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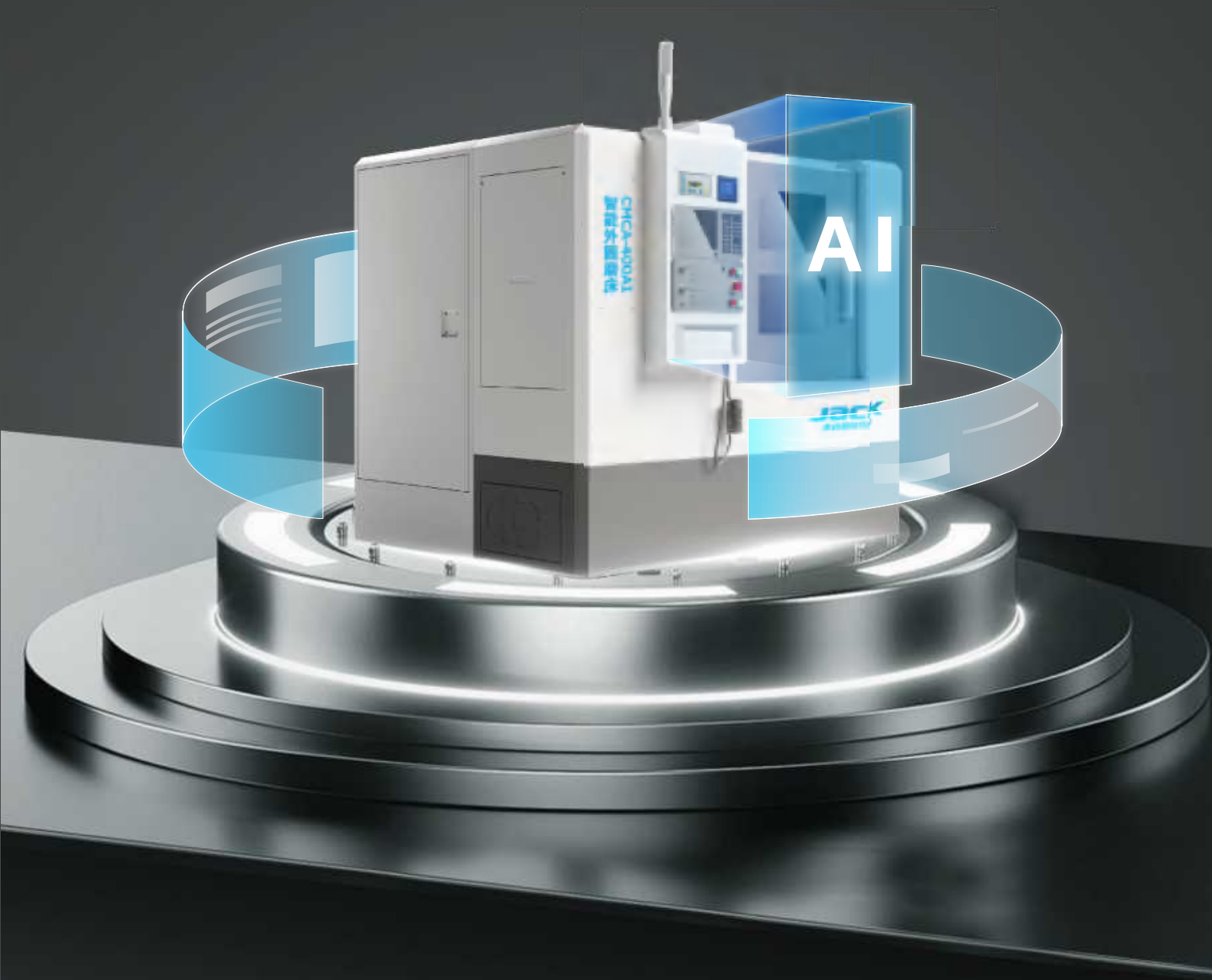
JACK 杰克智能装备

自动化成套解决方案服务商

Service provider
of complete
automation solutions

JACK 杰克智能装备

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公司VR全景

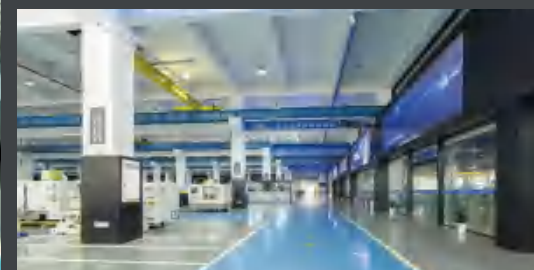


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关于杰克智能装备

ABOUT US

公司成立于2004年，是杰克控股集团旗下继杰克科技后的第二大主导产业，凭借杰克这一强势品牌，以资本为纽带，同年收购上海内迁三线江西吉安机床厂，有效嫁接了50多年的技术沉淀，跃居成为全国能系列化生产多类数控磨床的重点装备制造企业；机床装备产业现有浙江、江西、湖南等制造基地，专注于高速、高精、高端数控磨床领域，发展成为了自动化成套解决方案服务商。

公司专业生产高速、高精、高效数控外圆磨床、凸轮磨床、曲轴磨床、智能产线与各类专用设备，产品应用于航空、船舶、新能源汽车、摩托、空调、发动机等核心部件的制造并服务于军工（飞机、坦克）等制造业，拥有专利100多项，掌握核心制造与产业技术，具备完整的自主知识产权体系，研发的系列数控高速随动磨床在行业内属于领先地位，整体技术达国际先进水平，大量替代进口。

公司拥有省级高数高精数控磨床企业研究院、省级院士工作站、企业博士后科研工作站、省级随动数控磨床工程技术研究中心、省级企业技术中心，省级技能大师工作室等协同创新中心，先后承担国家科技重大专项 04 专项（2 项）、国家重点新产品计划（2 项目）、国家重点创新基金项目（1 项）、国家火炬计划项目（1 项）、浙江省“尖兵领雁+X”研发攻关计划（1 项）、浙江省首台套等在国内高端机床领域多次实现零的突破。是荣获过中国机械工业联合会“科学技术一等奖”、浙江省科学技术进步奖、教育部科技进步二等奖、国家重点新产品计划、国产数控机床“春燕奖”、全国工商联科技创新企业奖、中国机床工具工业协会“自主创新十佳企业”、中国机械工业联合会“装备制造明星企业”等多项荣誉的国家级高新技术企业、浙江省“专精特新”企业。

Founded in 2004, the company stands as the second major pillar industry under Jack Holding Group following Jack Technology. Leveraging the strong Jack brand and capital as a catalyst, it acquired the Shanghai-relocated Third-Line Jiangxi Ji'an Machine Tool Factory in the same year. This acquisition effectively integrated over 50 years of technical expertise, propelling the company to become a key national equipment manufacturer capable of serial production across multiple categories of CNC grinding machines. The machine tool division now operates manufacturing bases in Zhejiang, Jiangxi, and Hunan, specializing in high-speed, high-precision, and high-end CNC grinding machines. It has evolved into a provider of automated turnkey solutions.

The company specializes in manufacturing high-speed, high-precision, and high-efficiency CNC cylindrical grinders, cam grinders, crankshaft grinders, intelligent production lines, and various specialized equipment. Its products are applied in manufacturing core components for aviation, shipbuilding, new energy vehicles, motorcycles, air conditioners, engines, and other sectors, while also serving defense industries (aircraft, tanks). Holding over 100 patents, the company masters core manufacturing and industrial technologies, possesses a complete independent intellectual property system, and has developed a series of high-speed follow-up CNC grinders that lead the industry. Its overall technology reaches internationally advanced levels, extensively replacing imported equipment.

The company operates provincial-level collaborative innovation

centers including a High-Precision CNC Grinding Machine Enterprise Research Institute, an Academician Workstation, a Postdoctoral Research Station, a Provincial Engineering Technology Research Center for Follow-Up CNC Grinding Machines, a Provincial Enterprise Technology Center, and a Provincial Master Craftsman Studio. It has undertaken major national projects including the National Major Science and Technology Special Project 04 (2 projects), the National Key New Product Program (2 projects), the National Key Innovation Fund Project (1 project), the National Torch Program Project (1 project), Zhejiang Province's "Pioneer Leader + X" R&D Breakthrough Program (1 project), and Zhejiang Province's First-of-its-Kind Equipment Program. These achievements represent multiple breakthroughs in China's high-end machine tool sector. As a national high-tech enterprise and Zhejiang Province "Specialized, Refined, Distinctive, and Innovative" enterprise, it has received numerous honors including the China Machinery Industry Federation's "First Prize for Science and Technology," Zhejiang Provincial Science and Technology Progress Award, Ministry of Education's Second Prize for Scientific and Technological Progress, National Key New Product Program, "Spring Swallow Award" for Domestic CNC Machine Tools, All-China Federation of Industry and Commerce's Science and Technology Innovation Enterprise Award, China Machine Tool & Tool Builders' Association's "Top Ten Enterprises for Independent Innovation," and China Machinery Industry Federation's "Star Enterprise in Equipment Manufacturing."

CONTENTS

目录

自动化产线
Automated production line

01-12

外圆磨床
偏心轴自动化产线
Cylindrical grinding machine
eccentric axis automatic
production line

03

转子轴
柔性化智能生产线
Rotor shaft flexible
intelligent production line

05

新能源
电机轴自动化产线
New energy
motor shaft automation production line

07

全自动
顶尖生产线
Automatic thimble
production line

11

20 系列外圆磨床
20 Series Cylindrical Grinding Machines

13-20

数控外圆磨床(简易)
CNC cylindrical grinding
machine (simple cover)

15
MK1320

数控外圆磨床带机械手(全防护)
CNC cylindrical grinding
machine with manipulator
(full cover)

17
MK1320

端面数控外圆磨床(全封闭)
End face CNC cylindrical
grinding machine (full cover)

19
MK1620

高速外圆磨床系列
High-speed Cylindrical Grinding Machine Series

21-28

高速数控外圆磨床
High-speed
CNC cylindrical
grinding machine

23
GMC-400

高速数控外圆磨床(双驱)
High-speed CNC
cylindrical grinding
machine (double drive)

25
GMCS-400

随动数控磨床
Follow-up CNC
grinding machine

27
GMCF-400

32 系列外圆磨床
32 Series Cylindrical Grinding Machines

29-32

高速端面数控外圆磨床
High-speed face CNC
cylindrical grinding machine

29
GMCX32-500

数控外圆磨床
CNC cylindrical
grinder

31
MK1332

曲轴随动磨床系列
Crankshaft Follow-Up Grinding Machine Series

凸轮轴随动磨床系列
Camshaft Follow-Up Grinding Machine Series

随动数控曲轴磨床
Follow-up CNC crankshaft
grinding machine

33
GMCF36-750

高速随动数控磨床
High-speed servo-controlled CNC
grinding machine

35
GMCF36-1500

82系列曲轴磨床
Series 82 Crankshaft Grinding Machines

数控蜗杆磨床
CNC Worm Grinding Machine

曲轴随动数控偏心磨床
Crankshaft follow-up
CNC eccentric grinder

37
MK8220

数控蜗杆磨床
CNC Worm Grinding Machine

39
JKWG550

AUTOMATION PRODUCTION LINE

自动化成套解决
方案服务商

Service provider
of complete
automation solutions

- 高效率数字智能自动化生产线，
实现制造业数字化转型
- High-efficiency digital intelligent automation
production line for digital transformation
- MES工业物联网，成套智能自动化制造
解决方案，有效降本增效
- MES Industrial IoT, a complete set of intelligent
automated manufacturing solutions to effectively
reduce costs and increase efficiency

自动化产线



外圆磨床 偏心轴自动化产线

Cylindrical grinding machine line for
eccentric axis automation production

产线概述 / Summary

应用多台数控磨床与桁架机械手的联线，实现了曲轴磨削加工过程中数十台加工设备的高效衔接，利用自动化移料送料机构取代传统人工送料，达到外圆磨床加工联线自动化生产，具备柔性自动上下料机械手、集中式仓储料仓、联网在线统计监测等功能，具有机械性能稳定、磨削精度高等特点，实现曲轴磨削加工效率的有效提升与设备利用率的明显增加，对缝纫机零件、汽车摩托车配件、电机轴、水泵等其它行业的零部件生产都有借鉴意义。

Cylindrical grinding machine line for eccentric axis automation production.The application of multiple CNC grinders and truss manipulators in the line realizes the efficient connection of dozens of processing equipment in the process of crankshaft grinding processing, replaces traditional manual feeding with automatic material transfer and feeding mechanism. It achieves the automatic production of cylindrical grinder processing line with flexible automatic loading and unloading manipulators, centralized storage silo, online statistical monitoring etc., featuring stable mechanical performance and high grinding accuracy. It has features of stable mechanical performance and high grinding accuracy, which can effectively improve the efficiency of crankshaft grinding and increase the utilization rate of the equipment. It is suitable for the production of sewing machine parts, automobile and motorcycle parts, motor shafts, water pumps and other industries.

