

TYC Series

Rubber Compression
Molding Machine
橡膠熱壓成型機系列



TYC Applications

TYC 系列機型成品類別

Automotive spare parts Industry:

Industrial oil seals, Automotive oil seals, Valve seals, Rubber seals, Packings

Information Industry: Electronics, Capacitor rubber seals, LED light sleeves, Rollers

Consumption Goods Industry: Consumer electronics, Seals, Mobile phone protection, Keyboard

Sports Industry: Tennis balls, Yoga mats, Golf balls, Golf clubs, Golf club handles

Bicycle Industry: Rubber grips, Brake shoes, Rubber dust proof seals, Oil seals, O-rings

Carbon Composite Material:

Saddles, Carbon frames, Handle bars, Beverage cages, Carbon wheel sets, Cranks

Electronics Industry: Dielectric resonators and powder metal parts

Traditional Machining Industry: PTFE pipes, Grinding discs, Brake shoes

Lifestyle: Baby nipples, Cup caps, Cake molds, Ice boxes, Insulation mats, Silicon energy hand rings

Household Composite Material: Rubber tiles, Toilet seats

汽機車零件產業：工業用油封、汽機車用油封、汽門油封、橡膠密封件、迫緊

資訊產業：電子、電容器密封橡膠、LED燈管套、滾輪

消費性用品產業：3C產品、密封圈、手機保護套、鍵盤

運動用品產業：網球、瑜珈墊、高爾夫球、高爾夫球杆、高爾夫球杆握把

腳踏車產業：把手、煞車塊、橡膠防塵套、防塵封、油封、O型圈

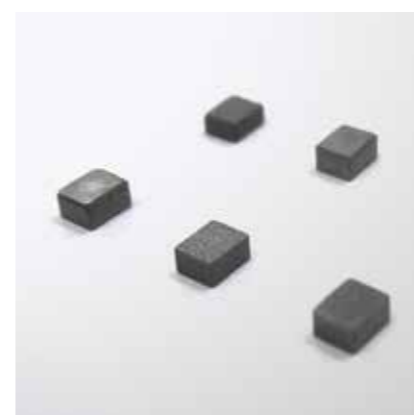
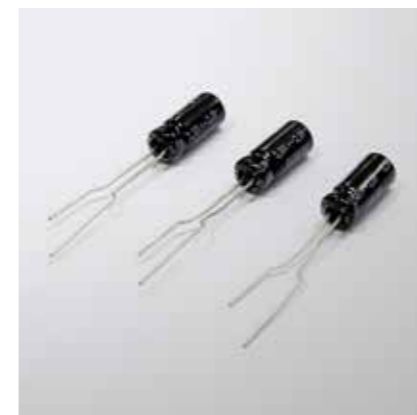
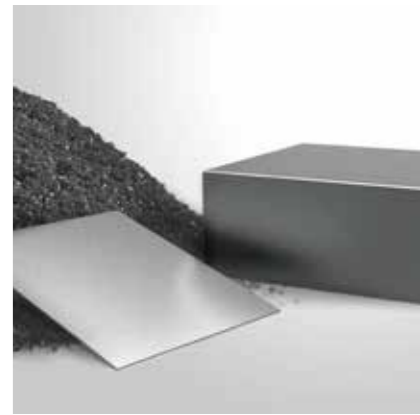
碳纖維複合材料：座墊、車架、車手把、飲料架、輪組、曲柄

電子產業：介電共振器、粉末冶金零件

傳統加工產業：鐵氟龍、砂輪片、煞車片

生活用品：奶嘴、水杯蓋、蛋糕模、冰塊盒、隔熱墊、矽膠能量手環

家庭用品複合材料：橡塑膠地磚、衛浴馬桶座



TYC-16-A-2-S-PCD-SP

Transfer Injection Molding (CE Certified)

