

# Split Hot Isostatic Pressing Machine 150 Ton Laboratory Heated Isostatic Press

Item Number: PWDB



## Introduction

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.

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Application	Description	Key Benefit
<b>Solid-State Battery Research</b>	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.
<b>Technical Ceramic Sintering</b>	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.
<b>Heterogeneous Catalyst Synthesis</b>	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.
<b>Semiconductor Components</b>	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.
<b>Powder Metallurgy Alloys</b>	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.
<b>Synthetic Gemstone Synthesis</b>	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)
<b>Model Number</b>	PWDB-150R
<b>Heating Temperature Range</b>	Room temperature to 200°C
<b>Isostatic Pressure</b>	300 MPa
<b>Pressure Range</b>	0 to 150 Tons (0-150T)
<b>Curve Graphing</b>	Real-time display of operation curve with USB download support (Excel format)
<b>Program Control</b>	Maximum 18 segments of programmable temperature and pressure control (adjustable independently)
<b>Pressure Conversion</b>	Automatic conversion of sample-received pressure based on sample size and shape
<b>Pressure Display Accuracy</b>	0.01 Tons
<b>LCD Display Type</b>	7-inch IPS High-Definition Touchscreen
<b>Metal Button Durability</b>	Aluminum-silver contact switches, lifetime > 100,000 times
<b>Safety Protection Shielding</b>	Steel plate enclosure equipped with a transparent organic glass protective door
<b>Pressure Safety Control</b>	Automatic pressure-limiting overload protection system
<b>Limit Switch Protection</b>	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