

REPORT ON BOILERS.

No. 11756

Received at London Office 25 AUG 1945

Date of writing Report 1. August 45 When handed in at Local Office 10 Port of Copenhagen
 No. in Survey held at Copenhagen and Odense Date, First Survey 30. September 1940 Last Survey 8. July 1945
 on the Shel Single Screw Motor Tanker MATRINE MÆRSK. (Number of Visits 29) Gross 10043.07
 Tons Net 6096.87
 Built at Odense By whom built Odense Skibskværft Card No. 88 When built -
 Engines made at Copenhagen By whom made 2 1/2 Burmeister & Wain's Maskin- og Skibsbyggeri Engine No. 3148 When made 1940
 Boilers made at Copenhagen By whom made 2 1/2 Burmeister & Wain's Maskin- og Skibsbyggeri Boiler No. 1975 When made 1940
 Nominal Horse Power 653 Owners 2 1/2 Dampskibsselskabet "Fredericia" Port belonging to Fredericia

MULTITUBULAR BOILERS MAIN, AUXILIARY OR DONKEY.

PLATES: Mannesmann-Röhrenwerke, Hückingen - FURNACES: Villanova Laines Steel & Iron Works

Manufacturers of Steel TUBES: 2 1/2 Uddalsholms Skopas Rörverk, Sweden RIVETS: Henze Bros, Gm (Letter for Record S)
 OIL FIRED 2 x 150.2 1/2" = 300.4 1/2"

Total Heating Surface of Boilers EXHAUST FIRED 2 x 58.3 1/2" = 116.6 1/2" Is forced draught fitted yes Coal or Oil fired oil fired

No. and Description of Boilers 2 off return multitubular Working Pressure 180 lbs/sq in

Tested by hydraulic pressure to 320 lbs Date of test 21.2.1941 No. of Certificate 663 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 9270 1/2 sq ft No. and Description of safety valves to each boiler 2 off directly spring loaded

Area of each set of valves per boiler (per Rule 9900 1/2 as fitted) Pressure to which they are adjusted 180 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 or uptakes and bunkers or woodwork 620 1/2" Is oil fuel carried in the double bottom under boilers yes

Smallest distance between shell of boiler and tank top plating at after end of engine room Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 3850 1/2" Length 3180 1/2" Shell plates: Material Premium M. Steel Tensile strength 45.75 kg/cm²

Thickness 26 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams lap joint double

Long. seams double butt strap Diameter of rivet holes in (circ. seams 29 1/2" long. seams 28 1/2" Pitch of rivets 88.24 1/2"

Percentage of strength of circ. end seams (plate 67% rivets 47% Percentage of strength of circ. intermediate seam (plate - rivets -

Percentage of strength of longitudinal joint (plate 85.3% rivets 95.5% combined 89.6% Working pressure of shell by Rules 183 lbs/sq in

Thickness of butt straps (outer 26 1/2" inner 26 1/2" No. and Description of Furnaces in each Boiler 2 off Deighton's section

Material Premium Martin Steel Tensile strength 41-47 kg/cm² Smallest outside diameter 940 1/2"

Length of plain part (top 13 1/2" bottom 13 1/2" Description of longitudinal joint -

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 200 lbs/sq in

And plates in steam space: Material Premium M. Steel Tensile strength 41-47 kg/cm² Thickness 27 1/2" Pitch of stays 350 1/2" x 490 1/2"

How are stays secured Secured in both plates nuts in & outside Working pressure by Rules 180 lbs/sq in

Stays plates: Material (front Premium Martin Steel back Premium Martin Steel Tensile strength 41-47 kg/cm² Thickness 24 1/2"

Pitch of stay tubes in nests 228 1/2" Pitch across wide water spaces 355 1/2" Working pressure (front 181 lbs/sq in back 248 lbs/sq in

Orders to combustion chamber tops: Material Premium M. Steel Tensile strength 44-50 kg/cm² Depth and thickness of girder

Centre 160 1/2" - 2 x 19 1/2" Length as per Rule 672 1/2" Distance apart 225 1/2" No. and pitch of stays

Each 2 off 224 1/2" Working pressure by Rules 192 lbs/sq in Combustion chamber plates: Material Premium M. Steel

Tensile strength 41-47 kg/cm² Thickness: Sides 17 1/2" Back 16 1/2" Top 17 1/2" Bottom 19 1/2"

Pitch of stays to ditto: Sides 240 1/2" x 215 1/2" Back 204 1/2" x 188 1/2" Top 225 1/2" x 224 1/2" Are stays fitted with nuts or riveted over nuts inside & outside

