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杭州川禾机械有限公司
Hangzhou Chuanhe Machinery Co., Ltd.

# CNC
## 精密车床
## PRECISION LATHE

专注于双主轴双刀塔车铣复合、车床自动化的研发与制造
Focusing on the R & D and manufacture of dual spindle and dual turret turning and milling, lathe automation

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-川禾抖音-

# ABOUT

## 关于川禾

专注于双主轴双刀塔车铣复合
车床自动化的研发与制造

Focusing on the R & D and manufacture of dual spindle and dual turret turning and milling, lathe automation


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发展历程
**DEVELOPMENT HISTORY**

**2009**
排刀车床
刀塔车床

**2015**
车铣复合
自动化专机

**2019**
车床自动化线
轴承圈车削专机自动化

**2022**
数控平面磨床，
实现智能立体仓储物流

**2023**
双主轴双刀塔
车铣系列

**FUTURE**
开启数字化
工厂新篇章

杭州川禾机械有限公司是一家集研发、制造、销售高端数控机床、柔性生产加工线、数控精密磨床和装配线的企业，公司设有台湾和国内两个研发场所，通过不断引进国内外精益的技术以及与西交大、浙大等高校合作输送优质人才，为客户提供智能化制造及数字化工厂的解决方案。公司具有大量工程经验和与国内外高端数控机床同步的设计制造技术，并被评为国家高新技术企业、中小科技型企业、最具成长型企业。

Hangzhou Chuanhe Machinery Co., Ltd. is an enterprise that integrates R&D, manufacturing and sales of high-end CNC machine tools, flexible production processing lines, CNC precision grinding machines and assembly lines. The company has two R & D sites in Taiwan and China. By continuously introducing lean technologies at home and abroad and cooperating with universities such as West Jiaotong University and Zhejiang University to transport high-quality talents, the company provides customers with solutions for intelligent manufacturing and digital factories.The company has a lot of engineering experience and design and manufacturing technology synchronized with high-end CNC machine tools at home and abroad, and has been rated as a national high-tech enterprise, a small and medium-sized science and technology enterprise, and the most growing enterprise!



公司一直贯彻“品质、服务、创新”的经营理念，牢牢以“为客户提供有价值的产品”为导向，为客户提供售前、售中、售后的交钥匙工程。

The company has always implemented the business philosophy of "quality, service, innovation", firmly guided by "providing customers with valuable products", and providing customers with turnkey projects before, during and after sales.

公司所有产品的研发、设计、制造、售后服务环节严格执行IS09001-2000质量管理体系，制造过程的各个环节都有品管介入确保产品的稳定性。

The company strictly implements the ISO9001-2000 quality management system in the R&D, design, manufacturing and after-sales services of all products, and quality control is involved in all aspects of the manufacturing process to ensure the stability of the products.

公司以整洁的工厂、先进的管理、严谨的态度、优质的服务，为员工提供了一个好的工作环境，为客户提供了优良的产品。川禾人以饱满的精神来迎接每一个挑战。

With neat factory, advanced management, rigorous attitude and high-quality service, the company provides a good working environment for employees and excellent products for customers. Chuanhe people meet every challenge with full spirit.

专利证书
Patent Certificate

管理体制证书
Management System Certificate

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# CONTENT



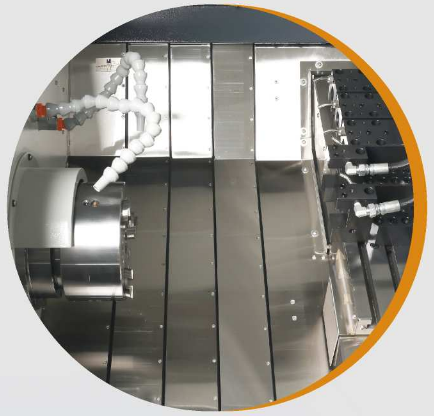

# 排刀车床 系列
# GANG TOOL LATHE SERIES

P120 / P160 / P200


## 01

本机为卧式数控车床，底座与床身一体式铸件设计，床身导轨面45°整体斜床身设计，具有较大承载截面，可保证高精度切削加工。高刚性，低重心，主轴近距离的结构特点。

This machine is a horizontal CNC lathe, with integrated casting design of base and bed, 45° overall inclined bed design of bed guide surface, with a large load-bearing section, which can ensure high-precision cutting processing. Structural features of high rigidity, low center of gravity, and close spindle.


P160内部图


P160选配动力头

## 02

排刀设计，排刀座直线排刀，换刀快速精准，节省加工时间，减少维护成本。

Tool arrangement design, linear tool arrangement on tool post, fast and accurate tool change, saving processing time, and reducing maintenance costs.

## 03

单元主轴，轴径向刚性高，主轴热温升稳定，热变形小，动态回转精度高。

The unit spindle has high radial rigidity, stable thermal temperature rise, small thermal deformation, and high dynamic rotation accuracy.


P160选配刀塔

## 04

能够对各类零件完成内外圆柱面，圆锥面，圆弧面，端面，切槽，内外螺纹倒角等工序的切削加工。

Able to complete cutting processes for various types of parts, such as inner and outer cylindrical surfaces, conical surfaces, arc surfaces, end faces, grooves, and chamfering of internal and external threads.

