

Rpt. 4b

23 OCT 1957

16614

Date of writing report 17.10.1957

Received London

Port Copenhagen

No.

In shops 13

First date 30.4.56

Last date 18.9.57

Survey held at Frederikshavn

No. of visits

On vessel

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. - Name - Gross tons -

Owners - Managers - Port of Registry - Year Month

Hull built at Sølvborg By Sølvborgs Varv & Rederi A/B Yard No. 49 When -

Main Engines made at Frederikshavn By Alpha-Diesel A/S Eng. No. 8265 When 1957

Coupling

Gearing made at Horsens By Møller & Jochumsen

Donkey boilers made at - By - Blr. Nos. - When -

Machinery installed at - By - When -

Particulars of restricted service of ship, if limited for classification -

Particulars of vegetable or similar cargo oil notation, if required -

Is ship to be classed for navigation in ice? no Is ship intended to carry petroleum in bulk? -

Is refrigerating machinery fitted? - If so, is it for cargo purposes? - Type of refrigerant -

Is the refrigerating machinery compartment isolated from the propelling machinery space? - Is the refrigerated cargo installation intended to be classed? -

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines 1 No. of propellers 1 Brief description of propulsion system hydraulic coupling, reversible propeller

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Alpha-Diesel A/S Type 498 VO

No. of cylinders per engine 8 Dia. of cylinders 290 mm stroke(s) 490 mm 2 or 4 stroke cycle 2 Single or double acting single

Maximum approved BHP per engine 960 at 310 RPM of engine and 310 RPM of propeller.

Corresponding MHP 46 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 60 kg/cm² Machinery numeral 192

Are the cylinders arranged in Vee or other special formation? no - vertical If so, number of crankshafts per engine -

TWO STROKE ENGINES. Is the engine of opposed piston type? no If so, how are upper pistons connected to crankshaft? -

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? ports in cyls No. and type of mechanically driven scavenge pumps or blowers per engine and how driven 1 off double acting piston pump driven by main engine

No. of exhaust gas driven scavenge blowers per engine none Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? -

If a stand-by or emergency pump or blower is fitted, state how driven - No. of scavenge air coolers - Scavenge air pressure at full power 0.13 kg/cm² Are scavenge manifold explosion relief valves fitted? yes

FOUR STROKE ENGINES. Is the engine supercharged? - Are the undersides of the pistons arranged as supercharge pumps? - No. of exhaust gas driven blowers per engine - No. of supercharge air coolers per engine - Supercharge air pressure - Can engine operate without supercharger? -

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel 1 off Inlet none Exhaust none Starting 1 off Safety 1 off

Material of cylinder covers cast iron Material of piston crowns cast iron Is the engine equipped to operate on heavy fuel oil? no

Cooling medium for: Cylinders Water Pistons oil Fuel valves - Overall diameter of piston rod for double acting engines -

Is the rod fitted with a sleeve? - Is welded construction employed for: Bedplate? no Frames? no Entablature? no Is the crankcase separated from the

underside of pistons? no Is the engine of crosshead or trunk piston type? trunk Total internal volume of crankcase 4.06 m³ No. and total area of explosion reliefdevices 4.960 cm² Are flame guards fitted to relief devices? yes Is the crankcase readily accessible? yes If not, must the engine be removed for

overhaul of bearings, etc? - Is the engine secured directly to the tank top or to a built-up seating? - How is the engine started? by comp. air

Can the engine be directly reversed? no If not, how is reversing obtained? reversible propeller

Has the engine been tested working in the shop? yes How long at full power? 6 hours

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 13.9.57 State barred speed range(s), if imposed

for working propeller 234-269 For spare propeller - Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting? -

Where positioned? - Type - No. of main bearings 10 Are main bearings of ball or roller

type? no Distance between inner edges of bearings in way of crank(s) 385 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines -

Crankshaft type: Built, semi-built, solid. (State which) semi built

Diameter of journals 200 mm Diameter of crankpins Centre 195 mm Breadth of webs at mid-throw 370 mm Axial thickness of webs 105 mm

