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SCHOOL OF DESIGN
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Architectural
Conservation
Laboratory

Operating the Isomet 1000 Precision Saw

**For Cross-Section
Microscopy**

1. Install the Blade

- 1.1. Open the Hood.
- 1.2. Lift the Weight Arm until it clicks into locked position.
- 1.3. Load the Inner Flange onto the Arbor Shaft, followed by the Blade.
- 1.4. Slide the Outer Flange, the End Cap Bushing, and the Thumbscrew onto the Arbor Shaft.
- 1.5. Secure the Blade with the End Cap Busing and Screw.

i Diamond blades are fragile and expensive. Please take care to keep them in good working order.

- 1.6. Open the Lubricant Chamber and pour enough Stoddard solvent into the Lubricant Tank so that at least 1/8" of the blade is submerged in the liquid.

2. Load a Sample

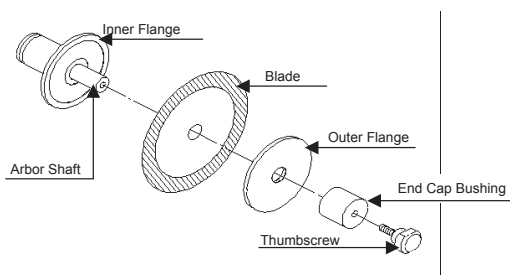
- 2.1. Remove the Chuck from the Sample Arm.
- 2.2. Unscrew the bolts of the Chuck and load a sample onto the Chuck.
- 2.3. Attach the Chuck to the Sample Arm.
- 2.4. Gently tighten the bolts of the Chuck with the Helix Key Wrench to secure the sample.
- 2.5. Rotate the Sample Positioning Knob counter-clockwise to move the Sample Arm to the left.

3. Adjust the Weight Arm

- 3.1. Loosen the thumb screw to move the Load Weight to the zero setting.
- 3.2. Loosen the thumb screw to adjust the Counterbalance Weight on the Weight Arm.
- 3.3. Lay the Weight Arm down so that it is horizontal.
- 3.4. Adjust the position of the Counterbalance Weight to the desired weight and tighten it with the thumb screw.

i Lighter weights are recommended since heavier loads can damage the surface of the sample.

- 3.5. Set the Load Weight to the desired load on the Weight Arm.
- 3.6. Adjust the travel of the Sample Arm using the End of Cut Adjustment Knob. This controls the depth of the cut. Once the arm hits the set depth, the blade will stop.



4. Cut a Sample

- 4.1. Lift the Sample Arm to adjust the position of the sample.
- 4.2. Rotate the Sample Positioning Knob to move the sample towards the Blade.

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You can set the position to zero at any time for measured cuts by pressing the "Zero" button. The Front Control Panel will display the numerical movement of the sample in either millimeters or inches.

- 4.3. Close the Hood.
- 4.4. Press the Blade button to start the rotation of the blade.

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The blade will NOT activate unless the hood is closed. The hood has a safety trigger that will stop the spinning if the hood is accidentally opened.

- 4.5. Adjust the Blade speed using the up and down arrows on the Speed section of the Isomet display. Do not use fast speeds, as these can damage the sample surface.
- 4.6. Dislodge the Sample Arm from the locked position by gently pulling on the Weight Arm.
- 4.7. While still holding the Weight Arm, lower the arm until the sample lightly touches the spinning Blade and only then release the weight of the sample. Once the sample is cut to the desired depth, the Blade will stop.
- 4.8. Open the hood to retrieve the sample.

Clean

- 5.1. Remove the Blade, Flanges, and End Cap Bushing from the Arbor Shaft.
- 5.2. Clean the Blade of any cutting residue and dry completely.
- 5.3. Gently pull the Lubricant Tank to remove it from the machine.
- 5.4. Dispose of the used Stoddard solvent using a small glass funnel to the "Unfiltered Stoddard Solvent" container.
- 5.5. Clean the Isomet and countertop surfaces of any remaining residue or Stoddard solvent.

