

# Manual Hydraulic Hot Press With Touchscreen Pid Control And Digital Pressure Monitoring

Item Number: XP53



## Introduction

Discover the manual hydraulic hot press featuring 250x250mm platens, 25-ton force, touchscreen PID temperature control, digital pressure monitoring, and CE safety. Ideal for battery electrode preparation, polymer molding, and flexible device lamination, ensuring precise consistent results in R&D labs.

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Application	Description	Key Benefit
Battery & Energy Materials	Hot pressing of solid-state electrolyte pellets and calendaring of lithium-ion battery electrodes.	Achieves high electrode density and interfacial contact without damaging active materials.
Polymers & Composites	Molding and thermal lamination of thermoplastics, thermosets, and fiber-reinforced composite sheets.	Uniform heat and pressure eliminate voids and ensure consistent thickness across the sample.
Flexible Circuit Lamination	Precision multi-layer bonding of flexible printed circuit (FPC) substrates and membrane electrode assemblies (MEA).	Maintains alignment and planarity under controlled heating cycles for delicate flexible layers.
Material Testing Specimens	Pre-forming of standardized tensile, shear, and compression test coupons for mechanical characterization.	Produces specimens with precise dimensions and flatness, reducing variability in testing.
Rubber & Elastomer Molding	Compression molding of rubber compounds and thermoplastic elastomers for material screening.	Even cross-linking and surface finish thanks to precise temperature control and parallel platen closure.
Ceramic & Composite Processing	Low-pressure pressing of ceramic green bodies and polymer-ceramic composites prior to sintering.	Gentle, uniform pressure prevents cracking and enables defect-free green compacts.

Parameter	Specifications	Remarks
Model	XP53	Original model code: PCSM-25T2525
Drive	Manual Hydraulic	Lever-operated, safe and reliable with labor-saving design
Pressure Monitor	Digital real-time display via touchscreen	High-precision pressure sensor feedback
Max Force	≤ 25 T	Adjustable range: 0 – 25 T
Plate Surface Pressure	≤ 4.0 MPa (approx. 40 Bar)	Precision medium-high pressure for dense, uniform samples
Effective Platen Size	250 × 250 mm	Dual heating platens
Piston Stroke	50 mm	-
Daylight Opening	150 mm	Maximum opening distance between platens
Operating Temperature Range	0 – 300 °C	Supports operation up to 300°C
Total Heating Power	3600 W (2 × 1800 W)	Independent dual-zone heating control
Temperature Control	PID programmable controller	Touchscreen one-touch setting with temperature ramp profiles
Cooling Method	Circulating water cooling	Built-in flow channels; compatible with external water supply or optional chiller
Power Supply	Single-phase AC 220 V, 50 Hz	Operating current approx. 16.4 A; dedicated 20 A circuit recommended

Parameter	Specifications	Remarks
Certification	CE certified	Complies with European electrical and mechanical safety standards