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Mirrordick®
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深圳市米尔迪克精密机械科技有限公司

地址: 深圳市宝安区燕罗街道燕川北部工业园C4栋

电话: 0755-27417906 27417907

传真: 0755-27417905

邮箱: market@mirrordick.com

网址: www.mirrordick.com

Shenzhen Mirrordick Precision Machinery Technology Co., Ltd.

Add: C4 Building, North Industrial Park, Yanchuan Village, Yanluo Subdistrict,

Bao'an District, 518105, Shenzhen City, Guangdong, China

Tel: +86-755-27417906 27417907

Fax: +86-755-27417905

E-mail: market@mirrordick.com

Web: www.mirrordick.com

广东米尔迪克智能机械实业有限公司

地址: 广东省河源市高新区高新大道新陂路米尔迪克智能产业园

Guangdong Mirrordick Intelligent Machinery Industrial Co., Ltd.

Add: Mirrordick Intelligent Industrial Park, Xinpi Road, High-tech Avenue,

High-tech Zone, Heyuan City, Guangdong Province.

米尔迪克印度: 浦那市和班加罗尔市

India Pune: Shop No- # 5, Shankar Dada Bhalekar, Industrial Estate, Gat no-199

Jyotiba Nagar, Behind Jyotiba Temple Talawade, Haveli Pune-411062.

India Bangalore: No. 108E, Opp Local ESI, 1st Floor, 3rd Phase, 6th Main, Peenya Industrial Area, Bangalore-560058.

米尔迪克越南: 越南北宁省桂武芳柳坊毛淘街区74号

Add: Mao doc quarter, Phuong lieu ward, Bac ninh province, Vietnam

米尔迪克墨西哥: 墨西哥瓜纳华托州莱昂市

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μ 级的制造精度
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Company Profile 公司概况

米尔迪克是一家专注于精密镜面火花机研发、生产、销售为一体的高新科技技术、专精特新企业，拥有自主研发的镜面火花机品牌--米尔迪克Mirrordick®。公司位于深圳，在河源拥有自己的智能设备产业园区，并在越南、印度、墨西哥等地设有客户体验中心，与全球多个国家设备经销商有长期合作关系。

米尔迪克研发团队由从事放电研究多年的资深人士组成，同时与多所知名高校专家教授联合组成项目课题组；制造团队由从事机床制造30多年的总工程师领衔。深厚的技术底蕴和丰富的经验使米尔迪克在放电加工技术上一直处于行业前沿。所生产的精密镜面火花机无论是单头、双头都可随客户要求加装ATC电极库和网络传输系统，可实现智能自动化生产管理及远程监控实时工作状

态，帮助客户实现智能、自动化生产制造，助力客户奔向中国制造2025（工业4.0）。系统具有优异的加工性能，高效率 and 低电极损耗。它支持11种加工技术，如铜打铜、石墨打钢、铜钨打硬质合金等。它可以实现不同轨迹的三轴到多轴联动加工、多孔自动移位加工、横向加工、45度倾斜加工和倒扣加工。

米尔迪克始终秉承“质量第一、服务先行、用户至上”的售后服务理念，保持“一次客户，终身服务”的服务精神，做到系统软件部分终生免费升级、加工工艺无限次免费支持，让客户彻底消除购买机床的“后顾之忧”。米尔迪克愿以真诚携手广大客户，坚持“为客户创利润，为企业求发展”的经营方针，共创中国设备中国制造的辉煌，成为世界一流机床设备提供商。

Mirrordick is a high-tech and “specialized, refined, distinctive and innovative” enterprise integrates R&D, production, and sales of precision mirror finish EDM (Electrical Discharge Machining) machines. It owns its independently developed brand—Mirrordick®. The company is headquartered in Shenzhen and operates its own intelligent equipment industrial park in Heyuan. With customer experience centers in Vietnam, India, Mexico, and other locations, Mirrordick maintains long-term cooperative relationships with equipment distributors in many countries worldwide.

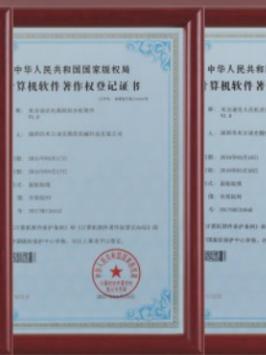
The Mirrordick R&D team is composed of seasoned professionals with years of experience in electrical discharge technology research, collaborating in project teams with expert professors from several renowned universities. The manufacturing team is led by a chief engineer with over 30 years of experience in machine tool manufacturing. This profound technical heritage and extensive experience keep Mirrordick at the forefront of EDM technology. Mirrordick precision mirror finish EDM machines, whether single-head or double-heads models, can be equipped with ATC electrode magazines and network transmission systems according to customer requirements. These configurations enable intelligent automated production management as well as real-time remote monitoring of operating status, helping customers achieve smart, automated

manufacturing and accelerate their journey towards “Made in China 2025” (Industry 4.0).

The system has excellent processing performance, high efficiency, and low electrode loss. It supports 11 types of processing technologies, such as copper on copper, graphite on steel, copper tungsten on cemented carbide etc.. It can achieve 3-axis to multi-axis linkage processing with different trajectories, automatic shifting processing of multiple holes, horizontal processing, 45-degree inclined processing, and undercut processing.

Mirrordick has always adhered to its after-sales service philosophy of “Quality First, Service Foremost, Customer Supreme”, and upholds the service spirit of “One-Time cooperation, A Life-long Service”, so that the system software can be upgraded for life with free, and the processing technology can be supported unlimited times with free. Enabling customers to completely eliminate their “worries” after purchasing machines. Mirrordick is willing to join hands with customers with genuine sincerity, adhere to the operational principle of “Creating Profits for Customers, Pursuing Development for the Enterprise,” and work together to build the brilliance of Chinese equipment manufacturing and become a world-class provider of machines.

