Roneind

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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With continuous innovation in research and development, the product specifications, data, appearance, and accessory product appearance recorded in this sample booklet may be updated at any time without prior notice. We apologize for any inconvenience caused.

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The processing data contained in this sample book are all data obtained under the specified conditions of our company.

R&D202503A

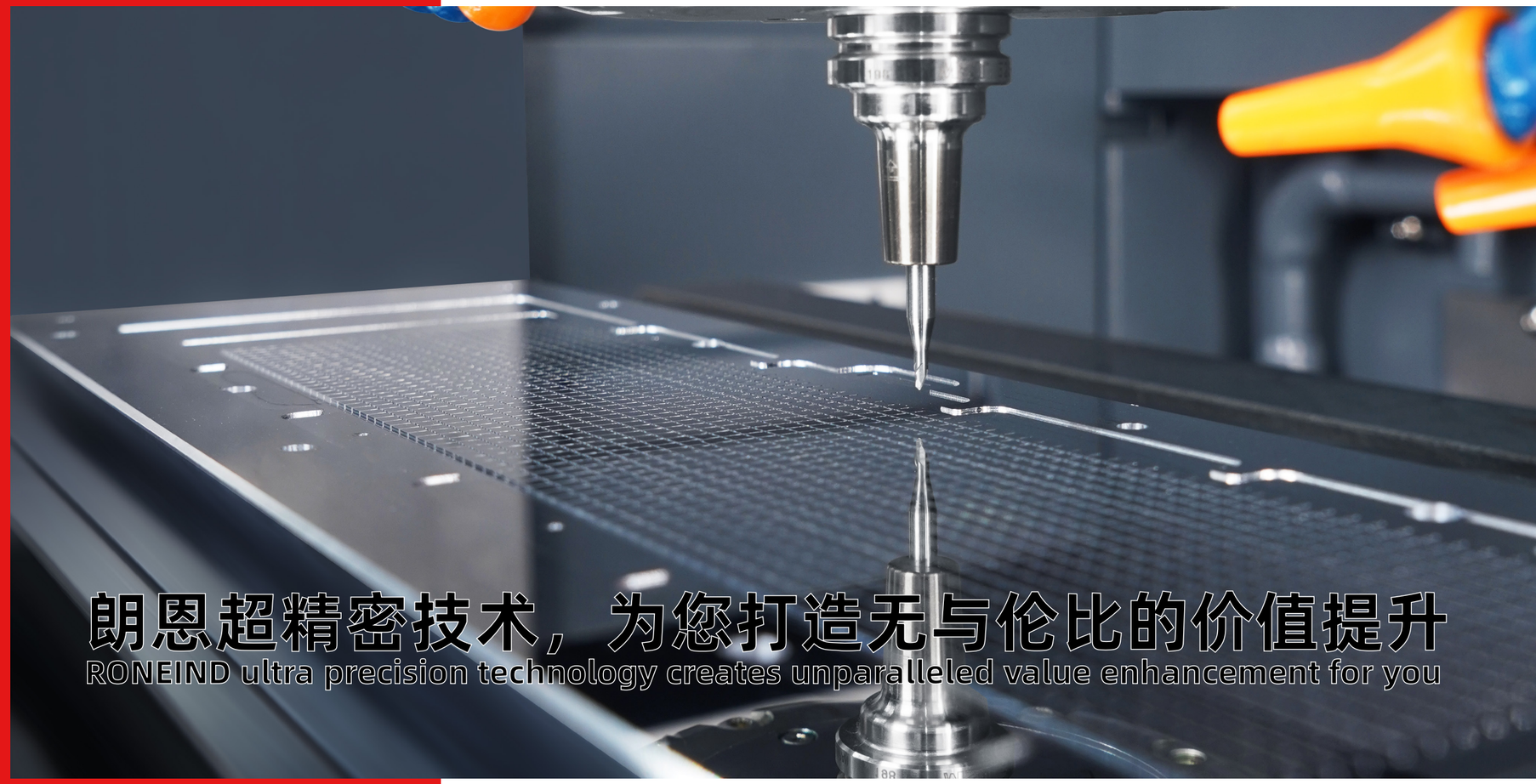
NANO MACHINING CENTER
超精密立式加工中心- E500 LP

精密制造信赖的伙伴

RONEIND
朗恩精密

COMPANY
PROFILE
企业介绍

超越同级 精度为先



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

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.