轉射前出模機型

Mechanical feature at a glance

- The transfer pot is equipped with thermal oil controller for stable temperature of rubber material.
- The machine has a second transfer function to meet multiple molding requirements.
- 料槽使用溫油循環控制，並可執行二次轉射功能，提供客戶製作多種產品使用。



Products 製造成品

- Aeronautic cabin applications
- Train cabin applications
- Applied material insulations
- Sealing
- 航空機艙
- 子彈列車專用隔熱材
- 特殊應用材料密封件
- 高精度密封件



Features 特寫說明

- Lateral hydraulic ejectors precisely controlled by linear transducer.
- Equipped with temperature regulator for flexible temperature setting.
- 透過位置尺，油壓式上下吊模可精準定位。
- 採用溫度調節控制系統，客戶可依據各樣膠料調整所需溫度。

TYC-V-22-4RT-2-S-PCD-SP

Continuous Transfer Injection Type - Lateral Rubber Loading

連續轉射機型－側進式

Mechanical feature at a glance

- Advanced 3 and 4-layer continuous transfer injection with vacuum design.
- Injection pot equipped with cooling system for consistent molding.
- Double stations configuration, with lateral or rear loading that save space and increase productivity.
- 創新真空三層及四層出模連續轉射技術。
- 加硫過程中原料置於原料槽搭配冷卻系統可多次使用，改善傳統每模投料的殘料浪費，大幅節省成本。
- 雙機構型，原料槽可設計於兩側或後側進出，節省空間，增加產能。



TYC-16-S-PCD-SP

Rear Rubber Loading

連續轉射機型－後進式



Products 製成品

- Valve stem seals
- Air valves
- Anti-vibration rubber for electronics
- Capacitor rubber seals
- 汽門油封
- 球類氣門嘴
- 電子用避震矽膠
- 電容器密封橡膠

TYC-V-18-R-2-S-PCD

Rail Type 軌道式機型

Mechanical feature at a glance

- Mold plate turnover at 60°, custom design available.
- 模板可60°翻板，方便成品取出，可提供客製化設計。

Products 製成品

- O-rings / Gaskets / Rubber sheets / Keyboards
- O型環 / 墊片 / 橡膠薄膜 / 鍵盤



Tennis Ball Production Line 網球生產線專用機流程

- Optional punching machine 選配TPS-35沖床

R (RAIL): Rail Type 軌道式



TYC-24-A-S-PCD-SP

Top Transfer Injection Type - Ergonomics Low Working Height 上置式轉射機型 - 低床型設計

Mechanical feature at a glance

- Ergonomics design : moving spacer for low working height.
- Multi-stage settings for pressure and time.
- Concealed position control system.
- Fully safety caging protection complies with CE standard.
- 低床型專用之移動墊塊。
- 多段式加壓和時間設定。
- 隱藏式定位系統。
- 完善的CE安全保障措施。



Products 製成品

- Rubber rollers
- Big size piping seal connectors
- 橡膠類滾筒
- 大型水管接頭



Features 特寫說明

- Add or remove spacers for mold height with short stroke.
- 可根據不同的模具高度調整墊塊數量，以達到所需之行程。

TYC-30-2RT-PCD-2L

Double Decks Shuttle Type

雙層出模機型

Mechanical feature at a glance

- Optional to use either single mold or two molds in production and shuttle for both sides.
- 一次可同時加硫一副或兩副模具，並由前後同時取出成品，大幅提升生產效率。

Products 製造成品

- O-rings / Packings / Bike brakes / Miscellaneous rubber molded parts
- O型環 / 迫緊 / 腳踏車煞車片 / 各類橡膠雜件



TYC-22-2A-S-PCD

Double Shuttle Type

前後出模機型

Mechanical feature at a glance

- Highly efficient front and rear shuttle system which increases productivity and saves labor cost.
- 前後出入模設計，兩副模具交替使用，大幅增加產量並節省人工。

