

SHENGLI OILFIELD



The front door of the station 20, Xian-he oil production plant.



The water inlet of heating furnace.

Installation details

Model: Vulcan S25

Location: Station 20, Xian-he oil production plant, Sinopec Shengli Oilfield

Area: The water inlet of heating furnace

Installation purpose

The gas heats the water in the furnace, then the hot water heats the tubes, so that the water temperature in the tubes rises from 40 °C to 70 °C. The water in the tubes passes through the pump, transported to various wells.

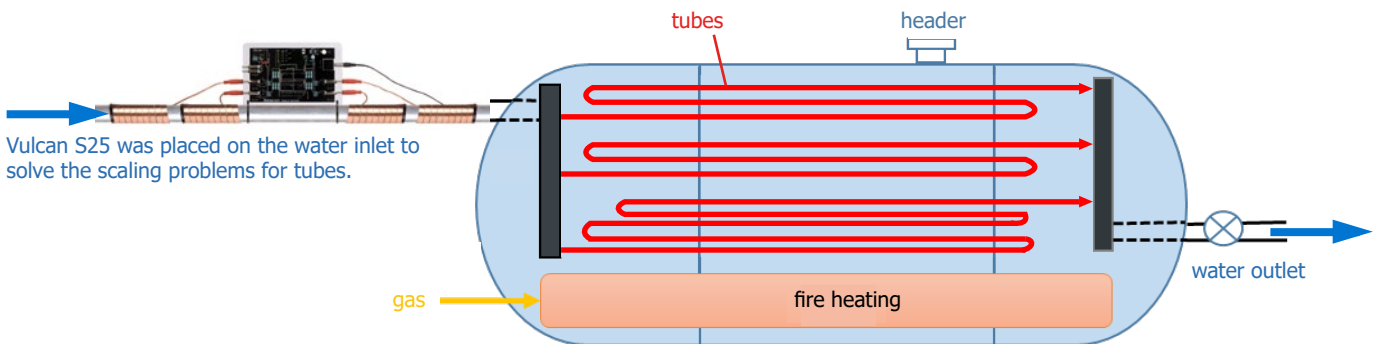
However, the heat exchanger efficiency is decreasing because of scale in the tubes. More gas has to be used to heat the furnace, so that the energy consumption is increased.

The calcium (Ca) content in the water is 1469.09 (mg/L), which is extremely high. The tubes are scaled badly because a variety of cleaning agents are added constantly and also the tubes are kept at a high temperature of 60 °C -70 °C. Every 3 months, the heating efficiency will be reduced down to 50% or even less. After running 1 year, the whole pipelines and the tubes need to be cleaned up manually, which is time consuming and costly, and reduces production capacity.

Therefore, before installing Vulcan, the scale of the tubes was removed. Then Vulcan S25 was installed to see how it performs.

Installation observation

After installing the Vulcan S25 for 6 months, we found that there is no additional electricity usage, and the overall heat exchanger efficiency is still at 80%. We approved Vulcan and will make the follow-up purchase for the whole project.



Vulcan S25 was placed on the water inlet to solve the scaling problems for tubes.

In order to heat the water in the tubes, the water temperature of the heating furnace is 70°C~80°C. The tubes are marked in red and have scaling problems. The tube diameter is 80mm.



Before installing Vulcan, the rust and pipe insulation were removed, and the impulse bands were wound on the pipe. Then, the outer insulation was put back.



Outdoor installation with self-made cover, to protect the unit from the wind and sun.