



毅兴智能  
Yixing Smart

# YIXING SMART



HUBEI YIXING INTELLIGENT EQUIPMENT CO., LTD

毅兴智能

数控走心式车床  
**CNC PRECISION AUTOMATIC LATHE**

# BS203



- ◆ 缩短加工时间
  - ◆ 扩大加工范围
  - ◆ 提高加工能力
  - ◆ 更高的精度
  - ◆ 高刚性构造
- ◆ Shorten processing cycle time
  - ◆ Extend the scope of processing
  - ◆ Improve the processing capacity
  - ◆ Higher precision
  - ◆ High rigidity

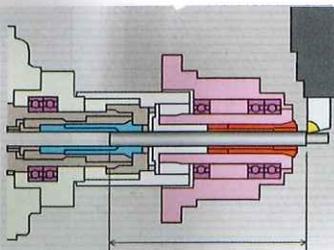
### 可选装置: Optional equipment:

- 1.根据工件可选配导套、无导套装置。
- 2.更换导套装置, 实现一机多用, 结合工件长度进行最宜加工。
- 3.无导套加工无需研磨材料, 冷拉棒材料, 冷拉棒材也可高速、高精度加工。

1. Guide bushing type or guide-bushing less type selectable according to the workpiece .
2. Possible to switch between the guide bushing type and guide-bushing type so the most suitable operation for the workpiece length can be chosen.
3. The spindle without a guide bushing doesn't require ground bar ,enabling high speed and high precision machining from cold drawn bars .

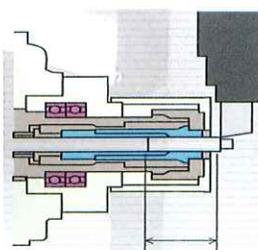
#### 导套主轴构造

Guide bushing type spindle structure



#### 无导套主轴构造

Guide bushing-less type structure



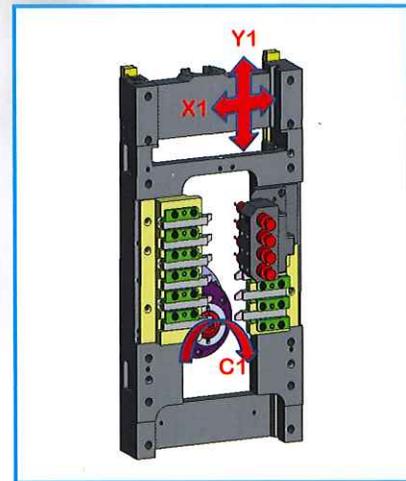
## 机型特点: MACHINE FEATURE

- ◆ 背面刀台配备Y轴, 实现主轴, 背轴复合性同时加工
  - ◆ 使用电导套 (选配) 强化高速, 高精度加工
  - ◆ 根据工件可选配导套, 无导套装置
  - ◆ 配备多种标准软件, 更易操作
  - ◆ 标配自动编程软件
- ◆ Machine complex parts using the main and back spindle simultaneously with the Y axis toolpost
  - ◆ Optional direct-drive rotary guide bushing provide high speed and accurate machining .
  - ◆ Guide-bush type or guide-bushingless type is selectable according to the workpieces .
  - ◆ Pursuing operatability thanks to enrich standard softwares .
  - ◆ Automatic programming system prepared as standard .

### 正面内部结构

The front inner structure

## BS203



背面主轴	Back spindle	—		
动力头装置	Rotary tool device	0P		
无导套装置	Rotary guide bushing	0P		
独立旋转导套	Guide-bushing-less kit	0P		
C轴	C axis	0P		
横向刚性攻丝	Cross rigid tapping	0P		
<b>刀具数量</b> Cutting tools number				
外径刀具数	Number of outer diameter tools	9		
动力头	Rotary tool	0P		
正面	固定	Front	Rotating	4
	旋转		Fixed	—
背面	固定	Back	Rotating	—
	旋转		Fixed	—
总刀具数	Total tool storage capacity	13		

# BS205/206



## 机型特点: MACHINE FEATURE

- ◆ 背面刀台配备Y轴，实现主轴，背轴复合性同时加工
  - ◆ 使用电导套（选配）强化高速，高精密切削
  - ◆ 根据工件可选配导套，无导套装置
  - ◆ 配备多种标准软件，更易操作
  - ◆ 标配自动编程软件
- ◆ Machine complex parts using the main and back spindle simultaneously with the Y axis toolpost
  - ◆ Optional direct-drive rotary guide bushing provide high speed and accurate machining .
  - ◆ Guide-bush type or guide-bushingless type is selectable according to the workpieces.
  - ◆ Pursuing operability thanks to enrich standard softwares .
  - ◆ Automatic programming system prepared as standard .

