

Translation of letter from Witkowitz steelworks No.7174/218 dated 22.11.35 to Messrs. Cantieri Riuniti dell'Adriatico, Fabbrica Macchine S.Andrea, Trieste.

"CONTE ROSSO" . Loeffler Boiler.

Your Ref.UT/13236/4 dated 14.11.35.

We acknowledge receipt of your letter of 14th instant and have to inform you as follows:-

1) It is noted that the plan No.5056 of the "Glimo" level indicator has been approved without amendments.

2) Description of plan 2649/H.

The plan in question shows the connection for the level indicator, which is to be fitted on one side of the flange marked Pos.5, while on the other side the mechanical level indicator is to be fitted in way of the condensation drums I and II. The condensation drums are connected to the two indicator branches by means of two valves having an internal diameter of 14 mm. The purpose of the condensation drums is explained by the enclosed sketch 2847/H showing the mechanical level indicators. In consequence of the condensation of steam the upper condensation drums will be filled by water up to the height of the tube connecting same to the drum. The lower condensation drum is completely filled by water.

The mechanical level indicator measures the difference in pressure between the water column in the upper condensation drum (constant height) and the water column corresponding to the lower condensation drum, i.e. the water level in the evaporator (varying height). The mercury level in the lower part of the apparatus adjusts itself to the difference in pressure. Its



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principle is that of an "U-tube", the two branches of which are filled with mercury balancing according to the difference in pressure. The height of the mercury level is shown by a steel float and transmitted on a scale through rod and gear and magnetic coupling. The rod of the float does not pass through any stuffing box and its position is transmitted to the outside by means of the magnetic coupling.

The position of the mercury varies with the change of position of the level indicator, thus causing water to flow from the condensation drum into the level indicator, while a corresponding amount of water will flow into the second condensation drum. In order to avoid perceptible variations in the water level within the upper condensation drum and consequent erroneous readings on the level indicator, the upper condensation drum will have a small space for accumulation.

By the same procedure the lower condensation drum will serve as an accumulator of cold water, so as to avoid hot water from the boiler reaching directly the level indicator.

3) Description of drawing N.2642/H.

The water led through the continuous discharge reaches the separator drum through the tube shown on its left. The latter is still under full boiler pressure. Throttling takes place through diaphragm 4, so that the corresponding back pressure is already established in the upward bend. In consequence of the action of the nozzle the valves are



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preserved from the erosive action of wire-drawn water.

The main purpose of the discharge collector is to collect during the first working period any scum and other kinds of impurities; its size and dimensions are based in our experience on the subject.

4) With reference to Lloyd's Register remarks regarding change of the material for the tubes of 50/60 diam and 70/83 diameter in the charging pipes, and for the 30/23 dia. pipes respectively, we have to inform you that the working temperatures in these pipes do not exceed 330°C . In working conditions these pipes are completely filled with condensed water and are practically cold. Same are ready by now and we could not despatch them at once, if they were to be made of "Lof.Normal" steel.

As regards the 93/108 diameter feed pipes, for which an increase of 1.5 mm in thickness is desired, we have to inform you that these scantlings have already been approved. The feed pipes of 93/108 mm. diameter have been approved some time ago on plan No.2504/H. The 83/70 mm pipes, for which an increase of 1 mm in thickness is recommended (LP installation wire-drawing pipes valve 42, short circuit pipes from valve 40 A to the radiation superheater), have a maximum working temperature of 410°C . Only valve 54 on the discharge pipes may have, when discharging, a temperature of 475°C . The stress in these pipes amounts to about 7.4 kg/mm^2 at 140 atmospheres pressure, while we have received approval for stresses up to 8 kg/mm^2 at 475°C .



Please see table of thicknesses of tubes and drums. Kindly inform the Classification Societies as to the above, bearing in mind that the pipes in question are already made.

The other recommendations made by the Classification Societies with reference to the arrangement of the safety valve will be adopted.

We enclose further 9 copies of a new list 2646/H.

Kindly arrange for the Classification Societies to approve the scantlings of tubes shewn in the amended list.



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