

GATO 巨岡  
相信自己

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微信公众号

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## CBS SERIES



# 五轴桥式加工中心

5 AXIS BRIDGE TYPE MACHINING CENTER

# CBS

SERIES 系列



CBS200/CBS200C  
CBS300/CBS300C  
CBS400/CBS400C  
CBS500/CBS500C  
CBS650/CBS650C  
CBS800/CBS800C

**GATO** 巨岡



# C80 Plus 操作系统 SYSTEM

- 1、可扩展轴达8个,最大同动轴数达5个  
Up to 8 expandable axes, up to 5 maximum synchronous axes
- 2、最大支持4GB程式存储  
Supports up to 4GB program storage
- 3、高精轨迹控制功能  
High precision trajectory control function
- 4、平滑刀尖控制功能  
Smooth tool nose control function
- 5、15寸超大显示屏  
15 in large display



本公司自主研发的电气操作系统对比以前老式系统有飞跃性的革新实现更高水平的效率和精度达到世界级的先进水平

Far beyond the old system, the self-developed electrical operating system has made leaps in innovation, achieved a higher-level efficiency and precision, and reached a world leading level.

**CBS**  
SERIES 系列

追求高速、高精度之 5 轴联动加工  
Pursue high speed and high precision  
5-axis linkage machining



**选配:海德汉 TNC640 操作系统  
Optional: HEIDENHAIN TNC640 SYSTEM**

多功能加工  
Multi-function machining

高速、高可靠性和高精度加工轮廓  
High speed, high reliability and high precision machining profile

五轴联动加工  
Five-axis simultaneous machining

智能加工  
Intelligent machining

1. 动态碰撞监测(DCM)  
Dynamic collision monitoring (DCM)
2. 动态高效  
Dynamic and efficient
3. 有效振颤控制(ACC)  
Effective chattering control (ACC)
4. 自适应进给控制(AFC)  
Adaptive feed control (AFC)
5. 用摆线铣削加工方式任何轮廓槽  
Any profile groove can be machined by cycloid milling







# CBS 系列

## CBS SERIES



### CBS200



X/Y/Z轴行程	X/Y/Z axis travel	300/350/250 mm
最大工件尺寸	Max. workpiece size	Ø200×250mm
最高主轴转速	Max. spindle speed	30,000 rpm
最大转台负荷	Max. rotary table load	30 kg
转台直径	Rotary table diameter	Ø200 mm
刀具数量	Number of tool	16把 Tools

### CBS200C



X/Y/Z轴行程	X/Y/Z axis travel	300/350/250 mm
最大工件尺寸	Max. workpiece size	Ø300×250 mm
最高主轴转速	Max. spindle speed	30000 rpm
C轴最高转速	Max. speed of C axis	2000 rpm
最大转台负荷	Max. rotary table load	20 kg
转台直径	Rotary table diameter	Ø300 mm
刀具数量	Number of tool	16把 Tools

### CBS500



X/Y/Z轴行程	X/Y/Z axis travel	500/600/450 mm
最大工件尺寸	Max. workpiece size	Ø500×450 mm
最高主轴转速	Max. spindle speed	20,000 rpm
最大转台负荷	Max. rotary table load	600 kg
转台直径	Rotary table diameter	Ø500 mm
刀具数量	Number of tool	25把 Tools

### CBS500C



X/Y/Z轴行程	X/Y/Z axis travel	500/600/450 mm
最大工件尺寸	Max. workpiece size	Ø500×450 mm
最高主轴转速	Max. spindle speed	20,000 rpm
C轴最高转速	Max. speed of C axis	1000 rpm
最大转台负荷	Max. rotary table load	240 kg
转台直径	Rotary table diameter	Ø500 mm
刀具数量	Number of tool	25把 Tools

### CBS300



X/Y/Z轴行程	X/Y/Z axis travel	300/350/250 mm
最大工件尺寸	Max. workpiece size	Ø300×250mm
最高主轴转速	Max. spindle speed	30,000 rpm
最大转台负荷	Max. rotary table load	50 kg
转台直径	Rotary table diameter	Ø300 mm
刀具数量	Number of tool	16把 Tools

### CBS300C



X/Y/Z轴行程	X/Y/Z axis travel	300/350/250 mm
最大工件尺寸	Max. workpiece size	Ø300×250mm
最高主轴转速	Max. spindle speed	30,000 rpm
最大转台负荷	Max. rotary table load	25 kg
转台直径	Rotary table diameter	Ø300 mm
刀具数量	Number of tool	16把 Tools

### CBS650



X/Y/Z轴行程	X/Y/Z axis travel	650/800/560 mm
最大工件尺寸	Max. workpiece size	Ø650×560 mm
最高主轴转速	Max. spindle speed	20,000 rpm
最大转台负荷	Max. rotary table load	800 kg
转台直径	Rotary table diameter	Ø650 mm
刀具数量	Number of tool	30把 Tools

### CBS650C



X/Y/Z轴行程	X/Y/Z axis travel	650/800/560 mm
最大工件尺寸	Max. workpiece size	Ø650×560 mm
最高主轴转速	Max. spindle speed	20,000 rpm
C轴最高转速	Max. speed of C axis	800 rpm
最大转台负荷	Max. rotary table load	400 kg
转台直径	Rotary table diameter	Ø650 mm
刀具数量	Number of tool	30把 Tools

### CBS400



X/Y/Z轴行程	X/Y/Z axis travel	460/390/400 mm
最大工件尺寸	Max. workpiece size	Ø400×400 mm
最高主轴转速	Max. spindle speed	30,000 rpm
最大转台负荷	Max. rotary table load	250 kg
转台直径	Rotary table diameter	Ø400 mm
刀具数量	Number of tool	26把 Tools

### CBS400C



X/Y/Z轴行程	X/Y/Z axis travel	460/390/400 mm
最大工件尺寸	Max. workpiece size	Ø400×400 mm
最高主轴转速	Max. spindle speed	30,000 rpm
C轴最高转速	Max. speed of C axis	1500 rpm
最大转台负荷	Max. rotary table load	100 kg
转台直径	Rotary table diameter	Ø400 mm
刀具数量	Number of tool	26把 Tools

### CBS800



X/Y/Z轴行程	X/Y/Z axis travel	800/910/560 mm
最大工件尺寸	Max. workpiece size	Ø800×560 mm
最高主轴转速	Max. spindle speed	20,000 rpm
最大转台负荷	Max. rotary table load	1000 kg
转台直径	Rotary table diameter	Ø800 mm
刀具数量	Number of tool	30把 Tools

### CBS800C



X/Y/Z轴行程	X/Y/Z axis travel	800/910/560 mm
最大工件尺寸	Max. workpiece size	Ø800×560 mm
最高主轴转速	Max. spindle speed	20,000 rpm
C轴最高转速	Max. speed of C axis	800 rpm
最大转台负荷	Max. rotary table load	400 kg
转台直径	Rotary table diameter	Ø800 mm
刀具数量	Number of tool	30把 Tools





# 高刚性结构

## HIGH RIGID STRUCTURE



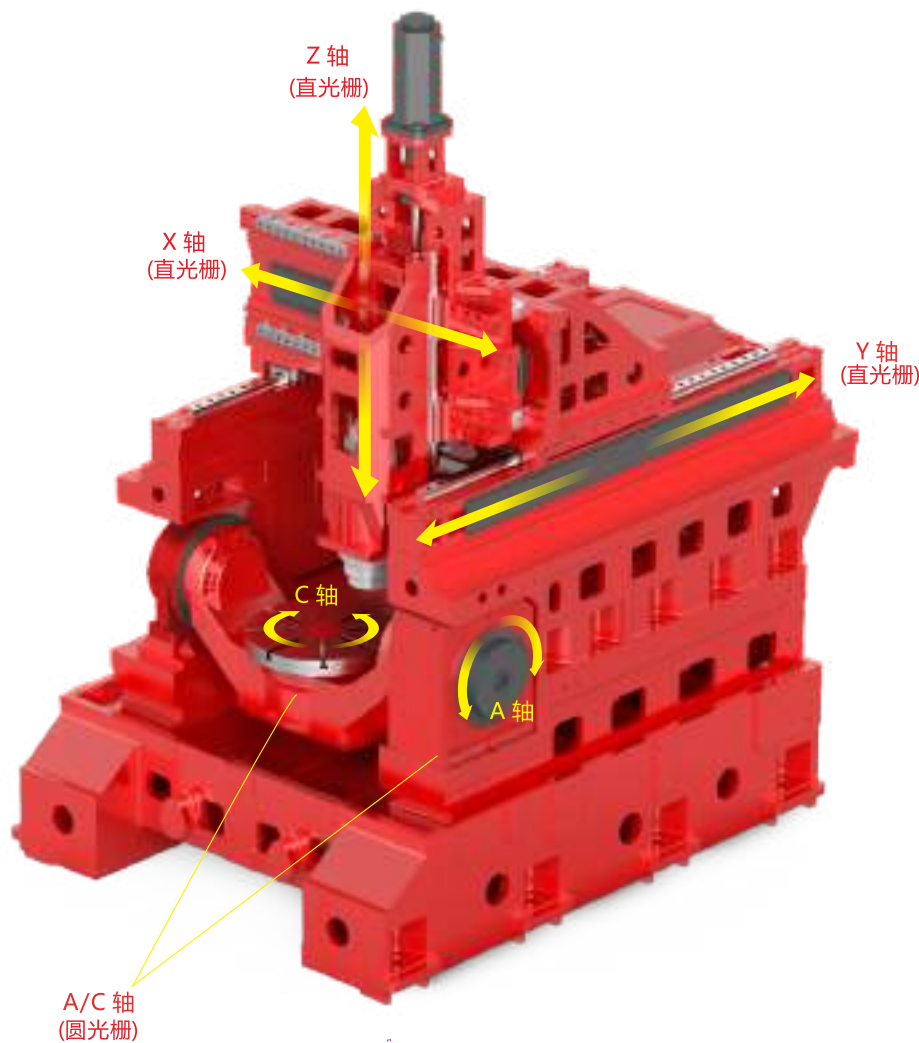
### 高刚性桥式结构

High rigidity bridge type structure

- CBS系列采用桥式结构布局，X/Y/Z达到恒定运动，未受A/C轴重量影响。  
CBS series adopts bridge structure layout, X/Y/Z achieves constant motion, not affected by A/C axis weight.
- A/C轴独立运作，工件之重量未能影响其它三轴。  
The A/C axis operates independently, and the weight of the workpiece does not affect the other three axes.

### 通过门式结构和两端支撑的摆动、旋转工作台可长期地维持高精度加工

High precision machining can be maintained for a long time through the swinging and rotating worktable supported by the door structure and both ends.



A/C轴 (圆光栅)

X/Y/Z/A/C 轴全闭环控制  
X/Y/Z/A/C axis full closed-loop control

X/Y/Z/C 轴带温度控制  
X/Y/Z/C axis with temperature control

# CBS 系列

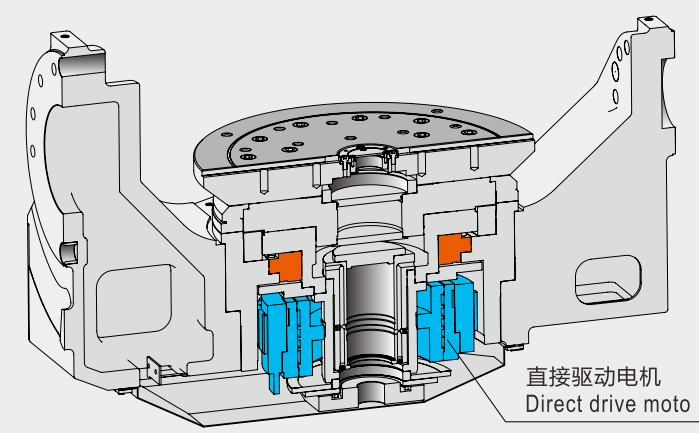
## 主要性能优势

### Performance Advantages

- X轴采用直驱技术，Y轴采用并联直驱技术并进行同步控制，高推力，低噪音，响应速度快，具备优异的动态性能，XYZ三轴均采用高精度的直线光栅反馈，定位精度高。  
X axis adopts direct drive technology, Y axis adopts parallel direct drive technology and synchronous control, high thrust, low noise, fast response speed, with excellent dynamic performance, XYZ three axis adopts high-precision linear grating feedback, high positioning accuracy.
- 大扭矩的力矩电机带动A轴和C轴旋转，零传动链，零反向间隙，刚性好；高精度的角度编码器实现精确定位。  
Large torque motor drives axis A and axis C to rotate, zero transmission chain, zero reverse clearance, good rigidity; High precision Angle encoder to achieve accurate positioning.
- 主轴采用高速电主轴结构，速度高，噪音低。  
The spindle adopts high-speed motorized spindle structure with high speed and low noise.

