

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

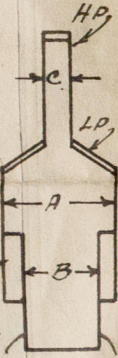
No. 8494.

11 MAY 1931

Date of writing Report 23/4 31. When handed in at Local Office 19. Port of Copenhagen.  
No. in Survey held at Copenhagen & Nakskov. Date, First Survey 11/4 1930 Last Survey 18/4 1931  
Reg. Book. Number of Visits 71.  
90858 on the Single Screw vessel "HENRIK AMELN".  
Built at Nakskov. By whom built 1/2 Nakskov Skibsværft. Yard No. 44. When built 1931.  
Engines made at Copenhagen. By whom made 1/2 Binnemist & Wain. Engines No. 1890. When made 1931.  
Donkey Boilers made at Charlus. By whom made 1/2 Frichs. Boiler No. 850-1. When made 1930.  
Brake Horse Power 2400. Owners 1/2 Frigtfart (L. Harbo, Jensen & Co.) Port belonging to Oslo.  
Nom. Horse Power as per Rule 543. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.  
Trade for which vessel is intended Ocean going oil carrier.

OIL ENGINES, &c.—Type of Engines Vertical Diesel, Single type, air injection, 4 stroke cycle. Single or double acting Single.  
Maximum pressure in cylinders 35 kg/cm<sup>2</sup>. Diameter of cylinders 550 mm. Length of stroke 1000 mm. No. of cylinders 2 x 6. No. of cranks 2 x 6.  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 730 mm. Is there a bearing between each crank Yes.  
Revolutions per minute 145. Wheel dia. 1362 mm. Weight 850 kg. Means of ignition Compression. Kind of fuel used crude oil.  
Crank Shaft, dia. of journals as per Rule 338 mm. Crank pin dia. 340 mm. Crank Webs Mid. length breadth 690 mm. Thickness parallel to axis 2/3 mm.  
as fitted 340 mm. 60 mm. cent. L.L. Mid. length thickness 193 mm. shrunk Thickness around eyehole 159 mm.  
Flywheel Shaft, diameter as per Rule 338 mm. Intermediate Shafts, diameter as fitted 222 mm. Thrust Shaft, diameter at collars as per Rule 235 mm.  
as fitted 340 mm. as fitted 241 mm. Is the screw shaft fitted with a continuous liner Yes.  
Tube Shaft, diameter as per Rule 14.9 mm. as fitted 259 mm. as per rule 11.2 mm. Is the after end of the liner made watertight in the  
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 in 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. Is an approved Oil Gland or other appliance fitted at the after end of the tube.  
Propeller, dia. 11'-2". Pitch 9'-4". No. of blades 3. Material bronze whether Movable No. Total Developed Surface 33.33 sq. feet.  
Method of reversing Engines direct reversible. Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes. Means of lubrication  
forced. 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  
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 led to funnel.  
Cooling Water Pumps, No. 2 off 120 l/h. centrifugal. 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. 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 2 off 150 mm. dia. x 175 mm. stroke. 1 off 7" x 10" x 10" duplex. 1 off 20 l/h. electrically.  
How driven by main engines. by steam engine. electrically.  
Ballast Pumps, No. and size 1 off 9" x 10" x 10" duplex. Lubricating Oil Pumps, including Spare Pump, No. and size 2 off 50 l/h. cog wheel.  
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 3 off 3 1/2", 2 off 1 1/2" (COFFERDAMS), 2 off 3 1/2" HOSE SUCTIONS. In Pump Room 1 off 4".  
In Holds, &c. AFT COFF.: 1 off 4 1/2". FORWARD COFFERD.: 1 off 3". FORWARD PUMP ROOM: 1 off 3". DRY HOLD: 2 off 3".  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off 7", 1 off 3".  
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 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 in hull. 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 steel vessel.  
Main Air Compressors, No. 3. No. of stages 3. Diameters 600-540-20 Stroke 320 mm. Driven by main engines.  
Auxiliary Air Compressors, No. see special Rpt. No. of stages 1. Diameters 106-34 mm. Stroke 80 mm. Driven by steam.  
Small Auxiliary Air Compressors, No. 1. No. of stages 2. Diameters 106-34 mm. Stroke 80 mm. Driven by steam.  
Scavenging Air Pumps, No. 1. Diameter 106 mm. Stroke 80 mm. Driven by steam.  
Auxiliary Engines crank shafts, diameter as per Rule see special Rpt. Position — main engine room.

