

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 11027

Received at London Office

20 OCT 1939

Date of writing Report 10 Oct. 1939 When handed in at Local Office 10 Port of Copenhagen

No. in Survey held at Copenhagen, Odense & Esbinae Date, First Survey 2nd January 1939 Last Survey 1st October 1939
Reg. Book. 39505 on the Single Screw vessel "INDIAN REEFER". Number of Visits 30.

Built at Esbinae By whom built Helsingfors Jernsk. & Mstsk. Yard No. 259 When built 1939
Owners J. Lauritzen Port belonging to Esbjerg
Oil Engines made at Copenhagen By whom made Bürmeister & Wain Contract No. 3127-8-9 When made 1939.
Generators made at Odense By whom made Thomas B. Thrice Contract No. 232790-91-92 When made 1939.

No. of Sets 3 Engine Brake Horse Power 360 Nom. Horse Power as per Rule 360 Total Capacity of Generators 720 Kilowatts.
Tons { Gross 7814.86
Net 1557.72

OIL ENGINES, &c.—Type of Engines Sicrel, link pistons, solid inject 2 or 4 stroke cycle 4 Single or double acting single
Maximum pressure in cylinders 49 kg/cm² Diameter of cylinders 245 mm Length of stroke 400 mm No. of cylinders 6 No. of cranks 6
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 303 mm. Is there a bearing between each crank Yes
Revolutions per minute 500. Flywheel dia. 1300 mm Weight 1276 kgs. Means of ignition Compression Kind of fuel used heavy oil.
Crank Shaft, dia. of journals as per Rule 147 mm Mid. length breadth 435 mm Thickness parallel to axis 78 mm
as fitted 155 mm Crank pin dia. 155 mm Crank Webs Mid. length thickness 78 mm Thickness around eye-hole ✓
Flywheel Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule ✓ Thickness of cylinder liners 20 mm
as fitted ✓ as fitted ✓

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 lagged.
Cooling Water Pumps, No. Independent Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.
Lubricating Oil Pumps, No. and size 1 off - 6.5 m³/hour for each engine
Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

AIR RECEIVERS:—Have they been made under Survey Yes. State No. of Report or Certificate 862.
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 ✓
Is there a drain arrangement fitted at the lowest part of each receiver Yes.
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 ✓
EMERGENCY-Starting Air Receivers, No. 1 off Total cubic capacity 200 litres Internal diameter 380 mm thickness 11.0 mm
Seamless, lap welded or riveted longitudinal joint lap welded Material S. M. Steel Range of tensile strength 28.7 Ton/cm² Working pressure by Rules 378 kg/cm²

ELECTRIC GENERATORS:—Type rip proof, ventilated.
Pressure of supply 220 volts. Full Load Current 1090 Amperes. Direct or Alternating Current direct.
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 Yes
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 or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes.
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 Yes.

PLANS. Are approved plans forwarded herewith for Shafting Yes. Receivers 2/2/1935 Separate Tanks ✓
(If not, state date of approval)

SPARE GEAR supplied as per Rules, - and in addition:-
3 Cylinders complete.
3 Pistons complete.
2 Sets of piston rings
2 Complete sets of valves for 1 cylinder
5 Fuel needle valves.

The foregoing is a correct description.

ARTIESELSKABET
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI

C. Hummel

Manufacturer.



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012705-012710-0275

Dates of Survey while building
 During progress of work in shops - - 2/1 - 7/1 - 10/1 - 4/4 - 8/5 - 12/5 - 15/5 - 23/5 - 9/6 - 13/6 - 19/6 - 21/6 - 22/6 - 7/7 - 28/8 - 4/9 - 6/9.
 During erection on board vessel - - - 24/7 - 27/7 - 2/8 - 5/8 - 11/8 - 23/8 - 7/9 - 15/9 - 27/9 - 28/9 - 29/9 - 30/9 - 1/10 1939.
 Total No. of visits 30.

Dates of Examination of principal parts—Cylinders *with* Covers 19/6 - 22/6 Pistons 2/6 Piston rods ✓
 Connecting rods 2/1 - 7/1 - 10/1 - 15/6 Crank and Flywheel shafts 4/4 - 12/5 - 15/5 - 9/6 Intermediate shafts ✓

Crank and Flywheel shafts, Material *S. M. Steel* Identification Marks *Lloyds No 4746-47-48. K.L. 9.6.39.*

Connect. rods ~~Intermediate shafts~~, Material *S. M. Steel* Identification Marks *Lloyds No 4532-37-38 L.J. 15.6.39.*

Identification marks on Air Receivers *No 862. Lloyds Test 56 Atm.
 W.P. 28 Atm.
 C.V. 28.8.39.*

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.)

The above generator sets have been constructed and fitted under special survey in accordance with the Society's Rules and the approved plans. The material has been tested & examined as per Rules and found satisfactory and the workmanship is of good description. The generator sets have been tested under working condition and found to work satisfactorily.

Im. 11. 37. - Transfer. (MADE IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... *£. 800.00* } When applied for, 13.10.1939
 Travelling Expenses (if any) *£. 15.00* } When received, 23/1/40 21/2

L. Laurin *A. H. Vestberg*
 Surveyors to Lloyd's Register of Shipping.

FRI. 27 OCT 1939

Committee's Minute

Assigned

See Cpn. 78, 11024



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