

Laboratory Pneumatic Cylindrical Cell Crimper Machine For Battery Sealing

Item Number: CC13



Introduction

Engineered for precise battery research, this pneumatic cylindrical cell crimper delivers reliable two-step sealing for 18650 and 21700 cells, featuring zero-electricity glovebox compatibility, specialized external exhaust routing, and integrated short-circuit protection for superior laboratory consistency.

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Application	Description	Key Benefit
Lithium-Ion Battery R&D	Sealing experimental 18650 and 21700 cylindrical cells containing novel cathode, anode, and liquid electrolyte formulations.	Ensures hermetic sealing that prevents volatile solvent evaporation and moisture ingress during prolonged cycling tests.
Supercapacitor Prototyping	Hermetic packaging of high-power cylindrical electrochemical double-layer capacitors (EDLC) and hybrid supercapacitors.	Delivers uniform circumferential crimping force, ensuring stable internal contact resistance and long shelf life.
Solid-State & Semi-Solid Cell Assembly	Controlled mechanical encapsulation of pre-stressed solid-state cylindrical cell stacks requiring strict atmospheric isolation.	Pure pneumatic actuation generates smooth, shock-free compression without cracking fragile ceramic separator layers.
Pilot-Line Small-Batch Production	Pre-production testing, process verification, and small-batch sample assembly in commercial battery engineering facilities.	High-speed cycle times combined with low maintenance requirements provide cost-effective bridging from benchtop to automation.
Glovebox-Enclosed Materials Research	Fabrication of moisture-sensitive chemistries such as lithium-sulfur or sodium-ion cylindrical test cells inside inert environments.	External exhaust design prevents glovebox atmosphere degradation while spark-free operation ensures full operator safety.
Academic & Institutional Training	Educational fabrication of standard commercial cell formats for university electrochemistry laboratories and research institutes.	Intuitive pressure-regulated operation and built-in short-circuit protection ensure safe, straightforward student operation.

Specification Parameter	Value / Detail (CC13)
Base Product Identifier	CC13
Driving Mode	Pure Pneumatic (No electricity required)
Compatible Working Gas	Argon (Ar), Nitrogen (N2), or Clean Compressed Air
Glovebox Gas Recommendation	Inert gas cylinder supply (Compressed air not recommended in glovebox)
Working Gas Pressure Range	0.4 MPa to 0.5 MPa (Recommended: 0.4 MPa)
Pressure Adjustment Mechanism	Integrated precision pneumatic regulating valve with analog gauge
Gas Consumption	Approximately 1.0 Liter per single crimping cycle
Exhaust Port Configuration	Dedicated exhaust channel with KF40 external interface compatibility
Sealing Stroke	30 mm
Standard Sealing Die Configuration	18650 Series cylindrical cell mold (2-step sealing process)
Optional Tooling Compatibility	21-series (21700), 26-series (26650), 32-series (32650, 32700), and custom sizes
Safety Feature	Built-in anti-short circuit mechanical isolation
Equipment Dimensions	360 mm (L) × 220 mm (W) × 490 mm (H)

Specification Parameter	Value / Detail (CC13)
Equipment Weight	Approximately 30 kg