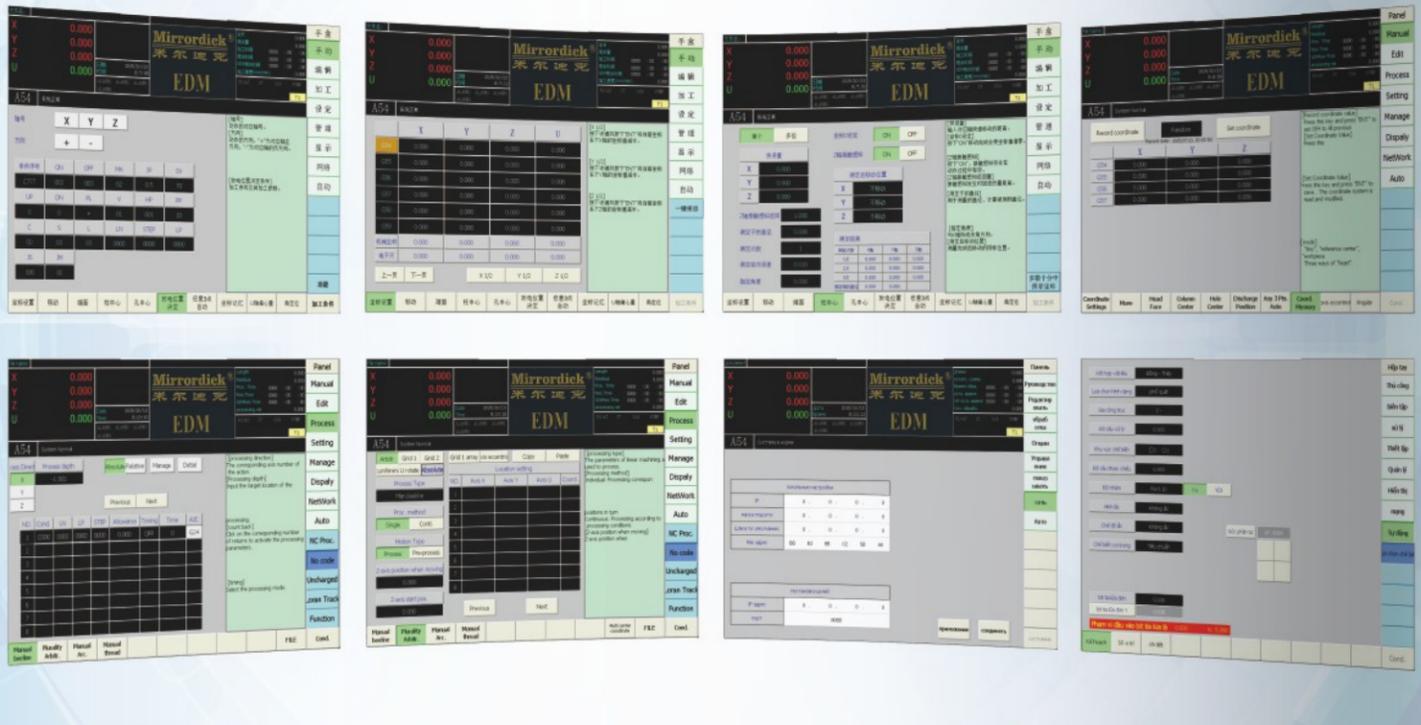
Certificate Qualification 资质证书



Development Course 发展历程



Brand New System(Multilingual user interface) 全新系统(多语言操作界面)



■ 工件定位

- 多工件任意位置, 记录坐标值。
- Workpiece Positioning
- Any position of multiple workpieces, record coordinate values.

■ FTD网络联机

- 更方便, 更快捷。
- FTD Internet Connection
- More convenient and faster.

■ 分中快捷键

- 在最顶端, 易操作。
- Shortcut Key
- At the top, easy to operate.

■ 手动多坐标, 多方向

- 多孔位加工, 更智能。
- Manual Multi-coordinate, Multi-direction
- Multi-hole processing, more intelligent.

■ 手动二轴、三轴联动加工

- 无需计算分段预留量。
- Manual Two-axis And Three-axis Simultaneous Machining
- No need to calculate segment reserve.

■ 电极定位

- 选择图纸模式后, 输入电极尺寸和图纸上放电位置, 执行“ENT”确认输入数据是否正确, 把电极移动到“S1”或“S2”指定位置, 系统会自动进行分中并移动至最终加工位置。

Electrode Positioning

- After selecting the drawing mode, input the electrode size and discharge position on the drawing, execute "ENT" to confirm whether the input data is correct, move the electrode to the position specified by "S1" or "S2", the system will automatically center and move to the final processing position.

■ AUTO加工

- 选择电极与工件材料, 输入“火花位”“放电面积”“光洁度”“加工尺寸”系统自动生成放电参数及程序。

AUTO Processing

- Select electrode and workpiece material, input "spark position", "discharge area", "smooth finish" and "processing size" and the system automatically generates discharge parameters and programs.

■ 标准球定位

- 输入“上层”和“下层”分中球尺寸, 选择“测试”功能, 系统自动测量出与工件基准之间数据并写入相应分中球序号。

Standard Ball Positioning

- Enter the size of the "upper layer" and "lower layer" centering balls, select the "test" function, the system will automatically measure the data between the workpiece and the benchmark and write the corresponding centering ball serial number.

