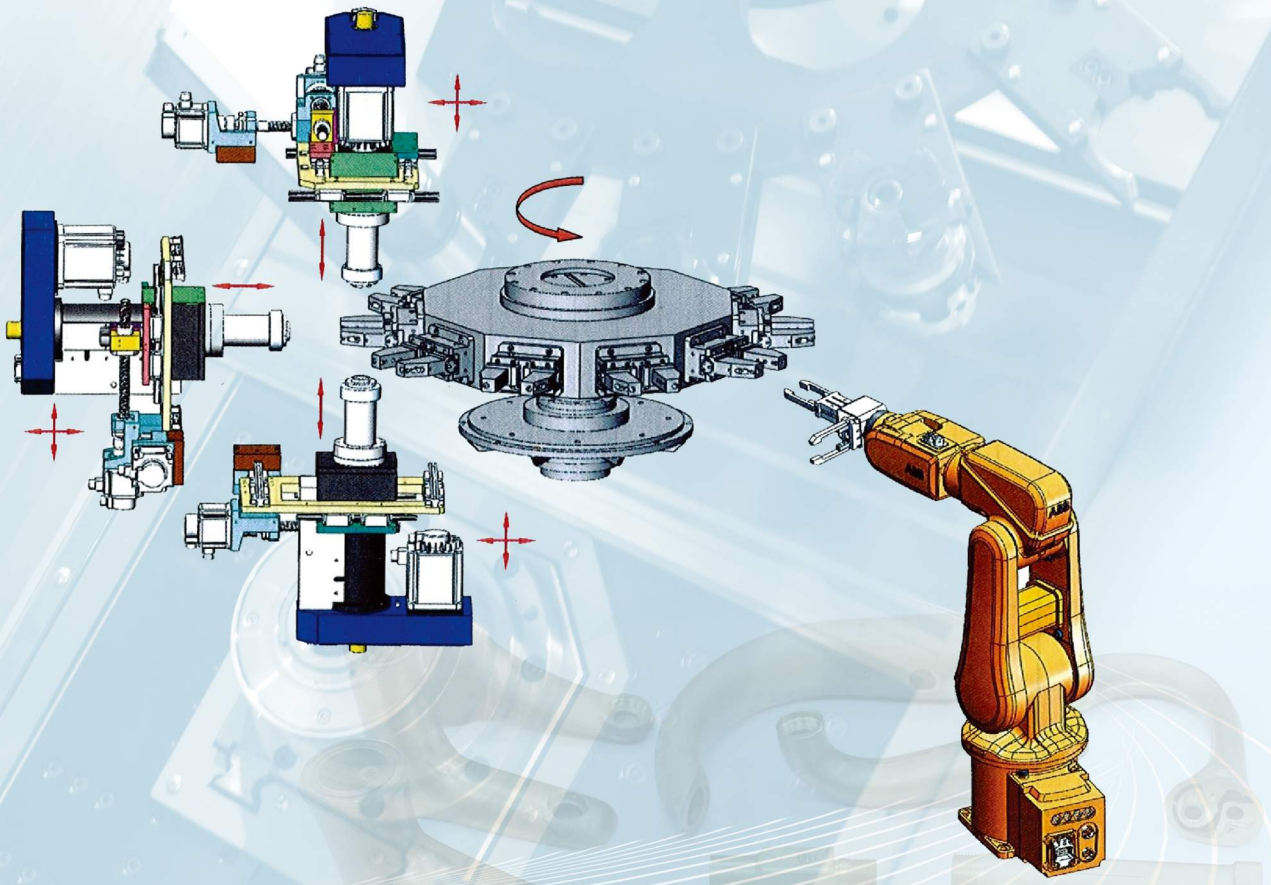
KAIHUNG

*Rotary Transfer Machine
*Rotary Machining Center
*CNC Two Way Processing Machine

專機與泛用機：轉盤多軸加工機、多軸轉盤加工中心機
CNC二路加工機、水車多軸加工機



凱泓機械股份有限公司
KAI HUNG MACHINERY CO., LTD.
http://www.kaihung.com



公司簡介The company introduction

本公司成立於西元1991年，從事水車/轉盤式組合機床、NC自動化供料系統、軸件盤件自動矯直機、彎管削角加工機、閥門/洁具/燃氣零件加工整廠設備、自動化生產線、汽機車零件生產線及非標準類專用機械設計製造。成立之初以單機設計製造為主，但在客戶有感單機半自動化機械，人工成本增加，管理問題層出不窮，漸漸導入做單機自動化與多機自動化來達到客戶的需求，我們有專業的研發團隊，可依您的需求做出符合您的機械，並提高產品的品質與生產量。西元2007年因大陸市場需求，在浙江省嘉善縣成立嘉善凱泓機械有限公司，就近服務大陸客戶。
近幾年致力研發NC、CNC 3D(水車)鉆銑複合轉盤加工中心機，以及整廠自動化生產線，同時也榮獲各廠商的認同。浙江盾安集團於2010年下單十四台NC 3D(水車) [2010年以前有52台水車及轉盤式加工機]，2011年榮獲玉環艾迪西集團60台NC 3D(水車)一年量的訂單 [2010年以前有11台水車的訂單]，2014年榮獲山東雙港活塞公司訂製引擎活塞生產線。
目前銷售市場有台灣、大陸、韓國、日本、東南亞地區、中東地區、土耳其、德國、美國、巴西等.雖然本公司成立才二十多年的時間,但是在各位同仁齊心努力下共同奮鬥.以及吸取各方面資訊,研討開發,在自動化機械工業界漸漸打出一片天下,銷售市場遍及世界各國;目前因業務量之大增,現有廠房不足使用,已經遷入台南永康科技工業園區8000平方公尺廠房,希望和貴公司配合之下更能開花結果。

