

*Trustworthy Tailift Equipment*

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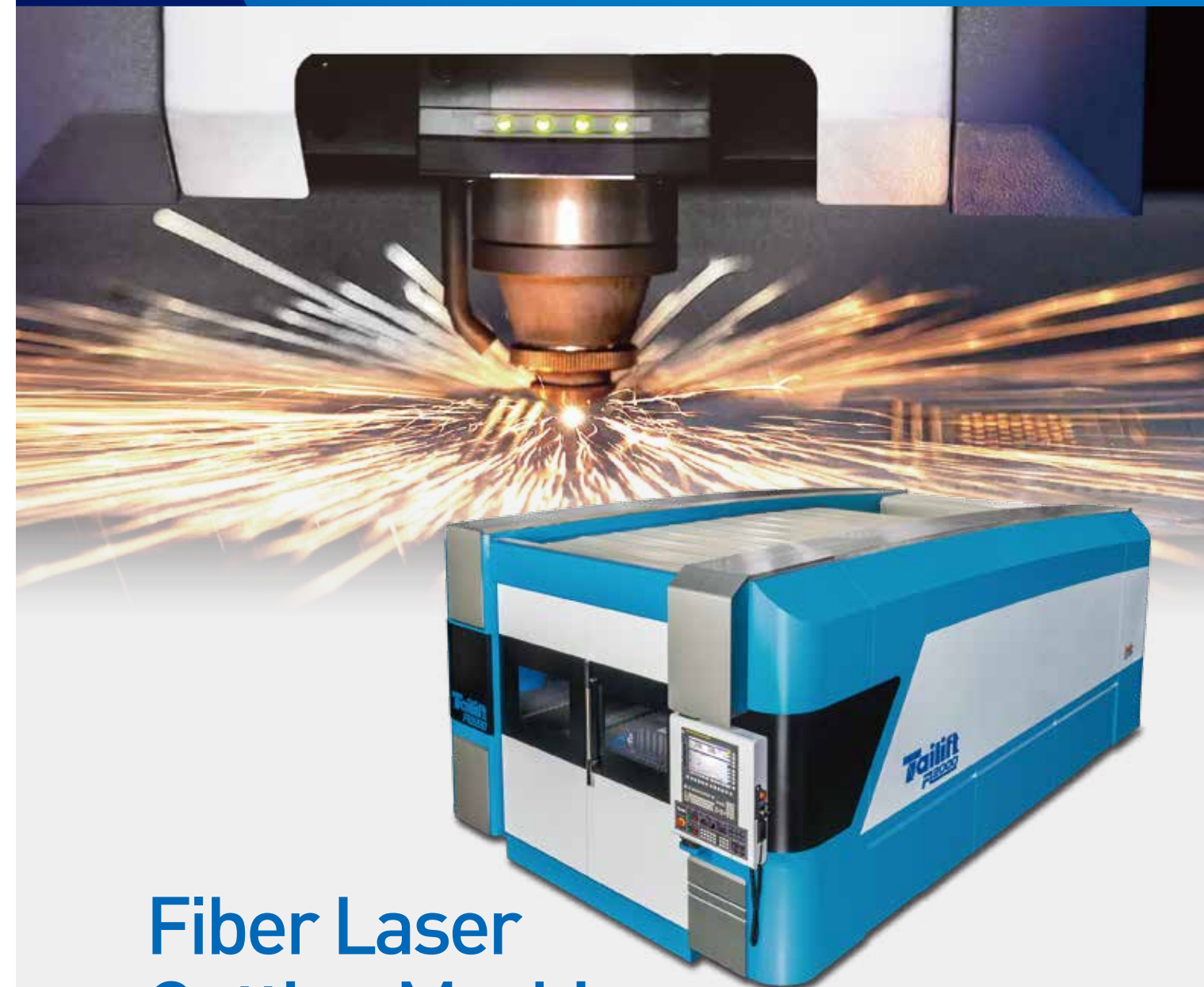
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**Tailift®**

**FL2000 / FL3000**

光纖雷射切割機



**Fiber Laser  
Cutting Machine**

## 專利科技！頂尖技術！

### 專為高品質、高精度雷射切割而打造

台勵福再度成功開發出先進的**FL2000/FL3000**光纖雷射切割機，搭載**PRECITEC**雷射切割頭以及**FANUC**發振器，具有強勁的功率輸出，及優異的光束品質。機器性能媲美歐美機種，更具有最佳性價比。

## High-Tech ! Ultimate Performance !

Built for high speed, high accuracy laser cutting

The FL2000 / FL3000 fiber laser cutting machine, successfully developed by Tailift, is equipped with the PRECITEC laser cutting head and FANUC resonator. Tailift FL2000 / FL3000 features great power output and excellent light beam quality. High C/P Value, Outstanding performance on ultimate machines.