产线特点 / Features

 **生产效率高**
High production efficiency

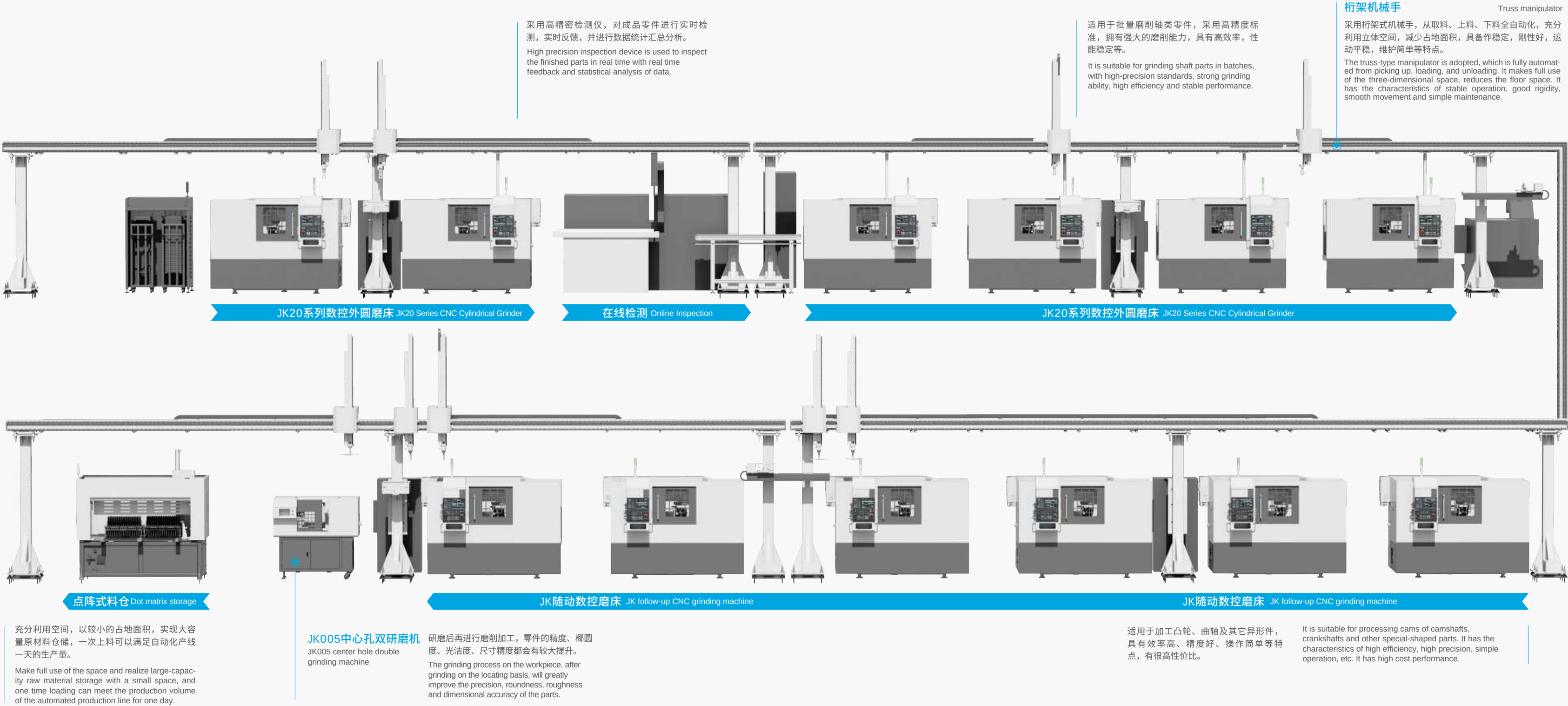
此套自动化解决方案可以极大的提高生产效率，缩短产品生产周期，为产品抢占市场提供了时间保证。
This set of automation solutions can greatly improve production efficiency, shorten production cycle, and provide time guarantee for products to seize the market opportunity.

 **易用通用性**
Ease of use and versatility

取料、上料、下料全自动化，充分利用立体空间，技术成熟，人工操作简便，具备动作稳定，刚性好，运动平稳，维护简单等特点，对于汽配、电机、水泵等行业有较强的易用性和通用性。
Picking up, loading, and unloading of workpiece are fully automated, making full use of the three-dimensional space; mature technology, easy manual operation, stable movement, good rigidity, smooth movement, and simple maintenance. It has strong advantages for auto parts, motors, water pumps and other industries.

 **智能工厂**
Smart factory

设备可以连接到工业互联网，采集设备数据，建立工业大数据中心及云数据平台，提高加工效率，节省运行成本，降低劳动强度，提升企业核心竞争力。
The equipment can be connected to the industrial Internet, collect equipment data, establish an industrial big data center and cloud data platform, improve processing efficiency, save operating costs, reduce labor intensity, and enhance the core competitiveness of enterprises.



转子轴柔性化智能生产线

Rotor shaft flexible intelligent production line



产线概述

/ Summary

杰克智能、华中数控机床、浙大台州研究院战略合作研发制造的转子轴柔性化智能生产线，该产线对水泵转子轴生产过程的车削、压装、铣、磨削等加工工艺采用数字孪生、在线检测、在线监视、自动搬运、柔性装夹等技术来实现智能化生产。该项目的实施有力推进企业自动化、数字化、智能化转型升级，增加经济效益。

The flexible intelligent production line for rotor shaft is developed and manufactured by Jack Intelligent Manufacturing Corp., Huazhong CNC machine tool and Taizhou Research Institute of Zhejiang University in a strategic cooperation. The production line adopts digital twin technology, online inspection, online monitoring, automatic handling, flexible clamping and other technologies to realize intelligent production for pump rotor shaft with turning, press-fitting, milling and grinding. The implementation of the project will strongly promote the automation, digitalization and intelligent transformation and upgrading of the enterprise and increase the economic benefits.

产线特点

/ Main Features

数字孪生展现
Digital twin display

全自动生产与装配
Fully automatic production and assembly

由对整个自动化制造单元全程监控，一手掌握，实现制造过程透明化，为设备维护、保养、工艺优化等提供决策依据，有效助力企业数字化转型。
By monitoring the whole process of the entire automated manufacturing unit and mastering it at one hand, it realizes the transparency of the manufacturing process, provides decision-making basis for equipment maintenance, process optimization, etc., and effectively assists the digital transformation of enterprises.

全自动完成水泵转子轴的车削、压装、铣、磨削等加工工序，从毛坯到成品的全自动化生产。
Fully automatic completion of the turning, press-fitting, milling, grinding and other processing procedures of the water pump rotor shaft, fully automatic production from blank to finished product.

标准化生产模式
Standardized production model

能确保产品质量达标和规格统一，符合现代社会标准化生产模式，具有良好的发展前景。

It can ensure that the product quality is up to standard and the specifications are unified, in line with the standardized production model with a very good development prospect.

数控车床

CNC lathe

采用可靠性、高精度数控车床进行粗精加工，通过桁架机械手进行换料动作。
Use reliable, high-precision CNC lathes for rough and fine machining, and use truss manipulators for loading of the workpiece.

柔性装夹

Flexible clamping

前一工序完工后放置在输送料架上，由机械手自动检测和装夹。
After the previous process is completed, it is placed on the conveying rack, and is automatically detected and clamped by the manipulator

JK20系列杰克数控外圆磨床

JK20 Series Jack CNC Cylindrical Grinding Machine

适用于批量磨削轴类零件，采用高精度标准，拥有强大的磨削能力，具有高效率，性能稳定等。
It is suitable for mass grinding of shaft parts, adopts high-precision standards, has strong grinding ability, high efficiency, stable performance, etc.

在线检测

Online inspection

采用高精度检测仪，对成品零件进行实时检测，实时反馈，并进行数据统计汇总分析。
Using high-precision detectors, real-time testing of finished parts, real-time feedback, and statistical analysis of data.

仓储式料架

Storage rack

充分利用空间，以较小的占地面积，实现大容量料仓存储，一次上料可以满足自动化产线一天的生产量。
Make full use of the space and realize large-capacity silo storage with a small space, and one time loading can meet production volume of the automated production line for one day.

桁架机械手

Truss manipulator

采用桁架式机械手，从取料、上料、下料全自动化，充分利用立体空间，减少占地面积，具备作稳定，刚性好，运动平稳，维护简单等特点。
The truss-type manipulator is adopted, which is fully automated from picking up, loading, and unloading. It makes full use of the three-dimensional space, reduces the floor space with stable operation, high rigidity, smooth movement, and simple maintenance.

全防护

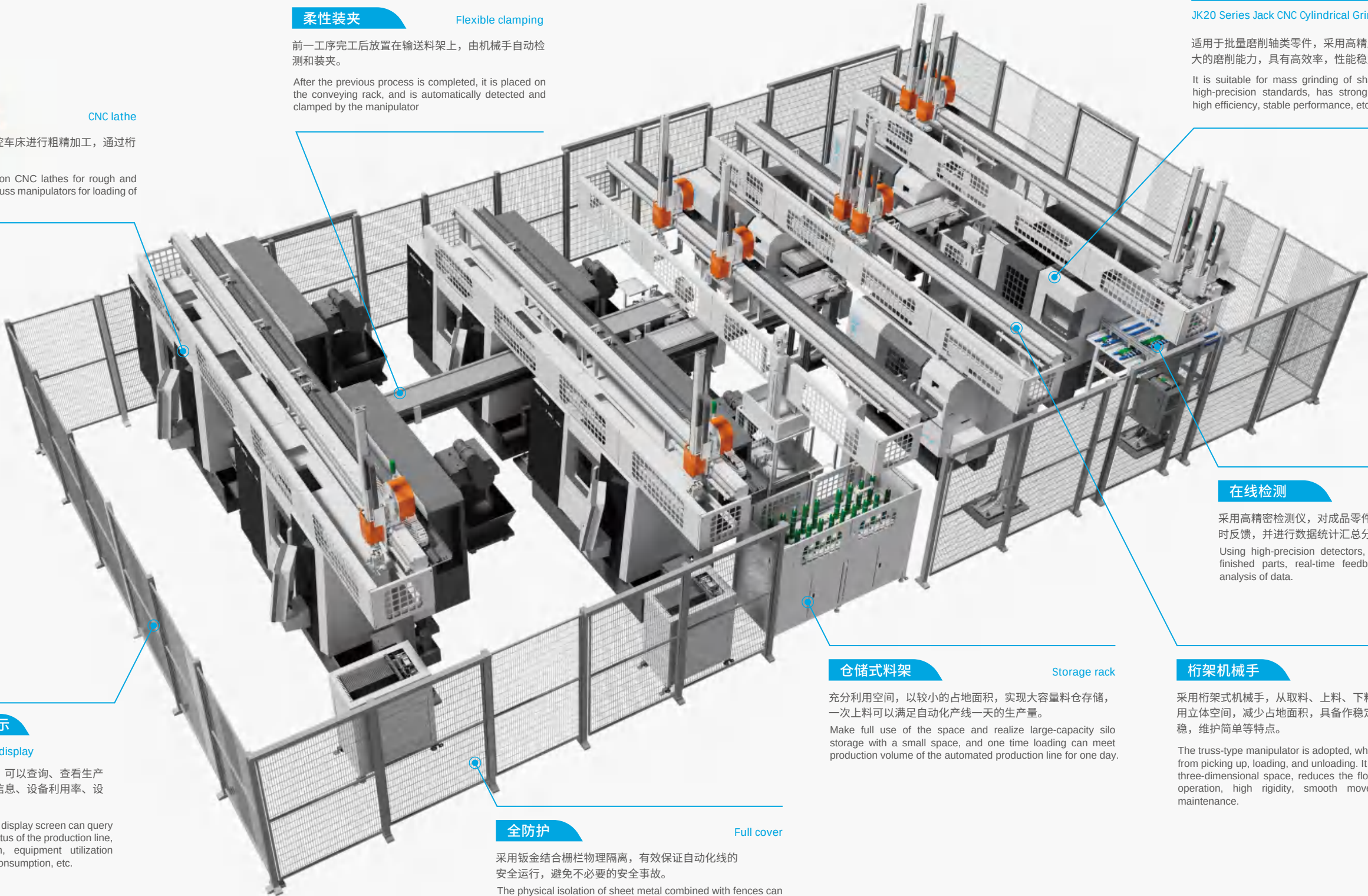
Full cover

采用钣金结合栅栏物理隔离，有效保证自动化线的安全运行，避免不必要的安全事故。
The physical isolation of sheet metal combined with fences can effectively ensure the safe operation of the automation line avoiding unnecessary safety accidents.

数字孪生大屏展示

Digital twin big screen display

自动化数字孪生展示屏，可以查询、查看生产线实时状态，维护保养信息、设备利用率、设备能耗等。
The automatic digital twin display screen can query and view the real-time status of the production line, maintenance information, equipment utilization rate, equipment energy consumption, etc.



新能源电机轴自动化产线

New energy motor shaft automation production line



产线概述

/ Summary

定制化产线+高效磨削

Customized production line + efficient grinding

为服务好国内新能源汽车零部件企业在电机轴高效磨削领域降本增效，杰克智能装备在总结20年磨削技术与磨削领域应用经验，推出新能源电机轴自动化产线解决方案。

该产线专为新能源电机轴等核心部件精密加工定制，最大加工长度可以达到500mm，最大加工直径可达到320mm，大幅提高加工效率与加工精度，尤其适合新能源汽车电机轴的大批量、高精度磨削加工。

In order to serve the domestic new energy automobile parts enterprises in the field of efficient grinding of motor shafts to reduce costs and increase efficiency, Jack Intelligent Equipment, summarizing 20 years of grinding technology and application experience in the field of grinding, has launched an automated production line solution for new energy motor shafts. The production line is specially customized for the precision processing of new energy motor shafts and other core components, with a maximum processing length of 500mm and a maximum processing diameter of 320mm, which significantly improves the processing efficiency and precision, and is especially suitable for high-volume, high-precision grinding of motor shafts for new energy vehicles.

