

BUEHLER® PetroThin® THIN SECTIONING SYSTEM

- A Precision Thin Sectioning Instrument
- Thin Sections Most Non-Metallic Materials
- Two High Precision Micrometers for Cutting and Grinding
- Features Both Cutting and Grinding Capabilities
- Water Cooling
- Universal Vacuum Slide Chuck With In-line Filter
- 8" (20.3cm) Diamond Cutting and Grinding Wheels
- Stainless Steel Sectioning Chamber
- Safety Interlock Cutoff Switch



BUEHLER



PRELIMINARY DRAFT


EMERSON
Industrial Automation

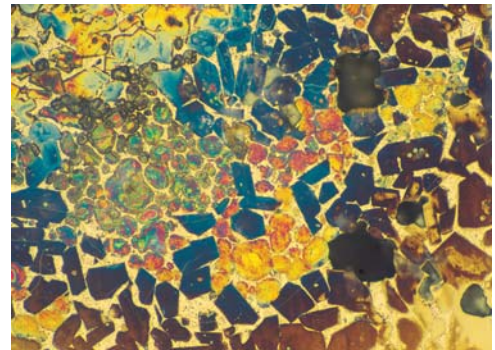
Resectioning & Grinding In A Single System

PetroThin® Thin Sectioning System is a precise, easy-to-use instrument for thin sectioning a wide variety of geological specimens such as rocks and minerals, ceramics, refractories, concrete, etc. down to 35µm. A stainless steel cutting and grinding chamber will not rust and holds an 8" diamond cut-off blade and an 8" diamond grinding wheel. Using a Cubic Boron Nitride (CBN) blade and grinding wheel (available accessories) the PetroThin is ideally suited for biomedical sample preparation.

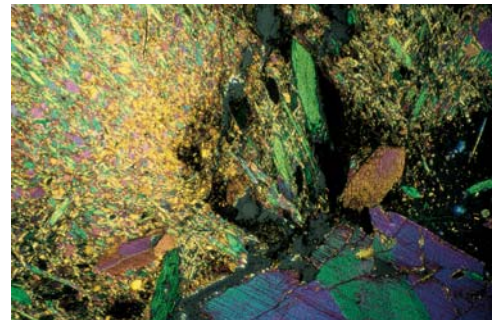
The universal glass slide chuck accepts 5 sizes of slides by simply adjusting the locating pins on the chuck face. A built-in vacuum pump provides a strong positive vacuum to hold the slide in place during resectioning and grinding. A vacuum gauge registers the inches of mercury insuring the proper vacuum is

maintained. An innovative, in-line filter system removes any moisture from the vacuum line during use and automatically drains the filter jar each time the vacuum pump is turned off.

Diamond cutting and grinding blades are mounted on one spindle so the glass slide need not be removed between steps. Both blades are precision aligned at the factory for easy, precision set-up. Two precision micrometers are used for controlling cutting and grinding. The resectioning micrometer is graduated to 0.01mm and can be locked at any desired setting to allow repetitive cutting for a pre-set thickness. The digital micrometer is graduated in microns and has a digital read-out for accurate thin section grinding.



Microstructure of a cement clinker (Portland cement used for construction), showing various phases such as alite and belite. The specimen has been etched with 2% nital.



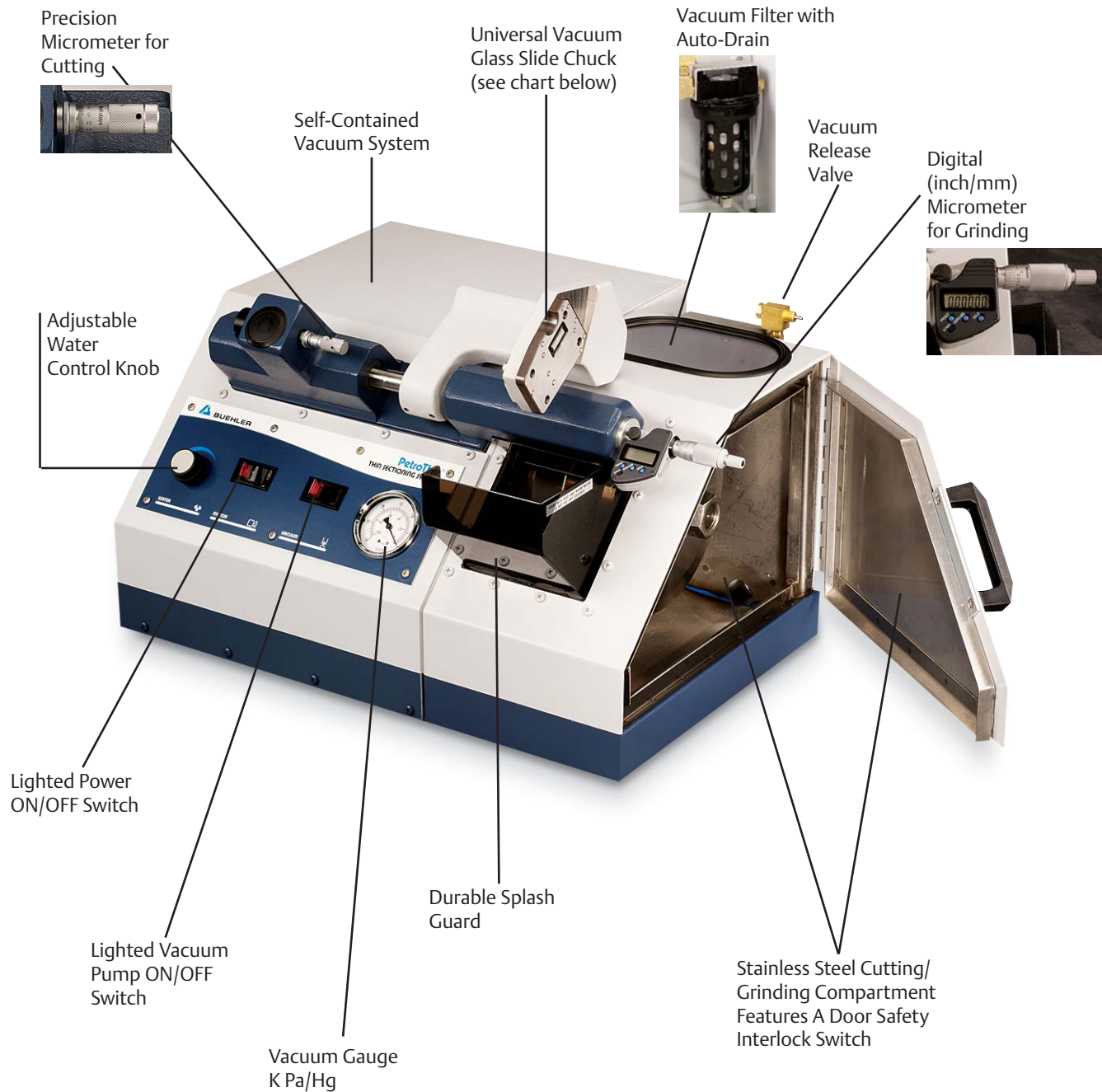
Microstructure of the mineral acmite (NaFe(SiO₃)₂) viewed with transmitted polarized light, ~130x.



