

22.11.60

Received London

Port Bremen

No. 4892

of writing report

In shops 6

11.8.60

20.9.60

y held at Bremen

No. of visits

On vessel 12

First date 11.8.60

Last date 20.2.61

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

R.B. -

Name SELF-PROPELLER PONTOON "GABBAR" for a Floating Crane

Gross tons

Suez-Canal Authority

Managers

Port of Registry Alexandria

Bremen

By A.G. "WESER"

Yard No. 1343

When 1960/9

Mannheim

By Motorenwerke Mannheim

Eng. No. 15042/012/320 15042/012/321

When 1960/7

-

By -

Blr. Nos. -

When -

Bremen

By A.G. "WESER"

When 1960/9

Crane pontoon, Alexandria to Suez-Canal

None

No

Is ship intended to carry petroleum in bulk? No

No

If so, is it for cargo purposes? No

Type of refrigerant -

-

Is the refrigerated cargo installation intended to be classed? No

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 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 need not be repeated below, but the port and report number should be stated.

main engines 2

No. of propellers 2

Brief description of propulsion system 2011 engines through mechanical clutch as to V.S. ~~flexible~~ directional propeller.

RECIPROCATING ENGINES. Licence Name and Type No. MWM Mannheim AG., TRH435S supercharged

cylinders per engine 6

Dia. of cylinders 250 mm

stroke(s) 350 mm

2 or 4 stroke cycle 4

Single or double acting Single

man approved BHP per engine 550

at 500

RPM of engine and 90

RPM of propeller.

ending MIP (For DA engines give MIP top & bottom)

Maximum cylinder pressure

Machinery numeral

cylinders arranged in Vee or other special formation?

If so, number of crankshafts per engine

TROKE ENGINES. Is the engine of opposed piston type?

If so, how are upper pistons connected to crankshaft?

haust discharged through ports in the cylinders or through valve(s) in the cylinder covers?

No. and type of mechanically driven scavenge pumps or blowers per

nd how driven

Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?

haust gas driven scavenge blowers per engine

No. of scavenge air coolers

Scavenge air pressure at full

id-by or emergency pump or blower is fitted, state how driven

Are scavenge manifold explosion relief valves fitted?

TROKE ENGINES. Is the engine supercharged?

Are the undersides of the pistons arranged as supercharge pumps?

No. of exhaust gas driven blowers per

No. of supercharge air coolers per engine

Supercharge air pressure

Can engine operate without supercharger?

FOUR STROKE ENGINES-GENERAL. No. of valves per cylinder: Fuel Inlet Exhaust Starting Safety

of cylinder covers

Material of piston crowns

Is the engine equipped to operate on heavy fuel oil?

edium for :-Cylinders F.W.

Pistons

Fuel valves

Overall diameter of piston rod for double acting engines

fitted with a sleeve?

Is welded construction employed for: Bedplate? Frames? Entablature?

Is the crankcase separated from the

of pistons?

Is the engine of crosshead or trunk piston type?

Total internal volume of crankcase

No. and total area of explosion relief

Are flame guards or traps fitted to relief devices?

Is the crankcase readily accessible?

If not, must the engine be removed for

bearings, etc?

Is the engine secured directly to the tank top or to a built-up seating? Built-up seating

How is the engine started?

ngine be directly reversed?

If not, how is reversing obtained?

ngine been tested working in the shop?

How long at full power?

FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 12.4.60

State barred speed range(s), if imposed

propeller Not below 140 RPM

For spare propeller

Is a governor fitted?

Is a torsional vibration damper or detuner fitted to the shafting?

tioned?

Type

No. of main bearings

Are main bearings of ball or roller

Distance between inner edges of bearings in way of crank(s)

Distance between centre lines of side cranks or eccentrics of opposed piston engines

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

journals

Diameter of crankpins

Centre

Breadth of webs at mid-throw

Axial thickness of webs

Side

Pins

Minimum

radial thickness around eyeholes

Are dowel pins fitted?

Crankshaft material Journals

Approved

Webbs

Tensile strength

of flywheel

Weight

Are balance weights fitted?

Total weight

Radius of gyration

of flywheel shaft

Material

Minimum approved tensile strength

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

MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines Open or closed cycle BHP per set at RPM of output shaft
 How is drive transmitted to propeller shaft?
 ARRANGEMENT OF TURBINES. HP drives at RPM HP gas inlet temperature pressure
 (A small diagram should be attached showing gas cycle.) IP drives at RPM IP gas inlet temperature pressure
 LP drives at RPM LP gas inlet temperature pressure
 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?
 How is reversing effected? Are the turbines operated in conjunction with free piston gas generators?
 Total No. of free piston gas generators Diameter of working pistons Diameter 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 working in the shop? How long at full power?

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

No. of generators KW per generator at RPM AC or DC? Position
 No. of propulsion motors SHP per motor at RPM Position
 How is power obtained for excitation of generators? Motors?

