WSK022

数控蓝宝石滚磨机

WSK022 CNC Sapphire Tumbling Mill

技术规格和参数 Specifications and Technical Parameters

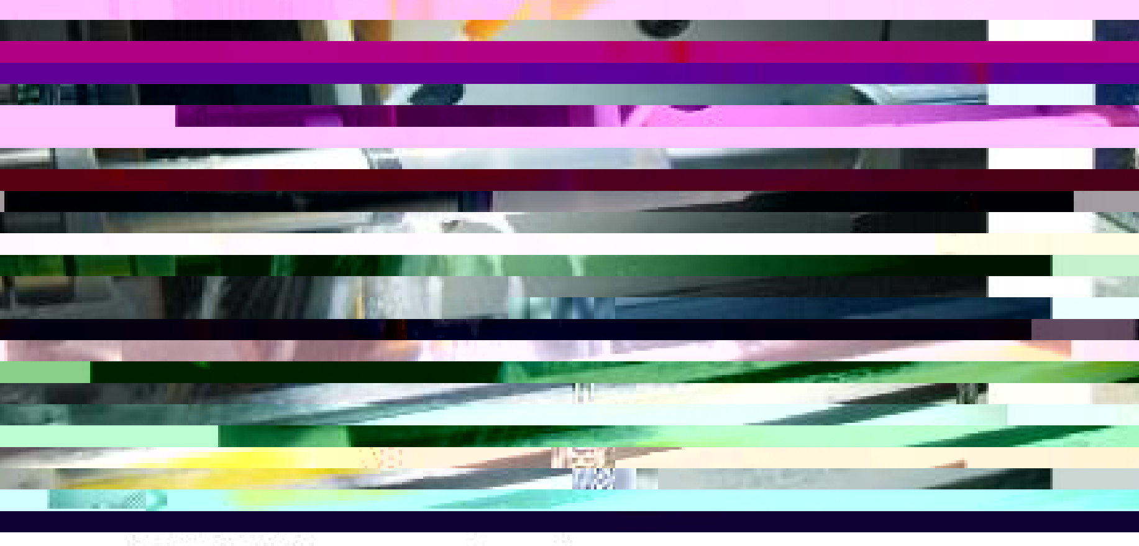
加工工件参数Workpiece parameters	
磨削长度Grinding length	[illegible]
适用磨削直径Applicable [illegible]	[illegible]
主要参数Main parameters	
中心高Central height	125mm
砂轮线速度Linear speed of grinding wheel	35m/s(max)
金刚石砂轮尺寸Size of diamond grinding wheel	Φ300(15~30)xΦ127mm
头架可回转角度Rotary angle of headstock	[illegible]90°
尾架顶尖行程Top travel of tailstock(max)	25mm(max)
特制尾架主轴Special tailstock spindle	配液压顶[illegible] with hydraulic top clamp [illegible]
砂轮架电机功率Motor power of grinding carriage	[illegible]kw
头架电机功率Motor power of headstock	0.75kw
头架主轴转速Speed of headstock spindle	[illegible]r/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 than75%
环境温度Environmental temperature	[illegible]~35[illegible]
振源Vibration source	周围无振源no [illegible]
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