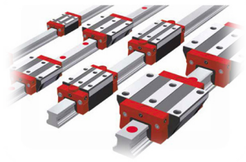
E500/600/800 LP超精密加工中心系列

E500/600/800 LP-Ultra precision machining center

linear DRIVE

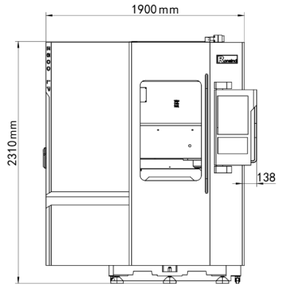
选配 Options

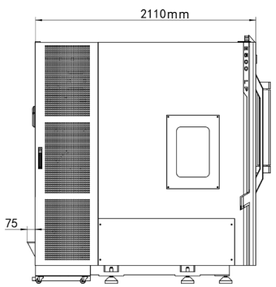
- ☑ 激光对刀仪 Laser tool setter
- ☑ 红外线探头 Infrared probe
- ☑ 切屑液恒温装置 Thermostatic device
- ☑ 60000rpm高速主轴 60000rpm high-speed spindle



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.

Roneind

产品简介 Product Description

- 采用矿物铸件床身，可选海德汉、西门子、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，可选配高精密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、航天航空、汽车、无人机、精密模具、精密零件。

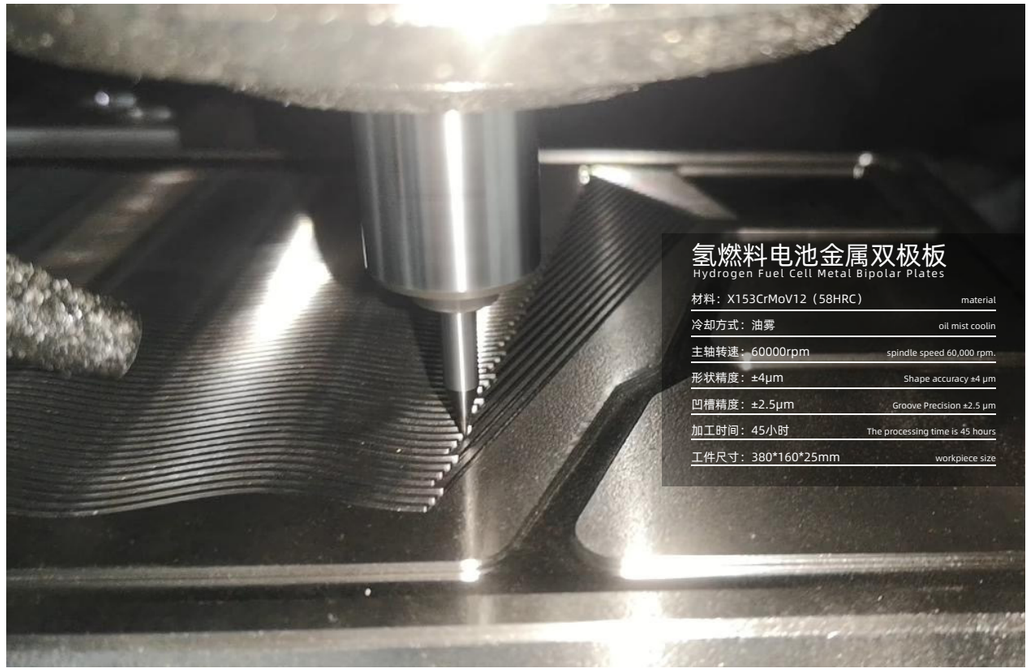
- Adopting mineral casting bed body, optional Heidenhain and Fanuc CNC systems. Optional ultrasonic assisted machining system.
- The three-axis system is driven by a high-speed linear motor and features a highly rigid symmetrical frame structure, ensuring stable and high-precision machining even after 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	E800 LP	E800P LP
X轴行程 X-Axis	500mm	600mm	800mm	800mm
Y轴行程 Y-Axis	400mm	520mm	700mm	700mm
Z轴行程 Z-Axis	220mm	350mm	400mm	400mm
工作台尺寸 Workbench size	520mm*400mm	600mm*520mm	800mm*700mm	800mm*700mm
数控系统 CNC SYSTEM	HEIDENHAIN 620（SIEMENS828D / FANUC 3Ii-B Plus）			
主轴 SPINDLE				
主轴转数 Spindle speed	32000rpm（42000rpm / 60000rpm）		32000rpm（20000rpm / 24000rpm/ 36000rpm）	
主轴规格 Spindle taper	HSKE40	HSKE40	HSKE40	HSKE50（HSKA63）
移动速度 AXIS FEED RATES				
快进速度 Rapid traverse rate	60m/min	60m/min	40m/min	40m/min
切削进给速度 Cutting feed rate	30000mm/min	30000mm/min	20000mm/min	20000mm/min
精确度 ACCURACY				
X/Y/Z轴定位精度 X/Y/Z-Axis Positioning accuracy	＜0.002mm	＜0.002mm	＜0.003mm	＜0.003mm
X/Y/Z轴重复定位精度 X/Y/Z-Axis Repeatability accuracy	＜0.001mm	＜0.0015mm	＜0.002mm	＜0.002mm
最小移动单位 Minimum moving unit	0.01μm	0.01μm	0.01μm	0.01μm
光栅尺分辨率 Grating ruler resolution	0.001μm	0.001μm	0.001μm	0.001μm
刀库 TOOL MAGAZINE				
刀库形式 Type	圆盘式 Disc type （链式 chain type）			
刀库容量 Max.pockets of tool magazine	20 / 24 pcs （30/42）			
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	油脂式/油雾冷却 Grease/Oil mist cooling			
机械规格 MECHANICAL SPECIFICATION				
空气压力 Air pressure	0.6Mpa	0.6Mpa	0.6Mpa	0.6Mpa
机床尺寸 Machine size	2110mm x 1900mm x 2310mm	2242mm x 2188mm x 2281mm	2700mm x 2550mm x 3000mm	
机床重量 Machine weight	约5400KG	约6500KG	约8600KG	约8900KG