The company was founded in 1991, and specializes in the design and manufacturing of vertical/horizontal type rotary transfer machine, NC automatic feeding system, auto shaft/disk straightening M/C, elbow facing machine, whole plant equipment of valve/sanitary/gas parts processing, motor auto production line, car/motorcycle parts processing M/C and specialized machineries. During initial stages, the company was mainly involved in individual machine design and manufacturing, but in light of client concern about the increasing cost of labor and management problems of semi-automatic machinery, the company gradually became involved in automatic machine(s) to meet client needs. We have a professional R&D team that can develop machineries to meet your specifications and help you improve product quality and throughput. In 2007, in response to the growing needs in China, JIA SHAN KAI HUNG MACHINERY CO., LTD. was established in Jiashan County, Zhejiang Province to serve our Chinese clientele.
In recent years, we have been dedicated to the R&D of NC, CNC 3D (vertical type) drilling and milling complex rotary transfer machines as well as whole plant automatic production lines, receiving recognition from various manufacturers. ZHEJIANG DUNAN Group ordered 14 sets of NC 3D (vertical type) complex rotary transfer machines in 2010 (the firm also ordered 52 sets of vertical type and horizontal type rotary transfer machines before 2010). In 2011, YUHUAN IDC Group ordered 60 sets of NC 3D (vertical type) complex rotary transfer machines over the period of 1 year (the firm also ordered 11 sets of vertical type rotary transfer M/C before 2010). In 2014, SHANDONG SHUANGGANG PISTON CO., LTD. ordered an engine piston production line from us as well.
Currently, our products are marketed in regions such as Taiwan, China, Korea, Japan, Southeast Asia, Middle East, Turkey, Germany, the USA and Brazil etc. With a history of a little more than 2 decades, we have gradually established our reputation in the automatic machinery industry thanks to diligent work from our colleagues, who have absorbed comprehensive information to facilitate product R&D. Our markets are spread across different countries around the globe. Due to significant increases in sales, our existing plants are no longer sufficient to cope with the demand; therefore, we have relocated into the 8,000 m2 plant in Yongkang Technology Industrial Park. By forging a partnership with your firm, we hope to generate boundless business opportunities in the future years to come.



不斷改善與研發，追求完善的工件製造，
打造泛用型專機。
運用 SolidWorks 3D CAD 軟體，提高機
台嚴謹度。

Keep improving and developing. Pursuit of perfect work presentation. Manufacture generaltype special purpose machine. We use SolidWorks 3D CAD software to raise theaccuracy of machine.



精密組裝室
Precision Assembly Workshop
配備空調設施，穩定主軸組裝精度
The shop equips with air conditioner to keep precision of spindles assembling



3次元量測
Coordinate Measuring Machine
嚴密精準的量測設備，確保品質
Precision measuring equipment ensures 3D mechanical quality



工作區妥善的製程安排
Work area appropriately arrange production project



安全且具有規劃的工作車間
Safe and planning workplace

彈性製造系統
Flexible Manufacturing System



自動化生產線　引擎活塞

引擎活塞生產線完成一系列的加工，項目依序為頂面、裙口、止口、銷孔、環槽、油孔、燃燒室、進排氣門坑及外圓。生產線結合了CNC車床、CNC專用機、CNC加工中心機、轉向中繼站及檢測尺寸站，配合門型機械手、關節型機械手與自動上下料，達到無人化自動生產。

Automatic Processing Line, Engine Piston

Engine Piston processing line finishes a series process. Operations include crown, skirt, front edge, wrist pin, lubrication hole, ring groove, eccentric combustion chamber, intake/exhaust valve relief, and excircle. Processing line combine CNC lathe, CNC special machine, CNC machining center, buffer subset, and dimension tester. In addition, processing line equip with gantry robot arm, articulated manipulator and automatically loading/unloading. Provide automated production without labor.







機床編號 Model NO.	名稱與簡述 Outline		
OP10 車頭部 Turning Piston Crown	CNC 高精密數控車床 CNC Precious Lathe	粗車削活塞頭部端面及上半部外徑 Process the O.D of piston crown and end face.	
OP20 車裙部及止口 Turning the O.D. and Front Edge	CNC 高精密數控車床 CNC Precious Lathe	粗車削活塞下半部外徑及止口內徑，並做為後續各站定位基準 Roughly turning the O.D. of the piston's lower half and the I.D. of the front edge .This station would be the positioning standard for the next each station.	
OP30 粗搪銷孔 Roughly Boring Wrist Pin	CNC 雙軸銷孔加工機 CNC Two way Boring Machine	利用雙主軸粗車削活塞銷孔及扣環槽 Boring by two main spindles. Boring wrist pins and retain ring groove.	
OP40 鑽油孔 Drilling Lubrication Holes	CNC 鑽側邊油孔機 CNC Two way Drilling Machine	鉆孔活塞潤滑油孔。 Drill piston lubrication holes.	
OP50 車環槽 Turning Piston Ring Groove	CNC 高精密數控車床 CNC Precious Lathe	精車頭部端面及切環槽 Precious turning piston crown end face and ring groove	
OP60 車偏心燃燒室 Turning Eccentric Combustion Chamber	CNC 高精密數控車床 CNC Precious Lathe	車削活塞的圓形燃燒室 Turning the circle eccentric combustion chamber of piston.	
OP70 銑進/排氣門坑 Milling intake/ exhaust valve relief	CNC 加工中心機 CNC Machine Center	利用中心加工機銑方型燃燒室及進排氣門坑。 Milling intake/ exhaust valve relief .	
OP80 精搪銷孔 Precisely Boring Wrist Pin	CNC 活塞精搪銷孔專用機 CNC Piston Boring Special Machine	e 精搪活塞銷孔，使精度控制在± 4u 內 Precisely boring wrist pin to control its precision within ±4μ.	
OP90 精車外圓 Fine turning	CNC 高精密橢圓臥式車床 CNC Precious Ellipse Horizontal Lathe	精車外圓 Fine turning ellipse profile	

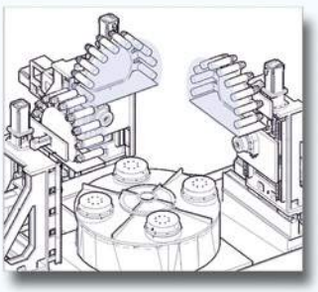
鑽側邊油孔機
Two Spindle Drilling Machine for Oil Ring

1. 兩主軸能調整斜度。
   Two spindle head will be adjusted the rake.
2. 治具轉盤用伺服馬達傳動，轉角任意設定。
   The turn table of fixture will be driven by servo motor, and the angle will be set at your disposal.

活塞精搪銷孔專用機
Piston Boring Special Machine

1. 控制介面具高度彈性，設定參數便利
   The interface controlling has high flexibility, the parameter setting is easy
2. 具備銷孔加工前二次定位，提高產品精度
   Before boring, it would reposition to raise the Product Precision!
3. 配備鋁屑檢知功能
   Equip with Aluminum scraps detecting function.

