

## ABSTRAK

Sistem Pengolahan Air Pendingin Arc Furnace di PT BARATA INDONESIA Berbasis Mikrokontroler ARM. STM32F4 *Discovery* sebagai pusat pengontrol alat dan pemroses data. Alat ini dapat mengontrol kandungan pH air yang terpasang pada tabung H-tower dan menampilkan kandungan pH air melalui *LCD (Liquid Cristal Display)*. pada saat tanki reservoir tank pada posisi  $\leq 200 \text{ m}^3$  proses pengolahan berkerja secara otomatis. Saat kandungan air tidak memenuhi syarat, secara otomatis menjalan aplikasi yang dapat mengontrol nilai kandungan pH air dengan mencampurkan air dengan soda arc sampai kandungan air memenuhi syarat. Air akan dikirim ke tanki reservoir tank sampai pada posisi  $\geq 495 \text{ m}^3$  proses pengolahan berhenti.

Berdasarkan pengujian dan pengamatan alat menggunakan tabel indikator keberhasilan dan menggunakan metode regresi linier sederhana telah menunjukkan hasil kalibrasi sensor pH. Kesalahan sensor pH memiliki rata – rata sebesar 3,74% Sistem Pengolahan Air Pendingin Arc Furnace secara keseluruhan mampu menampilkan kandungan pH air, serta mengontrol kandungan pH air.

**Keyword : Sensor pH, Water Level Control, Proses Pengolahan Air, pH, WLC.**

## ABSTRACT

Arc Furnace Cooling Water Treatment System in PT BARATA INDONESIA Based ARM Microcontroller. STM32F4 *Discovery* as a central tool controller and data processor. This tool can control the water pH content installed in the H-tower tube and display the water pH content through the LCD (Liquid Cristal Display). at the time of the reservoir tank at  $\leq 200 \text{ m}^3$  position the processing process work automatically. When the water content is not eligible, it automatically runs an application that can control the value of water pH content by mixing water with soda arc until the water content is qualified. Water will be sent to the reservoir tank tank until the  $\geq 495 \text{ m}^3$  position and the processing process stop.

Based on the test and observation of the tool using the success indicator and using a simple linear regression method table has shown pH sensor calibration results . pH sensor errors have an average of 3.74% of Arc Furnace Cooling Water Treatment System as a whole capable of displaying water pH content, as well as controlling water pH content.

**Keyword: pH Sensor, Water Level Control, Water Treatment Process, pH, WLC.**