

Number: 687138

pt. 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 160

Date of writing Report 13th Feb. 1937 When handed in at Local Office 19 Port of Hamburg
No. in Survey held at Reg. Book. 6609 Date, First Survey 18th June 1936 Last Survey 12th Feb. 1937
Number of Visits four

Single on the Twin Triple Quadruple Screw vessel BOTHNIA Tons { Gross Net
Built at Albstadt By whom built Messrs. Han Guit & Zoon Yard No. 521 When built 1932
Owners Port belonging to
Oil Engines made at 6609 By whom made Messrs. Humboldt-Deutzmotoren A.G. Contract No. 425632/33 When made 1932
Generators made at By whom made Contract No. When made
No. of Sets One Engine Brake Horse Power 36 Nom. Horse Power as per Rule 14.5 Total Capacity of Generators Kilowatts.

OIL ENGINES, &c.—Type of Engines Heavy oil engine P.M. 2 122 2 or 4 stroke cycle 2 Single or double acting single
Maximum pressure in cylinders 45 kg/cm² Diameter of cylinders 150 mm Length of stroke 220 mm No. of cylinders two No. of cranks two
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 210 mm Is there a bearing between each crank yes
Revolutions per minute 600 Flywheel dia. 940 mm Weight 240 kg Means of ignition solid injection Kind of fuel used on test but gas oil
Crank Shaft, dia. of journals as per Rule 90 mm as fitted 90 mm Crank pin dia. 90 mm Crank Webs Mid. length breadth 128 mm Thickness parallel to axis shrunk Mid. length thickness 51 mm Thickness around eyehole
Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 20 mm
Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced
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 60 mm & 20 mm stroke Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Lubricating Oil Pumps, No. and size 1 tooth wheel pump capacity 51 ltr./hr. at 1260 r.p.m.
Air Compressors, No. No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. two Diameter 260 mm Stroke 115 mm Driven by auxil. engine

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule
Can the internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces
Is there a drain arrangement fitted at the lowest part of each receiver
High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules
Starting Air Receivers, No. Total cubic capacity Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

ELECTRIC GENERATORS:—Type
Pressure of supply volts. Full Load Current Amperes. Direct or Alternating Current
If alternating current system, state the periodicity Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on and off
Generators, are they compounded as per rule is an adjustable regulating resistance fitted in series with each
shunt field Are all terminals accessible, clearly marked, and furnished with sockets
are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Are the lubricating arrangements of the generators as per Rule
If the generators are under 100 kw. full load rating, have the makers supplied certificates of test and do the results comply with the requirements
If the generators are 100 kw. or over have they been built and tested under survey

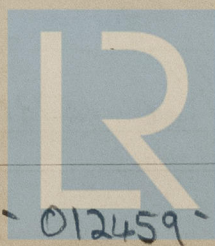
PLANS. Are approved plans forwarded herewith for Shafting 1/2 622472A 17.11.32 Receivers Separate Tanks
(If not, state date of approval)
SPARE GEAR as per Rules.

The foregoing is a correct description,

Humboldt-Deutzmotoren

Aktiengesellschaft

Manufacturer.



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Lloyd's Register Foundation

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Dates of Survey while building { During progress of work in shops - - } 18th June 1936, 6th February, 20th February, 22nd February 1937.
 { During erection on board vessel - - - }
 { Total No. of visits } four

Dates of Examination of principal parts—Cylinders 6. II. 3 22. II. 37. Covers 6. II. 37. Pistons 6. II. 3 22. II. 37 Piston rods

Connecting rods 22. II. 37. Crank and ~~Flywheel~~ shaft 18. VI. 36 6. II. 3 22. II. 37. Intermediate shaft

Crank and ~~Flywheel~~ shafts, Material 4. M. Steel Identification Mark 40 yds 16343 K.H. 18. VI. 36.

Intermediate shafts, Material Identification Marks

Is this machinery duplicate of a previous case Yes If so, state name of vessel Messrs. My. de Kroat Yacht No. 523. Düsseldorf Report 83.

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

This auxiliary heavy oil engine has been constructed under special survey in accordance with the Society's rules and regulations as well as with the approved plans and the instructions thereto. The material used in the construction was found to be good and the workmanship satisfactory. The auxiliary engine has been tested as makers test but in the presence of the undersigned under full load and 10% overload during 10 hours and was found working satisfactory during these trials.

A copy of this report has been forwarded to the Fustenturm Hamburg.

The main engine for the same vessel is still under construction at the works of Messrs. Humboldt-Deutzmaschinen A. G.

1m. 238.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

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|--------------------------------|---|---|-------------------|
| The amount of Fee £ | : | : | When applied for, |
| | | | 19..... |
| Travelling Expenses (if any) £ | : | : | When received, |
| | | | 19..... |

H. Hingemann
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 2 JUL 1937

Assigned See Rec 25731