

der No. 55309

Auxiliary

st. 4c.

# REPORT ON OIL ENGINE ~~ELECTRIC~~ GENERATOR SETS.

No. 80.

15 JUL 1933

Date of writing Report 6th June 1933 When handed in at Local Office Cologne Port of DUSSELDORF  
No. in Survey held at Cologne Date, First Survey 18th May 1933 Last Survey 2nd June 1933  
Reg. Book. Three Number of Visits Three

on the Single Screw vessel Zwaarte Lee (Motor Tug)  
Triple  
Quadruple  
Built at Branderdyk By whom built G. & H. Luit's Scheepsweren Yard N. When built 1933

Port belonging to Cologne - Keutz By whom made Humboldt - Deutzmotoren A.G. Contract No. 280394/98 When made 1933  
Generators made at Cologne - Keutz By whom made Humboldt - Deutzmotoren A.G. Contract No. 280394/98 When made 1933  
No. of Sets 1 Engine Brake Horse Power 40 Nom. Horse Power as per Rule 22.5 Total Capacity of Generators 2 Kilowatts.

IL ENGINES, &c. Type of Engines Heavy Oil Engine 6 No 2 130 2 stroke cycle Single double acting  
Maximum pressure in cylinders 45 kg p. sq. cm. Diameter of cylinders 200 mm Length of stroke 300 mm No. of cylinders Two No. of cranks Two  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 274 mm Is there a bearing between each crank Yes  
Revolutions per minute 430 Flywheel dia. 1300 mm Weight 412 kg Means of ignition sol. injection Kind of fuel used C  
Crank Shaft, dia. of journals as per Rule 130 mm Crank pin dia. 120 mm Crank Webs Mid. length breadth 189 mm Thickness parallel to axis shrunk  
as fitted Mid. length thickness 65 mm Thickness around eye-hole 28 mm  
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 28 mm  
as fitted

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication by pressure  
Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water cooled  
Cooling Water Pumps, No. One Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
Lubricating Oil Pumps, No. and size 1 Worm Pump

Air Compressors, No. Two No. of stages Two Diameters 340 mm Stroke 155 mm Driven by levers  
Scavenging Air Pumps, No. Two Diameter 340 mm Stroke 155 mm Driven by levers

IR 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 Yes What means are provided for cleaning their inner surfaces Yes  
Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. One Cubic capacity of each 120 litres Internal diameter 309 mm thickness 8 mm  
Seamless, lap welded or riveted longitudinal joint Seamless Material S. N. Steel Range of tensile strength 58.9 kg p. sq. cm. Working pressure by Rules 35 kg p. sq. cm.  
Starting Air Receivers, No. One Total cubic capacity 120 litres Internal diameter 309 mm thickness 8 mm  
Seamless, lap welded or riveted longitudinal joint Seamless Material S. N. Steel Range of tensile strength 58.9 kg p. sq. cm. Working pressure by Rules 35 kg p. sq. cm.

ELECTRIC GENERATORS:—Type Compound wound Type G 420  
Pressure of supply 110 volts. Load 410 Amperes. Direct or Alternating Current Direct

If alternating current system, state frequency of periods per second ✓  
Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off yes  
Generators, do they comply with the requirements regarding rating yes are they compound wound yes  
are they over compounded 5 per cent. yes, if not compound wound state distance between each generator ✓  
is an adjustable regulating resistance fitted in series with each shunt field ✓ Are all terminals accessible, clearly marked, and furnished with sockets yes  
are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched yes Are the lubricating arrangements of the generators as per Rule yes

PLANS. Are approved plans forwarded herewith for Shafting 14th March 1933 Receivers 10th April 1933 Separate Tanks ✓  
(If not, state date of approval)

SPARE GEAR as per Rules.

The foregoing is a correct description.

Humboldt-Deutzmotoren

Aktiengesellschaft

Manufacturer.



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Lloyd's Register  
Foundation

003712-003719-0306



Dates of Survey while building { During progress of work in shops - - 18<sup>th</sup> May, 24<sup>th</sup> May and 2<sup>nd</sup> June 1933.  
 { During erection on board vessel - - -  
 Total No. of visits Three

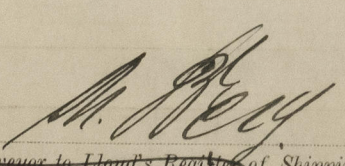
Dates of Examination of principal parts—Cylinders 18<sup>th</sup> V. 33. Covers 18<sup>th</sup> V. 33. Pistons 2<sup>nd</sup> VI. 33. Piston rods  
 Connecting rods 2<sup>nd</sup> VI. 33. Crank and Flywheel shaft 31<sup>st</sup> I. 33. Intermediate shaft  
 Crank and Flywheel shafts, Material Siemens - Martin Steel Identification Mark 14859 G. H. 31.1.33.  
 Intermediate shafts, Material Identification Marks

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. The engine is built in accordance with the approved plans and the requirements embodied in the Secretary's letter of the 17<sup>th</sup> March 1932 and 10<sup>th</sup> April 1930, and otherwise in accordance with the requirements of the Rules. Materials and workmanship are of best quality, the outfit is ample. The engine has been tested under full working conditions for about three hours on the trial stage in machine shop and has given full satisfaction. After trial all working parts have been opened up and were found on examination in good condition. This engine has been built under special survey and will be fitted on board the vessel, "Zwart Lee" Messrs. J. & K. Smit's Scheepswerven of Kinderdijk. In my opinion this machinery is eligible for notation of L.M.C. 6.33.

1m.9.28 - Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 6 : 0 : When applied for, 6<sup>th</sup> June 1933. Acc. No. 6944.  
 Travelling Expenses (if any) £ 2 : 4 : When received, 12<sup>th</sup> July 1933.

  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 20 OCT 1933  
 Assigned Lee J. C. Reay