Working pressure by Rules 195 lbs/sq in Front plate at bottom: Material Premium M. Steel Tensile strength 41-47 kg/cm²

Thickness 24 1/2" Lower back plate: Material Premium M. Steel Tensile strength 41-47 kg/cm² Thickness 24 1/2"

Pitch of stays at wide water space 0.492 1/2" Are stays fitted with nuts or riveted over nuts inside & outside

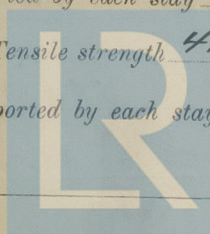
Working Pressure 228 lbs/sq in Main stays: Material Premium M. Steel Tensile strength 44-50 kg/cm²

At body of stay 2 3/4" Bottom 2 1/2" No. of threads per inch 11 Area supported by each stay 172 000 1/2"

Over threads 3" - 2 3/4" 2 3/4" - 2 1/2" Working pressure by Rules 208 lbs/sq in Screw stays: Material Premium M. Steel Tensile strength 41-47 kg/cm²

At turned off part 1 1/2" 1 7/8" No. of threads per inch 11 Area supported by each stay 44 000 1/2"

Over threads 1 1/2" 1 7/8"



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Working pressure by Rules 211 lbs/0 ✓ Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4 ✓
No. of threads per inch 11 ✓ Area supported by each stay 53000 7/4 2 Working pressure by Rules 221 lbs/0 ✓
Tubes: Material S. M. Steel External diameter { Plain 63.5 7/4 ✓ Thickness 9.5 7/4 ✓ No. of threads per inch 11 ✓
Pitch of tubes 90 7/4 x 92 7/4 ✓ Working pressure by Rules 230 lbs/0 ✓ Manhole compensation: Size of opening 46 7/4 - 28 7/4 ✓
shell plate 405 7/4 x 505 7/4 Section of compensating ring flanged ✓ No. of rivets and diameter of rivet holes 46 7/4 - 28 7/4 ✓
Outer row rivet pitch at ends 195 7/4 - 127 7/4 Depth of flange if manhole flanged 88 7/4 ✓ 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 ✓
Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter of rivets ✓
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 ✓
Number of elements ✓ Material of tubes ✓ Steel castings ✓
Internal diameter and thickness of tubes ✓
Material of headers ✓ Tensile strength ✓ Thickness ✓ Can the superheater be shut off from the boiler ✓
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 22 inclusive for boilers been complied with yes

The foregoing is a correct description,
**AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI**
Manufactured by ✓

Dates of Survey { During progress of work in shops - - 1940: 3/10 - 20/10 - 21/10 - 22/10 - 23/10 - 24/10 - 25/10 - 26/10 - 27/10 - 28/10 - 29/10 - 30/10 - 31/10 - 1/11 - 2/11 - 3/11 - 4/11 - 5/11 - 6/11 - 7/11 - 8/11 - 9/11 - 10/11 - 11/11 - 12/11 - 13/11 - 14/11 - 15/11 - 16/11 - 17/11 - 18/11 - 19/11 - 20/11 - 21/11 - 22/11 - 23/11 - 24/11 - 25/11 - 26/11 - 27/11 - 28/11 - 29/11 - 30/11 - 1/12 - 2/12 - 3/12 - 4/12 - 5/12 - 6/12 - 7/12 - 8/12 - 9/12 - 10/12 - 11/12 - 12/12 - 13/12 - 14/12 - 15/12 - 16/12 - 17/12 - 18/12 - 19/12 - 20/12 - 21/12 - 22/12 - 23/12 - 24/12 - 25/12 - 26/12 - 27/12 - 28/12 - 29/12 - 30/12 - 31/12
During erection on board vessel - - - 1943: 4/8 - 26/8 - 22/9 - 29/9 - 20/10 - 1/11 - 2/11 - 17/11 - 30/11 - 14/12 - 1944: 2/2 - 19/3 - 1945: 3/7 - 4/7 - 5/7 - 6/7 - 7/7 - 8/7
Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)
Total No. of visits 29

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. 1/2 Cordine Mark
Odense Yarn No 83

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The above boiler have been constructed and fitted under special survey in accordance with the Rules and the approved plans. The material used has been tested as required by the Rules and the workmanship is good.

Recommend the vessel to have notation of 20B 180 lb.

Survey Fee ... 4658.80 When applied for, 29/8 19 41
Travelling Expenses (if any) £ Report : ✓ When received, 9/3 19 42

L. L. L. L.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 11 JAN 1946

Assigned see minute on H. Rpt.