

# PetroThin™

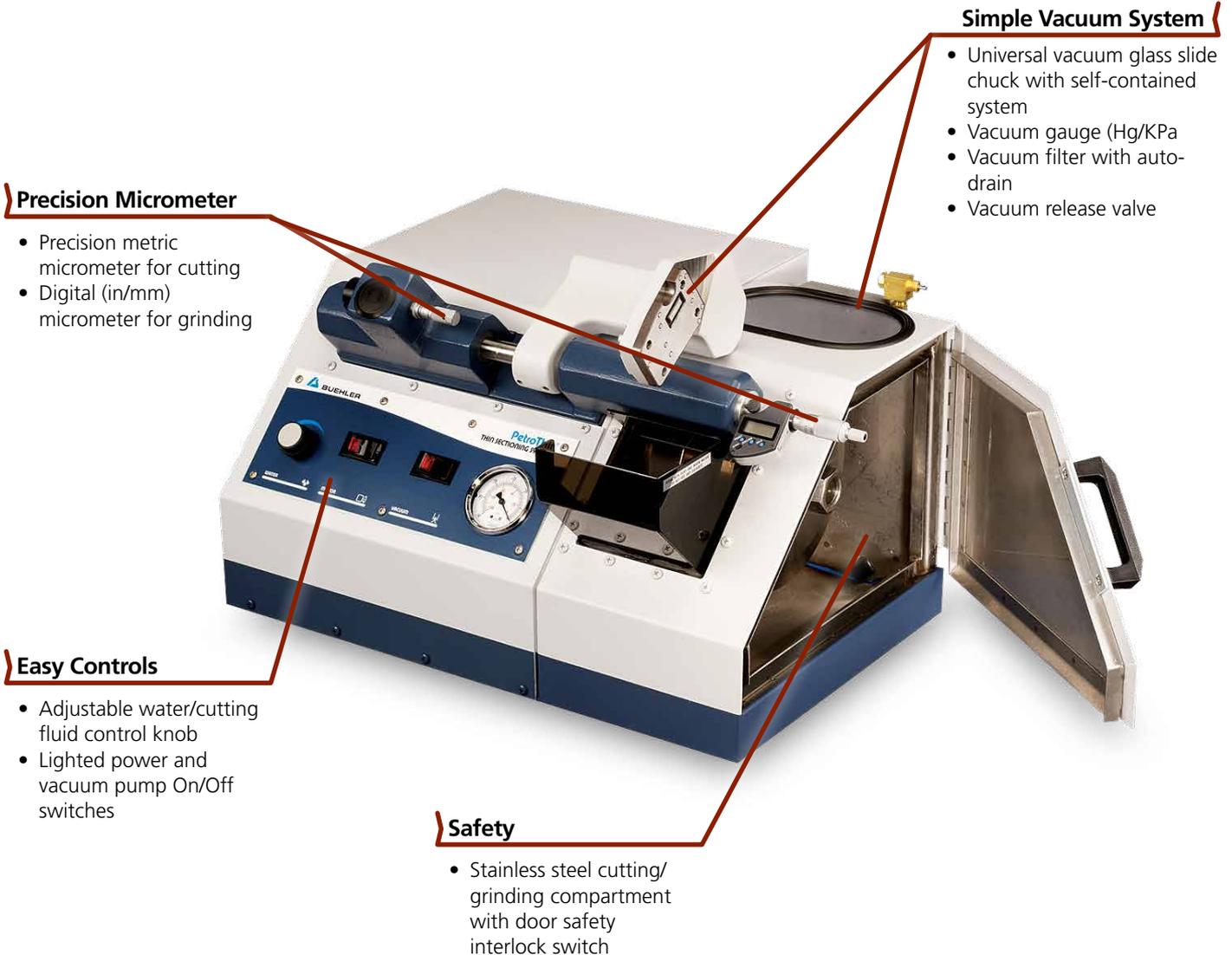
Thin Sectioning System



# PetroThin™ Thin Sectioning System

The PetroThin Thin Sectioning System is a precise, easy-to-use instrument for re-sectioning and thinning a wide variety of samples, such as rocks and minerals, ceramics, concrete, bone, and teeth for performing materials characterization.

Every PetroThin comes with a diamond cutting blade and a diamond grinding cup wheel mounted on one spindle. This eliminates the need to remove the glass slide between steps, increasing accuracy and parallelism. Two precision micrometers are used for controlling re-sectioning and thinning.



