

MA 1006 Dicing Saw

Used to separate die from the wafer. A specified blade (dependant on substrate type) cuts the scribe lines in the x and y direction.

Blade specifications:

- Grit size of a blade is dependant on material to be cut
- Blade 2.187-8C-46RU-3 is used to cut glass or silicon. The cut width is 230um (9.05mils)
- Blade 42525 is used only to cut silicon. The cut width is 110um (4.33mil)
- {100} wafers, natural cleavage planes exist perpendicular to the surface of the wafer in the directions parallel and perpendicular to the wafer flat
- {111} wafers, a vertical cleavage plane runs parallel to the wafer flat

Tool Specifications:

Parameter	Metric	English
Wafer Size	To 6 inches	To 155mm
Index Stepping Range	.00025" to wafer diameter	6 microns to diameter
Minimum Index Step	.000125 inch	3 microns
Cutting Feed Speed	0.05 to 12 inches/seconds	1.25 to 300 mm/seconds
Return Stroke	to 12 inches/seconds	300 mm/seconds
Spindle Index Repeatability	.00016 inch	4 microns
Chuck Flatness	.0004 inch across six inches	10 microns over 155 mm
Cutting Depth Range	Blade limited	
Cutting Depth Increments	.00025 inch	6 microns
Chuck Height Range	0.50 inch	13 mm
Chuck Rotation	0 to 120 degrees	
Chuck, Fine Adjustment	+,- 3 degrees	
Rotation Resolution	.0025 degrees	
Microscope Magnification	60X Monocular or Split Field TV	
Cutting Wheels Diameter	2 inches to 2.2 inches	50 to 56 mm
Wheel Coolant Consumption	1/2 to 1 gpm	2 to 4 lit/min
Cooling Water Spindle	6 gph	24 lit/hr
Wheel Coolant Pressure	30 psi	2 Kg/cm ²
Vacuum	20 inches Hg min	500 mm Hg
Air	85 psi, 4 CFM	6 Kg/cm ² , 120 lit/min
Base Dimensions	32 inches x 26 inches	81 cm x 65 cm
Height (with TV)	25 inches	73 cm
Weight	220 lbs.	100 Kg
Power	120 VAC 50/60 Hz, 1500 w	
Spindle	Air Bearing 350 w	
Spindle Speed	5,000 to 45,000 rpm	
Spindle Nut Torque	10 In-Lb	