

REPORT ON BOILERS.

No. 19510.

Received at London Office

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Date of writing Report. 2nd Jan. 1953. When handed in at Local Office. 9th Jan. 1953. Port of Gothenburg

No. in Reg. Book. 95496 Survey held at Gothenburg Date, First Survey 6th June, 1952 Last Survey 20th Dec. 1952.

on the Motor Tanker "P E T R A - D A N" (Number of Visits. 37.) Gross 10843 Tons Net 6146

Built at Gothenburg By whom built Aktiebolaget Lindholmens Varv Yard No. 1028 When built 1952

Engines made at Gothenburg By whom made Aktiebolaget Lindholmens Varv Engine No. 1315 When made 1952

Boilers made at Gothenburg By whom made Aktiebolaget Lindholmens Varv Boiler No. 2957/58 When made 1952

Nominal Horse Power. 2 x 179 Owners J. Lauritzen Port belonging to Esbjerg

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel. Hüttenwerk Huckingen AG, Motala Verkstad AB, Storfors Rörverk, Boiler Furnace (Letter for Record. S)

Total Heating Surface of Boilers. 2 x 200 M² = 4305 sq. feet Of Superheaters.

Total for Register Book. Is forced draught fitted. Yes ✓ Coal or Oil fired. Oil ✓

No. and Description of Boilers. 2 single ended multitubular Scotch ✓ Working Pressure. 170 lbs ✓

Tested by hydraulic pressure to 305 lbs Date of test 4/8 & 18/8-52 No. of Certificates 628,630 Can each boiler be worked separately. Yes ✓

Area of Firegrate in each Boiler. --- No. and Description of safety valves to each boiler. Double spring loaded

Area of each set of valves per boiler { per Rule 9350 mm² as fitted 11300 mm². Pressure to which they are adjusted. 170 lbs ✓ 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

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. Boilers fitted on a platform Is the bottom of the boiler insulated. Yes

Largest internal dia. of boilers. 3945 mm. ✓ Length. 3370 ✓ Shell plates: Material S.M. Steel ✓ Tensile strength. 44-50 kg/mm² ✓

fusion welded, state name of welding Firm. --- Have all the requirements of the Rules for Class I vessels

When complied with. Thickness 27.5 mm ✓ Are the shell plates welded or flanged. El. welded Description of riveting: circ. seams { end. --- inter. ---

Long. seams. Electrically welded ✓ Diameter of rivet holes in { circ. seams --- long. seams --- Pitch of 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 ---

Thickness of butt straps { outer --- inner --- No. and Description of Furnaces in each Boiler 2 Morison corrugated ✓

Material S.M. Steel ✓ Tensile strength 41-47 kg/mm² ✓ Smallest outside diameter. 1178 mm. ✓

Length of plain part { top 306 mm. bottom 306 mm. ✓ Thickness of plates. 14 mm. ✓ Description of longitudinal joint. Electrically welded ✓

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

End plates in steam space: Material S.M. Steel ✓ Tensile strength 41-47 kg/mm² ✓ Thickness. 25 ✓ Pitch of stays. 540 x 430 ✓

How are stays secured. Electrically welded with outside washers

Tube plates: Material { front S.M. Steel back S.M. Steel ✓ Tensile strength { 41-47 kg/mm² 41-47 kg/mm² ✓ Thickness { 25 mm. 21 mm. ✓

End man pitch of stay tubes in nests. 252,5 mm. ✓ Pitch across wide water spaces. 360 mm. ✓

Stays to combustion chamber tops: Material S.M. Steel ✓ Tensile strength 44-50 kg/mm² ✓ Depth and thickness of girder

Centre 210 x 25 mm. ✓ Length as per Rule 682 mm. Distance apart 215 mm. No. and pitch of stays

Each Cont. el. welded ✓ Combustion chamber plates: Material S.M. Steel ✓

Stays: Material S.M. Steel ✓ Tensile strength 41-47 kg/mm² ✓ Thickness: Sides 17 mm. Back 17 mm. Top 17 mm. Bottom 17 mm. ✓

Stays to ditto: Sides 240 x 205 mm. Back 245 x 210 mm. Top 215 x cont. E.W. Are stays fitted with nuts or riveted over. El. welded ✓

