



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

Y51160CNC 数控插齿机

Gear Shaping Machine Model Y51160CNC



结构特点:

Features:

本机床系四轴三联动数控插齿机，四轴分别是：径向进给运动X轴、刀具旋转B轴、工作台旋转C轴和主轴冲程数变频调速。机床采用立式水平布局、工作台移动、立柱固定，具有180次/分钟的冲程速度和宽范围的圆周进给量及径向进给量。加工程序实现参数化，通过简单的参数输入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 machine is 3 axes gang control of 4 axes, the 4 axes are as follow: Radial feeding(X axis), cutter rotation (B axis), worktable rotation (C axis), and stroke speed control by the frequency converter. Machine used horizontal layout, worktable moving for radial feeding and the big column is fixed. The stroke speed can achieved 180 str./min. the radial feeding and circle feeding are wide range. Machine have macro program for easy operation, input simple parameter for getting the multi-program. Machine had good rigid, construction is new, and function is completed and safety. Suitable for cutting the cylinder gears, step gears, gear sector, coupling teeth.

主运动采用变频调速，实现主运动的无级调速。

The main moving is control by frequency converter, it is variable.

机床采用工作台沿床身前后移动作径向切入运动、刀架摆动做让刀运动。床身采用新型的钢板焊接工艺结构，底部设有冷却液通道的高刚度、热稳定性好的基础件结构，其导轨形式为注塑导轨，大大降低径向运动的动静摩擦系数。

Machine is used worktable moving for radial feeding, the cutter

carriage swivel for cutter back-off. the machine bed is weld by steel sheet, and the machine bed have cooling oil circle Channels for thermal balance. The guide is square steel and coated Teflon.

刀架主轴结构为静压导轨和静压中轴承及静压下轴承支撑，导向长度长、刚性好、精度高；

The machine spindle is used static hydraulic guide and hydraulic bearing, the guiding length is long, good rigidity and high accuracy.

在立柱上设有切向让刀滑板，可进行斜向让刀插齿

On the machine big column, there are a tangential sliding plate, it can make the slant cutter back-off.

机床振动小、噪音低

The machine shook small, noise is low.

本机床设计有新颖的双凸轮让刀机构，使刀架重量大为减轻，还能缩小由于凸轮制造误差所引起的冲击振动。

Machine is used double cam for cutter back-off system. It decrease the weight of cutter carriage and decrease the impact of spindle stroke.

本机床由数控系统实现圆周进给、径向进给、分齿运动和主轴升降的精确数字控制，重复定位精度高，具有故障自诊断的功能。控制系统中设有安全联锁保护、切削参数及操作界面保护等。

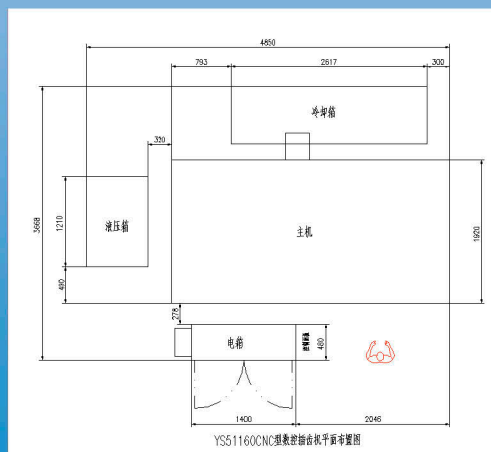
The machine have CNC system for circle feeding, radial feeding, teeth index and the spindle raise and down, the repeat accuracy is high, the CNC system have self-diagnosis. The CNC sytem have the function of protection for safety, cutting parameter and operation interface etc.

主要技术参数

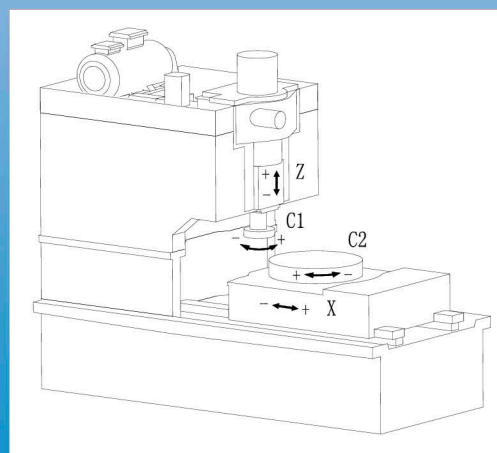
Main specifications:

项目	Name	Unit	Specification
最大工件直径：外齿	Max. Dia. Extend Gear	mm	1600
最大工件直径：内齿（最大600）	Inner gear(Max600)	mm	1350
最大模数	Max. Module	mm	16
最大冲程长度	Max. Stroke length	mm	300
最大加工齿宽	Max. width	mm	280
主轴端面至工作台面的距离	Dist. From Spindle nose to worktable face	mm	350~650
刀具中心线至工作台中心线的距离	Center Dist. From cutter to worktable	mm	0~950
工作台直径	Worktable size	mm	1460
工作台主轴孔径	Bore of worktable	mm	500
主轴最高位置的径向让刀量	Back-off value	mm	>0.7
主轴偏移量（斜向让刀）	Slant dist.	mm	± 25
工作台径向进给速度（无级调速）	Radial feeding speed(Variable)	mm/str	0.001~0.02
刀具主轴冲程数（无级）	Stroke Speed (Variable)	str /min	30~180
刀具圆周进给速度（无级）	Cutter Circle feeding (variable)	rpm	Max. 4.2
工作台径向快速	Rapid radial feeding of worktable	mm/min	2000
工作台快速运转转速	Rapid circle feeding of worktable	rpm	2.5
工位调整快速	Spindle position rapid travel	mm/min	540
主电机 功率	Main Motor (Power)	kw	22
转速	Speed	rpm	1000
X轴径向伺服电机 功率	Radial feeding (X axis)	kw	4.5
扭矩	torque	n.m	50
转速	Speed	rpm	0~600
B轴分齿运动伺服电机功率	Cutter rotation(C1 or B axis)	kw	3.5
扭矩	torque	n.m	20
转速	Speed	rpm	0~300
C轴圆周伺服电机 功率	Worktable rotation(C or C2 axis)	kw	4.5
扭矩	torque	n.m	50
转速	Speed	rpm	0~450
Z轴工位调整伺服电机功率	Spindle position moving (Z axis)	kw	3.5
扭矩	torque	n.m	20
转速	Speed	rpm	0~730
机床外形尺寸（长X宽X高）	Size	mm	5000x4700x3800
机床净重	Weight	kg	25000
转速	speed	rpm	2800
机床净重	Net weight approx	kg	6500
机床 外形尺寸（长×宽×高）	Overall dimensions(L×W×H)	mm	2370×1670×2483

机床平面布置图



机床坐标方向示意图



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.

联系地址：江苏省南京市江宁区科学园陆泉路29号

公司办公室电话：(025) 52215948

公司总机：(025)68105599, 86624291

销售电话：(025) 68105599—8037, (025)52215949

外经电话：(025) 68105599—8097, 8056

售后电话：(025) 68105599—8153, 8155

销售传真：(025) 52303545

外经传真：(025) 86626869

售后传真：(025) 52250733

邮政编码：211103

电子邮箱：sales@nmt2.com

外经邮箱：ied@nmt2.com