

## REPORT ON BOILERS.

No. 12634.

Received at London Office

3 - NOV 1939

Date of writing Report

19<sup>th</sup> Oct. 1939

When handed in at Local Office

20<sup>th</sup> Oct. 1939

Port of

GOTHENBURG.

No. in Survey held at

GOTHENBURG.

Date, First Survey

19<sup>th</sup> April

Last Survey

10<sup>th</sup> Oct

1939

UPPL. 3.

40560 on the

SINGLE SCREW M/S PONTFIELD.

(Number of Visits 14)

Gross  
Tons  
Net

Master

Built at

GOTHENBURG

By whom built

ERIKSBERGS M.V.A.B.

Yard No.

289

When built

1939

Engines made at

GOTHENBURG

By whom made

ERIKSBERGS M.V.A.B.

Engine No.

226

When made

1939

Boilers made at

GOTHENBURG

By whom made

ERIKSBERGS M.V.A.B.

Boilers No.

597-8

When made

1939

Nominal Horse Power

644

Owners

HUNTING &amp; SON, LTD.

Port belonging to

NEWCASTLE

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Furnaces: Messrs. Deighton's Patent Flue &amp; Tube Co. Ltd., Leeds.

Plates: Messrs. Ruhstahl &amp; G. Henrichshütte, Hattingen.

Manufacturers of Steel

(Letter for Record

S

Total Heating Surface of Boilers

 $2 \times 161.4 = 322.8 \text{ m}^2$ 

Is forced draught fitted

Yes

Coal or Oil fired

Oil  
Red Oil & kerosene gas.

No. and Description of Boilers

Two cylindrical, multitubular.

Working Pressure

142 lbs/sq

Tested by hydraulic pressure to

265 LBS

Date of test

19.7.39.

No. of Certificate

320 &amp; 321

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Double spring loaded.

Area of each set of valves per boiler

per Rule

8900 mm<sup>2</sup>

as fitted

11300 mm<sup>2</sup>

Pressure to which they are adjusted

142 lbs/sq

Are they fitted with easing gear

Yes

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

No main boiler

Smallest distance between boilers

and AP-bulkhead

on uptakes and bunkers or woodwork

1000 mm

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

3500 mm

Length

3350 mm

Shell plates: Material

S.M.-steel

Tensile strength

44-50 kg/mm<sup>2</sup>

Thickness

20 mm

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

Double riveted lap

long. seams

Double butt straps

Diameter of rivet holes in

circ. seams

27 mm

long. seams

25 mm

Pitch of rivets

86 mm

Percentage of strength of circ. end seams

plate

68.6

rivets

46.9

Percentage of strength of circ. intermediate seam

plate

83.0

rivets

91.6

Percentage of strength of longitudinal joint

plate

83.0

rivets

91.6

Working pressure of shell by Rules

10 kg/cm<sup>2</sup> = 142 lbs/sq

Thickness of butt straps

outer 16 mm

inner 19 mm

No. and Description of Furnaces in each Boiler

Two Deighton

Material

S.M.-steel

Tensile strength

41-47 kg/mm<sup>2</sup>

Smallest outside diameter

920 mm

Length of plain part

top

bottom

Thickness of plates

crown

10 mm

bottom

10 mm

Description of longitudinal joint

Lap welded

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

Working pressure of furnace by Rules

10.8 kg/cm<sup>2</sup> = 153 lbs/sq

End plates in steam space: Material

S.M.-steel

Tensile strength

41-47 kg/mm<sup>2</sup>

Thickness

20 mm

Pitch of stays

405 x 370 mm

How are stays secured

Riveted washers, nuts inside and outside

Working pressure by Rules

14 kg/cm<sup>2</sup> = 200 lbs/sq

Tube plates: Material

front S.M.-steel

back S.M.-steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Thickness

20 mm

Mean pitch of stay tubes in nests

238 mm.

Pitch across wide water spaces

382 mm.

Working pressure

front 10.8 kg/cm<sup>2</sup> = 150 lbs/sqback 11.8 kg/cm<sup>2</sup> = 165 lbs/sq

Girders to combustion chamber tops: Material

S.M.-steel

Tensile strength

44-50 kg/mm<sup>2</sup>

Depth and thickness of girder

at centre

175 and 2 x 16 mm.

Length as per Rule

705 mm.

Distance apart

205 mm.

No. and pitch of stays

in each

2 - 225 mm

Working pressure by Rules

11.75 kg/cm<sup>2</sup> = 165 lbs/sq

Combustion chamber plates: Material

S.M.-steel

Tensile strength

41-47 kg/mm<sup>2</sup>

Thickness: Sides

16 mm

Back

16 mm

Top

16 mm

Bottom

16 mm.

