



成为精密制造信赖的伙伴
To be your reliable in precision manufacturing

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视频号



公众号

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R&D202505B

PRECISION MACHINING CENTER 朗恩精密加工中心系列



精密制造信赖的伙伴

RONEIND
朗恩精密

COMPANY
PROFILE
企业介绍

三大产品系列
Three major product series

超精密加工中心
Ultra precision machining center

五轴加工中心
5-axis machining center

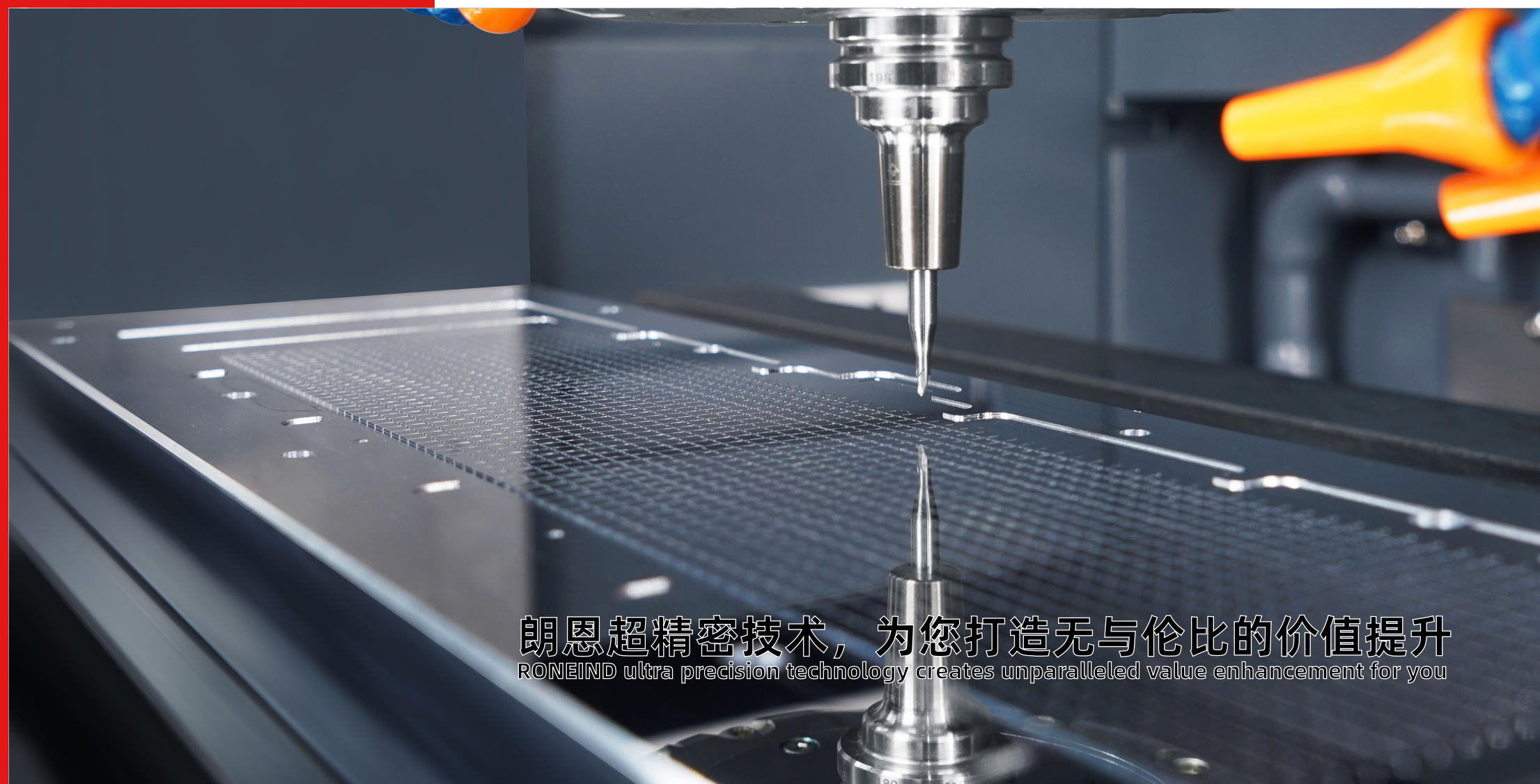
数控纵切车削中心
Swiss type - Sliding head automatic CNC lathe

20年机床行业经验
20 years of experience in the machine tool industry

10年超精密机床加工研究
10 years of ultra precision machining application research

成为精密制造信赖的伙伴
Become a trusted partner in precision manufacturing

超越同级 精度为先



朗恩超精密技术，为您打造无与伦比的价值提升
RONEIND ultra precision technology creates unparalleled value enhancement for you

COMPANY PROFILE 公司简介

朗恩精密是一家专注于高精密机械设备研发、设计、制造、销售、服务为一体的企业。公司产品“超高精度亚纳米加工中心”获评“中国深圳创新先进制造企业一等奖”。公司成立于2019年，深耕精密机床行业20余年，生产总部位于深圳宝安，目前在香港、苏州、常州、成都、武汉等地设有分支机构。公司秉承以“客户至上、科技创新、精益求精、诚信为本”为经营理念。

根据国内外高精密装备制造业发展需求，结合传统精密加工设备特点，引进和吸收国际先进技术与工艺，研发出了超高精度亚纳米级加工中心，静态端面跳动精度达到了0.0005mm，重复定位精度0.001mm，以及精密立式加工中心、五轴联动加工中心、数控纵切车床等设备。朗恩精密以设计合理，质量可靠，性能稳定深得用户信赖，可为广大客户提供定制化精密加工解决方案。

Rneind Precision is an enterprise dedicated to the research and development, design, manufacturing, sales, and service of high-precision mechanical equipment. The company's product "Ultra high precision sub nanometer machining center" has been awarded the first prize of "China Shenzhen Innovation Advanced Manufacturing Enterprise". The company was founded in 2019 and has been deeply involved in the precision machine tool industry for over 20 years. Its production headquarters is located in Bao'an, Shenzhen, and it currently has branch offices in Hong Kong, Suzhou, Changzhou, Chengdu, Wuhan, and other places. The company adheres to the business philosophy of "customer first, technological innovation, excellence, and integrity-based".

Based on the development needs of high-precision equipment manufacturing industry at home and abroad, combined with the characteristics of traditional precision machining equipment, we have introduced and absorbed international advanced technology and processes, and developed ultra high precision sub nanometer level machining centers. The static end face runout accuracy reaches 0.0005mm, the repeated positioning accuracy is 0.001mm, as well as precision vertical machining centers, five axis linkage machining centers, CNC longitudinal cutting lathes and other equipment. Langen Precision has gained the trust of users for its reasonable design, reliable quality, and stable performance, and can provide customized precision machining solutions for customers.

S500-亚纳米加工中心

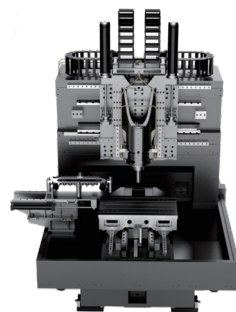
S500-Nano machining center

linear **DRIVE**

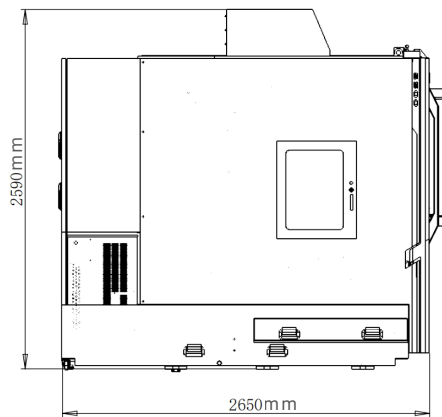
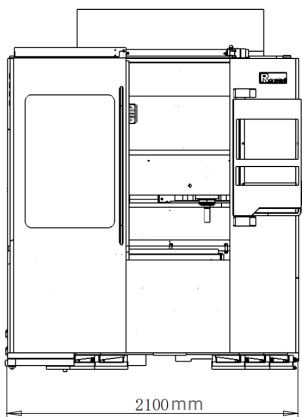


选配 options

- ✓ 机体温度控制装置
temperature control device
- ✓ 主轴热位移补偿
Spindle thermal displacement compensation
- ✓ 自动电源切断装置
Automatic power cut-off
- ✓ 激光对刀仪
Laser tool setter
- ✓ 红外线探头
infrared probe
- ✓ 切屑液恒温装置
Chip fluid constant temperature device
- ✓ 自动排屑机
Automatic chip conveyor
- ✓ 60000rpm高速主轴
60000rpm high-speed spindle



超精密床身结构
Ultra precision bed structure



※标准机型尺寸参考图，详情以技术协议为准。
※Standard model size reference diagram, details subject to technical agreement.

