

pt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 3048

Received at London Office 11 FEB 1952

Date of writing Report 6/2 1952 When handed in at Local Office 8/2 1952 Port of MALMÖ

No. in Survey held at Malmö Date, First Survey 5/7-51 Last Survey 29/1 1952  
No. of Visits 13

5993s. on the Single Screw vessel M/T "H A V E R U"  
Triple  
Quadruple  
Tons { Gross 10.491  
Net 6.165

built at Malmö By whom built Kockums Mek. Verkstads A.-B. Yard No. 319 When built 1952  
owners A/S Havtor. Port belonging to Oslo

Engines made at Malmö By whom made Kockums Mek. Verkst. A.-B. Contract No. 418 419 When made 1952  
generators made at Västerås By whom made ASEA Contract No. When made 1950

No. of Sets 2 Engine Brake Horse Power 220 M.N. as per Rule 2x55 Total Capacity of Generators 2x150 Kilowatts.  
Set intended for essential services Yes.

**OIL ENGINES, &c.**—Type of Engines KMV M.A.N. G4 V.42 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 45 kg/cm<sup>2</sup> Diameter of cylinders 285 mm Length of stroke 420mm No. of cylinders 4 No. of cranks 4  
Mean indicated pressure 7.08 kg/cm<sup>2</sup> Firing order in cylinders 1-3-4-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 350

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 7506.4x10<sup>3</sup> Revolutions per minute 350  
Flywheel dia 1650 mm Weight 1675 kg. Means of ignition Compression Kind of fuel used Heavy oil.

Crank Shaft, dia. of journals as fitted 170 mm Crank pin dia 170 mm Crank Webs Mid. length breadth 280 mm Thickness parallel to axis —  
as per Rule — Mid. length thickness 85 mm Thickness round eyehole —

Flywheel Shaft, diameter as per Rule — Intermediate Shafts, diameter as fitted — General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 680.53x10<sup>3</sup>  
as fitted — as fitted —

Are means provided to prevent racing of the engine when declutched Yes Means of lubrication Forced Kind of damper if fitted —  
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. 1-36 M<sup>3</sup>/H Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
Lubricating Oil Pumps, No. and size 1-2 M<sup>3</sup>/H

Air Compressors, No. None 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 Nos. 203&204  
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 Manhole  
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. 2 Total cubic capacity 12 M<sup>3</sup> Internal diameter 1450 mm thickness 25 mm  
Seamless, lap welded or riveted longitudinal joint Riveted Material S.M. Steel Range of tensile strength 49.7-50.7 kg/mm<sup>2</sup> Working pressure by Rules —

**ELECTRIC GENERATORS:**—Type Asea LE 125 (Open ventilated)  
Pressure of supply 230 volts Full Load Current 652 Amperes Direct or Alternating Current D.C.

If alternating current system, state the periodicity — Has the Automatic Governor been tested and found as per Rule when full 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

Are all terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced Yes  
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 Yes and do the results comply with the requirements Yes  
If the generators are 100 kw. or over have they been built and tested under survey Yes

Details of driven machinery other than generator Aux. air compressors No. of stages Two Diam. 300&110mm Stroke 220 mm.

**PLANS.**—Are approved plans forwarded herewith for Shafting 23.7.48 Receivers 10.9.43 (KMV) Separate Tanks —  
(If not, state date of approval) 279)

Have Torsional Vibration characteristics if applicable been approved 23.7.48 Armature shaft Drawing No. S-11424  
(state date of approval)

**SPARE GEAR** As per Rule requirements.  
Additional spare gear:— 2 cylinder covers, 2 cylinder liners, 2 piston complete with gudgeons

and gudgeon pin. 1 conn. rod with top and bottom end bearings.

The foregoing is a correct description,

KOCKUMS  
MEKANISKA VERKSTADS AKTIEBOLAG  
Manufacturer.



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Dates of Survey while building { During progress of work in shops - - } 5, 6, 18/7, 27/8, 30/8, 4, 6, 17, 25/9-51.  
 { During erection on board vessel - - } 12, 17/12-51, 24, 29/1-52.  
 Total No. of visits 13

Dates of Examination of principal parts—Cylinders 5, 6/7-51 Covers 5/9-49, 7, 21/9-50, 7/3, 2/7-51. Pistons 17.8.51 Piston rods -

Connecting rods 17.8.51 Crank and Flywheel shafts 8.4.48 Intermediate shafts -

Crank shaft { Material S.M. Steel Tensile strength 52.0 - 53.3 kg/mm<sup>2</sup>  
 { Elongation 28.0 - 34 % Identification Marks Lloyd's Nos. 1355, 1356 HL.8.

Flywheel shaft, Material - Identification Marks -

Identification marks on Air Receivers Nos. 203 & 204 LLOYD'S TEST 44 Kg/cm<sup>2</sup>, W.P. 30 kg/cm<sup>2</sup> A.B. 28.11.51.

Is this machinery duplicate of a previous case. Yes If so, state name of vessel M/T "S V I T H I O D" Mmo Rpt. No. 2970

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) See report of Main Engine.

*(This area contains horizontal lines for handwritten general remarks.)*

The amount of Fee ... £r. : 390 :- { When applied for 8/2 19 52.  
 Travelling Expenses (if any) £ : : { When received 19

FRI. 29 FEB 1952

Committee's Minute  
 Assigned *Su F.E. Welch rpt.*

*A. Bowring*  
 Surveyor to Lloyd's Register of Shipping.  
  
 Lloyd's Register Foundation

5m. 4. 46.-T. (MADE AND PRINTED IN ENGLAND)  
 (The Surveyors are requested not to write on or below the space for Committee Minute.)