

Double Sided Automatic Spot Welder For Lithium Ion Battery Pack Production

Item Number: DH15



Introduction

Double sided automatic spot welder for lithium-ion battery pack production, delivering synchronized resistance welding, 0.02mm positioning accuracy, AI inspection, traceable process data, and configurable high-throughput automation for EV, energy storage, power tool, and consumer battery manufacturing lines worldwide.

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Application	Description	Key Benefit
Electric vehicle battery module production	Welds nickel interconnects to cylindrical cells used in traction battery modules and pack assemblies.	Supports high-volume, repeatable joining with synchronized double-sided processing.
Energy storage battery pack manufacturing	Produces electrical connections for stationary storage packs built from cylindrical steel-cased cells.	Programmable recipes and production records support controlled, traceable assembly.
Power tool battery assembly	Automates nickel-strip welding for compact, high-current rechargeable battery packs.	Fast cycle capability helps match the output demands of mass-production lines.
Consumer electronics battery production	Joins cylindrical cells for digital battery products where compact fixtures and repeatable positioning are required.	Fine positioning accuracy supports consistent weld placement on smaller pack designs.
Battery pack contract manufacturing	Handles different cell diameters, lengths, strip materials, and fixture formats across multiple customer programs.	Broad cell compatibility and recipe storage simplify product changeover.
Smart factory battery lines	Connects welding operation data to optional manufacturing execution and supervisory data systems.	Enables production visibility, local data retention, and quality traceability.
Multi-cell fixture welding	Processes welding paths across fixtures containing multiple battery groups with barcode-controlled identification.	Optional sequential barcode workflow links generated data to the applicable battery group.

Parameter	Specification
Site-facing item number	DH15
Original reference configuration	TOB-850DN-XZ-12000A transistor
Power supply	220V 50/60Hz 6KW
Operating air pressure	0.4-0.8Mpa, oil-free and water-mist-free
Welding target	Resistance welding of steel-cased cells and nickel strip, including pure nickel, nickel-plated nickel, and copper-nickel composite strip
Compatible cell length	20-70MM
Compatible cell diameter	10-65MM
Example compatible cell formats	14200 / 14430 / 18650 / 21700 / 26650 / 32700
Welding operations per single cell	1-5 times
Transistor welding power supply	BTH10000A unipolar: maximum current 10000A, single-direction discharge; BTH6000B bipolar: maximum current 6000A bidirectional discharge, namely 12000A

Parameter	Specification
Optional welding power supply	MIYACH MDA8000B / MDB4000B
Welding current control	Built-in welding-current gradual rise and gradual fall function
Power-output monitoring	Built-in automatic output current and voltage detection; undercurrent, undervoltage, and welding spark alarms
Weldable pure or nickel-plated nickel thickness	0.08-0.2MM
Recommended strip treatment	0.16-0.2MM thickness is recommended to use a current-guiding groove
Thick-strip welding method	0.2-0.5MM thickness requires projection welding
Factory welding speed	0.4 seconds/time, namely 9000 times/hour
Adjustable welding speed	6000-10500 times/hour; adjusted according to specific process and product structure
Welding electrode material	American aluminum oxide copper
Standard spot-welding electrode	Diameter 1.7*100MM
Standard projection-welding electrode	Diameter 3-6-3-45MM
Optional spot-welding electrodes	Diameter 1.5100MM; diameter 2.0100MM; diameter 3.0*100MM
Welding electrode pressure	1-5KG; factory preset 2.5KG
X-axis travel	1-620MM; front and rear motion
Y-axis travel	1-390MM; up and down motion
R-axis travel	0-100 degrees; rotational motion
Z-axis travel	40-160MM; welding electrode advance and retreat; suitable for 20-70MM-long cells
Positioning accuracy	Plus or minus 0.02MM
Axis configuration	One X axis with 700W servo motor; two Y axes with 700W servo motors; two R axes with 400W servo motors; two Z axes with 400W servo motors; one material-pressing axis with pneumatic cylinder
Control system	Industrial PC + PLC, equipped with proprietary battery welding system
Human-machine interface	24-inch color display with Chinese and English operating interface
Intelligent detection	AI self-correction of welded-item length; AI self-detection of spot-welding electrode length error; AI self-detection of welding limit position
Welding parameter generation	DXF file import and automatic generation; file names must not be duplicated
Welding pattern programming	Array mode / block array; surplus points can be deleted manually after array generation
Welding path display	Real-time current welding position display; welded points shown in blue and unwelded points shown in yellow
Zone welding	Specified-position welding, for example input points 20-50 to weld from point 20 through point 50
Breakpoint continuation	After an abnormal stop and fault clearance, welding can resume from an entered breakpoint position
Two-stage welding speed	High-speed movement to the set position followed by low-speed contact with nickel strip and cell
Welding power parameter record	Current welding parameters displayed in real time and saved to local disk
Electrode cooling	Dedicated cold-water chiller; circulating water cooling; flow approximately 6L/min; temperature below 20 degrees
Process recipe storage	More than 1000 data groups can be stored and recalled
Compatible spot-welding fixture range	Length within 260-680MM; height within 260-450MM; thickness 76.5MM
Equipment certification	CE certification
Equipment dimensions	L 1630MM * W 1050MM * H 1940MM
Packing dimensions	L 1730MM * W 1280MM * H 2130MM
Equipment weight	Approximately 450KG
Weight after wooden-case packing	Approximately 600KG

Custom Function	Specification
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Spot-welding electrode pressure detection sensor	MS2009-20KG
Pressure detection converter	MI2008
Pressure detection communication	RS232
Pressure setting	Basic setting 2-3.5KG, adjusted according to specific process and product
Pressure alarm	Upper and lower limits can be set; alarm and stop when outside range; can also be disabled
Production data upload communication	Web/API
Local production-data storage location	D drive software root directory
Local production-data format	Xlsx
Barcode scanners for scan-to-start function	Newland OY20+ / Hikvision MV-IDH3000/13NR/05RN/U
Barcode scanner interface	USB
Supported barcode formats	One-dimensional barcode example: CODE 128; two-dimensional barcode example: QR CODE
Multiple battery groups in one fixture	Scan multiple barcodes sequentially; corresponding barcode data are generated after welding completion
Multi-group local data storage location	D drive software root directory
Multi-group local data format	Xlsx