### 主要应用行业
### Main application industries


轴承圈
Bearing Ring


新能源汽车
New energy vehicles


半导体材料加工
Semiconductor material processing


小模数齿坯
Small module gear blank

# 排刀车床 系列
# GANG TOOL LATHE SERIES

产品参数
Product Parameters

| | P120 | P160 | P200 |
| --- | --- | --- | --- |
| **加工范围 Processing Range** | | | |
| 床鞍上最大旋径<br>Maximum swing over saddle | Φ320mm | Φ400mm | Φ400mm |
| 最大车削直径<br>Maximum turning diameter | Φ300mm | Φ300mm | Φ300mm |
| 标准车削直径<br>Standard turning diameter | Φ120mm | Φ150mm | Φ150mm |
| 拖板上回转直径<br>Swing diameter over cross slide | Φ126mm | Φ126mm | Φ126mm |
| 最大车削长度<br>Maximum turning length | 300mm | 340mm | 320mm |
| 卡盘尺寸<br>Chuck size | 5' | 6' | 8' |
| 棒材容径<br>Bar capacity diameter | Φ36mm | Φ46mm | Φ52mm |
| **主轴 Spindle** | | | |
| 主轴鼻端<br>Spindle nose | A 2-4 | A 2-5 | A 2-6 |
| 主轴轴承型号<br>Spindle bearing model | 7014 | 7016 | NN3020+100BAR<br>+NN3018 |
| 主轴通孔径<br>Spindle bore diameter | Φ46mm | Φ46mm | Φ66mm |
| 主轴传动方式<br>Spindle transmission mode | 直驱<br>Direct drive | 皮带传动<br>Belt drive | 皮带传动<br>Belt drive |
| 主轴传动比<br>Spindle transmission ratio | 1：1 | 1：1 | 1：1 |
| 主轴最高转速<br>Maximum spindle speed | 6000rpm | 6000rpm | 4200rpm |
| 主轴额定扭矩<br>Rated torque of spindle | 35.8Nm | 63Nm | 65Nm |

| | P120 | P160 | P200 |
| --- | --- | --- | --- |
| **X&Z轴 X&Z Axis** | | | |
| X/Z轴最大行程<br>X/Z axis maximum travel | 350/320mm | 460/340mm | 460/340mm |
| X/Z轴快速进给<br>X/Z axis rapid feed | 30m/min | 30m/min | 30m/min |
| X/Z轴滑轨形式<br>X/Z axis slideway configuration | 30mm<br>线轨 Wire track | 35mm<br>线轨 Wire track | 35mm<br>线轨 Wire track |
| X/Z轴滚珠螺杆直径/螺距<br>X/Z axis ball screw diameter/pitch | Φ25/32 mm/Pitch10 | Φ32mm/Pitch10 | Φ32mm/Pitch10 |
| X/Z轴定位精度<br>X/Z axis positioning accuracy | 0.008mm/1000mm | 0.008mm/1000mm | 0.008mm/1000mm |
| X/Z轴重复定位精度<br>X/Z axis repeated positioning accuracy | ≤0.005mm | ≤0.005mm | ≤0.005mm |
| **电机功率 Motor Power** | | | |
| 主轴马达功率<br>Spindle motor power | 7.5kW | 11kW | 11kW |
| X轴伺服马达额定扭矩<br>Rated torque of X-axis servo motor | 8.34Nm | 8Nm | 8Nm |
| Z轴伺服马达额定扭矩<br>Rated torque of Z-axis servo motor | 8.34Nm | 8Nm | 8Nm |
| 液压站电机<br>Hydraulic station motor | 0.75kW | 0.75kW | 0.75kW |
| 水泵电机<br>Water pump motor | 0.55kW | 0.55kW | 0.55kW |
| 热冷交换机<br>Hot cold exchanger | 300W | 300W | 300W |
| **其他参数 Other Parameters** | | | |
| 标准控制器<br>Standard controller | SYNTEC 22TA | SYNTEC 22TA | SYNTEC 22TA |
| 刀库<br>Tool magazine | 6排刀座<br>6 Rows of tool holders | 6排刀座<br>6 Rows of tool holders | 5排刀座<br>5 Rows of tool holders |
| 四方型刀具<br>Square tool | ≤20mm | ≤20mm | ≤25mm |
| 圆形刀具<br>Round tool | Φ25mm | Φ25mm | Φ32mm |
| 电压/功率需求<br>Voltage/power demand | 380V/15kVA | 380V/19kVA | 380V/19kVA |
| 油压箱容量<br>Hydraulic tank capacity | 30L | 30L | 30L |
| 机器重量<br>Machine weight | 2000kg | 2800kg | 2800kg |
| 外观尺寸(长X宽X高)<br>External sizes (L*W*H) | 2100×1600×1700mm | 2200×1600×1700mm | 2200×1600×1700mm |

# 刀塔车床 系列

# TURRET LATHE SERIES

**C160 / C200 / C250 / C300 / C360**

主要应用行业
Main application industries


汽车轮毂单元
Automotive wheel hub unit


装备行业
Equipment Industry


减速机
Reducer


产品特点
Product Features

## 01

本系列数控车床,整体30°斜床身设计,有效的抑制因重切削或高速运动产生的震动和变形,确保了机床足够的刚性和稳定性。

This series of CNC lathes is designed with an overall 30° inclined bed, effectively suppressing vibration and deformation caused by heavy cutting or high-speed motion, ensuring sufficient rigidity and stability of the machine tool.

## 02

采用高级米汉纳铸铁,所有铸件均采用HT300材料,经过人工时效(热处理)及自然时效方式去除内应力,为最佳刚性稳定性及精度保持性提供了保障。

Using advanced Mihanna cast iron, all castings are made of HT300 material, which has undergone artificial aging (heat treatment) and natural aging to remove internal stress, providing assurance for optimal rigidity stability and accuracy retention.

