

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 12832

FEB 20 1940

Received at London Office

Date of writing Report *16th Feb* 1940 When handed in at Local Office *16th Feb* 1940 Port of *GOTHENBURG*
No. in Survey held at *GOTHENBURG* Date, First Survey *30th March 1939* Last Survey *16th Feb.* 1940
Reg. Book. *1939* Number of Visits *87*
38051 on the *Single* Screw vessel *"ANDREA BRÖVIG"* Tons { Gross *10173*
Triple Net *6083*
Quadruple
Built at *GOTHENBURG* By whom built *A.B. GÖTAVERKEN* Yard No. *539* When built *1940*
Engines made at *GOTHENBURG* By whom made *A.B. GÖTAVERKEN* Engine No. *366* When made *1940*
Donkey Boilers made at *GOTHENBURG* By whom made *A.B. GÖTAVERKEN* Boiler No. *383* When made *1940*
Brake Horse Power *5800* Owners *TH. BRÖVIG* Port belonging to *FATPSUND*
Nom. Horse Power as per Rule *1030* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*
Trade for which vessel is intended *GENERAL*

OIL ENGINES, &c. Type of Engines *Heavy Oil* 2 or 4 stroke cycle *2* Single or double acting *SA*
Maximum pressure in cylinders *49 kg/cm²* Diameter of cylinders *620 mm* Length of stroke *412 mm* No. of cylinders *5* No. of cranks *5*
Mean Indicated Pressure *6.85 kg/cm²* Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *946* Is there a bearing between each crank *Yes*
Revolutions per minute *110* Flywheel dia. *1825 mm* Weight *-* Means of ignition *Compression* Kind of fuel used *Diesel Oil*
Crank Shaft, { Solid forged as per Rule *445 mm* Crank pin dia. *465 mm* Crank Webs Mid. length breadth *-* Thickness parallel to axis *290 mm*
{ Semi built dia. of journals as fitted *465 mm* Mid. length thickness *-* Thickness around eye hole *262.5 mm*
{ All built as fitted *465 mm*
Flywheel Shaft, diameter as per Rule *387 mm* Intermediate Shafts, diameter as per Rule *390 mm* Thrust Shaft, diameter at collars as per Rule *406 mm*
as fitted *390 mm* as fitted *406 mm*
Tube Shaft, diameter as per Rule *424 mm* Screw Shaft, diameter as per Rule *435 mm* Is the { screw } shaft fitted with a continuous liner *Yes*
as fitted *435 mm* as fitted *435 mm*
Bronze Liners, thickness in way of bushes as per Rule *20.5 mm* Thickness between bushes as per Rule *15.5 mm* Is the after end of the liner made watertight in the
as fitted *23.2 mm* as fitted *15.5 mm* propeller boss *Yes* If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *One length*
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 *Yes*
If 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* If so, state type *Yes* Length of Bearing in Stern Bush next to and supporting propeller *1738 mm*
Propeller, dia. *5330 mm* Pitch *4525 mm* No. of blades *4* Material *Alloy* whether Moveable *No* Total Developed Surface *11.85 m²* sq. feet
Method of reversing Engines *Direct with* Is a governor or other arrangement fitted to prevent racing of the engine when disengaged *Yes* Means of lubrication
Forced Thickness of cylinder liners *42 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 *Yes*
Cooling Water Pumps, No. *Two* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes*
Bilge 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 *1 bilge 25 ton/hour* / *Ballast 100 ton/hour* / *condenser circulating 80 ton/hour*
How driven *Electric motor* / *Electric motor* / *Steam 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 100 ton/hour* Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *Two 13800 litres/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 *5 1/2"; 2 1/2" to effluent* In Pump Room *3 1/2"*
In Holds, &c. *By cargo hold 2 1/2"* Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1 1/2" to ballast pump; 1 1/2" to cond. circ. pumps.*
Are all the Bilge Suction pipes in Holds 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 *Yes* Are they fitted with Valves or Cocks *Yes*
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 *No coal bunkers* How are they protected *-*
What pipes pass through the deep tanks *Heating coils* 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
compartment to another *Yes* Is the Shaft Tunnel watertight *No tunnel* 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* No. of stages *-* Diameters *-* Stroke *-* Driven by *-*
Auxiliary Air Compressors, No. *2* No. of stages *2* Diameters *360/280 mm* Stroke *150 mm* Driven by *Electric motor*
Small Auxiliary Air Compressors, No. *1* No. of stages *2* Diameters *106/84 mm* Stroke *80 mm* Driven by *Steam eng.*
What provision is made for first Charging the Air Receivers *For small steam driven compressor*
Scavenging Air Pumps, No. *Two* Diameter *-* Stroke *-* Driven by *Steam engine*
Auxiliary Engines crank shafts, diameter as per Rule *141 mm* No. *2* Position *Direct from main eng. steam port side of m. e.*
as fitted *160 mm* Is a report sent herewith *Yes for Diesel engine*
Have the Auxiliary Engines been constructed under special survey *Yes*

20.24.31

3.5.11.14

28.29.