柔性装夹+高硬磨削

Flexible clamping + high-hardness grinding

驱动电机作为新能源汽车产业链中的核心关键部件，其部件中的电机轴又是整个驱动电机中的关键零件，堪称动力传输的“枢纽”。

它承担着将动力精准传递至车轮或其他传动系统的重任，其加工质量直接影响到新能源汽车动力系统的性能，不同结构的新能源汽车电机轴的加工方式和路线有所差异，杰克智能装备研发的电机轴产线采用柔性装夹和高硬材料磨削能很好的满足这一特点。

As a core component in the new energy vehicle industry chain, the motor shaft within the drive motor is a critical part of the entire drive motor system, serving as the “hub” for power transmission. It is responsible for precisely transmitting power to the wheels or other transmission systems, and its manufacturing quality directly impacts the performance of the new energy vehicle's power system. Different structural designs of new energy vehicle motor shafts require varying manufacturing methods and processes. The motor shaft production line developed by Jack Intelligent Equipment, which employs flexible clamping and high-hardness material grinding, effectively addresses these requirements.

双主轴驱动+高精磨削

Dual spindle drive + high precision grinding

新能源汽车电机轴特殊的外形设计也给加工过程带来了极大挑战。电机轴在磨削加工时极易出现弹性变形和共振现象。电主轴磨削不仅对精度要求极高，还需完成台阶等复杂形状的加工任务，这无疑对磨床的精度控制、刚性、减振、动态响应、加工效率和加工成本都提出了近乎苛刻的要求，而杰克智能装备的双驱磨床加宽砂轮磨床联线的解决方案能很好的解决加工过程中的各类问题。

The unique design of the motor shaft for new energy vehicles also poses significant challenges during the machining process. During grinding operations, the motor shaft is highly prone to elastic deformation and resonance phenomena. Grinding of electric spindles not only demands extremely high precision but also requires the completion of complex shapes such as steps, which imposes nearly苛刻 requirements on the grinding machine's precision control, rigidity, vibration damping, dynamic response, processing efficiency, and processing costs. However, Jack Intelligent Equipment's dual-drive grinding machine with a wide grinding wheel grinding machine line solution effectively addresses various issues encountered during the processing process.

产线特点

/ Main Features



高速磨削性能卓越
Excellent high-speed grinding performance

配备120m/s的CBN，具备对宽度在300mm范围内的电动车电机轴中间转子位置一次性直切高精密磨削加工方式，专为高速削设计在提升磨削速度的同时保证工件表面质量。

Equipped with 120m/s CBN, it is capable of one-time straight cutting and high-precision grinding of electric vehicle motor shaft intermediate rotors with a width of 300mm. It is specially designed for high-speed cutting to improve grinding speed while ensuring workpiece surface quality.



双主轴双驱动
Dual spindle, dual drive

采用头、尾架双主轴双驱动同步旋转技术，取消传统的头架拨杆，避免因夹具更换造成的掉头和二次重新装夹，大幅提高加工效率与定位精度和精确度。

The use of dual spindle dual drive synchronous rotation technology at the head and tail stocks eliminates the traditional headstock lever, avoiding the need for turning and re-clamping due to fixture changes, thereby significantly improving processing efficiency, positioning accuracy, and precision.



稳定的加工效果
Stable processing results

采用直线电机驱动，全闭环控制系统保证X轴定位精度长期稳定，减少设备误差导致的损失。

The linear motor drive and fully closed-loop control system ensure long-term stability of the X-axis positioning accuracy, reducing losses caused by equipment errors.



智能测量系统加持
Enhanced with intelligent measurement system

配置外径在线测量、端面在线测量、消空程防碰撞、在线动平衡系统，以及具有恒温水冷功能的多级磨削液过滤系统，提升设备自动化水平，确保量产中加工精度的稳定性，应对复杂生产需求。

Configure online outer diameter measurement, online end face measurement, dead space elimination and collision prevention, online dynamic balancing system, and multi-stage grinding fluid filtration system with constant temperature water cooling function to enhance equipment automation, ensure stable machining accuracy in mass production, and meet complex production requirements.

典型加工零件

/ Typical machined parts



杰克GMCS-400高速数控外圆磨床(双驱)

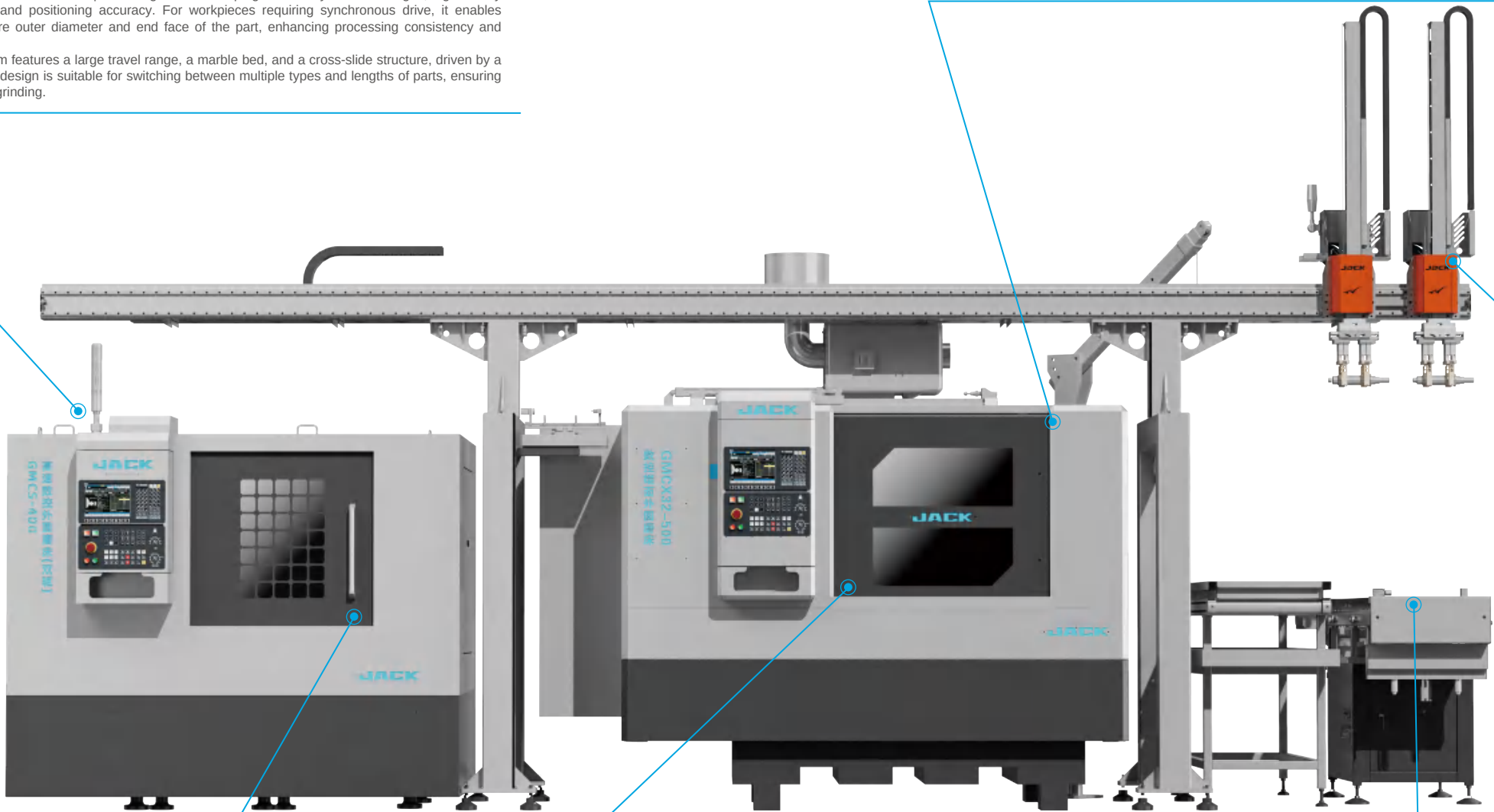
Jack GMCS-400 High-speed CNC cylindrical grinding machine

- 1、采用头、尾架双主轴双驱动同步旋转技术，取消传统的头架拨杆，避免因夹具更换造成的掉头和二次重新装夹，大幅提高加工效率与定位精度，对满足同步驱动的工件，可实现一次装夹，磨削整根零件的外圆及端面，提升加工一致性和精确度。
- 2、工件顶紧采用大行程，大理石床身，十字滑台式结构，配用伺服电机加滚珠丝杠驱动，适用多品种、长短零件切换，保证恒力矩顶紧工件磨削。
1. Utilizes dual-spindle, dual-drive synchronous rotation technology with head and tailstocks, eliminating the traditional headstock lever. This eliminates the need for repositioning and re-clamping caused by fixture changes, significantly improving processing efficiency and positioning accuracy. For workpieces requiring synchronous drive, it enables single-clamping to grind the entire outer diameter and end face of the part, enhancing processing consistency and precision.
2. The workpiece clamping system features a large travel range, a marble bed, and a cross-slide structure, driven by a servo motor and ball screw. This design is suitable for switching between multiple types and lengths of parts, ensuring constant torque clamping during grinding.

杰克GMCSX32-500高速宽砂轮外圆磨床

Jack GMCSX32-500 High-Speed Wide Grinding Wheel External Grinding Machine

- 1、此磨床设备具备对宽度在300mm范围内的电动车电机轴中间转子位置一次性直切高精磨削加工方式
- 2、一次性同时磨削端面和外圆，在砂轮宽度满足的条件下可以一次性磨削多个台阶及端面，可实现成形磨削，零件的外形越复杂越能体现该机床的优势，
1. This grinding machine is capable of performing high-precision grinding on the intermediate rotor position of electric vehicle motor shafts with a width of up to 300 mm in a single pass.
2. It can simultaneously grind the end face and outer circumference in a single pass. Under conditions where the grinding wheel width is sufficient, it can grind multiple steps and end faces in a single pass, enabling form grinding. The more complex the part's shape, the more the advantages of this machine tool are highlighted.



桁架机械手

Truss manipulator

- 采用桁架式机械手，从取料、上料、下料全自动化，充分利用立体空间，减少占地面积，具备作稳定，刚性好，运动平稳，维护简单等特点。
- The use of flexible multi-joint robots can meet the requirements of different postures, angles, and torque sensing required for loading and unloading; Less space, high cycle time and low cost

砂轮高效磨削

High-efficiency grinding with grinding wheels

- 采用120m/s的CBN砂轮高速磨削，专为高速磨削设计，在提升磨削速度的同时保证工件表面质量，适用于批量电机轴生产高精度、高硬度的外圆磨削加工。
- High-speed grinding with a 120 m/s CBN grinding wheel, specially designed for high-speed grinding, improves grinding speed while ensuring workpiece surface quality, and is suitable for high-precision, high-hardness external cylindrical grinding of motor shafts in batch production.

自动在线检测

Automatic online detection

- 配置中原精密或马波斯的自动测量仪(端面测量和径向测量)，实现闭环自动磨削工作循环，以保证加工尺寸精度，可以根据用户的具体要求进行组合(也可以根据用户的要求进行配置其它量仪)。
- Configure Zhongyuan Precision or Marposso automatic measuring instruments (end face measurement and radial measurement) to achieve a closed-loop automatic grinding work cycle, ensuring processing dimensional accuracy. These can be combined according to specific user requirements (other measuring instruments can also be configured according to user requirements).

仓储式料架

Storage racks

- 充分利用空间，以较小的占地面积，实现大容量新能源电机轴毛坯件和成品件的仓储，一次上料可以满足自动化产线一天的生产量和成品存放。
- Make full use of the space, with a small footprint, to achieve a large capacity of new energy motor shaft embryo parts and finished parts of the storage, a loading can meet the automated production line a day's production volume and finished product storage.

全自动顶尖生产线

Automatic thimble production line

产线概述

/ Summary

应用多台数控磨床、数控车床、机器人、桁架输送线设备高效衔接，将磨削、车、焊接、打码、搬运等加工工序无缝衔接，实现高精度顶针从毛坯到成品的全自动生产，具备无人化生产、激光自动化检测、数字化孪生展现等功能、生产出来的顶针跳动 $\leq 0.003\text{mm}$ 、光洁度 $Ra \leq 0.2$ 、具有机械性能稳定、精度高、全自动等特点。

With the application of multiple CNC grinding machines, CNC lathes, robots and truss conveyor line equipment, processes of grinding, turning, welding, coding and handling are seamlessly connected to realize the fully automatic production of high-precision thimble from blank to finished product, with functions such as unmanned production, laser automatic detection, digital twin display, etc. The produced thimble run-out $\leq 0.003\text{mm}$, finished roughness $Ra \leq 0.2$. The fully automatic line has stable mechanical performance, high precision and high accuracy.

产线特点

/ Features



全自动化生产

Fully automated production

通过关节机器人和仓储式料架系统可以有效降低人力成本，质量及生产效率更稳定，适应更复杂的生产环境，替代危险作业，长时间作业。

Joint robots and storage rack systems can effectively reduce labor costs, enabling stable quality and production efficiency, adapting to more complex production environments and it can replace dangerous operations, and operate for a long time.



在线检测激光打标

On-line detection of laser marking

采用激光在线检测，检测完成的成品自动激光打标机进行编码、二维码、LOGO打标，可实现零部件追溯、防伪等功能。

Adopting laser online inspection, detecting finished products, automatic coding, 2D code and LOGO marking enabling parts traceability and anti-counterfeiting.



