

No.

PHENIX

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1928 No. in Register Book 3250

Received at Head Office 4th March 1926.

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ~~Single Triple~~ ~~Twin Quadruple~~ Screw Motor Vessel

"Alcinous"

Official No.

Port of Registry

Amsterdam.

Registered Owners

Alfred Holt & Co. Liverpool, Lgrs.

for "Oceaan" ~~Nederlandsche Stoomvaart Maatschappij.~~

Engines Built by

Burmeister & Wain,

at

Copenhagen.

Installed

Main Boilers Built by

Scotts' S & E. Co. Ltd.

at

Greenock.

Donkey

Cochran & Co. Ltd.

at

Aman.

Date of Completion

15th February 1926.

First Visit

23/1/25

Last Visit

15/2/26

Total Visits

59.

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003150-003162-0072

RECIPROCATING ENGINES.

Works No. 1164-5 No. of Sets Two Description four cycle single
acting direct reversible forced lubricated
Diesel type fitted with crosshead.

No. of Cylinders each Engine 8 No. of Cranks 8
Diams of Cylinders 24.8" Stroke 43.31"
Cubic feet in each L.P. Cylinder 12.1"

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.?

" " " each Receiver?
Fly wheel 8'-7 1/8" diameter, 8.3 tons.

1st L.P. " Burmeister & Wain's
2nd L.P. " emergency governor operated by
L.P. " main engines, acting on suction
Valve Gear " value of fuel
Condenser " Cooling Surface pump, sq. ft.

Diameter of Piston Rods (plain part) 7 3/4" Screwed part (bottom of thread) 3 1/2"

Material " S.M.S.

Diam. of Connecting Rods (smallest part) 8 3/2" Material S.M.S.

" Crosshead Gudgeons 9" Length of Bearing 9" Material "

No. of Crosshead Bolts (each) 4 Diam. over Thrd. 2 1/8" Thrds. per inch Material Steel

" Crank Pin " 2 " 3 1/2" " "

" Main Bearings 10 Lengths 1'-2 1/8" and 1'-4 3/4"

" Bolts in each 4 Diam. over Thread 2 1/6" Threads per inch Material Steel

" Holding Down Bolts, each Engine 160 Diam. 1 3/8" No. of Metal Chocks 160

Are the Engines bolted to the Tank Top or to a Built Seat? Built seat

Are the Bolts tapped through the Tank Top and fitted with Nuts Inside?

If not, how are they fitted? Nuts only.

Distance between edges of main bearings,
= 2'-11 1/8".

Connecting Rods, Forged by

Piston " " " "

Crossheads, " " " "

Connecting Rods, Finished by " "

Piston " " " "

Crossheads, " " " "

* Date of Harbour Trial 8/2/26 (9 am. till 1 pm.)

" Trial Trip 15/2/26

Trials run at Firth of Clyde.

Were the Engines tested to full power under Sea-going conditions?

If so, what was the I.H.P.?

Blast air 5510 Starting air 850 lbs. Cooling water 20 lbs. Cooling oil 13 1/2 lbs.

Speed on Trial 13.6 Knots.

If the Conditions on Trial were such that full power records were not obtained give the following estimated

data:—

Builders' estimated H.P. 2 x 1850

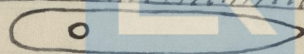
Estimated Speed

Estimated m.e.p. = 90 lbs/sq.
" maximum initial working
Pressure = 500 lbs/sq.

* Starboard engine Half ahead,
Port " astern,
68 r.p.m. Blast air 670 lbs/sq. P. S.

Starting air 330 lbs/sq. Cooling water 19 lbs/sq.

Cooling oil 21 1/2 lbs/sq. Lubricating oil 20 1/2 lbs/sq.




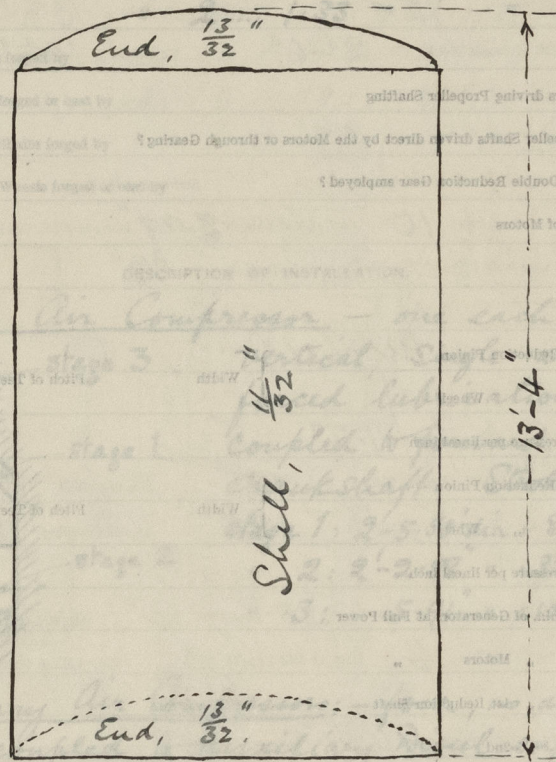
Foundation

TURBINE ENGINES.

