

## REPORT ON BOILERS.

No. 12832

Received at London Office

FEB 20 1940

Date of writing Report

9th Feb

1940

When handed in at Local Office

16th Feb

1940

Port of GOTHENBURG

No. in

Survey held at

GOTHENBURG

Date, First Survey

24th July

1939

Last Survey

8th Feb

1940

Reg. Book

Supplement

38051 on the

M/S "ANDREA BRÖVIS"

(Number of Visits 29)

Gross 18173

Net 6083

Master

Built at

GOTHENBURG

By whom built

A.B. GÖTAVETKEN

Yard No. 539

When built 1940

Engines made at

GOTHENBURG

By whom made

A.B. GÖTAVETKEN

Engine No. 1066

When made 1940

Boilers made at

GOTHENBURG

By whom made

A.B. GÖTAVETKEN

Boiler No. 2083

When made 1940

Nominal Horse Power 1021

Owners

TH. BRÖVIS

Port belonging to FARSUND

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Swiss Löhle & Co.*

Total Heating Surface of Boilers

2 x 142 m<sup>2</sup>

(Letter for Record 5)

Is forced draught fitted *Yes*Coal or Oil fired *Oil*

No. and Description of Boilers

2 Saddle multitubular

Working Pressure *12.5 kg/cm<sup>2</sup> (150 lb)*

Tested by hydraulic pressure to

19.4 kg/cm<sup>2</sup>

Date of test

22.11.39

No. of Certificate

581,332

Can each boiler be worked separately

*Yes*

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

1 Double spring loaded

Area of each set of valves per boiler

per Rule 7500 mm<sup>2</sup>  
as fitted 8850 mm<sup>2</sup>

Pressure to which they are adjusted

150 lb/cm<sup>2</sup>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 boilers*

