

# REPORT ON OIL ENGINE MACHINERY.

No. 5678  
19 JUN 1951

Received at London Office

Date of writing Report 18-5-51 When handed in at Local Office 19 51 Port of Groningen  
 No. in Survey held at Meppel Date, First Survey 16-9-50 Last Survey 17-5-51  
 Reg. Book. Number of Visits 25  
 on the <sup>Single</sup> ~~Triple~~ ~~Quadruple~~ Screw vessel "PELO" Tons Gross 351 Net 208  
 Built at Meppel By whom built To Worst & Duitner Yard No. 101 When built 1951  
 Engines made at Köln-Deutz By whom made Klöckner-Humboldt-Deutz Engine No. 1275905-10 When made 1951  
 Donkey Boilers made at — By whom made — Boiler No. — When made —  
 Brake Horse Power 295 Owners E. Mooy Port belonging to Groningen  
 M.N. Power as per Rule 72 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which vessel is intended NHP = 66 Ocean trade

OIL ENGINES, &c. — Type of Engines heavy oil eng; type RV6 M536 2 or 4 stroke cycle 4 Single or double acting single  
 Maximum pressure in cylinders 55 kg/cm<sup>2</sup> Diameter of cylinders 108 mm Length of stroke 147 mm No. of cylinders 6 No. of cranks 6  
 Mean Indicated Pressure 6.9 kg/cm<sup>2</sup> Ahead Firing Order in Cylinders 6-5-4-1-2-3 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 278 mm Is there a bearing between each crank yes Revolutions per minute 393  
 Flywheel dia. 1200 mm Weight 4000 kg Moment of inertia of flywheel ( $Hb. in^2$  or  $Kg. m^2$ ) 880 Means of ignition Compz. Kind of fuel used Diesel oil  
 Crank Shaft, <sup>Solid forged</sup> ~~Semi built~~ ~~All built~~ dia. of journals as per Rule Crank pin dia. 165 mm Crank webs Mid. length breadth 300 mm Thickness parallel to axis —  
 Intermed. Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule  
 Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the <sup>tube</sup> ~~screw~~ shaft fitted with a continuous liner no  
 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 —  
 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 tube shaft yes If so, state type with rubber ring Length of bearing in Stern Bush next to and supporting propeller 500 mm

Propeller, dia. 1450 mm Pitch 875 mm No. of blades 4 Material brass whether moveable solid Total developed surface 48%  
 Moment of inertia of propeller ( $Hb. in^2$  or  $Kg. m^2$ ) 89 Kind of damper, if fitted —  
 Method of reversing Engines by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners 18 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 sucked back to the engine funnel Cooling Water Pumps, No. 2 (one attached of 11 m<sup>3</sup>/h + one spare duty + one independent of 29 m<sup>3</sup>/h) Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

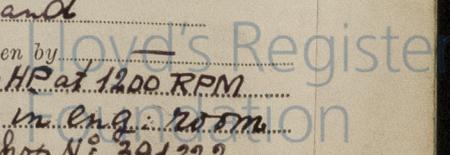
Bilge Pumps worked from the Main Engines, No. 2 (one attached of 11 m<sup>3</sup>/h + one shaft driven of 16 m<sup>3</sup>/h) Can one be overhauled while the other is at work yes  
 Pumps connected to the Main Bilge Line No. and size 1 x 11 m<sup>3</sup>/h 1 x 16 m<sup>3</sup>/h 1 x 29 m<sup>3</sup>/h How driven m.e. m.e. a.e.  
 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 of 29 m<sup>3</sup>/h Power Driven Lubricating Oil Pumps, including spare pump, No. and size one of 105 l/min. + one rotary (test.)  
 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 by aft 1 x φ 2", forward 2 x φ 2 1/2" In pump room —  
 In holds, &c. forward 2 x φ 2" aft 2 x φ 2 1/2" Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 x φ 2" + 1 x φ 2 1/2"

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes yes Are the bilge suction 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 on welded chests Are they fitted with valves or cocks cocks 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 —  
 What pipes pass through the bunkers none 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 mach. aft 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. one No. of stages two diameters 145/60 stroke 75 driven by m.e.  
 Auxiliary Air Compressors, No. one No. of stages two diameters 85/75 stroke 70 driven by a.e.  
 Small Auxiliary Air Compressors, No. — No. of stages — diameters — stroke — driven by —

