Split Hot Isostatic Pressing Machine 150 Ton Laboratory Heated Isostatic Press

Numero articolo: PWDB

introduzione

Optimize advanced material synthesis with this split hot isostatic pressing machine. Featuring a 150-ton capacity, 18-stage programmable heating, and interactive touch screen control, the system ensures maximum density for battery and structural ceramic research.

Ulteriori informazioni

Application	Description	Key Benefit
Solid-State Battery Research	Compaction of solid electrolytes and anode/cathode active materials at elevated temperatures to reduce interfacial resistance.	Maximizes ionic conductivity and eliminates voids, critical for next-generation battery cell development.
Technical Ceramic Sintering	Warm isostatic pressing of advanced structural ceramics (like alumina and zirconia) to yield uniform green-state density.	Prevents warping, cracking, and anisotropic shrinkage during subsequent high-temperature kiln firing.
Heterogeneous Catalyst Synthesis	Uniform consolidation of catalyst carrier powders and active metal phases under controlled thermal-pressure conditions.	Ensures consistent active surface area distribution and improves the mechanical stability of catalyst pellets.
Semiconductor Components	Precise warm pressing of piezoelectric crystals and ferroelectric ceramic substrates to align molecular dipoles.	Enhances dielectric properties and ensures uniform electromechanical coupling coefficients across the substrate.
Powder Metallurgy Alloys	Compacting challenging refractory metal powders or superalloy components into complex near-net shapes.	Drastically reduces material waste and minimizes machining post-consolidation for high-value alloys.
Synthetic Gemstone Synthesis	Thermal-pressure curing and densification of high-purity mineral powders and composite gems.	Achieves flawless clarity and excellent mechanical hardness through uniform isotropic pressure distribution.

Parameter	Specification Detail (Model: PWDB-150R)
Model Number	PWDB-150R
Heating Temperature Range	Room temperature to 200°C
Isostatic Pressure	300 MPa
Pressure Range	0 to 150 Tons (0-150T)
Curve Graphing	Real-time display of operation curve with USB download support (Excel format)
Program Control	Maximum 18 segments of programmable temperature and pressure control (adjustable independently)
Pressure Conversion	Automatic conversion of sample-received pressure based on sample size and shape
Pressure Display Accuracy	0.01 Tons
LCD Display Type	7-inch IPS High-Definition Touchscreen
Metal Button Durability	Aluminum-silver contact switches, lifetime > 100,000 times
Safety Protection Shielding	Steel plate enclosure equipped with a transparent organic glass protective door
Pressure Safety Control	Automatic pressure-limiting overload protection system
Limit Switch Protection	Automated cylinder limit height oil relief safety mechanism

Parameter	Specification Detail (Model: PWDB-150R)
Chamber Variant Option 1	Φ80 x 150 mm (M x N) / Max Isostatic Pressure: 300 Mpa
Chamber Variant Option 2	Φ60 x 150 mm (M x N) / Max Isostatic Pressure: 500 Mpa
Space Dimensions	280 x 400 mm (M x N)
Equipment Power	1500W (Available in 220V or 110V configuration)
Press Body Dimensions	430 x 550 x 1080 mm (L x W x H)
Press Net / Gross Weight	571 kg / 623 kg
Controller Cabinet Dimensions	350 x 460 x 480 mm (L x W x H)
Controller Net / Gross Weight	109 kg / 126 kg