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售后与备件服务 After-sales & Spare parts
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物资采购 Supply chain
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专利与知识产权 Patent & IP
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人事管理及招聘 HR
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公司网址

企业微信公众号

品格·品质·品位

CJMT 长机科技 2026版

宜昌长机科技有限责任公司
YICHANG CHANGJIANG MACHINE TECHNOLOGY CO.,LTD

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CJMT 长机科技
2026版

核心价值观:

成就客户、追求卓越;
以奋斗者为本、责在行动;
诚信合作、和谐发展。

Value:
Empower Customers, Strive for Excellence;
Striver-oriented, Action matters most;
Integrity in Cooperation, Harmony in Development.

企业使命

打造世界级齿轮机床“品类王”

企业愿景

客户满意　员工自豪　环境优美　社会景仰

经营理念

志在长远　专注机床　科技引领　守正创新

应用行业

公司产品主要应用于汽车、工程机械、风电、海装与船舶、农机、机器人等行业。

Mission:
Build a World-Class "Category King" of Gear Machine Tools

Vision:
Customer Satisfaction, Employee Pride, Beautiful Environment, Social Admiration.

Business Philosophy:
Committed to the long-term, focused on machine tools, driven by technology, innovating while upholding core values.

Application Industries:
The company's products are mainly applied in industries such as automotive, construction machinery, wind power, marine equipment and shipbuilding, agricultural machinery, robotics, and others.

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企业简介
COMPANY PROFILE

宜昌长机科技有限责任公司成立于 2004 年，是由始建于 1968 年的机械工业部重点骨干企业长江机床厂发展而来。公司先后荣获国家级单项冠军培育企业、国家级制造业单项冠军产品、国家级专精特新重点“小巨人”企业、国家知识产权示范企业、全国模范职工之家、工信部智能制造优秀场景、5G 工厂及湖北省文明单位、湖北省工业先进企业、湖北省长江质量奖等殊荣。公司现有员工 500 余人，总资产达 11 亿余元，净资产超 8 亿元，银行资信 AAA 级，占地 23 万余平方米（330 余亩），建筑面积 13 万平方米。

Yichang Changjiang Machine Technology Co., Ltd (CJMT), established in 2004, evolved from Changjiang Machine Tool Works—a key backbone enterprise under the Ministry of Machinery Industry, founded in 1968.The company has successively won numerous prestigious honors, including National Single Champion Cultivation Enterprise, National Manufacturing Single Champion Product, National Key "Little Giant" Enterprise of Specialized, Sophisticated, Unique and New Technologies, National Intellectual Property Demonstration Enterprise, National Model Staff Home, Excellent Intelligent Manufacturing Scenario by MIIT, 5G Factory, as well as Hubei Civilized Unit, Hubei Advanced Industrial Enterprise, and Hubei Changjiang Quality Award.Currently, the company has over 500 employees, with total assets exceeding 1.1 billion yuan, net assets surpassing 800 million yuan, and a AAA credit rating from banks. It covers an area of more than 230,000 square meters (over 330 mu), including a building area of 130,000 square meters.

环境优美

Friendly Environment

“环境是生存的根本，是生命质量的重要组成部分”。公司从厂区规划到生产流程，我们严格执行 ISO14001 环境管理体系，最大化地进行绿化美化，科学合理布局，营造出既有利于员工身心健康又能激发创新思维的空间。

世纪钟

“The environment is the foundation of survival and an important part of life quality.”From plant planning to production processes, the company strictly implements the ISO 14001 Environmental Management System, maximizes greening and beautification, and adopts scientific and rational layout. We have created a space that not only benefits the physical and mental health of employees but also inspires innovative thinking.

智慧之花

爱国琴

日晷

清空亭

发展简史
Brief History

长机科技在插齿机不断提档升级，市场占有率稳居国内第一的基础上，产品逐步拓展到滚齿机、铣齿机、刮齿机、磨齿机等，已然发展成为国内系列化最全的齿轮机床研制企业。

On the foundation of continuously upgrading its gear shaping machines, and securing the top market share in China, CJMT has gradually expanded its product range to include hobbing machines, milling machines, skiving machines, grinding machines, and more. As a result, the company has developed into the nation's most comprehensive manufacturer of serialized gear machine tools.

1968年

10月26日，国家计划委员会批准筹建长江机床厂。

On October 26, the State Planning Commission approved the preparation and construction of the Changjiang Machine Tool Works.

1975年

1.Y5132插齿机研制成功。
2.研制出中国首台大型插齿机Y51250，经洛矿704工厂试切合格，突破国内技术瓶颈。

1.The Y5132 gear shaper was successfully developed.
2.China's first large-scale gear shaper Y51250 was developed. It passed trial cutting tests at Factory 704 of Luoyang Mining Machinery Plant, breaking through domestic technical bottlenecks.

1984年

φ200/320/500/800/1250/2500等不同规格插齿机批量进入市场。

Gear shapers of various specifications, including φ 200, 320, 500, 800, 1250 and 2500, have been launched on the market in batches.

1997年

1.宜昌长江机床有限责任公司成立。
2.YK5612A数控齿扇插齿机研制成功，国产数控系统成功应用于插齿机。

1.Yichang Changjiang Machine Tool Co., Ltd. was established.
2.The YK5612A CNC gear sector shaper was successfully developed, marking the successful application of a domestic CNC system in gear shapers.

2002年

1.中国首台数控梳槽机ZX300A上市，突破国内技术瓶颈。
2.YKM51250大型精密数控插齿机研制成功，突破国内技术瓶颈，荣获国家级重点新产品。

1.China's first CNC slotting machine ZX300A was launched, breaking through domestic technical bottlenecks.
2.The YKM51250 large-scale precision CNC gear shaper was successfully developed, breaking through domestic technical bottlenecks and winning the title of National Key New Product.

2004年

1.公司被湖北省科技厅认定为湖北省高新技术企业。
2.宜昌长机科技有限责任公司成立。

1.The company was accredited as a High-Tech Enterprise of Hubei Province by the Department of Science and Technology of Hubei Province.
2.Yichang Changjiang Machine Technology Co., Ltd (CJMT). was founded.

2008年

YKT5180 提拉式数控插齿机荣获国家重点新产品。

The YKT5180 lifting-type CNC gear shaper has been awarded the title of National Key New Product.

2012年

1.被认定为国家火炬计划重点高新技术企业。
2.宜长注册商标荣获"中国驰名商标"称号。
3.首台大型滚齿机YK31350研制成功。

1.Recognized as a key high-tech enterprise under the National Torch Program.
2.The "Yichang" trademark was awarded the title of "China Well-Known Trademark".
3.China's first large-scale gear hobbing machine YK31350 was successfully developed.

2014年

1.成功研制YGX5112高精度小模数插齿机，精度达国标5级。
2.YK83系列铣齿机批量进入市场。
3.YK85200数控齿条铣齿机荣获CCMT2014春燕奖。
4.YKS5120数控插齿机被评为2014年度产品质量十佳。

1.The YGX5112 high-precision small-module gear shaper has been successfully developed, with precision reaching National Standard Grade 5.
2.The YK83 series gear milling machines have been launched on the market in batches.
3.The YK85200 CNC rack milling machine was awarded the CCMT2014 Spring Swallow Award.
4.The YKS5120 CNC gear shaper was rated as one of the Top Ten Products of 2014 for Product Quality.

2016年

1.首台万能数控插齿机YKW5165上市。
2.YK3180A数控滚齿机研发成功，滚齿机批量进入市场。
3.YKG5112小模数高精度数控插齿机获CCMT2016年春燕奖。
4.公司获得由工业和信息化部、中国工业经济联合会授予的"2017-2019年度制造业单项冠军培育企业"。

1.The first universal CNC gear shaper YKW5165 was officially launched.
2.The YK3180A CNC gear hobbing machine was successfully developed and put into the market in batches.
3.The YKG5112 small-module high-precision CNC gear shaper won the CCMT 2016 Spring Swallow Award.
4.The company was awarded the title of "Cultivation Enterprise of Single Champion in Manufacturing Industry for 2017–2019" by the Ministry of Industry and Information Technology and China Federation of Industrial Economics.

2018年

1.公司荣获"湖北省支柱产业细分领域隐形冠军示范企业"。
2.强力刮齿机YK8132研制成功。
3.YK78200七轴四联动数控齿条磨齿机荣获CCMT2018春燕奖。
4.数控卧式滚齿机YK3620、YK3650研制成功并交付客户。

1.The company was awarded the title of "Demonstration Enterprise of Hidden Champion in Segmented Fields of Pillar Industries in Hubei Province".
2.The powerful skiving machine YK8132 was successfully developed.
3.The YK78200 seven-axis four-linkage CNC rack gear grinding machine won the CCMT 2018 Spring Swallow Award.
4.The CNC horizontal gear hobbing machines YK3620 and YK3650 were successfully developed and delivered to customers.

2020年

1.荣获第八届长江质量奖。
2.YK8150数控刮齿机研制成功。
3.YK31600数控滚齿机研制成功。
4.YGX5112高精度小模数数控插齿机被评为2020年度自主创新十佳。
5.公司获得由工业和信息化部、中国工业经济联合会授予的"2020-2022年度制造业单项冠军培育企业"。

1.Awarded the 8th Yangtze River Quality Award.
2.The YK8150 CNC skiving machine was successfully developed.
3.The YK31600 CNC gear hobbing machine was successfully developed.
4.The YGX5112 high-precision small-module CNC gear shaper was rated as one of the Top Ten Independent Innovation Products of 2020.
5.The company was honored as a "Cultivation Enterprise for Single Champion of Manufacturing Industry for 2020–2022" by the Ministry of Industry and Information Technology and China Federation of Industrial Economics.

2021年

1.高端齿轮加工装备工业设计中心被确定为"国家级工业设计中心"。
2.公司获得工业和信息化部授予的"2021年-2024年度专精特新'小巨人'企业"。

1.The High-end Gear Processing Equipment Industrial Design Center has been designated as a "National Industrial Design Center".
2.The company has been awarded the title of "Specialized, Sophisticated, Unique and New 'Little Giant' Enterprise for 2021–2024" by the Ministry of Industry and Information Technology.

2022年

1.公司两化融合贯标，"两化融合管理体系"通过中国船级社认证。
2.数控插齿机被工业和信息化部、中国工业经济联合会授予"单项冠军产品"称号。
3.YK83200(A) 数控铣齿机被评为2022年度产品质量十佳。

1.The company implemented the integration of informatization and industrialization, and its Management System for Integration of Informatization and Industrialization was certified by China Classification Society (CCS).
2.CNC gear shapers were awarded the title of Single Champion Product by the Ministry of Industry and Information Technology and China Federation of Industrial Economics.
3.The YK83200(A) CNC gear milling machine was rated as one of the Top Ten Products for Product Quality in 2022.

2023年

1.被湖北省经济和信息化厅办公室评为"第三批湖北省上云标杆企业"。
2.SAP项目启动，深入数字转型。
3.YK8150数控刮齿机被评为2023年度自主创新十佳。

1.Rated as "The Third Batch of Model Enterprises for Cloud Adoption in Hubei Province" by the General Office of the Department of Economy and Information Technology of Hubei Province.
2.Launch of the SAP project to further advance digital transformation.
3.The YK8150 CNC skiving machine was selected as one of the Top Ten Independent Innovation Products of 2023.

2024年

1.新产品YKC3650数控卧式滚齿机、YKCW51250万能数控插齿机、YKY51250液压冲程数控插齿机、YKCW51160万能数控插齿机、YK8132A数控刮齿机研制成功。
2.被湖北省经济和信息化厅评为"湖北省制造业单项冠军企业"。
3."YK7832数控强力齿扇磨齿机"获中国数控机床展CCMT2024春燕奖。
4.公司获得由工业和信息化部授予的"2024-2027年度专精特新'小巨人'企业"。

1.The new products including the YKC3650 CNC horizontal gear hobbing machine, YKCW51250 universal CNC gear shaper, YKY51250 hydraulic stroke CNC gear shaper, YKCW51160 universal CNC gear shaper and YK8132A CNC skiving machine have been successfully developed.
2.The company was honored as a "Single Champion Enterprise in Manufacturing Industry of Hubei Province" by the Department of Economy and Information Technology of Hubei Province.
3.The "YK7832 CNC heavy-duty gear sector grinding machine" won the CCMT 2024 Spring Swallow Award at the China CNC Machine Tool Exhibition.
4.The company was awarded the title of "Specialized, Sophisticated, Unique and New 'Little Giant' Enterprise for 2024–2027" by the Ministry of Industry and Information Technology.

2025年

1.YK7232数控蜗杆砂轮磨齿机研制成功。
2.YKW5165A万能数控插齿机被评为2025年度自主创新十佳。

1.The YK7232 CNC worm wheel grinding machine has been successfully developed.
2.The YKW5165A universal CNC gear shaper was rated as one of the Top Ten Independent Innovation Products of 2025.

2026年

1.YK73300数控成形磨齿机研制成功。

1.The YK73300 CNC form gear grinding machine has been successfully developed.

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以奋斗者为本

Striver-Centric Philosophy

“企业是员工生存所依，更是员工的精神家园，厚待员工就是厚待公司的未来。”长机科技秉持“以奋斗者为本”的理念，注重对员工的尊重与关爱，鼓励开放互动的沟通交流，实施动力式管理，充分激发员工的主观能动性，致力于让每位员工快乐工作，打造一支高度团结、精干高效的员工队伍。

机床行业的发展依赖于长期的经验积累与专业积淀。公司通过荣誉授予制度，对做出杰出贡献的人才予以表彰奖励，以此激励员工追求技术卓越，践行敬业精神。

“A company is the foundation for employees’ survival, as well as their spiritual home. Treating employees well is investing in the company’s future.”Changji Technology upholds the philosophy of “putting strivers first”, values respect and care for its employees, encourages open and interative communication, and implements dynamic management to fully stimulate employees’ initiative. The company is committed to enabling every employee to work happily and building a highly united, capable and efficient team.The development of the machine tool industry relies on long-term experience and professional accumulation. The company recognizes and rewards talents with outstanding contributions through an honorary award system, motivating employees to pursue technological excellence and uphold professionalism.

拔河比赛

授车仪式

员工自助式工作餐

青年员工谢师仪式

人才公寓

每月例行的表彰仪式

单身公寓

人才代表（部分）

Representative Talents (Partial)

智通兵
Zhi Tongbing

全国劳动模范
National Model Worker
全国五一劳动奖章
National May 1st Labor Medal

袁　勇
Yuan Yong

政府特殊津贴专家
Expert with Special Government Allowance
全国五一劳动奖章
National May 1st Labor Medal

杨　光
Yang Guang

政府特殊津贴专家
Expert with Special Government Allowance

唐兆庆
Tang Zhaoqing

政府特殊津贴专家
Expert with Special Government Allowance

陈保军
Chen Baojun

全国五一劳动奖章
National May 1st Labor Medal

游　军
You Jun

全国五一劳动奖章
National May 1st Labor Medal

钟瑞龄
Zhong Ruiling

湖北省政府专项津贴专家
Expert Receiving Special Allowance from the Government of Hubei Province

王　维
Wang Wei

湖北省政府专项津贴专家
Expert Receiving Special Allowance from the Government of Hubei Province

吴林冲
Wu Linchong

湖北省首席技师
Hubei Provincial Chief Technician

集成研发
Integrated Product Development

长机科技坚持以用户需求驱动的“自主研发为主、合作开发为辅，完整高效的集成研发模式(IPD)”，以帮助公司准确把握行业发展趋势，深刻理解市场需求和客户需求，保证公司的产品研发围绕真实需求来展开，有效驱动产品的改进创新和升级换代，保持公司产品的核心竞争优势。

公司是国家级高新技术企业，拥有国家级工业设计中心、湖北省企业技术中心和工程技术中心等研发平台。公司通过精密化、数控化、复合化、智能化及互联互通的技术创新，致力于覆盖全产业链的齿轮加工解决方案。

Changji Technology adheres to a user-driven, complete and efficient integrated R&D model (IPD) characterized by independent R&D as the core and cooperative development as the supplement. This enables the company to accurately grasp industry development trends, deeply understand market and customer needs, ensure product R&D is centered on real demands, effectively drive product improvement, innovation and upgrading, and maintain the core competitive advantages of the company's products.

As a national high-tech enterprise, the company owns R&D platforms including a national-level industrial design center, Hubei Provincial Enterprise Technology Center and Engineering Technology Center. Through technological innovations in precision, numerical control, compounding, intelligence and interconnection, the company is committed to providing gear manufacturing solutions covering the entire industrial chain.

产学研用合作
Industry-University-Research Collaboration

公司构建与高校、科研单位、专业机构等多渠道的合作研发体系，持续加强与华中科技大学、河南科技大学、三峡大学、湖北工业大学、兰州理工大学等高等院校合作，推进齿轮机床的技术研究和人才培养，共同推动齿轮机床行业的进步。

CJMT integrates various resources to build a multi-channel cooperative R&D system with universities, research institutes, professional organizations, etc. We will continue to strengthen cooperation with prestigious universities such as Huazhong University of Science and Technology, Hubei University of Technology, Henan University of Science and Technology, Lanzhou University of Technology, and China Three Gorges University, to promote the technological research and talent cultivation in gear machine tools, and jointly advance the progress of the gear machine tool industry.

公司拥有百余名专业技术人员的研发人员组成的团队，持有 140 余项自主知识产权专利，其中发明专利 50 余项。近年来，公司成功开发并应用了 300 余项新技术和新工艺，推出 10 余项国家级、省级新产品。公司是机床行业国家标准的主要起草单位之一，已起草并参与制定国家标准和行业标准 40 余项。自成立至 2025 年，公司产品先后荣获中国机床工具工业协会颁发的“CCMT 春燕奖”五次、“质量 / 创新十佳产品”九次。

The company boasts a R&D team of over 100 professional technicians, and holds more than 140 independent intellectual property patents, including over 50 invention patents.In recent years, the company has successfully developed and applied more than 300 new technologies and processes, and launched over 10 national and provincial-level new products.It is one of the main drafting units of national standards in the machine tool industry, having drafted and participated in the formulation of more than 40 national and industrial standards.From its establishment to 2025, the company's products have been awarded the “CCMT Spring Swallow Award” five times and the “Top 10 Quality/Innovation Products” nine times by the China Machine Tool & Tool Builders' Association.

卓越绩效管理

Performance Excellence Management

公司导入并全面践行卓越绩效管理体系，以标准化管理体系文件规范运营流程与员工行为，并荣获湖北省人民政府授予的“长江质量奖”荣誉。公司先后通过了质量管理体系（ISO 9001）、环境管理体系（ISO 14001）、职业健康安全管理体系（ISO 45001）、两化融合管理体系（GB/T 23001）、知识产权合规管理体系（GB/T 29490）、信息安全管理体系（ISO/IEC 27001）、社会责任管理体系（GB/T 39604）及海关 AEO 高级认证。公司通过严格落实过程方法与 PDCA 循环，开展审核、监督与持续改进，实现了产品质量、生产安全与员工工作环境的根本性提升。

The company has introduced and fully implemented a performance excellence management system, standardized operational processes and employee conduct with standardized management system documents, and was awarded the honor of the “Changjiang Quality Award” by the People’s Government of Hubei Province.The company has successively passed certifications including:Quality Management System (ISO 9001), Environmental Management System (ISO 14001),Occupational Health and Safety Management System (ISO 45001),Integration of Informatization and Industrialization Management System (GB/T 23001),Intellectual Property Compliance Management System (GB/T 29490),Information Security Management System (ISO/IEC 27001),Social Responsibility Management System (GB/T 39604),
as well as Customs AEO Advanced Certification.By strictly implementing the process approach and the PDCA cycle, conducting audits, supervision and continuous improvement, the company has achieved fundamental improvements in product quality, production safety and the employee working environment.