CNC 多軸轉盤加工中心機
CNC Multi-spindles Rotary Horizontal Machining Center





特 色:

- 搭配三組主軸，因主軸為各自獨立控制、加工，每主軸配置1組刀庫，可容納10把刀。3組刀庫共30把刀。等同三台中心加工機的效能。
- 主軸刀柄採HSK規格，配備中心出水。
- 搭配精密虎鉗，一次可加工多個工件。
- 轉盤採用大小轉盤(子母轉盤)：大轉盤上有4組小轉盤。大轉盤採公轉方式旋轉，小轉盤採自轉方式旋轉，以伺服馬達控制，最小分割角度0.001° ，角度可各自獨立控制。
- 同一平面，可做鉆、銑、攻牙、橢圓等加工，特別適合異形件加工。
- 三組主軸同時加工，可節省加工時間。三組加工中心平均分佈，節省空間。

Feasure:

- Equips with 3 sets of main spindles, each spindle will be controlled and processed independently. Each main spindle has 1 set of tool magazine with 10 pcs of tools, total have 30 pcs of tools. This machine will have high efficiency as 3 sets of machine centers which can save the space.
- HSK Tool Holder, equips with coolant through spindles.
- Equips with precisely vices, each vice can clamp 2 or more workpieces at one time to save the time.
- There will be 4 Rotating Satellites on one Turntable, each Satellite can rotate and which can orbit the Turntable. Rotating Satellites are controlled by servo motors, the min. indexing angle is 0.001°. Each Satellite's angle can be adjusted independently.
- On the same surface, it can do drilling, milling, tapping and oval-shaped, especially for special shaped parts processing.
- Three spindles process at the same time. Shorten the process time. Three machining center separate averagely, so that it also save the factory space.





規格 Specification

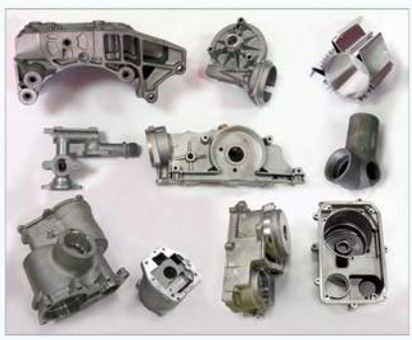
機械規格表	Specification table	
主軸數量	Number of Spindles (machining modules)	2 - 3
工位數量	Number of Stations	3 - 4
上下料方式	Parts Loading / Unloading	自動 或 手動 Automatic or Manual
設備尺寸	Machine Dimension	Width x Deep x Height 5.7m x 4.5m x 2.8m
大小轉盤	Indexing Table and Rotating Satellites	
大轉盤重複精度	Table Repeatability Accuracy	±4 arc sec
大轉盤定位時間	Table Indexing Time	3 sec
工件最大尺寸	Maximum Part Dimension	Ø330mm x Length 350mm
小轉盤的最大荷重	Maximum Weight on Each Satellite	200 kg
主　　軸	Spindle	
X-Y-Z 行程	X-Y-Z Stroke	350 x 350 x 330mm
X-Y-Z 快速進給速度	X-Y-Z Rapid Feeding Speed	24 m/min
主軸(馬力)	Standard Spindle	9KW
最大主軸轉速	Maximum Spindle Speed	9000rpm (*選配 Optional)
主軸鼻端規格	Spindle Nose (standard)	HSK-63
中心出水	Coolant Trough Spindle	Up to 80 Bar (選配 Optional)
刀　　具	Tool	
刀庫容量	Tool Capacity	每個主軸10個刀具 10 Tools(for each spindle)
刀具最大重量	Maximum Tool Weight	8 kg
刀具最大直徑和長度	Maximum Tool Dia. and Length	ø120mm x Length 170mm
其　　他	Other	
主軸冷卻	Coolant Spindle	油冷 Oil Cooling
油水分離	Oil Skimmer	是　Yes

*若需要更高轉速，可依客戶需求訂製。*If need higher speed spindle, we could design upon customers.

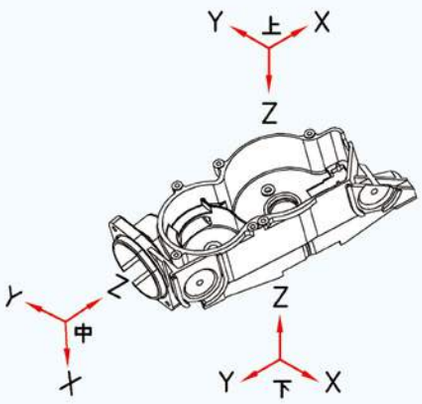
異型工件 Special shape workpiece







轉盤多軸加工機
Multi-Spindles Horizontal Rotary Transfer Machine





3D多軸複合加工機，生產效率高，每一軸可任意編輯程式，一台設備等於多台中心加工機、數控車床5倍～10倍的產能，所以佔地面積少、操作員減少、維護成本低。0° ，90° ，180° 三方向同時加工對於異型鑄件、鍛件、棒件沒有二次治具問題，所以同心度、對稱度、垂直度、平行度各加工精度高，CPK值 〉 1.33以上。

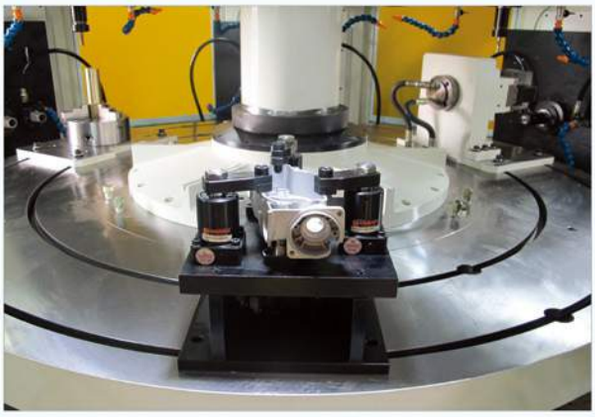
This 3D multi-spindle complex machining center is configured to achieve higher production efficiency. Each spindle allows program editing whenever required. Each piece of equipment conglomerates the capacity of several units of machining centers into one unit in which the Numerically Controlled Lathe can yield 5 times to 10 times the productivity. It features less required space, fewer operators and lower maintenance costs. In the meantime, it can perform the tri-directional machining at 0°, 90° and 180° at the same time without secondary clamping problems when processing special shape casting pieces, forging pieces and bars. In this way, it demonstrates higher working accuracy in terms of concentricity, symmetry, verticality and parallelism. In addition, its CPK value is over 1.33.



