



KINTEK SOLUTION

Isostatic Press Catalog

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KINTEK SOLUTION

COMPANY PROFILE

>>> About Us

KINTEK Solution is a technology-driven innovator specializing in comprehensive laboratory equipment for battery R&D and advanced materials research. Our portfolio spans the entire cell fabrication workflow—from mixing, coating, and precision pressing (automatic, heated, isostatic) to cell assembly and testing. Also essential in ceramics and powder metallurgy, our systems prioritize precision, safety, and repeatability, empowering researchers and industrial labs to achieve groundbreaking results.



Split Warm Isostatic Lab Press 200 Ton Powder Compaction Chamber For Battery Research And Material Science

Item Number: PWDA



Introduction

Optimize your research with this 200 ton split warm isostatic press featuring uniform temperature control, advanced curve recording, and a safe high definition touchscreen interface ideal for challenging powder compaction in advanced battery and technical ceramic materials research.

[Learn More](#)

Application	Description	Key Benefit
Solid-State Battery Research	Compacting solid electrolyte materials and electrode composites to achieve low boundary resistance.	Ensures maximum ionic conductivity and solid-state interface contact.
Technical Ceramics Fabrication	Shaping high-density alumina, zirconia, and silicon nitride parts with complex geometries.	Eliminates internal voids and sintering shrinkage variation for precise dimensional tolerances.
Advanced Powder Metallurgy	Consolidating refractive metal powders and composite alloys at elevated temperatures.	Produces fully dense green compacts, reducing subsequent sintering times and energy costs.
Catalyst Carrier Manufacturing	Compacting specialized catalyst substrates for industrial chemical synthesis applications.	Uniformly distributes porosity and active surface areas for maximum reaction efficiency.
Synthetic Gemstone Synthesis	Pressing diamond powders and synthetic monocrystalline matrices under uniform thermal conditions.	Guarantees crystal matrix uniformity and structural integrity under stress.
Aerospace and Defense Testing	Preform consolidation of high-strength components and composite carbon-metal structures.	Provides reproducible density profiles required for mission-critical structural elements.

Specification Parameter	Variant PWDA-90 Details	Variant PWDA-70 Details
Model Designation	PWDA-90 (Large Chamber Variant)	PWDA-70 (High Pressure Variant)
Maximum Heating Temperature	Room Temperature to 200°C	Room Temperature to 200°C
Maximum Isostatic Pressure Range	0 to 300 MPa	0 to 500 MPa
Maximum Hydraulic Force	200 Tons (0 - 200T Range)	200 Tons (0 - 200T Range)
Internal Chamber Dimensions (ID x Depth)	Ø90 mm x 150 mm	Ø70 mm x 150 mm
Chamber Spatial Clearance	290 mm x 400 mm	290 mm x 400 mm
Pressure Calculation Display Accuracy	0.01 Tons	0.01 Tons
Control Screen Interface	7-inch High-Definition IPS Color Touchscreen	7-inch High-Definition IPS Color Touchscreen
Program Profile Segments	Up to 18 segment temperature/pressure programming	Up to 18 segment temperature/pressure programming
System Curve Recording & Export	Real-time graphics display; U-disk export (Excel)	Real-time graphics display; U-disk export (Excel)
Integrated Safety Systems	Door shield, overpressure protection, limit switch	Door shield, overpressure protection, limit switch
Structural Interface Control Buttons	Chrome-plated metal buttons (>100,000 presses)	Chrome-plated metal buttons (>100,000 presses)
Total Equipment Power Draw	1500W (Standard 220V / 110V Customizable)	1500W (Standard 220V / 110V Customizable)

Specification Parameter	Variant PWDA-90 Details	Variant PWDA-70 Details
Main Press Dimensions (L x W x H)	480 mm x 600 mm x 1100 mm	480 mm x 600 mm x 1100 mm
Main Press Weight (Net / Gross)	871 kg / 923 kg	871 kg / 923 kg
Control Cabinet Dimensions (K x P x H)	350 mm x 460 mm x 480 mm	350 mm x 460 mm x 480 mm
Control Cabinet Weight (Net / Gross)	109 kg / 126 kg	109 kg / 126 kg

Electric Isostatic Pressing Machine 40 Tons Automatic Laboratory Powder Compacting Press

Item Number: PWDC



Introduction

Optimize materials research with this premium electric isostatic pressing machine for laboratory powder compaction featuring a smart touch screen control and integrated safety shield for consistent high density specimen fabrication across diverse industrial sectors and advanced academic research environments.

