

# REPORT ON BOILERS.

No. 1366.

Received at London Office

11 JUN 1935

of writing Report

3rd June, 1935

When handed in at Local Office

8th June, 1935

Port of

Malmö

in Survey held at

Malmö

Date, First Survey

8th Aug, 1934

Last Survey

28th May, 1935

317 on the Single Screw Motor Tanker "FAGERFJELL"

(Number of Visits 30)

Gross 8072  
Net 4758

ter

Built at

Malmö

By whom built

Hockmms M. V. A.-B.

Yard No. 182

When built

1935

ines made at

Malmö

By whom made

Hockmms M. V. A.-B.

Engine No. 104

When made

1935

lers made at

Malmö

By whom made

Hockmms M. V. A.-B.

Boiler No. 925/6

When made

1935

inal Horse Power

1167

Owners

M/S Doreffell

Port belonging to

Oolo

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Messrs. The Steel Company of Scotland, Limited

(Letter for Record S. ✓)

al Heating Surface of Boilers

$2 \times 122 = 244 \text{ m}^2$

Is forced draught fitted

Yes

Coal or Oil fired

Oil

and Description of Boilers

Two S.B.

Working Pressure

12 kg. cm<sup>2</sup>

tested by hydraulic pressure to

306 lbs.

Date of test

4-12-34

No. of Certificate

62263

Can each boiler be worked separately

Yes

ea of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

Two direct spring loaded.

ea of each set of valves per boiler

per Rule 6871 mm<sup>2</sup>  
as fitted 7647 mm<sup>2</sup>

Pressure to which they are adjusted

175 lbs.

Are they fitted with easing gear

Yes

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

✓

O.F. side

smallest distance between boilers

uptake and bunkers

1050 mm.

Is oil fuel carried in the

double bottom under boilers

Yes

smallest distance between shell of boiler and tank top plating

deep

540 mm.

Is the bottom of the boiler insulated

Yes

rgest internal dia. of boilers

3400 mm.

Length extra

3400 mm.

Shell plates: Material

Steel

Tensile strength

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

ickness

22.5 mm.

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. ✓

g. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

26 mm.

Pitch of rivets

83 mm.

ercentage of strength of circ. end seams

plate 68.6 %  
rivets 46.7 %

Percentage of strength of circ. intermediate seam

plate ✓  
rivets ✓

ercentage of strength of longitudinal joint

plate 86.3 %  
rivets 86.2 %  
combined 89.8 %

Working pressure of shell by Rules

12.14 kg. cm<sup>2</sup>

ickness of butt straps

outer 17 mm.  
inner 20 mm.

No. and Description of Furnaces in each Boiler

Two corrugated.

aterial

Steel

Tensile strength

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

Smallest outside diameter

1076 mm.

ngth of plain part

top ✓  
bottom ✓

Thickness of plates

13 mm.

Description of longitudinal joint

Welded

mensions of stiffening rings on furnace or c.e. bottom

✓

Working pressure of furnace by Rules

13.5 kg. cm<sup>2</sup>

ad plates in steam space: Material

Steel

Tensile strength

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

Thickness

22 mm.

Pitch of stays

350 x 406 mm.

ow are stays secured

Shl. nuts and washers

Working pressure by Rules

12.9 kg. cm<sup>2</sup>

be plates: Material

front Steel  
back "

Tensile strength

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

Thickness

22 mm.

can pitch of stay tubes in nests

240 mm.

Pitch across wide water spaces

330 mm.

Working pressure

front 14.5 kg. mm<sup>2</sup>  
back 17.8 kg. mm<sup>2</sup>

orders to combustion chamber tops: Material

Steel

Tensile strength

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

Depth and thickness of girder

centre

2 (180 x 20) mm.

Length as per Rule

735 mm.

Distance apart

210 mm.

No. and pitch of stays

each

2-228 mm.

Working pressure by Rules

15.6 kg. cm<sup>2</sup>

Combustion chamber plates: Material

Steel

nsile strength

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

Thickness: Sides

17.5 mm.

