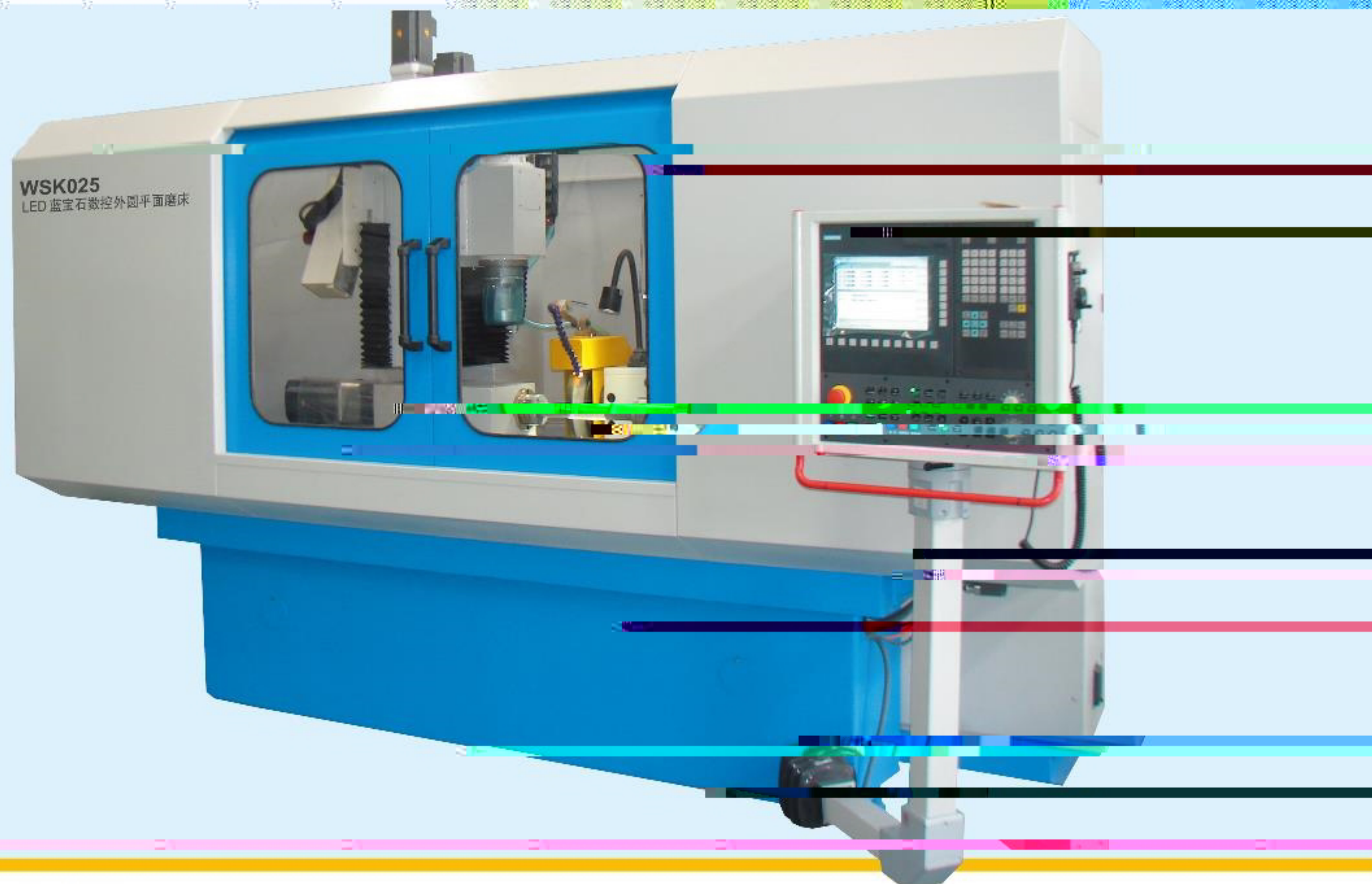


# WSK025

## LED蓝宝石数控外圆平面磨床

WSK025 CNC cylindrical plain grinding machine for LED sapphire



### 技术参数 Specifications and Technical Parameters

磨削直径Grinding diameter	Φ2"~6"
最大磨削长度Max. grinding length	400mm
中心高Center height	100mm
最大工件重量Max. weight of work table	50kg
工作台最小进给量Min. feeding of work table	0.005mm/min
砂轮转速Basic wheel speed	3500r/min
外圆砂轮尺寸External grinding wheel size	400×22×203mm
平面砂轮尺寸Plane grinding wheel size	Φ300×50×250
头架主机转速Turning speed of headstock main motor	0-1000r/min(无级) (stepless)
头架主轴内锥孔Taper bore of headstock spindle	4号莫氏锥孔(Morse taper No.4)
磨架滑架最大进给量Max. feeding of mill frame slide	150mm/min
