

先進鈹金加工設備 最齊全的機種選擇

Advanced Sheet Metal Processing Equipment
The Most Comprehensive Range

ES23

Tailift

Tailift CNC Machine

全電伺服轉塔式沖床
ELECTRO SERVO TURRET PUNCH PRESS



Tailift

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高速、高精度、低耗能、低噪音，
具有沖孔、成型、滾切與攻牙等多
工性能。

High speed, Good accuracy, Low noise,
Energy saving. Multi-functional punching,
forming, roller-cutting and tapping.

台勵福 Tailift

ES23

- ◆ ES23是台勵福新推出的全電伺服轉塔式沖床，採用全電系列AC伺服數控系統，具有高速、節能、高精度與低噪音的特色，加上過負載自動保護設計，是沖壓高精密薄板件的利器。它的集成式組裝方式，有效減少地面安裝空間。因具有沖孔、成型、滾切與攻牙等多工性能，可減少無效率工時的等待，大大提升加工效率。另外節能方面，平均耗電顯著降低，無液壓油的消耗，是環境保護需求的綠色產品，這也是台勵福在研發上全方位思考的重要里程碑。

Tailift's newly launched, ES23, AC Servo drive and numerical control technology. Featured with high speed, high precision, energy saving, and low noise. Equipped over-load protection, ES23 is an effective implement for thinner sheet metal. ES23 combined with processing abilities of punching, forming, roller cutting and tapping, an all-in-one machine. The integration assembly reduces floor space requirements effectively. Low average electricity consumption, energy-saving, eliminating the hydraulic. This ECO friendly product is the major milestone for Tailift's R&D.

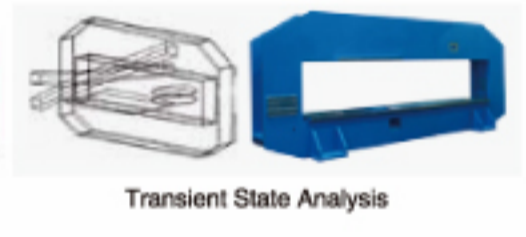
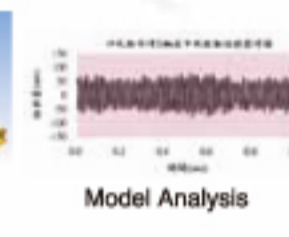
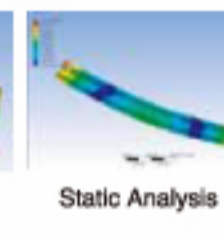
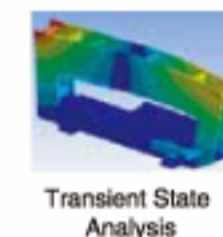


◆ 機身 Frame

機身基座採O型龍門式架構設計，經世界級頂尖實驗室使用結構有限元素分析後，完成機身機座各部結構之靜性結構分析、剛性結構分析、暫態分析等應力結構性資料。

在構造機身基座之材料上，選用高強度鋼材焊接，引進尖端熱處理技術，消除焊接產生的熱內應力，使機身金屬結構完成統一機身機座，在精加工前更再經過高張力測試、正常化處理與震動應力消除等三道防線嚴格把關，使機身組裝精度維持一致性。

The heart of the Tailift turret punch press is its solid and closed "O" frame structure design. The whole frame is fabricated from premium steel, then through applying ANSYS and other advanced techniques to analyze the internal stress, to minimize such internal and vibration stress from heat treatment. Consequently, distortions resulting from the punching process are greatly reduced, ensuring a consistent die clearance and long tool life.



◆ AC伺服數控系統 AC servo electric system

ES23採用的是高階AC伺服馬達，單伺服加曲柄連桿組件，無飛輪蓄能，具有較高的精準度、低噪音環境影響。在沖壓過程中的平均總耗電量是一般油壓機型的一半及無液壓油耗和環保問題。行程及速度可依程式設定達到最佳加工模式，這每年可以節省使用者的消耗成本。

ES23 employs high level AC servo motor in combination with the use of crank type connecting rod without flywheel, leading to higher accuracy and a low noise working environment. In punching operation, its average power consumption is only one-half of comparable hydraulic models and without need of hydraulic fluid as well as no environmental pollution problem. Travel and speed can be set according to programs so as to achieve the optimal machining conditions.