产品简介

Product Description

- 采用矿物铸件床身，配备西门子 840D 数控系统。可选配超声辅助加工系统。
- 国内首台三轴使用高速双直线电机驱动，高刚性左右对称框架结构，即使长时间运转也能实现稳定的高精度加工。
- 标配42000rpm高转数精密电主轴，可选配高精度60000rpm空气静压轴承主轴。
- 静态端面跳动精度±0.5μm，可实现Ra35nm产品表面精度加工，0.02mm微细孔加工。
- 行业应用：光学、照明、半导体、航空航天、汽车、无人机、精密模具、精密零件。

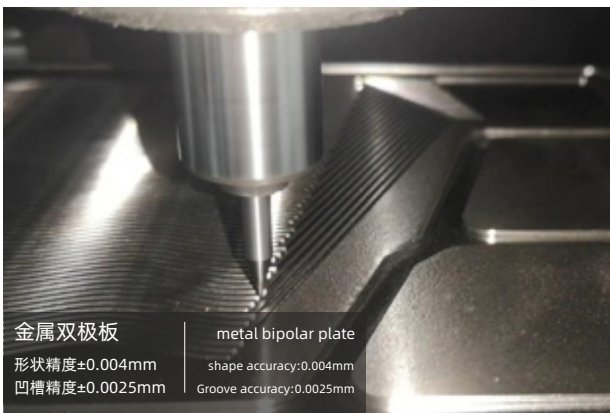
- Adopting mineral casting bed body and equipped with Siemens 840D CNC system. Optional ultrasonic assisted machining system.
- The first three-axis machine in China to be driven by a high-speed dual linear motor, with a high rigidity left-right symmetrical frame structure, can achieve stable high-precision machining even after long-term operation.
- Standard 42000rpm high-speed precision electric spindle, optional high-precision 60000rpm air static pressure bearing spindle.
- The static end face runout accuracy is ± 0.5 μ m, which can achieve surface precision machining of Ra35nm products and micro pore machining of 0.02mm.
- Industry Applications: Optics, Lighting, Semiconductors, Aerospace, Automotive, Drones, Precision Molds, Precision Parts.

参数表

Machine Parameter

行程 TRAVELS		S500
X轴行程 X-Axis		500mm
Y轴行程 Y-Axis		400mm
Z轴行程 Z-Axis		240mm
工作台尺寸 Table dimentions		700mm*425mm
数控系统 CNC SYSTEM		SIEMENS 840D
主轴 SPINDLE		
主轴转速 Spindle speed		42000rpm (60000rpm)
主轴规格 Spindle taper		HSKE40
移动速度 AXIS FEED RATES		
快速速度 Rapid traverse rate		60/60/60m/min
切削进给速度 Cutting feed rate		1-30000mm/min
精确度 ACCURACY		
X/Y/Z轴定位精度 X/Y/Z-Axis Positioning accuracy		< 0.002mm
X/Y/Z轴重复定位精度 X/Y/Z-Axis Repeatability accuracy		< 0.001mm
最小移动单位 Minimum traverse unit		0.001μm
光栅尺分辨率 Grating ruler resolution		0.0001μm
刀库 TOOL MAGAZINE		
刀库形式 Type		圆盘式 Disc type
刀库容量 Max.pockets of tool magazine		20 pcs
润滑冷却系统 LUBRICATION AND COOLING SYSTEM		
润滑系统 Lubrication system		自动润滑 Automatic
冷却系统 coolant system		油雾冷却 Oil mist cooling
机械规格 MECHANICAL SPECIFICATION		
空气压力 Air pressure		0.6Mpa
机床尺寸 Machine size		2650mm x 2100mm x 2590mm
机床重量 Machine weight		约9500KG

※以上参数仅供参考，以技术协议为准 See technical agreement for details.



E500/E600 LP-超精密加工中心

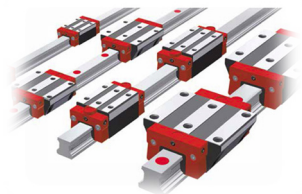
E500 LP-Ultra precision machining center

linear **DRIVE**



选配 Options

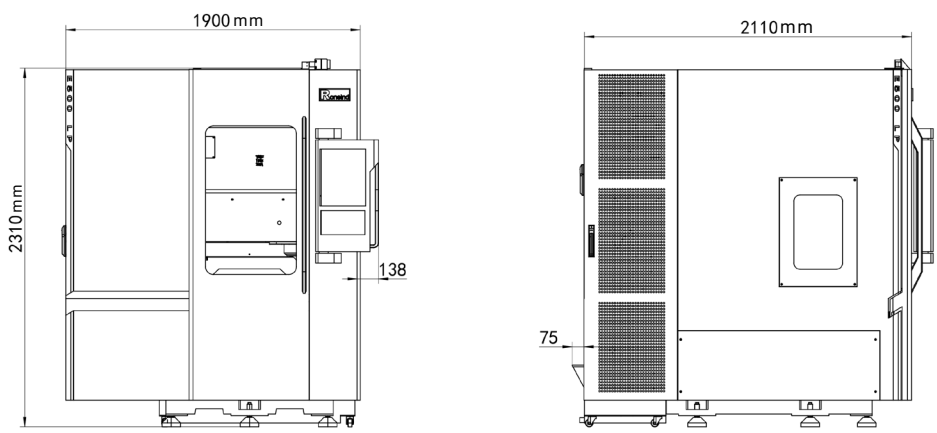
- ✓ 激光对刀仪
Laser tool setter
- ✓ 红外线探头
Infrared probe
- ✓ 切屑液恒温装置
Thermostatic device
- ✓ 60000rpm高速主轴
60000rpm high-speed spindle



G0级滚柱导轨
G0 grade roller guide rail



纳米级光栅尺
Nano scale grating ruler



※标准机型尺寸参考图，详情以技术协议为准。
※Standard model size reference diagram, details subject to technical agreement.



产品简介 Product Description

- 采用矿物铸件床身，可选海德汉、发那科数控系统。
 - 三轴使用高速直线电机驱动，高刚性左右对称框架结构，即使长时间运转也能实现稳定的高精度加工。
 - 标配32000rpm高转数精密电主轴，可选配高精度60000rpm空气静压轴承主轴。
 - 采用G0级滚柱导轨、纳米级光栅尺，可实现Ra35nm产品表面精度加工，0.02mm微细孔加工。
 - 行业应用：光学、照明、半导体、航空航天、汽车、无人机、精密模具、精密零件。
-
- Adopting mineral casting bed body, optional Heidenhain and Fanuc CNC systems. Optional ultrasonic assisted machining system.
 - The three-axis system is driven by a high-speed linear motor and features a highly rigid symmetrical frame structure, ensuring stable and high-precision machining even after prolonged operation.
 - Standard 32000rpm high-speed precision electric spindle, optional high-precision 60000rpm air static pressure bearing spindle.
 - By using G0 grade roller guides and nanoscale grating rulers, Ra35nm product surface precision machining and 0.02mm micro pore machining can be achieved.
 - Industry Applications: Optics, Lighting, Semiconductors, Aerospace, Automotive, Drones, Precision Molds, Precision Parts.

参数表 Machine Parameter

行程 TRAVELS	E500 LP	E600 LP
X轴行程 X-Axis	500mm	600mm
Y轴行程 Y-Axis	400mm	520mm
Z轴行程 Z-Axis	220mm	350mm
工作台尺寸 Workbench size	520mm*400mm	600mm*520mm
数控系统 CNC SYSTEM	HEIDENHAIN 620	FANUC 3li-B Plus
主轴 SPINDLE		
主轴转数 Spindle speed	32000rpm (42000rpm / 60000rpm)	
主轴规格 Spindle taper	HSKE40	
移动速度 AXIS FEED RATES		
快速进给速度 Rapid traverse rate	60/60/60m/min	
切削进给速度 Cutting feed rate	1-30000mm/min	
精确度 ACCURACY		
X/Y/Z轴定位精度 X/Y/Z-Axis Positioning accuracy	< 0.002mm	
X/Y/Z轴重复定位精度 X/Y/Z-Axis Repeatability accuracy	< 0.001mm	
最小移动单位 Minimum moving unit	0.01μm	
光栅尺分辨率 Grating ruler resolution	0.001μm	
刀库 TOOL MAGAZINE		
刀库形式 Type	圆盘式 Disc type	
刀库容量 Max.pockets of tool magazine	20 pcs	
润滑冷却系统 LUBRICATION AND COOLING SYSTEM		
润滑系统 Lubrication system	自动润滑 Automatic	
冷却系统 coolant system	油冷/水冷 Oil /Water	
机械规格 MECHANICAL SPECIFICATION		
空气压力 Air pressure	0.6Mpa	
机床尺寸 Machine size	2110mm x 1900mm x 2310mm	2242mm x 2188mm x 2281mm
机床重量 Machine weight	约5400KG	约6500KG

※以上参数仅供参考，以技术协议为准 See technical agreement for details.

