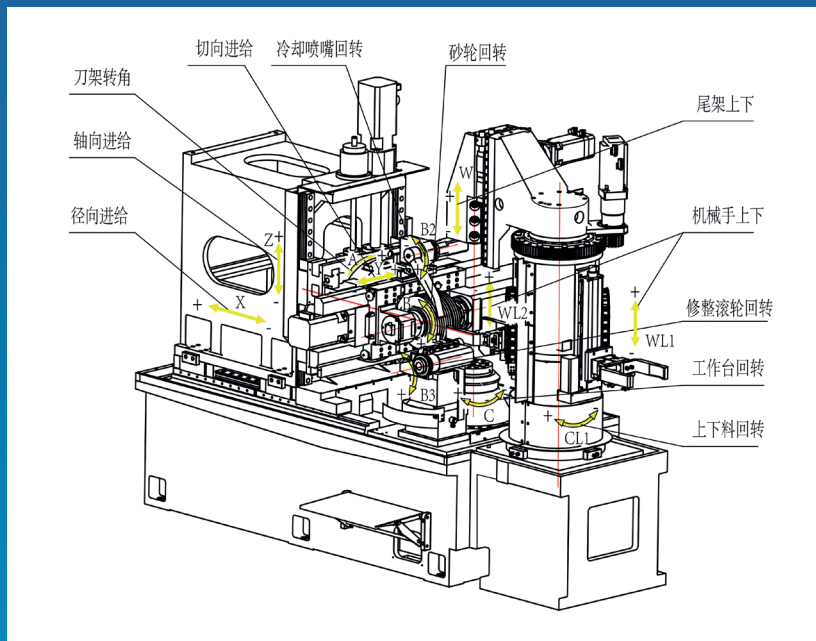
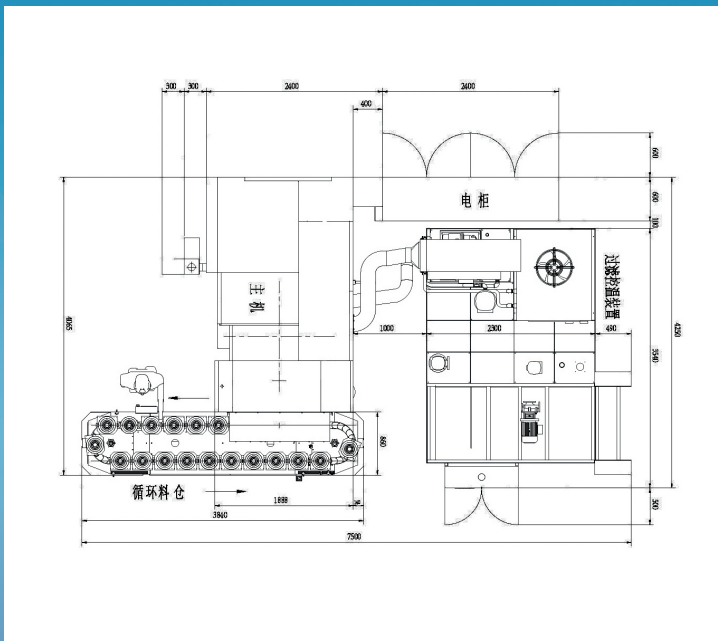


机床数控轴示意图 Machine CNC axes diagram



机床平面布置图 Machine layout



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

Y7232CNC/Y7236CNC型 数控蜗杆砂轮磨齿机

CNC automatic worm grinding wheel grinder model Y7232CNC / Y7236CNC

Y7232CNC / Y7236CNC型全自动数控精密蜗杆砂轮磨齿机具有以下优点:

