

REPORT ON BOILERS.

No. 7976.

Received at London Office 21 MAY 1929

Date of writing Report 5th May 1929 When handed in at Local Office 8th May 1929 Port of CopenhagenNo. An Survey held at Copenhagen Date, First Survey 8th January Last Survey 29th April 1929

Reg./Book 140 on the Steel Twin Screw Motor Vessel STJERNEBORG (Number of Visits 18) Gross 4532.25 Tons Net 2772.10

Built at Copenhagen By whom built S. Burmeister & Wain's Masking & Skibbygaard Yard No. 557 When built 1929

Engines made at Copenhagen By whom made S. Burmeister & Wain's Masking & Skibbygaard Engine No. 1537 When made 1929

Boilers made at Copenhagen By whom made S. Burmeister & Wain's Masking & Skibbygaard Boiler No. 1823 When made 1929

Owners Skibsselskabet Dampskibsselskabet Dannebrog (C. H. Hansen) Port belonging to Copenhagen

VERTICAL DONKEY BOILER.

Made at Copenhagen By whom made S. Burmeister & Wain Boiler No. 1823 When made 1929 Where fixed in the motor room

Manufacturers of Steel PLATES: Henschel & Sohn of Haltingen, UPTAKE & CROSSTUBES: Messin Galloway & Co. Manchester RIVETS: Hays Bros - Copenhagen

Total Heating Surface of Boiler 100 sq feet $\approx 9.3 m^2$ Is forced draught fitted No Coal or Oil fired oil firedNo. and Description of Boilers One off, vertical cross tube Working pressure 7 kg/cm² 100 lb.Tested by hydraulic pressure to 14 kg/cm² Date of test 14th March 1929 No. of Certificate 507

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 off directly spring loaded

Area of each set of valves per boiler per rule 853 m^2 (709) as fitted 3040 m^2 Pressure to which they are adjusted 7 kg/cm² Are they fitted with easing gear yes

State whether steam from main boilers can enter the donkey boiler No main boiler Smallest distance between boiler or uptake and bunkers

Is oil fuel carried in the double bottom under boiler yes Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated No Largest internal dia. of boiler 1370 m Height 3200 m Shell plates: Material Siemens Martin Steel Tensile strength 47.0 kg/mm² Thickness 10 m

Are the shell plates welded or flanged No Description of riveting: circ. seams lap joint, single riveting long seams lap joint, double neck

Dia. of rivet holes in circ. seams 19 m Pitch of rivets 45 m Percentage of strength of circ. seams plate 57.8 rivets 49.8 of Longitudinal joint plate 69.3 rivets 72.2 combinedWorking pressure of shell by rules 8.4 kg/cm² Thickness of butt straps outer inner

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat flat Material Siemens Martin Steel

Tensile strength 42.7 kg/mm² Thickness 22 m Radius Working pressure by rules 16.85 kg/cm²Description of Furnace: Plain, spherical, or dished crown flat Material Siemens M. Steel Tensile strength 44.7 kg/mm²Thickness 14 m External diameter top 1029 m bottom 1229 m Length as per rule 1732 m Working pressure by rules CROWN 16.3 kg/cm² SHELL 6.65 kg/cm²

Pitch of support stays circumferentially and vertically Are stays fitted with nuts or riveted over

Diameter of stays over thread Radius of spherical or dished furnace crown Working pressure by rule

Thickness of Ogee Ring Diameter as per rule Working pressure by rule

Combustion Chamber: Material Tensile strength Thickness of top plate

Working pressure by rule Thickness of back plate Diameter if circular

Length as per rule Pitch of stays Are stays fitted with nuts or riveted over

Diameter of stays over thread Working pressure of back plate by rules

Oil Engine Plates: Material front back Tensile strength Thickness Mean pitch of stay tubes in nests

Comprising shell, Dia. as per rule front back Pitch in outer vertical rows Dia. of tube holes FRONT stay plain BACK stay plain

Working pressure by rules front back

Each alternate tube in outer vertical rows a stay tube

Stays to combustion chamber tops: Material Tensile strength

Length and thickness of girder at centre Length as per rule

Distance apart No. and pitch of stays in each Working pressure by rule

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Lloyd's Register Foundation

UK 50-0033(112)

Twin Screw Motor Vessel "STJERNEBORG" of Copenhagen.

Burmeister & Wain's Yard No. 557

No. in Register Book 92140.

Engines No. 1536 & 1537.

The auxiliary machinery comprising.

