

# **5** AXIS 線性馬達驅動高速加工機

## **5-AXIS LINEAR MOTOR DRIVE HIGH SPEED MILLING MACHINE**

### **FEATURE** 特 | 色 | 介 | 紹

#### **慶鴻線性馬達驅動 *patent***

搭載XY自製線性馬達，無磨耗與背隙問題，減少維護保養成本並大幅提升使用壽命。  
藉由線性馬達驅動所帶來的高響應，尖角及圓弧加工精度表現較傳統螺桿傳動明顯提升。

In house Linear Motor technology is applied to XY axis transmission to get rid of mechanical wear and backlash and greatly extend its life span and cut down the maintenance cost. The high response characteristic of linear motor brings more superior performance on cutting spear and arc profile compared with traditional ball-screw drive system.

#### **慶鴻五軸控制器**

採用自行發高階控制器M6H，支援五軸同動控制，透過內建遠端監控功能，輕鬆掌握機台所有資訊。

Self-developed advanced M6H CNC Controller is supportive for 5-Axis simultaneous movement. Via built-in Remote-Monitoring Function, getting real-time machine information becomes easy.

#### **30,000rpm 內藏式高速主軸**

採用30,000rpm高轉速內藏式主軸，搭配HSC (High Speed Cutting) 加工模式，可於速度、精度與面粗度需求獲得最佳化加工。

With built-in type 30,000 rpm spindle plus unique HSC (High Speed Cutting) work mode, the optimum working result such as speed, accuracy or surface quality can be individually pursued.

#### **天車式結構設計**

天車動柱式結構設計，具備高剛性與動態穩定性，同時擁有較少的佔地面積。搭載創新的A/C五軸旋轉台設計，獲得五軸高精度加工。

Overhead crane and travelling column structure provides with high mechanical strength and dynamic stability and occupies less floor area. 5-Axis precise machining can be required by equipping with A/C Rotary Table.

#### **傘齒輪加工系統**

選配傘齒輪加工套件，可獲得媲美專用機的加工效果。

Optional bevel-gear work kit is available for use to approach various work effect, which can only be achieved by professional customized machinery.



▲ 慶鴻自製線性馬達  
In house Linear Motor



▲ 搖籃式旋轉台  
A/C Rotary Table



**HM3025L**

5-AXIS CONTROL LINEAR MOTOR DRIVE HIGH SPEED MILLING MACHINE

## HM3025L 五軸線性馬達驅動高速加工機

### 規格表 (Specification)

機械本體 Machine Body	機型 MODEL	單位 UNIT	HM3025L
主軸轉速 Spindle Speed (Max.)		RPM	30000
主軸錐度 Spindle Taper			HSK E32
主軸馬力 Spindle Motor (S <sub>1</sub> / S <sub>2</sub> )		KW	3/5
四五軸工作台尺寸 Working Table Size		mm	Ø 220
T型槽規格 T-slot		mm	12
四五軸工作台最大荷重 Max. Load of Table		kg	水平: 100 / 傾斜: 75
行程 Travel (X x Y x Z)		mm	300x250x280
工作台面至主軸端面距離 Distance from table to spindle nose		mm	100-380
加工進給 Work Feed		M/min	10
快速進給 Rapid Traverse (X, Y, Z)		M/min	20/20/30
伺服馬達 X, Y axis servo motor (Max.)			X, Y, 軸為線性馬達 / Z=1.5kw (X, Y Axis Linear Motor / Z=1.5kw)
淨重 Net Weight		Kg	4000

### 標配・選配表 (Standard・Optional Accessories)

● 標配 (Standard) ○ 選配 (Optional)

#### 內藏式主軸 (Built-in Spindle)

HSK E32 / 30000rpm	3.5-5.5kw	●
HSK E40 / 30000rpm	10-13kw	N/A
HSK E50 / 30000rpm	15-17kw	N/A
HSK A63 / 24000rpm	18-23kw	N/A

軸承潤滑 Spindle Bearing Lubrication	油脂 Grease	●
	油氣 Oil Mist	N/A

主軸冷卻 Spindle Coolant System	油冷 Coolant	●
主軸吹氣防塵系統 Spindle Air Blast		●

#### 刀庫/刀具 (Tool Magazine / Tools)

刀庫容量 Tool Magazine System	20支 20 Tools	●
自動換刀系統 Automatic Tool Changer Unit		●
自動刀具測量系統 Automatic Tool Length Measurement		●
雷射刀具檢測系統 Laser Control NT-Blum NTA1		○

#### 控制器 (System Controller)

GENTEC M5HN (5 axis)		●
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#### 切削處理 (Cutting Process / Lubrication)

切削液系統 Coolant Unit	●
切削吹氣系統 Cutting Air Blast	●
油霧回收裝置系統 Oil-Mist Collector	○
圓板式油水分離機 Disk Oil Skimmer	○

#### 操作支援 (Operation Support)

手輪脈波產生器 Manual Pulse Generator (MPG) Hand Wheel	●
網路卡 Ethernet Card	●
X, Y二軸光學尺 2-axis Linear Scale	●

#### 其他 (Other)

電器箱用熱交換器 Cabinet Heat Exchanger	●
三色工作指示燈 3 Colors Alarm Indicator	●
工作燈 Work Lamp (Lightening)	○
工具箱 Tool Kit	●
刀柄 Tool Shank	○
筒夾 Tool Collect	○
空壓冷凍乾燥機 Pneumatic Freezing Dryer(ATC)	○
穩壓器 3 Phase Stabilizer	○
動態記憶體512M DRAM/512M	○
高容量CF系統碟/2G High Capacity CF CARD/2G	○

### 佔地面積圖 (Floor Layout)

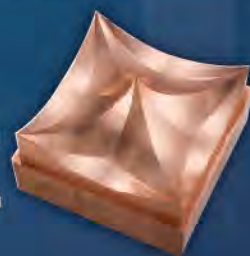
單位: mm



### 加工實例 (Milling Sample)

#### 銅電極模

使用刀具:  
5R, 3R, 2R圓銼刀  
6mm平銼刀  
加工時間: 310min



#### 石墨電極

使用刀具:  
6mm平刀  
2R圓刀  
加工時間: 180min



#### 塑膠射出鋼模 NAK-80

使用刀具: 6mm平刀,  
D10R1, 5R, 3R, 2R, 1R圓刀  
加工時間: 420min

※ 加註(ATC)時, 表示此功能必須與自動換刀系統配合方可使用。  
※ 選配石墨裝置, 則無切削吹氣系統。  
※ 本公司對產品不斷研究改良, 上述規格及設計特性如有變更, 恕不另行通知!

NOTICE:  
The manufacturer reserves the right to modify the design for specification, mechanisms, etc. to improve the performance of the machine without notice, all the specifications above are just for reference.