

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 10641.

AUG - 2 1938

Date of writing Report 16/7

When handed in at Local Office 1938

Port of Copenhagen

No. in Survey held at

Copenhagen & Odense

Date, First Survey 14/10 1937

Last Survey 12/7 1938

Number of Visits 69

Reg. Book.

20526 on the

Single
Twin
Triple
Quadruple

Screw vessel

BARENDRECHT.

Tons { Gross 9385
Net 5617

Built at

Odense

By whom built Odense Skibskonstruktør

Yard No. 71 When built 1938

Engines made at

Copenhagen

By whom made P. Birnbaums & Wain

Engine No. 2796 When made 1938

Donkey Boilers made at

Elsinore

By whom made Helsingørsk Maskinfabrik

Boiler No. 731-2 When made 1938

Brake Horse Power

3800

Owners Hs. van Ommen's

Port belonging to Rotterdam

Nom. Horse Power as per Rule

572

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

yes.

Trade for which vessel is intended

carrying oil cargo.

OIL ENGINES, &c.

Type of Engines DIESEL, CROSSHEAD TYPE, SUPERCHARGE, SOLID INJECTION, 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders

49 kg/cm²

Diameter of cylinders

740 mm

Length of stroke

1500 mm

No. of cylinders 7

No. of cranks 7

Mean Indicated Pressure

8.51 kg/cm²

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

990 mm

Is there a bearing between each crank

yes

Revolutions per minute

110

TURNING Flywheel dia.

2136 mm

Weight 2 t.

Means of ignition

compression kind of fuel used heavy oil.

Crank Shaft,

{ Solid forged
Semi built
All built

dia. of journals

as per Rule 501 mm

as fitted 525 mm

Crank pin dia. 525 mm

Crank Webs

Mid. length breadth 1000 mm

Thrust Shaft, diameter at collars

as per Rule 374 mm

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule 356 mm

as fitted 560 mm

Is the { tube
screw } shaft fitted with a continuous liner

yes

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule 391 mm

as fitted 560 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 28 - 29 mm

Thickness between bushes

as per Rule 14.3 mm

as fitted 20 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

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

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

shaft

If so, state type

yes

Length of Bearing in Stern Bush next to and supporting propeller

1750 mm

Propeller, dia.

16'-6"

Pitch 12'-6"

No. of blades 4

Material BRONZE

whether Moveable NO

Total Developed Surface 10.5 sq. feet

Method of reversing Engines

direct

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

yes

Are the exhaust pipes and silencers

yes

Are the cylinders fitted with safety valves

yes

Are the exhaust pipes and silencers

yes

Are the exhaust pipes and silencers

non-conducting material

yes

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

yes

Are the exhaust pipes and silencers

yes

Are the exhaust pipes and silencers

Cooling Water Pumps, No. 2

INDEPENDENT, ROTARY TYPE

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

yes

Means of lubrication

yes

Are the exhaust pipes and silencers

yes

Bilge Pumps worked from the Main Engines, No. none

Diameter

Stroke

Can one be overhauled while the other is at work

yes

Are the exhaust pipes and silencers

yes

Are the exhaust pipes and silencers

Pumps connected to the Main Bilge Line

No. and Size

1 OFF 10" 8 1/2" 12" DUPL.

1 OFF 15" 15" 15" DUPL.

1 OFF 20" 15" H.

BY STEAM.

BY STEAM.

BY STEAM.

Is the cooling water led to the bilges

yes

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

Ballast Pumps, No. and size

1 OFF 10" 8 1/2" 12" DUPL.

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

2 OFF

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

In Pump Room 1 OFF 8"

Are two independent means arranged for circulating water through the Oil Cooler

yes

3 OFF

Are the Bilge Suctions in the Machinery Spaces

yes

Pumps, No. and size:—In Machinery Spaces

5 OFF 3"

In Holds, &c. FORE HOLD: 2 OFF 3"

FORWARD PUMP ROOM: 1 OFF 3"

AFT COFF: 1 OFF 4"

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

2 OFF 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

Are all Sea Connections fitted direct on the skin of the ship

yes

Are they fitted with Valves or Cocks

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

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

What pipes pass through the bunkers

yes

How are they protected

What pipes pass through the deep tanks

yes

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

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

THESE

compartment to another

yes

Is the Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

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.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No. 2

