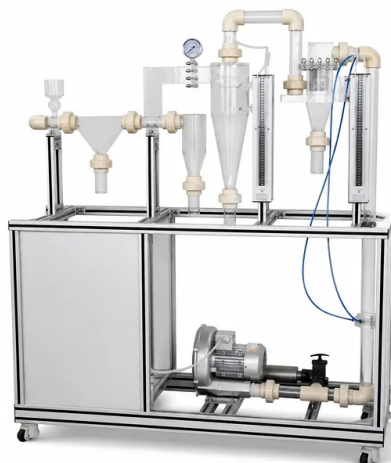


Gas-Solid Heterogeneous Separation Demonstration Educational Unit Operations Pilot Plant

Item Number: LPK-BHS



Introduction

Comprehensive visual transparent gas-solid separation pilot plant for chemical engineering labs. Demonstrates gravity settling inertial settling cyclone and bag filter technologies. Enables real-time analysis of fluid-particle mechanics pressure drop and collection efficiency. Ideal for undergraduate unit operations courses.

[Learn More](#)

Parameters & Modules	Technical Specifications & Details	Academic Relevance & Textbook Alignment
Physical Dimensions	Maximum dimensions: 1480 mm x 580 mm x 1800 mm (Length x Width x Height). Mounted on a durable aluminum alloy frame with industrial casters.	Associated Disciplines: - Chemical Engineering - Environmental Engineering - Process / Food Engineering
Separation Technologies	• Gravity Settling Chamber • Inertial Settling Chamber • Cyclone Separator • Bag Filter	Core Textbook Connections: - <i>Unit Operations of Chemical Engineering</i> - <i>Transport Processes and Unit Operations</i> - <i>Chemical Engineering Design</i>
Fluid Measurement & Control	• Variable Speed Air Blower • Transparent Orifice Plate Flowmeter • Transparent Star Feeder for particle introduction	Relevant Unit Operations & Topics: - Fluid-Particle Mechanics & Sedimentation - Terminal Settling Velocity & Stokes' Law - Centrifugal Separation & Cyclone Collection Efficiency - Gas Cleaning, Dust Removal, & Air Pollution Control
Diagnostic Capabilities	• Differential Pressure Measurement (for cyclone pressure drop) • Variable velocity adjustment for performance evaluation	Key Conceptual Application: Evaluation of pressure drop vs. collection efficiency; understanding industrial scale-up and design parameters for particulate collection systems.