以客户为中心的闭环质量管理体系

Customer-centric closed-loop quality management system

公司确立“质量是企业和员工共同的尊严”“优越的性能和可靠的品质是产品竞争力的关键”的质量理念。遵循全面质量管理原则，建立以客户为中心的闭环质量管理体系：从原材料入库到用户终验收，全链条质量管控；自检、互检、专检，多重检测层层把关；依托先进的产品试验中心与测试技术，模拟真实使用环境，全项性能验证，保障产品高质量。

凭借卓越的质量管控能力，公司被工业和信息化部评定为“制造业企业质量管理能力 - 保证级”。

The company has established the following quality philosophies: “Quality is the shared dignity of the enterprise and its employees” and “Superior performance and reliable quality are the key to product competitiveness.”Adhering to the principles of total quality management, the company has built a customer-centric closed-loop quality management system:full-chain quality control from raw material warehousing to customer final acceptance;multi-level checks including self-inspection, mutual inspection and specialized inspection to ensure strict control at every step;relying on advanced product testing centers and technologies, the company simulates real operating conditions and conducts comprehensive performance verification to guarantee high product quality.

With outstanding quality management capabilities, the company has been rated as “Manufacturing Enterprise Quality Management Capability – Assurance Level” by the Ministry of Industry and Information Technology (MIIT).

公司质量管理架构图

Company Quality Management Organization Chart

数字赋能

Digital Empowerment

公司致力于数字化转型，通过构建“人工智能＋机床制造”融合创新平台，将人工智能深度融入计划排程、工艺优化、生产管理与质量控制等核心环节，实现全流程的智能优化与精细管理。依托 SAP ERP、SOLIDWORKS PLM 等系统，并结合自主开发的供应商协同管理（SRM）、制造执行系统（MES）、仓储管理系统（WMS）以及高级计划与排程（APS），公司打通了从订单输入、作业执行到产品交付与远程运维的数据链条，全面增强了数字化运营能力。通过 CPS 协同制造系统对机床状态与生产过程的实时监控，进一步释放设备产能，提升生产响应速度。

公司应用产线级柔性自动化系统（FMS），实现了多品种、小批量工件的高效混流生产。通过与制造执行系统（MES）和高级计划与排程（APS）的深度集成，FMS 可实时接收指令并反馈状态，动态优化加工队列，显著缩短了产品切换时间，提升了设备利用率和产线整体柔性。

The Company is committed to digital transformation. By building an integrated innovation platform for "Artificial Intelligence + Machine Tool Manufacturing", it deeply integrates artificial intelligence into core links such as production scheduling, process optimization, production management and quality control, achieving intelligent optimization and refined management throughout the entire process.

Relying on systems including SAP ERP and SolidWorks PLM, combined with independently developed Supplier Relationship Management (SRM), Manufacturing Execution System (MES), Warehouse Management System (WMS) and Advanced Planning and Scheduling (APS), the Company has established a seamless data chain from order entry, operation execution to product delivery and remote operation and maintenance, comprehensively enhancing its digital operation capabilities. Through real-time monitoring of machine tool status and production processes via the CPS collaborative manufacturing system, the Company has further unlocked equipment capacity and improved production response speed.

The Company has adopted a production-line-level Flexible Manufacturing System (FMS) to realize efficient mixed-flow production of multi-variety, small-batch workpieces. Through deep integration with Manufacturing Execution System (MES) and Advanced Planning and Scheduling (APS), the FMS can receive instructions and feed back status in real time, dynamically optimize processing queues, significantly reduce product changeover time, and improve equipment utilization rate and overall production line flexibility.

产品系列

PRODUCT SERIES

机床作为工业母机，是装备制造业的基础。公司以重型超大机床、小型超精高效机床、专用机床和机床再制造为特色，强化插齿机、刮齿机、滚齿机、铣齿机、磨齿机产品竞争力。

公司主导产品为规格120~5000mm的数控插齿机、800~16000mm的数控圆柱齿轮铣齿机/滚齿机、120~1250mm的刮齿机、320~4000mm的磨齿机五大产品系列，并针对转向器行业开发了320~3000mm的数控齿条插齿机/铣齿机/磨齿机、扇形齿轮插齿机/磨齿机，也可按用户个性化需求提供刀具、夹具、辅具等工艺装备及成套齿轮加工解决方案，以满足圆柱齿轮、蜗轮、链轮、齿条及复杂齿形加工的需求。

As the machine tools are known as the "mother of industry", they form the foundation of the equipment manufacturing industry. The company specializes in heavy-duty extra-large machine tools, small ultra-precision high-efficiency machine tools, special-purpose machine tools, and machine tool remanufacturing, and strengthens the competitiveness of its product lines including gear shapers, skiving machines, gear hobbing machines, gear milling machines and gear grinding machines.

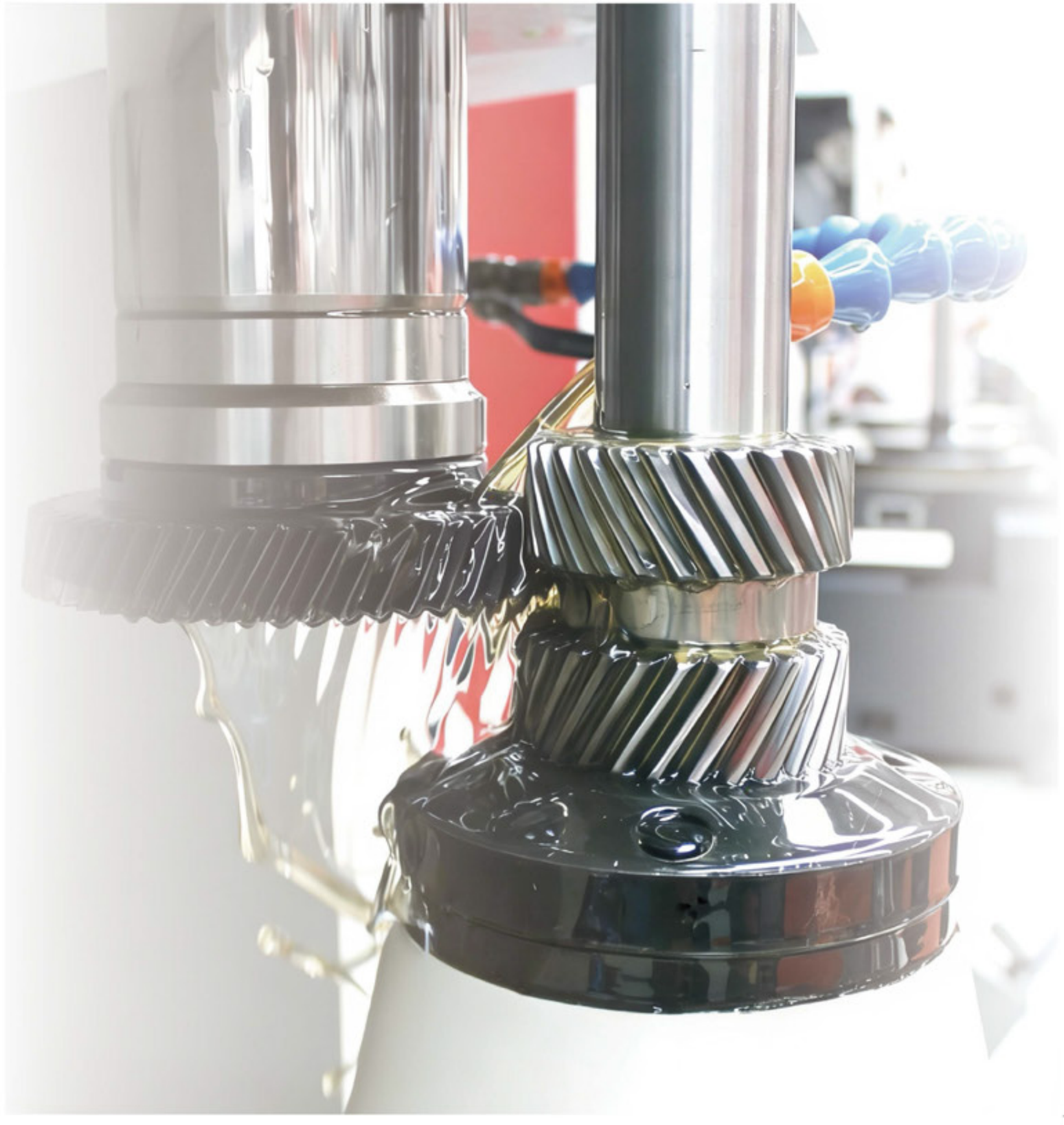
The company's core products consist of five major series:CNC gear shapers with a processing range of 120–5000 mm,CNC cylindrical gear milling/hobbing machines of 800–16000 mm,skiving machines of 120–1250 mm,and gear grinding machines of 320–4000 mm.It has also developed CNC rack shapers, rack milling machines, rack grinding machines, sector gear shapers and sector gear grinding machines with a range of 320–3000 mm specifically for the steering gear industry.In addition, the company can provide cutting tools, fixtures, accessories and other process equipment, as well as complete gear manufacturing solutions tailored to customers' individual requirements, to meet the processing needs of cylindrical gears, worm gears, sprockets, racks and complex gear profiles.

插齿机
GEAR SHAPING MACHINE

效率与品质的代名词
Synonyms for Efficiency and Quality

公司融合了多年的客户定制化服务经验，研制出品类最多、规格最全的高效数控插齿机，该产品被工业和信息化部认定为“制造业单项冠军产品”。

Leveraging years of expertise in providing customized solutions for clients, the company has developed a highly efficient CNC gear shaping machine featuring the most extensive product portfolio and comprehensive specifications. This product has been officially recognized as a "Single Champion Product in Manufacturing" by the Ministry of Industry and Information Technology of the People's Republic of China.



中小型插齿机

CNC Small & Medium Gear Shaping Machine

产品介绍

Product Introduction

YK51 系列中小型插齿机适用于加工各类盘齿、轴齿及斜齿等零件，适用于仪表、医疗、液压、农业、汽车、摩配、工程机械、矿山机械、风电等行业的大批量生产使用，也适用于单件或小批量的加工。其中 YKT 系列提拉式插齿机特别适用于深孔内齿及具有特殊要求的双联或多联齿轮的加工。YKW 系列电子螺旋导轨插齿机特别适合于各种螺旋齿、深孔内齿及具有特殊要求的双联或多联齿轮的加工。

The YK51 series small and medium-sized gear shapers are suitable for machining various parts such as disc gears, shaft gears and helical gears. They are widely used in mass production in industries including instrumentation, medical equipment, hydraulics, agriculture, automobiles, motorcycle parts, construction machinery, mining machinery and wind power, as well as for single-piece or small-batch machining.Among them, the YKT series lifting-type gear shapers are especially suitable for machining deep-hole internal gears and double or multiple gears with special requirements.The YKW series gear shapers with electronic helical guides are particularly ideal for machining various helical gears, deep-hole internal gears, and double or multiple gears with special requirements.

重点参数

Key parameters

提拉式插齿机

电子螺旋导轨插齿机

名称 Description		型号 Type											
		YGX5112 YGX5112A	YKG5132J YKGD5132J	YKH5132H YKHD5132H	YKT5132B	YKW5132A YKW5132B	YK5150F	YK5150J	YKT5150D	YKW5165A	YK5180E	YKT5180D	YKW5180A
最大加工外齿直径 Max. external gear diameter	mm	120	320	320	320	320	500	500	500	650	800	800	800
最大加工内齿直径 Max. internal gear diameter	mm	100+D刀	220+D刀	220+D刀	220+D刀	220+D刀	600	600	600	800	1100	1100	1100
最大加工模数 Max. module	mm	2	6	8	8	8	10	10	10	12	12	12	12
最大加工齿宽 Max. face width	mm	30	90	90	90	100	200	200	250	200	250	250	200
插齿刀冲程长度 Max. stroke length	mm	40	100	100	100	120	220	220	270	230	270	270	230
插齿刀冲程速度 Stroke speed	str/min	125~500	150~1250	125~2000	125~1800	125~1250	40~600	40~600	40~600	40~600	40~600	40~600	40~600
插齿刀让刀量 Cutter relieving	mm	⩾0.3	⩾0.3	⩾0.3	⩾0.3	⩾0.3	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5
插齿刀行程位置调整量 Adjusting amount of stroke position	mm	20	30	30	/	/	50	50	/	/	50/0	/	/
插齿刀安装轴颈直径 Diameter of cutter neck	mm	/	31.743	31.743	31.743	31.743	44.443	44.443	44.443	31.743	44.443	44.443	31.743
刀轴直径 Spindle diameter	mm	65	85	85	85	85	120	120	120	100	120	120	120
工作台可倾斜角度 Sloping angle of worktable	°	0	0/±10	0/±10	0	0	0	0	0	0	0	0	0
工作台直径 Diameter of worktable	mm	240	325/300	420/325	420	420	700	700	700	700	900	900	900
工作台孔径 Diameter of worktable bore	mm	/	100/70	120/100	120	120	140	140	140	140	320	320	320
插齿刀轴心线至工作台轴心线距离 Axis distance spindle /worktable	mm	-50~150	-110~250	-110~250	-110~250	-110~265	-40~400	0~400	0~450	-40~450	0~730	-25~615	-40~650
刀轴端面至工作台面距离 Surface distance spindle /worktable	mm	160~220	340~470	140~270	185~635	115~535 180~600	285~555	255~525	15~835	370~1000	310~580	273~1093	300~930
刀架提拉行程 Axial slide travel of cutter head	mm	/	/	/	350	300	/	/	550	400	/	550	400
机床总功率 Total power	kW	约20	约25	约30	约30	约85	约35	约35	约35	约100	约35	约42	约100
任意螺旋角加工（⩽45°） Arbitrary helix angle machining (⩽ 45°)	●是 ○否	○	○	○	○	●	○	○	○	●	○	○	●

大型插齿机
CNC Large Gear Shaping Machine

产品介绍
Product Introduction

YK51 系列大型插齿机适用于工程机械、矿山机械、汽车、风电等制造业的各类盘齿、轴齿及斜齿等零件大批量生产使用，也适用于单件或小批量的加工。其中 YKY 系列液压冲程插齿机特别适合大模数大齿宽深孔内齿齿轮的加工。

The YK51 series large gear shapers are suitable for mass production of various disc gears, shaft gears, helical gears and other parts in engineering machinery, mining machinery, automotive, wind power and other manufacturing industries. They are also applicable to single-piece or small-batch machining. Among them, the YKY series hydraulic stroke gear shapers are especially suitable for machining internal gears with large module, large face width and deep holes.

重点参数
Key parameters

提拉式插齿机　液压冲程插齿机
电子螺旋导轨插齿机

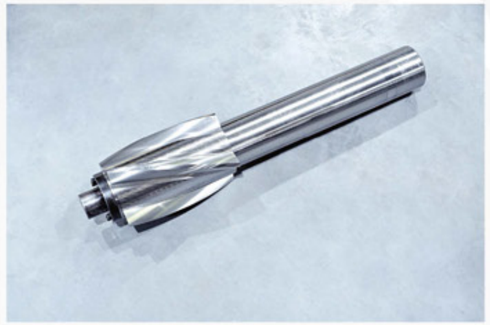
名称 Description		型号 Type											
		YK51125E	YKT51125C	YKW5125A	YK51160D	YKT51160C	YKY51160 YKY51160A	YKW51160	YKCW51160	YK51250E	YKY51250 YKY51250A	YKW51250	YK51350
最大加工外齿直径 Max. external gear diameter	mm	1250	1250	1250	1600	1600	1600	1600	1600	2500	2300	2500	3500
最大加工内齿直径 Max. internal gear diameter	mm	1600	1600	1600	2100	2100	2100	2100	2100	3000	2500	2500	4000
最大加工模数 Max. module	mm	16	12	20	16	16	20	20	20	25	25	20	30
最大加工齿宽 Max. face width	mm	300	250	350	300	350	750	350	420	400	750	420	500
插齿刀冲程长度 Max. Stroke length	mm	330	270	380	330	380	800	380	450	430	800	450	530
插齿刀冲程速度 Stroke speed	str/min	15~150	30~240	10~200	15~150	20~150	/	10~200	15~150	15~120	/	15~150	15~120
插齿刀最大切削速度 Max. cutting speed of cutter	str/min	/	/	/	/	/	25	/	/	/	25	/	/
插齿刀最大返回速度 Max. return speed of cutter	str/min	/	/	/	/	/	50	/	/	/	50	/	/
插齿刀让刀量 Cutter relieving	mm	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5	⩾0.5
插齿刀行程位置调整量 Adjusting amount of stroke position	mm	50	/	/	50	/	/	/	/	60	/	/	60
插齿刀安装轴颈直径 Diameter of cutter neck	mm	88.9/101.6	44.443	88.9	88.9/101.6	88.9	88.9/101.6	88.9	88.9	88.9/101.6	88.9/101.6	88.9	88.9/101.6
刀轴直径 Spindle diameter	mm	140	120	140	140	140	180	140	140	160	180	140	180
工作台直径 Diameter of worktable	mm	1300	1300	1300	1600	1600	1600	1600	1600	2100	2100	2100	3000
工作台孔径 Diameter of worktable bore	mm	300	300	300	300	300	300	300	300	500	500	500	600
插齿刀轴心线至工作台轴心线距离 Axis distance spindle /worktable	mm	0~800	0~800	0~800	0~1000	0~1000	0~1000	0~1000	0~1000	240~1500	70~1250	140~1400	750~2100
刀轴端面至工作台面距离 Surface distance spindle /worktable	mm	250~630	420~1190	435~1315	370~750	520~1400	350~1150	370~1250	300~1250	260~750	750~1550	265~1215	460~1050
刀架提拉行程 Axial slide travel of cutter head	mm	/	500	500	/	500	/	500	500	/	/	500	/
机床总功率 Total power	kW	约50	约50	约120	约50	约79	约80	约120	约120	约50	约80	约130	约52
任意螺旋角加工(⩽45°) Arbitrary helix angle machining (⩽ 45°)	●是 ○否	○	○	●	○	○	○	●	●	○	○	●	○

核心技术
Core Technologies

● 静压刀架体技术
Hydrostatic Tool Headstock Technology

静压刀架体与静压工作台技术通过高压油膜实现无接触支承。静压刀架体刚性高、振动小，保证刀具运动平稳，应用于全系列圆柱齿轮插齿机；静压工作台回转精度高、无爬行，分度精准，采用卸荷装置实现自适应调节，应用于中大型插齿机、滚齿机、铣齿机等产品。该技术有效减少磨损、抑制振动，显著提升齿轮加工精度与表面质量，是高端精密齿轮机床的核心关键技术。

Hydrostatic slide body and hydrostatic worktable technologies achieve non-contact support through high-pressure oil films. The hydrostatic slide body features high rigidity and low vibration, ensuring stable tool movement, and is applied to the full range of cylindrical gear shaping machines. The hydrostatic worktable offers high rotary accuracy, no stick-slip motion, and precise indexing, with an unloading device enabling adaptive adjustment. It is used in medium and large-scale gear shaping machines, hobbing machines, gear milling machines and other models. These technologies effectively reduce wear and suppress vibration, significantly improving gear machining accuracy and surface quality, making them core key technologies for high-end precision gear machine tools.



