

No. 1984

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1838 No. in Register Book 3148

" BARON FAIRLIE

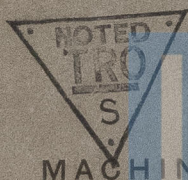
Makers of Engines McKIE & BAXTER

Works No. 1135

Makers of Main Boilers D. & W. HENDERSON & CO. LTD

Works No. 845

Makers of Donkey Boiler NONE



Works No. ✓

© 2021

Lloyd's Register
Foundation

014566-014573-0279

No. 1984

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. No. in Register Book

S.S. "BARON FAIRLIE"

Makers of Engines MCKIE & BAXTER

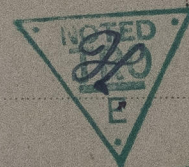
Works No. 1135

Makers of Main Boilers D. & W. HENDERSON & CO. LTD

Works No. 845

Makers of Donkey Boiler NONE

Works No. ✓



© 2021

Lloyd's Register
Foundation

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office

28th April 1925

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ~~Single~~ ^{Triple} ~~Cable~~ ^{Screw} STEAMSHIP

— "BARON FAIRLIE" —

Official No.

Port of Registry ARDROSSAN

Registered Owners

THE HOGARTH SHIPPING & CO. LTD.

Engines Built by

Mc KIE & BAXTER

at

GOVAN, GLASGOW

Main Boilers Built by

D. & W. HENDERSON & CO. LTD.

at

FINNIESTON, GLASGOW.

Donkey

NONE

at

Date of Completion

18-4-25

First Visit

31-3-24

Last Visit

18-4-25

Total Visits

97

© 2021
Lloyd's Register
Foundation

RECIPROCATING ENGINES.

Works No. 1135 No. of Sets ONE Description TRIPLE EXPANSION,

SURFACE CONDENSING. DIRECT ACTING

No. of Cylinders each Engine 3 No. of Cranks 3
 Diars. of Cylinders 27" 46" 76" Stroke 48"
 Cubic feet in each L.P. Cylinder 126 01
 Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr? YES
 " " " each Receiver? ALL EXCEPT L.P. BOTTOM.

Type of H.P. Valves, PISTON
 " 1st I.P. " COMMON SLIDE
 " 2nd I.P. " ✓
 " L.P. " DOUBLE PORTED "TRICK"
 " Valve Gear STEPHENSONS LINK MOTION
 " Condenser BUILT Cooling Surface 3633 sq. ft.

Diameter of Piston Rods (plain part) 7 1/2" Screwed part (bottom of thread)
 Material " INGOT STEEL
 Diar. of Connecting Rods (smallest part) 7 3/4" Material INGOT STEEL

" Crosshead Gudgeons 7 1/2" Length of Bearing 6 1/2" Material D:
 No. of Crosshead Bolts (each) 4 Diar. over Thrd. 3" Thrds. per inch 6 Material WROG IRON
 " Crank Pin " 2 " 4" " 4 " D:
 " Main Bearings 6 Lengths 15"
 " Bolts in each 2 Diar. over Thread 3 1/2" Threads per inch 6 Material STEEL
 " Holding Down Bolts, each Engine 112 Diar. 1 1/4" No. of Metal Chocks 116

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

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

If not, how are they fitted?

TANK TOP
YES

Connecting Rods, Forged by THE DENNYSTONE FORGE CO.

Piston " " W^m BEARDMORE & CO. LTD.

Crossheads, " " D:

Connecting Rods, Finished by Mc KIE & BAXTER

Piston " " D:

Crossheads, " " D:

Date of Harbour Trial 3-4-25

" Trial Trip 18-4-25

Trials run at FIRTH OF CLYDE

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

If so, what was the I.H.P.? 3010 (MEAN) Revols. per min. 71.3 (MEAN)

Pressure in 1st I.P. Receiver, 200 lbs., 2nd I.P., 75 lbs., L.P., 15 lbs., Vacuum, 27.5 ins.

Speed on Trial 12.08 KNOTS (MEAN)

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

data:—

Builders' estimated I.H.P. 2750 Revols. per min. 72

Estimated Speed 11 KNOTS



© 2021

Lloyd's Register
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?

