

REPORT ON OIL ENGINE MACHINERY.

No. 8494.
11 MAY 1931

Received at London Office

Date of writing Report 23/4 31 1931. When handed in at Local Office 11/4 1930 Port of Copenhagen
No. in Survey held at Copenhagen & Narskov Date, First Survey 11/4 1930 Last Survey 18/4 1931
Reg. Book. 90858 Number of Visits 71

90858 on the Single Screw vessel "HENRIK AMELN" Tons: Gross 6245.91 Net 3646.46
Built at Narskov By whom built Narskov Skibsverft Yard No. 44 When built 1931
Engines made at Copenhagen By whom made Brennestein & Wain Engines No. 1890 When made 1931
Donkey Boilers made at Charluis By whom made Fuchs Boiler No. 850-1 When made 1930
Brake Horse Power alt. 2400 Owners Frigthart (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

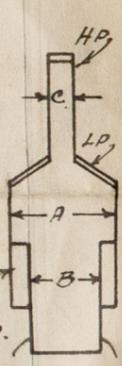
OIL ENGINES, &c.—Type of Engines Vertical Diesel, Turbine type, air injection, 4 stroke cycle Single or double acting single
Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 550 mm Length of stroke 1000 mm No. of cylinders 2 x 6 No. of cranks 2 x 6
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 730 mm Is there a bearing between each crank yes
Revolutions per minute 145 Flywheel 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° cent. lob. Mid. length thickness 193 mm shrunk Thickness around eyehole 159 mm
Flywheel Shaft, diameter as per Rule 338 mm Intermediate Shafts, diameter as per Rule 241 mm Thrust Shaft, diameter at collars as per Rule 235 mm
as fitted 340 mm as fitted 222 mm as fitted 340 mm

Tube Shaft, diameter as per Rule 241 mm Is the screw shaft fitted with a continuous liner yes
as fitted 259 mm as fitted 259 mm as per rule 11.2 mm
Bronze Liners, thickness in way of bushes as per Rule 14.9 mm Thickness between bushes as per rule 14 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 yes Is an approved Oil Gland or other appliance fitted at the after end of the tube yes
shaft yes If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 1300 mm
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
Cooling Water Pumps, No. 2 off 20 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 st. | 1 off 7" x 10" x 10" duplex | 1 off 20 l/h
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, yes
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", FORWD. COFFERD.: 1 off 3", FORWD. 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 yes How are they protected yes
What pipes pass through the deep tanks yes 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 hinged Is it fitted with a watertight door yes worked from steel vessel

Main Air Compressors, No. 3 No. of stages 3 Diameters 600-540-120 Stroke 320 mm Driven by main engines
Auxiliary Air Compressors, No. see special Rpt. No. of stages 1 Diameters 106-34 Stroke 80 mm Driven by steam
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 106-34 Stroke 80 mm Driven by steam
Scavenging Air Pumps, No. 1 Diameter see special Rpt. Stroke see special Rpt. Driven by main engine room
Auxiliary Engines crank shafts, diameter as per Rule see special Rpt. Position main engine room
as fitted see special Rpt. No. 2

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 Cubic capacity of each 150 LITERS Internal diameter 312 mm thickness 19 mm
2 SPARE 300 Internal diameter 450 thickness 25
Seamless, lap welded or riveted longitudinal joint lap welded Material S.M. steel Range of tensile strength 22.2 to 25 Working pressure by Rules 67.8 kg/cm²
Actual 65 kg/cm²
Starting Air Receivers, No. 1 Total cubic capacity 16 m³ 575 cb. ft. Internal diameter 5'-11 1/8"; 6'-1" thickness 5/16"; 1/32" ENDS 1/31"
Seamless, lap welded or riveted longitudinal joint 36 lb riveted Material S.M. steel Range of tensile strength SHELL 28 5/10; RIVETS 26 Working pressure by Rules 25.0 kg/cm²
Actual 25 kg/cm²



473
627.5
9, 24, 29
2, 26, 31-
its 64

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*
 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 & WAJNS MASKIN- 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	14/8, 30/8, 16/8, 22/8, 2/9	Flywheel shaft	✓	Thrust shafts	3/24, 22/8, 8/9	Intermediate shafts	25/10	Tube shaft	✓
Screw shafts	25/10, 4/11	Propellers	23/11	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 *22-8-30 48-7-30* Flywheel shaft, Material *✓* Identification Mark *✓*
 Thrust shaft, Material *S.M. ingot steel* Identification Mark *42-8-30 48-7-30* Intermediate shafts, Material *S.M. ingot steel* Identification Marks *α 25-10-30*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S.M. ingot steel* Identification Mark *α 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's producer, and found good, and the workmanship is of good quality throughout. On completion of the installation the main engines 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 engines 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 .. *1/2* 109.20: When applied for, 8.5.19 31. *ADPMB*
 Special 1859.13: When received, 1635.81-1.6.31 *Coll. ✓*
 MARTIN'S RECEIVER 76.44
 Donkey Boiler Fee 150.00: 1100.96-96/31 *M 196 ✓*
 Travelling Expenses (if any) & 512.00:
 LATE FEE -- 30.00

Committee's Minute **FRI, 15 MAY 1931**
 Assigned *+ Luml, H. 31 oil sup. 20B-170H C.A.*

A.O. Fuchs, M. Wilkiff
 Engineer Surveyors to Lloyd's Register of Shipping.



Certificate (if required) to be sent to Surveyors' Office, Open