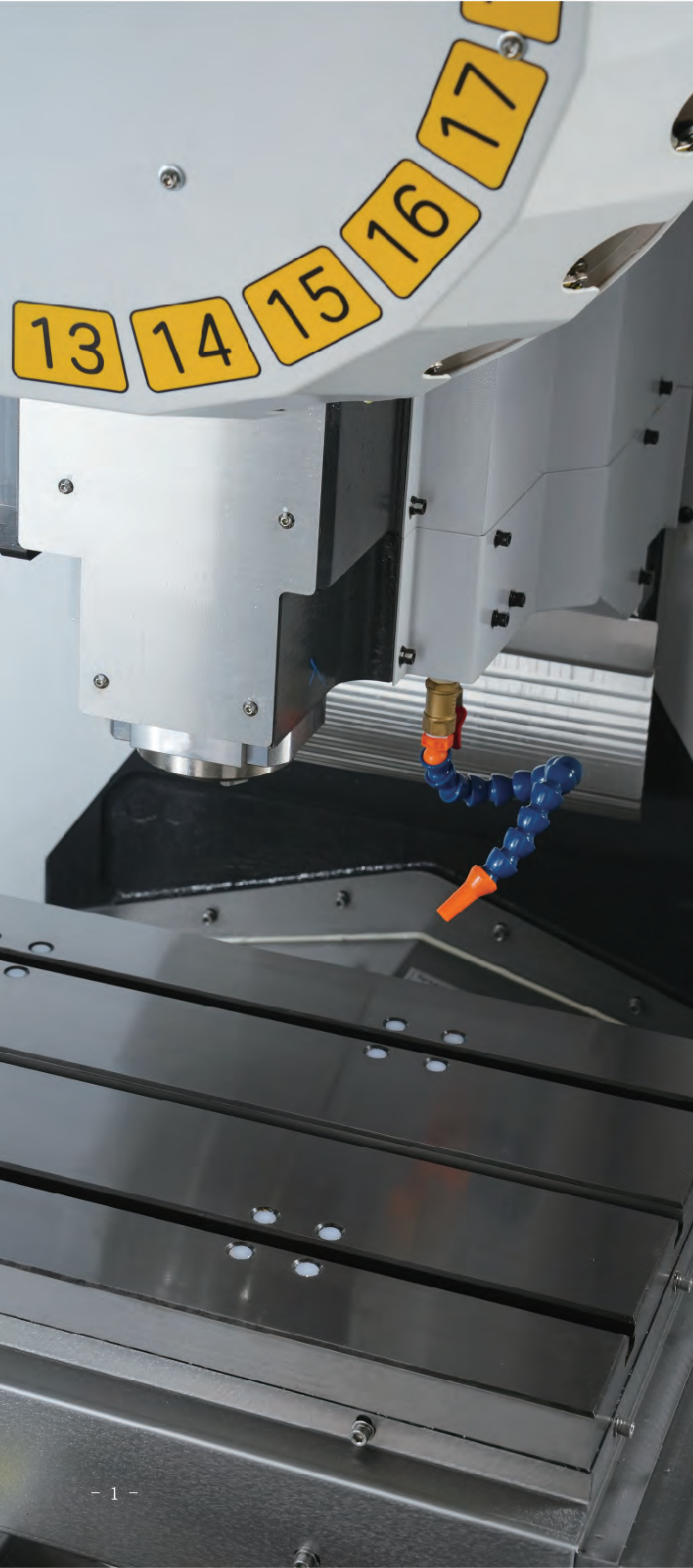


JD-T640

数控钻铣加工中心

CNC drilling and milling machining center





高效率

High efficiency

高精度

High accuracy

高刚性

High rigidity

该设备是集切削加工、钻孔、攻丝、铣削功能为一体的高效率、高精度数控钻铣加工中心，主要用于轻小型金属加工，涵盖多样性产品加工需求。

本设备具有占地面积小，位移速度快，主轴转速高，钻孔攻牙快，换刀速度快的特点。从而具备工作效率高的优点。

主要应用于3C零配件、汽车零配件、手表零配件、小型模具、医疗器械行业中的小型零件、盘型零件、壳体类加工。

As a highly efficient and highly precise CNC machining center, T640 satisfies the needs of diversified metal processing, is tailored for drilling, tapping and milling, and especially excels in light weight and small size metal-cutting scenarios.

T640 has the characteristics of compact dimensional size, high movement speed, high spindle speed, fast drilling and fast tool change, and thus the advantage of high cutting efficiency.

Mainly used in scenarios like 3C parts, auto parts, watch parts, small molds, small parts of medical equipments, disk-like parts, shelled parts.





■ 铸件材质为HT300，采用米汉纳铸造工艺制成，充分保证铸件刚性，从而保证产品加工的精度和稳定性。

■ 三轴传动部件全部采用THK精密级滚珠丝杠，充分保证定位精度与重复定位精度。

■ 三轴全部采用THK精密级加长型滑块，提升了工作台的承载力，确保了多样化夹具的安装。

■ 操作系统采用FANUC 0i-MF PLUS，本系统搭载了FANUC最新的CNC、伺服技术、个性化定制功能、丰富的故障预知功能、诊断/维护功能、刀具管理功能以及与云端大数据信息化连接的端口开放功能。

■ 我司已通过ISO9001质量管理体系认证，有完整的人员组织架构，完善的SOP标准作业管理，确保每道工序严格遵守SOP标准作业执行，确保产品的一致性、稳定性。

■ Casting material HT300, is made by meehanite casting process and ensures the rigidity of machine body, so as to guarantee the accuracy and stability of the machining process.

■ The transmission mechanisms of 3 feed axes adopt THK ballscrew of precision level, thus guaranteeing the accuracy and repeatability of positioning process.

■ Three axes adopt THK lengthened slider of precision level, thus improving the bearing capacity of the work table, and ensuring the ability to install diversified fixture according to cutting needs.

■ The operating system adopts FANUC 0i-MF PLUS, equipped with FANUC's latest CNC, servo technology, personalized customization function, rich fault prediction function, diagnosis/maintenance function, tool management function and open port function with the ability to connect big data infrastructure in clouds.

■ Our company has passed the certification of ISO9001 quality management system, has a complete organizational structure and a perfect SOP system, to ensure that each and every process is strictly operated under SOP standards, and to guarantee the consistency and stability of product manufacturing process.

