

REPORT ON BOILERS.

No. 10765.

Received at London Office

22 JUN 1936

Date of writing Report 16 June 1936

When handed in at Local Office 21 June 1936

Port of Gothenburg

No. in Survey held at
Reg. Book.Supplement 20 x 522
8798 on the

Gothenburg

Date, First Survey 21 June 1935

Last Survey 27 May 1936

(Number of Visits 13)

8263

Tons

4973

Master Built at GOTHENBURG By whom built ERIKSBERGS M.V. AKTIEB Yard No. 262 When built 1936

Engines made at GOTHENBURG By whom made ERIKSBERGS M.V. AKTIEB Engine No. 153 When made 1936

Boilers made at By whom made Boiler No. When made

Nominal Horse Power 644 Owners ODD BERG TANKREDERI A/S Port belonging to OSLO.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Blackhairn Steel Works, Glasgow (Letter for Record 5)

Total Heating Surface of Boilers $2 \times 130 = 260$ sq. ft. (2800 sq. ft.) Is forced draught fitted No Coal or Oil fired Oil firedNo. and Description of Boilers 2 cylindrical multitubular Working Pressure 10 kg/cm² (142 lb./sq. in.)Tested by hydraulic pressure to 26.5 kg/cm² Date of test 26.11.35 No. of Certificate 274 and 275 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler Oil fired No. and Description of safety valves to each boiler Double spring loaded.

Diam. of each set of valves per boiler per Rule 67.5 mm Pressure to which they are adjusted 140 lb./sq. in. 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 fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork 38" 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 3352 mm Length 3350 mm Shell plates: Material S.M. Steel Tensile strength Super Rule.

Thickness 19 mm Are shell plates welded or flanged No Description of riveting: circ. seams end Double riv. lap.

long. seams Double butt straps Diameter of rivet holes in circ. seams 27 mm Pitch of rivets 79 mm

Percentage of strength of circ. end seams plate 65.8 rivets 62.5 Percentage of strength of circ. intermediate seam plate 83.7 rivets 99.2

Percentage of strength of longitudinal joint plate 83.7 rivets 99.2 Working pressure of shell by Rules 10.0 kg/cm²

Thickness of butt straps outer 17.5 mm inner 14.5 mm No. and Description of Furnaces in each Boiler Two Morrison.

Material S.M. Steel Tensile strength Super Rule Smallest outside diameter 920 mm

Length of plain part top bottom Thickness of plates crown 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/cm²

End plates in steam space: Material S.M. Steel Tensile strength Super Rule Thickness 20 mm Pitch of stays 405 x 350 mm

How are stays secured Anti inside, riveted washers 9 nuts outside Working pressure by Rules 12.8 kg/cm²

Tube plates: Material front S.M. Steel back S.M. Steel Tensile strength Super Rule Thickness 20 mm

Mean pitch of stay tubes in nests 276 mm Pitch across wide water spaces 330 mm Working pressure front 11.8 kg/cm² back 15.5 kg/cm²

Girders to combustion chamber tops: Material S.M. Steel Tensile strength Super Rule Depth and thickness of girder

at centre 175 x 2 x 16 mm Length as per Rule 735 mm Distance apart 205 mm No. and pitch of stays

in each Two, 225 mm Working pressure by Rules 10.6 kg/cm² Combustion chamber plates: Material S.M. Steel

Tensile strength Super Rule Thickness: Sides 16 mm Back 18 mm Top 16 mm Bottom 16 mm

Pitch of stays to ditto: Sides 225 x 240 mm Back 241 x 212 mm Top 225 x 205 mm Are stays fitted with nuts or riveted over

Working pressure by Rules 10.4 kg/cm² Front plate at bottom: Material S.M. Steel Tensile strength Super Rule

Thickness 20 mm Lower back plate: Material S.M. Steel Tensile strength Super Rule Thickness 20 mm

Pitch of stays at wide water space 320 mm Are stays fitted with nuts or riveted over Fitted with nuts.

Working Pressure 15.6 kg/cm² Main stays: Material S.M. Steel Tensile strength Super RuleDiameter At body of stay, or Over threads 2 1/4" No. of threads per inch 6 Area supported by each stay 142000 mm²Working pressure by Rules 11.0 kg/cm² Screw stays: Material S.M. Steel Tensile strength Super RuleDiameter At turned off part, or Over threads 1 1/2" No. of threads per inch 9 Area supported by each stay 54000 mm²

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Working pressure by Rules $10.4 \frac{\text{kg}}{\text{cm}^2}$ Are the stays drilled at the outer ends *No* Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 15/8" \checkmark$
 No. of threads per inch *9* Area supported by each stay *58300* Working pressure by Rules $11.8 \frac{\text{kg}}{\text{cm}^2}$
 Tubes: Material *St. Steel* External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 2 1/2" \checkmark$ Thickness $\left\{ \begin{array}{l} \text{LSG 10} \\ \text{LSG 1} \end{array} \right. \checkmark$ No. of threads per inch *9*
 Pitch of tubes $95 \times 89 \text{ mm}$ Working pressure by Rules $12.3 \frac{\text{kg}}{\text{cm}^2}$ Manhole compensation: Size of opening in
 shell plate $420 \times 520 \text{ mm}$ Section of compensating ring $275 \times 25 \text{ mm}$ No. of rivets and diameter of rivet holes *40 rivets, 1 1/16 holes.*
 Outer row rivet pitch at ends 164 mm Depth of flange if manhole flanged $75 \text{ mm} \checkmark$ Steam Dome: Material *✓*
 Tensile strength *✓* Thickness of shell *✓* Description of longitudinal joint *✓*
 Diameter of rivet holes *✓* Pitch of rivets *✓* Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \checkmark$
 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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right. \checkmark$
 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 *✓*, 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. Verkslads Aktiebolag
 Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right. 1935: 21/6, 22.24/7, 9.16/8, 3.18.30/9, 15/10, 9.26/11$
 while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right. 1936: 5/5, 27/5$ Are the approved plans of boiler and superheater forwarded herewith *✓* 13/35
 (If not state date of approval.) Total No. of visits *13*

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

*These Donkey boilers have been built under Special Survey
 in accordance with approved plan & Society Rules.
 The workmanship is good.
 The material as per test sheets attached:*

The boilers are marked:

*No. 274 & 275
 LLOYDS TEST 265 lbs
 HP 142 lbs.
 S.P. 26.11.35*

Survey Fee *Rs. 340:00*
 Travelling Expenses (if any) £ : : *30.7*

When applied for, *20th June 1926*
 When received, *30.7 1926*

G. Brander
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 8 JUL 1936*

Assigned

*See other 36
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