

# WSK022

## 数控蓝宝石滚磨机

WSK022 CNC Sapphire Tumbling Mill



### 机床用途与性能特征

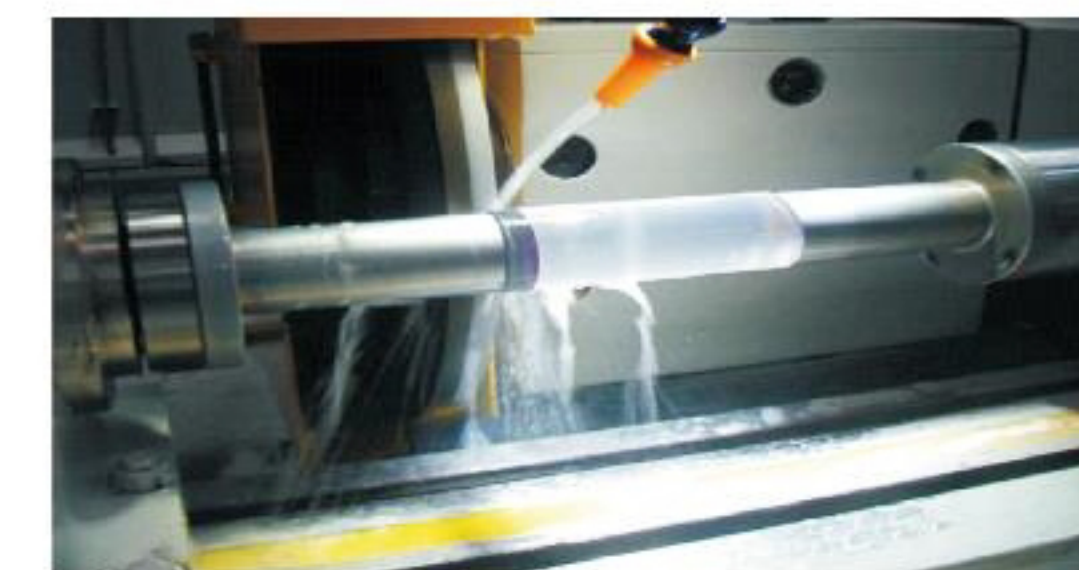
- 本机床用于磨削太阳能行业、单晶硅棒料及蓝宝石晶棒等材料，可磨经切方后2寸~8寸棒料的外圆（磨2寸圆棒无需更换金刚石砂轮）。
- 头架、尾架采用特制液压顶紧夹具方式磨削。
- 采用进口二轴联动数控系统，内装PLC，触摸屏液晶显示。
- 工作台纵向移动及砂轮架横向移动采用伺服电机滚珠丝杆拖动。
- 机床床身为高强度、低应力的铸铁整体铸造，采用高刚度结构，有良好的吸振和热平衡性能。
- 工件长度变化在100mm内，可不移动尾架，其夹具的液压顶紧力可任意调整。
- 磨削加工晶棒时实现一次装夹自动磨削循环（快进、粗磨、精磨、到尺寸退出）。
- 电器电柜与床身刚性连接，避免多次拆卸联线，保证电气连接可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

### 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. (2 inch round bar no need to change diamond grinding wheel)
- 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 caste 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, tailstock can be fixed, hydraulic top force of jig can be whatever adjusted.
- While grinding crystal bar, a single set-up automatic grinding circulation can come true (fast forward, coarse grinding, finish grinding to exist)
- Electric cabinet connects with body, avoiding repeated disassembly, ensuring reliable connection.

### 技术规格参数 Specifications and Technical Parameters

加工工件参数 Workpiece 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	35m/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)
特制尾架主轴 Special tailstock spindle	配液顶紧夹具 with hydraulic top clamp
砂轮架电机功率 Motor power of grinding carriage	3kw
头架电机功率 Motor power of headstock	0.75kw
头架主轴转速 Speed of headstock spindle	6~100r/min(交流变频无级调速) (AC frequency conversion stepless speed regulation)
头架回转精度 Rotary accuracy of headstock	径向跳动 radial runout ≤0.004mm; 轴向窜动 Axial channeling move ≤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	小于 less than 75%
环境温度 Environmental temperature	0~35°C
振源 Vibration source	周围无振源 no
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

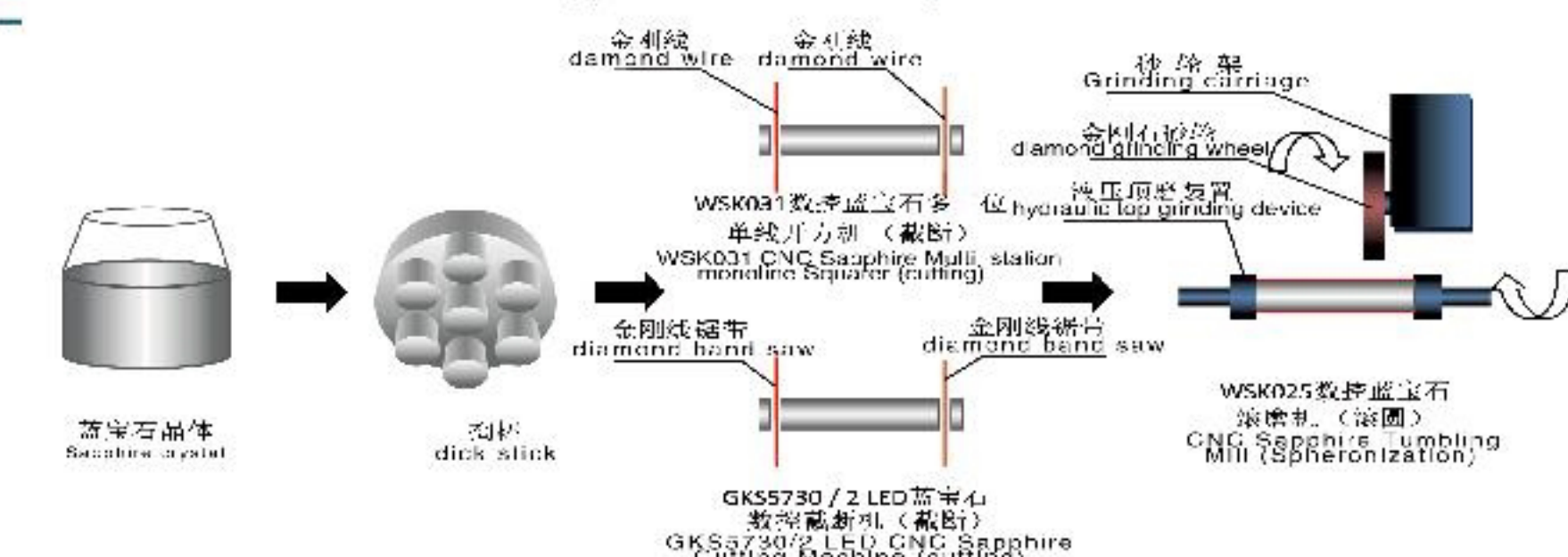


加工现场 processing site



局部设备 localequipment

### 衬底加工流程图 Substrate Processing Flow Chart



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