WSK063

半导体晶圆切片机

WSK063 SiC slicing machine (slurry cutting)

设备特点及结构特点：

- 本机床适用于半导体行业对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。经过横断面最大为Φ330mm，切片厚度最小为0.2mm，必须调整程序，一次装夹最大可切割长X300mm*宽300mm，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以控制。（恒张力）
- 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。

Applications and structural features

- the machine is used for cutting semi-conductor bar, which is main matched equipment for silicon wafer processing in semi-conductor industry. the max dimension of cross section Φ330mm, the minimum thickness of section 0.2mm, adjust processing procedure, it may cut 1300*1300mm 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 (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 the 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	0.20-2.00mm（必须调整程序 must adjust manufacturing process）
切割速率 cutting rate	
线速度 linear velocity	最大 max.30m/s（通过皮带 by belt 调节 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 direction cutting
预先张力 pre-tension	最大50N（按钢线直径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	WSK0755-ZY-301
供收卷线盘 winding coil supplier	TAITEC
切削液供应cutting compound supply	
切削液箱容量 capacity of cutting tank	300L
切削液温度常数 temperature constant of cutting fluid ±1°	可选择预设温度 optional temperature 20℃/30℃
泵浦供液 pumping rate	最大MAX. 12000L/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 cooling water	15℃±1°
控制系统 control system	
类型type	SPS控制器系列 带集成PC的SPS controller S7 series with integrated PC
供货商supplier	西门子（Siemens）
操作面板 monitor/ operation panel	彩色触控屏 color 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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