

ABSTRACT

Hydro Magnetic is a therapy instrument for body to irritate body immune, naturally for maximum effect. Basicly using warm steam for tissue will be bigger and help muscle or broken joint to relax again. Magnet will radiately negative ion for balancing the ions in the human body. The negative ion come from magnet. Firstly, instrument boiling the water in the heater until produce the steam which have temperature 40°C. When the steam bring out, magnet work according to setting time was choose.

Hydro Magnetic with Microcontroller AT 89s51 is a instrument which consist of unit driver heater, unit water level, unit sensor temperature, unit driver magnet. IC Microcontroller AT89s51as primary booster series optodiad. That is enabel as a switch for the heater and magnet.

Based on result of the measurement time of therapy during 10 minutes with error % 0,0547 %, measurement of therapy 15 minutes with error % 0,0624 %, measurement magnet zone during 10 minutes use voltage 6 volt DC setting 300 gauss with error % 3,167 %. Measurement magnet zone during 15 minutes use voltage 12 volt DC setting 500 gauss with error % 2,8 %. Measurement magnet zone during 10 minutes use voltage 18 volt DC setting 800 gauss with error % 0,625 %. Comparation calculate setting temperature data with error % - 0,5 %.

The result of magnetic's measurement is different with the result of magnetic's calculation. It caused of air space between the roll copper and iron. Beside of that, setting of magnetic's measure is not always constant. It happened cause of up and down voltage.

So, that it can be conclude that the instrument is able to work better and can did magnet therapy with temperature 40°C during 10 or 15 minutes according the setting time.

Key : steam, magnet, IC Microcontroller AT89s51