◆ 刀盤 Turret

採用蝸桿蝸輪設計。雙軸同步連桿傳動，定位安全可靠。刀盤擁有34刀站之轉刀盤，可配置1/2"~3 1/4"尺寸的刀具，依據客戶加工需要，自行變換刀具。採用通用規格設計，刀盤上各刀站可搭配各廠牌刀具，如Mate, Wilson。另外，刀盤採同心兩圈式刀站設計，各刀站均使用高強度耐磨之可替換襯套，維修更方便。

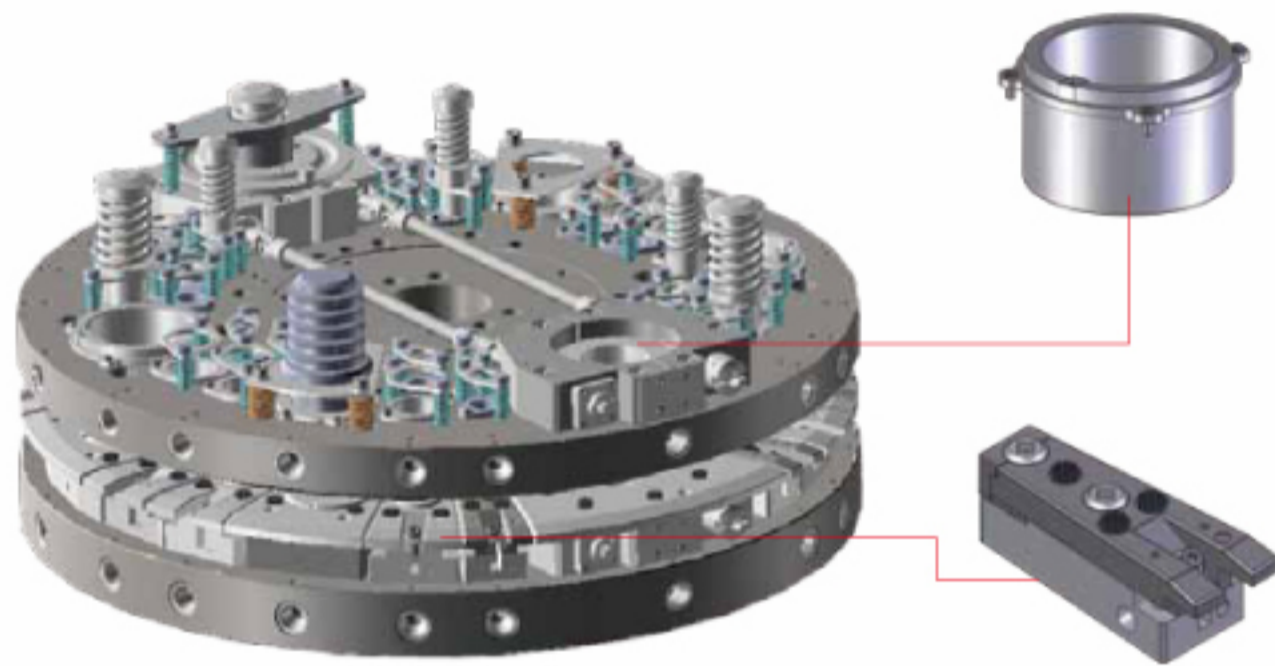
Large turret design, with two concentric circle tool stations, available with 34 stations with 2B auto-index. All the standard thick turret tools from Mate, Wilson or Amada compatible are applicable. Quick and easy tool exchange. Dual-track turret station design increases machine durability and dependable.

34 刀站 stations		
形式 Type	規格 Specification	數量 Qty
A	1/2"	18
B	1-1/4"	10
C	2	2
D	3-1/2"	2
自動轉刀 Auto Index		
B	1-1/4"	2

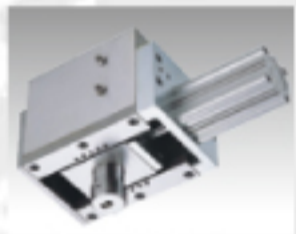
◆ 可換式刀站襯套 Replaceable Station Bushing

各刀站均裝配高強度耐磨之可換式襯套，長期使用後無須拆卸整組刀盤，即可輕易
 保修，縮短保養工時及維修費。

Hardened steel bushings for all tool stations for high precision and durability. Easily
 replaceable when tool station is damaged.



◆ 移動式沖頭 Movable RAM



移動式沖頭，配備超載保護裝置，搭配雙環式刀盤，讓加工更具彈性。

The movable RAM collocated with overloading protector and three
 concentric circle tool stations. Make performance more flexible.

