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锭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，同步运行。
- 2、钢线张紧力的检测控制也通过伺服电机加力（恒力）。
- 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，与切片速度匹配。
- 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 sectionΦ 330mm , the minimum thickness of section 0.2mm , adjust processing procedure , it may cut 1300-2300 slices each time at one clamping. the optimized equipment for semi-conductor manufacturers.
- features:
- two wire guide wheel drive, spool (put) off-drive, and the drive of these apply servo drive, and must be synchronized.
- detection control of wire tension of wire be controlled by servo motor by servo meter (constant force).
- 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（速率可设定 rate 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（随钢线直径Φ而定） max. 50N (according to diameter of wire)
导轮guide wheel	
直径diameter	Φ192mm
长度hang	65mm
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)	345mm
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	1335mm
卷绕线盘winding coil	WSK027S3-21-301
卷绕线盘winding coil supplier	JAPAN
切削液供应cutting compound supply	
切削液槽容量 capacity of cutting tank	800L
切削液温度常数temperature constant of cutting fluid	可选择预设温度 optional preset temperature20-70℃
泵速输送pumping rate	最大MAX.12000kg/h 可调整，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 circulating cooling water	15℃±1℃
控制系统 control system	
类型type	SPS控制器 SPS controller S7 series with integrated PROFINET interface
供货商supplier	西门子（Siemens）
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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