Diam. 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

Revol. per min. of H.P. Turbines at Full Power	S.H.P.	Net H.P.	Efficiency, %
1,200	1,000	750	75
1,500	1,200	900	75
1,800	1,400	1,050	75
2,100	1,600	1,200	75
2,400	1,800	1,350	75
2,700	2,000	1,500	75
3,000	2,200	1,650	75
3,300	2,400	1,800	75
3,600	2,600	1,950	75
3,900	2,800	2,100	75
4,200	3,000	2,250	75
4,500	3,200	2,400	75
4,800	3,400	2,550	75
5,100	3,600	2,700	75
5,400	3,800	2,850	75
5,700	4,000	3,000	75
6,000	4,200	3,150	75
6,300	4,400	3,300	75
6,600	4,600	3,450	75
6,900	4,800	3,600	75
7,200	5,000	3,750	75
7,500	5,200	3,900	75
7,800	5,400	4,050	75
8,100	5,600	4,200	75
8,400	5,800	4,350	75
8,700	6,000	4,500	75
9,000	6,200	4,650	75
9,300	6,400	4,800	75
9,600	6,600	4,950	75
9,900	6,800	5,100	75
10,200	7,000	5,250	75
10,500	7,200	5,400	75
10,800	7,400	5,550	75
11,100	7,600	5,700	75
11,400	7,800	5,850	75
11,700	8,000	6,000	75
12,000	8,200	6,150	75
12,300	8,400	6,300	75
12,600	8,600	6,450	75
12,900	8,800	6,600	75
13,200	9,000	6,750	75
13,500	9,200	6,900	75
13,800	9,400	7,050	75
14,100	9,600	7,200	75
14,400	9,800	7,350	75
14,700	10,000	7,500	75
15,000	10,200	7,650	75
15,300	10,400	7,800	75
15,600	10,600	7,950	75
15,900	10,800	8,100	75
16,200	11,000	8,250	75
16,500	11,200	8,400	75
16,800	11,400	8,550	75
17,100	11,600	8,700	75
17,400	11,800	8,850	75
17,700	12,000	9,000	75
18,000	12,200	9,150	75
18,300	12,400	9,300	75
18,600	12,600	9,450	75
18,900	12,800	9,600	75
19,200	13,000	9,750	75
19,500	13,200	9,900	75
19,800	13,400	10,050	75
20,100	13,600	10,200	75
20,400	13,800	10,350	75
20,700	14,000	10,500	75
21,000	14,200	10,650	75
21,300	14,400	10,800	75
21,600	14,600	10,950	75
21,900	14,800	11,100	75
22,200	15,000	11,250	75
22,500	15,200	11,400	75
22,800	15,400	11,550	75
23,100	15,600	11,700	75
23,400	15,800	11,850	75
23,700	16,000	12,000	75
24,000	16,200	12,150	75
24,300	16,400	12,300	75
24,600	16,600	12,450	75
24,900	16,800	12,600	75
25,200	17,000	12,750	75
25,500	17,200	12,90	

11 The conditions on which were such that full power records were obtained five P.L. following estimated

55 55 L.P. 55 55

1st Reduction Shaft

2nd

“ “ Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial	Knots.	Propeller Revols. per min.	S.H.P.
10	10.0	1,000	1,000
12	12.0	1,200	1,440
14	14.0	1,400	1,960
16	16.0	1,600	2,560
18	18.0	1,800	3,240
20	20.0	2,000	4,000
22	22.0	2,200	4,840
24	24.0	2,400	5,760
26	26.0	2,600	6,760
28	28.0	2,800	7,840
30	30.0	3,000	9,000
32	32.0	3,200	10,240
34	34.0	3,400	11,560
36	36.0	3,600	12,960
38	38.0	3,800	14,440
40	40.0	4,000	16,000
42	42.0	4,200	17,640
44	44.0	4,400	19,360
46	46.0	4,600	21,160
48	48.0	4,800	23,040
50	50.0	5,000	25,000
52	52.0	5,200	27,040
54	54.0	5,400	29,160
56	56.0	5,600	31,360
58	58.0	5,800	33,640
60	60.0	6,000	36,000
62	62.0	6,200	38,440
64	64.0	6,400	40,960
66	66.0	6,600	43,560
68	68.0	6,800	46,240
70	70.0	7,000	49,000
72	72.0	7,200	51,840
74	74.0	7,400	54,760
76	76.0	7,600	57,760
78	78.0	7,800	60,840
80	80.0	8,000	64,000
82	82.0	8,200	67,240
84	84.0	8,400	70,560
86	86.0	8,600	73,960
88	88.0	8,800	77,440
90	90.0	9,000	81,000
92	92.0	9,200	84,640
94	94.0	9,400	88,360
96	96.0	9,600	92,160
98	98.0	9,800	96,040
100	100.0	10,000	100,000

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

Foundation

© 2021

Lloyd's Register
Foundation

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

" 1st " Wheel

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion

" 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

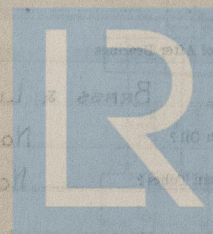
Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.