**正面、背面同时加工**  
Simultaneous processing of main/back spindle

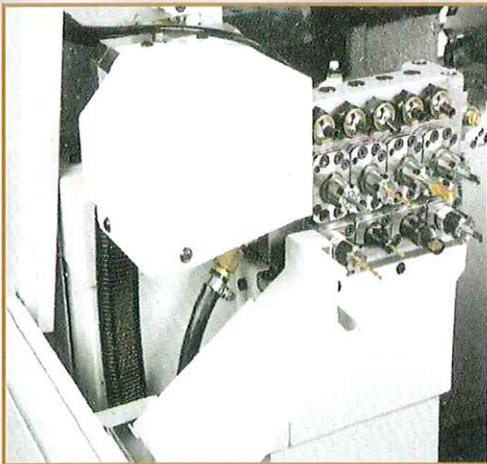
# BS205/206

### 选配部件

Appearance of the figure

工件分离器  
背轴排出的工件经由接料盒回收。

Artifacts separator ,  
Back shaft from the workpiece  
through material recycling box.



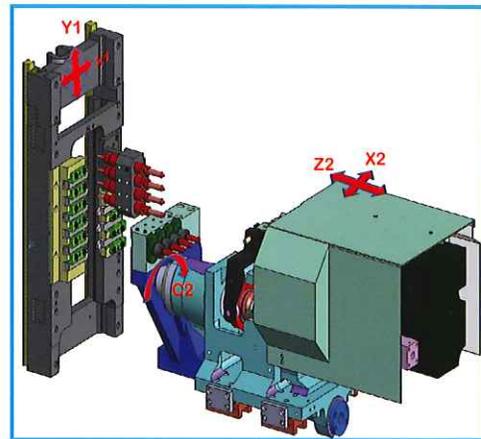
背面侧铣动刀头

On the back side milling  
cutter head



旋风铣 适用于骨钉

Suitable for bone nail  
whirlwind milling



背面主轴	Back spindle	0
动力头装置	Rotary tool device	0
无导套装置	Rotary guide bushing	0P
独立旋转导套	Guide-bushing-less kit	0P
C轴	C axis	0P
横向刚性攻丝	Cross rigid tapping	0P

### 刀具数量 Cutting tools number

外径刀具数	Number of outer diameter tools	9	
动力头	Rotary tool	0P	
正面	固定	Rotating	4
	旋转	Fixed	—
背面	固定	Rotating	8
	旋转	Fixed	—
总刀具数	Total tool storage capacity	21	

### 技术参数:

Technical parameters:

区分	中文	英文	BS-203	BS-205	BS-206
加工能力 Machining ability	夹持棒材直径	Clamping rod diameter	Φ3~Φ20mm		
	最大加工长度	Max processing length	210(80/170:with rotary guide bush)/45mm(no guide bush)		
	主轴最大钻孔径	Max drilling aperture	Φ10mm		
	主轴最大螺纹孔径	Max tapping aperture	M10		
	背轴最大夹持径	Max back spindle chucking diameter	—	Φ20	Φ20
	背轴最大钻孔径	Max back spindle drilling diameter	—	Φ8mm	Φ8mm
	背轴最大螺纹孔径	Max back spindle tapping aperture	—	M8	M8
	横向最大钻孔径	Max horizontal spindle drilling diameter	—	Φ6 ( op. )	Φ6 ( op. )
	横向最大螺纹孔径	Max horizontal spindle tapping aperture	—	M5*0.8 ( op. )	M5*0.8 ( op. )
	背面最大钻孔径	Max back hole size	—	Φ6 ( op. )	Φ6 ( op. )
	背面最大螺纹孔径	Max thread aperture	—	M5 ( op. )	M5 ( op. )
机器能力 Machine's capacity	主轴转速	Spindle speed	200~10,000mn-1		
	背轴转速*	Back spindle speed	—	200~10,000mn-1	200~10,000mn-1
	总刀具数	The total number of the cutting tools	13	21	23
	刀具尺寸	Cutter size	12mm*12mm*85mm		
	快速移动速度	Fast moving speed	32m/min ( x1:24m/min )		
	控制轴数	Number of control axes	3轴	5轴	6轴
电动机 Motors	主轴	Main spindle	2.2/3.7kw		
	背轴	Back spindle	—	0.75/1.5kw	0.75/1.5kw
	Z1轴	Y2 axis	1kw		
	X1/X2/Y1/Y2轴/Z2轴	X1/X2/Y1/Y2/Z1/Z2 axis	0.75kw		
	横向动力头	Cross power head	0.75kw ( op. )		
	切削油泵	Cutting oil pump	0.44kw		
	润滑油泵	Lubricating oil pump	0.1lw		
电源/其他 Power /others	净重	The net weight	1700kg	2100kg	2150kg
	电源容量	The power capacity	8kva	11kva	11kva
	空压源	Air pressure	0.6~0.7mpa		
	空气量	Air volume	30nl/min		
	切削油箱容量	Cutting oil Tank volume	150L		
	长X宽X高	Machine dimension(L*W*H)	1,964*1,152*1,732	2,106*1,162*1,791	

