



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

# YS5120CNC 型 数控高速插齿机

CNC High Speed Gear Shaping Machine Model YS5120CNC



## 主要特点:

### MAIN FEATURES:

本机床系四轴三联动数控高速插齿机，具有1750次/分钟的冲程速度和宽范围的圆周进给量及径向进给量。通过简单编程能实现多种循环方式，具有新颖的大圆周进给和粗、精插自动变速。机床刚性好，结构新，功能齐全，安全可靠，适用于大批量，高效率加工内外啮合的圆柱齿轮，带台肩的多联齿轮、齿扇、结合子齿等。

The model YS5120CNC is a high-speed gear shaping machine with 4 axes controlled by a CNC system, and 3 of the 4 axes are under gang control. The machine can perform a stroke rate up to 1750 strokes per minute and it has a wide range of circular feed and radial feed. Various cutting cycles can be performed on the machine through simple programming, and rapid circular feed rate is also available. The cutting speed can be automatically switched between rough cutting and finish cutting. The machine is featured in high rigidity, unique design, versatile functions and nice reliability, thus being well-suited for mass batch production of cylindrical internal and external gears, cluster gears with shoulders, segment gears and engaging gears.

本机床采用进口数控系统，实现圆周进给、径向进给和分齿运动的精确数字控制，重复定位精度高，具有故障自诊断的功能。主运动采用变频调速，可实现主运动的无级调速。本机床实现参数化编程，操作简单方便。

Equipped with an imported CNC system, the machine has a nice resetting accuracy and self diagnosis ability for troubles. Circular feed, radial feed and indexing motion are all under digital and accurate control. Parametrization program compilation makes the machine easy and convenient for operation.

本机床还可根据用户需要配置自动上下料、插轴齿后立柱、插斜齿静压螺旋导轨及齿轮去毛刺装置。

Upon the user's special request, the machine can be provided with an automatic workpiece loading and unloading device, counter column for cutting shaft gears, helical guide for cutting helical gears as well as the deburring unit.

## 结构特点: Features of the machine structure.

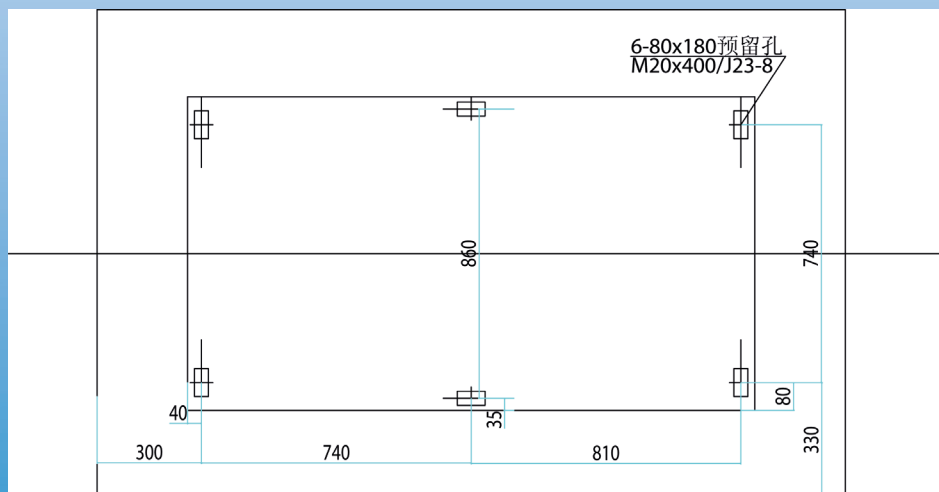
本机床刀架结构采用静压导轨和静压轴承，导向精度高，能满足高速冲程的需要；本机床设计有新颖的双凸轮让刀结构，以缩小冲击振动。机床导轨采用HNT耐磨涂层注塑并淬硬，液压、冷却箱均采用单独油箱，并通过冷却液的流向来达到机床的热平衡。刀架、工作台蜗轮副均采用精密级双导程蜗杆副。

The primary motion of the machine is frequency controlled, and therefore is easy and simple to adjust. Hydrostatic guide way and hydrostatic bearings are adopted on the cutter head to ensure a high guiding accuracy and to enable the machine performing high speed cutting operations. The newly developed two-cam cutter relieving mechanism has substantially minimized the machine's vibration. The guideways are hardened and coated with a HNT wear-resistance coating. The hydraulic oil tank and coolant tank are independently separated. The cooling oil runs around the machine bed for an ideal thermal balance. High precision double-lead worm shafts are adopted on the cutter head and worktable.

机床主要参数： Main technical specifications

最大加工直径	外齿轮	Max. workpiece dia. External gear	200mm
	内齿轮	Internal gear	60+d刀mm
最大模数		Max. module to be cut	4mm
最大冲程长度		Max. stroke length	40mm
刀具主轴行程范围		Max. cutter spindle nose to worktable face	50mm
最大加工齿宽		Max. face width to be cut	30mm
主轴端面至工作台面的距离		Distance from cutter spindle nose to worktable face	205~255mm
刀具中心线至工作台中心线的距离		Distance from cutter center to worktable center	-30~200mm
工作台台面直径		Worktable diameter	260mm
工作台主轴孔径		Dia. of worktable hole	120mm
刀具主轴最高位置的径向让刀量		Radial back-off of cutter spindle at the up-most position	>0.32 mm
刀具主轴冲程速（无级变速）		Stroke rate of cutter spindle(infinitely variable)	400~1750stroke/min
刀具圆周进给量（Φ100插齿刀）		Circular federate of the cutter(a cutter of Φ100)	4~5000 mm/min
无级调速，粗切可预选，自动变速		Infinitely variable, and can be preset and automatically switched for rough-cut and finish cut	
立柱径向进给量		Radial federate of column	0.001~0.2 mm/stroke
无级调速，粗切可预选自动变速		Infinitely variable, and can be preset and automatically switched for rough-cut and finish cut	
立柱径向快速		Radial federate of column	2000 mm/min
工作台最高转速		Max. worktable rotation speed	16rpm
主电机	功率	Main drive motor Power	5.5kw
	转速	speed	1450rpm
圆周伺服电机	功率	Circular feed servo motor Power	3.5kw
	转速	speed	2000rpm
径向伺服电机	功率	Radial feed servo motor Power	3.5kw
	转速	speed	2000rpm
机床主机外形尺寸(长×宽×高)		Overall dimensions(L×W×H)	1700×1200×1950mm
机床净重		Net weight	5500kg

机床安装基础图 Foundation Plan



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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