

標準規格 Standard Specification

MODEL	ECO-D1LE	ECO-D2LE	ECO-D5LE	ECO-D6E	ECO-D6NE
軸數 Number of stations	1	2	5	6	6
加工範圍 Working area	660 mm×813 mm	660 mm×813 mm	660 mm×813 mm	560 mm×722 mm	625 mm×824 mm
主軸轉速 Spindle rotation range	160,000 rpm (Option 200,000 rpm)				
鑽針容量/軸 Tool magazine capacity	300pcs				
鑽針徑 Drill diameter	0.1~6.35 mm				
位移速度 X-Y axis rapid traverse speed	60 M/Min				
Z軸位移速度 Z axis rapid traverse speed	30 M/Min				
定位精度 Positioning accuracy	±0.005 mm				
重複定位精度 Repeatability accuracy	±0.0025 mm				
鑽孔加工精度 Drilling accuracy	±0.020 mm				
基準銷 Pin size	Φ3.175				
控制器 Controller	Sieb & Meyer CNC 84				
空壓 Pneumatic pressure	6.0~7.0 kg/cm²				
空氣消耗量 Air consumption	200 L/min	300 L/min	500 L/min	600 L/min	600 L/min
集塵需求 Vacuum requirement	800 L/min,1650mmAq	1200 L/min,1650mmAq	3000 L/min,1650mmAq	3600 L/min,1650mmAq	3600 L/min,1650mmAq
電源需求 Power requirement	9KVA(Avg. 3KVA)	9KVA(Avg. 4.5KVA)	15KVA(Avg. 9KVA)	15KVA(Avg. 9.5KVA)	15KVA(Avg. 10KVA)
機械尺寸 Dimension(L×W×H)	2482×2390×2354mm	2700×2390×2354mm	4202×2390×2354mm	4202×2195×2354mm	4752×2390×2354mm
機械重量 Weight	3,300 KG	3,800 KG	9,800 KG	9,800 KG	10,900 KG

◎規格變更不另外通知。 Specification may be changed without prior notice.

標準配備 Standard Accessories

控制器	Controller : Sieb & Meyer CNC84
自動交換針裝置	Auto drill bit change system(ADC)
大小徑自動切換裝置	Auto tool bush change system(ATBC)
即時斷針檢出裝置CBD	Contact broken bit detector system(CBD)
自動夾板裝置	Auto clamping system(Pin clamp)
隔音罩	Noise cover
自動開閉前門	Automatic opening & closing front door
雷射式針長、針徑、Runout檢出裝置	Laser tool measurement system of tool length and diameter and Run out detect system
集塵閥門	Vacuum shutter
冷卻式乾燥機	Air dryer
精密過濾器	Micromist filter
主軸冷卻裝置	Spindle cooling Unit

選購配備 Optionals

有環、無環針座	Ring & ringless tool pod
3位置大小徑自動切換裝置	3 Position tool bush change system(3P ATBC)
CCD SENSOR針長、針徑檢出裝置	CCD Sensor length diameter check
粉塵式BDD檢出裝置	Dust broken drill bit detector
DSFi即時斷針與板厚檢出機能	Direct SurFace inspection (DSFi)
盲鑽、背鑽機能(深度加工機能)	Depth drilling or back drilling function
加工深度測定機能 (SLM)	Smart layer management
CCD CAMERA補正機能	CCD camera compensation function
單機集塵裝置	Stand-alone Vacuum Unit



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PCB 鑽孔機 Drilling Machine

ECO-DXE Series ECOlogy & ECOonomy



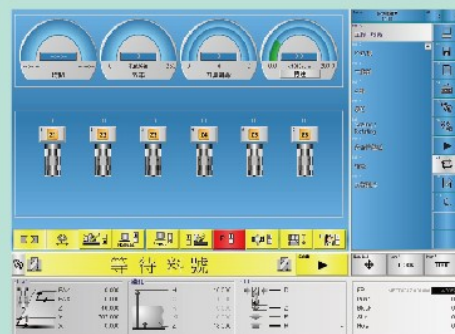
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ECO-DXE Series

人性化的操作系統 Humanity operation interface

搭載Windows作業系統與西伯麥雅控制器，使用PC-based架構利於維護，圖形化操作介面更易於學習與操作。

Sieb-Meyer controller equipped with the Windows operating system, using PC-based architecture is conducive to maintaining and the graphical interface will be easy to learn and operate.



對應多樣化產品 Product diversification

可搭配16、20萬轉主軸，對應不同孔徑大小產品，提供高扭矩、高效益。此外，全新設計新的冷卻系統增加了鑽孔效率，為市場提供了高精度、長壽命及高穩定性-全方位的PCB鑽孔機。

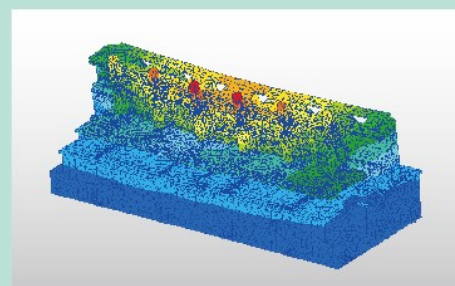
Our drilling machine can equip with 160,200 krpm spindles for different hole-size production to get high torque, high efficiency. In addition, the new design of the new cooling system increases drilling efficiency, we provide the market with a high-precision, long life and high stability - a full range of PCB drilling machine.