机床用途与结构性能特征

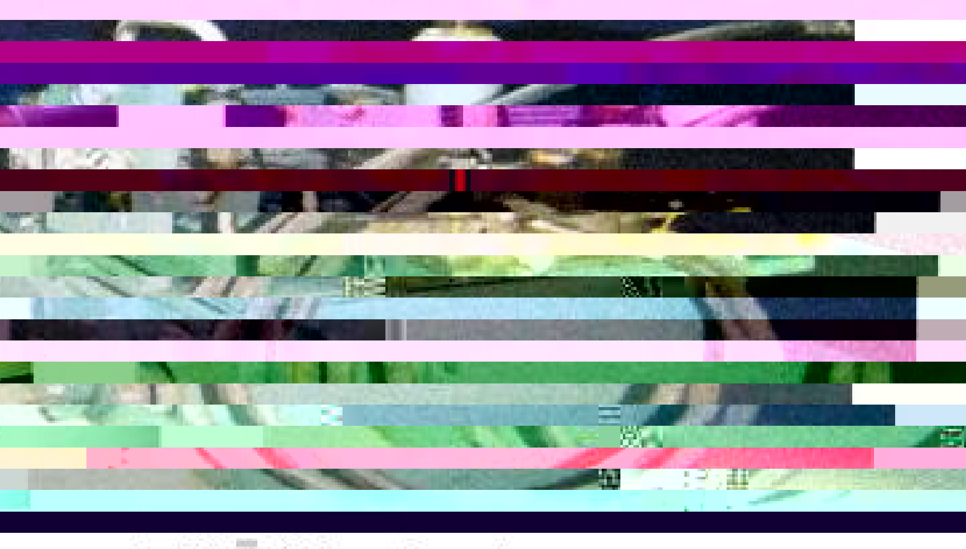
- 本机床用于磨削太阳能行业、单晶硅棒料及蓝宝石[illegible]材料，可磨经切方后2寸~8寸棒料的外圆（磨2寸圆棒无需更换金刚石砂轮）。
- 头架、尾架采用特制液压顶紧夹具方式磨削。
- 采用进口二轴联动数控系统，内置PLC，触摸屏液晶显示。
- 工作台纵向移动及砂轮架横向移动采用伺服电机滚珠丝杠拖动。
- 机床床身为高强度、低应力的铸铁整体铸造，采用高刚度结构，有良好的吸振和热平衡性能。
- 工件长度变化在100mm内，可不移动尾架，[illegible]液压顶紧力可任意调整。
- 磨削加工晶棒时实现一次装夹自动[illegible]循环（快进、粗磨、精磨、到尺寸退出）。
- 电器电柜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

Main Applications and Structural Features

- The equipment is applied in the PV industry, [illegible] monocrystalline silicon [illegible] sapphire bar [illegible] circle of 2~8 inch bar after cutting [illegible] bar no need to change diamond g[illegible]
- Headstock, tailstock applies special [illegible] top clamp type grinding.
- Applies imported two-axis linkage CNC system, within with PLC touch screen dis[illegible]
- Worktable longitudinal movem[illegible] 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 by fixed, hydraulic top force of jig can be whatever adjusted.
- While grinding crystal bar, [illegible] set up automatic 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.

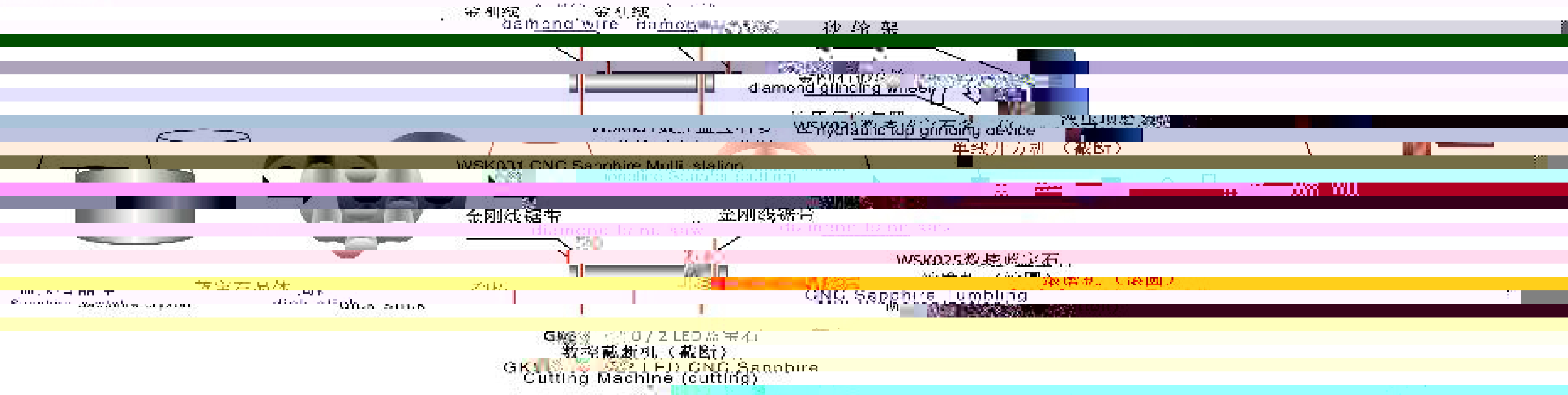


加工现场processing site



局部设备[illegible] equipment

衬底加工流程图 Substrate Processing Flow Chart



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