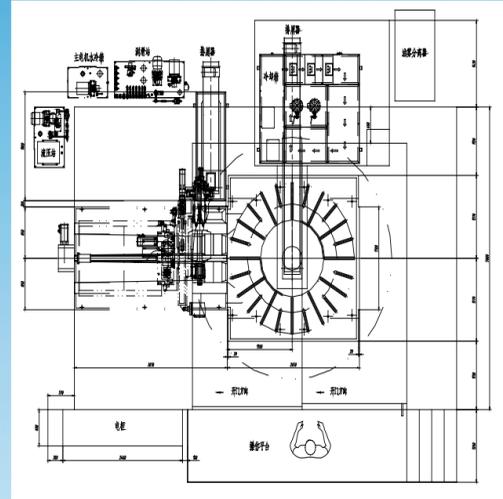


机床主要配置 Main Configuration:

名称 Name	技术描述 Description	制造商 Maker	
标准配置 Standard	主机 Machine	YN31320CNC型六轴数控滚齿机 CNC gear hobbing machine 南京二机	
	控制、驱动及检测系统 Control ,drive, inspection system	西门子840DSL Siemens 840DSL 西门子 Siemens	
	液压装置 Hydraulic system	带液位检测及报警 With the Detection and alarm of the oil level 液压件威格士 Vicks units	
	液压油温控器 Thermostat for the hydraulic system	固定式 同飞	
	冷却装置 Cooling system	带液位检测及报警 With the Detection and alarm of the oil level 南京二机 NMT2	
	自动排屑器 Chip conveyor	磁性平板式 Magnetic flat 无锡 WUXI	
	外置独立电柜 Outlay electrical box	威图	
	润滑装置 Lubrication system	间歇集中润滑和连续润滑(带液位检测及报警) Interval centralization lubrication and continuous lubrication(with the Detection and alarm of the oil level) 贝奇尔 BEJUR	
	全封闭防护罩 Enclosed safety guard	南京二机 NMT2	
	油雾分离器 oil mist separator system	静电式 static electricity 秦川	
	可移动式手摇脉冲发生器 Portable Manual Pulse Generator	西门子 Siemens	
	特殊配置 option	夹具 fixture	盘类 Disk 南京二机 NMT2
		特殊心轴 Special arbor	南京二机 NMT2
		副操作面板 Vice operation panel	南京二机 NMT2
铣内齿刀架 Milling head for inner gear s		南京二机 NMT2	

机床平面图 Machine layout



主要技术参数 Main specifications:

加工范围	Range of machining	单位 Unit	技术参数 Specification
最大工件直径: 无后立柱	Max. Dia. Of Work-piece: Without the Back column	mm	φ 3200
	有后立柱	Without the back column	mm φ 2500
最大模数	Max. Module	mm	外滚32 成形铣40 内铣30
加工斜齿轮螺旋角	Helical angle	deg	外齿±45 内齿±30
尺寸规格	Size		
可安装刀具最大直径	Max. Dia. Of hobbing cutter	mm	外滚 φ 450 内铣 φ 420
可安装刀具最大长度	Max. length of hobbing cutter	mm	外滚500 内铣100
滚刀最大轴向移动量	Max. shifting travel of hobber	mm	450 ( 加长550 )
滚刀可换芯轴直径 ( 各提供一套 )	The arbor of hobber	mm	φ 50、φ 60、φ 80、φ 100
滚刀主轴锥孔锥度	Bore of the hobber		HSK-B160
滚刀中心到工作台中心水平距离	horizontal Dist. From the center of hobber to the center of the worktable	mm	550—1800
滚刀中心到工作台台面垂直距离	Vertical Dist. From the center of hobber to the face of the worktable	mm	500—2100
工作台台面直径	Size of the worktable	mm	φ 2500
工作台孔径	Bore of the worktable	mm	φ 1200
工作台台面至床身底面距离	Dist. From the face of the worktable to the foot of the bed.	mm	1000
运动参数	Travel Parameter		
刀架回转速度(A轴)	Speed of the cutter carriage swivel(A axis)	deg/s	0—3
滚刀主轴转速范围(B轴)	Rotate speed of the cutter spindle	rpm	外滚20—200 内铣18—180
工作台最高转速(C轴)	The Max. rotate speed of the worktable	rpm	4
径向移动速度范围(X轴)	The radial moving speed(X axis)	mm/min	1—3000
切向运动速度范围(Y轴)	The tangential moving speed(Y axis)	mm/min	1—3000
轴向移动速度范围(Z轴)	The axial moving speed (Z axis)	mm/min	1—4000
数控轴直线坐标分辨率	Straight resolution ratio of the CNC axis	mm	0.001
数控轴回转坐标分辨率	Rotate resolution ratio of the CNC axis	deg	0.001
数控系统	CNC system		西门子840DSL
电机总容量	total capacity	kw	外滚110 内铣101
主电机功率	Main motor power	kw	外滚46 内铣37
工作台最大载重量	MAX. carrying capacity of worktable	kg	40000
主机体积(长×宽×高)	Size(LxWxH)	cm	767×620×485
主机重量	Weight	kg	约50000



南京二机齿轮机床有限公司  
NANJING NO.2 MACHINE TOOL WORKS

规格、参数若有改变，恕不另行通知，客户如有特殊要求，敬请垂询。  
All the specifications are subject to revision without notice in advance .Please contact the manufacturer for special request on the machine.  
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NANJING NO.2 MACHINE TOOL WORKS

# YN31320CNC型 数控滚齿机

## CNC Gear-Hobbing Machine Model YN31320CNC

- 按连续分度法工作的六轴数控滚齿机  
Machine is 6 axes working under the CNC control according the continuous indexing
- 提高了工作台传动平稳性和传动精度  
The machines improved smooth drive transmission and the transmission accuracy of the worktable.
- 具备完善的故障监测与诊断功能  
The machines have a perfect trouble detecting system and a function of making self-diagnosis of machine failures.
- 机床可配置专用铣内齿刀架，扩大加工功能  
The machine can be equipped with a special hob head to mill the internal gears.