特点介绍

Characteristic introduction

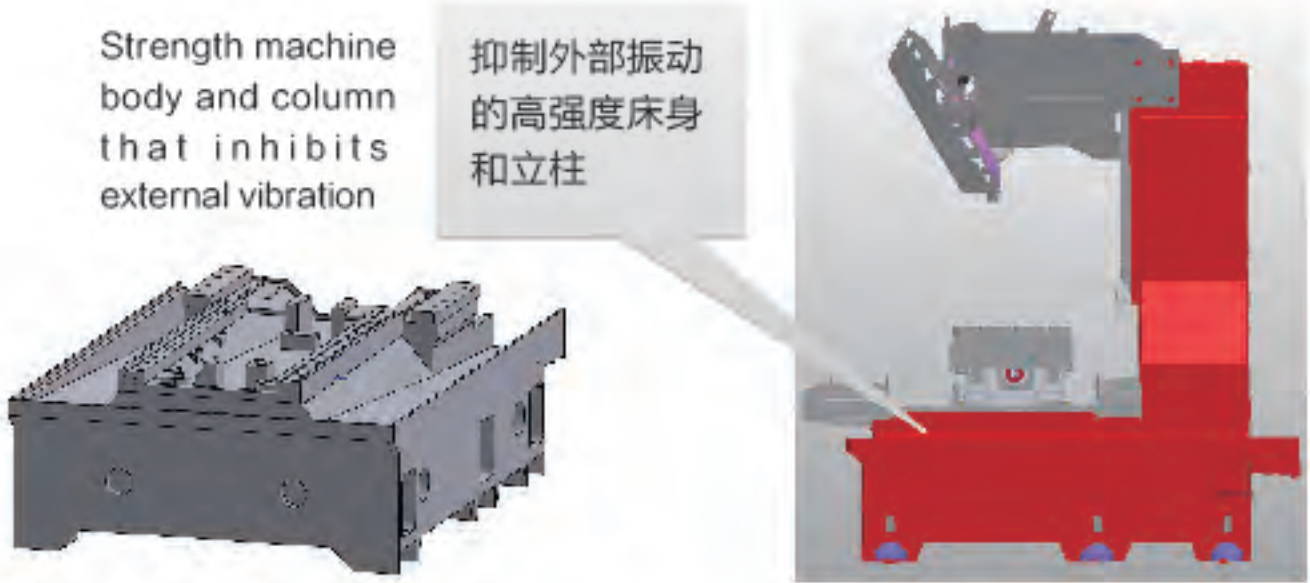


产品优势 Product Advantages

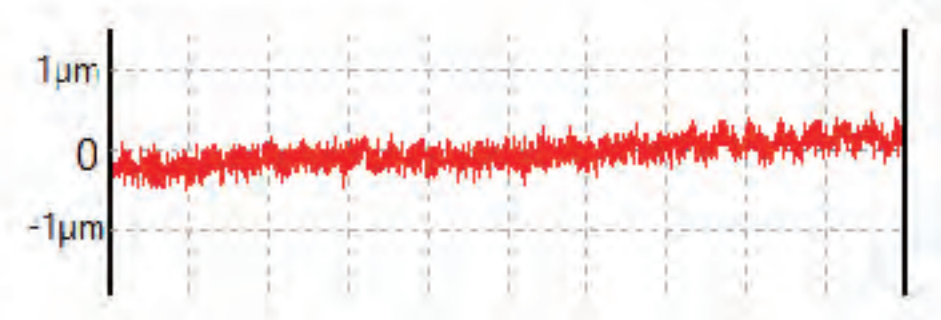
高刚性结构和抑制振动特性 High rigidity structure for vibration suppression

通过大跨度底座设计，立柱加粗设计使整体床身刚性提升，加工中对于周边的振动可抑制到最低，从而得到优质的高亮面品质。

Combined with a large-span base, specially strenthened columns improve the rigidity of the machine body, and the vibration in the cutting process can be suppressed to the lowest level, so as to increase the surface processing quality.



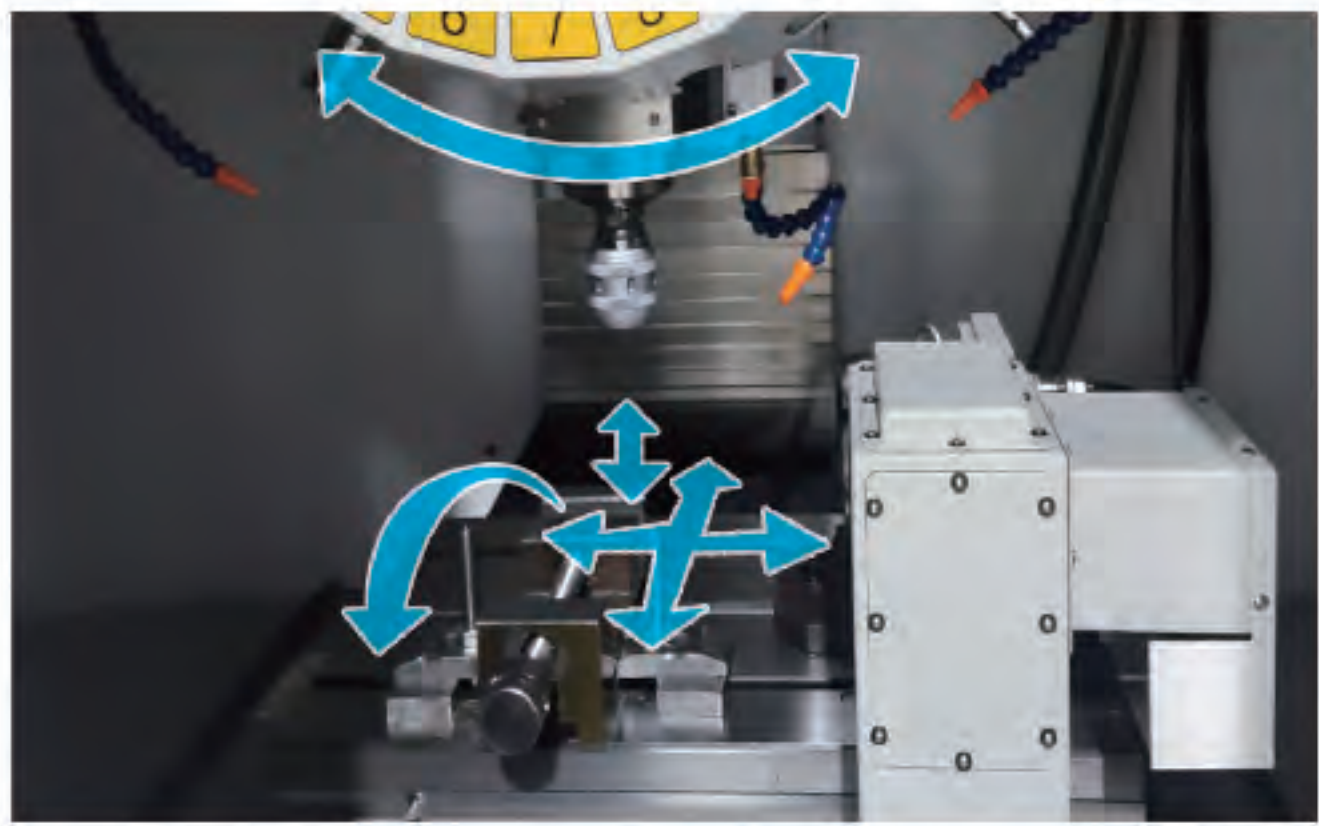
稳定的表面加工质量 Stable surface processing quality



同步动作控制 Synchronous motion control

换刀的同时进行XY轴、附加轴的定位，从而减少非切削时的时间。

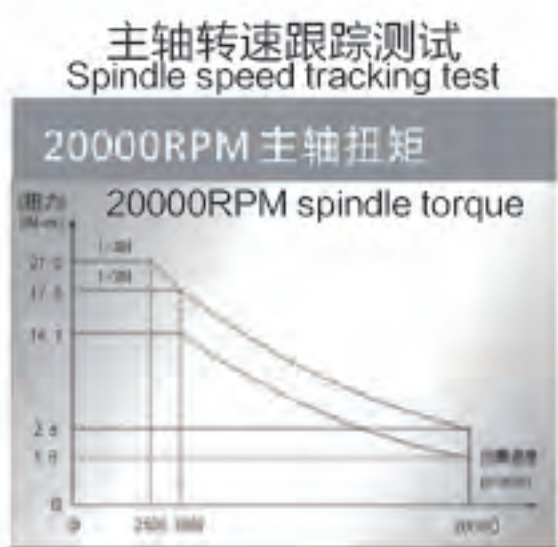
Perform the positioning of X/Y axes and additional axis while doing automatic tool change to enhance the cutting efficiency.



