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## **Auto Winding Machine**

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**Abstract:** The Auto Winding Machine is a semi-automated system designed to efficiently wind coils or wires with high precision and minimal human intervention. It utilizes sensors, a microcontroller, and a motor control system to automate the winding process, ensuring uniform turns and accurate tension control. The system reduces manual effort, increases productivity, and improves winding accuracy for applications in electrical and electronic industries. The design emphasizes cost-effectiveness, reliability, and ease of operation, making it suitable for small- to medium-scale manufacturing setups.

**Keywords**: Automatic Winding Machine, Coil Winding, Microcontroller, Stepper Motor, Servo Motor, Embedded Systems, Industrial Automation, Wire Winding Automation, Mechatronics, Precision Control, Low-Cost Automation, Arduino-Based System (if applicable), Human-Machine Interface (HMI), Error Detection

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