### NC装置 (标准规格)

NC device (standard)

项目	Project	BS 203	BS 205	BS 206
NC装置	NC unit	Mitsubishi M70A		
控制轴	controllable axes	3 Axis	5 Axis	6 Axis
轴名称	Axes	X,Z,Y	X1、X2、Y1、Z1、Z2	X1,X2,Y1,Y2,Z1,Z2
最小设定单位	Least input increment	0.001mm		
最小移动单位	Least travel increment	0.001mm		
最大指令值	Max. command value	±8 position		
插补功能	Interpolation function;	Straight or ARC		
快速移动功能	Fast moving function	32m/min (X1:24m/min)		
切削进给功能	Cutting feed function	1-10000mm/min		
OVR进给	OVR feeding	0-120%,10% segment		
延时功能	Time delay function	G04 0-99999.99		
ABS/INC指令	ABS/INC instructions	X,Y,Z absolute U,V,W increment		
刀具偏置量	Tool offset	±6 position		
刀具偏置组数	Tool offset group	40		
LCD/MDI	LCD/MDI	8.4" color TFT		
表示语言	Language	English/Chinese		
程序储存容量	Program storage capacity	Total 800 pieces main spindle &back spindle		
储存程序数	Number of stored procedures	M5 position		
辅助功能	Miscellaneous function	S5 position		
主轴功能	Main spindle function	T13 position		
刀具功能	Tool function			

# BSH205

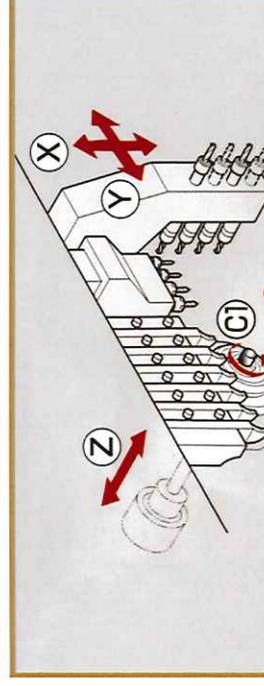
## 机型特点: MACHINE FEATURE

- ◆ 机身排刀采用硬轨模式，加强切削刚性
- ◆ 该机型适合铬钢，调质钢等难削零件的加工
- ◆ 多轴复合加工能力强
- ◆ 可进行超长时间的机械运转
- ◆ Adopts hard rail to enhance machine cutting rigidity
- ◆ This type machine is suitable for stainless steel, chromium steel and other high strength parts processing
- ◆ multi axis combined working to shorten the processing time
- ◆ Can have long time continuous working



刀具图

Tools drawing



正面、背面

Simultaneous processing

BSH2



## 技术参数:

Technical parameters:

