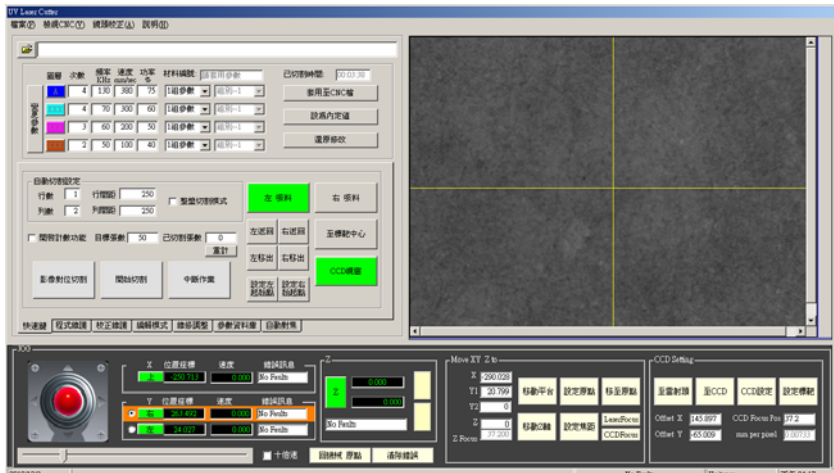


LS2-355-600 雙平台軟板切割機



適 用 產 品	軟性電路板、PI 及銅類等材質皆可切割
雷 射 資 訊	雷射種類：UV Nd：YVO4 Laser
	雷射波長：355nm
	雷射功率：12W (可客製化配置)
	頻率範圍：20KHz~200KHz
	冷卻方式：水冷
設 備 功 能	雷射加工型態：快速掃描頭導光
	機台最大行程 600mm x 600mm (可客製化配置)
	加工最大速度可達 3000 mm/sec
	加工雙 Table 平台，大幅減少上下料時間，換料及切割可同時作動
	可執行多個相同模式的切割區塊
	XY 軸可同步移動
	蜂巢網真空強力吸附平台
	自動尋找焦距功能
	自動偵測平台水平調整焦距
	定位點快速切割及影像對位切割(自動計算角度)
	切割誤差 < 25um
雷射功率量測	
軟 體 資 訊	自行開發的中文化介面
	Mark 點定位 CCD(十六種不同標靶搜尋定位)
	三種標靶類型(圓型、多邊型、特定圖樣)
	CCD & Laser offset 計算
	可雕刻任意文字、影像、1D 及 2D 條碼、流水號等功能
	參數紀錄功能
	可處理四組圖層切割
切割起始點紀錄功能	
切割時間紀錄	

FPC Laser Singulator LS-355-400



Specifications

LASER SINGULATOR LS-355-400

1.0 Purposes

This high-accuracy laser cutting machine is designed for Singulation of all kinds of Flexible Printed Circuit Board (FPC) .

It mainly excises the multi-layer FPC to separate apart by laser fast focus with high-energy concentrate power to make Epoxy or copper screen gasification.

2.0 Application

FPC cutting machine offers the automatic cutting process by load CAD or manual drawing data with high speed performance. The system motion integrate with dual axis high-accuracy Linear Motor that collocated with optical encoder feedback to perform high accuracy in position and provide steady and elastic cutting.

2.1 Optimum Result

- Cut Speed: UP to 1000 mm/sec.
- Cutting Tolerance: <+ /- 25 um
- The width of cutting line: Normally control less than 25 um.

3.0 Structure of the machine

3.1 Laser parts

3.1.1 Laser head

- | | |
|-------------------------|-----------------------|
| ■ Wavelength (nm) | 355 / UV |
| ■ Average Power (watt) | 12 watts (Customized) |
| ■ Pulse Energy (uJ) | 0.5 ~3 mJ |
| ■ Pulse Width (ns) | < 30 ns at 30 kHz |
| ■ Repetition Rate (KHz) | 1 ~ 100k Hz |
| ■ Beam Diameter (um) | 10~25 um after focus |
| ■ Beam Quality | TEM0,0 M2 < 1.2 |

3.1.2 The supplying device of laser power and synchronous control system

- | | |
|----------------------------|---------------------------|
| ■ Output Power (kw) | 2 |
| ■ Laser Synchronous System | Programmable Synchronized |

3.2 Optics part

3.2.1 Accurate optics component system

- Beam Expander 2~8X
- Focus Lens 50 mm (without Galvo)
- Turn Mirror 1" o r 2"
- Galvo Scanner(Scan Area) 85X85mm

3.2.2 The motor drives Z focus

- Focus Auto-Adjust Servo Motor Drive
- Resolution < 1 um

3.3 X-Y Stage

3.3.1 Dual axis (X/Y) Servo Liner Motor system

- Stroke 400mm x 400 mm (Customized)
- Resolution 0.001 mm
- Accuracy +/-5 um
- Speed (mm/s) Max. 3000 mm/s
- Mechanism Linear Motor with Granite Base
- Feedback Optical Linear Scale
- Controller PC-Based Controller

3.3.2 The fixture

- Mechanism Vacuum with Sensor Meter
- Table Stainless with Judicial Mark

3.3.3 Dust collection

- Exhaust Air Blower 1 HP
- Air Nozzle 1 mm Air Jet > 5 kg/cm²

3.4 Software & Controller

3.4.1 Control system of the computer

- Industrial Computer Pentium CPU / Free Dusty

3.4.2 Part of the software

- OS WindowsXP/Application Software

3.4.3 (8) axis control interfaces

- Interface Card 8 Axis Computer Control

3.5 Vision & Lighting systems

3.5.1 Advantage: High accuracy zoom-scale vision system with <5 um positioning accuracy, adopt long lifetime LED lighting

3.5.2 The vision alignment & recognize system

- | | |
|------------------------------|-------------------------|
| ■ Pattern Recognition System | Accuracy <1 um |
| ■ Monitor | CCD Camera system |
| ■ Recognition Method | Pattern Matching |
| ■ Fiducial mark | Recognized PCB fiducial |

3.5.3 Image display and illumination

- | | |
|-----------|------------------------|
| ■ Monitor | Adjustable LCD Monitor |
| Lighting | LED Lighting |

4.0 Safe norm

4.1 Emergency Stop

4.2 NFB (No Fuse Breaker)

4.3 Leakage Breaker

4.4 Safety Cover: Opened in the movement way will stop all movements. Laser stops after finishing cutting.

5.0 The Working Environment Requiring

- The machine is a size 1520 mm(L) x 1300 mm(W)x1650 mm(H)
- The machine is weight 1050 ± 200 kgs
- Environmental 24 ± 5 oC (60o to 80o F) ,RH 20% - 50%
- Chiller requirement Heat Capacity 20,000 BTUs Class 100,000
- Vibrations Avoid shaking and shaking violently
- Power 220VAC 30A single-phase
- Air Flow Requirement 10 CFM (100 l/min)
- Asist Air Quality Water , Oil, Particle free air (<5 um)
- Air Pressure 80 PSI (5.6 kg/cm2)