■ 系统介绍 System Description

功能 Function	Windows	功能说明 Function Description
系统功能 System Function	● 标配 ○ 选配	
基本功能 Basic Function	●	坐标、移动、定位、手动加工、编程等功能 Coordinate, positioning, manual processing, programming functions etc
智能定位系统 Intelligent location function	○	综合传统操作模式为一体, 提高效率、减少操作 Improve preparation efficiency, reduce error and electrode dimension detection
精确补偿系统 Accurate compensating system	●	补偿机械存在的精度误差或弥补机械老化导致的精度误差 Compensating the error of machinery accuracy or mechanical aging
坐标轴数量 Number of coordinates	B	A: 6组坐标系 B: 60组坐标系 A: 6 sets coordinates B: 60 sets coordinates
三轴联动功能 Three axis linkage function	●	三轴联动移动、三轴联动加工(最高可支持五轴) Three axis linkage moving & processing (5 axis available)
伺服补偿功能 Servo compensation function	●	快速移动和停止时运用抛物曲线加减速(可高稳定性) Use the parabolic curve to speed or decelerate (improve stability)
防火控制系统 Anti-fire control system	●	检测到火苗和高温时自动断电 Auto power off when fire or high temperature detected
油位控制功能 Oil level control function	●	监测液槽内加工液高度预防无油加工隐患 Monitoring the height of oil
触摸屏输入 Touchscreen input	●	触摸屏操作 Touchscreen operation
手控盒技术 Hand control box	●	有线 Wired
自动记忆功能 Automatic memory function	●	自动记忆坐标: 开机无需归零, 断电时无需复位 No need to return to zero, no need to reset if power off
断电复位功能 Power reset function	●	设备断电后通过该功能可复位到原来位置 Reset to its original position if power off
语言选择 Language selection	B	A: 中文、英文 B: 中/英/俄/越/葡等 A: CN, EN B: Chinese/English/Russian/Vietnamese/Portuguese etc.
报警信息显示功能 Alarm function	●	设备异常及出现报警时可提示报警信息 Alarm when machine is abnormal
多任务处理功能 Multi-task function	●	直线加工与硬盘加工时可以修改其他程序 Other programs can be modified when linear or hard disk processing
USB传输 USB transmission	●	使用普通USB无需单独处理即可传输程序 USB or LAN transport data
自动油泵 Automatic oil pump function	●	用户可自定义油泵开启/关闭模式 Oil pump opening/closing mode can be customized
加工结束自动关机 Automatic power off after processing	○	用户开启此功能, 加工结束会自动切断总电源 Automatic power off after processing
放电功能 Discharge Function	● 标配 ○ 选配	
基本放电功能 Basic discharge function	●	手动、AUTO、圆弧、螺纹、编程、多位置 Manual, AUTO, arc, thread, programming, multi-position etc
加工时间累计功能 processing time accumulation	●	放电时系统将会自动累计总时间 Automatically accumulate total time during discharge
单节加工结束短回退 Short return function	●	单段加工结束可自定义短回退距离 Short return after one processing finish
加工深度、余量显示 Depth&residual display	●	加工时可以显示目标深度和剩余深度 Depth and the remaining depth can be displayed when processing
实时修改放电参数 Real time parameter modify	●	放电时无需暂停即可修改参数 Parameters can be modified without pause
手动-直线多轴加工 Multi-axis machining	●	手动-直线加工画面支持多轴加工 Manual - linear machining images, support multi-axis machining
AUTO X,Y轴加工 Lateral AUTO discharge	●	侧向支持AUTO放电功能 Lateral AUTO discharge
多位置X,Y轴加工 Lateral multi position discharge	●	侧向支持多位置加工 Lateral multi position discharge
侧向圆弧加工 X/Y Lateral arc discharge	●	界面支持X/Y轴圆弧加工 X/Y Lateral arc discharge
暂停加工回起起点 Pause to start point	●	暂停加工时, 可选择加工轴原轨迹返回到起点点 Pause to start point by the original trajectory
加工中X/Y轴偏移 X/Y axis offset during processing	●	放电状态中通过功能以0.001/0.01单位进行X/Y轴偏移 X/Y axis offset by 0.001/0.01 unit during processing
高速石墨回路 Highspeed graphite discharge	●	高速石墨加工数据库 High-speed graphite discharge database
镜面加工回路 Mirror finishing circuit	●	支持镜面放电 Support mirror finishing
特殊加工回路 Special circuit	●	硬质合金、钛合金、铝合金 Aluminium alloy/ titanium alloy/ hard metal
摇动功能 Orbiting Function	● 标配 ○ 选配	
三轴摇动 Three axis linkage orbiting	●	系统自动运算起点与终点, 以斜线为中心进行摇动 Automatically orbiting by diagonal line
自由摇动 Free orbiting	●	通常形状摇动模式 Usual shape orbiting
象限摇动功能 Quadrant orbiting	●	用户可根据电极情况自定义象限区域选择摇动方式 Selects the orbit mode in quadrant area
锁定摇动功能 Lock orbiting	●	锁定深度进行摇动 Depth locked for orbiting
分段摇动功能 Subsection orbiting	●	在当前Z轴位置分段摇动(可提高效率减少损耗) Subsection orbiting in Z axis position (reduce wastage)
摇动内缩功能 Orbiting retraction	●	当摇动量过大时, 系统自动启动内缩功能保护电极 Retraction when orbiting much to protect electrode
扩展功能 Extended Function	● 标配 ○ 选配	
电极库功能 ATC	○	4把固定式 16把旋转式 20把旋转式 4T(Stationary) 16T(Rotary) 20T(Rotary)
联网功能 Networking	○	1.人员 2.设备管理 3.历史记录 4.信息化生产线 1.Personnel 2.Machinery 3.History 4.Data
全闭环功能 Closed-loop function	○	光栅尺反馈 Linear scale feedback
自动润滑系统 Automatic lubrication system	○	定时向机床各运动部位注射润滑油(时间可设置) lubricate the moving parts regularly (time can be set)
系统升级 System update	定期升级 Upgrade regularly	DOS_老版系统 Windows_最新开发系统 DOS_older version system Windows_Updated system

High Precision Mirror EDM Machine

高精精密镜面火花机

一部拥有镜面、硬质合金、石墨加工效率及性价比最高的火花机

A EDM machine with mirror finishing, hard alloy, graphite processing efficiency and the most cost-effective



■ 高精精密镜面火花机

- Windows控制系统 (多语言)
- 网络传输端口
- PIKA超精镜面放电回路
- 60个工件坐标系
- 火花油恒温装置

High precision mirror EDM machine

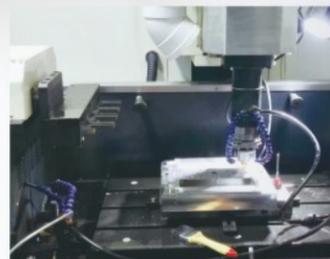
- Windows control system (multilingual)
- Network transmission port
- PIKA ultra-precision mirror discharge circuit
- 60 workpiece coordinate systems
- Spark oil constant temperature device

■ 特殊选配

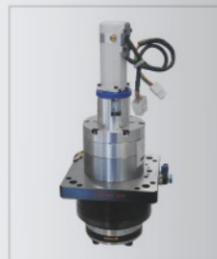
- C轴
- 4工位ATC电极库
- 稳压器
- 快速夹头

Special option

- C axis
- 4-position ATC electrode library
- Stabilizer
- Quick Chuck



4工位电极库
4-position electrode library



C轴
C axis

■ 技术参数 Technical Parameter

项目 Item	单位 Unit	AD30	AD40	AD45
工作台尺寸(长×宽) Worktable size(LxW)	mm	600x400	700x450	700x450
加工液槽内部尺寸(长×宽×高) Liquid tank internal size(LxWxH)	mm	900x550x400	950x600x400	950x600x400
液面调整范围 Liquid level adjustment range	mm	48-198	110-292	110-300
加工液槽最大容量 Max. capacity of the liquid tank	L	150	180	200
X、Y、Z轴行程 X、Y、Z axis travel	mm	300x210x270	400x300x300	450x350x300
最大电极重量 Max. electrode weight	kg	50	50	50
最大工件尺寸 Max. workpiece size	mm	780x500x250	820x550x280	880x550x300
最大工件重量 Max. Workpiece weight	kg	500	600	700
工作台面到电极板的最大最小距离 The Max. and Min. distance from worktable surface to electrode plate	mm	295-565	330-630	330-630
定位精度(JIS标准) Positioning accuracy (JIS standard)		5μm/任意(Arbitrarily)300mm		
重复定位精度(JIS标准) Repeat accuracy (JIS standard)		2μm	2μm	2μm
占地面积(长×宽×高) Area covered(LxWxH)	mm	2000x2100x2200	2100x2100x2200	2200x2200x2300
机床重量 Machine weight	kg	2200	3500	3800
储液箱容积 Reservoir tank volume	L	400	400	400
加工液过滤方式 Processing liquid filter type		交换式纸芯过滤器(Switching Cartridge Filter)		
数控脉冲电源装置 NC pulsed power supply unit		A40	A40	A40
最大加工电流 Max. Current	A	40	40	40
总输入功率 Total input power	KVA	9	9	9
输入电源 Input Supply		380V(国内-China)		
最佳表面粗糙度 Best surface roughness		Ra0.1 μm		
最小电极损耗 Min. electrode wear		0.1%		
最高生产率 Max. productivity		铜打钢(Copper hit steel)500mm ³ /min 石墨打钢(Graphite hit steel)1030mm ³ /min		
标准工艺 Standard process		铜/钢、微细铜/钢、铜钨/钢、微细铜钨/钢、钢/钢、铜钨/硬质合金、铜/铝、石墨/耐热合金、石墨/钛、铜/铜 Copper/steel, fine copper/steel, graphite/steel, copper tungsten /steel, fine copper tungsten/steel, steel/steel, coppertungsten/carbide, copper/aluminum, graphite/heat-resistant alloys, graphite/titanium, copper/copper		
插补方式 Interpolation type		直线, 圆弧, 螺旋线(Linear, circular, spiral)		
各轴补偿 Each axis compensation		各轴分别进行步距误差补偿、间隙补偿 (Each axis respectively step error compensation, clearance compensation)		
最大控制轴数 Max. number of controlled axis		三轴三联动(标配), 四轴四联动(选配) Three axes linkage (standard), four simultaneous axes (optional)		
各轴分辨率 Each axis resolution	μm	0.4		
最小驱动单位 Min. drive unit	μm	1		
输入方式 Input type		触摸屏(Touch screen), U盘(U disk)/网络传输(Net work transmission)		
显示方式 Display type		15"液晶屏(15" LCD screen)(TFT-LCD)		
手控盒 Manual control box		标准点动(多级切换)Standard point move (multistage switching)		
位置指令方式 Position command type		绝对, 增量兼用(Absolute, incremental dual purpose)		