© 2021

Lloyd's Register
Foundation

No. of Blades each Propeller

4

Fitted or Solid?

FITTED

Material of Blades

MANGANESE BRONZE

Boss

CAST IRON

Diam. of Propellers

18'-3"

Pitch 18'-0" to 20'-0"
SET AT 19'-0"

Surface (each

111

S. ft.

Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

.78

Crank Shafts Forged by

THE DENNYSTONE FORGE CO.

Material

INGOT STEEL

Pins

"

Do

"

Do

Webs

"

D. COLVILLE & SONS, LTD.

"

Do

Thrust Shafts

"

THE DENNYSTONE FORGE CO.

"

Do

Intermed. "

"

Do

"

Do

Propeller "

"

Do

"

Do

Crank " Finished by

Mc KIE & BAXTER

Thrust "

"

Do

Intermed. "

"

Do

Propeller "

"

Do

STAMP MARKS ON SHAFTS.

B.C.

No 9268

G.S.M.

13/11/24

B.C.

No 9268

G.S.M.

13/11/24

B.C.

No 9273

G.S.M.

12/1/25

B.C.

No 9272

G.S.M.

22/12/24

CRANK

THRUST

INTERMEDIATE

PROPELLER

B.C.

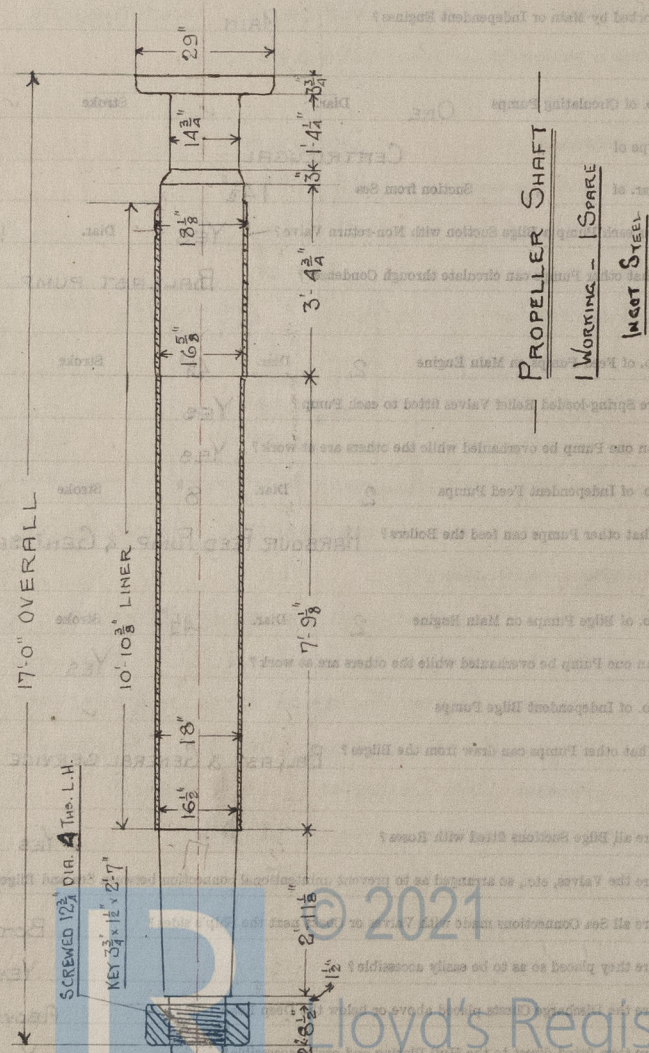
No 9273

G.S.M.

12/1/25

SPARE PROPELLER

SKETCH OF PROPELLER SHAFT.



PUMPS, ETC.

No. of Air Pumps ONE Diar. 25" Stroke 28"

Worked by Main or Independent Engines? MAIN

No. of Circulating Pumps ONE Diar. Stroke ✓

Type of " CENTRIFUGAL

Diar. of " Suction from Sea 14½"

Has each Pump a Bilge Suction with Non-return Valve? YES Diar. 10"

What other Pumps can circulate through Condenser? BALLAST PUMP

No. of Feed Pumps on Main Engine 2 Diar. 4½" Stroke 28"

Are Spring-loaded Relief Valves fitted to each Pump? YES

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

No. of Independent Feed Pumps 2 Diar. 8" Stroke 22"

What other Pumps can feed the Boilers? HARBOUR FEED PUMP & GEN. SERVICE PUMP.

