

## REPORT ON BOILERS.

No. 7931.

Received at London Office

17 APR 1929

Date of writing Report

29/3

1927

When handed in at Local Office

192

Port of

Lopenhagen

No. in Survey held at

Salborg

Date, First Survey

28/2 1928

Last Survey

13/3

1929

(Number of Visits

19)

Gross 3015.20

Tons

Net 1686.15

No. 222 on the

Hut Single 1st "BORGNY"

Master

Built at

Salborg

By whom built

Salborg-Hask. of Skibb.

Yard No. 37

When built 1928-9

Engines made at

Lopenhagen

By whom made

Engine No. 1499 When made 1928

Boilers made at

Salborg

By whom made

Boiler No. 37 When made 1928-9

Nominal Horse Power

Owners

Port belonging to

Oslo.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

TUBES: MESSRS. STEWARTS &amp; LLOYDS LTD.

Manufacturers of Steel PLATES: DAVID COLVILLE &amp; CO. LD. MOTHERWELL; FURNACES: JOHN MARSHALL &amp; CO. MOTHERWELL (Letter for Record S.)

Total Heating Surface of Boilers

1238 sq. ft.

Is forced draught fitted

Coal or Oil fired oil fired.

No. and Description of Boilers

1 off horizontal single ended, 2 c.f.

Working Pressure 185 lbs.

Tested by hydraulic pressure to

328 lbs.

Date of test

13/12 28

No. of Certificate

499

Can each boiler be worked separately

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler 2 off, direct spring loaded, 75 lbs. dia

Area of each set of valves per boiler

(per Rule

7.3 sq"

as fitted

13.6 sq"

Pressure to which they are adjusted

185 lbs.

Are they fitted with easing gear

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

no main boiler.

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

11'-2"

Length

11'-1 1/8"

Shell plates: Material

S.M. steel

Tensile strength

29.1 t.

Thickness

1"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

(end

3 3/16"

Long. seams

2 1/2" butt strap, 3 1/2" riveted.

Diameter of rivet holes in

(circ. seams

1 1/8" - 1/32"

(long. seams

1 1/8" - 1/32"

Pitch of rivets

7/4"

Percentage of strength of circ. end seams

(plate

66.3

(rivets

48.5

Percentage of strength of circ. intermediate seam

(plate

✓

Percentage of strength of longitudinal joint

(plate

84

(rivets

107

(combined

80.9

Working pressure of shell by Rules

191 lbs.

Thickness of butt straps

(outer

7/8"

(inner

1"

Material

S.M. steel

No. and Description of Furnaces in each Boiler

2 off corrugated, Morrison's type.

Length of plain part

(top

✓

(bottom

✓

Thickness of plates

(crown

5/8"

(bottom

✓

Description of longitudinal joint

welded.

Dimensions of stiffening rings on furnace or c.e. bottom

✓

Working pressure of furnace by Rules

253 lbs.

End plates in steam space: Material

S.M. steel

Tensile strength

28-32 t.

Smallest outside diameter

3'-0"

How are stays secured

secured this plates, riveted washers and nuts outside.

Working pressure by Rules

189 lbs.

Tube plates: Material

(front

S.M. steel

(back

S.M. steel

Tensile strength

(front

27.1 t.

(back

28.9 t.

Thickness

1 1/16"

Mean pitch of stay tubes in nests

9"

Pitch across wide water spaces

16 3/8"

Working pressure

(front

350 lbs.

(back

308 lbs.

Girders to combustion chamber tops: Material

S.M. steel

Tensile strength

28-32 t.

Depth and thickness of girder

✓

at centre

7 1/8" - 13/16" x 2

Length as per Rule

2'-3"

Distance apart

8"

No. and pitch of stays

✓

in each

2 off 7 3/8"

Working pressure by Rules

231 lbs.

Combustion chamber plates: Material

S.M. steel

Tensile strength

278-29.1 t.

Thickness: Sides

1 1/16"

Back

5/8"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

6" x 8"

Back

7" x 7"

Top

8" x 7 3/8"

Are stays fitted with nuts or riveted over

nuts on both sides.

Working pressure by Rules

(TOP: 279 lbs.

(BACK: 184 lbs.

(SIDES: 220 lbs.

Front plate at bottom: Material

S.M. steel

Tensile strength

27.1 t.

Thickness

1 1/16"

Lower back plate: Material

S.M. steel

Tensile strength

28.4 t.

Thickness

1 1/16"

Pitch of stays at wide water space

d = 23 1/2"

Are stays fitted with nuts or riveted over

nuts on both sides.

Working Pressure

(LOWER BACK: 375 lbs.

(WIDE &amp; SP. OFFR. TUBES: 225 lbs.

Main stays: Material

S.M. steel

Tensile strength

26-27 t.

Diameter

(At body of stay,

2 3/4"

(Over threads

✓

No. of threads per inch

11

Area supported by each stay

248 sq"

Working pressure by Rules

206 lbs.

Screw stays: Material

S.M. steel

Tensile strength

31.6-31.7 t.

Diameter

(At turned off part,

1 1/2" (top 1 3/4")

(Over threads

✓

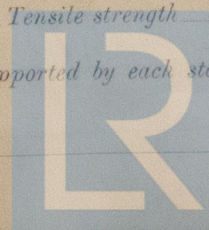
No. of threads per inch

11

Area supported by each stay

49 sq" (top 59 sq")

Shipping.



