200 Ton Vacuum And Inert Gas Hot Press

Item Number: XP29

Introduction

Industrial 200-ton vacuum hot press with 400x400mm heated platens, PLC control, inert gas purging, and deep vacuum for uniform large-area laminating, bonding, and curing in battery and advanced material research applications. Precision engineering for consistent, repeatable results.

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Application	Description	Key Benefit
Large-Format Polymer & FPC Lamination	Void-free lamination of large-area polymer sheets, multi-layer Flexible Printed Circuits (FPC), and advanced composite panels under continuous vacuum.	Eliminates trapped air bubbles and ensures defect-free bonding, enhancing durability and electrical performance.
Semiconductor & Wafer Bonding	Low-profile vacuum-thermal bonding of large-diameter wafers, multi-chip modules, and substrates requiring precise temperature and pressure uniformity.	Achieves uniform interfacial contact and minimizes mechanical stress, preserving delicate microstructures.
Pouch Cell Battery Assembly	Precision flat-pressing of large pouch-cell battery electrodes and separator layers to optimize electrochemical contact and ion transport.	Increases energy density and cycle life by creating homogeneous electrode interfaces.
Advanced Ceramics & Composite Curing	Vacuum-assisted curing and consolidation of resin-matrix or ceramic-matrix composites at temperatures up to 250 °C.	Reduces porosity and enhances densification, improving mechanical strength and thermal stability.
Graphite Sheet Densification	Flattening and densifying flexible graphite films for thermal interface materials used in electronics cooling.	Achieves high in-plane thermal conductivity and uniform thickness for effective heat spreading.
Materials Research & Development	Processing experimental polymers, composites, and coatings under controlled vacuum/inert atmospheres to study structure-property relationships.	Provides precise environmental control for reproducible, high-fidelity scientific investigations.

Parameter	Specification	Notes
Model	XP29	Vacuum and inert gas hot press
Max Working Pressure	≤ 200 Tons (2,000 kN)	Managed via Siemens PLC control system
Pressure Sensor	Load cells	Real-time actual force monitoring
Platen Dimensions	400 mm × 400 mm	Large-area dual heated platens
Max Platen Temperature	≤ 250 °C	Programmable touchscreen control
Heating Power	≤ 6 kW	Symmetrical heating elements
Platen Opening Height	60 mm	Designed for sheets, laminates, and thin films
Vacuum Pump	Rotary vane mechanical vacuum pump	Standard inclusion (oil-sealed)
Ultimate Vacuum Level	≤ 10 Pa (approx. 0.1 mbar)	Deep rough-to-medium vacuum range
Working Atmosphere	Nitrogen (N_2) / Argon (Ar)	Vacuum-and-purge compatible
Purge Port	1/4" NPT	Equipped with manual vacuum ball valve
Observation Window	High-temperature resistant glass	For in-situ sample viewing
Control System	Siemens PLC with touchscreen HMI	Supports multi-segment recipe programming
Power Supply	AC 220V / 50Hz (Single Phase)	Requires dedicated min. 32A circuit breaker

Parameter	Specification	Notes
Safety Certification	CE compliant	Under HS Code: 8474802000