

High Temperature Dip Coating Machine

Item Number: TB27



Introduction

High temperature dip coating machine provides programmable three-zone withdrawal, controlled furnace curing to 1000°C, and flexible atmosphere operation for ceramic, crystal, battery material, and nanofilm research.

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Application	Description	Key Benefit
Ceramic thin-film development	Immerses ceramic substrates in liquid-phase coating material, then draws them through controlled heating for film consolidation.	Supports high-temperature processing conditions relevant to ceramic film research.
Crystal film research	Provides programmed substrate withdrawal and furnace treatment for studies of crystal-based thin films.	Independently controlled travel zones support repeatable thermal exposure during coating cycles.
Battery-material film studies	Processes battery-material films where controlled dip coating and elevated-temperature solidification are part of laboratory development.	Combines coating movement and furnace treatment in one defined workflow.
Specialized nanofilm preparation	Supports research involving specialized nanofilms formed from liquid-phase film materials.	Adjustable speed and dwell settings allow controlled investigation of process variables.
Inert-atmosphere coating experiments	Runs coating and heating studies with nitrogen, argon, or other safe inert protective gases.	Enables researchers to select a protective atmosphere appropriate to their experimental process.
Oxidizing-atmosphere thermal treatment	Supports dip-coating workflows that require use in an oxidizing atmosphere.	Provides a flexible platform for comparing atmosphere-dependent film behavior.
University and institute materials research	Serves laboratory programs investigating future high-temperature film-forming technologies.	Straightforward touchscreen operation and convenient cleaning support frequent experimental use.

Parameter	Specification
Product item number	TB27
Product name	High-temperature dip coating machine
Product model	TB27
Installation power supply	Single-phase AC220V 50/60Hz, national-standard 10A socket x2
Grounding requirement	Good grounding required
Front-end protection requirement	16A air circuit breaker required
Operating site temperature	25°C +/-15°C
Operating site humidity	55%Rh +/-10%Rh
Withdrawal main-unit operating voltage	DC24V 3.75A; standard AC100-240V power adapter
Withdrawal main-unit rated power	50W
Type	Program-controlled high-temperature type with high-temperature furnace
Drive motor	High-precision stepper motor
Speed setting range	Three-stage operation; each stage independently set; 1-200 mm/min

Parameter	Specification
Baking dwell time	1-999 s
Total travel	Low-temperature zone + high-temperature zone + cooling zone = 620 mm
First-stage travel, low-temperature zone	236 mm, not adjustable
Second-stage travel, high-temperature zone	150 mm, not adjustable
Third-stage travel, cooling zone	234 mm, not adjustable
Effective immersion length	60 mm
Maximum withdrawal load	<=200 g
Sample substrate size	L75 mm x W25 mm x D1-4 mm
Display and control	4.3-inch color touchscreen
Overall dimensions	Width 560 mm x depth 470 mm x height 1550 mm
Overall weight	Approx. 50 kg, including high-temperature furnace
High-temperature furnace operating voltage	Single-phase AC220V 50/60Hz
High-temperature furnace rated power	1.5KW
Maximum heating temperature	1100°C
Rated heating temperature	1000°C
Operating temperature range with standard withdrawal wire	RT room temperature to +800°C
Standard withdrawal wire operating condition	Suitable for <=800°C
Withdrawal wire requirement above 800°C	Special customization or customer-supplied wire required for 800°C-1000°C operation
Recommended heating rate	10°C/min
Temperature-control accuracy	+/-1°C
Temperature control and setting method	Intelligent temperature regulator, multi-stage temperature controller
Thermocouple	K-type
Furnace chamber dimensions	Phi80 mm x 330 mm
Furnace tube specification	Phi50 mm outer diameter x phi45 mm inner diameter x 600 mm length
Supplied power-adaptor input	AC100-240V 50/60Hz
Supplied power-adaptor output	DC-24V 3.75A
Actual equipment power supply reference	Product rear-nameplate specification prevails
Optional furnace power supply	Customizable single-phase AC110V 50/60Hz