● 干式切削技术
Dry Cutting Technology

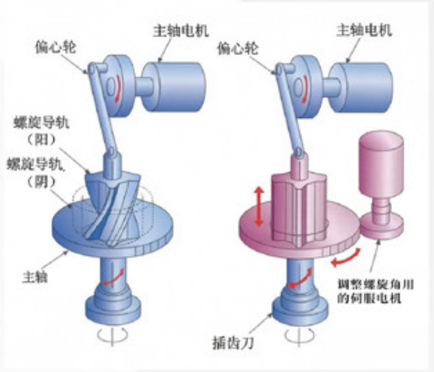
采用插齿干切技术，无需切削液，绿色环保无污染，显著提升加工效率与精度，保证工件尺寸稳定性更优。整机采用不锈钢全覆盖结构，配合多点排屑口，干切排屑更顺畅，避免切屑堆积。同时优化散热设计，快速导出切削热量，有效降低铸件热变形，进一步保障加工精度与设备运行可靠性，整体实现高效、精密、绿色化加工。

Adopting dry-cut gear shaping technology, this machine eliminates the need for cutting fluid. It is environmentally friendly and pollution-free, significantly enhancing machining efficiency and precision while ensuring superior dimensional stability of the workpieces.The entire machine features a full-stainless-steel enclosed structure, equipped with multiple chip discharge ports. This design facilitates smoother chip evacuation in dry cutting conditions, effectively preventing chip accumulation. Meanwhile, the optimized thermal dissipation design rapidly conducts cutting heat, significantly reducing thermal deformation of the castings. This further guarantees machining precision and operational reliability of the equipment, ultimately achieving high-efficiency, precision, and green machining.

● 电子螺旋导轨技术
Electronic Helical Guideway Technology

电子螺旋导轨技术以数控系统、多轴联动与闭环控制替代传统机械导轨，实现高精度柔性螺旋运动控制，主要用于斜齿轮插齿加工，精度达 GB5 级，支持螺旋角校正、热处理变形补偿、齿形修形、在线检测。该技术国内首创，打破国外技术封锁，支撑风电、新能源汽车、机器人等高端零部件自主制造，是国产高端齿轮机床的核心突破。

Electronic Helical Guideway Technology replaces traditional mechanical guideways with CNC system, multi-axis linkage and closed-loop control to achieve high-precision flexible helical motion control. It is mainly used for helical gear shaping, with accuracy up to GB Grade 5. The technology supports helix angle correction, heat treatment deformation compensation, profile modification and on-machine inspection.Pioneered in China, this technology breaks foreign technological blockades, supports the independent manufacturing of high-end components for wind power, new energy vehicles, robotics and other fields, and represents a core breakthrough for domestic high-end gear machine tools.



通过采用数控技术，省掉了螺旋导轨，缩短了更换工件时的准备时间。

By adopting CNC technology, the helical guideway is eliminated, shortening the setup time for workpiece changeover.

核心技术
Core Technologies

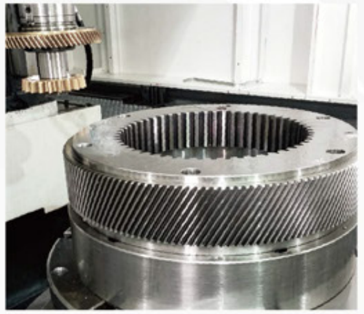
● 液压直驱控制技术
Hydraulic Direct-Drive Control Technology

液压直驱伺服控制技术整合液压与数控系统，提升响应速度和智能化，避免指令延迟导致的精度损失和过冲现象。通过优化高频换向比例伺服阀组控制原理，改进阀芯设计，采用多层先导级闭环控制，实现伺服油缸快速精准换向。该技术兼容制齿专家系统，支持智能管控，显著提升系统性能与稳定性。

Hydraulic Direct-Drive Servo Control Technology integrates hydraulic and CNC systems to improve response speed and intelligence, avoiding accuracy loss and overshoot caused by command delay. By optimizing the control principle of high-frequency switching proportional servo valve manifolds, improving the spool design, and adopting multi-stage pilot closed-loop control, rapid and precise switching of the servo cylinder is realized. This technology is compatible with the gear manufacturing expert system, supports intelligent management and control, and significantly improves system performance and stability.

● 一次装夹加工内外齿技术
Technology for Internal and External Gear Machining in One Clamping

一次装夹实现加工：自动调整让刀机构到内齿让刀方式，调用程序先加工内直齿。加工完成后刀具上停，刀具退出工件，让刀自动转换至外齿让刀位置，Z1 轴调整高度到外斜齿位置，调用程序加工外斜齿。实现一次装夹，加工内外齿。应用于 YKW 系列电子螺旋导轨机床。



Machining in a single clamping: The tool relieving mechanism is automatically adjusted to the internal gear relieving mode, and the program is called to machine internal spur gears first. After machining, the tool stops at the upper position and withdraws from the workpiece. The relieving mechanism automatically switches to the external gear relieving position. The Z1 axis adjusts to the height for external helical gears, and the program is called to machine external helical gears. This realizes machining of internal and external gears in a single clamping. It is applied to YKW series machine tools with electronic helical guideway.

● 大小行程自动调整技术
Automatic Large & Small Stroke Adjustment Technology

适配多品种齿轮快速换产，解决传统手动调参精度低、效率低的问题。该技术依托数控系统，结合伺服驱动与高精度检测，实现行程一键自动设定与补偿，调整精度达 0.01mm 级。集成行程极限与安全监测机制，实时反馈、补偿误差，有效防止过切与碰撞，减少磨损，提升效率与稳定性，是产品智能化的关键技术。

It adapts to the rapid production changeover of various gears and solves the problems of low precision and low efficiency in traditional manual parameter adjustment. Based on the CNC system, combined with servo drive and high-precision detection, this technology realizes one-key automatic setting and compensation of strokes, with adjustment accuracy up to 0.01 mm. It integrates stroke limits and safety monitoring mechanisms for real-time feedback and error compensation, effectively preventing overcutting and collisions, reducing wear, and improving efficiency and stability. It is a key technology for product intelligence.

● 插齿主轴自动平衡技术
Automatic Balancing Technology for Gear Shaping Spindle

YKH5132H 小型高效数控插齿机配备全平衡驱动箱，降低机床震动和噪音，保证精度稳定性。

YKW 系列电子螺旋导轨插齿机通过曲柄盘偏心大小来调大行程，为了避免偏心引起震动，在偏心轴的一侧设置配重块，且该配重块能随机床行程的调整自动偏心位置，实现主运动自动平衡功能，满足高速旋转要求。

The YKH5132H small high-efficiency CNC gear shaping machine is equipped with a full-balance drive box, which reduces machine vibration and noise and ensures stable accuracy.

For the YKW series electronic helical guideway gear shaping machines, the stroke is adjusted by changing the eccentricity of the crank disc. To prevent vibration caused by eccentricity, a counterweight is installed on one side of the eccentric shaft. This counterweight can automatically adjust its eccentric position synchronously with the machine stroke adjustment, realizing the automatic main motion balancing function and meeting the requirements of high-speed rotation.

● 主轴直驱控制技术
Spindle Direct-Drive Control Technology

电子螺旋导轨插齿机采用主运动直驱与刀架旋转直驱技术，通过取消中间传动环节，有效提升传动刚性与动态响应性能，满足高精度齿轮加工要求。其中 YKW5132A 工作台配置力矩电机直驱结构，精度可达 GB4 级，为精密内齿、外齿及特殊齿形加工提供稳定可靠的精度保障。

The electronic helical guideway gear shaping machine adopts direct drive for main motion and direct drive for tool post rotation. By eliminating intermediate transmission components, it effectively improves transmission rigidity and dynamic response, meeting the requirements of high-precision gear machining.

Among them, the YKW5132A model is equipped with a torque motor direct-drive structure for the worktable, achieving accuracy up to GB Grade 4, providing stable and reliable precision guarantee for machining precision internal gears, external gears and special tooth profiles.

● 内外齿让刀自动转换技术
Automatic Relief Conversion Technology for Internal & External Gears

中型插齿机，YKW 电子螺旋导轨插齿机上配备内外齿让刀自动转换功能。通过凸轮轴的位移，实现内外齿自动转换，操作更方便。

At present, the automatic internal and external gear shifting function is standard-equipped on the full series of YKW universal gear shapers and the YK5150J gear shaper.

Automatic conversion between internal and external gears is realized through the displacement of the camshaft, making operation more convenient.

● 自动拉刀技术
Automatic Broaching Technology

可以提供规格从 320mm 到 650mm 插齿机的自动拉刀机构（HSK），配合辅助装刀机构，提高换型效率，方便用户使用。

We can provide automatic tool puller mechanisms (HSK) for gear shaping machines with specifications ranging from 320 mm to 650 mm.

Paired with auxiliary tool loading mechanisms, they improve changeover efficiency and facilitate user operation.

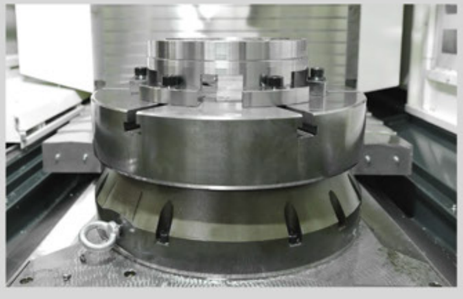
刮（车）齿机
CNC GEAR SKIVING MACHINE

高精高效高柔性的加工优势
由我们来呈现

High-precision, high-efficiency and high-flexibility machining advantages presented by us.

产品可实现直齿、斜齿、鼓形齿、锥度齿及多联齿的高精度加工，支持齿形齿向修形、无退刀槽加工、圆柱刀具加工、硬齿面加工、自动对齿与对刀、温度补偿等功能，是汽车、减速机、风电、工程机械等行业的首选。

The product enables high-precision machining of spur gears, helical gears, crowned gears, taper gears and multiple gears, and supports profile and lead modification, groove-free machining, cylindrical tool machining, hard gear surface machining, automatic gear alignment and tool setting, as well as temperature compensation. It is the preferred solution for industries including automotive, reducers, wind power and construction machinery.



小型刮齿机

CNC Small Gear Skiving Machine

产品介绍

Product Introduction

YK81 系列小型刮齿机适用于谐波、行星、RV 减速机等领域小模数内外齿轮的高效高精加工，机床切向进给轴设置在下侧，采用进口超高刚性线轨，X/Y 轴配置光栅尺，可实现六轴五联动和圆柱刀加工鼓形齿，精度达到 GB5 级。

YK81 Series Small Gear Scudding Machines are suitable for high-efficiency and high-precision machining of small-module internal and external gears in fields such as harmonic drives, planetary gearboxes and RV reducers.The tangential feed axis of the machine is arranged at the lower part. It adopts imported ultra-high rigidity linear guides, and the X/Y axes are equipped with linear encoders.It realizes 6-axis 5-linkage control and crown gear machining with cylindrical hobs. The machining accuracy reaches GB Grade 5.

重点参数

Key parameters

名称 Description		型号 Type	
		YK8112	YK8132A
最大加工直径 Max. workpiece diameter	mm	150	320
最大加工模数 Max. module	mm	2	4
刀架主轴端面到工作台面距离 Surface distance spindle/worktable	mm	185~515	185~550
刀柄接口 Tool taper		HSK-C100	HSK-C100
工作台面直径 Diameter of worktable	mm	220	350
工作台最高转速 Max.speed of the worktable	rpm	3000	2000
工作台电机功率 Worktable power	kW	31	41.6
主轴最高转速 Max.speed of cutter	rpm	3000	3000
主轴电机功率 Spindle power	kW	29.3	29.3
刀架旋转角度 Rotation angle of head	°	±25	±25
X轴最大行程 Max. travel of X-axis	mm	300	300
Y轴最大行程 Max. travel of Y-axis	mm	300	300
Z轴最大行程 Max. travel of Z-axis	mm	330	365
机床总功率 Total power	kW	90	110

加工案例

Processing cases

谐波减速机内齿圈

模数:0.212mm
齿数:202
螺旋角:0°
齿宽:9mm
加工时间:1min
加工精度:GB5级

摆动油缸齿轮(套件)

模数:2.546mm
齿数:26
螺旋角:45°
加工精度:GB5级

任意角度螺旋齿的加工，最大螺旋角度45°；
斜齿与直齿加工效率相当。

中型刮齿机
CNC Medium Gear Skiving Machine

产品介绍
Product Introduction

YK81 系列中型刮齿机适用于工程机械、矿山机械、风电等领域内外齿轮的高精高效加工，可实现圆柱刀加工，加工精度可达 GB5 级。

YK81 series medium-sized gear skiving machines are suitable for high-precision and high-efficiency machining of internal and external gears in fields such as construction machinery, mining machinery and wind power. They support cylindrical tool machining, with a machining accuracy up to GB 5 grade.


荣誉证书

宜昌长机科技有限责任公司：

在协会开展的先进会员表彰活动中，你单位“YK8150数控刮齿机”被评为2023年度自主创新十佳，特此予以表彰。

中国机床工具工业协会
二〇二四年四月


证 书

宜昌长机科技有限责任公司：

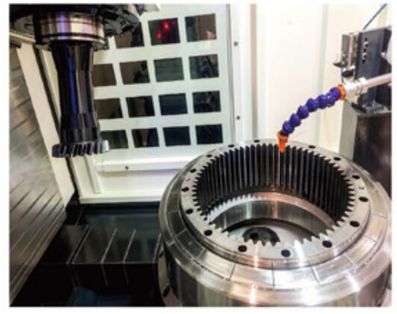
你公司设计的作品“YK8150数控刮齿机”荣获第五届“楚天杯”工业设计大赛工业装备类银奖。

重点参数
Key parameters

名称 Description		型号 Type	
		YK8150	YK8165
最大加工直径 Max. workpiece diameter	mm	600	650
最大加工模数 Max. module	mm	8	10
刀架主轴端面到工作台面距离 Surface distance spindle/worktable	mm	180~830	200~750
刀柄接口 Tool taper		HSK-B160	HSK-B160
工作台面直径 Diameter of worktable	mm	600	650
工作台最高转速 Max.speed of the worktable	rpm	1000	500
工作台电机功率 Worktable power	kW	58	53
主轴最高转速 Max.speed of cutter	rpm	2200	1600
主轴电机功率 Spindle power	kW	58	58
刀架旋转角度 Rotation angle of head	°	±25	±25
X轴最大行程 Max. travel of X-axis	mm	500	500
Y轴最大行程 Max. travel of Y-axis	mm	400	400
Z轴最大行程 Max. travel of Z-axis	mm	650	550
机床总功率 Total power	kW	150	145

加工案例
Processing cases

工程机械齿圈



模数：5.5mm　　齿数：66

齿宽：120mm　　加工时间：21min

加工精度：GB6级

机器人自动上下料应用

大型刮齿机

CNC Large Gear Skiving Machine

产品介绍

Product Introduction

YK81 系列大型刮齿机适用于矿山机械、工程机械、风电等领域大模数大直径内外齿轮的高精高效加工，可实现圆柱刀加工，加工精度可达 GB5 级。

YK81 Series Large Gear Skiving Machine is designed for high-precision and high-efficiency machining of large-module, large-diameter internal and external gears in mining machinery, construction machinery and wind power applications. It supports cylindrical tool machining, with a maximum machining accuracy up to GB 5 grade.

重点参数

Key parameters

名称 Description		型号 Type		
		YK8180	YK8180A	YK81125
最大加工直径 Max. workpiece diameter	mm	800	800	1250
最大加工模数 Max. module	mm	12	12	16
刀架主轴端面到工作台面距离 Surface distance spindle/worktable	mm	180~830	350~1200	250~1100
刀柄接口 Tool taper		HSK-B160	HSK-B160	HSK-B160
工作台面直径 Diameter of worktable	mm	950	950	1250
工作台最高转速 Max.speed of the worktable	rpm	500	500	450
工作台电机功率 Worktable power	kW	53	53	90
主轴最高转速 Max.speed of cutter	rpm	1600	1600	1600
主轴电机功率 Spindle power	kW	58	58	58
刀架旋转角度 Rotation angle of head	°	±25	±25	±25
X轴最大行程 Max. travel of X-axis	mm	500	500	880
Y轴最大行程 Max. travel of Y-axis	mm	400	400	500
Z轴最大行程 Max. travel of Z-axis	mm	650	850	850
机床总功率 Total power	kW	148	148	175

加工案例

Processing cases

人字齿硬齿面加工

模数：7.2mm　齿数：119
螺旋角：20°　材料：18CRNIMO7-6
硬度：HRC61　刀具：硬齿合金

风电太阳轮

模数：10mm

核心技术
Core Technology

● 圆柱刀加工技术
Cylindrical Cutter Machining Technology

开发了专用的圆柱刮齿刀加工工艺软件，可实现无后角圆柱刀加工，与传统的圆锥刀相比，具备以下优势：

1、圆柱刀可修磨次数更多，加工成本更低；

2、圆柱刀修磨前后齿形精度一致性好，机床参数无需调整；

3、工件齿形加工精度保持性好，特别适合 RV 减速机针齿壳圆弧齿加工。

4、可六轴五联动，实现圆柱刀加工鼓形齿，左右两侧一致性 0.001mm。

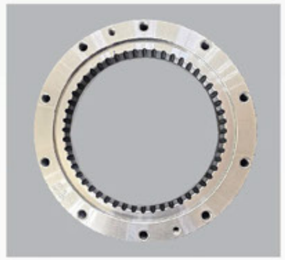
We have developed dedicated process software for machining cylindrical skiving cutters, enabling the machining of cylindrical cutters without relief angles. Compared with conventional conical cutters, it offers the following advantages:

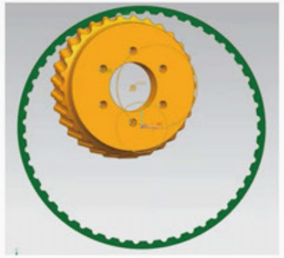
Cylindrical cutters allow more regrinding cycles, resulting in lower machining costs.

High consistency in tooth profile accuracy before and after regrinding, with no need to adjust machine parameters.

Excellent stability of workpiece tooth profile machining accuracy, especially suitable for machining circular arc teeth of pin gear housings for RV reducers.

Capable of 6-axis, 5-linkage control to machine drum-shaped gears with cylindrical cutters, achieving a consistency of 0.001 mm on both left and right flanks.





● 力矩电机直驱控制技术
Torque Motor Direct Drive Control Technology

采用力矩电机直接驱动工作台或主轴，取消蜗轮蜗杆等中间传动，实现零间隙传动。系统配高分辨率编码器，低速运行平稳无爬行，动态响应快、抗扰动能力强，可显著提高齿轮分度精度与齿面质量，应用于刮（车）齿、磨齿、插齿等齿轮加工机床。

The worktable or spindle is directly driven by a torque motor, eliminating intermediate transmissions such as worm gear and worm shaft, thus achieving zero-backlash transmission.

Equipped with a high-resolution encoder. It ensures stable low-speed operation without crawling, fast dynamic response and strong disturbance resistance.

This technology can significantly improve gear indexing accuracy and tooth surface quality, and is applied to gear processing machines including skiving (turning), grinding and shaping machines.

It is applied to gear processing machines including gear skiving (turning), gear grinding and gear shaping.

● 干式切削技术
Dry Cutting Technology

采用低温冷风替代传统湿切，不仅符合绿色制造发展趋势，而且刀具寿命提高 1 倍以上，极大降低刀具和冷却液使用成本。

By adopting low-temperature cold air instead of traditional wet cutting, it not only follows the development trend of green manufacturing, but also more than doubles tool life, significantly reducing the cost of tools and cutting fluids.

● 齿形齿向修形技术
Profile and Lead Modification Technology

通过连续啮合切削和数控联动，在齿形和齿向上精确实现各种复杂曲线修形，修形精度可达微米级，适用于汽车变速箱、新能源电机、减速机、风电内齿圈等领域。

Through continuous meshing cutting and CNC linkage, various complex curve modifications can be accurately achieved on the profile and lead of gear teeth, with modification accuracy reaching the micrometer level. It is suitable for applications such as automotive transmissions, new energy motors, reducers, and wind power internal gear rings.