Smallest distance between boilers or uptakes and bunkers or woodwork

1 m. from RR

Is oil fuel carried in the double bottom under boilers

*Yes*

Smallest distance between shell of boiler and tank top plating

fitted on a platform

Is the bottom of the boiler insulated

*Yes*

Largest internal dia. of boilers

3658 mm

Length

3450 mm

Shell plates: Material

S.S. Steel

Tensile strength

44/50 kg/cm<sup>2</sup>

Thickness

21 mm

Are the shell plates welded or flanged

*No*

Description of riveting: circ. seams

end DR lap

long. seams

DR butt. 4 rows

Diameter of rivet holes in

circ. seams 27 mm

long. seams 27 &amp; 23 mm

Pitch of rivets

95 mm

Percentage of strength of circ. end seams

plate 71.6%

rivets 47

Percentage of strength of longitudinal joint

plate 90.3

rivets 95

Percentage of strength of longitudinal joint

combined 91.5

Working pressure of shell by Rules

11 kg/cm<sup>2</sup>

Thickness of butt straps

outer 21 mm  
inner 21 mm

No. and Description of Furnaces in each Boiler

2 Helium corrugated

Material

S.S. steel

Tensile strength

41/42 kg/cm<sup>2</sup>

Smallest outside diameter

1124 mm

Length of plain part

top 267 mm  
bottom 267 mm

Thickness of plates

crown 12 mm  
bottom 12 mm

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

10.75 kg/cm<sup>2</sup>

End plates in steam space: Material

S.S. steel

Tensile strength

41/42 kg/cm<sup>2</sup>

Thickness

22 mm

Pitch of stays

405 x 330 mm

How are stays secured

D. Helium washers outside

Working pressure by Rules

13 kg/cm<sup>2</sup>

Tube plates: Material

front S.S. steel  
back —

Tensile strength

41/42 kg/cm<sup>2</sup>

Thickness

22 mm

Mean pitch of stay tubes in nests

270 mm

Pitch across wide water spaces

330 mm

Working pressure

front 12 kg/cm<sup>2</sup>  
back 12.4 kg/cm<sup>2</sup>

Girders to combustion chamber tops: Material

S.S. steel

Tensile strength

44/50 kg/cm<sup>2</sup>

Depth and thickness of girder

at centre

185 mm x 210 mm

Length as per Rule

759 mm

Distance apart

207 mm

No. and pitch of stays

in each

2 - 210 mm

Working pressure by Rules

13.9 kg/cm<sup>2</sup>

Combustion chamber plates: Material

S.S. steel

Tensile strength

41/42 kg/cm<sup>2</sup>

Thickness: Sides

18 mm

Back

19 mm

Top

18 mm

Bottom

18 mm

Pitch of stays to ditto: Sides

200 x 210 mm

Back

215 x 215 mm

Top

207 x 210 mm

Are stays fitted with nuts or riveted over

Riveted

Working pressure by Rules

12.25 kg/cm<sup>2</sup>

Front plate at bottom: Material

S.S. steel

Tensile strength

41/42 kg/cm<sup>2</sup>

Thickness

22 mm

Lower back plate: Material

S.S. steel

Tensile strength

41/42 kg/cm<sup>2</sup>

Thickness

22 mm

Pitch of stays at wide water space

340 x 215 mm

Are stays fitted with nuts or riveted over

Riveted

Working Pressure

11.4 kg/cm<sup>2</sup>

Main stays: Material

S.S. steel

Tensile strength

44/50 kg/cm<sup>2</sup>

Diameter

At body of stay  
63.5 mm

No. of threads per inch

6

Area supported by each stay

405 x 330 mm

Working pressure by Rules

15.1 kg/cm<sup>2</sup>

Screw stays: Material

S.S. steel

Tensile strength

41/42 kg/cm<sup>2</sup>

Diameter

At turned off part  
38 mm

No. of threads per inch

9

Area supported by each stay

215 x 215 mm

Working pressure by Rules *12.2 kg* Are the stays drilled at the outer ends *No* Margin stays: Diameter *At turned off part, 44.5 mm*  
 No. of threads per inch *9* Area supported by each stay *277.5 x 2.15 mm* Working pressure by Rules *13.8 kg*  
 Tubes: Material *S. M. Steel* External diameter *Plain 41"* Thickness *10.45 mm* No. of threads per inch *9*  
 Pitch of tubes *89 x 96 mm* Working pressure by Rules *14.3 kg* Manhole compensation: Size of opening in  
 shell plate *400 x 500 mm* Section of compensating ring *30 x 800 x 21 mm* No. of rivets and diameter of rivet holes *38, 27 mm*  
 Outer row rivet pitch at ends *200 mm* Depth of flange if manhole flanged *85 mm* *in plate* 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 Inner radius of crown Working pressure by Rules  
 How connected to shell 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 Manufacturers of Tubes  
 Number of elements Material of tubes Steel forgings  
 Material of headers Tensile strength Steel castings  
 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,

Manufacturer.

Dates of Survey { During progress of work in shops - - - *1939. 2. 7, 2. 14, 4. 27, 28, 29, 11. 15, 16, 22, 27, 28, 29, 30, 1. 1, 2, 3, 1940* Are the approved plans of boiler and superheater forwarded herewith *12-12-38*  
 while building { During erection on board vessel - - - *1939. 9. 20, 29, 1940. 1. 17, 29, 28* (If not state date of approval.)  
 Total No. of visits *29*

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *2 Switphaus Report 12755*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These factory boilers have been built under special survey in accordance with the Rules and approved plans.*

*The workmanship is good. The material as per test sheets attached. The boilers have been fitted or tested under my supervision and to my satisfaction and the safety valves adjusted under steam to 150 lb/sq. in.*

Survey Fee ... *1 lb.* : *387.60* When applied for, *16th Feb 1940*  
 Travelling Expenses (if any) £ : : When received, *29-2-1940*

*Sten Blusson*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 23 FEB 1940

Assigned

*See for. 7.6. 12832*



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