机床为带自动上下料全自动磨齿机, 可实现半小时至一小时无人值守工作模式,

连续展成磨削方式, 采用西门子840D数控系统, 实现十二轴五联动。

砂轮修整与工件磨削布置于同一相位, 可提高机床的磨削精度。

砂轮轴配有自动平衡系统, 有效地提高工件的磨削质量。

机床采用高压大流量冷却循环过滤装置, 有效地防止了磨削烧伤。

砂轮轴及工件主轴均为内藏式伺服电机直驱, 使得驱动刚度和动态响应极高。

控制电机力矩完成尾架工件夹紧力的调整。

齿形修形可根据用户要求制成专用金刚石滚轮, 齿向修形可通过CNC控制;

完全自主知识产权的智能化磨削软件极大的方便了操作。

适合于汽车、工程机械、摩托车等行业变速箱齿轮精加工。

加工精度可达GB10095的四级精度水平。

Machine equipment the automatic load/unload system, and it should be realizing unattended mode in the half hour to 1 hour. The grinding is continuous generation. It equipment the SIEMENS 840D system and it have 12 axes with 5 axes ganged.

The grinding wheel dressing position is same with the grinding position; it should improve the accuracy of machine.

The grinding wheel spindle have the automatic dynamic balance system, it should improve the quality of grinding.

Machine equipped the mass flow cooling system with the filter. It should easy avoid the grinding burning.

Grinding wheel spindle and the work-piece spindle are driven by the internal mount servo motor. The driving rigidity and dynamic response is high.

The tailstock is driven by the servo motor; it is easy to control the pressure by change the torque of motor.

The teeth profile is corrected by the special diamond dress wheel and the teeth lead can modify by the CNC system.

Machine has the Marco software with completely independent intellectual property rights, it is easy to operating.

The machine suitable the automobile, industry engine, motorcycle etc. The gear machining accuracy can achieve 4 class GB10095.





Y7232CNC / Y7236CNC型 数控蜗杆砂轮磨齿机

CNC automatic worm grinding wheel grinder model Y7232CNC / Y7236CNC

机床主要特点 Major features:

- 同相位修整结构：机床采用立式布局、工作台固定、大立柱进给，将砂轮修整与工件磨削布置于同一相位，从原理上避免了由于砂轮修整、磨削不同相位时对齿形精度的影响，有利于提高机床的磨削精度。
- 在机动平衡系统：砂轮轴配备的内置式动平衡头、砂轮架上安装的震动传感器以及控制柜内的动平衡控制器组成砂轮在机动平衡系统，可有效地提高工件的磨削质量和主轴寿命。动平衡头内还内置安装了防撞系统，可在机动态检测砂轮、工件、与金刚石滚轮的接触状况，实现工件两侧齿面磨削余量的动态均匀分布，消除误操作所产生的碰撞。
- 全新的主轴结构：砂轮主轴及工作台主轴均采用内藏式大功率伺服电机直驱，传动做到零间隙，有利于提高主轴的驱动刚度和动态响应速度。
- 创新的尾架控制方式：采用全新的伺服电机带动齿轮齿条，完成尾架上下，通过控制电机电力矩完成工件夹紧力的调整；
- 灵活的夹具选择：机床工件主轴端面留有标准的接口和三路压力油，用户可根据工件的形状和加工精度要求配备合适的夹具。
- 任意齿形齿向修形：齿形修形可根据用户要求制成专用金刚石滚轮，齿向修形可通过CNC控制工件径向进给和工件轴向进给轴联动，修成用户所需的形状。
- 连续位移切削：工件切入进给轴和旋转轴联动时，处于连续位移状态。由于磨削中砂轮始终处于新修过的表面，从而可进行深切磨削，使机床磨削效率成倍提高。
- 适合加工领域：汽车、摩托车等行业变速箱大批量齿轮加工。