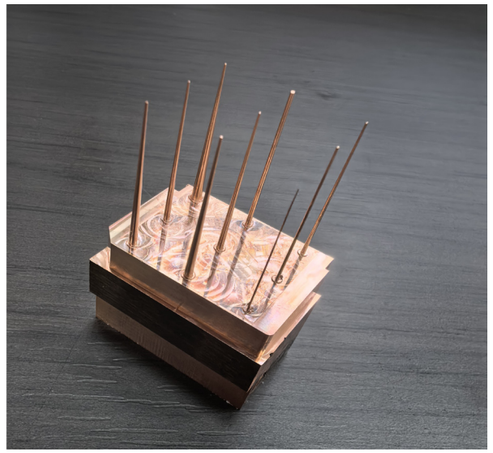
※以上参数仅供参考，以技术协议为准 See technical agreement for details.

精密加工应用 PRECISION MACHINING



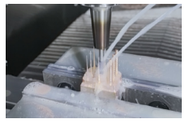
氢燃料电池金属双极板
Hydrogen Fuel Cell Metal Bipolar Plates

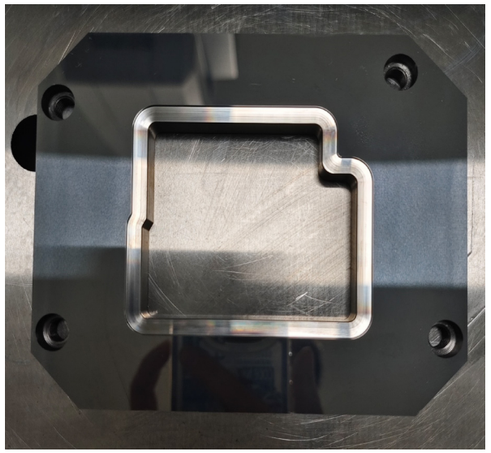
材料：X153CrMoV12（58HRC）	material
冷却方式：油雾	oil mist coolin
主轴转速：60000rpm	spindle speed 60,000 rpm.
形状精度：±4μm	Shape accuracy ±4 μm
凹槽精度：±2.5μm	Groove Precision ±2.5 μm
加工时间：45小时	The processing time is 45 hours
工件尺寸：380*160*25mm	workpiece size



