

Design of Welding Rotator

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Abstract: *The project titled "Design of Welding Rotator" addresses the key challenges encountered in manual welding of cylindrical objects. Manual welding, though common in small to medium industries due to its flexibility and lower cost, often suffers from issues such as poor precision, operator fatigue, and safety hazards—especially when rotating heavy or large workpieces by hand. To overcome these drawbacks, the project proposes the design of a welding rotator—a mechanical device that supports and rotates cylindrical objects at a controlled speed during welding operations.*

The welding rotator enhances weld quality by enabling steady rotation, allowing consistent heat application and welding speed. This not only improves the structural integrity of the welded joints but also minimizes human error and physical strain. By automating the rotation process, the device significantly boosts operational efficiency and ensures safer working conditions for the operator.

The project explores the construction and working principles of the welding rotator, emphasizing its role in improving welding outcomes. In modern industrial practices, where precision, safety, and productivity are critical, such automation tools are essential. The integration of a welding rotator represents a practical and cost-effective advancement that supports the demand for higher quality and more efficient welding processes.

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