

Report on Oil Engine Machinery.

Received at London Office

Date of writing Report 28.9.1942 When handed in at Local Office 1942 Port of Stockholm

No. in Survey held at Stockholm Date, First Survey 1.4.1940 Last Survey 15.9.1942
Reg. Book. Number of Visits 26

Single on the Twin Screw vessel M/T "DIVINA" Tons {Gross 643 Net 383

Built at Stockholm By whom built Skensbergs Varv Yard No. 128 When built 1942
Engines made at Stockholm By whom made Atlas-Diesel Engine No. 85890 When made 1942
Donkey Boilers made at Norköping By whom made W. Söderström & U. N. G. Boiler No. 1402 When made 1942
Brake Horse Power 650 Owners Rederi Co. Diana Port belonging to Stockholm
Nom. Horse Power as per Rule 125 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes
Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Polar Diesel Oil Eng. Type M 44 M 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 55 kg/cm² Diameter of cylinders 340 mm Length of strokes 570 mm No. of cylinders 4 No. of cranks 4
Mean Indicated Pressure 6.5

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 484 mm Is there a bearing between each crank Yes
Revolutions per minute 280 Flywheel dia. 1550 mm Weight 2580 kg Means of ignition Comp. Kind of fuel used Diesel Oil
Crank Shaft, {Solid forged dia. of journals as per Rule 235 mm Crank pin dia. 235 mm Crank Webs Mid. length breadth 346.3 mm Thickness parallel to axis
{Semi built as fitted 235 mm
{All built

The flywheel is fitted on the thrust shaft.
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
as fitted 165 mm as fitted 260 mm
Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the {tube shaft fitted with a continuous liner
as fitted 190 mm as fitted 60 mm central hole

Bronze 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 propeller boss
as fitted If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
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
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
Yes If so, state type Cedersall's Oil Gland Length of Bearing in Stern Bush next to and supporting propeller 265 mm

Propeller, dia. 2000 mm Pitch 1500 mm No. of blades 3 Material Cast steel whether Moveable Yes Total Developed Surface 1.26 sq. feet
Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
Pumps Thickness of cylinder liners 25.5 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with 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
Cooling Water Pumps, No. 2 Is the sea provided with an efficient strainer which can be cleared within the vessel Yes
Bilge Pumps worked from the Main Engines, No. One Diameter 90 mm Stroke 140 mm Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line {No. and Size One, 18 tons per hour; One 25.2 tons per hour; One 315 lbs per min.
{How driven By aux engine By main engine By aux engine

Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements
Ballast Pumps, No. and size One, 18 tons per hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2; 265 and 315 lbs. per min.
Are 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 Machinery Spaces One off 2 1/2"; 3 off 3" In Pump Room
In Holds, &c. Dry Hold, One off 2"; Cofferdams 2 off 2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One off 2 1/2"; One off 3"
Are all the Bilge Suction pipes in Hold 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 Yes
Are all Sea Connections fitted direct on the skin of the ship No Are they fitted with Valves or Cocks Valves
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 Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes
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 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 compartment to another Yes Is the Shaft Tunnel watertight None fitted 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. None fitted No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. One No. of stages 2 Diameters 95/40 mm Stroke 125 mm Driven by Atlas Eng. EIB
Small Auxiliary Air Compressors, No. One No. of stages 2 Diameters 30/80 mm Stroke 80 mm Driven by Hand

What provision is made for first Charging the Air Receivers Atlas Engine can be started by hand
Scavenging Air Pumps, No. One (DOUBLE ACTING) Diameter 270 mm Stroke 350 mm Driven by Main engine
Auxiliary Engines crank shafts, diameter as per Rule No. Two
as fitted 90 - 75 and 64 mm Position Engine room

Have the Auxiliary Engines been constructed under special survey Yes Is a report sent here with Yes
sent from the Stockholm office
Sept. Nos. 13293 & 13294

AIR RECEIVERS:—Have they been made under survey. *Yes* State No. of Report or Certificate *Cert. No. 3515*

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 and cleaned. *Yes* Is a drain fitted at the lowest part of each receiver. *Yes*

Injection Air Receivers, No. *None fitted* Cubic capacity of each. *-* Internal diameter. *-* thickness. *-*

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

Starting Air Receivers, No. *Two* Total cubic capacity. *800 litres* Internal diameter. *650 mm* thickness. *11 mm*