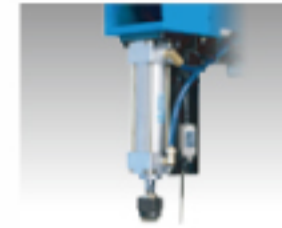
◆ 換爪壓缸 Reposition Cylinder



換爪壓缸由CNC全程式控制，換爪動作快速精準，確保加工精度。

CNC controlled reposition cylinder, to hold the metal sheet in place
 during the clamp reposition process. Fast clamp reposition and ensures
 processing accuracy.

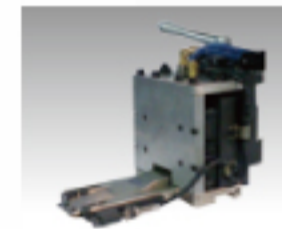
◆ 鈹件變形偵測裝置 Sheet Distortion Sensor



鈹件彎曲自動偵測器，在發生鈹材變形時的自動停止裝置，可避免因
 鈹件變形連帶造成機器與刀具的損壞。

To detect the sheet distortion, shut-down the machine to protect the
 turret and tools from the damage caused by distorted sheet.

◆ 重載型夾爪(附脫料偵測) Heavy-duty Clamp



專利線軌式夾爪，利用線性滑軌做傳動，鋼性佳、作動順暢，提升抗
 扭矩能力，附脫料偵測(選配)，以提高自動化操作的安全性。

Patented linear guide of clamp is transmitted by linear guide. Good
 rigidity, smooth movement and enhanced anti-torque ability. With
 sheet escape detector (option), auto to improve operation safety.

◆ 鈹件防刮裝置 Sheet Scratch Preventer

大刷毛台面 Large Brush Table



- 降低加工所造成的噪音並減少鈹件刮傷。
- Reducing the noise and prevent from scratching the sheet in operation.

換爪壓缸檔塊下沉裝置(選配) Low block (option)



- 檔塊只在換爪時上升，平時低於刷毛表面，避免因與鈹件接觸而發生刮傷。
- This block raises while reposition. Protecting the sheet from scratch by
 reposition block.

下模座防刮刷毛 Die Holder Brush

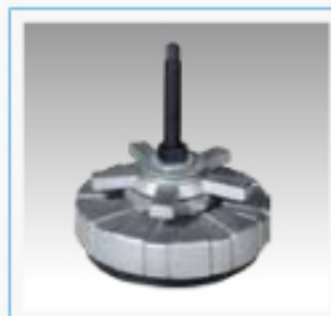


- 下模座搭配可替換式刷毛，以減少鈹件刮傷之可能。
- Die holder collocated with brush, to protect the
 sheet from scratch.



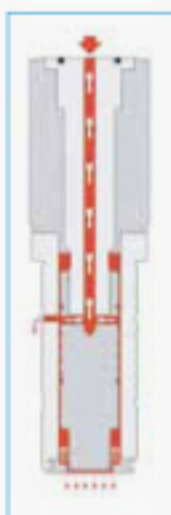
◆ 台珠上升機構 Sporting Ball Set

- 使上料與下料的工作更為輕鬆迅速。
- To support the sheet position while loading and unloading.



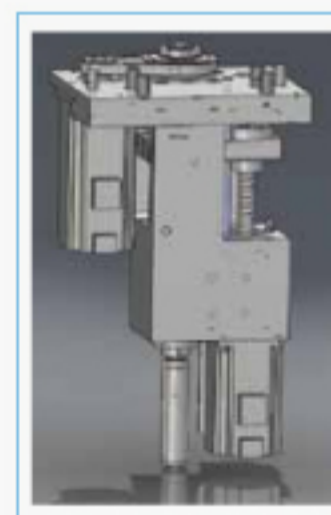
◆ 避震腳墊 Anti-vibration Foot Mounts

- 與地面層的軟性介面設計，可有效緩衝因X、Y軸頻繁的加減速而產生對滾珠螺桿的衝擊，附有水平調整功能。
- Soft interface design to surface ground, can effectively cushion the shock of accelerating and decelerating caused by X, Y frequent working. With the function of horizontal adjustment.



◆ 刀具自動潤滑系統 Tool Auto Lubrication System

- 可程式控制的油霧系統，提供刀具清潔、冷卻與潤滑，有效提高加工品質並延長刀具壽命。
- Programmable air-blow system for tools cleaning, cooling and lubrication, to increase tool performance and extend service-life.