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

In Voith-Schneider propeller - see Augsburg certificate no. 60/1387
 Is gearing of single or double helical type? If single, position of gear thrust bearing Is gearing of epicyclic type?
 PCD of pinions: First reduction Second reduction PCD of wheels: First reduction Main
 Material of pinions Tensile strength Material of wheel rims Tensile strength
 Are gear teeth surface hardened? How are teeth finished? Diameter of pinion journals Wheel shaft journals
 Are the wheels of welded construction? Is gearcase of welded construction? Has the wheel/gearcase been heat treated on completion of welding? Where is the propeller thrust bearing located? Are gear bearings of ball or roller type?

CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting give brief description and, for clutches, state how operated.

Mechanical clutch betw. M.E. & straight shafting hand-operated
 Can the main engine be used for purposes other than propulsion when declutched? **Yes** If so, what? **Driving generator through clutch & gearing for power supply for electric operated crane.**

STRAIGHT SHAFTING Diameter of thrust shaft Material **Clutch 170** Minimum approved tensile strength
 Shaft separate or integral with crank or wheel shaft? Diameter of intermediate shaft **108 mm** Material **ST 42.2 (test result 48.8 kg)**
 Minimum approved tensile strength **44 kg/mm²** Diameter of screwshaft cone at large end Is screwshaft fitted with a continuous liner? **NO**
 Diameter of tube shaft. (If these are separate shafts) Is tube shaft fitted with a continuous liner in way of stern tube Thickness of screw/tube shaft liner at bearings Thickness between bearings Material of screw/tube shaft Minimum approved tensile strength
 Is an approved oil gland fitted? If so, state type Length of bearing next to and supporting propeller
 Material of bearing In multiple screw vessels is the liner between stern tube and A bracket continuous? If not, is the exposed length of shafting between liners readily visible in dry dock?

Voith-Schneider **PROPELLER.**

Diameter of propeller Pitch Built up or solid Total developed surface
 No. of blades **4** Blade thickness at top of root fillet Blade material **ST X20 Cr13** Moment of inertia of dry propeller
 If propeller is of special design, state type **Voith-Schneider** Is propeller of reversible pitch type? **Yes** If so, is it of approved design? **Yes**
 State method of control **Hydraulic through levers** Material of spare propeller Moment of inertia

AIR COMPRESSORS & RECEIVERS.

No. of main engine driven compressors per engine **None** Can they be declutched? **-**
 No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) **2 - 21 m³/h aux. engine through clutch port & stbd. Emden certificate no. 60/2658 & 60/2696**
 No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) **2 - 250 & 150 litres, stbd. side upper & lower HNO certificate no. 59/302, KLN certificate no. 60/109**
 How are receivers first charged? **Through electr. started aux. engine (Batteries charged by handstarted aux. engine)** Maximum working pressure of starting air system **30/ kg/cm²** Are the safety devices in accordance with the Rules? **Yes** Has the starting of the main engines been tested and found satisfactory? **Yes**

COOLERS. No. of main engine fresh water coolers **2** No. of main engine lubricating oil coolers **2**

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure **One upper platform port side**

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) **Each ME has one S.W., one F.W. and one lub. oil pump.**

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 main and auxiliary machinery of this crane pontoon has been built and installed under Special Survey in accordance with the Rules, Secretary's letters and approved plans, the workmanship and material being good. On completion the machinery was examined under working condition during sea trials and all found in good order. No gear hammer or rough running could be observed during trials, at all speeds.

At the instigation of A.G. "Weger" a notice board was fitted at the control station stating "Main engine not to be run continuously between 400-440 and below 275 RPM". Torsiograph records were taken and copies will ^{be} forwarded.

The crane pontoon is eligible in my opinion to have the notation +LMC
2 Oil engines 4 stroke S.A. each 6 cylinder 250 x 350 mm each connected to V.S. directional propeller through mechanical clutch. Motorenwerke Mannheim.

A. Brundage

Engineer 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

CRANKSHAFT OR ROTORSHAFT

FLYWHEEL SHAFT Lloyds KLN 699 AS 3.3.60

THRUSTSHAFT

GEARING

INTERMEDIATE SHAFTS Lloyds KLN 639 AS 11.2.60

SCREW AND TUBE SHAFTS

PROPELLERS Voith-Schneider Lloyds AUG DH 64-65 GF1 11.7.60 & 18.7.60

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case?

no

If so, state name of vessel

Date of approval of plans for crankshaft

Straight shafting 20.1.60

Gearing

Clutch 20.1.60

Separate oil fuel tanks 3.3.60

Pumping arrangements 30.1.60

Oil fuel arrangements 3.3.60

Cargo oil pumping arrangements

Air receivers

Donkey boilers

Dates of examination of principal parts:—

Fitting of stern tube

Fitting of propeller 31.8.60

Completion of sea connections 31.8.60

Alignment of crankshaft in main bearings 20.9.60

Engine checks & bolts 16.9.60

Alignment of gearing

Alignment of straight shafting 16.9.60

Testing of pumping arrangements 23.9.60

Oil fuel lines 14.9.60

Donkey boiler supports

Steering machinery 28.9.60

Windlass 28.9.60

Date of Committee

THURSDAY - 8 JUN 1961

Special Survey Fee £ 67 - 10 - 6

Decision

During Installation £ 81 - 0 - 0

+ LMC ES 2.61

Expenses

£ 8 - 0 - 0



Date when A/c rendered

Lloyd's Register
Foundation