

高精度、高转速、高效率

20F/30F/201F/301F

系列小型精密数控排刀车床

SUPER-SMALL HIGH PRECISION CNC LATHES

高精度主轴: High Accuracy Spindle

机床主轴轴承采用日本NSK超精密角接触球轴承, 保证主轴的高刚性和持久的精度保持, 主轴跳动 $<2\mu\text{m}$ 。

The spindle runs in Japan NSK super precision angular contact ball bearings, and ensures high rigidity and lasting accuracy. Runout is less than $2\mu\text{m}$.

高效率加工: Efficient Machining

机床主轴最高转速6000转/分钟, X、Z轴快移速度可达20米/分钟。可以配置自动送料机, 实现高速、高效自动化加工。

Max. speed of spindle is 6000 rev/min. Rapid traverse rate of X and Z axes is up to 20m/min. Auto parts feeder and Workpiece transfer can be equipped to fulfill fast and efficient automation production.

高精度进给: Accurate Feeding

进给各轴全伺服驱动, 采用日本NSK、THK高精度滚珠丝杠, 保证加工精度及长时间的精度保持, 进给各轴重复定位精度 $<\pm 1\mu\text{m}$ 。

Each feeding axis is driven by servo motors through Japan NSK, THK precision ball screws. Machining accuracy is ensured and along time accuracy is remained. Repeatability is less than $\pm 1\mu\text{m}$.

排刀式刀架: Comb Type Tool Rest

新颖的排刀式刀架使重复换刀误差为最小, 换刀高速准确, 能够大幅度节省加工时间。

The unique design of comb type tool rest gives minimum repeatability error during tool change. It is fast, precise and considerably time saving.



项目ITEM		20F/30F	201F/301F
加工能力 Capacity	床身上最大回转直径 Swing over bed	$\Phi 240\text{mm}$	$\Phi 240\text{mm}$
	刀板底座上回转直径 Swing over cross slide	$\Phi 120\text{mm}$	$\Phi 120\text{mm}$
	最大加工直径 Max. machining diameter	$\Phi 100\text{mm}$	$\Phi 100\text{mm}$
	最大加工长度 Max. machining length	100mm	100mm
主轴 Spindle	回转速度 Spindle speed	Max. 6000r/min	Max. 6000r/min
	主轴通孔直径 Through hole diameter	20F $\Phi 20\text{mm}$ 30F $\Phi 30\text{mm}$	201F $\Phi 20\text{mm}$ 301F $\Phi 30\text{mm}$
	回转速度变换 Number of spindle speed ranges	无级 Stepless	无级 Stepless
	弹簧夹头柄径 Spring collet shank	20F $\Phi 26\text{mm}$ 30F $\Phi 36\text{mm}$	201F $\Phi 26\text{mm}$ 301F $\Phi 36\text{mm}$
进给 Axes	导轨形式 Guideway construction	直线导轨 Linear rail	硬轨 Hard rail
	X轴快移速度 X-axis rapid traverse	20m/min	15m/min
	Z轴快移速度 Z-axis rapid traverse	20m/min	15m/min
移动量 Travel of tool slide	X轴移动量 mm X-axis travel	200/250/300 (选配) 200/250/300 (Optional)	250
	Z轴移动量 mm Z-axis travel	180/220	180
电机 Motor	主轴电机 F Spindle drive motor F A/FC	3.7kW 3.7/5.5kW	3.7kW 3.7/5.5kW
	进给电机 Feed motor	0.75kW (FANUC) 1kW (SYNTEC)	0.75kW (FANUC) 1kW (SYNTEC)
其它 Others	总电气容量 Required electric power	6kVA	6kVA
	机床尺寸(长×宽×高) Floor Space	1240×1360×1580mm	1240×1360×1580mm
	主轴中心高度 Height from floor to spindle center	985mm	985mm
	机床重量 Mass of machine	约1100KG About 1100KG	约1100KG About 1100KG

高精度、高转速、高效率

20S/30S/201S/301S

系列小型精密数控排刀车床

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Max. speed of spindle is 6000 rev/min. Rapid traverse rate of X and Z axes is up to 20m/min. Auto parts feeder and Workpiece transfer can be equipped to fulfill fast and efficient automation production.