区分	中文	英文	BSH205
加工能力 Machining ability	夹持棒材直径	Clamping rod diameter	3~20
	最大加工长度	Max processing length	200
	主轴最大钻孔径	Max drilling aperture	10
	主轴最大螺纹孔径	Max spindle thread aperture	M10
	背轴最大夹持径	Max back spindle chucking diameter	20
	背轴最大钻孔径	Max back spindle drilling aperture	Φ8
	背轴最大螺纹孔径	Max back spindle thread aperture	M6x1
	背面最大钻孔径	Back Max hole aperture	Φ 6 (OP)
	背面最大螺纹孔径	Back Max thread aperture	M5(OP)
机器能力 Machine's capacity	主轴转速	Spindle speed	10000
	背轴转速	Back spindle speed	8000-10000/min
	总刀具数	The total number of the cutting tools	21
	刀具尺寸	Tools size	12*12*85
	快速移动速递	Fast moving speed	35m/min(X1:X2:24m/min)
	控制轴数	Number of control axes	5
	硬轨	Guide rail	Y,X1,Z2 dovetail guide, Z1&X2 was linear guide
电动机 Motors	主轴	Main spindle	2.2/3.7
	背轴	Back spindle	0.75
	Z1轴	Z1 axis	1.0
	X1、X2、Y1、Z2轴	X1/X2/Y1/Z1/Z2 axis	0.75
	横向动力头	Cross power head	0.75
加工精度 Precision requirements	定位精度	Positioning accuracy	0.003
	重复定位精度	Repeatability	0.003
	主轴端跳	Spindle end jump	0.002
	主轴径跳	Spindle diameter jump	0.002
电源/其他 Power /others	净重	The net weight	2300
	电源容量	The power capacity	11
	空压源	Air pressure	0.6-0.7
	空气量	Air volume	30
	尺寸(长X宽X高)	Machine dimension(L*W*H)	1890*1133*1750

## 附属品:

Standard accessories:

中文	英文	备注
电箱&操作&8.4inch彩色LCD显示器	Electric box & operation & 8.4 inch color LCD display	0
空压装置	Air compressor unit	0
外置型冷却油箱	External type cooling tank	0
切削油油量检测装置(下限)	Cutting oil oil detection device (lower limit)	0
自动集中给油装置(带油量检测)	The automatic oil feeder (with oil testing)	0
门锁装置	Door lock device	0
空气清洁(回转套专用)	Clean air (transduction back to paraphrase)	0
主轴夹头(从消耗工具一览表中选择)	Spindle chuck (from the list of consumption tool select)	OP
C轴控制	C axis control	0
主轴无级分度/15度(主附轴)	Spindle stepless indexing / 15 degrees (main shaft attached)	0
附轴夹头(从消耗工具一览表中选择)	Attached to the shaft holder (from consumption tool list, select the)	OP
附轴空气清洁装置	Attached to the shaft clean air devices	0
附轴气吹装置	Blowing device attached to the shaft	0
附轴锁定装置	Attached to the shaft locking devices	0
产品排出检测装置	The product discharge detection device	0
产品接料器	Products meet feeder	0
断刀检测装置	Cutting knife detection device	0
水平调整螺丝&调整垫片	Horizontal adjustment screws & gasket	0
照明灯	floodlight	0
漏电开关	The leakage switch	0
操作工具一套	A set of tools operation	0

# BSH325/425

## 机型特点: MACHINE FEATURE

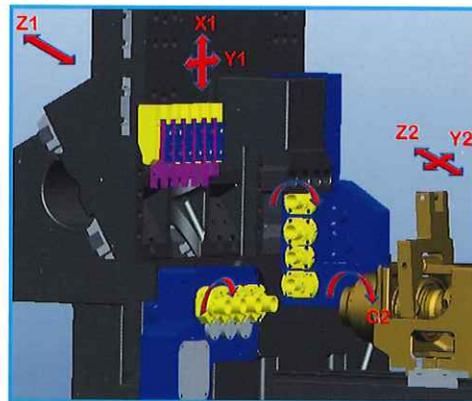
- ◆ 采用日本三菱M70A CNC控制系统, 更高精度、速度, 更强的加工功能。
  - ◆ 双移动主轴结构, 适用于轴类零件加工, 一次加工完成, 无需二次装夹。
  - ◆ 采用液压控制主轴对材料的夹紧, 夹持力稳定可靠, 配合自动送料机最大可对直径42长棒料自动加工。
  - ◆ 切削刀具最多可装30支, 极大增加了加工能力。径向外圆内孔的切削, 径向钻孔攻螺纹滚齿, 多轴联动铣复杂曲面, 轴向加工。可完成复杂的车铣复合加工。
  - ◆ 采用高扭矩滚柱导轨(可选硬轨), 多结构件刚性特强, 适用于高刚性硬切削加工, 特别适用于汽车领域的轴类零件加工。
  - ◆ 可实现旋转导套、固定导套、无导套的互换, 在加工长径大零件的同时, 还可以高精度加工短小的类轴套零件, 扩大了加工范围。
- ◆ Mitsubishi M70A CNC control system, higher precision speed, more powerful processing function.
  - ◆ Double roller spindle structure, suitable for shaft parts processing, finish in one time and without secondary clamping.
  - ◆ Adopts on the material of the clamping of the hydraulic control, stable and reliable clamping force, with automatic feeder maximum length to diameter 42 bar automatic processing.
  - ◆ Cutting tool up to 30, greatly increase the processing ability. Radial cylindrical inner hole cutting, radial drilling tapping screw thread hob, multi-axis linkage milling complex curved surface, axial processing. Can complete complex car milling compound machining.
  - ◆ High torque roller guide rail (optional hard rail), more structure strong rigidity, suitable for hard machining high rigidity, especially suitable for the car in the field of shaft parts processing.
  - ◆ Which can realize rotation guide bush, fixed guide bush, swaps, without guide bush in the processing of large length to diameter parts, can also precision machining short sleeve parts, expanding the processing scope.



