

## Microautomation Saw 1006 Dicing Saw

The Micro Automation, Inc. Model 1006 is precision machines for cutting semiconductor wafers into individual integrated circuits, or dies.

Dicing Saw consists of a spindle assembly, which turns the diamond saw blade. A vacuum chuck acts as a carrier for the material to be sawed. Four motor driven assemblies control the movement between the saw blade and the chuck. These four assemblies are designated "X", "Y", "Z" and  $\theta$ . Wafer sizes up to 6". We have two similar model 1006 dicing saws while only one is in operational use.

The wafer dicing saw can be used to accurately cut devices or structures out of processed silicon, sapphire, and gallium arsenide wafers as well glass substrates and other materials. All material cutting must be approved in advance by the lab manager. Proper diamond cutting blades with the correct curf will be provided to users. Trained users can buy their own blades if avoiding cross-contamination issues is desired.

### System specifications:

- 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 Rotation: 0 to 120 degrees
- Rotation Resolution: .0025 degrees
- Microscope Magnification: 60X Monocular or Split Field TV
- Spindle Speed: 5,000 to 45,000 rpm