Bottom plate at bottom: Material S.M. Steel ✓ Tensile strength 41-47 kg/mm² ✓

Thickness 25 mm. Lower back plate: Material S.M. Steel ✓ Tensile strength 41-47 kg/mm² ✓ Thickness 25 mm. ✓

Stays at wide water space. 360 x 210 mm. ✓ Are stays fitted with nuts or riveted over. Electrically welded ✓

Stays: Material S.M. Steel ✓ Tensile strength 44-50 kg/mm² ✓

At body of stay. 70 mm. No. of threads per inch. ---

Over threads. S.M. Steel ✓ Tensile strength 41-47 kg/mm² ✓

At turned off part. 40 mm. No. of threads per inch. ---

Over threads. S.M. Steel ✓ Tensile strength 41-47 kg/mm² ✓

Are the stays drilled at the outer ends. ☒ Margin stays: Diameter ☒ At turned off part, 40 mm.
No. of threads per inch ☒ Electrically welded 76 mm. 3.65 mm. No. of threads per inch ☒ 9
Tubes: Material S.M. Steel External diameter ☒ Plain 76 mm. Thickness ☒ 8.0 mm. Manhole compensation: Size of opening ☒ Electrically welded
Pitch of tubes 101 x 101 mm. ☒ 8800 mm². No. of rivets and diameter of rivet holes ☒ Electrically welded
shell plate 475 x 375 mm. ☒ Section of compensating ring ☒ Depth of flange if manhole flanged ☒ Steam Dome: Material ☒
Outer row rivet pitch at ends ☒ Thickness of shell ☒ Description of longitudinal joint ☒
Tensile strength ☒ Pitch of rivets ☒ Percentage of strength of joint ☒
Diameter of rivet holes ☒ Thickness of crown ☒ No. and diameter ☒
Internal diameter ☒ Inner radius of crown ☒ Diameter of rivet holes and pitch ☒
stays ☒ Size of doubling plate under dome ☒
How connected to shell ☒ of rivets in outer row in dome connection to shell ☒
Type of Superheater. ☒ Manufacturers of ☒
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 easing gear ☒ Hydraulic test pressure ☒
Pressure to which the safety valves are adjusted ☒ and after assembly in place ☒ Are drain cocks ☒
tubes ☒ forgings and castings ☒
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,
AKTIEBOLAGET LINDHOLMENS VARV
ÅNGRÄNNINGEN
Manufactured

Are the approved plans of boiler forwarded herewith ☒ 8.12.50.
(If not state date of approval.)
Dates of Survey while building ☒ During progress of work in shops - - - 6.6.52 - 20.12.52. Total No. of visits 37
☒ During erection on board vessel - - -

Is this Boiler a duplicate of a previous case ☒ No ☒ 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 in accordance with the Rules for Welded pressure Vessels Class L. The workmanship is good. All welded parts of boilers have been stress-relieved in accordance with the Rules. The material fulfils the requirements of the Rules. sheets of the materials attached. Certificate of routine tensile and bend tests also plans showing the position and number of x-ray films taken together with reports issued by Tekniska Röntgencentralen indicating the category in which each film has been placed. Four representative films are attached. Macro tests have been carried out with satisfactory results. An exhaust gas economiser of AB Götaverkens multitubular type, manufactured by Messrs. AB Lindholmens Varv, been fitted. The economiser has been built under special survey, Cl.2 A. The safety valves of the exhaust gas economiser adjusted under steam to 170 lbs/in². The donkey boilers have been marked:-

No. 628
Lloyd's Test 305 lbs
WP 170 lbs
S.J. 4.8.52.

No. 630
Lloyd's Test 305 lbs
WP 170 lbs
S.J. 18.8.52.

Exhaust gas economiser has been marked:-

No. 112
LLOYD'S TEST 21.5 Kgs.
WP 12.0 kgs.
NF 18.11.52.

Survey Fee ... Kr. 1200:00 :
Travelling Expenses (if any) £ --- :

When applied for 9th Jan. 1953.
When received ---

Stein Johansson N. H. Håkberg
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI 23 JAN 1953

Assigned Su F.E. mch. rpt.



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