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蘇州工業園區凱德機電科技有限公司

Suzhou Kingred Electrical and Mechanical Technology

淮安凱德數控科技有限公司

Huai'an Kingred CNC Technology Co.,Ltd

公司簡介

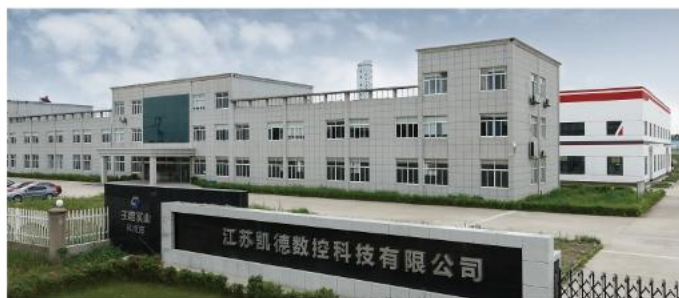
Brief introduction

淮安凱德數控科技有限公司成立於2007年，是一家致力於研發、生產、銷售電火花中走絲機床的專業廠家。多年的不懈努力，現已成長為同行業中的標杆企業。

公司銷售總部位於風景優美、人杰地靈的蘇州市相城大道旁，2014年公司將生產製造研發地遷入運河之都、偉人周總理的故鄉——淮安。新廠房占地面積40000平方米，擁有先進齊全的加工檢測設備和資深的行業專家、工程師研發隊伍，產品遠銷20多國，廣受客戶一致好評。

一直以來，我們本着“面向未來，開拓創新”的理念，率先研發出多種國內領先的高精度電火花數控機床，其中KD系列數控中走絲綫切割機床以“大錐度、大行程、高效率、高精度、新結構”著稱，在同行業中有無法替代的位置；特別是KD400ZL-B系列中走絲綫切割機床的面世，直接挑戰快絲極限，直逼慢絲技術；高速小孔加工機以其“高品位、高質量、超穩定、低價位”，另外，電火花成型機以“高品質、低維修”深得眾多廠家的稱贊和認可。

凱德，用先進的技術、過硬的質量、滿意的服務，為全球客戶提供最優的解決方案，真誠期待與各界朋友合作，攜手並進，共創輝煌未來。



Huai'an Kingred CNC Technology Co.,Ltd. was founded in 2007 as a professional manufacturer of various EDM machines. For many years, Kingred has been being dedicated to developing, producing and selling high performance CNC wire cut EDM, Sink er EDM and small hole EDM. Thanks to great effort and passion, now Kingred is standing as benchmarking enterprise in the industry.

The headquarter of sales department is located in Suzhou Taiping Industrial park, close to beautiful and well-known Yangheng Lake. In 2014, Kingred moved its production department and facility to Huai'an city, hometown of great premier minister Chou En-lai. New factory covers area over 40,000Sqm, with complete machining equipment, experienced experts and skilled engineers. Kingred's machines had been sold to over 20 countries and highly commented by customers.

Guided by philosophy of "facing future, being pioneering and innovative", Kingred developed high precision CNC wire cut EDM with leading performance in the market, the KD series CNC medium speed wire cut EDM is well-known by "Big taper, large travel, high efficiency, excellent accuracy and advanced structure", it's unique and not replaceable in the market. Especially, new launched KD400ZL-B series had exceeded limit of molybdenum wire EDM machine and approached performance of brass wire EDM machine. High speed small hole EDM machine is reputed with "high grade, reliable quality and stability, low price. Besides, Sink er EDM machines are widely sold due to "excellent quality and low malfunction ratio.

Kingred, with advance technology, reliable quality control, satisfied service, to provide best solution for customers all over the world. Warmly welcome friends of various industries to establish cooperation with us to grow with Kingred and create bright future.

精密制造
用心打造

我們的車間

ABOUT OUR WORKSHOP



先進齊全的加工設備和工藝決定了中走絲機床可控的質量和穩定高投入的“凱德人”祇為做好高精密、高穩定、高效率的中走絲。

The advanced processing equipments and crafts determine the quality and the stability of our produces we"kingred staffs"focus on producing high precision high-stability,high-efficiency products



我們的廠房

ABOUT OUR FACTORY

新廠房占地面積40000平方米,我們擁有一系列先進的生產加工設備,大部分都是原裝進口;同時擁有一批精密測量設備。

The new plant covers an aera of 40000 square meters.we have a lot of advanced production and processing equipment,most of them are original limported,and we alsohave a number of precision measuring equipments.

