Abstract
Heat loss or loss of energy can also be called is one important factor that is very influential in identifying the efficiency of the boiler. This causes a lot of losses incurred, so the impact on economic factors as well. Boiler is one medium that serves to produce steam generators, where the boiler requires good conditions so as to generate steam with the necessary capacity. Boiler Unit 3 Type IHI FW SR Single Drum in power plant PT. PJB Gresik Power Units classified as old, so that the boiler efficiency has decreased. For this study analyzes the heat loss calculation in order to know the size reduction of boiler efficiency. From the analysis of data calculation, showed that the Boiler Unit 3 Type IHI FW SR Single Drum contained in power plant PT. PJB Gresik Power Unit at the time of commissioning a boiler efficiency of 88.966% while the state now has a boiler efficiency of 86.817%. This shows that there is a decrease boiler efficiency by 2.149% of efficiency at the time of commissioning condition. These factors also caused by the loss of heat, at the time of commissioning the heat loss due to exhaust gas of 3.157% and the present condition of 4.489%. Similarly, the heat loss caused by water content contained in the combustion process the element hydrogen. At the time of the commissioning of 6.359% and at the present condition of 6.914%.

Keyword: Boiler; Efficiency; Heat loss