性能稳定精度高

Stable performance and high precision

采用的是标准化生产，能够减少和降低生产过程中由于人的不确定性因素所导致的物料消耗，确保产品质量达标和规格统一。

Standardized production is adopted, which can reduce the material consumption caused by human uncertainty factors in the production process, and ensure that the product quality meets the standard and the specifications are unified.

激光打码

Laser coding

采用自动激光打标机进行编码、二维码、LOGO打标，可实现零部件追溯、防伪等功能。

Automatic laser marking machine is used for coding, QR code and LOGO marking, which enables parts traceability, anti-counterfeiting and other functions

自动化焊接

Automated welding

顶针毛坯与头部的焊接工序由自动化系统全程控制，并设置有转台，以提升生产效率。

The welding process between the thimble blank and the head is fully controlled by the automation system, and a rotary table is installed to improve production efficiency

仓储式上料系统

Storage feeding system

充分利用空间，以较小的占地面积，实现大容量料仓存储，一次上料可以满足自动化产线一天的生产量。

Make full use of the space and realize large-capacity silo type storage with a small space, and one-time loading can meet the production volume of the automated production line for one day.

关节机器人

Joint robot

采用灵活的多关节机器人，能满足在上下料时所需要的不同姿态、角度、力矩感应等要求，应用场地狭小、节拍需求高，性价比非常高。

The use of flexible multi-joint robots can meet the requirements of different postures, angles, and torque sensing required for loading and unloading; Less space, high cycle time and low cost.

JK20系列磨床

JK20 series grinder

适用于批量磨削轴类零件，采用高精度标准，拥有强大的磨削能力，具有高效率，性能稳定等。

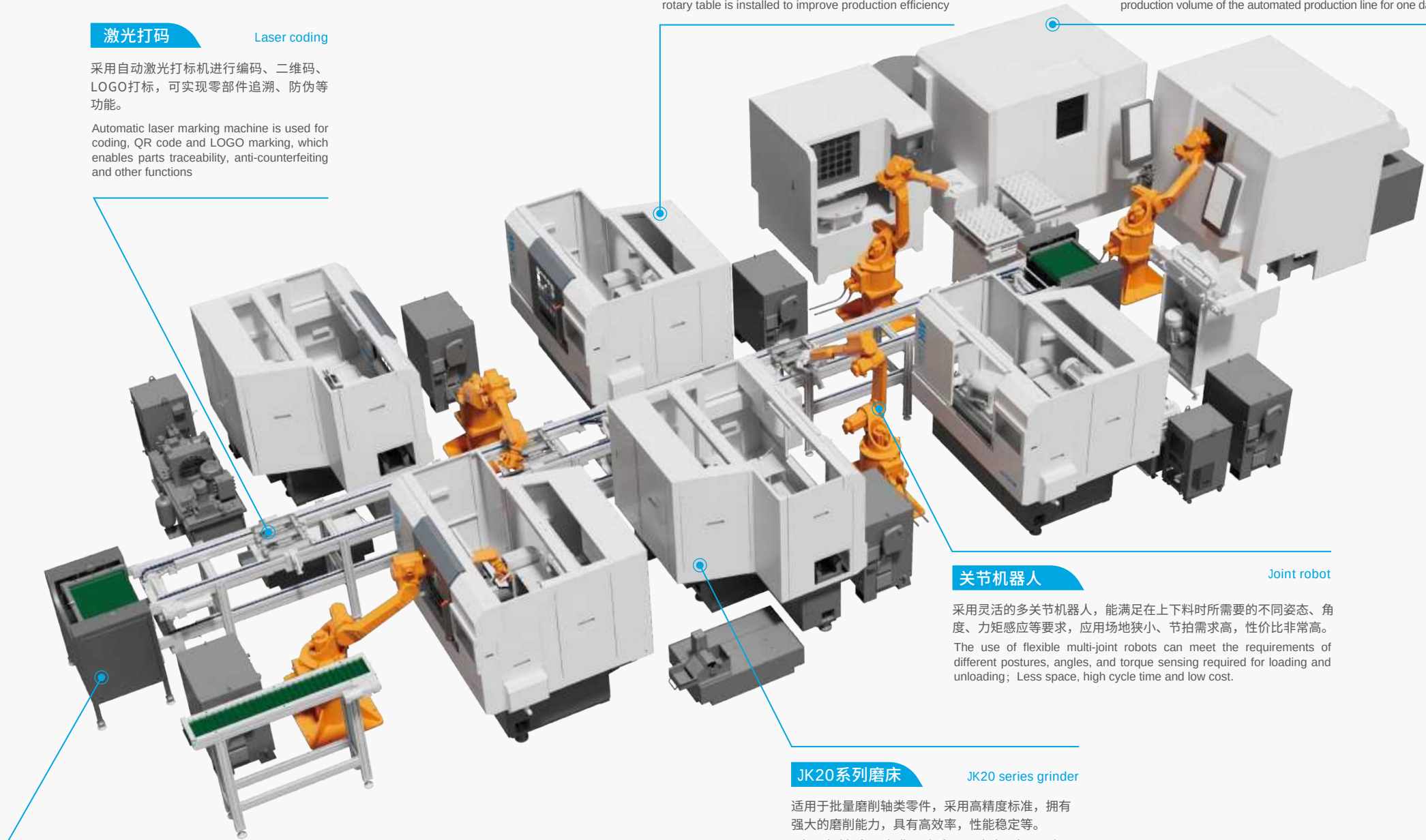
It is suitable for grinding shaft parts in batches, adopts high-precision standards with strong grinding ability, high efficiency, and stable performance.

在线检测系统

Online detection system

采用高精度检测仪，对成品零件进行实时检测，实时反馈，并进行数据统计汇总分析。

Using high-precision detectors, real-time testing of finished parts, real-time feedback, and statistical summary analysis of data.



20 SERIES CNC GRINDER

MK1320 / MK1620

数控外圆磨床
CNC cylindrical grinding machine

端面数控外圆磨床
CNC cylindrical grinding machine for end face



自动化成套解决
方案服务商

Service provider
of complete
automation solutions

20磨床系列



MK1320Economical

数控外圆磨床(简易)NC Cylindrical Grinder (economical)



典型加工零件
/ Typical machined parts



机床主要特点

/ Main features

- 

批量生产轴类零件
Mass production of shaft parts
- 

杰克智能装备的自动测量仪
The precision automatic measuring instrument
- 

杰克智能装备的数控操作系统
JACK CNC system
- 

自动的定量润滑
Automatic dosing lubricating system

机床配置

/ Machine configuration

- 适用于批量生产轴类零件;
 - 应用杰克智能装备有限公司的数控操作系统;
 - 应用杰克智能装备的自动测量仪,实现闭环自动磨削工作循环,以保证加工尺寸精度;
 - 配置电气柜(配置电气柜空调)、内置液压与机床组合,具有占地面积小等优点;
 - 头架主轴及尾架主轴选用4#莫氏;
 - 尾架采用精密滚珠做直线运动,具有气压伸缩功能;
 - 配置自动的定量润滑,确保丝杠的润滑;
 - 配置加大水箱和磁性分离器;
 - 配置的防护罩为简易型。
- This machine is suitable for mass production of shaft parts.
 - Use of CNC operating system of Jack Intelligent Equipment Co.
 - The application of Jack's intelligent equipment automatic measuring instrument, to achieve closed-loop automatic grinding work cycle, to ensure the accuracy of machining dimensions.
 - The machine is equipped with an eletrical cabinet (with air onditoner) with built-in hydraulic pressure, leading to less space need.
 - The spindle of 4# Morse can be selected for headstock and tailstock.
 - The tailstock adopts precise ball linear motion with adjustable pneumatic Pressure.
 - The machine is equipped with automatic dosing lubricating system to ensure adequate lubrication of rails and screw.
 - Equipped with larger water tank and magnetic separator.
 - The protective cover of the machine is simple.

砂轮架

/ Grinding wheel holder

- 砂轮架进给
砂轮架进给和工作台进给均采用交流伺服电机通过滚珠丝杠驱动,滚珠丝采用台湾上银或银泰也可以根据用户的要求进行配置其它品牌的滚珠丝杠);
 - 导轨
砂轮架、工作台导轨采用贴塑导轨,以提高其抗震性及灵敏性;
 - 砂轮主轴
砂轮主轴系可根据用户的需要配置:
a、普通三片瓦结构; b、动压系列; c、动静压系列; D、直驱电主轴。
- The grinding carriage feed
The grinding carriage feed and worktable feed are driven by AC servo motor through ball screw, which is made by Taiwan Brand (an alternative brand of ball screw can also be equipped according to the user's requirements)
 - Guide
The grinding carriage and worktable are equipped with plastic-coated guide rails to improve its shock resistance and sensitivity;
 - The wheel spindle
The wheel spindle can be equipped according to user's needs: a) common 3-tile structure; b) dynamic pressure series; c) Hydrostatic pressure series.

工作精度

/ Working accuracy

外圆圆度 Outer Roundness	外圆圆柱度 Outer Cylindricity	外圆表面粗糙度 Outer roughness
0.0015 mm	0.005 mm	Ra≤0.32 μm

主要规格和技术参数

/ Main specifications and technical parameters

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
磨削直径范围 Grinding diameter range	Φ8-Φ200mm	头架顶尖 Headstock top	4#Mt
两顶尖间的距离 Distance between the two tops	500/750 mm	尾架顶尖 Tailstock top	4#Mt
头架中心到工作台面距离 Distance from the center of the headstock to the working table	125mm	砂轮规格 Grinding wheel specification	400x(20~40)x127mm
工作台纵向最大移动量 Maximum longitudinal movement of worktable	600mm/850mm	砂轮电机率 Grinding wheel motor rate	4Kw
工作台移动速度范围 Worktable movement speed range	0.01~4m/min	砂轮最大线速度 Maximum linear speed of grinding wheel	40M/s
工作台回转角度 Table rotation angle	-5~+9°	砂轮架最小进给量 Minimum feed of grinding wheel holder	0.001mm
头架主轴转速 Headstock spindle speed	60,85,230,120,170,460r/min	工作台最小进给量 Minimum worktable feed	0.001mm
尾架套筒移动量 Tailstock sleeve movement amount	25mm	电机总功率 Total motor power	9Kw
最大工件重量 Maximum workpiece weight	20Kg	机床重量 Machine weight	2200kg

MK1320

Full cover

数控外圆磨床带机械手(全防护)
CNC Cylindrical Grinder equipped with manipulator (Full cover)



典型加工零件
/ Typical machined parts



机床主要特点

/ Main features

- 

三菱PLC机械手系统
PLC for manipulator by Mitsubishi
- 

中原精密的自动测量仪
Precision automatic measuring by Zhongyuan
- 

闭环自动磨削工作循环
Realize closed-loop automatic grinding cycle
- 

配置电气柜
Equipped with an electrical cabinet
- 

自动的定量润滑
Automatic dosing lubricating system

机床配置

/ Machine configuration

- 机械手系统采用三菱PLC (用户可以根据要求进行选配其他品牌PLC);
 - 头架为伺服驱动, 具有定位准停功能;
 - 本机械手主要用于自动加工及上下料, 采用龙门式桁架机械手;
 - 本机械手操作简单方便, 一人可同时操作多台, 并且加工产品稳定;
 - 适用于批量生产轴类零件;
 - 采用武汉华中数控股份有限公司的世纪星HNC-808xpG/GS两轴联动系统(也可根据用户的要求进行配置其它数控系统)
 - 配置中原精密的自动测量仪(端面测量和径向测量)在线测量, 实现闭环自动磨削工作循环, 以保证加工尺寸精度;
 - 配置电气柜(可配置电气柜空调)、油箱与机床组合为一体, 具有占地面积小等优点。
 - 尾架采用精密滚珠做直线运动, 具有气压伸缩功能;
 - 配置自动的定量润滑, 确保丝杠的润滑
 - 头架主轴及尾架主轴选用4 # 莫氏。
 - 配置加大水箱和磁性分离器或纸质过滤器。
 - 配置的防护罩为半封闭型, 确保安全操作。
- Mitsubishi PLC is used for the robotic system (users can choose other brands of PLC according to their requirements)
 - The head rack is servo driven with precise positioning and stopping
 - This robot is mainly used for automatic processing and loading and unloading, using gantry type manipulator
 - The manipulator is simple and convenient to operate. One person can operate multiple units at the same time
 - This machine is suitable for mass production of shaft parts.
 - This machine is equipped with Century Star HNC-808x/Gs two-axis system of Wuhan Huazhong Numerical Control (an alternative CNC system can also be equipped based on user's needs).
 - It is equipped with the precision automatic measuring instrument made by Zhongyuan end face measurement and radial measurement for on-line measurement, to realize closed-loop automatic grinding cycle in order to guarantee accuracy
 - The machine is equipped with an electrical cabinet electrical cabinet air conditioner and built-in hydraulic pressure
 - The tailstock uses precise ball linear motion with adjustable pneumatic pressure
 - The machine is equipped with automatic dosing lubricating system to ensure adequate lubrication of rails and screw
 - The spindle of headstock and tailstock of 4# Morse can be selected.
 - Equipped with larger water tank and magnetic separator or paper filter
 - The machine shield is fully covered to ensure safe operation

