



数控蓝宝石滚磨机

WSK022 CNC Sapphire Tumbling Mill



技术参数 Specifications and Technical Parameters

加工工件参数 Workpiece parameters	
适用工件直径 Applicable workpiece diameter	Φ12mm
主要参数 Main parameters	
中心高 Central height	125mm
砂轮线速度 Linear speed of grinding wheel	30m/s (max)
金刚石砂轮尺寸 Size of diamond grinding wheel	Φ30(18)×15×Φ12mm
头架可回转角度 Rotary angle of headstock	±5°
尾架顶行程 Top travel of tailstock (max)	150mm (max)
砂轮架电机功率 Motor power of grinding carriage	0.3kW
头架电机功率 Motor power of headstock	0.75kW
头架主轴转速 Speed of headstock spindle	6300 r/min (变频无极调速)
头架回转精度 Rotary accuracy of headstock	回转精度 Rotary accuracy: 0.02mm
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配套设施	
供电电压 Power supply and voltage	交流 AC 380V 50Hz
相对湿度 Relative humidity	小于 less than 75%
环境温度 Environment temperature	5-35℃
振动 Vibration source	磨床自身振动
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 0.5um

机床用途与性能特征

- 本机床用于磨削太阳能行业、单晶硅棒及蓝宝石晶片等材料，可磨经切方后2寸~8寸棒料外圆(磨2寸圆棒无需更换金刚石砂轮)。
- 头架、尾架采用特制液压夹紧方式磨削。
- 采用进口二轴联动数控系统，内置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，实现无级拖拽。
- 机床床身为高弹性、高刚性的铸铁整体铸造，采用高刚度、高稳定性的结构，有良好的吸振和热稳定性。
- 工件长度变化在100mm中，可不移动尾架，通过调整顶压力即可任意调整。
- 磨削加工晶棒时可实现一次装夹自动完成粗磨、半精磨、精磨，到尺寸出山。
- 电器电柜与床身刚性连接，避免灰尘杂质侵入，保证电气连接可靠。

Main Applications and Structural Features

- This equipment is applied in the PV industry for processing monocrystalline silicon rods and sapphire bars.
- Headstock/tailstock applies special hydraulic top clamp type grinding.
- Applies imported two-axis linkage CNC system, with PLC touch screen display.
- Worktable longitudinal movement and grinding wheel transverse feed servo motor ball screw drive.
- Casing is casted by high strength, low stress cast iron, with high stiffness, structure, and good performance of shock absorption and heat balance.
- Length change of work piece shall be within 100mm, can be adjusted by fixed, hydraulic top force of jig can be whatever adjusted.
- While grinding crystal bar, can set up automatic grinding, single set-up automatic grinding, circulation can control the grinding, coarse grinding, finish grinding to finish.
- Electric cabinet connects with body, avoiding repeated disassembly, ensuring reliable connection.



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