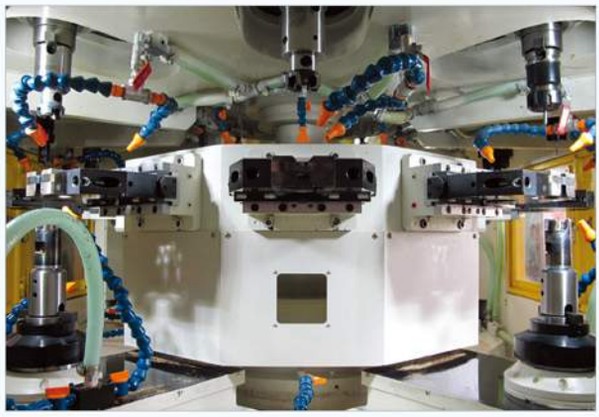
合理化多軸排列
Logic multi-spindle array



上、中、下伺服滑台三方向同步加工。
Simultaneous tri-directional processing with upper, middle and lower servo slides.



治具盤面易於更換、夾持治具快速定位，
面盤直徑 ϕ 1500 平面度0.02
Easier clamp disc replacement, more accurate clamping and faster positioning. Disc diameter: 1,500mm. Plane tolerance: 0.02

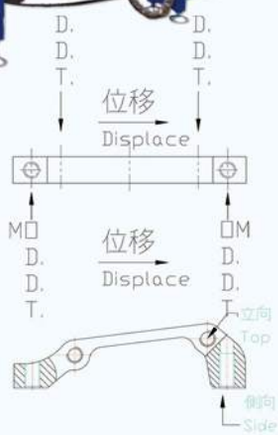


同步位移夾具、高強度、高精密提高工件加工後的對稱度
Synchronous clamp moving, higher strength and higher precision, all contributing to accurate symmetry of the workpiece after being processed.

6工位7軸NC轉盤加工機
6 Stations 7 Spindles NC Horizontal Rotary Transfer Machine



	上 Top	側 Side
1	上下料 loading/unloading	
2	鑽孔 Drilling	銑削 Milling
3		鑽孔 Drilling
4	倒角 Chamfer	
5		倒角 Chamfer
6	攻牙 Tapping	攻牙 Tapping



◆加工範例 Process Example
自行車後碟煞卡鉗轉接座
Adapter of Rear Disc-Brake Caliper
材質：鋁 Material：Aluminum
Cycle time：20sec/pcs,
90,000pcs/month



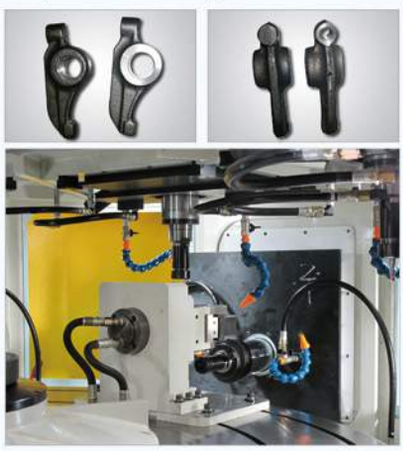
特色：
- 異型工件，上方及中間同時進行鑽孔、牙。
- 機台結構簡單，穩定性高。維修保養容易。

Feature：
- Able to perform drilling and tapping operations from upper and middle for special shape workpieces at the same time.
- Simple machine structure. Higher in stability and easier for maintenance and daily service.

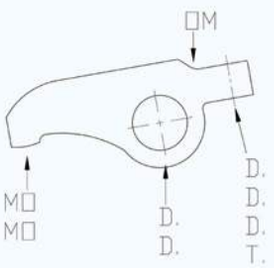
6工位10軸NC轉盤加工機
6 Stations 10 Spindles NC Horizontal Rotary Transfer Machine



◆加工範例 Process Example
汽門搖臂 Rocker
材質：鑄鐵
Material：Cast-iron
Cycle time：20sec/pcs



	上 Top	側 Side
1	上下料 loading/unloading	
2	粗糖孔+平面粗車 Rough boring+Rough end face milling	中心鑽孔 Center drill
3	銑圓弧 Circular arc milling	鑽孔Drilling
4	銑圓弧 Circular arc milling	鑽孔Drilling
5	精搪孔+平面精車+倒角 Precious boring+Precious end face milling+Chamfer	攻牙Tapping
6	鋸剖溝槽 Saw groove	

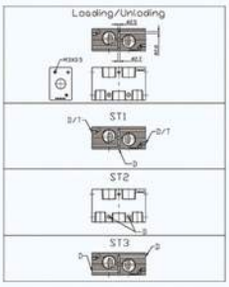


特色：
- 產能較舊型義大利油壓水車多出1倍。
- 異型工件，同時進行鑽孔、銑圓弧面、攻牙、剖溝之工作
- 相同的產能，一台機台可抵9台中心加工機。
- 大量生產另件之最佳機種。

Feature：
- Double productivity compared to the old-type Italian Hydraulic Vertical Rotary Transfer Machine.
- Able to perform the drilling, milling circular surface, tapping and grooving operation for special shape workpieces.
- One unit is equal to 9 units of machining centers and achieves the same productivity.
- Optimal model for handling the production of massive parts.

4工位6軸NC轉盤複合加工機
4 Stations 6 Spindles NC Horizontal Rotary Transfer Machine

◆加工範例 Process Example
電磁閥閥體 Solenoid Valve Body
材質：鋁 Material：Aluminum
Cycle time：15sec/pcs









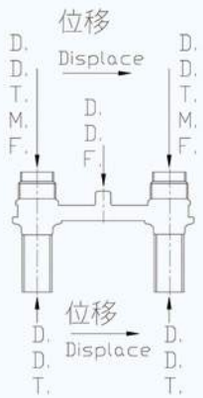


特色：
- 適用於不同尺寸的電磁閥閥體。(1 in.~4 in.)
- 機台採緊湊型配置以節省空間。但能有維持維修保養必需的空間。

Feature：
- Applicable for vary-sized Solenoid Valve bodies (1 in.~ 4 in.)
- Compact configuration to save space, while maintaining the room required for maintenance and daily service.

10工位12軸NC轉盤加工機
10 Stations 12 Spindles NC Horizontal Rotary Transfer Machine





◆加工範例
Process Example
冷熱水管
Water pipes
材質：黃銅
Material：Brass





特色：
適用於不同樣式尺寸的冷熱水接頭，可同時對工件進行2方向(上、下)的加工，同時進行鑽孔、攻牙、銑削、展刀等加工方式。主軸採單軸位移式滑台，可透過程式的編輯，進行更具彈性的加工方式。

Feature：
Applicable for different types and dimensions of water connectors. It allows simultaneous machining of the workpiece from both directions (upward and downward) while performing drilling, tapping, milling and recessing process. The Spindle is fitted with a single axis slide to carry out a more flexible machining process.