砂轮架

/ The grinding carriage

- 砂轮架进给
砂轮架进给和工作台进给均采用交流伺服电机通过滚珠丝杠驱动, 滚珠丝杠采用台湾品牌(也可以根据用户的要求进行配置其它品牌的滚珠丝杠);
 - 导轨
砂轮架、工作台导轨采用贴塑导轨, 以提高其抗震性及灵敏性;
 - 砂轮主轴
砂轮主轴系可根据用户的需要配置:
a、普通三片瓦结构; b、动压系列; c、动静压系列;D、直驱电主轴.
- Grinding wheel holder feed
The grinding wheel holder feed and table feed are driven by AC servo motor through ball screw of Taiwan brand (other brands of ball screw can also be configured according to the user's requirements).
 - Guide Rail
The grinding carriage and worktable are equipped with plastic-coated guide rails to imprpve its earthquake resistance and sensitivity;
 - Grinding wheel spindle
Grinding wheel spindle system can be configured according to user's needs: a. Common 3-tile structure; b. Dynamic pressure series; c. Hydrostatic pressure series

工作精度

/ Working accuracy

外圆圆度 Outer Roundness	外圆圆柱度 Outer Cylindricity	外圆表面粗糙度 Outer Roughness
0.0015 mm	0.005 mm	Ra≤0.32 μm

主要规格和技术参数

/ Main specifications and technical parameters

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两顶尖间的距离 Distance between the two tops	500/750 mm	尾架顶尖 Tailstock top	4#Mt
头架中心到工作台面距离 Distance from the center of the headstock to the working table	125mm	砂轮规格 Grinding wheel specification	20-40/60/80mm
工作台纵向最大移动量 Maximum longitudinal movement of worktable	600/850	砂轮电机率 Grinding wheel motor rate	4/5.5Kw
工作台移动速度范围 Table movement speed range	0.01~4m/min	砂轮最大线速度 Maximum linear speed of grinding wheel	40M/s
工作台回转角度 Table rotation angle	-5~+9°	砂轮架最小进给量 Minimum feed of grinding wheel holder	0.001mm
头架主轴转速 Headstock spindle speed	0~500r/min	工作台最小进给量 Minimum table feed	0.001mm
尾架套筒移动量 Tailstock sleeve movement amount	25mm	电机总功率 Total motor power	9/11.5Kw
最大工件重量 Maximum workpiece weight	20Kg	机床重量 Machine weight	2500kg

MK1620Full protection

端面数控外圆磨床(全封闭)
End face CNC cylindrical grinding machine (full cover)



典型加工零件
/ Typical machined parts



机床主要特点

/ Main features

- 闭环自动磨削工作循环
Realize closed-loop automatic grinding cycle
- 中原精密的自动测量仪
The precision automatic measuring instrument by Zhongyuan
- 配置电气柜
Equipped with an electrical cabinet
- 自动的定量润滑
Automatic dosing lubricating system
- 全封闭式防护罩
Fully covered machine to ensure safety

机床配置 / Machine configuration

- 适用于批量生产轴类零件，一次性同时磨削端面和外圆，在砂轮宽度满足的条件下可以一次性磨削多个台阶及端面，可实现成形磨削。零件的外形越复杂越能体现该机床的优势，在条件许可的情况下，可实现一人操作多台；
 - 采用武汉华中数控股份有限公司的世纪星HNC-808DG两轴联动系统(也可根据用户的要求进行配置其它数控系统；
 - 配置中原精密的自动测量仪在线测量，实现闭环自动磨削工作循环，以保证加工尺寸精度，可以根据用户的具体要求进行组合(也可以根据用户的要求进行配置其它量仪)；
 - 配置独立电气柜 (配置电气柜空调)、独立油箱；
 - 尾架采用精密滚珠做直线运动，具有气压伸缩功能；
 - 头架主轴及尾架主轴选用4 # 莫氏；
 - 配置自动的定量润滑泵，确保丝杠的润滑充分；
 - 配置的防护罩为全封闭型，确保安全操作；
 - 配置加大水箱和磁性分离器或纸质过滤器。
- The machine is suitable for mass production of shaft parts, grinding end faces and external cylinders at the same time, grinding multiple steps and end faces at one time if the grinding wheel width is satisfied, and forming grinding is possible. The more complex the part shape, the more the advantages of the machine can be realized, and if conditions permit, multiple machines can be operated by one person
 - This machine is equipped with Century Star HNC-808xG/GS two-axis system of Wuhan Huazhong Numerical Control (an alternative NC system can also be equipped based on user's needs)
 - It is equipped with the precise automatic measuring instrument made by Zhongyuan (end face measurement) for on-line measurment to realize closed-loop automatic grinding cycle in order to guarantee accuracy
 - Independent electrical cabinets (equipped with electrical cabinet air conditioning), independent oil tanks;
 - The tailstock uses precise ball linear motion with pneumatic adjustable pressure
 - The spindle of headstock and tailstock of 4# Morse can be selected;
 - Equipped with automatic dosing lubrication pump to ensure adequate lubrication of rail and screw;
 - Equipped with a full cover to ensure safe operation;
 - Equipped with enlarged water tank and magnetic separator or paper filter.

砂轮架 / The grinding carriage

- 砂轮架进给
砂轮架进给和工作台进给均采用交流伺服电机通过滚珠丝杠驱动，滚珠丝杠采用台湾品牌(也可以根据用户的要求进行配置其它品牌的滚珠丝杠)；
 - 导轨
砂轮架、工作台导轨采用贴塑导轨，以提高其抗震性及灵敏性；
 - 砂轮架主轴
砂轮架主轴可以采用动静压、静压或者直驱电主轴。
- Grinding wheel holder feed
The grinding wheel holder feed and table feed are driven by AC servo motor through ball screw, and the ball screw is made of Taiwan brand (other brands of ball screw can also be configured according to the user's requirements).
 - Guide
The grinding wheel holder and table guide adopt plastic guide to improve its shock resistance and sensitivity.
 - Grinding wheel spindle
Grinding wheel spindle system can be configured according to customer's needs: a. Common 3-tile structure; b. Dynamic pressure series; c. Hydrostatic pressure series.

工作精度 / Working accuracy

外圆圆度 Outer Roundness	外圆圆柱度 Outer Cylindricity	外圆表面粗糙度 Outer Roughness	端面表面粗糙度 Roughness of end face
0.0015 mm	0.005 mm	Ra≤0.32 μm	Ra≤0.8 μm

主要规格和技术参数 / Main specifications and technical parameters

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
磨削直径范围 Grinding diameter range	Φ8-Φ200mm	头架顶尖 Headstock top	4#Mt
两顶尖间的距离 Distance between the two tops	500/750 mm	尾架顶尖 Tailstock top	4#Mt
头架中心到工作台面距离 Distance from the center of the headstock to the working table	125mm	砂轮规格 Grinding wheel specification	500x(20~125)x203mm
工作台纵向最大移动量 Maximum longitudinal movement of worktable	600/850mm	砂轮电机率 Grinding wheel motor rate	5.5/7.5Kw
工作台移动速度范围 Table movement speed range	0.01~4m/min	砂轮最大线速度 Maximum linear speed of grinding wheel	40m/s
工作台回转角度 Table rotation angle	-5~+9°	砂轮架最小进给量 Minimum feed of grinding wheel holder	0.001mm
头架主轴转速 Headstock spindle speed	(0-500r/min)	工作台最小进给量 Minimum table feed	0.001mm
尾架套筒移动量 Tailstock sleeve movement	25mm	电机总功率 Total motor power	12/14Kw
最大工件重量 Maximum workpiece weight	20Kg	机床重量 Machine weight	3000kg

HIGH-SPEED GRINDER SERIES

GMC-400 / GMCS-400 / GMCF-400

高速数控外圆磨床
High-speed CNC cylindrical grinder

高速数控外圆磨床(双驱)
High-speed CNC cylindrical grinder (double-drive)

随动数控磨床
Follow-up CNC grinder



自动化成套解决
方案服务商

Service provider
of complete
automation solutions

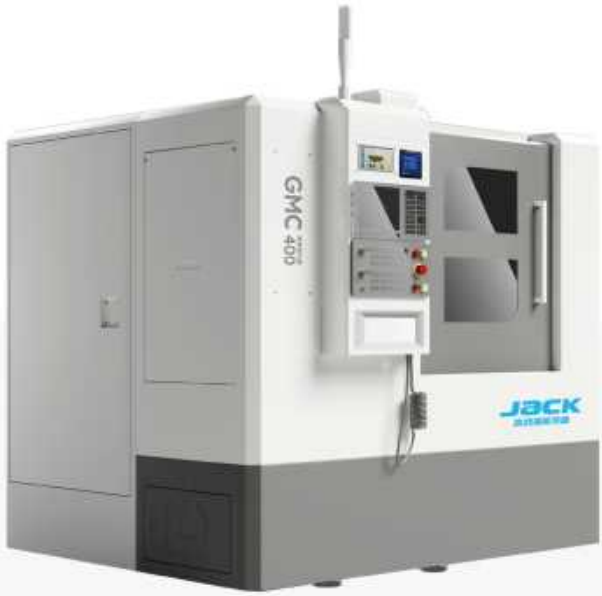
高速磨床系列



GMC-400



微信扫码查看介绍视频



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features



CBN砂轮高速磨削
High speed grinding with
CBN grinding wheel



全封闭式防护罩
Full cover



中原精密或马波斯的
自动测量仪
Automatic measuring
instruments by Zhongyuan
or Marposs



一体式电气柜
Integrated electric cabinet



独立的集中润滑系统
Independent central lubrication

机床配置

/ Machine configuration

- 采用CBN砂轮高速磨削，适用于批量生产高精度、高硬度的轴类零件外圆磨削；
- 采用华中808DG或新代21 TA数控系统（也可以根据用户的要求，配置其它品牌的数控系统）；
- 配置中原精密或马波斯的自动测量仪（端面测量和径向测量），实现闭环自动磨削循环，确保尺寸加工精度；
- 尾架配用高刚性、高精度的密集滚珠直线轴承，具有液压或气压伸缩功能。
- 配置一体式电气柜（配置电气柜空调）；
- 配置独立的集中润滑系统，确保丝杠及导轨的定时定量润滑；
- 配置全封闭式防护罩，外形美观，使用安全可靠。

- High speed grinding with CBN grinding wheel, suitable for mass production of high precision and high hardness outer grinding of shaft parts.
- Adopting Huazhong 808DG or New Generation 21 TA CNC system (other brands of CNC system can also be configured according to customer's requirements).
- Equipped with automatic measuring instruments (end face and radial measurement) of Zhongyuan or Marposs to realize closed-loop automatic grinding cycle to ensure accuracy
- The tailstock is equipped with high rigidity and high precision dense ball linear bearings with adjustable hydraulic or pneumatic pressure.
- Equipped with integrated electrical cabinet (equipped with air conditioner)
- Equipped with independent central lubrication system to ensure the regular and dosing lubrication of the screw and guide.
- Equipped with a fully enclosed protective cover, beautiful appearance, safe and reliable use.

高速数控外圆磨床 HIGH SPEED CNC CYLINDRICAL GRINDER

砂轮架

/ The grinding carriage

- 横向进给
采用安川交流伺服电机通过滚珠丝杠驱动，进给导轨配用Rexroth或THK直线导轨，滚珠丝杠采用台湾品牌 (也可以根据用户的要求，配置其它品牌的滚珠丝杠)。
- 纵向移动
采用安川交流伺服电机通过滚珠丝杠驱动，移动导轨采用V平贴塑导轨，滚珠丝杠采用台湾品牌 (也可以根据用户的要求，配置其它品牌的滚珠丝杠)。
- 砂轮主轴
砂轮主轴均采用高速、高精度滚动轴承式、动静压主轴单元或直驱电主轴。
- 修整主轴
采用高速高精度滚动轴承式主轴单元。

- Lateral feed
The Yaskawa AC servo motor is driven by ball screw, the feed rail is equipped with Rexroth or THK linear rail, and the ball screw is of Taiwan brand (other brands of ball screw can also be configured according to the user's requirements).
- Longitudinal movement
Adopt YASKAWA AC servo motor driven by ball screw, moving guide adopts V-flat shape plastic coated guide, ball screw adopts Taiwan brand (also can configure other brands of ball screw according to user's requirements).
- Grinding wheel spindle
High-speed, high-precision rolling bearing type or hydrostatic spindle is used for the grinding wheel spindle.
- Dressing spindle
Adopt high speed and high precision rolling bearing type spindle unit

工作精度

/ Working accuracy

外圆圆度 Outer Roundness	圆柱度 Outer Cylindricity	粗糙度 Outer Roughness
0.0012 mm	0.003 mm	Ra≤0.32 μm

主要规格和技术参数

/ Main characteristics of machine tool

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
磨削直径范围 Diameter range	Φ8-200mm	砂轮规格 Grinding Wheel Specifications	Φ400xB(≤40)xΦ40mm
最大磨削长度 Distance between two thimbles	400mm	金刚滚轮规格 Diamond Roller Specifications	Φ100x12xΦ20mm
顶尖距 The distance between the tops	460mm	砂轮电机功率 Grinding wheel motor power	5.5KW/22KW
中心高 Centering height	125mm	砂轮线速度 Grinding wheel line speed	90m/s-120m/s
工作台移动速度范围 Movement speed range of worktable	0.01-4m/min	X轴最小 (设定) 单位 X-axis minimum (setting) unit	0.0001mm
头架主轴转速 Headstock spindle speed	0-500(无级可调)r/min	Z轴最小 (设定) 单位 Z-axis minimum (setting) unit	0.0001mm
最大工件重量 Maximum workpiece weight	20kg	电机总功率 Total motor power	12KW/30KW
头架顶尖 Headstock top	4#mt	机床重量 Machine weight	3800kg
尾架顶尖 Tailstock top	4#mt	机床外形尺寸 (长宽高) Machine dimensions (length, width and height)	2000X1500X1800mm