高性能主轴 High performance spindle

采用 $\phi 50$ 内径，4颗7010C轴承大跨距的排列设计极大程度的提高了主轴的刚性及稳定性。

Four 7010C bearings, all with inner diameter up to 50mm, greatly improve the rigidity and stability of the spindle.



过程控制 Process control

主轴拉力检测
Spindle pull detection



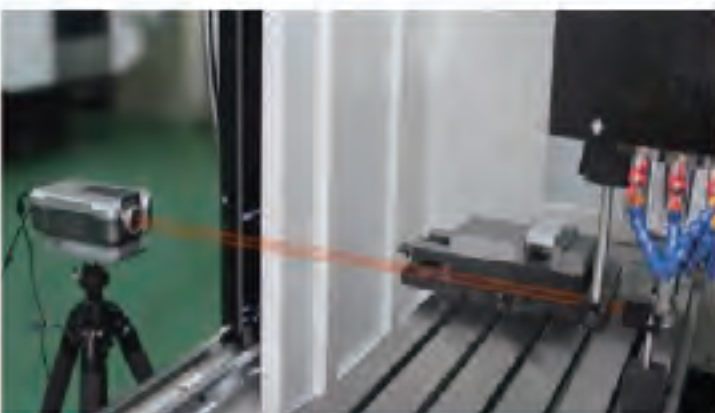
球杆仪检测
Spindle pull detection



底座铲花
Base shovelling



激光干涉仪检测
Laser interferometer inspection



Y轴增加加工行程 Increased movement range

Y轴行程为450mm，增大了加工行程，可以加工更大尺寸的复杂端面。

The movement range of Y-axis is 450mm, which increases the movement range and satisfies the need to process complex parts of larger size.



高效排屑功能 Highly efficient chip removal

超大排屑口，提高切削粉末的排出性能。

To improve the discharging performance of cutting powder.



产品优势 Product Advantages

操作性 Operability



丰富多彩的功能 Colorful features

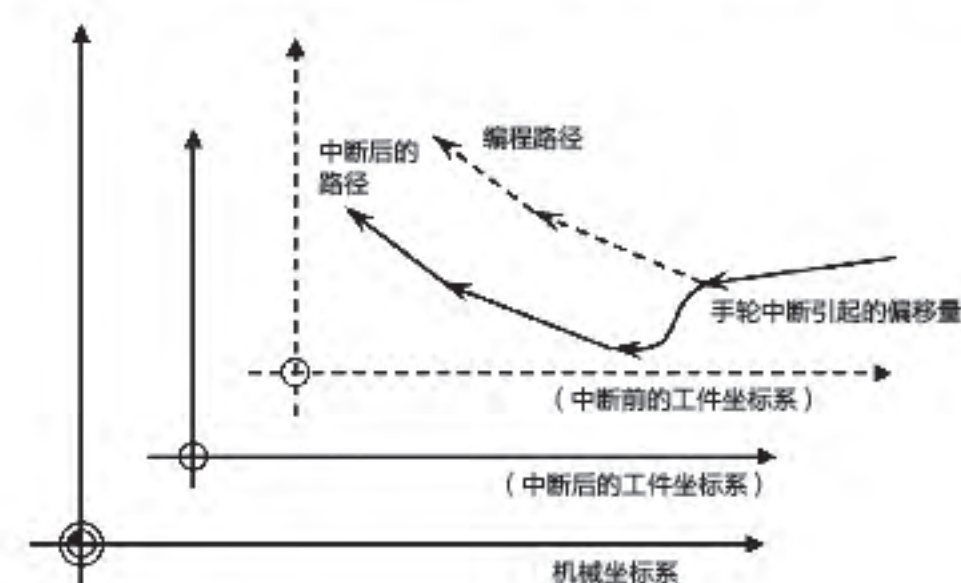
■ 手轮中断 Manual handle interruption

当加工过程中由于刀具磨损，需要改变刀尖位置的时候，可以使用手轮中断功能改变刀具位置，而不必重新输入刀补。

手轮中断改变的是机械坐标，程序的绝对坐标和剩余移动量不会改变。

As the cutting tool wears down, the position of tool tip needs to be adjusted accordingly. The manual handle interruption can adjust tool position without changing tool compensation.

Manual handle interruption changes the mechanical coordinates, without affecting the absolute coordinates and thus the continual execution of the interrupted program.



■ 快速换刀 Quick tool change

高效伺服换刀，PLC换刀最佳优化，缩短换刀时间，快速稳定，减少非加工时间。

Efficient and stable tool change using servo and PLC, reducing tool change time, minimizing non-processing time.

■ 刀具寿命管理 Tool life management

将刀具群分类为几个组，在每个组中事先指定刀具的寿命。

当前刀具寿命到达尽头时，自动选择组内被事先按照一定顺序排列的新刀具。

Classify tools into several groups, and specify the tool life for each group respectively in advance.

When the tool life of the current tool expires, a new one in the same tool group is automatically chosen and used in order.

■ AICC

在当前的加工领域使用CAM软件生成高精度加工程序已经成为主流，刀具路径多使用小线段拟合。在这种情况下CNC必须具备大量极小线段预先处理的能力，才能实现高速高精度的轮廓控制，而AICC正是这样一种功能。

In the current machining field, using CAM software to generate high-precision machining program has become the mainstream, and the tool path is mostly fitted with small line segments. In this case, CNC must have the ability to pre-process a large number of very small line segments in order to achieve high-speed and high-precision contour control, and AICC is such a function.



