

REPORT ON OIL ENGINE MACHINERY.

No. 21702

Received at London Office

18 NOV '35

Date of writing Report

10

When handed in at Local Office

10

Port of

Hamburg.

No. in Survey held at
Reg. Book.

Hamburg

Date, First Survey

20-8-1935

Last Survey

30 Oct.

1935

Number of Visits

22.

on the ^{Single}
~~Twin~~
^{Triple}
~~Quadruple~~
Screw vessel

"Marina"

Tons { Gross 9898.
Net 5903.

Built at

Hamburg.

By whom built

Deutsche Werft A.G.

Yard No.

161

When built

1935.

Engines made at

Berlin

By whom made

A.E.G. Turbinenfabrik

Engine No.

226

When made

1935.

Donkey Boilers made at

Hamburg

By whom made

Deutsche Werft A.G.

Boiler No.

505/524

When made

1935.

Brake Horse Power

4100 Psc.

Owners

Thorvald Berg

Port belonging to

Tönsherg

Nom. Horse Power as per Rule

1167

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

Trade for which vessel is intended

Tanker Service.

L ENGINES, &c.—Type of Engines A.E.G. Hesselmann Diesel 2 or 4 stroke cycle 2 Single or double acting double

Maximum pressure in cylinders

45 Kps.

Diameter of cylinders

600 mm

Length of stroke

1100

No. of cylinders

6.

No. of cranks

6.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

842 mm

Is there a bearing between each crank

yes.

Revolutions per minute

118

Flywheel dia.

2400 mm

Weight

3700 Kps.

Means of ignition

Oil Eng.

Kind of fuel used

gas oil.

Crank Shaft, dia. of journals

as per Rule 408 mm

as fitted 420 mm

Crank pin dia.

420 mm

Crank Webs

Mid. length breadth 800 mm

Thickness parallel to axis

260 mm

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule 336 mm

as fitted 385 "

Thrust Shaft, diameter at collars

as per Rule 353 mm

as fitted 400 mm

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule 369 mm

as fitted 388 mm

Is the

tube screw

shaft fitted with a continuous liner

yes.

Bronze Liners, thickness in way of bushes

as per Rule 19 mm

as fitted 22 "

Thickness between bushes

as per rule 14 mm

as fitted 16 "

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

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

Propeller, dia.

4800 mm

Pitch

3310 mm

No. of blades

4

Material

Bronze

whether Moveable

yes

Total Developed Surface

8,06 sq. feet

Method of reversing Engines

Air pressure

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

yes

Means of lubrication

forced

Thickness of cylinder liners

50-32 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

Cooling Water Pumps, No.

4, 2 driven fr. main eng.

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.

4

Diameter

Stroke

Can one be overhauled while the other is at work

yes

Pumps connected to the Main Bilge Line

No. and Size

2; 1 of 250 m³/h230/280/450; 1 of 75 m³/h

160/190/300 mm.

Pumps connected to the Main Bilge Line

How driven

driven by steam.

Ballast Pumps, No. and size

1; 250 m³/h

230/280/450

Lubricating Oil Pumps, including Spare Pump, No. and size

2; 1 of 125 m³/h1 of 70 m³/h

frame 2 1/2 x 1 1/2 x 700

1 of 90 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h

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

10; 7 of 490 m³/h3 of 50 m³/h

Cofferd. frame 4 1/2 x 3 1/2 x 100

1 of 125 m³/h

Cofferd. frame 4 1/2 x 3 1/2 x 100

1 of 70 m³/h1 of 90 m³/h1 of 70 m³/h1 of 70 m³/hIn Hold, &c. cargo space; port + stb. each one of 90 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h1 of 70 m³/h

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

3; 2 of 152 m³/hone emergency 184 m³/h

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 on sea water chests

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

Suction line Cofferd. frame 4 1/2 x 3 1/2 x 100

How are they protected

strong steel pipe, 6 mm thick.

Have they been tested as per Rule

yes.

What pipes pass through the deep tanks

in cargo tanks. Tank pipe line and

purification heating coils

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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

mach aft

Is it fitted with a watertight door

worked from

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

Auxiliary Air Compressor, No.

one

No. of stages

2

Diameters

240 each 260 mm

Stroke

220 mm

Driven by

Steam Eng.

Auxiliary Air Compressor, No.

one

No. of stages

2

Diameters

150/552 mm

Stroke

100 mm

Driven by

Oil Eng.

Small Auxiliary Air Compressor, No.

one

No. of stages

2

Diameters

110/452 mm

Stroke

70 mm

Driven by

Hand.

Scavenging Air Pumps, No.

one double acting

Diameter

1450 mm

Stroke

950 mm

Driven by

extended crank shaft

Auxiliary Engines crank shafts, diameter

as fitted

112 mm

75 mm

100 mm

55 mm

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

yes

What means are provided for cleaning their inner surfaces

both starting air + the air whistle

receivers, 4 manhole

small ad. bottle for hand comp.