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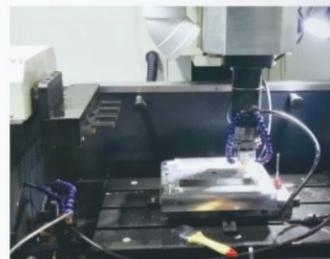


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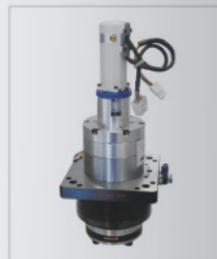
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液面调整范围 Liquid level adjustment range	mm	48-198	110-292	110-300
加工液槽最大容量 Max. capacity of the liquid tank	L	152	200	235
X、Y、Z轴行程 X、Y、Z axis travel	mm	300x210x270	400x300x300	450x350x300
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最大工件重量 Max. Workpiece weight	kg	500	600	700
工作台面到电极板的最大最小距离 The Max. and Min. distance from worktable surface to electrode plate	mm	295-565	330-630	330-630
定位精度(JIS标准) Positioning accuracy (JIS standard)		5μm/任意(Arbitrarily)300mm		
重复定位精度(JIS标准) Repeat accuracy (JIS standard)		2μm	2μm	2μm
外形尺寸(长X宽X高) Overall size(LxWxH)	mm	2000x2100x2200	2300x2450x2320	2320x2450x2320
机床重量 Machine weight	kg	2200	3500	3800
储液箱容积 Reservoir tank volume	L	400	400	400
加工液过滤方式 Processing liquid filter type		交换式纸芯过滤器(Switching Cartridge Filter)		
数控脉冲电源装置 NC pulsed power supply unit		A40	A40	A40
最大加工电流 Max. Current	A	40	40	40
总输入功率 Total input power	KVA	9	9	9
输入电源 Input Supply		380V(国内-China)		
最佳表面粗糙度 Best surface roughness		Ra0.1 μm		
最小电极损耗 Min. electrode wear		0.1%		
最高生产率 Max. productivity		铜打钢(Copper hit steel)500mm ³ /min 石墨打钢(Graphite hit steel)1030mm ³ /min		
标准工艺 Standard process		铜/钢、微细铜/钢、铜钨/钢、微细铜钨/钢、钢/钢、铜钨/硬质合金、铜/铝、石墨/耐热合金、石墨/钛、铜/铜Copper/steel, fine copper/steel, graphite/steel, copper tungsten /steel, fine copper tungsten/steel, steel/steel, coppertungsten/carbide, copper/aluminum, graphite/heat-resistant alloys, graphite/titanium, copper/copper		
插补方式 Interpolation type		直线, 圆弧, 螺旋线(Linear, circular, spiral)		
各轴补偿 Each axis compensation		各轴分别进行步距误差补偿、间隙补偿 (Each axis respectively step error compensation, clearance compensation)		
最大控制轴数 Max. number of controlled axis		三轴三联动(标配), 四轴四联动(选配) Three axes linkage (standard), four simultaneous axes (optional)		
各轴分辨率 Each axis resolution	μm	0.4		
最小驱动单位 Min. drive unit	μm	1		
输入方式 Input type		触摸屏(Touch screen), U盘(U disk)/网络传输(Net work transmission)		
显示方式 Display type		15"液晶屏(15" LCD screen)(TFT-LCD)		
手控盒 Manual control box		标准点动(多级切换)Standard point move (multistage switching)		
位置指令方式 Position command type		绝对, 增量兼用(Absolute, incremental dual purpose)		

High Precision Mirror EDM Machine

高精精密镜面火花机

一部拥有镜面、硬质合金、石墨加工效率及性价比最高的火花机
A EDM machine with mirror finishing, hard alloy, graphite processing efficiency and the most cost-effective



■ 高精精密镜面火花机

- 油槽自动升降
- Windows控制系统(多语言)
- 网络传输端口
- PIKA超精镜面放电回路
- 火花油恒温装置
- 60个工件坐标系

High precision mirror machine

- Automatic lifting of oil tank
- Windows control system (multilingual)
- Network transmission port
- PIKA ultra-precision mirror discharge circuit
- Spark oil constant temperature device
- 60 workpiece coordinate systems

