

Electrochemical Water Treatment Educational Unit Operations Pilot Plant

Item Number: LPK-CEWT



Introduction

Enhance engineering education with this pilot-scale electrochemical water treatment plant. Designed for hands-on learning of efficient salt removal, electrolytic reactions, and real-time data acquisition. Features multi-mode control, corrosion-resistant PVC, low-voltage safety, and wireless connectivity for modern teaching labs.

[Learn More](#)

Experimental Module	Key Technical Parameters	Academic & Textbook Integration
Electrochemical Separation & Salt Removal	- Multiple power modes (Constant V, Constant I, Reverse Polarity) - High-salinity resistance	Textbook: <i>Unit Operations of Chemical Engineering</i> Core Concepts: Electrochemical separation processes, mass transfer in electrolyte solutions, and polarization curves.
Electrolytic Reactor Characterization	- Optimized electrolytic cell design - Real-time voltage & current monitoring	Textbook: <i>Chemical Engineering Design</i> Core Concepts: Reactor sizing, materials selection for corrosive environments, process safety, and instrumentation diagrams.
Fluid Flow and Ion Transport	- Controlled fluid delivery - Integrated 24V electric ball valves	Textbook: <i>Transport Processes and Unit Operations</i> Core Concepts: Fluid dynamics in closed conduits, ion transport under electrical fields, and convective mass transfer.