进胶口电极
Copper electrode

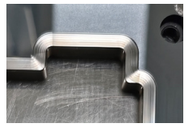
材料 Material：铜 Copper	
加工设备 Equipment Model：A50	
冷却方式 Cooling Method：油雾 oil mist	
主轴转速 Spindle Speed：30000rpm	
形状高度 shape height：25mm	
最小底部直径 minimum base diameter：0.4mm	
加工时间 Time：19h20min	





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

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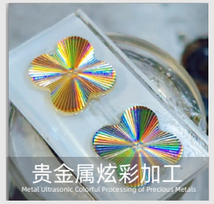
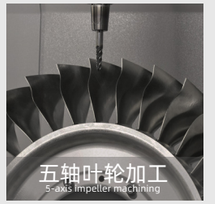
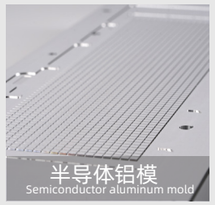
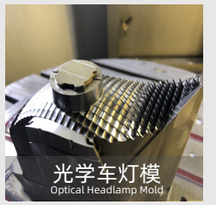
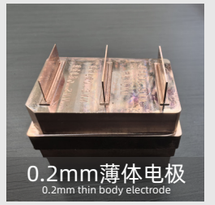
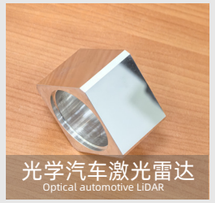


