

S300 PCB Depaneling Saw

FKN System
Tools For Electronics Assembly

Cut panels without scoreline and with overhanging components.

Low stress singulation of PCBs with sensitive components.

Singulate panels up to 12" wide.

Microprocessor controlled

STI safety interlock

Long Lasting Diamond Cutting Blade

Built in Dust extraction.

Cut up to 24 lines in one pass.

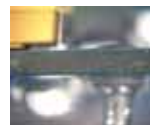
The S300 is a diamond blade depaneling saw for use in singulating assembled PCBs. Up to 24 saw blades can be mounted on a spindle. The blades, motor and carriage are covered by an esd safe lid which prevents operator access to the cutting action while it is taking place.

Saw operation is PLC controlled, and a built in dust extraction system with a dust removal extension provides for clean separation and after process clean up of multiple panels at a time. The STI interlock switch for operator safety shuts the system down when the lid is opened. An LCD panel built into the front indicates operating status of the system and can be used to activate the cutting process or program the vacuum system timeout.

The inside of the cabinet is lined with a sound proof AST-64 fireproof batting which helps keep the operating noise level under 75 DB.



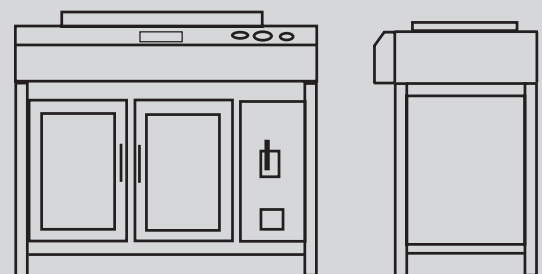
Diamond saw blades .026" thick 2.9" Dia.



Micro view of cut tabs. Accuracy +/- .001

Specifications

Weight : 250 Lbs
Dimensions : 37" wide x 40" high x 29" Deep
Power : 120V AC





PLC controlled operation

The cutting process is controlled by a panasonic PLC with touchscreen output. The operator places the panel into the nested tooling plate, places the cover on top of the panel and closes the safety lid. Pushing the start button activates the cutting process. The saw motor is brought up to speed and then the table with the pcb panel is brought forward over the cutting blades.



Built in dust extraction

The dust extraction vacuum uses a HEPA filter and is channelled to a plenum surrounding the cutting blades. A shunt valve allows the operator to activate the vacuum to the outside vacuum hose for easy board clean up. The vacuum hose handle is metallized and when operators are properly grounded no esd issues will arise. The vacuum system is programmed to start automatically when the first panel is run. Time-out is programmable via the touchscreen input panel.



Nested tooling

PCBs are singulated from the bottom by using a slotted nested tooling plate for accurate alignment. The operator places the panel to be singulated onto the tooling pins when the table is on the left (load) side of the machine. A hold down lid is placed on top and clamped down to keep the panel in position for the cutting operation. Closing the safety cover and pushing a start button activates the cutting process. When the tooling table is in the unload position on the right side of the machine, the operator removes the hold down lid and uses the external clean up vacuum for final board clean up.



Operator safety

For operator safety, the work space cover uses a magnetic STI sensor switch in tandem with the panasonic controller so that the system automatically shuts down the saw motor and the table drive system if the lid is opened. An E Stop built into the front controll panel will effect the same shut down process when it is activated.



Diamond blades

An arbor with diamond blades is used to singulate up to 10 panels in a row. The diamond blades are .027" thick. Cutting accuracy can be within a range of +/- .001" Diamond blades are long lasting and will cut up to 3000 meters of pcb material.