# 高效车削功能

## EFFICIENT TURNING FUNCTION

直接驱动电机  
Direct drive moto

直接驱动电机工作台  
Direct drive motor table

### 车削工作台转速

Table rotation speed

机型	C轴最高转速
CBS200C	2000rpm
CBS300C	2000rpm
CBS400C	1500rpm
CBS500C	1000rpm
CBS650C	800rpm
CBS800C	800rpm

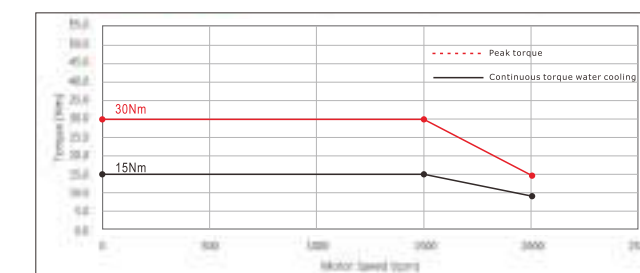
### 高速高刚性转台，实现高效铣车复合加工

High speed and high rigidity turntable, Realize high efficiency milling and turning compound machining

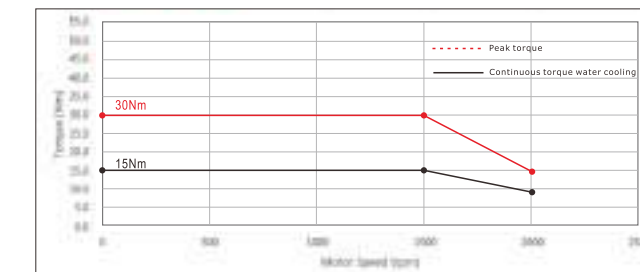
力矩电机直接驱动的精密五轴转台，应用于数控机床中，可进行五轴联动加工，具有高速、高精、稳定可靠、操作方便等优点。

The torque motor directly driven precision 5-axis rotary table, used in CNC machine for 5 axis linkage machining, with high-speed, precision, reliable, easy to operate and other advantages.

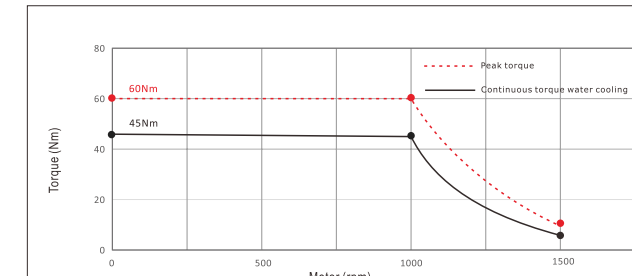
CBS200C C轴电机扭矩曲线图



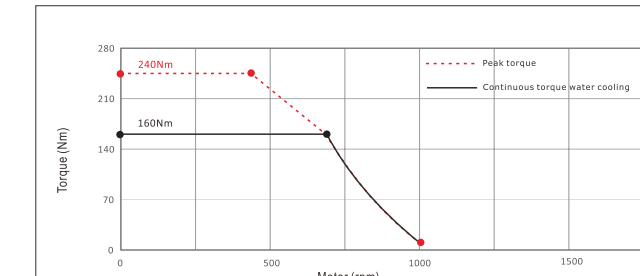
CBS300C C轴电机扭矩曲线图



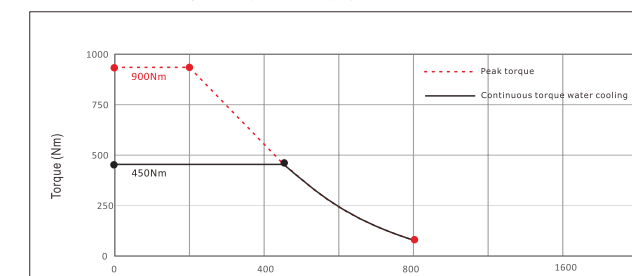
CBS400C C轴电机扭矩曲线图



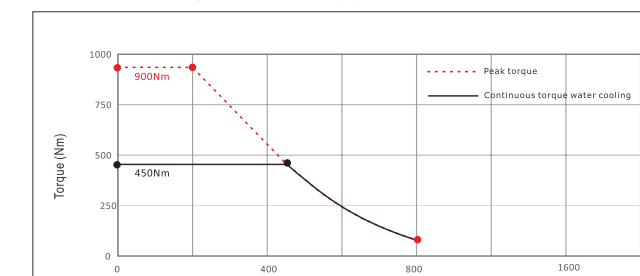
CBS500C C轴电机扭矩曲线图



CBS650C C轴电机扭矩曲线图



CBS800C C轴电机扭矩曲线图





# 维持高精度加工的主轴

## MAINTAIN THE SPINDLE OF HIGH PRECISION MACHINING

### 掌握核心技术，自主研发主轴

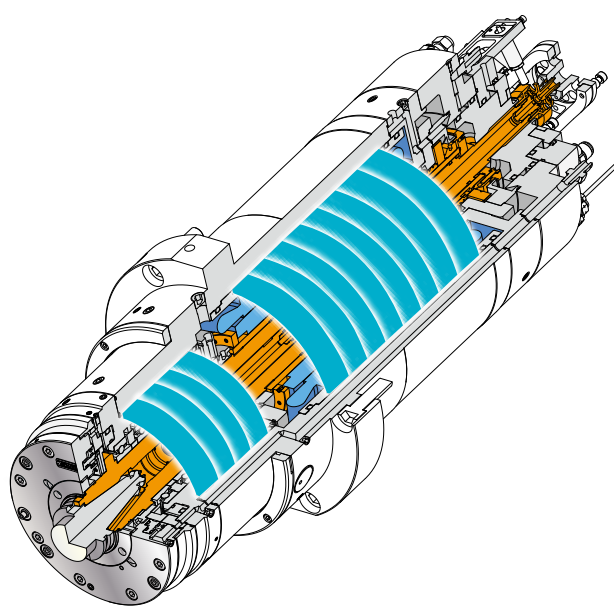
#### Master Core Technology, Independent R & D Spindle

CATO巨冈掌握核心技术，拥有主轴设计、制造和装配能力。1000m<sup>2</sup>的恒温车间，采用精细模块化生产模式，CATO巨冈主轴具有高刚性、高转速、大功率、大扭矩、高可靠性等特点。

CATO masters core technology, has the capability of spindle design, manufacturing and assembly, has a constant temperature workshop of 1000m<sup>2</sup>, adopts modular lean production mode. CATO spindle has high rigidity, high speed, high power, high torque and high. Reliability and other characteristics.

采用自主研发的HSK E40/HSK A63/HSK A100内藏式主轴。在主轴旋转范围内，排除跳动和震动，在高速长时间加工中实现稳定的精度。主轴使用强制冷却的方式对电机、前后轴承进行冷却。

The self-developed HSK E40/HSK A63/HSK A100 built-in spindle. Eliminates jitter and vibration in the range of spindle rotation, and achieves stable accuracy in high-speed long-time machining. The spindle uses forced cooling to cool the motor and front and rear bearings.



### ■ 内置马达结构 Built in motor structure

通过排除驱动用齿轮，可以最大限度抑制在进行高速转动时的振动，从而可以提高加工面精度并延长刀具的寿命。

By eliminating the driving gear, the high-speed rotation can be minimized. It can improve the accuracy of machining surface and prolong the life of cutter.

### ■ 主轴温度管理 Spindle temperature management

通过将经过温度管理的冷却油循环，可以抑制各个部件的发热而带来的主轴热位移，从而可以防止加工精度的变化。

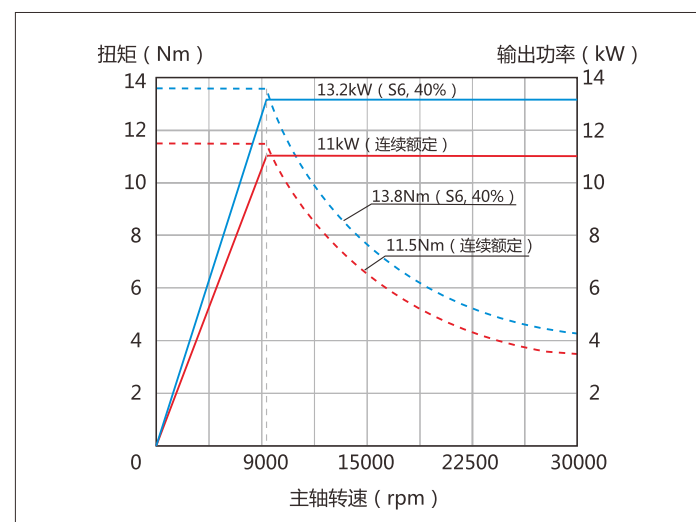
By circulating the temperature managed cooling oil, the thermal displacement of the spindle caused by heating can prevent the change of machining accuracy.

### ■ 高速高扭矩主轴 High speed and high torque spindle

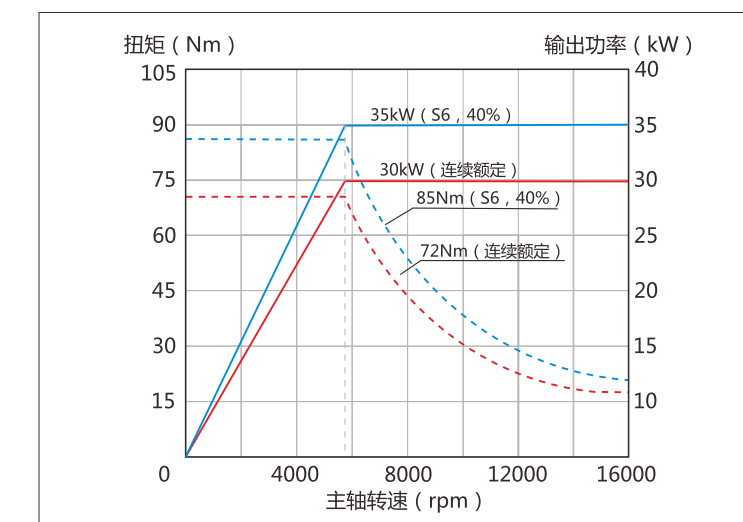
主轴规格 Spindle specification	120mm/内藏式 Built-in type	170mm/内藏式 Built-in type	190mm/内藏式 Built-in type	210mm/内藏式 Built-in type
主轴锥孔 Spindle taper	HSK E40	HSK A63	HSK A63	HSK A100
主轴转速 Spindle speed	30000rpm	20000rpm	16000rpm	15000rpm
主轴功率 Spindle power	13.2KW (S6, 40%) 11KW (连续额定)	34KW (S6, 40%) 30KW (连续额定)	35KW (S6, 40%) 30KW (连续额定)	39KW (S3, 15%) 26KW (连续额定)
主轴扭矩 Spindle torque	13.8Nm (S6, 40%) 11.5Nm (连续额定)	57.3Nm (S6, 40%) 47.7Nm (连续额定)	85Nm (S6, 40%) 72Nm (连续额定)	248.3Nm (S3, 15%) 165.5Nm (连续额定)

### ■ 主轴功率、扭矩图 Power and torque diagram of main shaft

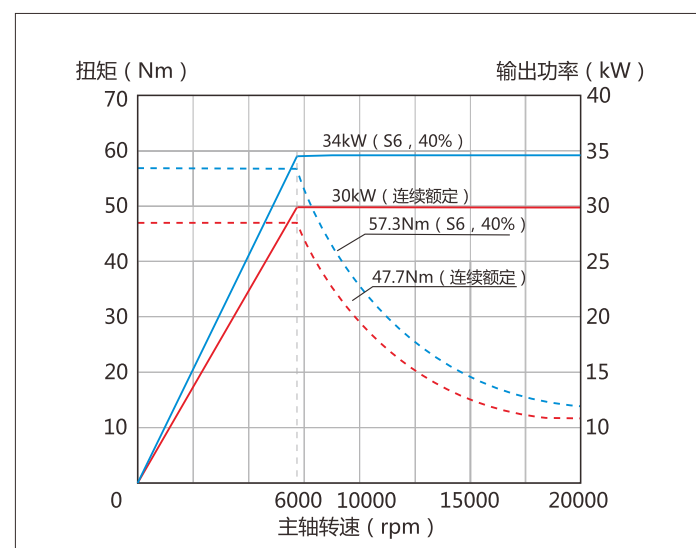
30000rpm-HSK E40内藏式 标配 Standard: CBS200/CBS200C  
主轴功率/扭矩图 Built-in type spindle power/torque CBS300/CBS300C CBS400/CBS400C



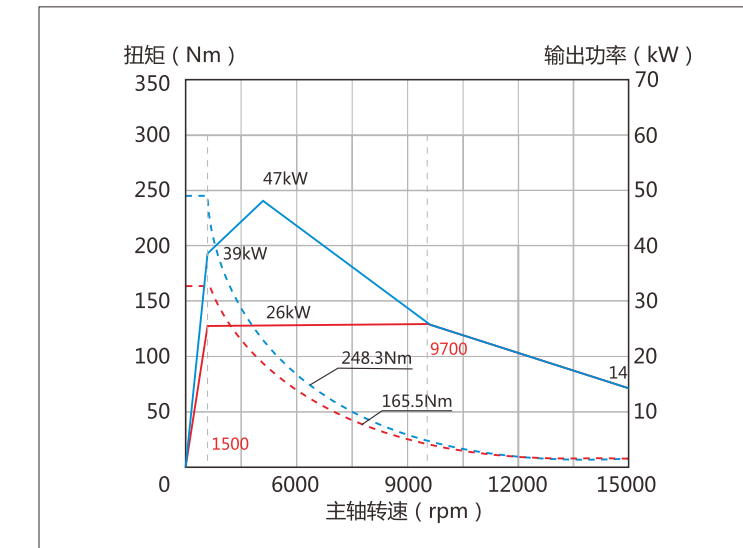
16,000rpm-HSK A63内藏式 选配 Standard:  
主轴功率/扭矩图 Built-in type spindle power/torque CBS500/CBS650/CBS800



