

REPORT ON BOILERS.

Received at London Office. 11 FEB 1957

Rules...
 Date of writing Report 6/2 1952. When handed in at Local Office 8/2 1952. Port of MALMÖ

Rules...
 No. in Reg. Book. 35993 on the M/T "H A V F R U" Date, First Survey 17/12-51 Last Survey 24/1 1952. (Number of Visits 5) Gross 10,491 Tons Net 6,165.

tanks...
 Master... Built at Malmö By whom built Kockums M.V. A.-B. Yard No. 319 When built 1952

Engines made at Malmö By whom made Kockums Mek. Verkstads A.-B. Engine No. 417 When made 1952

Boilers made at Paisley By whom made A.F. Craig & Co., Ltd. Boiler No. 942 When made 1950

Nominal Horse Power 1556 Owners A/S Havtor. Port belonging to Oslo

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel (Letter for Record)

Total Heating Surface of Boilers Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Working Pressure

Tested by hydraulic pressure to Date of test No. of Certificate Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler (Not more required)

Area of each set of valves per boiler { per Rule 6740 mm² as fitted 7696 mm² Pressure to which they are adjusted 171 lbs. Are they fitted with casing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler The boilers placed on a platform at after end of eng. room.

Smallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers Length Shell plates: Material Tensile strength

Thickness Are the shell plates welded or flanged Description of riveting: circ. seams { end inter. long. seams

Diameter of rivet holes in { circ. seams long. seams Pitch of rivets { plate rivets

Percentage of strength of circ. end seams { plate rivets Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate rivets combined Working pressure of shell by Rules

Thickness of butt straps { outer inner No. and Description of Furnaces in each Boiler

Material Tensile strength Smallest outside diameter

Length of plain part { top bottom Thickness of plates { crown bottom Description of longitudinal joint

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules

End plates in steam space: Material Tensile strength Thickness Pitch of stays

How are stays secured Working pressure by Rules

Tube plates: Material { front back Tensile strength Thickness

Mean pitch of stay tubes in nests Pitch across wide water spaces Working pressure { front back

Girders to combustion chamber tops: Material Tensile strength Depth and thickness of girder at centre Length as per Rule Distance apart No. and pitch of stays in each Working pressure by Rules

Combustion chamber plates: Material Tensile strength Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top Are stays fitted with nuts or riveted over

Working pressure by Rules Front plate at bottom: Material Tensile strength Thickness

Lower back plate: Material Tensile strength Thickness

Pitch of stays at wide water space Are stays fitted with nuts or riveted over

Working pressure Main 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 or Over threads No. of threads per inch Area supported by each stay



Working pressure by Rules..... Are the stays drilled at the outer ends..... Margin stays: Diameter ^{At turned off part,} _{or} ^{Over threads.....}
 No. of threads per inch..... Area supported by each stay..... Working pressure by Rules.....
 Tubes: Material..... External diameter ^{Plain.....} _{Stay.....} Thickness..... No. of threads per inch.....
 Pitch of tubes..... Working pressure by Rules..... Manhole compensation: Size of opening
 shell plate..... Section of compensating ring..... No. of rivets and diameter of rivet holes.....
 Outer row rivet pitch at ends..... Depth of flange if manhole flanged..... 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
 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
 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 casing gear..... Working pressure as
 Rules..... Pressure to which the safety valves are adjusted..... Hydraulic test pressure
 tubes..... forgings and castings..... and after assembly in place..... Are drain cocks
 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 VERKSTÄDS AKTIEBOLAG
 Manufacturer

Dates of Survey while building ^{During progress of work in shops - -} _{During erection on board vessel - - -} Are the approved plans of boiler and superheater forwarded herewith 7.8.48 (If not state date of approval.)
 17/12-51, 2, 10, 17, 24/1-52 Total No. of visits..... 5

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These donkey boilers have been built under Special Survey and tested by the Surveyors to this Society as per Glasgow Report No. 75066 and have been installed onboard under my supervision and to my satisfaction.
 The photostat copy of Glasgow Report No. 75066 is returned herewith. One exhaust gas economiser, as per Report 10 enclosed herewith, heated by exhaust gas from top end of main engine cylinders, has also been installed. The economiser is fitted with a double safety valve which has been adjusted to the safe working pressure.

20 ref

Survey Fee £ : ✓ : } When applied for,..... ✓19.....
 Travelling Expenses (if any) £ : : } When received.....19.....

A. Banning
 Engineer Surveyor to Lloyd's Register of Shipping

FRI. 29 FEB 1952

Committee's Minute.....

Assigned See F.E. mchly. rpt.