高精度进给: Accurate Feeding

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加工能力 Capacity	床身上最大回转直径 Swing over bed	$\Phi 240\text{mm}$	$\Phi 240\text{mm}$
	刀板底座上回转直径 Swing over cross slide	$\Phi 120\text{mm}$	$\Phi 120\text{mm}$
	最大加工直径 Max. machining diameter	$\Phi 100\text{mm}$	$\Phi 100\text{mm}$
	最大加工长度 Max. machining length	100mm	$\Phi 100\text{mm}$
主轴 Spindle	回转速度 Spindle speed	Max. 6000r/min	Max. 6000r/min
	主轴通孔直径 Through hole diameter	20S $\Phi 20\text{mm}$ 30S $\Phi 30\text{mm}$	201S $\Phi 20\text{mm}$ 301S $\Phi 30\text{mm}$
	回转速度变换 Number of spindle speed ranges	无级 Stepless	无级 Stepless
	弹簧夹头柄径 Spring collet shank	20S $\Phi 26\text{mm}$ 30S $\Phi 36\text{mm}$	201S $\Phi 26\text{mm}$ 301S $\Phi 36\text{mm}$
进给 Axes	导轨形式 Guideway construction	直线导轨 Linear rail	硬轨 Hard rail
	X轴快移速度 X-axis rapid traverse	20m/min	15m/min
	Z轴快移速度 Z-axis rapid traverse	20m/min	15m/min
移动量 Travel of tool slide	X轴移动量 mm X-axis travel	250/300 (选配) 250/300 (Optional)	250/300 (选配) 250/300 (Optional)
	Z轴移动量 mm Z-axis travel	220	220
电机 Motor	主轴电机 S Spindle drive motor SA/SC	3.7KW 3.7/5.5KW	3.7KW 3.7/5.5KW
	进给电机 Feed motor	0.75KW (FANUC) 1KW (SYNTEC)	0.75KW (FANUC) 1KW (SYNTEC)
其它 Others	总电气容量 Required electric power	6KVA	6KVA
	机床尺寸(长×宽×高) Floor Space	1355×1409×1612mm	1355×1409×1612mm
	主轴中心高度 Height from floor to spindle center	1000mm	1000mm
	机床重量 Mass of machine	约1600KG About 1600KG	约1600KG About 1600KG

高精度、高转速、高效率

302S

双主轴排刀数控车床

DOUBLE spindle CNC lathe

双主轴结构 Double Spindle Structure

主轴、副主轴采用内藏电主轴结构，转速高、噪声小、结构紧凑、运动惯量小，能够对一个零件完成正面、背面不转序加工，减少分序、转序环节，易于实现自动化生产要求。

The spindle and sub-spindle adopt the built-in electric spindle structure, with high speed, low noise, compact structure and small inertia, which can complete the front and back processing of a part at one time, reduce the sequencing link, and easily realize the requirements of automatic production.

高精度主轴 High Accuracy Spindle

主轴和副主轴均采用日本NSK超高精密角接触球轴承，保证主轴的高刚性和精度保持性。

The spindle and sub-spindle are made of Japanese NSK ultra-high precision angular contact ball bearings to ensure the high rigidity and precision retention of the spindle.

双排刀式结构 Comb Type Tool Rest

新颖的双排刀式刀架，重复换刀误差小，装刀灵活、换刀高速准确，大幅节省加工时间。380mm大行程设计，加工直径30以下，排刀数量可达8把。

The novel double-row tools holder has a small repeated tool change error, flexible tool loading, high-speed and accurate tool change, and greatly saves processing time. 380mm large stroke design, processing diameter below 30, the number of row knives up to 8.

