

ANALYSIS AND DESIGN OF AUTOMATIC ROTATING ICE CREAM MACHINE WITH ROTATION SPEED BASED ON TEMPERATURE CHANGES

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Abstract

Twisted Ice Cream is a traditional food that is still made manually, with the development of time more and more new ice cream products exist on the market, to maintain and increase the swivel ice cream business, the author tries his best to pay attention to the obstacles to overcome as well as improvements, therefore the authors make research on the Spinning Ice Cream Machine automatically based on the rotation speed of the motor based on temperature changes in the ice cream mixer machine. The purpose of this study is to help facilitate the work of small entrepreneurs in making ice cream to be more effective, both in terms of marketing, sales, energy, and time. The research method of ice cream transmission uses a single phase AC motor using 2 pulleys connected to a v-belt. To program for this automatic-based rotating ice cream machine, it uses several additional sensor components including NodeMCu, Arduino, ac light dimmer, speed sensor, temperature sensor, LCD and others, all of these components must be connected to each other so that they are connected and connected properly. Testing the temperature of rotating ice cream using measuring instruments, namely the LM35 waterproof temperature sensor, thermometer and tachometer measuring instrument. In testing the manufacture of ice cream, the temperature of the inner and outer tubes of ice cream can be measured. The 5-minute measurement of the inside temperature of the ice cream reads 6 °C while the outside - 9.2 °C and the RPM is 1443. Meanwhile, in the final ice cream temperature measurement, the inside tube temperature is -5.1 °C and the outside is -6.1 °C and the RPM is read. 1394.

Keywords: Ice Cream Machine, Arduino, Temperature Sensor, Photoelectric Speedc Count Sensor Infrared, NodeMCU