

# 3 数控滚齿机

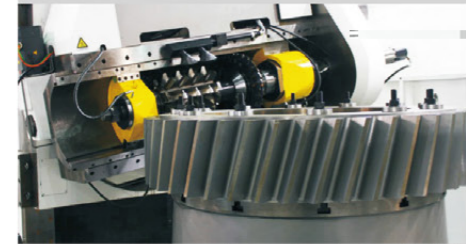
## CNC GEAR HOBBING MACHINE

### 我们将重新定义滚齿机 开启高效工艺

立式数控滚齿机不仅用于各种直齿、斜齿、锥度齿等齿轮的加工,还可以更换内滚刀架或者铣刀架满足内齿轮的高效加工;增加大字齿附件可以实现无空刀大字齿加工,提供全方位的解决方案。

### We will redefine gear hobbing machines and embark on efficient manufacturing processes

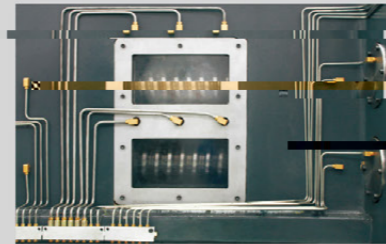
Vertical CNC gear hobbing machine is mainly used for straight gears, helical gears, tapered gears, and etc., the replacement of internal gear milling cutter head or internal hob head can meet the efficient machining of internal gears. Adding herringbone gear accessories can realize the machining of herringbone gear without empty cutter. We can provide comprehensive solutions.



- 滚刀架角度的调整采用伺服电机直接驱动高精度蜗轮蜗杆副来实现,从而保证了角度调整的准确度。
- 滚刀主轴采用大功率交流伺服电机驱动,实现调速,传动过程采用消隙机构,实现高精度、高刚性的主运动传动。

● The adjustment of the hob head angle by the servo motor directly driving the high-precision worm gear pair, to ensure the accuracy of the angle adjustment.

● The hob spindle is driven by a high-power AC spindle servo motor, achieving high-precision and rigidity main motion transmission.



- 工作台采用大规格静压轴承副传动,高精度双蜗轮蜗杆副传动,保证工作台精确的无间隙传动。
- The worktable is supported by large-sized hydrostatic bearings and the high-precision double worm gear pair to ensure accurate and gapless indexing movement of it.



- 更换滚刀架,安装齿插附件,实现内齿加工。
- Replace the hob head and install the herringbone gear.



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# 立式数控滚齿机

## CNC VERTICAL GEAR HOBBING MACHINE

### 机床特点

- 1、高刚性:机床导轨、滚刀架、工作台等部件用无间隙传动技术,消除了切削过程振动,保障高效切削;
- 2、滚铣复合工艺:刀具主轴可以同时安装铣刀和滚刀,铣刀粗加工后通过自动换刀实现精加工;
- 3、自动化程度高:机床各轴运动均由伺服电机驱动,操作方便,可实现自动换刀以及自动扳角度;
- 4、安全性高:机床具备断电回退功能,在意外情况下可以有效保护刀具;
- 5、机床的高刚性配以可转位滚刀可以实现干式滚齿,绿色环保。
- 6、中大型机床为淬硬钢导轨加滚动块的结构形式,具有无间隙,高刚性的特点。

### MACHINE TOOL FEATURES

1. High rigidity: The machine tool guide rails, rolling tool holders, workbenches and other components use gapless transmission technology to eliminate cutting process vibration and ensure efficient cutting;
2. Rolling milling composite process: The tool spindle can be equipped with both milling cutters and hobs, and after rough machining, the milling cutter can achieve precision machining through automatic tool changing;
3. High degree of automation: The movement of each axis of the machine tool is driven by a servo motor, which is easy to operate and can realize automatic tool change and automatic turning angle;
4. High safety: The machine tool has a power-off and fallback function, which can effectively protect the tool in case of unexpected situations;
5. The high rigidity of the machine tool combined with an indexable hob can achieve dry gear hobbing, which is green and environmentally friendly;
6. Medium and large machine tools use the structure of hardened steel guide rails with rolling blocks, which has the characteristics of no gap and high rigidity.