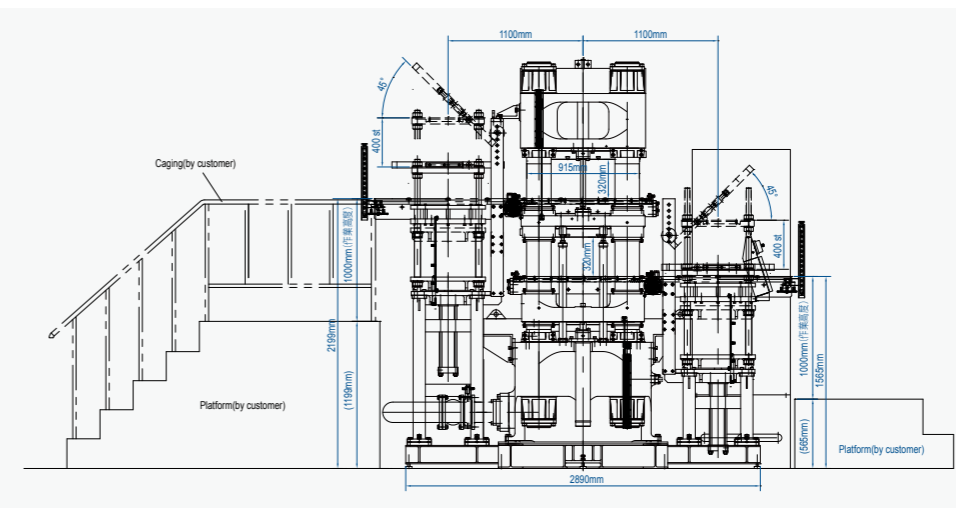
Products 製造成品

- Bike brakes
- Bike hand grips
- Shoe accessories
- Anti-vibration rubber

- 腳踏車煞車片
- 腳踏車手把
- 鞋類橡膠素材
- 減震橡膠



Dimensions 構造



Features 特寫說明

- Multi-deck and shuttle design for customer's different production needs to increase productivity.
- 雙層雙出模與單層雙出模設計，可提供客戶不同生產模式，提升生產效率。

TYC-V-16-4RT-2-S-PCD

Advanced Multi-layer Demolding Type

特殊多層離型機型

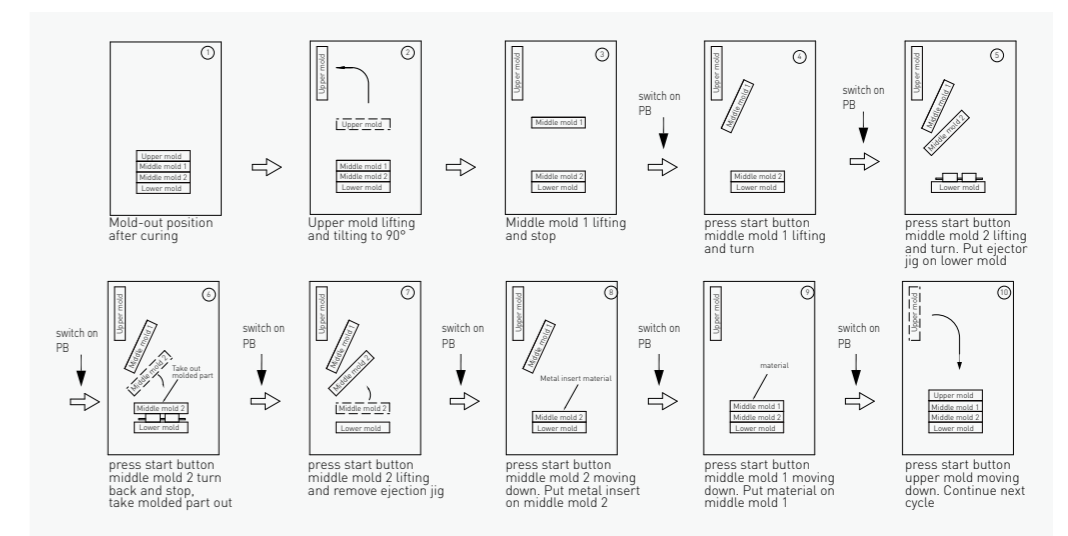
Mechanical feature at a glance

- 4-layer mold can be run in different demolding sequences.
- 四層模具離型專用，搭配多變式模具進行不同順序脫模。