29.30.31

115

AIR RECEIVERS:—Have they been made under survey

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No. *None*

Cubic capacity of each

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 *2 1/2 = 22.6 m³*

Internal diameter *800 mm*

Thickness

25 mm

Seamless, lap welded or riveted longitudinal joint

Material *S.S. Steel*

Range of tensile strength *45 kg/cm²*

Working pressure

by Rules *25.5 kg/cm²*

Actual *25 kg/cm²*

IS A DONKEY BOILER FITTED?

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

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafing

Receivers *27.5.38*

Separate Fuel Tanks *16.10.39*

Donkey Boilers *12.12.38*

General Pumping Arrangements *20.10.38*

Pumping Arrangements in Machinery Space *4.1.39*

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

1 starting air slide valve, 6 fuel pump plungers & casings, 8 top fuel valves complete, 8 bottom fuel valves complete, 5 fuel needle valves, a number of piston rings, 1 top exhaust belt complete, 1 bottom exhaust belt complete, 1 scavange air belt complete, 2 crosshead bearing belts, 2 main bearing belts, 2 scavange blower impellers, 1 bottom end bearing & 2 main bearings complete for the exhaust valve crankshaft, 1 propeller shaft & nut.

The foregoing is a correct description.

Manufacturer

Dates of Survey while building

During progress of work in shops--

During erection on board vessel--

Total No. of visits

1939, March 30, May 22, 24, 25, June 13, July 4, 22, 24, 24, 24, 26, 28, 29, Aug 2, 7, 8, 9, 10, 12, 15, 17, 22, 24, 26, 28, Sept 5, 6, 7, 13, 14, 16, Oct 7, 12, 13, 23, 24, 25, 27, 28, Nov 8, 9, 11, 14, 15, 17, 20, 22, 23, 27, 29, Dec 8, 9, 13, 16, 20, 22, 23, 27, 29, 1940 Jan 2, 3, 8, 10, 11, 12, 1939, Nov 9, 11, 13, 22, Dec 19, 20, 21, 29, 1940 Jan 2, 3, 8, 12, 15, 16, 17, 25, 29, Feb 2, 3, 5, 8

Dates of Examination of principal parts—Cylinders

25-6-39

Covers

25-6-39

Pistons

7-8-39

Rods

2.8.39

Connecting rods

2.8.39

Crank shaft

29.7.39

Flywheel shaft

29.7.39

Thrust shaft

29.7.39

Intermediate shafts

13.12.39

Tube shaft

✓

Screw shaft

14.11.39

Propeller

22.11.39

Stern tube

8.11.39

Engine seatings

9.10.39

Engines holding down bolts

22.11.39

Completion of fitting sea connections

13.11.39

Completion of pumping arrangements

2.2.40

Engines tried under working conditions

9/11/39, 29/1/40

Crank shaft, Material

S.S. Steel

Identification Mark

LLOYD'S N° 14245

Flywheel shaft, Material

✓

Identification Mark

✓

Thrust shaft, Material

S.S. Steel

Identification Mark

LLOYD'S N° 1426

Intermediate shafts, Material

S.S. Steel

Identification Marks

13.12.39 HBS

Tube shaft, Material

✓

Identification Mark

✓

Screw shaft, Material

LLOYD'S N° 603

Identification Mark

S.S. Steel

Identification Marks on Air Receivers

N° 555/6

LLOYD'S TEST 40 Hg.

W.P. 25 Hg.

S.S. 17.11.39

✓

✓

✓

Is the flash point of the oil to be used over 150° F.

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

If so, state name of vessel *ARISTOPHANES, GÖTAY, YARD N° 587*

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

The main & auxiliary machinery of this vessel have been constructed under special survey in accordance with the Rules & approved plans. The workmanship & materials are good and foregoing reports for the shafting & test sheet for the materials of the air receivers and donkey boilers are attached. The machinery has been fitted in the vessel under my supervision and to my satisfaction, and has been tested on a trial trip & found in order. The machinery of this vessel is eligible in my opinion to be classed + LMC 2-40, CL, 2DB 150 lb.

The amount of Entry Fee

£ 114:00

Special

£ 2389:25

Starting air receivers

£ 159:60

Donkey Boiler Fee

£

Travelling Expenses (if any)

£

Committee's Minute

Assigned

+ LMC 2-40

oil 1/2

2 DB - 150 lb

✓

✓

✓

✓

✓

Assigned

2 DB - 150 lb

oil 1/2

✓

✓

✓

✓

✓

✓

✓

Assigned

2 DB - 150 lb

oil 1/2

✓

✓

✓

✓

✓

✓

✓

Assigned

2 DB - 150 lb

oil 1/2

✓

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✓