

REPORT ON BOILERS.

No. 12218

Received at London Office

FEB 11 1939

Date of writing Report 3rd Febr. 1939 When handed in at Local Office 9th Febr. 1939 Port of GOTHENBURG

No. in Survey held at GOTHENBURG Date, First Survey 7th June 1938 Last Survey 31st Jan 1939

Reg. Book. INSUPPL. (Number of Visits 15) Gross 8257.82

90232 on the SINGLE SCREW M/S "TRONDHEIM" Tons Net 4950.97

Master ✓ Built at GOTHENBURG By whom built ERIKSBERGS M.V. AB. Yard No. 287 When built 1939

Engines made at GOTHENBURG By whom made ERIKSBERGS M.V. AB. Engine No. 219 When made 1939

Boilers made at GOTHENBURG By whom made ERIKSBERGS M.V. AKTIEB. Boiler No. 591 When made 1939

Nominal Horse Power 644 Owners A/S TANK Port belonging to OSLO

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Plates: Colvilles Ltd, Glasgow.

Manufacturers of Steel Furnaces: Horseley Bridge & Thomas Piggott Ltd, Tipton.

Total Heating Surface of Boilers 2 x 130 = 260 m² Is forced draught fitted Yes (Letter for Record S)

No. and Description of Boilers Two cylindrical, multitubular. Coal or Oil fired Oil fired Working Pressure 142 lbs/sq in

Tested by hydraulic pressure to 265 lbs/sq in Date of test 7.10.38. No. of Certificate 308-309 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.

Diam. 67.5 mm. as fitted 85.0 mm. Pressure to which they are adjusted 142 lbs/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 boiler fitted.

Smallest distance between boilers and AP bulkhead 990 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 3352 mm. Length 3350 mm Shell plates: Material SM-steel Tensile strength 44-50 kg/mm²

Thickness 19 mm. Are the 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 26.5 mm. Pitch of rivets 79 mm.

Percentage of strength of circ. end seams plate 66.5 rivets 60.0 Percentage of strength of circ. intermediate seam plate 83.5 rivets 100.0

Percentage of strength of longitudinal joint plate 83.5 rivets 100.0 Working pressure of shell by Rules 10.9 kg/cm²

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

Material SM-steel Tensile strength 41-47 kg/mm² Smallest outside diameter 920 mm.

Length of plain part top 10 mm bottom 10 mm Thickness of plates top 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/cm²

End plates in steam space: Material SM-steel Tensile strength 41-47 kg/mm² Thickness 20 mm. Pitch of stays 405-350 mm.

How are stays secured Nuts inside, riveted washers and nuts outside Working pressure by Rules 12.7 kg/cm²

Tube plates: Material front SM-steel back SM-steel Tensile strength 41-47 kg/mm² Thickness 20 mm.

Mean pitch of stay tubes in nests 265 mm. Pitch across wide water spaces 330 mm. Working pressure front 14.3 kg/cm² back 15.9 kg/cm²

Girders to combustion chamber tops: Material SM-steel Tensile strength 44-50 kg/mm² Depth and thickness of girder

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

in each Four, 225 mm. Working pressure by Rules 10.7 kg/cm² Combustion chamber plates: Material SM-steel

Tensile strength 41-47 kg/mm² Thickness: Sides 16 mm Back 18 mm Top 16 mm Bottom 16 mm

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

Working pressure by Rules 10.4 kg/cm² Front plate at bottom: Material SM-steel Tensile strength 41-47 kg/mm²

Thickness 20 mm Lower back plate: Material SM-steel Tensile strength 41-47 kg/mm² 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 17 kg/cm² Main stays: Material SM-steel Tensile strength As per Rule

Diameter At body of stay, 2 1/4" No. of threads per inch 6 Area supported by each stay 142000 mm²

Working pressure by Rules ✓ Screw stays: Material SM-steel Tensile strength As per Rule

Diameter At turned off part, 1 1/2" No. of threads per inch 9 Area supported by each stay 54200 mm²

Working pressure by Rules 10.4 kg/cm^2 Are the stays drilled at the outer ends ☒ No Margin stays: Diameter { At turned off part. $15/8"$ or Over threads. $15/8"$ ✓
No. of threads per inch 9 Area supported by each stay 58300 mm^2 Working pressure by Rules
Tubes: Material Steel External diameter { Plain $2\frac{1}{2}"$ ✓ Thickness { LSG No 10 ✓ LSG No 1 ✓ No. of threads per inch 9
Pitch of tubes $95 \times 89 \text{ mm}$ ✓ Working pressure by Rules 12.5 kg/cm^2 Manhole compensation: Size of opening in
shell plate $405 \times 505 \text{ mm}$ ✓ Section of compensating ring $275 \times 25 \text{ mm}$ No. of rivets and diameter of rivet holes $40 - 1\frac{1}{16}"$ ✓
Outer row rivet pitch at ends 175 mm ✓ Depth of flange if manhole flanged 75 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 ✓ 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 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,
Erikshørgs Værk. Værkstedes Aktiefabrig
Manufacturer.

Dates of Survey { During progress of work in shops - - 1938: June 7, 16, July 16, 18, 19, 22, Aug. 30 ✓
while building { During erection on board vessel - - 1938: Sept. 2, 17, 23, Oct. 7 ✓
1938: Nov. 18, 20, 1939: Jan. 25, 31 ✓
Are the approved plans of boiler and superheater forwarded herewith No, 19.4.37.
(If not state date of approval.)
Total No. of visits 15

Is this Boiler a duplicate of a previous case Yes ✓ If so, state Vessel's name and Report No. m/s Solør, Got. report no 11972

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 as below:

No 308 & 309

LLOYD'S TEST 18.6 Kg.

WP 10 Kg

@ 7.10.38. SA.

Survey Fee ... 354.00

Travelling Expenses (if any) £

When applied for, 9th Febr. 1939

When received, 27. 2. 1939

J. Aspelin

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 24 FEB 1939

Assigned

See FE machy rpt.



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Foundation