## 03

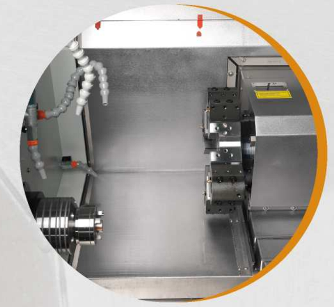
高精度单元主轴,轴径向刚性高,主轴热温升稳定,热变形小,动态回转精度高。

High precision unit spindle with high radial rigidity, stable thermal temperature rise of the spindle, small thermal deformation, and high dynamic rotation accuracy.

## 04

伺服刀塔,精密液压尾座,能够对长短轴类和盘类零件自动完成内外圆柱面,内外螺纹,圆锥面,圆弧面,端面,切槽,倒角等工序。

Servo turret, precision hydraulic tailstock, capable of automatically completing processes such as inner and outer cylindrical surfaces, inner and outer threads, conical surfaces, arc surfaces, end faces, grooving, chamfering, etc. for long and short axis and disc parts.


C160内部图


C200-500内部图


C300-1000内部图

# 刀塔车床系列
# TURRET LATHE SERIES



| 加工范围 Processing Range | C160 | C200 300 | C200 500 | C250 500 | C250 1000 | C300 1000 | C300 1500 | C300 2000 | C360 2000 | C360 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 床鞍上最大旋径 Maximum swing over saddle | Φ400mm | Φ400mm | Φ560mm | Φ560mm | Φ580mm | Φ730mm | Φ730mm | Φ730mm | Φ770mm | Φ770mm |
| 最大车削直径 Maximum turning diameter | Φ320mm | Φ320mm | Φ400mm | Φ400mm | Φ500mm | Φ620mm | Φ620mm | Φ640mm | Φ650mm | Φ650mm |
| 标准车削直径 Standard turning diameter | Φ150mm | Φ200mm | Φ200mm | Φ250mm | Φ300mm | Φ300mm | Φ300mm | Φ300mm | Φ260mm | Φ260mm |
| 拖板上回转直径 Swing diameter over cross slide | Φ300mm | Φ300mm | Φ300mm | Φ300mm | Φ1000mm | Φ440mm | Φ440mm | Φ440mm | Φ500mm | Φ500mm |
| 最大车削长度 Maximum turning length | 300mm | 300mm | 488mm | 488mm | 500mm | 1000mm | 1500mm | 2240mm | 2240mm | 3100mm |
| 卡盘尺寸 Chuck size | 6' | 8' | 8' | 10' | 10' | 12' | 12' | 12' | 15' | 15' |
| 棒材容径 Bar capacity diameter | Φ42mm | Φ52mm | Φ52mm | Φ52mm | Φ72mm | Φ75mm | Φ75mm | Φ75mm | Φ165mm | Φ165mm |

| 主轴 Spindle | C160 | C200 300 | C200 500 | C250 500 | C250 1000 | C300 1000 | C300 1500 | C300 2000 | C360 2000 | C360 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 主轴鼻端 Spindle nose | A 2-5 | A 2-6 | | A 2-6 | A 2-8 | A 2-8 | | | A 2-11 | |
| 主轴轴承型号 Spindle bearing model | NSK7016A5 | NN3020+100BAR +NN3018 | | NN3020+ 100BAR +NN3018 | NN3024+ 120BAR +NN3022 | NN结构系列轴承 NN Structure series bearings | | | NN结构系列轴承 NN Structure series bearings | |
| 主轴通孔径 Spindle bore diameter | Φ56mm | Φ66mm | | Φ66mm | Φ86mm | Φ87mm | Φ105mm | Φ87mm | Φ131mm | |
| 主轴传动方式 Spindle transmission mode | 皮带传动 Belt drive | 皮带传动 Belt drive | | 皮带传动 Belt drive | 同步带传动 Synchronous belt drive | 皮带传动 Belt drive | | | 皮带传动 Belt drive | |
| 主轴传动比 Spindle transmission ratio | 1 : 1 | 1 : 1 | | 1 : 1 | 1 : 1 | 1:2 | | | 1:2 | |
| 额定扭矩 Rated torque | 63Nm | 65Nm | 89.5Nm | 89.5Nm | 151Nm | 230Nm | 230Nm | 230Nm | 230Nm | 230Nm |
| 主轴最高转速 Maximum spindle speed | 6000rpm | 4200rpm | | 4200rpm | 3500rpm | 2500rpm | 2500rpm | 2500rpm | 2500rpm | 2500rpm |

| 电机功率 Motor power | C160 | C200 300 | C200 500 | C250 500 | C250 1000 | C300 1000 | C300 1500 | C300 2000 | C360 2000 | C360 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 主轴电机 Spindle motor | 11kW | 11kW | | 15kW | | 18.5kW | | | 18.5kW | |
| X轴伺服马达额定扭矩 Rated torque of X-axis servo motor | 8.34Nm | 8.34Nm | 11.5Nm | 11.5Nm | | 20Nm | | | 38Nm | |
| Z轴伺服马达额定扭矩 Rated torque of Z-axis servo motor | 8.34Nm | 8.34Nm | 11.5Nm | 11.5Nm | | 27Nm | | | 38Nm | |
| 液压站电机 Hydraulic station motor | 1.5kW | 1.5kW | | 1.5kW | | 1.5kW | | | 1.5kW | |
| 水泵电机 Water pump motor | 0.55kW | 0.55kW | | 0.55kW | | 0.55kW | | | 0.55kW | |
| 空调 Air-conditioning | 300W | 300W | | 300W | | 300W | | | 300W | |

