

REPORT ON OIL ENGINE MACHINERY.

No. 13723

19 JUN 1926

Received at London Office

Date of writing Report 10 June 1926 When handed in at Local Office

19 Port of Amsterdam

No. in Survey held at
Reg. Book.

Amsterdam

Date, First Survey 2 Sept 1925 Last Survey 10 June 1926

Number of Visits 62

Single
on the Twin
Triple
Quadruple

Screw vessel

MOTOR VESSEL "SOLARIUM"

Tons { Gross
Net

Built at Montefiore

By whom built Cantieri Riuniti dell'Adriatico

Yard No. 1126 When built 1926

Engines made at Amsterdam

By whom made N.V. Werkspoor

Engine No. When made

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 2000

Owners

Port belonging to

Nom. Horse Power as per Rule 377

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Diesel and less injection Supercharge 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 700 lbs

Diameter of cylinders 650 mm

Length of stroke 1400 mm

No. of cylinders 6

No. of cranks 6

Mean Indicated Pressure 120 lbs

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 834 mm

Is there a bearing between each crank Yes

Revolutions per minute 110

Flywheel dia. 2260 mm

Weight 6000 kg

Means of ignition Spark

Kind of fuel used Crude oil

Crank Shaft, dia. of journals as per Rule approved
as fitted 460 mm

Crank pin dia. 460 mm

Crank Webs

Mid. length breadth 870 mm

shrunk

Thickens parallel to axis

Thickens around eyehole

Flywheel Shaft, diameter as per Rule approved
as fitted 340 mmIntermediate Shafts, diameter as per Rule approved
as fitted 350 mmThrust Shaft, diameter at collars as per Rule approved
as fitted 340 mmTube Shaft, diameter as per Rule
as fittedScrew Shaft, diameter as per Rule approved
as fitted 370 mm

Is the screw

shaft fitted with a continuous liner

Yes

Bronze Liners, thickness in way of bushes as per Rule approved
as fitted 19.5 mmThickness between bushes as per rule approved
as fitted 15 mm

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 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 If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 1400 mm

Propeller, dia. 4270 mm Pitch 2500 mm No. of blades 4

Material SMS

whether Moveable no

Total Developed Surface 62 sq. feet

Method of reversing Engines by Air

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes

Means of lubrication

forced Thickness of cylinder liners 55 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. 3 Salt & 2 fresh water 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

Rotary type 35 ton each

Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line

No. and Size

2 rotary 35 ton each & 1 general service pump 8" x 8" x 10"

How driven

Main Motor

Steam driven

Is the cooling water led to the bilges

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 8" x 8" x 10"

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 rotary 40 ton each & 1 duplex 8" x 8" x 10"

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

In Pump Room

In Holds, &c.

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

Are the Bilge Suctions in the Machinery Spaces

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

ed 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

Stroke

Driven by

Auxiliary Air Compressors, No. 2

No. of stages 2

Diameters 206-104

Stroke 160 mm

Driven by one by steam engine

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Scavenging Air Pumps, No.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter as per Rule approved
as fitted 110 mm

No.

Position

005512-005517-0088

AIR 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 and cleaned *Yes* ✓

Is a drain fitted at the lowest part of each receiver *Yes* ✓

High Pressure Air Receivers, No. ✓

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. *2*

Total cubic capacity *Per cub feet*

Internal diameter *1495 mm*

thickness

21 mm

Seamless, lap welded or riveted longitudinal joint *United*

Material *SM S*

Range of tensile strength *29.75-24 ton*

Working pressure

by Rules

Actual

3.50 lbs

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

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

PLANS. Are approved plans forwarded herewith for Shaffling *E 10 and 29 March 35*
(If not, state date of approval) *E 2-5-35*

Receivers *E 9-4-35*

Separate Fuel Tanks

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description,

WERKSPOR N.V.

Manufacturer.

Dates
of Survey
while
building

During progress of
work in shops--
During erection on
board vessel--
Total No. of visits

Sept 2. 16. 20. 23. 25 Oct 1. 2. 4. 9. 17. 21. 22. 23. 30 Nov 6. 7. 10. 13. 26. 29 Dec 2. 5. 6. 13. 20. 22. 23. 28. 29 Jan 2. 3. 14. Feb 3. 5. 7. 10. 14. 10. 27. 28 March 2. 3. 10. 13. 16. 17. 18. 27. 30 April 1. 2. 10. 16. 23 May 6. 8. 13. 18. 19. 20 June 10

Dates of Examination of principal parts—Cylinders *10. 13. 16 May* Covers *6 Dec 18 May* Pistons *2-5 Dec* Rods *3. 14 Jan* Connecting rods *3. 14 Jan*

Crank shaft *2. 16 Dec* Flywheel shaft *2. 16 Dec* Thrust shaft *17. 30 Oct* Intermediate shafts *2. 25 Sept* Tube shaft ✓

Screw shaft *9. 30 Oct* Propeller Stern tube *13 Dec* Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions

Crank shaft, Material *SM S* Identification Mark *4406.4487* Flywheel shaft, Material *SM S* Identification Mark *4404.0.3*

Thrust shaft, Material *SM S* Identification Mark *4404.0.3* Intermediate shafts, Material *SM S* Identification Marks *4404.0.3*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *SM S* Identification Mark *4404.0.3*

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

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *MV. "ENA" Ans rep. 13658.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery has been made in accordance with the approved plans Secretary's letters and the Society's rules Workmanship throughout good

The Machinery has been shipped to Montfolcone and will be fitted aboard Mess Combeni Piuneti dell' Adriatico Yard N° 1136

The amount of Entry Fee *£ 60.-*

Special *£ 703.-*

Donkey Boiler Fee *£*

Travelling Expenses (if any) *£ 29.-*

When applied for,

19

When received,

19

Committee's Minute

FRI. 18 SEP 1936

Assigned

see Tri 11375

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation