

ABSTRAK

SISTEM PENGGERAK PADA *AUTOMATIC LINEAR TISSUE PROCESSOR* BERBASIS MOTOR *STEPPER* NEMA 23 DAN *MICROSTEP DRIVER* TB 6600. Merupakan sebuah prototipe robot parafinasi otomatis yang berfungsi untuk membantu petugas laboran dalam memproses pengolahan jaringan dalam 3 tahapan. Alat ini memiliki sistem kontrol yang aman dan otomatis dalam memproses pengolahan jaringan dalam 3 tahapan yaitu dehidrasi (alkohol), penjernihan (xylene), dan infiltrasi parafin yang membutuhkan waktu minimal 30 menit pertahapan.

Automatic Linear Tissue Processor menggunakan HMI Nextion yang berfungsi untuk menampilkan pemilihan waktu pemrosesan jaringan, proses berjalannya alat, suhu pemanas, dan waktu mundur berjalannya pemrosesan alat. Proses berjalannya alat dihasilkan dari pulsa yang diatur pada Microstep Driver TB 6600 dan sensor suhu DS18B20 diproses oleh Mikrokontroler ATmega 2560 yang dapat mengatur pergerakan 2 Motor Stepper Nema 23 bergerak horizontal maupun vertikal.

Kata Kunci : HMI Nextion, Motor Stepper Nema 23, Microstep Driver TB 6600, Sensor Suhu DS18B20, Automatic Tissue Processor, Proses pembuatan preparat Histopatologi.

ABSTRACT

LOCOMOTION TISSUE PROCESSOR USING NEMA 23 STEPPER MOTOR AND MICROSTEP DRIVER TB 6600. Is a prototype automatic paraffination robot which has a function for help laboratory workers in tissues processing in 3 step. This device has safe and automatic control system in processing tissues in 3 steps that is dehydration (alcohol), clearing (xylene), and infiltration paraffin which takes a time minimum of 30 minutes for 1 step.

Automatic Linear Tissue Processor is using HMI Nextion which has a function for display timer tissues processing, process of running device , heating temperature, and countdown the processing. The process of running device generated from pulses regulated by Microstep Driver TB 6600 and temperature sensor DS18B20 processed by the ATmega 2560 microcontroller which can control 2 Motor Stepper Nema 23 movement, that move horizontally and vertically.

Keyword : HMI Nextion, Motor Stepper Nema 23, Microstep Driver TB 6600, Temperature Sensor DS18B20, Automatic Tissue Processor, Tissue Processing in Histopathology.