A50/A50P-高精度加工中心

A50/A50P-Precision Machining Center

linear **II DRIVE**

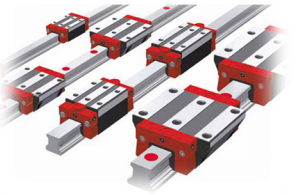


选配 Options

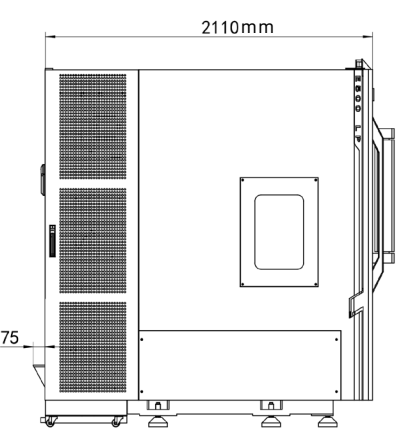
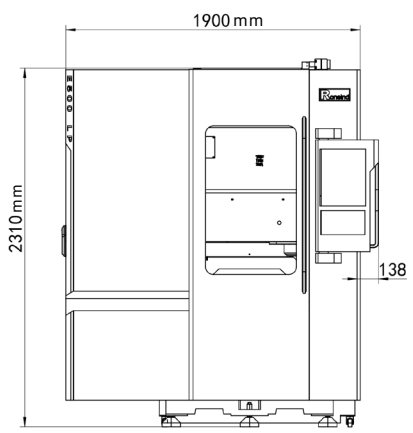
- ✓ 激光对刀仪
Laser tool setter
- ✓ 红外线探头
Infrared probe
- ✓ 切屑液恒温装置
Thermostatic device
- ✓ 42000rpm高速主轴
42000rpm high-speed spindle



三轴直线电机驱动
Three axis linear motor drive



G0级滚柱导轨
G0 grade roller guide rail



进胶口电极
Copper Electrode
高度: 25mm
Height: 25mm
最小形状直径: 0.4mm
Minimum shape diameter: 0.4mm

※标准机型尺寸参考图，详情以技术协议为准。
※Standard model size reference diagram, details subject to technical agreement.

产品简介 Product Description

- 采用矿物铸件床身，采用西门子828D数控系统。
- 三轴使用高速直线电机驱动，高刚性左右对称框架结构，即使长时间运转也能实现稳定的高精度加工。
- 标配30000rpm高转速精密电主轴，可选配42000rpm高转速精密电主轴。
- 采用G0级滚柱导轨、纳米级光栅尺，可缩短产品表面精度抛光时间，或无需抛光效果。
- 行业应用：航空航天、汽车、无人机、精密模具、精密零件。
- Adopting mineral casting bed body and Siemens 828D CNC system. Optional ultrasonic assisted machining system.
- The three-axis system is driven by a high-speed linear motor and features a highly rigid symmetrical frame structure, ensuring stable and high-precision machining even after prolonged operation.
- Standard 30000rpm high-speed precision electric spindle, optional 42000rpm high-speed precision electric spindle.
- By using G0 grade roller guides and nano scale grating rulers, the surface precision polishing time of the product can be shortened, or even no need to be polished.
- Industry applications: aerospace, automotive, drones, precision molds, precision parts.

参数表 Machine Parameter

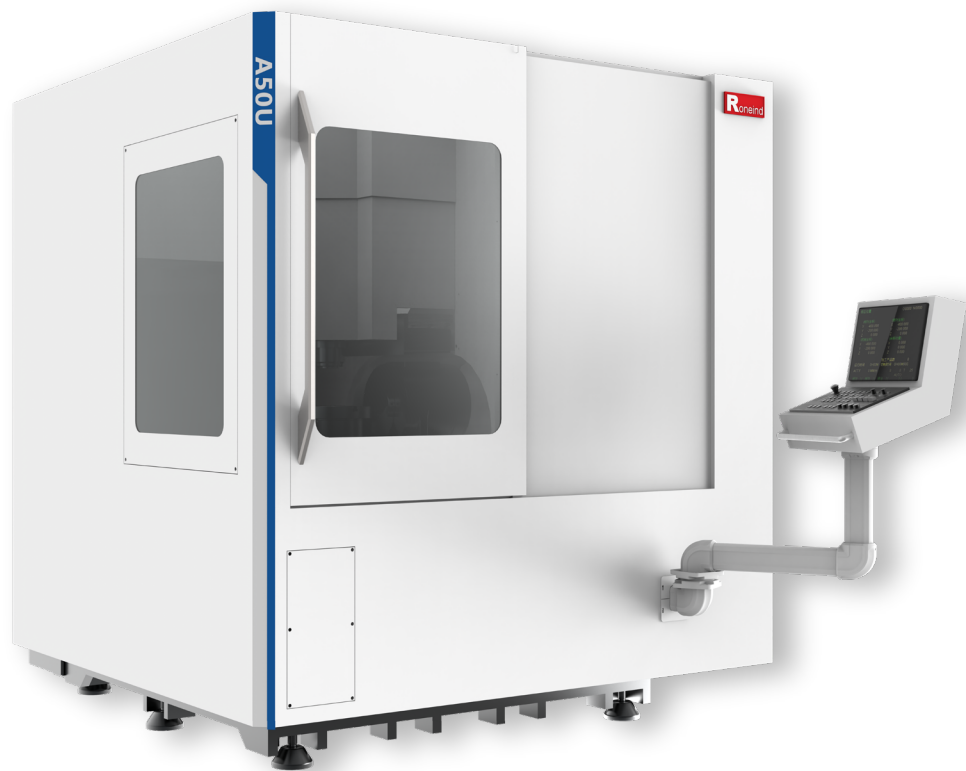
行程 TRAVELS	A50	A50P
X轴行程 X-Axis	500mm	500mm
Y轴行程 Y-Axis	400mm	400mm
Z轴行程 Z-Axis	220mm	220mm
工作台尺寸 Workbench size	520mm*400mm (600mm*420mm)	
工作台载重 Loading	200kg (300kg)	
数控系统 CNC SYSTEM	SIEMENS 828D / FANUC Oi MF / HEIDENHAIN 620	
主轴 SPINDLE		
主轴转速 Spindle speed	30000rpm (42000rpm)	20000rpm / 36000rpm
主轴规格 Spindle taper	HSKE40	HSKE-A63 / HSKE50
移动速度 AXIS FEED RATES		
快进速度 Rapid traverse rate	60/60/60m/min	60/60/60m/min
切削进给速度 Cutting feed rate	1-30000mm/min	1-20000mm/min
精确度 ACCURACY		
X/Y/Z轴定位精度 X/Y/Z-Axis Positioning accuracy	< 0.003mm	
X/Y/Z轴重复定位精度 X/Y/Z-Axis Repeatability accuracy	< 0.002mm	
最小移动单位 Minimum traverse unit	0.0001mm	
光栅尺分辨率 Grating ruler resolution	0.01μm	
刀库 TOOL MAGAZINE		
刀库形式 Type	圆盘式 Disc type	
刀库容量 Max.pockets of tool magazine	20 pcs	24 pcs
润滑冷却系统 LUBRICATION AND COOLING SYSTEM		
润滑系统 Lubrication system	自动润滑 Automatic	
冷却系统 coolant system	油冷/水冷 Oil / Water	
机械规格 MECHANICAL SPECIFICATION		
空气压力 Air pressure	0.6Mpa	
机床尺寸 Machine size (L*W*H)	2110mm x 1900mm x 2310mm	
机床重量 Machine weight	约5400KG	约5700KG

※以上参数仅供参考，以技术协议为准 See technical agreement for details.

A50U-五轴联动加工中心

A50U-5 axis machine center

linear **DRIVE**

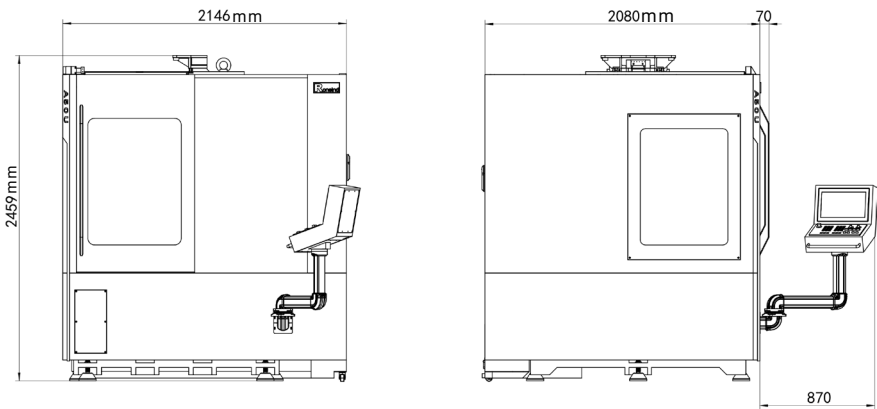


选配 Options

- ✓ 激光对刀仪
Laser tool setter
- ✓ 40000RPM高速主轴
40000RPM high-speed spindle
- ✓ 油雾收集器
Oil mist collector
- ✓ 320 DD转台
320 DD turntable



大扭矩DD直驱转台
High torque DD direct drive turntable



※标准机型尺寸参考图，详情以技术协议为准。
※Standard model size reference diagram, details subject to technical agreement.