刀具				N00000			
号	形状	长度	直径	形状	长度	直径	相对坐标
001	0.000	0.000	0.000	0.000	0.000	0.000	X 0.000
002	0.000	0.000	0.000	0.000	0.000	0.000	Y 0.000
003	0.000	0.000	0.000	0.000	0.000	0.000	Z 0.000
004	0.000	0.000	0.000	0.000	0.000	0.000	C 0.000
005	0.000	0.000	0.000	0.000	0.000	0.000	B 0.000
006	0.000	0.000	0.000	0.000	0.000	0.000	绝对坐标
007	0.000	0.000	0.000	0.000	0.000	0.000	X 0.000
008	0.000	0.000	0.000	0.000	0.000	0.000	Y 0.000
009	0.000	0.000	0.000	0.000	0.000	0.000	Z -0.010
010	0.000	0.000	0.000	0.000	0.000	0.000	C 0.000
011	0.000	0.000	0.000	0.000	0.000	0.000	B 0.000
012	0.000	0.000	0.000	0.000	0.000	0.000	机械坐标
013	0.000	0.000	0.000	0.000	0.000	0.000	X 0.000
014	0.000	0.000	0.000	0.000	0.000	0.000	Y 0.000
015	0.000	0.000	0.000	0.000	0.000	0.000	Z 0.000
016	0.000	0.000	0.000	0.000	0.000	0.000	C 0.000
017	0.000	0.000	0.000	0.000	0.000	0.000	B 0.000



■ 高速跳转功能 High-speed skip function

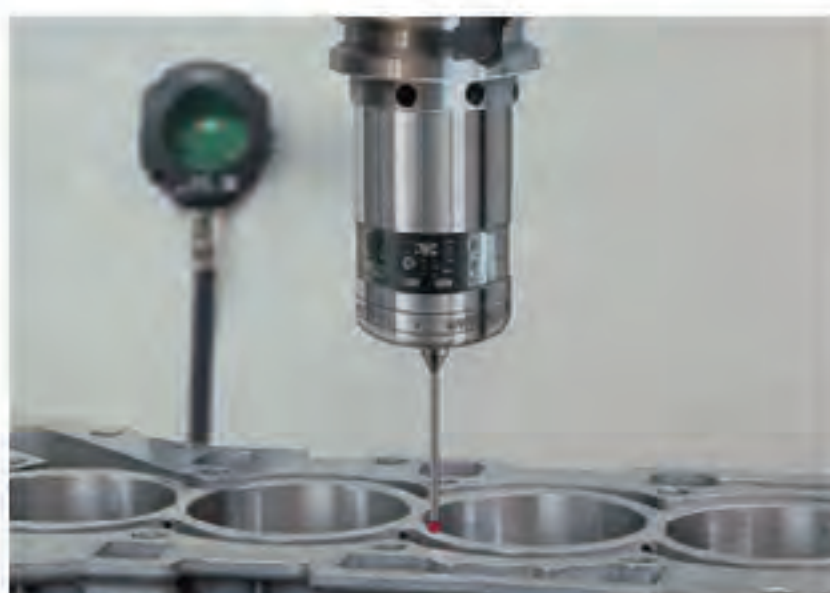
提高检测跳转信号的获取能力。在快速移动时也可以测得稳定和精准的数据值。

Improve the ability to detect and acquire the skip signal, thus guaranteeing the stability and accuracy of position data even in the process of quick moving.

■ 加工模式 Machining modes

在不同的加工场景下，用户对加工分别有效率和精度的要求，使用加工模式选择功能来满足实际加工需求。

In different machining scenarios, customers have critical needs for efficiency and accuracy, and machining mode selection can adjust parameters respectively according to specific machining needs to optimize machining process.



精度级选择 (AICC)			
X 轴	精度等级	1	速度 (1)-精度 (1A)
BIPL 加速度			5000.000 (MM/S/S)
ACC 变化时间 (轮廓)			20 (毫秒)
最大加速度			2997.000 (MM/S/S)
T-COM NIPL 加/减速			24 (毫秒)
拐角速度差值			1000.000 (MM/1011)
最大切削速度			10000.000 (MM/MIN)
编号	11248		1G

辅助机械 Auxiliary Machinery

机床附属设备 High rigidity structure for vibration suppression



油雾收集器装置
Oil mist collector

能够充分回收机床内油雾，优化车间环境。

Can fully recover the oil mist inside the machine tool, optimize the workshop environment.



主轴冷却装置
Spindle cooling device

能够确保主轴工作温度恒定，从而达到高精度加工的要求。

Can ensure that the working temperature of the spindle is constant, so as to meet the requirements of high-precision machining.

加工辅助装置 Optional auxiliaries



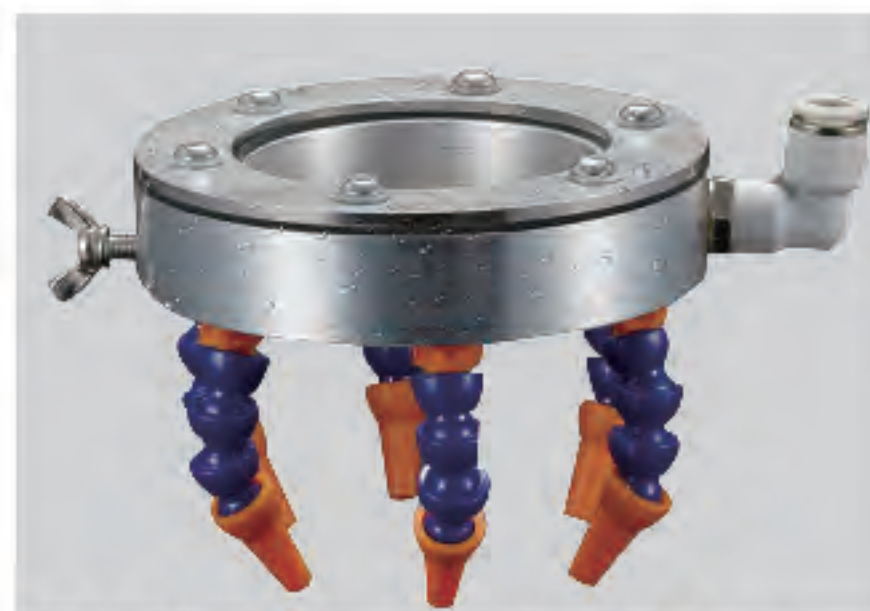
主轴中心出水：在BT主轴中可选中心出水装置（1.5MPa）。

Coolant through spindle: Optional central outlet unit in the BT spindle.



侧冲洗：侧冲洗安装在机内上部，有更好的清洗切屑的效果，使得在飞溅钣金侧面和切屑容易堆积的对方很容易去除。

Side washdown: Side washdown pipes are located in the upper space inside the machine for quicker flow and more extensive washing down, and clears out cutting chips more thoroughly and efficiently.