## YN31320CNC型数控滚齿机 CNC Gear-Hobbing Machine Model YN31320CNC

### 主要用途 Main application

本机床适用于军工、风电、船舶制造、矿山机械、冶金机械、起重机械、工程机械等行业内、外齿轮的加工。  
This machine is suitable for machining the extend gears and inner gears for military industry, wind power, shipbuilding, mining machinery, metallurgy, machinery, lifting machinery, construction machinery, etc.

### 机床主要特点 Major features:

● YN31320CNC型数控滚齿机为按连续分度法工作的六轴数控滚齿机。数控轴分别为：径向进给轴(X轴)；轴向进给轴(Z轴)；切向运动轴(Y轴)；滚刀主轴回转轴(B轴)；工作台回转轴(C轴)；刀架转角回转轴(A轴)。机床可实现六轴四联动控制。机床以电子齿轮箱代替传统滚齿机的各种交换挂轮，传动刚性好、精度高、操作调整快速方便。  
The Model Y31320CNC is a CNC Gear-Hobbing Machine according the continuous indexing with the following 6 axes working under the CNC control: The radial feed axis (X-axis), the Axial feed axis (Z-axis), the tangential feed axis (Y-axis), the worktable revolving axis (C-axis), the hob running axis (B-axis) and the hob-head swiveling axis (A-axis). It is possible to complete the simultaneous movement of 4 axes. And an electronic gearbox is used on the machine to replace the change gears which are used on the conventional gear hobber. The machine features in rigid transmission, high machining accuracy and easy-to-operate.

● X轴床身导轨采用镶钢导轨与注塑滑动面以及无间隙滚动块导向方式相结合的组合导轨形式。两侧宽平面镶钢淬硬导轨采用预负荷压板机构，保证了大立柱在滚齿时产生断续交变切削力作用下而不产生颤振。中间无间隙滚动块导轨导向结构，提高了X轴的定位与重复定位精度。大立柱前端两侧导轨面采用了液压卸荷结构，减轻了大立柱移动时电机的负载。  
X axis with steel rail and coating Teflon by sliding surface and no clearance scroll bar guide ways of combining combined guide form. With wide flat sides hardened steel plate with guide, guarantee the load of big column in the roll teeth produced under cross-stress intermittent cutting force and no vibration. No gap rolling guide rail block structure, enhance the X axis positioning and repositioning precision. Big column front side guide surface adopts hydraulic structure, reduce the unloading big column of moving load motor.



● 机床配有全封闭罩壳及油雾分离设备，可确保强力切削大流量冷却液产生的油雾能得到有效处理。  
Machine is equipped with closed safe guard and the oil mist separation equipment, can ensure strong cutting big flow of oil mist cooling fluid can be treated effectively.

● 机床滚刀主轴交流伺服电机直接安装在刀架滑板上，经过高精度齿轮副传至滚刀主轴，滚刀主轴末端齿轮采用阻尼消除机构。滚刀主轴支承采用静压轴承，提高了传动刚性和抗扭振能力。  
● Machine hob spindle AC servo motor installed in cutter carriage skateboard, driving the hobbing spindle pass the high accuracy gear pairs, and the end of the hobbing spindle is using damping away gap construction. The hobber spindle supports are by static hydraulic bearing, it improved the rigidity of transmission and rigidity of torsion.



● 为适应大规格齿轮的高效强力切削，机床工作台壳体独立安装并与床身对接，切削力可直接传递到坚固的地基上。工作台采用大规格环形静压轴承支承，主传动采用双蜗轮蜗杆副结构，消除了啮合间隙，提高了工作台传动平稳性和传动精度。  
● In order to adapt to the mass of the gear cutting machine, high strength worktable installed directly on machine bed, cutting force can be directly through the bed to solid foundation. Using large worktable aero-static bearing support ring, main transmission adopts double worm gear and worm pair pay structure, eliminate the mesh clearance, improve the stability and precision worktable transmission.



● 机床配有丰富的用户软件，宜人的操作界面，可最大程度的满足各种直齿轮、斜齿轮、锥度齿轮、及鼓形齿轮的高效加工。  
● The machines are equipped with an enriched user's software and an ergonomic control interface, thus being capable of performing the high-efficiency cutting of the straight gears, the helical gears, the little tapered gear teeth and the crowned gear teeth.



● 机床具备完善的故障监测与诊断功能。  
● 机床可配置专用铣内齿刀架，扩大加工功能。

● The machines have a perfect trouble detecting system and a function of making self-diagnosis of machine failures.  
● The machine can be equipped with a special hob head to mill the internal gears.