| X&Z轴 X&Z Axis | C160 | C200 300 | C200 500 | C250 500 | C250 1000 | C300 1000 | C300 1500 | C300 2000 | C360 2000 | C360 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| X/Z轴最大行程 X/Z axis maximum travel | 175+10/320mm | 175+10 /320mm | 230+15/ 530mm | 230+15 /530mm | 230+15 /530mm | 300+20 /1085mm | 190+6 /1600mm | 300+30 /2285mm | 360/2250 mm | 360/2250 mm |
| X/Z轴快速进给 X/Z axis rapid feed | 30m/min | 30m/min | | 30m/min | | 20/25 m/min | 24/24 m/min | 20/25 m/min | 12/20 m/min | |
| X/Z轴滑轨形式 X/Z axis slideway configuration | 30mm 线轨 Wire track | 30mm 线轨 Wire track | 45mm 线轨 Wire track | 45mm 线轨 Wire track | 45mm 线轨 Wire track | 硬轨 Hard track | | | 硬轨 Hard track | |
| X/Z轴滚珠螺杆直径/螺距 X/Z axis ball screw diameter/pitch | Φ32mm/Pitch10 | Φ32mm /Pitch10 | Φ32/40mm *Pitch10 | Φ32/40mm *Pitch10 | Φ32/40mm *Pitch10 | Φ40*Pitch 08/50mm *Pitch10 | Φ32*Pitch 10/40mm *Pitch10 | Φ40*Pitch 08/50mm *Pitch10 | X轴Φ40mm/Pitch 06 X axis Φ40mm/Pitch 06 Z轴Φ50mm/Pitch 10 Z axis Φ50mm/Pitch 10 | |
| X/Z轴定位精度 X/Z axis positioning accuracy | 0.008/1000mm | 0.008/1000mm | | 0.008/1000mm | | 0.008/ 1000mm | 0.008/ 1000mm | 0.01/ 1000mm | 0.01/1000mm | |
| X/Z轴重复定位精度 X/Z axis repeated positioning accuracy | ≤0.005mm | ≤0.005mm | | ≤0.005mm | | ≤0.005mm | ≤0.005mm | ≤0.008mm | ≤0.008mm | |

| 刀塔 Turret | C160 | C200 300 | C200 500 | C250 500 | C250 1000 | C300 1000 | C300 1500 | C300 2000 | C360 2000 | C360 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 刀塔型号 Turret model | 80-8T | 80-8T | 100-12T | 100-12T | | 125-12T | | | 125-12T | |
| 换刀速度(相邻刀/对边刀) Tool change speed (adjacent tool/opposite tool) | 0.27s/0.57s | 0.27s/0.57s | | 0.27s/0.57s | | 0.37s/0.95s | | | 0.37s/0.95s | |
| 圆形刀具 Round tool | Φ32mm | Φ32mm | Φ40mm | Φ40mm | | Φ50mm | Φ40mm | Φ50mm | Φ60mm | |
| 四方型刀具 Square tool | ≤25mm | ≤25mm | | ≤25mm | | ≤32mm | ≤25mm | ≤32mm | ≤32mm | |

| 尾座 Tailstock | C160 | C200 300 | C200 500 | C250 500 | C250 1000 | C300 1000 | C300 1500 | C300 2000 | C360 2000 | C360 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 心轴内锥孔 Spindle taper hole | MT#4 | MT#4 | MT#5 | MT#5 | MT#5 | MT#5/ 100mm/ Φ80mm | MT#6/ 105mm/ Φ100mm | MT#5/ 100mm/ Φ80mm | MT#5/ 100mm/ Φ80mm | MT#5/ 100mm/ Φ80mm |
| 心轴控制方式 Spindle control method | 液压可程式 Hydraulic programmable | | | | | | | | | |
| 尾座本体行程 Travel of the tailstock body | 200mm | 200mm | 400mm | 400mm | 400mm | 915mm | 1200mm | 2285mm | 2200mm | 3285mm |
| 尾座本体移动方式 Tailstock body movement mode | 机械 Machinery | | | | | | | | | |

| 其他参数 Other Parameters | C160 | C200 300 | C200 500 | C250 500 | C250 1000 | C300 1000 | C300 1500 | C300 2000 | C360 2000 | C360 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 标准控制器 Standard controller | FAUNC OI-TF | | | | | FAUNC OI-TF | | | | |
| 电压/功率需求 Voltage/power demand | 380V/20kVA | 380V/ 20kVA | 380V/ 25kVA | 380V/25kVA | | 380V/ 40kVA | 380V/ 32kVA | 380V/ 40kVA | 380V/45kVA | |
| 水箱容量 Water tank capacity | 300L | 300L | | 300L | | 300L | 400L | 300L | 380L | |
| 油压箱容量 Hydraulic tank capacity | 60L | 60L | | 60L | | 60L | | | 60L | |
| 机器重量 Machine weight | 3000kg | 3100kg | 4000kg | 4000kg | 4100kg | 6500kg | | | 11000kg | 16000kg |
| 外观尺寸(长X宽X高) External sizes (L*W*H) | 2200×1600 ×1700mm | 2200×1600 ×1700mm | 2600×1800 ×1900mm | 2600×1800 ×1900mm | 2600×1800 ×1900mm | 4155×1910 ×1980mm | 4128×1875 ×1907mm | 4155×1910 ×1980mm | 5228×2320 ×2207mm | 6028×2320 ×2207mm |

# 车铣复合系列
# TURN-MILL COMPOUND SERIES

**P160Y / P160MY / C160MY / C200MY**

主要应用行业
Main application industries

新能源汽车部件
New Energy Vehicle Components

航空插件
Aviation plug-in unit

医疗器械
Medical Equipment


产品特点
Product Features

## 01

引进国际先进机型，设计独具匠心，概念超前，带车、铣、钻、攻、雕等复合加工能力，加工能力非常强大，性价比极高，特别适合于大批量复杂零件的加工。

Introducing internationally advanced models, with unique design and advanced concepts, equipped with composite processing capabilities such as turning, milling, drilling, tapping, and carving. The processing capability is very powerful and cost-effective, making it particularly suitable for processing large quantities of complex parts.