产品简介 Product Description

- 床身采用立式龙门十字滑台结构五轴设计，横置摇篮转台，主轴支撑臂立柱一体式设计，进一步提升加工精度。
- 三轴使用直线电机驱动，A/C轴配备高动态性能DD力矩电机直驱，可实现五轴联动功能的 μm 级精度加工。
- 五轴光栅尺全闭环，G0级滚柱导轨，使机床长期使用保持良好的精度稳定性，最小移动单位0.0001mm。
- 可满足铝合金、钢、钛合金、高温合金等高硬度材料铣削，A轴 $\pm 110^\circ$ 、C轴 $\pm 360^\circ$ 回转摆动可满足叶轮件、曲面件、多层次复合复杂性零部件加工。
- 行业应用：航天航空、汽车、模具、叶轮、3C应用、笔记本电脑、手机、VR眼睛、曲面件、复杂型多面体件、精密零件。
- The bed adopts a vertical gantry cross slide structure with a five axis design, a horizontal cradle turntable, and a spindle support arm column integrated design to further improve machining accuracy.
- The three-axis is driven by a linear motor, and the A/C axis is equipped with a high dynamic performance DD torque motor direct drive, which can achieve μm level precision machining with five axis linkage function.
- The five axis grating ruler has a fully closed loop and G0 level roller guide rail, which ensures good accuracy stability for long-term use of the machine tool, with a minimum movement unit of 0.0001 mm.
- By using G0 grade roller guides and nano scale grating rulers, the surface precision polishing time of the product can be shortened, or no polishing effect is required.
- Industry applications: aerospace, automotive, molds, impellers, 3C, laptops, mobile phones, VR eyes, curved parts, complex polyhedral parts, precision parts.

参数表 Machine Parameter

行程 TRAVELS		A50U
X轴行程 X-Axis		500mm
Y轴行程 Y-Axis		480mm
Z轴行程 Z-Axis		380mm
A轴行程 A-Axis		$\pm 110^\circ$
C轴行程 C-Axis		$\pm 360^\circ$
数控系统 CNC SYSTEM		SIEMENS / HEIDENHAIN / FANUC / SYNTEC
主轴 SPINDLE		
主轴规格 Spindle taper	BBT30/HSK-E40	BBT40
主轴转速 Spindle speed	24000/30000/42000rpm	18000/20000rpm
主轴功率 Spindle power	8.0kw/10.5kw/11kw	11/20kw
移动速度 AXIS FEED RATES		
快进速度 FRapid traverse rate		48/min
切削进给速度 Cutting feed rate		1-20000mm/min
精确度 ACCURACY		
X/Y/Z轴定位精度 X/Y/Z-Axis Positioning accuracy		< 0.003mm
X/Y/Z轴重复定位精度 X/Y/Z-Axis Repeatability accuracy		< 0.002mm
最小移动单位 Minimum traverse unit		0.0001mm
光栅尺分辨率 Grating ruler resolution		0.01 μm
刀库 TOOL MAGAZINE		
刀库形式 Type		圆盘式 Disc type
刀库容量 Max.pockets of tool magazine		20/30/40 pcs
润滑冷却系统 LUBRICATION AND COOLING SYSTEM		
润滑系统 Lubrication system		自动润滑 Automatic
冷却系统 coolant system		油雾冷却 Oil mist cooling
机械规格 MECHANICAL SPECIFICATION		
空气压力 Air pressure		0.6Mpa
机床尺寸 Machine size (L*W*H)		2146mm x 2080mm x 2459mm
机床重量 Machine weight		约6500KG

※以上参数仅供参考，以技术协议为准 See technical agreement for details.

X500-五轴联动加工中心

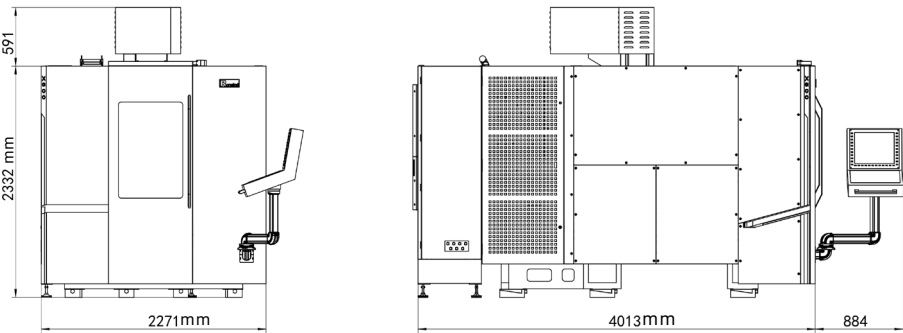
X500-5 axis machine center



选配 Options

- ☒ 激光对刀仪
Laser tool setter
- ☒ 20000RPM高速主轴
20000RPM high-speed spindle
- ☒ 液压系统
Hydraulic system
- ☒ 刮板式排屑机
Scraper type chip conveyor
- ☒ 中心出水/出气
TSC

A/C力矩电机转台
A/C torque motor



※标准机型尺寸参考图，详情以技术协议为准。
※Standard model size reference diagram, details subject to technical agreement.

产品简介 Product Description

- 床身使用QT600-7球墨铸铁制成，Z轴框中框天车式结构，具有良好的刚性、动态与热对称性，刀库床身一体式设计。
- A/C轴采用力矩电机驱动，弥补间隙误差，最大可承重400kg。Y轴双电机驱动平衡式设计，保障及提高加工时的精度稳定。加工区域采用内钣金全防护，方便日常清理。
- 标配14000rpm大扭矩高速主轴，适用于高要求铣削加工，高输出功率大扭矩有效提高加工效率及产品品质。
- 可满足铝合金、钢、钛合金、高温合金等高硬度材料铣削，A轴±130°、C轴±360°回转摆动可满足叶轮件、曲面件、多层次复合性零件加工。
- 行业应用：航空航天、汽车、叶轮、曲面件、复杂型多面体零件、精密模具、精密零件。
- The bed body is made of QT600-7 ductile iron, with a Z-axis frame and overhead crane structure, which has good rigidity, dynamic and thermal symmetry. Integrated design of tool magazine and machine bed.
- B. The A/C axis is driven by a torque motor to compensate for clearance errors. The Y-axis dual motor drive balanced design ensures and improves the stability of machining accuracy. The processing area adopts internal sheet metal full protection, which is convenient for daily cleaning.
- Equipped with a standard 14000rpm high torque high-speed spindle, suitable for high demand milling processing, high output power and high torque effectively improve processing efficiency and product quality.
- It can meet the milling of high hardness materials such as aluminum alloy, steel, titanium alloy, and high-temperature alloy. The A-axis ± 130 ° and C-axis ± 360 ° rotation swing can meet the processing of impeller parts, curved parts, and multi-level composite miscellaneous components.
- Industry applications: aerospace, automotive, impellers, curved parts, complex polyhedral parts, precision molds, precision parts.

参数表 Machine Parameter

行程 TRAVELS	X500
X轴行程 X-Axis	400mm
Y轴行程 Y-Axis	600mm
Z轴行程 Z-Axis	350mm
A轴行程 A-Axis	±130°
C轴行程 C-Axis	±360°
数控系统 CNC SYSTEM	HEIDENHAIN TNC-640
主轴 SPINDLE	
主轴转速 Spindle speed	14000rpm (20000rpm)
主轴规格 Spindle taper	HSK-A63
主轴功率 Spindle power	24.5/31kw - 129Nm/150Nm
移动速度 AXIS FEED RATES	
X/Y/Z快速速度 X/Y/Z-FRapid traverse rate	36m/min
A/C快速速度 A/C-FRapid traverse rate	50/100rpm
切削进给速度 Cutting feed rate	1-20000mm/min
精确度 ACCURACY	
X/Y/Z轴定位精度 X/Y/Z-Axis Positioning accuracy	< 0.005mm
X/Y/Z轴重复定位精度 X/Y/Z-Axis Repeatability accuracy	< 0.003mm
刀库 TOOL MAGAZINE	
刀库容量 Max.pockets of tool magazine	32/64 pcs
换刀时间 Tool change time	10 sec
刀具最大长度 Maximum tool length	250 mm
刀具最大重量 Maximum weight of cutting tool	8 kg
润滑冷却系统 LUBRICATION AND COOLING SYSTEM	
润滑系统 Lubrication system	自动润滑 Automatic
冷却系统 coolant system	油雾冷却 Oil mist cooling
机械规格 MECHANICAL SPECIFICATION	
空气压力 Air pressure	0.6Mpa
机床尺寸 Machine size (L*W*H)	4013 x 2271x 2923mm
机床重量 Machine weight	约10000KG

※以上参数仅供参考，以技术协议为准 See technical agreement for details.