20000rpm-HSK A63内藏式 标配 Standard: 选配 Standard:  
主轴功率/扭矩图 Built-in type spindle power/torque CBS500/CBS650/CBS800 CBS400



10000rpm-HSK A100内藏式 选配 Standard:  
主轴功率/扭矩图 Built-in type spindle power/torque CBS650/CBS800

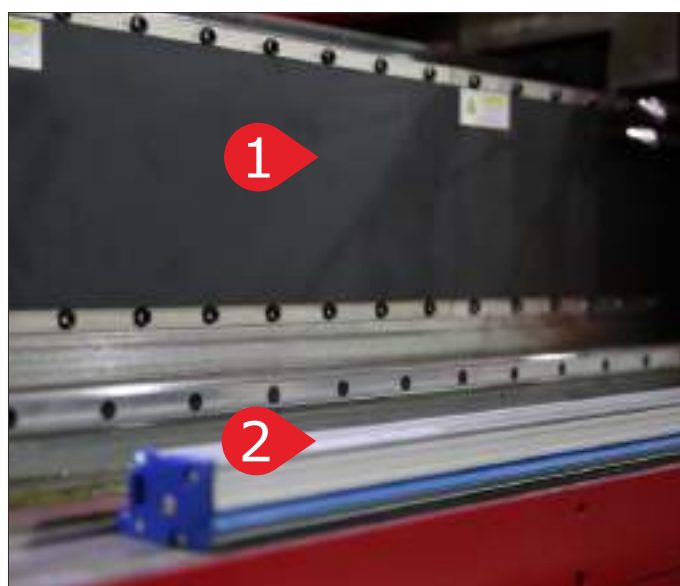






# 引领世界的直线电机

LEADING THE WORLD IN LINEAR MOTOR



## 1 直线电机 Linear Motor

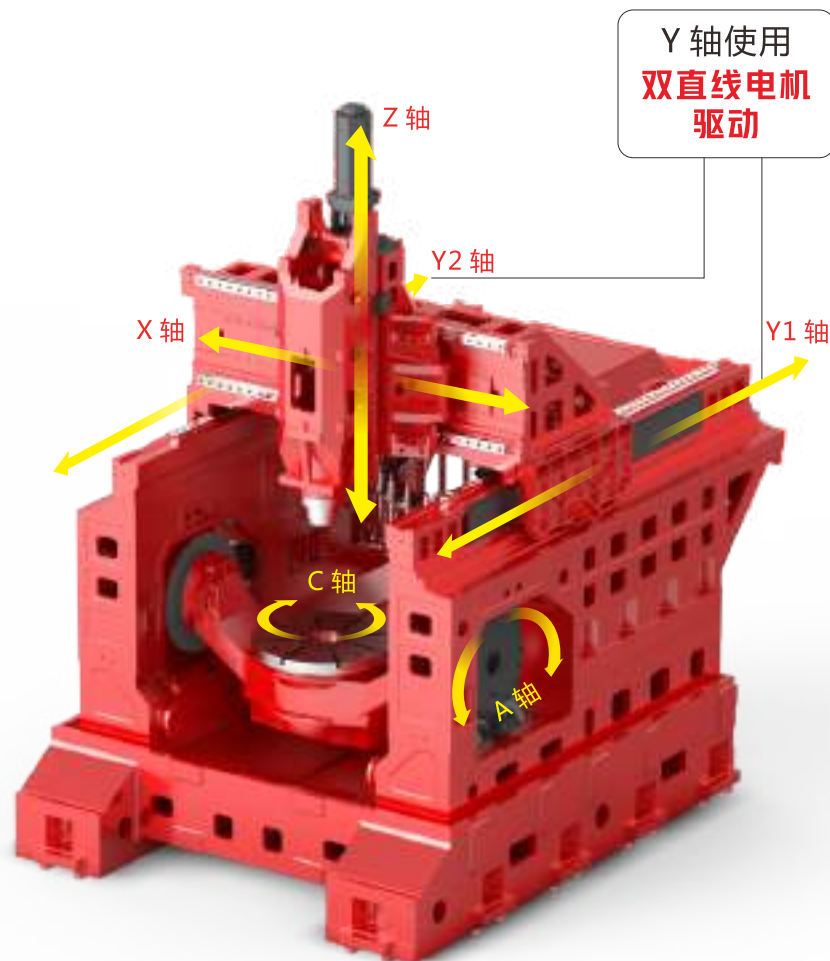
搭载直线电机驱动，运动时无机械接触，不存在机械损耗，无背隙传动，反应速度快。

Equipped with linear motor drive. no mechanical contact during movement, no mechanical loss, no backlash transmission, fast response.

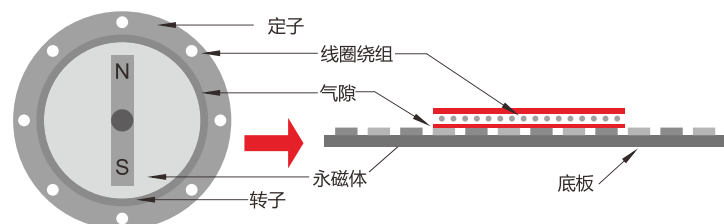
## 2 绝对式光栅尺，进行全闭环控制。 Absolute encoder for full closed-loop control

绝对式光栅尺，纳米级的检测精度，分辨率高达0.05μm，实现全闭环控制。

Absolute encoder, nanometer detection accuracy, resolution up to 0.05um, achieved full closed-loop control.



## 工作原理图 Working principle diagram



## 滚柱导轨 Roller Guide

Roller Guide

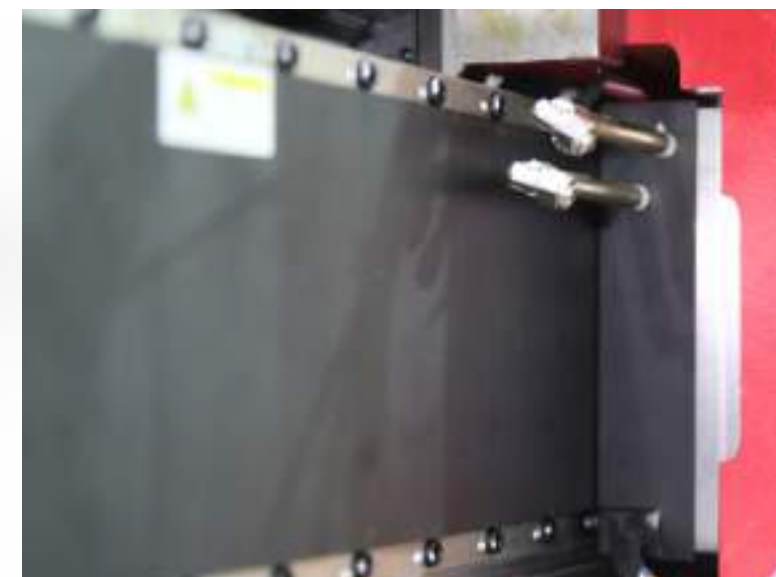
滚柱型导轨，保证了高刚性及确保更高精度

Cooled Z axis ball screw nuts and guides ensure greater

## 更高精度的直线电机 HIGHER PRECISION LINEAR MOTOR

直线电机和滚珠丝杆构造的电机相比，在移动速度和定位精度上更具优势。并且，由于机械接触少，直线电机拥有高响应性和长期稳定性。

Linear motors have advantages in moving speed and positioning accuracy compared to motors constructed with ball screws. And, because there is no backlash drive, no wear, linear motors have high responsiveness and long-term stability.



光栅尺分辨率  
the resolution of the grating scale

**0.05um**

定位精度  
Positioning precision

**0.005/300mm**

重复定位精度  
Repeating positioning precision

**0.003/300mm**

## 直线电机综合优势

### ADVANTAGE OF LINEAR MOTOR

- 无反向间隙，更高精度。  
No backlash, higher precision.
- 电机直接驱动，结构简化，提高动态响应，位置控制没有延时。  
Direct motor drive, simplified structure, improved dynamic response, no delay in position control.
- 无丝杆限制，更快速度和加速度，提升效率。  
No screw limit, faster speed and acceleration, improved efficiency.
- 全闭环控制，测量移动部件实际位置，进行偏差调节，更高控制精度。  
Full-closed loop control, measure the actual position of the moving parts, adjust the deviation, higher control accuracy.
- 运行平稳，定位精度高，对加工产品影响降到最低。  
Move smoothly, high positioning accuracy, minimal impact on processed products.
- 无需热机直接加工即可保证高精度加工，提升使用效率。  
High-precision machining and improved efficiency by direct processing without heat engine.
- 1. 结构简化，无接触式驱动，基本无磨损，使用寿命长，维护成本低；  
2. 真绝对反馈，不存在坐标丢失情况。  
1. Simplified structure, non-contact drive, basically no wear, long service life and low maintenance cost;  
2. Absolute feedback, there is no coordinate loss.



# 优异的人体工学设计

LEADING THE WORLD IN LINEAR MOTOR



基于人体工程学设计，便于操作人员使用，提高了操作性，保养性。

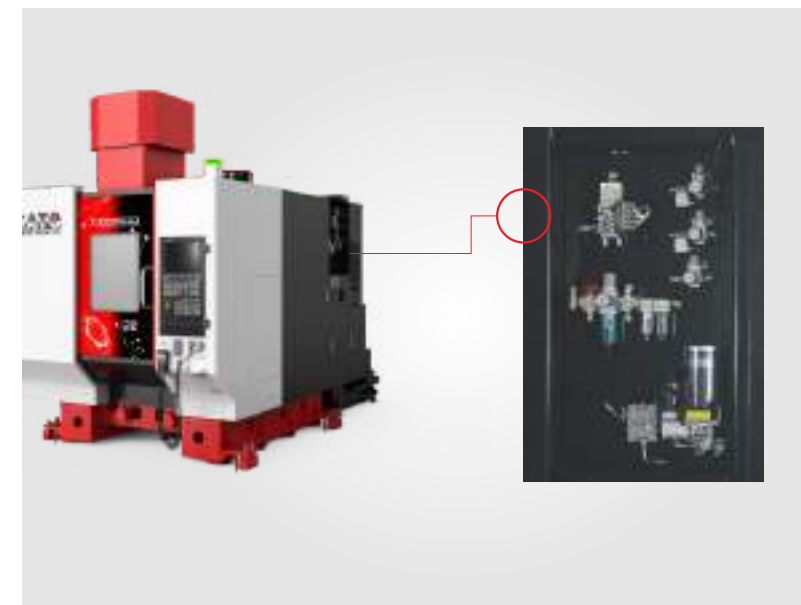
Based on ergonomic design, it is easy for operators to use, Improved operability and maintainability.



## ■ 优越的接近性 Excellent Accessibility

为了提高接近工作台的性能，打操作门下部的罩盖后退到工作台一侧，以确保充分的作业空间。

In order to improve the performance of approaching the worktable, open the cover at the lower part of the operating door and back to one side of the table to ensure sufficient working space.



## ■ 维修单元的集中配置 Centralized configuration of maintenance unit

为了提高接近工作台的性能，打操作门下部的罩盖后退到工作台一侧，以确保充分的作业空间。

In order to improve the performance of approaching the worktable, open the cover at the lower part of the operating door and back to one side of the table to ensure sufficient working space.

## ■ 较宽的操作门便于吊车接近 Wide operation door for crane access

在进行工件换装等作业时，可以减轻人员的作业负担，同时，在使用吊车时有充分的操作空间。

When carrying out the work-piece replacement and other operations, it can reduce the workload of personnel, and at the same time, it has sufficient operation space when using the crane.



## ■ 易于观察加工大型视窗 Easy to observe and process large windows

通过配置大型视窗，方便观察工件加工状态。特别是在进行调整作业时频繁地确认切削条件和变更作业，也能够轻松地完成，提高了作业高效性。

Through the configuration of large windows, it is convenient to observe the workpiece processing state. In particular, it can be easily completed by frequently confirming the cutting conditions and changing the operation during the adjustment operation, which improves the efficiency of the operation.