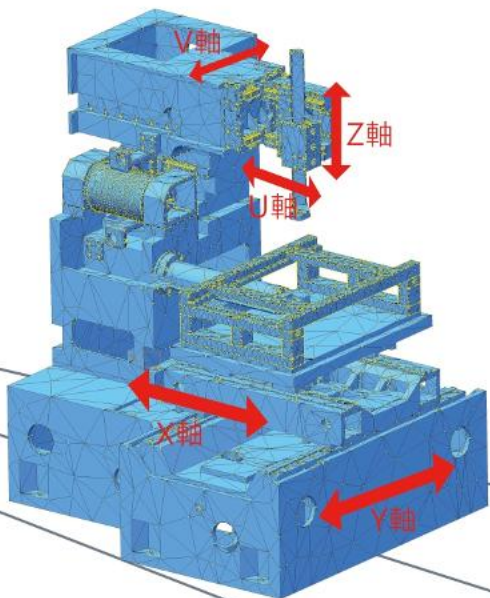


全新钣金設計

All new designed appearance

專業化的钣金設計（專利設計），外觀更高檔大氣提升企業形象，有效節約您的空間，操作使用更方便。優化的電路設計，大幅減少故障率。

Integrated designed sheet metal(invention patent),good appearance,save space and easy to operate.Optimized wiring of electrical circuit to reduce malfunction rate.



拖板結構剛性更佳

Cross shape carriages with excellent rigidity

十字型托板結構，剛性強，T型結構床身，X,Y軸達最大行程時不會偏離拖板與床身，避免了因工作臺的失衡而造成的精度誤差，提高加工件的精度。

“+” shape carriages design, “T” shape machine bed, X and Y axes are always in the range of machine bed of their all travel, no effect of gravity of carriages, which avoids imbalance of working table and increase cut accuracy.

UV 立式結構

Vertical structure of U&V axes

UV採用立式結構（發明專利），全直線導軌，滾珠絲杆驅動電機採用直接式驅動比傳統錐齒輪橋接方式更穩定，全手控盒控制，Z軸自動升降實現貼面加工，高強度，高精度。

We adopt vertical structure of angle cutting system(invention patent), all of linear guideway and ball screws driven by direct connection. Hand control box to control U and V axis, up and down feed of Z axis to realize facing machining to get better rigidity and accuracy.

環保設計，節省資源

Environmental design, resource saved

床身四周集油槽設計，讓您的機床各種液體集中收集，不會污染機床周圍環境，便于清理機床更環保。

There are oil grooves all around machine, all kind liquids are collected together of their kinds. It won't pollute environment of machine, and easy to clean.



專利運絲結構設計機床，切割更平穩

Patented wire feed system, which makes cutting more smoothly

專利設計的運絲機構（發明專利），絲筒固定安裝，絲筒電機分離，根本上解決了絲筒左右運動與電機震動引起的鉚絲的抖動，全新的排絲與自動緊絲機構避免了鉚絲單邊鬆絲的產生，大幅減少的運絲距離，有效減少了鉚絲的運行震動與鉚絲高速運動的拋絲現象。使機床切割更平穩，同時也大大提高切割效率，精度，以及表面粗糙度質。

Patented wire feed structure(invention patent), wire drum is fixed with separated wire drum motor, and this design solves, the problem of vibration of wire due to shake of wire drum motor, and wire drum just rotates and doesn't move in longitudinal direction. All new wiring and tension control system reduces distance of wire feeding, wire throwing problem during high speed feeding. The patented wire feed system makes cutting more smoothly to get much better accuracy and surface finish with fast cutting speed.

凱德綫馬特色

Characteristics of Kingred's linear motor



特色說明

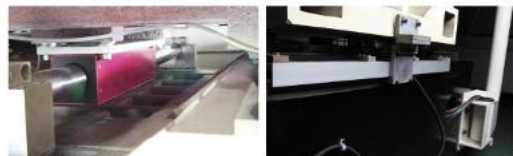
Features

- 新型綫馬搭載光學尺做全閉回路位置控制，性能先進化，KD系列搭載凱德全自制綫性馬達棒型綫馬，最佳控制解析度 $1\mu\text{m}$ 。
- 非接觸性轉動模式，在上時間下高效穩定加工。
- 高靈敏的伺服反應速度使放電間隙控制更佳穩定，同時提升加工速度8~15%。
低摩擦阻抗帶來高效率及高重複精度，無背隙補償、低磨耗、使得綫馬品質持久不變。

Latest linear motor combines with linear scale to realize fully closed-loop control, advanced performance, precise control, bar type linear motor with control resolution $1\mu\text{m}$

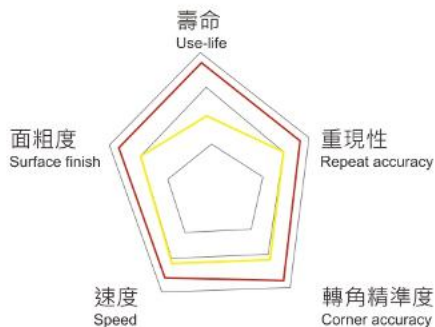
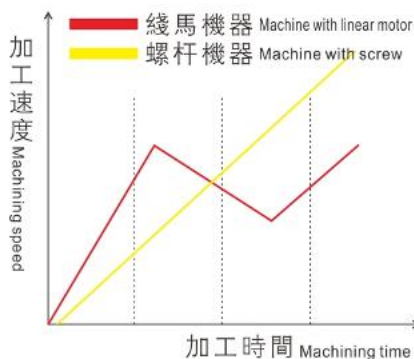
Non-touched type transmission, high cutting speed with good stability.

High sensitive servo control to make sure gap control of electrical discharging much more stable, and increase cutting speed 8-15%. Super low resistance brings high efficiency and repeat accuracy, no gap compensation of screw, low wear, and longer use-life.



