

# Ultrasonic Cutter

## Model 601

The Ultrasonic Cutter quickly cuts simple holes, unique shapes or transmission electron microscope (TEM) discs from hard or brittle materials ranging from <1 – 10 mm in size and from <0.04 – 5 mm in thickness.

### Cutting process

The proven and most effective method employed for rapid cutting of brittle materials is mechanically coupling a piezo crystal to a shaped tubular cutting tool. A variable frequency driver delivers the ultimate in cutting performance regardless of cutting tool size or shape.

The manually tuned frequency driver optimizes cutting speed while minimizing mechanical and thermally induced damage. Tuning offers efficiency, reliability, and flexibility.

A spring-loaded platform applies a constant force to advance the table upward parallel to the cutting tool. The sample table is magnetically held in position preventing lateral movement relative to the cutting tool, reducing-edge chipping and sample damage.

### Monocular microscope

The included microscope and X,Y positioning table enables precise centering of a site-specific area.

### Material and applications

Quickly cut simple holes, unique shapes, or TEM discs from hard, brittle materials such as semiconductors, ceramics, and geological materials. Materials ranging in thickness from less than 0.04 – 5 mm are quickly and easily cut using a piezoelectric crystal driving a tubular cutting tool in a fine grain, boron carbide slurry.

A broad selection of round or rectangular cutting tools is available for standard TEM applications as well as those applications requiring special shapes or forms.

A customer supplied hot plate is recommended as a safe and reliable means of applying the low melting point wax required to securely attach specimen materials being cut.



Round holes  
< 1.0 – 10.0 mm

Discs  
1.0 – 10.0 mm

Square holes  
< 1.0 – 10.0 mm

Rectangles  
1.0 – 10.0 mm

Shapes  
1.0 – 10.0 mm

### Benefits

- **Manually tuned frequency driver to optimize cutting speed:** Minimize mechanical and thermal damage
- **Spring-loaded platform applies constant force couples with a magnetically held table to prevent lateral movement:** Reducing edge chipping and sample damage
- **Integrated stereo microscope and X,Y table:** Enables precise centering of a site-specific area
- **Broad selection of shapes and size cutting tools:** Flexibility

### Applications

- Material science
- Natural resources
- Electronics

## Ultrasonic Cutter, Model 601

### Specifications

Dimensions (H x W x D, mm)	
Tool	390 x 115 x 226
Box	660 x 330 x 305
Clearance, all sides (mm)	~300
Weight (lb)	14
Shipping weight (lb)	30
Power requirements	100 – 240 VAC, 0.8 A
Warranty (years)	1

Specifications are subject to change.

### Ordering

Model	Description
601	Ultrasonic Cutter

### Other products to consider

- PIPS™ II
- PECS™ II
- Solarus® II Plasma Cleaner
- Disc Punch
- Disc Grinder
- Dimple Grinder II