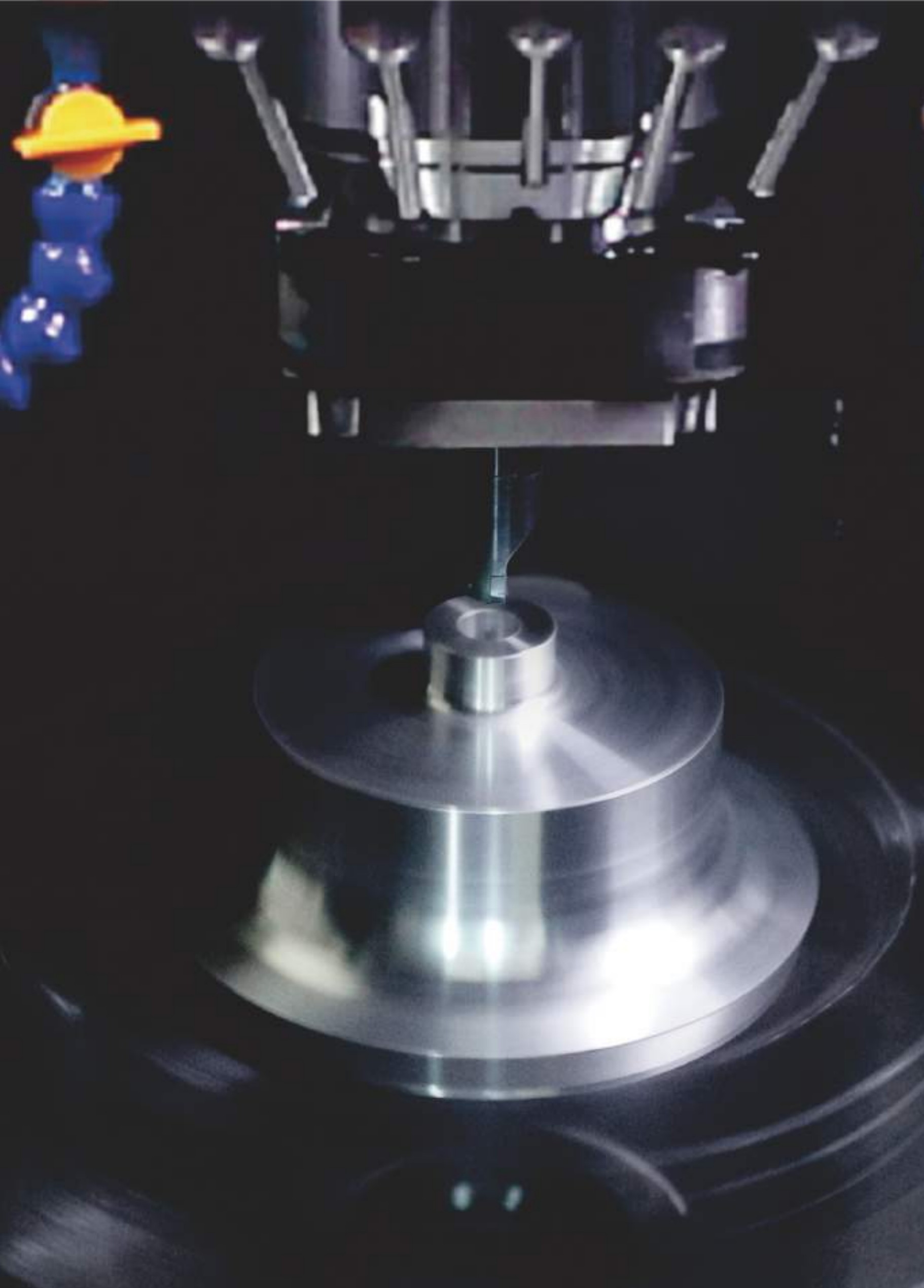


## ■ 愉快友好的操作面板 Pleasant and friendly operation panel

符合人体身高可旋转的操作面板，让操作员能以舒适的态势进行机器操作和编程。

The operator can rotate the operation panel according to the height of human body, so that the operator can operate in a comfortable situation Perform machine operation and programming.





## 加工实例

### PROCESSING EXAMPLE

#### ■ 汽车产业 Automobile industry



凸轮排气装置  
Cam exhaust



减震塔  
Damping tower



凸轮相位器  
Cam phaser



轮毂  
Wheel hub



转向柱  
Steering column



转向节  
Steering knuckle



H臂  
H-arm

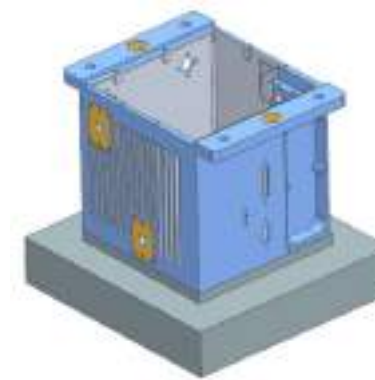




# 加工实例

## PROCESSING EXAMPLE

### ■ 航天航空 Aerospace



航空铸件  
Aerial casting



叶轮  
Impeller



机壳  
Cabinet



发动机机匣  
Engine case



悬架  
Suspension



铰链  
Hinge

### ■ 工程机械 Construction machinery



螺旋件  
Spiral piece



闭门器壳  
Door closer



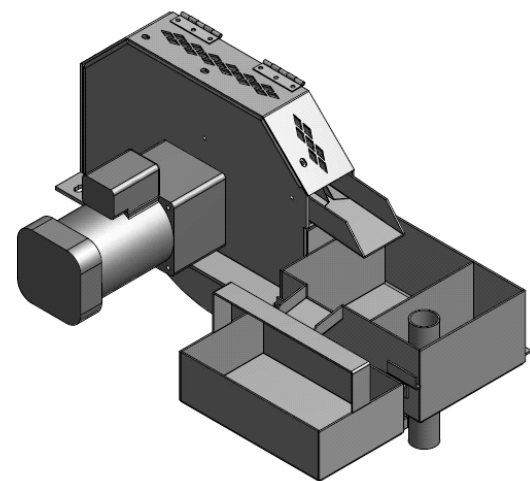
多孔板  
Multiwell plate







### ▶ 油水分离机 Oil \ Water Separator



针对机床冷却液（切削液）进行油水分离并回收浮油，回收浮油能力达98%  
Oil and water separation and recovery of floating oil for machine tool coolant (cutting fluid), with recovery capacity of 98%

### ▶ 主轴中心出水 Water out of spindle center



通过主轴和刀具的贯通，向刀尖供给切削液 对去除切屑、冷却加工点、延长刀具寿命具有良好效果。  
Through the connection of the spindle and the tool, the cutting fluid is supplied to the tool tip, which has a good effect on removing chips, cooling the machining point and prolonging the tool life.

### ▶ 在线检测系统 On line detection system



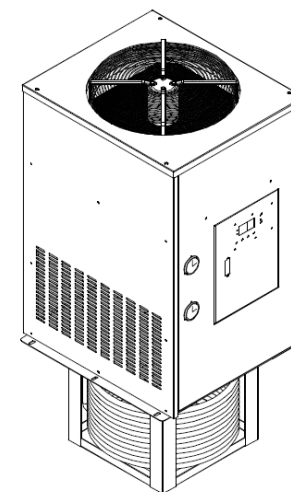
- 减少对刀和工件找正时间，节省90%辅助时间；
- 减少因对刀和工件找正误差引起的废品，提高良品率。
- reduce tool setting and workpiece alignment time, and save 90% auxiliary time.
- reduce the waste products caused by the alignment error of tool setting and workpiece, and improve the yield.

### ▶ 激光对刀仪 Laser tool setting instrument



- 快速、精准检测刀具尺寸，确保长久使用无磨损
- Fast and accurate detection of tool size to ensure long-term use without wear

### ▶ 浸入式切削液冷却装置 Cutting fluid cooling device



因切削液的温度上升而引起的夹具和加工工件的热位移，会对加工精度产生影响。加装该系统可确保切削液温升在3-5°C内  
The thermal displacement of fixture and workpiece caused by the temperature rise of cutting fluid will affect the machining accuracy. The system can ensure the temperature rise of cutting fluid within 3-5°C