提升生產效率

Increase efficiency



凱德綫馬結構特色

Characteristics of Kingred's linear motor

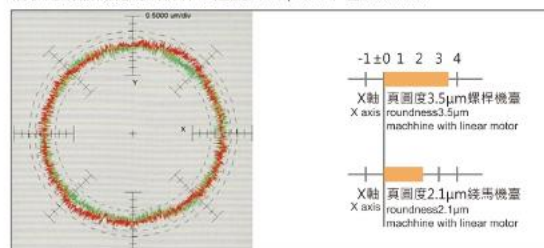
螺桿會因磨耗而產生接觸轉動，綫性馬達則不會產生背隙。而綫性馬達採用無接觸轉動，免去使用螺桿而產生摩擦的問題。

綫性馬達採用閉回路，直接在光學尺的節讀頭，就是動子的位置。

XY軸同動匹配提升，連真圓度 $<2.5\mu\text{m}$ 。
減少背隙誤差與反向尖點問題。

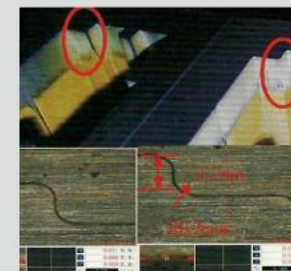
Wear of screw will lead to gap error of transmission, no gap error of linear motor. Linear motor is non-touched transmission, no friction problem. Linear motor adopts closed-loop control, direct feedback from mover of linear motor. Excellent accuracy performance. Synchronism of XY axes increased obviously, continuous roundness $<2.5\mu\text{m}$. Reduce gap error and reverse sharp point problem.

格子編碼器檢測測試條件：速度5mm/min半徑1.00mm



螺旋桿器刀口轉角
corner performance of
screw machine

綫馬刀口轉角
corner performance of
linear motor machine



綫馬的優點

Advantage of linear motor

不需要轉動原件因此慣量小，加速度高，故障率低，可靠度高。

行程無上限。磨耗極小，可保持系統精度及使用壽命。

精密機達到 $1\mu\text{m}$ 的定位，高速機達到每分超100m的高速

因以氣隙的非接觸直接轉動，所以可得到無摩擦的直接運動推力，使得直接轉動效率高，噪音低。

No transmission components, small inertia, low malfunction ratio, high reliability.

No limit of travel.

Small wear, great performance of precision keeping and use-life.

Non-touched transmission to get no friction drive, fast feed speed with very less noise.

綫性轉角大躍進

Good corner accuracy performance

螺桿因伺服轉向或同動磨耗而產生插滯間隙誤差，在圓弧轉角的表現容易造成崩角與過度放電現象，而綫性馬達採用無接觸傳動則不產生背隙因高伺服反應，在相同位置的表現可達高精度。

Direction change of servo motor and synchronization wear will cause gap error of screw, especially sparking at corner, over-sparking and collapse happens, but for machine with linear motor, as its non-touched transmission, there is no problem of gap due to servo action, accuracy of corner is much better.

獨特走絲結構，避免跳絲

Unique wire feed system, less jumpiness of wire

全獨特的恒張力走絲結構，避免鉚絲在正反向轉換時產生的跳動及單邊拉絲現象，並保持鉚絲的恒張力，確保較高的加工精度。

New designed wire tension control system to avoid jumpiness of single size wire pulling phenomenon, and keep constant tension of wire, to improve cutting accuracy.

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低速高扭電機控制方便操作

Motorized Z axis

Z軸採用低速高扭矩電機控制，可實現自動升降，操作更簡單便捷。

Z axis is driven by low speed high torque motor, it's easy to control up and down movement of Z axis.



直線導軌精度更高

Linear guide with better accuracy

全新的組合夾具的臺面設計，適合各類精密工件的裝夾。X,Y軸和運絲均採用精密級滾珠絲杠和臺灣進口直線軌較普通V型導軌精度更高并設置了自動供油裝置，壽命更長。

Brass wire EDM type working table with special clamping system, suitable for various clamping of workpieces, X and Y axis with P2 grade double nuts ball screw and high precision Taiwan made linear guideway. Automatic lubrication makes sure long use life of screw and guideway.

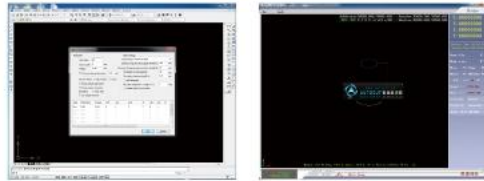


T型全支撐設計，精度恒久不變

Brass wire design bed, long time accuracy keeping

床身，托板採用慢走絲結構設計，剛性好，强度高鑄件採用樹脂砂制造技術，確保承載能力和機械精度的恒久不變。

We adopt brass wire EDM type machine bed and use resin sand casting, to make sure good rigidity with full load and long time precision keeping.