磨架滑架最小进给量Min. feeding of mill frame slide	0.001mm
磨架快速移动速度Fast moving speed of mill frame	5m/min
冷却水流量Flow of cooling pump	50L/min
机床外形 (长×宽×高) Overall dimensions(L×W×H)	300×1620×2865mm
磨削精度Grinding accuracy	±0.001mm
圆度Roundness	±0.001mm
表面粗糙度Surface roughness	0.2μm

### 机床用途与性能特征

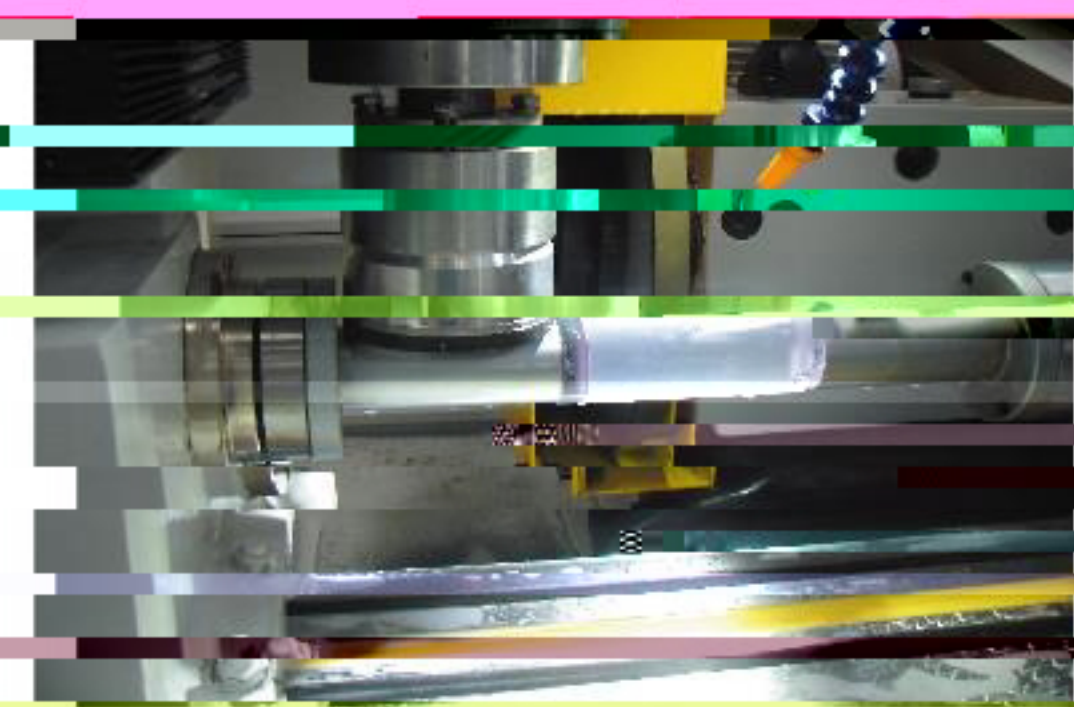
- 本机床是为LED蓝宝石行业精心设计的数控外圆平面磨床，适用于LED蓝宝石晶棒的外圆及OF的磨削，机床上配置A向定向仪，故晶棒在一次装夹后可顶磨外圆，定向OF面的磨削，提高了产品的生产率，保证了产品的质量。
- 本机床数控系统为西门子802DS1系统，四个直线轴，一个回转轴。
- 机床配置外圆砂轮架用于磨削晶棒的外圆柱面，同时还设计有立式磨头，用于定向后磨削晶棒的OF面。
- 机床带有A向定向仪，晶棒外圆磨好后可直接定向，定向仪及立式磨头分别装于立柱的两侧，晶棒定向后，可直接磨削OF面消除了晶棒回转的误差。
- 工作台、横进砂轮架、立式磨头拖板及定向仪拖板均有伺服电机滚珠丝杆拖动，头架为伺服电机直拖。