● 复合加工控制技术
Compound Machining Control Technology

在刮齿机上安装刀库，结合工业机器人和自动化产线，借助自主研发的专用软件，一次装夹即可实现齿轮的车削、粗、精刮齿、倒角等复合加工，实现刮齿工艺的智能化加工，自动完成精密齿轮的一体化加工，进一步提高加工效率和质量。

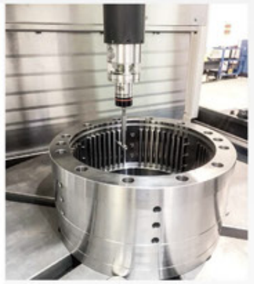
By equipping the gear skiving machine with a tool magazine, combined with industrial robots and automated production lines, and supported by independently developed special software, one-time clamping can realize composite machining of gears including turning, rough and fine skiving, chamfering and other processes.

This achieves intelligent machining for the gear skiving process, automatically completes the integrated machining of precision gears, and further improves machining efficiency and quality.

● 自动对齿技术
Automatic Gear Meshing Technology

通过使用接触或非接触式测头，实现刀具和工件更换后自动对齿功能，可满足粗精组合加工、硬齿面加工、双联齿加工等需求。

Through the use of contact or non-contact probes, the automatic gear meshing function is realized after tool and workpiece replacement, meeting the requirements of roughing-finishing combined machining, hard gear surface machining, double gear machining, etc.



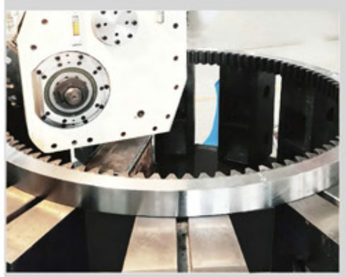
铣齿机
CNC GEAR MILLING MACHINE

探索和发现更多可能性
用匠人精神打造出精湛的高效率机床

Explore and Discover More Possibilities
Crafted with artisanal precision, our high-efficiency machine tools are designed to open up new horizons for gear manufacturing

我们可提供规格覆盖 400mm-16000mm 的全系列铣齿机，支持内齿 / 外齿、直齿 / 斜齿、软齿面 / 硬齿面齿轮的加工需求，具备完整的定制化设计、制造与交付能力。

We offer a full range of gear milling machines covering diameters from 400mm to 16,000mm, capable of machining internal / external, spur / helical, and soft / hard gear surfaces. We provide complete customized design, manufacturing and delivery solutions.



中大型铣齿机

CNC Medium and Large Gear Milling Machine

产品介绍

Product Introduction

YK83 系列中大型铣齿机主要用来加工内外圆柱直齿轮、斜齿轮。特别适用于风电、回转支承、工程机械、矿山机械、冶金机械等相关行业的行星减速机、增速箱、偏航轴承内外齿圈及变桨轴承内齿齿廓的加工。

机床由床身、立柱、双蜗轮静压工作台、铣刀架等部件组成，主要部件均通过有限元分析、动态模拟计算，结构合理，刚性好，强度高。机床采用立柱移动、工作台固定的立式 L 型布局方式。铣刀架采用自带动力的独立单元，带动铣削刀具进行旋转，实现加工内外直齿、斜齿轮的要求。

The YK83 series medium and large gear milling machines are mainly used for machining external and internal spur gears and helical gears.They are especially suitable for the machining of gear profiles in planetary reducers, speed increasers, internal and external gear rings of yaw bearings, and internal gears of pitch bearings for wind power, slewing bearings, construction machinery, mining machinery, metallurgical machinery and other related industries.
The machine tool consists of bed, column, double worm hydrostatic worktable, milling head and other components. All key components are designed through finite element analysis (FEA) and dynamic simulation, featuring reasonable structure, high rigidity and high strength.The machine adopts a vertical L-type layout with moving column and fixed worktable.The milling head is an independent powered unit that drives the milling cutter to rotate, meeting the requirements for machining external and internal spur and helical gears.


荣誉证书

宝鸡长机科技有限责任公司：

在协会开展的先进会员表彰活动中，你单位“YK83200(A)数控铣齿机”产品被评为2022年度产品质量十佳，特此予以表彰。

中国机床工具工业协会
二〇二三年四月

内铣头

最小加工内径400mm

最大加工齿宽1100mm

重点参数

Key parameters

名称 Description		型号 Type						
		YK83200B	YK83300C	YK83300D	YK83400B	YK83400C	YK83500B	YK83600
最大模数 Max. module	mm	26	26	26	32	32	32	32
最大内齿内径(直齿) Max. diameter of internal gear	mm	2400	3300	3200	4600	4600	5600	6700
最大外齿外径(直齿) Max. diameter of external gear	mm	2200	3100	3000	4500	4500	5500	6500
最小内齿内径(直齿) Min. diameter of internal gear	mm	800	1150	1100	1800	1500	2150	2400
最小外齿外径(直齿) Max. diameter of external gear	mm	260	950	900	1700	1300	2200	2250
最大螺旋角 Max. helical angle	°	±25	±25	±25	±25	±25	±25	±25
内直齿最大齿宽 Max. face width for intenal gear	mm	600	600	600	600	600	600	600
外直齿最大齿宽 Max. face width for extenal gear	mm	1000	1000	1000	1000	1000	1000	1000
内齿工件环形厚度(含工装) Max. annular thickness of the workpiece for Intenal	mm	370	370	370	370	370	370	370
内齿刀盘中心悬深 Internal milling housing vertical face with the cutter Center	mm	700	700	700	700	700	700	700
刀盘中心距后壁距离 Internal milling housing vertical face with the cutter Center	mm	600	600	600	600	600	600	600
工作台直径 Worktable diameter	mm	1850	2500	2500	3500	3000	3900	3900
工作台承重 Max. load for the table	t	约20	约40	约20	约50	约50	约100	约120
铣刀中心距工作台面距离 Distance between internal cutter center& table center	mm	400~1550	450~1600	370~1520	450~1550	450~1600	550~1650	550~1650
内齿铣刀架中心距工作台中心距离 Distance between internal rest & table center	mm	0~1075	350~1520	320~1460	630~2190	520~2200	900~2650	980~3220
外齿铣刀架中心距工作台中心距离 Distance between external milling head & table center	mm	270~1355	630~1800	600~1730	960~2520	800~2500	1230~2980	1260~3500
刀盘直径 Milling cutter diameter	mm	420~440	420~440	420~440	440~500	440~500	440~500	440~500
刀盘厚度 Milling cutter width	mm	90	90	90	120	120	120	120
刀盘孔径 Milling cutter arbor diameter	mm	90	90	90	100	100	100	100
切削速度 Cutting speed	mm/min	0~350	0~350	0~350	0~350	0~350	0~350	0~350
快进(退)速度 Fast feeding(back) speed	mm/min	0~1800	0~1800	0~1800	0~1800	0~1800	0~1800	0~1800
工作台转速 Table speed	rpm	0~2	0~1.25	0~2	0~1.25	0~1.25	0~1.5	0~1.5
刀盘转速 Milling cutter speed	rpm	70~140	70~140	70~140	70~140	70~140	70~140	70~140
主轴径跳 Spindle runout	mm	0.01	0.01	0.01	0.01	0.01	0.01	0.01
主电机功率 Spindle power	kW	45	45	45	55	55	55	55
机床总功率 Total power	kW	约78	约95	约95	约105	约105	约120	约120

超大型铣齿机

CNC Super Large Milling Machine

产品介绍

Product Introduction

YK83 系列超大型数控铣齿机主要用来加工内外圆柱直齿轮、斜齿轮。特别适用于回转支承、矿山、冶金、船舶等相关行业超大型内、外圆柱齿轮的高效加工。

机床由床身、立柱、双蜗轮静压工作台、铣刀架等部件组成，主要部件均通过有限元分析、动态模拟计算，结构合理，刚性好，强度高。机床采用立柱移动、工作台固定的立式 L 型布局方式。铣刀架采用自带动力的独立单元，带动铣削刀具进行旋转，实现加工内外直齿、斜齿轮的要求。

YK83 Series Super-large CNC Gear Milling Machines are mainly used for machining internal and external cylindrical spur gears and helical gears.
They are particularly suitable for high-efficiency machining of super-large internal and external cylindrical gears in slewing bearing, mining, metallurgy, shipbuilding and other related industries.
The machine comprises bed, column, double-worm hydrostatic worktable, milling head and other components.
All key components are designed through finite element analysis and dynamic simulation, featuring reasonable structure, high rigidity and high strength.The machine adopts a vertical L-shaped layout with moving column and fixed worktable.
The milling head is an independent self-driven unit that drives the milling cutter to rotate, so as to machine internal and external spur gears and helical gears.

重点参数

Key parameters

名称 Description		型号 Type				
		YK83800	YK831000	YK831250	YK831400	YK831600
最大模数 Max. module	mm	40	40	40	40	40
最大内齿内径(直齿) Max. diameter of internal gear	mm	8100	10000	12500	14000	16000
最大外齿外径(直齿) Max. diameter of external gear	mm	8400	10000	12500	14000	16000
最小内齿内径(直齿) Min. diameter of internal gear	mm	4200	5000	7400	8100	11000
最小外齿外径(直齿) Max. diameter of external gear	mm	4000	4600	7000	7800	10500
最大螺旋角 Max. helical angle	°	±15	±15	±15	±15	±15
内直齿最大齿宽 Max. face width for intenal gear	mm	750	750	750	750	750
外直齿最大齿宽 Max. face width for extenal gear	mm	1200	1200	1200	1200	1200
内齿工件环形厚度(含工装) Max. a nnular thickness of the workpiece for Intenal	mm	400	400	400	400	400
内齿刀盘中心悬深 Internal milling housing vertical face with the cutter Center	mm	800	800	800	800	800
刀盘中心距后壁距离 Internal milling housing vertical face with the cutter Center	mm	650	650	650	650	650
工作台直径 Worktable diameter	mm	5500	6000	6000	6000	6000
附加工作台直径(选配) Additional workbench diameter (optional)	mm	7500	9000	小:8500 大:11000	小:9500 大:12500	小:11500 大:14500
工作台承重 Max. load for the table	t	150	200	250	250	250
铣刀中心距工作台面距离 Distance between internal cutter center& table center	mm	500~2000	500~2000	500~2000	500~2000	500~2000
内齿铣刀架中心距工作台中心距离 Distance between internal rest & table center	mm	1550~3950	2215~5000	3450~6250	3800~7000	5200~8000
外齿铣刀架中心距工作台中心距离 Distance between external milling head & table center	mm	2100~4500	2450~5290	3680~6490	4030~7240	5400~8240
刀盘直径 Milling cutter diameter	mm	450~500				
刀盘厚度 Milling cutter width	mm	120				
刀盘孔径 Milling cutter arbor diameter	mm	100				
切削速度 Cutting speed	mm/min	0~350				
快进(退)速度 Fast feeding(back) speed	mm/min	0~1500				
工作台转速 Table speed	rpm	0~1				
刀盘转速 Milling cutter speed	rpm	70~140				
主轴径跳 Spindle runout	mm	0.01				
机床总功率 Total power	kW	约150				

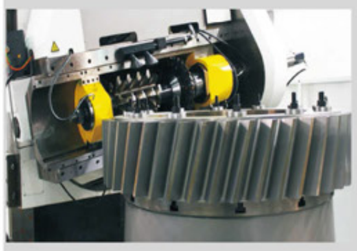
滚齿机
CNC GEAR HOBBING MACHINE

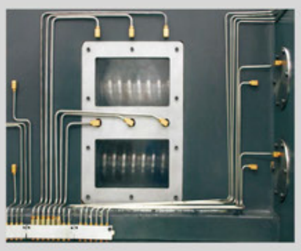
我们将重新定义滚齿机
开启高效工艺

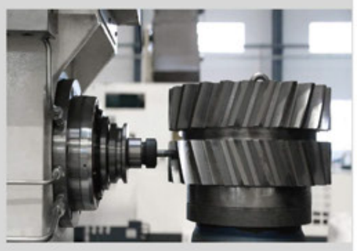
We Will Redefine Hobbing Machines, Pioneering Efficient Processes

产品可实现直齿、斜齿、锥度齿等多种外齿轮的高效加工，通过更换内滚刀架或内齿铣刀架，可拓展内齿轮加工能力；搭配人字齿专用附件，即可完成人字齿加工。

The machine enables efficient machining of various external gears such as spur, helical and taper gears. Its internal gear processing capability can be extended by switching to an internal hob head or internal gear milling head, and herringbone gear machining can be realized with a dedicated herringbone gear attachment.







中大型立式滚齿机

CNC Medium and Large Vertical Gear Hobbing Machine

产品介绍

Product Introduction

YK31 中大型系列高效滚齿机适用于工程机械、风电、回转支承、矿山、冶金等行业的中大型高精度外圆柱齿轮加工；可以加工各种直齿轮、斜齿轮、小锥度齿轮、鼓形齿轮、蜗轮等。

机床系纵向布局的立式机床，由床身、立柱、工作台、滑座、滚刀架等主要部件组成，并配备单独的液压站和磁性排屑器。机床为六轴数控机床，采用交流伺服驱动，可实现四轴联动。

YK31 Medium and Large Series High-Efficiency Gear Hobbing Machines are suitable for machining large high-precision external cylindrical gears in construction machinery， wind power, slewing bearing, mining, metallurgy and other industries. They can process various spur gears, helical gears, low-taper gears, drum gears, worm gears, etc.

The machine is a vertically structured machine tool with a longitudinal layout, consisting of main components such as bed, column, worktable, slide carriage and hob head, and is equipped with an independent hydraulic station and magnetic chip conveyor. As a 6-axis CNC machine, it adopts AC servo drive and Siemens ONE CNC system, enabling 4-axis linkage.

重点参数

Key parameters

名称 Description		型号 Type								
		YK3150	YK3180B YK3180C	YK31125A	YK31160A	YK31200A	YK31300A	YK31300B	YK31400A	YK31600
最大加工工件直径 Max. workpiece diameter	mm	500	800	1250	1600	2000	3000	3000	4000	6000
最大加工模数 Max. module	mm	12	20	25	25	25	25	25	30	30
最大加工齿宽 Max. face width	mm	400	600	800	800	800	800	800	1600	1600
最大螺旋角 Max. helical angle	°	±45	±45	±45	±45	±45	±45	±45	±45	±35
滚刀转速 Rotation speed of hob	rpm	40~450	20~150	20~150	20~150	20~150	20~250	10~150	10~150	10~150
滚刀最大直径/长度 Max. diameter of hob/length of hob	mm	270/300	350/500	450/700	450/700	450/700	450/700	450/700	450/700	450/700
主轴中心至工作台中心距离 Center distance spindle/worktable	mm	50~410	50~600	150~870	150~1050	300~1300	300~1750	550~1800	400~2300	1200~3500
刀具回转中心至工作台面距离 Distance cutter center/worktable surface	mm	250~800	200~1000	500~1600	500~1600	500~1600	700~1800	500~1600	700~2500	900~2700
工作台最大承重 Max. load bearing of worktable	kg	500	2000	10000	10000	20000	20000	30000	40000	120000
工作台直径 Diameter of worktable	mm	500	800	1300	1500	1850	1850	2500	2500	3500
工作台孔径 Diameter of worktable bore	mm	140	200	300	300	500	500	600	600	1000
工作台转速 Worktable rotary speed	rpm	0~20	0~15	0~10	0~10	0~7.5	0~7.5	0~5	0~5	0~2
径向进给速度 Radial feed speed	mm/min	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000
轴向进给速度 Axial feed speed	mm/min	0~1000	0~1000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000
机床总功率 Total power	kW	约70	约70	约100	约100	约100	约100	约120	约120	约160
可选人字齿加工 Optional Herringbone Gear Machining	●是 ○否	○	○	○	○	●	●	●	●	●

超大型立式滚齿机

CNC Super Large Vertical Gear Hobbing Machine

产品介绍

Product Introduction

YK31 超大型系列高效滚齿机适用于轨道交通、风电、矿山、冶金等超大型高精度外圆柱齿轮加工；可以加工各种直齿轮、斜齿轮等。

机床系纵向布局的立式机床，由床身、立柱、工作台、滑座、滚刀架等主要部件组成，并配备单独的液压站和磁性排屑器，独立的落地式电气柜置于机床一侧。本机床为六轴数控机床，采用交流伺服驱动可实现四轴联动。

YK31 Ultra-large Series High-efficiency Gear Hobbing Machines are suitable for machining ultra-large high-precision external cylindrical gears in transportation, wind power, mining, metallurgy and other industries. They can process various spur gears, helical gears, etc.
The machine is a vertical machine tool with a longitudinal layout, consisting of main components such as bed, column, worktable, slide carriage and hob head. It is equipped with an independent hydraulic station, magnetic chip conveyor, and a separate floor-standing electric cabinet installed on one side of the machine.
This is a 6-axis CNC machine tool adopting AC servo drive, which can realize 4-axis linkage.

重点参数

Key parameters

名称 Description		型号 Type		
		YK31800	YK311250	YK311600
最大加工工件直径 Max. workpiece diameter	mm	8000	12500	16000
最大加工模数 Max. module	mm	50	50	50
最大加工齿宽 Max. face width	mm	1600	1600	1600
最大螺旋角 Max. helical angle	°	±25	±25	±25
滚刀转速 Rotation speed of hob	rpm	10~150	10~150	10~150
滚刀最大直径/长度 Max. diameter of hob/length of hob	mm	550/700	550/700	550/700
主轴中心至工作台中心距离 Center distance spindle/worktable	mm	2000~4500	2000~7000	2000~8500
刀具回转中心至工作台面距离 Distance cutter center/worktable surface	mm	800~2600	800~2600	800~2600
工作台最大承重 Max. load bearing of worktable	kg	150000	250000	250000
工作台直径 Diameter of worktable	mm	5500	5500	5500
工作台孔径 Diameter of worktable bore	mm	1000	1000	1000
工作台转速 Worktable rotary speed	rpm	0~2	0~2	0~2
径向进给速度 Radial feed speed	mm/min	0~3000	0~3000	0~3000
轴向进给速度 Axial feed speed	mm/min	0~3000	0~3000	0~3000
机床总功率 Total power	kW	约200	约200	约200
可选人字齿加工 Optional Herringbone Gear Machining	●是 ○否	●	●	●

中小型卧式滚齿机

CNC Small and Medium Horizontal Gear Hobbing Machine

产品介绍

Product Introduction

YK36 系列中小型卧式滚齿机适合于采矿设备、船舶、港口机械等行业的齿轮加工。可用于加工各类直、斜齿圆柱齿轮、花键、鼓形齿、蜗轮等工件。机床可实现六轴四联动，可高速干切加工，精度达到 GB6 级。

YK36 Series Small and Medium-sized Horizontal Gear Hobbing Machines are suitable for gear machining in industries such as mining equipment, shipbuilding and port machinery.
They can process various workpieces including spur and helical cylindrical gears, splines, drum gears, worm gears and others.
The machine supports 6-axis 4-linkage control, enables high-speed dry cutting, and achieves machining accuracy up to GB 6 grade .