P160MY内部图

## 02

高精度单元主轴+磁环+碟刹，C轴分度精度高，轴径向刚性高，主轴热温升稳定,热变形小，动态回转精度高。

High precision unit spindle+magnetic ring+disc brake, high C-axis indexing accuracy, high radial rigidity of the shaft, stable thermal temperature rise of the spindle, small thermal deformation, and high dynamic rotation accuracy.

C200MY内部图

## 03

本机型设计布局合理，配合C轴(主轴)，X.Y.Z. A/B轴数控插补功能，实现多轴联动车铣复合加工。

The design layout of this model is reasonable, combined with the CNC interpolation function of the C-axis (spindle) and X.Y.Z.A/B axis, to achieve multi axis linkage turning and milling composite processing.

## 04

选配棒材送料机+接料器，实现复杂零件的高效率，高精度自动化加工。

Optional bar feeder+material loader to achieve efficient and high-precision automated processing of complex parts.


**Y轴标配12工位BMT动力刀塔，可完成对各类长短轴零件的多轴联动复合加工。**

The C160/200MY comes standard with a 12 station BMT power turret for the Y-axis, which can complete multi axis linkage composite machining of various long and short axis parts.

| | P160Y | P160MY | C160MY | C200MY |
|---|---|---|---|---|
| **加工范围 Processing Range** | | | | |
| 床鞍上最大旋径<br>Maximum swing over saddle | Φ400mm | Φ480mm | Φ400mm | Φ560mm |
| 最大车削直径<br>Maximum turning diameter | Φ320mm | Φ200mm | Φ225mm | Φ330mm |
| 标准车削直径<br>Standard turning diameter | Φ200mm | Φ150mm | Φ150mm | Φ200mm |
| 拖板上最大回转直径<br>Swing diameter over cross slide | Φ300mm | Φ250mm | Φ300mm | Φ300mm |
| 最大车削长度<br>Maximum turning length | 300mm | 300mm | 240mm | 450mm |
| 卡盘尺寸<br>Chuck size | 6' | 6' | 6' | 8' |
| 棒材容径<br>Bar capacity | Φ46mm | Φ46mm | Φ46mm | Φ52mm |
| **主轴 Spindle** | | | | |
| 主轴鼻端<br>Spindle nose | A 2-5 | A 2-5 | A 2-5 | A 2-6 |
| 主轴轴承型号<br>Spindle bearing model | 同步伺服电主轴<br>Synchronous servo electric spindle | | | |
| 主轴通孔径<br>Spindle bore diameter | Φ66mm | Φ56mm | Φ66mm | Φ66mm |
| 最小主轴定位精度(C轴)<br>Minimum spindle positioning accuracy (C-axis) | 0.001°主轴马达+磁环+碟刹<br>0.001 ° Spindle motor+Magnetic ring+Disc brake | | | |
| 动态精度(C轴)<br>Dynamic accuracy (C-axis) | ±0.02°主轴马达+磁环+碟刹<br>±0.02 ° Spindle motor+Magnetic ring+Disc brake | | | |
| 额定扭矩<br>Rated torque | 65Nm | 125Nm | 65Nm | 103Nm |
| 主轴最高转速<br>Maximum spindle speed | 4200rpm | 5000rpm | 4500rpm | 4200rpm |
| **电机功率 Motor power** | | | | |
| 主轴电机<br>Spindle motor | 11kW | 11kW | 11kW | 15kW |
| X/Z轴伺服马达额定扭矩<br>Rated torque of X/Z-axis servo motor | 8.34Nm | 11.5Nm/11Nm | 8.34Nm | 11Nm/<br>Y轴 Y Axis 10.5Nm |
| 动力电机<br>Power motor | 11Nm | 11Nm | 11Nm | 20Nm |
| 液压站电机<br>Hydraulic station motor | 1.5kW | 1.5kW | 1.5kW | 1.5kW |
| 水泵电机<br>Water pump motor | 0.55kW | 0.55kW | 0.55kW | 0.55kW |
| 空调<br>Air-conditioning | 300W | 300W | 300W | 300W |