No. of Bilge Pumps on Main Engine 2 Diar. 4½" Stroke 28"

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

No. of Independent Bilge Pumps ✓

What other Pumps can draw from the Bilges? BALLAST & GENERAL SERVICE PUMPS

Are all Bilge Suctions fitted with Roses? YES

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? BOTH

Are they placed so as to be easily accessible? YES

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

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

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



© 2021

Lloyd's Register
Foundation

BOILERS.

Works No. 845

No. of Boilers 3 Type CYLINDRICAL, MULTITUBULAR

Single or Double-ended SINGLE

No. of Furnaces in each 3

Type of Furnaces DEIGHTON

Date when Plan approved 25.6.23

Approved Working Pressure 200 Lbs.

Hydraulic Test Pressure 350 Lbs.

Date of Hydraulic Test 19/12/24 & 30/12/24

„ when Safety Valves set 3-4-25

Pressure at which Valves were set 205 Lbs.

Date of Accumulation Test 18-4-25

Maximum Pressure under Accumulation Test 208 Lbs.

System of Draught CLOSED ASHPITS. (HOWDEN'S F.D.)

Can Boilers be worked separately? YES

Makers of Plates RHEINISCHE STAHLWERKE, WERK III. DUISBURG.

WRAPPERS - (SPENCER) THE STEEL CO. OF SCOTLAND LTD

„ Stay Bars AUGUST THYBSSEN-HÜTTE GEWERKSCHAFT, HAMBURG.

„ Rivets N.W. RIVET, BOLT & NUT CO. AIRDRIE

„ Furnaces THE DEIGHTON FLUE & TUBE CO.

Greatest Internal Diam. of Boilers 16'-1 19/16"

„ „ Length „ 12'-0"

Square Feet of Heating Surface each Boiler 2830

„ „ Grate „ „ 60

No. of Safety Valves each Boiler 2 Rule Diam. 3 1/4" Actual 3 1/4"

Are the Safety Valves fitted with Easing Gear? YES.

No. of Pressure Gauges, each Boiler ONE No. of Water Gauges 2

„ Test Cocks „ NONE „ Salinometer Cocks ONE

HYDRAULIC TESTS OF BOILERS

PORT

CENTRE

STARBOARD

-B.C. TEST

No 4739
350 Lbs.
W.P. 200 Lbs.
G. S. M.
30/12/24

B.C. TEST

No 4737
350 Lbs.
W.P. 200 Lbs.
G. M. L.
19/12/24

B.C. TEST

No 4737
350 Lbs.
W.P. 200 Lbs.
G. M. L.
19/12/24



© 2021

Lloyd's Register
Foundation

Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars?	PILLARS
Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes?	DIRECT. WITH PIPES.
Are these Pipes connected to Boilers by Cocks or Valves?	COCKS
Are Blow-off Cocks or Valves fitted on Boiler Shells?	VALVES
No. of Strakes of Shell Plating in each Boiler	1
„ Plates in each Strake	3
Thickness of Shell Plates Approved	$\frac{7}{16}$ "
„ „ in Boilers	$\frac{7}{16}$ "
Are the Rivets Iron or Steel?	STEEL
Are the Longitudinal Seams Butt or Lap Joints?	BUTT
Are the Butt Straps Single or Double?	DOUBLE
Are the Double Butt Straps of equal width?	YES
Thickness of outside Butt Straps	$\frac{3}{32}$ "
„ inside „	$\frac{1}{32}$ "
Are Longitudinal Seams Hand or Machine Riveted?	MACHINE
Are they Single, Double, or Treble Riveted?	TREBLE
No. of Rivets in a Pitch	5
Diam. of Rivet Holes	$\frac{1}{2}$ "
Pitch	$10\frac{1}{8}$ "
No. of Rows of Rivets in Centre Circumferential Seams	✓
Are these Seams Hand or Machine Riveted?	✓
Diam. of Rivet Holes	✓
Pitch	✓
No. of Rows of Rivets in Front End Circumferential Seams	2
Are these Seams Hand or Machine riveted?	HAND
Diam. of Rivet Holes	$\frac{1}{2}$ "
Pitch	$4\frac{1}{2}$ "
No. of Rows of Rivets in Back End Circumferential Seams	2
Are these Seams Hand or Machine Riveted?	MACHINE
Diam. of Rivet Holes	$\frac{1}{2}$ "
Pitch	$4\frac{1}{2}$ "
Size of Manholes in Shell	$16" \times 12"$
Dimensions of Compensating Rings	$2'-11\frac{1}{4}" \times 2'-7\frac{1}{4}" \times \frac{1}{16}"$