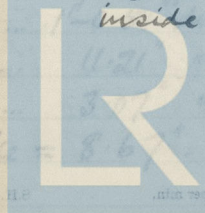
Works No.	Type of Turbines		
No. of H.P. Turbines	No. of I.P.	No. of L.P.	No. of Astern
Are the Propeller Shafts driven direct by the Turbines or through Gearing?			
Is Single or Double Reduction Gear employed?			
Diar. of 1st Reduction Pinion	} Width	Pitch of Teeth	
" 1st " Wheel			
Estimated Pressure per lineal inch			
Diar. of 2nd Reduction Pinion	} Width	Pitch of Teeth	
" 2nd " Wheel			
Estimated Pressure per lineal inch			
Revs. per min. of H.P. Turbines at Full Power		S.H.P.	
" " I.P. "			
" " L.P. "			
" " 1st Reduction Shaft			
" " 2nd "			
" " Propeller Shaft			
Total Shaft Horse Power			
Date of Harbour Trial			
" Trial Trip			
Trials run at			
Speed on Trial	Knots.	Propeller Revs. per min.	S.H.P.
Turbine Spindles forged by			
" Wheels forged or cast by			
Reduction Gear Shafts forged by			
" Wheels forged or cast by			

DESCRIPTION OF INSTALLATION.

Daily supply o.f. tanks (2) tested at 15 lbs/sq
hyd. press. 9/10/25 & stamped  9-25.



6'-6" inside.



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TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafting

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diam. of 1st Reduction Pinion	}	Width	Pitch of Teeth
" 1st " Wheel			
Estimated Pressure per lineal inch			
Diam. of 2nd Reduction Pinion	}	Width	Pitch of Teeth
" 2nd " Wheel			
Estimated Pressure per lineal inch			
Revs. per min. of Generators at Full Power			
" Motors "			
" " 1st Reduction Shaft			
" " 2nd "			
" " Propellers at Full Power			

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial

Knots. Propeller Revs. per min.

S.H.P.

Makers of Turbines

" Generators

" Motors

" Reduction Gear

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

Main Air Compressor — one each engine:



stage 3

stage 1

stage 2

vertical, single-acting,
forced lubrication, direct
coupled to forward end of
crankshaft. Stroke 1'-2.17"
stage 1: 2'-5.53" dia.: 85 lb/□"
" 2: 2'-2.58" " : 356 "
" 3: 5.91" " : 1000 "

Auxiliary Air Compressors; — four, as above,
direct coupled to auxiliary diesel engines,
(see p. 34); capacity 88 cub. ft. free air per min.
stage 1..... 1'-0.51" dia. pressure 85 lb/□"

" 2..... 11.21" " " 242 "

" 3..... 3.07" " " 1000 "

Stroke = 8.67"

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Flywheel &
Thrust shaft.

No. of Blades each Propeller *4* Fitted or Solid? *Fitted*
 Material of Blades *H.T. Brass* Boss *Cast Iron*
 Diam. of Propellers *12'-9"* Pitch *12'-0"* Surface (each *50* S. ft.
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

Crank Shafts Forged by *Burmeister & Wain* Material *S.M.S.*
 " Pins " " " " "
 " Webs " " " " "
 Thrust Shafts " *Wm Beardmore & Co. Ltd.* " "
 Intermed. " " " " "
 Propeller " " " " "
 Crank " Finished by *Burmeister & Wain.*
 Thrust " *Scotts' S. & E. Co. Ltd.*
 Intermed. " " " "
 Propeller " " " "

STAMP MARKS ON SHAFTS.

B.C.	[2 crank shafts, (Copenhagen.)]
10203	2 Thrust "
J.W.H.	*6 tunnel "
3-9-25	3 tail "

* Engines aft.

For stamp marks
on crank shafts, see
top of previous page.

SKETCH OF PROPELLER SHAFT.



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Pumping Plan approved 8/5/25.

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TRANS. PUMPS, ETC. OF H.T.S.

No. of Air Pumps Diar. Stroke

Worked by Main or Independent Engines?

(Compressors on p. 4.)

