

List of

pt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 8009

Received at London Office

21 JUL 1929

of writing Report 16th June 1929. When handed in at Local Office

Port of Copenhagen

in Survey held at Copenhagen

Date, First Survey 6th Novr. 1927. Last Survey 6th June 1929
Number of Visits 153.

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

Tons ^{Gross} ^{Net}

built at Yokohama

By whom built Messrs Yokohama Dock Co. Ltd. Yard No. 170 When built

engines made at

By whom made Messrs West & Wainwright & Wainwright Engine No. 51409 When made 1929

Boilers made at

By whom made Messrs Designated N.Y.K.L. Boiler No. When made

Indicated Horse Power 16,500

Owners Messrs Nippon Yusen Kaisha Port belonging to Tokio

Net Horse Power as per Rule 3380

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

ENGINES, &c.—Type of Engines Vertical Diesel Oil Engines (Crosshead type) 2 or 4 stroke cycle 4 Single or double acting Double

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 840 mm = 33 1/8" Length of stroke 1600 mm = 59 1/2" No. of cylinders 2 x 8 No. of cranks 2 x 8

Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 1190 mm/m Is there a bearing between each crank ^{Yes} ^{flash point} ^{about 150° F.}

Revolutions per minute 115 ^{Turning} Wheel dia. 2122 mm/m Weight 2670 kg. Means of ignition Air compression Kind of fuel used ^{Gas}

Crank Shaft, dia. of journals as ^{approx} 570 mm/m Crank pin dia. 570 mm/m Crank Webs Mid. length breadth 1130 mm/m Thickness parallel to axis 355 mm/m

as fitted 570 mm/m Mid. length thickness 335 mm/m Thickness around eye hole 272 mm/m

Propeller Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted 496 mm/m

as fitted Screw Shaft, diameter as per Rule Is the ^{tube} ^{screw} shaft fitted with a continuous liner

Brass Liners, thickness in way of bushes as per Rule 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

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

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

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

Thickness of cylinder liners 56 mm/m Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material ^{or lagged} ^{Yes} ^{Exhaust pipes water cooled} ^{4 off for salt water - 300 tons each} ^{Centrifugal pumps} ^{Is the sea suction provided with an efficient strainer which can be cleared within the vessel}

Bilge Pumps, No. 2 off for fresh water - 250 " "

Large Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

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 4 off, rotary pumps - 250 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

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 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. 3 off x 2 No. of stages 3 Diameters A. 860 x 775 x 172 mm/m Stroke 400 mm/m Driven by Quadricoil oil engines

Auxiliary Air Compressors, No. 1 off No. of stages 3 Diameters 210 x 176 x 45 mm/m Stroke 180 mm/m Driven by Electro motor ^{1st stage}

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by ^{2nd stage}

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule of engines working the main air compressors 323 mm/m of engines working the main generators 325 mm/m

as fitted 380 mm/m

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule ^{Yes} ^{and fusible plugs.}

Can the internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces

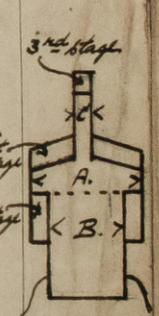
Is there a drain arrangement fitted at the lowest part of each receiver ^{Yes} ^{9 off - 550 litres} ^{450 mm/m} ^{20 mm}

High Pressure Air Receivers, No. 14 off Cubic capacity of each 3 " - 80 " Internal diameter 250 mm/m thickness 12 mm/m

Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Range of tensile strength 44.6 - 49.4 kg/cm² Working pressure by Rules 91.6 kg/cm²

Starting Air Receivers, No. Total cubic capacity Internal diameter thickness Working pressure by Rules 83.5 " "

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



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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *M/S*
(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR *Delivered as per accompanying list.*

To be checked when placed on board.

The foregoing is a correct description,

AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI

Manufacturer.

Dates of Survey while building	During progress of work in shops -	6/14, 16, 18, 22, 24, 30 <i>Nov.</i> ; 7, 12, 14, 16, 28, 31 <i>Dec.</i> ; 1927 - 2, 5, 6, 7, 11, 16, 23, 24, 31 <i>Jan.</i> ; 2, 11, 18, 23, 28 <i>Feb.</i> ; 12, 16, 19, 30 <i>Mar.</i> ; 14, 17, 21, 25 <i>April</i> ; 19, 11, 19, 22, 29, 30 <i>May</i> ; 1, 4, 8, 9, 13, 18
	During erection on board vessel -	25, 28 <i>June</i> ; 2, 3, 4, 5, 9, 12, 13, 17, 18, 20, 21, 23, 25, 26, 27, 28, 29, 30 <i>July</i> ; 1, 2, 4, 6, 8, 9, 11, 13, 16, 18, 29, 31, 22, 24, 27, 28, 29, 30 <i>Aug.</i> ; 5, 6, 7, 11, 12, 14, 15, 19, 20, 21, 22, 26, 27 <i>Sept.</i> ; 2, 3, 4, 5, 6, 9, 11, 12, 15, 17, 19, 24, 26, 29, 31 <i>Oct.</i> ; 1, 2, 5, 7, 10, 13, 17, 22, 24, 27, 29, 30 <i>Nov.</i> ; 4, 5, 7, 11, 13, 19, 27, 31 <i>Dec.</i> ; 1928 - 3, 5, 23, 24, 25, 26 <i>Jan.</i> ; 4, 5, 27 <i>Feb.</i> ; 6, 19, 30
	Total No. of visits	153

Dates of Examination of principal parts -	Cylinders	and	Covers	Pistons	Rods	Connecting rods
28/11, 3/12, 27/1, 31/1, 13/2, 16/2, 14/3, 15/3, 9/6	22/5, 9/6, 27/6, 1/8, 16/8, 2/8, 7/8, 11/10, 15/10		22/11, 7/12, 28	21/6, 14/7, 6/8, 29/8, 7/9, 26/10, 28	9/11, 20/11, 7/12, 27/1, 19/2, 21/4	24/11, 1/12, 27/1, 1/14, 26/11, 1/13, 2
Crank shafts	Flywheel shaft	Thrust shaft	Intermediate shafts	Tube shaft		
✓	✓	✓	✓	✓		✓
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				
✓	✓	✓				
Crank shaft, Material <i>S.M.I. Steel</i>	Identification Mark <i>N: 9535, 9536, 9.5.28</i>	Flywheel shaft, Material	Identification Mark			
Thrust shaft, Material <i>S.M.I. Steel</i>	Identification Mark <i>N: 9638, 9639, 3.10.28</i>	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 *M/S "KUNGS HOLM."*

General Remarks (State quality of workmanship, opinions as to class, &c. *In accordance with the Rules for Special Survey we have examined the material and workmanship from the commencement of construction of the machinery with access until the running test under full power working condition on the test bed in the shop and found it good and efficient in every respect. The material used in the construction of the engines and the air receivers have been tested as required by the Rules either by us, or as per test certificates produced. The dimensions are as specified and in accordance with the Rules, the approved plans and as required in Secretary's letters E. dated the 29th Nov. and 19th Dec. 1927.*

The intermediate and screw shafts, plan of which was approved on the 19th Dec. 27. have not been made here.

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

4/6 amount of Entry Fee ... *Sh.* 87.36
 4/5 Special ... *Sh.* 2686.32
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) *Sh.* 11.00
 Late fee ... *Sh.* 90.00

When applied for, 19.6.1929

When received, 8.8.29

A.O. Fubon

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 6 MAY 1930

Assigned

See yka J.E. Apt. 4500



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