© 2021

Lloyd's Register Foundation

Thickness of End Plates in Steam Space Approved

 $\frac{1}{16}$ "

" " " " " in Boilers

 $\frac{3}{16}$ "

Pitch of Steam Space Stays

 $1'-10\frac{3}{4}" \times 1'-11\frac{1}{4}"$ Diar. " " " " Approved $3\frac{3}{4}"$ Threads per Inch

8

" " " " " in Boilers $3\frac{3}{4}"$ " "

8

Material of " " "

STEEL

How are Stays Secured?

DOUBLE NUTS

Diar. and Thickness of Loose Washers on End Plates

 $13\frac{1}{8}" \times 1\frac{1}{32}"$

" " " " Riveted " " "

✓

Width " " Doubling Strips " "

✓

Thickness of Middle Back End Plates Approved

 $\frac{29}{32}$ "

" " " " " in Boilers

 $\frac{7}{8}"$

Thickness of Doublings in Wide Spaces between Fireboxes

✓

Pitch of Stays at

 $8\frac{3}{8}" \times 8\frac{1}{8}"$ Diar. of Stays Approved $1\frac{5}{8}"$ Threads per Inch

10

" " in Boilers $1\frac{5}{8}"$ " "

10

Material "

STEEL

Are Stays fitted with Nuts outside?

YES

Thickness of Back End Plates at Bottom Approved

 $\frac{29}{32}$ "

" " " " " in Boilers

 $\frac{7}{8}"$

Pitch of Stays at Wide Spaces between Fireboxes

 $8\frac{3}{8}" \times 8\frac{1}{8}"$

Thickness of Doublings in " "

✓

Thickness of Front End Plates at Bottom Approved

 $1\frac{1}{32}"$

" " " " " in Boilers

 $1\frac{1}{32}"$

No. of Longitudinal Stays in Spaces between Furnaces

3

Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Doublings in

Thickness of Back End Plates Approved

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Back End Plates Approved

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes

Pitch of Stays at Wide Spaces between Fireboxes



© 2021

Lloyd's Register
Foundation

Diam. of Stays Approved	2½"	Threads per Inch	8
" " in Boilers	2½"		8
Material			STEEL
Thickness of Front Tube Plates Approved			1½"
" " " " in Boilers			1½"
Pitch of Stay Tubes at Spaces between Stacks of Tubes			7½"
Thickness of Doublings in " " "			✓
" Stay Tubes at " " "			¾"
Are Stay Tubes fitted with Nuts at Front End?			No
Thickness of Back Tube Plates Approved			23/32"
" " " in Boilers			¾"
Pitch of Stay Tubes in Back Tube Plates			7½" x 11¼"
" Plain "			3¾"
Thickness of Stay Tubes			5/16" & 3/8"
" Plain "			Nº 8 W.G. (16s)
External Diam. of Tubes			2½"
Material			L.W. WROT. IRON.
Thickness of Furnace Plates Approved			23/32"
" " " in Boilers			23/32"
Smallest outside Diam. of Furnaces			4'-6½"
Length between Tube Plates			8'-0"
Width of Combustion Chambers (Front to Back)			3'-2" (OUTSIDE PLATES)
Thickness of " " Tops Approved			5/8"
" " " in Boilers			5/8"
Pitch of Screwed Stays in C.O. Tops			8½"

Diam. of Stays Approved	2½"	Threads per Inch	8
" " in Boilers	2½"		8
Material			STEEL
Thickness of Front Tube Plates Approved			1½"
" " " " in Boilers			1½"
Pitch of Stay Tubes at Spaces between Stacks of Tubes			7½"
Thickness of Doublings in " " "			✓
" Stay Tubes at " " "			¾"
Are Stay Tubes fitted with Nuts at Front End?			No
Thickness of Back Tube Plates Approved			23/32"
" " " in Boilers			¾"
Pitch of Stay Tubes in Back Tube Plates			7½" x 11¼"
" Plain "			3¾"
Thickness of Stay Tubes			5/16" & 3/8"
" Plain "			Nº 8 W.G. (16s)
External Diam. of Tubes			2½"
Material			L.W. WROT. IRON.
Thickness of Furnace Plates Approved			23/32"
" " " in Boilers			23/32"
Smallest outside Diam. of Furnaces			4'-6½"
Length between Tube Plates			8'-0"
Width of Combustion Chambers (Front to Back)			3'-2" (OUTSIDE PLATES)
Thickness of " " Tops Approved			5/8"
" " " in Boilers			5/8"
Pitch of Screwed Stays in C.O. Tops			8½"



