

4c. **REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.** No. 11756

Received at London Office 25 AUG 1945  
 of writing Report 1<sup>st</sup> August 1945 When handed in at Local Office 19 Port of Copenhagen  
 in Survey held at Halundborg & Odense Date, First Survey 14<sup>th</sup> November 1939 Last Survey 8<sup>th</sup> July 1945  
 Number of Visits 19

on the Motor **KATRINE MÆRSK** Tons Gross 10043.07 Net 6096.87  
 Single Triple Quadruple Screw vessel.  
 at Odense By whom built Odense Haalsteds værk 7/5 Yard No. 88 When built 1912  
 Engines made at Halundborg By whom made Motorfabriken BUKH ENGINE Contract No. 4731 When made 1940  
 Generators made at Odense By whom made Thomas B. Thøgers GENERATOR Contract No. 234674 When made 1940  
 of Sets 1 Engine Brake Horse Power 30/36 Nom. Horse Power as per Rule 11 Total Capacity of Generators 18 Kilowatts.

**ENGINES, &c.**—Type of Engines Heavy oil engine, trunk piston, solid injected, 2 or 4 stroke cycle 4 Single or double acting single  
 Maximum pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 135 3/4 Length of stroke 180 3/4 No. of cylinders 4 No. of cranks 4  
 Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 138 3/4 Is there a bearing between each crank yes  
 Revolutions per minute 600 Flywheel dia. 675 3/4 Weight 264 kg Means of ignition compression Kind of fuel used heavy oil  
 Crank Shaft, dia. of journals as per Rule 71.5 3/4 as fitted 95 3/4 Crank pin dia. 85 3/4 Crank Webs Mid. length breadth 135 3/4 Thickness parallel to axis shrunk  
 Mid. length thickness 37 3/4 Thickness round eyehole shrunk  
 Wheel Shaft, diameter as per Rule shrunk Intermediate Shafts, diameter as per Rule shrunk Thickness of cylinder liners 15 3/4  
 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. 1 800 ltr./hour Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
 Lubricating Oil Pumps, No. and size 1 400 ltr./hour  
 Compressors, No. 0 No. of stages 0 Diameters 0 Stroke 0 Driven by 0  
 Suctioning Air Pumps, No. 0 Diameter 0 Stroke 0 Driven by 0

**RECEIVERS:**—Have they been made under Survey 0 State No. of Report or Certificate 0  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule 0  
 Are the internal surfaces of the receivers be examined 0 What means are provided for cleaning their inner surfaces 0  
 Is there a drain arrangement fitted at the lowest part of each receiver 0

**High Pressure Air Receivers, No.** 0 Cubic capacity of each 0 Internal diameter 0 thickness 0  
 Is it lap welded or riveted longitudinal joint 0 Material 0 Range of tensile strength 0 Working pressure by Rules 0  
**Low Pressure Air Receivers, No.** 0 Total cubic capacity 0 Internal diameter 0 thickness 0  
 Is it lap welded or riveted longitudinal joint 0 Material 0 Range of tensile strength 0 Working pressure by Rules 0

**ELECTRIC GENERATORS:**—Type Drip proof ventilated  
 Voltage of supply 110 volts. Full Load Current 164 Amperes. Direct or Alternating Current direct current  
 Is it an alternating current system, state the periodicity 0 Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown off yes  
 Are the generators, are they compounded as per Rule yes Is an adjustable regulating resistance fitted in series with each shunt field yes  
 Are all terminals accessible, clearly marked, and furnished with sockets yes Are they so spaced yes  
 Are the generators shielded that they cannot be accidentally earthed, short circuited, or touched yes Are the lubricating arrangements of the generators as per Rule yes  
 Are the generators under 100 kw. full load rating, have the makers supplied certificates of test yes and do the results comply with the requirements yes  
 Are the generators 100 kw. or over have they been built and tested under survey 0

**APPROVED PLANS:**—Are approved plans forwarded herewith for Shafting London 4-1-39 Receivers 0 Separate Tanks 0  
 (If not, state date of approval)  
**SHAFTING GEAR** as per Rule

The foregoing is a correct description,  
**MOTORFABRIKEN BUKH 7/5**  
 C. Bukh  
 Manufacturer.

Dates of Survey while building  
 During progress of work in shops - - 1939: 20/9 - 27/9 - 10/10 - 14/11 - 8/12 1940: 4/6  
 During erection on board vessel - - 1943: 4/8 - 26/8 - 22/9 - 2/11 - 17/11 1944: 2/2 - 10/3 1945: 3/7 - 4/7 - 5/7 - 6/7 - 7/7 - 8/7  
 Total No. of visits 19

Dates of Examination of principal parts—Cylinders 4/6-1940 Covers 4/6-1940 Pistons 4/6-1940 Piston rods ✓  
 Connecting rods 10/10-14/11-8/12 1939 Crank and Flywheel shafts 20/9-27/9-1939-4/6-1940 Intermediate shafts ✓

Crank shaft { Material Siemens Martin Ingot Steel. Tensile strength 62.2 kg/cm<sup>2</sup>  
 Elongation 29%. Identification Marks Lloyd's No 5052 44-6-40

Flywheel shaft, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case ✓ Identification Marks ✓

Identification marks on Air Receivers ✓

Is this machinery duplicate of a previous case yes If so, state name of vessel 4/ Caroline Mark Oance 83

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This engine has been constructed under Special Survey in accordance with the Rules and the approved plan of the crank shaft. The material used has been tested as required by the Rules and the workmanship is good.  
On completion of the installation the engine was tested under working conditions and found satisfactory.

The amount of Fee ... £ 175.00 When applied for 8/9 1941  
 Travelling Expenses (if any) £ 32.00 When received 3/10 1941

Committee's Minute FRI. 11 JAN 1946  
 Assigned see minute on P.B. Rpt.

W. Lawrence  
 Surveyor to Lloyd's Register of Shipping  
 Lloyd's Register Foundation

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 (The Surveyors are requested not to write on or below the space for Committee Minute.)