

## REPORT ON BOILERS.

No. 1524.

Received at London Office 14 JAN 1937

Date of writing Report 9<sup>th</sup> Jan. 1937. When handed in at Local Office 12<sup>th</sup> Jan. 1937.

Port of Maharr.

No. in Survey held at Reg. Book 88569.

Maharr.

Date, First Survey 3<sup>rd</sup> Sept. 1936Last Survey 5<sup>th</sup> Jan. 1937.

(Number of Visits 35.)

Gross 9666

Net 5714

Master

Built at Maharr.

By whom built Kockmans M. V. No.

Yard No. 192

When built 1937

Engines made at Maharr.

By whom made Kockmans M. V. No.

Engine No. 147

When made 1937

Boilers made at Maharr.

By whom made Kockmans M. V. No.

Boiler No. 936/3

When made 1937

Nominal Horse Power 1361

Owners a/s Stavtor

Port belonging to Oslo.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Withenitser Bergbau &amp; Eisenhütten Gewerkschaft

(Letter for Record S.)

Total Heating Surface of Boilers  $2 \times 131 = 262 \text{ m}^2$ 

Is forced draught fitted Yes

Coal or Oil fired Oil

No. and Description of Boilers Two SB.

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

Tested by hydraulic pressure to 306 lbs. Date of test 14-11-1936 No. of Certificate 72 &amp; 73

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 6300 mm<sup>2</sup>

No. and Description of safety valves to each boiler 2. Direct spring loaded.

Area of each set of valves per boiler

as fitted 7697

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 uptakes and bunkers or woodwork 1220 mm.

Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 600 mm.

Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3400 mm.

Length 3600 mm.

Shell plates: Material Steel

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

Thickness 22.5 mm.

Are the shell plates welded or flanged No

Description of riveting: circ. seams end D.R.

long. seams T.R. Sbl. S.

Diameter of rivet holes in

circ. seams 26 mm.

long. seams 23.5 "

Pitch of rivets 83 mm.

Percentage of strength of circ. end seams

plate 68.6 %

rivets 46.7 %

Percentage of strength of circ. intermediate seam

Percentage 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>

Thickness of butt straps

outer 17 mm.

inner 20 "

No. and Description of Furnaces in each Boiler Two - Corrugated.

Material Steel

Tensile strength 41.7 - 44.0 kg. mm<sup>2</sup>

Smallest outside diameter 1076 mm.

Length of plain part

top

bottom

Thickness of plates

13 mm.

Description of longitudinal joint Welded.

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

Working pressure of furnace by Rules 13.5 kg. cm<sup>2</sup>

End plates in steam space: Material Steel

Tensile strength 42.7 - 46.6 kg. mm<sup>2</sup>

Thickness 22 mm.

How are stays secured Double nuts and washers

Working pressure by Rules 13 kg. cm<sup>2</sup>

Tube plates: Material

front Steel

back "

Tensile strength 42.8 - 43.2 kg. mm<sup>2</sup>

Thickness 22 mm.

Mean pitch of stay tubes in nests 240 mm.

Pitch across wide water spaces 330 mm.

Working pressure front 14.5 kg. cm<sup>2</sup>

back 14.3 "

Girders to combustion chamber tops: Material Steel

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

Depth and thickness of girder

at centre 2 (180 x 20) mm.

Length as per Rule 735 mm.

Distance apart 210 mm.

No. and pitch of stays

in each 2 - 228 mm.

Working pressure by Rules 15.6 kg. cm<sup>2</sup>

Combustion chamber plates: Material Steel

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

Thickness: Sides 18 mm.

Back 18 mm.

Top 18 mm.

Bottom 18 mm.

Pitch of stays to ditto: Sides 228 x 180-190 mm.

Back 216 x 203 mm.

Top 228 x 210 mm.

Are stays fitted with nuts or riveted over Both

Working pressure by Rules 12 kg. cm<sup>2</sup>

Front plate at bottom: Material Steel

Tensile strength 42.8 - 43.2 kg. mm<sup>2</sup>

Thickness 22 mm.

Lower back plate: Material Steel

Tensile strength 42.7 - 46.6 kg. mm<sup>2</sup>

Thickness 22 mm.

Pitch of stays at wide water space 216 x 330 mm.

Are stays fitted with nuts or riveted over Nuts.

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

Main stays: Material Steel

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

Diameter

At body of stay, 2 3/8" &amp; 3"

No. of threads per inch 6

Area supported by each stay 142100 mm<sup>2</sup>Working pressure by Rules 12.4 kg. cm<sup>2</sup>

Screw stays: Material Steel

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

Diameter

At turned off part, 34 &amp; 37 mm.

No. of threads per inch 9

Area supported by each stay 43320 mm<sup>2</sup>

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Working pressure by Rules  $12.9 \text{ kg. cm}^2$  ✓ Are the stays drilled at the outer ends *No* ✓ Margin stays: Diameter { At turned off part,  $34 \times 37 \text{ mm}$ .  
No. of threads per inch  $9$  ✓ Area supported by each stay  $57560 \text{ mm}^2$  Working pressure by Rules  $12 \text{ kg. cm}^2$   
Tubes: Material *Steel* ✓ External diameter { Plain  $2 \frac{1}{2}"$  ✓ Thickness {  $8$  " ✓ No. of threads per inch  $9$   
Pitch of tubes  $89 \times 92 \text{ mm}$  Working pressure by Rules  $12.5 \times 15 \text{ kg. cm}^2$  ✓ Manhole compensation: Size of opening in  
shell plate  $400 \times 500 \text{ mm}$  Section of compensating ring  $12000 \text{ mm}^2$  ✓ No. of rivets and diameter of rivet holes  $44 \times 26 \text{ mm}$   
Outer row rivet pitch at ends  $190 \text{ mm}$  Depth of flange if manhole flanged  $83 \text{ mm}$  ✓ Steam Dome: Material ✓  
Tensile strength ✓ Thickness of shell ✓ Description of longitudinal joint ✓  
Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint { Plate ✓  
Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ Rivets ✓ 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  
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

The foregoing is a correct description,

**KOCKUMS**  
MEKANISKA VERKSTADS AKTIEBOLAG

Manufacturer.

Dates of Survey { During progress of work in shops -  $3/9, 7/9, 14/9, 17/9, 22/9, 23/9, 28/9, 30/9, 2/10, 3/10, 5/10, 9/10, 10/10, 12/10$   
while building { During erection on board vessel -  $1/12, 3/12, 7/12, 10/12, 16/12, 17/12, 18/12, 19/12, 1936, 5/1$  1937.  
Are the approved plans of boiler and superheater forwarded herewith  $30-8-1935$ .  
(If not state date of approval.) Total No. of visits  $35$ .

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *"BRALANTA", Report No. 1495.*

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

*These docking boilers have been built under special survey in accordance with the Rules and the approved plans.*

*The materials used have been tested as per Rule and the workmanship is good.*

Survey Fee ... *See Rpt. 46.* } When applied for, 19  
Travelling Expenses (if any) £ : : } When received, 19

*Asunden A. Boring.*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 22 JAN 1937*

Assigned *See other F. E. rpt.*



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