## 徹底表露非凡的雷射切割性能

### Fully Exhibit Extraordinary Laser Cutting Performance

- 結構穩定。
- 最大切割尺寸3050x1525mm。
- PRECITEC 頂尖切割頭。
- 雷射切割頭具自動預調焦點功能。
- FANUC 專利光纖高速通訊科技。
- 淺顯易上手的操作介面。
- 隨動式分區集塵系統。
- X、Y 軸最大進給速度。
- 高速、高精度控制機能。
- High stability machine structure.
- Max. cutting sizes: 3050 x 1525mm.
- PRECITEC laser cutting head.
- The laser cutting head features automatic focus pre-adjustment function.
- FANUC resonator with high power output.
- User-friendly operation interface.
- Follow-up type dust collection system with divided areas.
- Max. feed rates on X, Y-axis: 120 m/min.
- Advanced laser control function.

## 光纖雷射切割機

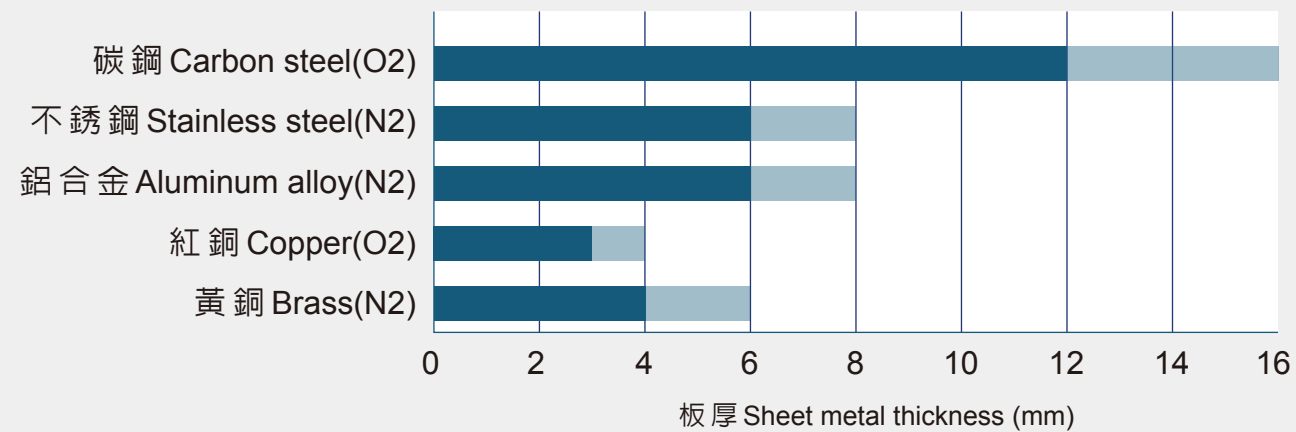
## Fiber Laser Cutting Machine



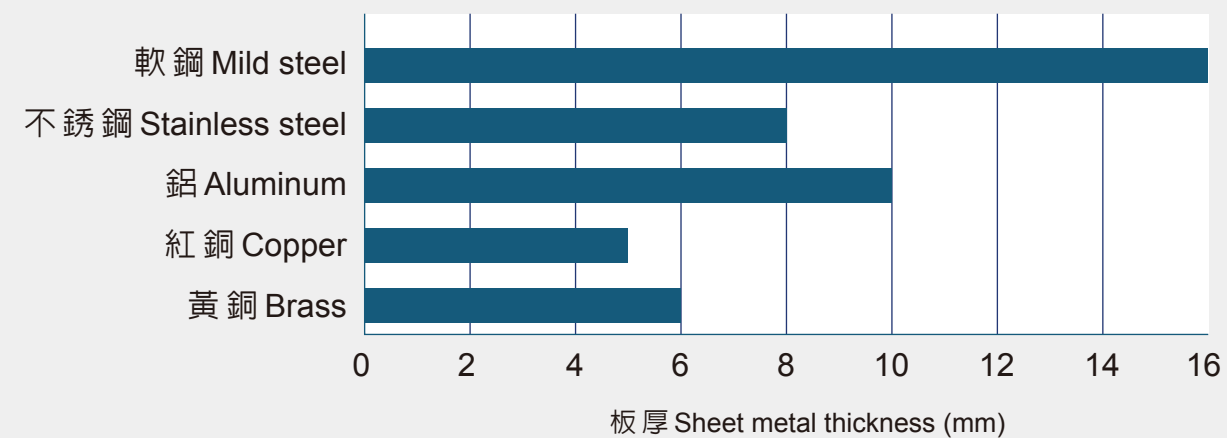


## 加工能力表 / CUTTING CAPACITY CHART

### FL2000



### FL3000



- 此規格適用於Ff150焦距。
- 上述加工能力數據為特定條件之加工能力。機器驗收必須以規格書為準。
- 即使被加工物為同一規格品，也會依表面狀態、含有成份導致加工性能、品質而有所差異。根據加工形狀，會導致加工性能、品質而有所差異。
- The specifications are applicable for Ff150 focus.
- All data shown in the above cutting capacity chart are based on specific machining conditions, however machine acceptance check should be dependent on the specified specifications.
- Even though workpieces' specifications are same, machining performance and quality still may vary with workpiece surface conditions and chemical composition.
- Cutting shapes may also lead to a difference in machining performance and quality.



## 雷射切割頭構造 / CONSTRUCTION OF LASER CUTTING HEAD

### 焦距設定

可手動或機器控制調整。

### Focus Setting

Can be adjusted manually or through the machine control.



### 外部接口

通過藍芽，將傳感器數據輸出。

### External Interface

It allows the transducer data to be output via Bluetooth.

### 聚焦鏡

高品質光學可調整X, Y更換保護鏡片無需重新定位。

### Focusing Lens

A high quality optical lens. Adjustable on X, Y-axis. No positioning is requested when replacing protective lens.



### 保護準直鏡鏡片

Protective Glass of Collimation Unit



### 支撐架

方便鎖固。

### Mounting of Head

Convenient to tighten.

### 保護鏡片卡夾

防止灰塵及切割煙氣對光學鏡片的污染，更換容易。

### Protective Glass Cartridge

It may prevent dusts and cutting smoke from polluting the optical lens and is easy to replace.



### LED BAR

可立即顯示系統目前狀態（壓力、溫度、驅動、污染）。

### LED Bar

It displays the current status of the system (incl. pressure, temperature, drive and contamination).



### 距離量測

快速、精確、無漂移可在任何的作業溫度，甚至高加速度的量測距離。

### Distance Measurement

The unit features high speed, high precision and without drift, and allows distance measurement to be conducted at any working temperature and even under a high acceleration condition.



## 分區集塵系統

採用全封閉外罩，確保加工安全性，並且機台內部配有自動分區集塵系統，能有效且快速的收集切割時所產生的粉塵及廢氣，達到無粉塵及髒空氣污染的作業環境。

## Dust Collection System with Divided Areas

The machine is equipped with a fully enclosed splash guard for optimal machining safety. An automatic dust collection system collects dusts and waste gases in divided areas during cutting operation, ensuring a pollution-free working environment.