高剛性、低振動床台結構設計 High stiffness、low vibration Construction

使用高級鑄鐵為主要材質，經多次電腦有限元結構及模態分析，機械剛性高，吸震性良好，床台不易變形，本體結構全部為鑄鐵一體成型，膨脹係數相同，可確保小孔徑高加工精度。

The main material is high grade cast iron. Utilizing FEM structural analysis and modal analysis, our structure conforms to the high rigidity and excellent vibration-damping properties. The bed is not easy to deform. The one-piece MEEHANITE casting structure provide the same coefficient of expansion to ensure high accuracy of small holes.

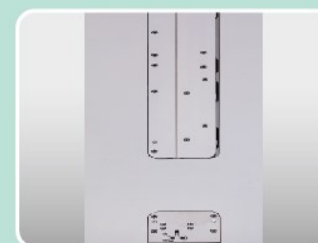


多種對應大板面機款 Corresponding to diversified Large panel products

具有多款對應大尺寸基板機種，從生產樣品用單、雙軸機到大批量生產用五、六軸機均可對應，進而協助客戶降低生產成本。

Provide rich models, corresponding to the various sizes of large panel, from 1、2-axis for sample to 5、6-axis for mass production. Help customer to reduce manufacturing costs.

完備的機能式樣 Complete the functional style



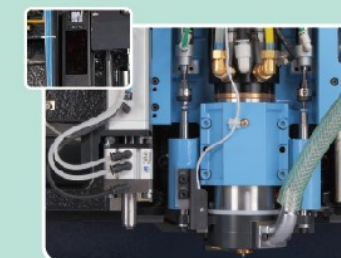
定位銷夾持機構
Pin Clamp System

板面不易隆起，加工穩定提高。
Board face is not easy uplift Improve processing stability.



大小徑軸襯自動切換
Auto-Tool Bushing Changing

針對小徑加工時，切換至專用軸襯提高鑽孔品質。
System can switch to the private bushings to improve drilling quality for the small diameter tool processing.



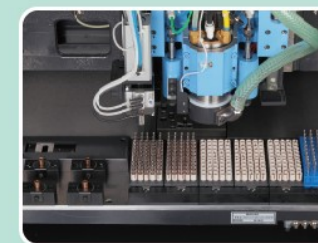
斷針檢測系統
Contact Broken Detector

加工中斷針即時檢出。
Broken tools will be instant detection in the processing.



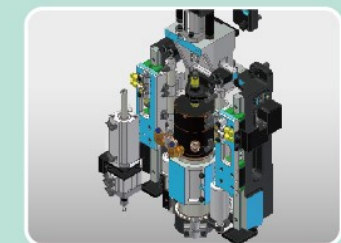
雷射測徑系統
Laser Station

非接觸式鑽針檢測(鑽徑、刃長、偏擺)。
The diameter, length and runout of tool can be measured with non-contact laser sensor.



有環無環鑽針盤設計
Ring and Ringless Cassette Design

有環無環鑽針盤式收納最大至300支。
Ring and Ringless magazines can carry on up to 300 drills in a single axis.



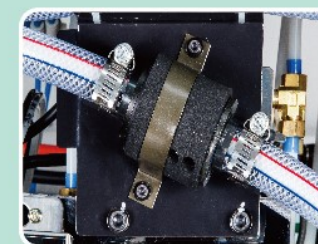
Z軸高剛性結構設計
Modular Device-Z with High Rigidity

馬達、螺桿、主軸、線軌同平面設計，提高傳動效率減少損失。
Motor, ball screw, spindle and linear guide are coplanar, improving transmission efficiency to reduce losses.



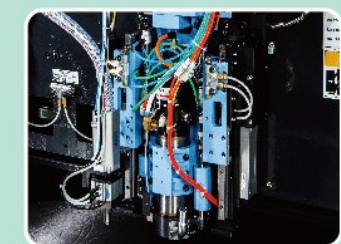
CCD SENSOR測徑模組(選購)
CCD sensor diameter measurement (Option)

高精度針徑檢出裝置，解析精度可達±1um
High-accuracy bit diameter detection device. The analysis accuracy of up to ±1um. This device can detect tool lenk、diameter & run out.



BDD 檢出裝置(選購)
Broken dust detector (Option)

粉塵式斷針檢出裝置，適用於加工軟板、治具版等無金屬導體場合。
Dust type broken bit detection system. It is suitable for processing nonmetallic conductor, such as FPC、Fixture plate.



盲鑽、背鑽加工機能(選購)
Depth drilling or back drilling function (Option)

以加工用鑽針作為檢測SENSOR(DSFi)搭配高精度光學尺，可進行高精度深度加工。
Use the drill bit as the detection sensor (DSFi) with high-accuracy linear scales to do high accuracy depth processing.