DESIGN CONTROL SYSTEM AND MONITORING TEMPERATURE AT MINIPLANT LIQUIFICATION FLOUR SORGHUM

Name: Anggara Bima Satriya  
NRP: 2408 030 014  
Department: Diploma of Instrumentation Engineering  
Advisor Lecturer: Ir. Zulkifli, MSc

Abstract

Liquification process is one process of making alternative energy sources of bioethanol. Liquification process is the process of liquification of starch gel using α-amylase enzyme. At the end of this task has been made control system and monitoring the temperature at miniplant liquification flour shorgum. In this process carried out by diluting the flour shorgum in elenmenyer heated while stirring to prevent burning done with the optimum temperature is 90°C for liquification process as setpoint. In this tool performed using a temperature monitoring sensors for temperature control while the LM35 is done by controlling ON / OFF on the heater when the setpoint has been reached. From the results of the measurement obtained LM35 temperature with an error that reaches 1°C to 2°C. LM35 IC due to the presence of error when used more than once will experience a reduction in Performance. From the measurement results can be seen that the overall tool temperature control is going well which is an electric stove as a heating element in the ON state until setpoint temperature reaches 90°C, whereas when the temperature exceeds 90°C the electric stove is turned OFF and when the temperature setpoint is reduced or the same as an electric stove in ON state again.

Keywords: liquification, temperature, setpoint