

Thesis Title A Study on the Design and Construction of
 the Hypo / Hyperthermia Unit for Thermotherapy
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ABSTRACT

The hypo/hyperthermia machine is a medical instrument whose main function is to ventilate the body heat for the homeostasis. The available imported models of the machine are too expensive for many hospitals in Thailand where a large number of hospitals have few. Therefore, there is a great demand for low-cost, simple-operating and reliable the hypo/hyperthermia machines.

This research made a design and construction of the hypo /hyperthermia machine for the patient. The machine produces hot and cold water and is controlled by thermostat. It has alarm for under or over range of cold and hot water respectively. It shows digital temperature currently. In addition the pump circulates the water into the blanket.

From operational testing, the hypo/hyperthermia could control the temperature by thermostat in the design range with accuracy not more than 1.2 °F and it has audio alarm when it reaches the given

temperature. The temperature shows in digital type with accuracy $\pm 1^{\circ}\text{C}$. The alarm shows with audio and light at 20°C and 40°C . When testing with the subject it can reduce or increase the level temperature with significance. Therefore, the designed machine meets the appropriate objectives.