GMCS-400

高速数控外圆磨床(双驱)
High-speed CNC cylindrical grinder (double-drive)



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features

- 

CBN砂轮高速磨削
High speed grinding with
CBN grinding wheel
- 

全封闭式防护罩
Full cover
- 

中原精密或马波斯的
自动测量仪
Automatic measuring
instruments by Zhongyuan
or Marposs
- 

一体式电气柜
Integrated electric cabinet
- 

独立的集中润滑系统
Independent central lubrication

机床配置

/ Machine configuration

- 采用CBN砂轮高速磨削，适用于批量生产高精度、高硬度的轴类零件外圆磨削；

■ 采用华中808DG或新代21 TA数控系统（也可以根据用户的要求，配置其它品牌的数控系统）。

■ 配置中原精密或马波斯的自动测量仪（端面测量和径向测量），实现闭环自动磨削循环，确保尺寸加工精度。

■ 采用头、尾架同步旋转技术，进一步提高工件磨削的圆度要求，圆度≤0.001mm。对满足同步驱动的工件，可实现一次装夹，磨削整根零件的外圆及端面。

■ 工件顶紧采用大行程，滑台式结构，配用伺服电机加滚珠丝杠驱动，适用多品种、长短零件切换，保证恒力矩顶紧工件磨削。

■ 配置一体式电气柜（配置电气柜空调）。

■ 配置独立的集中润滑系统，确保丝杠及导轨的定时定量润滑。

■ 配置全封闭式防护罩，外形美观，使用安全可靠。
- High speed grinding with CBN wheel, suitable for mass production of high precision and high hardness ourter grinding of shaft parts.

■ It is equipped with Huazhong 808DG or new generation 21 TA CNC system (can also be configured according to user requirements, other brands of CNC systems)

■ The machine is equipped with automatic measuring instruments (end face and radial measurement) from Zhongyuan or Marposs to achieve a closed-loop automatic grinding cycle to ensure accuracy.

■ The head and tailstock synchronous rotation technology is adopted to further improve the roundness of the workpiece, which is ≤ 0.001mm, and to grind the entire outer diamter and end face of the part in one clamping for the workpiece.

■ The workpiece clamping adopts a large stroke, sliding table structure with servo motor and ball screw drive, which is suitable for high variety, long and short parts switching to ensure constant torque clamping workpiece grinding.

■ Configuration of integrated electrical cabinet (equipped with air conditioning)

■ Equipped with independent central lubrication system to ensure the regular and dosing lubrication of the screw and guideway

■ Equipped with fully enclosed protective cover, beautiful appearance, safe and reliable use.

砂轮架

/ The grinding carriage

- 横向进给
采用安川交流伺服电机通过滚珠丝杠驱动，进给导轨配用Rexroth或THK直线导轨，滚珠丝杠采用台湾品牌 (也可以根据用户的要求，配置其它品牌的滚珠丝杠)。

■ 纵向移动
采用安川交流伺服电机通过滚珠丝杠驱动，移动导轨采用V平贴塑导轨，滚珠丝杠采用台湾品牌 (也可以根据用户的要求，配置其它品牌的滚珠丝杠)

■ 砂轮主轴
砂轮主轴均采用高速、高精度滚动轴承式、动静压主轴单元或直驱电主轴。

■ 修整主轴
采用高速高精度滚动轴承式主轴单元。
- Lateral feed
The Yaskawa AC servo motor is driven by ball screw, the feed rail is equipped with Rexroth or THK linear rail, and the ball screw is of Taiwan brand (other brands of ball screw can also be configured according to the user's requirements).

■ Longitudinal movement
It is equipped YASKAWA AC servo motor driven by ball screw, moving guide adopts V-flat shape plastic coated guide, ball screw of Taiwan brand (also can configure other brands of ball screw according to user's requirements).

■ Grinding wheel spindle
High-speed, high-precision rolling bearing type or hydrostatic spindle unit is used for the grinding wheel spindle.

■ Dressing spindle
Adopt high speed and high precision rolling bearing type spindle

工作精度

/ Working accuracy

外圆圆度 Outer Roundness	圆柱度 Cylindricity	外圆粗糙度 Outer Roughness	垂直度 Perpendicularity	端面粗糙度 End face roughness
0.001 mm	0.002 mm	Ra≤0.32 μm	0.002/30mm	Ra≤0.63 μm

主要规格和技术参数

/ Main characteristics of machine tool

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
磨削直径范围 Diameter range of grinding	Φ8-180mm	砂轮规格 Grinding Wheel Specifications	Φ400×B(≤40)×Φ40mm
最大磨削长度 Distance between two thimbles	400mm	金刚滚轮规格 Diamond Roller Specifications	Φ120×18×Φ20mm
顶尖距 The distance between tops	420mm	砂轮电机功率 Grinding wheel motor power	5.5KW/22KW
中心高 Centering height	125mm	砂轮线速度 Grinding wheel line speed	90m/s-120m/s
工作台移动速度范围 Movement speed range of worktable	0.01-4m/min	X轴最小(设定)单位 X-axis minimum (set) unit	0.0001mm
头架主轴转速 Headstock spindle speed	0-500r/min	Z轴最小(设定)单位 Z-axis minimum (setting) unit	0.0001mm
最大工件重量 Maximum workpiece weight	20kg	电机总功率 Total motor power	12KW/30KW
头架顶尖 Headstock top	4#mt	机床重量 Machine weight	3800kg
尾架顶尖 Tailstock top	4#mt	机床外形尺寸(长宽高) Machine dimensions (length, width and height)	2100X1500X1800mm

GMCF-400

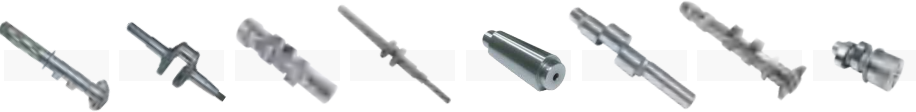
随动数控磨床

Follow-up CNC grinder



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features



CBN砂轮高速磨削
High speed grinding with
CBN grinding wheel



全封闭式防护罩
Full cover



一体式电气柜
Integrated electric cabinet



独立的集中润滑系统
Independent central lubrication

机床配置

/ Machine configuration

- 采用CBN砂轮高速磨削，适用于批量生产高精度、高硬度的轴类零件外圆磨削；
- 采用(LYNUC或华中)数控系统（也可以根据用户的要求，配置其它品牌的数控系统）配备三个伺服轴：砂轮架进给（X）、工件头架回转（C）、砂轮架纵向移动（Z），其中砂轮架进给与工件头架回转两轴联动，实现凸轮随动磨削；
- 三轴两联动，随动磨削凸轮非圆轮廓；
- 尾架配用高刚性、高精度的密集滚珠直线轴承，具有液压或气压伸缩功能；
- 配置独立的集中润滑系统，确保丝杠及导轨的定时定量润滑；
- 配置全封闭式防护罩，外形美观，使用安全可靠。
- High speed grinding with CBN wheel, suitable for mass production of high precision and high hardness outer diameter grinding of shaft parts
- Three-servo-axis from Lynuc or Huazhong (other system also possible based on customer demand) are used: wheel head feed (X), workpiece headstock rotation (C) and wheel head longitudinal movement (Z), where the wheel head feed and workpiece headstock rotation are linked to achieve cam follow grinding.
- Three axes with two linkages, with follow-on grinding of cam non-circular contours.
- The tailstock is equipped with high rigidity and high precision dense ball linear bearings with adjustable hydraulic or pneumatic pressure
- Equipped with independent central lubrication system to ensure regular and dosing lubrication of the screw and guide.
- Equipped with fully enclosed protective cover, beautiful appearance, safe and reliable use

砂轮架

/ Grinding wheel holder

- 横向进给
采用直线电机驱动，进给导轨配用Rexroth或THK直线导轨，滚珠丝杠采用台湾品牌（也可以根据用户的要求，配置其它品牌的滚珠丝杠）。
- 纵向移动
采用安川交流伺服电机通过滚珠丝杠驱动，移动导轨采用V平贴塑导轨，滚珠丝杠采用台湾品牌（也可以根据用户的要求，配置其它品牌的滚珠丝杠）。
- 砂轮主轴
砂轮主轴均采用高速、高精度滚动轴承式、动静压主轴单元或直驱电主轴。
- 修整主轴
采用高速高精度滚动轴承式主轴单元。
- Lateral feed
It is driven by linear motor, with Rexroth or THK linear guide and ball screw of Taiwan brand (other brands of ball screw can also be configured according to customer requirements).
- Longitudinal movement
Adopt YASKAWA AC servo motor driven by ball screw, moving guide adopts V flat plastic guide, ball screw adopts Taiwan brand (also can configure other brands of ball screw according to user's requirements).
- Grinding wheel spindle
The grinding wheel spindles all adopt high-speed, high-precision rolling bearing type or hydrostatic spindle units.
- Dressing spindle
High speed and high precision rolling bearing type spindle unit is adopted.

工作精度(加工标准偏心试件)

/ Working accuracy

圆度 Roundness	圆柱度 Cylindricity	偏心距 Eccentricity	角度偏差 Angle deviation	表面粗糙度 Surface roughness
0.002 mm	0.005 mm	±0.005 mm	±5'	Ra≤0.32 μm

主要规格和技术参数

/ Main characteristics of machine tool

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
磨削直径范围 Diameter range of grinding	Φ8-180mm	砂轮规格 Grinding Wheel Specifications	Φ400xB(≤40)xΦ40mm
最大磨削长度 Distance between two thimbles	400mm	金刚滚轮规格 Diamond Roller Specifications	Φ100x12xΦ20mm
顶尖距 The distance between tops	420mm	砂轮电机功率 Grinding wheel motor power	5.5KW/22KW
中心高 Centering height	125mm	砂轮线速度 Grinding wheel line speed	90m/s-120m/s
工作台移动速度范围 Movement speed range of worktable	0.01-4m/min	X轴最小(设定)单位 X-axis minimum (setting) unit	0.0001mm
头架主轴转速 Headstock spindle speed	0-200r/min	Z轴最小(设定)单位 Z-axis minimum (setting) unit	0.0001mm
最大工件重量 Maximum workpiece weight	20kg	电机总功率 Total motor power	12KW/30KW
头架顶尖 Headstock top	4#mt	机床重量 Machine weight	3800kg
尾架顶尖 Tailstock top	4#mt	机床外形尺寸(长宽高) Machine dimensions (length, width and height)	2000X1500X1800mm

GMCX32-500

高速端面数控外圆磨床High-speed face CNC cylindrical grinding machine



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features

- 闭环自动磨削工作循环
Realize closed-loop automatic grinding cycle
- 中原精密的自动测量仪
The precision automatic measuring instrument by Zhongyuan
- 配置电气柜
Equipped with an electrical cabinet
- 自动的定量润滑
Automatic dosing lubricating system
- 全封闭式防护罩
Fully covered machine to ensure safety

机床配置

/ Machine configuration

- 适用于批量生产轴类零件，一次性同时磨削端面和外圆，在砂轮宽度满足的条件下可以一次性磨削多个台阶及端面，可实现成形磨削。零件的外形越复杂越能体现该机床的优势，在条件许可的情况下，可实现一人操作多台；

■ 采用武汉华中数控股份有限公司的世纪星HNC-808DG两轴联动系统(也可根据用户的要求进行配置其它数控系统；

■ 配置中原精密的自动测量仪在线测量，实现闭环自动磨削工作循环，以保证加工尺寸精度，可以根据用户的具体要求进行组合(也可以根据用户的要求进行配置其它量仪)；

■ 配置独立电气柜 (配置电气柜空调)、独立油箱；

■ 尾架采用精密滚珠做直线运动，具有气压压缩功能；

■ 头架主轴及尾架主轴选用4 # 莫氏；

■ 配置自动的定量润滑泵，确保丝杠的润滑充分；

■ 配置的防护罩为全封闭型，确保安全操作；

■ 配置加大水箱和磁性分离器或纸质过滤机。
- The machine is suitable for mass production of shaft parts, grinding end faces and external cylinders at the same time, grinding multiple steps and end faces at one time if the grinding wheel width is satisfied, and forming grinding is possible. The more complex the part shape, the more the advantages of the machine can be realized, and if conditions permit, multiple machines can be operated by one person;

■ This machine is equipped with Century Star HNC-808xDG two-axis system of Wuhan Huazhong Numerical Control (an alternative NC system can also be equipped based on user's needs);

■ It is equipped with the precise automatic measuring instrument made by Zhongyuan (end face measurement) for on-line measurment to realize closed-loop automatic grinding cycle in order to guarantee accuracy

■ Independent electrical cabinets (equipped with electrical cabinet air conditioning), independent oil tanks;

■ The tailstock uses precise ball linear motion with pneumatic adjustable pressure;

■ The spindle of headstock and tailstock of 5# or Morse can be selected;

■ Equipped with automatic dosing lubrication pump to ensure adequate lubrication of rail and screw;

■ Equipped with a full cover to ensure safe operation;

■ Equipped with enlarged water tank and magnetic separator or paper filter.

