

# REPORT ON OIL ENGINE MACHINERY.

No. 65-16.  
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Port of Kobe  
Date, First Survey 30.5.29

Last Survey 15<sup>th</sup> July 1929

Number of Visits 9

in Survey held at Tama

on the Single Screw vessel "SENSAN MARU"

Tons Gross Net

1-2 built at Tama By whom built Mitsui Bussan Kaisha Yard No. 160 When built 1929  
Engines made at Copenhagen By whom made Burmeister & Wain Engine No. 1584 When made 1929  
Monkey Boiler made at Tama By whom made Mitsui Bussan Kaisha Boiler No. 160 When made 1929  
Indicated Horse Power 1400 Owners Dairen Kisen Kaisha Port belonging to Dairen  
Net Horse Power as per Rule 240 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Type of Engines Solid injection trunk piston — 4 stroke cycle Single or double acting 29 3/4"  
Maximum pressure in cylinders 35 kg/cm<sup>2</sup> No. of cylinders 6 Diameter of cylinders 550 mm No. of cranks 6 Length of stroke 1000 mm  
No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 710 mm Is there a bearing between each crank yes  
Revolutions per minute 140 Flywheel dia. 1362 mm Weight 843 kg. Means of ignition Self Kind of fuel used heavy oil  
Crank Shaft, dia. of journals as per Rule 340 mm Crank pin dia. 340 mm Crank Webs Mid. length breadth 670 shrunk Thickness parallel to axis 213  
Wheel Shafts, diameter as per Rule 9.43" Intermediate Shafts, diameter as fitted 9 1/2" Thrust Shaft, diameter at collars as per Rule 340 mm  
Propeller Shafts, diameter as per Rule 10.34" Screw Shaft, diameter as fitted 10 5/8" Is the shaft fitted with a continuous liner yes  
Cylinder Liners, thickness in way of bushes as per Rule 1 1/2" Thickness between bushes as per Rule 1 1/2" Is the after end of the liner made watertight in the  
Cylinder 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  
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  
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 no Length of Bearing in Stern Bush next to and supporting propeller 4'-3"

Propeller, dia. 11'-3" Pitch 8'-5" No. of blades 4 Material Mn. Br. whether Moveable no Total Developed Surface 38 sq. feet  
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication  
used Thickness of cylinder liners 38 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
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

Boiling Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
Ge Pumps fitted to the Main Engines, No. 2 Diameter 150 mm Stroke 175 mm Can one be overhauled while the other is at work yes  
Pumps connected to the Main Bilge Line No. and Size 1 Ballast 150 tons/hr. — 2 main engine 15 tons/hr each — Ind. Bilge & Sump 20 tons/hr  
How driven main engine and electric motors  
Ballast Pumps, No. and size one 150 tons/hr Lubricating Oil Pumps, including Spare Pump, No. and size (2) 30 tons/hr each

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 Engine and Boiler Room 4-3" in E.R. and 1-3" tunnel well  
Holds, &c. No. 1 Hold 2-3", No. 2 Hold 2-3", No. 3 Hold 2-3"  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-6" port, 1-3" Starboard

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Space  
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 yes Are they fitted with Valves or Cocks both  
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 Is the Blow Off Cock fitted with a spigot and brass covering plate yes  
Do all pipes pass through the bunkers How are they protected

Do all pipes pass through the deep tanks Have they been tested as per Rule 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  
apartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from above L.W.L.  
On 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. none No. of stages 2 Diameters 320 x 280 Stroke 5" Driven by Aux. Diesel  
Auxiliary Air Compressors, No. 3 No. of stages 2 Diameters 2 1/2 x 15/16 Stroke 5" Driven by Hand  
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 2 1/2 x 15/16 Stroke 5" Driven by Hand  
Scavenging Air Pumps, No. none Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule one 2 cyl. & two 1 cyl. engines. Crank shaft dia. 170 mm each  
RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes What means are provided for cleaning their inner surfaces steam hose  
Are the internal surfaces of the receivers examined yes Is there a drain arrangement fitted at the lowest part of each receiver yes  
High Pressure Air Receivers, No. 2 Cubic capacity of each 190 cu. ft. Internal diameter 4'-1 1/2" thickness 3/4"  
Seamless, lap welded or riveted longitudinal joint riveted Material steel Range of tensile strength 28/32 Working pressure by Rules 25 kg/cm<sup>2</sup>  
Starting Air Receivers, No. 2 Total cubic capacity 190 cu. ft. Internal diameter 4'-1 1/2" thickness 3/4"  
Seamless, lap welded or riveted longitudinal joint riveted Material steel Range of tensile strength 28/32 Working pressure by Rules 25 kg/cm<sup>2</sup>

SEE COPENHAGEN REPORT  
ON B. & W. Eng. No. 1584

SEE COPENHAGEN REPORTS  
ON B. & W. Aux. Eng. Nos. 1586, 1663, 1665

yes