### ▶ 外置冲洗高压水枪 External flushing water gun



### ▶ 油雾收集器 Oil mist gathering system





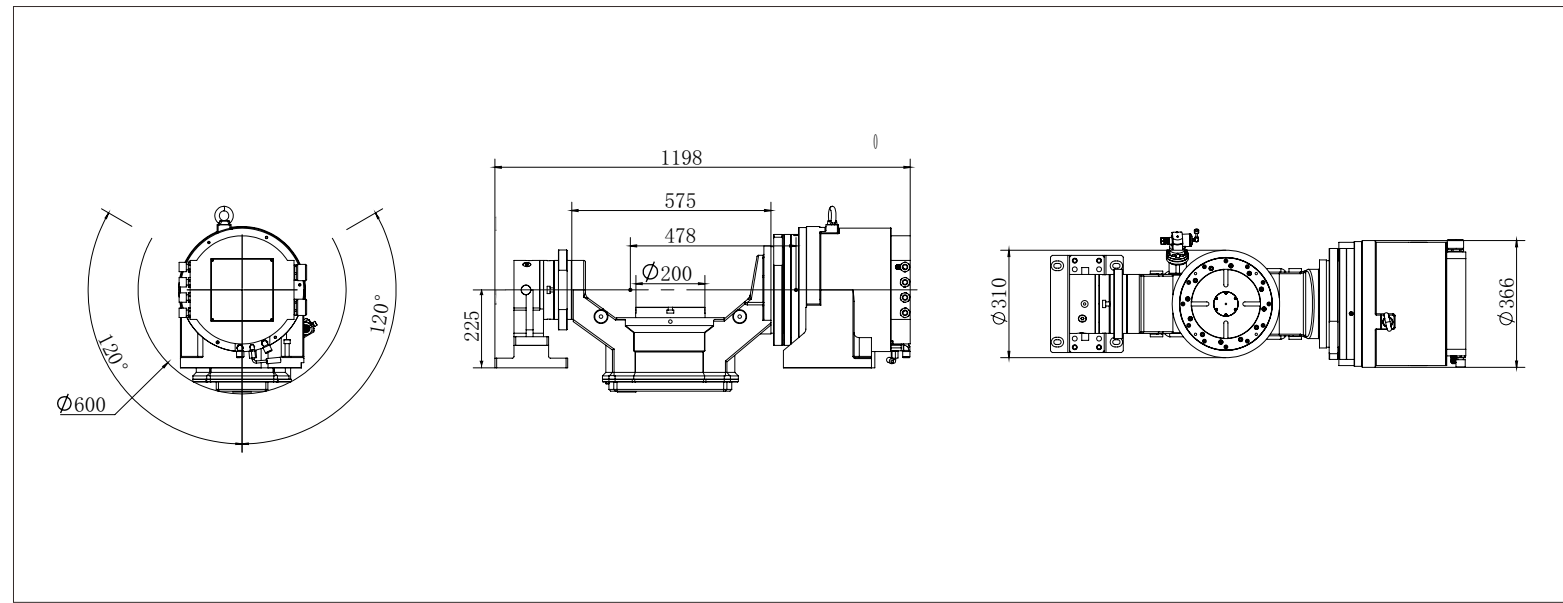


# 主轴转台

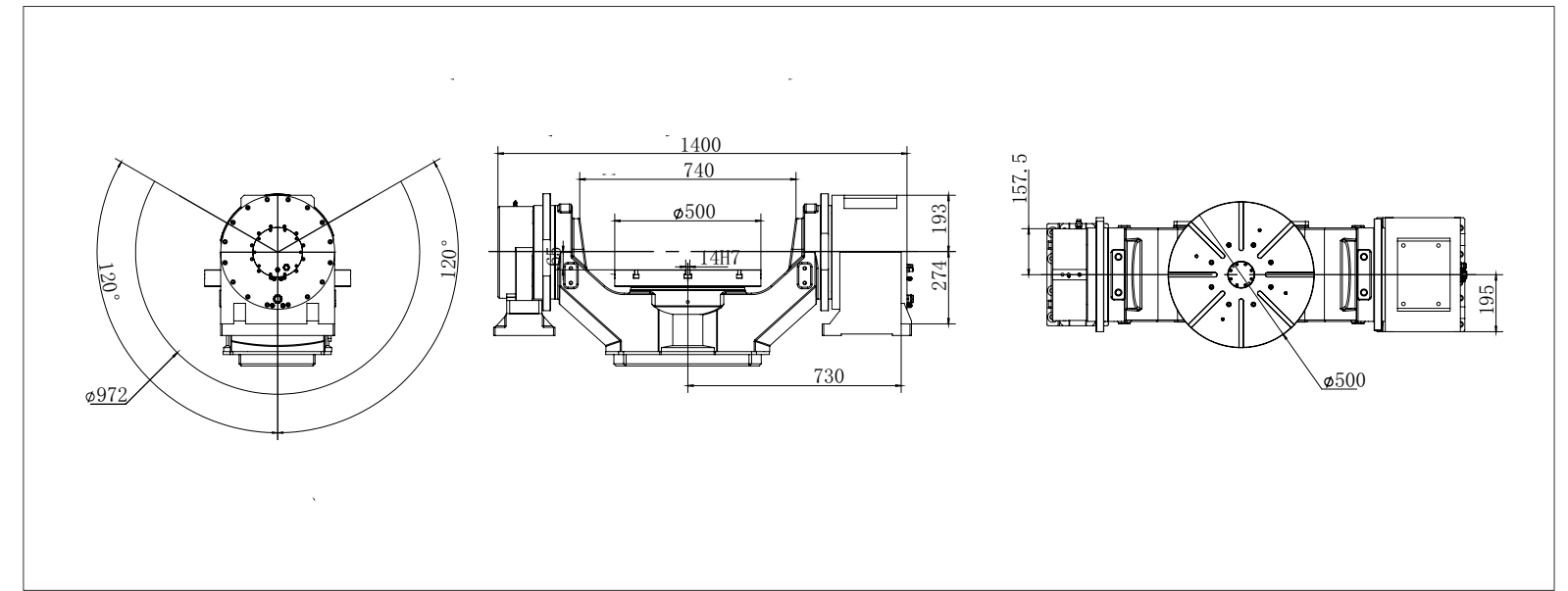
## SPINDLE TURNTABLE



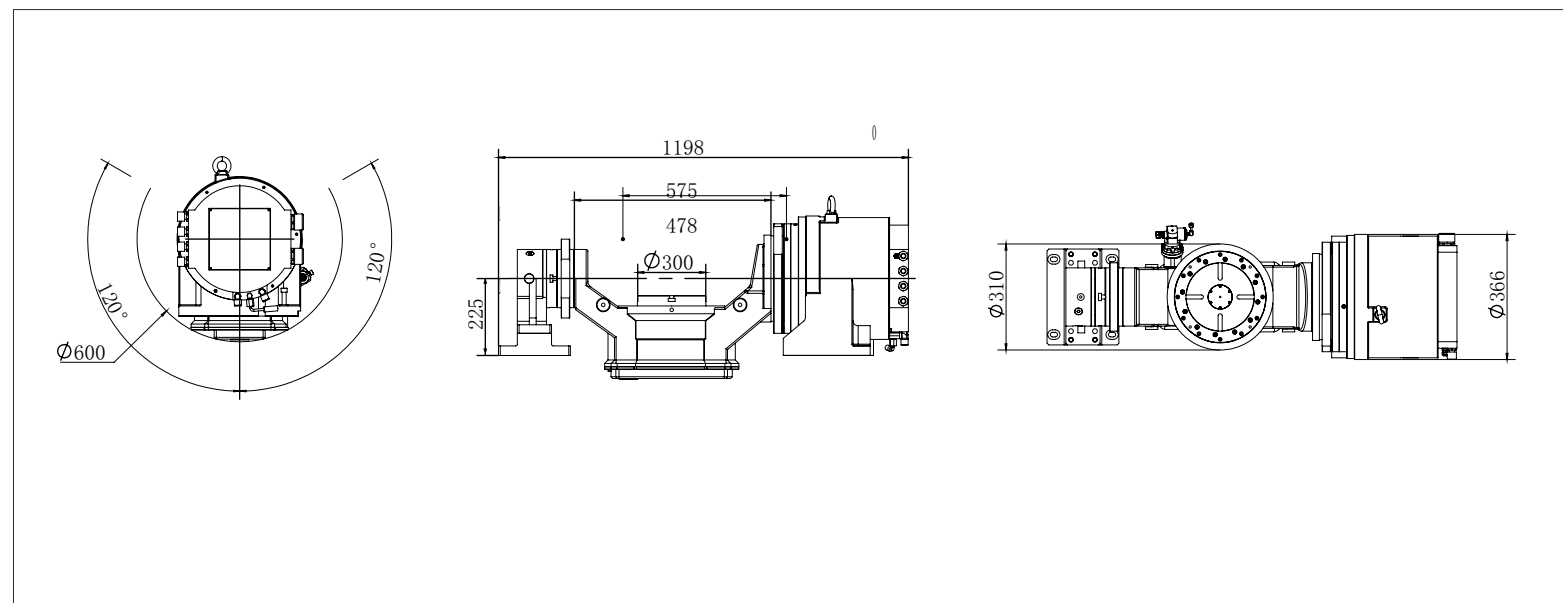
■ CBS200 转台 Rotary table



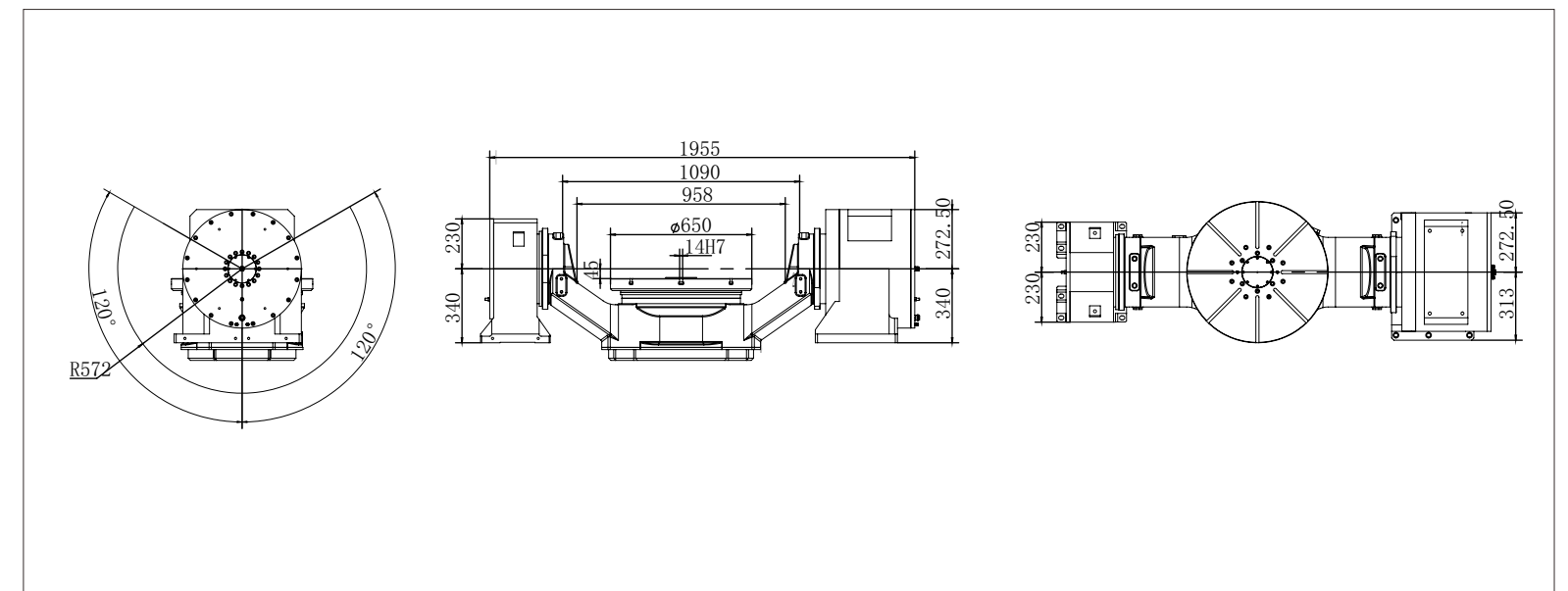
■ CBS500 转台\盘面 Rotary table



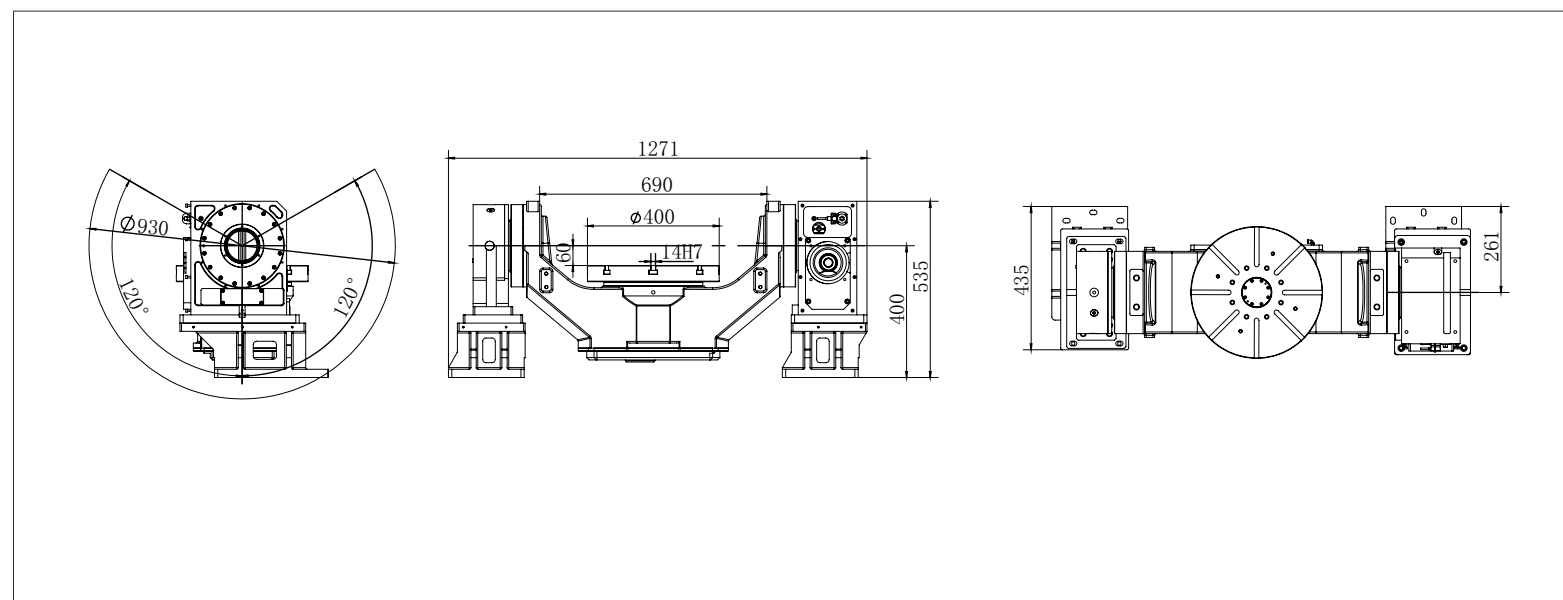
■ CBS300 转台 Rotary table



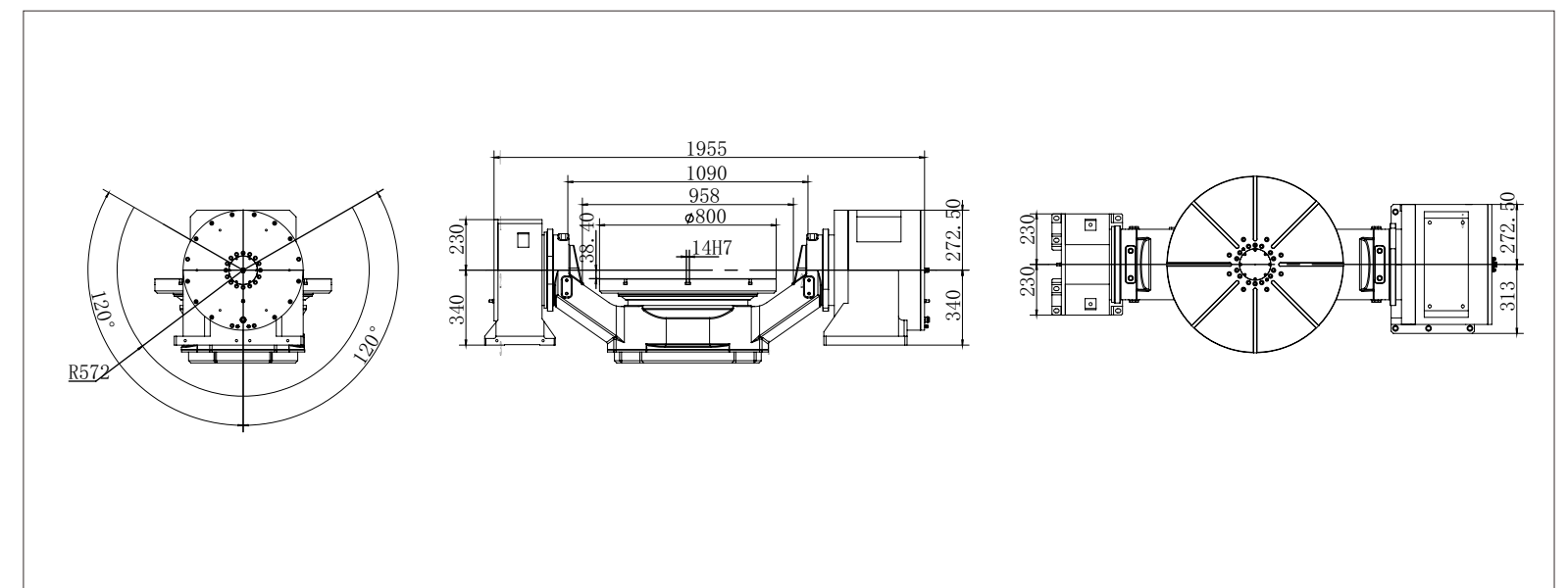
■ CBS650 转台 Rotary table



■ CBS400 转台 Rotary table



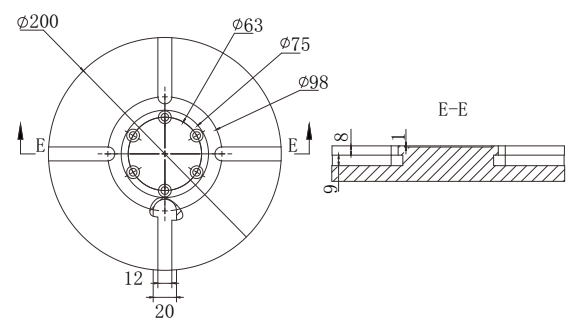
■ CBS800 转台 Rotary table



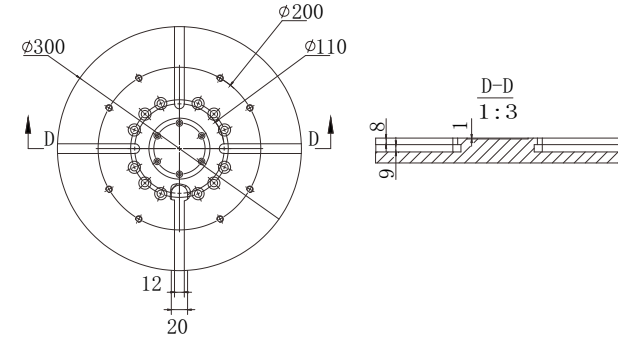




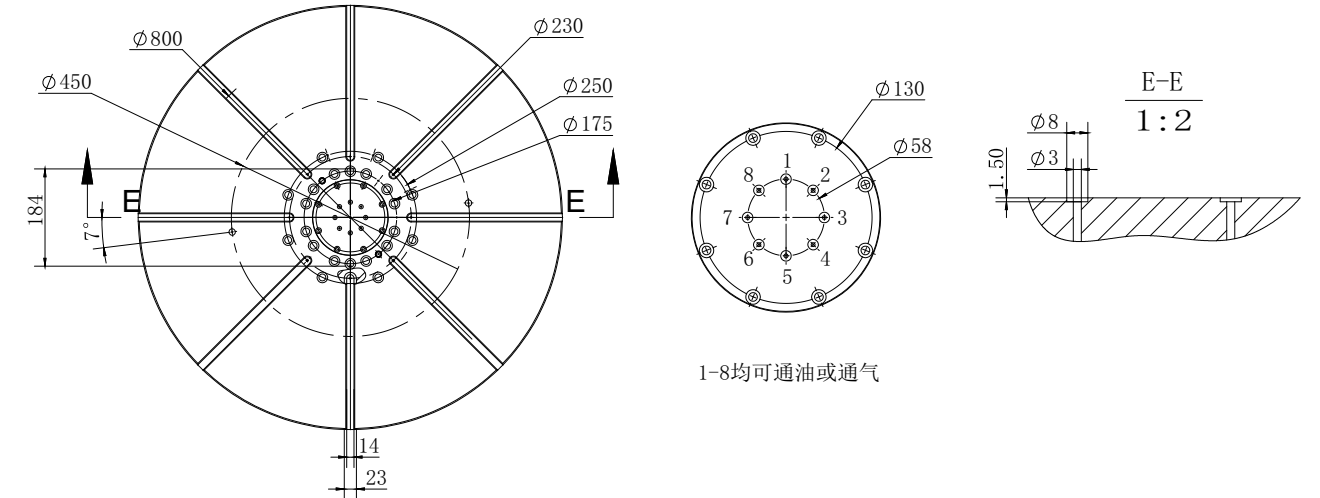
**CBS200**



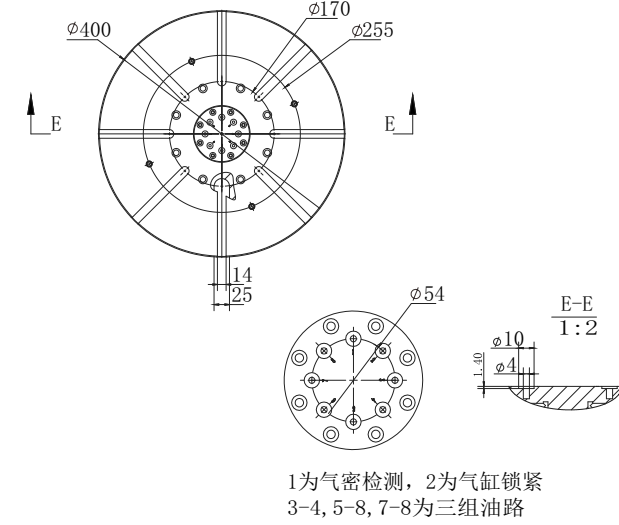
**CBS300**



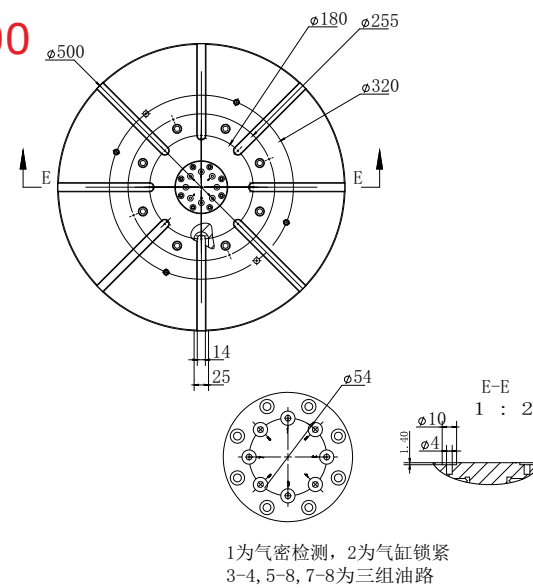
**CBS800**



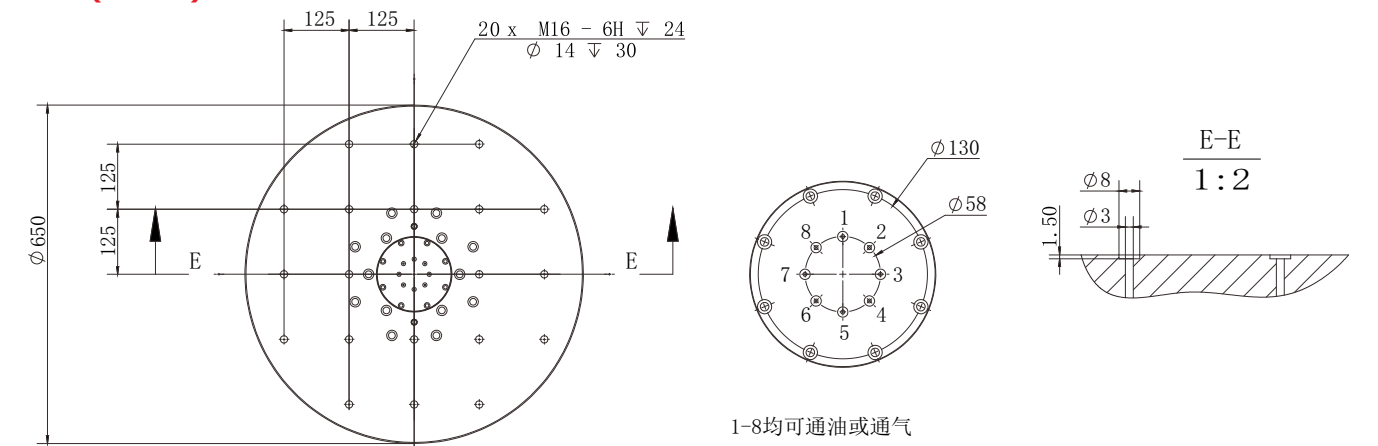
**CBS400**



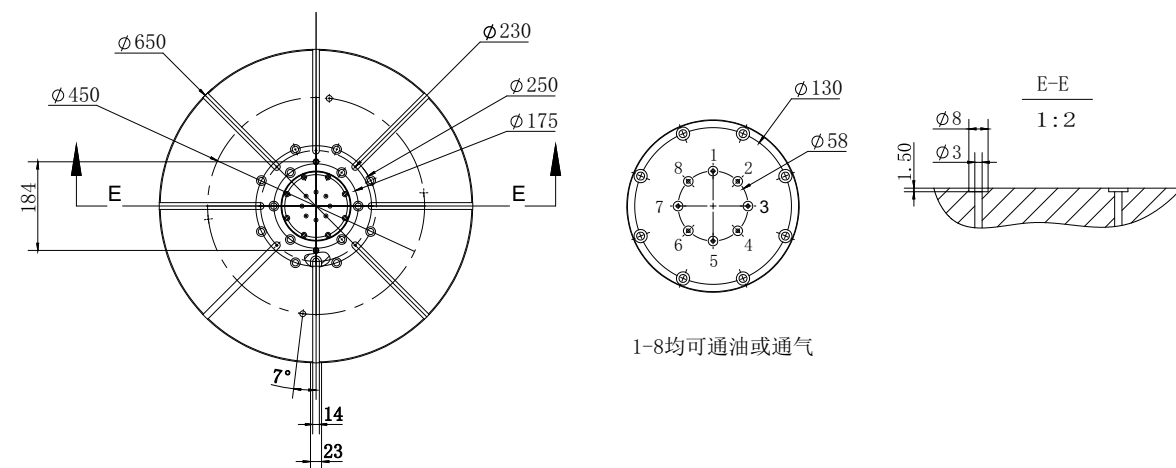
**CBS500**



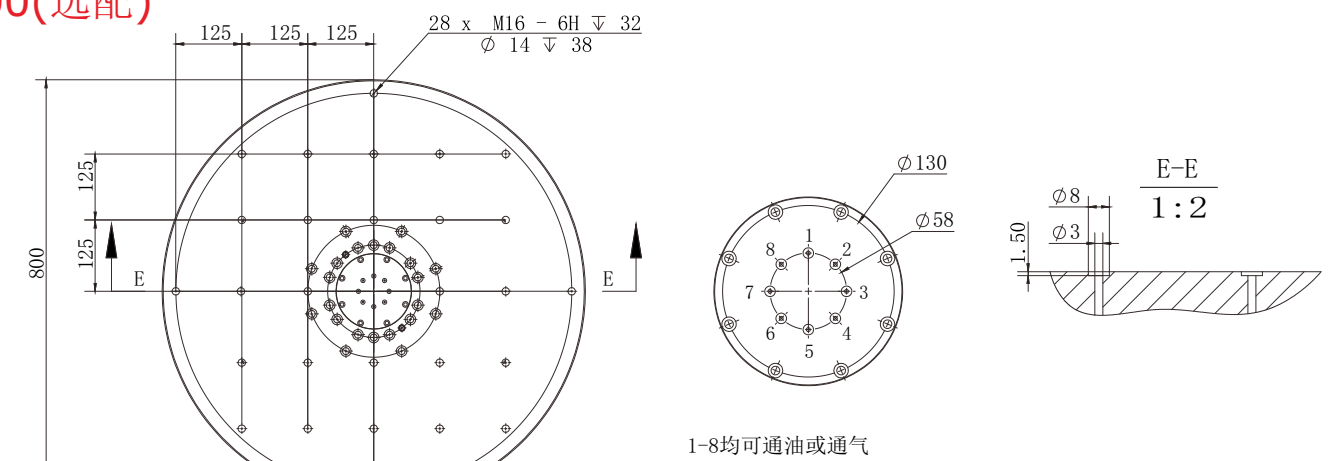
**CBS650(选配)**



**CBS650**



**CBS800(选配)**



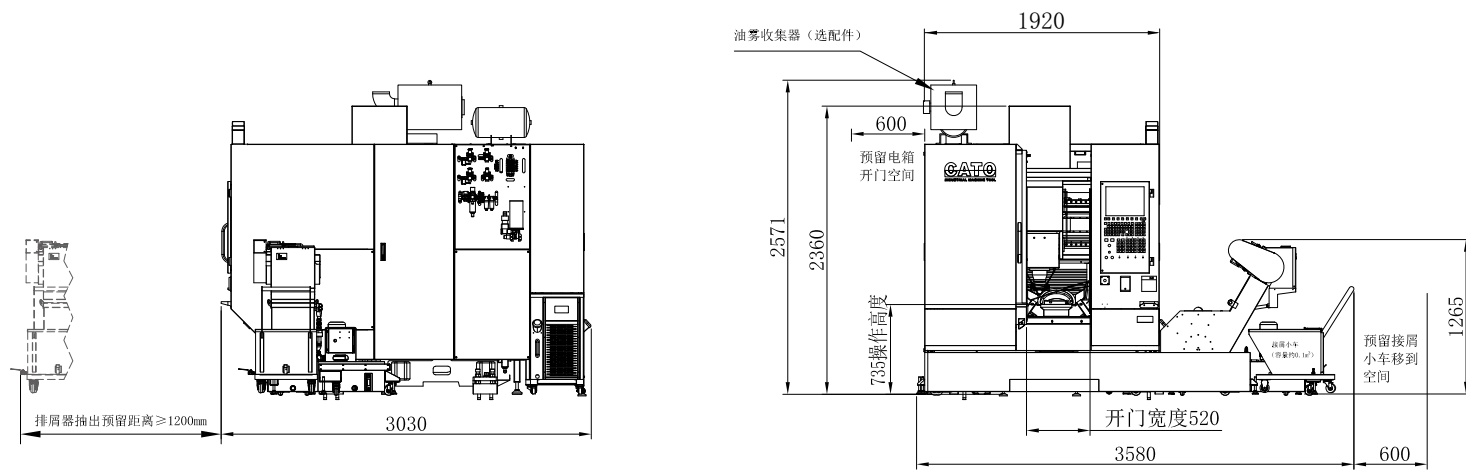


# 机器外形尺寸

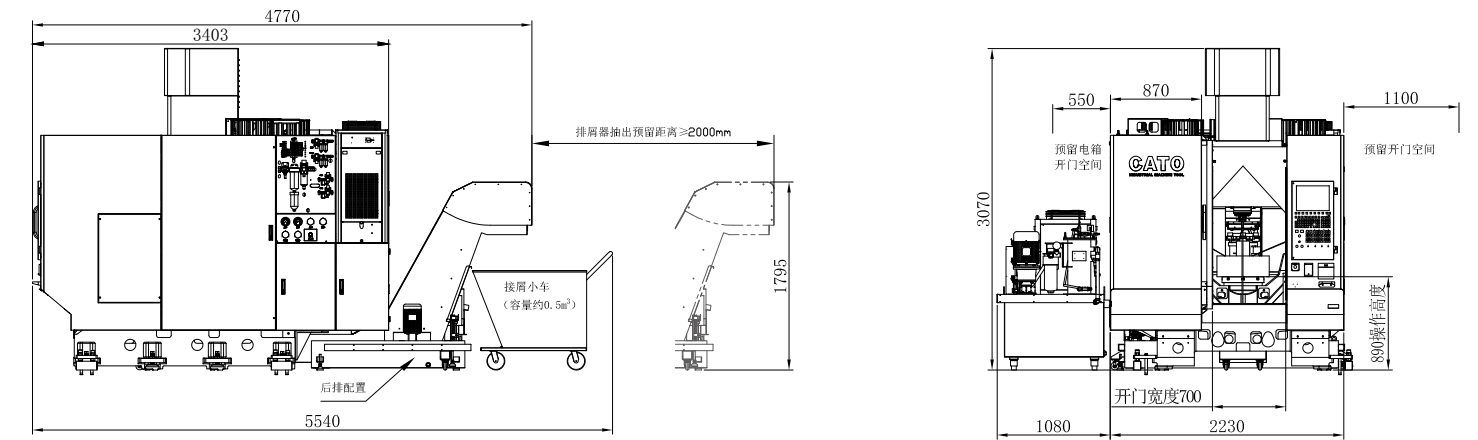
## OUTLINE SIZE



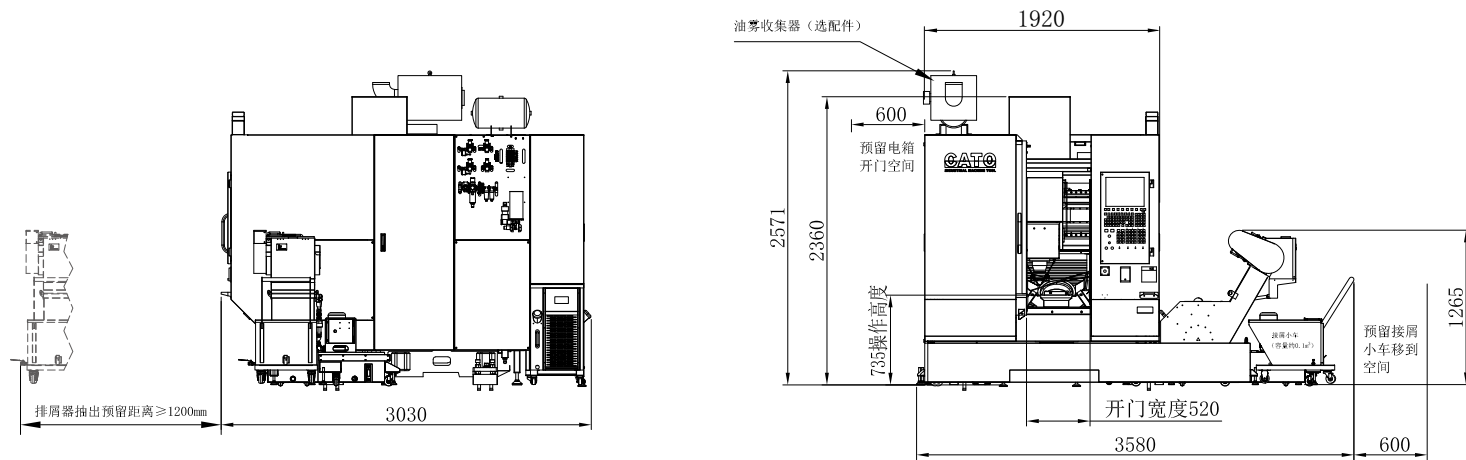
### ■ CBS200 外形尺寸 Outline Size



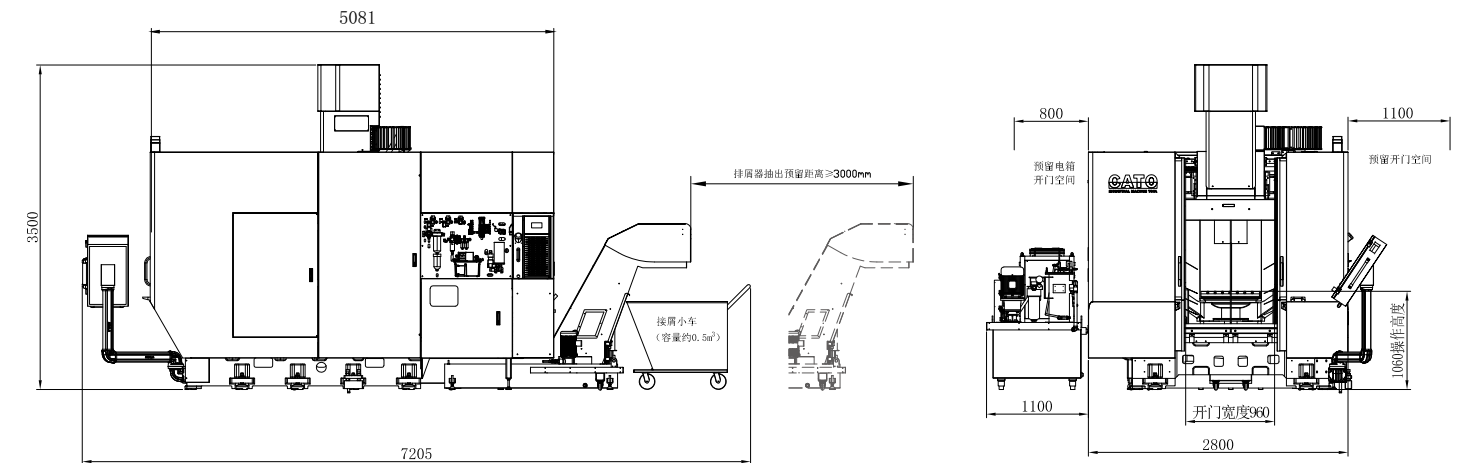
### ■ CBS500 外形尺寸 Outline Size



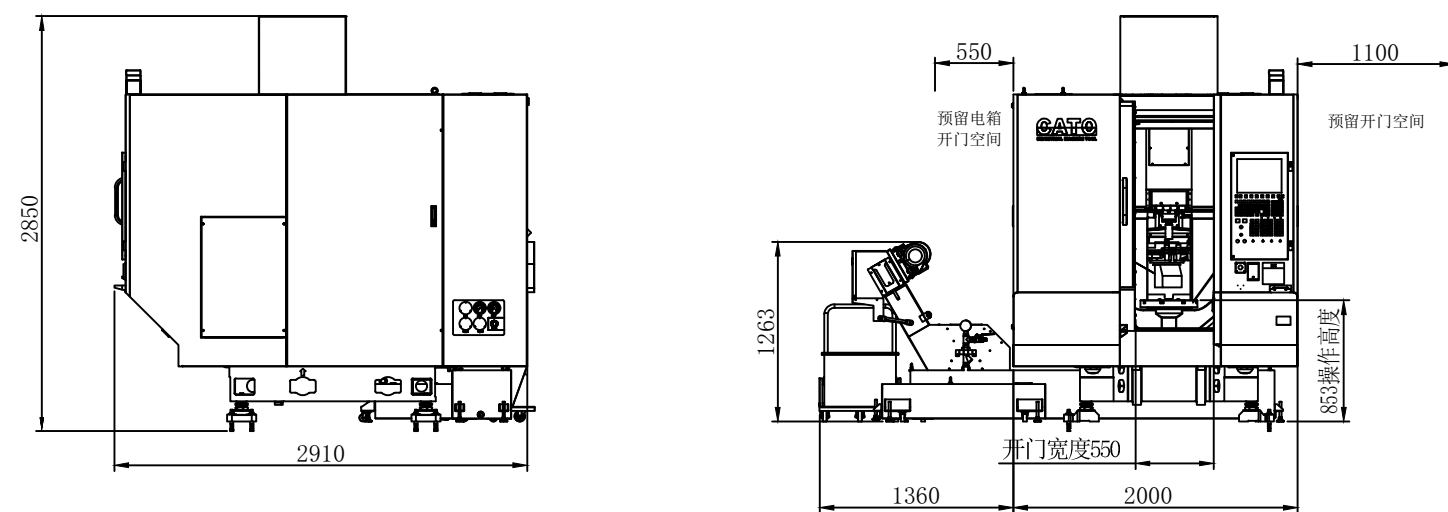
### ■ CBS300 外形尺寸 Outline Size



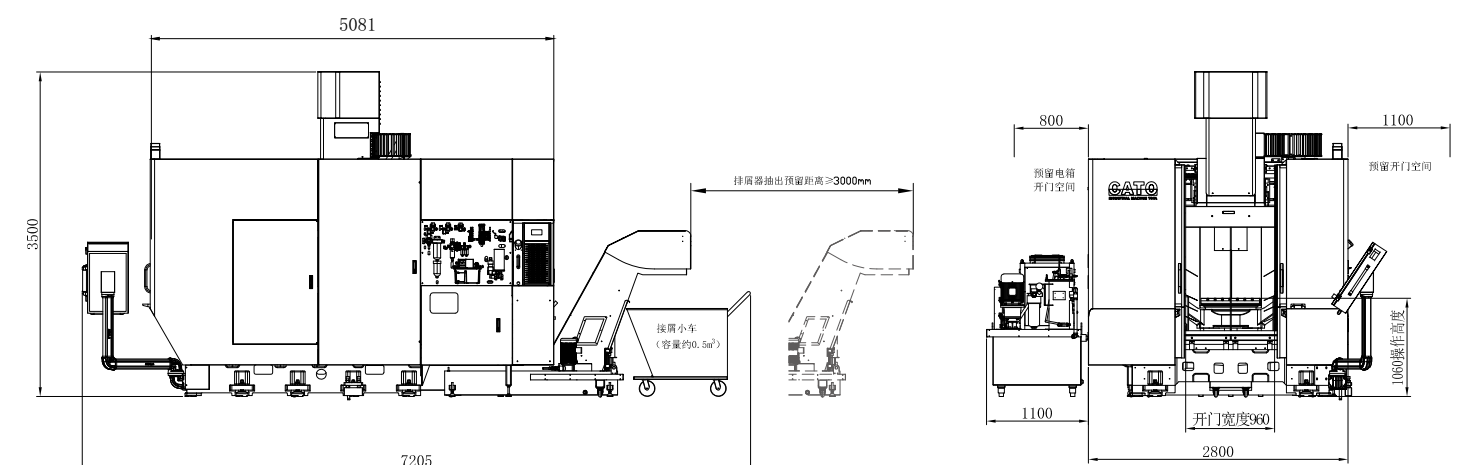
### ■ CBS650 外形尺寸 Outline Size



### ■ CBS400 外形尺寸 Outline Size



### ■ CBS800 外形尺寸 Outline Size







# 主机标准技术规格

## STANDARD SPECIFICATIONS



项目Project		CBS200	CBS200C	CBS300	CBS300C	CBS400	CBS400C	CBS500	CBS500C	CBS650	CBS650C	CBS800	CBS800C
行程 Travel	X/Y/Z轴行程 X/Y/Z axis travel	300*350*250		300*350*250		460*390*400		500*600*450		650*800*560		800*910*560	
	主轴端面到工作中心距离 Spindle nose to table center	130-380		130-380		155-555		130-580		110-670		100-660	
主轴 Spindle	主轴锥孔 Spindle taper	E40		E40		E40		A63		A63		A63	
	最高主轴转速 Max. spindle speed	30000		30000		30000		20000		20000		20000	
	主轴马达功率(持续/S3 25%)	11/13.2		11/13.2		11/13.2		30/34		30/34		30/34	
	主轴电机扭矩(持续/S3 25%)	11.5/13.8		11.5/13.8		11.5/13.8		47.7/57.3		47.7/57.3		47.7/57.3	
进给速度 Feed rate	转移速度 ( X/Y/Z ) m/min Rapid speed of X/Y/Z axis	48/48/48		48/48/48		30/30/30		48/48/48		48/48/48		48/48/48	
	切削进给 mm/min Cutting feed	1-24000		1-24000		1-12000		1-24000		1-24000		1-24000	
转台 Rotary table	转盘直径 Rotary table diameter	200		300		400		500		650		800	
	容许负载重量 A-axis tilting angle	30	20	40	25	250	100	600	240	800	400	1000	400
	倾斜轴摆幅 A	±110°											
	旋转轴旋转 C C-axis tilting angle	360°											
	A轴额定/最大转速	47/70		47/70		30/60		60/80		40/80		40/80	
	A轴额定/最大切削扭力	782/1540		782/1540		940/2000		1500/4500		3500/7000		3500/7000	