[Learn More](#)

Application	Description	Key Benefit
Solid-State Battery Research	Compacting solid-state electrolyte powders such as sulfides, oxides, and halides into thin, defect-free separator layers.	Eliminates voids and micro-cracks, maximizing lithium-ion conductivity across interfaces.
Advanced Ceramics Processing	Preparing uniform green bodies from raw alumina, zirconia, and silicon nitride powders prior to high-temperature sintering.	Prevents warp, uneven shrinkage, and internal structural cracking during thermal processes.
Energetic & Explosive Compounds	Controlled compression of reactive chemicals and energetic powder compounds within a shielded environment.	Achieves precise density formulations safely while minimizing friction and electrostatic risks.
Pharmaceutical Formulations	Compacting complex pharmaceutical blends, multi-active tablets, and deep-release medical compounds.	Ensures exact structural density and uniform dissolution rates for superior dosage accuracy.
Powder Metallurgy & Alloys	Consolidating hard refractory metal powders, alloy matrices, and carbide tooling components.	Dramatically improves green strength and material density, cutting down post-sinter machining.

Target Material Fabrication	Fabricating ultra-pure, high-density physical vapor deposition (PVD) sputtering targets for semiconductor manufacturing.	Guarantees complete density uniformity, extending target lifespan and deposition consistency.
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Technical Parameter	Specification Metric / Value
Equipment Model	PWDC
Tonnage Operational Range	0.0 to 40.0 Tons (Adjustable)
Piston / Cylinder Spec	Φ130 mm (Chrome-Plated Premium Alloy)
Structural Framework	Seal-Free Monolithic Design (Leak Prevention)
Pressure Display Resolution	0.1 Ton
Control Interface	4.3-inch Color Resistive Touchscreen Panel
Maximum Piston Stroke	50 mm (T)
Standard Operator Shield	High-Impact Shatterproof Plexiglass Enclosure
Pressurization Modes	Fully Automatic Programmed Ramp / Manual Slow Ramp
Pressure Calculations	Intelligent Automatic MPa Conversion based on Geometry
Guide Column System	4-Column Heavy-Duty Parallel Alignment Frame
System Safety Protection	Active Electronic Overload Pressure Release Protection

Technical Parameter	Specification Metric / Value
Slow Pressurization Control	Program-adjustable ramp speeds and decompression rates
Operating Temperature Tolerance	10°C to 40°C
Chamber Configuration A (300 MPa)	Specimen Size: Φ 40 mm x 150 mm (M x N)
Chamber Configuration B (500 MPa)	Specimen Size: Φ 30 mm x 150 mm (M x N)
Power Rating	500 Watts (Configurable for 220V or 110V single-phase)
Equipment Net Dimensions (L x W x H)	355 mm x 450 mm x 710 mm
Shipping Container Dimensions	725 mm x 620 mm x 890 mm (Crated)

Automatic Laboratory Hydraulic Press For Xrf And Kbr Pellet Pressing

Item Number: PMXA



Introduction

KinTek XRF Pellet Press: Automated sample prep for precise XRF/IR analysis. High-quality pellets, programmable pressure, durable design. Boost lab efficiency today!

[Learn More](#)

Instrument model	PMXA-30T	PMXA-40T	PMXA-60T
Pressure Range	1-30.0 tons	0-40.0 tons	0-60.0 tons
Pressurization process	Program pressurization - Program pressure maintaining - Timed pressure relief - Automatic sample withdrawal	Program pressurization - Program pressure maintaining - Timed pressure relief - Automatic sample withdrawal	Program pressurization - Program pressure maintaining - Timed pressure relief - Automatic sample withdrawal
Hold time	0-999 seconds	0-999 seconds	0-999 seconds
Pressure conversion	Program automatically converts the pressure borne by the mold	Program automatically converts the pressure borne by the mold	Program automatically converts the pressure borne by the mold
Display	4.3 inch LCD screen	4.3 inch LCD screen	4.3 inch LCD screen
Metal buttons	Silver plated contacts with a service life of over 100,000 times	Silver plated contacts with a service life of over 100,000 times	Silver plated contacts with a service life of over 100,000 times
Built in mold	Boric acid/steel ring/plastic ring mold (built-in 1 set of mold)	Boric acid/steel ring/plastic ring mold (built-in 1 set of mold)	Boric acid/steel ring/plastic ring mold (built-in 1 set of mold)
Sample size	Standard configuration 40mm (customizable)	Standard configuration 40mm (customizable)	Standard configuration 40mm (customizable)
Mold material	440C mold steel	440C mold steel	440C mold steel
Demoulding method	Automatic stripping	Automatic stripping	Automatic stripping
External dimensions (L×W×H)	250×390×460mm	280×460×550mm	300×520×580mm
Equipment power supply	550W (220V/110V can be customized)	550W (220V/110V can be customized)	550W (220V/110V can be customized)
Equipment weight	Approx. 120Kg	Approx. 150Kg	Approx. 180Kg
Dimensional diagram of powder tablet press	See picture below	See picture below	See picture below