■ 特殊选配

- C轴
- 16工位ATC电极库
- 稳压器
- 快速夹头

Special option

- C axis
- 16-position ATC electrode library
- Stabilizer
- Quick Chuck



16工位电极库
16-position electrode library



C轴
C axis

■ 技术参数 Technical Parameter

项目 Item	单位 Unit	AR50	AR65
工作台尺寸(长×宽) Table size (length x width)	mm	700x450	850x600
X、Y、Z轴行程 X, Y, Z axis travel	mm	500x400x300	650x450x350
加工液槽内部尺寸(长×宽×高) Liquid tank internal size (L×W×H)	mm	870x620x350	900x700x350
最大电极重量 Maximum electrode weight	kg	50	50
工作台面到电极板的最小最大距离 The Max. and Min. distance from worktable surface to electrode plate	mm	200-500	200-550
定位精度(JIS标准) Positioning accuracy (JIS standard)		5μm/任意(Arbitrarily)300mm	
重复定位精度(JIS标准) Repeat accuracy (JIS standard)		2μm	2μm
机床重量 Machine weight	kg	5500	6500
储液箱容积 Reservoir tank volume	L	300	400
外形尺寸(长×宽×高) Dimensions (length X width X height)	mm	2100x2000x2400	2350x2380x2500
加工液过滤方式 Processing fluid filtration method		交换式纸芯过滤器(Switching Cartridge Filter)	
数控脉冲电源装置 Numerical control pulse power supply device		40A	
最大加工电流 Maximum machining current	A	40	
总输入功率 Total input power	KVA	9	
输入电源 Input power		380V(国内-China)	
最佳表面粗糙度 Best surface roughness		Ra0.1μm	
最小电极损耗 Minimum electrode loss		0.1%	
最高生产率 Highest productivity		铜打钢(Copper hit steel)500mm ³ /min 石墨打钢(Graphite hit steel)1030mm ³ /min	
标准工艺 Standard process		紫铜钢、石墨/钢、细石墨/钢、铜钨合金/硬质合金、铜钨合金/钢、紫铜/紫铜 Copper steel, graphite/steel, fine graphite/steel, copper-tungsten alloy/hard alloy, copper-tungsten alloy/steel, red copper/red copper	
插补方式 Interpolation type		直线, 圆弧, 螺旋线(Linear, circular, spiral)	
各轴补偿 Compensation for each axis		各轴分别进行步距误差补偿、间隙补偿 (Each axis respectively step error compensation, clearance compensation)	
最大控制轴数 Maximum number of controlled axes		三轴三联动(标配), 四轴四联动(选配) Three axes linkage (standard), four simultaneous axes (optional)	
各轴分辨率 Resolution of each axis	μm	0.4	
最小驱动单位 Minimum drive unit	μm	1	
输入方式 Input type		触摸屏(Touch screen), U盘(U disk)/网络传输(NET network transmission)	
显示方式 Display type		15" 液晶屏(15" LCD screen)(TFT-LCD)	
手控盒 Manual control box		标准点动(多级切换)Standard point move (multistage switching)	
位置指令方式 Position command type		绝对, 增量兼用(Absolute, incremental dual purpose)	
驱动方式 Drive mode		全数字式交流伺服(Fully digital AC servo)	
标准配件(见详细装箱单) Standard accessories (see detailed packing list)		机床脚踏、可调夹具、机床灯、过滤纸芯、液位控制器、保险丝、工具箱、使用说明书、注油枪等 Machine sizing block, adjustable fixture, machine tool light, filter, liquid level controller, fuse, tool box, instruction manual, grease gun, etc.	

Precision Cow Head EDM Machine Series

精密牛头火花机系列

■ 高精镜面火花机

- Windows控制系统(多语言)
- 网络传输端口
- PIKA超精镜面放电回路
- 60个工件坐标系

High precision mirror machine

- Windows control system (multilingual)
- Network transmission port
- PIKA ultra-precision mirror discharge circuit
- 60 workpiece coordinate systems



■ 特殊选配

- C轴
- 16工位ATC电极库
- 火花油恒温装置
- 稳压器
- 快速夹头
- 机械式自动上下门

Special option

- C axis
- 16-position ATC electrode library
- Spark oil constant temperature device
- Stabilizer
- Quick Chuck
- Mechanical automatic upper and lower doors



16工位电极库
16-position electrode library



16工位电极库
16-position electrode library

■ 技术参数 Technical Parameter

项目 Item	单位 Unit	AM50	AM80	AM120
工作台尺寸(长×宽) Table size (length x width)	mm	850x500	1050x600	1250x800
加工液槽内部尺寸(长×宽×高) Liquid tank internal size (L×W×H)	mm	1370x880x520	1680x1000x600	2000x1300x700
X、Y、Z轴行程 X, Y, Z axis travel	mm	500x400x350	800x500x400	1200x600x450
最大电极重量 Maximum electrode weight	kg	100	150	400
最大工件尺寸 Maximum workpiece size	mm	1280x800x400	1500x1000x550	1800x1200x650
最大工件重量 Maximum workpiece weight	kg	2500	4000	5000
工作台面到电极板的最大最小距离 The Max. and Min. distance from worktable surface to electrode plate	mm	450/800	500/900	650/1100
定位精度(JIS标准) Positioning accuracy (JIS standard)		6μm/任意(Arbitrarily)300mm 6μm/任意(Arbitrarily)300mm 6μm/任意(Arbitrarily)300mm		
重复定位精度(JIS标准) Repeat positioning accuracy (JIS standard)		3μm	3μm	3μm/任意(Arbitrarily)300mm
外形尺寸(长×宽×高) Dimensions (length X width X height)	mm	2500x2500x2700	2800x2700x2700	3320x3340x3420
机床重量(不含数控电源) Machine tool weight (excluding CNC power supply)	kg	4000	5000	6800
储液箱容积 Reservoir tank volume	L	700	1000	1150
加工液过滤方式 Processing fluid filtration method		交换式纸芯过滤器(Switching Cartridge Filter)		
数控脉冲电源装置 Numerical control pulse power supply device		A50	A50	A50
最大加工电流 Maximum machining current	A	50	50	50
总输入功率 Total input power	KVA	9	9	9
输入电源 Input power		380V(国内-China)		
最佳表面粗糙度 Best surface roughness		Ra0.2 μm		
最小电极损耗 Minimum electrode loss		0.1%		
最高生产率 Highest productivity		铜打钢(Copper hit steel)500mm ³ /min 石墨打钢(Graphite hit steel)1030mm ³ /min		
标准工艺 Standard process		紫铜钢、石墨/钢、细石墨/钢、铜钨合金/硬质合金、铜钨合金/钢、紫铜/紫铜 Copper steel, graphite/steel, fine graphite/steel, copper-tungsten alloy/hard alloy, copper-tungsten alloy/steel, red copper/red copper		
插补方式 Interpolation type		直线, 圆弧, 螺旋线(Linear, circular, spiral)		
各轴补偿 Compensation for each axis		各轴分别进行步距误差补偿、间隙补偿 (Each axis respectively step error compensation, clearance compensation)		
最大控制轴数 Maximum number of controlled axes		三轴三联动(标配), 四轴四联动(选配) Three axes linkage (standard), four simultaneous axes (optional)		
各轴分辨率 Resolution of each axis	μm	0.4		
最小驱动单位 Minimum drive unit	μm	1		
输入方式 Input type		触摸屏(Touch screen), U盘(U disk)/网络传输(NET work transmission)		
显示方式 Display type		15"液晶屏(15" LCD screen)(TFT-LCD)		
手控盒 Manual control box		标准点动(多级切换)Standard point move (multistage switching)		
位置指令方式 Position command type		绝对, 增量兼用(Absolute, incremental dual purpose)		
驱动方式 Drive mode		全数字式交流伺服(Fully digital AC servo)		
标准附件(明细见装箱单) Standard accessories (see packing list for details)		机床脚垫、可调夹具、机床灯、过滤纸芯、液位控制器、保险丝、工具箱、使用说明书、注油枪等 Machine sizing block, adjustable fixture, machine tool light, filter, liquid level controller, fuse, tool box, instruction manual, grease gun, etc.		