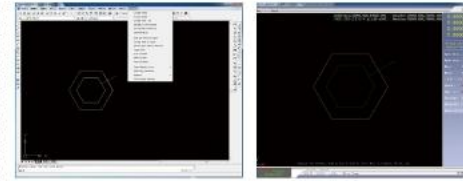
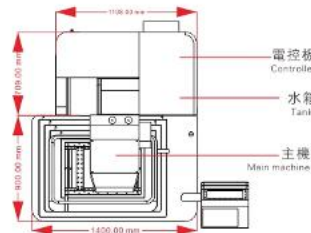
KDXP控制系統 Controller System

KDXP中速走絲電火花數控線切割機控制系統選用高性能，穩定可靠地計算機為主機系統，實現了模塊化設計，國產步進（選配進口交流伺服驅動器）及電源功效，高頻電源的完美結合使得整個控制系統達到充分的先進性和可靠性。

We adopt high performance, reliable industrial computer as platform for KDXP medium speed CNC wire cut EDM, modularized design, coordinates with national made stepper (optional imported AC servo drive) and high efficient HF power , to realize advance and reliability of whole control system perfectly.



機床平面布置圖



KDXP控制系統優點 Controller System

WINDOWS XP操作系統實現與多種設計軟件無縫對接；

15寸工業液晶顯示，人機操作界面簡單，直觀；中文，英文菜單任意設置；

大容量儲存器，豐富的加工工藝條件庫；

高性能CPU協同控制，功能豐富；

磁盤，鍵盤接口和串行通訊接口與外界交換數據；

文件的編輯，復制，查找，替換等處理功能；

X,Y,U,V四軸數控，X,Y,U,V四軸聯動；

實現上下异形面，變體及清角等多種功能；

實現一次切割或者多次切割；

電極絲運行速度由數控系統設定控制；

電極絲張力採用變向自動緊絲功能；

WINDOWS XP operating system supports kinds of CAD software

15 inch industrial monitor, friendly man-machine interface, simple and visual; Chinese, English manual;

Massive storage for machining files keeping;

High performance CPU; USB,

serial port and internet access for communication;

Edit, copy, find, replace of files operation;

X, Y, U, V four axes CNC control, X, Y, U, V four axes linkage;

Angle cutting, up and down different shape cutting;

One cut and multi-paths cut capacity;

Feed speed of wire is controlled by CNC system;

Automatic wire tension keeping system.

節約電能

運用電源循環再利用技術，大幅度提高了電源的利用率，可節省電源40%以上；

adopt power recycle system, increase use rate of power source rapidly, save more than 40% power;

提高生產率

採用了先進的電源技術，實現了高速加工，最大生產率可達160mm²；

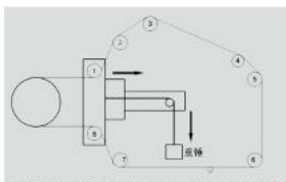
adopt advance HF power to realized high speed machining, Max. cut speed could be 160mm²;

走絲系統 Wire feeding system

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採用進口指點導軌自動預緊對電極絲進行恒張力控制。

imported linear guideway with automatic pre tighten function to keep constant tension of wire.



極間工作液 Working solution

供給部分採用上、下同軸噴流結構，改善排屑，提高加工效率。

up and down separated flushing, better chip removal . capacity, faster cutting speed.

電極絲導向器 Diamond guide

採用金剛石導向器，大大減少因導向器磨損而影響加工精度。

high quality diamond guide to reduce its wear and increase accuracy.



走絲系統 Wire feeding system

水處理系統 Working solution system

工作液的控制 Control of working solution

通過國外優質高壓水泵控制使加工時的工作液保持恒定，水壓穩定，高壓時可達揚程37m.

controlled by imported high quality pump to make sure constant pressure and stability, Max. pumping head 37m.

工作液壓力 Pressure control

手動控制設定高壓及低壓。

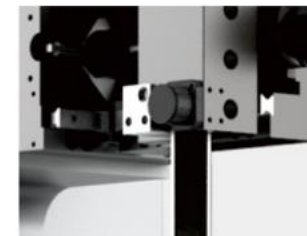
manual adjust high and low pressure.

錐度系統（發明專利設計） Taper system(invention patent)

傳動系統 Transmission

採用P3級滾珠絲杠，P級直線導軌，電機直接式控制，拋棄傳統錐度系統，使錐度更穩定，剛性更強。

P3 grade ball screw, P grade linear guideway, direct motorized control, Kingred abandoned traditional taper system to achieve better rigidity.



貼面系統 Facing machining

Z軸採用貼面加工方式，徹底改變表面加工質量，提高穩定性。

Z axis can approach workpiece very closely thoroughly to improve surface finish and machining stability.

高穩定性 High stability

全新的專利設計解決了行業中一直存在的錐度低穩定性。

Kingred's patented design solved problem of low stability of traditional taper system, to get better performance of angle cutting.