砂轮架

/ The grinding carriage

- 砂轮架进给
砂轮架进给和工作台进给均采用交流伺服电机通过滚珠丝杠驱动，滚珠丝杠采用台湾品牌(也可以根据用户的要求进行配置其它品牌的滚珠丝杠)；

■ 导轨
砂轮架、工作台导轨采用贴塑导轨，以提高其抗震性及灵敏性；

■ 砂轮主轴
砂轮架主轴可采用动静压、静压主轴或直驱电主轴，保证机床的高精度；
- Wheelheadeed feed
The feed and table feed are driven by AC servo motor through ball screw, and the ball screw is made of Taiwan brand (other brands of ball screw can also be configured according to the user's requirements).

■ Guide
The table guide adopt plastic guide to improve its shock resistance and sensitivity.

■ Grinding wheel spindle
Grinding wheel spindle system can be configured according to customer's needs: a.Hydrostatic pressure series . Dynamic pressure series; c.

工作精度

/ Working accuracy

外圆圆度 Outer Roundness	外圆圆柱度 Outer Cylindricity	外圆表面粗糙度 Outer Roughness	端面表面粗糙度 Roughness of end face
0.0015 mm	0.005 mm	Ra≤0.4 μm	Ra≤0.8 μm

主要规格和技术参数

/ Main specifications and technical parameters

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
可磨外圆直径 Cylindrical diameter can be ground	φ8-φ320mm	主轴锥孔的莫氏锥度 Morse taper of spindle taper hole	5#Mt
最大可磨长度 Maximum grinding length	500mm	头架中心高 Head frame center height	180mm
顶尖高 Peak height	180mm	驱动电机 Drive motor	变频电机 (1.5Kw , 1500rpm)
工件的最大允许重量 Maximum allowable weight of the workpiece	120kg	尾架套筒锥孔的莫氏锥度 The center sleeve taper hole tailstock	4#
机床重量 Machine weight	4200kg	尾架套筒的移动量 The amount of movement of the tailstock sleeve	≤30 mm
丝杠副移动速度范围 (X轴、Z轴) Speed range of lead screw pair (X axis, Z axis)	7000~0.02mm/min	水泵流量 pump flow	4 M³/H
最小编程增量 (X轴、Z轴) Minimum programming increment (X-axis, Z-axis)	0.0001mm	扬程 lift	36 M
最大移动量 (Z轴) Maximum displacement (Z-axis)	760mm	圆度 Roundness	0.0015 mm
最大移动量 (X轴) Maximum movement (X-axis)	260mm	圆柱度 cylindricity	0.005 mm
砂轮的尺寸 Size of grinding wheel	φ600×B(≤75)×φ305 mm	外圆表面粗糙度 Outer surface roughness	Ra≤0.4μm
砂轮线速度 Grinding wheel linear speed	≤45 M/S		

MK1332

数控外圆磨床 CNC cylindrical grinding machine



微信扫码查看介绍视频



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features



华中数控808XPG/DG
两轴联动系统
Huazhong CNC 808XPG/DG
two-axis linkage system



主要加工圆柱类或
多台阶圆柱类零件
Mainly machining cylindrical or
multi-step cylindrical parts



高性价比
High cost performance

机床配置

/ Machine configuration

■ 本机床为数控外圆磨床，适宜于成批及中小批量生产，主要加工圆柱类或多台阶圆柱类零件，具有较高的性价比；

■ 机床电气的控制系统标配采用武汉华中数控股份有限公司的808XPG/DG两轴联动系统，执行系统用数控伺服驱动器和伺服电机；

■ 操作简单实用，只需经过简单培训即可轻松操作该机床。操作者通过数控操作面板设置纵磨和切入磨的参数，可自动加工不同尺寸的工件。此机床具有工作台自动跳档，可自动磨削一个工件的多档台阶，多档台阶可任意编排纵磨和切入磨顺序和磨削工艺参数；

■ 各运动部件自动润滑，尾架有液动和手动二种方式；

■ 工件、油泵、冷却泵分别由单独的电机驱动。

■ This machine is a CNC cylindrical grinding machine, suitable for batch and small and medium-sized production, mainly processing cylindrical or multi-step cylindrical parts, with high cost performance.

■ It is equipped with the 808XPG/DG two-axis linkage system from Huazhong CNC Co.

■ The machine is easy to operate and can be easily operated with simple training. The operator can set the parameters of longitudinal grinding and plunge-cut grinding through the digital control panel, which can automatically process different sizes of workpieces. The machine is equipped with automatic table jumping and can automatically grind multiple steps of a workpiece, and the multiple steps can be programmed with any grinding sequence and grinding process parameters.

■ Automatic lubrication of each moving part, with two types for tailstock: hydraulic and manual.

■ The workpiece, oil pump and cooling pump are driven by separate motors.

砂轮架

/ Grinding wheel holder

具有自动修整砂轮功能和自动补偿功能。

With automatic grinding wheel dressing function and automatic compensation function

■ 砂轮主轴

砂轮架主轴轴承采用三片瓦动压轴承或者整体式动压滑动轴承，也可以按用户要求选配高精度的动静压主轴、或直驱电主轴。

■ Grinding wheel spindle

The spindle bearing of the grinding wheel holder adopts 3-tile dynamic pressure bearing or integral dynamic pressure sliding bearing, and the high-precision hydrostatic pressure spindle can also be selected according to the customer's requirements.

■ 横向进给

机床工作台的纵向移动、砂轮架横向进给运动均由伺服电机通过滚珠丝杆传动，进给精度高;配置操作面板，人机界面友好、操作方便。也可根据用户需要采用其他系统，并可配置在线自动测量仪。

■ Lateral feed

The longitudinal movement of the machine table and the transverse feeding movement of the grinding wheel holder are driven by servo motor through ball screw, with high feeding accuracy; It is equipped with operation panel, friendly HMI human-machine interface and convenient to operate. Other systems can also be used according to user needs, and the machine can be equipped with an online automatic measuring instrument.

工作精度

/ Working accuracy

圆 度 Roundness	圆柱度 Cylindricity	表面粗糙度 Surface roughness
0.002 mm	0.005 mm	Ra≤0.32 μm

主要规格和技术参数

/ Main characteristics of machine tool

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
最大磨削长度(外圆) Maximum grinding length (outer circle)	500/1000/1500/2000/3000mm	砂轮最大直径 Maximum diameter of grinding wheel	600mm
磨削直径范围(外圆) Grinding diameter range (outer circle)	Φ8-Φ320mm	砂轮最高线速度 Maximum line speed of grinding wheel	45M/s
顶尖中心高 Top Center High	180mm	砂轮架最小进给量 Minimum feed of grinding wheel holder	0.001mm
加工零件最大重量 Maximum weight of machined parts	120Kg	工作台最小进给量 Minimum table feed	0.001mm
尾架套筒移动量 Tailstock sleeve movement amount	30mm	机床总功率 Total machine power	21Kw
头架主轴转速 Headstock spindle speed	26-260r/min	机床总重量 Total weight of machine	3500/4000/4500/6500kg

GMCF36-750

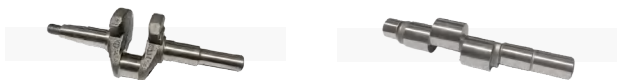
随动数控曲轴磨床

Follow-Up CNC Crankshaft Grinding Machine



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features

- 

CBN砂轮120 m/s的高速磨削
High-speed grinding with CBN grinding wheels at 120 m/s
- 

自主知识产权的随动磨削软件
Proprietary follow-up grinding software
- 

矩形静压导轨+直线电机的精密进给
Precision feed with rectangular hydrostatic guideways + linear motors

机床配置

/ Machine configuration

- 采用LYNUC数控系统（也可以根据用户的要求，配置其它品牌的数控系统） 配备三个伺服轴：砂轮架进给(X轴)、工件头架回转(C轴)、砂轮架纵向移动(Z轴)，其X轴与C轴两轴联动，实现随动磨削曲轴连杆颈；

■ 采用具有公司自主知识产权的随动磨削软件，实现随动高精度非圆磨削；

■ 采用具有公司自主知识产权的高精密滚动轴承高速电主轴，实现 CBN砂轮120 m/s高速磨削；

■ 头架主轴采用高精度、高刚性的电主轴单元，配备高精度时栅，闭环控制达到极高的回转精度和定位精度；

■ 头架配备浮动定心卡盘,高精度定位夹持，实现一次装夹，连续加工整根曲轴所有连杆颈；
- Equipped with the LYNUC CNC system (other brands of CNC systems can also be configured according to user requirements), it features three servo axes: grinding wheel carriage feed (X-axis), workpiece headstock rotation (C-axis), and grinding wheel carriage longitudinal movement (Z-axis). The X-axis and C-axis are linked, enabling follow-up grinding of crankshaft connecting rod necks;

■ Using proprietary follow-up grinding software, the company has achieved high-precision non-circular grinding with follow-up functionality;

■ Using high-precision rolling bearings with the company's proprietary intellectual property rights, the high-speed electric spindle truly achieves high-speed grinding at 120 m/s with CBN grinding wheels;

■ The headstock spindle uses a high-precision, high-rigidity electric spindle unit equipped with a high-precision time gate, and closed-loop control achieves extremely high rotational accuracy and positioning accuracy;

■ The headstock is equipped with a Korean KHAN floating centering chuck, which provides high-precision positioning and clamping, enabling continuous machining of all connecting rod necks on the entire crankshaft with a single clamping.

- 配备高精度、高刚性的液压自定心中心架，满足曲轴高精度磨削要求；

■ 采用高效低能耗的循环过滤系统，充分满足CBN砂轮的高速、高效磨削要求；
- Equipped with a high-precision, high-rigidity hydraulic self-centering center frame from SMW in Germany, it meets the high-precision grinding requirements for crankshafts;

■ The efficient, low-energy consumption recirculating filtration system fully meets the high-speed, high-efficiency grinding requirements of CBN grinding wheels.

砂轮架

/ Grinding wheel holder

- 砂轮架进给

采用公司具有自主知识产权的矩形静压导轨+直线电机的精密进给系统，实现了高加速性能的亚微米级进给。
- 砂轮主轴

采用高精度、高刚性的电主轴单元，配备高精度时栅，闭环控制达到极高的回转精度和定位精度。
- Grinding wheel holder feed

The company's proprietary rectangular hydrostatic guideway + linear motor precision feed system achieves micron-level feed with high acceleration performance.
- Grinding wheel spindle

High-precision, high-rigidity electric spindle units are used, equipped with high-precision time grids, and closed-loop control achieves extremely high rotational accuracy and positioning accuracy.

工作精度

/ Working accuracy

尺寸误差 Dimensional error	圆度 Roundness	圆柱度 Cylindricity
±0.006mm	0.002 mm	0.005 mm
偏心距误差 Eccentricity error	表面粗糙度（外圆） Surface roughness (outer circle)	表面粗糙度（圆弧） Surface roughness (arc)
±0.008mm	Ra≤0.3 μm	Ra≤0.63 μm

主要规格和技术参数

/ Main characteristics of machine tool

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
最大回转直径 Maximum swing diameter	360mm	CBN砂轮最高线速 CBN grinding wheel maximum linear speed	≤120M/s
最大加工长度 Maximum processing length	750mm	机床总功率 Total machine tool power	60Kw
工件最大重量 Maximum workpiece weight	100Kg	机床总重量 Total weight of machine tool	12000Kg
工件最大曲拐偏心距 Maximum eccentricity of workpiece crank	60mm	机床外形尺寸(主机) (长×宽×高) Machine tool external dimensions (main unit) (L × W × H)	3700×2400×2200mm
CBN砂轮规格 CBN grinding wheel specifications	Φ600×Φ40×Bmm		

GMCF36-1500

高速随动数控磨床

High-speed servo-controlled CNC grinding machine



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features

- 采用大、小双磨头、双进给结构
Adopts a large and small double grinding head and double feed structure
- CBN砂轮120 m/s的高速磨削
High-speed grinding with CBN grinding wheels at 120 m/s
- 连续磨削各种异形复合面及凹面
Continuous grinding of various irregular composite surfaces and concave surfaces

机床配置

/ Machine configuration

- 采用LYNUC数控系统（也可以根据用户的要求，配置其它品牌的数控系统）配备四个伺服轴：砂轮架进给（X1轴、X2）、工件头架回转（C轴）、拖板纵向移动（Z轴），其X轴与C轴两轴联动，实现随动磨削非圆轮廓；

■ 采用具有我公司自主知识产权的随动磨削软件，实现随动高精度非圆磨削；

■ 采用具有自主知识产权的高精密滚动轴承高速电主轴，实现CBN砂轮120 m/s的高速磨削；

■ 头架主轴采用高精度、高刚性的电主轴单元，配备高精度时栅，闭环控制达到极高的回转精度和定位精度；

■ 采用高效低能耗的循环过滤系统，充分满足CBN砂轮的高速、高效磨削要求。
- Equipped with the LYNUC CNC system (other brands of CNC systems can also be configured according to user requirements), it is equipped with four servo axes: grinding wheel carriage feed (X1 axis, X2), workpiece headstock rotation (C axis), and saddle longitudinal movement (Z axis). The X axis and C axis are linked to achieve follow-up grinding of non-circular contours;

■ Using our company's proprietary adaptive grinding software, we achieve high-precision non-circular grinding;

■ Adopting a high-precision rolling bearing high-speed electric spindle with independent intellectual property rights, it achieves high-speed grinding of CBN grinding wheels at 120 m/s;

■ The headstock spindle uses a high-precision, high-rigidity electric spindle unit equipped with a high-precision time gate, and closed-loop control achieves extremely high rotational accuracy and positioning accuracy;

■ The efficient, low-energy consumption recirculating filtration system fully meets the high-speed, high-efficiency grinding requirements of CBN grinding wheels.