Precision Double Heads Cow Head EDM Machine Series

精密双牛头火花机系列

■ 精密双牛头火花机

- Windows控制系统(多语言)
- 网络传输端口
- PIKA超精镜面放电回路
- 60个工件坐标系

High precision double heads cow head EDM machine

- Windows control system (multilingual)
- Network transmission port
- PIKA ultra-precision mirror discharge circuit
- 60 workpiece coordinate systems

■ 特殊选配

- 火花油恒温装置
- 电控箱恒温装置
- 稳压器
- 快速夹头

Special option

- Spark oil constant temperature device
- Electric control box thermostat
- Stabilizer
- Quick Chuck



■ 技术参数 Technical Parameter

项目 Item	单位 Unit	AM120R	AM130R	AM150R	AM180R
工作台尺寸(长×宽) Table size (length x width)	mm	1300x600	1500x750	1800x900	2000x1000
X、Y、Z轴行程 X, Y, Z axis travel	mm	700x500x400	800x600x450	1000x700x500	1200x800x600
加工液槽内部尺寸(长×宽×高) Liquid tank internal size (L×W×H)	mm	2000x1000x600	2500x1200x600	3000x1600x650	3500x1800x650
最大电极重量 Maximum electrode weight	kg	200 (单头电极-single head stage)	400 (单头电极-single head stage)	400 (单头电极-single head stage)	400 (单头电极-single head stage)
最大工件重量 Maximum workpiece weight	kg	4500	7500	8000	10000
工作台面到电极板的最大最小距离 The Max. and Min. distance from worktable surface to electrode plate	mm	500/900	600/1050	600/1100	630/1230
机床重量 Machine weight	kg	8000	9000	12000	14000
储液箱容积 Reservoir tank volume	L	1300	1250	1400	1400
总输入功率 Total input power	KVA	9+9	13+13	13+13	13+13
外形尺寸(长X宽X高) Dimensions (length X width X height)	mm	3700x3100x2700	3400x3390x2880	3900x3600x3300	5200x4300x3600
输入电源 Input power	V	220V/380V(国内-China)			
数控电源装置 CNC power supply	A	A50/A100			
最大加工电流 Maximum machining current	A	50/100			
最佳表面粗糙度 Best surface roughness		Ra0.2 μm			
最小电极损耗 Minimum electrode loss		0.1%			
最高生产率 Highest productivity		铜打钢(Copper hit steel)500mm ³ /min 石墨打钢(Graphite hit steel)1030mm ³ /min			
标准工艺 Standard process		紫铜钢、石墨/钢、细石墨/钢、铜钨合金/硬质合金、铜钨合金/钢、紫铜/紫铜 Copper steel, graphite/steel, fine graphite/steel, copper-tungsten alloy/hard alloy, copper-tungsten alloy/steel, red copper/red copper			
编程专家系统 Programming expert system		自动生成加工程序Automatically generate machining programs			
插补方式 Interpolation type		直线, 圆弧, 螺旋线(Linear, circular, spiral)			
各轴补偿 Compensation for each axis		各轴分别进行步距误差补偿、间隙补偿 (Each axis respectively step error compensation, clearance compensation)			
最大控制轴数 Maximum number of controlled axes		三轴三联动Three axes linkage			
最小驱动单位 Minimum drive unit	μm	1			
输入方式 Input type		触摸屏(Touch screen), U盘(U disk)/网络传输(NET network transmission)			
显示方式 Display type		15" 液晶屏(15" LCD screen)(TFT-LCD)			
遥控盒(手控盒) Remote control box (hand control box)		标准点动(多级切换)Standard point move (multistage switching)			
驱动方式 Drive mode		全数字式交流伺服(Fully digital AC servo)			
标准附件(明细见装箱单) Standard accessories (see packing list for details)		机床脚垫、可调夹具、机床灯、过滤纸芯、液位控制器、保险丝、工具箱、使用说明书、注油枪等 Machine sizing block, adjustable fixture, machine tool light, filter, liquid level controller, fuse, tool box, instruction manual, grease gun, etc.			

Precision Double Heads Cow Head EDM Machine Series

精密双牛头火花机系列

■ 精密双牛头火花机

- Windows控制系统 (多语言)
- 网络传输端口
- PIKA超精镜面放电回路
- 60个工件坐标系

High precision double heads cow head EDM machine

- Windows control system (multilingual)
- Network transmission port
- PIKA ultra-precision mirror discharge circuit
- 60 workpiece coordinate systems

■ 特殊选配

- 火花油恒温装置
- 电控箱恒温装置
- 稳压器
- 快速夹头

Special option

- Spark oil constant temperature device
- Electric control box thermostat
- Stabilizer
- Quick Chuck



■ 技术参数 Technical Parameter

项目 Item	单位 Unit	AM200R	AM250R	AM300R
工作台尺寸(长×宽) Table size (length x width)	mm	2500x1200	2700x1200	3200x1200
X, Y, Z轴行程 X, Y, Z axis travel	mm	1450x900x600	1750x900x600	2400x900x600
加工液槽内部尺寸(长×宽×高) Liquid tank internal size (L×W×H)	mm	3460x1800x850	3940x1800x850	4500x1800x850
最大电极重量 Maximum electrode weight	kg	450 (单头电极-single head stage)	450 (单头电极-single head stage)	450 (单头电极-single head stage)
最大工件重量 Maximum workpiece weight	kg	12000	14000	17000
工作台面到电极板的最大最小距离 The Max. and Min. distance from worktable surface to electrode plate	mm	660/1260	660/1260	700/1300
机床重量 Machine weight	kg	17000	20000	24000
储液箱容积 Reservoir tank volume	L	2000	2000	2000
总输入功率 Total input power	KVA	13+13	13+13	13+13
外形尺寸(长×宽×高) Dimensions (length X width X height)	mm	5520x5150x3450	6630x6900x3900	7130x6900x3970
输入电源 Input power	V	380V(国内-China)		
数控电源装置 CNC power supply	A	A50/A100		
最大加工电流 Maximum machining current	A	50/100		
最佳表面粗糙度 Best surface roughness		Ra0.2 μm		
最小电极损耗 Minimum electrode loss		0.1%		
最高生产率 Highest productivity		铜打钢(Copper hit steel)500mm ³ /min 石墨打钢(Graphite hit steel)1030mm ³ /min		
标准工艺 Standard process		紫铜钢、石墨/钢、细石墨/钢、铜钨合金/硬质合金、铜钨合金/钢、紫铜/紫铜 Copper steel, graphite/steel, fine graphite/steel, copper-tungsten alloy/hard alloy, copper-tungsten alloy/steel, red copper/red copper		
编程专家系统 Programming expert system		自动生成加工程序Automatically generate machining programs		
插补方式 Interpolation type		直线, 圆弧, 螺旋线(Linear, circular, spiral)		
各轴补偿 Compensation for each axis		各轴分别进行步距误差补偿、间隙补偿 (Each axis respectively step error compensation, clearance compensation)		
最大控制轴数 Maximum number of controlled axes		三轴三联动Three axes linkage		
最小驱动单位 Minimum drive unit	μm	1		
输入方式 Input type		触摸屏(Touch screen), U盘(U disk)/网络传输(NET network transmission)		
显示方式 Display type		15" 液晶屏(15" LCD screen)(TFT-LCD)		
遥控盒(手控盒) Remote control box (hand control box)		标准点动(多级切换)Standard point move (multistage switching)		
驱动方式 Drive mode		全数字式交流伺服(Fully digital AC servo)		
标准附件(明细见装箱单) Standard accessories (see packing list for details)		机床脚垫、可调夹具、机床灯、过滤滤芯、液位控制器、保险丝、工具箱、使用说明书、注油枪等 Machine sizing block, adjustable fixture, machine tool light, filter, liquid level controller, fuse, tool box, instruction manual, grease gun, etc.		

