

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 12993

Received at London Office

AUG 17 1940

Date of writing Report 6th June 1940 When handed in at Local Office 18th June 1940 Port of Gothenburg
No. in Survey held at Gothenburg Date, First Survey 14th June 1939 Last Survey 7th May 1940
Reg. Book Suppt. Number of Visits 30

39780 on the Single Screw vessel **BELLONA** Tons { Gross 11267
Net 6800

Built at Gothenburg By whom built A/B. Gotaverken Yard No. 540 When built 1940
Owners Rederi A/B. ZENIT Port belonging to Gothenburg

Oil Engines made at Gothenburg By whom made A/B. Gotaverken Contract No. 1372 When made 1940
Generators made at Odense By whom made Thomas B. Thirge Contract No. 233555 When made 1939

No. of Sets 3 Engine Brake Horse Power 3x190 Nom. Horse Power as per Rule 3x43.4 Total Capacity of Generators 375 Kilowatts.

OIL ENGINES, &c.—Type of Engines Heavy oil 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 45 kg/cm² Diameter of cylinders 240 mm. Length of stroke 360 mm. No. of cylinders 5 No. of cranks 5

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 301 Is there a bearing between each crank Yes

Revolutions per minute 400 Flywheel dia. 1250 mm. Weight 1910 kg Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 141 as fitted 160 Crank pin dia. 160 Crank Webs Mid. length breadth 213.5 Thickness parallel to axis shrunk
Mid. length thickness 80 Thickness around eyehole shrunk

Flywheel Shaft, diameter as per Rule Flywheel fitted as fitted to crankshaft Intermediate Shafts, diameter as per Rule shrunk as fitted shrunk Thickness of cylinder liners 25, 14

Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched 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. 2 @ 430 lit/min. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
connected to main cooling system

Lubricating Oil Pumps, No. and size 1 @ 4 ton/hr. for each engine

Air Compressors, No. none No. of stages — Diameters — Stroke — Driven by —

Scavenging Air Pumps, No. none Diameter — Stroke — Driven by —

AIR RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate 6476

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 Steam & soda

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. none 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. 1 Total cubic capacity 120 liters Internal diameter 302 mm. thickness 8 mm.

Seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength 44/47 kg/cm² Working pressure by Rules 42.5 kg/cm²

ELECTRIC GENERATORS:—Type Diplex Compound

Pressure of supply 220 volts. Full Load Current 568 Amperes. Direct or Alternating Current D.C.

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 28/9/38 Receivers 21/4/39 Separate Tanks 6/10/29
(If not, state date of approval)

SHAFTING. Are approved plans forwarded herewith for Shafting As per Rules.

The foregoing is a correct description,

LLOYD'S REGISTER

[Signature]

Manufacturer. *[Signature]*



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Lloyd's Register

Foundation

003525-003532-0311

Dates of Survey while building { During progress of work in shops - - } 1939 June 14. July 10. Aug. 5. Sept. 11. Oct. 12. Nov. 16. 21. Dec. 1. 4. 6. 13. 1940 Jan 3. 13
 { During erection on board vessel - - - } 1939 Dec. 19. 1940 Jan 26. Feb. 6. 7. 13. 15. 19. 22. 29. Mar. 1. 12. 29. 30. April 1. 9. 12. May 7
 Total No. of visits 30

Dates of Examination of principal parts—Cylinders 14. 16/6. 10/7. 5/8/39 Covers 14. 16/6. 10/7. 5/8/39 Pistons 21/11. 6/12/39 Piston rods ✓

Connecting rods 21/11. 6/12/39 Crank and Flywheel shafts 16/11. 28/12/39 Intermediate shafts ✓

Crank and Flywheel shafts, Material S.M. Steel Identification Marks LLOYDS 10258 W.T.M. 21-3-39 LLOYDS 10259 W.T.M. 21-3-39 LLOYDS 10260 P.K. 25-6-39

Intermediate shafts, Material ✓ Identification Marks ✓

Identification marks on Air Receivers 5464
 LLOYDS TEST
 H.T. 80 ATM.
 W.P. 40 ATM.
 H.J. 21-6-39
 H.J. 6762

Is this machinery duplicate of a previous case Yes If so, state name of vessel ANDREA BRÖVIG. Got. rpt. no. 12832

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

These auxiliary engines have been constructed under special survey in accordance with the Rules & approved plans.
 The materials & workmanship are good and forging reports for the shafting are attached.
 The engines have been securely fitted in the vessel under my inspection and to my satisfaction & have been tested under full power conditions & found in order.

W.S. Ligers
 Surveyor to Lloyd's Register of Shipping.

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

FRI. 23 AUG 1940

Committee's Minute
 Assigned

See fol. J.C. 12993



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