Features 特寫說明

- Low working height demolding mechanism.
- Various demolding process.
- 脫模部油缸特殊配置有效降低工作高度，易於進行操作。
- 不同離型流程控制。



Products 製造成品

- Large oil seals
- Automotive parts
- Complex rubber parts
- 大型油封
- 汽機車雜件
- 特殊橡膠製品

TYC-V-14-4RT-S-PCD

Advanced Multi-layer Demolding Type

特殊多層離型機型

Mechanical feature at a glance

- Multi-function 4-layer mold demolding allows cured products to be easily removed.
- 多功能四層模完全離型，成品可輕易取出。

Products 製造成品

- Complex oil seals / Automotive applications / Electronics parts
- 特殊型油封 / 汽機車零件 / 電子零件



TYC-10-3L-PCD-UP

Multi-Deck Type (Down Stroke)

多層開檔熱壓成型機（上置式）



Mechanical feature at a glance

- This model is designed for vulcanizing multiple molds in one simultaneous process, saving a great deal of time and production cost.
- 一次可同時加硫多副模具，大幅節省時間成本。
(此為附加安全圍欄機型)

Products 製造成品

- Clutches
- Brake linings
- Composites
- 汽機車離合器
- 煞車來令片
- 各類複合材料

TYC-V-22-3RT-2-S-PCD

Mechanical feature at a glance

- 90°&180° mold plate flip.
- Cured products can be ejected from top or bottom of mold plates.
- 90°&180°翻板。
- 成品可由模具正面及反面雙向拍出。

Products 製造成品

- Gaskets
- Automotive applications
- Electronics parts
- 汽缸墊片
- 汽機車零件
- 電子零件



Clean Room Vacuum Compression Molding Machine (CE Certified)

無塵室級真空熱壓硫化成機型

Mechanical feature at a glance

- Specialized for manufacturing medical stoppers.
- Disposal syringe inner pistons.
- Miscellaneous medical/rubber articles.
- Specially designed for clean room to make all types of precision rubber products such as aeronautic O-rings.
- 丁基膠醫用瓶塞專用。
- 一次注射針筒內部活塞。
- 其他各種醫療橡膠製品。
- 無塵室專用設計，可生產各種精密橡膠製品，如航太O型環等。



Clamping Unit fully sealed to prevent from foreign particle.
合模機構採無塵密封設計，阻絕外部汙染



Products 製造成品

- Pharmaceutical applications
- Medical stoppers
- Aeronautic seals
- High precision seals
- O-rings
- 醫療用瓶塞
- 航太用密封件
- 高精度密封件
- 特殊應用材料
- O型環

CE Safety Conformity Type - Double Stations 歐洲CE安全規範機型－雙機型

Mechanical feature at a glance

- CE certificate for Machinery Directive 2006/42/EC.
- Safety Guarding with interlock plugs for operator protection.
- Safety Light Curtain TYPE 4 to comply with CE regulations .
- Custom design available for CE conformity presses.
- 機構設計完全符合歐洲CE安全規範。
- CE型安全圍網附有安全互鎖功能，確保操作人員之工作安全。
- CE型安全光幕(電眼)採用符合安規之TYPE 4 等級。
- CE型機構可依客戶要求承製。



Single Station 單機型



Each model certified
by CE institute.