Installation and Environmental Requirements

安装及环境要求

电气工程

在设置机床时, 事先应考虑主机、数控电源装置、选配件的组合, 算出所需的电气总容量(KVA), 然后考虑电源箱内的变压器的冲击电流, 并准备好与设备容量相适应的空气开关。

电气总容量(KVA)=机床主机(主机+NC装置)+附件(选配件)

- 当电气总容量为11KVA以下时, 应配备50A的空气开关; 11~22KVA时应配备100A的空气开关。
- 本机应采用独立的空气开关, 请不要与其他机床共用一个空气开关。使用不带漏电保护的空气开关时, 往往会因电源线外漏入的干扰而使空气产生误动作。因此请选用感应电流为100~200mA的变频电路的空气开关。
- 为防止触电、电磁障碍, 请实施接地工程。接地工程特别是应以第3种工程(接地阻抗为10Ω以下)来实施, 希望每台机床都要采用独立的地线(“—”点接地)。
- 请采用14mm²的电线星形配线。
厂内电气安装必须遵守安全法则, 在供电和回路上必须装有过载电流保护器。过电流保护器要求如下: 50A: 25A/相 100A: 30A/相
- 电网电压、频率、相380V、50(60)HZ、三相四线或三相五线供电。
- 允许波动范围: ±10%。若电网不稳, 建议在输入端接入三相交流稳压电源装置。

振动

为了保持加工精度, 如安装地面振动大时, 请采用以下的处置方式:

- 采取防震的基础工程
- 移到振动小的场地

若可能, 不要将本机安置在通过地基传递振动的机器附近(机床的校准精度将会受到影响), 若干扰源不可避免, 则将机床安装在减震器材上。

灰尘

- 机床应安装在尽可能减少灰尘的房间。
- 应远离磨床、喷砂机和产生切屑的设备。例如: 磨床的金属灰尘颗粒堆积在控制系统的电路板上, 容易造成芯片的管腿短路; 另外金属颗粒有很强的划伤性, 会导致滚珠丝杠、导轨和工作台面的磨损。
- 应远离石墨加工设备, 石墨灰尘导电性强, 会造成电子元件短路。

腐蚀和换气

- 将机床安装在没有酸性等化学腐蚀性气体、烟雾以及粉尘的场所。特别是磨床附近的磨料及磨削液的雾气, 会给机床的滑动部位带来很坏影响, 请注意。
- 避免室内有毒和有害气体的凝聚, 不能靠近化学实验室、表面热处理车间等。关于换气, 不只是放电加工机, 一般的切削机床在进行加工时, 也都会产生烟雾, 考虑到操作者工作环境, 应采取换气措施。
- 在空调系列中, 有能控制温度也能换气的机型, 请配置与工场生产环境相适应的装置。

室内温湿度

适合机床的环境温度为5~40°C, 湿度为≤80%(不得凝露)。考虑精加工和操作者的环境, 请注意以下的事项:

- 进行放电精加工(如PIKA加工)时, 应在加工室内安装空调器, 使室内尽量保持恒温。
- 室温设定推荐在(25±2)°C的范围内。
- 放电加工机与NC装置没有对湿度特别敏感的部件。但考虑到操作者的工作环境, 一般应保持在50%左右为宜。
- 即使在设有空调设备的场所, 也应避免日光的直射或吹风, 设法不要让机床的周围环境温度急剧改变。
- 如果您配置了触摸屏功能, 一定要注意触摸屏对周围环境湿度的敏感。如果周围湿度太大, 出现凝露, 将导致触摸屏无法正常工作。

电磁干扰

- 放电加工通常会电视机、电子仪器等设备造成电磁波干扰。此时, 若将加工室与外界屏蔽(屏蔽室)就会有效地清除电磁干扰波的干扰。
- 屏蔽室工程, 施工应依据干扰状况、环境及加工室的大小, 咨询专业人员。

机床热量

若满负荷运转时, 每台机床将产生4.2Kcal/h以上的热量, 加工液冷却装置(如选配)也要产生1500W的热量, 电源的冷却风扇也会排出热量, 都可能减少空调设备的容量。因此在准备空调时, 请充分考虑。

高频波形的畸变

当电源的高频波形发生畸变时, 尽管电压没有变动, 有时也会给装置的动作带来一定影响。此时, 需要避开产生高频波形畸变设备、或者利用滤波器来处理。

放电加工液

您选择放电加工液正确与否, 对机床的整体加工性能(特别是镜面加工)影响很大。请选用专业人士推荐的电火花专用加工液; 如果您选择不符合技术指标的加工液, 将导致本设备无法发挥正常的加工性能。

ELECTRICAL ENGINEERING

Before setting up the machine, should consider the overall configuration: including the host, digitally controlled power and the options accounting total electrical capacity, considering the power box transformer inrush current, and ready with air breaker adapt to the equipment capacity.

ELECTRIC TOTAL CAPACITY (KVA)= HOST MACHINE (HOST+NC DEVICE)+ACCESSORIES (OPTIONAL)

- Electrical total capacity of 11KVA or less, equipped with 50A breaker; when 11-22KVA, with 100A air switch.
- Independent air switch: using no air leakage protection switch often due to the power line outside the mixed interference malfunction. So please use the induced current is 100-200mA inverter circuit breaker.
- To prevent electric shock, electromagnetic barriers, implement grounding. Ground obstruction should be 10Ω or less, each machine must use a separate ground wire (“—” point grounding).
- Please use 14mm² wire star shape wiring.
- Plant electrical installation must comply with the safety requirements of the law. current overload protection must be installed. Overcurrent protection requirements: 50A: 25A/phase; 100A: 30A/phase.
- Grid voltage, frequency, phase: 380V, 50 (60) HZ, three-phase four-wire or three-phase five-wire power supply.
- Permissible range: ±10%. If the grid instability, recommend to install a three-phase AC voltage regulator at the input.

