Pilot Line Prismatic Battery Automatic Electrolyte Filling Machine

Item Number: FX07

Introduction

Pilot line automatic electrolyte filling machine for prismatic power batteries delivers vacuum assisted precision dosing, 12 piece fixture handling, up to 1 PPM throughput, and repeatable production performance for demanding cell manufacturing operations.

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Application	Description	Key Benefit
Prismatic power battery pilot lines	Performs quantitative electrolyte filling for prismatic power cells during pilot-scale production.	Integrates vacuum filling, nitrogen filling, and dwell stages into a repeatable operating cycle.
Battery process development	Supports teams evaluating filling conditions by setting vacuum intensity, pressure-holding time, standing time, and cycle count.	Provides configurable process steps for process-focused development work.
Cell design validation	Handles the reference cell format of 207 mm height, 135 mm width, and 29 mm thickness, with some similar cell sizes compatible.	Establishes a defined fixture baseline for validating prismatic-cell filling operations.
Electrolyte dosing verification	Uses the stated +/-3 per thousand filling-accuracy criterion and a defined sampling method for filling heads.	Gives production teams a measurable basis for assessing dosing consistency.
Pre-production cell assembly	Supports manual fixture loading and unloading with automated positioning, clamping, evacuation, filling, nitrogen, and dwell operations.	Balances operator-managed material flow with an automated core filling sequence.
Continuous pilot manufacturing	Applies a utilization target based on 24 hours of continuous production and a maximum stated efficiency of 1 PPM.	Helps teams plan repeatable extended-run operations around documented performance indicators.

Parameter	Specification	Notes
Product item number	FX07	Site-facing identifier
Equipment purpose	Precise quantitative electrolyte filling for prismatic power batteries	Intended for the electrolyte filling process in prismatic power-battery production
Operating principle	Vacuum first, then electrolyte filling by absorption method	Fast, efficient, and precise filling process
Material handling	Manual loading and unloading of fixtures	Single-operator working method
Standard fixture quantity	1 set supplied with the equipment	Fixture is delivered randomly with the unit
Fixture capacity	12 PCS per load/unload	One fixture can load or unload 12 products at a time
Fixture reference battery	300 g electrolyte battery	Fixture baseline
Reference battery height	207 mm	Battery size used as fixture baseline
Reference battery width	135 mm	Battery size used as fixture baseline

Parameter	Specification	Notes
Reference battery thickness	29 mm	Battery size used as fixture baseline
Compatible battery formats	Some similar battery size specifications may be universal	Purchaser provides cover-plate dimension requirements and drawings
Main structural components	Battery fixture; filling mechanism; operating system and mechanical transmission	Core equipment composition
Maximum efficiency	1 PPM	Depends on battery size, capacity, and electrolyte weight; greater electrolyte filling amount results in lower efficiency
Utilization rate	>=95%	Based on statistics from 24 hours of continuous production
Filling accuracy	+/-3 per thousand	Empty shell; each filling head fills once; sampled once; 20 samples per filling head must meet this specification
Yield rate	>=99%	According to the +/-3 per thousand tolerance
Process sequence	Vacuum / nitrogen filling / standing	Vacuum intensity, pressure-holding time, standing time, and number of cycles can be set
Automatic cycle	Manual fixture loading -> automatic fixture positioning and clamping -> automatic vacuum electrolyte filling -> nitrogen filling / standing-station cycle -> manual fixture unloading -> end of work	Continuous cyclic operation
Overall dimensions	1400 x 800 x 1900 (L x W x H mm)	Equipment external dimensions
Weight	Approximately 0.8 ton	Equipment weight
Color	Sheet-metal gray-white; frame blue	Exterior finish
Compressed air pressure	0.4-0.6Mpa	Required compressed-air supply
Compressed air flow	100L/min	Required air flow
Vacuum source	Vacuum degree -0.095Mpa	Required vacuum condition
Nitrogen	Customer process requirement	Nitrogen provision is determined by customer process requirements
Power supply	AC220V	Electrical supply
Power	1.5KW	Rated power