双X轴、双Z轴结构

Dual-X-Axis, Dual-Z-Axis Structure

两个X轴、Z轴分别伺服驱动，干涉小；特别适用于大批量、短轴类和小盘类零件的自动化、连续稳定加工，特别适合棒材连续正反面一次加工完成。可完成主副轴对接切断、正反面同步加工，也可单件桁架、机器人上料。

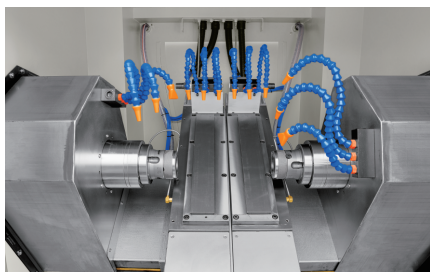
The two X-axis and Z-axis are servo driven respectively, and the interference is small; It is especially suitable for the automated, continuous and stable processing of large quantities, short shafts and small disc parts, and is especially suitable for the continuous front and back cutting of the bar to be processed at one time. It can complete the butt cutting of the main and auxiliary shafts, the synchronous processing of the front and back sides, and the loading of single trusses and robots.

自动接料装置:

Automatic Conveyor Device

副轴单独设计接料装置，在不开门的情况下收集工件，完成连续生产，安全高效。

The sub-spindle is designed with a separate material receiving device to collect workpieces without opening the door, completing continuous production and ensuring safety and efficiency.

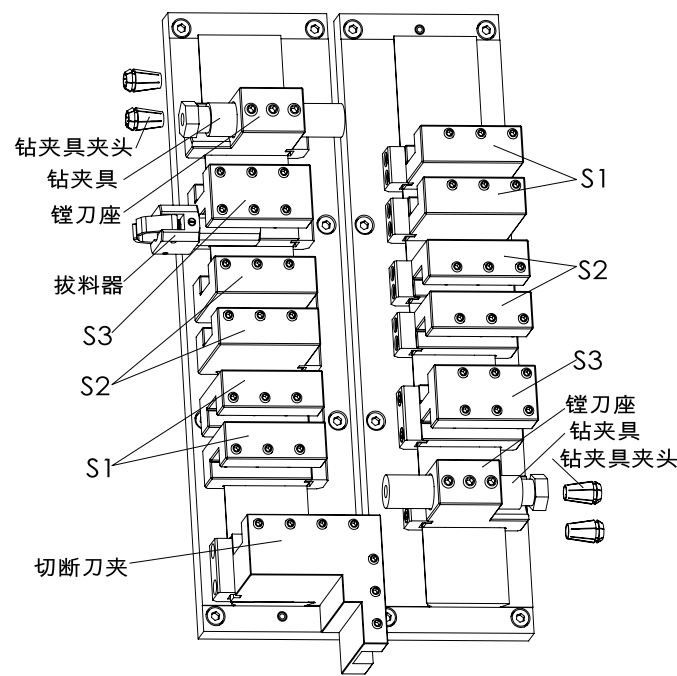


项目ITEM	302S
加工范围 Capacity	最大回转直径 Max swing diameter Φ 300 mm
	床鞍上回转直径 Swing over cross slide Φ 150 mm
主轴 Spindle	回转速度 Spindle speed 60-6000 r/min
	回转速度变换 Number of spindle ranges 无级 Stepless
	主轴通孔直径 Spindle through hole diameter Φ 40mm
	主轴最大夹持直径 (筒夹) Max spindle clamp diameter (collet) Φ 30mm
	工件夹持 Clamp type 前推式筒夹 CL-30 push type collet
	主轴可通过棒料直径 spindle through bar diameter Φ 30mm
	最大加工直径 Max machining diameter Φ 100 mm
副主轴 Sub spindle	最大加工长度 Max machining length 100mm
	回转速度 Spindle speed 60-6000 r/min
	回转速度变换 Number of spindle ranges 无级 Stepless
	副主轴通孔直径 Sub spindle through hole diameter Φ 30mm
	副主轴最大夹持直径 (筒夹) Max sub spindle clamp diameter (collet) Φ 30mm
	工件夹持 Clamp type 前推式筒夹 CL-30 push type collet
	副主轴可通过棒料直径 Sub spindle through bar diameter Φ 30mm
快移速度 Rapid speed	最大加工直径 Max machining diameter Φ 100 mm
	最大加工长度 Max machining length 100mm
	X1轴快移速度 X1-axis rapid traverse 15 m/min
	Z1轴快移速度 Z1-axis rapid traverse 18 m/min
移动量 Travel of tool slide	X2轴快移速度 X2-axis rapid traverse 15 m/min
	Z2轴快移速度 Z2-axis rapid traverse 18 m/min
	X1轴移动量 X1-axis travel 380mm
	Z1轴移动量 Z1-axis travel 350mm
电机 Motor	X2轴移动量 X2-axis travel 380mm
	Z2轴移动量 Z2-axis travel 350mm
	主轴电机 (内藏) Spindle motor (Inner Tibet) 5.5/7.5kW
	副主轴电机 (内藏) Sub spindle motor (Inner Tibet) 5.5/7.5 kW
	X1进给电机 (抱闸) X1 feed motor (brake) 0.75 kW
	Z1进给电机 Z1 feed motor 1.3 kW
其它 Others	X2进给电机 (抱闸) X2 feed motor (brake) 0.75 kW
	Z2进给电机 Z2 feed motor 1.3 kW
	总电气容量 Power capacity 15 kVA
	机床重量 Machine weight 约 3000KG
	约 3000KG
	机床尺寸 (长×宽×高) Machine size (L×W×H) 2520×1600×1760