VIBRATION

To ensure accuracy, the installation site vibration is large, use the following disposal methods:

- Take anti-vibration measures
- Move small vibration venue

If possible, do not place the mirror sparks in the vicinity of large vibration machine (which will affect machining accuracy), if the source of interference is unavoidable, then the machine is mounted on damping equipment.

DUST

- The machine should be installed in rooms with minimal dust.
- Away from grinder, sandblasting machine and the device of generating metal cuttings. For example metal dust accumulation of the grinder, easy to cause the system control circuit board short circuit, or other metal particles will cause the ball screw, guide and work surface wear.
- Away from the device of graphite processing, strong conductivity of graphite dust can cause a short circuit electronic components.

CORROSION AND VENTILATION

- Install the machine in acid-free and other chemical etching gas, smoke and powder. Especially abrasive and grinding fluid mist near the grinding machines, there will be a bad influence on the sliding portion of the machine, please note.
- To avoid toxic and harmful gas condensation in the room, not close to the chemical laboratory and surface heat treatment workshop. About ventilation, no just EDM machines, cutting tools during machining, it will produce smoke, taking into account the operator working environment, ventilation measures should be taken.
- Air conditioning series can control the temperature and ventilation models, please configure the matching device with the factory production environment.

INDOOR TEMPERATURE AND HUMIDITY

Ambient temperature for the machine is 5~40°C, humidity≤80% (must not condensation). Consider finishing and operator environment, please note the following:

- Discharge finishing (such as PIKA processing), air-conditioning should be installed in the processing room, try to keep the indoor constant temperature.
- Keep the temperature in the range: 25±2°C.
- EDM machine and the NC device hasn't the parts particularly sensitive to humidity. But taking into account the operator's working environment should be kept humidity at about 50%.
- Even in places without air conditioning, you should avoid direct sunlight or wind, trying to avoid a sharp change in the ambient temperature of the machine.
- Use the touch screen function, pay attention to the sensitivity of the touch screen on the humidity. If too much humidity, condensation occurs, causing the touch screen will not work correctly.

ELECTROMAGNETIC INTERFERENCE

- EDM often cause electromagnetic interference to TV sets, electronic instruments. If shield the processing room and the outside, can effectively remove the interference of electromagnetic interference waves.
- Shielded room engineering, construction should be based on the interference situation, the processing room size and environment, consulting professionals.

HEAT OF THE MACHINE

If the full-load operation, each machine will produce 4.2Kcal/h or more calories, processing liquid cooling device (optional) 1500W also generate heat, power supply cooling fan will produce heat, so please take full account of air conditioning capacity prepare the air conditioner.

HIGH-FREQUENCY WAVEFORM DISTORTION

When the high-frequency wave power distortion, although voltage does not change, and sometimes bring some influence to operation of the machine. In this case, the need to avoid generating high frequency waveform distortion the device, or use filters to deal with.

EDM LIQUID

Select EDM liquid is correct or not, a great impact on the overall processing performance of the machine (especially mirror finish). Please use the professionals recommend EDM machining dedicated liquid; if you choose not to meet the technical specifications of the processing liquid, will result in the device can not play a normal processing performance.

Part of cooperative Clients

部分合作客户

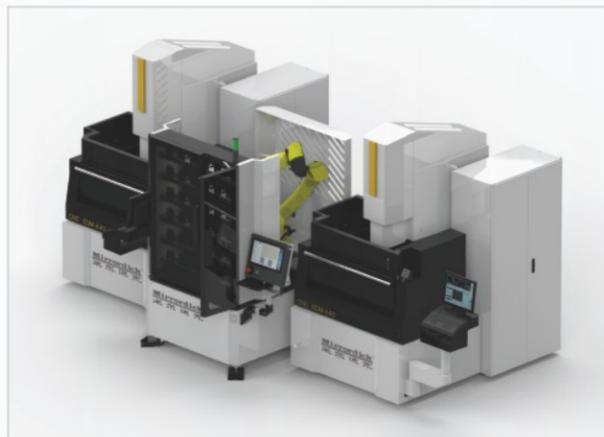


X-Worker automatic unit-EDM electrode automatic operation application

X-Worker自动单元-EDM电极自动作业应用

- ◆ 降低人工成本,生产效率大幅提升:电极自动上下料,实现24小时无人化EDM放电加工;
- ◆ 操作简单,加工品质稳定:员工只需在料架上取放电极,自动读取电极条码/芯片,自动生成 EDM 程序、并自动开始放电加工,避免人为数据输入的错误,降低操作人员经验要求,最大程度避免人为因素对加工的影响;
- ◆ 精密加工A: 调用电极偏心值并自动补偿,避免人为误操作,有效提升加工精度;
- ◆ 精密加工B: 自动在机分中功能,可解决因夹具、自动化系统等因素导致中心偏移补偿异常,基准平面/侧边超差将自动报警并停止执行;
- ◆ 精密加工C: EDM 系统条件库可优化拓展,保留高效率的加工参数;
- ◆ 生产数据实时监控:产量、报警等数据实时监控、记录,并可以以EXCEL形式导出;
- ◆ 远程维护:当系统出现问题时,可以远程维护。
- ◆ Reduce labor costs and greatly improve production efficiency: automatic loading and unloading of electrodes, realizing 24-hour unmanned EDM discharge machining;
- ◆ Simple operation and stable processing quality: Operators only need to pick and place electrodes on the material rack, automatically read electrode barcodes/chips, automatically generate EDM programs, and automatically start EDM, avoiding human errors in data input and reducing operator experience requirements. Minimize the impact of human factors on processing;
- ◆ Precision machining A: Call the electrode eccentric value and automatically compensate, avoid human misoperation, and effectively improve the machining accuracy;
- ◆ Precision machining B: The function of automatic machine division can solve the abnormality of center offset compensation caused by factors such as fixtures and automation systems, and the reference plane/side deviation will automatically alarm and stop execution;
- ◆ Precision machining C: EDM system condition library can be optimized and expanded to retain high-efficiency machining parameters;
- ◆ Real-time monitoring of production data: real-time monitoring and recording of output, alarm and other data, and can be exported in the form of EXCEL;
- ◆ Remote maintenance: Can maintain remotely when there is a problem with the system.

■ 自动化案例 Automation case



International Market 国际市场



庞大而运转灵活的销售网络,是企业的核心竞争力,对企业起着至关重要的作用。

公司不断开拓国际市场,其主要产品出口至越南、印度、泰国、马来西亚、印度尼西亚、日本、俄罗斯、墨西哥、摩洛哥、以色列、德国、意大利、巴基斯坦、西班牙、波兰、匈牙利、美国、土耳其、巴西、阿尔及利亚、阿塞拜疆、白俄罗斯、突尼斯、阿联酋等国家。

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