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. 2 WORKING 2 SPARE. Cubic capacity of each 150 LITERS. Internal diameter 312 mm. thickness 19 mm.  
Seamless, lap welded or riveted longitudinal joint lap welded Material S.Y. steel. Range of tensile strength 22.2 to 25 kg/cm<sup>2</sup>. Working pressure by Rules 65 kg/cm<sup>2</sup>. Actual 65 kg/cm<sup>2</sup>.  
Starting Air Receivers, No. 1. Total cubic capacity 16 m<sup>3</sup>. 575 cb. ft. Internal diameter 5'-11 1/2" 6'-1" thickness 1/16" 1/32" 1/16" ENDS 1/16".  
Seamless, lap welded or riveted longitudinal joint 36 lb. rivets Material S.Y. steel. Range of tensile strength SHELL 28 kg/cm<sup>2</sup> RIVETS 26 kg/cm<sup>2</sup>. Working pressure by Rules 25 kg/cm<sup>2</sup>. Actual 25 kg/cm<sup>2</sup>.



W261-0027



IS A DONKEY BOILER FITTED? *Yes, 2 off* If so, is a report now forwarded? *Yes*

Is the donkey boiler intended to be used for domestic purposes only *for dealing with the oil cargo*

PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Tanks *yes*  
(If not, state date of approval)  
Donkey Boilers *27/3 30* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*

### SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied *as per accompanying list*

The foregoing is a correct description,

**AKTIESELSKABET  
DURMEISTER & WAINSKIN- OG SKIBSBYGGERI**

Manufacturer.

Dates of Survey while building  
During progress of work in shops - *11/4 12/5 14/5 30/5 11/6 13/6 16/6 17/6 19/6 21/6 24/6 25/6 26/6 1/7 2/7 7/7 14/7 15/7 20/7 23/7 1/8 2/8 4/8 5/8 8/8 12/8 16/8 17/8 20/8 21/8 22/8*  
During erection on board vessel - *11/12 20/12 1930 23/1 10/2 20/2 3/3 11/3 18/3 27/3 28/3 1/4 18/4 1931*  
Total No. of visits *71*

Dates of Examination of principal parts—Cylinders *and* Covers *8/8 20/8 11/9 30/9* Pistons *4/8 20/8 11/9 30/9* Rods *✓* Connecting rods *30/5 19/6 5/8 8/8*

Crank shafts *14/5 30/5 16/6 1/8 22/8 9/9* Flywheel shaft *✓* Thrust shafts *3/24 22/8 9/9* Intermediate shafts *25/10* Tube shaft *✓*

Screw shafts *25/10 4/11* Propellers *23/1* Stern tubes *14/10 4/11 4/12 23/1* Engine seatings *20/12 23/1* Engines holding down bolts *20/2*

Completion of fitting sea connections *23/1* Completion of pumping arrangements *18/3* Engines tried under working conditions *5/9 24/9 1/4 18/4*

Crank shaft, Material *S.M. ingot steel* Identification Mark *22-830 48-730* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *S.M. ingot steel* Identification Mark *42-830 48-730* Intermediate shafts, Material *S.M. ingot steel* Identification Marks *25-10-30*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S.M. ingot steel* Identification Mark *25-10-30*

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 *Yes*

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 *✓*

Is this machinery duplicate of a previous case *✓* If so, state name of vessel *✓*

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

*This machinery has been constructed and fitted under special survey and in accordance with the Society's Rules, the approved plans and the requirements contained in the Secretary's letters of dates 12/12 1929, 12/2 24/5 25/7 1930. The dimensions are as specified, and the material has been examined and tested as per Rules, either by the undersigned or as per Certificate producers, and found good, and the workmanship is of good quality throughout.*

*On completion of the installation the main engine with all their accessories were tried under full power working conditions and found to work satisfactorily, and on the final trial trip the manoeuvring of the main engine was tested and found good.*

*Recommend the vessel's machinery to have notation of **+LMC-4-31**, OIL ENGINES and C.L.*

The amount of Entry Fee *1/4 109.20*

Special *1859.13*

Donkey Boiler Fee *76.44*

Travelling Expenses (if any) *150.00*

LATE FEE *30.00*

Committee's Minute

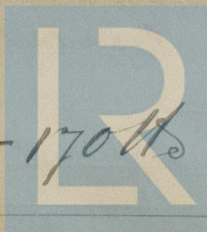
FRI. 15 MAY 1931

Assigned

*+ Lmc, 4. 31 oil eng. 2DB-170H*

CERTIFICATE WRITTEN.

*A. F. Debeuch, Clerk.*  
Engineer Surveyor to Lloyd's Register of Shipping.



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