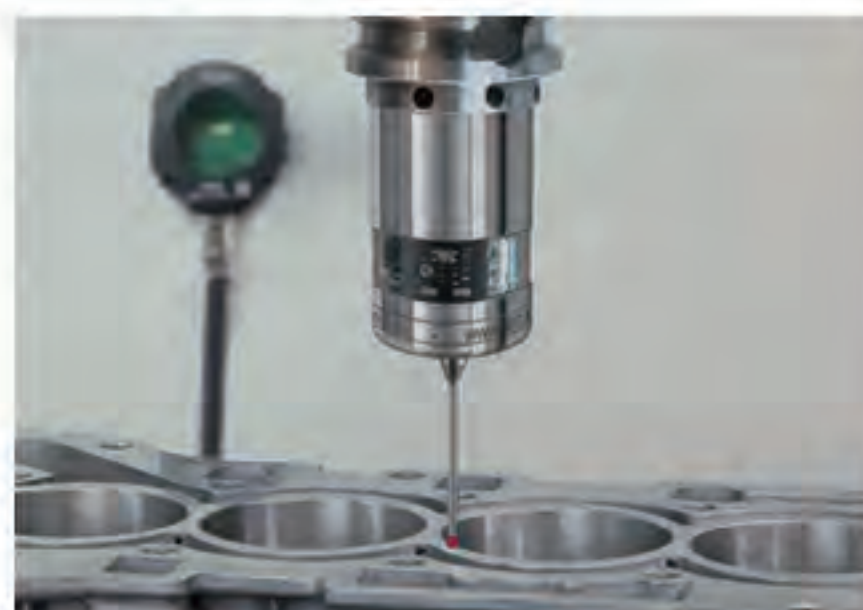
主轴头切削液喷嘴：喷嘴与刀具位置恒定，因此加工部位可得到充分的冷却。不可和刀具清洗选配项同时选择。

Spindle head coolant nozzle: High rate of coolant flow and thus high washing pressure can remove chips efficiently with coolant nozzles attached to the spindle. Exclusively available with other coolant options.



对刀仪：是用于在机外预调中测量和(或)调整各种加工中心、数控机床带轴镗铣刀具切削刃径向和轴向尺寸的测量仪器。

Automatic tool calibration device: Tailored for measurement and adjustment of the workpiece coordinates in various machining centers, CNC machine tool with shaft boring and milling tools.



测量仪：对夹具、工件实施“找正”，并据此进行相应的修正、补偿，以及在加工后通过机测量进行温度、刀具磨损的补偿。

Measuring instrument: Carry out "alignment" on the fixture and workpiece, and make corresponding correction and compensation accordingly, and compensate the temperature and tool wear through on-machine measurement after machining.



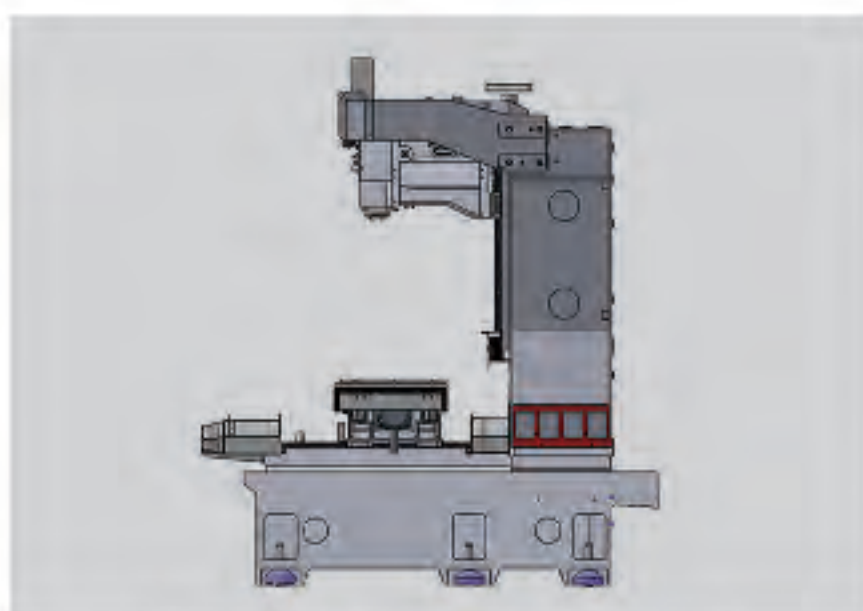
四轴CNC电脑数控分度盘：在操作的时候拥有精准的传动能力，而且背隙可轻松自如的调整，较长时间使用后，其精度仍然能够很好的维持。

CNC Rotary table: Reduction in the body width secures a wider movement range. Roller gear cam mechanism helps to guarantee high productivity, high accuracy, and high stability.



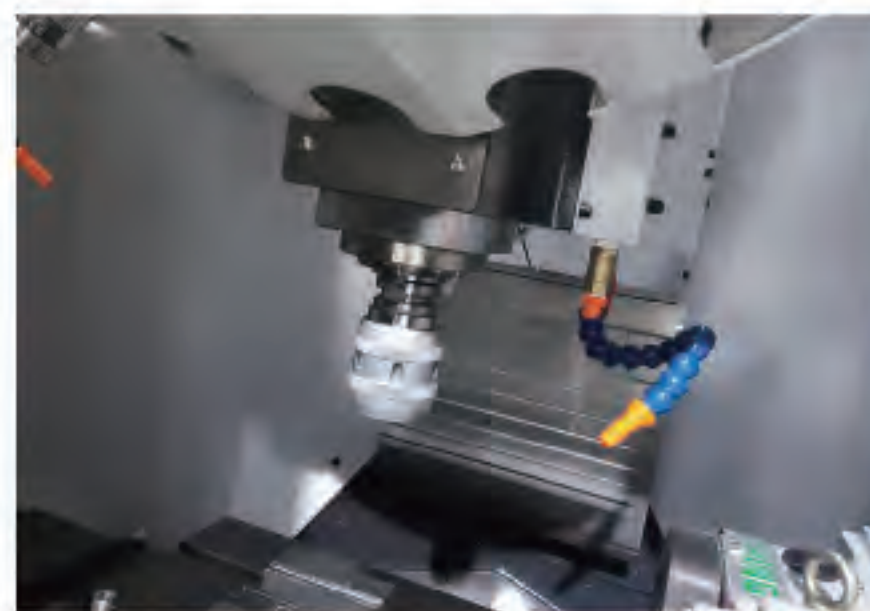
切屑液水箱装置：可根据用途200L、250L中选择。

Coolant tank unit (250L): It can be selected according to the use of 200L, 250L.



立柱加高：根据客户需求对应150mm、250mm的立柱加高。

Column heightening: 150 mm and 250 mm heightening for chosen to meet customer's needs.