No. of stages

Diameters

Stroke

Driven by

What provision is made for first Charging the Air Receivers

2

MANEUVERING

Small Auxiliary Air Compressors, No. 2

No. of stages

Diameters

Stroke

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MANEUVERING

IS A DONKEY BOILER FITTED? *Yp. 2 OFF* (If so, is a report now forwarded? *Yp.* Actual *25/4/17*
Is the donkey boiler intended to be used for domestic purposes only? *No.* STEER GEAR, WINDLASS, ESSENTIAL PUMPS, & GENERATORS & DRIVEN BY ST.
PLANS. Are approved plans forwarded herewith for Shafting *Yp. THRU SHA. 25/10/17* Receivers *Yp.* Separate Fuel Tanks *Yp.*
(If not, state date of approval) STRAIGHT JH. 18/6/17
Donkey Boilers *Yp.* General Pumping Arrangements *Yp.* Pumping Arrangements in Machinery Space *Yp.*
Oil Fuel Burning Arrangements *Yp.*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes* ✓

State the principal additional spare gear supplied *1 cylinder complete (cover, liner and water jacket)*
5 exhaust valves complete, 8 fire valves complete, 9 fire pumps, 1 piston
complete with rod, 2 1/2 main bearing brasses, 1 propeller (cast iron), 1 pro
peller shaft complete with liner.

The foregoing is a description of the fitting sea connections of the engine.

BURMEISTER & WAIN'S MASKIN-OG SKIBSBYGGERI

[Signature]

27. Manufacturer. 18. 21. 25. 28. 2/2 3/2 7/2 14/2 16/2 2

14/10 21/10 19/11 22/11 24/11 27/11 1/12 3/12 17/12 20/12 1917. 7/1 12/1 15/1 20/1 22/1 24/1 27/1 1/2 3/2 7/2 8/2 10/2 11/2 15/2 17/2 19/2 21/2

Dates of Survey while building { During progress of work in shops -- } 27/10 2/11 3/11 8/11 10/11 15/11 17/11 21/11 23/11 24/11 27/11 29/11 1/12 3/12 7/12 8/12 10/12 11/12 15/12 17/12 19/12 21/12

{ During erection on board vessel -- } 1/15 2/15 23/15 8/16 17/16 24/16 7/17 12/17 38.

Total No. of visits 69

Dates of Examination of principal parts -- Cylinders 17/2 2/2 4/4 Covers 16/2 27/2 29/2 Pistons 18/2 21/2 4/4 Rods 25/2 27/2 29/2 Connecting rods 27/2 3/12 3/12

Crank shaft 17/11 20/11 22/11 Flywheel shaft -- Thrust shaft 7/20/1 25/3 Intermediate shafts 10/2 18/2 25/3 Tube shaft --

Screw shaft 2/2 8/2 13/3 Propeller 1/5 Stern tube 7/1 2/15 23/5 Engine seatings 1/5 2/15 Engines holding down bolts 17/6

Completion of fitting sea connections 2/15 Completion of pumping arrangements 24/6 Engines tried under working conditions 25/3 7/12 7/12

Crank shaft, Material J. H. steel Identification Mark LLOYD'S 4014-5 Flywheel shaft, Material -- Identification Mark LLOYD'S 4038

Thrust shaft, Material J. H. steel Identification Mark C.V. 22-1-38 Flywheel shaft, Material -- Identification Marks C.K. 25-3-38

Tube shaft, Material -- Identification Mark C.K. 25-3-38 Intermediate shafts, Material J. H. steel Identification Marks LLOYD'S 4038

Screw shaft, Material J. H. steel Identification Mark LLOYD'S 4062

Identification Marks on Air Receivers LLOYD'S TEST 41 ATT. UP 25 ATT. L.K. 17-4-38. (SPARE: LLOYD'S 4164 C.V. 23-5-38)

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 Yes, oil tanker If so, have the requirements of the Rules been complied with Yes ✓

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with Yes ✓

Is this ^{PROPELLING}machinery duplicate of a previous case Yes ✓ If so, state name of vessel 7/3 "LOOS DRECHT"

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

This machinery has been constructed and fitted under special survey and in accordance with the Lloyd's Rules, the approved plans and the requirements contained in the Secretariat Letters E dated 3/12/36, 14/7/36, 18/2/37, 20/12/37, 7/11/37, 16/2/38, 17/3/38. The material has been tested and examined as per Rules, either by us or as per certificates produced, and found good, and the workmanship is of good description. The heating coils in the cargo air tanks have not been fitted. On completion the whole installation, including the cargo pumping arrangement, was tested under working conditions and found to work satisfactorily, and on the trial trip the working of the main engine was tested and found good.

