



Solar cell nondestructive laser cutting machine

Brief Description

The dicing process used in the production of high-efficiency photovoltaic modules replaces the conventional laser dicing machine

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The core principle of non-destructive laser cutting is laser thermal stress controlled fracture technology, which uses laser to locally heat the material and produce a temperature gradient on the material surface, so as to induce the generation of thermal stress, and induce the stable fracture of the material through appropriate control of thermal stress. Non destructive laser cutting can realize low-temperature processing and avoid the ablation damage of solar cells.

Main Features

there is no laser thermal damage on the battery section and no laser thermal influence on the surface

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good mechanical performance and high conversion efficiency;
maximum capacity ≥ 7200p / h, multiple configurations are optional;
widely compatible with mainstream and new crystalline silicon battery products;
ndependent intellectual property rights, multiple core patents.

Main Parameters

| | | | | |
|--------------------------------------|--|------------------------------|------------------------------|------------------------------|
| Machine type | MLC7200C4-A | NLC7200C4-A | MLC7200C4J-A | MLC7200C4JF-A |
| basic function | Automatic Non-destructive laser splitting (with water or without water cooling) can be configured according to customer needs | | | |
| Scribing function | Scribing 2 / Scribing 3 (can be configured according to customer needs and can be upgraded to process 5 and 6) | | | |
| Cell size | 156 x 1 56 ~ 230x 230 m m, thickness 120 ~ 300u m | | | |
| Fragment rate | 0.03% or 0.05% | | | |
| Applicable specifications of battery | Compatible with aluminum back field battery, double-sided perc battery, TOPCON battery, n-type hjt heterojunction battery, etc | | | |
| Slotting process | Line width ≤ 30um, heat affected zone ≤ 100um, line length 2-5mm | | | |
| Split zone process | 500W laser, no heat affected zone, no laser damage such as microcracks, and no damage to the surface of the battery | | | |
| Loading detection | Industrial camera, ≥ 20 megapixels | | | |
| Capacity | ≥7200P/H | | | |
| Comprehensive accuracy | Positioning deviation: ≤± 0.05mm, angle deviation: ≤ 0.08 °, scribing deviation ≤± 0.1mm | | | |
| Customization function | Feeding code scanning, grid line positioning, sheet turning, PL detection, accurate feeding, centralized feeding or AGV docking and other functions are optional | | | |
| Machine size | L3300x W3250 x H2150 (mm) | L2600x W3600 x H2150 (mm) | L3300x W3250 x H2150 (mm) | L3300x W3250 x H2150 (mm) |
| Machine weight | 5000kg | 4600kg | 5000kg | 5000kg |