## Precision Micrometer

- Precision metric micrometer for cutting
- Digital (in/mm) micrometer for grinding

## Simple Vacuum System

- Universal vacuum glass slide chuck with self-contained system
- Vacuum gauge (Hg/KPa)
- Vacuum filter with auto-drain
- Vacuum release valve

## Easy Controls

- Adjustable water/cutting fluid control knob
- Lighted power and vacuum pump On/Off switches

## Safety

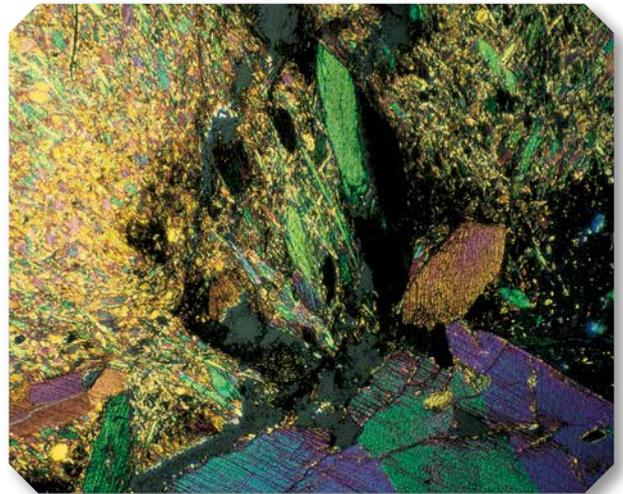
- Stainless steel cutting/grinding compartment with door safety interlock switch

## At a Glance

- Features a universal vacuum glass slide chuck which accepts six different sized slides.
- A built-in pump provides a vacuum to insure the glass slide is held in place during preparation.
- Quick release valve allows an operator to remove a sample any time for microscopic inspection.
- Innovative, in-line filter system removes any moisture from the vacuum line during use. The filter jar is automatically drained each time the vacuum pump is turned off.
- A recirculation system (optional) is available for water sensitive materials that require the use of a light oil or ethylene glycol coolants.



Microstructure from Niah Cave West Mouth, Sarawak, Malaysia which shows fine layers from the prehistoric cemetery sequence. Layers are primarily composed of guano. The slide was made by Julie A. Miller at the Thin Section Facility, Department of Archaeology, University of Cambridge, UK.



Microstructure of mineral acmite ( $\text{NaFe}(\text{SiO}_3)_2$ ) viewed with transmitted polarized light, ~130X.



Glass slide mounted specimen resectioned on the diamond cutting blade. The grinding wheel (right) reduces the specimen thickness without having to remove the specimen after resectioning.



Mineral samples re-sectioned and thinned to 30 $\mu\text{m}$ .

### Specifications

|                    |   |
|--------------------|---|
| Voltage/Frequency  | 115VAC @ 60Hz, 220VAC @ 50Hz, 1 phase     |
| Motor Power        | 1/3 Hp [250W]                             |
| Wheel Diameter     | 8in [203mm]                               |
| Precision Grinding | $\pm 5\mu\text{m}$                        |
| Wheel Speed        | 34-1450-160: 220rpm; 38-1450-250: 2100rpm |
| Compliance         | CE  |

## PetroThin™ Thin Sectioning System

- Resections and grinds material within  $\pm 5\mu\text{m}$
- Single spindle design ensures parallelism of sample edges by eliminating the need to remove glass slide between steps

| Part Number | Voltage/Frequency |
|-------------|-------------------|
| 38-1450-160 | 115VAC, 60Hz      |
| 38-1450-250 | 220VAC, 50Hz      |

### Consumables

| Part Number | Description   |
|-------------|---|
| 11-4278     | Continuous Rim Diamond Blade<br>8 x 0.045 x 1 in [203 x 1 x 25mm]   |
| 11-4280     | Continuous Rim Cubic Boron Nitride Blade<br>8 x 0.055 x 1 in [203 x 1 x 25mm] <i>(recommended for cutting ferrous metals)</i> |
| 40-4508     | Diamond Cup Grinding Wheel<br>8 x 0.25 x 1 in [203 x 6 x 25mm]  |
| 40-4510     | Dressing Stick<br>0.5 x 0.5 x 4 in [13 x 13 x 102mm]  |



Approx. Weight: 94 lbs [43kg]



## PetroBond™ Thin Section Bonding Fixture

- Controls adhesive thickness by evenly distributing adhesive between specimen and glass slide during curing
- Holds up to 12 glass slides

### Part Number

38-1490



## PetroVue™ Thin Section Viewer

- Polarized light allows monitoring of thickness & uniformness of the specimen

| Part Number | Voltage/Frequency |
|-------------|-------------------|
| 30-8050-115 | 115VAC, 60Hz      |
| 30-8050-220 | 220VAC, 50/60Hz   |



Sectioning  
AbrasiMet • AbrasiMatic • IsoMet

Mounting  
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Grinding & Polishing  
EcoMet • AutoMet • MetaServ

Imaging & Analysis  
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Hardness Testing  
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