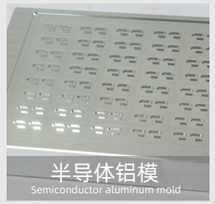


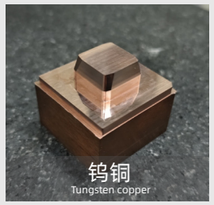


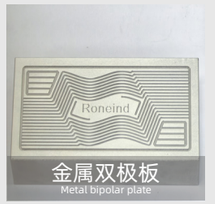


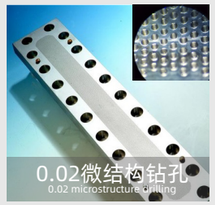


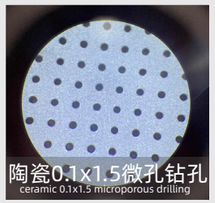


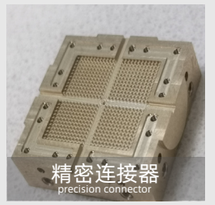


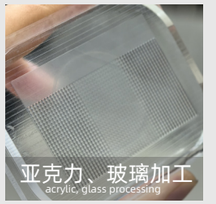


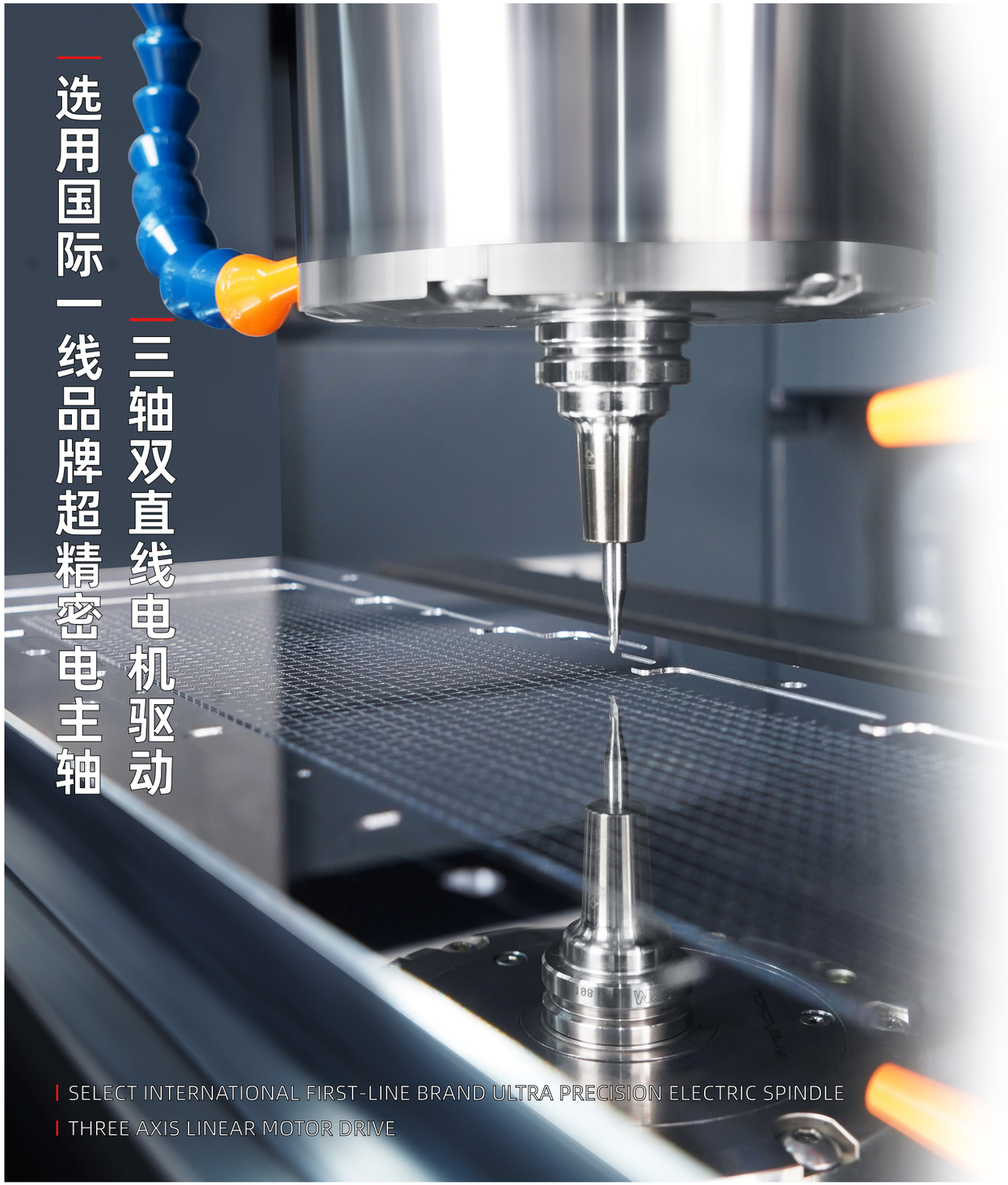






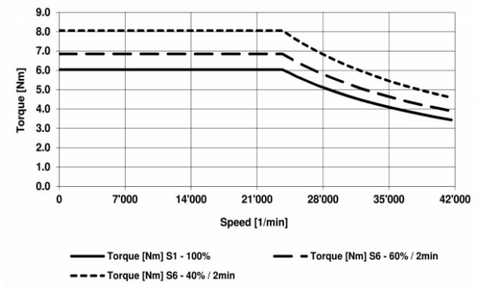


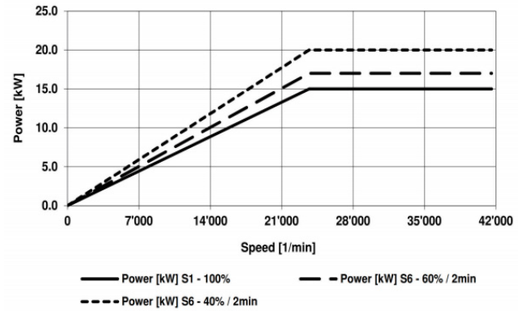


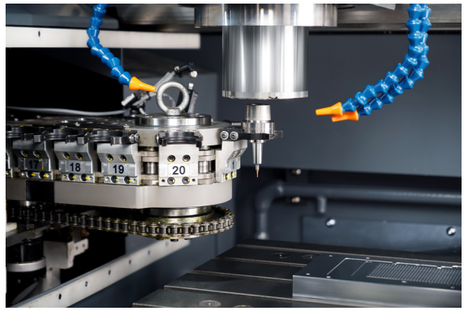


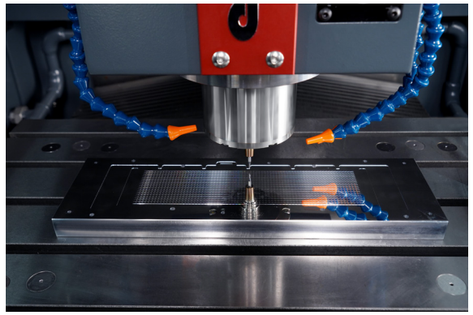
配备油气润滑冷却系统，主轴与旋转系统的整体热增长降低，有效保证长期的高效率、高精度、高稳定性加工。

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.