No. of Circulating Pumps Diar. Stroke

Type of "

Diar. of " Suction from Sea

Has each Pump a Bilge Suction with Non-return Valve? Diar.

What other Pumps can circulate through Condenser?

* All bilges pumped out with emergency

No. of Feed Pumps on Main Engine bilge pump, Stroke driven

Are Spring-loaded Relief Valves fitted to each Pump? off emergency dynamo,

Can one Pump be overhauled while the others are at work?

No. of Independent Feed Pumps One Diar. 4" and 2 3/4" Stroke 5" ←

What other Pumps can feed the Boilers?

* No. of Bilge Pumps on Main Engine one Diar. 6" Stroke 7"

Can one Pump be overhauled while the others are at work?

No. of Independent Bilge Pumps

What other Pumps can draw from the Bilges?

* and one Sanitary Pump, same size.

Are all Bilge Suctions fitted with Roses?

Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges?

Are all Sea Connections made with Valves or Cocks next the Ship's sides?

Are they placed so as to be easily accessible?

Are the Discharge Chests placed above or below the Deep Load Line?

Are they fitted direct to the Hull Plating and easily accessible?

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges on the Outside?

(for locations, see p.p. 42/43.)

PUMPS, etc.

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Fuel Pumps: - Ram type, driven by main engines; one piston per cylinder.

Fresh-water: - Drysdale, 16806; "Centrex", electrical drive by Sunderland & Large & Exp. Co. motor.

Cooling-water: - Two independent centrifugal, elect. driven, each capable of total output required. Ree's "Roturbo" Port 9621 Starboard 9622

Auxiliary Cooling-water: - Drysdale 16798; "Centrex", elect. motor by Sunderland & Large & Exp. Co.

Feed Duplex, by Thos. Lamont & Co. Ltd. 13202 elect. motor by Sunderland & L.E. Co. Ltd. (Steam driven.)

Emergency Bilge: - Drysdale, 16805; "Centrex" elect. motor by Sunderland & L.E. Co. Ltd. * (See opposite page)

Fire & Bilge: - Drysdale, 16897; "Centrex". Lamont, 13201; duplex. Elect. motors by Sunderland & L.E. Co. Ltd.

Lubricating Oil: - Two independent gear-wheel, electrically driven, by Burner & Co., each capable of total output required.

Emergency Air Compressor: - See p. 4.

(for other auxiliaries, see p. 28/9.)

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BOILERS

Works No.

No. of Boilers

Type

Single or Double-ended

No. of Furnaces in each

Type of Furnaces

Date when Plan approved

Approved Working Pressure

Hydraulic Test Pressure

Date of Hydraulic Test

when Safety Valves set

Pressure at which Valves were set

Date of Accumulation Test

Maximum Pressure under Accumulation Test

System of Draught

Can Boilers be worked separately?

Makers of Plates

Stay Bars

Rivets

Furnaces

Greatest Internal Diam. of Boilers

Length

Square Feet of Heating Surface each Boiler

Grate

No. of Safety Valves each Boiler

Rule Diam.

Actual

Are the Safety Valves fitted with Easing Gear?