蝶閥CNC 二路加工機
Butterfly Valve CNC Two Way Processing Machine

特別為閥門業設計。左/右兩側配置主軸頭，可同時加工。

- 可依工件特性，需求進行變換，保有一定的彈性。
- 配置新代CNC控制器，使用G/M code，上手容易。

Specially designed for the valve industry. With Spindle mounted on both sides, it performs the machining work at the same time.

- Allows for change according to the characteristics of the workpiece to maintain a certain level of flexibility.
- SYNTEC CNC controller is fitted and uses G/M Code for easier operation.



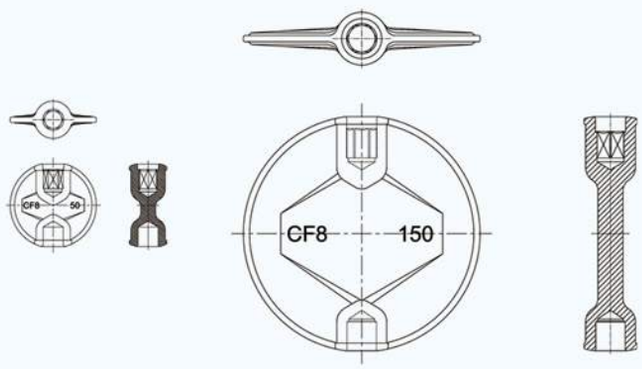




特色：
閥盤與閥體可在同一台設備完成。
Feature：
Valve Disc and Valve Body can be processed on the same equipment.

◆加工範例 Process Example

閥盤材質：不鏽鋼、鑄鐵。閥體材質：鋁、鑄鐵。
適用工件尺寸：2 in.、3 in.、4 in.、5 in.、6 in.
加工工序：鑽孔、搪孔、沖六角孔
Cycle time：120sec/pcs (不鏽鋼 碟盤)、
60sec/pcs (鋁 閥體)。
Material of valve disc：Stainless-steel, cast-iron
Material of valve body：Aluminum, Cast-iron
Available workpiece dimension：2 in.、3 in.、4 in.、5 in.、6 in.
Process operation：Drilling, Boring, Broaching hexagon hole
Cycle time：120sec/pcs (Stainless-steel disc)、60sec/pcs
(Aluminum body)。





新代CNC控制器
SYNTEC CNC controller





二路同時進給，避免重新定位，節省加工時間，提高生產效能。
Simultaneously feeding through both paths to avoid repeated alignment, shortened working time and improved production efficiency.

閘閥 CNC二路加工中心機
Gate Valve CNC Two way Processing Machine

閥板CNC二路加工機
Valve disc CNC Two way Processing Machine



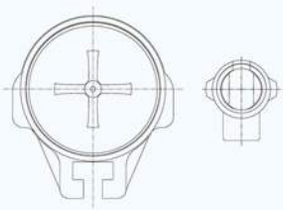


閥體CNC二路加工機
Valve body CNC Two way Processing Machine

特色：
- 左右兩側同步車端面(3° 傾斜)、車螺牙
- 專為閘閥加工設計的機台。
- 機台結構穩固，耐重切削。

Feature：
- Allows for synchronous turn face (tilting for 3°) and turn thread on both sides.
- The machine is specially designed for the processing of Gate Valves.
- Robust in construction and durable for heavy-duty cutting.

◆加工範例 Process Example
材質：鑄鐵、黃銅
適用工件尺寸：2 in.~6 in.
Material：Cast-iron, Brass
Available workpiece dimension：2 in.~6 in.
Cycle time：70~150sec/pcs











輪盤 CNC二路加工中心機
CNC Two way Machining Center

特色：
- 分割角度：任意角度
- 加工直徑：ø 400~ø 1800mm
- 結合伺服轉盤與高速鑽銑中心機，對於圓形工件鑽孔、攻牙有突出的加工效能。（轉盤任意角度）
- 主軸傾斜角度可依客戶需求訂做。

Feature：
- Indexing angle: Any angle
- Working diameter: 400~1800mm
- By combing Servo Turntable and High Speed Drilling-Milling Machining Center, it provides extraordinary working effect for the drilling and tapping of round-shape workpieces (any angle can be set for the turntable).
- Customized tiling angle of Spindle as required by the customer.

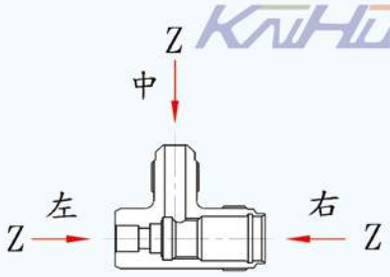






水車多軸加工機
Multi-Spindles Vertical Rotary Transfer Machine



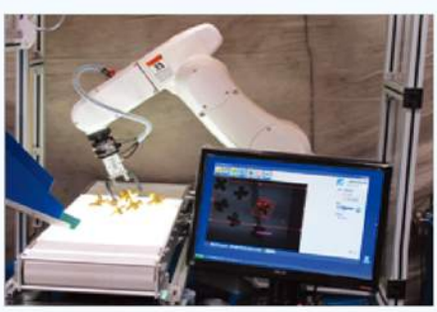


3DS-NC 多軸水車加工機是針對三方向以中心孔加工的設備。每一軸以對話式程式編輯，可做搪孔、攻牙、溝槽等功能0°,90°,180° 三方向同時加工對於異型鑄件、鍛件、棒件沒有二次治具問題,所以同心度、對稱度、垂直度、平行度各加工精度高，CPK值 〉1.33以上。

The 3DS-NC Multi-Spindle Vertical Rotary Transfer Machine is specially designed for the machining of tri-direction center holes. Each spindle is provided with dialogue-type program editing function to carry out boring, tapping and groove cutting functions. It allows 0°, 90° and 180° tri-directional machining to avoid secondary clamping problems for special shape casting pieces, forging pieces and bars. In this way, it demonstrates higher machining accuracy in terms of concentricity, symmetry, verticality and parallel. In addition, its CPK value is over 1.33.