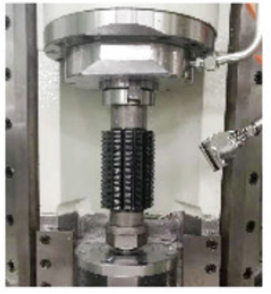

荣誉证书

重点参数

Key parameters

名称 Description		型号 Type		
		YK3620	YK3650A	YK3680
最大加工直径 Max. workpiece diameter	mm	200	500	800
最大工件长度 Max. workpiece length	mm	1200	3200	4000
最大加工模数 Max. module	mm	6	20	25
刀具回转轴线与工件回转线距离 Axis distance between cutter and workpiece	mm	40~180	100~430	100~650
径向/轴向进给速度 Radial/Axial feed speed	mm/min	0~5000	0~2000	0~3000
滚刀转速 Speed of hob	rpm	20~1200	20~250	20~250
最大滚刀直径/长度 Max. diameter /Max.length of hob	mm	140/200	350/400	450/400
刀架旋转角度 Rotstional angle of cutter head	°	±45	±45~90	±45~90
机床总功率 Total power	kW	约50	约66	约100

滚刀架

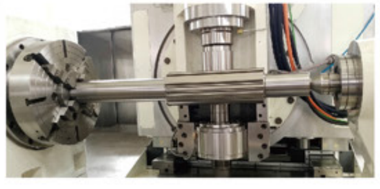


工作台

加工案例

Processing cases

斜齿圆柱齿轮加工



花键齿滚齿加工

摆动油缸外齿轴加工

大型卧式滚齿机

CNC Large Horizontal Gear Hobbing Machine

产品介绍

Product Introduction

YK36 系列大型卧式滚齿机应用于采矿设备、船舶、港口机械等行业的齿轮加工，可用展成法加工渐开线齿形的直齿、斜齿圆柱齿轮和人字齿轮、蜗轮、鼓形齿。能够采用单分度进行齿轮开槽和矩形外花键铣削，刀具主轴回转和床头箱主轴回转两者同步关系靠数控系统中的电子齿轮箱来实现，精度达到 GB6 级。

YK36 Series Large Horizontal Gear Hobbing Machines are applied to gear machining in industries such as mining equipment, shipbuilding and port machinery.
They can machine spur gears, helical cylindrical gears with involute profiles, herringbone gears, worm gears and drum gears using the generating method.
They are capable of gear slotting and rectangular external spline milling via single indexing.
The synchronous relationship between the tool spindle rotation and headstock spindle rotation is realized by the electronic gearbox in the CNC system, with machining accuracy reaching GB 6 grade.

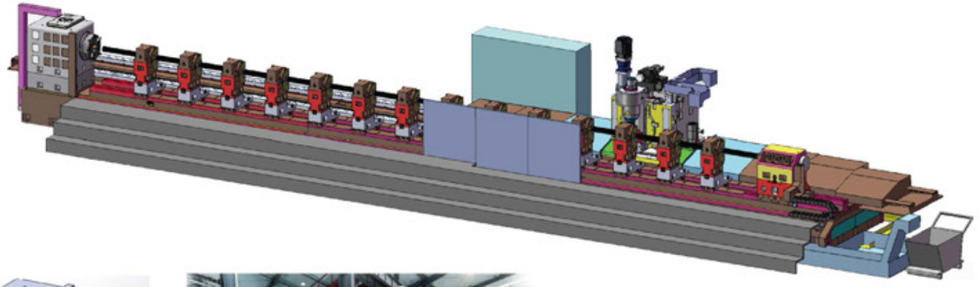
重点参数

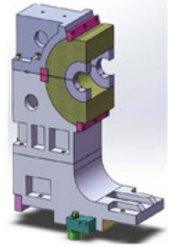
Key parameters

名称 Description		型号 Type	
		YKC3650	YK36125
最大加工直径 Max. workpiece diameter	mm	500	1250
最大工件长度 Max. workpiece length	mm	15000	5000
最大加工模数 Max. module	mm	20	32
刀具回转轴线与工件回转线距离 Axis distance between cutter and workpiece	mm	100~430	100~850
径向/轴向进给速度 Radial/Axial feed speed	mm/min	0~2000	0~3000
滚刀转速 Speed of hob	rpm	20~250	25~250
最大滚刀直径/长度 Max. diameter /Max.length of hob	mm	350/400	450/400
刀架旋转角度 Rotstional angle of cutter head	°	±45~90	±45~90
机床总功率 Total power	kW	约96	约132

YKC3650*15米数控卧式滚齿机

YKC3650 * 15m CNC horizontal gear hobbing machine





工件滑动支撑中心架

YKC3650*15米数控卧式滚齿机

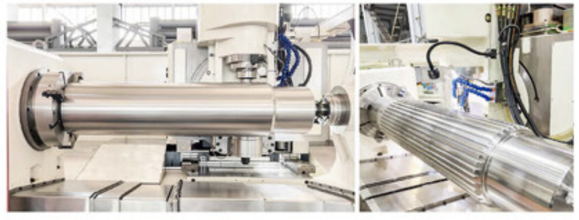
技术特点：刀具窜刀运动可与 B、C、Z 轴联动，实现滚齿的同时均匀窜刀，减少刀具磨损对工件精度的影响。

Technical Features: The tool shifting movement can be linked with B, C and Z axes, realizing uniform tool shifting during gear hobbing, thus reducing the influence of tool wear on workpiece accuracy.

加工案例

Processing case

人字齿齿轮轴加工



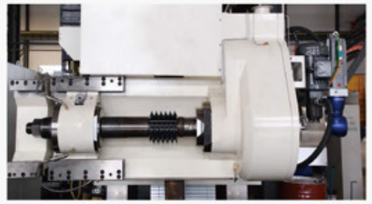
长轴齿加工

核心技术
Core Technology

● 高精度滚铣刀架研制技术
Development Technology for High-Precision Hob-Milling Head

铣刀架采用大功率变频电机，采用高精度斜齿轮传动，液压柔性全消隙结构，完全消除传动间隙；滚刀架采用大功率水冷主轴伺服电机，滚刀主轴末端传动齿轮采用大直径少齿差消隙结构，完全消除传动间隙。保证机床加工有足够的刚性、抗振动性和精度的稳定性。

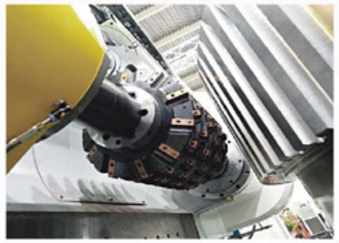
The milling head adopts a high-power variable-frequency motor with high-precision helical gear drive and a hydraulic flexible full backlash elimination structure, which completely eliminates transmission backlash.The hobbing head adopts a high-power water-cooled spindle servo motor, and the transmission gear at the end of the hob spindle adopts a large-diameter, small tooth difference backlash elimination structure to completely eliminate transmission backlash.This ensures sufficient rigidity, vibration resistance and stable machining accuracy of the machine tool.

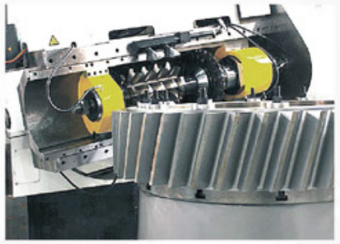


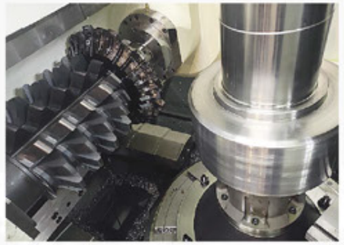
● 滚铣复合工艺技术
Hobbing and Milling Compound Process Technology

在一台机床上同时安装滚刀、铣刀，利用自主研发的专用控制软件，一次装夹即可实现铣齿、滚齿工序的复合，完成大型精密齿轮的加工。提高加工效率的同时降低了加工成本。(国内首创)

Both hob and milling cutter are installed on one machine. With self-developed special control software, the combination of gear milling and gear hobbing can be achieved in a single clamping, realizing the machining of large-scale precision gears. This improves machining efficiency while reducing production costs. (Pioneered in China)







● 无间隙传动技术
Backlash-free Transmission Technology

差齿消隙技术：滚铣刀架主运动采用大功率主轴伺服电机驱动，经过高精度齿轮副传至滚铣刀架主轴，滚铣刀架主轴末端传动齿轮采用大直径差齿消隙结构，完全消除传动间隙，保证机床加工有足够的刚性、抗振动性和精度的保持性。(专利技术)

双蜗轮副消隙：大型工作台中采用双蜗轮蜗杆技术消除蜗轮副传动间隙，保障高效、高精加工。

导轨消隙：镶钢导轨与滚动体相结合，确保重型机床切削过程中直线轴运动无间隙。

Differential Tooth Backlash Elimination Technology:The main motion of the hobbing-milling head is driven by a high-power spindle servo motor and transmitted to the spindle via high-precision gear pairs. The transmission gear at the spindle end adopts a large-diameter differential tooth backlash elimination structure, which completely eliminates transmission backlash, ensuring sufficient rigidity, vibration resistance and long-term accuracy retention of the machine tool. (Patented Technology)

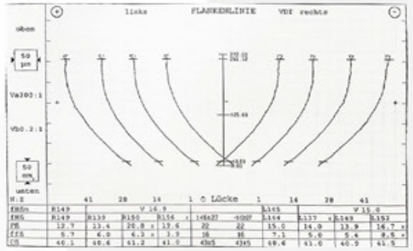
Double Worm Gear Pair Backlash Elimination:Double worm and worm gear technology is adopted in the large rotary table to eliminate transmission backlash of the worm gear pair, ensuring high-efficiency and high-precision machining.

Guideway Backlash Elimination:Steel-embedded guideways are combined with rolling elements to ensure backlash-free linear axis movement during heavy-duty machine cutting.

● 鼓形齿加工技术
Crowned Gear Machining Technology

通过高精度的 X 轴微量进给，高准确的 X 轴和 Z 轴联动，以及开发专用程序，实现倒锥齿加工、鼓形齿加工、倒锥和鼓型组合加工，满足精加工需求。

Through precise micro-feed of the X-axis, high-accuracy synchronization of the X and Z axes, and customized special programming, the machine realizes tapered tooth machining, crowned gear machining, and combined machining of taper and crowning, meeting high-precision finishing requirements.



● 精密静压工作台技术
Precision Hydrostatic Worktable Technology

大型机床的回转工作台由于负载很大，均采用了卸荷装置，当负载变化大时，通常需要手动调整。静压工作台能根据负载变化自适应调节：当工作台负载发生变化时，布置于油腔里面的电涡流位移传感器发出位移变化信号，反馈至液压伺服动力与压力比例阀控制器，实现对泵输出流量的控制，从而实现工作台的自适应调节。

针对中大型插齿机、滚齿机、铣齿机等机床，工件旋转轴(工作台)采用静压工作台技术，以取代传统的锥孔定位结构。静压工作台具有运动阻力小、功率消耗小、速度范围广、承载能力大、旋转精度高、使用寿命长等优点。

Due to the heavy load, the rotary tables of large machine tools are generally equipped with unloading devices, which usually require manual adjustment when the load varies greatly.

The hydrostatic worktable enables adaptive adjustment according to load changes: when the worktable load changes, the eddy current displacement sensors installed in the oil chambers send displacement variation signals, which are fed back to the hydraulic servo power and proportional pressure valve controller to control the pump output flow, thus realizing adaptive adjustment of the worktable.

For medium and large gear shaping machines, gear hobbing machines, gear milling machines and other machine tools, the workpiece rotation axis (worktable) adopts hydrostatic worktable technology to replace the traditional tapered hole positioning structure.

The hydrostatic worktable features low motion resistance, low power consumption, wide speed range, high load capacity, high rotation accuracy and long service life.

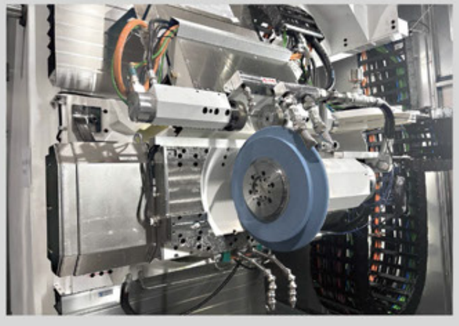
磨齿机
CNC GEAR GRINDING MACHINE

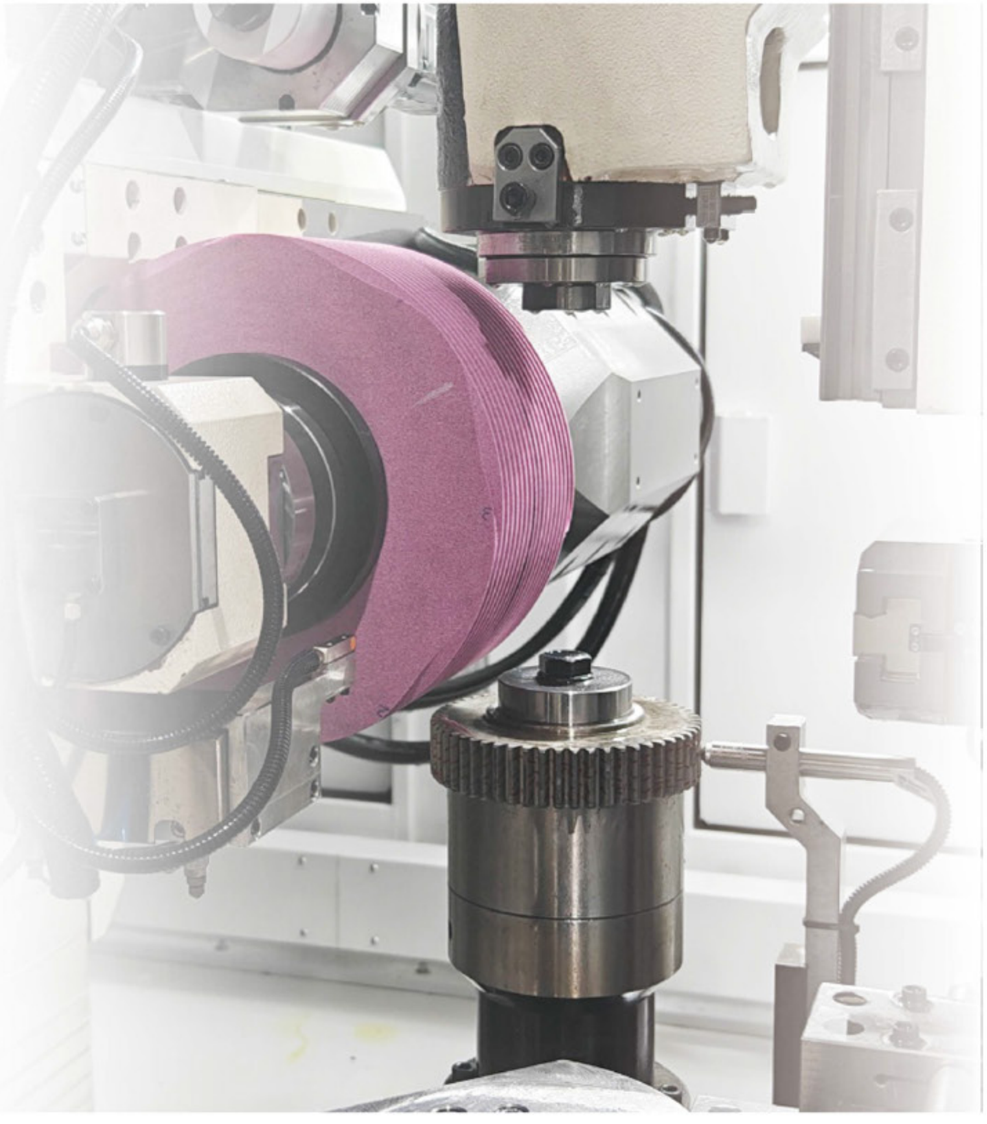
专注核心技术研发，为齿轮精加工打造高效率、高精度的解决方案

Focused on core technology R&D, we deliver high-efficiency, high-precision solutions for precision gear finishing.

设备采用高刚性、热稳定性、模块化的结构设计，具备加工精密、效率优异、刚性强、稳定可靠、软件功能完善、操作便捷等特点，为齿轮精加工提供可靠保障。

Featuring a highly rigid, thermally stable and modular structural design, the equipment delivers precision machining, exceptional efficiency, strong rigidity, reliable stability, comprehensive software functions and user-friendly operation, providing solid assurance for precision gear finishing.





成形磨齿机
CNC Profile Gear Grinding Machine

产品介绍
Product Introduction

YK73 系列成形磨齿机主要应用于风电齿轮箱、大型锻压设备、工程机械回转支承、冶金矿山设备所需高精度大型齿轮精密磨削加工。采用立式布局，主要由主机、电柜、冷却系统、油雾分离装置、液压系统部件等构成，其标准基型产品为九轴五联动。机床配置基于西门子 ONE 系统独立自主开发的成形磨齿工艺软件，界面友好，集成多种齿形齿向修形功能，内置磨齿工艺专家系统，掌握核心算法，提高磨削加工质量。

The YK73 series CNC form gear grinding machines are mainly used for the precision grinding of high-precision large gears required by wind power gearboxes, large forging equipment, engineering machinery slewing bearings, and metallurgical and mining equipment.
Adopting a vertical layout, the machine mainly consists of the main body, electric cabinet, cooling system, oil mist separator, hydraulic system components, etc. Its standard base model features a twelve-axis five-linkage control system.
The machine is equipped with independently developed form gear grinding process software based on the Siemens ONE system, which features a user-friendly interface and integrates multiple profile and lead modification functions. With a built-in gear grinding process expert system and proprietary core algorithms, the machine significantly improves grinding quality.

重点参数
Key parameters

名称 Description		型号 Type			
		YK7350	YK73250	YK73300	YK73400
最大加工齿顶圆直径 Max. workpiece diameter	mm	500	2500	3000	4000
最小加工齿根圆直径 Min. root diameter	mm	0	0	150	750
最大加工模数 Max. module	mm	10	45	45	45
最大加工齿深 Max. gear depth	mm	30	100	100	100
螺旋角 Helix angle	°	±45	±45	±45	±45
主轴电机最大功率 Spindle power	kw	38	37	37	37
砂轮主轴转速 Spindle speed	r/min	3000~4000	3000~3600	3000~3600	3000~3600
最大砂轮宽度 Max. wheel width	mm	160	130	130	130
砂轮最大线速度 Max. wheel speed	m/s	50	50	50	50
砂轮使用直径 Wheel diameter range	mm	ϕ185~300	ϕ210~450	ϕ210~450	ϕ210~450
主轴砂轮孔安装直径 Spindle hole diameter	mm	127 (5inch)	127 (5inch)	127 (5inch)	127 (5inch)
X 轴最大行程 X - axis travel	mm	500	1400	1625	1750
X 轴最大进给速度 Max.X – axis feed	mm/min	3000	6000	6000	6000
Y 轴最大行程 Y - axis travel	mm	250	300	300	300
Y 轴最大进给速度 Max.Y - axis feed	mm/min	6000	6000	6000	6000
Z 轴最大行程 Z - axis travel	mm	1100	1500	1500	1500
Z 轴最大进给速度 Max. Z – axis feed	mm/min	6000	6000	6000	6000
修整滚轮最大直径 Dressing wheel diameter	mm	160	120	120	120
金钢滚轮安装孔径 Diamond wheel hole diameter	mm	52	35	35	35
砂轮中心至工作台面距离 Distance from wheel center to table	mm	600~1700	550~2050	550~2050	550~2050
工作台面直径 Table diameter	mm	ϕ600	ϕ1850	ϕ2000	ϕ2500
工作台最大承重 Max. load	kg	500	25000	25000	40000

蜗杆砂轮磨齿机

CNC Continuous Generating Gear Grinding Machine

产品介绍

Product Introduction

YK7232 蜗杆砂轮磨齿机适于汽车、工程机械等行业中所使用的精密减速机中的中小模数齿轮精密磨削加工。主机采用高刚性、热对称性、模块化的设计理念，采用立式布局，主要由主机、电柜、冷却系统、油雾分离装置、液压系统部件等构成，其标准基型产品为十二轴五联动。机床具有高精度、高效率、高刚性、高可靠性、高智能化等特点。

YK7232 Worm Wheel Gear Grinding Machine is suitable for the precision grinding of small and medium module gears in precision reducers used in the automotive, construction machinery and other industries.
The main machine adopts a design concept of high rigidity, thermal symmetry and modularization, with a vertical layout. It mainly consists of the main body, electric cabinet, cooling system, oil mist separator, hydraulic system and other components. Its standard basic model features 12-axis 5-linkage control.The machine tool is characterized by high precision, high efficiency, high rigidity, high reliability and high intelligence.


