

# REPORT ON OIL ENGINE MACHINERY.

No. 8150.

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4b. Writing Report 15<sup>th</sup> Jan. 1930 When handed in at Local Office 16<sup>th</sup> Jan. 1930 Port of Copenhagen  
in Survey held at Copenhagen Date, First Survey 2<sup>nd</sup> January 1929 Last Survey 14<sup>th</sup> January 1930  
Book. Number of Visits 122.

on the ~~Single~~ ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel *Vigmar*  
at *Yokohama* By whom built *Mss<sup>rs</sup> Yokohama Dock Co., Ltd.* Yard No. *178* When built ✓  
names made at *Copenhagen* By whom made *Mss<sup>rs</sup> Akt. Burmeister & Wain* Engine No. *1607* When made *1929-30*  
Boilers made at ✓ By whom made *Mss<sup>rs</sup> Maskin og Skibsbyggeri* Boiler No. ✓ When made ✓  
Horse Power *11,000* Owners *Mss<sup>rs</sup> Nippon Yusen Kaisha* Port belonging to *Tokio*.  
Horse Power as per Rule *2191*. Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓  
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*  
mean pressure in cylinders *35 kg/cm<sup>2</sup>* Diameter of cylinders *680 mm = 26 3/4"* Length of stroke *600 mm = 63"* No. of cylinders *2 x 8* No. of cranks *2 x 8*  
of bearings, adjacent to the Crank, measured from inner edge to inner edge *920 mm/m* Is there a bearing between each crank *Yes*  
Revolutions per minute *110* *Turning* Wheel dia. *1975 mm/m* Weight *2250 kg* Means of ignition *Air compression* Kind of fuel used *Crude oil, flash point above 150° F.*  
Shafts dia. of journals as per Rule *491 mm/m* Crank pin dia. *530 mm/m* Crank Webs Mid. length breadth *850 mm/m* Thickness parallel to axis *308 mm/m* ✓  
as fitted *495 mm/m* M. d. length thickness *288 mm/m* shrunk Thickness around eyehole *232.5 mm/m* ✓  
Wheel Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule ✓ Thrust Shaft, diameter at collars as per Rule *447 mm/m* ✓  
as fitted ✓ as fitted ✓ as fitted ✓

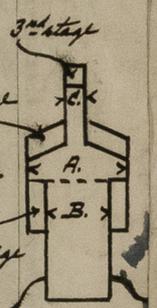
Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule ✓ Is the tube shaft fitted with a continuous liner ✓  
as fitted ✓ as fitted ✓ as fitted ✓  
Liners, thickness in way of bushes as per Rule ✓ Thickness between bushes as per Rule ✓ Is the after end of the liner made watertight in the  
as fitted ✓ as fitted ✓ as fitted ✓  
liner boss ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓  
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 ✓  
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  
If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller ✓

Propeller, dia. *160* Pitch ✓ No. of blades ✓ Material ✓ whether Moveable ✓ Total Developed Surface ✓ sq. feet  
Kind of reversing Engines *Direct reversible* Is a governor or other arrangement fitted to prevent racing of the engine when disengaged *Yes* Means of lubrication  
lubrication Thickness of cylinder liners *65 mm/m* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with  
*For pipes lagged: bottom pipes*  
insulating material *Asbestos* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓  
Suction Water Pumps, No. *4 off. Centrifugal pumps 250 tons each* Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓  
Pumps worked from the Main Engines, No. *None* Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓  
Pumps connected to the Main Bilge Line { No. and Size ✓  
How driven ✓

Oil Pumps, No. and size ✓ Lubricating Oil Pumps, including Spare Pump, No. and size *4 off. Rotary pumps, 200 tons each.*  
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 ✓  
Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓  
Sea Connections fitted direct on the skin of the ship ✓ Are they fitted with Valves or Cocks ✓  
Sea Connections 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 ✓  
Sea Connections 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 ✓  
Sea Connections pipes pass through the bunkers ✓ How are they protected ✓  
Sea Connections pipes pass through the deep tanks ✓ Have they been tested as per Rule ✓

Sea Connections Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓  
Sea Connections 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  
Sea Connections compartment to another ✓ Is the Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from  
Sea Connections good vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓  
Sea Connections Air Compressors, No. *4 off, two to each engine* No. of stages *3* Diameters *A. 350-675-172 mm/m* Stroke *600 mm/m* Driven by *the main engines*  
Sea Connections Auxiliary Air Compressors, No. *3 off* No. of stages *3* Diameters *320-270-70 mm/m* Stroke *370 mm/m* Driven by *the auxiliary engines.*  
Sea Connections Auxiliary Air Compressors, No. *1 off* No. of stages *3* Diameters *210-175-45 mm/m* Stroke *180 mm/m* Driven by *a 35 HP electric motor*  
Sea Connections Auxiliary Air Compressors, No. *1 off* No. of stages *2* Diameters *400-350 mm/m* Stroke *250 mm/m* Driven by *a 180 HP electric motor*  
Sea Connections Working Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

