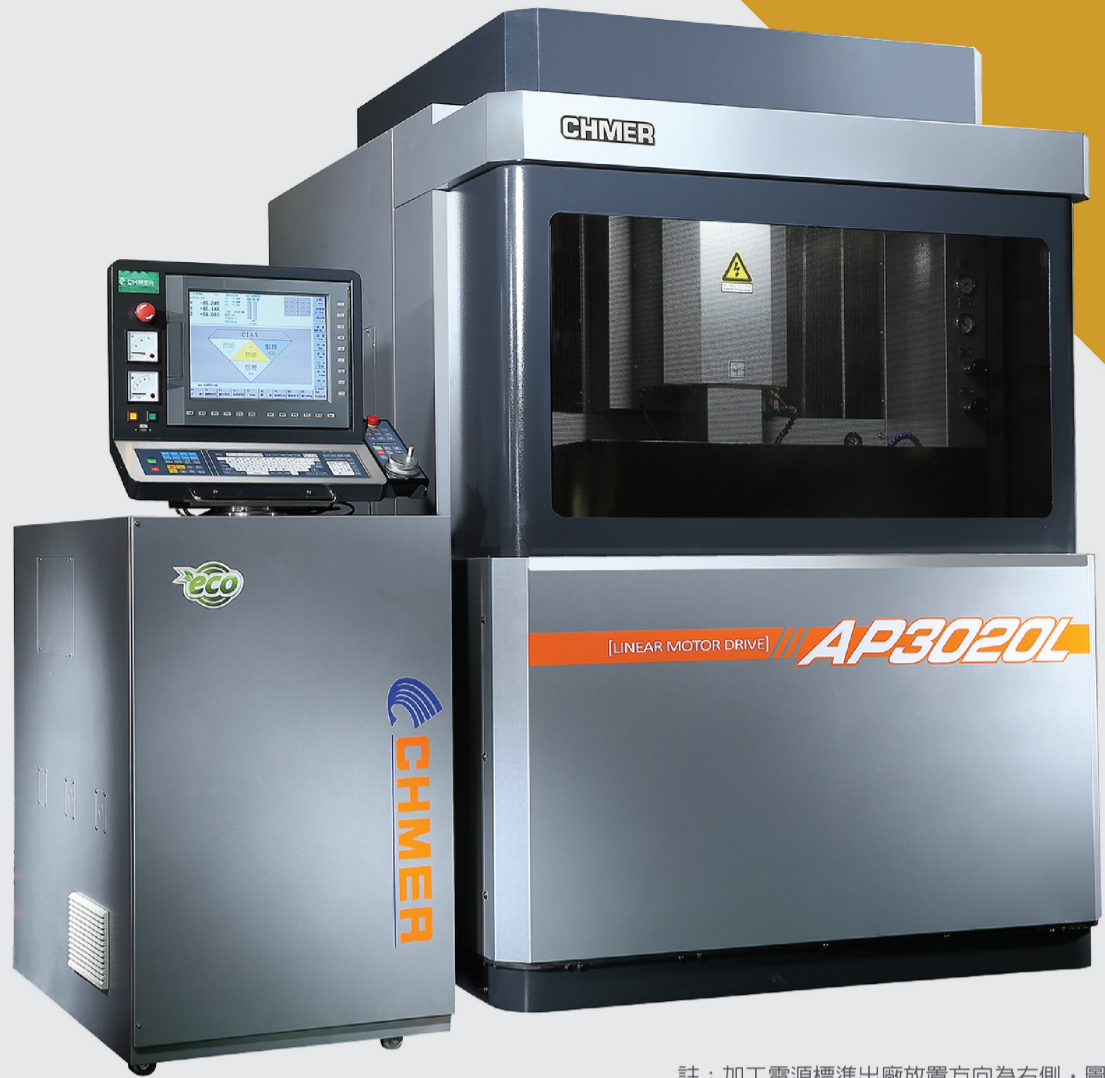




每一個細節，  
都展現我們對品質的堅持

*Every single detail reflects  
our insistence on the quality.*

**AP3020L**



註：加工電源標準出廠放置方向為右側，圖示左側為選購。  
Remark : Power supply is standard at right side, but is option to left side as shown in photo.

## 超精密三軸線性馬達離模放電加工機 Ultra 3 Axis Linear Motor Die Sinker EDM

### 產品特色 Features

#### - 專利式線性馬達 In-house Linear Motor

三軸搭載專利式線性馬達，高速移動、高定位精度及長效使用壽命，加工速度較螺桿機提升 35%；消耗降低 27%。

3-axis equip with patent in-house Linear Motor to achieve the high traverse speed, high positioning precision and long usage life. Compared with ball-screw machine, the working speed increase 37% and electrode wear decrease 27%.