各機型皆經由 CE 認證單位
實際驗證取得證書。

Four Stations 四聯台機型



TYC-V-2RT

Vacuum Compression Molding Machine

真空熱壓成型機



TYC-V-3RT

Vacuum Compression Molding Machine

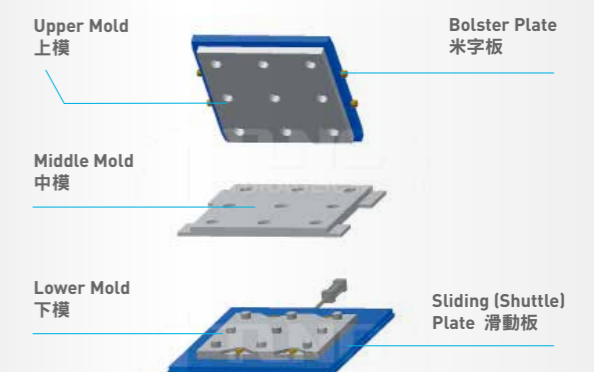
真空熱壓成型機



2-Layer Mold (2RT) Demolding Way 兩層模具離型方式示意圖



3-Layer Mold (3RT) Demolding Way 三層模具離型方式示意圖



Punch Machine 油壓沖床



Mechanical feature at a glance

- This machine is designed especially for cutting the final products, capacitor and medical products.
- 適用於橡膠成品沖斷、電容器橡膠封口、瓶塞及醫療器材等橡膠另件。



ITEM 項目		TPS-35-PC
Cylinder (main frame)	主機油缸	FA 150 x 110
Cylinder (ejector)	拍板油缸	FA 50 x 125
Cylinder (shuttle mold)	送模油缸	FA 40 x 265
Punch force	總出力	35 tons
Working pressure	油壓使用壓力	200kg / cm ²
Horsepower	使用馬力	7.5 HP
Blow material system	吹料裝置	Compressed air 壓縮空氣
Safety system	安全裝置	Start by hand 雙手啟動
Net weight	機械重量	1230kg
Gross weight	裝箱重量	1430kg
Wooden package size	裝箱尺寸	L1540 x W1130 x H1800

Mechanical feature at a glance

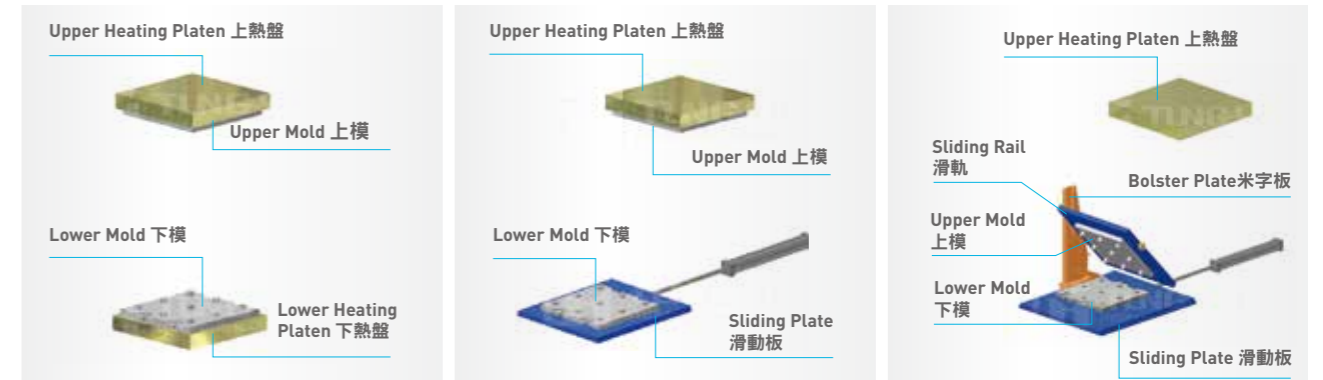
- Suitable for hardware punching, such as bearing, bushes and wire guide assembly.
- 適用於五金零件沖壓，配合軸承、軸襯及裝配導線作業。

