

Automatic Cylindrical Battery Grooving Machine For Cell Assembly

Item Number: GC05



Introduction

Streamline pilot-scale battery manufacturing with this automatic cylindrical cell grooving machine. Engineered for precision depth control, high throughput, and multi-format compatibility across 18650, 21700, and 26650 steel casings, it guarantees uniform sealing preparation and long-term operational durability.

[Learn More](#)

Application	Description	Key Benefit
18650 Lithium-ion Pilot Production	Automatic peripheral grooving on standard 18650 steel casings prior to cap placement and final crimping.	Delivers uniform groove positioning to guarantee hermetic sealing and accurate internal cap seat leveling.
21700 High-Capacity Cell Assembly	Forming structural retention grooves in 21700 cylindrical shells for electric mobility and power tool battery packs.	Accommodates high-strength steel casings with consistent ± 0.1 mm precision across continuous batches.
26650 Energy Storage Cell Prototyping	Precision grooving for large-diameter energy storage cylindrical cells utilizing dedicated modular die sets.	Prevents casing deformation while forming deep, robust retention ledges for heavy-duty internal jelly rolls.
Next-Gen Sodium-ion & Solid-state R&D	Experimental cell housing preparation for emerging chemistries requiring tight mechanical containment.	Allows micro-adjustable depth control to test diverse casing thicknesses and custom sealing gasket designs.
Supercapacitor Shell Grooving	Precision grooving of thin-walled aluminum or steel supercapacitor casings for rapid automated sealing lines.	Ensures smooth material deformation without micro-cracking or wall thinning along the casing circumference.
University & Institutional Research	Small-to-medium batch cell fabrication for fundamental materials characterization and electrochemistry studies.	Streamlines student and researcher workflows with user-friendly touchscreen automation and low maintenance.

Specification Parameter	GC05 Configuration Details
Model Designation	GC05
Compatible Tooling / Mold Types	Standard: 18650 series tooling Optional: 21700, 26650, and custom cylindrical cell sizes
Grooving Depth Range	1.0 - 3.0 mm (Continuously adjustable)
Grooving Width Range	1.1 - 1.5 mm (Determined by grooving blade thickness)
Processing Accuracy	± 0.1 mm
Grooving Tool Service Life	> 3,000,000 cycles
Production Throughput	6 pieces/min
Electrical Power Supply	AC 220V $\pm 10\%$, 50 Hz
Rated Power Consumption	0.2 kW
Pneumatic Supply Requirement	0.5 MPa - 0.7 MPa compressed air
PLC Controller	Samkoon (三星) Programmable Logic Controller

Specification Parameter	GC05 Configuration Details
User Interface	Samkoon (10.4") Color Touchscreen Display
Sensors & Detection	Panasonic Optical & Position Sensors
Pneumatic Components	AirTAC Cylinders & Solenoid Valves
Lead Screws & Linear Guides	TBI Motion Precision Components
Guide Shafts & Bearings	MYT Precision Linear Motion Systems
Electrical Control Components	Chint Industrial Low-Voltage Apparatus
Drive Motor System	Bangshuo Dedicated Drive Motor
External Dimensions (L × W × H)	550 mm × 600 mm × 720 mm
Equipment Net Weight	50 kg