企业简介  Company Profile

滕州市威氏数控机床有限公司位于中国山东省滕州市，是一家专门研究和开发CNC龙门加工中心、CNC铣床、CNC立车和普通车床的高科技企业。

我们拥有高素质的研发团队和经验丰富的机电工程师团队，以及先进的生产技术和先进的加工设备，例如日本三菱立式加工中心、中岛OKUMA-BYJC大型臥式和立式铣床、台湾精雕台面磨床、中捷径向钻床等。

我们致力于成为世界一流的设备制造商和服务提供商，并为航空、汽车、船舶、电子和模具行业的国内外客户提供许多高效的加工方案。由于我们的车床具有高精度和高稳定性，因此客户加工的工件均处于其行业的领先地位。欢迎新老客户莅临WEISH进行考察、指导和合作。我们很高兴为您提供强有力的支持。

欢迎您加入我们！

Tengzhou Weish CNC machine tool Co., Ltd. is located at Tengzhou city, Shandong Province, China, a high-tech manufacturer specializing in research and development of CNC Gantry machining center, CNC boring mills, CNC vertical lathe, and Swiss type lathe.

We have high qualified R&D team and experienced mechanical and electrical engineer team, as well as normative production line and advanced processing facility, eg. Japan Mitsubishi Heavy Industries Vertical planomilitter, SINO-Japan OKUMA-BYJC large horizontal and vertical milling machines, Taiwan Jiande Surface Grinding Machine, Zhongjie Radial Drilling Machine, etc.

We focus on becoming a world-class equipment manufacturer and service provider, and provides many high efficiency machining schemes for our domestic and overseas customers—all over aviation, auto, ships, electronic and mold industries. Because of our lathes high precision and high stability, our customers' machining workpieces are all at the leading position of their industries.

Mostly welcome new and old customers to visit WEISH for investigation, guidance and cooperation. We are happy to offer powerful support.

Welcome to join us!
Installation of Shape Boring Mills in Malaysia

TK6813 in Netherland

TK6511 in UK
Floor Type Boring Mills

We have developed this series of machines with independent R&D force with reference to domestic and overseas high end technologies on the similar products.

Floor type boring mills allow stepless change, and are equipped with high, medium and low shifts. They feature high transmission ratio, high torque, high resistance and high spindle speed.

The series contain multiple models to suit different machining requirements.

<table>
<thead>
<tr>
<th>Model</th>
<th>Boring spindle</th>
<th>Ram</th>
<th>Z+W strokes</th>
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<tbody>
<tr>
<td></td>
<td>Diameter</td>
<td>Z axis</td>
<td>Size</td>
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<td>700</td>
<td>380 x 420</td>
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<td>200</td>
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<td>480 x 520</td>
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<tr>
<td>TK6926</td>
<td>260</td>
<td>1600</td>
<td>620 x 740</td>
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</table>

We are able to customize machine tools for customer’s specific requirements and needs.

Integrated structure, easy operation
Famous brand components are used on machine
Low maintenance cost
CNC contains error detection, easy to identify
Floor Type Boring Mills

本机大型铸件 Main Castings

床身 Machine Bed

床身为树脂砂、木模铸造，结构用合理的结构，足够的强度，保证了机床有足够的刚性，保证了整机的平稳性，保证了立柱沿床身移动时稳定性。在床身上装有进口磨砺硬齿面的优质齿轮，由两个预加载荷的齿轮共同驱动，保证了X轴的精度。

The machine bed is built of resin, wood former with reasonable structure and rigidity. It guarantees a sound base and the steadiness of the machine and the stability of column in motion on the bed. There are top quality imported ground hard dent surface racks on the bed, two preload gears co-drive ensures the accuracy of X axis.

滑座 Sliding Carriage

滑座为树脂砂、木模铸造，具有足够的强度与床身由两条宽导轨相配，单轨主定位，两轨辅助定位，保证了立柱在床身移动的稳定性和直线度。

Built with top quality castings, resin and wood former, the sliding carriage possesses sufficient intensity. It connects to the machine bed with two wide guide ways. The single guide way serves as main positioning with support from double guide ways to maintain the stability and linearity of column in motion on machine bed.

立柱 Column

优质铸造，树脂砂、木模铸造，双层框架式结构，使立柱具有足够的强度，为主轴箱的上下移动提供了基础。立柱内设有镶嵌式平衡重锤导轨，保证了平衡重锤上下移动的稳定性，从而保证了机床的高精度。

Made of high quality castings, resin and wood former in a double–frame structure, the column is of sufficient rigidity that allows the smooth movement of spindle box vertically. Mosaic type counterweight balance rails are built inside the column to ensure the stability of the column’s vertical movements, thus to ensure the high precision of the machine.

