



Service News



Service News would like to introduce the topic which meets your needs such as the daily equipment control, trouble case, Q&A, based on the theme concerning the boiler.

At this first time, we would like to introduce one of the cases in the past.



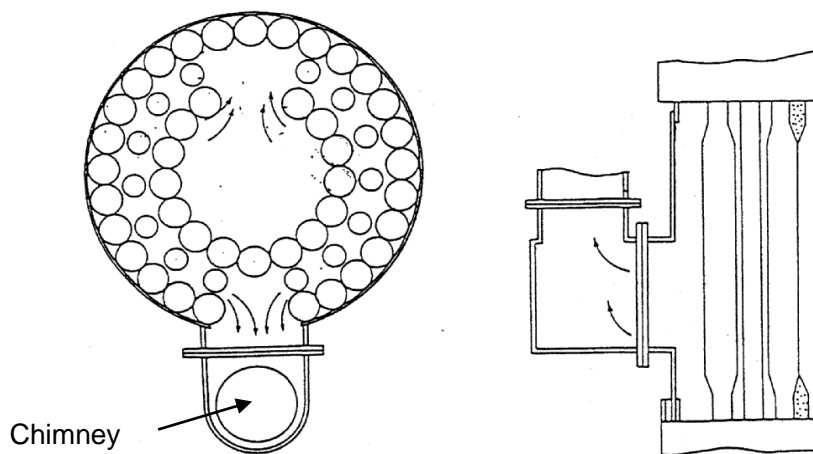
Trouble Case 1
“Why Exh. Gas High Temp. Alarm?”

Boiler Type : Steam Boiler VWH

After the inspection work at the shipyard has been completed, the ship which just now left port requested us the maintenance, and then we sent our engineer to the ship. The condition was that “The washing inside of the incinerator was carried out at port arrival, but the exh. gas high temp. alarm occurred soon after leaving port, it seemed that the thermostat or control circuit had been damaged?”

Our service engineer visited the ship and carried out the inspection, and then the control circuit had not been damaged, the thermostat was normal. Next, as measuring the inside pressure of incinerator at combustion, the figure which exceed the standard was checked. Therefore, we assured any clogging anywhere in the chimney and decided to examine the inside of the chamber and chimney. Then, we found out a lot of soot accumulation in the chimney stand around exh. gas outlet. After removing the soot, measured the inside pressure of incinerator again, the figure almost is within the standard. Then, as measuring the combustion by using the measuring instructions with hand, the large difference occurred in the large difference in the measuring value after the soot has been removed. At this occasion, we also controlled the combustion. After that, the normal combustion condition just came back.

In this case, we suspect that the cause of the trouble is that the washing around the chimney stand has not been carried out completely or the soot which came off easily by washing • the incinerator inside soot which was not discharged outside were piled up on the chimney stand by combustion. If the combustion has been continued for a lone time under this condition, the soot might be built up on the flue gas passage by the incomplete combustion, moreover, it might cause the condition such as the combustion is impossible. We apt to judge that the soot is removed completely by washing at the dockyard, but do not forget the above mentioned weak point. A lot of soot is discharged at washing on the boiler combustion room side. **At this case, please remove the soot completely. The incomplete washing brings about the chamber inside clogged up, and the chamber pressure increase, and then incomplete combustion.**



The mechanism reaches the combustion impossibility after washing is the followings;

1. Washing
2. Soot accumulation on the part of the chimney
3. Chamber pressure increase at the combustion test
4. Incomplete combustion
5. Soot occurs and built-up
6. Chamber pressure increase more by soot built-up
7. Combustion inferior
8. Misfire
9. Combustion impossibility

The method that we can see and check with our eyes is the followings;

The black smoke occurs from the chimney at 3 combustion test. Moreover, it may appear as a phenomenon such as pulsation happens as seeing from the burner sight window at 3 and 4. However, there are some cases that it is difficult to check it because the combustion time is very short at dock. In this case, more reliable method is the measurement by the measuring instrument.

The chamber pressure and the other settings are very depending on the boiler type, however, the setting value generally is the following range if the measuring instrument such as CO₂ meter is used.

Combustion gas	Setting value
CO ₂	9.5-10.5
O ₂	6.5-7.5

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We hope to receive your continuous support in the future.