

Plc Controlled Dip Coating Machine For Programmable Thin Film Deposition

Item Number: TB13



Introduction

PLC-controlled dip coating machine with 1-200 mm/min speed, programmable immersion, drying, cycles, compact design, CE certification, and optional constant-temperature drying for precise laboratory thin-film growth across research and industrial applications with reliable repeatable process control and easy operation

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Application	Description	Key Benefit
Sol-gel thin-film research	Vertically immerses and withdraws samples through liquid-phase sol-gel coating materials using programmed motion and hold times.	Provides repeatable deposition conditions for comparative formulation and process studies.
Battery and advanced materials research	Supports controlled coating experiments on sample substrates used in laboratory investigations of functional materials and surface layers.	Enables programmable coating and drying sequences for small-scale research workflows.
Optical and functional surface development	Applies liquid-phase films to appropriately sized samples for exploratory work involving surface properties, film thickness, or functional layers.	Allows withdrawal speed, immersion time, and cycle count to be varied systematically.
Ceramic and materials science laboratories	Processes sample pieces during studies of ceramic coatings, material interfaces, and liquid-based film formation.	Provides controlled vertical motion in a compact laboratory platform.
University teaching laboratories	Offers an accessible method for demonstrating dip coating, immersion timing, withdrawal behavior, and film growth.	Simple touchscreen operation helps students and new operators run defined procedures.
Research institute process development	Executes repeatable coating programs for laboratory-scale comparison of liquid materials, substrates, and process parameters.	Reduces manual variation between experimental batches.
Industrial laboratory testing	Supports small-sample coating trials and preliminary process evaluation within enterprise research and quality laboratories.	Delivers programmable operation without requiring a large production-scale system.

Specification Category	Parameter	Value
Product identification	Product name	TB13 PLC-controlled programmed dip coating machine
Installation conditions	Maximum operating altitude	Below 1000 m
Installation conditions	Ambient temperature	25°C ± 15°C
Installation conditions	Relative humidity	55% Rh ± 10% Rh
Utilities	Water supply	Not required
Utilities	Electrical supply	AC 220 V, 50 Hz
Utilities	Grounding	Good grounding is required
Utilities	Gas supply	Not required
Utilities	Ventilation equipment	Not required
Workbench requirements	Recommended workbench dimensions	800 mm x 600 mm x 700 mm
Workbench requirements	Minimum workbench load capacity	More than 200 kg

Specification Category	Parameter	Value
Electrical	Rated voltage	220 V
Electrical	Power	50 W
Motion control	Withdrawal speed	1 mm/min-200 mm/min
Coating process	Effective immersion length	60 mm
Timing control	Immersion time setting	1-999 s
Timing control	Drying time setting	1-999 s
Cycle control	Number of lifting cycles	1-20 cycles
Load capacity	Lifting load	≤100 g
Sample compatibility	Sample dimensions	75 mm x 25 mm x 2.5 mm
Physical dimensions	Equipment dimensions	320 mm x 260 mm x 560 mm
Physical dimensions	Weight	17 kg
Interface and compliance	Operating interface	Color touchscreen
Interface and compliance	Certification	CE certified
Optional configuration	Constant-temperature drying	Optional constant-temperature drying oven available when required