	C轴额定/最大转速	200/250	1500/2000	200/250	1500/2000	100/150	800/1500	80/120	600/1000	50/90	450/800	50/90	450/800
	C轴额定/最大切削扭力	92/218	15/30	92/218	15/30	185/318	42/60	355/685	160/240	964/1690	450/900	964/1690	450/900
	A定位精度/重复定位精度 A positioning precision / repeat positioning precision	10/6		10/6		10/6		10/6		10/6		10/6	
C定位精度/重复定位精度 C positioning precision / repeat positioning precision	8/4		8/4		8/4		8/4		8/4		8/4		
刀库ATC	装刀数量 Number of tool	16		25		26		25		30		30	
	刀具最大直径/长度 Maximum tool diameter / length	80/200		80/200		80/200		80/300		80/300		80/300	
	刀具最大重量 Maximum tool weight	3		3		3		8		8		8	
	刀具换刀时间 ( 刀具对刀具 ) Tool changetime (tool to tool)	4		4		4		4		4		4	
三轴 Three axis	X轴导轨 ( 线轨宽度/滑块数量 ) X-axis guide (line rail width / number of sliders)	30/2		30/2		35/2		35/2		45/2		45/2	
	Y轴导轨 ( 线轨宽度/滑块数量 ) Y-axis guide (line rail width / number of sliders)	35/2+30/2		35/2+30/2		45/2		45/2		45/2		45/2	
	Z轴导轨 ( 线轨宽度/滑块数量 ) Z-axis guide (line rail width / number of sliders)	25/2		25/2		35/2		35/2		35/2		35/2	
	X轴直线电机推力 ( 持续/最大 )	1097/2750		1097/2750		Φ40×10(丝杆)		2167/5500		3250/8250		3250/8250	
	Y轴直线电机推力 ( 持续/最大 )	3250/8250		3250/8250									
	Z轴直线电机推力 ( 持续/最大 )	1033/1511		1033/1511				2R40*20(丝杆)		2R40*20(丝杆)		2R40*20(丝杆)	
精度 Precision	定位精度 Positioning precision	0.005/300											
	重复精度 Repeating positioning precision	0.003/300											
所需动力源 Power	电源容量 Power supply capacity	25	30	25	30	30	35	40	45	55	70	55	70
	空压需求 Air pressure	≥0.6Mpa ≥400L/min											
机床尺寸 Machine size	机械外形尺寸 Machine size ( L x W x H )	1920*3030*2360		1920*3030*2360		2000*2910*2850		2230*3403*3070		2800*5081*3500		2800*5081*3500	
	整机尺寸(含排屑机等周边设备) Machine size ( L x W x H )	3580*3030*2360		3580*3030*2360		3360*2910*2850		2230*5540*3070		2800*7205*3500		2800*7205*3500	
	重量 weight	4.8T		4.8T		5T		11T		15T		15.5T	



# 配备表

## CONFIGURATION TABLE



型号 Model	CBS200	CBS200C	CBS300	CBS300C	CBS400	CBS400C	CBS500	CBS500C	CBS650	CBS650C	CBS800	CBS800C
CATO C80 plus 系统 CATO C80 PLUS SYSTEM	●	●	●	●	●	●	●	●	●	●	●	●
海德汉 TNC640 系统 HEIDENHAIN TNC640 system	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
30000rpm,HSKE40,内藏式 Built-in type	●	●	●	●	●	●	▲	▲	-	-	-	-
20000rpm-M170-A63内藏式 Built-in type	-	-	-	-	▲	▲	●	●	●	●	●	●
16000rpm-M190-A63内藏式 Built-in type	-	-	-	-	-	-	▲	▲	▲	▲	▲	▲
24000rpm-M190-A63内藏式 Built-in type	-	-	-	-	-	-	▲	▲	▲	▲	▲	▲
10000rpm-M210-A100内藏式 Built-in type	-	-	-	-	-	-	-	-	▲	▲	▲	▲
16把伺服式刀库 16 servo tool magazines	●	●	●	●	-	-	-	-	-	-	-	-
25把伺服式刀库 25 servo tool magazines	▲	▲	▲	▲	-	-	●	●	-	-	-	-
26把伺服式刀库 26 servo tool magazines	-	-	-	-	●	●	-	-	-	-	-	-
30把伺服式刀库 30 servo tool magazines	-	-	-	-	-	-	-	-	●	●	●	●
