

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、钢线涨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。

Applications and 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 section at one clamping, the optimized equipment for semi-conductor manufacturers.
- features:
 - two wire guide wheel drive, spool & pay-off drive, cable drive, all of these apply servo drive, and must be synchronized.
 - detection control of wire tension also 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

工件 workpiece	
横断面 cross section	≤Φ330mm
长度 length	2×300mm; 1×600mm
厚度 thickness	>0.200mm (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 速率 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 direction of wire	前进或后退切割 forward or backward/double directional cutting
预先张力 pre-tension	最大 50N (端视钢线直径Φ而定) max. 50N (according to diameter of wire)
导轮 guide wheel	
直径 diameter	Φ192mm
长度 length	662mm
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	WSK027S3-21-301
供应商卷绕线盘 winding coil of supplier	TA100
切削液供应 cutting compound supply	
切削液箱最大容量 Max. capacity of cutting tank	300L
切削液温度常数 temperature constant of cutting fluid ±1°C	可选择预设温度 optional preset temperature 20-70°C
泵浦输送率 pumping rate	最大 MAX. 12000kg/h, 可以调整, 使用流量计测并显示 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机 SPS controller S7 series with integrated PC
供货商 supplier	西门子 (Siemens)
监控/操作面板 monitor/operation panel	平板触控屏幕 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