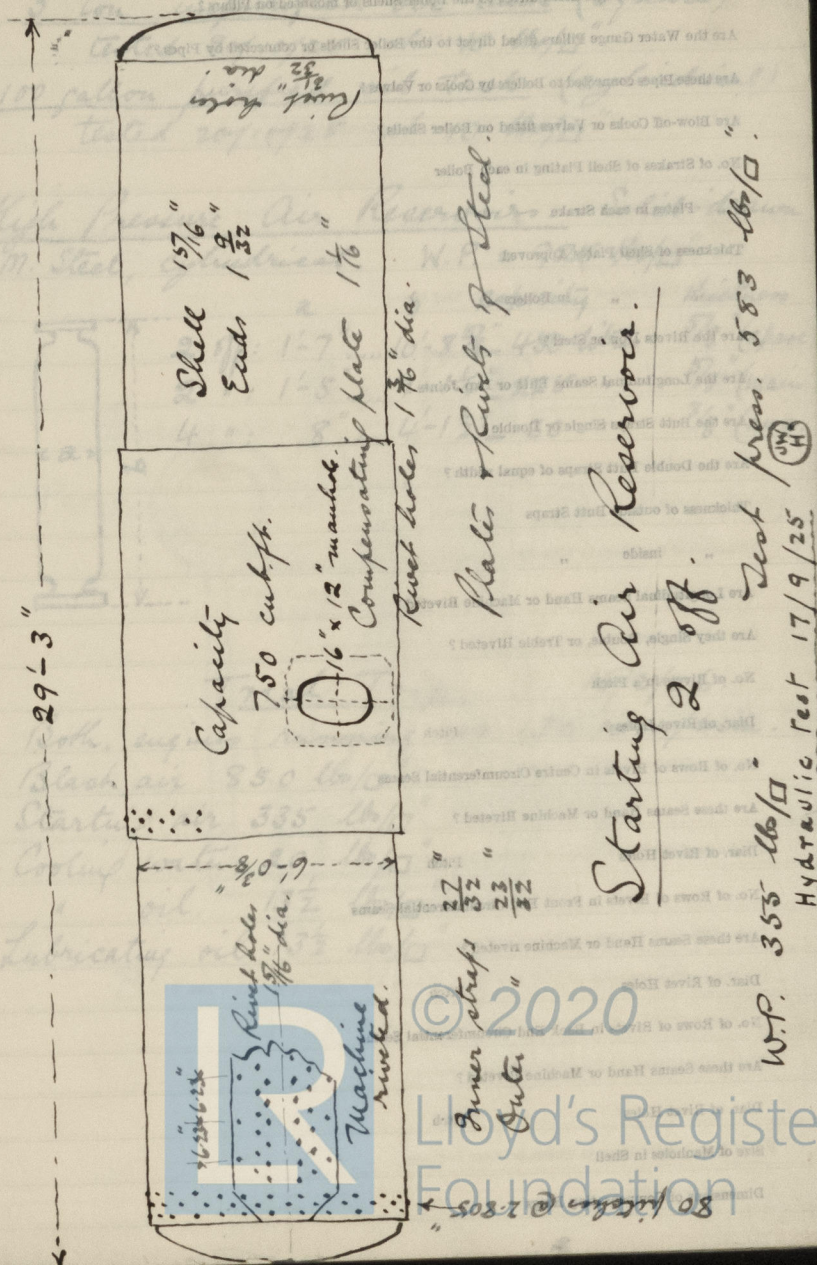
No. of Pressure Gauges, each Boiler

No. of Water Gauges

Test Cocks

Sallinometer Cocks

One pair $1\frac{1}{2}$ " relief valves per reservoir,
adjusted 4/2/26.
Rings; - Starbed, forward $23\frac{1}{2}$ " aft $31\frac{1}{4}$ "
Port " " 76" f. " 76"
Lifted at 355 lbs/sq. " accumulated to 368 lbs/sq.



Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars?

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes?

Are these Pipes connected to Boilers by Cocks or Valves?

Are Blow-off Cocks or Valves fitted on Boiler Shells?

No. of Strakes of Shell Plating in each Boiler

" Plates in each Strake

Thickness of Shell Plates Approved

" " in Boilers

Are the Rivets Iron or Steel?

Are the Longitudinal Seams Butt or Lap Joints?

Are the Butt Straps Single or Double?

Are the Double Butt Straps of equal width?

Thickness of outside Butt Straps

" inside "

Are Longitudinal Seams Hand or Machine Riveted?

Are they Single, Double, or Treble Riveted?

No. of Rivets in a Pitch

Diar. of Rivet Holes

Pitch

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes

Pitch

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diar. of Rivet Holes

Pitch

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes

Pitch

Size of Manholes in Shell

Dimensions of Compensating Rings

5 ton unpurified oil tank (square)

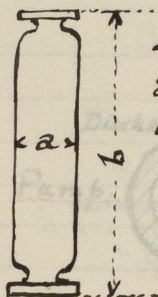
tested 20/10/25 at 15 lb/sq"

100 gallon purified oil tank (cylindrical)

tested 20/10/25 at 10 lb/sq"

High Pressure Air Reservoir. Solid-drawn
S.M. Steel, cylindrical. W.P. = 925 lb/sq"

	a	b	Capacity	Thickness
2 off: 1'-7".....	10'-8 ⁵ / ₈ "	450 litres	5/8" (spare)	
2 " : 1'-5".....	7'-1 ¹ / ₄ "	225 "	5/8" (main)	
4 " : 8".....	4'-1 ¹ / ₂ "	30 "	3/8" (aux.)	



Trial Trip. 15/2/26.

Both engines running at 130 revs./min.

Blast air 850 lb/sq"

Starting air 335 lb/sq"

Cooling water 20 lb/sq"

" oil 13 1/2 lb/sq"

Lubricating oil 13 1/2 lb/sq"



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Thickness of End Plates in Steam Space Approved

" " " " in Boilers

Pitch of Steam Space Stays

Diar. " " " " Approved Threads per Inch

" " " " in Boilers " "

Material of " " "

How are Stays Secured?