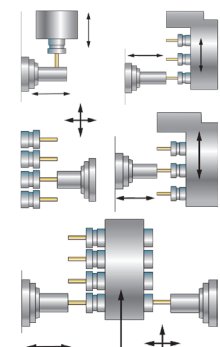
数控纵切车削中心-MX-108/208/308

Swiss type - Sliding head automatic CNC lathe-MX-108/208/308

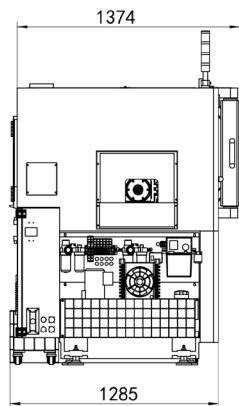
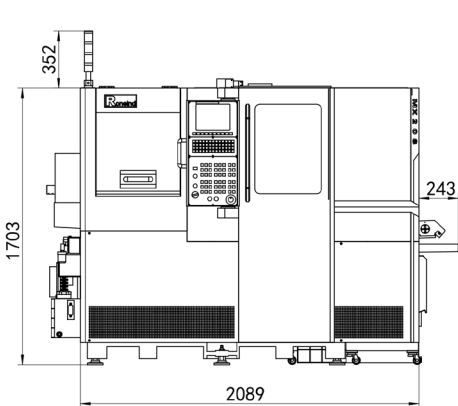


选配 Options

- ✓ 高压冷却装置
High pressure coolant system
- ✓ 滚齿刀装置
Hobbing cut
- ✓ 长件接料装置
Conveying device for long workpiece
- ✓ 旋风刀装置
Whirling tool
- ✓ 60000rpm高速主轴
60000rpm high-speed spindle



6+2轴，多样化加工
6+2 axes, diversified processing



※标准机型尺寸参考图，详情以技术协议为准。
※Standard model size reference diagram, details subject to technical agreement.



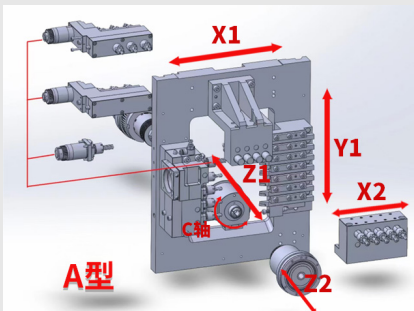
产品简介

Product Description

- 全系列依据不同机型提供完善的刀具系统，满足工件正面、背面、侧面及斜面的各种高效率车削复合加工需求，一次装夹完成多种复杂工序加工。
- X/Y/Z三轴采用高速、高精密线性滑轨设计，快速进给最高可达24m/min。
- 提供5+1轴/6+1轴/6+2轴三种配置可选，可安装多种车刀、多种侧面/端面动力刀具模块、滚齿刀模块、内/外旋风刀模块。
- 主轴采用高精密内藏式设计，有效降低主轴旋转震动量，延长使用年限，提升长时间加工时精度，正/背主轴提供0.001°的分度铣削定位加工。
- 广泛应用：钟表、医疗、通讯电子、汽车、航空航天等领域的精密复杂零件加工。
- The entire series provides a comprehensive tool system based on different models, meeting various high-efficiency turning and composite machining needs for the front, back, side, and inclined surfaces of workpieces. Multiple complex processes can be completed in one clamping.
- The X/Y/Z three-axis adopts high-speed and high-precision linear slide rail design, with a maximum fast feed rate of 24m/min.
- We offer three optional configurations: 5+1 axis/6+1 axis/6+2 axis, which can be installed with various turning tools, various side/end face power tool modules, hobbing tool modules, and inner/outer whirlwind tool modules.
- The spindle adopts a high-precision concealed design, effectively reducing the rotational vibration of the spindle, extending its service life, and improving the accuracy during long-term processing. The front/back spindle provides 0.001° indexing milling positioning machining.
- Widely used in precision and complex parts processing in fields such as watches, medical, communication electronics, automotive, aerospace, etc.

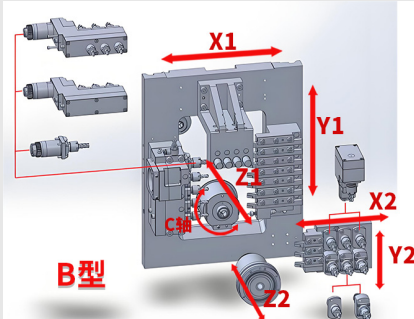
运动轴&加工模式

Motion axis&machining mode

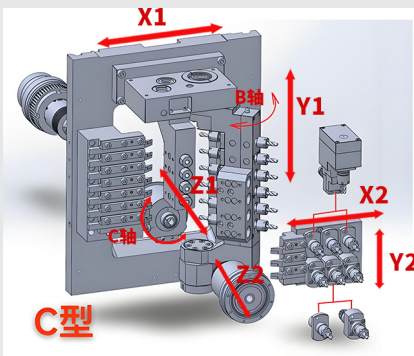


A 型加工模式 【5+1轴，刀具≥27】	Machining layout of type A [5+1 axis, tool ≥27]
■ 正轴：X1、Y1、Z1、C轴	■ front axis: X1, Y1, Z1, C-axis
■ 背轴：X2、Z2	■ Back axis: X2, Z2
■ 正轴刀具： 外径车刀*7 端面内孔刀*4 侧铣刀*5 端面铣刀*3	■ Positive axis tool: O.D. tool *7 Face drilling tool *4 Side milling tool * 5 Face milling tool *3
■ 背轴刀具： 外径车刀*3 内孔刀*5	■ Back axis tool: O.D. tool *3 I.D. drilling tool *5

※红色引线为选装的排刀架 The red leads are the optional Tool carriage



B 型加工模式 【6+1轴，刀具≥37】	Machining layout of type B [6+1 axis, tool ≥37]
■ 正轴：X1、Y1、Z1、C轴	■ front axis: X1, Y1, Z1, C-axis
■ 背轴：X2、Y2、Z2	■ Back axis: X2, Y2, Z2
■ 正轴刀具： 外径车刀*7 内孔刀*4/5 侧铣刀*5/6 端面铣刀*3	■ Positive axis tool: O.D. tool *6 Inner hole tool*4/5 Side milling tool*5/6 Face milling tool *3
■ 背轴刀具： 外径车刀*3 内孔刀*6 侧铣刀*2 端面铣刀*6	■ Back axis tool: O.D. tool *3 I.D. drilling tool *6 Side milling tool * 2 Face milling tool *6



C 型加工模式 【6+2轴，刀具≥34】	Machining layout of type C [6+2 axis, tool ≥34]
■ 正轴：X1、Y1、Z1、C轴、B轴	■ front axis: X1, Y1, Z1, C-axis, B-axis
■ 背轴：X2、Y2、Z2	■ Back axis: X2, Y2, Z2
■ 正轴刀具： 外径车刀*7 端面内孔刀*4 B轴排刀侧铣刀*6	■ Positive axis tool: O.D. tool * 7 Face drilling tool * 4 Side milling cutter B axis * 6
■ 背轴刀具： 外径车刀*3 内孔刀*6 侧铣刀*2 端面铣刀*6	■ Back axis tool: Outer diameter turning tool * 3 I.D. drilling tool *6 Side milling tool * 2 Face milling tool *6

标准配置

Standard Accessories

- 切削油装置
Lubrication system
- 同步导套装置
Synchronous guide bush
- 集中润滑装置
Centralized lubrication system
- 主轴动力刀具装置
Spindle driving tool
- 工件短件接料/传输装置
Conveying device for short workpiece