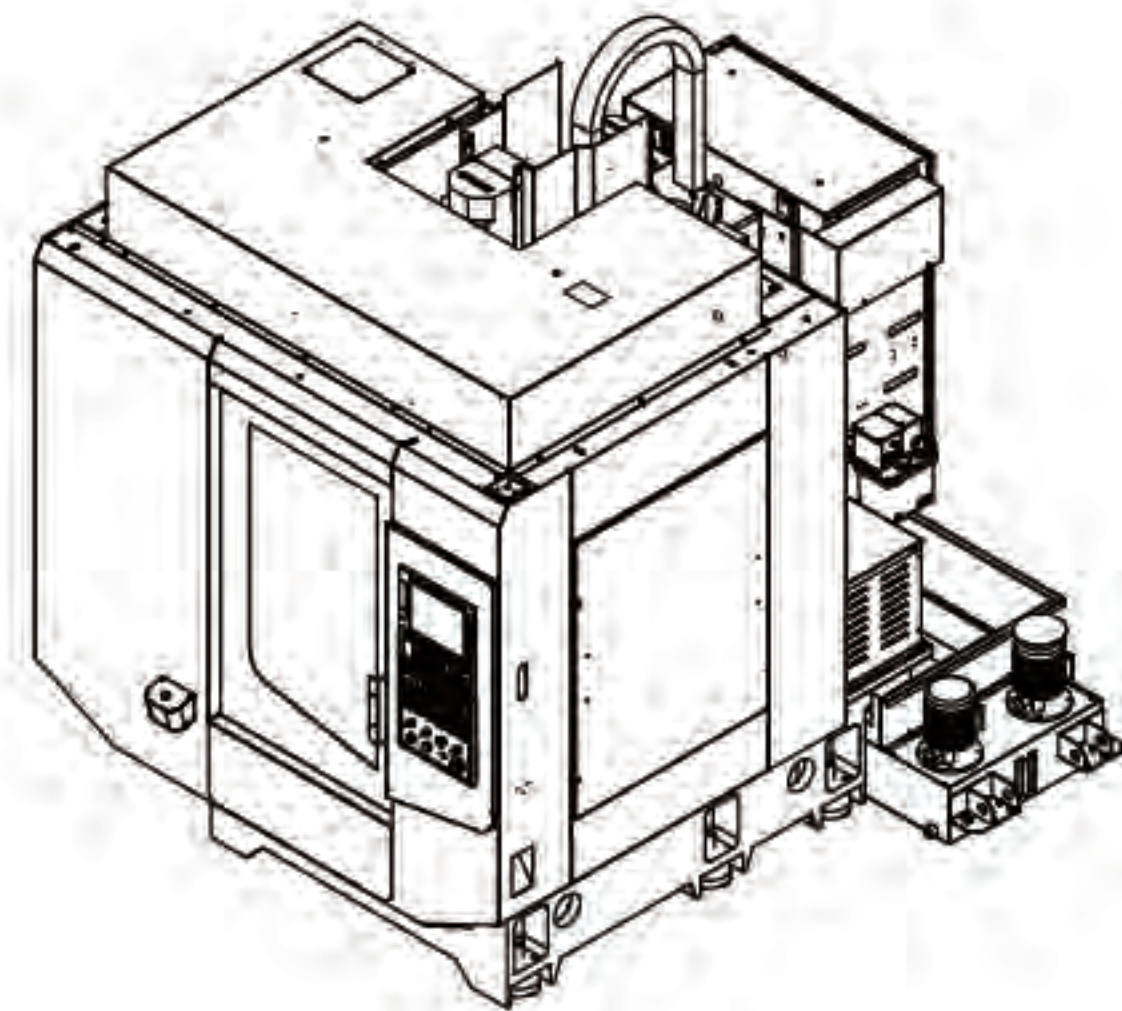
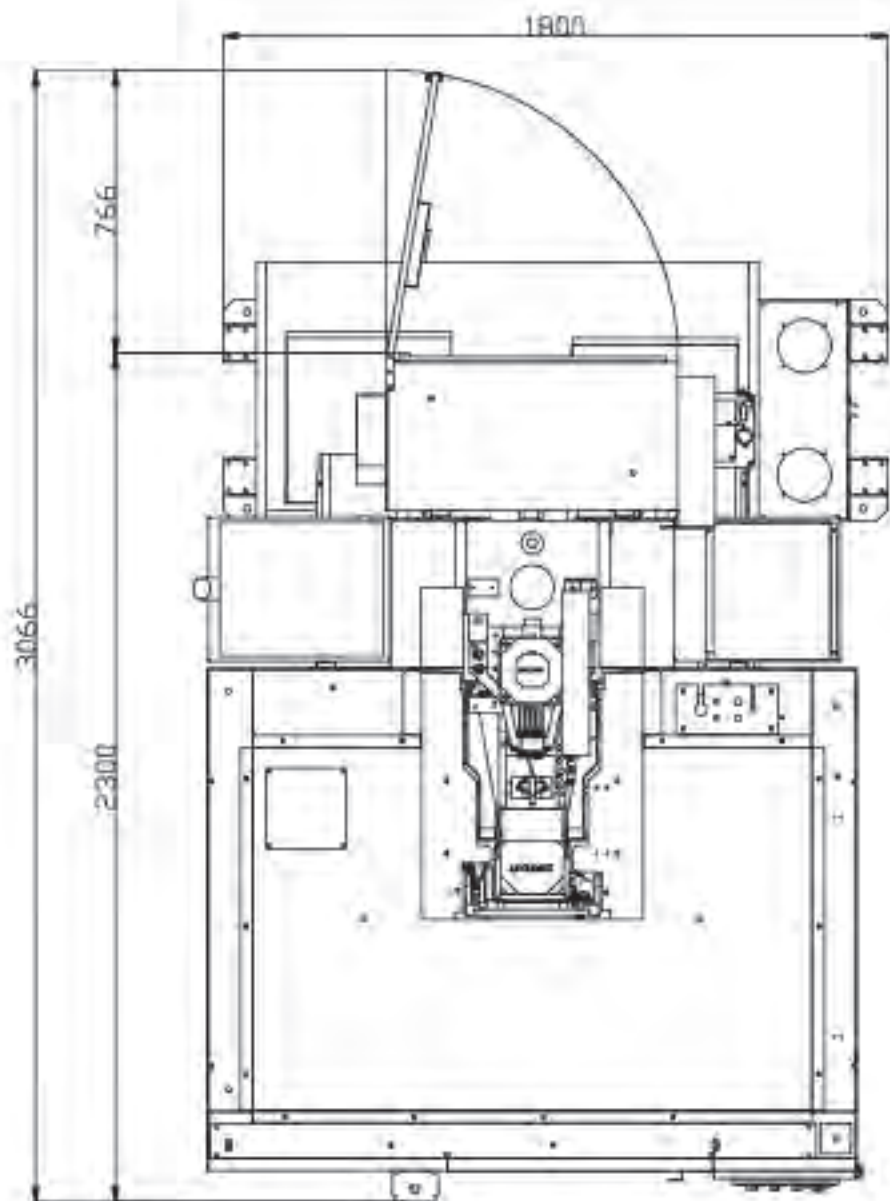
