

REPORT ON BOILERS.

No. 7881.

Received at London Office 18 FEB 1929

of writing Report 2nd February 1929. When handed in at Local Office 192 Port of Copenhagen
 in Survey held at Elsinore and Odense Date, First Survey 3rd April 1928 Last Survey 22nd January 1929
 Book. 315 on the Steel Single Screw Motor Vessel BEAUMONT (Number of Visits 19) Gross 5701.75
 Tons Net 3214.60
 Built at Odense By whom built ved A. P. Møller Yard No. 31 When built 1928-29
 Engines made at Copenhagen By whom made A. Bismark & Wain's Maskin- og Kobbegyger Engine No. 1470 When made 1928
 Boilers made at Elsinore By whom made Helsingør's Maskin- og Kobbegyger Boiler No. 737 When made 1928
 Indicated Horse Power For 1340 Owners Købsaktieselskabet "Beaumont" Port belonging to Oslo

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

PLATES: Bismarckshütte & Mitten Harduke - FURNACES Thos. Tiggall & Co Ltd Birmingham
 STAYS - SCREW STAYS: Klöckner Werke - Abt Georg Masen Werke & Busabnick
 Manufacturers of Steel TUBES: Hannemann'sche Werke - Abt Renschke RIVETS: Henzl Bros. Copenhagen (Letter for Record 5)
 Heating Surface of Boilers 2009 sq Is forced draught fitted yes Coal or Oil fired oil
 and Description of Boilers One off single ended, return multitubular Working Pressure 150 lbs/sq in
 tested by hydraulic pressure to 275 lbs/sq in Date of test 5.9.1928 No. of Certificate 493 Can each boiler be worked separately yes
 Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 off directly spring loaded
 No. of each set of valves per boiler per Rule 18, 26 0" Pressure to which they are adjusted 150 lbs/sq in Are they fitted with easing gear yes
 as fitted 25, 1 0" Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler No main boiler fitted
 Smallest distance between boilers or uptakes and bunkers or woodwork to bunkers & wood Is oil fuel carried in the double bottom under boilers ✓
 Smallest distance between shell of boiler and tank top plating The boiler is fitted on a platform Is the bottom of the boiler insulated yes
 Largest internal dia. of boilers 14'-0" Length 11'-3" Shell plates: Material Siemens M. Steel Tensile strength 46.6-51.0 kg/mm²
 Thickness 1" Are the shell plates welded or flanged No Description of riveting: circ. seams lap joint
 seams double butt strap Diameter of rivet holes in circ. seams 1 1/8" Pitch of rivets 3 3/8"
double butt strap double nothing 1" 6 3/16" x 1 3/32"
 Percentage of strength of circ. end seams plate 66.67% Percentage of strength of circ. intermediate seam plate
rivets 48.2% Working pressure of shell by Rules 152.6 lbs per sq in
 Percentage of strength of longitudinal joint plate 83.92% rivets 97.85% combined 87.41%
 Thickness of butt straps outer 1 1/16" No. and Description of Furnaces in each Boiler 3 off. Brighton corrugated section
inner 1 5/16" Material Siemens M. Steel Tensile strength 27.6-29.0 Smallest outside diameter 3'-3 1/16"
 Length of plain part top Thickness of plates crown 7/16" x 1/32" Description of longitudinal joint ✓
bottom Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 168.2 lbs per sq in
 Plates in steam space: Material Siemens M. Steel Tensile strength 41.8 kg/mm² Thickness 1 3/16" Pitch of stays 19" x 19"
 Are stays secured Secured into both plates, nuts in and outside Working pressure by Rules 182 lbs per sq in
 Front plates: Material Siemens M. Steel Tensile strength 45.2 kg/mm² Thickness 1"
back Siemens M. Steel Tensile strength 46.7-47.0 kg/mm² Thickness 1 3/16"
 Pitch of stay tubes in nests 8" x 12" Pitch across wide water spaces 14" Working pressure front 192.2 lbs per sq in
back 237.5 lbs per sq in
 Boilers to combustion chamber tops: Material Siemens M. Steel Tensile strength 44.3 kg/mm² Depth and thickness of girder
 Centre 7 1/2" - 2 x 3/4" = 1 1/2" Length as per Rule 30 3/8" Distance apart 9 9/16" No. and pitch of stays
 Each 3 off - 7 1/4" Working pressure by Rules 149.3 lbs per sq in Combustion chamber plates: Material Siemens M. Steel
 Tensile strength 44.4-46.9 kg/mm² Thickness: Sides 1 1/16" Back 5/8" Top 1 1/16" Bottom 1 1/16"
 Pitch of stays to ditto: Sides CENTRE 8 3/8" x 7" Back CENTRE 6 7/8" x 6" Top 9 9/16" x 7 1/4" Are stays fitted with nuts or riveted over SAID Nuts in outside
 Working pressure by Rules TOP 153.1 lbs/sq in Front plate at bottom: Material Siemens M. Steel Tensile strength 45.2 kg/mm²
 Thickness 1" Lower back plate: Material Siemens M. Steel Tensile strength 41.0-44.2 kg/mm² Thickness 1 3/16" + 5/8" doubling
 Pitch of stays at wide water space d = 20" Are stays fitted with nuts or riveted over Nuts in and outside
 Working Pressure 241 lbs/sq in Main stays: Material Siemens M. Steel Tensile strength 44.8-46.5 kg/mm²
 At body of stay, TOP 2 7/8" Bottom 2 1/4" No. of threads per inch 6 Area supported by each stay 36 0"
 Over threads 3 1/8" - 2 7/8" 2 1/2" - 2 1/4" Screw stays: Material Siemens M. Steel Tensile strength 44.5-46.0 kg/mm²
 At turned off part, SIDES 1 3/8" BACK 1 1/4" No. of threads per inch 9 Area supported by each stay 56.88 sq in
 Over threads

