

# REPORT ON BOILERS.

No. 14287  
1026

Received at London Office 28 NOV 1930

pt. 5a.

10-4-31. 11-4-31. 26. 11. 1930 when handed in at Local Office 26. 11. 1930

Port of **MIDDLESBROUGH** & **Malmö**

No. in Survey held at **STOCKTON** Date, First Survey **23 Sept** Last Survey **26. 11. 1930**

on the boiler for **KOCKUMS MEK VERKSTADS AKT. "FALKEFJELL"** (Number of Visits **9**) Tons { Gross **7927** Net **4603**

Built at **Malmö** By whom built **Kockums M. V. A. B.** Yard No. **168** When built **1931**

Engines made at **Malmö** By whom made **Kockums M. V. A. B.** Engine No. **63264** When made **1931**

Boilers made at **Stockton** By whom made **Riley Bros. (Boilermakers) Ltd** Boiler No. **6021** When made **1930**

Indicated Horse Power **778** Owners **Akties. Falkefjell** Port belonging to **Oslo**

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

Manufacturers of Steel **Vereinigte Stahlwerke Thyssen of Mulheim** (Letter for Record **S.**)

Heating Surface of Boilers **1315 sq ft** Is forced draught fitted **Yes** Coal or Oil fired **oil**

Pressure and Description of Boilers **1 S.B.** Working Pressure **171 lbs.**

Tested by hydraulic pressure to **307 lbs.** Date of test **26. 11. 30** No. of Certificate **6834** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **✓** No. and Description of safety valves to each boiler **Two direct spring loaded**

Area of each set of valves per boiler { per Rule **10.6 sq ft** as fitted **11.9 sq ft** } Pressure to which they are adjusted **175 lbs.** Are they fitted with easing gear **Yes**

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

Smallest distance between boilers on uptake and bunkers on woodwork **3'-8"** Is oil fuel carried in the **dry tank** under boilers **Yes**

Smallest distance between shell of boiler and tank top plating **1'-8"** Is the bottom of the boiler insulated **Yes**

Largest internal dia. of boilers **11'-2 1/4"** Length **11'-2"** Shell plates: Material **steel** Tensile strength **29/33**

Thickness **7/8"** Are the shell plates welded or flanged **no.** Description of riveting: circ. seams { end **D.R.** inter. **✓** }

g. seams **T.R.D.B.S. (5 rivets)** Diameter of rivet holes in { circ. seams **1 1/32"** long. seams **15/16"** } Pitch of rivets { **3 1/4"** **6 3/4"** }

Percentage of strength of circ. end seams { plate **68.2.** rivets **46.8.** } Percentage of strength of circ. intermediate seam { plate **86.1** rivets **86.8** } Working pressure of shell by Rules **171 lbs.**

Percentage of strength of longitudinal joint { plate **86.1** rivets **86.8** combined **89.5.** }

Thickness of butt straps { outer **2 1/32"** inner **2 1/32"** } No. and Description of Furnaces in each Boiler **2 e.f.**

Material **steel** Tensile strength **26/30** Smallest outside diameter **3'-6 5/16"**

Length of plain part { top **✓** bottom **✓** } Thickness of plates { crown **17/32"** bottom **32/32"** } Description of longitudinal joint **weld.**

Dimensions of stiffening rings on furnace or c.c. bottom **✓** Working pressure of furnace by Rules **181 lbs.**

Head plates in steam space: Material **steel** Tensile strength **26/30** Thickness **27/32"** Pitch of stays **16 x 13 3/4"**

How are stays secured **D.N.W.** Working pressure by Rules **176 lbs.**

Head plates: Material { front **steel** back **steel** } Tensile strength { **26/30** } Thickness { **27/32"** **13/32"** **16/32"** } Working pressure { front **223 lbs.** back **297 "** }

Span pitch of stay tubes in nests **8 7/8"** Pitch across wide water spaces **13 x T"**

Orders to combustion chamber tops: Material **steel** Tensile strength **28/32** Depth and thickness of girder **8 1/4"**