- One - 150 tons rotary ballast pump (Spare cooling water pump.)
 One - combined bilge & sanitary pump with 2 separate trunks, capacity of each 20 tons
 One - 120 tons centrifugal cooling water pump.
 Two - 45 tons cog wheel lubricating oil pump.
 One - 15 ton cog wheel oil fuel transfer pump.
- All driven
by electro
motors.

Two - 2 cylinders auxiliary Diesel oil engines, each of 100 B.H.P. each working a compound wound 66 K.W. generator and

One - 1 " " " " " " of 50 B.H.P. working a compound wound 33 K.W. generator

supplying electric current of 220 Volts pressure for the following purpose :-

- One - 15 H.P. shunt wound electro motor working the ballast pump.
 One - 9 H.P. " " " " working the combined bilge & sanitary pump.
 One - 25 H.P. " " " " working the cooling water pump and one lubricating oil pump.
 One - 15 H.P. " " " " working the oil fuel transfer pump and one lubricating oil pump.
 Two - 3 H.P. serie " " " " working the turning gear to the main engines.
 One - 1.65 H.P. shunt " " " " working the turning lathe.
 One - 1 H.P. " " " " working the drilling machine.
 One - 2 H.P. " " " " working the lubricating oil purifier.
 One - 2 H.P. " " " " working the oil fuel purifier.
 One - 4.5 H.P. " " " " working the refrigerating machine to the provision room.
 One - 0.2 H.P. " " " " working the ventilation fan for the " " " "
 One - 0.2 H.P. " " " " working the oil fuel blower for the kitchen range in galley.
 One - 34 H.P. compound " " " " working the windlass.
 One - 15 H.P. serie " " " " working the steering gear.
 Two - 33 H.P. compound " " " " working the two 5 tons cargo winches.
 Eight - 25 H.P. " " " " working the eight 3 tons cargo winches.
 One - 20 H.P. " " " " working the warping capstan aft.
 One - 9 KW electric heater for the lubricating oil purifier,
 and for the whole electric lighting purpose. -

The foregoing is a correct description.

AKTIESELSKABET
 BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI
 Manufacturers.

A. F. Johnson
 SURVEYOR TO LLOYD'S
 REGISTER OF SHIPPING

Crown stays: Material _____ Tensile strength _____ Diameter ^{at body of stay,} _{or over threads} _____
 No. of threads per inch _____ Area supported by each stay _____ Working pressure by rules _____
Screw stays: Material _____ Tensile strength _____ Diameter ^{at turned off part,} _{over threads} _____ No. of threads per inch _____
 Area supported by each stay _____ Working pressure by rules _____ Are the stays drilled at the outer ends _____
Tubes: Material _____ External diameter ^{plain} _{stay} _____ Thickness _____
 No. of threads per inch _____ Pitch of tubes _____ Working pressure by rules _____
Manhole Compensation: Size of opening in shell plate 305 x 405 mm Section of compensating ring plate flanged No. of rivets and diam _____
 of rivet holes _____ Outer row rivet pitch at ends _____ Depth of flange if manhole flanged 75 mm ✓
Uptake: External diameter 364 mm Thickness of uptake plate 12 mm ✓
Cross Tubes: No. 3 External diameters 230 mm Thickness of plates 10 mm ✓

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with ye.

The foregoing is a correct description.
 AKTIESELSKABET
 BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI
 Manufacturers

Dates of Survey ^{During progress of} 1929: 8/1 - 12/1 - 28/1 - 4/2 - 8/2 - 12/2 - 14/2 - 23/2 - 14/3 Is the approved plan of boiler forwarded herewith ye.
 while building ^{work in shops -} 1929: 20/1 - 26/1 - 30/1 - 8/2 - 18/2 - 22/2 - 25/2 - 27/2 - 29/2 (If not state date of approval.)
 board vessel - 1929: 13/1 - 13/1 - 13/1 - 14/1 - 14/1 - 14/1 - 14/1 - 14/1 - 14/1 Total No. of visits 18.

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

This donkey boiler has been built under Special Survey and in accordance with the Rules, the approved plan and the requirements contained in the Secretary's letter E dated 17th October 1928.

The material used in the construction has been tested as required by the Rules as per certificate produced, and the workmanship is of good description throughout.

The boiler has been fitted on board the above named vessel and completed to our entire satisfaction.

A duplex Worthington feed pump 90 mm x 60 mm x 90 mm and one feed injector have been installed.

Recommend the vessel to have notation of 10B-100 lbs.

Survey Fee ... £ 76.44 When applied for, 16.5.1929
 Travelling Expenses (if any) £ : : When received, 5.6.1929

A. F. Johnson L. Maurel
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

24 MAY 1929

Assigned

10B-100 lbs
 See also 2nd rpt. attached



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Foundation

WJO-0033[212]