Automatic Lab Cold Isostatic Pressing Cip Machine

Item Number: PCIA



Introduction

High-efficiency Automatic Cold Isostatic Press (CIP) for precise lab sample preparation. Uniform compaction, customizable models. Contact KINTEK experts today!

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Apparatus Model	PCIA-20T	PCIA-40T	PCIA-60T	PCIA-100T
Piston Diameter	110 mm (d) in chrome-plated oil cylinder	130 mm (d) in chrome-plated oil cylinder	150 mm (d) in chrome-plated oil cylinder	200 mm (d) in chrome-plated oil cylinder
Machining Process Pressurization	Program Pressurization - Program Maintenance - Timed Pressure Release	Program Pressurization - Program Maintenance - Timed Release	Program Pressurization - Program Maintenance - Timed Release	Program Pressurization - Program Maintenance - Timed Pressure Release
Pressure Conversion	The program automatically converts the sample withstand pressure	The program automatically converts the sample withstand pressure	The program automatically converts the Sample Withstand Pressure	The program automatically converts the sample withstand pressure.
Display	4.3-inch LCD display	4.3-inch LCD display	4.3-inch LCD display	7-inch LCD display
Equipment Protection	Steel plate protection with organic glass door	Steel plate protection with organic glass door	Steel plate protection with glass door organic	Sheet steel protection with organic glass door
Isostatic pressure	300-500MPA	300-500MPA	300-500MPA	300-500MPA
Pressure chamber Isostatics	Φ30×150mm(M×N)	Φ40×150mm(M×N)	Φ50×150mm/30×150mm	Φ60×150(M×N)
Cylinder stroke (T)	50mm	50mm	50mm	50mm
Characteristics of the manufacture of Samples	Top panel rocker structure for more comfortable operation	Top panel rocker structure for more comfortable operation	Top panel rocker structure for more comfortable operation	Top panel rocker structure for more comfortable operation
Dimensions exterior	240×390×560(LENGTH×WIDTH×HEIGHT)	280×460×660(L×W×H)	/	330×580×720(L×W×H)
Equipment power supply	550W(220V/110 can be customized)	550W(220V/110 can be customized)	550W(220V/110 can be customize)	550W(220V/110 can be customized)
Weight of the equipment	120KG	180KG	240KG	290KG

Electric Lab Cold Isostatic Press Cip Machine

Item Number: PCIE



Introduction

KINTEK's Lab Electric Isostatic Cold Press delivers precision, efficiency, and superior sample quality for advanced research. Explore customizable models today!

[Learn More](#)

Instrument model	PCIE-12T	PCIE-20T	PCIE-40T	PCIE-60T
Pressure Range	0-12T(0-17MPa)	0-20T(0-21MPa)	0-40T(0-30MPa)	0-60T(0-34MPa)
Piston diameter	95mm (d) in chrome plated oil cylinder	110mm (d) in chrome plated oil cylinder	130mm (d) in chrome plated oil cylinder	150mm (d) in chrome plated oil cylinder
Pressure gage	Digital display0.0-40.0MPa	Digital display0.0-40.0MPa	Digital display0.0-40.0MPa	Digital display0.0-40.0MPa
Maximum piston stroke (T)	40mm	40mm	50mm	50mm
Way of Pressure	Electric pressurization/manual pressurization	Electric pressurization/manual pressurization	Electric pressurization/manual pressurization	Electric pressurization/manual pressurization
Pressure replenishment method	Automatic pressurization/manual slow pressurization	Automatic pressurization/manual slow pressurization	Automatic pressurization/manual slow pressurization	Automatic pressurization/manual slow pressurization
guard	Organic glass	Organic glass	Organic glass	Organic glass
ambient temperature	10°C-40°C	10°C-40°C	10°C-40°C	10°C-40°C
Isostatic pressure	0-300MPa	0-300MPa	0-300MPa	0-300MPa
Isostatic pressure chamber	Φ22×70mm(M×N)	Φ30×120mm(M×N)	Φ40×150mm(M×N)	Φ50×150mm(M×N)
External dimensions	305×430×530mm(L×W×H)	305×430×600mm(L×W×H)	355×450×710mm(L×W×H)	405×470×720mm(L×W×H)
power supply	550W(220V/110 can be customized)	550W(220V/110 can be customized)	550W(220V/110 can be customized)	550W(220V/110 can be customized)
Equipment weight	110Kg	120Kg	150Kg	200Kg

Manual Cold Isostatic Pressing Cip Machine Pellet Press

Item Number: PCIM



Introduction

KINTEK Lab Manual Isostatic Press ensures superior sample uniformity & density. Precision control, durable construction, and versatile forming for advanced lab needs. Explore now!

