

WSK022

数控蓝宝石滚磨机

WSK022 CNC Sapphire Tumbling Mill



技术参数与规格 Specifications and Technical Parameters

加工工件参数 Work object parameters	
磨削长度 Grinding length	500mm(max)
适用磨削直径 Applicable grinding diameter	2寸~8寸inch
主要参数 Main parameters	
中心高 Central height	125mm
砂轮线速度 Linear speed of grinding wheel	25m/s(max)
金刚石砂轮尺寸 Size of diamond grinding wheel	Φ300x(15~30)xΦ127mm
头架可回转角度 Rotary angle of headstock	±90°
尾架顶尖行程 Top travel of tailstock(max)	250mm(max)
砂轮架功率 Power of grinding carriage	1.5kW
头架电机功率 Motor power of headstock	0.75kW
头架主轴转速 Spindle speed of headstock spindle	0~1000r/min (变频调速无级调速) (AC frequency conversion speed regulation)
头架回转精度 Rotary accuracy of headstock	径向跳动 ≤0.014mm 轴向窜动 ≤0.005mm
数控轴 Axis	X轴: 砂轮架进给 X axis: grinding carriage feed Z轴: 工作台进给 Z axis: worktable feed
电源供给及配套设施 Power supply and matched facility	
供电电压 Power supply and voltage	交流AC 380V 50Hz
相对湿度 Relative humidity	≤75%
环境温度 Environmental temperature	0~35℃
振源 Vibration source	周围无振源
磨削精度 Grinding accuracy	
圆度 Roundness	≤0.08mm
纵截面内尺寸一致性 Dimensional uniformity within longitudinal section	0.1mm
表面粗糙度 Surface roughness	Ra≤0.5μm

机床用途与性能特征

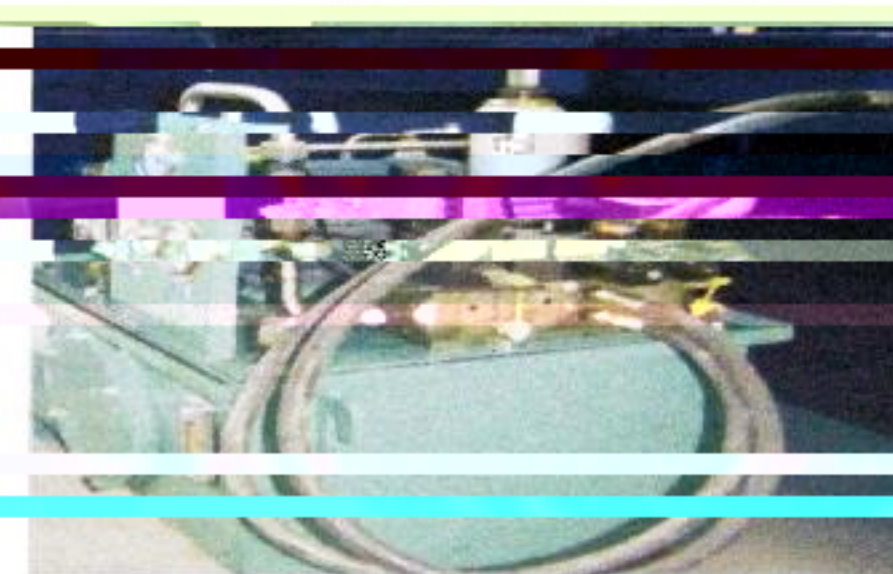
- 本机床用于磨削太阳能行业、单晶硅棒料及蓝宝石棒料等材料，可磨经切方后2寸~8寸棒料的外圆（磨2寸圆棒无需更换金刚石砂轮）。
- 头架、尾架采用特制液压顶紧夹具方式磨削。
- 采用进口二轴联动数控系统，内装PLC，触摸屏液晶显示。
- 工作台纵向移动及砂轮架横向移动采用伺服电机滚珠丝杠拖动。
- 机床床身为高强度、低应力的铸铁整体铸造，采用高刚度结构，有良好的吸振和热变形性能。
- 工件长度变化在100mm内，可不移动尾架，其夹紧的液压顶紧力可任意调整。
- 磨削加工时可实现一次装夹自动磨削循环（快进、粗磨、精磨、到尺寸退出）。
- 电器柜与床身刚性连接，避免多次拆卸联线，保证电气连接可靠。

Main Applications and Structural Features

- This equipment is applied in the PV industry, processing monocrystalline silicon and sapphire bar, which can grind outer circle of 2-8 inch bar after cutting.
- Headstock, tailstock applies special hydraulic top clamp type grinding.
- Applies imported two-axis linkage CNC system, within with PLC touch screen display.
- Worktable longitudinal movement and grind wheel transverse apply servo motor ball screw.
- Casing is casted by high strength low stress cast iron with high stiffness, rigidity and good performance of shock absorption and heat balance.
- Length change of work piece shall be within 100mm, tailstock can be fixed, hydraulic top force of jig can be whatever adjusted.
- While grinding crystal bar, simple set up, automatic grinding circulation can meet rough grinding, coarse grinding, finish grinding to exist).
- Electric cabinet connects with body, avoiding repeated disassembly, ensuring reliable connection.



加工现场 processing site



局部设备 local equipment

加工流程与示意图 Substrate Process and Flow Chart



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