Working pressure by Rules $18\frac{1}{2}$ lbs/10" Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, $1\frac{5}{8}$ "
or
Over threads }
No. of threads per inch $9\frac{1}{2}$ Area supported by each stay $73\frac{1}{2}$ Working pressure by Rules $153\frac{1}{4}$ lbs/10"
Tubes: Material *Steel* External diameter { Plain $2\frac{3}{4}$ "
Stay $2\frac{3}{4}$ " Thickness { $\frac{5}{16}$ " & $\frac{3}{8}$ " No. of threads per inch $9\frac{1}{2}$
Pitch of tubes $4" \times 4"$ Working pressure by Rules $153\frac{1}{4}$ lbs/10" Manhole compensation: Size of opening in
shell plate $15\frac{1}{2}" \times 19\frac{1}{2}"$ Section of compensating ring *Flanged* No. of rivets and diameter of rivet holes 36 fl - $1\frac{1}{8}"$
Outer row rivet pitch at ends $6\frac{1}{2}$ Depth of flange if manhole flanged $3\frac{1}{4}"$ 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	✓	Manufacturers of	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">Tubes</div> <div style="display: inline-block; vertical-align: middle;">✓</div> </div> <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">Steel castings</div> <div style="display: inline-block; vertical-align: middle;">✓</div> </div>		
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 yes

AKTIESELSKABET
HELSINGØRS JERNSKIBS- OG MASKINBYGGERI
The foregoing is a correct description,
J. P. D. Knudsen. Manufacturer.

Dates of Survey while building	During progress of 1928: $\frac{3}{4}$ - $\frac{12}{4}$ - $\frac{3}{5}$ - $\frac{15}{5}$ - $\frac{26}{5}$ - $\frac{1}{6}$ - $\frac{6}{6}$ - $\frac{16}{6}$ - $\frac{21}{6}$	Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)	yes
	work in shops - -) $\frac{5}{7}$ - $\frac{11}{7}$ - $\frac{28}{7}$ - $\frac{5}{9}$		
	During erection on board vessel - -) 1928: $\frac{11}{12}$ - $\frac{27}{12}$ 1929 $\frac{12}{1}$ - $\frac{21}{1}$ - $\frac{22}{1}$	Total No. of visits	19.

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

This boiler has been built under Special Survey in accordance with the Rules, the approved plan and the requirements contained in the Secretary's letter E dated

The material has been tested as required by the Rules as per certificates produced or by us, and the workmanship is of good description throughout.

The boiler is placed in the port side of the vessel, on a platform aft in the motor room. On the starboard side of the same platform is placed a vertical donkey boiler, both boilers being arranged for working separately or in parallel.

Two pumps of respectively $150\text{ in} \times 100\text{ in} \times 150\text{ in}$ and $135\text{ in} \times 100\text{ in} \times 125\text{ in}$ duplex have been fitted to supply the boilers with feed water.

Recommend the vessel to have rotation of 2 DB 150 lbs.

Survey Fee	<u>Rs</u> 243,88:	When applied for,	<u>3/10</u>	1928
Travelling Expenses (if any)	<u>Rs</u> 37,50:	When received,	<u>19/10</u>	1928

At. Schiff. Mause.
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

FRI. 22 FEB 1929

Assigned see Memoirs on
Cpu. Rpt 7881 attached

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Foundation