Diar. and Thickness of Loose Washers on End Plates

" Riveted " " "

Width " " Doubling Strips " "

Thickness of Middle Back End Plates Approved

" " " " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at " " " "

Diar. of Stays Approved Threads per Inch

" " in Boilers " "

Material "

Are Stays fitted with Nuts outside?

Thickness of Back End Plates at Bottom Approved

" " " " in Boilers

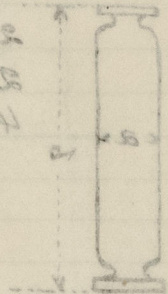
Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Doublings in " "

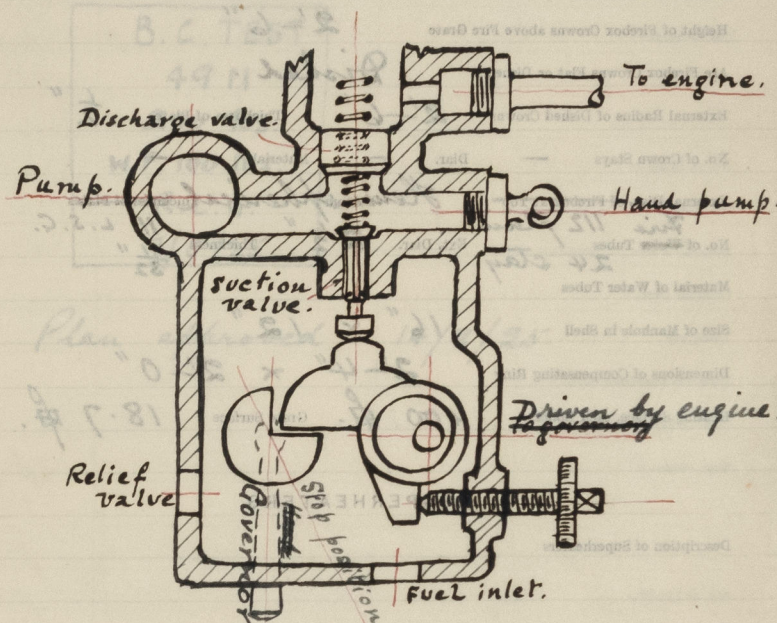
Thickness of Front End Plates at Bottom Approved

" " " " in Boilers

No. of Longitudinal Stays in Spaces between Furnaces



VERTICAL DONKEY BOILERS



Burmeister & Wain governor on
Suction valve.

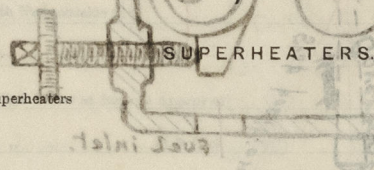
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VERTICAL DONKEY BOILERS.

9653

No. of Boilers *One* Type *Cochran Patent.*Greatest Int. Diar. *6'-0"* Height *15'-9"*Height of Boiler Crown above Fire Grate *12'-0"*Are Boiler Crowns Flat or Dished? *Dished.*Internal Radius of Dished Ends *3'-0"* Thickness of Plates *$\frac{13}{16}$ "*Description of Seams in Boiler Crowns *Simple in second strake, vertical. Simple horizontal.*Diar. of Rivet Holes *$\frac{25}{32}$ "* Pitch *2"* Width of Overlap *$2\frac{3}{8}$ "*Height of Firebox Crowns above Fire Grate *2'-6"*Are Firebox Crowns Flat or Dished? *Dished.*External Radius of Dished Crowns *2'-6"* Thickness of Plates *$\frac{1}{2}$ "*No. of Crown Stays *—* Diar. *—* Material *—*External Diar. of Firebox at Top *Hemispherical* Thickness of Plates *11 L.S.G.*No. of *Fire* Tubes *112 plain* Ext. Diar. *2 $\frac{1}{2}$ "* Thickness *$\frac{11}{32}$ "*Material of Water Tubes *24 stay*Size of Manhole in Shell *16" x 12"*Dimensions of Compensating Ring *2'-4" x 2'-0"*Heating Surface, each Boiler *400 #.* Grate Surface *18.7 #.*

Description of Superheaters



Where situated?

Which Boilers are connected to Superheaters?

Can Superheaters be shut off while Boilers are working?

No. of Safety Valves on each Superheater Diar. *—*Are *—* fitted with Easing Gear?Date of Hydraulic Test Test Pressure *—*Date when Safety Valves set Pressure on Valves *—*

Oil fuel — natural draught.
 One pair of 2" dia. safety valves, adjusted
 4/2/26 at 105 lbs/15".
 Rings; — Port $\frac{5}{32}$ " Starb! $\frac{2}{32}$ "

B.C. TEST

4911

200 lbs.