TYPE 型號	Output 出力	Stroke 行程	Piston dia. 活塞桿直徑	Horsepower 馬力	Falling speed 下降速度	Lifting speed 上升速度
TPS-5	5	200	55 m/m	3HP x4P	2.5 (m/min)	4.8 (m/min)
TPS-10	10	250	80 m/m	5HP x4P	3.7 (m/min)	10.3 (m/min)
TPS-15	15	250	90 m/m	5HP x4P	2.3 (m/min)	4.9 (m/min)
TPS-20	20	250	100 m/m	5HP x4P	3.7 (m/min)	2.9 (m/min)
TPS-30	30	300	100 m/m	71/2HP x4P	2.5 (m/min)	4.5 (m/min)
TPS-40	40	300	125 m/m	71/2HP x4P	3.9 (m/min)	3.4 (m/min)



Demolding Mechanism 脫模機構說明

Other Ways for Mold Opening 其他開模方式



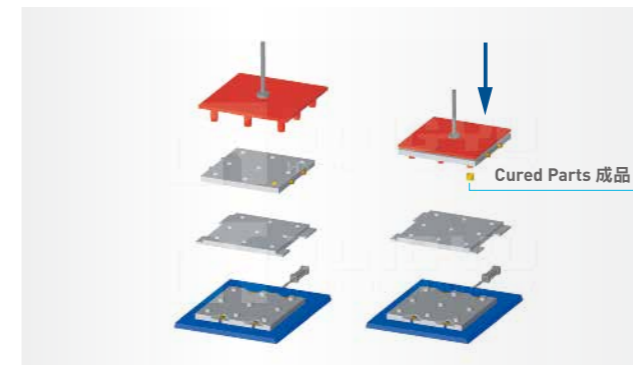
O : Auto Up / Down 自動上升 / 下降

A : Lower Mold In / Out 進出模

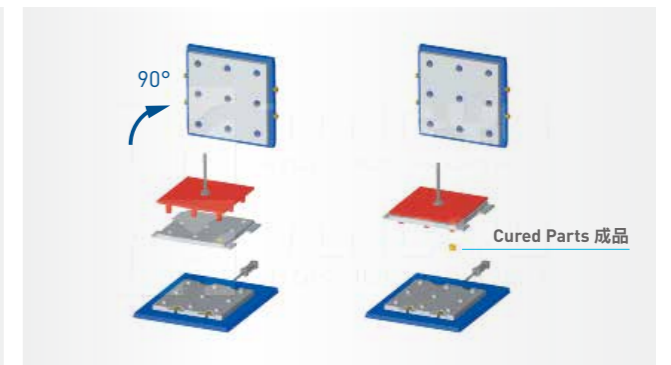
R (RAIL) : Rail Type 軌道式

Optional Demolding Instruction 拍板裝置可選擇使用下列頂出方式

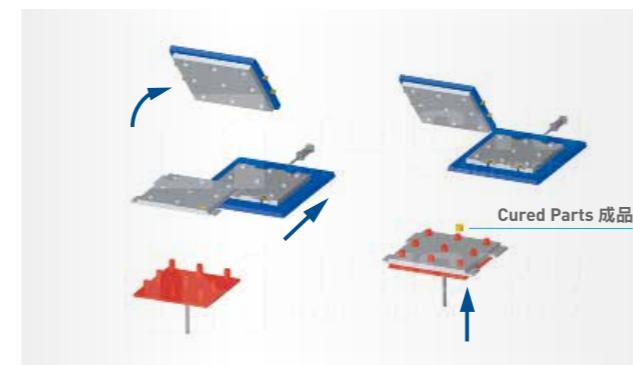
Upper Mold Ejection by Upper Ejector
上拍裝置頂出上模成品



