

Metal Electrode Sheet Die Cutting Machine

Item Number: MQ10



Introduction

Precision metal electrode sheet die cutting machine for battery positive and negative electrodes delivers stable dimensions low burrs infrared positioning and safeguarded pneumatic operation with custom tooling for diverse cell formats.

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Application	Description	Key Benefit
Battery R&D electrode preparation	Cuts positive and negative electrode sheets for prototype cell development after electrode materials are ready for blanking.	Controlled sheet geometry with burrs no greater than 12 micrometers and no edge collapse.
Cell-format development	Uses customer-designed die shapes to prepare electrode blanks for different battery sizes during format evaluation.	Custom tooling supports project-specific electrode dimensions and shapes.
Laboratory cell assembly	Produces electrode pieces before downstream assembly work in battery research laboratories.	A direct load, position, dual-start, cut, and remove workflow supports repeatable preparation.
Pilot-line electrode sampling	Creates defined electrode samples for process checks and development-stage evaluation.	Stable punching dimensions help maintain comparable sample formats across repeated cycles.
Positive electrode sheet processing	Forms cathode sheet blanks using the precision concave and convex metal die arrangement.	Precision-guided cutting supports consistent formed edges and dimensions.
Negative electrode sheet processing	Forms anode sheet blanks for laboratory and pilot battery workflows.	Infrared positioning assists accurate material placement before each cutting cycle.
Custom battery component trials	Supports electrode blanking when a research program requires a nonstandard outline or size within the available cutting area.	Customer-required die design expands format flexibility without changing the core equipment.

Parameter	Specification
Site-facing identifier	MQ10
Equipment application	Metal die-cut forming of battery positive and negative electrode sheets
Die configuration	Concave and convex metal dies
Punch die material	SKD11
Cutting method	Precision cutting with a metal die cutting knife set
Positioning device	Infrared positioning device
Cutting accuracy	Burrs $\leq 12\mu\text{m}$, no edge collapse
Tooling life	More than 1 million operations (while maintaining the specified burr level)
Regrinding capability	Up to 10 regrinds
Maximum cutting size	Max. L120*W100mm; can be designed according to customer requirements
Cutting efficiency	5 times/minute
Maximum cylinder pressure	300kg

Parameter	Specification
Die-cutting stroke	40mm
Power supply	220V/50Hz
Power	0.1KW
Compressed air	0.5Mpa□ 0.8 Mpa
Overall dimensions	L480xW420xH630mm
Equipment weight	110kg
Safety protection	Safety light curtain at the feed inlet; dual-start-button safety operation
Die handling	Convenient die removal and installation
Operating sequence	Place the electrode sheet in the die-cutting position, press the dual start buttons, allow the cylinder to drive the metal die cutting knife set downward for automatic cutting, then remove the formed electrode sheet
Exterior construction	Sheet-metal exterior with a three-dimensional geometric design