W.P. 100 lbs.

R.L.G.

7/5/25

Plan approved, 14/2/25



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MAIN STEAM PIPES.

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

(For other pumps see p. 13.)

FEED WATER HEATERS

Ballast, Drysdale 16877, vertical driven by electric motor, Sunderland & Co. Ltd.

Transfer - (also Oil Fuel Daily Supply) by B. & W. direct-coupled to electric motor by Allen (see p. 43)

FEED WATER HEATERS

Oil Burning Plant, - White, 218, Relief 22, adjusted to lift at 100 lb/sq. in. 4/2/22

TELEPHONE, 16877, vertical driven by electric motor, Sunderland & Co. Ltd.

all four of them, 16877, vertical driven by electric motor, Sunderland & Co. Ltd.

16877, vertical driven by electric motor, Sunderland & Co. Ltd.

16877, vertical driven by electric motor, Sunderland & Co. Ltd.

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EVAPORATORS.

No.	Type	Tons per Day
Makers		
Working Pressure	Test Pressure	Date of Test
Date of Test of Safety Valves under Steam		

FEED WATER HEATERS.

No.	Type
Makers	
Working Pressure	Test Pressure
Date of Test	

TELE MOTOR by MacTaggart Scott & Co. Ltd.

FEED WATER FILTERS.

No.	Type	Size
Makers		
Working Pressure	Test Pressure	Date of Test

Shock (valves adjusted at 1200 lb/□" for all four cylinders, 8th and 9th Feb. 1926.

Steering Gear. H.G. 289/90

Hastie & Co. Ltd., Greenock, electric-hydraulic type P.18 Hele-Shaw pumps. Forward pump K. 1159, 1500 lb/□", 650 revs/min. direct-coupled to D.C. motor A. 178, 30 H.P. 115 amps 220 volts, continuous rating 650 revs./min. shunt-wound. Similar pump 1194 driven by similar motor A. 177 at Aft. end. Motors by The Sunderland Forge & Eng. Co. Ltd.

(For other pumps see p. 13.) 29

LIST OF DONKEY PUMPS, etc.

Ballast; - Drysdale. 16879 vertical driven by electric motor; Sunderland F. & E. Co. Ltd.

Transfer; - (also Oil Fuel Daily Supply) by B. & W. direct-coupled to electric motor by Allen (see p. 43)

Oil Burning Plant; - White. 818 Relief valve adjusted to lift at 100 lb/□"; - 4/2/26.

* Oil Separators; - Sharples "Super-Centrifuge" D. 6259 by Super-Centrifugal Engineers Ltd. motor by British Thomson-Houston Co. Ltd.

Distiller; - Hocking & Co. Ltd. Liverpool 2666

Fuel Oil; - no. 1 (forward) 5503 no. 2 (aft) 5505 on purifier platform, by Stothert & Pitt.

* Oil Separators; - De Laval Centrifugal 1579031 600 revs./min. by Chadburn's (Ship) Mfg. Co. Ltd. Do. do. do. 1571001 825 revs./min. (on p. 43) Both geared to Clampton electric motor belt drive to latter. Aston motor belt drive to former.

29MUBVYSPARE

No. of Top End Bolts.	No. of Bot. End Bolts.	No. of Cylinder Cover Studs
" Coupling Bolts	" Main Bearing Bolts	" Valve Chest "
" Junk Ring Bolts	" Feed Pump Valves	" Bilge Pump Valves
" H.P. Piston Rings	" L.P. Piston Rings	" L.P. Piston Rings
" " Springs	" " Springs	" " Springs
" Safety Valve "	" Fire Bars	" Feed Check Valves
" Piston Rods	" Connecting Rods	" Valve Spindles
" Air Pump Rods	" Air Pump Buckets	" Air Pump Valves
" Cir. "	" Cir. "	" Cir. "
" Crank Shafts	" Crank Pin Bushes	" Crosshead Bushes
" Propeller Shafts	" Propellers	" Propeller Blades
" Boiler Tubes	" Condenser Tubes	" Condenser Funnels

OTHER ARTICLES OF SPARE GEAR:—

OTHER ARTICLES OF SPARE GEAR:—

All spare gear same as for

"Prometheus"

(All in order, 8/2/26.)

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REFRIGERATORS.

No. of Machines

Capacity of each

Makers

Description

No. of Steam Cylinders, each Machine

No. of Compressors

No. of Cranks

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines
or Independently

Ships Use Only.

System of Refrigeration

„ Insulation

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces?

Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?