If shrunk, radial thickness around eyeholes 116 mm Are dowel pins fitted? no Crankshaft material Journals S.M. Is teel Approved

Diameter of flywheel Fwd. 1000 mm Weight 375 kg GD2 Tensile strength 47.3-51.6 kg/mm²Art. 1120 mm Weight 530 kg Are balance weights fitted? yes Total weight 5.6 x 10⁶ kgm² GD2 Flywheel 2.5 x 10⁶ kgcm²Diameter of flywheel shaft - Material SM steel Minimum approved tensile strength 44 kg/mm² Radius of gyration 3.65 x 10⁶ kgcm²

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) integral with crank shaft

003487-003494-0308 1/2

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) 2 off main engine driven plunger pumps for cooling water and bilge pump and 1 off F.W. cooling centrifugal pump

The foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (*strike out words not applicable*).

GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The oil engine has been built under Special Survey in accordance with the requirements of the Rules, the approved plans and the Secretary's letters. The material used has been examined and tested as required by the Rules and the workmanship is good.

Crank case explosion relief devices have been fitted.

On completion the engine was tested in the shop under full power working conditions and found satisfactory.

Accordingly in my opinion this engine is eligible to be fitted in a vessel classed with this Society.

NOTE:- The engine is not to be operated continuously between 234 and 269 R.P.M.

For M. Nilsson, V. Helmer-Nielsen & Co.

Engine Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS connecting rods:- 6 off Lloyd's Cpn. No. 1013 M.N. 20.6.56

" " 2 off Lloyd's Cpn. No. 1014 M.N. 20.6.56

CRANKSHAFT ~~ON ROTOR SHAFT~~ Lloyd's Cpn. No. 1047 M.N. 20.6.56
coupling Lloyd's Cpn. No. 951 M.N. 4.9.56

~~FLYWHEEL~~ SHAFT Lloyd's Cpn. No. 1406 M.N. 24.10.56

THRUST SHAFT Lloyd's Cpn. No. 2699 M.N. 24.10.56

~~CLUTCH~~ Clutch input Lloyd's Cpn. No. 2699 M.N. 24.10.56

INTERMEDIATE SHAFTS

SCREW ~~AXLE~~ SHAFTS Lloyd's Cpn. No. 120 M.N. 27.8.57

PROPELLERS hub: Lloyd's Cpn. No. 4361 V.H. 28.8.56. 2 blades: Lloyd's Cpn. No. 4361 V.H. 28.8.56.
1 blade: Lloyd's Cpn. No. 4360 V.H. 28.8.56.

OTHER IMPORTANT ITEMS cylinders: Lloyd's Test Cpn. 7 atm., 1 off V.H. 30.4.56, 6 off M.N. 20.6.56 -
1 off M.N. 2.8.56.

Covers: Lloyd's Test Cpn. 7 atm. 1 off G.S. 30.5.56, 3 off M.N. 20.6.56, 3 off G.S. 7.8.56 -
1 off G.S. 17.8.56.

Pistons: Lloyd's Test Cpn. 7 atm. 8 off M.N. 20.6.56

1 lub. oil cooler: Lloyd's Test Cpn. 5 atm. 20.6.56, 1 stern tube: Lloyd's Test Cpn. 2 atm. M.N. 27.8.57

Is the installation a duplicate of a previous case? no If so, state name of vessel -

Date of approval of plans for crankshaft 25.10.56 Straight shafting 13.9.57 Gearing - Clutch 25.10.56

Separate oil fuel tanks - Pumping arrangements - Oil fuel arrangements -

Cargo oil pumping arrangements - Air receivers 13.9.57 Donkey boilers -

Dates of examination of principal parts:-

Fitting of stern tube - Fitting of propeller - Completion of sea connections - Alignment of crank shaft in main bearings -

Engine checks & bolts - Alignment of gearing - Alignment of straight shafting - Testing of pumping arrangements -

Oil fuel lines - Donkey boiler supports - Steering machinery - Windlass -

Date of Committee TUESDAY 18 FEB 1958 Special Survey Fee Kr. 1.610,00

Decision See Rpt. 1

Expenses Kr. 120,00

Date when A/c rendered

17 OCT. 1957



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