

REPORT ON OIL ENGINE MACHINERY.

No. 87995

Received at London Office 17 JUL 1928 APR 1925

Date of writing Report

19

When handed in at Local Office

16th July 1924 Port of LondonDate, First Survey 29th JanLast Survey 15th July 1924

No. in Survey held at

Bedford

Reg. Book.

Single
Twin
Triple

on the Screw vessels

3 Electric Generating Sets

Number of Visits

Tons { Gross
Net

Master

Built at

By whom built

Kawasaki Shipyd

Yard No. 484 When built 1924

Engines made at

Bedford

By whom made

W. H. Allen Sons & Co

Engine No. 52330/1/2/3 When made 1924

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power

Pack Set 150

Owners

Port belonging to

Nom. Horse Power as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

OIL ENGINES, &c.—Type of Engines

Burmester & Bain Design 2 or 4 stroke cycle 4 Single or double acting Triple

Maximum pressure in cylinders

530 lbs

No. of cylinders

3

No. of cranks

3

Diameter of cylinders

325 7/8

Length of stroke

350 7/8

Revolutions per minute

300

Means of ignition

Compression

Kind of fuel used

Heavy oil

Is there a bearing between each crank

yes

Span of bearings (Page 92, Section 2, par. 7 of Rules)

364 7/8

Distance between centres of main bearings

600 1/2

Is a flywheel fitted

yes

Diameter of crank shaft journals

as per Rule 170 1/2 530 lb
as fitted 170 1/2

Diameter of crank pins

190 7/8

Breadth of crank webs

as per Rule 226 7/8
as fitted 380 1/2 circular

Thickness of ditto

as per Rule 95 7/8
as fitted 95 7/8

Diameter of flywheel shaft

as per Rule 170 7/8 310 1/2 at boss
as fitted 170 7/8

Diameter of tunnel shaft

as per Rule
as fitted

Diameter of thrust shaft

as per Rule
as fitted

Diameter of screw shaft

as per Rule
as fitted

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Is the after end of the liner made watertight in the propeller boss

If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two liners are fitted, is the shaft lapped or protected between the liners

If without liners, is the shaft arranged to run in oil

Type of outer gland fitted to stern tube

Length of stern bush

Diameter of propeller

Pitch of propeller

No. of blades

state whether moveable

Total surface square feet

Method of reversing

Is a governor or other arrangement fitted to prevent racing of the engine when disengaged yes

Thickness of cylinder liners 29 7/8

Are the cylinders fitted with safety valves

yes

Means of lubrication

Forced

Are the exhaust pipes and silencers water cooled or lagged with

Non-conducting material Lapped If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

No. of cooling water pumps

3 single acting Rams 1 1/2" dia x 2" stroke ROBERT Lyle
Is the sea suction provided with an efficient strainer which can be cleared

Within the vessel

No. of bilge pumps fitted to the main engines

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of auxiliary pumps connected to the main bilge lines

How driven

Sizes of pumps

No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room

Used in holds, etc.

No. of ballast pumps

How driven

Sizes of pumps

Is the ballast pump fitted with a direct suction from the engine room bilges

State size

Is a separate auxiliary pump suction fitted in

Engine Room and size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine Room always accessible

Are the sluices on Engine Room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship

Are they valves or cocks

Are they fitted sufficiently high on the ship's side to be seen without lifting the floor plates

Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times

Are the bilge suction pipes, cocks and valves arranged so as to prevent any

Communication between the sea and the bilges

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

One

No. of stages

Two

Diameters

62 7/8 215 1/2 Stroke 220 7/8

Driven by Crank shaft

No. of auxiliary air compressors

No. of stages

Diameters

Stroke

Driven by

No. of small auxiliary air compressors

No. of stages

Diameters

Stroke

Driven by

No. of scavenging air pumps

Diameter

Stroke

Driven by

Diameter of auxiliary Diesel Engine crank shafts

as per Rule
as fitted

Are the air compressors and their coolers made so as to be easy of access

RECEIVERS:—No. of high pressure air receivers

1 Pack Set

Internal diameter

Cubic capacity of each 88 litres

Material

Steel

Seamless, lap welded or riveted longitudinal joint

Seamless

Range of tensile strength

Working pressure by Rules

150 litres

Material

Steel

No. of starting air receivers 1 for the 3 Sets

Internal diameter

Is each receiver, which can be isolated,

thickness

Working pressure by rules

What means are provided for cleaning their

Is there a drain arrangement fitted at the lowest part of each receiver

fusible plug

Can the internal surfaces of the receivers be examined

40

Is there a drain arrangement fitted at the lowest part of each receiver

yes

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS			50 lb on cover + cylinder jackets		29.1.24 - 15.7.24 Stamped pressure date - \$
" " JACKETS			50 lb - compressor jacket		
" " PISTON WATER PASSAGES			225 lb cylinder 50 lb jackets		
MAIN COMPRESSORS—1st STAGE			2000 lb		
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING	{ For the 3 Engines { 1 Starting bottle 2000 lb } 14.2.24 Glasgow.				
" INJECTION					
AIR PIPES			2000 lb		} as above
FUEL PIPES			2000 lb		
FUEL PUMPS			2000 lb		
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting *Yes* Receivers *No* Separate Tanks *No*
(If not, state date of approval)

SPARE GEAR A complete set for three engines as per detailed list attached
Engine, compressor & fuel pump spares also 1 spare armature & brushes etc for the 3 sets

The foregoing is a correct description

B. H. Smith for

For W. H. ALLEN, SONS & Co., Ltd.,
Manufacturer.

Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - -
Total No. of visits

1924: Jan. 29. Feb. 6. 21. Mar. 21. Apr. 29. June 26. July 15

Dates of Examination of principal parts—Cylinders *29.1.24* Covers *15.7.24* Pistons Rods Connecting rods
Crank shaft Thrust shaft ☒ Tunnel shafts ☒ Screw shaft ☒ Propeller ☒ Stern tube ☒ Engine seatings *2*
Engines holding down bolts ☒ Completion of pumping arrangements Engines tried under working conditions
Completion of fitting sea connections Stern tube Screw shaft and propeller
Material of crank shaft *Super steel* Identification Mark on Do. *6478* Material of thrust shaft Identification Mark on Do. *463*
Amature Identification Marks on Do. *2355* Material of screw shafts Identification Marks on Do.
Is the flash point of the oil to be used over 150° F. *yes* Standard design.
Is this machinery duplicate of a previous case *yes* If so, state name of vessel *Last report - Lon Rpt 86786 July 1923*

General Remarks (State quality of workmanship, opinions as to class, &c.)

These generating sets consisting of 3 cylinder Diesel engines of 150 BHP directly coupled to 100 K.W. dynamo of the multi-pole (with interpole) compound wound D.C. type 225 V. 445 amp & 300 revs, have been constructed under special survey the materials & workmanship are good & the sets were afterwards examined during a 6 hours bench trial & found satisfactory.
In my opinion these generating sets are eligible for use in a closed vessel.
These sets have been dismantled for shipment to Japan

See to be paid by *J. Watanabe & Co. Owners Superintendent To John Brown & Co. Ltd. Clydebank*

The amount of Entry Fee ... £ : : When applied for,
with 2/3 30 per cent Special ... £ 22: 1 : 17 July 1924
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ 6 12: 10 16/8/24 at 1/10

E. J. Hoddart.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

WED. 15 APR 1925

Assigned

See Koh. Rpt 4787



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