The two ground rails in front of the column check the position of spindle box and ensure the steadiness of spindle’s vertical movements. The column is equipped with preload precision double–nut ball screws, and servo motor drives the vertical travels of the spindle box.

主轴箱 Spindle Box

优质树脂砂、木模铸造，箱式结构。

Built with high quality resin, wood former and of box structure.
数控落地镗铣床  Floor Type Boring Mills

机床控制站  Machine Control Unit

设有随主轴箱同步上下的操作室，操作室内装有机床控制站，方便操作。
可随意旋转的操纵面板及可长距离使用的手持单元，使机床的操作得心应手。

The operation booth is built with the spindle box. machine’s control unit is built in the booth for easy operation. Rotatable control panel and the handset unit that allows long distance operation makes the operation simple and efficient.

全包方滑枕  Square Ram

箱体下部设有液压比例阀，用于方滑枕横向移动定位精度补偿，可有效防止方滑枕伸出时的下垂自动补偿。

主轴箱体正下方装有加装双螺母滚珠丝杠驱动方滑枕。
Top of ram is built with hydraulic proportional valve for precision compensation of the horizontal movements of ram, and auto compensation for prevention of droop.

方滑枕及机床补偿系统  Ram and Compensation System

方滑枕及机床补偿系统

液压系统  Hydraulic System

共设有两套液压系统，一套小液压站，安装在主轴箱尾部，主要用来操纵主轴拉刀机构及主传动齿轮的换档机构。另一套大液压站安装在机床地基中，各轴的静压油、润滑油及主轴的冷却油均由该大液压站来提供。

整台机床的液压油箱为封闭结构，全部回流到大液压站油箱。

There are two hydraulic systems in the machine. The smaller unit is set at the back part of spindle box and is mainly to control the spindle broach unit and the main transmission gear’s gearshift unit. The bigger hydraulic unit is built in the foundation of the workshop with the machine and supplies all axes with hydostatic oil and lubricant oil, and supplies spindle with coolant oil.

The machine’s hydraulic oil runs in enclosed structure and flows back to the tank in the big hydraulic unit.

导轨的防护  Guideway Protection Cover

Y轴防护是由盖板式防护罩，防护罩的前端为金属盖板，可有效防止飞屑的烫伤，而其它层面均为风琴式，减轻了主轴箱上移动的附加负载，方便维护保养。

X轴防护为钢制的推拉式防护罩，该防护罩为大包型防护，将机床的回油槽全部包在防护罩内，防止了切削过程中飞溅的铁金属屑飞到回油槽内，污染了液压油，造成清洁的困扰。

Y axis guide way is built with armor type organ shield, the front end of shield is of metal armor structure to prevent burns resulted from chips, other parts of the shield is of organ type structure that relieves the additional load by the spindle’s vertical travels and for easy maintenance.
X axis guide way is built with steel sliding structure shield that includes the return chutes inside the shield to prevent the spillage to the return chutes and causing pollution.
回转工作台  Rotary Table

回转工作台按载重量的不同，工作台台面的不同，由多种规格型号，我公司可根据客户需求的不同定制不同型式的回转工作台。
工作台台面即是正方形或是矩形，同时也可以制作为圆形，可为是多种多样。
工作台即可与落地镗铣床配套使用，也可以与刨台式镗铣床配套使用，随着配套不同的主机，同尺寸台面、同载重量的回转工作台的直线行程也有所不同。

We build different models of rotary tables according to the difference of loading capacity, size of table and customer’s requests.
The surface of the table can be either rectangular or square, or round.
The rotary tables can be used with either floor type or planer type boring mills. And the linear strokes of the table differ with different machine, loading capacity and table size.
数控落地镗铣床
Floor Type Boring Mills

<table>
<thead>
<tr>
<th>项目/Item</th>
<th>单位/Unit</th>
<th>参数/Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>数重量规格/Loading</td>
<td>ton</td>
<td>20, 40, 60, 80, 100, 140</td>
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</tbody>
</table>

| 工作台面尺寸/Table size | mm | 1200 x 1400, 1400 x 1600, 1600 x 1800, 1800 x 2000, 2000 x 2500, 2500 x 3000, 3000 x 3500, 3500 x 4000, 4000 x 4500, 4500 x 5000 (可按客户要求配置 customized) |

| V轴直线行程/V axis linear strokes | mm | 1600, 2000, 2500, 3000 (可按客户要求配置 customized) |

| B轴旋转角度/B axis rotation degree | | 360 |

本设备配备西门子SIMENARIK 840DSL系统(可为客户量身制作)
Machine equipped with SIMENARIK 840D SL system (could be customized)

