VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM, KARNATAKA.

STUDY AND DESIGN OF DOMESTIC GAS BURNER & MODIFICATION OF GAS STOVE

A Project Report

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In

MECHANICAL ENGINEERING

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ABSTRACT

Novel designs of domestic gas stove have been investigated for many years in order to reach high efficiency. This project of designing domestic gas burner and modification of gas stove mainly concerns with the design and fabrication of a single innovative gas burner which can produce variable circumferential flames depending on the base diameter of the cooking vessel, in a view to incorporate different size vessel in a single gas burner and reduce the size of gas stove and also improve the efficiency, increase the heat output and also reduce the gas consumption. Here three different size burners are arranged concentrically with matching mixing chamber arrangement so that gas through the individual burner can be controlled. Uniform circumferential flame distribution according to the size and shape of vessel being used is provided three different diameter gas burner which gets controlled gas flow rate by three way control valve. Ultrasonic sensor is placed in the gas stove in appropriate area to estimate the diameter of the vessel. The signal generated by ultrasonic sensors is sent to the microcontroller which will generate signal to position servomotor to control the control valve automatically.