

Rpt. 4c

Date of writing report 14.11.1959.

Received London

Port Helsingfors No. 7089

Survey held at Vasa

No. of visits 28

First date 20.11.58 Last date 4.4.59

17 NOV 1959

23 SEP 1959

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship... Or Contract No. if name unknown)... Ship Built at Helsingfors... Auxiliary Engines or Gas Turbines made at Vasa... Total No. of sets and description (including type name) K 58 E

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 8... Dia. of cylinders 180 mm... Stroke 300 mm... 2 or 4 stroke cycle 2... Maximum approved BHP 412... RPM 600... Corresponding MIP 6.59... Maximum pressure 65 kg/cm2... Fuel marine diesel oil... Are cylinders arranged in Vee or other special formation? no... Crankshafts per engine... Is engine of opposed piston type? no... No. and type of mechanically driven scavenge pumps or blowers per engine one turbo blower... No. of exhaust gas driven blowers or superchargers per engine... Is welded construction used for: Bedplate? Entablature? Total internal volume of crankcase (if 20 cu. ft. or over) 1.2 m3... No. and total area of crankcase explosion relief devices 3,600 cm2... Are flame guards or traps fitted? no... Cooling medium for: Cylinders fresh water... Pistons lubr.oil... No. of attached pumps: F.W. cooling none S.W. cooling none Lubricating oil one How is engine started? by air

SHAFTING. Is a damper or detuner fitted? no... No. of main bearings 10... Are bearings of ball or roller type? no... Distance between inner edges of bearings in way of cranks 222 mm... Crankshaft: ~~Ball bearing~~, solid. Material of crankshaft SM steel... Approved minimum tensile strength 52 kg/mm2... Dia. of pins 120 mm... Journals 125 mm... Breadth of webs at mid throw 280 mm... Axial thickness 56 mm... If shrunk, radial thickness around eyeholes... Dia. of flywheel 900 mm... Weight 458 kg... Are balance weights fitted? no... Total weight... Rad. of gyration... Dia. of flywheel shaft 125 mm... Has each engine been tested in shop? yes... How long at full power? 12 hours... Was it tested with driven machinery attached? yes... Was the governing tested and found satisfactory? yes... Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 28.1.57... Date of approval of shafting 25.9.58... Identification marks on shafting Lloyd's Got 2165 GU 29.1.59. base 367 N

Particulars of driven machinery Siemens A:C. Generator 285KVA, 400V, 555A.

Port and No. of Certificate for Starting Air Receivers

AUXILIARY GAS TURBINES. BHP per set... At... RPM of output shaft. Open or closed cycle?... Arrangement of turbines. HP drives... at... RPM HP gas inlet temp... pressure... IP... at... LP... Material of turbine blades... No. of air compressors per set... Centrifugal or axial flow type?... No. of air coolers per set... No. of heat exchangers per set... How are Material of compressor blades... Are the turbines operated in conjunction with free piston gas generators?... turbines started?... Total No. of free piston gas generators... Dia. of working pistons... Dia. of compressor pistons... No. of double strokes per minute at full power... Gas delivery pressure... Gas delivery temperature... Have the turbines and attached equipment been tested in shop? How long at full power? Were they tested with driven machinery attached?... Particulars of gearing... Date of approval of plans... Identification marks... Particulars of driven machinery

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over... For generators under 100 Kw., has Makers' Certificate been obtained? Are Certificates attached?

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable) Wartsila-koncernen A/B WASA MEKANISKA VERKSTAD Manufacturer

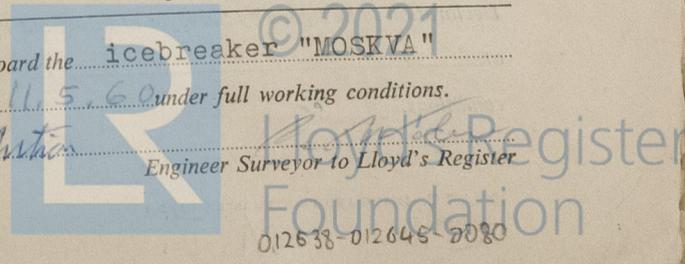
Is this machinery duplicate of a previous case? If so, which?

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible. This Diesel Engine has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters. Quality of materials and workmanship found good.

Survey Fee Fmk. 70,000:- Expenses Date when a/c rendered 26.5.59.

Declaration to be signed by Surveyor at fitting-out Port: The above described machinery has been fitted on board the icebreaker "MOSKVA" at Helsingfors in a proper manner and found satisfactory when tested on the (date) 11.5.60 under full working conditions.

Signature of Surveyor: J. M. ... Engineer Surveyor to Lloyd's Register



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