| | P160Y | P160MY | C160MY | C200MY |
|---|---|---|---|---|
| **X&Z轴 X&Z Axis** | | | | |
| X/Y/Z轴最大行程<br>X/Y/Z axis maximum travel | 175+10/320mm | 250/160/400mm | 110/70/250mm | 200/100/550mm |
| X/Y/Z轴快速进给<br>X/Y/Z axis rapid feed | 30m/min | 24/16/24 m/min | 28/8/28m/min | 24/8/24m/min |
| X/Y/Z轴滑轨形式<br>X/Y/Z axis slideway configuration | 30mm<br>线轨 Wire track | 30mm<br>线轨 Wire track | 30mm<br>线轨 Wire track | 35m硬轨 Hard track<br>45mm滚柱 Cylindrical roller |
| X/Y/Z轴滚珠螺杆直径/螺距<br>X/Y/Z axis ball screw diameter/pitch | Φ32mm/Pitch10 | | | |
| X/Y/Z轴定位精度<br>X/Y/Z axis positioning accuracy | 0.008/1000mm | 0.008/1000mm | 0.008/1000mm | 0.008/1000mm |
| X/Y/Z轴重复定位精度<br>X/Y/Z axis repeated positioning accuracy | ≤0.005mm | ≤0.005mm | ≤0.005mm | ≤0.005mm |
| **刀塔 Turret** | | | | |
| 刀塔型号<br>Turret model | BMT40-15T | | | BMT55-12T |
| 换刀速度(相邻刀/对边刀)<br>Tool change speed (adjacent tool/ opposite tool) | 0.27s/0.57s | 0.27s/0.57s | 0.27s/0.57s | 0.57s/0.95s |
| 四方型刀具<br>Square tool | ≤20mm | | | ≤25mm |
| 圆形刀具<br>Round tool | Φ32mm | Φ32mm | Φ32mm | Φ40mm |
| 动力头(刀塔)刀具规格<br>Power head (turret) tool specifications | ER25(1~13mm) | ER25(1~16mm) | ER25(1~13mm) | ER32(3~22mm) |
| 动力刀座最高转速<br>Maximum spindle speed of the powered tool holder | 5000rpm | 5000rpm | 5000rpm | 4000rpm |
| **尾座 Tailstock** | | | | |
| 心轴内锥孔<br>Spindle taper hole | MT#4 | MT#4 | MT#4 | MT#4 |
| 心轴的直径<br>Diameter of the spindle | 70mm | 70mm | 70mm | Φ80mm<br>(套筒式 Sleeve type) |
| 心轴的行程<br>Travel of the spindle | 100mm | 100mm | 100mm | 100mm |
| 心轴控制方式<br>Spindle control method | 液压可程式 Hydraulic programmable | | | |
| 尾座本体行程<br>Travel of the tailstock body | 200mm | 200mm | 200mm | 400mm |
| 尾座本体移动方式<br>Tailstock body movement mode | 机械 Machinery | | | |
| **其他参数 Other Parameters** | | | | |
| 标准控制器<br>Standard controller | SYNTEC 22TA | SYNTEC 22TB | SYNTEC 22TB | FANUC 0I-TF |
| 电压/功率需求<br>Voltage/power demand | 380V/20kVA | 380V/19kVA | 380V/20kVA | 380V/30kVA |
| 水箱容量<br>Water tank capacity | 300L | 300L | 300L | 300L |
| 油压箱容量<br>Hydraulic tank capacity | 60L | 60L | 60L | 60L |
| 机器重量<br>Machine weight | 3100kg | 2800kg | 3200kg | 4500kg |
| 外观尺寸(长X宽X高)<br>External sizes (L*W*H) | 2200×1600×1700mm | 2400×1600×2000mm | 2200×1600×1700mm | 2650×1600×1900mm |

# 双主轴 系列

# DUAL SPINDLE SERIES

C200MYS / CX200 / P90S

主要应用行业
Main application industries

新能源汽车部件
New Energy Vehicle Components

电动工具行业
Electric tool industry

农工机械
Agricultural machinery



## 01

采用双主轴布局形式，相对排列，两组刀塔上下布置，上刀塔带Y轴。机床独特的双通道控制系统可实现双主轴、双刀塔四轴的联动加工。副主轴接续主轴夹持工件，对夹持端继续加工，完成工件的全部加工工序。

Adopting a dual spindle layout with relative arrangement, two sets of turrets are arranged up and down, and the upper turret is equipped with a Y-axis. The unique dual channel control system of the machine tool can achieve linkage processing of dual spindle and dual turret four axes. The auxiliary spindle connects the spindle to clamp the workpiece, and continues to process the clamping end to complete all machining processes of the workpiece.

## 02

可完成一些复杂形状的精密零件的车削、钻削、铣削甚至磨削等工艺。两个不同的零件也可以同时进行车铣复合加工。

It can complete processes such as turning, drilling, milling, and even grinding for precision parts with complex shapes. Two different parts can also be subjected to turning and milling composite processing simultaneously.

双主轴内部图

## 03

单个刀塔最多可装24把刀，换刀时间短，故障率低。可根据不同加工部件的需要，安装多种刀具。

A single turret can hold up to 24 tools, with a short tool change time and low failure rate. Multiple cutting tools can be installed according to the needs of different processing components.

## 04

机床配置的动力刀具可以装夹立铣刀，盘铣刀，钻头等刀具，并且可以水平安装，垂直安装，倾斜安装等多种安装位置，以便于从各种方向完成对零件的复合加工。

The power tools configured for the machine tool can be used to clamp end mills, disc mills, drill bits, and other cutting tools, and can be installed in various positions such as horizontal, vertical, and inclined, to facilitate the composite processing of parts from various directions.

## 05

机床独特的斜床身结构，方便切屑的排放以及冷却液的循环使用。

The unique inclined bed structure of the machine tool facilitates the discharge of chips and the circulation of coolant.

## 06

机床可配备自动送料机、接料机等附加功能部件，形成柔性加工生产线。

The machine tool can be equipped with additional functional components such as automatic feeder and receiving machine, forming a flexible processing production line.

# 双主轴 系列
# DUAL SPINDLE SERIES



| 主轴 Spindle | C200MYS 单刀塔 Single Turret | CX200 双刀塔 Dual Turret |
|---|---|---|
| 主轴通孔径<br>Spindle bore diameter | Φ66mm | Φ66mm |
| 主轴轴承直径<br>Spindle bearing diameter | NN3020+100BAR +NN3018 | NN3020+100BAR +NN3018 |
| 油压缸径<br>Hydraulic cylinder diameter | 8' | 8' |
| 主轴鼻端<br>Spindle nose | A 2-6 | A 2-6 |
| 主轴马达功率<br>Spindle motor power | 22kW | 22kW |
| 主轴传动方式<br>Spindle transmission mode | 直驱 Direct drive | 直驱 Direct drive |
| 主轴传动比<br>Spindle transmission ratio | 1：1 | 1：1 |
| 主轴转速<br>Spindle speed | 4300rpm | 4300rpm |
| 主轴额定输出转速<br>Rated output speed of spindle | 2320rpm(220V) | 2320rpm(220V) |