尾 座


高速直驱工作台


高精度修整主轴


机床配置两种对齿装置


高精度磨削主轴


机床冷却系统

重点参数

Key parameters

名称 Description		型号 Type
		YK7232
最大直径 Max. workpiece diameter	mm	φ320
最大齿宽 Max. face width	mm	250
最大加工模数 Max. module	mm	6
最大工件螺旋角 Max. workpiece helical angle	°	±45
砂轮中心到工作台中心水平距离(X轴) Horizontal center distance grinding wheel /worktable(X-axis)	mm	105~380
立柱进给最大速度(X轴) Max. speed of X-axis	mm/min	10000
砂轮窜刀最大移动量(Y轴) Max. travel of grinding wheel channeling(Y-axis)	mm	240
砂轮中心到工作台台面垂直距离(Z轴) Vertical center distance grinding wheel /worktable (Z-axis)	mm	140~515
滑板最大速度(Z轴) Max. speed of slide(Z-axis)	mm/min	10000
砂轮主轴最高转速(B轴) Max. grinding wheel spindle speed(B-axis)	rpm	7000
工作台最高转速(C轴) Max. rotation speed of worktable(C-axis)	rpm	1500
修整滚轮转速(B3轴) Dressing roller speed(B3-axis)	rpm	3000～6000
砂轮主轴功率(B轴) Spindle power of the grinding wheel(B-axis)	kW	38
砂轮芯轴接口 Grinding wheel core shaft interface	mm	HSK—C80
砂轮规格(外径×内径×长度) Dimension of grinding wheel	mm	280×φ115×160
机床总功率 Total power	kW	约110

加工案例

Processing case

行星轮

模数:5mm　　齿数:27
齿形角:24°

自动上下料应用

核心技术
Core Technologies

● 大型静压精密直驱工作台技术
Large-Scale Hydrostatic Precision Direct-Drive Worktable Technology

工作台采用闭式静压系统，承载能力强，静压流量根据工件负载自适应调节，保证工件浮起量一致，直驱电机直接驱动转台，动态响应特性好，工作台分度精度达到 3 弧秒 。

The worktable adopts a closed hydrostatic system with high load-bearing capacity. The hydrostatic flow is adaptively adjusted according to the workpiece load to ensure a consistent floating height of the workpiece. The turntable is directly driven by a direct-drive motor, featuring excellent dynamic response, and the indexing accuracy of the worktable reaches 3 arc seconds.

● 在线测量与补偿技术
On-machine Measurement and Compensation Technology

在机测量能实时监控零件的加工质量，对不合格的零件迅速做出判断并自动计算修正补偿方案进一步加工，保证用最短的工艺时间生产出质量最好的、误差最小的产品，适应高效率的要求。

On-machine measurement enables real-time monitoring of part machining quality. It can quickly identify non-conforming parts and automatically calculate correction and compensation schemes for further machining, ensuring production of high-quality products with minimal errors in the shortest process time to meet high-efficiency requirements.

● 面向降噪的展成磨削齿面波纹度预测及调控技术
Noise-Oriented Technology for Prediction and Control of Tooth Surface Waviness in Generating Grinding

基于空间曲面啮合原理，建立蜗杆砂轮与工件齿面的接触方程，对齿面微观形貌和表面粗糙度进行三维建模，基于展成磨削过程中磨削工艺参数、砂轮与工件参数、机床误差、机床状态等关键数据构建齿面波纹度预测模型，研发出基于工艺参数优化的齿面波纹度调控技术。

Based on the spatial surface meshing theory, the contact equation between the worm grinding wheel and the workpiece tooth surface is established, and 3D modeling is performed for the tooth surface micro-topography and surface roughness. Relying on key data during the generating grinding process, including grinding parameters, wheel and workpiece parameters, machine tool errors, and machine tool conditions, a tooth surface waviness prediction model is constructed. A tooth surface waviness control technology based on process parameter optimization is developed.

● 高速直驱磨削主轴自适应同步控制技术
Adaptive Synchronous Control Technology for High-Speed Direct-Drive Grinding Spindle

直驱主轴在高速加工时的回转精度对负载变化非常敏感，不同的负载需要匹配相适应的驱动参数，本技术通过实时采集负载数据，对电机驱动参数进行自动适应调整以达到最理想的工作状态，保证负载变化后主轴仍然具有很高的回转精度。

The rotational accuracy of direct-drive spindles during high-speed machining is highly sensitive to load variations. Different loads require matching appropriate drive parameters. This technology automatically adapts and adjusts motor drive parameters through real-time load data acquisition to achieve optimal operating conditions, ensuring that the spindle maintains high rotational accuracy even under varying loads.

● 高速高精磨削电主轴智能化监控技术
Intelligent Monitoring Technology for High-Speed & High-Precision Grinding Motor Spindle

磨削电主轴性能直接影响机床整体的性能、生产效率和加工精度。磨齿机床配置 AE 声发射传感器、位移传感器、加速度传感器以及温度传感器对磨削主轴的振动、温度及形变进行监控、预警、可视化和补偿。

The performance of the grinding motor spindle directly affects the overall performance, production efficiency and machining accuracy of the machine tool.
The gear grinding machine is equipped with AE acoustic emission sensors, displacement sensors, acceleration sensors and temperature sensors to monitor, provide early warning, visualize and compensate for the vibration, temperature and deformation of the grinding spindle.

● 复杂修形齿面展成磨削加工齿面扭曲误差补偿技术
Technology for Compensation of Tooth Surface Twist Error in Generating Grinding of Complex Modified Tooth Flanks

建立齿向修形斜齿轮齿面方程，基于展成磨齿加工工艺理论规划齿向修形齿轮磨削工艺的砂轮路径轨迹并对蜗杆砂轮磨齿中产生压力角偏差和齿向偏差补进行补偿。

The tooth surface equation of helical gears with longitudinal profile modification is established. Based on the generating gear grinding theory, the grinding wheel path for longitudinally modified gears is planned, and pressure angle deviation and lead deviation occurring in worm grinding are compensated.

齿条/齿扇加工机床

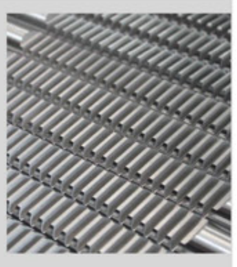
RACK & SECTOR GEAR PROCESSING MACHINE TOOLS

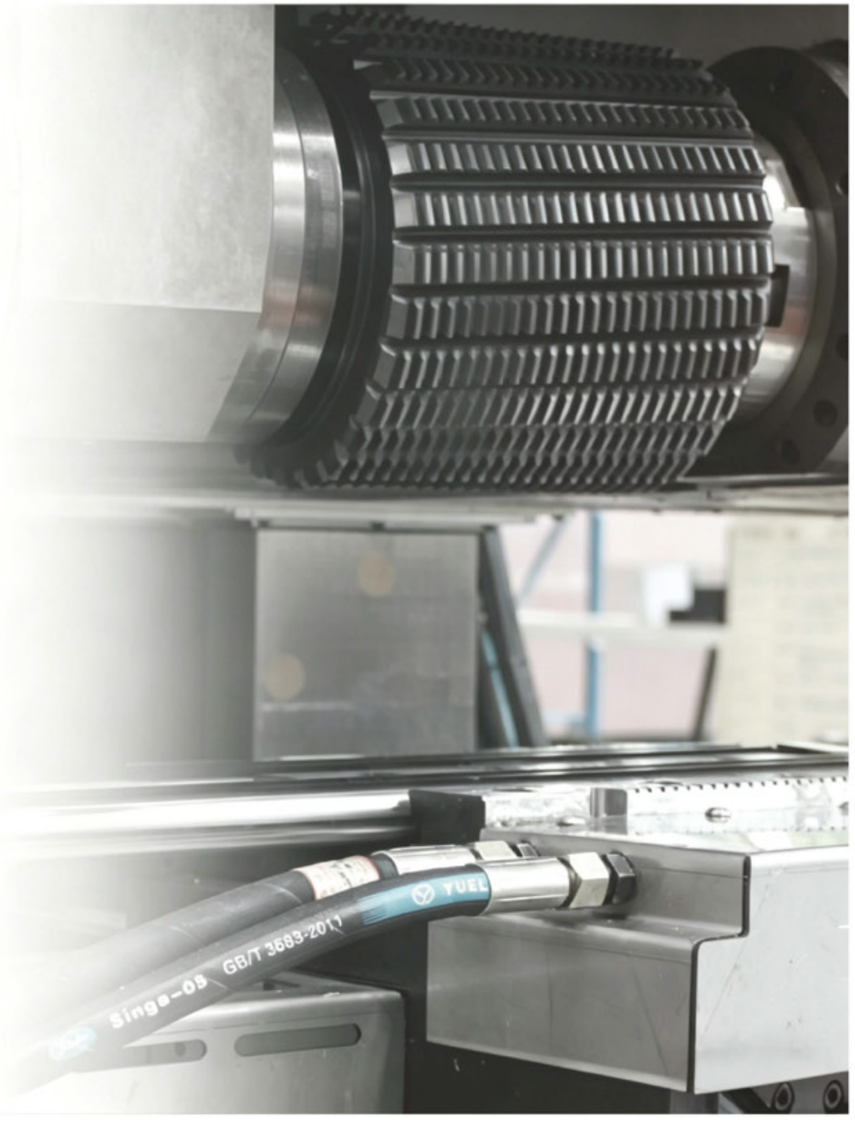
插、铣、磨齿条/齿扇全系列机床为客户提供齿条加工成套解决方案

We provide a full lineup of rack and sector gear machines (shaping, milling, grinding) to offer customers total solutions for rack manufacturing.

公司是国内唯一一家同时主持齿条插齿机、齿条铣齿机和齿条磨齿机行业标准制定单位。
产品适用于汽车、工程机械等行业齿条 / 齿扇的加工与强力磨削需求。

The company is the only enterprise in China that has presided over the formulation of industrial standards for rack shapers, rack milling machines and rack grinding machines simultaneously.
Its products are designed to meet the machining and heavy-duty grinding requirements of racks and gear sectors in the automotive, construction machinery and other industries.





齿条/齿扇插齿机

CNC Rack/Sector Gear Shaping Machine

产品介绍

Product Introduction

YK58 系列齿条插齿机广泛应用于各类直、斜齿条的加工。特别适用于汽车转向器、工程机械、电梯和机床等制造业的大批量生产使用，也可供机械制造业中单件或小批量的加工。

YK56 系列齿扇插齿机适用于汽车转向器行业，加工微、轻、中、重型汽车定速比、变速比、变比鼓形齿、非圆摇臂轴齿扇等。

The YK58 series rack gear shapers are widely used for machining various straight racks and helical racks. They are particularly suitable for mass production in manufacturing industries such as automotive steering gears, construction machinery, elevators and machine tools, and also applicable for single-piece or small-batch processing in the mechanical manufacturing sector.
The YK56 series sector gear shapers are dedicated to the automotive steering gear industry. They can machined constant-ratio, variable-ratio and crowned teeth, as well as non-circular rocker shaft sector gears for mini, light, medium and heavy-duty vehicles.

重点参数

Key parameters

齿条插齿机

CNC Rack Shaping Machines

名称 Description		型号 Type				
		YKR5832	YKW5860	YK58125	YK58200	YK58300
最大加工直齿长度 Max. length of rack straight	mm	300	600	1250	2000	3000
最大模数 Max. module	mm	4	8	12	12	12
加工斜齿螺旋角 Angle of rack	°	±20	±45	±30	±30	±30
插齿刀最大冲程长度 Max. cutter stroke length	mm	60	120	160	160	160
插齿刀主轴冲程数 Stroke speed	str/min	300~800	0~1250	60~300	60~300	60~300
插齿刀行程位置调整量 Adjusting amount of cutter travel	mm	30	30	50	50	50
工作台切向进给速度(Y轴) Feed speed of worktable	mm/min	0~3000	0~1000	0~1000	0~1000	0~1000
插齿刀让刀量 Cutter relieving	mm	⩾0.3	⩾0.3	⩾0.5	⩾0.5	⩾0.5
插齿刀安装轴颈直径 Diameter of cutter neck	mm	31.743	31.743	31.743	31.743	31.743
工作台面尺寸 Worktable dimension	mm	50x400	800x450	1350x490	2150x490	3150x490
插齿刀安装端面至工作台面距离 Surface distance spindle/worktable	mm	75~165	150~570	160~370	160~370	160~370
机床总功率 Total power	kW	约25	85	约30	约30	约30

齿扇插齿机

CNC Sector Gear Shaping Machines

名称 Description		型号 Type
		YK5612D
最大工件直径 Max. workpiece diameter	mm	150
最大加工模数 Max. module	mm	12
最大加工齿宽 Max. face width	mm	80
梳齿刀最大冲程长度 Max. stroke length	mm	90
主运动冲程数 Stroke speed	mm	60~600
切削角 Cutting angle	°	0~10
刀位调整量 Cutter adjusting	mm	50
圆周进给量 Rotary feeding	mm/str	0~2
梳齿刀让刀量 Cutter relieving	mm	⩾0.3
工作台直径 Diameter of worktable	mm	300
工作台孔径 Diameter of worktable bore	mm	70
X轴行程 X-axis travel	mm	125
X轴径向进给速度 Speed of X-axis radial feed	mm/min	0~3000
Y轴行程 Y-axis travel	mm	260
Y轴切向进给速度 Speed of Y-axis tangential feed	mm/min	0~2250
机床总功率 Total power	kW	约25

齿条铣齿机

CNC Rack Gear Milling Machine

产品介绍

Product Introduction

YK85 系列齿条铣齿机适用于汽车转向器、轨道交通等制造业大批量生产各类直、斜齿条，也可供机械制造业单件或小批量的加工。

The YK85 series rack milling machines are suitable for mass production of various straight and helical racks in manufacturing sectors such as automotive steering gears and rail transit. They are also applicable for single-piece and small-batch processing in the mechanical manufacturing industry.

重点参数

Key parameters

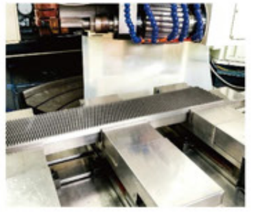
名称 Description		型号 Type		
		YK8532A	YK85125	YK85200A
最大加工长度 Max. workpiece length	mm	300	1250	2000
最大加工模数 Max. module	mm	12	30	30
加工斜齿条角度范围 Max. helical angle	°	±25	±25	±25
最大加工宽度（直齿） Max. workpiece width(straight rack)	mm	/	400	400
工作台最大承重 Max. load for worktable	kg	/	3000	5000
工作台尺寸 Worktable dimension	mm	560 x 760	600 x 1250	825 x 2900
铣刀最大尺寸 Max. size of milling cutter	mm	Φ320~190±2倍齿深	Φ320~190+2倍齿深	Φ320~190+2倍齿深
最大装刀宽度 Max. mounting width of milling cutter	mm	300	300	300
主轴电机功率 Spindle power	kW	37（S1）	37（S1）	37（S1）
主轴转速 Spindle speed	rpm	40~350	40~350	40~350
主轴装刀轴直径 Diameter of cutter neck	mm	Φ60	Φ60	Φ60
刀具纵向进给速度 Cutter longitudinal feed speed	mm/min	1200	1200	1200
刀具垂直进给速度 Cutter vertical feed speed	mm/min	500	500	500
工作台横向进给速度 Worktable transverse feed speed	mm/min	/	2000	2000
机床总功率 Total power	kW	51	60	60

加工案例

Processing cases

凸缘叉端面齿

转向器活塞螺母



齿条加工

齿条/齿扇磨齿机

CNC Rack/Sector Gear Grinding Machine

产品介绍

Product Introduction

YK78 系列齿条磨齿机广泛应用于各类直、斜齿条的硬齿面精密磨削加工。其中 YK7832A 为强力齿条成型磨齿机，专注于深切缓进给磨削工艺，可实现小模数齿条、转向器齿条轴、连杆、突缘、突缘叉的一次成型的批量加工。YKA7832A 能实现齿条、转向器齿条轴、连杆、活塞螺母齿条、突缘、突缘叉的硬齿面成型磨削，还能实现任意切削角的摇臂轴齿扇展成磨削加工，并且能实现定比、变比、鼓形、偏心等特殊齿形磨削加工，具备齿形、齿向修形功能。

The YK78 series rack grinding machines are widely used for precision hard-tooth-flank grinding of various straight and helical racks.The YK7832A is a heavy-duty profile grinding machine for racks. Adopting the deep-cutting and creep-feed grinding process, it supports one-step forming mass machining of small-module racks, steering gear rack shafts, connecting rods, flanges and flange yokes.The YKA7832A can perform hard-tooth-flank profile grinding on racks, steering gear rack shafts, connecting rods, piston nut racks, flanges and flange yokes. It is also capable of generating grinding for rocker shaft sector gears at arbitrary cutting angles, as well as machining special tooth profiles including constant-ratio, variable-ratio, crowned and eccentric teeth. It is equipped with functions for tooth profile modification and lead modification.


荣誉证书


荣誉证书

重点参数

Key parameters

齿条磨齿机

齿扇磨齿机

名称 Description		型号 Type		
		YK7832A	YKA7832A	YK78200
最大加工模数 Max. module	mm	20	12	18
最大加工齿部长度 Max. gear length	mm	320	320	2000
主轴电机功率 Spindle power	kW	110	74	45
最大砂轮转速 SP1 speed	rpm	2500	3000	4000
最大金刚滚轮轴转速 SP2 speed	rpm	4500	4500	10000
最大砂轮宽度 Max. grinding wheel width	mm	240	240	105
最大砂轮直径 Max. grinding wheel diameter	mm	Φ600	Φ500	Φ400
主轴砂轮孔安装直径 Mounting diameter of spindle grinding wheel hole	mm	Φ203	Φ203	Φ152.4（6inch）
X轴最大行程 Max. travel of X-axis	mm	1250	1250	500
X轴最大进给速度 Max. feeding speed of X-axis	mm/min	20000	20000	10000
Y轴最大行程 Max. travel of Y-axis	mm	500	500	2000
Y轴最大进给速度 Max. feeding speed of Y-axis	mm/min	6000	6000	10000
Z轴最大行程 Max. travel of Z-axis	mm	400	400	400
Z轴最大进给速度 Max. feeding speed of Z-axis	mm/min	2000	2000	6000
金刚滚轮直径 Emery wheel diameter	mm	Φ160	Φ160	Φ200
砂轮中心至工作台面距离 Distance grinding wheel worktable	mm	250~750	250~750	150~450
工作台面安装尺寸（长度X宽度） Workbench mounting dimension (length X width)	mm	1500X400	1500X400	2750X525
移动工作台最大承重 Max. load-bearing capacity of workbench	Kg	1500	1500	2500
机床总功率 Total power	kW	约150	约110	约110

摇臂轴精密磨削

修磨前

修磨后

匠心制造
MANUFACTURING

六十多年 坚持匠心制造
Over 60 years of dedication to craftsmanship

我们拥有完整的工艺工序制造能力，涵盖从原材料的检测、下料、锻造到冷加工、热加工、部 / 总装、钣金、涂装等全流程工艺。拥有完善的过程质控体系及完备的加工装配厂房，配备各类先进的加工设备 500 余台套，其中瑞士、德国、美国、英国、捷克等进口精密设备 70 余台套，机床数控化率 90%以上。强大的加工、检测能力涵盖机床铸件、钢件、铜件、钣金件等所有自制零件的粗、半精加工以及精加工。

公司专门建成 1 万平方米恒温加工及装配车间，结合精密机床产品特点，实现核心零部件恒温加工、装配，进一步保障高端精密机床产品的制造精度与稳定性。

We possess a complete set of manufacturing capabilities covering the entire process flow, from raw material inspection, blanking and forging to cold working, thermal working, component/final assembly, sheet metal processing, painting and more. We have a sound in-process quality control system and complete processing and assembly workshops, equipped with more than 500 sets of various advanced processing equipment, including over 70 sets of imported precision equipment from Switzerland, Germany, the United States, the United Kingdom, the Czech Republic and other countries, with a CNC rate of machine tools exceeding 90%. Our strong processing and inspection capabilities cover roughing, semi-finishing and finishing of all in-house manufactured parts, including machine tool castings, steel parts, copper parts and sheet metal parts.

