

**State of Libya**

Ministry of Education

Al Asmarya Islamic University Faculty of Engineering

**Water Filling Machine Using PLC & SCADA**

This graduation project is submitted to Al Asmarya Islamic University in partial fulfillment of requirements of the award of bachelor's degree in Electrical and Computer Engineering

Control Engineering

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**Abstract**

In this project, the design and implementation of a water filling machine. This project is chosen to learn more about the system of conveyor belts as a method of transportation; this method is very important as it facilitates the transportation of materials with the least amount of effort. Such system is a must in any industrial factory. The chosen system is consisted of a conveyor belt which is built and designed in house using local available components; the system also uses a PLC, pneumatic system and a few other electrical components such as water pump and other sensors. The PLC is connected to a SCADA system to monitor the whole process and keeps count of the number of cups produced and packed. The system has four main stages which are, putting the cup on the belt, filling, sealing and packing the cups. The cups move throughout the different processes using conveyor belt. Sensors are used to send a signal to the PLC to stop the belt whenever a cup reaches a stage of the process. A DC motor (from car window) is used to move the belt. For the packing process, the system utilizes a pneumatic piston to move the cup from the conveyor belt to a packing area.