| 副主轴 Subspindle | C200MYS | CX200 |
|---|---|---|
| 主轴通孔径<br>Spindle bore diameter | Φ56mm | Φ56mm |
| 主轴轴承直径<br>Spindle bearing diameter | 7016/P4 | 7016/P4 |
| 油压缸径<br>Hydraulic cylinder diameter | 6' | 6' |
| 主轴鼻端<br>Spindle nose | A 2-5 | A 2-5 |
| 主轴马达功率<br>Spindle motor power | 17.5kW(220V) | 17.5kW(220V) |
| 主轴传动方式<br>Spindle transmission mode | 直连马达<br>Direct drive motor | 直连马达<br>Direct drive motor |
| 主轴传动比<br>Spindle transmission ratio | 1：1 | 1：1 |
| 主轴转速<br>Spindle speed | 5500rpm(220V) | 5500rpm(220V) |
| 主轴额定输出转速<br>Rated output speed of spindle | 2700rpm(220V) | 2700rpm(220V) |

| 其他参数 Other Parameters | C200MYS | CX200 |
|---|---|---|
| 标准控制器<br>Standard controller | FAUNC OI-TF | FAUNC OI-TF |
| 电压/功率需求<br>Voltage/power demand | 380V/30kVA | 380V/55kVA |
| 油压箱容量<br>Hydraulic tank capacity | 60L | 80L |
| 机器重量<br>Machine weight | 4500kg | 8500kg |
| 外观尺寸(长X宽X高)<br>External sizes (L*W*H) | 2650×1600×1900mm | 3050×2250×2200mm |

| X&Y&Z 轴 Axis | C200MYS 单刀塔 Single Turret | CX200 双刀塔 Dual Turret |
|---|---|---|
| X/Y/Z轴最大行程<br>X/Y/Z axis maximum travel | 250/100/550 mm | 175 mm<br>70 mm<br>515(Z1、Z2)/600(Z3)mm |
| X/Y/Z轴快速进给<br>X/Y/Z axis rapid feed | 24/8/24m/min | 20m/min |
| X/Y/Z轴滑轨形式<br>X/Y/Z axis slideway configuration | 35mm/硬轨 Hard track /45mm | 35/35/45mm<br>线轨 Wire track |
| X/Y/Z轴伺服马达功率<br>X/Y/Z axis servo motor power | 1.8kW | 4.5kW |
| X/Y/Z轴滚珠螺杆直径/螺距<br>X/Y/Z axis ball screw diameter/pitch | Φ32mm/Pitch 10(X、$Z_2$)<br>Φ40mm/Pitch 10($Z_1$、Y) | φ40mm/Pitch10 |
| X/Z轴重复定位精度<br>X/Y/Z axis repeated positioning accuracy | 0.005mm | 0.005mm |

| 动力刀塔 Power turret | C200MYS | CX200 |
|---|---|---|
| 刀塔型号<br>Turret model | BMT55-12T | BMT65 |
| 动力刀塔容量(正反刀)<br>Power turret capacity (forward and reverse tools) | 12 | 24×2 |
| 动力刀塔马达功率<br>Power turret motor power | 7.5/5.5/3kW<br>(发那科 FANUC) | 7.5/5.5/3kW<br>(发那科 FANUC) |
| 动力刀塔马达扭矩<br>Power turret motor torque | 40/24/16Nm<br>(发那科 FANUC) | 40/24/16Nm<br>(发那科 FANUC) |
| 驱动马达(换刀)<br>Drive motor (tool change) | 汇川 Inovance | 汇川 Inovance |
| 换刀速度(相邻刀/对边刀)<br>Tool change speed (adjacent tool/opposite tool) | 0.4s/1s | 0.4s/1s |
| 四方型刀具<br>Square tool | 25mm | 25mm |
| 圆形刀具<br>Round tool | φ40mm | φ40mm |
| 动力刀塔刀具规格<br>Power turret tool specifications | ER32(3~22mm) | ER32(3~22mm) |
| 动力刀座转速<br>Spindle speed of the powered tool holder | 4000rpm | 5000rpm |



| 主轴 Spindle | P90S |
|---|---|
| 主轴鼻端<br>Spindle nose | A 2-6 |
| 主轴轴承直径<br>Spindle bearing diameter | NN3020+100BAR +NN3018 |
| 主轴传动方式<br>Spindle transmission mode | 同步齿形带传动<br>Synchronous toothed belt drive |
| 主轴传动比<br>Spindle transmission ratio | 1：1.5 |
| 主轴转速<br>Spindle speed | 2000rpm |
| 主轴最高扭矩<br>Maximum spindle torque | 280Nm |

| 加工范围 Processing Range | P90S |
|---|---|
| 最大车削直径<br>Maximum turning diameter | Φ120mm |
| 最大车削长度<br>Maximum turning length | 330mm |
| 卡盘尺寸<br>Chuck size | 8' |
| 主轴通孔<br>Spindle bore diameter | 66mm |

| X&Z轴 X&Z Aaxis | P90S |
|---|---|
| X/Z轴最大行程<br>X/Z axis maximum travel | 470/330mm |
| X/Z轴快速进给<br>X/Z axis rapid feed | 20 m/min |
| X/Z轴滑轨形式<br>X/Z axis slideway configuration | 35/45mm 滚柱线轨(H级)<br>Cylindrical roller Wire track |
| X/Z轴滚珠螺杆直径/螺距<br>X/Z axis ball screw diameter/pitch | Φ32mm/Pitch10(C3级) |
| X/Z轴定位精度<br>X/Z axis positioning accuracy | 0.008mm/1000mm |
| X/Z轴重复定位精度<br>X/Z axis repeated positioning accuracy | ≤0.005mm |