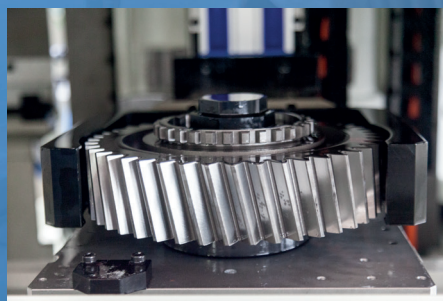
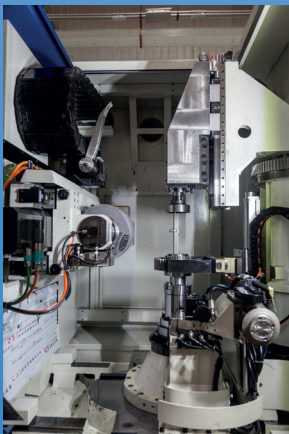
The Dress wheel construction address the same position of grinding: This machine adopts vertical layout, worktable fixed, big column moving for feeding. The Dress wheel construction address the same position of grinding, it avoided the affection of the difference position of the dressing and grinding. It is better for improving the accuracy of grinding.

Dynamic balance system on the spindle: the spindle equipped the Built-in dynamic balance head, it include the Vibration sensor on the grinding carriage and the Dynamic balance controller in the electrical cabin. It improved the quality of grinding and the live of spindle. Prevent collision system had build-in the spindle, it can monitor the Contact status of the grinding wheel,workpiece, diamond dress wheel. It can realize the Dynamic evenly distributed of grinding allowance from the double side of teeth. It eliminate the collision by the incorrect operation.

New design of the spindle construction: Wheel spindle and worktable spindle adopts inside hide type power servo motor straight driven. the transfer chain is zero clearance. It is better for improved the Drive stiffness and dynamic response speed.

New design of the tailstock: the tailstock moving is driven by the servo motor. The Workpiece clamping force is adjusted by the torque of the servo motor.

flexible clamp selection: There are standard interface and three road pressure oil at the machine spindle, users can equip with suitable fixture according to the shape of the



work piece and machining accuracy requirements.

Arbitrary teeth shape to dress: special tooth profile can be made according to the requirements of special diamond dress wheel, the special teeth lead can be corrected by CNC control(radial feeding and work piece axial feeding linkage).

Continuous tangential shifting cutting: while the linkage of Work piece feeding axis and tangential axis. The machine is at the situation of continuous tangential shifting cutting. Because the grinding wheel are in the shifting, So the grinding face is renew, the cutting power are very strong, it can realize the deep grinding and the machine grinding efficiency are improved more.

Suitable the industry: automobile, motorcircle, transmission etc.

机床主要配置 Main Configuration:

主要规格	Main specification	Y7232CNC	Y7236CNC
最大直径	Max. diameter	φ 320mm	φ 360mm
最大齿宽	Max. width	250mm	250mm
最大模数	Max. module	6mm (Profile grinding 10mm)	8mm (Profile grinding 10mm)
最大工件螺旋角(A轴)	Max. helix angle	± 45°	± 45°
砂轮切向窜刀最大移动量(Y轴)	Max. shifting Dist. Of grinding wheel	250mm	250mm
砂轮中心到工作台中心水平距离(X轴)	Horizontal dist. From the center of grinding wheel to the face of worktable(X axis)	110 ~ 365 mm	110 ~ 385 mm
砂轮中心到工作台台面垂直距离(Z轴)	Vertical Dist. From the center of grinding wheel to the face of worktable(Z axis)	130 ~ 450mm	130 ~ 450mm
工作台端面与后立柱顶尖距离(W轴)	The horizontal Dist. From the center of back column to the center of worktable.	250 ~ 850 mm	250 ~ 850 mm
砂轮主轴最高转速(B轴)	Max. spindle speed	7000rpm	7000rpm
工作台最高转速(C轴)	Max. worktable speed	1000rpm	1000rpm
修整滚轮转速(B3轴)	Max. dress wheel speed	3000 ~ 6000rpm	3000 ~ 6000rpm
砂轮主轴功率(B轴)	Power of wheel spindle	25kw	25kw
砂轮规格	Grinding wheel size	φ 280x φ 115x160mm	φ 280x φ 115x160mm
机床净重(主机)	Machine weight	10000kg	10000kg