40把链式刀库 40 servo tool magazines	▲	▲	▲	▲	-	-	▲	▲	▲	▲	▲	▲
60把链式刀库 60 servo tool magazines	▲	▲	▲	▲	-	-	▲	▲	▲	▲	▲	▲
X/Y/Z/A/C全闭环 Full closed loop	●	●	●	●	●	●	●	●	●	●	●	●
全封闭式防护罩 Fully closed-loop protective cover	●	●	●	●	●	●	●	●	●	●	●	●
电柜空调系统 Electric cabinet air conditioning system	●	●	●	●	●	●	●	●	●	●	●	●
便携式动脉发生器 portable arterial generator	●	●	●	●	●	●	●	●	●	●	●	●
主轴温度控制器 Spindle temperature controller	●	●	●	●	●	●	●	●	●	●	●	●
自动对刀仪 (接触式) Automatic tool setting instrument (contact type)	●	●	●	●	●	●	●	●	●	●	●	●
安全门锁系统 security door lock system	●	●	●	●	●	●	●	●	●	●	●	●
自动注油器 automatic oiler	●	●	●	●	●	●	●	●	●	●	●	●
LED工作灯 LED work lights	●	●	●	●	●	●	●	●	●	●	●	●
LED三色警示灯 LED tri-color warning light	●	●	●	●	●	●	●	●	●	●	●	●
喷嘴切削液供给装置 Nozzle cut blood supply device	●	●	●	●	●	●	●	●	●	●	●	●
四周喷淋 spray all around	●	●	●	●	●	●	●	●	●	●	●	●
吹风装置 hair dryer	●	●	●	●	●	●	●	●	●	●	●	●
滚筒刮板排屑器 Roller scraper chip conveyor	●	●	●	●	●	●	●	●	●	●	●	●
滚筒链板排屑器 Roller Chain Plate Chip Conveyor	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
复合式排屑器 Compound Chip Conveyor	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
空气过滤装置 air filter	●	●	●	●	●	●	●	●	●	●	●	●
工具及工具箱 Tools and Toolboxes	●	●	●	●	●	●	●	●	●	●	●	●
技术手册 manual	●	●	●	●	●	●	●	●	●	●	●	●
主轴中心出水系统 CTS	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
激光对刀仪 laser tool setter	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
在线检测系统 Online detection system	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
浸入式切削液冷却 Immersion cut blood cooling	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
转台内置油路 (4A4B) Turntable built-in oil circuit (4A4B)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
库内断刀检测 Tool break detection in tool magazine	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
自动门 Automatic door	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
自动天窗 automatic sunroof	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
自动化接口 automation interface	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
油雾收集系统 oli mist system	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
电源稳压器 power regulator	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
油水分离器 Water separator	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
工作清洁喷枪 work cleaning gun	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲





# 交钥匙解决方案

## TURNKEY SOLUTIONS



### 简介

方案应用部占地1100m<sup>2</sup>，共有28台机床设备，现有员工20人以上，部门分为：方案设计组、夹具制造组、应用调试组，满足客户产品和生产需求，提供从产品方案、夹具、工艺、编程、调试、刀具、质量结果等一整套完整的交钥匙工程服务。