标准附属品
Standard Accessories

项目ITEM	302S
切削液装置 Coolant device with chip tank	1套1set
照明装置Lighting unit	1套1set
集中润滑装置Automatic slide surface lubricator	1套1set
液压夹紧系统Hydraulic clamping unit	1套1set
刀座底板Preset base	2套1sets
刀座S1、S2 Tool holder S1、S2	各1件1 piece each
刀座S3 Tool holder S3	2件 2pieces
镗刀座I.D tool holder	1件1 piece
切断刀座AH1 Cutting blade holder Ah1	1套1set
拔料器 Puller	1套1set
钻夹具Milling collet chuck	1套1set
工具和工具盒Tools and tool box	1套1set
断路保护器Circuit breake	1套1set
机床地脚盘Machine base	8件8 pieces
机床聚乙烯塑料保护袋Machine vinyl cover	1套1set
信号灯Signal lamp	1套1set
筒夹Collet chuck	2套2sets
主轴Cs轴轮廓控制Cs contouring control	1套1set
机床全封闭外壳Machine full enclosed housing	1套1set

注：可选配国产系统，国产电主轴
Note: Domestic motors and electric spindles can be optionally equipped



特殊附属品
Optional Accessories

- 自动送料机 Parts feeder
- 零件传输机构Parts conveyer
- 各种规格筒夹弹性夹头Various spring collet
- 各类刀座 Various tool holder
- 各类刀具Kinds of cutters
- 动力卡盘（5"）Power chuck（5"）
- 主轴定位锁紧装置Spindle fixed position stopping device
- Y轴单元Y-axis unit

CNC装置标准规格
CNC unit specifications

控制系统 control system	FANUC Oi-TF PLUS
控制轴数 controlled axes	双通道，同时3轴，手动1轴 Dual channel , simultaneously controllable 3 axes, 1 axis in manual mode
输入方式 Input system	MDI键入，绝对值/增量值同时并用 MDI keyboard input,combine use of absolute/incremental programming
程序记忆容量 Part program storage length	2M bytes
插补机能 Interpolation function	直线 锥面 圆弧 车螺纹 Linear Taper Circular Threading
最小设定单位least input incremen	0.001
最小移动单位least command increment	X:0.0005 Z:0.001
每分钟进给 FEED RATE	1~10000mm/min
每回转进给 Feed per revolution	0.0001-500mm/min
刀具位置补偿 Tool offset	形状补偿Geometry ±999.9999 磨损补偿Wear ±9.9999
刀具补偿数Tool offset pairs	64组64pairs
登录程序数Number of register able programs	1000个1000 parts
手动移动倍率Manual handle feed	0.5/0.1/0.01/0.001
辅助机能Auxiliary function	M S T
停顿时间Dwell time	0-99999.999秒 0-99999.999 Second
工进进给倍率feed rate override	0~150%
快速进给倍率Rapid traverse override	F0、F2.5、F50、F100
输入输出接口Input/output interface	USB
显示语言Display language	中文、英文Chinese/English
C轴轮廓控制(选配)C contouring control(Optional)	Cs 0.001

