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中对半导体晶锭切片加工，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，一次装夹最大可以切片达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，自动调节。
- 2、钢线张紧力的检测控制也通过伺服电机加减速（恒张力）（恒定力）（恒应力）。
- 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，与切片速度相适应。
- 5、本机床为高新技术集中的产品。

Apications ans structuraf features

- the machine is 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 sections at one clamping , the optimized equipment for semi-conductor manufacturers.
- features:
- two wire guide wheel drive, spool (payoff) drive, take-up (payoff) drive, these apply servo,curve and adjust be synchronized.
- detection control of wire tension, wire tension also be control servo motor (constant) (constant).
- 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（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)	320mm
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
卷绕线盘型号winding coil	WSK0355-2,3,5,301
卷绕线盘供应商winding coil supplier	JIAOU
切削液供应cutting compound supply	
切削液箱体容量 capacity of cutting tank	300L
切削液温度常数 temperature constant of cutting fluid/ut 1°C	工作预设温度 optional preset temperature 20-70°C
泵浦输送量pumping rate	最大MAX. 12000L/h可调整，使用流量计测量显示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 control system	
控制器 controller	PLC可编程序控制器 PLC/PSP controller S7 series with integrated PLC
供货商supplier	西门子（Siemens）
监控/操作面板 monitor/ operation panel	彩色触摸屏 touch screen
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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