参数表

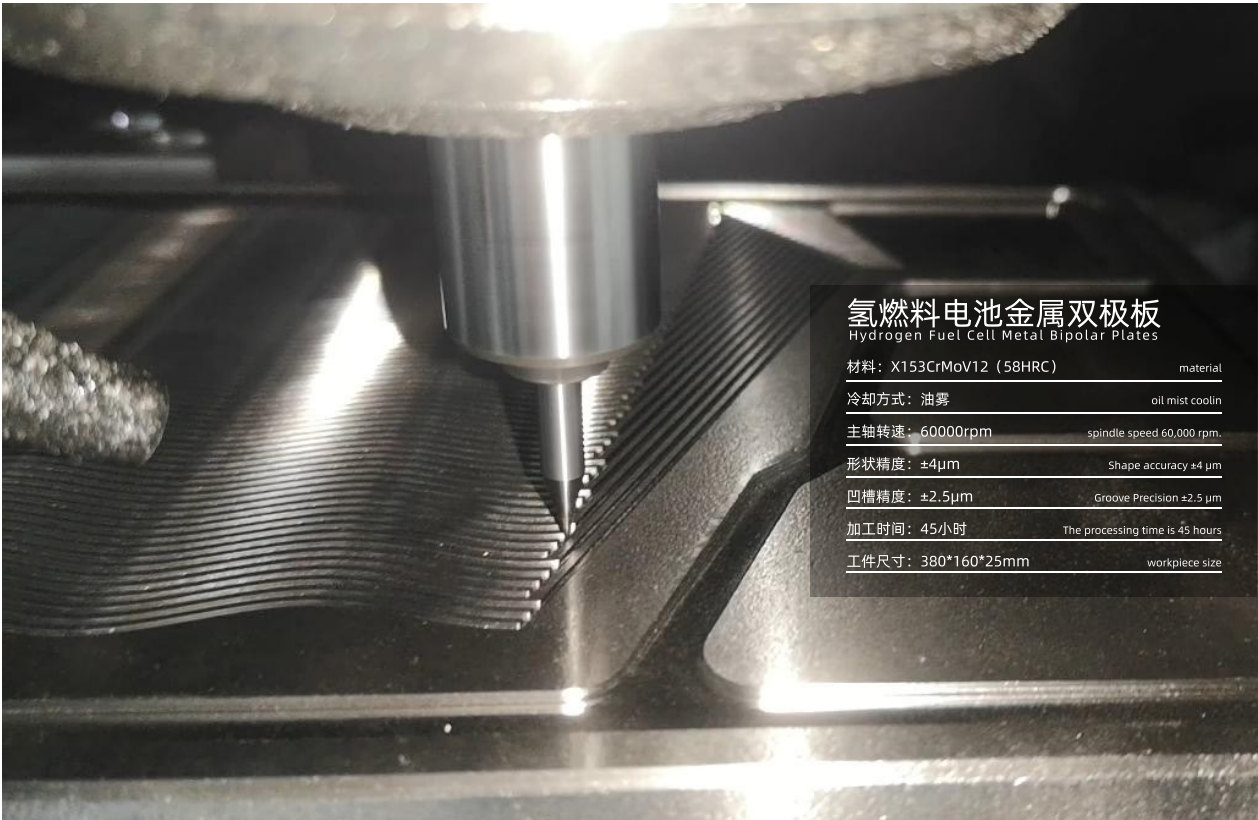
Machine Parameter

			MX-108			MX-208			MX-308			
正面主轴刀具系统 Front spindle tool system			Type A	Type B	Type C	Type A	Type B	Type C	Type A	Type B	Type C	
加工能力 Machining capability	最大车削直径 Maximum turning diameter		Ø12mm			Ø20mm			Ø32mm			
	一次开夹 最大加工长度 Max. turning length of headstock stroke	无导套 No guide sleeve	35mm			35mm			45mm			
		有导套 with guide sleeve	95mm 【可选200mm】			200mm			200mm			
正面前径刀具	外径刀具数及方柄规格 Number of O.D. tool & shank		6pcs 【10x10mm】		7pcs	5pcs 【12x12mm】		6pcs	5pcs 【12x12mm】		6pcs	
正面前径刀具	内径刀具数及套筒规格 Number of I.D. tool & collet holder		4pcs 【ER11】			4pcs 【ER16】			5pcs 【ER16】			
	内径刀最大钻孔能力 Max. I.D. drilling capability		Ø7xH35mm			Ø10xH35mm			Ø10xH45mm			
	内径刀最大攻牙能力 Max. I.D. tapping capability		M6xP1.25			M8xP1.25			M8xP1.25			
	动力刀刀具数及套筒规格 Number of living tool & collet holder		5pcs 【ER11】		6pcs 【ER11】	5pcs 【ER16】		6pcs 【ER16】	5pcs 【ER16】		6pcs 【ER16】	
	刀架带角度回转B轴 B-axis swing angle of gang living tool		-	-	-10°~110°	-	-	-10°~110°	-	-	-10°~110°	
侧铣动力刀具 Side power driven living tool	动力刀最大转速 Max. speed of living tool		8000rpm			8000rpm			8000rpm			
	动力刀伺服马达规格 Power of living tool		0.5Kw		0.75KW	0.5Kw		0.75KW	1.0Kw			
	动力刀最大钻孔能力 Max. drilling of living tool		Ø7mm			Ø7mm			Ø10mm			
	动力刀最大攻牙能力 Max. tapping of living tool		M5xP0.8			M6xP1.0			M6xP1.0			
	动力刀最大端铣能力 Max. milling of living tool		Ø7mm			Ø10mm			Ø10mm			
端面动力刀具 (选配) Frontal Face power driven living tool	动力刀刀具数及套筒规格 Number of tool & collet holder		3pcs 【ER11】		-	3pcs 【ER16】		-	3pcs 【ER16】		-	
	动力刀最大转速 Max. speed of living tool		8000rpm			-	8000rpm		-	8000rpm		-
	动力刀最大钻孔能力 Max. drilling of living tool		Ø7mm			Ø10mm			Ø10mm			
	动力刀最大攻牙能力 Max. tapping of living tool		M5xP0.8			M5xP1.0			M6xP1.0			
	动力刀最大端铣能力 Max. milling of living tool		Ø7mm			Ø10mm			Ø10mm			
正主轴 Main spindle	最大转速 Max. Spindle speed		10000rpm			10000rpm			10000rpm			
	主轴功率 Spindle Power		1.5/2.2Kw			2.2/3.7Kw			2.2/3.7Kw			
	最小分度 Min. indexing angle		0.001°			0.001°			0.001°			
背面主轴刀具系统 Rear spindle tool system												
背轴加工能力 Rear Machining capability	最大车削外径 Max. turning diameter		Ø12mm			Ø20mm			Ø32mm			
外径刀具 Rear O.D. tool	背轴外径刀具数 Number of O.D. tool		3pcs 【10mm】			3pcs 【12mm】			3pcs 【12mm】			
内径刀具 Rear I.D. tool	背轴内径刀具数 Number of I.D. tool & collet holder		ER11*5pcs	ER11*6pcs		ER16*5pcs	ER16*6pcs		ER16*5pcs	ER16*6pcs		
	背轴动力刀具-端面铣 Number of face living tool & collet holder		-	ER11*6pcs		-	ER16*6pcs		-	ER16*6pcs		
	背轴动力刀具-侧面铣 Number of side living tool & collet holder		-	ER16*2pcs		-	ER16*2pcs		-	ER16*2pcs		
动力刀具 Power cutting tools	背轴动最大转速 Max. speed of living tool		-	8000rpm		-	8000rpm		-	8000rpm		
	伺服马达规格 Power of living tool		-	0.75Kw		-	0.75Kw		-	1.0Kw		
	最大钻孔能力/内径刀 Max. drilling of I.D. tool		Ø7mm	Ø7mm		Ø10mm	Ø10mm		Ø10mm	Ø10mm		
	最大钻孔能力/动力刀 Max. drilling of living tool		-	Ø7mm		-	Ø10mm		-	Ø10mm		
	最大攻牙能力/内径刀 Max. tapping of I.D. tool		M8xP1.25	M8xP1.25		M6xP1.0	M6xP1.0		M6xP1.0	M6xP1.0		
	最大攻牙能力/动力刀 Max. tapping of living tool		-	M5xP0.8		-	M6xP1.0		-	M6xP1.0		
	最大端铣能力 Max. milling of living tool		-	Ø7mm		-	Ø10mm		-	Ø10mm		
背轴副主轴 Rear spindle	最大转速 Max. Spindle speed		10000rpm			10000rpm			10000rpm			
	主轴功率 Spindle Power		1.5*2.2Kw			2.2/3.7Kw			2.2/3.7Kw			
	最小分度 Min. indexing angle		0.001°			0.001°			0.001°			
快速进给	Rapid feed rate		24m/min			24m/min			24m/min			
数控系统	CNC controller		SYNTEC/FANUCOi-TD			SYNTEC/FANUCOi-TD			SYNTEC/FANUCOi-TD			
主轴中心高	Spindle center height		1077mm			1060mm			1060mm			
冷却水箱容量	Cooling tank capacity		140 L			150 L			180 L			
机床外观尺寸	Machine size (L*W*H)		2332x1374x1703			2332x1374x1703			2795x1756x1738			
机床重量	Machine weight		2400kg			2500kg			3900kg			

※以上参数仅供参考，以技术协议为准 See technical agreement for details.