◆ 攻牙系統(選配) Tapping System (Option)

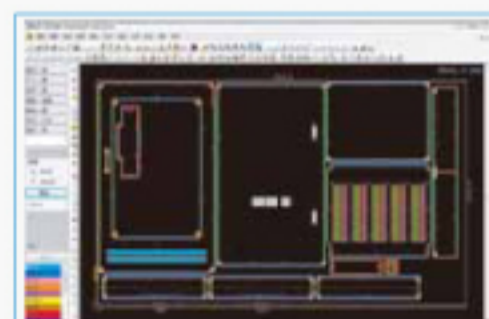
- 高速雙伺服機剛性攻牙系統，單孔1~2秒內完成攻牙，M6以下公、英制牙規任選。附攻牙刀快拆模組，快速更換牙刀。自動潤滑系統，延長牙刀使用壽命。
- High-speed dual servo rigidity tapping system.

Single-hole tapping within 1~2 seconds. Available for M3 to M6 Metric/Imperial system. With quick-release tool unit and auto lubrication.



◆ 日本FANUC 控制器 Japanese FANUC controller

- 新一代FANUC 0i-PD沖床專用高速高精度控制器，搭配全新操作面板設計，服務網遍佈全球，可提供完善快速售後服務。
- New type 0i-PD sophisticated CNC controller with brand-new operator panel. FANUC worldwide branches can provide fast and complete after-sale services.



◆ CAD/CAM 軟件 CAD/CAM software

- Windows版操作畫面，可輕易上手，簡化CNC加工程式設計使用。
- Supporting the entire design to production cycle. Advanced technology combines design, processing, graphic simulation and communication in one single module. Create efficient CNC programs with precision and ease.

規格表 Specifications

項目 Item	單位 Unit	ES23
沖壓噸數 Punching Capacity	公噸 Ton	30
X 軸行程 X Traverse Length	公厘 mm	2490±10
Y 軸行程 Y Traverse Length	公厘 mm	1250±10
最大加工板件尺寸 Max Sheet Size	公厘 mm	1250x4980
最大加工板件厚度 Max Sheet Thickness	公厘 mm	3
工件最大質量 Max Mass of Material	公斤 kg	110
X 軸最大移動速度 X Axis Traverse Speed	米/分鐘 M/min.	80
Y 軸最大移動速度 Y Axis Traverse Speed	米/分鐘 M/min.	70
最大移動速度 Max Traverse Speed	米/分鐘 M/min.	105
最大沖孔速度(孔距 25mm) Punching Speed at 25mm pitch	下/分鐘 hits/min.	370
刀具型式 Tool Type		長刀 Thick turret
沖孔最大孔徑 Max Punching Diameter	公厘 mm	88.9
刀站總數 Number of Tool Stations		34
自動轉刀刀站數 Number of Auto Index Stations	支(型式) pcs(type)	2B
刀盤轉數 Turret Rotating Speed	轉/分鐘 rpm	30
自動轉刀轉數 Auto Index Rotating Speed	轉/分鐘 rpm	100
沖錘行程 Ram Stroke Distance	公厘 mm	0~31
工作台式 Working Table		滾珠+刷毛 Ball+Brush
夾爪數 Number of Sheet Clamps	支 pcs	3
氣壓供應 Air Supply	NL/min	250
氣壓壓力 Air Press	bar	6
分離式電控箱尺寸 Size of Control Cabinet	公厘 mm	2150x700x2000
可控制軸數 Number of Controllable Axis	軸 Axis	6
RAM記憶容量 RAM Memory	KB	512
傳輸界面 Serial Interface		RS232/RJ45/PCMCIA
定位精度 Punching Precision	公厘 mm	±0.1
機器尺寸(長x寬x高) Machine Dimension (L x W x H)	公厘 mm	4690x5105x2110
機器概重 Net Weight (approx.)	kgf	14000

- 產品規格若有變動，恕不另行通知。 Specifications are subjects to change without prior notice.
- X/Y 軸的加減速度依工件的重量而定。 Acceleration / deceleration rate of X / Y-axis are dependent on weight of materials.
- 沖孔速度依不同的加工條件、沖錘行程、加速度及軸的速度而定。 Punch speed depends on processing conditions, stroke length, acceleration / deceleration rate of axes speeds.

佔地面積圖 Floor Space