Seamless, lap welded or riveted longitudinal joint. *Riveted* Material. *St. Steel* Range of tensile strength. *41-44 kg/cm²* Working pressure by Rules *-* Actual *25 kg/cm²*

IS A DONKEY BOILER FITTED? *Yes* If so, is a report now forwarded? *Yes*

Is the donkey boiler intended to be used for domestic purposes only. *-*

PLANS. Are approved plans forwarded herewith for Shafting *23, 26, 30, 32, 30, 40/10* Receivers. *29-32* Separate Fuel Tanks. *1/4-41*
(If not, state date of approval)

Donkey Boilers. *1/4-41* General Pumping Arrangements. *31-41* Pumping Arrangements in Machinery Space. *31-41*

Oil Fuel Burning Arrangements. *-*

SPARE GEAR.

Has the spare gear required by the Rules been supplied. *Yes. Please see also enclosed list. The spare gear*

State the principal additional spare gear supplied. *Two propeller blades has been examined.*

The spare gear required for the reversible propeller has also been supplied.

The foregoing is a correct description.

ARTIEBOLAGET ATLAS DIESEL

WALTER WENTZ

A.B. EKENSBERGS VARV

Manufacturer.

Dates of Survey while building
During progress of work in shops - *19.35, 18.30, 20.40, 26.9, 22.9, 12.22, 27.41, 27.42*
During erection on board vessel - *19.28, 18.18, 30.30, 8.15, 10.15, -42*
Total No. of visits. *36 visits*

Dates of Examination of principal parts—Cylinders. *20.10.41* Covers. *20.10.41* Pistons. *20.10.41* Rods. *-* Connecting rods. *18.9, 28.30, -40*

Crank shaft. *18.40, 20.41* Elongated shaft. *26.9, -41* Thrust shaft. *25.40, 30.41* Intermediate shafts. *20.41, 25.4, -42* Tube shaft. *-*

Screw shaft. *13.41, 19.42* Propeller. *23.41, 27.4, -42* Stern tube. *28.42* Engine seatings. *12.22, -41* Engines holding down bolts. *20.41, 10.15, -42*

Completion of fitting sea connections. *1.6.42* Completion of pumping arrangements. *20.8.15, -42* Engines tried under working conditions. *9.41, 10.15, -42*

Crank shaft, Material. *St. Steel* Identification Mark. *LLOYD'S NO. 8983, K.A. 18.5.40* Thrust shaft, Material. *St. Steel* Identification Mark. *LLOYD'S NO. 8965, K.A. 25.4.40*

Intermediate shafts, Material. *St. Steel* Identification Marks. *LLOYD'S NO. 1720, K.A. 1.6.42*

Tube shaft, Material. *-* Identification Mark. *-* Screw shaft, Material. *St. Steel* Identification Mark. *LLOYD'S NO. 6045, G.A. 19.3.42*

Identification Marks on Air Receivers. *No. 8219 & 8220, LLOYD'S TEST 50 KG., W.P. 25 KG., F.C. 22.9.41*

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. *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 machinery duplicate of a previous case. *Yes* If so, state name of vessel. *Mr. "CLAN" Item Rpt. No. 5333*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This engine has been built under Special Survey*

and all the requirements of the Rules have been complied with. The shafting as per

forging reports attached. The workmanship is good and the material fulfills

the requirements of the Rules. The dimensions are as specified and in accordance

with the Rules and approved plans. The whole machinery has been tested under full

working power on trial trip and found to work satisfactorily.

A reversible propeller of the Hamewa type is fitted. The same has been

carefully tested under working conditions and found to work satisfactorily.

In my opinion, the above machinery is eligible to be classed in the

*Register Book with the notation of *L.M.C. 9.42, subject to the*

reversible propeller being examined in dry dock after a period not exceeding

twelve months in service.

Table with 3 columns: Fee Type, Amount, and When Applied For. Rows include Entry Fee (57.-), Special (594.-), Donkey Boiler Fee (80.-), and Travelling Expenses (3:50). Total for Donkey Boilers is 50:85.

COMMITTEE'S MINUTE.....

ASSIGNED.....

Signature of Engineer Surveyor to Lloyd's Register of Shipping.



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Certificate (if required) to be sent to... (The Surveyors are requested not to write on or below the space for Committee's Minute.)