

No. 8091.

Date of writing Report 28th Septer 1929. When handed in at Local Office 29th Septer 1929. Port of Copenhagen

Copenhagen

Date, First Survey *8th February*

Last Survey 27th Sept 1929

Number of Visits *53.*

✓ on the ~~Single~~ ~~Twin~~ ~~Triple~~ ~~Quadruple~~ } *Motor* Screw vessel

Tons { Gross ✓
Net ✓

| | | | | | | | |
|------------------------------------|-------------------|------------------------------------------------------|---------------------------------------------------------------------|--------------------------|-----------------|------------|-------------|
| Built at | <i>Yokohama</i> | By whom built | <i>Messrs Yokohama Dock Co. Ltd.</i> | Yard No. | <i>174</i> | When built | <i>✓</i> |
| Engines made at | <i>Copenhagen</i> | By whom made | <i>Messrs Akt. Burmester & Wain Haskin og Skibsbyggeri.</i> | Engine No. | <i>1594</i> | When made | <i>1929</i> |
| Donkey Boilers made at | <i>✓</i> | By whom made | <i>✓</i> | Designated | <i>OSAKA 2.</i> | Boiler No. | <i>✓</i> |
| Brake Horse Power | <i>3000</i> | Owners | <i>Messrs Osaka Trasen Kaisha.</i> | Port belonging to | <i>Osaka</i> | | |
| Nom. Horse Power as per Rule | <i>489</i> | Is Refrigerating Machinery fitted for cargo purposes | <i>✓</i> | Is Electric Light fitted | <i>✓</i> | | |
| Trade for which vessel is intended | <i>✓</i> | | | | | | |

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|---------------------------------------------------------------------------------|-----------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------|---------------|------------------------------------------------------------|----------------------------|
| IL ENGINES, &c. | Type of Engines | Critical Diesel Oil Engines. | Cross head type | 2 or 4 stroke cycle | 4 | Single or double acting | Single |
| Maximum pressure in cylinders | 35 kg/cm ² | Diameter of cylinders | 740 mm = 29 1/8" | Length of stroke | 1600 mm = 59" | No. of cylinders | 6 |
| Span of bearings, adjacent to the Crank, measured from inner edge to inner edge | 1004 mm | Is there a bearing between each crank | Yes | | | No. of cranks | 6 |
| Revolutions per minute | 112. | Turning wheel dia. | 2136 mm | Weight | 1950 kg. | Means of ignition | Air compression |
| | as per Rule | 470 mm | | | | Kind of fuel used | above 150°F. |
| Crank Shaft, dia. of journals | as fitted | 476 mm | Crank pin dia. | 476 mm | Crank Webs | Mid. length breadth | 770 mm |
| | | | | | | shrunk | Thickness parallel to axis |
| | | | | | | M.d. length thickness | 290 mm |
| | | | | | | | Thickness around eye hole |
| | | | | | | | 14.175 mm |
| Flywheel Shaft, diameter | as fitted | | Intermediate Shafts, diameter | as fitted | | Thrust Shaft, diameter at collars | as fitted |
| | | | | | | | 14 1/4" |
| Tube Shaft, diameter | as fitted | | Screw Shaft, diameter | as fitted | | Is the { tube screw } shaft fitted with a continuous liner | { } |
| | | | | | | | |
| Bronze Liners, thickness in way of bushes | as fitted | | Thickness between bushes | as fitted | | Is the after end of the liner made watertight in the | |
| | | | | | | | |
| propeller boss | | | If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner | | | | |

* 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 ☒ If so, state type ☒ Length of Bearing in **Stern Bush** next to and supporting propeller ☒

Propeller, dia. ✓ **Pitch** ✓ **No. of blades** ✓ **Material** ✓ **whether Moveable** ✓ **Total Developed Surface** ✓ **sq. feet**
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**
and lubricated **Thickness of cylinder liners** *53.5 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. 2 off. Centrifugal, -150 tons each. Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓

Bilge Pumps worked from the Main Engines, No. 2 off. 20 tons Diameter of trunk 127^{mm}/m Stroke 288^{mm}/m. Can one be overhauled while the other is at work *yes.*

| | | | |
|----------------------------------------|---|-------------------|---|
| Pumps connected to the Main Bilge Line | { | No. and Size..... | ✓ |
| | | How driven..... | ✓ |

Ballast Pumps, No. and size ☒ Lubricating Oil Pumps, including Spare Pump, No. and size *2 off. Cog wheel pumps, 60 tons each.*

Are two independent means arranged for circulating water through the **Oil Cooler** ✓ **Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge**
Pumps, No. and size:—In Machinery Spaces ✓
In Holds, &c. ✓

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

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes..... ✓ Are the Bilge Suctions in the Machinery Spaces
fitted 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..... ✓ 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 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 ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓

What pipes pass through the bunkers How are they protected.....

What pipes pass through the 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.....

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 ✓ Is the Shaft Tunnel watertight ✓ 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.....

| Main Air Compressors, No. | No. of stages | Diameters A. | B. | Stroke | Driven by |
|---------------------------|---------------|--------------|----|--------|-----------|
| none | | | | | |

Auxiliary Air Compressors, No. 2 off No. of stages 2 Diameters 210 - 176 ^m/_m Stroke 216 ^m/_m Driven by Electric motors.

