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of writing report 13th Oct., 1959 | Received London | Port YOKOHAMA | No. 3040 B

ey held at Tokyo & Yokohama | No. of visits 5 (Yokohama) 16 (Tokyo) | First date 6th July, 1959 (Yka.) 19th Feb.1959(Tokyo) | Last date 1st Oct. 1959 (Yokohama) 8th June, 1959(Tokyo)

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

me of Ship M.V. "KOWA MARU" Owners TAIHEIYO KAIUN K.K.
Contract No. if name unknown). (Or Consignees)

ip Built at Yokohama by Nippon Kokan K.K. Tsurumi Shipyard when 1959-9 Yard No. S-760

xiliary Engines or Gas Turbines made at Tokyo by Tokyo Motor Vehicle Works Ltd. Mitsubishi Nippon Heavy Industries when June-1959 Eng. Nos. D-133206 D-133207

tal No. of sets and description (including type name) 2 Sets Solid injection single acting four stroke cycle trunk piston type diesel engine with exhaust turbocharger M.A.N. G6V 23.5/33AL.

TERNAL COMBUSTION RECIPROCATING ENGINES. *No. of cylinders per engine* 6 *Dia. of cylinders* 235mm *Stroke* 330mm *or 4 stroke cycle* 4 *Maximum approved BHP* 450 *at* 514 *RPM Corresponding MIP* 10.9kg/cm2 *Maximum pressure* 65kg/cm2 *uel* Diesel Oil *Are cylinders arranged in Vee or other special formation?* No *If so, No. of ankshafts per engine* - *Is engine of opposed piston type?* No *No. and type of mechanically driven scavenge pumps or blowers r engine* - *No. of exhaust gas driven blowers or superchargers per engine* 1 set *Is welded construction ed for: Bedplate?* No *Entablature?* No *Total internal volume of crankcase (if 20 cu. ft. or over)* 46 cu.ft. *No. and total area of ankcase explosion relief devices* 2-13.4 in2 *Are flame guards ~~or traps~~ fitted?* Yes *Cooling medium for: Cylinders* Fresh Water *istons* None *No. of attached pumps: F.W. cooling* 1 set *S.W. cooling* - *Lubricating oil* 1 set *How is engine started?* by compressed air.

HAFTING. *Is a damper or detuner fitted?* No *No. of main bearings* 7 *Are bearings of ball or roller type?* No *Distance between nner edges of bearings in way of cranks* 284 mm *Crankshaft: ~~Built~~, ~~semi-built~~, solid. Material of crankshaft* Electric furnace steel *Approved ninimum tensile strength* 53 kg/mm2 *Dia. of pins* 155 mm *Journals* 155 mm *Breadth of webs at mid throw* 273 mm *Axial hickness* 80mm *If shrunk, radial thickness around eyeholes* - *Dia. of flywheel* 1250mm *Weight* 1500kg *Are balance veights fitted?* No *Total weight* - *Rad. of gyration* - *Dia. of flywheel shaft* -
Has each engine been tested in shop? Yes *How long at full power?* 4 Hr. *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)* 17-6-59 9.6.59 31-8-59 438W
Date of approval of shafting 23rd July 1957 31st Mar.1959 *Identification marks on shafting* D133206 LLOYD'S NAG.No,S- CK. 2350 No B 27.8.58 D133207 LLOYD'S NAG.No,S- CK. 2351 No B 3.9.58
Particulars of driven machinery Air Compressor: 270m3/Hr. 75HP (Suction gas engine M.F.G.Co.L.T.D.Tokyo) Generator: 3 phase A.C.60 cycles 445V. 487A. 375 K.V.A. (~~Fuji Denki Seizo K.K. Kawasaki~~)
Port and No. of Certificate for Starting Air Receivers YKA YAR-136

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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* YKA M-5649, M-5636
For generators under 100 Kw., has Makers' Certificate been obtained? - *Are Certificates attached?* Yes

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)
Mitsubishi Nippon HVY.Ind. Ltd.Tokyo Motor Vehicle Works.
Chief of ~~Engine Techanical Dept~~ ~~K. Okamura~~ K. Okamura *Manufacturer*

Is this machinery duplicate of a previous case? No *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.*

The Electric Generator Sets have been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

The Quality of materials and workmanship have been found satisfactory.

The Electric Generator Sets have been examined under full working condition during shop trial and found satisfactory.

Survey Fee ¥ 5,200.- charged 11th Nov. 1959. Additional charge, for total fee should be ¥123,000.- ¥117,800.- charged 14th July, 1959
Expenses .....
Date when a/c rendered .....

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 M.V. "KOWA MARU" *at* Yokohama, Japan *in a proper manner and found satisfactory when tested on the (date)* 21-8-59 *under full working conditions.*

Engineer Surveyor to Lloyd's Register

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