Sea Connections Auxiliary Engines crank shafts, diameter as per Rule *192 mm/m* Auxiliary diesel oil engines *3 off. 6 cyl. 4 BCSA. 490 BHP each. Cyl diam = 330 mm/m. Stroke = 600 mm/m.*  
as fitted *204 mm/m* each working a direct coupled *360 KW. Generator.*  
RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*  
Sea Connections internal surfaces of the receivers be examined *Yes* What means are provided for cleaning their inner surfaces ✓  
Sea Connections a drain arrangement fitted at the lowest part of each receiver *Yes* Internal diameter *450 mm/m* thickness *20 mm/m*  
Sea Connections Pressure Air Receivers, No. *2* Working pressure by Rules *II 30* Internal diameter *9 3/4"* thickness *3/8"*  
Sea Connections as, lap welded or riveted longitudinal joint *Seamless* Material *S.M. Steel* Range of tensile strength *II 31.6-31.2 kg/cm<sup>2</sup>* Working pressure by Rules *II 30*  
Sea Connections Working Air Receivers, No. *None* Total cubic capacity ✓ Internal diameter ✓ thickness ✓  
Sea Connections as, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓



Lloyd's Register Foundation  
609711-009720-0088

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

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

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR *As per accompanying list, - to be checked when placed on board the vessel.*

*List of plans forwarded by commercial papers post.*

- 1 off - Crank shaft for the main engine.*
- 1 " - Crank shaft for the auxiliary engines.*
- 1 " - Thrust, Intermediate and Screw shafts.*

The foregoing is a correct description,  
**AKTIESELSKABET  
BURMEISTER & WAINSKIN- & SKIBSBYGERI**

Manufacturer.

Dates of Survey while building

During progress of work in shops - During erection on board vessel - Total No. of visits	<i>Jan 2 - Feb 9 - March 6, 9, 16, 26 - April 3, 8, 9, 12, 17, 19 - May 4, 25 - June 1, 6, 7, 11, 18, 20, 21, 22, 24, 26, 29 - July 1, 2, 3, 12, 13, 16, 17, 20, 22, 24, 25, 26, 30, 31 - Aug 1, 3, 6, 7, 19, 23, 27, 28, 31 - Sept 2, 3, 4, 5, 6, 9, 10, 13, 14, 16, 17, 18, 19, 21, 23, 24, 27, 30 - Oct 1, 4, 5, 7, 8, 9, 10, 11, 14, 15, 16, 21, 22, 23, 25, 28, 29, 30, 31 - Nov 4, 6, 8, 11, 15, 16, 22, 27, 28, 29, 30 - Dec 2, 3, 4, 6, 10, 14, 16, 17, 19, 23, 28, 30 - 1929 - Jan 2, 3, 6, 7, 8, 9, 10, 11, 14 - 1930.</i>
	<i>122.</i>

Dates of Examination of principal parts - Cylinders *8/4, 19/4, 21/6, 17/7, 4/8, 5/9, 23/9, 16/10, 30/10, 24/11, 6/12, 29* Covers *19/9, 13/10, 21/11, 29* Pistons *19/9, 13/10, 21/11, 29* Rods *19/9, 11/10, 11, 29* Connecting rods *19/9, 11/10, 11, 29*

Crank shafts *8/4, 19/4, 21/6, 17/7, 4/8, 5/9, 23/9, 16/10, 30/10, 24/11, 6/12, 29* Flywheel shaft  Thrust shafts *17/7, 19/9, 15/10, 29* Intermediate shafts  Tube shaft

Screw shaft  Propeller  Stern tube  Engine seatings  Engines holding down bolts *29/11, 30/11, 1/12, 3/12, 7/12, 11/12, 23/12*

Completion of fitting sea connections  Completion of pumping arrangements  Engines tried under working conditions *30/11, 29/12, 29/12, 3/1*

Crank shafts Material *S.M.I. Steel* Identification Mark *Nº 242, 243, 4, 19-9-29* Flywheel shaft, Material  Identification Mark

Crank webs *S.M. Cast steel* Identification Mark *LLOYD'S* Intermediate shafts, Material  Identification Marks

Thrust shaft, Material *S.M.I. Steel* Identification Mark *Nº 308, 309, 4, 15.10.29* Screw shaft, Material  Identification Mark

Tube 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 8088.*

General Remarks (State quality of workmanship, opinions as to class, &c. *In accordance with the Society's Rules for Special Survey.*

*have examined the material and workmanship from the commencement of construction of the main and auxiliary engines until the final 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 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 in the Secretary's letters E dated the 17<sup>th</sup> Sept, 11<sup>th</sup> & 29<sup>th</sup> Oct, and 19<sup>th</sup> Nov 1928. - and the letters E dated the 11<sup>th</sup> & 29<sup>th</sup> Oct 1928 addressed to Mess<sup>rs</sup> Burmeister & Wain.*

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

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

*£ = 4/18.20*

The amount of Entry Fee ... <i>4/5</i>	87.36	When applied for, <i>16.1.1930</i>
<i>4/5</i> Special ...	2253.34	
Donkey Boiler Fee ...	£ :	When received, <i>31.1.30</i>
Travelling Expenses (if any) <i>3/4</i>	22.50	
<i>late fee</i> ... <i>3/4</i>	30.00	

Committee's Minute **FRI 19 SEP 1930**

*A. S. Jensen, J. Langkilde Jensen*  
Engineer Surveyors to Lloyd's Register of Shipping

**L** Lloyd's Register Foundation

Certificate (if required) to be sent to Surveyors Office Copenhagen