/4 Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

Cooling Water Pumps, No. 1 off 150 rev/min. 2 off 150 rev/min. fresh water Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Pumps worked from the Main Engines, No. 2 Diameter 150 1/4 Stroke 175 1/4 Can one be overhauled while the other is at work

No. and size How driven

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 off 150 rev/min. chain driven

Suctions, connected to both main bilge pumps and auxiliary

In pump room

Independent Power Pump Direct Suctions to the engine room bilges, No. and size

Are the bilge suction pipes in holds and tunnel well fitted with strum-boxes Are the bilge suction pipes in the machinery spaces led from easily

Are they fixed

Are the overboard discharges above or below the deep water line

Are the blow off cocks fitted with a spigot and brass covering plate

How are they protected

Have they been tested as per Rule

All pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times

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

Is the shaft tunnel watertight Is it fitted with a watertight door worked from

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

provision is made for first charging the air receivers

BLOWER 1 off 385 1/4 1/2 HIN diameter rotary stroke driven by main engine

Primary Engines crank shafts, diameter as per Rule No. Position

The auxiliary engines been constructed under special survey Is a report sent herewith

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PROVIDED  
LONG-TERM  
RECORDS  
and  
PROVIDED  
NOT  
54-64  
RPM

57  
1/50



AIR RECEIVERS:—Have they been made under survey...

State No. of report or certificate 975

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... Is a drain fitted at the lowest part of each receiver.

Injection Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure

Starting Air Receivers, No. 1 off Total cubic capacity 154<sup>3</sup> Internal diameter 1806/1854<sup>1</sup>/<sub>2</sub> thickness SHELL: 47.56/147<sup>2</sup>

Seamless, lap welded or riveted longitudinal joint riveted Material S.M. Steel Range of tensile strength Working pressure

IS A DONKEY BOILER FITTED... If so, is a report now forwarded.

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

PLANS. Are approved plans forwarded herewith for shafting... Receivers 13/2.48 Separate fuel tanks

Donkey boilers General pumping arrangements Pumping arrangements in machinery space

Oil fuel buring arrangements

### SPARE GEAR.

Has the spare gear required by the Rules been supplied.

State the principal additional spare gear supplied.

The following pumps etc. listed as per Rule

1 off cooling salt water pump 150<sup>4</sup> 3/hour 1 off ballast pump 150<sup>4</sup> 3/hour  
1 " " fresh water " " " Chain 1 " 160<sup>4</sup> 2 oil cooler  
1 " lubricating oil pump " " driven 1 " 160<sup>4</sup> 2 fresh water cooler  
1 " bilge pump 20<sup>4</sup> 3/hour  
1 " sanitary pump " "

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building During progress of work in shops - - 1948: 9/2 1949: 7/2 - 10/3 - 17/3 - 28/3 - 3/2 - 10/5 - 17/5 - 19/5 - 13/6 - 17/6 - 30/6 - 18 - 24/8 - 1/9 - 12/9 - 14/9 - 27/9 - 3/10 - 4/10 - 8/10 - 11/10 - 17/10 - 21/10 - 3/11 - 10/11

Dates of Survey while building During erection on board vessel - -

Total No. of visits 27

Dates of examination of principal parts—Cylinders 8/10 - 11/10 Covers 4/10 - 8/10 Pistons 27/9 Rods 19/9 Connecting rods 23/9

Crank shaft 9/2.48 - 10/3.49 Flywheel shaft Thrust shaft 10/3 Intermediate shafts 27/3 Tube shaft

Screw shaft 17/3 Propeller Stern tube 30/6 Engine seatings Engine holding down bolts 21/10

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

Crank shaft, material S.M. Steel Identification mark 7169 CH 10.3.49 Flywheel shaft, material Identification mark

Thrust shaft, material S.M. Steel Identification mark 7170 CH 10.3.49 Intermediate shafts, material S.M. Steel Identification marks

SPARE SCREW Tube shaft, material S.M. Steel Identification mark 7178 CH 17.3.49 Screw shaft, material S.M. Steel Identification mark 7177 CH

Identification marks on air receivers 1 off 154<sup>3</sup> shafting air receiver: No 975 Lloyd's Seal 4/10km WP 25 atm 4.17.6.49

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

Description of fire extinguishing apparatus fitted

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

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 engine has been constructed under special

in accordance with the Society's Rules, the approved plans and the Secretary's letter E dated 9/2.47, 25/6 - 27/7.48

The horizontal vibration characteristics have been approved by letter E dated 27/7.48, provided horizontal

records be taken from the completed installation.

The material tested as required by the Rules and the workmanship good.

The engine tested under working conditions and found satisfactory and afterwards dismantled

dispatched

This engine is in my opinion eligible to have notation of with date, when

installation on board has been completed under special survey.

Notice board to be fitted stating that the engine is not to be operated continuously

between 54 and 65 r.p.m. See 27/7.48 And FURTHER Provided Torsiongraph Records

Show when the 475 Vibrating Stress 5" order. @ 59 RPM as NOT given ± 590 Kg/cm<sup>2</sup>

The amount of Entry Fee ... £ 3/39 When applied for 19 49

2/3 Special ... £ 200 When received 19

STARTING AIR RECEIVER ... £ 200

DONKEY BOILER Fee... £ 200

Travelling Expenses (if any) £

Committee's Minute

Assigned

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

FRI. 4 MAY 1951

See F.E. mch. 4/1

Engineer Surveyor to Lloyd's Register of Shipping  
Lloyd's Register Foundation