精密加工应用

PRECISION MACHINING



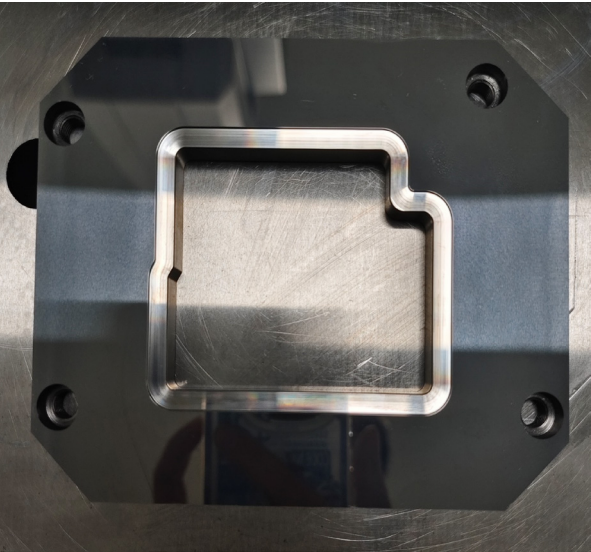
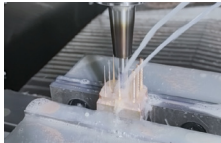
氢燃料电池金属双极板 Hydrogen Fuel Cell Metal Bipolar Plates	
材料: X153CrMoV12 (58HRC)	material
冷却方式: 油雾	oil mist coolin
主轴转速: 60000rpm	spindle speed 60,000 rpm,
形状精度: ±4μm	Shape accuracy ±4 μm
凹槽精度: ±2.5μm	Groove Precision ±2.5 μm
加工时间: 45小时	The processing time is 45 hours
工件尺寸: 380*160*25mm	workpiece size



进胶口电极

Copper electrode

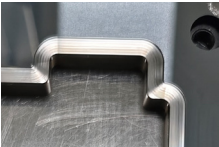
材料 Material: 铜 Copper
加工设备 Equipment Model: A50
冷却方式 Cooling Method: 油雾 oil mist
主轴转速 Spindle Speed: 30000rpm
形状高度 shape height: 25mm
最小底部直径 minimum base diameter: 0.4mm
加工时间 Time: 19h20min



钨钢拉伸模

Tungsten steel stretching die

材料 Material: 钨钢 Tungsten Steel
冷却方式 Cooling Method: 油雾 oil mist
主轴转速 Spindle Speed: 32000rpm
内部区域光洁度 Internal Area Surface Finish: Ra0.05
内侧R角精度一致性 R angle accuracy: ±0.002mm
精加工时间 finish machining time: 11h
工件尺寸 Workpiece Size: 138*100*15mm



精密加工应用

PRECISION MACHINING



金属超声炫彩加工
Metal Ultrasonic Colorful Processing



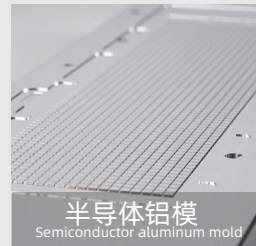
贵金属炫彩加工
Metal Ultrasonic Colorful Processing of Precious Metals



五轴叶轮加工
5-axis impeller machining



小型叶轮
Small impeller



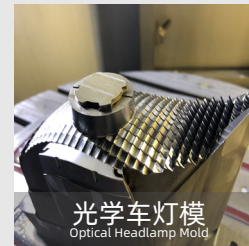
半导体铝模
Semiconductor aluminum mold



RV减速机核心零件
components of RV reducer



凹凸复合零件
Convex-concave composite part



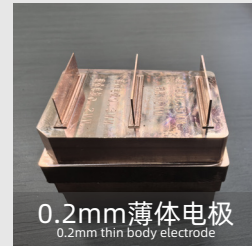
光学车灯模
Optical Headlamp Mold



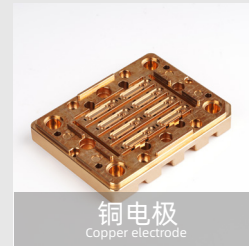
LED反光板凹模
LED Reflector Concave Die



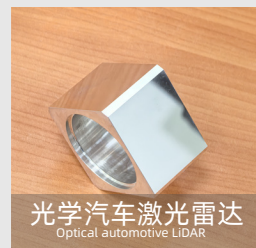
LED反光板凸模
LED Reflector Convex Die



0.2mm薄体电极
0.2mm thin body electrode



铜电极
Copper electrode



光学汽车激光雷达
Optical automotive LIDAR



光学蓝牙耳机
optical Bluetooth headset



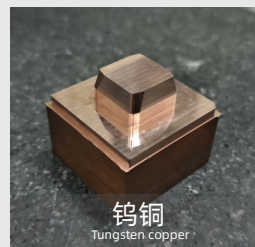
光学TV透镜模仁
Optical TV Lens Mould Insert



光学镜片模仁
Optical Lens Mold Core



半导体铝模
Semiconductor aluminum mold



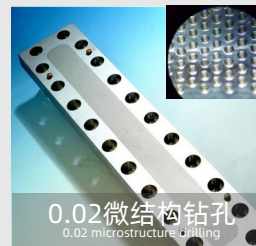
钨铜
Tungsten copper



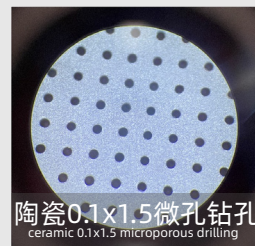
金属双极板
Metal bipolar plate



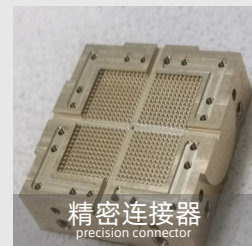
动静涡旋盘
Dongjing vortex disc



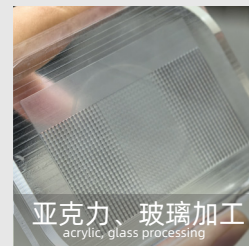
0.02微结构钻孔
0.02 microstructure drilling



陶瓷0.1x1.5微孔钻孔
ceramic 0.1x1.5 microporous drilling



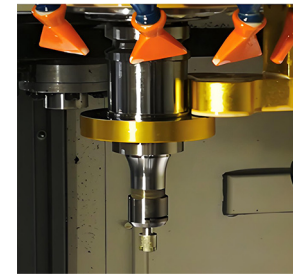
精密连接器
precision connector



亚克力、玻璃加工
acrylic, glass processing

超声波辅助加工

ULTRASONIC MACHINING



可降低切削力
实现硬、脆材料的高效加工
can reduce cutting force to
achieve efficient machining of hard and brittle materials

高频振动加工
每秒20000~50000Hz
High frequency vibration processing,
20,000 ~ 50,000 Hz per second.

有效降低
普通加工中的“让刀”现象

To effectively reduce the “tool deflection” phenomenon
in conventional machining.

Interrupted cutting
Intensify heat dissipation and improve cooling effect

断续切削
强化散热、提升冷却效果

To effectively avoid issues such as sticking to the blade,
chipping edges, and grinding wheel clogging

有效避免
粘刀、崩边、砂轮堵塞等问题

提升刀具使用寿命
刀具切削瞬间触碰时间极短，摩擦极小

The service life of the tool is improved,
the contact time between the tool and the workpiece during cutting is extremely short, and the friction is minimal.

典型案例

CLASSIC CASE



技术原理 TECHNICAL PRINCIPLE

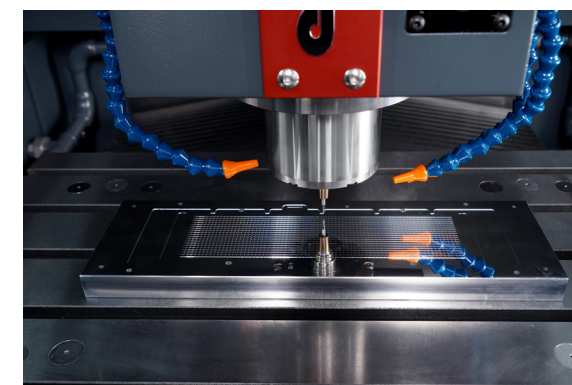
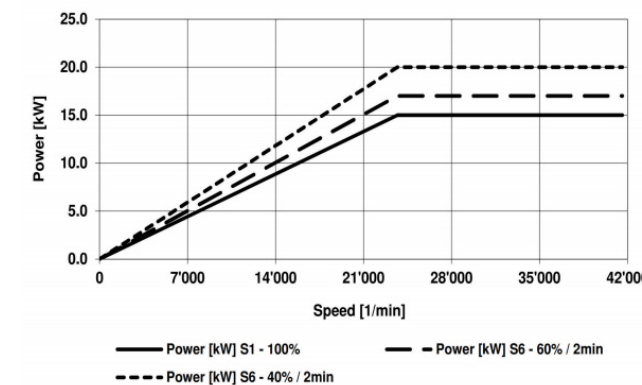
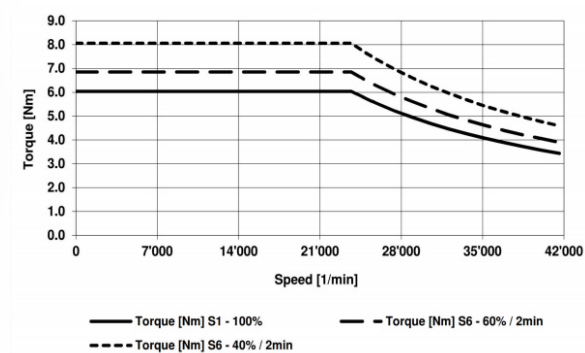
- ▶ 金刚石刀具高频振动，在金属表面创成纳米光撒微结构，经光栅表面反射的光线在空间中干涉成炫彩。
Diamond tools vibrate at high frequencies to create nano-dimpled structures on metal surfaces. The light reflected from the grating surface interferes in space to produce a colorful display.
- ▶ 超声系统因具有极高的长效工作稳定性，同时具备智能的刀具自适应、负载自适应功能，能在工件上加工出光学级完美表面，实现细腻、稳定、精致的炫彩效果。
The ultrasonic system boasts exceptional long-term operational stability and is equipped with intelligent tool adaptability and load adaptability functions. This enables it to achieve an optically perfect surface finish on workpieces, resulting in a delicate, stable, and refined brilliant effect.

