10T Vacuum Automatic Hot Press For Precision Lab Pressing

Item Number: XP32

Introduction

High-precision benchtop 10T vacuum automatic hot press with 200x200mm heated platens and rapid vacuum pump for polymer curing, battery electrode bonding, and materials research. Ideal for lab environments requiring uniform heating and precision pressure control, CE certified with programmable touchscreen.

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Application	Description	Key Benefit
Polymer Film Lamination	Laminating polymer sheets or films under heat and vacuum to create multilayer structures.	Uniform pressure and temperature prevent warping and voids.
Battery Electrode Bonding	Bonding electrode materials onto current collectors for lithium-ion or solid-state batteries.	Inert gas purge prevents oxidation, ensuring high conductivity.
Powder Compaction (with Dies)	Compacting metal, ceramic, or composite powders into dense pellets using a smaller die.	High pressure up to 50.9 MPa achievable with ∅50 mm die.
Thin-Film Processing	Curing and annealing thin films for electronics and sensor applications.	Precise temperature control up to 300°C with vacuum environment.
Ceramic Sintering	Initial stage sintering of ceramic green bodies under combined heat and pressure.	Reduced porosity and improved mechanical properties.
Composite Material Curing	Curing carbon fiber or glass fiber composite prepregs.	Even pressure distribution ensures lamination quality.
Organic Electronics Encapsulation	Encapsulating sensitive organic electronic devices under inert atmosphere.	Oxygen-free environment extends device lifetime.

Parameter	Specification	Notes
Model	XP32	Automatic heated vacuum press
Max Working Pressure	≤ 10 Tons (100 kN)	Controlled via programmable system
Pressure Accuracy	± 0.1 Ton (1 kN)	High-precision load feedback
Platen Working Temp	Room Temp (RT) – 300 °C	Programmable PID touchscreen
Heating Power	3500 W	High-density heating element array
Platen Dimensions	200 mm × 200 mm	Ground flat platens
Platen Opening (Daylight)	50 mm	Compact opening for fast vacuum cycle
Vacuum Pump Included	Rotary Vane Mechanical Pump	Standard inclusion
Vacuum Pump Displacement	240 L/min (8.5 CFM)	High-speed evacuation capacity
Ultimate Vacuum Level	<−0.1 MPa	Relative gauge pressure
Working Atmosphere	Nitrogen (N_2) / Argon (Ar)	Vacuum-and-purge compatible
Power Supply	AC 208V / 60Hz (Single Phase)	Optimized for US institutional facilities
Certification	CE Certified	Standard safety compliance

Option	Standard Controller (Included)	Advanced Industrial PLC Upgrade (Optional)
Interface	7-inch color touchscreen	Siemens industrial PLC with high-res touchscreen
Core Functions	Basic PID temperature profiling, target pressure input, auto-holding, automated timed decompression	Complex multi-step temperature/pressure profiling, recipe storage (up to 99 profiles), precision load-cell feedback, Ethernet data logging
Best For	Standard lamination, polymer curing, simple pellet pressing	Academic research, ASTM test standards, processes requiring precise step-by-step pressure compensation