機床型號		Item	單位	KD400GL	KD400ZL	KD500GL	KD500ZL	KD630GL	KD630ZL	KD800CL	KD800GL	
工作臺行程xyz		Worktable travel	mm	320×400×300	320×400×300	400×500×300	400×500×300	500×630×300	500×630×300	630×800×500	630×800×300	
工作臺尺寸		Worktable dimension	mm	435×650	435×650	520×800	520×800	660×880	660×880	780×1010	780×1010	
最大切割角度		Max. cut taper	mm	±15°	±15°	±15°	±15°	±15°	±15°	±3°	±15°	
加工精度	八角	Machining accuracy	octagon	mm	±0.005	±0.003	±0.005	±0.003	±0.005	±0.003	±0.006	±0.006
	錐度		Taper	mm	±0.015	±0.015	±0.015	±0.015	±0.015	±0.015	±0.015	±0.015
最大切割速度		Max.maching speed	mm ² /miu	180	180	180	180	180	180	180	180	
最高光潔度		Best surface finish	um	≤1.0	≤1.0	≤1.0	≤1.0	≤1.0	≤1.0	≤1.0	≤1.0	
鉬絲範圍		Molybdenum wire range	mm	0.12-0.2	0.12-0.2	0.12-0.2	0.12-0.2	0.12-0.2	0.12-0.2	0.12-0.2	0.12-0.2	
最大加工電流		Max.maching current	A	7	7	7	7	7	7	7	7	
額定功率		Rate power	Kw	<2	<2	<2	<2	<2	<2	<2	<2	
電壓		Voltage	V/Hz	380/50	380/50	380/50	380/50	380/50	380/50	380/50	380/50	
最大承載重量		Maximum load capacity	kg	400	400	600	600	800	800	900	900	
機床重量		Weight of machine	kg	2600	2600	3000	3000	4000	4000	5000	5000	
機床外形尺寸		Machine dimensions	m	161×14×2.0	19×18×2.0	181×16×2.0	21×20×2.0	201×18×2.0	23×22×2.0	184×211×2.7	184×211×2.2	
包裝尺寸		Package Size	m	185×16×2.2	21×20×2.2	21×10×2.0	23×22×2.2	22×20×2.2	25×24×2.2	21×23×2.9	21×23×2.3	
加工液箱		Item	單位									
加工液		Dielectric fluid		壹體	壹體	壹體	壹體	壹體	壹體	專用工作液	專用工作液	
加工液箱容量		Volume of container	L							60L	60L	
加工液過濾方式		Dielectric fluid filtration								可換式	可換式	
加工液箱外形尺寸 (L×W×H)		Dimensions of container (L×W×H)	m							0.85×0.57×0.6	0.85×0.57×0.6	
加工液箱包裝尺寸 (L×W×H)		Container package dimensions (L×W×H)	m							1.0×0.7×0.68	1.0×0.7×0.68	
加工液箱毛重/淨重		Weight of container(Gross/Net)	kg							80/60	80/60	
控制系統		Item	單位									
控制系統配置		Controller type		壹體	壹體	壹體	壹體	壹體	壹體	KDXP	KDXP	
控制系統外形尺寸 (L×W×H)		Controller dimensions (L×W×H)	m							0.6×0.8×1.68	0.6×0.8×1.68	
控制系統包裝箱尺寸 (L×W×H)		Controller Package dimensions (L×W×H)	m							0.8×0.9×2.0	0.8×0.9×2.0	
控制系統毛重/淨重		Weight of controller(Gross/Net)	kg							260×180	260×180	

註：1. 超薄材料加工時，請選用0.2mm的電極絲加工。

ChooseΦ0.2mm wire to cut large thickness workpiece.

2. 最大加工速度160mm/min,需另行購買附件和選用0.2mm電極絲加工。

It needs to buy extra accessories and use Φ0.2mm wire to get Max. Cut speed 160mm2/min.

3. CL為進口伺服電機半閉環控制，H為精密型步進電機閉環控制。

CL is the type equipped with imported servo motor;H is the type equipped with stepper motor.

4. GL為進口伺服電機半閉環30度大角度控制。

GL is imported servo motor semi-closed loop control with 30° taper cutting capacity.

5. ZL為進口直線馬達全閉環30度大角度控制。

ZL is imported linear motor closed loop control with 30° taper cutting capacity.

為求產品之精進，製造者保有變更權，如與本目錄有所出入時，恕不另行通知
No special notification subject to technical improvement or upgrade

經濟型數控綫 切割機床

CONVENTIONAL
ECONOMICAL CNC WIRE CUT
EDM



技術參數 TECHNICAL SPECIFICATION

Parameters/specification	DK7725	DK7732	DK7740	DK7750	DK7763
工作臺面行程(mm) Worktable travel	250×320	320×400	400×500	500×630	630×800
工作臺面尺寸(mm) worktable dimension	380×525	415×635	500×785	600×900	60×1100
加工深度(optiOnal)(mm) Max.cut thickness	380/500	300/500	500	500	500/800
錐度(optional) Cut taper	±3°/±30°	±3°/±30°	±3°/±30°	±3°/±30°	±3°/±30°
表面粗糙度(um) Best surface finish	Ra(once cutting)2.5	Ra(once cutting)2.5	Ra(once cutting)2.5	Ra(once cutting)2.5	Ra(once cutting)2.5
	ra(Multi-cutting) 1.5	ra(Multi-cutting) 1.5	ra(Multi-cutting) 1.5	ra(Multi-cutting) 1.5	ra(Multi-cutting) 1.5
精密度(mm) Best accuracy	≤0.015	≤0.015	≤0.015	≤0.015	≤0.015
螺絲和引導方式 Ball screw and transmission	Precision ball screw	Precision ball screw	Precision ball screw	Precision ball screw	Precision ball screw
	Precision stell liated/ linear guideway	Precision stell liated/ linear guideway	Precision stell liated/ linear guideway	Precision stell liated/ linear guideway	Precision stell liated/ linear guideway
最大載量(kg) Max.load	300	400	500	800	1000
機床重量(kg) Weight	1600	1700	2000	2300	4500