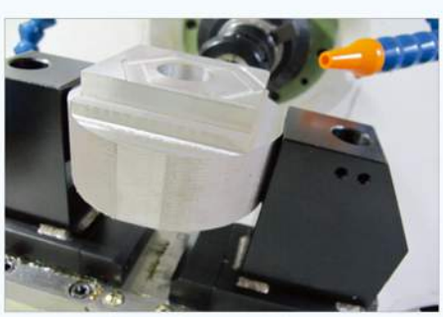
0° /90° /180° 三方向刀具佈置
Tri-directional (0°/90°/180°) tool configuration



CCD 攝像頭配合關節型機械手自動送料,毛胚不用整列,換線時容易
CCD head works with toggle robotic arm to automatically feed without aligning blanks for easy line change.



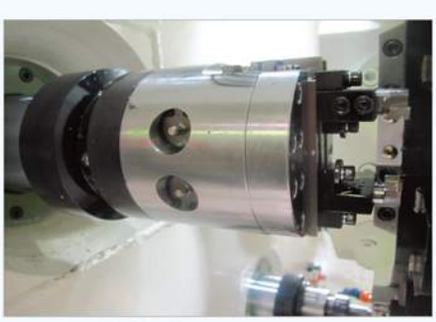
位移伺服機械手搭配簡易送料成本低
Servo-controlled robotic arm works with basic feeder to lower cost.



X、Y、Z三軸同動作各形狀的加工
X, Y & Z-axis act simultaneously for various shape processing.



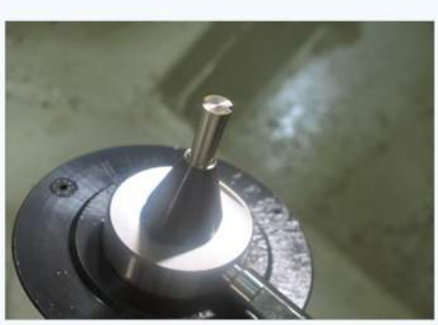
車牙主軸頭
Spindle Thread Cutting



同步雙展溝槽主軸頭
Synchronized Dual-recessing Groove Spindle



捨棄式刀具
Disposable tool



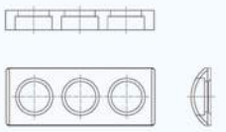
沖異型孔
Punching of asymmetrical holes



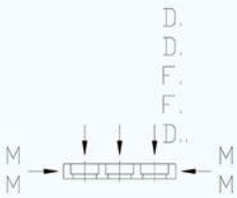
擠光刀具0.6S
0.6S Burnishing tool

8工位10軸 NC水車加工機
8 Stations 10 Spindles NC Vertical Rotary Transfer Machine

◆加工範例 Process Example
主閥座 Main Valve Seat
材質：黃銅 Material：Brass
Cycle time：11.8sec/pcs







	左 Left	中 Middle	右 Right
1	上下料 loading/unloading		頂缸 Jig
2		精搪孔 Precious boring	
3	圓弧倒角 Circular arc milling		圓弧倒角 Circular arc milling
4		精搪孔 Precious boring	
5	倒角 Chamfer		倒角 Chamfer
6		背部倒角 Backside chamfer	
7		背部倒角 Backside chamfer	
8		去毛刺 Deburr	



特色：
- 鑽孔、倒圓弧角、背側去毛刺一次完成。
- 配置十字滑台，主軸可以進行三軸同動之運動。自動上下料。
- 自動上下料。

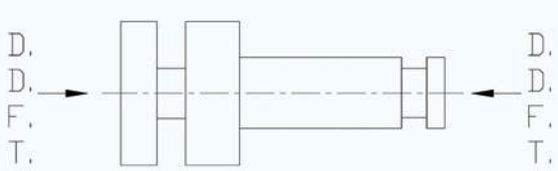
Feature：
- Drilling, Chamfering Circular Arc, backside deburring can be completed in one process.
- Fitted with Cross-type Slide for the Spindle to perform 3-axis synchronous interaction.
- Automatic loading and unloading

8工位12軸 NC水車加工機
8 Stations 12 Spindles NC Vertical Rotary Transfer Machine



◆加工範例
Process Example
閥芯 Cartridge
材質：黃銅
Material：Brass
Cycle time：12 sec/pcs





◆加工工序 Operation：
鑽孔drilling、車溝槽turning groove、
攻牙tapping、銑端面milling face

特色：
- 送料機械手具備排料功能，可避免工件碰刮傷。
- 可依工件尺寸選備不同大小的主軸頭。
- 電控箱裝置冷氣機，保持箱內溫度在30° C，避免過熱。

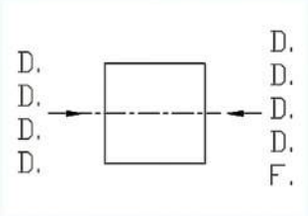
Feature：
- The Manipulator Robot is designed with an arraying function to prevent the workpiece from bruising or scratching.
- Varied size of spindles can be selected according to the dimensions of the workpiece.
- The Electrical Box is fitted with an Air Conditioner to keep the cabinet temperature at 30°C to avoid overheating.

6工位9軸 NC水車加工機
6 Stations 9 Spindles NC Vertical Rotary Transfer Machine



◆加工範例
Process Example
導閥座 Guide Valve Seat
材質：黃銅
Material：Brass
Cycle time：8.3 sec/pcs





特色：
- 機械手進行上/下料作業。
- 採用高速搪孔主軸，適合小孔徑工件加工。
- 專為空調業設計製造的加工機。

Feature：
- The loading/unloading operation is performed by a Robot.
- High-speed boring spindle is selected to fit the machining of workpieces with smaller hole sizes.
- The working machine is specially designed and manufactured for the air-conditioning industry.

	左 Left	中 Middle	右 Right
1	自動上下料 Automatic loading/unloading		
2	搪孔 Boring		搪孔 Boring
3	搪孔 Boring		搪孔 Boring
4	搪孔 Boring	搪孔 Boring	搪孔 Boring
5	搪孔 Boring	展刀 Recessing	搪孔 Boring
6	搪孔 Boring	展刀 Recessing	

8工位9軸 NC水車加工機
8 Stations 9 Spindles NC Vertical Rotary Transfer Machine

◆加工範例 Process Example
帽蓋、閥體
Valve Hood, Valve Body
材質Material：黃銅 brass
適用工件尺寸：1 in~3 in
Available workpiece dimension：1 in~3 in
Material：Brass
Cycle time：15sec/pcs (2 in)