Small Auxiliary Air Compressors, No. *1 off* No. of stages *2* Diameters *90 - 35* ^m/_m Stroke *120* ^m/_m Driven by *Hand.*

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

as per Rule 132 m/m Auxiliary Diesel oil engines, 3 off. 4 cyl. 4 sc. S.R. - 150 B.H.P. each

Auxiliary Engines crank shafts, diameter as fitted 140 mm. Cyl diam 230 mm. Stroke 380 mm.

MR 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 ✓

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

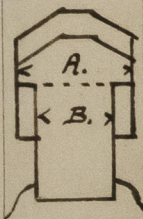
| High Pressure Air Receivers, No. | Cubic capacity of each | Internal diameter | Thickness |
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Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

Emergency Starting Air Receivers, No. 1 off Total cubic capacity 300 Litres Internal diameter 418 mm thickness 12 mm

Seamless, can welded or riveted longitudinal joint Lap welded Material SM Steel Range of tensile strength 38.1 kg/cm² Working pressure by Rules 34.4 kg/cm²

008186-008200-00



008186-008200-0023

IS A DONKEY BOILER FITTED? ☒

If so, is a report now forwarded? ☒

PLANS. Are approved plans forwarded herewith for Shafting *no. 17th Sept. 28.* Receivers ☒

Separate Tanks ☒

Donkey Boilers ☒

General Pumping Arrangements ☒

Oil Fuel Burning Arrangements ☒

SPARE GEAR

as per accompanying list.

The foregoing is a correct description,

**ARTIESELSKABET
BURMEISTER & WAINSKIN- OG SKIBSBYGGERI**

Manufacturer.

Dates of Survey while building { During progress of work in shops - *Feb. 8, 15, 25, 26, - March 1, 13, - April 22, 24, - May 10, 16, 17, 18, 25, - June 4, 8, 13, 14, - July 2, 12, 13, 16, 17, 18, 19, 20, 23, 24, - Aug. 1, 2, 3, 6, 8, 9, 13, 15, 16, 17, 19, 22, 24, 26, 28, - Sept. 3, 6, 10, 12, 16, 18, 19, 21, 24, 26, 27, - 1929.*
During erection on board vessel -
Total No. of visits **53.**

Dates of Examination of principal parts—Cylinders *14/6, 12/7, 17/7, 23/7, 24/7* and Covers *3/8, 28/8, 29/8* Pistons *13/19, 23/6, 24/6* Rods *26/2, 13/3, 10/5* Connecting rods *25/2, 13/3, 22/4*
Crank shaft *2/1, 3/2, 13/3, 24/4, 16/5, 3/6* Flywheel shaft *13/8, 22/4, 10/5* Thrust shaft *13/8, 22/4, 29/7* Intermediate shafts *13/8, 22/4, 29/7* Tube shaft *13/8, 22/4, 29/7*

Screw shaft ☒ Propeller ☒ Stern tube ☒ Engine seatings ☒ Engines holding down bolts ☒

Completion of fitting sea connections ☒ Completion of pumping arrangements ☒ Engines tried under working conditions *3/6, 10/6, 19/6, 19/6, 19/6*

Crank shaft, Material *S.M. 1. Steel* Identification Mark *Nº 15/162 Q 3.8.29* Flywheel shaft, Material ☒ Identification Mark ☒
Crank wheels *cast steel* Identification Mark *LLOYD'S*
Thrust shaft, Material *S.M. 1. Steel* Identification Mark *Nº 138. K 20.7.29* Intermediate shafts, Material ☒ Identification Marks ☒
Tube shaft, Material ☒ Identification Mark ☒ Screw shaft, Material ☒ Identification Mark ☒

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 ☒

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 *Yes* If so, state name of vessel *Copenhagen Report Nº 8041.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *In accordance with the Society's Rules for Special Survey we have examined the material and workmanship from the commencement of construction of the main and auxiliary engines with their accessories until the final test under full power working condition on the test bed in the shop, and found all good and satisfactory.*

The material used in the construction of the engines and the air receiver has been tested as required by the Rules, either by us, or as per test certificates produced, issued by Surveyors to this Society.

The dimensions are as specified and in accordance with the Rules, the approved plans and the requirements contained in the Secretary's letter E dated the 17th September 1928.

The intermediate and screw shafts, plan of which was approved on the 17th Sept. 28, have not been made here.

Recommend the vessel to have notation in the Register Book of LMC - with date and OIL ENGINES when the machinery has been fitted on board under the supervision of, and tested to the satisfaction of the local Surveyors to this Society.

The amount of Entry Fee ... *£ 72.80* When applied for, *27.9.29*
4/5 Special ... *£ 1431.98*
Donkey Boiler Fee ... *£ :* When received, *28.10.29*
Travelling Expenses (if any) *£ 10.50*

Committee's Minute

Assigned

see F. E. Rpt

A. O. Jensen, L. Clausen
Engineers Surveyors to Lloyd's Register of Shipping.



Lloyd's Register
Foundation