Pitch of stays to ditto: Sides

225 x 235 mm

Back

208 x 250 mm

Top

205 x 225 mm

Are stays fitted with nuts or riveted over

Fitted with nuts

Working pressure by Rules

11.8 kg/cm<sup>2</sup> = 165 lbs/sq

Front plate at bottom: Material

S.M.-steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Thickness

20 mm

Lower back plate: Material

S.M.-steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Thickness

20 mm.

Pitch of stays at wide water space

382 and 208 mm

Are stays fitted with nuts or riveted over

Fitted with nuts

Working Pressure

12 kg/cm<sup>2</sup> = 170 lbs/sq

Main stays: Material

S.M.-steel

Tensile strength

44-50 kg/mm<sup>2</sup>

Diameter

At body of stay,

2 1/4"

or

Over threads

No. of threads per inch

6

Area supported by each stay

142000 mm<sup>2</sup>

Working pressure by Rules

10.3 kg/cm<sup>2</sup> = 145 lbs/sq

Screw stays: Material

S.M.-steel

Tensile strength

41-47 kg/mm<sup>2</sup>

Diameter

At turned off part,

1 1/2"

or

Over threads

No. of threads per inch

9

Area supported by each stay

52000 mm<sup>2</sup>

Working pressure by Rules  $10.25 \text{ kg/cm}^2$  Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, or Over threads  $15/8"$  ✓  
No. of threads per inch *9* ✓ Area supported by each stay  $88000 \text{ mm}^2$  Working pressure by Rules  $11 \text{ kg/cm}^2$  ✓  
Tubes: Material *Steel* ✓ External diameter { Plain  $23/4"$  ✓ Stay  $23/4"$  ✓ Thickness { LSG No 10 ✓ LSG No 1 ✓ No. of threads per inch *9* ✓  
Pitch of tubes  $95 \times 95 \text{ mm}$  ✓ Working pressure by Rules  $11.25 \text{ kg/cm}^2 = 160 \text{ lbs/sq. in.}$  ✓ Manhole compensation: Size of opening in shell plate  $405 \times 505 \text{ mm}$  ✓ Section of compensating ring  $240 \times 25 \text{ mm}$  ✓ No. of rivets and diameter of rivet holes  $40 - 17/16"$  ✓  
Outer row rivet pitch at ends  $175 \text{ mm}$  ✓ Depth of flange if manhole flanged  $70 \text{ mm}$  ✓ 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 ✓ Rivets ✓  
Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter of stays ✓  
How connected to shell ✓ Inner radius of crown ✓ Working pressure by Rules ✓  
Size of doubling plate under dome ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell ✓

Type of Superheater *No superheater fitted* ✓ Manufacturers of { Tubes ✓ Steel forgings ✓ Steel castings ✓  
Number of elements ✓ Material of tubes ✓ Internal diameter and thickness of tubes ✓  
Material of headers ✓ Tensile strength ✓ Thickness ✓ Can the superheater be shut off and 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 per Rules ✓  
Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure: tubes ✓ forgings and 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 22 inclusive for boilers been complied with *Yes* ✓

The foregoing is a correct description,

*Eriksbergs Mek. Verkstads Aktiebolag* Manufacturer.

*Gunnar Engberg*

Signature

Dates of Survey { During progress of work in shops - - *1939 April 19, May 3, 27, June 5, July 4, 6, 19, Aug. 18, 25, Sept. 19.*  
while building { During erection on board vessel - - - *1939, Aug. 14, Sept. 12, Oct. 4, 10.*

Are the approved plans of boiler and superheater forwarded herewith *No, 14.10.37.* (If not state date of approval.)

Total No. of visits *14*

Is this Boiler a duplicate of a previous case *No* ✓ If so, state Vessel's name and Report No. ✓

#### GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

*These donkey boilers have been built under special survey in accordance with the approved plan and Society's Rules.  
The workmanship is good.  
Test sheets of the material are attached.*

*The boilers are marked:*

*Nos 320 & 321  
LLOYD'S TEST 265 LBS  
WP 142 LBS  
19.7.39. SA*

Survey Fee ... *KR : 440.00*

Travelling Expenses (if any) £ :

When applied for, *30th Oct. 1939*

When received, *23. 11. 1939 RBA*

*J. Aspelin*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 14 NOV 1939

Assigned

*See Gov. J.E. 12634*



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