#### - 高精密溫控系統 High Precision Temperature Control System

獨家變頻冷卻技術與全罩式設計，控制機台與加工液溫於  $\pm 0.5$  度 C，實現高精密加工境界的可能。

With unique inverter oil cooling system and full cover design, the temperature of machine body and working liquid can be controlled in  $\pm 0.5^{\circ}\text{C}$  to realize the feasibility of high-precision machining.

#### - SLC 低消耗放電迴路

##### Super-Low wear-Circuit (SLC Circuit)

搭載全新一代 SLC 低消耗放電迴路，適合 LED、精密連接器，與一般迴路相較，降低消耗達 40%，然而加工效率卻是有增無減。

New SLC circuit is designed for LED mold and connector mold of IT industry. Compare to regular circuit, the electrode wear has a40% decrease but an increase on machining efficiency.

#### - 自動 Z 軸氣壓平衡裝置 Automatic Z-axis air pressure balancing device.

首次搭載的獨家 Z 軸氣壓平衡裝置，能在不同的電極重量下，自動調校氣壓值以獲得最佳的 Z 軸平衡，有助優化加工與兼具 Z 軸動力節能。

For the first time equipped with exclusive Z-axis air pressure balancing device that enable the auto-adjustment of Z-axis pressure for best balancing of different electrode weights as an enhancement of effective machining and power saving.

#### - 自動液面高度控制 Automatic working liquid level control

透過壓力感測，自動調整液面高度；搭配自動升降油門，滿足了自動化、智慧生產的需求。

The working liquid level is auto-adjusted through pressure sensors detection. The coordination with auto sliding door fulfils the demand of automation and intelligent production.

#### - 全新優化機械 New Optimized Mechanism Design

新一代高剛性結構設計結合平衡驅動方式，獲得絕佳的機械精度。搭配天然花崗岩平台，有助減少電容效益，降低消耗及獲得絕佳表面。

New high rigid structure and balance drive design obtains optimized mechanism accuracy. The equipment of granite table can reduce the capacitance effect, decrease electrode wear and achieve fine surface.

#### - 自動破孔檢知系統 BTD (Breakthrough Detection)

自動破孔檢知系統可確保在執行複雜零件加工時，可於破孔後迅速停止以避免過加工而傷及其他表面。

While processing complex parts, breakthrough detection system can assure the prevention of overcut by immediately stop right after work-piece breakthrough.

#### - 智能化操作系統 Intelligent System

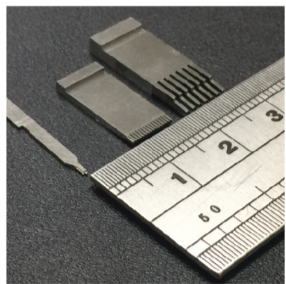
包含生產管理、智能加工、節能及溫度管理與耗材及保養模組，提供更具智慧化的操作與大數據管理。

Includes production management, intelligent machining, energy saving, temperature control and module of consumable parts and maintenance that provides more intelligent operation and big data management.

## 應用加工 Application

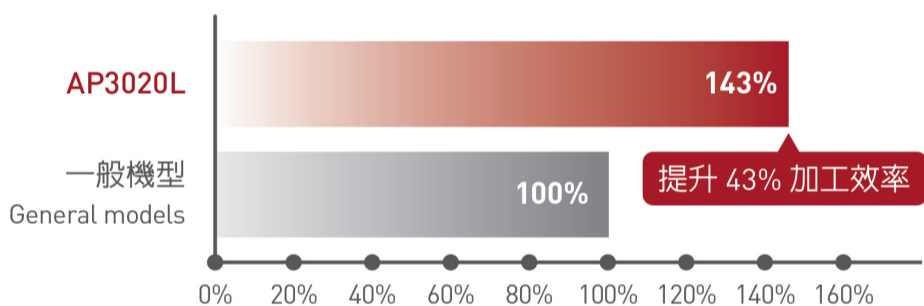
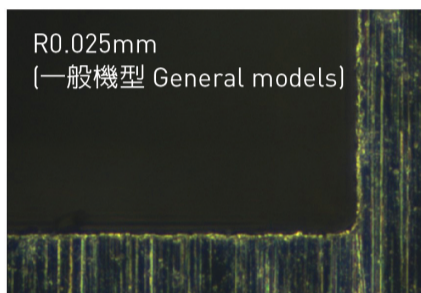
在超精密塑膠模具、LED模具，及IT產業連接器模具上也可有優異的加工表現。

Ultra precision performance that best suits for:  
Precise Plastic Mold, LED mold & Connector Mold for IT Industry.