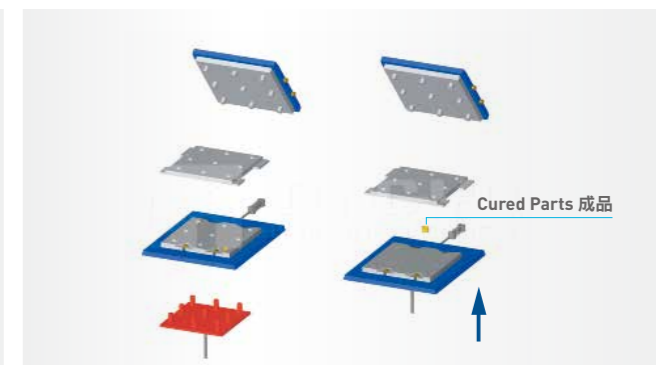
Middle Mold Ejection by Upper Ejector
上拍裝置頂出中模成品



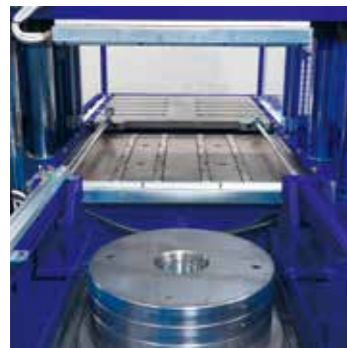
Middle Mold Ejection by Lower Ejector
下拍裝置頂出中模成品



Lower Mold Ejection by Lower Ejector
下拍裝置頂出下模成品



Optional Accessories 選購配備



Lower Working Height 低底床

Add or remove spacers for mold height.
可根據不同的模具高度調整墊塊數量，以達到所需之行程。



Proportional Pressure and Flow System 比例式壓力流量系統

Value setting on touch screen, increased precision of flow and pressure control.
數據於觸控螢幕上設定，壓力及流量控制更精確。



Top / Bottom Hydraulic Lateral Ejectors 上下吊模

To synchronize several opening levels. Guiding rods connected through a rack and pinion system.
上 / 下吊模裝置可運用於不同高度，雙側導桿與齒排相連並有機械式同步裝置。



Full Color Touch Screen 大尺寸彩色人機

Ease of operation, parameter setup and monitoring.
方便人員操作，參數設定與監控。



Linear Transducer 位置尺

Available to monitor stroke values and settings on touch screen.
透過人機可監控並設定油缸的行程。



Safety Sensor & Light Curtain 安全電眼

Combined with PLC control system, ensures full protection of operators.
搭配PLC控制程式，確保操作人員安全。



USB Mould Saving USB 模具儲存裝置

USB for mould saving on front cabinet.
電控箱前方設置USB供模具儲存使用。

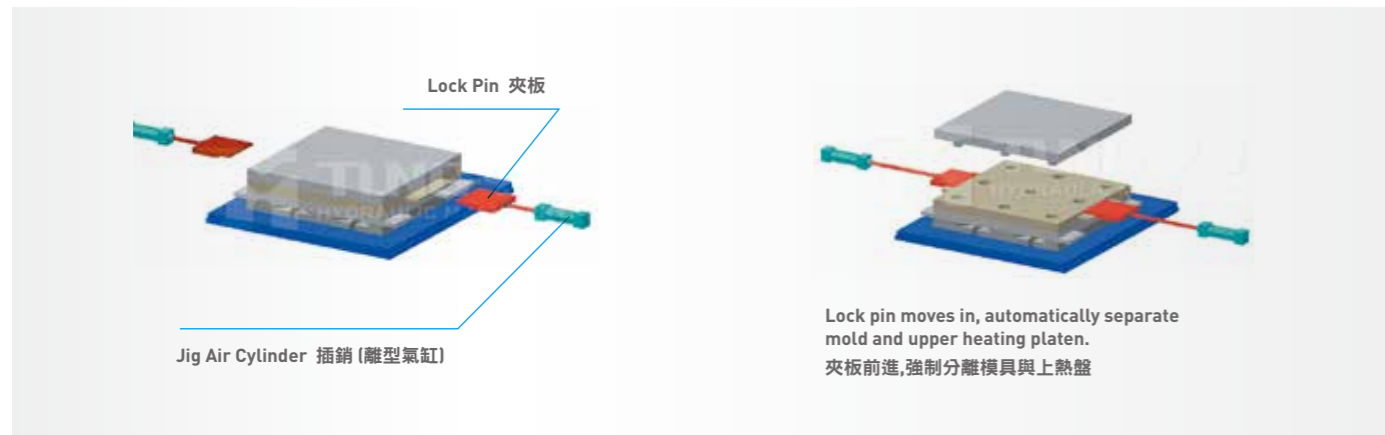


HMI Design 人機介面

Digital system control combined with PLC for easy setup and operation.
觸控螢幕：數位化系統控制配搭PLC連線，操作設定更方便。