### Applications and structural features

- The machine is a kind of CNC Plane Grinding Machine specially designed for LED Sapphire Industry, which is suitable for grinding outer circle and OF surface of LED sapphire crystal bar. Furthermore, machine is matched with A-direction orientation device, so crystal bar can be externally grinded in the end of surface after clamped. Therefore, output and quality of production is definitely proved.
- This machine adopts SIEMENS 802DS1 CNC system, four linear axis, one rotor.
- External cylindrical grinding wheel rack is equipped for grinding outer cylindrical surface of crystal bar. Moreover, vertical grinding head is to grind OF surface after fixing direction.
- The machine owns A-direction orientation device, crystal bar can be oriented directly after grinding excircle. Orientation device and vertical grinding head separately mounted at two sides of column.
- After orientation, OF surface of crystal bar can be grinded directly to eliminate tolerance of bar rotation.
- Worktable, horizontal grinding wheel frame, vertical grinding head carriage and orientation device carriage are all driven by servo motor ball screw, headstock is driven by servo motor directly.

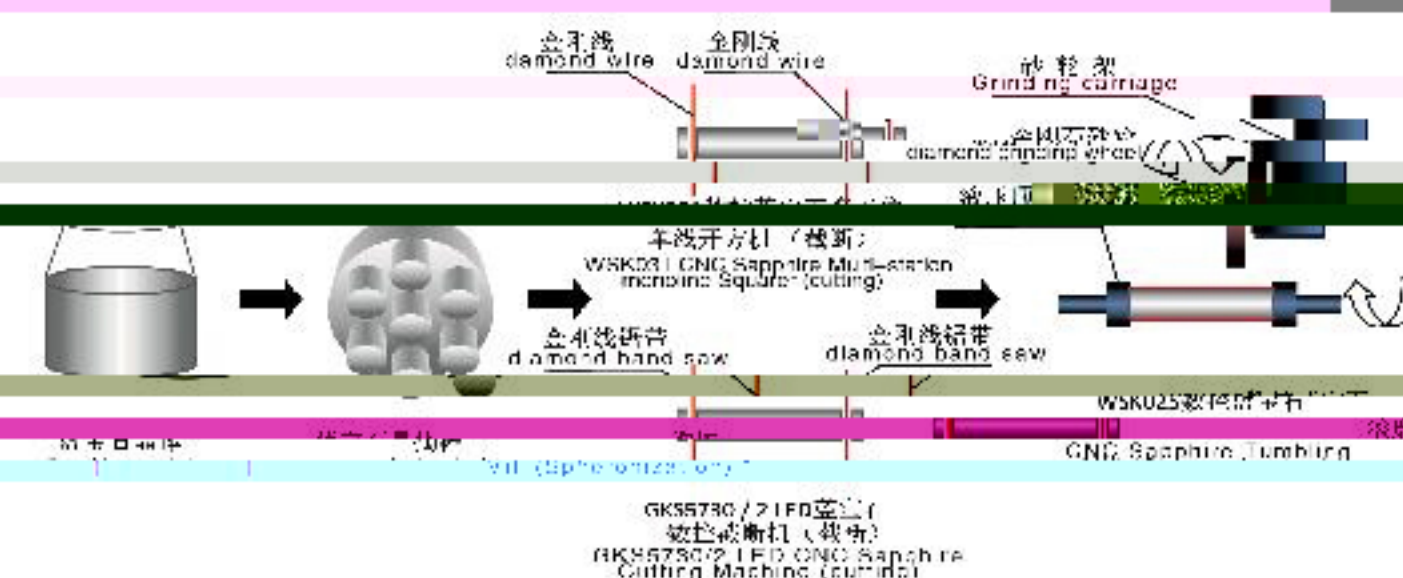


滚圆 rolling



磨OF面 grind OF surface

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



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