

Precision Digital Battery Cell Shaping Machine Supercapacitor Cell Flattening Machine

Item Number: CX06



Introduction

Precision digital cell shaping machine for battery and supercapacitor cells, delivering four-station foil forming, short-circuit screening, accurate length adjustment, PLC control, and repeatable preparation for dependable collector-tab laser welding in demanding manufacturing environments.

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Application	Description	Key Benefit
Cylindrical battery cell production	Shapes and compacts the positive and negative electrode end faces of applicable No. 60 battery cells before collector-tab joining.	Creates a compact end-face condition for upper and lower collector-tab laser welding preparation.
Supercapacitor cell manufacturing	Processes applicable supercapacitor cells with an approximate 57 mm diameter and lengths from 50 to 204 mm.	Four-station inward folding forms copper and aluminum foil substrates in an orderly sequence.
Collector-tab laser welding preparation	Forms electrode ends so they are ready for connection to upper and lower collector tabs by laser welding.	Supports a consistent physical interface before the downstream welding operation.
Incoming and in-process defect screening	Uses the standard short-circuit test during the shaping workflow to identify defective products.	Screens short-circuit defects before products continue to subsequent manufacturing stages.
Resistance-based quality sorting	Adds optional resistance testing where resistance-value acceptance screening is required.	Allows the detection range and unacceptable resistance threshold to be set for product selection.
Multi-format cell production	Supports changeover between applicable product lengths using displayed grating-scale measurement.	Provides accurate and intuitive length adjustment when product models change.
Automated cell processing lines	Uses PLC control, HMI display, and multiple automatic operating modes to address different production conditions.	Gives production teams controlled operation with adjustable shaping speed and dwell time.

Parameter	Specification
Product Item Number	CX06
Applicable product	No. 60 battery and supercapacitor cells
Applicable cell diameter	Approximately 57 mm
Applicable cell length	50-204 mm
Other applicable product specifications	Customizable
Forming configuration	Four stations
Forming function	Copper and aluminum foil substrates are pressed inward one by one in a regular sequence
Standard test function	Short-circuit test for defective-product screening
Optional test function	Resistance test function; detection range can be set; screens products with unqualified resistance values
Length adjustment measurement and display	Grating scale detection and display
Control method	PLC process control

Parameter	Specification
Operator interface	Human-machine interface display
Automatic operation	Multiple automatic operating modes
Adjustable process settings	Shaping speed and dwell time adjustable
Maximum slide block (press head) stroke	30 mm
Length positioning accuracy	+/-0.03 mm
Shaping length error	+/-0.1 mm
Tooling and mold normal service life	More than 5 million cycles
Capacity	>=3 PPM
Availability rate	98%
Power supply	220 V/50 Hz
Air consumption	0.5 m3/min
Power	0.5 kW
Compressed-air requirement	0.5-0.7 MPa dried compressed air
Overall dimensions	L1100 mm x W850 mm x H1700 mm
Installation floor load requirement	More than 0.5 T/m2
Operating temperature	10-35 degrees C
Operating humidity	10-80% Rh
Ground-floor handling height requirement	More than 1.8 m
Upper-floor elevator transport requirement	Elevator width at least 1 m, height at least 1.8 m, and depth at least 1.3 m
Installation planning requirement	Confirm the transport route and installation method from outside the plant to inside the workshop in advance