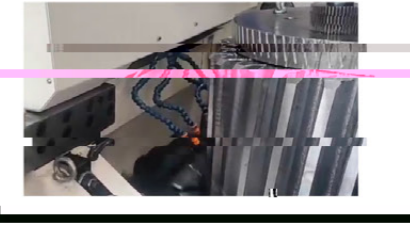
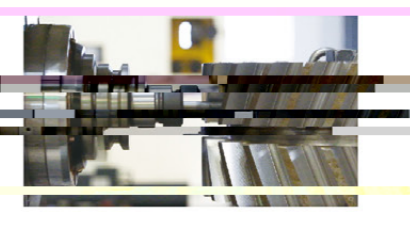


### 技术参数 THE MAIN PARAMETERS

名称 Description		型号 Type								
		YK3150	YK3180A YK3180B	YK31125 YK31125A	YK31160 YK31160A	YK31200A	YK31300	YK31400	YK31600	YK31800
最大工件直径 Max. workpiece diameter	mm	500	800	1250	1600	2000	3000	4000	5000	8000
最大模数 Max. module	mm	12	16/20	25	25	25	25	30	30	30
最大齿宽 Max. face width	mm	400	600	800	800	800	800	1600	1600	1600
最大螺旋角 Max. helical angle	°	±45	±45	±45	±45	±45	±45	±45	±35	±35
滚刀转速 Rotation speed of hob	r/min	10~150	40~450	20~250	20~250					
滚刀最大直径 Max. diameter of hob	mm	270	350	450	450	450	450	450	450	450
滚刀最大长度 Max. length of hob	mm	300	500	700	700	700	700	700	700	700
主轴中心至工作台中心距离 Center distance spindle/worktable	mm	50~410	50~600	150~870	150~1050	300~1300	300~1750	400~2300	1200~3500	2000~4500
刀具回转中心至工作台面距离 Distance cutter center/worktable surface	mm	250~800	400~1200	500~1600	500~1600	500~1600	700~1800	900~2700	900~2700	900~2700
工作台最大承重 Max. load bearing on worktable	kg	500	2000	10000	10000	20000	20000	40000	120000	150000
工作台直径 Worktable diameter	mm	500	800	1200	1500	1850	1850	2500	2500	5500
工作台孔径 Bore of the worktable	mm	140	200	300	300	500	500	600	1000	1000
工作台转速 Worktable rotary speed	r/min	0~20	0~15	0~10	0~10	0~7.5	0~7.5	0~5	0~2	0~2
径向进给速度 Radial feed speed	mm/min	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000
轴向进给速度 Axial feed speed	mm/min	0~1000	0~1000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000
机床总功率 Total power	kW	≤970	≤970	≤9700	≤9700	≤9700	≤9700	≤12600	≤9700	≤9700
机床总重量 Total weight	t	约16	约20	约40	约41	约45	约46	约80	约100	约120
主机外形尺寸(长×宽×高) Main Machine Dimension	mm	3723×2921×6383	6146×4371×6383	6146×4371×6383	6146×4371×6383	8146×4371×6383	8146×4371×6383	10146×4371×6383	10146×4371×6383	10146×4371×6383

注:  
1. 重量仅供参考,具体以实物为准;  
2. 外观防护有半防护和全防护,用户可根据实际需要进行选择;  
3. 我们将持续创新研发设计,与用户共同努力,产品参数将持续优化。

Note:  
1. The weight is for reference only, and the actual product shall prevail;  
2. The appearance protection of this machine tool has two options: semi-protection and full protection, which can be selected according to actual needs;  
3. We continue to innovate machine tool design. The parameters of each series of products in this manual are for reference only. If you have any inquiry, please contact us for the update.