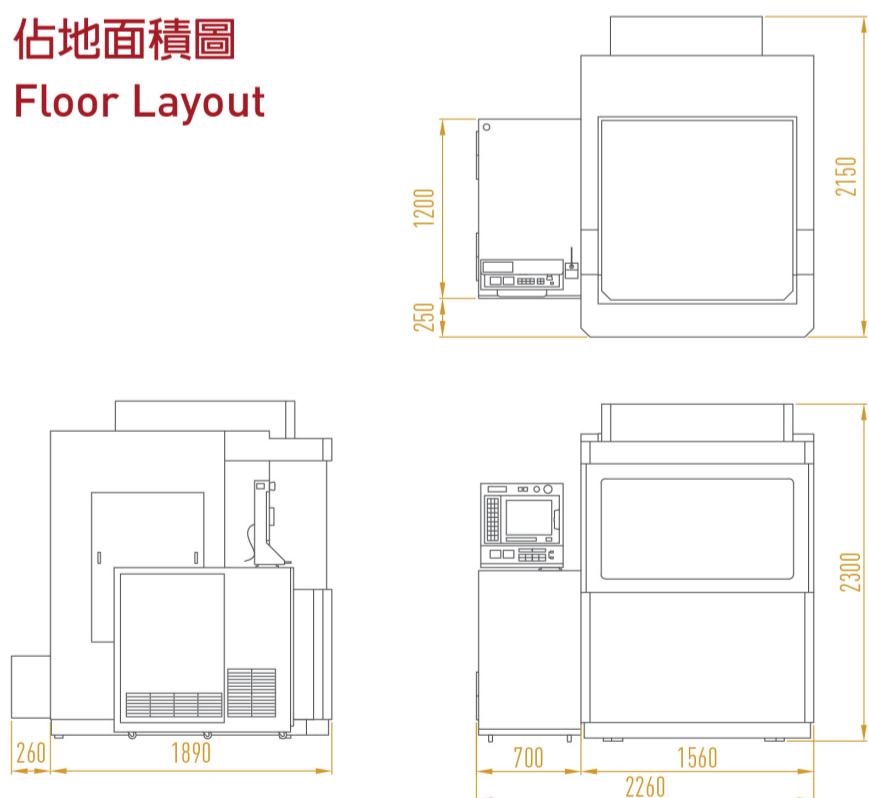


電極材質 Electrode Material	Cooper 紅銅
工件材質 Workpiece Material	Nak80
電極尺寸 Electrode Size	0.5x0.5mm
表面粗細度 Surface Roughness	Ra 0.35µm

## 底部 R 角消耗比較 Better corner wear



## 佔地面積圖 Floor Layout



## 規格表 Spec.

項目 Item	單位 Unit	AP3020L
工作台規格 (寬×深) Work Table Size (W×D)	mm	450×250
工作槽容積尺寸 (寬×深×高) Work Table Size (W×D×H)	mm	800×500×200
工作槽最大工作物尺寸 (寬×深×高) Max. Job Load Size (W×D×H)	mm	750×450×150
X,Y 行程 Table Travel (X,Y)	mm	300×200
Z 軸行程 Z Axis Travel [Z]	mm	200
三軸驅動模式 XYZ Axis Drive	mm	XYZ 軸線性馬達驅動
電極板至工作台面距離 Dist. From Ram Platen to Work Table	mm	160 ~ 360
最大電極重量 Max. Electrode Weight	kg	10
最大工件重量 Max. Work Piece Weight	kg	200
機械本體外觀尺寸 (寬×深×高) Outside Dimensions (W×D×H)	mm	1600×2150×2300
機械淨重 Net Weight	kg	2100
使用氣壓 Pneumatic Requirement	kgf/cm <sup>2</sup>	6
配合油箱 Dielectric Tank	-	DAP32

電源箱 Power Supply	單位 Unit	30N
最大加工電流 Max. Machining Current	A	30
最大輸入電力使用 Max. Power Input	KVA	3
電極消耗比 Electrode Wear Rate	%	0.2
最佳表面精度 Best Surface Roughness	µm/Ra	0.25
電源箱尺寸 (寬×深×高) Outside Dimensions (W×D×H)	mm	700×1200×1730
電源箱淨重 Net Weight	kg	480

過濾箱 Dielectric	單位 Unit	DAP32
加工液容量 Volume	L	480
過濾系統 Filter System	method	紙網 Paper Filter
油泵馬力 Pump	HP	1.2
淨重 Net Weight	kg	內建 Built-in
尺寸 Outside Dimensions	mm	內建 Built-in

選配件 Opt. Accessories
3 支刀 ATC 3 Pos. ATC
永久磁座 Magnet Base
超硬合金加工迴路 Super-Hard Alloy Circuit

