

14950 Iron

S.S. "Merkara"

HAYON 4088

No. Size and Description of Boilers

Four Round, Horizontal, 14' 0" dia x 9' 0" long, with 3 Furnaces in each, fired Aftward Ships, One Vertical Superheater with Single Flue. Working pressure 65 lbs

Shell plating $\frac{1}{16}$ " (Bt. Boilers) 4 plates in the circumference and 3 widths in the length, Circumferential joints lapped $3\frac{1}{2}$ " single riveted holes punched for 18" rivets x $3\frac{1}{2}$ " pitch, Longitudinal joints lapped 4" double riveted, Centre row of rivets $\frac{1}{2}$ in. to other two rows, holes punched for 18" rivets x $4\frac{1}{2}$ " pitch, End plating $\frac{1}{16}$ " attached to angle Iron $4\frac{1}{2}$ " x 4" x $\frac{3}{4}$ ", rivets 18" x $3\frac{1}{4}$ " pitch, Double plate at Manholes

$$\text{Formulae } \frac{57.520 \times 2 \times 43\%}{166 \times 6.5} = 69.7 \text{ lbs}$$

Combustion Chamber plating $\frac{3}{16}$ " The Top is supported by screws passing through 11" bridge bearers, 14" dia = 1.22" sect. area $8\frac{1}{2}$ " x 9" pitch = 76.5" area, Bearer are 6" deep x $\frac{1}{2}$ " thick,

Screwed Stays 1 $\frac{1}{2}$ " dia = 1.76" sect. area $8\frac{1}{2}$ " x $8\frac{3}{4}$ " pitch = 4339 lbs per inch

$$\text{Formula for Flat plates } \frac{100 \times 64}{74} = 86.6 \text{ lbs}$$

Furnace plating $\frac{3}{16}$ " They are 5' 9" long x 3' 3" dia. Crown & bottom plates riveted to front plate which is flanged

$$\text{Formula for Flues } \frac{89.600 \times 2.5}{5.75 \times 39} = 99 \text{ lbs}$$

Tube plates $\frac{1}{16}$ " protected by 102 tubes 3" dia. 15 of which are stay tubes, in centre Chamber, 90 tubes in side Chambers 15 of which are stays screwed & fitted with nuts.

Longitudinal Stays 2" dia = 3.14" sect. area $15\frac{1}{2}$ " x 13" pitch 232.5 " pitch = 4812 lbs per inch.

Superheater plating $\frac{1}{16}$ " & $\frac{3}{16}$ ", It is 10' 0" dia x 8' 0" high. Single Flue 4' 0" dia (in centre) 1' 6" Steam Space, 3 plates in circumference lapped joint double riveted, 3 widths of plates in the height edges lapped single riveted Ends are riveted to angle Iron, and 1 $\frac{1}{2}$ " screwed stays between outside & inside Shells.

Glasgow

James Morrison
Aug. 20th 1893

IRON 462-0408

P.T.O.

Direct Spring loaded Safety valves are fitted
two on each Boiler. 15.9" area. An opportunity has
been afforded me of testing them under steam but from
my examination of the drawings, the fitting and
arrangements appear to be satisfactory.

James Morrison



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