

# WSK063

## 半导体晶圆切片机

WSK063 SiC slicing machine (slurry cutting)



### 技术规格参数 Specifications and Technical Parameters

<b>工件 workpiece</b>	
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)
<b>切割速率 cutting rate</b>	
线速度 linear velocity	最大 max 20m/s
快速移动 fast move	200mm/min
工作行程 working stroke	最大 MAX 385mm
<b>钢线 wire</b>	
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 (根据线径而定) max 50N (according to diameter of wire)
<b>导轮 guide wheel</b>	
直径 diameter	Φ192mm
长度 length	600mm
个数 number	3
主机功率 main motor power	最大 max 3×30KW
轴距 (左右) wheelbase (left & right)	540mm
轴距 (上下) wheelbase (up & down)	1350mm
<b>钢线偏向滚轮 offset roller</b>	
直径 diameter	160mm
个数 number	2×3个
<b>卷绕线盘 winding coil</b>	
卷绕轴工作高度 working height of winding shaft	1335mm
卷绕线盘 winding coil	WSK027S3-21-301
卷绕线盘在轴上的位置 winding coil on shaft position	... JAU00
<b>切割液供应 cutting compound supply</b>	
切割液槽容量 capacity of cutting tank	300L
切割液温度控制 temperature constant of cutting fluid	±1°C (可选预冷功能 optional preset temperature 20-70°C)
泵速输送率 pump rate	最大 MAX 1200L/h (可以调整, 使用流量计并显示 adjustable measure with flowmeter and display)
冷却水温度 inflow temperature of refreshing water	15°C ±1°C
<b>冷却液控制冷却液系统 cooling system</b>	
安全 type	SP 控制柜 PLC 控制柜 7 系列 PLC 控制柜 CFC Series with integrated safety
供货商 supplier	西门子 (Siemens)
<b>外观尺寸及总重量 outline dimension and total weight</b>	
长度 length	4430mm
宽度 width	2170mm
高度 height	3500mm
总重量 total weight	约 13000kg

### 设备用途和特性

- 本机床适用于半导体行业用于半导体晶圆切割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尺寸(300/230)片，是半导体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，且可拆卸。
  - 2、钢线张力的检测控制也通过伺服电机驱动（恒张力，恒速）。
  - 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，与切片速度相匹配。
  - 5、本机床为高新技术集中的产品。

### Applications and structural features

- the machine is used for cutting semiconductor bar, which is main matched processing equipment. The max dimension of cross section Φ330mm, the minimum thickness of section 0.2mm, adjust processing procedure, it may cut 1300/230mm size bar on one clamping. The optimized equipment for semiconductor manufacturers.
- features:
  - two wire guide wheel drive, spool drive, and wire wheel of these apply servo drive, and also be servomotorized.
  - detection control of wire tension, of wire control by servo motor (constant tension).
  - workpiece feed is controlled by servo motor, the 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.