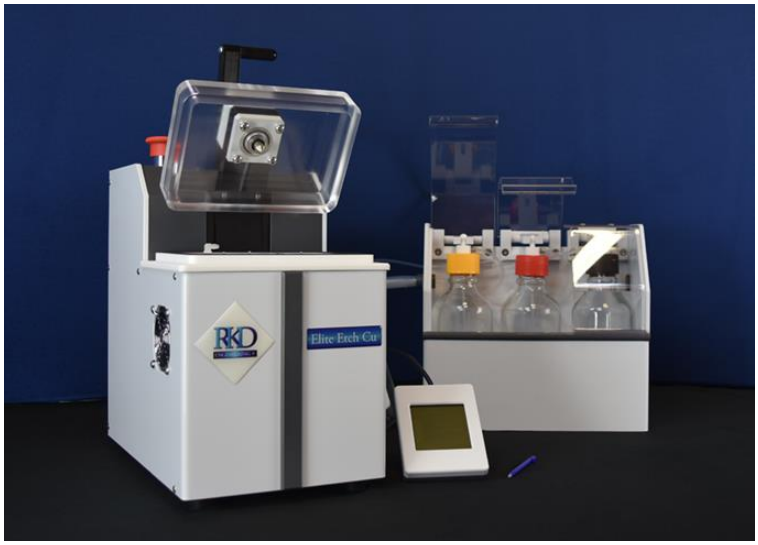
Elite Etch Cu 7100

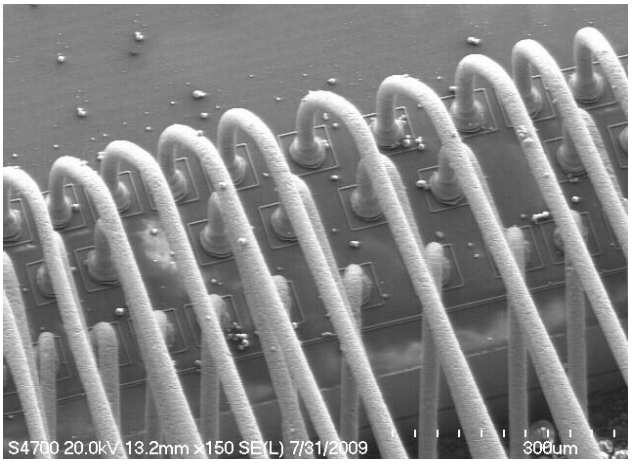
Dual Acid Decapsulation System

The first acid decapsulator made for copper



The **Elite Etch Cu** from RKD Engineering is an automated mixed acid decapsulator which enables high productivity through the integration of advanced features. This decapsulator rapidly opens even the most delicate packages by delivering precise, micro-aliquots of nitric, sulfuric, or mixed acids to the sample package.

The delivery of each micro-aliquot is pumped with enough pressure to create extreme turbulence in the etched cavity, greatly accelerating the rate of encapsulant removal. A precise acid temperature combined with a high delivery rate allows decapsulation of copper wired devices with no wire or metallization damage. The specially designed acid heat exchanger can accurately control the acid temperature between 10° and 250° C with flow rates of up to 8 ml per minute. The high acid pulse rates allow for reasonable etch times even at the lowest temperatures.



The **Elite Etch Cu** features an acid controller etch head which is machined from premium grade silicon carbide for unsurpassed acid resistance. The etch head is designed to reduce the fuming of any residual acids left on the etch head at the end of the process, both for operator safety and convenient acid disposal.

The device hold-down assembly (ram nose) is a pneumatically activated push rod. The ram nose is normally retracted and extends when the safety cover is fully closed. The ram nose secures the

sample package and a definition gasket to the etch head, thus eliminating movement of either the package or its fixturing.

RKD Engineering incorporates double containment for all fluid couplings between the bottle container and the decapsulator. The bottle box assembly and the etcher unit both contain fluid sensors to alert the operator in the event of an acid leak from any of the bottles or internal fittings. The bottle box incorporates a universal pivoting interconnect which allows simple bottle exchange with minimal exposure to residual acid.

Specifications

Etcher Unit	Height: 300 mm (13 in)
	Width: 190 mm (7.5 in)
	Depth: 305 mm (12 in)
Bottle Assembly	Height: 254 mm (10 in)
	Width: 280 mm (11 in)
	Depth: 127 mm (5 in)
Weight	Approx. 16 kg (35 lb)
Power Source	90 to 250 VAC, 50 to 60 Hz (4 amp)
Acid temp. range	10° to 250° C
Acid temp. set point	1° C ± 1% of setting
Etch cavity (up to)	22 mm x 22 mm (30 mm diagonal)
Choice of Acids	fuming nitric acids, mixed fuming nitric and sulfuric acids, or fuming/concentrated sulfuric acid
Acid Mix Ratios	(nitric to sulfuric ratios) 9:1, 6:1, 5:1, 4:1, 7:2, 3:1, 5:2, 2:1, 3:2, 1:1, 1:2, 1:3, 1:4, 1:5
Post Etch Rinse Options	sulfuric acids, fuming nitric acids, mixed acids, or no rinse
Etch Times	1 to 2,400 seconds in 1 second increments (1 seconds to 40 minutes) dynamic (real time) adjustments of etch time
Etchant Volume Selection	1 to 8 ml per minute - for all acids & acid mixes
Etch Delivery Functions	pulsed or Reciprocal Etch Acid Pulse (REAP) for lower acid consumption
Operator Program Storage	100 programs stored to nonvolatile memory
Warranty	most comprehensive and inclusive warranty in industry (ask for full details)