25-Ton Automatic Heated Laboratory Hydraulic Press With 180X180 Mm Independently Heated Platens And Water Cooling

Item Number: XP81

Introduction

High-precision 25-ton automatic heated laboratory hydraulic press with 180x180 mm independently heated platens, integrated water cooling, programmable PID temperature control, and CE certification. Ideal for material research, polymer synthesis, ceramic densification, and thin film preparation.

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Application	Description	Key Benefit
Polymer Thin Film Production	Pressing of thermoplastic films, membranes, and substrates with precise thickness control	Zero-gap closure ensures uniform film thickness down to microns
Ceramic Densification	High-pressure sintering of technical ceramics (e.g., alumina, zirconia) at elevated temperatures	Closed-loop pressure and programmable heating yield high-density, crack-free parts
Hot Embossing & Lamination	Micro-structuring and bonding of polymer layers for microfluidic devices or composite laminates	Independent temperature control allows tailored bonding conditions
Catalytic Reaction Synthesis	Preparing catalyst pellets or structured catalysts under controlled heat and pressure	Reproducible pressure profiles improve catalyst consistency and activity
Spectroscopic Sample Preparation	Forming KBr pellets or XRF fused beads for FTIR and XRF analysis	25-ton capacity produces transparent, robust pellets with minimal contamination
Battery Material Research	Compression of electrode materials and solid-state electrolyte films	Uniform pressure and temperature promote optimal ionic conductivity and density
Composite Material Molding	Processing of fiber-reinforced polymers and metal matrix composites	Rapid thermal cycling from 300°C to cooling reduces cycle times
Material Testing Specimens	Molding of standardized test bars or discs for mechanical and thermal analysis	High repeatability ensures consistent specimen properties across batches

Parameter	Specification
Model	XP81
Platen Size	180×180 mm
Pressure Range	0 – 25.0 Tons (0 - 250 KN)
Max Daylight	50 mm
Piston Stroke	50 mm (supports 0 mm full closure)
Max Temperature	300 °C
Heating Control	PID touchscreen with ramp/soak, ±1 °C accuracy
Total Heating Power	2,500 W
Cooling Method	Circulating water cooling (external source required)
Controller	7-inch color touchscreen, real-time pressure/temperature curves

Parameter	Specification
Power Supply	AC 220V/50Hz or AC 110V/60Hz
Dimensions (L×W×H)	335×410×625 mm
Net Weight	180 kg
Manufacturer	KINTEK SOLUTION LTD
Safety & Certification	Protective shield, over-temp/pressure shutdown, CE certified

Accessory	Description
External Recirculating Chiller	Rapidly cools platens from 300°C to safe temperature, prevents internal channel scaling; recommended for high-throughput labs.
PMS-D Series Demountable Square Molds	25×25 mm, 35×35 mm, or custom sizes; easy disassembly for powder pressing and thin film sample integrity.