技術名稱	單位	KD703A	KD703B	KD703C
裝夾電機直徑 Diameter of electrode	mm	Φ0.2-Φ3.0(Φ5.0訂購)	Φ0.2-Φ3.0(Φ5.0訂購)	Φ0.2-Φ3.0(Φ5.0訂購)
工作臺尺寸 Worktable dimension	mm	320×440	320×440	320×460
X-Y行程 X-Ytravel	mm	200×300	200×300	300×400
主軸頭行程 Stroke of spindle	mm	200	200	300
主軸伺服行程 Stroke of spindle	mm	250	250	380
主軸最大調整速度 Max.speed of spindle	Mm/min	120	120	120
旋轉頭(C軸)轉速 Axis of rotation	rpm	60	60	60
導向器與工作臺面最大距離 Max distance from guide to worktable	mm	280	280	280
工作臺面高度 Height of worktable	mm	920	920	920
數顯方式 Display		X,Y軸數據	X,Y軸數據	X,Y軸數據
最大加工電流 Max.machining current	A	30	30	30
輸入最大功率 Max.input consumption	KW	3	3	3
電源輸入方式 Power	V/Hz	380 · 50Hz	380 · 50Hz	380 · 50Hz
工作液桶容量 Filtering of working liquid	L	25	25	25
工作液過濾方式 The working fluid filtering		間隙式	淺隙式	淺隙式
最大工作液壓力 Max.pressure of working liquid	Mpa	6-10	6-10	6-10
主機外形尺寸 Dimension	m	0.8×1.1×1.7	0.8×1.1×1.7	0.8×1.1×1.7
整機重量 Weight	Kg	600	600	600

為求產品之精進，製造者保有變更權，如與本目錄有所出入時，恕不另行通知
No special notification subject to technical improvement or upgrade

電火花細孔放電加工機 SMALL HOLE EDM



關於機器的注意事項 PREPARING FOR INSTALLATION

1. 機床引進的準備工作

PERARING FOR SET-UP

線切割放電加工機是經過精心制造的精度機床，為發揮機床本來的性能，希望充分考慮主機的設置環境。請在事前查明主機的防護基礎、搬運路線、環境溫度、粉塵狀況、電氣容量并考慮好相關的措施，以保證引進後的順利開動。根據機床設置的需求，事前應向有關部門提出申請（辦理有關危險物品的報告），由于地區不同，條列也不一樣，請務必確認。

Before install the Wire Cut EDM ,please consider the location environment such as foundation, delivery route,status of particulate,powersupply,etc.Toensure the machine can be commisioned .On the other hand ,different region have different situation,please confirmed the site situation before set up the machines.

2. 關於電磁波障礙

ELECTROMAGNETIC INTERFERENCE

放電加工通常會對電視機電子儀器設備造成電磁波幹擾。此時若將加工室的電磁波與外界切斷（屏蔽室）就會有效的清楚幹擾。屏蔽室的工程內容，應根據幹擾的狀況，工程的環境以及加工室的大小等方面予以施工，因此請與專門從事這一行業的人員接洽。施工時請注意以下幾點：

(1) 請在屏蔽室內放置地綫 (2) 如果不能在屏蔽室設置地綫時，請將線切割機的電綫設置在屏蔽室的地綫端子（穿透的螺栓）上。在受幹擾的機器，僅限于電視機，收音機及通信設備情況下，改變一下這些機器的天綫，往往就能消除幹擾。

If a Wire Cut EDM is found to cause interference with visual display or communications system, it should be installed in a shielded room, the situation of the shielded room depends on the status of following when installing Wire Cut EDMs in a shielded room. 1. Grounding is required in the shielded room; 2. If it is impossible to provide a ground terminal inside the room, the grounding cable should be connected to a ground terminal outside of the room via a bolt in the wall;

3. 關於電氣工程

EARTH-LEAKAGE BREAKER SELECTION

在設置機床時，事應根據主機，數據電源裝置、選配件組合，電氣總容量（KVA），然後考慮電源箱內的變壓器的動擊電流，并備好與設備容量相應的空氣開關。電器總容量（KVA）=機床主機（主機+NC裝置）+附件（選配件）。線切割放電加工機應採用獨立的空氣開關，請不要與其他機床共用一個空氣開關。使用漏電的空氣開關時，往往會因電源綫外混入的幹擾而使空氣開關產生錯誤動作，因此請選用合適的空氣開關。為防止觸電，電磁障礙，請實施接地工程。接地工程特別是應以第三種工程（接地阻擾為10Ω以下）來實施，希望每臺機床都要採用獨立的地綫（“一”點接地）。

Before set up the machine, it needs to calculate the total power consumption and select a suitable amperes earth-leakage breaker. The total power consumption is the combination of machine unit, NC unit and accessories. Wire Cut EDMs must connect to individual breaker, it cannot share with other machines. Please be aware that install a highly sensitive earth-leakage breaker may operate erroneously at time. Therefore, it is recommended install a suitable breaker. The machine must be grounded to avoid damage resulting from electromagnetic interference or electrical leakage. The grounding itself should be Type 3 (grounding resistance of 10Ω max.) as specified in the electrical installation standards and should be carried out independently of the grounding of any other piece of machinery (one point earth).