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# 卧式数控滚齿机

## CNC HORIZONTAL GEAR HOBBING MACHINE

### 机床特点

1. 高刚性: 机床导轨、滚刀架、工作台等部件应用无间隙传动技术, 消除了滚齿过程中的传动误差, 保证了滚齿加工的精度。
2. 自动化程度高: 机床各轴运动均由伺服电机驱动, 操作方便, 可实现自动换刀以及自动换角度, 尾座夹紧力自动调整。
3. 安全性高: 机床具备断电回退功能, 在意外情况下可以有效保护刀具。
4. 可以实现干式滚齿, 绿色环保。
5. 机床导轨结构主要分小型小型采用滚动直线导轨副, 定位精度高, 中小型机床采用硬钢导轨加贴陶瓷贴面导轨副, 具有无润滑、无磨损的特点。

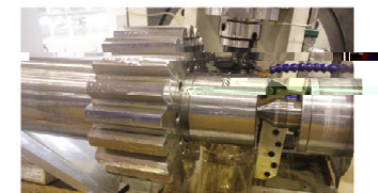
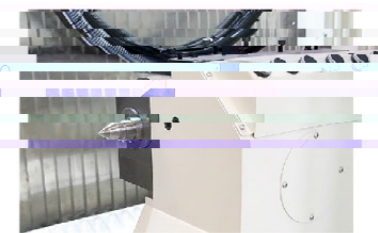
### MACHINE TOOL FEATURES

1. High rigidity: the machine guideway, hob head, table and other components use backlash-free transmission technology, eliminating vibration and improving cutting accuracy.
2. High automation: each axis is driven by a servo motor, which is easy to operate and to realize ATC & automatic angle adjustment.
3. High safety: the machine has a power-off return function, which can effectively protect the tool in an emergency.
4. High efficient dry cutting is environmentally friendly.
5. Small machine tools use rolling linear guide pairs with high positioning accuracy, medium and large machine tools use the structure of hardened steel blocks, which has the characteristics of no gap and high rigidity.



### 技术参数 THE MAIN PARAMETERS

名称 Description	型号 Type				
	YK3620	YK3650	YK3680	YK36125	
最大滚刀直径 Max. hob diameter	200	350	450	450	
最大工件长度 Max. workpiece length	1200	3200	4000	5000	
最大加工模数 Max. module	6	20	32	32	
最大工件重量 Max. workpiece weight	300	3000	15000	20000(带托架)	
刀架回转轴线与工件回转轴距离 Distance between tool rest rotation axis and workpiece rotation axis	400-1000	1000-1500	1000-1500	1000-1500	
径向/轴向进给速度 Radial/Axial feed speed	mm/min	0~5000	0~2000	0~3000	0~3000
滚刀转速 Rotate speed of hob	r/min	20~1200	20~300	20~250	25~250
工件转速 Rotation speed of workpiece	r/min	0.1~200	0.1~20	0.1~20	0.1~20
最大滚刀直径 Max. diameter of hob	mm	140	350	450	450
最大滚刀长度 Max. length of hob	mm	200	400	400	400
刀架旋转角度 Rotation angle of tool rest	°	±45	±45~90	±45~90	±45~90
尾座套筒最大行程 Max. travel of tailstock sleeve	mm	70	100	100	100
机床总功率 Total power	kW	约50	约66	约100	约120
机床总重量 Total weight	t	约12	约35	约60	约90
主机外形尺寸(长×宽×高) Main Machine Dimension	m	3.4x2.3x2.76	9.7x3.4	10x5x5.2	10.5x5.2x5.2



注:  
1. 重量仅供搬运起重时参考, 具体以实物为准;  
2. 外观防护分半防护、全防护, 用户可根据实际需求进行选择;  
3. 公司持续创新机床设计, 本手册中各系列产品参数将持续优化。

Note:  
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