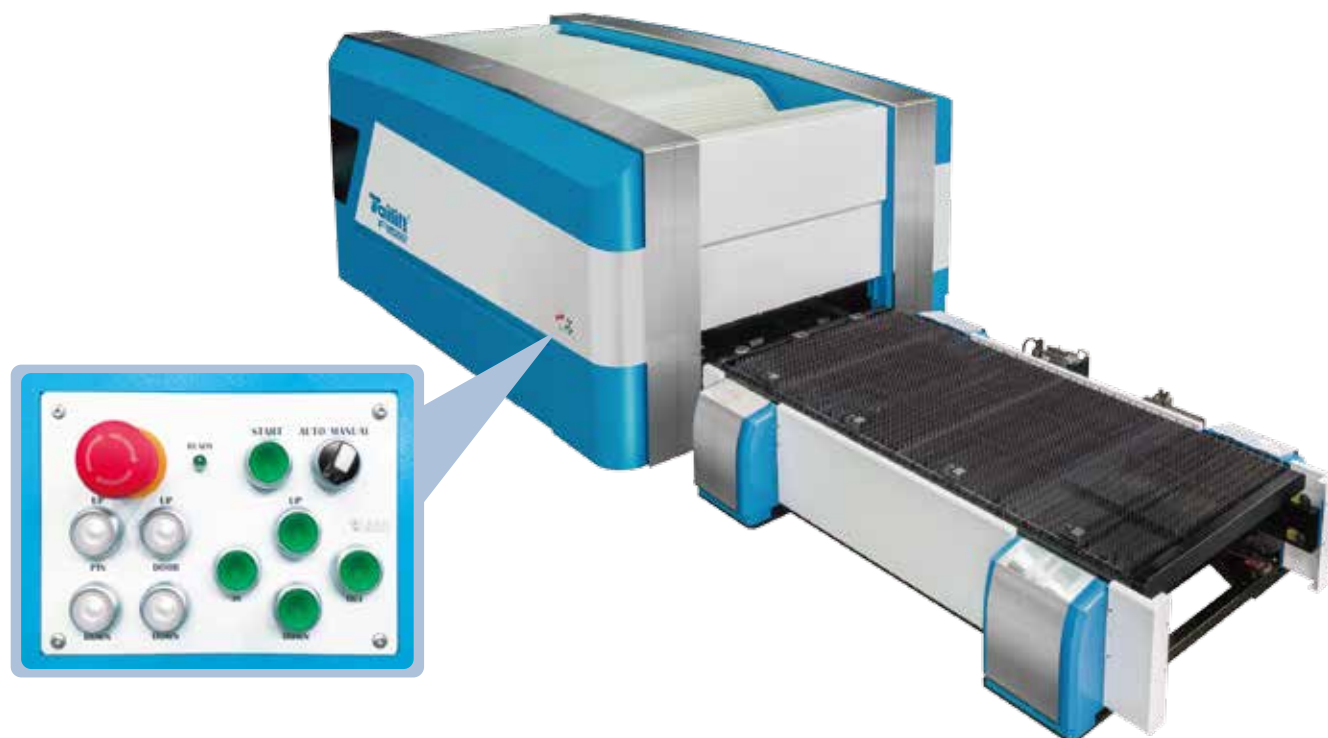


## 交換裝置控制面板

本機後端配置一個交換裝置控制面板，方便工作  
台之交換作業。

## Control Panel for Pallet Changer

There is a pallet changer control panel equipped at  
the end of the machine, which is convenient to  
exchange the working pallets.



## 發那科發振器 FANUC RESONATOR



FF2000i-A

### 先進的雷射控制功能

採用FS30i/31i-LB CNC控制器，配合發那科串行伺服  
總線(FSSB)，以執行雷射器的高速控制。

### 高速、高精度加工功能

- 尖角加工功能，隨動控制功能。
- 雷射功率控制功能。
- 微量輸出控制功能。
- 加工條件設定功能。

### Advanced Laser Control Function

The machine is equipped with a FS30i/31i-LB CNC  
controller in combination with FANUC serial servo bus,  
that provides a high speed control for the laser.

### High Speed, High Precision Machining Functions

- Sharp corner machining function. Follow-up control function.
- Laser power control function.
- Micrometric output control function.
- Machining conditions setting function.



## FANUC 31i-LB 控制器

- 四軸同動控制。
- 15" LCD觸控螢幕。
- 可迴轉式控制器，加工測試及設定，  
設定更方便。

## FANUC 31i-LB Controller

- Four axes are simultaneously controlled.
- 15" LCD touch-screen.
- Swiveling control box makes cutting test  
and setup convenient.



