

FABRICATION OF AUTOMATIC BOTTLE FILLING SYSTEM

INTRODUCTION

The objective of this project is to provide easy access to the company for Filling Bottles Automatically. This type of project is mainly used in the soft drinks Manufacturing Company and Medicine Manufacturing Company in which drinks and Syrup are Automatically Filled in the Bottle. This project is designed with the help of micro controller, IR Transmitter and Receiver, Relay Driver, DC Motor and Mechanical arrangements. Here the Microcontroller may be Atmel 89C51 or PIC Microcontroller both are flash type reprogrammable Microcontroller.

Infrared Transmitter is the one type of LED generally called IR. When the supply is given to this LED it generate and Transmitting the infrared rays. IR Receiver is used to receive such type of Infrared rays transmitted by the IR Transmitter. Here one important point is note that IR Receiver should be placed straight line with IR Transmitter.

In this project Bottles are placed in the Mechanical arrangement this Mechanical arrangement may be a round type tray or Straight line tray in which Bottles are placed with particular distance, the Mechanical arrangement is designed in this manner.

When power is ON the IR Transmitter passing ray to the receiver and giving the signal to the Microcontroller through signal conditioning unit. Initially the Micro controller activates the DC Motor through the Driver circuit which is connected to tray. So the Bottles are moving when the Bottles comes in between the IR Transmitter and IR Receiver it block the rays. Now the Microcontroller deactivates the DC motor so movement of tray will be stopped. The bottle position is straight line to filling system. Correspondingly Microcontroller activates the motor for filling system. Now the bottle is filled with the concerned material. After setting time limit for the quantity motor is switched OFF for filling system and motor is switched ON for moving tray system. Like wise the Bottles are filled with materials automatically.

This project is used to reduce the Manpower as well as time consumption.