### INTRODUCTION

The project application department covers an area of 1100m<sup>2</sup>, a total of 28 machines, more than 20 employees, the department is divided into: program design group, fixture manufacturing group, application debugging group, to meet customer product and production needs, provide a complete turnkey engineering services for product solutions, fixtures, processes, programming, commissioning, tools and quality results.

### 1 项目咨询 Project Consulting

巨冈已建立起完善的技术服务和销售网络，遍布全国华南、华东、华北、华中、东北、西南、西北七个大区，随时为客户提供服务。在合理的价格和交货期内，为您提供最好的加工方案。

CATO has established a perfect technical service and sales network over South China, East China, North China, Central China, northeast, southwest, northwest seven areas, ready to provide services to customers. In a reasonable price and delivery, to provide you with the best processing programs.

### 2 方案设计 Project Design

为您找到更快、更高效和更具经济效益的机床及其配置、工装夹具方案、刀具方案和工艺方案，并能提供自动化解决方案。

Finding faster, more efficient and more cost-effective machine and configuration, fixture program, tool program and process program for you, and can provide automation solutions.

### 3 方案确认 Program Confirmed

用户期望的工艺确认，更快的加工中心、更少的非加工时间、更快的加工节拍、更高的加工质量和坚实稳定的机床部件以保证工艺的可靠性。

Customer-expected process confirmation, faster machining center, less non-processing time, faster processing beats, higher processing quality and stable machine parts, to ensure the reliability of the process.

- 工艺方案与碰撞检测  
Processing program and collision detection
- 自动化方案推荐  
Automation program recommended
- 3D模拟、程序评估  
3D simulation, program evaluation

### 4 项目实施 Manufacturing

巨冈根据客户确认的方案，组织实施机床、机构、夹具制作、非标要求等的具体动作。

According to the customer confirmed the program, organize the implementation of machine, institutions, fixture production, non-standard requirements and other specific actions.

- 应用调试、加工、检测、打样  
Debugging, processing, testing, proofing
- 自动化方案实施  
Automated program implementation
- 非标项目组织执行  
Non-standard project organization implementation

### 5 检验交付 Inspection and acceptance

客户根据交钥匙项目约定，检验巨冈实施结果，包括机床、夹具、工艺、加工时间、产品精度及稳定性等。

Based on the turnkey project agreement, the customer verifies the result of implementation, including machine, fixtures, processes, processing time, product accuracy and stability.

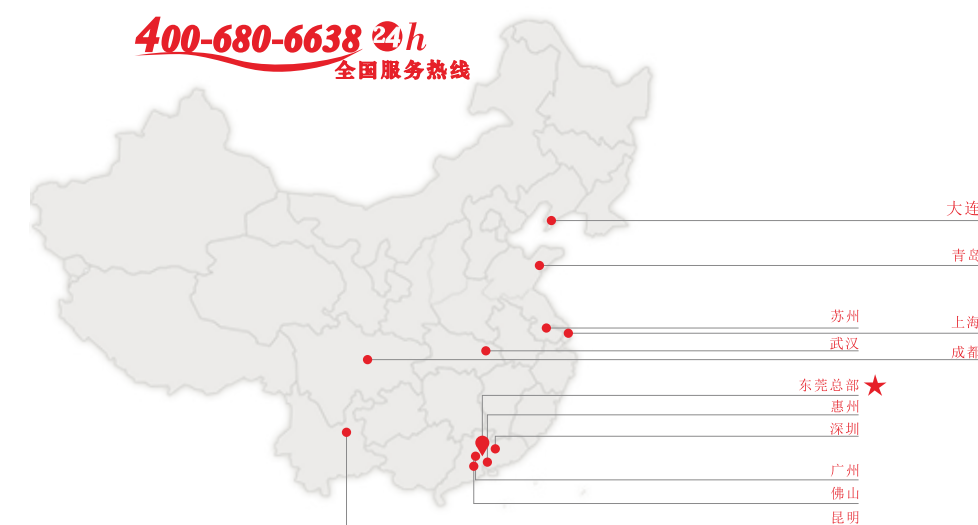
### 6 技术支持 Technical support

选择CATO巨冈，CATO巨冈的无微不至的售前、售中、售后服务将时刻陪伴着您。Chose CATO, and our meticulous pre-sale, sale, after-sale service will always accompany you

- 初生产和生产支持  
Initial production and production support
- 操作编程以及维护培训  
Operation programming and maintenancetraining
- 售后服务：服务无处不在、快捷的现场服务、方便快速的备件订购流程、丰富的备件库存。  
After-sales service: Services everywhere, fast on-site service, convenient spare parts ordering process, a wealth of spare parts inventory.
- 机床维护  
Machine maintenance



400-680-6638 24h  
全国服务热线



全国售后服务网点