Centre **8 1/2 x 3/4 (double)** Length as per Rule **2'-5"** Distance apart **8 1/4"** No. and pitch of stays **2-9"**

Working pressure by Rules **269 lbs.** Combustion chamber plates: Material **steel**

Tensile strength **26/30** Thickness: Sides **5/8"** Back **5/8"** Top **5/8"** Bottom **5/8"**

Pitch of stays to ditto: Sides **8 1/4 x 9"** Back **8 x 8 1/2"** Top **8 1/4 x 9"** Are stays fitted with nuts or riveted over **nuts**

Working pressure by Rules **181 lbs.** Front plate at bottom: Material **steel** Tensile strength **26/30**

Thickness **27/32"** Lower back plate: Material **steel** Tensile strength **26/30** Thickness **27/32"**

Pitch of stays at wide water space **13 x 8 1/2"** Are stays fitted with nuts or riveted over **nuts**

Working Pressure **241 lbs.** Main stays: Material **steel** Tensile strength **28/32**

Diameter { At body of stay, or Over threads **2 3/8"** } No. of threads per inch **6.** Area supported by each stay **216.5 sq in**

Working pressure by Rules **182 lbs.** Screw stays: Material **steel** Tensile strength **26/30**

Diameter { At turned off part, or Over threads **1 1/2"** } No. of threads per inch **9.** Area supported by each stay **66.7 sq in**

Working pressure by Rules **189 lbs.** Are the stays drilled at the outer ends **no.** Margin stays: Diameter <sup>At turned off part,</sup> **1 1/8"** or <sup>Over threads</sup> **1 1/8"**  
 No. of threads per inch **9.** Area supported by each stay **87.2 sq** Working pressure by Rules **174 lbs.**  
 Tubes: Material **iron** External diameter <sup>Plain</sup> **2 1/2" to 2 7/8"** Thickness **10 W.G.** No. of threads per inch **9.**  
 Pitch of tubes **3 1/2" x 3 7/8"** Working pressure by Rules **p. 175 lbs. s. 213 lbs.** Manhole compensation: Size of opening  
 shell plate **20" x 16"** Section of compensating ring **7 1/2" x 1"** No. of rivets and diameter of rivet holes **44 - 1 1/2"**  
 Outer row rivet pitch at ends **7 1/2"** Depth of flange if manhole flanged  **Steam Dome: Material**  
 Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
 Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint <sup>Plate</sup> \_\_\_\_\_ <sup>Rivets</sup> \_\_\_\_\_  
 Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ 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** \_\_\_\_\_ Manufacturers of <sup>Tubes</sup> \_\_\_\_\_ <sup>Steel castings</sup> \_\_\_\_\_  
 Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness 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 press  
 tubes \_\_\_\_\_ castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain cocks or valves  
 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.

*J. De Shields*  
 SECRETARY

Dates of Survey <sup>During progress of work in shops - -</sup> **1930: Sep 23, 29 Oct 31 Nov 4, 10, 14, 19, 26** Are the approved plans of boiler and superheater forwarded herewith **10-5.**  
 while building <sup>During erection on board vessel - - -</sup> **25/2, 27/3, 29/3, 31/3, 2/4, 23/3, 28/3, 30/3, 4/4-1931** Total No. of visits **8.**

Is this Boiler a duplicate of a previous case **Yes.** If so, state Vessel's name and Report No. **Riley 6020 Ind. Rpt. 14281**

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)  
 The materials and workmanship are good.  
 This boiler has been built under special survey in accordance with the Rules and approved Plans. It is being sent to Sweden.  
 This donkey boiler has been installed onboard under my supervision and to my satisfaction.  
 The safety valves have been adjusted under steam to 175 lbs.  
 The oil fuel burning installation is a single as steam is not required any essential use at sea.

*Abunden*

Survey Fee ... £ **8-16-0.** When applied for, **Monthly**  
 Travelling Expenses (if any) £ : : When received, **19**

*P. J. Mac...*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **TUE. 21 APR 1931**  
 Assigned **See F. E. Rpt.**