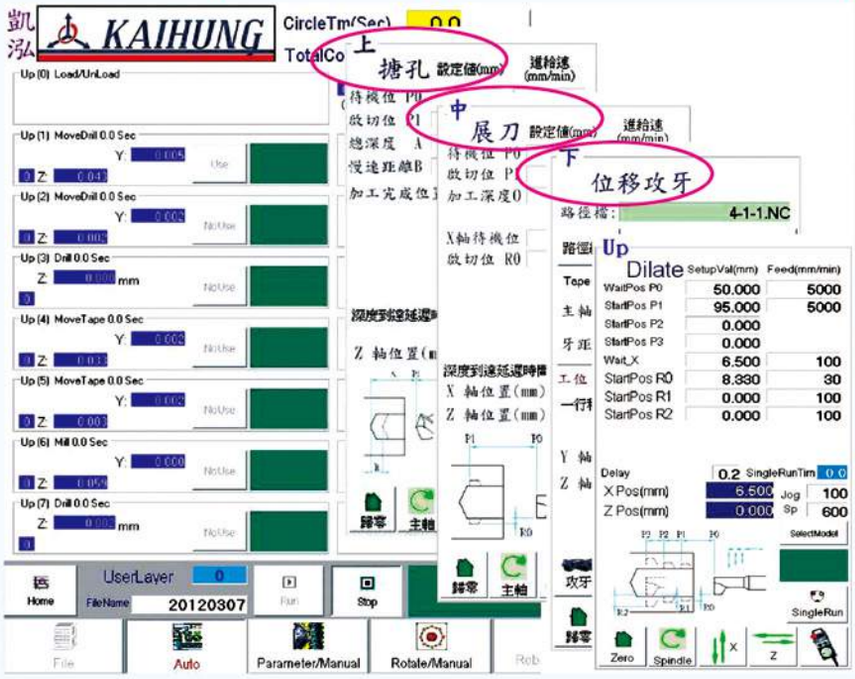




特色：
- 可加工閥帽與閥體，一機兩用。
- 治具模組化設計，可快速更換、調適，適合少量多樣工件。
- 特別加強主軸結構，適合重切削作業。

Feature：
- Allowed for the machining of Valve Hood and Valve Body. Combining two functions in one unit.
- Modular clamp design to quickly execute the exchanging and adjusting work. It is suitable for small-quantity diverse workpieces.
- Specially reinforced spindle construction. Suitable for heavy-duty cutting operations.

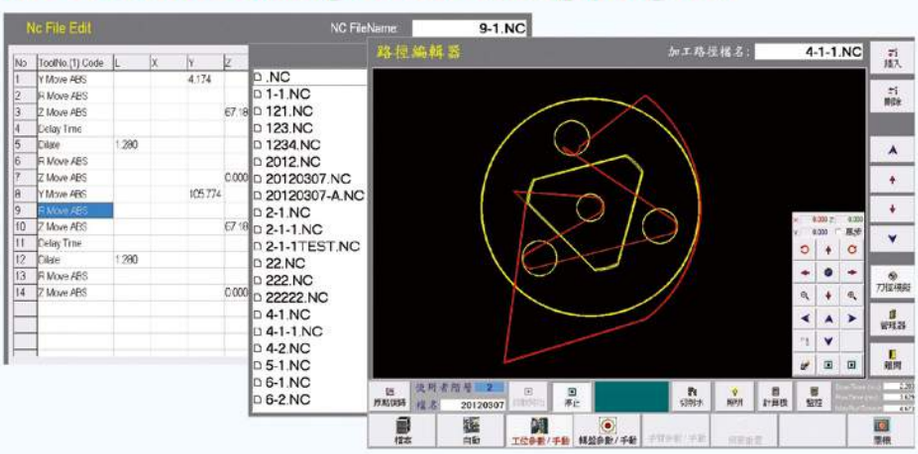
圖形觸控介面及多元對話式設計(支援雙語),操控簡易,可快速導入產線
Graphic touch interface and composite dialogue design (bilingual supported). Easier manipulation for quick introduction to the production line.



加工功能配置簡介使用介面依需求：
上、中、下（臥式）左、中、右（直式）
主加工功能：
1、搪孔,啄鑽
2、展刀,弧形路徑切削.
3、攻牙.(公/英制、順時/逆時)
4、銑刀(端面,路徑軌跡)
5、車牙,銑牙
6、複合式多軸異形及加工

Working Function Configuration Introduction provided. The operation interface will be provided as required: Upper, Middle, Lower (Horizontal), Left, Middle, Right (Vertical).
Main machining function:
1.Boring, peck drilling.
2.Recessing, arc-route cutting.
3.Tapping (metric/British system. CW/CCW)
4.Milling (end-face, route trajectory)
5.Thread turning and milling.
6.Composite multi-spindle for special-shape processing.

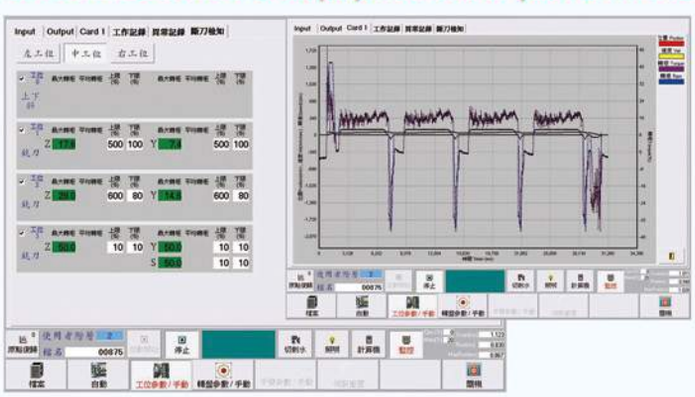
以按鈕式對話輸入，搭配路徑顯示，快速並正確地完成加工程式編輯
Button-type Dialogue input with relevant path displayed to quickly complete the accurate editing of machining program



1.NC程式編輯介面簡潔易懂,非專業人員也能快速編輯複雜之加工程式.
2.加工程式以檔案方式儲存,可儲存大量不同產品之加工程式.

1.With simple and easy NC program editing interface, it allows ordinary user to quickly complete the editing of complicated machining programs.
2.The machining program is saved in file to store massive machining programs for a variety of products.

設備擁有動態全程監控及斷刀偵測系統,保障設備於最佳狀態下生產.
The equipment is designed with total-process monitoring and tool-breaking detection system to ensure that the equipment will perform the production under the optimal condition.