Jig Air Cylinder (Lock pin) 插銷

Separates mold from upper heating platen to prevent mold from damage.
強制分離模具及上熱盤，模具不因橡膠料凝聚產生脫模不完全現象，可避免損壞情形發生。

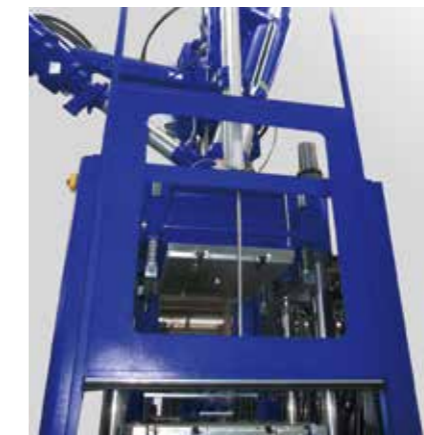


Safety Guard & Cage 安全護罩

Ensures fully protection of operator and reduces heat loss.
確保操作人員安全，同時減少熱源散失。



Full cage 全包式



Pneumatic safety door 氣壓式安全門



Front kit with acrylic cover 壓克力罩

TYC Model Guide 型式說明

TYC						S	
Column (post) Type 柱型		Vacuum Device 真空裝置	Piston Dia. (inch) 活塞直徑(英吋)	Layer of Mold Strip 離型模數	No. of Station 連結台數	Main Ram Outside Type 主缸外露型	Control System 電氣控制方式
Code 代號	Description 說明	Code 代號	Description 說明	Code 代號	Description 說明	Code 代號	Description 說明
Omit 無	No Vacuum 無真空	10	(=100 tons)	Omit 無	Open & close 無出模	Omit 無	Single station 單機
V	Vacuum 有真空裝置	12	(=150 tons)	A	Lower plate shuttle out 下模板出模	2	Double stations 雙聯合
		14	(=200 tons)	R (Rail)	Rail (clam shell) type 軌道出模	3	Three-station 三聯合
		16	(=250 tons)	2RT	2-layer mold strip 二層脫模	4	Four-station 四聯合
		18	(=350 tons)	3RT	3-layer mold strip 三層脫模		
		22	(=500 tons)	4RT	4-layer mold strip 四層脫模		
							PCD
							PLC+HMI (touch screen) PLC+觸控螢幕

Technical Specifications 機器規格表

Machine Type	機型		TYC-V-10-	TYC-V-12-	TYC-V-14-	TYC-V-16-	TYC-V-18-	TYC-V-22-	
Clamping Force	鎖模力	ton	100	150	200	250	350	500	
Heating Platen Size (L.R. x F.B.)	熱盤尺寸(左右x前後)	mm	405x430	450x480	505x510	570x610	700x700	700x700 / 800x800 / 950x800	
Daylight (max.)	最大開檔	mm	300						
Stroke (max.)	最大行程	mm	250						
Heater Capacity Per Station	電熱容量(熱盤)	kW	8.4	8.76	18.3	18.3	21.9	34.8	
Connection Station Per Set	可連結台數		1,2,3,4				1,2		
Turnover Degree	翻模角度	°	45°						
Piston Diameter	活塞直徑	mm	250	300	355	400	457.2	560	
Vacuum Stroke	真空罩缸行程	mm	160	160	160	200	200	200	

Remarks 備註

- * Custom design available.
- * 規格可依需求客製化設計。