| 电机功率 Power | P90S |
|---|---|
| 主轴马达(SFC)<br>Spindle Motor (SFC) | 11/15kW/扭矩 Torque 142/192Nm |
| X轴伺服马达(新代 AM15)<br>X-axis servo motor (SYNTEC AM15) | 3.1kW/扭矩 Torque 15Nm |
| Z轴伺服马达(新代 AM15)<br>Z-axis servo motor (SYNTEC AM15) | 3.1kW/扭矩 Torque 15Nm |
| 水泵功率<br>Water pump power | 1.5kW |
| 空调功率<br>Air conditioning power | 600W |
| 液压站电机<br>Hydraulic station motor | 1.5kW |

| 其他参数 Other Parameters | P90S |
|---|---|
| 标准控制器<br>Standard controller | SYNTEC 21TB |
| 电压/功率需求<br>Voltage/power demand | 380V/40kVA |
| 油压箱容量<br>Hydraulic tank capacity | 60L |
| 机器重量<br>Machine weight | 4550kg |
| 刀座<br>Tool holder | 外圆2，内孔2（加强型刀座）<br>Outer circle 2, Inner hole 2<br>(Reinforced tool holder) |
| 四方型刀具<br>Square tool | ≤25mm |
| 圆形刀具<br>Round tool | Φ32mm |
| 外观尺寸(长X宽X高)<br>External sizes (L*W*H) | 3210(+1000排屑机Chip conveyor)×2200(主体)×2200mm |

卧式双主轴、双床身数控车床，单个底座上配置两个床身，床身导轨面45度倾斜，具备较大承载截面。

Horizontal double spindle, double bed CNC lathe, two beds are configured on a single base, the guide surface of the bed is inclined 45 degrees, and it has a large load-bearing cross-section.

排刀设计，排刀座直线排刀，换刀快速精准， 节省加工时间， 减少维护成本。

Tool arrangement design, linear tool arrangement on tool post, fast and accurate tool change, saving processing time, and reducing maintenance costs.

能够对外径20-90规格范围内的轴承零件完成内圆，端面，球面圆弧，倒角等工序的切削加工。

The lathe is able to complete the cutting process of inner circle, end face, spherical arc, chamfering and other processes for bearing parts within the range of OD 20-90 specifications.

机床采用全封闭防护，后排屑方式，自动上下料，实现"无人化"自动生产。

The machine tool adopts fully enclosed protection, rear chip removal, automatic loading and unloading, realizing "unmanned" automatic production.

# 车床自动化线 系列

# LATHE AUTOMATION LINR SERIES

可定制化 Customizable

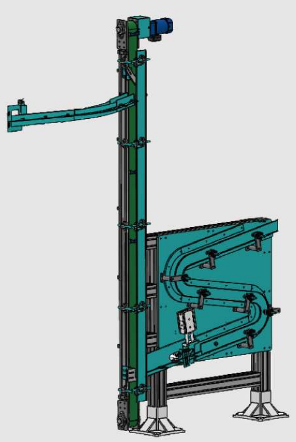

主要应用行业
Main application industries

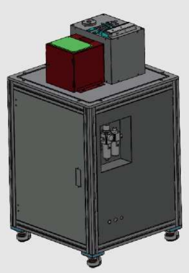

齿轮传动部件
Gear transmission components

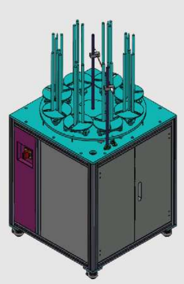

新能源汽车部件
New Energy Vehicle Components

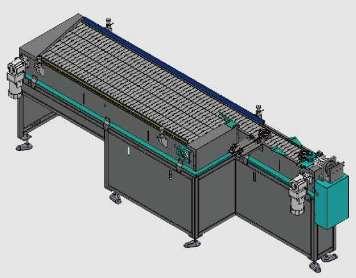

汽车轮毂单元
Automotive wheel hub unit

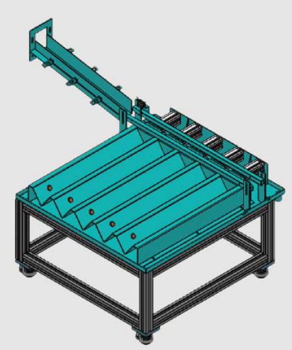

轴承圈
Bearing Ring


S料道+提升机
S-shaped chip conveyor +Elevator


尺寸检测机
Size Inspection Machine


旋转料仓
Rotary hopper


平板料仓
Flatbed silo


轴承圈收料仓
Bearing ring collection silo

## 01

量身定制高效率和高生产力的智能柔性生产线

Tailor-made intelligent flexible production line with high efficiency and high productivity.

## 02

桁架机械手与数控车床紧密配合组成自动上下料机加工系统，能够极大的**提高加工效率，降低用工成本，**实现“无人化”的自动化生产，**减少占地面积。**

The gantry robot cooperates closely with the CNC lathe to form an automatic loading and unloading machining system,which can greatly improve the processing efficiency,reduce the labor cost,realize the “unmanned” automatic production and reduce the occupied area.

## 03

桁架机械手采用齿轮齿条驱动，**刚性强、高稳定性。**
导轨采用润滑脂，**易于维护。**

The gantry robot is driven by gear and rack,which has strong rigidity and high stability.The guide rail is made of grease and is easy to maintain.

## 04

便捷、简单的智能化一体机，**更低成本、更高效率，**
助力企业实现智能化制造。

Convenient,simple intelligent all-in-one machine,lower cost, higher efficiency, help enterprises to achieve intelligent manufacturing.