3C行业应用 3C INDUSTRY APPLICATION

- ▶ 3C数码等各大头部企业开始研究超声炫彩工艺在手机、笔记本电脑、手表、手环等电子消费品外观上的应用。部分厂商已应用于量产产品。
The text mentions that major 3C digital companies are beginning to research and develop the application of ultrasonic brilliant process on the appearance of electronic consumer products such as mobile phones, laptops, watches, and bracelets. Additionally, some manufacturers have already applied this technology in mass-produced products.

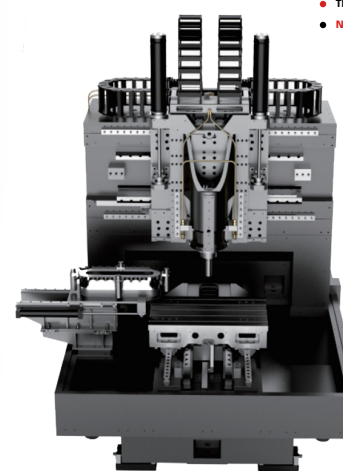
配备油气润滑冷却系统，主轴与旋转系统的整体热增长降低，有效保证长期的高效率、高精度、高稳定性加工。

Equipped with an oil air lubrication cooling system, the overall thermal growth of the spindle and rotating system is reduced, Effectively ensuring long-term high efficiency, high precision, and high stability processing.



适用于超精密加工的床身结构 Bed structure suitable for ultra precision machining

• S500



- The traditional manual assembly and scraping process.
- Natural mineral casting bed.

• 传统人工装配刮研工艺
• 矿物铸件床身



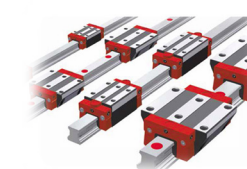
• Linear motor drive.

• 直线电机驱动

• 纳米级光栅尺



• Nano-grade grating ruler.



• G0-grade roller guide.

• G0级滚柱导轨

选用国际一线品牌超精密电主轴

三轴直线电机驱动

| SELECT INTERNATIONAL FIRST-LINE BRAND ULTRA PRECISION ELECTRIC SPINDLE

| THREE AXIS LINEAR MOTOR DRIVE



2002年进入机床领域。

Entered the field of machine tools in 2002.

2002



研发团队取得技术性突破，完成第一台三轴精密机床“E500 LP”，采用三轴直线电机驱动代替传统丝杆传动。

The R&D team achieved a technological breakthrough and completed the first three-axis precision machine tool "E500 LP", adopting three-axis linear motor drive instead of traditional screw drive.

2015



研发“国内首台”三轴双直线电机驱动“超精密亚纳米立式加工中心S500”，并获评“中国深圳创新先进制造企业一等奖”，重复定位精度达到0.001mm。

Developing the "first domestically developed" three-axis dual linear motor driven ultra precision sub nanometer vertical machining center S500, And won the first prize of "China Shenzhen Innovative Advanced Manufacturing Enterprise", with a repeated positioning accuracy of 0.001mm.

2020



为开拓更多市场，提供多样化加工选择，研发出“数控纵切车削中心MX系列”，提供5+2轴、6+1轴、6+2轴三种配置，可安装多种车刀。

In order to explore more markets and provide diversified processing options, we have developed the "MX series of CNC longitudinal cutting and turning centers", We offer three configurations: 5+2 axis, 6+1 axis, and 6+2 axis, which can accommodate a variety of cutting tools.

2022



2011 成立研发团队，研究高端超精密数控机床设备。

Establish a research and development team to study high-end ultra precision CNC machine tool equipment.

2011



响应“中国制造2025”计划，成立“朗恩精密”机床品牌，注册“RONEIND”LOGO商标。立志“成为精密制造信赖的伙伴”。

In response to the "Made in China 2025" plan, establish the "Langen Precision" machine tool brand, Register the "RONEIND" logo trademark. Aspire to become a trusted partner in precision manufacturing.

2019



为了国产化高精密机床适用更多行业，开发出五轴联动加工中心X500。重复定位精度达到0.002mm。

In order to make domestically produced high-precision machine tools applicable to more industries, the five axis linkage machining center X500 has been developed. The repeated positioning accuracy reaches 0.002mm.

2021



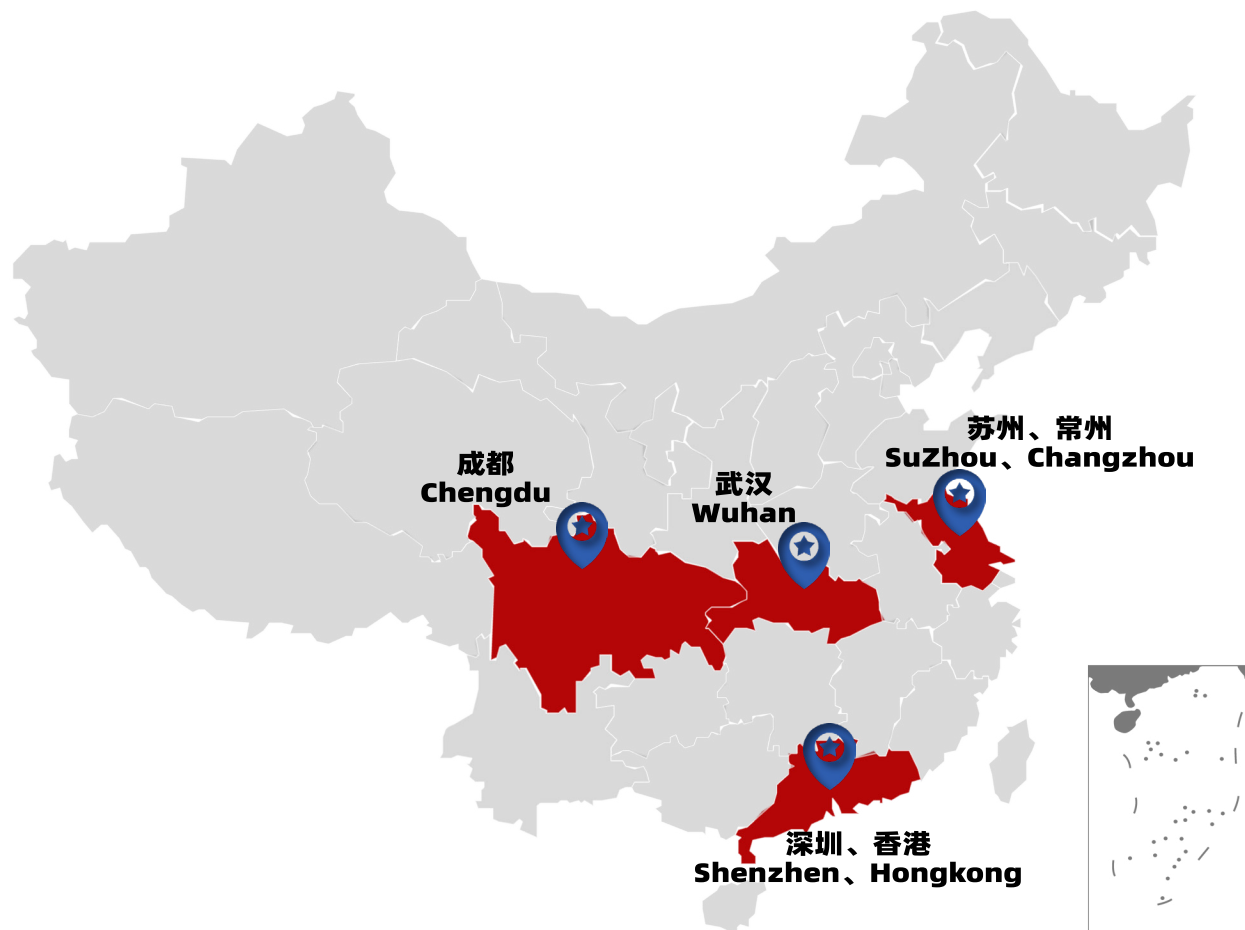
为了更好的服务于客户，在“苏州”成立华东应用技术服务中心

To better serve our customers, we have established the East China Application Technology Service Center in Suzhou.

2024

未来朗恩将通过技术创新，成为具有国际竞争力的超高精密加工设备成套方案解决商。

In the future, Roneind will become an internationally competitive provider of complete solutions for ultra-high precision machining equipment through technological innovation.



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生产总部

Production Headquarters