### FANUC 主畫面

- 畫面內容清楚顯示座標 (相對座標、絕對座標、機械座標)
- 畫面顯示 X、Y、Z、U 負載值
- 程式內容顯示
- 加工速度顯示
- 控制器總運轉時間
- 加工工件循環時間

### Main Menu Display for FANUC Control

- The page displays various coordinates (relative coordinate, absolute coordinate and machine coordinate)
- Display of load values on X, Y, Z, U-axis.
- Display of program contents.
- Display of machining speeds.
- Total running time of the controller.
- Machining cycle time.

### 加工參數

加工參數內容包含切削資料、透孔資料、尖角資料、功率  
控制。  
內容基本：速度、功率、頻率、氣體壓力、GAP距離...等  
基本內容填寫設定後即可使用設定參數做為加工參數。

### Machining Parameter

The contents of machining parameter include cutting data,  
through-hole data, sharp corner data and power control. The  
basic contents include: speed, power, frequency, air pressure  
and gap, etc. Once the basic contents have been filled, the  
operator may use the set parameters as machining parameters.

### 程式一覽表

在程式一覽表可清楚顯示目前加工程式與CNC控制內所  
用的加工程式，更可以詳細的顯示加工程式的時間與日  
期。

### Programs List

The programs list page displays programs for current machining  
and programs available in the CNC controller. In addition, time  
and date for the machining program numbers are also  
displayed.