Back

18 mm.

Top

17.5 mm.

ch of stays to ditto: Sides

228 x 210-190

Back

216 x 203 mm.

Top

228 x 210 mm.

Are stays fitted with nuts or riveted over

Both

orking pressure by Rules

12.01 kg. cm<sup>2</sup>

Front plate at bottom: Material

Steel

Tensile strength

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

ickness

22 mm.

Lower back plate: Material

Steel

Tensile strength

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

ch of stays at wide water space

330 x 216 mm.

Are stays fitted with nuts or riveted over

Margin stays with nuts.

orking Pressure

17.8 kg. cm<sup>2</sup>

Main stays: Material

Steel

Tensile strength

45.4-48.2 kg. mm<sup>2</sup>

iameter

At body of stay,  
or  
Over threads

2 3/8" x 3"

No. of threads per inch

6

Area supported by each stay

142100 mm<sup>2</sup>

orking pressure by Rules

12.6 kg. cm<sup>2</sup>

Screw stays: Material

Steel

Tensile strength

42.3-42.5 kg. mm<sup>2</sup>

iameter

At turned off part,  
or  
Over threads

34 x 37 mm.

No. of threads per inch

9

Area supported by each stay

43320 mm<sup>2</sup>

Working pressure by Rules  $13.1 \text{ kg. mm}^{-2}$  Are the stays drilled at the outer ends *No* Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part, } 34 \text{ e } 37 \text{ mm} \\ \text{Over threads} \end{array} \right.$   
No. of threads per inch *9* Area supported by each stay  $57560 \text{ mm}^2$  Working pressure by Rules  $12.1 \text{ kg. cm}^{-2}$   
Tubes: Material *Steel* External diameter  $\left\{ \begin{array}{l} \text{Plain } 2\frac{1}{2}'' \\ \text{Stay } 2\frac{1}{2}'' \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} 3.25 \text{ mm} \\ 8 \text{ mm} \end{array} \right.$  No. of threads per inch *9*  
Pitch of tubes  $89 \text{ e } 92 \text{ mm}$  Working pressure by Rules *P. 12.5 and S. 15 kg. cm}^{-2}* Manhole compensation: Size of opening  
shell plate  $400 \times 500 \text{ mm}$  Section of compensating ring  $12000 \text{ mm}^2$  No. of rivets and diameter of rivet holes  $44-26 \text{ mm}$   
Outer row rivet pitch at ends  $190 \text{ mm}$  Depth of flange if manhole flanged  $85 \text{ mm}$  Steam Dome: Material *✓*  
Tensile strength Thickness of shell Description of longitudinal joint  
Diameter of rivet holes Pitch of rivets Percentage of strength of joint  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$   
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 pit  
of rivets in outer row in dome connection to shell

Type of Superheater *✓* Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$   
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 23 inclusive for boilers been complied with

The foregoing is a correct description,

KOCKUMS MEKANISKA VERKSTADS

AKTIE-BOLAG

Signature

Manufacture

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops - } 8/8, 18/8, 12/9, 27/9, 22/9, 28/9, 27/10, 15/10, 23/10, 25/10, 27/10, 3/11 \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - } 4/11, 13/11, 13/11, 23/11, 25/11, 29/11, 3/12, 19/12, 21/12-1934 \\ \text{board vessel - } 4/11, 13/11, 13/11, 23/11, 25/11, 29/11, 3/12, 19/12, 21/12-1934 \end{array} \right. \end{array} \right.$  Are the approved plans of boiler and superheater forwarded herewith *15-1-1935*  
(If not state date of approval.)  
Total No. of visits *30*

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

These donkey boilers have been built under special survey in accordance with the Rules and the approved plans.  
The materials used in the construction have been tested as per Rule and the workmanship is good.

Survey Fee ... *See Rpt. 46.* When applied for, *✓* 192 *✓*  
Travelling Expenses (if any) £ : : When received, 192

*Adunden*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 12 JUL 1935*

Assigned *See minute on 26. Rpt.*