### 正面、背面同时加工

Simultaneous processing of main/back spindle

## BS325/425



背面主轴	Back spindle	0	
动力头装置	Rotary tool device	0	
无导套装置	Rotary guide bushing	0P	
独立旋转导套	Guide-bushing-less kit	0P	
C轴	C axis	0P	
横向刚性攻丝	Cross rigid tapping	0	
<b>刀具数量</b> Cutting tools number			
外径刀具数	Number of outer diameter tools	6	
动力头	Rotary tool	0P	
正面	固定	Rotating	8
	旋转	Fixed	0P
背面	固定	Rotating	4
	旋转	Fixed	0P
总刀具数	Total tool storage capacity	18	

# 技术参数:

Technical parameters:

区分	项目	Item	BS425	BS325
加工能力 Machining ability	最大夹持棒材直径	Clamping rod diameter	Φ42mm	Φ32mm
	Z轴最大加工行程	Z axis max processing travel	360(with rotary )	
	主轴最大钻孔径	Spindle max drilling diameter	Φ16mm	
	主轴最大螺纹孔径	Max tapping diameter	M14	
	背轴最大夹持径	Max back spindle chucking diameter	Φ42mm	Φ32mm
	背轴最大钻孔径	Max back spindle drilling diameter	Φ16mm	
	背轴最大螺纹孔径	Back spindle Max thread aperture	M10	
	背面最大钻孔径	Max back drilling hole size	Φ16mm	
	背面最大螺纹孔径	Max back thread aperture	M10(OP.)	
机器能力 Machine's capacity	主轴转速	Spindle speed	7,000min	
	背轴转速*	Back spindle speed	7,000min	
	总刀具数	The total number of the cutting tools	30	
	刀具尺寸	Tool size	对边16mm	
	快速移动速度	Fast moving speed	30m / min(X、BZ:24m / min)	
	控制轴数	Number of control shaft	5轴	
	导轨	Guide rail	THK linear guides	
电动机 Motors	主轴	Main spindle	7.5kW	5.5kW
	背轴	Back spindle	3.7kW	
	Z轴	Z axis	1.5kW	
	X、Y、BX轴、BZ轴	X,Y,BX,BZ axis	X、Y(2kW)BX、BZ(1.5kW)	
	横向动力头	Cross power head	1.5kW(OP.)	
	切削油泵	Cutting oil pump	0.93kW	
	润滑油泵	Lubricating oil pump	0.1kW	
	精度要求 Precision requirements	定位精度	Positioning accuracy	0.005mm
重复定位精度		Repeatability	0.003mm	
主轴端跳		Spindle end jump	0.002mm	
主轴径跳		Spindle diameter jump	0.002mm	
电源/其他 Power/others	净重	The net weight	3500kg	
	电源容量	The power capacity	19kVA	18kVA
	空压源	Air pressure	0.6~0.7MPa	
	空气量	Air volume	30NL / min	
	切削油箱容量	Cutting oil Tank volume	200L	
	长X宽X高	Machine dimension(L*W*H)	2800x1700x1900	



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