WSK063

半导体晶圆切片机

WSK063 SiC slicing machine (slurry cutting)

设备用途和特性

- 本机床适用于半导体行业，用于半导体晶棒的切片，是半导体行业硅片加工的主要配套设备。硅锭横断面最大为Φ330mm，切片厚度最小为0.2mm，必须调整制程，一次装夹最大可切片达1300~2300片，是半导体行业硅片生产厂家的优选设备。
- 本机床特点：
- 1、两个钢线导轮驱动，收（放）线驱动，及收（放）线的排线驱动，均采用伺服驱动，且必须同步。
- 2、钢线张紧力的检测控制也通过伺服电机加力（恒定）。
- 3、工件进给由伺服电机通过滚珠丝杆拖动，进给量的大小与钢线的引导速度相匹配。
- 4、切削液的搅拌与输送。切削液管道通过热交换器达到恒温及计量器计量，与切片速度相适应。
- 5、本机床为高新技术集中的产品。

Aplications ans structural features

- the machine is used for cutting Semi-conductor bar, which is main matched processing equipment. The max dimension of cross sectionΦ330mm , the minimum thickness of section 0.2mm , adjust processing procedure , it may cut 1300-2300 [illegible] at one clamping , the optimized equipment for semi-conductor manufacturers.
- features:
- two wire guide wheel drive, [illegible] drive, cable drive, all of these apply servo driver, and must be synchronized.
- detection control of wire tension be controlled by servo motor (constancy)
- workpiece feeding is driven by servo motor through ball screw, feed rate is matched with guiding speed of wire.
- agitation and conveying of cutting fluid.Cutting fluid pipe can reach up constant temperature through heat exchanger, matching the slicing rate.
- this machine is an integrated high-tech product.

技术规格参数 Specifications and Technical Parameters

项目	参数
工件 workpiece	
横断面 cross section	≤Φ330mm
长度 length	2×300mm; 1×600mm
厚度 thickness	≥0.20mm（必须调整制程 must adjust manufacturing process）
切割速率 cutting rate	
线速度 linear velocity	最大 max 30m/s，频率 rate 可以设定 can set
快速移动 fast move	200mm/min
工作行程 working stroke	最大MAX.385mm
钢线 wire	
芯线径 diameter of core wire (external diameter)	0.055-0.400mm
钢线长度 length of wire	按线轮而定 according to wire wheel
钢线方向 direciton of wire	前进或后退切割 forward or backward/double directional cutting
预先张力 pre-tension	最大50N（根据钢线直径而定）max. 50N (according to diameter of wire)
导轮 guide wheel	
直径 diameter	Φ192mm
长度 length	660mm
个数 number	3
主电机功率 main motor power	最大 max 3×30KW
轴距（左右 wheelbase (left &right))	540mm
轴距（上下）wheelbase (up&down)	450mm
钢线偏向滚轮 offset roller	
直径 diameter	160mm
个数 number	2×3(6)
卷绕线盘 winding coil	
卷绕轴工作高度 working height of winding shaft	1355mm
卷绕线盘 winding coil	WSK02753-21-301
供应商卷绕线盘 winding coil of supplier	[illegible]A100
切削液供应 cutting compound supply	
切削液箱最大容量 Max. capacity of cutting tank	300[illegible]
切削液温度常数 temperature constant of cutting fluid ±1°C	可选择预设温度 optional preset temperature 20-30 °C
泵速输送 pumping rate	最大 MAX 12000kg/h，可调整，使用流量计并显示 adjustable, measure with flow meter and display
冷却水流入温度 inflow temperature of cooling water	15°C ±1°
控制系统 controlling system	
类型 type	SPS控制器 S7系列附一体化PC和SPS controller S7 series with integrated PC
供货商 supplier	西门子（Siemens）
监控/操作面板 monitor/operation panel	彩色触摸屏 colour touch screen 15"
外观尺寸及总重量 outline dimension and total weight	
长度 length	4470mm
宽度 width	2170mm
高度 height	3560mm
总重量 total weight	约13000kg

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