Lloyd's Register Foundation



LAERS, No. 1  
in  
in  
Centre Line  
Stiffeners  
Plating, th  
RINGS  
Uppermost  
Stringer I  
Thickness  
in way  
Thickness  
in way  
Thickness  
If Sheat  
second  
Stringer  
STRAI

Working pressure by Rules 324 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter At turned off part, 1 1/2"  
No. of threads per inch 11 Area supported by each stay 11 3/4" x 7" = 82 1/4 sq" Working pressure by Rules 193 lbs.  
Tubes: Material mild steel External diameter Plain 3 1/4" Thickness 4 mm (8 W.G.) No. of threads per inch 11  
Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 230 lbs. Manhole compensation: Size of opening 1 1/2"  
shell plate 15" x 18 7/8" Section of compensating ring 3 3/4" (2 1/2" AT ENDS) No. of rivets and diameter of rivet holes 2  
Outer row rivet pitch at ends 7 1/2" Depth of flange if manhole flanged 3 1/8" Steam Dome: Material ✓  
Tensile strength Thickness of shell Description of longitudinal joint  
Diameter of rivet holes Pitch of rivets Percentage of strength of joint Plate  
Internal diameter Working pressure by Rules Thickness of crown Rivets No. and diameter  
stays Inner radius of crown Working pressure by Rules  
How connected to shell Size of doubling plate under dome Diameter of rivet holes and  
of rivets in outer row in dome connection to shell

Type of Superheater  
Number of elements Material of tubes Manufacturers of Tubes  
Material of headers Tensile strength Thickness Can the superheater be shut off  
the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  
Area of each safety valve Are the safety valves fitted with easing gear Working pressure as  
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure  
tubes castings and after assembly in place Are drain cocks or valves fitted  
to free the superheater from water where necessary

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes.

The foregoing is a correct description,  
AKTIESELSKABET  
AALBORG MASKIN- OG SKIBSBYGGERI  
Dates of Survey  
During progress of work in shops - 28/1-1/3, 24/3-24/4, 2/5-7/5, 4/6-16/6  
while building 4/4, 22/10, 13/11, 30/11, 13/12 1928. Are the approved plans of boiler and superheater forwarded herewith yes.  
board vessel - 5/1, 16/1, 5/2, 5/3, 6/3, 13/3 1929. Total No. of visits 19.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
This donkey boiler has been built under special survey and in accordance with the Society's Rules, approved plan and the requirements contained in the Surveyor's letter 2 dated 24 1928.  
The material used in the construction has been tested and examined as per Rules and found good, and the workmanship is of good description throughout.  
The donkey boiler with oil fuel burning and cargo oil pumping arrangements have been fitted on board the vessel under my supervision and to my satisfaction, and on the final trial trip is well adapted under working conditions and found satisfactory.  
Recommend the vessel to have notation of D.B. 185 lbs. in the Register Book.

Survey Fee ... Rs. 150.00 When applied for, 15.4. 1929.  
Travelling Expenses (if any) £ : : When received, 6.5- 1929.  
Committee's Minute TUE. 23 APR 1929  
Assigned D.B. 185 lbs.

Engineer Surveyor to Lloyd's Register of Shipping.

- List of Auxiliary Machinery.
- |  |                  |                              |
|--|------------------|------------------------------|
| 1 off rotary Ballast pump, system "IRON"   | 100 to capacity. | ALL WORKED BY ELECTROMOTORS. |
| 1 centrifugal Cooling water pump   | 60 to -          |                              |
| 1 cog wheel Lubricating oil pump   | 25 to -          |                              |
| 1 " " spar Lubricating oil pump  | 25 to -          |                              |
| 1 " " oil fuel Transfer pump   | 10 to -          | ALL WORKED BY STEAM.         |
| 1 Bilge & Sanitary pump, consisting of 2 trunk pistons, one for each purpose, 25 to capacity each.   |                  |                              |
| 1 donkey boiler feed pump, 15.70.100 mm duplex (EUREKA)  |                  |                              |
| 1 " " feed injector, 8.5 to pr. hour.  |                  |                              |
| 1 Cooling water circulation pump for auxiliary condenser, 150.200.150 mm duplex  |                  | ALL WORKED BY STEAM.         |
| 1 J. Samuel White & Co. oil fuel burning unit for donkey boiler with simple oil pressure pump, duplex filter, heater and hand pump.                  |                  |                              |
| 2 12.10.12 duplex Cargo oil pumps (Hayward Tyler & Co.) MAIN PUMP ROOM   |                  |                              |
| 1 6.6.6 duplex oil fuel transfer & ballast pump FORWARD PUMPROOM.  |                  |                              |
| 1 7.5 kwts. compound wound auxiliary dynamo giving current at 110 Volts pressure for the electric light installation when the main dynamo is stopped |                  | ALL WORKED BY STEAM.         |
| 1 windlass & 2 cargo winches on deck.  |                  |                              |

- 2 off 1-cyl. 4 stroke single acting Diesel oil engine, each working a 33 kwts. compound wound dynamo, giving current at 220 Volts pressure for the following purposes:
- |   |  |
|---|--|
| 1 off 9 HP shunt wound electric motor for the ballast pump.   |  |
| 1 15. " " " " combined cooling water & lubricating oil pump.  |  |
| 1 9. " " " " spar lub. oil pump & oil fuel transfer pump.   |  |
| 1 9. " " " " bilge & sanitary pump.   |  |
| 1 3. " " " " workshop.  |  |
| 1 1. " " " " oil fuel purifier.   |  |
| 1 0.75. " " " " lubricating oil purifier.   |  |
| 1 2. series " " " " engine turning gear.  |  |
| 1 11.5. shunt " " " " electric starting gear.   |  |
| 1 15. " " " " directly coupled to a 10 kwts. compound wound dynamo, giving current at 110 Volts pressure for the electric light installation. |  |

THE FOREGOING IS A CORRECT DESCRIPTION.

AKTIESELSKABET  
AALBORG MASKIN- OG SKIBSBYGGERI  
J. Mygind.

Chief Officer  
REGISTER OF SHIPPING