硬件配置 Hardware

数控系统：西门子SIMENARIK 840DSL

驱动系统：西门子SIMENCES S120伺服驱动系统

控制轴数：X/Y/Z/W/V/B六个坐标轴和SP一个主轴（依据实际应用选择）

插补轴数：四轴插补

操作面板：OP010全功能操作面板，配置10.4”彩色TFT显示屏，英文与多种语言在线切换。

机床控制面板：MCP483C PN标准控制面板，含多个用户自定义按键（灯）和钥匙开关多重操作级别保护。

PLC：集成SIMATIC S7，兼容CPU317-2DP/319-3PN/DP。

CNC功能  CNC Functions

分辨率：直线轴0.001mm（其它可选），旋转轴0.001°（其它可选）

程序长度：>200段

程序存储空间：CNC用户内存3MB，(可扩展到15MB)

TCU >700M，（PC50.5 >25G）

Resolution: linear axis 0.001 (other axes available for setting), rotating axis 0.001° (other axes available for setting)

Program length: >200

Program storage space: 3MB for CNC user (can be extended to 15MB)
Floor Type Boring Mills

### 操作方式  Operation Mode

JOG方式，MDA方式，AUTO方式，TEACHIN（示教）方式，REPOS（再定位）方式，预设方式，增量方式（X1, X100, X1000, X10000或任意增量）。

JOG, MDA, AUTO, TEACHIN, REPOS, presetting, increment (X1, X100, X1000 or random increment)

### 显示功能  Display Functions

当前位置显示、实际切割速度显示、程序模拟二维/三维显示、程序显示、程序错误显示、报警信息显示、自动诊断功能显示、NC和PLC状态信号输出显示。

Current position, actual cutting speed, program simulation 2D/3D, on-going programs, program error, operation error, alarm, auto diagnosis, NC and PLC condition signal output

### 轴功能  Axes Functions

快速移动和进给给倍率修调，可编程加速度、跟随模式，加加速度控制（jerk），用于侧向和侧角的单独路径进给、带矩函数控制的固定点停止、可编程的同步轴功能。

Rapid traverse and feed rate adjustment, programmable acceleration, follow-up mode, jerk, sole path feeding for rounding and chamfering, torque controlled fixed point cease, programmable synchronizing shaft functions.

### 主轴功能  Spindle Functions

主轴速度修调：档位自动选择，主轴定向停止。恒定切削、主轴转速限制、各种螺纹切割功能（螺纹切削和退出路径可编程，恒定和可变螺距螺纹切割）。

Spindle speed adjustment, stage auto selection, spindle oriented stop, constant rate cutting, spindle speed limits, multiple threading cutting functions, (Thread cut-in and exit paths programmable, constant and changeable thread pitch cutting)

### 插补类型  Interpolation Functions

直线插补、通过圆心和终点的圆弧插补和三点圆弧插补、螺旋插补、通用插补用NURBS（比例非均匀的B样条插补）、可编程的圆弧连续路径方式、样条插补、多项式插补和渐开线插补。

Linear interpolation, circular interpolation and 3-point circular interpolation, spiral interpolation, universal interpolation device NURBS, programmable circular interpolation continuous path, translant interpolation, quartic interpolation and involute interpolation

### 补偿功能  Compensation Functions

反向间隙补偿、丝杆螺距误差补偿、测量系统误差补偿、过象限误差补偿、温度补偿、像素补偿和前馈控制。

Reverse clearance compensation, screw thread pitch error compensation, metrical system error compensation, over--quadrant compensation, temperature compensation, suspension compensation and feed--forward control.