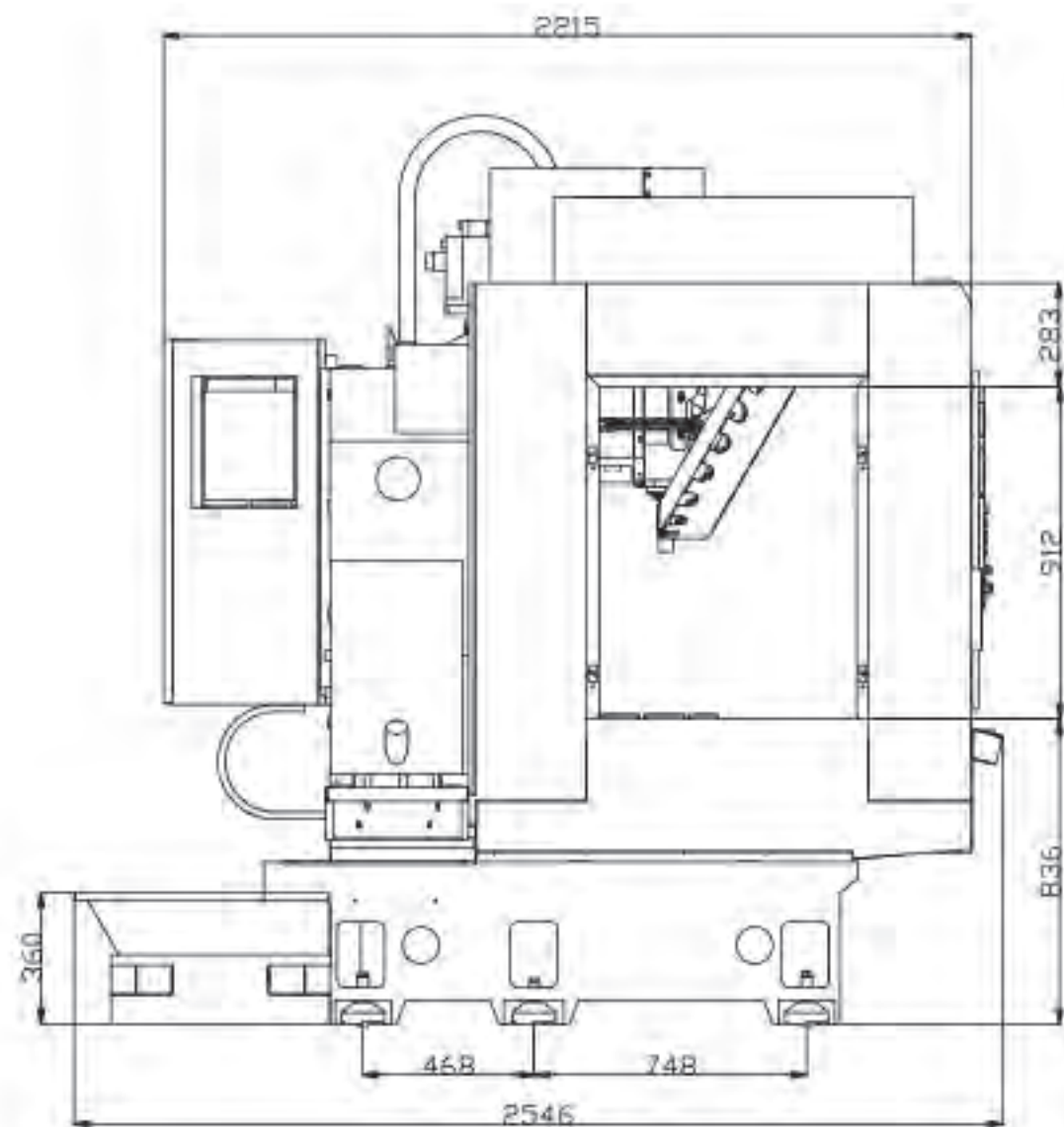
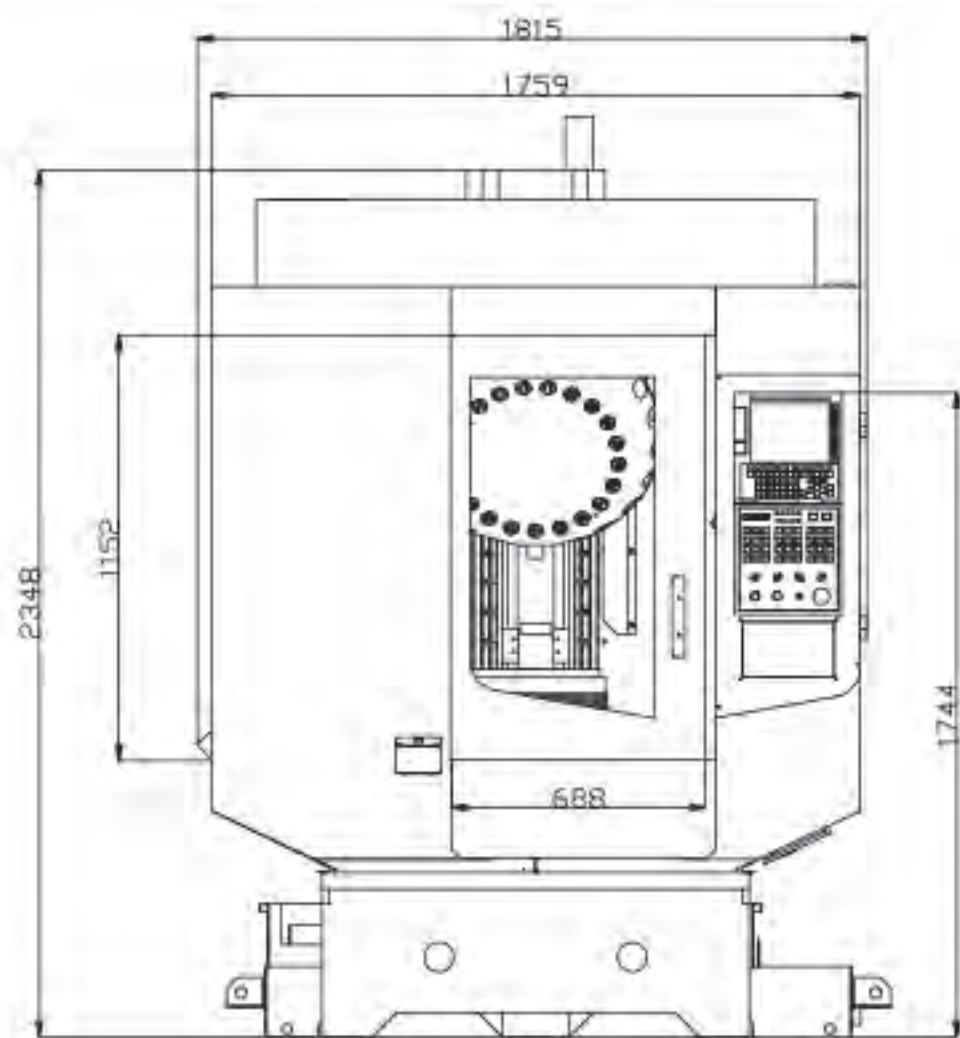