双主轴排刀系列

高精度对称式主轴：**High Accuracy Symmetry Spindle:**

机床采用对称式主轴箱结构和日本NSK超精密角接触球轴承，保证主轴的高刚性和持久的精度保持，主轴跳动 < 2μm。

The lathe using the structure of symmetry spindle box and Japan NSK super precision Angular Contact ball bearing, and ensures high rigidity and lasting accuracy, spindle run out is less than 2μm.

卸荷式夹紧机构：**Unloading Type Clamping Mechanism:**

采用获取专利的双级夹紧气缸卸荷装置，延长了夹紧机构的寿命。主轴最高转速6000转/分钟，可以实现高速、高效自动化加工。

The double stage clamping cylinder unloading assembly gets the patent, to extend the life of clamping mechanism. Max. speed of spindle is 6000 rev/min, can be equipped to fulfill fast and efficient automation production.

高刚性床身：**High Rigidity Bed:**

床身设计经热变形分析，采用高质量密烘铸铁铸造，提高了机床的刚性

Design of machine Bed goes through an analysis of thermal deformation, high quality meehanite cast iron integrated bed; improve the rigidity of the lathe.

高精度进给：**Accurate Feeding:**

进给各轴全伺服驱动，采用日本NSK、THK高精度滚珠丝杠，保证加工精度及长时间的精度保持，进给各轴重复定位精度 < ±1μm。

Each feeding axis is driven by servo motors through Japan NSK/THK high precision ball screws. Machining accuracy is ensured and long time accuracy is remained. Repeatability is less than ±1μm.

排刀式刀架：**Comb Type Tool Rest:**

新颖的排刀式刀架使重复换刀误差为最小，加宽式刀座板和滑槽式刀座，扩大了刀具安装范围。

The unique design of comb type tool rest gives minimum repeatability error during tool change. The widen tool holder plate and chute type tool, extend the range of tool installation.

机床导轨结构：**Guide way Construction:**

机床导轨采用日本NSK、THK宽规格、高精度直线导轨，增强机床整体刚性，进给轴导轨全封闭防护，提高了机床导轨寿命。

The lathe using Japan NSK、THK high precision linear ways, enhanced the whole rigid. The linear of feed spindle using full-seal protection, improve the life of the linear.

电柜和冷却箱：**Electric Cabinet and Cutting Box:**

外置式独立强电柜设计，维护方便，使用更加安全。右置侧拉式冷却箱和接屑盒，方便狭小空间摆放。

The design of outlay separateness powerful electric cabinet, easy to maintain, and more safety. Side pull type cool case and chip box on the right side, easy to put in the small space.

高精度、高转速、高效率

20H/25H/30H

系列小型精密数控排刀车床

SUPER-SMALL HIGH PRECISION CNC LATHES

项目ITEM		20H/25H/30H
加工能力 Capacity	最大回转直径 Swing	Φ310mm
	床鞍上回转直径 Swing over cross slide	Φ160mm
	最大加工直径 Max.turning diameter	Φ130mm
	最大加工长度 Max.turning length	100mm
主轴 Spindle	回转速度 Spindle speed	Max.6000r/min
	主轴可通棒料直径 Through hole diameter	20H/HA/HC Φ20mm 25H/HA/HC Φ25mm 30H/HA/HC Φ30mm
	主轴通孔直径 Spindle bore diameter	Φ35mm
	回转速度变换 Number of spindle speed ranges	无级Stepless
快进速度 Rapid traverse	X轴快移速度 X-axis rapid traverse	20m/min
	Z轴快移速度 Z-axis rapid traverse	20m/min
移动量 Travel of tool slide	X轴移动量 X-axis travel	240mm
	Z轴移动量 Z-axis travel	180mm
电机 Motor	主轴电机 Spindle drive motor	H 3.7KW (CTB) HA/HC 3.7/5.5KW
	进给电机 Feed motor	0.75KW (FANUC) 1KW (SYNTEC)
其它 Others	总电气容量 Required electric power	7kVA
	机床重量 Mass of machine	约1500KG About 1500KG
	机床尺寸(长×宽×高) Floor Space	1527×1107×1661mm