Date of Test under Working Conditions

RESULTS OF TRIALS.

[illegible]

Articles of Spare Gear for Refrigerating Plant carried on board:—

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Direct-coupled to 4 auxiliary Diesel engines, each four-stroke cycle — 3 cyls 12.79" dia. x 13.77" stroke, to develop 150 B.H.P. at 300 revs/min.

[For lighting generators, see p. 42.]

Emergency dynamo; — no. **36089** 16 Kw. 146 amps. 110 volts continuous rating, compound wound, 900 revs/min. (max^m) by Sunderland Forge & Eng. Co. Ltd. driven by 4 cyl. 2 stroke petrol-paraffin engine 600 to 850 revs/min. 28 B.H.P. no. **136Y** by Record Engineering Co. Ltd.

[situated upper deck, special compartment.]

Starting & governor tests 9th Feb. 1926. Changed from petrol to paraffin in about 12 mins. (Forced lub. press. 16 lbs/□) Emergency bilge pump driven off this dynamo during bilge-pumping tests.

[Switchboard beside dynamo — 7 circuits.]

No.	Circuit.....	Lights.	C.P.	Amps.	Conductor.	Amp/□	Conductivity.	Insulation Resist./sq. ft.
E.1	Nav. & Instr. Lts.	21	100 36 280	12.2	7.052	840	98%	4000
E.2	Emergency Ltg	33	280	11.2	7.052	280	"	3000
E.3	L'boat Clusters Pt.	16	60	8.7	7.052	600	"	4000
E.4	" " St. "	"	"	"	"	"	"	"
E.5	W/T.	"	"	14	7.064	620	"	3500
E.6	Em. Bilge Pump	"	"	96	19.083	960	"	3000
E.7	W.T. Door Gear	"	"	17	7.064	755	"	3500

(relative positions on p. 34.)

ELECTRIC LIGHTING.

1166-7-8-9

Installation Fitted by

Scotts S. & E. Co. Ltd.

No. and Description of Dynamos

4 @ 100 Kw. each.

Makers of Dynamos

W.H. Allen, Sons & Co. Ltd.

55871/1 to 4

Capacity

455

Ampere, at

220

Volts.

300

Revol. per Min.

Current Alternating or Continuous

Continuous

Single or Double Wire System

Double.

Position of Dynamos

Bottom platform, Port & Starboard wings.

Main Switch Board

Forward end, middle platform. (Engine Room.)

No. of Circuits to which Switches are provided on Main Switch Board

29

Particulars of these Circuits:—

Circuit.	Number of Lights. & Fans	Watts or Candle Power. & Fan.	Current Required. Amps.	Size of Conductor.	Amp/□ Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
1. Fwd. Ring Main Pt.	5.		439	57.103	730	98%	2800
2. Radiators & Boilers "C"			141.9	37.072	950	"	"
3. Mid. Winches "H"			731	61.093	920	"	"
4. European Galley "F"			229	37.	925	"	"
5. Radiator & Boiler "G"			198.2	"	780	"	"
6. Steer. gear, Winches, Rad! & Stor. "J"			383.3	108.3	960	"	"
7. Ballast Pump			134	1.072	890	"	"
8. F. & B. Pump "Duplex"			77	19.	1026	"	3000
9. " " "Centrex"			"	"	"	"	"
10. Cool. Water Pump no. 1			"	"	"	"	"
11. " " " "			"	"	"	"	"
12. Int. Oil " " 1			"	"	"	"	"
13. " " " " 2			"	"	"	"	"
14. Motor Generator " 1			118	1.083	1180	"	"
15. " " " " 2			"	"	"	"	"
16. F.W. pump & Turning gear.			72	"	720	"	"
17. Workshop & Refrig. Machine			80.5	"	805	"	"
18. Aux. Circ. pump, O.F. Trans. p. & water th.			115.6	"	1156	"	"
19. O.F. Purifying gear			135.3	37.072	902	"	"
Short Connection 220 volts			600	61.103	600	"	2500
" " " 110			182	27.083	920	"	"
22. L'bay & Fans F'd	59	30 x 16	27	19.064	450	"	3000
23. " " " " " "	19.53	17.12 x 2.36	18.4	19.052	460	"	"
24. " " Aft.	4.2	30 x 16	11	"	375	"	"
25. " Eng. Room	116	"	51.6	1.064	860	"	"
26. " " 1/2 watt	11	200	35.3	19.052	880	"	"
27. Cargo Lighting	102	500	26.1	19.083	640	"	3500
Supply to Emergency Switchboard	16	16	164.8	37.093	660	"	2500

Total No. of Lights

612

No. of Motors driving Fans, &c.

