



C02 Laser Drilling Machine

LC-2QS252

High-Speed, High-Precision C02 Laser Drilling Machine
for HDI/Package PCBs

2-Panel/2-Beam Laser Drilling Machine



Via Mechanics, Ltd.

LC-2QS252

High-Speed, High-Precision CO2 Laser Drilling Machine for HDI Package PCBs

High-speed, high-precision and high-quality stable processing made possible by gathering together internally-produced core technologies

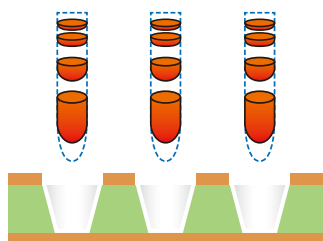
□ Long-term stability that supports volume production of next-generation PCBs

- Improves stability of laser oscillator and RF power source designed by Via Mechanics
- Realizes high-speed, high-precision processing using the galvano system, CNC control system and software designed by Via Mechanics
- Capable of long-term stability through technologies that adapt to the usage environment

Able to realize stable production with high speed, precision and quality that covers a wide range of products from general-purpose built-up PCBs to semiconductor interposer PCBs.

□ Proprietary modulation function further upgraded

Further evolutions have been made in the modulation function that yields considerable effects in circumventing thermal impact upon inside-layer thin copper foil processing (3-layer sheet processing). The one-pulse oscillation of the laser is controlled with three-condition modulation settings.



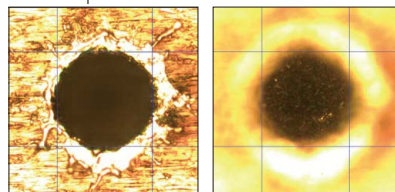
Step Pulse + Modulation Drilling

Improved processing speed and high-quality processing without damaging bottom layers realized by reducing the number of shots

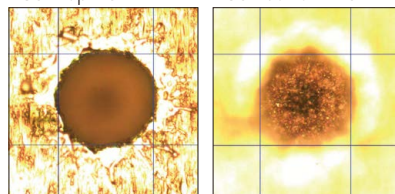
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3 layer processing

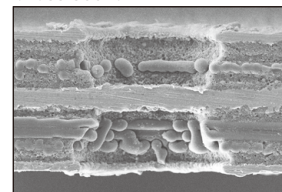
Front top view Front bottom view



Back top view Back bottom view

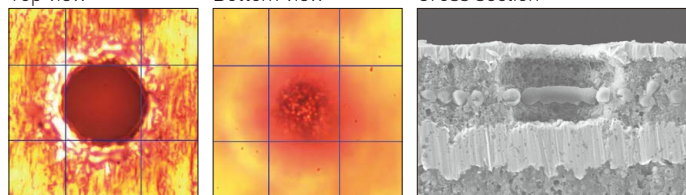


Cross section



Direct drilling of non-surface treatment Cu Hole diameter 25μm

Top view Bottom view Cross section



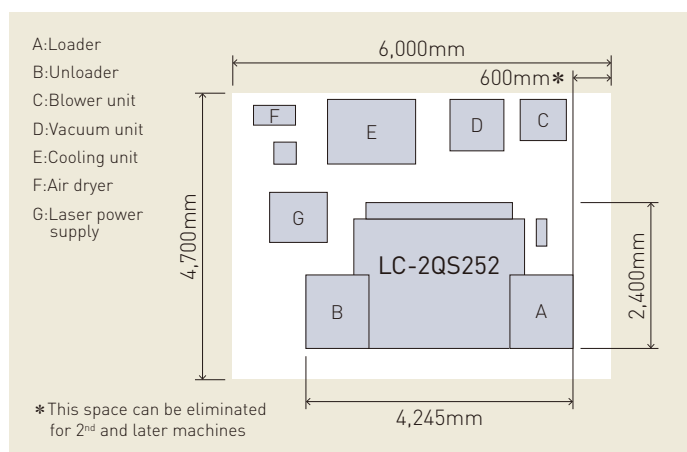
□ Supports high-precision drilling on next-generation high-density circuit boards

Drilling precision has been further improved based on mechanical structure analysis technologies, thermal analysis technologies and high-precision positional determination technologies accumulated through the development of laser drilling machines for PCBs intended for use in interposers for high-end semiconductors. Ave+3σ ≤ 6μm is realized with drilling on accuracy evaluation jigs.

Primary specifications

Max. drilling area	635 x 813mm 2-panels
XY positioning speed	50m/min
Number of beams	2
Laser power	640W
Galvano scan area	□ 70mm (OP : □ 30mm, □ 50mm)
Drilling accuracy	±0.008mm (Via pattern) Ave.+3σ ≤ 6μm (Optional)
CNC	MARK-55L+

Floor Plan



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