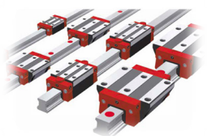
适用于超精密加工的床身结构
Bed structure suitable for ultra precision machining

- **E500 LP**
  - 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.
- 三轴直线电机驱动

- Nano-grade grating ruler.
- 纳米级光栅尺



- G0-grade roller guide.
- G0级滚柱导轨

朗恩发展 RONEIND DEVELOPMENT

2002

2002年进入机床领域。

Entered the field of machine tools in 2002.

2015

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.

2020

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 s ub 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.

2022

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.

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.

2019

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.

2021

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.

2024

为更好的服务于客户，在“苏州”成立华东应用技术服务中心

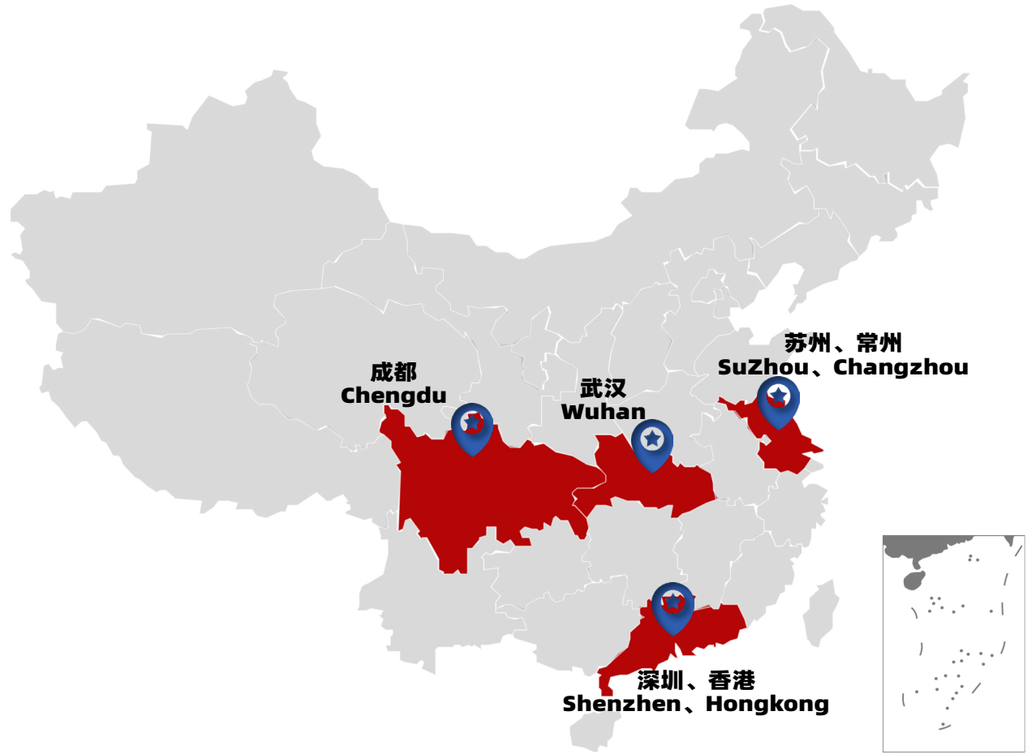
To better serve our customers, we have established the East China Application Technology Service Center in Suzhou.

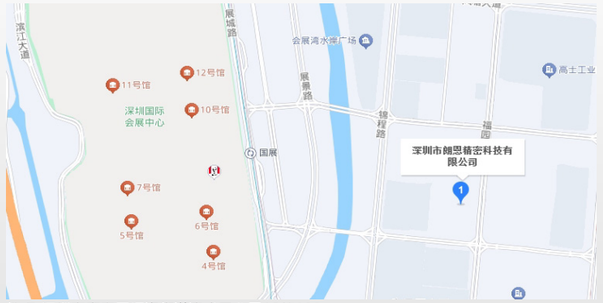
未来朗恩将通过技术创新，成为具有国际竞争力的超高精密加工设备成套方案解决商。

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

服务至上 SERVICE FIRST

Roneind





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