64

No. of Heaters

42

Current required for Motors and Heaters

4929 amperes.

2 cables in parallel per pole.

Positions of Auxiliary Switch Boards, with No. of Switches on each

One in Windlass Motor Room, with 2 Switches; one in forward Contactor house, with 2 switches; one, pantry, 2 switches; two mid. contactor houses, 1 switch each; one galley, 4 switches; two in emergency dynamo room, one - 4 switches, & one - 1 switch; one, steering gear house, 2 switches.

What special protection is provided in the following cases?—

- (1) Conductors exposed to Heat or Damp *L. C. A. + B. in metal casing*
 (2) " " passing through Bunkers or Cargo Spaces *do. do.*
 (3) " " " Deck Beams or Bulkheads *Lead-bushed holes or W. T. glands.*

Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces?

Are all Hull Connections for Single-Wire Systems made with Screws of large Surface?

Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them? *Yes*

Have Tests been made to prove that this condition has been satisfactorily fulfilled?

Has the Insulation Resistance over the whole system been tested?

What does the Resistance amount to ?

Is the Installation supplied with a Voltmeter?

" " " an Ampere Meter?

Date of Trial of complete Installation 15/2/28 Duration of Trial 12 hours

Have all the requirements of Section 42 been satisfactorily carried out?

Governor tests, nos 1, 2, and 4; 9/2/26.
no. 3; 10/2/26.

Port

forward.

Numbers on Diesel generators

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apt

GENERAL CONSTRUCTION

Air Reservoirs, & Holders

Have the Machinery ~~and Boilers~~ been constructed in accordance with the requirements of the Rules and the

Approved Plans? *Yes.*

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor.

Have Tests been made to prove that this condition has been satisfactorily fulfilled?

Has the Installation Inspection over the whole system been noted?

What does the Inspection amount to?

Is the Installation supplied with a Valves?

Are any other Matters

Date of first of complete Installation 12/2/22

Have all the requirements of Section 12 been satisfactorily carried out?

Air Reservoirs, & Holders

Are the Materials used in the Construction of Engines, ~~and Boilers~~, so far as could be seen, sound and

trustworthy? *Yes.*

Is the Workmanship throughout thoroughly satisfactory? *Yes.*

The above correctly describes the Machinery of the T.S.O. "Alcinous"

as ascertained by *me* from personal examination

J. Wood Harrington.
Engineer Surveyor to the British Corporation for the
Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

£ s. d.

H.S. Sq. ft. : :

G.S. " : :

DONKEY BOILERS.

H.S. Sq. ft. : :

G.S. " : :

£ : :

ENGINES.

L.P.O. Cub. ft. : :

£ : :

Testing, &c. ... : :

£ : :

Expenses ... : :

Total ... £ : :

It is submitted that this Report be approved,

W. H. King
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the

7th April 1926

Fees advised

Fees paid



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Secretary.

2 Lighting generators 182 amperes, 110 volts, 675 revs/min.
 - each 20 Kilowatt -

Emergency
 bilge pump.

Centrex
 F. & B. pump.

Motor generator
 (above.)

Duplex F. & B. pump.

Diesel
 electric generator.

Diesel
 electric generator.

Cooling
 water pump.

Oil burning
 plant.

Doulay
 boiler.

Lubricating oil
 purifier.

Spare air
 bottles.

H.P. air
 bottles.

Oil fuel
 daily supply
 pump.

Lubricating
 oil pump.

Feed pump.

Auxiliary air
 compressor.

Fresh water
 pump.

Auxiliary
 cooling water
 pump.

Ballast
 pump.

Starboard main oil motor.

Platform
 for
 oil fuel
 purifying plant
 (above)

Lubricating
 oil pump.

Cooling
 water pump.

Diesel electric
 generator.

Diesel electric
 generator.

Back
 water
 tank
 (above)

Handwritten notes at the top right corner.

Handwritten notes in a box at the top right.

Handwritten notes in a box at the top center.

Handwritten notes in a box at the top center.

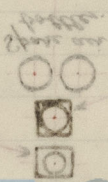
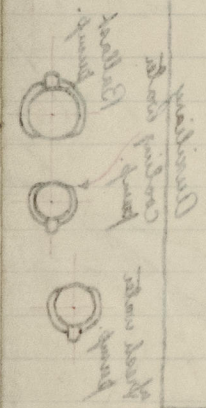
Handwritten notes in a box at the top left.

Handwritten notes in a box on the right side.

Large rectangular area with handwritten notes and diagrams.

Large rectangular area with handwritten notes and diagrams.

Handwritten notes in boxes on the left side.



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