4. 關於接觸地面的震動

FLOOR VIBRATION

地面允許震動的推薦值：震動程度為40dB（分貝）以下。為了保持加工精度，當預定的場所地面震動大時，請採取以下的處理方法

- (1) 採取防震的基礎工程
- (2) 移動到震動的小的場所

To ensure the machining accuracy, the allowed vibration level is below 40dB. When the vibration level is over the permitted level, please use the following methods;

1. Use an anti-vibration foundation;
2. Re-locate the machine.

5. 關於空調

WORKING TEMPERATURE IN ROOM

加工機床能用的環境為10-35°C、濕度為40-75%，這是可能使用的範圍，考慮到精加工和操作工作環境，注意以下的設置：

- (1) 用放電加工進行精加工時，應在加工室內設置空調器，使室內盡量保持恆溫。
- (2) 在24小時內若溫度變化超過3°C或者在1小時內溫度變化超過1°C時，就有可能使加工精度產生影響，因此請予以注意。
- (3) 室溫設定在10-25°C的範圍內。
- (4) 就放電加工機與NC裝置而言，沒有對溫度特別敏感的部件。但是考慮到操作者的工作環境一般保持在50%左右為宜。
- (5) 即使在沒有空調設備的場所應避免陽光的直射或吹風，設法不要讓機床的周圍環境濕度收到急劇的改變。
- (6) 關於換氣，不祇是放電加工機床，一般的切削機床在進行加工時，也都會產生一些氣體（煙霧），考慮到操作者工作環境，應採取換氣措施，在空調系列中，也有變控制溫度、邊換氣的機型。請配置與工廠生產環境相應的裝置。
- (7) 請把機床設置在沒有酸等化學腐蝕性氣體、煙霧以及粉塵少的場所。特別是在磨床的附近，請注意磨料及磨削液的霧氣會給機床的滑動部位帶來很壞的影響。

The operating temperature range of wire cut EDM is 10-35°C, relative humidity is 40-75%. To consider the environment for precision cutting and operators, please ensure the following points;

1. The room must be installed with an air conditioner to keep the room temperature constant;
2. Temperature change should not exceed more than 3°C in 24 hours or 1°C in 1 hour;
3. Recommended room temperature range is 20-25°C;
4. The optimum humidity is around 50%;
5. Do not expose the machine to air flowing from air conditioning vents or direct sunlight;
6. Some mist will be generated during machining, so the machine must be installed in a free air flow environment;
7. The machine must be installed in a non-corrosive, dust-free environment, especially near grinding machines. It would affect the performance of the Wire Cut EDM significantly if machining mechanisms or drives such as ball screws and slide ways become contaminated.

6. 關於機床產生的熱量

HEAT GENERATED BY MACHINE

每臺機床會產生熱量，電源的冷卻風扇把熱氣直接排除到外面，有可能減少空調設備的容量。因此此在準備空調設備時，請予以充分考慮。

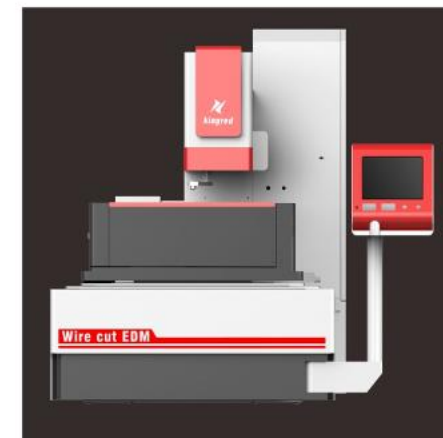
Each machine will generate heat, the cooling device of dielectric fluid generates. Please consider these factors when installing the air-conditioning system for the room.

7. 關於高頻波形的畸變

HIGH FREQUENCY DISTORTION

當電源的高頻波形發生畸變時，盡管電壓沒有變動，有時也會給裝置的動作帶來一定的影響。此時需要避開產生高頻設備或者利用綫性濾波器來處理。

High frequency associated with a power supply may sometimes affect the operation of Wire Cut EDM, even though no voltage fluctuation is experienced. To prevent such circumstances, please avoid operating the EDM near high-frequency equipment or install a line filter in the electrical wiring of the system.