What provision is made for first charging the air receivers aux. engine starting by hand  
 Scavenging Air Pumps, No. — diameter — stroke — driven by —  
 Auxiliary Engines crank shafts, diameter as per Rule No. one Sister 16 HP at 1200 RPM Position pos. below in eng. room  
 Have the auxiliary engines been constructed under special survey no Is a report sent herewith shop N° 391222



**AIR RECEIVERS:**—Have they been made under survey... *yes* State No. of report or certificate... *Düsseldorf 541 & 1034*

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. — Cubic capacity of each — Internal diameter — thickness —

Seamless, welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure — by Rules — Actual —

Starting Air Receivers, No. *two* Total cubic capacity... *750 l* Internal diameter... *460 mm* thickness... *10 mm*

Seamless, welded or riveted longitudinal joint... *welded* Material... *SM steel* Range of tensile strength... *47-53 kg/mm<sup>2</sup>* Working pressure — by Rules... *30 kg/mm<sup>2</sup>* Actual... —

**IS A DONKEY BOILER FITTED** *no* 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 shafting... *11-12-'50* Receivers... — Separate fuel tanks... *17-'51*

Donkey boilers — General pumping arrangements... *13-10-'50* Pumping arrangements in machinery space... *5-6-'51*

Oil fuel *pipings* arrangements... *13-11-'50*

Have Torsional Vibration characteristics been approved... *yes* Date of approval... *2-11-1950*

**SPARE GEAR.**

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

State the principal additional spare gear supplied —

N.V. Machinefabriek & Rep.bedrijf  
**D. E. GORTER**

The foregoing is a correct description, *W. J. J. J. J.* Manufacturer.

Dates of Survey while building — During progress of work in shops — *please see Düsseldorf Rpt N° 15*

During erection on board vessel — *1950: 5-10; 13, 15, 22-12; 1951: 5-1; 5-2; 5, 27, 28-3; 9, 10, 11, 12, 26-4; 5, 10, 17-5.*

Total No. of visits... *25*

Dates of examination of principal parts — Cylinders *26-1, 30-1* Covers *30-1* Pistons *26.2.51* Rods — Connecting rods *17.11.50*

Crank shaft *22.26.2.51* Interm. shaft *16.9.50* Thrust shaft *22.26.2.51* Intermediate shafts *13-12-50* Couplings *13-12-50*

Screw shaft *13-12-50* Propeller *13-12-50* Stern tube *13-12-50* Engine seatings *5-2-51* Engine holding down bolts *12-4-'51*

Completion of fitting sea connections *22-12-'50* Completion of pumping arrangements *17-5-'51* Engines tried under working conditions *17-5-'51*

Crank shaft, material *SM steel* Identification mark *Lloyds F565 Interm. shaft, material, SM steel Identification mark, Lloyds HB20*

Thrust shaft, material *SM steel* Identification mark *SM steel* Intermediate shafts, material *SM steel* Identification marks *Lloyds 914 AZM 13.12.50*

Coupling *Cast steel* Identification mark *Lloyds 915 AZM 13.12.50* Screw shaft, material *SM steel* Identification mark *Lloyds 913 AZM 13.12.50*

Identification marks on air receivers *Lloyds Test Klöckner-Humboldt-Deutz Nos H-1704 & 1162 TP 60 Atm WP 30 Atm HB 22.12.50 & 11.8.50*

Welded receivers, state Makers' Name... *Klöckner-Humboldt-Deutz*

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*

Description of fire extinguishing apparatus fitted... *foam; 13 of 2 gallons each*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... *no* 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... *no* If so, state name of vessel —

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

*This engine has been constructed under Special Survey of tested materials and is in accordance with the Secretary's letters, approved plans and Rule requirements. The materials and workmanship are good and the engine when tested in the shops and on trial trip under full condition was found to function satisfactorily. The governor and manoeuvring tests were satisfactory. This machinery is in our opinion eligible to receive the record*

*\* LMC 5, 51, Oil Engine, O.G.*

*MBS\**

*See also data on Int. Cert.*

The amount of Entry Fee ... £ ...

Special ... *fl 132.00* When applied for... *16.5.1951*

Donkey Boiler Fee... £ ... When received... 19

Travelling Expenses (if any) *fl 166.00*

Committee's Minute... **FRI. 13 JUL 1951**

Assigned... *MBS\* 5.51*  
*O.G.*

*W. J. J. J. J.*  
Engineer Surveyor to Lloyd's Register of Shipping.