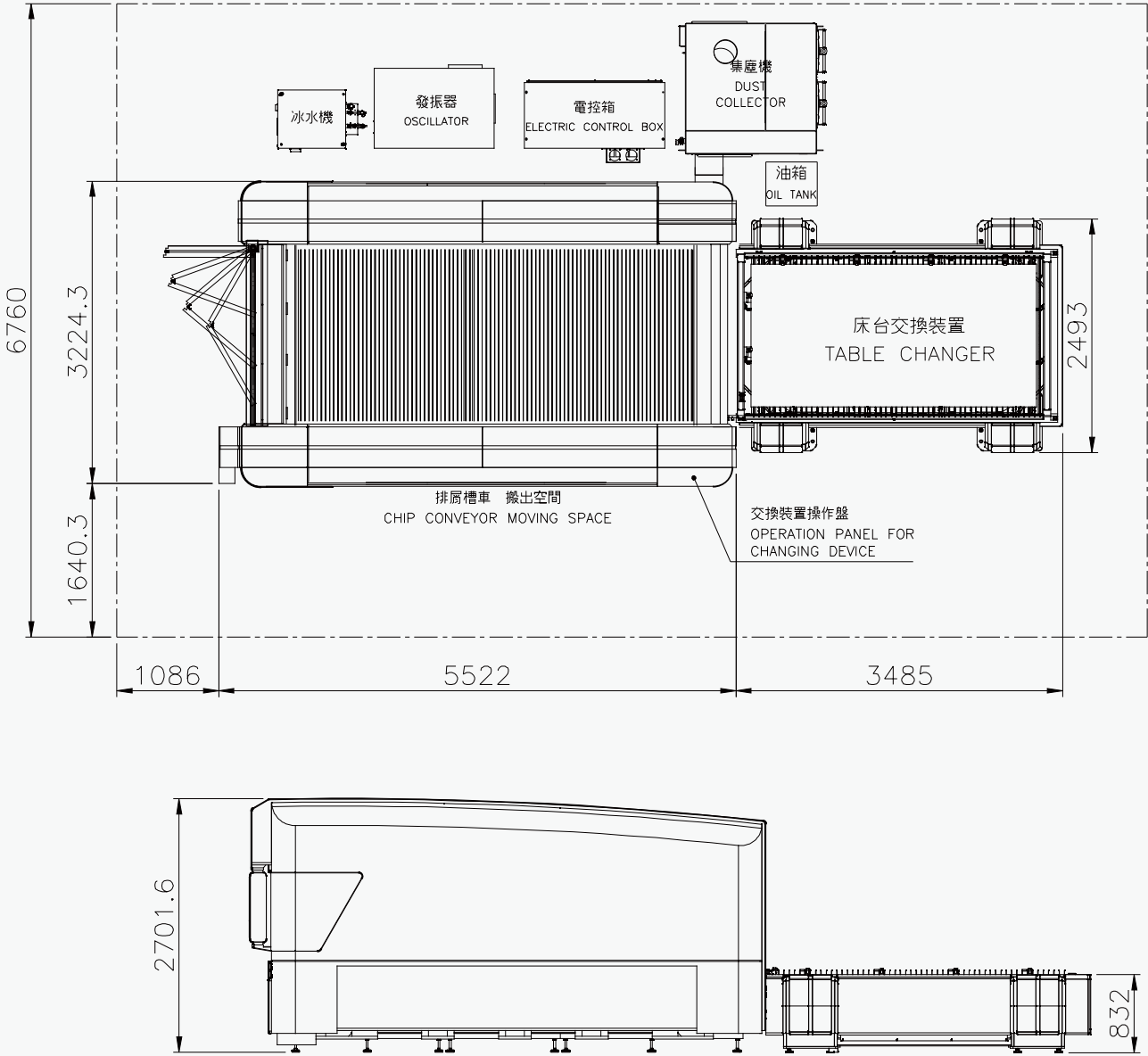
Specifications

| 項目 / 機型       | MODEL                              | UNIT  | FL2000                                                | FL3000                               |
|---------------|------------------------------------|-------|-------------------------------------------------------|--------------------------------------|
| 移動方式          | Movement method                    |       | 三軸同動 3 axes simultaneously controlled                 |                                      |
| 控制方式          | Control method                     |       | FANUC NC : 31i-LB                                     |                                      |
| 加工範圍(X*Y)     | Machining range (X*Y)              | mm    | 3050 x 1525                                           |                                      |
| 移動量(X*Y*Z)    | Travel (X*Y*Z)                     | mm    | 3100 x 1550 x 100                                     |                                      |
| 加工速度          | Machining speed                    | m/min | 28m/min (不鏽鋼 Stainless steel)                         | 45m/min (不鏽鋼 Stainless steel)        |
| 移動速度          | Feed rate                          | m/min | 170                                                   |                                      |
| 加速度           | Acceleration                       |       | 2G                                                    |                                      |
| 最小控制精度(X / Y) | Min. control unit (X / Y)          | mm    | 0.05/500                                              |                                      |
| 重複定位精度        | Repeatability accuracy             | mm    | ±0.02                                                 |                                      |
| 電源供應          | Power source                       |       | AC 3 ph. 4 wires 380V 50Hz                            |                                      |
| 電力供應          | Power supply                       | KVA   | 74                                                    |                                      |