榮譽資質

HONOR QUALIFICATION



2007-2010

- 2007.7 蘇州凱德數控科技有限公司
- 2007.7 suzhou kingred was founded
- 2008.2 第壹臺中走絲機床誕生
- 2008.2 First CNC medium speed wire EDM was build
- 2009.6 入住蘇州工業園區創投工業坊
- 2009.6 Moved to SIP chuangtou industrial park
- 2010.10 成立機械及電器研發生產中心
- 2010.10 Set up mechanical and electrical R&D center

公司歷程 DEVELOPMENT COURSE

2011-2012

- 2011.5 第壹臺完全由凱德自主研發的中走絲誕生
- 2011.5 First self-patented CNC medium speed wire EDM was made
- 2011.10 加入中國機床特殊行業協會
- 2011.10 Joined China Machine Tools Association
- 2012.5 全新設計中走絲機床面市
- 2012.5 Launched brand-nes CNC medium speed wire EDM
- 2012.6 生產中走絲遠銷歐美
- 2012.6 kingred's machines were export to developed countries

2013-2015

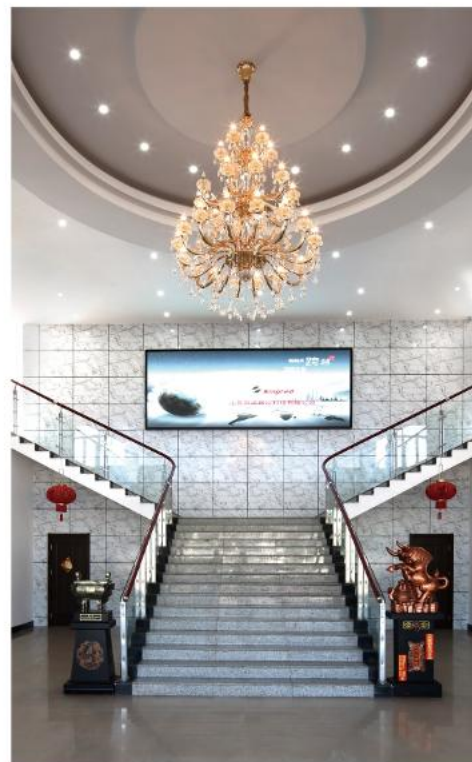
- 2013.3 啓動新結構直線馬達全閉環中走絲研發計劃
- 2013.3 Started project of developing wire EDM with linear shaft motor
- 2013.5 直線馬達全閉中走絲機開始試割
- 2013.5 Started to test closed-loop wire with linear shaft motor
- 2013.7 全新設計的機床面市
- 2013.7 Introduced new designed machines
- 2013.10 榮獲“江蘇省民營科技型企業”稱號
- 2013.10 Gained reputation of "Jiangsu Hifh-Tech Enterprise"
- 2013.11 成功申請12件專利及公司商標 (Kingred)
- 2013.11 Applied 12 patents and brand Kingred successfully
- 2014.5 全新概念壹體化中走絲面市
- 2014.5 All-new concept integrated wire EDM was introduced to the market
- 2014.8 凱德新的生產基地淮安工廠奠基及開工建設儀式
- 2014.8 Opening ceremony of new factory in Huai'an city
- 2014.8 凱德淮安生產基地壹期建設完工
- 2014.8 Construction of new factory started
- 2014.11 凱德淮安生產基地竣工
- 2014.11 Construction of new factory finished
- 2014.12 江蘇凱德數控科技有限公司成立揭牌儀式
- 2014.12 The opening ceremony of Jiangsu kingred CNC Technology Co.,Lt
- 2015.1 淮安市委市政府領導蒞臨視察工廠
- 2015.1 Officers from Huai'an city vist kingred's factory

先進的公司經營理念 Advanced Company Philosophy

管理觀/Management Concept

凱德視員工為成功的關鍵因素，以人為本、互相尊重、精誠協作、開放成長

We kingred make the employees as the key factor for success,we encourage people-oriented,mutual respect,sincere cooperation and open growth



服務觀/Service Concept:

誠信為本，用戶至上
Based on sincerity,customer is the god



專業專注 全心服務

PROFESSIONAL
SERVICE



24 小時服務 24-HOUR SERVICE

一、免費負責調試
Free Debugging

二、產品實行三包服務一年，機床終身維修
We promise to provide the three guarantees for one year, and provide the lifelong maintenance for your machine tool.

三、準件長期有償優惠提供
About the spare-parts, you can get from us with very favorable purchase price.

四、客戶可派2-3名人員到公司進行免費操作培訓及簡單的維修培訓,公司提供午餐,差旅費自備。
Our company will provide operator training and basic maintenance training for two or three people fee.

五、售後服務

After sales service

1.設備出現故障後,用戶可以來電聯系解決,若無法通過電話解決,公司在有服務的地區24小時內趕到現場,在無服務的地區72小時內趕到現場,為客戶排除故障。

2.三包期內,除人為因素外,公司免費提供維修服務,易損件/耗材費由客戶承擔。

3.一年後的服務需收取維修費,零件費及路費。

If you have any questions about our produces technology, you can contact us ,we will try our best to solve your problem at the first time; if we cant solve it through the telephone, we will assign the professional after-sales personnel to your factory and help you solve the problem. we are committed to provide the fastest response time. if in our service scope, we will arrive within 24 hours; if not, we will arrive within 72 hours.

After the warranty period, the maintenance fee, the wearing parts fee, consumables fee, transportation should be borne by the customer.

During the three guarantees, we will provide free maintenance service but except for artificial damage, and the wearing parts and consumables fee shall be borne by the customer.