The company has specially built a 10,000-square-meter constant-temperature processing and assembly workshop. In line with the characteristics of precision machine tool products, it realizes constant-temperature processing and assembly of core components, further ensuring the manufacturing accuracy and stability of high-end precision machine tool products.

原材料控制
Stringent Raw Material Quality Control

我们对原材料进行严格控制，配备德国布鲁克光谱仪、德国蔡司金相显微镜以及拉伸试验机，对原材料的化学成分、金相组织以及力学性能进行全面检验，确保采购的铸件、钢材、铜件等原料的性能可靠，从源头保障产品质量。

We exercise strict control over raw materials, equipped with German Bruker spectrometers, German Zeiss metallographic microscopes, and tensile testing machines. We conduct comprehensive inspections on the chemical composition, metallurgical structure, and mechanical properties of raw materials to ensure the reliable performance of purchased castings, steel products, copper parts, and other raw materials, thus guaranteeing product quality from the source.

德国布鲁克光谱仪

德国蔡司正置
材料显微镜

铸件稳定性工艺
Gasting Stability Technology

机床铸件应力释放程度直接关系到机床的可靠性，公司所有铸件均经一次自然时效、两次热时效以及一次振动时效，使得铸件的铸造应力和加工应力得以充分释放，有效的保障了机床的精度稳定性。

The degree of stress relief in machine tool castings directly affects the reliability of the machine tools. All castings produced by the company undergo one natural aging treatment, two thermal aging treatments and one vibration aging treatment, which fully release both casting stress and machining stress, thus effectively ensuring the dimensional and accuracy stability of the machine tools.

自然时效场

电热时效炉

天然气时效炉

表面处理工艺

Surface Treatment Technology

针对铸件、钢件、钣金件等表面处理，公司拥有喷砂和喷丸等多种工艺方案，均采用绿色环保处理设备。喷砂和抛丸工艺，不仅能实现表面的清洁、美观，还能对零件进行二次时效，提升其机械强度和使用寿命。

For the surface treatment of castings, steel parts and sheet metal parts, the company provides a variety of processes such as sand blasting and shot peening, all using eco-friendly treatment equipment.
Sand blasting and shot peening not only achieve clean and attractive surfaces, but also perform secondary stress relieving on parts, improving their mechanical strength and service life.

Q1520通过式抛丸机

热处理工艺

Gasting Stability Technology

热处理作为机床制造的关键工序，我们一直坚持自主加工、自主可控。公司配备进口爱协林箱式多功能炉生产线，可高效完成淬火、渗碳、渗碳淬火、碳氮共渗、清洗、回火等关键热处理工艺，有效提升零件综合力学性能与尺寸稳定性；同时配备井式气体氮化炉、高频表面淬火、辉光离子氮化等一系列先进热处理设备，全面满足机床零部件各类热处理工艺需求。

As a key process in machine tool manufacturing, heat treatment has always been independently processed and controlled in-house by the company.The company is equipped with an imported Aichelin multi-purpose box furnace production line, which can efficiently complete key heat treatment processes including quenching, carburizing, carburizing and quenching, carbonitriding, cleaning and tempering, effectively improving the comprehensive mechanical properties and dimensional stability of parts.In addition, the company is equipped with a full set of advanced heat treatment equipment: pit-type gas nitriding furnaces, high-frequency surface hardening, glow ion nitriding and other equipment, fully meeting various heat treatment requirements for machine tool components.

多功能炉生产线

导轨加工工艺

Guide Way Machining Process

机床导轨直接决定了机床加工的刚性、进给稳定性和精度保持性，公司具备铸铁淬硬导轨、镶钢导轨、滚动直线导轨、静压导轨等多种精密导轨设计、生产能力；经过几十年的技术积累，拥有超音频淬火机 1 台、德国科堡导轨磨 1 台、海克特导轨磨 3 台、南特导轨磨 2 台等；镶钢导轨最长可达 2400mm，淬硬层深度达 2-3.5mm，导轨直线度可达 0.003/2000mm，平面度 0.003mm，形成了精密导轨成套工艺解决方案。

Machine tool guideways directly determine the machining rigidity, feed stability and accuracy retention of machine tools. The company possesses the design and manufacturing capabilities for various precision guideways, including cast iron hardened guideways, steel-inserted guideways, rolling linear guideways and hydrostatic guideways.With decades of technological accumulation, the company is equipped with one super-audio frequency quenching machine, one German Coburg guideway grinder, three Heckert guideway grinders and two Nantes guideway grinders.The maximum length of steel-inserted guideways can reach 2400mm, with a hardened layer depth of 2–3.5mm. The guideway straightness can achieve 0.003/2000mm and flatness 0.003mm, forming a complete process solution for precision guideways.

德国海科特SZ-25-20龙门导轨磨床

济南二机XK2750×240数控定梁龙门移动镗铣床

德国科宝20FS-26-02导轨磨床

HKHC800CC超音频数控卧式导轨淬火机床

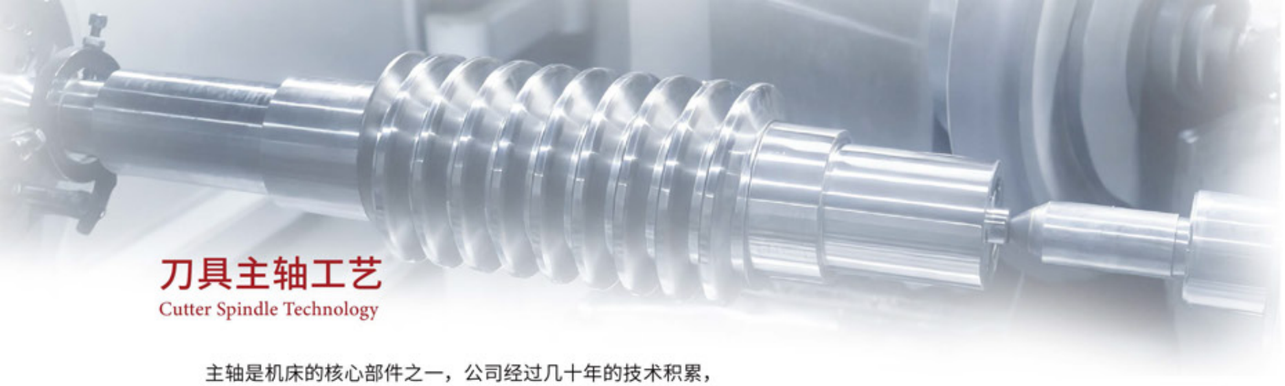
蜗轮副加工工艺

Worm Gear Pair Machining Process

蜗轮副是插齿机、滚齿机、铣齿机的工作台及刀架体的核心部件。公司具备双蜗轮消隙蜗轮副、双导程消隙蜗轮副等多种高精度蜗轮副的设计、加工能力。公司拥有国内外高精度蜗轮母机 6 台（其中 546 型高精度蜗轮母机加工直径达 5000mm，填补国内空白），蜗杆磨床 5 台，以及德国滚刀磨床、啮合仪等关键工艺设备，并自主研发了 YK37300、YK37600 等蜗轮母机、蜗轮副对研机，经过几十年的技术积累，形成了从母机制造、精密加工到精度检测的完整高精度蜗轮副及工作台的成套工艺解决方案，蜗轮副精度可达 ISO2 级。

546型高精度蜗轮母机

Worm gear pairs serve as core components of the worktables and tool carriers in gear shapers, gear hobbing machines, and gear milling machines. The company is capable of designing and manufacturing a variety of high-precision worm gear pairs, including dual-worm anti-backlash worm gear pairs and dual-lead anti-backlash worm gear pairs.It is equipped with 6 high-precision worm gear generating machines from both domestic and international sources, among which the Model 546 high-precision worm gear generating machine features a machining diameter of 5000 mm, filling a technological gap in China. The company also owns 5 worm grinding machines, as well as key processing equipment such as German-made hob grinders and meshing testers. In addition, it has independently developed worm gear generating machines including YK37300 and YK37600, and worm gear pair lapping machines.With decades of technological accumulation, the company has established a complete set of process solutions for high-precision worm gear pairs and worktables, covering master machine manufacturing, precision machining, and accuracy inspection. The precision of its worm gear pairs can reach ISO Class 2.



刀具主轴工艺
Cutter Spindle Technology

主轴是机床的核心部件之一，公司经过几十年的技术积累，形成了一整套成熟的工艺解决方案，具备多种精密主轴设计与制造能力。有磨齿机、刮齿机等高速、高精度直驱主轴，也有滚齿机、铣齿机等齿轮驱动大负载、抗冲击、高扭矩、高精度机械主轴；还有各种插齿机高速往复、直线运动高冲程主轴。

为保障主轴制造精度，配置了德国霍夫勒磨齿机、克林伯格超精磨、斯图特主轴磨、花键磨等一系列国际顶尖高精度加工设备，并组建了专业高技能人才团队，实现从设计、加工到检测的全流程质量管控。目前公司主轴回转精度可达 0.001mm，插齿机主轴冲程数最高可达 2500STR/mm，满足高端齿轮机床对主轴的性能要求。

The spindle is one of the core components of a machine tool. With decades of technical accumulation, the company has developed a complete set of mature technological solutions and possesses the design and manufacturing capabilities for various precision spindles. These include high-speed, high-precision direct-drive spindles for gear grinders and skiving machines; heavy-load, shock-resistant, high-torque, high-precision mechanical spindles driven by gears for gear hobbing machines and gear milling machines; as well as high-speed reciprocating and linear-motion high-stroke spindles for various gear shapers.

To ensure the manufacturing accuracy of spindles, the company is equipped with a series of top international high-precision processing equipment, including German HOFLER gear grinders, KELLENBERGER ultra-precision grinders, STUDER spindle grinders, and spline grinders. A professional team of highly skilled personnel has been established to implement full-process quality control from design and machining to inspection. At present, the spindle rotational accuracy of the company can reach 0.001 mm, and the maximum spindle stroke rate of gear shapers can reach 2500 str/min, meeting the performance requirements of high-end gear machine tools for spindles.

瑞士克林伯格J10-U1600内外圆磨床

德国霍夫勒RAPID 1600L数控磨齿机

箱体加工工艺
Housing Processing Technology

刀架体、工作台、铣刀架、驱动箱等箱体类零件是核心基础零件。针对插齿机、铣齿机、滚齿机、磨齿机、刮齿机等各种不同类型的高精度箱体，经过几十年来工艺技术发展，公司拥有了一系列国内外高精度箱体加工设备，包括 5 台瑞士 DIXI 坐标镗、4 台美国哈斯加工中心、德国 SCHARMANN 卧式加工中心、台湾达佛罗加工中心、亚威龙门加工中心、昆机加工中心、法国贝蒂立磨、台湾曙光立磨等，形成了一整套复杂箱体加工成套工艺解决方案。

Box-type parts such as tool housing, worktable, milling head and drive box are core fundamental components.For high-precision housings applied to various gear machines including gear shapers, gear milling machines, gear hobbing machines, gear grinding machines and gear scudding machines, the company has developed its processing technology over decades. It is equipped with a full range of high-precision housing machining equipment from home and abroad, including 5 Swiss DIXI coordinate boring machines, 4 American Haas machining centers, German SCHARMANN horizontal machining centers, Taiwan DAHLIH machining centers, YAWEI gantry machining centers, Kunming Machine Tool machining centers, French Forest Liné vertical grinding machines and Taiwan Shuguang vertical grinding machines.Accordingly, a complete integrated process solution for complex housing machining has been established.

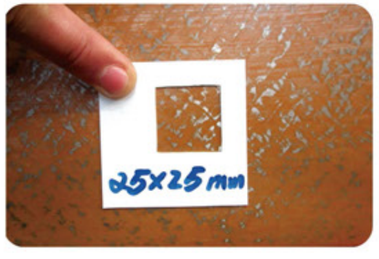
瑞士DIXI－5S坐标镗

刮研工艺

Scraping Technology

精密刮研工艺可消除机械加工无法处理的轻微偏差，精准实现零件之间结合面的微调，刮研后工件表面组织变得更紧密，可以大幅提高连接刚度，还能通过“微米”级的峰谷结构，实现润滑效果最大化，使得机床的精度保持性更高。是目前高刚性、高精度机床不可替代的工艺。

经过几十年的积累，公司培养了一支由十多名高级技师、技师组成的专业精密刮研团队，精密刮工艺覆盖公司全系产品；如电机座、螺母座、导轨压板安装面、静压导轨、静压工作台滑动面等均采用精密刮研工艺。



Precision scraping technology can eliminate slight deviations that cannot be addressed by mechanical machining and achieve precise fine-tuning of the joint surfaces between parts. After scraping, the workpiece surface structure becomes denser, which greatly improves the connection rigidity. In addition, the micron-level peak-valley structure maximizes the lubrication effect, resulting in higher accuracy retention of the machine tool. It is an irreplaceable process for high-rigidity and high-precision machine tools today.

After decades of accumulation, the company has cultivated a professional precision scraping team composed of more than ten senior technicians and technicians. The precision scraping process is applied to all the company's products, including motor mounts, nut seats, guideway pressure plate mounting surfaces, hydrostatic guideways, and sliding surfaces of hydrostatic worktables.

钣金加工工艺

Sheet Metal Processing Technology

公司具备完整的钣金设计、生产能力，拥有一万余平方米的钣金车间，配备了数控转塔冲、焊接机器人、激光切割机、数控折弯机、喷粉生产线等各种钣金工艺设备，具有机床各类型防护罩、结构件、液压站、排屑器、电柜等成套工艺解决方案。

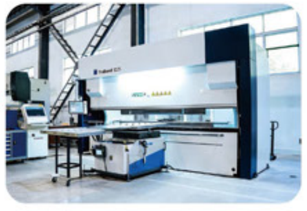
The company has complete sheet metal design and manufacturing capabilities, with a sheet metal workshop covering more than 10,000 square meters.It is equipped with a full range of sheet metal processing equipment, including CNC turret punches, welding robots, laser cutting machines, CNC press brakes, powder coating lines, etc.It provides integrated process solutions for various machine tool components: protective covers, structural parts, hydraulic stations, chip conveyors, and electrical cabinets.

切割-冲压-折弯-焊接-喷砂-喷粉全流程

Full Process: Cutting → Stamping → Bending → Welding → Sandblasting → Powder Coating

德国TRUMPF-Trulaser3030激光切割机

江苏亚威HPH-3047数控转塔冲床



德国TRUMPF-TruBend 1225 数控折弯机

机器人焊接自动化生产线

Q26YCCJ全自动刮板回收式喷砂房

JQ1612/6喷粉涂装生产线

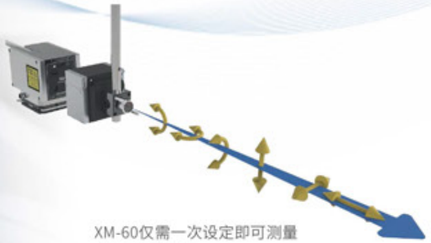
匠心制造

精准检测，质量护航

Precision Detection, Quality Assurance

公司检测中心经过几十年发展，配备各类先进精密检测设备 40 余台（套），包括英国雷尼绍多光束激光干涉仪五套、德国蔡司三坐标测量机两台、瑞士海克斯康三坐标测量机一台、德国克林贝格齿轮测量中心两台、德国布鲁克光谱分析仪等。秉持“质量是企业的尊严，更是员工的尊严”的质量管理理念，检测中心拥有数十名专业、资深检测、计量工程师，确保了检测水平在同行业领先。

After decades of development, the Company Testing Center is equipped with more than 40 sets of advanced precision testing equipment, including five sets of Renishaw multi-beam laser interferometers (UK), two Zeiss coordinate measuring machines (Germany), one Hexagon coordinate measuring machine (Switzerland), two Klingelnberg gear measurement centers (Germany) (one P125 and one P65), and Bruker optical emission spectrometers (Germany), among others. Adhering to the quality management philosophy that "Quality is the dignity of the enterprise, and also the dignity of its employees", the Testing Center employs dozens of professional and senior testing and metrology engineers, ensuring its testing capability leads the industry.



XM-60仅需一次设定即可测量
全部6个自由度

德国蔡司2000X3000X1500mm
三坐标测量仪

德国蔡司三坐标 900X1300X650mm
计量测量仪

瑞典海克斯康GLOBAL 15/24/14
三坐标测量机

德国克林贝格P65齿轮测量中心

德国克林贝格P125齿轮测量中心

英国RENISHAW双频激光干涉仪

客户契合
CLIENT ALIGNMENT

长机科技以长期利益为指向，精心选择合作伙伴，并通过供应商管理和客户关系管理，发展一批战略供应商和战略客户。(排名不分先后)

CJMT focuses on long-term interests and carefully selects partners. By implementing effective supplier management and customer relationship management, we aim to build strategic supplier and customer relationships, fostering mutually beneficial growth and sustainable development. (without ranking preference)

战略客户
strategic customers

JIER · 卓士博 TRANSPOWER · CSSC 重庆齿轮箱有限责任公司 · JW · JUJAJIXIE · WLY 万里扬 · 新兴齿轮 XINXING GEAR · MH 明华齿轮 MINGHUA GEAR · TC sync · APMC 亚太传动 · 双环传动 · 时代牌 · CJM · KOFON · TANHAS

战略供应商
strategic suppliers

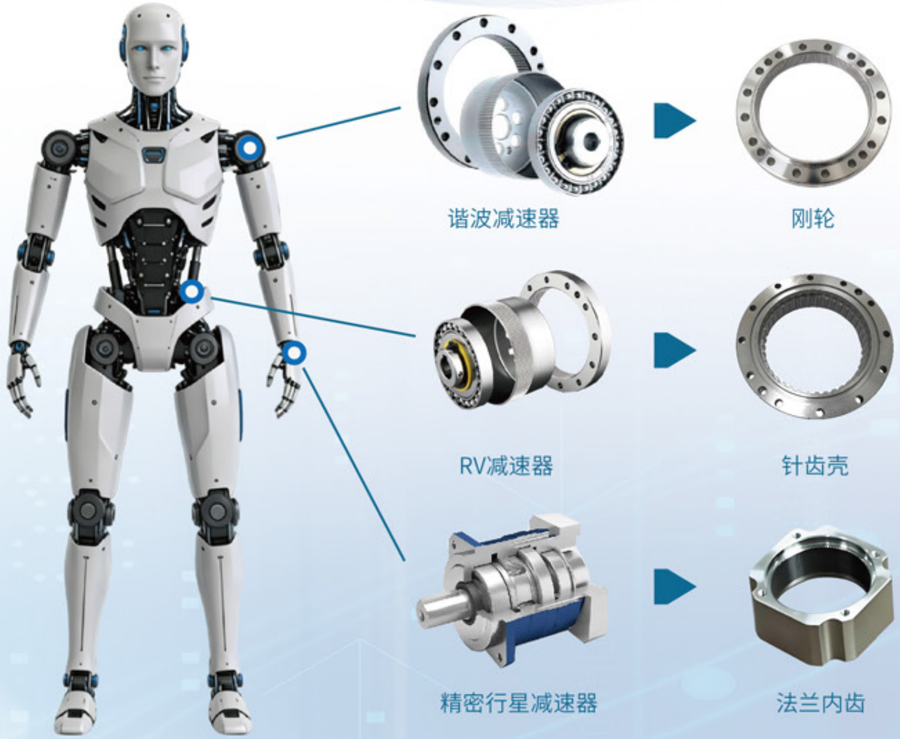
SIEMENS · SCHAEFFLER · JIER · 金太阳 GOLDENSUN · SHANGYOU · KOFON · Member IMC Group · 星速中国 · 南京工艺 NANJING GONGYI · 一丰铜业 · CTB 超同步 · MGL 美戈利 · EGNC 森泰英格 · 红旗汇成 · 水发科技

机器人齿轮制造解决方案

Robotic Gear Manufacturing Solutions

在快速发展的工业领域，机器人应用中的谐波减速器、RV减速器及精密行星减速器等核心部件，对精密齿轮的需求正持续攀升。我们专注于研发与制造高精度小模数数控插齿机及高效数控刮齿机，为行业提供高精密、高效率的齿轮加工解决方案，精准匹配市场需求。

In the rapidly developing industrial sector, core components in robotics applications—such as harmonic drives, RV reducers, and precision planetary reducers—are driving a continuous rise in demand for precision gears.We specialize in the R&D and manufacturing of high-precision small-module CNC gear shapers and high-efficiency CNC skiving machines, providing the industry with high-precision, high-efficiency gear machining solutions that precisely meet market needs.



