

ABSTRACT

Gasification is a thermochemical conversion process from carbon-containing fuels (solid or liquid) into synthetic gases. Application of gasification on gasification stoves used to measure heat. To find the calorific value, you can use 2 methods of measuring the Water Boiling Test (WBT) on the gasification stove and the bomb calorimeter. To help make an affordable heat meter, there are data or equations that have been done by previous researchers, in the form of a model bomb calorimeter equation obtained from modeling a gasification stove by utilizing the calorific value of a gasification stove and a bomb calorimeter in previous studies. The use of the model bomb calorimeter equation aims to get the predicted value (bomb calorimeter model) with the original value (bomb calorimeter model). From the 2 equations, the bomb meter value model used in testing the data has the smallest average error of 8.36%. This heat meter can also display the value of air temperature, water mass, total calorific value, and model bomb calorimeter value as output in real time displayed on the LCD.

Key Word: *Gasification, Heat, Model Bomb Calorimeter, Water Boiling Test*