### 通讯/数据管理  Communication/Data Management

数据、程序存储和备份支持USB、以太网、闪存和硬盘；支持DNC加工。

Data, communication storage and duplication support USB, Ethernet, flash memory and hard disk; supporting DNC machining

### 安全保护功能  Security Protection Functions

程序测试功能、工作区域限制、软限和硬限位监控、位置监控、速度监控、静音监控、轮廓监控、主轴转速限制，安全监控持续监控（过温、电池、电压、存储器、风扇监控）。

Program testing, work range limit, software and hardware position limit monitoring, position monitoring, speed tracking, static monitoring, contour monitoring, spindle speed limit, security continuous monitoring (overheat, battery, power, storage and fan monitoring)

### 编程  Programming

编程语言DIN66025和高级语言扩展（如可配置用户变量、宏技术）；程序跳转和分支；子程序调用；字符串功能；加工过程中并行编程；零件编程；程序段搜索；工作/零件程序管理……

Programming language DIN66025 and advanced language extension (user variables and macro technology available), program skip and offset, subprogram transfer, string functions, parallel programming in machining process, zero point set--over, program segment pre--read, profile/parts program management

### 编程支持  Programming support

操作简便的程序编辑器；支持几何尺寸和循环编程；钻削、铣削和车削工艺循环；支持车床和铣床Shop Turn和Shop Mill编程和操作，同时，可选配西班牙FAGOR系统及日本FANUC系统（可由客户自行选配）。

Convenient program editor, supports geometric size and cycle programming, drilling, milling and turning procedures cycles, supports Shop Turn and Shop Mill programming and operation. Meanwhile FAGOR and FANUC are available for CNC.
<table>
<thead>
<tr>
<th>项目</th>
<th>Item</th>
<th>单位</th>
<th>TK6913 TH6913</th>
<th>TK6916 TH6916</th>
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<td>主轴直径</td>
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<tr>
<td>数控系统（可选配）</td>
<td>Control System(Optional)</td>
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<td>Fagor/Siemens/Fanuc</td>
<td></td>
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</table>
Floor Type Boring Mills
Floor Type Boring Mills

Main Structure
The CNC planer type boring mills are machines with large torque, high efficiency, high rigidity and advanced technologies. Per user's requests, the machines can match with different controllers, different precision requirements, different sizes of tables to form different models of boring machines. This series of boring mills are suitable for machining large, medium sized box shape, frame structure or mould parts, and can perform milling, boring, drilling, winching, tapping etc after one clamping. The machines controls 7 axes with 4 axes simultaneous and allows circular interpolation and 3-D curved surface machining. Equipped with milling head, face plates and other devices, the series of machines have enlarged machining capabilities. The spindle has cooling case to limit the head in spindle.

1. Machine bed, column, worktable, sliding carriage and other base parts are built with highly intense resin castings; ram case and ram are built with fine ductile iron and have undergone two heat treatments.

2. Spindle: composed of boring spindle and milling spindle with imported spindle bearings. Main driving system is set up with servo motor and 2 phase mechanical gear shift to achieve stepless speeding adjustment.
CNC Planer Type Boring Mills

Brand New Planer Type Boring Mill Model: The Magnificent TK6813

1. W+E轴重叠延伸1.5 m.
2. 回转工作台可加大至2.53 m。
3. 可加工大型工件，切割力更大。

Axis W+E extension: 1500mm
Rotary table size can be 2.5x3m
Capable of machining heavier workpieces with bigger cutting force.

8. 液压系统：采用一个达到125度的液压泵站，完成主轴箱及主轴的润滑与冷却，一个满载主轴变频、刀具松开和转台夹紧等功能。若是液压驱动，则可对主轴箱冷却共用一个液压站，为转轴提供液压油。所有液压元件安装尺寸符合国际标准。

9. 润滑系统：X, Y, Z, B, V, W坐标导轨和滚珠丝杆等采用当定量自动润滑装置润滑；主轴传动滚轮及轴承采用循环冷却油润滑；主轴前轴承及丝杆轴承采用油膏润滑。

8. Hydraulic system: one hydraulic station with thermostat oil cooler to achieve the lubrication and cooling of spindle box and spindle to allow spindle speed change, tool unstock and rotary table clamping. Electro-static guide way and spindle box cooler use the same hydraulic station which supplies the hydraulic oil to guide way. All hydraulic units’ installation size are under international standards.


Solution B: X, Y, W coordinates axes using electro-static guide ways for heavy cutting.

6. Feeding system: X, Y, Z, V, W coordinates feeding driven by AC servo motor, and are composed of precision zero minute of arc reducer and preload double nut ball screw pairs in prevention of reverse clearance.


Center of gravity motion compensation device for compensation of errors resulted from shift of center of gravity due to attachments fixed on ram or in ram extension process.

Electro-hydraulic balance compensation device for compensation of errors resulted from shift of center of gravity due to attachments fixed on ram or in ram extension process.

Ram pre-deformation compensation for prevention of deformation during machining process.

Compensation with electrical controlling system.