14 cover.

Is there a drain arrangement fitted at the lowest part of each receiver

yes

Hand Pressure Air Receivers, No.

together 2

Cubic capacity of each

hand comp. 30 ltr

Internal diameter

hand comp. = 140 mm

thickness

8 mm

Working pressure by Rules

7.8

68 kg/cm²

Seamless, lap welded or riveted longitudinal joint

hand comp. = seamless

Material

S. M. Steel

Range of tensile strength

41/47

Working pressure by Rules

24, 82 kg/cm²24, 82 kg/cm²24, 82 kg/cm²24, 82 kg/cm²

Starting Air Receivers, No.

2

Total cubic capacity

12 m³ each

Internal diameter

1750 mm

thickness

23.5 mm

Working pressure by Rules

24, 82 kg/cm²24, 82 kg/cm²

Seamless, lap welded or riveted longitudinal joint

riveted

Material

S. M. Steel

Range of tensile strength

44/50 kg

Working pressure by Rules

24, 82 kg/cm²24, 82 kg/cm²24, 82 kg/cm²24, 82 kg/cm²

IS A DONKEY BOILER FITTED? *yes.*

If so, is a report now forwarded? *yes.*

PLANS. Are approved plans forwarded herewith for Shafting *yes*

Receivers *29/11/34*

Separate Tanks *yes. par. approved*

Donkey Boilers *28/9/35 and 2/4/35* General Pumping Arrangements *yes*

Oil Fuel Burning Arrangements *yes. 3/6/35 + 25/4/35*

SPARE GEAR *as per Rules.*

The foregoing is a correct description,

DEUTSCHE WERFT
AKTIENGESELLSCHAFT

Manufacturer.

Dates of Survey while building
During progress of work in shops -- *Please see Station Report.*
During erection on board vessel -- *20/8/35; 2/9-7/9-10/9-13/9-17/9-19/9-23/9-24/9/35; 3/10-5/10-7/10-8/10-10/10-14/10-15/10-18/10-21/10-24/10-26/10-29/10-30/10/35*
Total No. of visits *22*

Dates of Examination of principal parts—Cylinders *6/2; 7/4/35* Covers *15/8; 7/8/35* Pistons *15/4; 16/8/35* Rods *3/4; 16/8/35* Connecting rods *3/4; 22/8/35*
Crank shaft *28/5; 7/8/35 18/9/35* Flywheel shaft *10/8/35* Thrust shaft *3/6; 7/6; 25/7/35* Intermediate shafts *3/6; 5/6; 25/7/35* Tube shaft *1/1*
Screw shaft *3/6; 5/6; 25/7/35* Propeller *24/7/35 10/8/35* Stern tube *25/7/35 10/8/35* Engine seatings *3/9/37* Engines holding down bolts *7/9/35*
Completion of fitting sea connections *10/8/35* Completion of pumping arrangements *24/10/35* Engines tried under working conditions *24/10/35*

Crank shaft, Material *S. M. Steel* Identification Mark *A.S. 205/35* Flywheel shaft, Material *✓* Identification Mark *✓*
Thrust shaft, Material *S. M. Steel* Identification Mark *7.L. 11-5-35* Intermediate shafts, Material *S. M. Steel* Identification Marks *4731 7.Q. 6-5-35 4731 7.Q. 6-5-35 4731 7.Q. 6-5-35*
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S. M. Steel* Identification Mark *12 9695. 7.L.*

Is the flash point of the oil to be used over 150° F. *yes* *spare " " " " " " 4732. 7.Q. 6-5-35*

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 *✓*

Is this machinery duplicate of a previous case *✓* If so, state name of vessel *✓*

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

This machinery has been built under special survey in compliance with the approved plans, the Secretary's letters and instructions thereto and other wise in conformity with the Society's requirements. The materials used in the construction are of good quality and made at works recognized by the Committee and tested by the Society's Surveyors. The outfit is ample. It has given full satisfaction under working- and manoeuvring conditions during a 12 hours trial trip and is eligible in my opinion for notation of + L.M.C. (with date) Oil Engine, Tail Shaft (P.L.) Mach. aft.

The amount of Entry Fee *1/5 Rm. 24.-*

Special *1/5 519.50*

Donkey Boiler Fee *500.-*

Travelling Expenses (if any) *80.-*

3 Air Receivers *270.-*

Committee's Minute *TUE. 26 NOV 1935*

Assigned *+ Lmb. 10. 35*

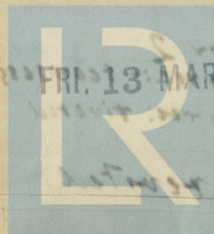
3 DB-170 lbs

oil Eng. CL

When applied for,

When received,

Engineer Surveyor to Lloyd's Register of Shipping.



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