

Rpt. 4c

Date of writing report 14 - 5 - 64

Received London

Port MILAN

No. 47

Survey held at

No. of visits

First date

Last date

# FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship..... Owners.....  
(Or Contract No. if name unknown). (Or Consignees)  
Ship Built at Genova-Sestri by Ansaldo-Cantieri Navali when..... Yard No. 1595  
Auxiliary Engines or Gas Turbines made at Saronno by Isotta Fraschini & Motori when..... '63-64 Eng. Nos. 266090  
Total No. of sets and description (including type name). 1 - D 26 S6V DK 556 A 4. Breda

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6 Dia. of cylinders 180 mm. Stroke 190 mm.  
2 or 4 stroke cycle 4 Maximum approved BHP 384 at 1500 RPM Corresponding MIP 9.7 Maximum pressure 109.4  
Fuel class A BSS 2869 Are cylinders arranged in Vee or other special formation? 'V' of 60° If so, No. of  
crankshafts per engine - 1 Is engine of opposed piston type? No. No. and type of mechanically driven scavenge pumps or blowers  
per engine..... No. of exhaust gas driven blowers or superchargers per engine..... Is welded construction  
used for: Bedplate? yes Entablature? yes Total internal volume of crankcase (if 20 cu. ft. or over) 5 cu. ft. No. and total area of  
crankcase explosion relief devices 2 22 sq. in. Are flame guards or traps fitted? pyropress cooling medium for: Cylinders water  
Pistons oil No. of attached pumps: F.W. cooling 1 S.W. cooling..... Lubricating oil 1 How is engine started? electrically

SHAFTING. Is a damper or detuner fitted? no. No. of main bearings 5 Are bearings of ball or roller type? no Distance between  
inner edges of bearings in way of cranks 140 mm. Crankshaft: solid Material of crankshaft 38 NCD4 steel Approved  
minimum tensile strength 95 Kg/mm2 Dia. of pins 110 mm. Journals 140 mm. Breadth of webs at mid throw 230 mm. Axial  
thickness 47 mm. If shrunk, radial thickness around eyeholes solid Dia. of flywheel 765 mm. Weight 380 Kg. Are balance  
weights fitted? yes Total weight 84 Kg. Rad. of gyration 152 mm. Dia. of flywheel shaft 140 mm.  
Has each engine been tested in shop? yes How long at full power? 4 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) 18.10.63 & 4.2.64  
Date of approval of shafting 2.5.63 Identification marks on shafting LLOYD'S MI. 16.7.63 - GL.  
Particulars of driven machinery type DK 556 A 4 STILL generator.

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.....  
(A small diagram should be attached showing gas cycle) IP..... at..... IP.....  
LP..... at..... LP.....  
No. of air compressors per set..... Centrifugal or axial flow type?..... Material of turbine blades.....  
Material of compressor blades..... No. of air coolers per set..... No. of heat exchangers per set..... How are  
turbines started?..... Are the turbines operated in conjunction with free piston gas generators?  
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 Hamburg 63/1971  
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)  
ISOTTA FRASCHINI & MOTORI  
BRED - Saronno. Manufacturer

Is this machinery duplicate of a previous case? yes If so, which? see report No. 46 - for yard 1594

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.  
The above machinery was constructed under special survey, in accordance with the Rules and approved plans. All the materials were submitted to the tests required by the Rules and found satisfactory; workmanship satisfactory throughout.

Survey Fee 101280 Lire  
Expenses 12000 Lire  
Date when a/c rendered 26.3.64  
(Ing. G. Leyl) Engineer Surveyor to Lloyd's Register

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