10. Electrical system: CNC unit can control 6 axes with 4 simultaneous axes; equipped with manual control unit and can control and manage U axis on optional parts including face plate, as well as ATC and probing unit.

11. Detection units: X, Y, Z axes can be equipped with linear scales, B axis with circle grating scale to form a closed-loop detection; V, W axes use encoders to form semi-closed loop detection (optional).

双齿轮消除装置 Double gear gap eliminating device

5. 滚导：方案一为X、Y、W选用重载滚柱直线导轨，B轴圆型滑轨，V轴圆型滑轨。

方案二为X、Y、W滚导导轨均为静压导轨，可实现重切割。

6. 进给机构：X、Y、Z、V、W滚导进给，采用交流伺服电机驱动，由精密零弧分减速箱和精密螺纹与滚珠丝杆组合而成，有效解决了反向间隙。

7. 平衡与补偿，重力平衡滑枕座及滑枕部件。

采用重力方法补偿装置，补偿滑枕安装附具时或伸缩于滑枕因重力补偿所产生的误差。

采用电液平衡补偿装置，补偿滑枕安装附具时或伸缩于滑枕因重力补偿所产生的误差。

滑枕预变形补偿，工具在加工时采用预变形的加工工艺，抵消滑枕伸缩时自身重力产生的影响。

利用电气控制系统进行补偿。

6. Feeding system: X, Y, Z, V, W coordinates feeding driven by AC servo motor, and are composed of precision zero minute of arc reducer and preload double nut ball screw pairs in prevention of reverse clearance.


Center of gravity motion compensation device for compensation of errors resulted from shift of center of gravity due to attachments fixed on ram or in ram extension process.

Electro-hydraulic balance compensation device for compensation of errors resulted from shift of center of gravity due to attachments fixed on ram or in ram extension process.

Ram pre-deformation compensation for prevention of deformation during machining process.

Compensation with electrical controlling system.
## CNC Planer Type Boring Mills

### Main Specifications and Parameters

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>TK6511 TH6511</th>
<th>TK6513 TH6513</th>
<th>TK6813 TH6813</th>
<th>TK6516 TH6516</th>
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<td>380*420</td>
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### Notes
- Fagor/Siemens/Fanuc
CNC Planer Type Boring Mills

- Boring Machine for German Client & Workpiece
- Boring Machine for Netherland Client & Workpiece with central water-cooling device
- Boring Machine TK6511 for Great Britain Client
- Central Water-cooling device for Boring Machine for Netherland Client
Gantry Boring and Milling Machine

- Main castings are built with resin, wood former etc. and have undergone two heat treatments with a stable structure.
- The castings are of box structure with high rigidity for finite element upgrading.
- Direct drive for the 3 axes’ feeding system. Pretension clamping.
- Large power, large torque spindle motor with strong cutting capabilities.
- Large end face square ram (500*560 or 600*600) for strong cutting.
- ZF double stage precision reducer driving spindle for high speed and high strength cutting.

- Fully enclosed shield, chain type auto chip conveying for easy operation.
- There are two solutions for guide ways: Solution A- heavy load linear guide ways with imported brands; Solution B- electro–static guide way
- Y,W axes are preload double nut ball screw pair transmission.
- In column moving gantry boring milling machine, X axis is zero clearance gear co-drive precision rack for movement, all gears and racks have hard dent surface, high precision and ground surface.
- In table moving gantry boring milling machine, X axis is preload double nut ball screw pair transmission.
- Spindle is supplied by renowned Chinese brand.
- SIEMENS 828DSL, FANUC 0i MD and FAGOR 8055 for CNC options.
## Gantry Boring and Milling Machine

### Door Type Milling Machine Structure

- **Fixed Beam**: GM27, XK27, GM28, XK28, GM24, XK24, GM21, XK21
- **Moving Beam**: XH2825C/XH2872S
- **Linear Guide Way**: GM3 Linear Guide Way
- **Electro-static Guide Way**: XK83 Linear Guide Way
- **Options**: Optional Parts

### Main Specifications and Parameters

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<thead>
<tr>
<th>Items</th>
<th>XH2825C/XH2872S/3</th>
<th>XH2830C/XH2873S/3</th>
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### Additional Specifications

- **Max. Load Capacity of Table**: 1500 kg
- **Spindle Taper Type**: BT40
- **Spindle Speed**: 2000 rpm
- **Spindle Taper Size**: BT40
- **Spindle Motor Power**: 37 kw

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**Note**: The specifications are subject to change without notice. Please consult the manufacturer for the latest information.