谐波减速器　　RV减速器　　精密行星减速器

YGX5112A高精度小模数数控插齿机

YK8112数控刮齿机

行业重点客户：

KOFON　FMOTION 环动科技 Fine Motion Technology　哈泰精密 Hantai Precision　众合天成 ZHONGHETIANCHENG　Chietom 智昆科技　FORE 丰立

汽车齿轮制造解决方案

Automotive Gear Manufacturing Solutions

插齿加工是制造花键制一种高效的方法，尤其适用于非通孔且模数较小的花键，能够实现高精度和高效率的生产。智能化生产是现代齿轮制造的重要趋势。通过智能生产线和自动化设备，可以实现高效率、高质量的齿轮生产。

刮齿加工是一种集高效、高精、高柔性于一体的先进加工方法，可实现直齿、斜齿、鼓形齿、锥度齿、多联齿加工，具备刀具保护、齿形齿向修形、无退刀槽加工、圆柱刀具加工、硬齿面加工、自动对齿、温度自动补偿等功能，加工精度稳定达到GB5级，加工效率提高3-5倍。

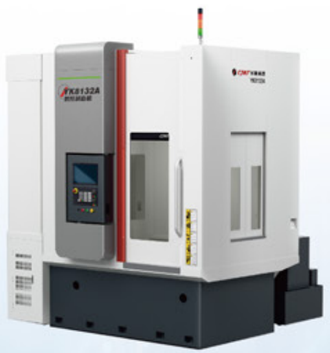
YKH5132H数控插齿机、YK8132A数控刮齿机重点解决新能源电机轴、变速箱齿轮轴、发动机齿轮、电动汽车轮毂电机等加工。

Gear shaping is a highly efficient method for manufacturing splines, especially suitable for non-through holes and small-module splines, enabling high-precision and high-efficiency production. Intelligent manufacturing has become an important trend in modern gear production. Through intelligent production lines and automated equipment, high-efficiency and high-quality gear manufacturing can be achieved.
Gear skiving is an advanced processing method featuring high efficiency, high precision and high flexibility. It can machine straight teeth, helical teeth, crown gears, taper gears and multi-step gears. It is equipped with functions including tool protection, profile and lead modification, groove-free machining, cylindrical tool machining, hard-finish machining, automatic tooth alignment and automatic temperature compensation. The machining stability reaches GB Grade 5, and the efficiency is 3-5 times higher than conventional processes.The YKH5132H CNC Gear Shaping Machine and YK8132A CNC Gear Skiving Machine are mainly used for machining new energy motor shafts, transmission gear shafts, engine gears, electric vehicle hub motors and other key components.

电机壳　电机轴　变速器壳　轴齿

YK7232蜗杆砂轮磨齿机

YKH5132H数控插齿机



YK8132A数控刮齿机

行业重点客户：

汽车转向器齿轮制造解决方案

Automotive Steering Gear Manufacturing Solutions

针对转向器行业中的摇臂轴、螺母与齿条等零件，我们可提供扇形齿轮插齿机、螺母铣齿机和齿条磨齿机等系列化的齿形制造解决方案。

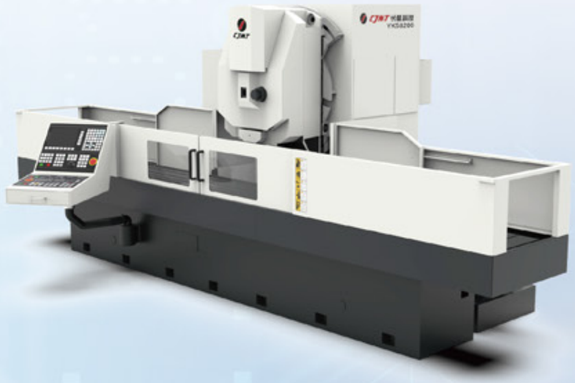
YK8532A数控齿条铣齿机、YK7832数控强力齿条磨齿机重点解决乘用车方向机转向齿条、商用车方向机转向螺母等加工。

YK5612E数控齿扇插齿机、YKA7832数控强力齿扇磨齿机重点解决商用车方向机转向齿扇的加工。

For components in the steering gear industry such as rocker shafts, nuts and racks, we provide a complete range of gear manufacturing solutions including sector gear shaping machines, nut gear milling machines and rack gear grinding machines.

The YK8532A CNC Rack Milling Machine and YK7832 CNC Heavy-duty Rack Grinding Machine are mainly used for machining steering racks for passenger cars and steering nuts for commercial vehicles.

The YK5612E CNC Sector Gear Shaping Machine and YKA7832 CNC Heavy-duty Sector Gear Grinding Machine are mainly used for machining steering sector gears for commercial vehicles.

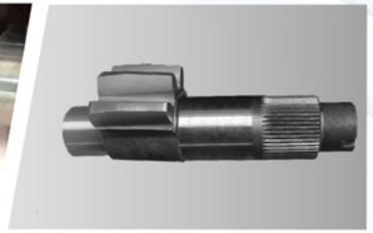


数控齿条插齿机

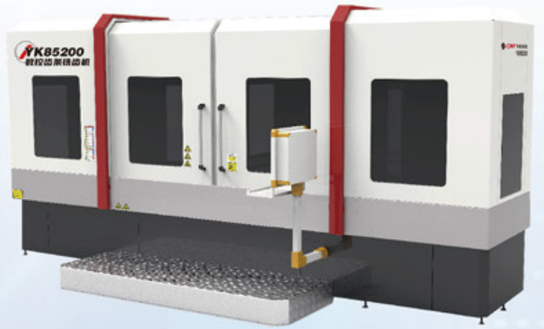
数控强力齿条/齿扇磨齿机

汽车转向器齿条

汽车转向器活塞螺母



摇臂轴



数控齿条铣齿机

数控强力齿条铣齿机

行业重点客户：

JENMOUR 金马工业集团　恒隆集团 HENGLONG　三环集团 Tri-Ring Group　TRW　Chak-AP　ANGYANG 江苏星阳控股集团

工程机械齿轮制造解决方案

Construction Machinery Gear Manufacturing Solutions

中型插齿机与刮齿机是齿轮加工的核心装备，前者擅长复杂内齿与多面体成型，后者主打高速高精度硬齿面加工，广泛覆盖工程机械/矿山等关键领域。

中型插齿机利用插齿刀上下往复运动并配合展成运动，加工内/外齿圈、多联齿轮、内花键及特殊齿形（如槽口、干涉轮廓）。核心优势：一次装夹可加工多齿、无退刀槽内齿、内花键；适配小批量多品种与复杂齿形。

中型刮齿机采用圆柱刮齿刀沿齿形与齿向双向高速切削，实现硬齿面、修形齿面及无退刀槽加工，效率为插齿的3-8倍。核心优势：硬齿面干切高效、齿形/齿向/鼓形修形灵活、退刀行程短、自动化程度高。

Medium gear shaping machines and gear skiving machines are core equipment in gear manufacturing. The former excels in machining complex internal gears and polyhedral profiles, while the latter focuses on high-speed, high-precision machining of hardened gear surfaces, widely serving key industries such as construction machinery and mining equipment.

A medium gear shaping machine processes internal/external gear rings, multiple-step gears, internal splines and special tooth profiles (such as notches and interference contours) by means of the reciprocating vertical motion of the gear shaping cutter combined with generating motion. Its core advantages include the ability to machine multiple teeth in a single clamping setup, produce internal gears and internal splines without undercut grooves, and adapt to small-batch, multi-variety production with complex tooth profiles.

A medium gear skiving machine adopts a cylindrical skiving cutter to perform high-speed cutting in both profile and lead directions, enabling the machining of hardened gear surfaces, profile-modified tooth flanks and gear forms without undercut grooves, with an efficiency 3 to 8 times that of gear shaping. Core advantages: high-efficiency dry cutting of hardened surfaces, flexible modification of profile, lead and crowning, short return stroke, and high degree of automation.

减速机壳体

挖机减速壳体加工

工程机械齿圈

齿圈

YK5150J数控插齿机

YK5150N数控插齿机

YK8150数控刮齿机

行业重点客户：

风电行业齿轮制造解决方案

Wind Power Industry Gear Manufacturing Solutions

公司大型数控滚齿机、铣齿机销量上稳居国内同行业前列，是国内风电行业及工程机械行业的首选，特别是在大齿宽、大模数风电齿轮加工上具有明显的技术优势。基于高精度的蜗轮副分度技术、在线检测等技术研制的新一代高速高效数控滚铣复合机床，批量进入国际市场，在风电行业市场持续发力，为风电行业注入了属于长机的一份力量。

YKW51160万能数控插齿机重点解决深孔内斜齿加工。

YK83400B数控铣齿机重点解决增速箱一级太阳轮、偏航变桨轴承内齿加工。

YK3180B数控滚齿机重点解决行星减速机输出轴外齿的加工。

YK31200A数控滚齿机重点解决行星轮、偏航齿轮的外齿加工。

YK81125数控刮齿机重点解决风电增速箱内外齿加工。

FOur large-scale CNC gear hobbing machines and gear milling machines rank among the top in domestic sales and are the preferred choice for China's wind power and construction machinery industries. We have obvious technical advantages in machining large face-width, large-module wind power gears.

The new generation of high-speed and high-efficiency CNC hobbing-milling compound machines, developed based on high-precision worm gear pair indexing technology and on-line detection technology, have been massively exported to the international market. We continue to expand in the wind power sector, injecting the strength of Changjiu into the wind power industry.

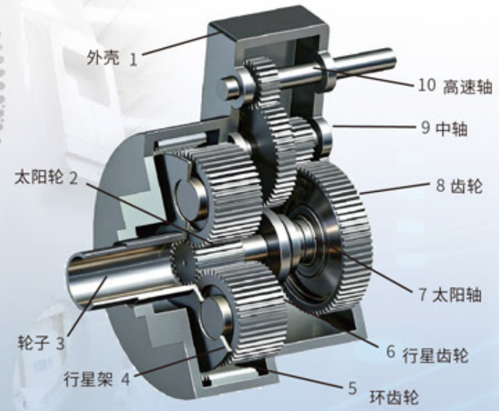
• YKW51160 Universal CNC Gear Shaping Machine
Mainly for machining deep-hole internal helical gears.

• YK83400B CNC Gear Milling Machine
Mainly for machining first-stage sun gears of gearboxes and internal gears of yaw and pitch bearings.

• YK3180B CNC Gear Hobbing Machine
Mainly for machining external gears of planetary reducer output shafts.

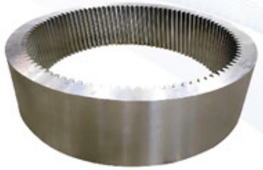
• YK31200A CNC Gear Hobbing Machine
Mainly for machining external gears of planetary gears and yaw gears.

•YK81125 CNC Gear Shaping Machine is mainly designed for machining internal and external gears used in wind power gearboxes.



大插齿加工行星架

风电太阳轮



内齿圈

YK3180B数控滚齿机

YK81125数控刮齿机

YK83400B数控铣齿机

YKW51160数控插齿机

行业重点客户：

全生命周期服务
FULL LIFECYCLE MANAGEMENT

智造新价值，绿色创未来
Smart Value Creation, Green Future Building

长机科技以齿轮机床全生命周期管理为核心，为齿轮加工设备提供从使用保障、性能升级到再生再造的一站式整体解决方案。

Changji Technology focuses on the full life cycle management of gear machine tools, providing one-stop integrated solutions for gear processing equipment covering operation support, performance upgrading and remanufacturing.

全生命周期服务体系
FULL LIFE CYCLE SERVICE

运维保障

O&M Support

长机科技所产机床在出厂前均统一粘贴专属「宜长码」，构建数字化售后反馈通道。客户可通过扫码直达售后服务工程师，实现问题快速上报与精准对接。针对不同故障场景，公司通过云平台对机床使用过程多维数据远程采集，支持线上远程诊断。按需派遣专业售后团队现场处置，高效响应各类机床问题，缩短停机耗时。

同时，公司建立常态化售后回访机制，持续跟踪设备运行状态，全方位保障机床稳定运行与精度持久保持，为客户生产运营提供全周期服务保障。

Before delivery, all machine tools produced by Changji Technology are affixed with the exclusive "Yichang Code" to establish a digital after-sales feedback channel. Customers can directly contact after-sales service engineers by scanning the code for quick and accurate problem reporting.
In response to different fault scenarios, Our company utilizes a cloud platform to remotely collect multidimensional data during the use of machine tools. we provide online remote communication and diagnosis, or dispatch a professional after-sales team for on-site handling as needed, responding efficiently to various machine tool issues and reducing downtime.
Meanwhile, the company has established a regular after-sales follow-up mechanism to continuously monitor equipment operation, fully guarantee the stable operation and sustained precision of machine tools, and provide full-cycle service support for customers' production and operation.

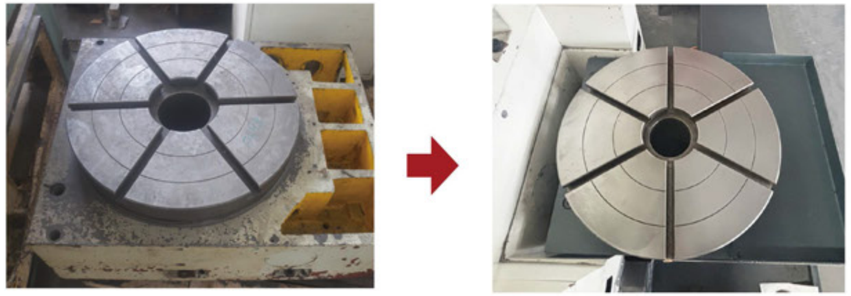
部件大修

Major Component Repair

我们会根据机床的实际运行状况，对损坏的单个部件进行专业评估并制定针对性维修方案。由经验丰富的专业操作人员与专属维修部门协同完成部件的拆卸、安装与维修工作。在部件交付前将开展全面检测，确保性能达标；交付后提供持续维保服务，保障设备长期稳定运行。

We will conduct a professional assessment of damaged components and formulate targeted maintenance plans in accordance with the actual operating conditions of the machine tool. Disassembly, installation and repair of components will be collaboratively completed by experienced professional operators and the dedicated maintenance department. A comprehensive inspection will be conducted before delivery to ensure performance compliance; continuous maintenance services will be provided after delivery to guarantee the long-term stable operation of the equipment.

刀架体大修



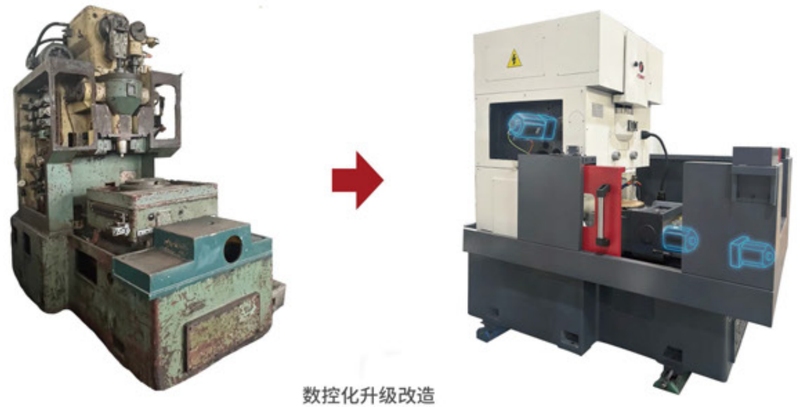
工作台大修

升级改造

Precision / CNC Upgrade

专业提供老旧机床改造评估与一站式升级服务，依托高刚性铸件优势，以数控化升级、结构优化、部件焕新为核心，用低成本改造实现媲美新机的精度与效能，助力企业资产增值、提质增效。

We specialize in providing professional renovation assessment and one-stop upgrade services for used machine tools.Leveraging the advantages of high-rigidity castings, we focus on CNC retrofitting, structural optimization and component renewal.Our cost-effective upgrades deliver precision and performance comparable to brand-new machines, helping enterprises enhance asset value, improve quality and boost efficiency.



数控化升级改造

1. 专业诊断，定制方案：由资深技术团队为客户提供一对一的机床诊断，量身打造最优解决方案。

Professional Diagnosis & Customized Solutions:
Our senior technical team provides one-on-one machine tool diagnosis and tailored optimal solutions.

2. 精准修复，降本增效：针对关键部件进行精度恢复，在满足生产要求的前提下，最大化降低客户运营成本。

Precision Repair, Cost Reduction & Efficiency Improvement:
We restore precision to key components to meet production needs while minimizing operating costs.

3. 精度超越原厂标准：整机修复后的性能指标，可优于机床出厂时的技术规范，让设备焕发新生。

Accuracy Exceeding Original Factory Standards:
Refurbished machines outperform original factory specifications, revitalizing your equipment.

4. 数智改造，设备再制造：结合精度修复与数控化升级，为老旧设备赋予全新功能，满足客户的升级需求。

Digital & Intelligent Retrofit & Equipment Remanufacturing:
Integrating precision restoration and CNC upgrading, we upgrade old equipment to meet modern demands.

机床置换

Machine Tool Replacement

我们面向各类闲置、老旧机床提供专业评估与回购一站式服务。由资深工程师上门检测，综合设备工况、精度、年限、核心部件状态与市场行情出具公允估值；签约后快速完成拆机、运输与结算，全程合规高效为设备升级改造提供便捷通道，实现老旧机床残值最大化。

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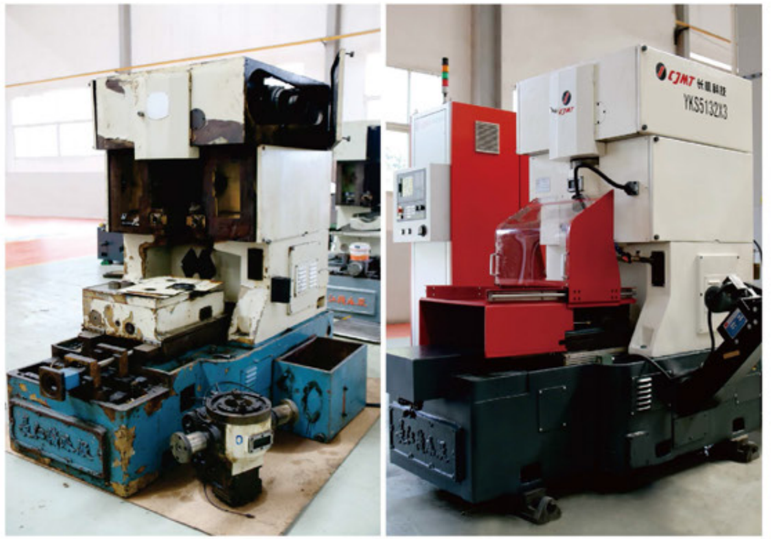

我们提供机床以旧换新专属服务，通过机床置换的方式，有效缩短换机周期，全力保障您的生产需求，彻底解决您的后顾之忧。

We offer an exclusive machine tool trade-in service. By replacing old machines with remanufactured units of the same model, we effectively shorten the lead time, fully safeguard your production needs, and eliminate all your concerns.