© 2021

Lloyd's Register
Foundation

Diam. of Screwed Stays Approved	$1\frac{5}{8}"$	Threads per Inch	10
" " " in Boilers	$1\frac{5}{8}"$		10
Material " "		STEEL	
Thickness of Combustion Chamber Sides Approved		$\frac{5}{8}"$	
" " " " in Boilers		$\frac{5}{8}"$	
Pitch of Screwed Stays in C.O. Sides		$8\frac{3}{8} \times 8\frac{1}{8}"$	
Diam. " " Approved	$1\frac{5}{8}"$	Threads per Inch	10
" " " in Boilers	$1\frac{5}{8}"$		10
Material " "		STEEL	
Thickness of Combustion Chamber Backs Approved		$\frac{5}{8}"$	
" " " " in Boilers		$\frac{5}{8}"$	
Pitch of Screwed Stays in C.O. Backs		$7\frac{3}{4}"$	
Diam. " " Approved	$2\frac{1}{8}"$, $1\frac{7}{8}"$ & $1\frac{5}{8}"$	Threads per Inch	10
" " " in Boilers	Do.		10
Material " "		STEEL	
Are all Screwed Stays fitted with Nuts inside C.O.?		YES	
Thickness of Combustion Chamber Bottoms		$\frac{13}{16}"$	
No. of Girders over each Wing Chamber		5	
" " " Centre "		3	
Depth and Thickness of Girders		$10' \times \frac{3}{4}"$	
Material of Girders		STEEL	
No. of Stays in each		3	
No. of Tubes, each Boiler	326 PLAIN. 124 STAY. 450 TOTAL		
Size of Lower Manholes	$16' \times 12"$		

VERTICAL DONKEY BOILERS

No. of Boilers	Type	Height	Orientation of Boilers
Height of Boiler Crown above Fire Grate			
Are Boiler Crowns Flat or Dished?			
Internal Radius of Dished Ends			
Description of Seams in Boiler Crowns			
Diam. of Water Tubes	Pitch	Width of Overlap	
Height of Firebox Crown above Fire Grate			
Are Firebox Crowns Flat or Dished?			
Internal Radius of Dished Crowns			
No. of Crown Stays	Diam.	Material	
External Diam. of Firebox at Top	Thickness of Plates		
No. of Water Tubes	Material	Thickness	
Material of Water Tubes			
Size of Manhole in Shell			
Dimensions of Compensating Ring			
Heating surface, each boiler			

SUPERHEATERS



© 2021

Lloyd's Register
Foundation

VERTICAL DONKEY BOILERS.

No. of Boilers Type

Greatest Int. Diar. Height

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Ends Thickness of Plates

Description of Seams in Boiler Crowns

Diar. of Rivet Holes Pitch Width of Overlap

Height of Firebox Crowns above Fire Grate

Are Firebox Crowns Flat or Dished?

External Radius of Dished Crowns Thickness of Plates

No. of Crown Stays Diar. Material

External Diar. of Firebox at Top Bottom Thickness of Plates

No. of Water Tubes Ext. Diar. Thickness

Material of Water Tubes

Size of Manhole in Shell

Dimensions of Compensating Ring

Heating Surface, each Boiler Grate Surface

SUPERHEATERS.

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

MAIN STEAM PIPES



© 2021

Lloyd's Register
Foundation

MAIN STEAM PIPES.

No. of Lengths	5
Material	STEEL
Brazed, Welded or Seamless	WELDED
Internal Diam.	5"
Thickness	$\frac{1}{4}$ "
How are Flanges secured?	SCREWED & EXP?
Date of Hydraulic Test	1-A-25
Test Pressure	600 LBS.

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	

STEAM EVAPORATORS.

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	



© 2021

Lloyd's Register
Foundation

EVAPORATORS.