砂轮架

/ Grinding wheel holder

- 砂轮架进给

采用具有自主知识产权的直线导轨+直线电机的精密进给系统，实现了高性能的微米级进给。
- Grinding wheel holder feed

The efficient, low-energy consumption recirculating filtration system fully meets the high-speed, high-efficiency grinding requirements of CBN grinding wheels..

工作精度

/ Working accuracy

基圆跳动误差 Base circle runout error	非圆截面位角误差 Non-circular section angle error	非圆截面轮廓曲线误差 Non-circular cross-section contour curve error
0.02 mm	±8′	±0.01 mm
非圆截面相邻升程误差 Non-circular cross-section adjacent lift error	非圆截面与母线平行度 Non-circular cross-section and parallelism with the generatrix	磨削表面粗糙度 Surface roughness of grinding
0.005mm/°	0.005 mm	Ra≤0.4 μm

主要规格和技术参数

/ Main specifications and technical parameters

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
最大加工长度 Maximum processing length	1500mm	砂轮最高线速（φ200mmCBN砂轮） Maximum linear speed of grinding wheel (φ200mm CBN grinding wheel)	≤120m/s
最大回转直径 Maximum swing diameter	360mm	工件转速（恒线速） Workpiece speed (constant linear speed)	0-300rpm
工件最大重量 Maximum workpiece weight	160kg	联动轴数 Number of interlocking shafts	六轴2联动
工件最大偏心距 Maximum eccentricity of workpiece	30mm	机床总功率 Total machine power	100Kw
大CBN砂轮 Large CBN grinding wheel	Φ400×Φ40× B(≤50)mm	机床总重量 Total weight of machine	16000kg
砂轮最高线速（φ400mmCBN砂轮） Maximum linear speed of grinding wheel (φ400mm CBN grinding wheel)	≤120m/s	机床外形尺寸(长x宽x高) Machine dimensions (LxWxH)	6050×2250×2200mm
小CBN砂轮 Small CBN grinding wheel	Φ100×Φ150×Φ200mm		

MK8220

曲轴随动数控偏心磨床

Crankshaft follower CNC eccentric grinding machine



典型加工零件

/ Typical machined parts



机床主要特点

/ Main features

标准配置采用LYNUC数控系统
Standard configuration adopts LYNUC numerical control system

全封闭式防护罩
Full cover

机床配置

/ Machine configuration

- 这是一款高精度的偏心曲轴随动磨床,可以实现对曲轴的单偏心、双偏心轴颈外圆的精密磨削,同时也可实现各种异型外圆轮(如凸轮、椭圆、多边形等)的精密磨削。高精度、高刚性、高效率是这款磨床的基本特性,可广泛应用航空、医疗、压缩机、液压、模具、新能源汽车制造、机器人减速机等行业 的凸轮轴、曲轴、传动轴、偏心轴类工件的精密磨削。

■ 采用LYNUC数控系统,4轴2联动(砂轮架进给—X轴、拖板移动—Z轴、工件主轴—C轴、砂轮主轴—S轴,其中X与C轴联动进行随动磨削)。

■ 采用JACK与LYNUC开发的最新一代用户友好的图形化编程软件。拥有简单快速的设置以及直观的用户界面,不需要操作者输入复杂的G代码和子程序,操作简单易学,让编程和设置更加快捷, 用户体验与操作感受绝佳。

■ 头架主轴采用高精度、高刚性的电主轴单元,配用英国雷尼绍(Renishaw)圆光栅,闭环控制达到极高的回转精度和定位精度。

■ 配有意大利Marposs AE(消空程和防碰撞)装置。

■ This is a high-precision eccentric crankshaft follower grinder, which can realize the precision grinding of single eccentric and double eccentric journal external rounds of crankshafts, as well as the precision grinding of all kinds of shaped external round wheels (e.g. cams, ellipses, polygons, etc.). High precision, high rigidity and high efficiency are the basic features of this grinder, which can be widely used for precision grinding of camshafts, crankshafts, transmission shafts and eccentric shafts in the industries of aerospace, medical, compressor, hydraulics, molds and dies, new energy automobile manufacturing, and robotic gearboxes.

■ LYNUC numerical control system, 4-axis 2 linkage (wheelhead feeding an X-axis, drag plate movement a Z-axis, workpiece spindle a C-axis, grinding wheel spindle a S-axis, which X and C-axis linkage to carry out follow-up grinding).

■ Using the latest generation of user-friendly graphical programming software developed by JACK and LYNUC. Has a simple and fast setup and intuitive user interface, does not require the operator to enter complex G-code and subroutines, easy to learn, so that programming and setup more quickly, the user experience and the operation of the feeling is excellent.

■ The headstock spindle adopts high-precision and high-rigidity electric spindle unit, equipped with British Renishaw angle encoder, closed-loop control to achieve extremely high rotary accuracy and positioning accuracy.

■ Equipped with Italian Marposs AE (Air Elimination and Collision Avoidance) device.
- 砂轮架

/ Grinding wheel holder
- 砂轮架进给

砂轮架进给采用高精度的静压导轨+直线电机的精密进给系统,实现了高加速性能的微米级进给。

■ Grinding wheel holder feed

Wheelhead feeding adopts high-precision hydrostatic guideway + linear motor precision feeding system, which realizes micron-level feeding with high acceleration performance.

■ 砂轮主轴

砂轮主轴采用高刚度、高精度的电主轴单元,实现在6000rpm的转速下高速磨削。

■ Grinding wheel spindle

The grinding wheel spindle adopts high rigidity and high precision electric spindle unit, realizing high speed grinding at 6000rpm. High-speed grinding at 6000rpm.
- 工作精度

/ Working accuracy
- | | | |
|--------------------|--|----------------------------|
| 圆度
Roundness | 圆柱度
Cylindricity | 偏心量
Eccentricity |
| 0.002 mm | 0.003 mm | ±0.005 mm |
| 平行度
Parallelism | 外径尺寸公差
Outer diameter dimensional tolerance | 表面粗糙度
Surface roughness |
| 0.003 mm | ±0.003 mm | Ra≤0.32 μm |
- 主要规格和技术参数

/ Main characteristics of machine tool
- | 项 目
Item | 规 格
Specification | 项 目
Item | 规 格
Specification |
|---|----------------------|---|----------------------|
| 加工零件最大长度
Maximum length of machined parts | 300mm | 偏心轴圆度
Roundness of the eccentric shaft | ≦0.002mm |
| 加工偏心轴直径范围
Range of diameters of machined eccentrics shafts | Φ50mm | 偏心轴偏心量误差
Eccentricity error of eccentric shaft | ±0.005mm |
| 偏心轴最大偏心量
Maximum eccentricity of the eccentric shaft | 20mm | 偏心轴平行度
Eccentric shaft parallelism | ≦0.003mm |
| 加工零件最大重量
Maximum weight of machined parts | 20Kg | 相位角误差
phase angle error | ±20' |
| 砂轮规格:CBN砂轮
Grinding Wheel Specifications:
CBN Grinding Wheel | Φ250xΦ20xB(≤40)mm | 表面粗糙度
surface roughness | Rz≤1.6 μm |
| 砂轮最高线速度(适用于CBN砂轮)
Maximum linear speed of grinding wheel
(for CBN grinding wheel) | 90m/s | 机床总功率
Total machine power | 40Kw |
| 偏心轴直径尺寸误差
Eccentric shaft diameter size error | ±0.003mm | 机床总重量
Total weight of machine | 6000Kg |
| 相对主轴的副轴跳动误差
Sub-axis runout error relative to spindle | ≦0.008mm | 机床主机外型尺寸
Dimensions of the main body
of the machine | 1850x2150x2060mm |
| 偏心轴圆柱度(直径法)
Eccentric shaft cylindricity (diameter method) | ≤0.003mm | | |
- 37
- 38

JKWG550

数控蜗杆磨床
CNC Worm Grinding Machine



典型加工零件
/ Typical machined parts



机床主要特点

/ Main features



砂轮修整采用金刚滚轮数控修型，修型精度高，柔性好

Grinding wheel dressing adopts NC dressing of diamond roller, which has high dressing precision and good flexibility



螺旋升角调整采用伺服调整、自动锁紧，调整精度高、速度快；

Spiral angle adjustment adopts servo adjustment, automatic locking, high adjustment precision, fast speed



砂轮电机采用内装式永磁同步电机直接驱动，功率强劲，振动小

The grinding wheel motor is directly driven by built-in permanent magnet synchronous motor with strong power and small vibration



金刚滚轮采用电主轴驱动，速度稳定、振动小

Diamond rollers are driven by electric spindles, with stable speed and low vibration

/ Machine configuration

主要用于磨削各种圆柱形的蜗杆，也可用于磨削各种类型的螺纹丝杆。

采用高端数控系统，控制实现六轴三联动（Z\X\C）。

控制轴数：6轴

Z轴：工作台纵向进给运动（配光栅尺、全闭环控制）

X轴：砂轮架横向进给运动（配光栅尺、全闭环控制）

C轴：工件主轴旋转运动（配圆光栅、全闭环控制）

A轴：砂轮架垂直摆动

S轴：砂轮旋转运动

S1轴：滚轮旋转运动

螺旋升角调整采用伺服调整、自动锁紧，调整精度高、速度快；

金刚滚轮采用电主轴驱动，速度稳定，振动小；

可根据用户需求选配砂轮动平衡系统及在线自动对刀装置；

纵向(Z)和横向(X)运动均采用直线电机驱动，运动精度高；

采用全封闭防护罩，配置抽油雾装置，工作环境良好，外形美观。

Mainly used for grinding all kinds of cylindrical worm gears, but also for grinding all types of threaded screws.

Adoption of high-end CNC system, control to realize six-axis triple linkage (Z\X\C)
Number of control axes:6 axes

Z-axis: table longitudinal feed movement (with scale, full closed-loop control)

X-axis: wheelhead transverse feed movement (with scale, full closed-loop control)

C-axis: Workpiece spindle rotary motion (with rotary encoder, full closed-loop control)

A-axis: Vertical oscillation of the grinding wheel holder

S-axis: Rotary motion of grinding wheel

S1 Axis: Roller rotation

Spiral angle adjustment adopts servo adjustment, automatic locking, high adjustment precision, fast speed;

Diamond rollers are driven by electric spindles, with stable speed and low vibration.

The grinding wheel dynamic balancing system and online automatic tool setting device can be equipped according to user requirements.

Longitudinal (Z) and transverse (X) movements are driven by linear motors for high motion accuracy.

Adopts fully enclosed protective cover, equipped with oil mist extraction device, good working environment and beautiful appearance.

砂轮架

/ Grinding wheel holder

砂轮电机

砂轮电机采用内装式永磁同步电机直接驱动，功率强劲，振动小。

Grinding wheel motor

The grinding wheel motor is directly driven by built-in permanent magnet synchronous motor with strong power and small vibration.

砂轮修整

砂轮修整采用金刚滚轮数控修型，修型精度高，柔性好。

Wheel dressing

The grinding wheel dressing adopts diamond roller CNC dressing, with high precision and good flexibility; -The grinding wheel dressing adopts diamond roller CNC dressing, with high precision and good flexibility.

工作精度

/ Working accuracy

磨削圆柱蜗杆达到的精度 Cylindrical worms	磨削梯形丝杠能达到的精度 ACME screws	磨削工件表面光洁度 Roughness
Z=1~2, 4级;Z≥3, 5级	6级	Ra≤0.32 μm

主要规格和技术参数

/ Main characteristics of machine tool

项 目 Item	规 格 Specification	项 目 Item	规 格 Specification
可磨工件外径 Grindable workpiece outer diameter	Φ5mm-Φ200mm	砂轮规格 (外径X内径X厚度) Grinding Wheel Specification (O.D. X I.D. X Thickness)	Φ400XΦ203XB (B≤25)
可磨蜗杆模数 Wearable worm module	M1-8	最大移动行程(Z轴) Maximum travel (Z-axis)	750mm
螺纹头数范围 Range of threaded heads	1-99	最大载重量 Maximum load capacity	25KG
导程角范围 Lead angle range	±40°	砂轮最高线速度 Maximum linear speed of grinding wheel	45m/s
头架主轴转速 Headstock spindle speed	0.5-45rpm	机床外形尺寸(长X宽X高) Machine dimensions (LxWxH)	3100X2100X1850mm
最大顶尖距 Maximum distance between centers	550mm	机床总重量 Total weight of machine	6000KG

服务 SERVICES

技术 TECHNOLOGY

- 重塑制造业数字化工厂转型
- 采用新技术能大幅度提高生产效率, 显而易见的效率提升和成本下降

- Reinventing Digital Factory Transformation in Manufacturing
- The adoption of new technologies can significantly improve productivity, with visible efficiency gains and cost reductions



定制 Customization

适应不同产业的生产要求
Adapt to the production requirements of different industries

Provide customized service solutions

提供定制化服务解决方案

服务100% SERVICE 100%

专业售后
Professional after-sales service

快速响应
Quick Response

定期维护回访
Regular maintenance visits

