

Quantitative Dosing And Liquid Flow Control Educational Unit

Operations Pilot Plant

Item Number: LPK-DLJL



Introduction

Explore industrial fluid transport and automated process control with this quantitative dosing and liquid flow control educational pilot plant, featuring local and remote control cabinets, variable speed metering pump, high-precision flow sensors, and PLC-based SCADA integration for engineering students.

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System Component / Parameter	Specification / Capability	Core Experimental Modules	Corresponding Academic Concepts
Pumping System	Industrial positive displacement / metering pump with variable speed drive control	- Pump calibration and characteristic curves - Flow rate vs. motor frequency analysis	Fluid transport machinery, pump performance, system head
Local Control Cabinet	Digital readouts, manual speed regulators, local start/stop, and status indicators	- Manual system startup and calibration - Local flow adjustment procedures	Process instrumentation, local operator interface (LOI)
Remote Control Cabinet	Integrated PLC system, communication modules, and remote status indicators	- Remote monitoring and SCADA integration - Automated batch dosing programming	Process automation, PLC programming, remote telemetry
Flow Metering & Dosing	High-precision inline flow sensor with pulse/analog output	- Quantitative batch delivery testing - Flow control loop tuning (PID)	Closed-loop control, sensor calibration, transient response