高精度、高转速、高效率

40F/401F

系列精密数控排刀车床

SUPER-SMALL HIGH PRECISION CNC LATHES

高精度主轴 High Precision Spindle

机床采用套筒式主轴，日本超高精密主轴轴承，保证主轴的高刚性和持久精度，主轴跳动 $<3\mu\text{m}$ 。

The cartridge type spindle of lathe is supported by Japan super precision bearings. Spindle run out is less than $<3\mu\text{m}$.

高效率加工 High Efficiency Machining

机床主轴最高转速5500转/分钟，X、Y轴快移速度可达18米/分钟。可以配置自动送料机，实现高速、高效自动化加工。

Max. Speed of spindle is 5500rev/min. Rapid traverse rate of X and Z axes is up to 18m/min. Auto parts feeder can be equipped to fulfill fast and efficient automation production.

高精度进给 Accurate Feeding

进给各轴全伺服驱动，采用日本THK高精度滚珠丝杠，保证加工精度及长时间的精度保持，进给各轴重复定位精度 $<\pm 1\mu\text{m}$ 。



Each feeding axis is driven by servo motors through Japan THK precision ball screws. Machining accuracy is ensured and long time accuracy is remained. Repeatability is less than $\pm 1\mu\text{m}$.

大行程排刀式刀架 large travel comb type toolrest

超大行程排刀式刀架结构，刀位数多，使重复换刀误差为最小，换刀高速准确，能够大幅度节省加工时间。

Super large comb type tool rest gives minimum repeatability error during tool change. It is fast, precise and considerably time saving.

项目ITEM		40F	401F
加工范围 Capacity	床身上最大的回转直径 Max.swing dia.over bed	$\phi 400\text{mm}$	$\phi 400\text{mm}$
	刀架底板上最大的回转直径 wing over cross slide	$\phi 90\text{mm}$	$\phi 90\text{mm}$
	最大的车削直径 Max.turning diameter	$\phi 360\text{mm}$	$\phi 360\text{mm}$
	最大的车削长度 Max.turning length	200mm	200mm
主轴 Spindle	主轴转速 Spindle speed	Max5500rpm	Max5500rpm
	主轴通孔直径 Spindle bore dia	$\phi 57\text{mm}$	$\phi 57\text{mm}$
	主轴可通过棒料直径 Through hole diameter	筒夹(Collet chuck) $\phi 42\text{mm}$ 卡盘(Chuck) $\phi 45\text{mm}$	卡盘 (Chuck) $\phi 45\text{mm}$
	主电机 Main motor	F FA/FC 7.5KW 5.5/7.5KW	电主轴12.3KW
刀架 Turret	刀位数 Number of stations	7	7
	刀具尺寸 (车刀/镗孔刀) Tool size (车刀/镗孔刀)	20×20/ $\phi 25\text{mm}$	20×20/ $\phi 25\text{mm}$
进给 Axes	导轨形式 Guideway construction	直线导轨 Linear rail	硬轨 Hard rail
	X轴行程 Travel X	360mm	360mm
	Z轴行程 Travel Z	筒夹(Collet chuck) 220mm 卡盘(Chuck) 230mm	320mm
	X/Z轴最大快移速度 Rapid feed X/Z	20m/min	15m/min
	X/Z进给电机 Feed motors	伺服1.2KW	伺服1.2KW
C轴(仅40FC)	最小控制角度 Min.control angle	0.001°(Bz编码器)	0.001°(Bz编码器)
其它 Others	中空液压缸 Rotating hydraulic cylinder	6 "	6 "
	电源容量 (KVA) Required electric power	12KVA	12KVA
	机床尺寸 (长×宽×高) Floor Space (L×W×H)	1811×1523×1672	1811×1523×1672
	机床重量 Mass of machine	约2100KG About 2100KG	约2300KG About 2300KG