No. ONE Type VERTICAL Tons per Day 30
 Makers G. & J. WEIR, L^{td}. CATHCART. N^o 75389
 S.V. Set @ SHELL 50 LBS
 Working Pressure 25 LBS. Test Pressure TUBES 400 Date of Test 31-10-24
 Date of Test of Safety Valves under Steam 18-4-25

FEED WATER HEATERS.

No. ONE Type DIRECT CONTACT N^o 75387
 Makers G. & J. WEIR, L^{td}. CATHCART
 ESCAPE SET @
 Working Pressure 20 LBS. Test Pressure 40 LBS. Date of Test 31-10-24

FEED WATER FILTERS.

No. ONE Type "CASCADE", MULTIFLOW. Size N^o 5
 Makers THE CONTRAFLW ENGINEERING CO. L^{td}. LONDON. N^o 692.
 Working Pressure ✓ Test Pressure ✓ Date of Test ✓

LIST OF DONKEY PUMPS.

MAIN FEED PUMP 2 IN N^o G. & J. WEIR, L^{td} N^o 10½" x 8" x 22"
 SUCTIONS:- BOILERS. CONDENSER. HEATER. FILTER. SEA.
 DISCHARGES:- BOILERS THRO MAIN & AUX FEED CHECKS. OVERBOARD.
 HARBOUR DITTO 1 IN N^o J. H. CARRUTHERS & CO. L^{td} N^o 5" x 3½" x 8"
 SUCTIONS:- FLOAT TANK. CASCADE TANK. SEA.
 DISCHARGE:- BOILERS.
 BALLAST PUMP 1 IN N^o J. H. CARRUTHERS & CO. L^{td} N^o 10" x 12" x 12"
 SUCTIONS:- SEA. TANK LINE. BILGE. SPECIAL BILGE
 DISCHARGES:- MAIN & AUX. CONDENSERS. TANK LINE. OVERBOARD.
 GEN^l SERVICE PUMP 1 IN N^o J. H. CARRUTHERS & CO. L^{td} N^o 7½" x 5" x 10"
 SUCTIONS:- SEA. BILGES. TANK LINE. CONDENSER. FILTER.
 DRY TANK. BOILERS.
 DISCHARGES:- OVERBOARD. DECK. SANITARY TANK. BOILERS.
 CIRCULATING PUMP 1 IN N^o Mc Kie & BAXTER
 SUCTIONS:- SEA. E.R. BILGE
 DISCHARGE:- OVERBOARD. THRO CONDENSER.



© 2021

Lloyd's Register
Foundation

No. of Top End Bolts.	2	No. of Bot. End Bolts.	2	No. of Cylinder Cover Studs.	6
" Coupling Bolts	1 SET	" Main Bearing Bolts	2	" Valve Chest	6
" Junk Ring Bolts	12	" Feed Pump Valves	2 SETS	" Bilge Pump Valves	1 SET
" H.P. Piston Rings	1 SET	" I.P. Piston Rings	1 SET	" L.P. Piston Rings	
" " Springs	Do	" " Springs	Do	" " Springs	
" Safety Valve	1 PAIR	" Fire Bars	1 SET FOR 1 BOILER	" Feed Check Valves	1 M ⁿ . 1 A. U ^x
" Piston Rods		" Connecting Rods		" Valve Spindles	1 H.P. 1 L.P.
" Air Pump Rods	ONE	" Air Pump Buckets		" Air Pump Valves	1 SET
" Clr.	"	" Clr.	"	" Clr.	"
" Crank Shafts		" Crank Pin Bushes	1 PAIR	" Crosshead Bushes	1 PAIR
" Propeller Shafts	ONE	" Propellers		" Propeller Blades	1 (BRONZE)
" Boiler Tubes	24	" Condenser Tubes	36	" Condenser Ferrules	100

OTHER ARTICLES OF SPARE GEAR:—

- 1 SET OF LINK BRASSES FOR TWO ENDS
- 1 ECCENTRIC STRAP COMPLETE
- 1 SET OF BEARING RINGS EACH FOR H.P. & I.P. PISTON RODS & SPRINGS.
- 1 CYLINDER ESCAPE VALVE SPRING
- 1 SET OF FURNACE FRONT BAFFLE PLATES FOR ONE BOILER,
WITH DOOR BAFFLES & PATTERN,
- 1 BRASS IMPELLER & 1 BRONZE SPINDLE FOR CENTRIFUGAL PUMP.

REFRIGERATORS.

No. of Machines

1

Capacity of each

Makers

J. & E. HALL, LTD

Description

 CO_2

(ONE SMALL MACHINE FOR SHIP'S USE.)