工件吹气装置：易于实施加工后对工件清扫。

Column coolant nozzle: Powerfully removes chips on and around the workpiece to prevent chips building up.

设备尺寸 The equipment size

外观尺寸图：单位（mm） Dimensional overview: in unit (mm)



选配功能 Optional Features

1	主轴中心出水 Coolant Through Spindle (CTS)
2	侧冲洗 Side coolant washdown unit
3	主轴头切削液喷嘴 Spindle head coolant nozzle
4	测量仪 Measuring instrument
5	对刀仪 Automatic tool calibration device
6	四轴CNC电脑数控分度盘 Fourth axis CNC (computerized numerical control) index table
7	立柱加高 Pillar heightening
8	切削液水箱装置 (250L) Coolant tank assembly (250 liters)
9	工件吹气装置 Air-blowing device for workpiece

主要标准附属品 MAIN STANDARD ACCESSORIES

顶罩钣金 Shell plates	1套 1 set
照明装置 Lighting unit(10W)	1套 1 set
过滤减压阀 Air filtration/decompression valves	1套 1 set
工具和工具箱 Tools and toolbox	1套 1 set
机床地脚盘 Machine feet	7个 7 pcs
机床聚乙烯塑料保护袋 Plastic protection	1套 1 set
集中润滑油装置 Automatic lubrication unit	1套 1 set
三色信号灯 Signaling light	1套 1 set
变压器 Voltage transformer	1套 1 set
切削液水箱装置 (150L标准) Coolant tank (standard 150 liters)	1套 1 set
夹臂式刀库 (21T) Arm-clamping toolset (max. 21 tools)	1套 1 set
主轴吹气装置 Spindle air-blowing unit	1套 1 set

机械规格 Mechanical Specifications

机械本体标准规格 Mechanical Specifications

名 称 Feature	项 目 Item	JD-T640
工作台 Table	工作区域尺寸 Work area dimension (mm)	700*420
	最大工件重量 Max.loading capacity (uniform load) (kg)	250
主 轴 Spindle	主轴转速 Spindle speed (r/min)	Max.20000
	主轴锥度 Spindle taper	BT-30
	主轴锥孔 Tapered hole	锥度No.30
进给速度 Feed rate	快进速度 Rapid traverse speed (XYZ-area) (m/min)	X轴 48/Y轴 48/Z轴 48 X axis 48/ Y axis 48/ Z axis 48
	切削进给速度 Cutting feed rate (mm/min)	1-10000
行 程 Movement Range	X轴移动量 X axis (mm)	600
	Y轴移动量 Y axis (mm)	450
	Z轴移动量 Z axis (mm)	330
刀具更换装置 ATC unit	刀柄类型 Tool shank type	BT30
	刀具库存数 Tool storage capacity (T)	21
	最大刀具长度 Max. tool length (mm)	250
	最大刀具直径（相邻空位）Max. tool diameter (mm)	90 (140)
	最大刀具重量 Max. tool weight (kg)	3kg/把 (总重量35kg/21T)
	刀具选择方式 Tool selection method	正反转Clockwise/Counter-clockwise 任意Any
	拉钉型号 Pull stad type	BT30 (45°)
	临刀换刀时间 Tool change time (s)	1.8
电 机 Electric motor	主轴电机 Main spindle motor (kw)	2.2 (20000r) / 3.7
	进给电机 Feed axes motor (kw)	X、Y轴 2.5, Z轴 2.7 X, Y axis: 2.5, Z axis: 2.7
所需动力源 Power source	电源 Power supply (V)	AC200V±10%、50HZ
	总电气容量 Power capacity (KVA)	15
	常用空气压力 Compressed air pressure (MPa)	0.4-0.6
	所需流量 Min. coolant flow (L/min)	45
精 度 Accuracy	各轴的双向定位精度 Bidirectional positioning accuracy per axis (mm)	±0.004以内/300
	各轴的双向重复定位精度 Bidirectional positioning repeatability per axis (mm)	±0.0025以内/300
其 它 Etc.	机床高度 Height (mm)	2495
	机床占地面积（控制柜门开启时）Required space diemensions [with control unit door open] (mm)	1890*2570
	工作台顶面到主轴端 Distance between work table top and spindle head (mm)	150-480
	机床重量 Machine weight (including control unit and machine cover) (kg)	2700kg

NC 装置标准规格 NC unit specifications

控制系统 CNC control system	FANUC 0i-MF PLUS
控制轴数 Control axes	同时4轴 4 axes
输入方式 Input mode	MDI按键输入，绝对值/增量编程 MDI key input, absolute value / incremental programming
程序储存容量 Program storage space	2 Mbyte
插补功能 Interpolation function	直线插补 圆弧插补 螺纹插补 Linear/Circular/Thread cutting
最小设定单位 Least input increment	X:0.001mm Y:0.001mm Z:0.001mm
最小移动单位 Least command increment	X:0.001mm Y:0.001mm Z:0.001mm
切削进给速度 Feed rate	1-10000mm/min
刀具补偿组数 Tool offset	400组
辅助机能 Auxiliary function	M8、S5、T8
切削进给倍率 Feed rate override	0-200%
快速移动倍率 Rapid traverse override	F0、25、50、100%
输入输出接口 Input/output interface	CF卡/USB CF card /USB
表示语音 Interface language	中文、英语、日语 Chinese/ English/Japanese

* 本公司不断研究创新，设计规格如有变更恕不另行通知。
All specifications and designs are subject to change without notice.

NC功能 NC functions

1	10.4寸彩色LCD液晶显示屏 10.4 inches LCD display panel
2	快速程序再启动功能 Quick program restart
3	手轮中断功能 Manual handle interrution
4	CF卡界面 CompactFlash Card interface
5	手轮回退功能 Manual handle retract
6	程序储存容量2 Mbyte Program memory space: 2 Mbyte
7	登录程序个数: 400个 Registered program capacity: 400
8	后台编辑 Background editing
9	最多进给轴数: 5 Max. feeding axis: 5
10	最多主轴数: 1 Max. spindles : 1
11	最小指令单位: 0.0001mm,0.00001inch,0.0001deg Min. command unit: 0.0001 mm,0.00001 inch,0.0001 deg
12	公制和英制转换 Metric/inch conversion
13	机械锁定 Machine lock
14	Z轴锁定 Z axis lock
15	软体行程极限设定 Software limit setting
16	移动前行程极限检查 Stroke limit check before move
17	背隙补偿 Backlash compensation
18	插补式螺距误差补偿 Pitch error compensation using numerical control
19	DNC操作 DNC operation
20	单节执行 Single block execution
21	手动数据输入（MDI）Manual data input
22	手动进给 Manual feed
23	手动进给倍率 Manual feed override
24	程式空跑 Dry Run
25	快速定位 Rapid traverse
26	快速移动百分比 Rapid traverse override
27	切削进给命令 Cutting feed
28	切削进给率百分比 Cutting feed override
29	绝对/增量指令 Absolute / incremental programming
30	平面选择 Plane selection
31	呼叫子程序 Subprogram call
32	固定循环 Canned cycle
33	单节跳跃 Single block skip
34	工件坐标系 Workpiece coordinate system
35	额外工件坐标系 Additional workpiece coordinate system
36	极坐标指令 Polar programming
37	坐标旋转 Coordinate rotation
38	G-code程序镜像功能 G-code programmable mirror image
39	任意角度倒角C，拐角R Automatic chamfering/corner with an arbitrary angle
40	直线插补 Linear interpolation
41	圆弧插补 Circular interpolation
42	原点复归 Reference position return
43	单向定位 Single direction positioning
44	螺旋插补 Helical interpolation
45	主轴定位 Spindle positioning
46	刚性攻丝 Rigid tapping
47	M-code吹气吹屑 M-code controlled air/chips blowing
48	自动断电 Automatic power off
49	刀具偏置存储器 Tool offset storage
50	警告信息显示 Warning information display
51	警告信息履历显示 Warning information record display
52	操作信息显示 Operation information display
53	操作信息履历显示 Operation information record display
54	智能重叠 Intelligent overlap
55	线性加减速 Linear acceleration/deceleration
56	MST锁住 M-S-T code lock

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