| 雷射源發振器        | Resonator                          |       | FANUC FIBER LASER<br>RESONATOR FF2000i-A              | FANUC FIBER LASER<br>FF3000i-MODEL A |
| 雷射波長          | Wave length of laser               | nm    | 1070±10                                               |                                      |
| 雷射源位置         | Laser source position              |       | 機身短邊 Beside the machine                               |                                      |
| 雷射頭           | Laser head                         |       | 自動預調焦點加工頭 Automatic focus pre-adjustment cutting head |                                      |
| 雷射頭對焦距離       | Focusing distance for laser head   |       | F125                                                  |                                      |
| 發振器混合氣體       | Mixed gas for resonator            |       | 依照各發振器規格 Depends on resonator specif.                 |                                      |
| 切割用輔助氣體       | Auxiliary gas for cutting          |       | 氧氣(Oxygen) 25bar ; 氮氣(Nitrogen) 30bar                 |                                      |
| 工作檯面型式        | Table type                         |       | 油壓舉升系統 Hydraulic lifting system                       |                                      |
| 置檯面交換時間       | Pallet change time                 | s     | 30~38                                                 |                                      |
| 最大工件承載重量      | Max. workpiece load                | kg    | 600                                                   |                                      |
| 預估機台長 x 寬 x 高 | Approx. machine dimensions (LxWxH) | mm    | 8940 x 4790 x 2700                                    |                                      |
| 預估機台重量        | Approx. machine weight             | ton   | 12.05                                                 |                                      |

- 產品規格若有變更，恕不另行通知。
- 依據選用的焦距、光纖碼、搭配型式不同，切割速度會有所差異。
- Specifications are subject to change without prior notice.
- Cutting speed may vary with the selected focus, fiber code and equipment.

FL2000 / FL3000 佔地面積圖 / FLOOR PLAN

最大設置高度: 2,705mm  
MAX. HEIGHT OF EQUIPMENT 2,705mm



單位/Unit: mm