30 Ton Manual Heated Press With Integrated Recirculating Chiller For Rapid Thermal Cycling

Item Number: XP09

Introduction

30-ton manual hydraulic hot press with integrated active cooling for polymers, composites, and electronic laminates. Precision temperature control up to 300°C, 300x300mm platens, and 260kg rigid frame ensure uniform samples. Complete with chiller for fast cycling. CE certified, ready-to-run system.

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Application	Description	Key Benefit
Polymer Vulcanization	Curing natural and synthetic rubber sheets at precisely controlled temperatures and pressures to optimize crosslinking density for gasket, seal, and tire research.	Uniform heating across large platens and rapid quench ability prevents over-cure and ensures consistent mechanical properties.
Composite Panel Lamination	Consolidating carbon fiber, aramid, or glass fiber prepregs into rigid panels for aerospace and automotive prototyping.	Zero-deflection frame guarantees uniform thickness and void-free bonding, critical for structural integrity.
Electronic Flex Circuit Lamination	Multi-layer lamination of flexible polyimide circuits, membrane switches, and RFID antenna substrates.	Ultra-flat platens and controlled cooling minimize warpage, ensuring reliable layer alignment and electrical continuity.
Battery Electrode/Sheet Pressing	Compacting cathode and anode films, solid-state electrolyte layers for lithium-ion and next-gen batteries.	Integrated chiller enables rapid quenching to stabilize metastable phases and achieve precise porosity levels.
Hot Embossing of Micro/Nanostructures	Replicating microfluidic channels, optical gratings, and surface relief patterns onto thermoplastic wafers.	Micron-level platen parallelism ensures uniform depth replication and minimal residual stress over large areas.
PTFE / High-Performance Polymer Sintering	Sintering and melt-pressing PTFE, UHMWPE, PEEK, or polyimide powders into sheets or preforms.	Large uniform heating area eliminates cold spots, achieving homogeneous crystallinity and dimensional stability.
Rubber Curing for ASTM/ISO Testing	Preparing rubber test plaques for rheometer, tensile, and hardness testing per ASTM D2084, D3182.	Precise pressure and temperature profiles deliver repeatable test conditions, ensuring valid inter-lab comparison.
Medical Device Laminating	Pressing bio-compatible films, diagnostic test strips, and transdermal patches with controlled temperature and pressure.	Delicate thermal control prevents degradation of heat-sensitive biomaterials while achieving strong lamination.
Aerospace CFRP Panel Pressing	Curing prepreg carbon fiber layers for aircraft structural parts under controlled pressure and vacuum.	Zero-deflection frame and rapid cooling achieve controlled crystallinity and minimal porosity.

Parameter	Specification
Model Identifier	XP09
Rated Clamping Force	0.0 – 30.0 Metric Tons (0 – 300 KN)
Press Actuation	Dual-Stage Manual Hydraulic Pump
Platen Daylight (Max Opening)	50 mm
Temperature Range	0.0°C – 300.0°C (dual-platen independent control)
Platen Dimensions (W×D)	300 × 300 mm
Heating System Power	3000 W (2 × 1500W cartridge heaters per platen)
Platen Cooling	Integrated copper coolant channels, quick-connect fittings

Parameter	Specification
Companion Chiller	Active Recirculating Water Chiller (included)
Power Supply	AC 220V – 230V, 50Hz, single phase
Recommended Electrical Circuit	Dedicated 16A wall outlet
Net Weight	260 kg
Outer Dimensions (W×D×H)	458 × 480 × 466 mm
Certification	CE Certified