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

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

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

© 2021

Lloyd's Register
Foundation

ELECTRIC LIGHTING.

ELECTRIC LIGHTING.

Installation Fitted by

TELFORD, GRIER & MACKAY

No. and Description of Dynamos

ONE, CASTLE TYPE, 4-POLE

Makers of Dynamos

J. H. HOLMES & CO. NEWCASTLE

Capacity

118

Amperes, at

110

Volts,

330

Revs. per Min.

Current Alternating or Continuous

CONTINUOUS.

Single or Double Wire System

DOUBLE

Position of Dynamos

BOTTOM PLATFORM, ST^o SIDE ENGINE ROOM.

Main Switch Board

ON BULKHEAD, ABAFT DYNAMO.

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

6

Particulars of these Circuits:—

Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
1. FORWARD.	21	16	11	7/044	1100	100%	600 Mega
2. NAV ^o OFFICERS	52	30 WATT	15	D ^o	1500	D ^o	D ^o
3. ENG ^o OFFICERS	55	30 WATT.	16	D ^o	1600	D ^o	D ^o
4. ENGINE ROOM	31	16	15	7/036	2143	D ^o	D ^o
5. NAVIGATION	12	VARIOUS	7	D ^o	1000	D ^o	D ^o
6. WIRELESS.	-	-	15	7/044	1500	D ^o	D ^o

Total No. of Lights

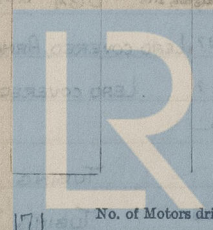
171

No. of Motors driving Fans, &c.

No. of Heaters

Current required for Motors and Heaters

12 K.W.



© 2021

Lloyd's Register
Foundation

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

NONE

Are Out-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

YES

On Aux. " " each Auxiliary Circuit

YES

Wherever a Cable is reduced in size

YES

To each Lamp Circuit

YES

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted

YES

Are the Fuses of Standard Sizes?

YES

Are all Switches and Out-outs constructed of Non-inflammable Material?

YES

Are they placed so as to be always and easily accessible?

YES

Smallest Single Wire used, No. 064 S.W.G., Largest, No. 064 S.W.G.

How are Conductors in Engine and Boiler Spaces protected? LEAD COVERED, ARMoured & BRAIDED.

" Saloons, State Rooms, &c., " ? LEAD COVERED.

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp

TUBING.

(2) " " passing through Bunkers or Cargo Spaces

TUBING

(3) " " (a) Deck Beams or Bulkheads (a) W.T. GLANDS.
(b) PACKED DECK TUBES.

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables

is unimpaired? No JOINTS

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?

YES

Has the Insulation Resistance over the whole system been tested?

YES

What does the Resistance amount to?

1.17

Ohms.

Is the Installation supplied with a Voltmeter?

YES

" " " an Ampere Meter?

YES

Date of Trial of complete Installation

18-4-25

Duration of Trial

6 Hrs

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

Yes.



© 2021

Lloyd's Register
Foundation

GENERAL CONSTRUCTION.

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. **YES**

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

Has the Installation Resistance over the whole system been tested? **YES**

What does the Resistance amount to? **1.8 - 4.52**

Is the Installation supplied with a Ventimeter? **YES**

on Ampere Meter? **YES**

Date of final of complete installation **18-4-25**

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

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 S.S.

as ascertained by **me** from personal examination

Geo Macfarlane
Engineer Surveyor to the British Corporation for the
Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

H.S. Sq. ft. : :

G.S. " : :

DONKEY BOILERS.

H.S. Sq. ft. : :

G.S. " : :

£ : :

ENGINES.

L.P.C. 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

6th May 1925

Fees advised

Fees paid



© 2021

Lloyd's Register
Foundation

W. H. King
Secretary.

11th July 1942

Replace H.P. Cylinder Hyd test 300 lb/d² (EF)
 Port H.P. Column renewed at this time
 also.

37.



© 2021

Lloyd's Register
 Foundation

11th July 1942

Replaced H.P. cylinder Hydro test 2000 lbs (50)

Put H.P. Column removed at this time

also.

2-1



© 2021

Lloyd's Register
Foundation.



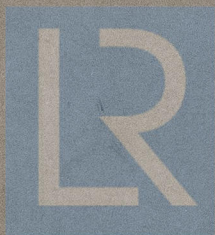
© 2021

Lloyd's Register
Foundation



© 2021

Lloyd's Register
Foundation



© 2021

Lloyd's Register
Foundation