[Learn More](#)

Instrument model	PCIM-12T	PCIM-20T	PCIM-40T	PCIM-60T
Pressure Range	0-12T(0-17MPa)	0-20T(0-21MPa)	0-40T(0-30MPa)	0-60T(0-34MPa)
Piston diameter	95mm (d) in chrome plated oil cylinder	110mm (d) in chrome plated oil cylinder	130mm (d) in chrome plated oil cylinder	150mm (d) in chrome plated oil cylinder
Pressure gage	Pressure and pressure dual scale display	Pressure and pressure dual scale display	Pressure and pressure dual scale display	Pressure and pressure dual scale display
Maximum piston stroke (T)	40mm	40mm	50mm	50mm
Guard	Organic glass	Organic glass	Organic glass	Organic glass
Ambient temperature	10°C-40°C	10°C-40°C	10°C-40°C	10°C-40°C
Isostatic pressure	0-300MPa	0-300MPa	0-300MPa	0-300MPa
Isostatic pressure chamber	Φ22×70mm(M×N)	Φ30×120mm(M×N)	Φ40×150mm(M×N)	Φ50×150mm(M×N)
External dimensions	305×195×530mm(L×W×H)	305×195×600mm(L×W×H)	355×215×710mm(L×W×H)	405×240×720mm(L×W×H)
Equipment weight	90Kg	100Kg	130Kg	180Kg

Pressure conversion		
Actual pressure	Chamber pressure	System pressure
1.7 [Tons]	1.86 [MPa]	25 [MPa]
3.5 [Tons]	3.72 [MPa]	50 [MPa]
5 [Tons]	5.57 [MPa]	75 [MPa]
7 [Tons]	7.43 [MPa]	100 [MPa]
8.7 [Tons]	9.29 [MPa]	125 [MPa]
10.5 [Tons]	11.2 [MPa]	150 [MPa]
14 [Tons]	14.8 [MPa]	200 [MPa]
17.5 [Tons]	18.6 [MPa]	250 [MPa]
21 [Tons]	22.3 [MPa]	300 [MPa]

Reminder: Generally, the system pressure should not exceed 35MPa, otherwise it will affect the service life of the equipment.

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.

[Learn More](#)

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

Electric Split Lab Cold Isostatic Pressing Cip Machine

Item Number: PCESI



Introduction

KINTEK Lab Electric Cold Isostatic Press ensures precise sample preparation with uniform pressure. Ideal for material science, pharmaceuticals, and electronics. Explore models now!

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Instrument model	PCESI-65T	PCESI-100T	PCESI-150T	PCESI-200T
Pressure Range	0-65T	0-100T	0-150T	0-200T
Piston diameter	160mm (d) in chrome plated oil cylinder	200mm (d) in chrome plated oil cylinder	200mm (d) in chrome plated oil cylinder	290mm (d) in chrome plated oil cylinder
Pressurization process	Program pressurization - Program holding -Timed pressure relief			
Pressure conversion	The program automatically converts the pressure borne by the sample			
Display	7-inch LCD screen			
Equipment protection	Steel plate protection with organic glass door			
Isostatic pressure	0-300MPa	0-300MPa	0-300MPa	0-300MPa
Isostatic pressure chamber	Φ50×150mm(M×N)	Φ60×150mm(M×N)	Φ80×150mm(M×N)	Φ90×150mm(M×N)
Cylinder stroke (T)	50mm	50mm	50mm	50mm
Space size	220×400mm(M×N)	260×400mm(M×N)	280×400mm(M×N)	290×420mm(M×N)
External dimensions	700×450×1050mm(L×W×H)	850×500×1100mm(L×W×H)	950×550×1150mm(L×W×H)	1000×650×1200mm(L×W×H)
Equipment power supply	1500W (220V/110V can be customized)			
Equipment weight	350kg	580kg	680kg	980kg



Kintek Solution

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