1.偵測系統，全程監控刀具磨耗狀態及動力機構運轉狀態，適時提前預警,減少刀具及工件損失,提升加工品質。
2.全程監控設備運轉狀態,異常狀態立即提供正確相關訊息警示,方便快速檢修維護.
3.警示狀態均有歷史記錄,迅速提供查修資訊

1.Detection System: Monitors the tool wearing status and the operating status of power mechanism during the entire process in order to give advanced warning in due time to reduce the loss of tools and workpieces while improving working quality.
2.Monitors the operating status of the equipment during the entire process. When it detects error, it immediately provides a relevant warning message to carry out time-demanding repairs and maintenance
3.Records will be maintained to quickly provide repairing information.

本設備系統已有透過IO或增設通訊機能方式,實務應用多關節機械手上下料整合成自動化產線作業
This equipment systems already through IO or additional communications function, the practical application of robot to integrate the loading and unloading for auto production operating.

規格 Specification

機　　種	Model		KH-D-80	KH-D-120	KH-D-160	KH-D-200
加工方向	Machining direction	0°, 90°, 180°	D/2D/3D			
主軸數量	The number of spindles	Kai Hung	2~20	2~18	2~18	2~16
刀具數量	Number of tools	Kai Hung	2~20	2~18	2~18	2~16
控制器	Controller	Kai Hung (Note1)	P.C Based			
伺服馬達(X,Y,Z)	Servo motor (X,Y,Z)	Taiwan (Note2)	台達Delta			
轉盤分度	**Rotary Indexing**					
轉盤等分	Indexing		4~12			
轉盤時間	Indexing time	sec.	1.7	1.7~2.0	2.0~3.0	2.0~3.5
轉盤驅動	Rotary drive		伺服馬達Servo Motor			
夾　　具	Fixture	油壓 Hydraulic	同步夾爪 Sync jaws			
			單向夾鉗 One-way clamp			
			三爪卡盤 Three-jaw chuck			
			自製卡盤 Home-made chuck			
主　　軸	**Spindle**					
軸管直徑	Spindle sleeve diameter	mm	ø80	ø120	ø150	ø200
主軸轉速	Spindle speed	rpm	4000	4000	3000	2000
刀柄尺寸	Shank size	type	NT 30	NT 40	NT 40	NT 50
Z主軸行程	Axis-Z spindle travel	mm	120			
主軸切削進給率	Cutting feed rate	m/min	1~10			
滑台行程	**Slide Stroke Travel**	可依產品不同做特殊設計 Available for special design				
0°, 180° X軸行程	0°, 180° X axis travel	mm	50	100	150	175
0°, 180° Y軸行程	0°, 180° Y axis travel	mm	50	150	175	200
0°, 180° X、Y滑台快速進給	0°, 180° X、Y Slide Table Rapid Feed	m/min	24	18	15	12
90° X軸行程	90° X axis travel	mm	75	125	150	175
90° Y軸行程	90° Y axis travel	mm	75	150	250	250
90° X、Y滑台快速進給	90° X、Y Slide Table Rapid Feed	m/min	24	18	15	12
其　　他	**Other**					
切削液箱容量(l)	Coolant tank capacity(l)		400	600	600	600
電控箱冷氣恆溫(°C)	Electrical control box air conditioning thermostat (°C)		25-30°C			

選擇配備 Optional Accessories:

- ◆ 異形沖孔 Shaped Punching
- ◆ 拉　　刀 Broach
- ◆ 穩 壓 器 Voltage Regulator
- ◆ 油水分離 Oil Extractor
- ◆ HSK系統 快速更換刀具HSK System Quick Tool Change
- ◆ 高壓中心出水 Coolant Through Spindle, CTS
- ◆ 切削液恆溫設備 Cutting Fluid Thermostatic Equipment

- ◆ Note1 : 控制器 Controller
  - (1) 歐系 European : BECKHOFF
  - (2) 台系 Taiwan : Kai Hung
- ◆ Note2 : 伺服馬達(X,Y,Z) Servo Motor
  - (1) 歐系 European : BECKHOFF
  - (2) 台系 Taiwan : Delta

加工實例
Processing examples



◆ 4 in.~8 in. 冷熱水管
4 in. to 8 in. water pipes



◆20mm~15mm水錶頭
20mm ~ 15mm water meter head



◆水龍頭
Faucet



◆水龍頭
Faucet



◆熱水氣管接頭
Water pipe joints



◆各類銅接頭
All kinds of copper fittings



◆電子接頭
Electronic connectors



◆鎖頭
Lock



◆鋁鍛件、鋁擠型、汽配、腳踏車
Aluminum forgings, aluminum extrusion, Auto parts, bicycle



◆鋁鋅鑄件、馬達殼、汽配零件
Aluminum and zinc castings, motor housings, auto parts



◆鋁鋅鑄件、電動工具、家電零件
Aluminum and zinc castings, power tools, home appliance parts



◆空壓、電磁閥零件
Pneumatic solenoid valve Part

自動化生產組立線
Automatic Assembly Line



軸.鐵芯組入機
Rotor Shaft Pressfit Core Machine



◆供料台
Feed Table



◆軸心熱合
Heating and Inserting



◆脫拔力
Pull-off Force tester

鐵芯塗膠磁鐵組合機
Shaft Epoxy - Instillation and Magnet pressfit M/C



◆塗膠
Epoxy Instillation



◆磁鐵組入
Magnet press fit

磁鐵脫拔保護蓋塗膠組入機
Magnet pull-off force and Visor pressfit M/C



◆脫拔力檢測
Pull-off force tester



◆保護蓋組入
Visor press fit

偏擺.定位壓入複合機
Runout, position and pressfit Machine



◆偏擺檢測
Runout tester



◆銅套組入
Copper bush press fit



創造績效

共創雙贏

Create Profit

Feedback Win-Win

凱泓機械股份有限公司

KAI HUNG MACHINERY CO.,LTD.

71041　台南市永康區永科七路 75 號　（永康科技工業區）

No. 75 Yongke 7th RD., YongKang Dist., Tainan City, 71041, Taiwan
(YongKang Technology Industrial Park)

Tel:886-6-203-5558　　Fax: 886-6-203-2555

E-mail: sales-02@kaihung.com　http://www.kaihung.com

嘉興凱騏智能機械股份有限公司

JIA XING KAI QI INTELLIGENT MACHINERY CO.,LTD.

314500　浙江省桐鄉市經濟開發區同仁路 635 號

No. 635 Tongren Road, Tongxiang City, Jiaxing City, Zhejiang Province

Tel: +86-573-8808-1659　　Fax: +86-573-8808-1653

E-mail: jskh@kaihung.com

廈門服務處：TEL: 0592-5282520　　FAX: 0592-5144795