Recommend the vessel to have installation of **+LMC 7-38** OIL ENGINE, C.L.

The amount of Entry Fee .. *KR. 134.40*

Special ... *£ 2320.64*

FITTING
Donkey Boilers *£ 300.00*
2 STARTING AIR RECEIVERS *£ 188.16*
Travelling Expenses (if any) *£ 297.00*
LATE FEE *£ 30.00*

Committee's Minute *TUE. 9 AUG 1938*

Assigned *+ Lmc 7.38*
Del Eng CH 203-1506

When applied for,
1.8.1938

When received,
KR. 1,118.00 *11/8 88 1/2*
188.16 PL 34 18/38 *19*
1964.04 PL 23 9/38 *27/9*

Chillog
Engineer Surveyor to Lloyd's Register of Shipping.

Rpt. 9a.
Port of *Copen. hazen* Continuation of Report No. *10641* dated *16th July 1938* on the

No. "BARENDRECHT"

List of Auxiliary Machinery.
The Steam Plant comprises:

Two horizontal donkey boilers of multitubular type, the
starboard boiler with one (center) furnace for oil firing
and 2 side tube nests for exhaust gas firing, the port
boiler with 2 furnaces for oil firing only. The H.S. of the two
boilers is $\text{sq. ft. } 2870$ and 1900 sq. ft. W.P. 180 lbs. $10"$
One for 10 tonned draught.
One single oil burning unit (Lammie White & Co.) with
simplex oil feed pressure pump, duplex suction and pressure
filter, preheaters and hand pump for starting up. (One
complete steam driven pump kept in reserve)
One vertical feed pump, $170 \times 140 \times 380$ mm, simplex.
Two circulating seawater pumps
One air pump
One feed pump
One bilge pump

driven by one of
two single cylinders
steam engines (one
stand-by for the other)
through chain drive

Two vertical 2-cylinders, compound engine, 180×275 in dia, 135 in
str., 70 EHP at 600 R/P, each working, thro' clutch coupling, a 3-cyl.
2-stage maneuvering air compressor, 172×70 in dia $\times 70$ in str., 150
in³/hr at 600 R/P, a lubricating oil pump for main engine,
two p.h. air, and a sanitary pump.
One ballast pump, $10 \times 8\frac{1}{2} \times 12$ in dips.
One coffee dam pump, $150 \times 150 \times 150$ in dips
One bilge pump, do.
One sanitary pump, do.
One fire oil transfer pump, do.
One single cylinder lbg compressor for cooling provision stores.
Two vertical cargo oil pumps, 450×585 in dips. } in the main
One horizontal cargo stripping pump, $10 \times 8\frac{1}{2} \times 12$ in dips. } pump room
One horizontal ballast pump, $150 \times 150 \times 150$ in dips. } in the fore hold
One fire oil transfer pump, do. do. } pump room.

Our steering gear, Our windows, Our warping wheel, Two cargo
windows on deck.

The electric plant comprises:

One 16 kva. compound wound dynamo, 110 V. x 146 A. x 600 R/P/M,
driven by a 1-yr. steam engine.

One 16 kva. compound wound dynamo, 110 V. x 146 A. x 650 R/P/M,
driven by a 2-yr. 45 c.s.p. "Horse" oil engine.

17/5 'BARENDRECHT'

The dynamos, which are not fitted to run in parallel, are supplying direct current for the following purposes:

Two 3.5 HP electro-motors for the oil pumps.

One 4 " " " workshop.

One 8 " " " engine timing gear.

One 1.1 " " " wireless telegraph.

and current for the light installation.

Christoffer

SURVEYOR TO LLOYD'S
REGISTER OF SHIPPING

The above is a correct description.

ODENSE STAALSKIBSVÆRFT
VED A. P. MØLLER

E. J. Jørgensen



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Lloyd's Register
Foundation

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