The PetroBond® Thin Section Bonding Fixture is designed to accurately control the thickness of the bonding media between the specimens and glass slides.



The PetroVue® Thin Section Viewer is designed for monitoring section thickness and uniformity during the grinding/lapping processes.



Glass slide mounted specimen is resectioned on the diamond cutting blade. The grinding blade (right) reduces the specimen thickness without removing the specimen after resectioning.

The PetroThin® Thin Sectioning System is designed to accept most common petrographic slides:

1.06 x 1.81 inch	27 x 46mm
1 x 3 inch	25.4 x 76.2mm
1½ x 3 inch	38.1 x 76.2mm
2 x 2 inch	50.8 x 50.8mm
2 x 3 inch	50.8 x 76.2mm

Specifications

38-1450-160 PetroThin Thin Sectioning System has a corrosion resistant table top cabinet, stainless steel cutting and grinding compartment, 8" (20.3cm) continuous rim diamond cut-off blade, 8" (20.3cm) diamond cup grinding wheel, micrometer for adjusting the cutting thickness, digital micrometer for adjusting the grinding thickness, integral vacuum pump with gauge and in-line filter, vacuum glass slide chuck, 1/3 HP single speed motor, 115V/60Hz/1 phase with operating instructions. CE marked.

38-1450-220 PetroThin Thin Sectioning System, same as No. 38-1450-160 but with 220V/50Hz/1 phase operation. CE marked.

Accessories

PetroThin® Sectioning Supplies

Description	Size	Catalog Number
Continuous Rim Diamond Blade	8" x 0.055" x 1" (203mm x 1.4mm x 25.4mm)	11-4278
Continuous Rim Cubic Boron Nitride*	8" x 0.055" x 1" (203mm x 1.4mm x 25.4mm)	11-4280
Diamond Cup Grinding Wheel	8" x 1/4" x 1" (203mm x 6.35mm x 25.4mm)	40-4508
Cubic Boron Nitride Cup Grinding Wheel*	8" x 0.055" x 1" (203mm x 1.4mm x 25.4mm)	40-4512
Dressing Stick	1/2" x 1/2" x 4" (12.7mm x 12.7mm x 102mm)	40-4510

* recommended for Fe/Ni based, Co based and Ni based superalloys

Petrographic Slides

Description	Inches	Millimeter	Quantity	Catalog Number
Glass Slides	1.06 x 1.81	27 x 46	1 gross (144)	40-8000-001
Glass Slides	1.06 x 1.81	27 x 46	10 gross (1440)	40-8000-010
Glass Slides, Micro	3 x 1	76.2 x 25.4	10 gross (1440)	40-8002-010

Cover Slides

Description	Inches	Millimeter	Quantity	Catalog Number
Glass Slides, Cover	0.94 x 1.54	24 x 39	10 gross (1440)	40-8008-010
Glass Slides, Cover	0.98 x 1.18	25 x 30	10 x 1000 pcs	40-8007-010

Mounting Cements

Description	Qty/Wt	Catalog Number
Lakeside 70 Cement	12 bars	40-8100
Balsam	4 oz. (113gm)	40-8110-004
Balsam	1 lb. (0.45kg)	40-8110-016
ALCO Wax	0.70 oz. (20gm)	40-8120

Petrographic Accessory Equipment

Description	Catalog Number
PetroVue® Thin Section Viewer	30-8050
PetroBond® Thin Section Bonding Fixture	38-1490
UltraMet® 2005 Sonic Cleaner	75-2005
Cast N' Vac Castable Vacuum System	20-3510

Epoxy

Description	Qty/Wt	Catalog Number
EpoxiCure® Resin	1 qt. (0.95ℓ)	20-8130-032
EpoxiCure® Resin	1 gal. (3.8ℓ)	20-8130-128
EpoxiCure® Hardener	1/2 pt. (0.24ℓ)	20-8132-008
EpoxiCure® Hardener	1 qt. (0.95ℓ)	20-8132-032
EpoHeat® Resin	1 qt. (0.95ℓ)	20-8120-032
EpoHeat® Hardener	1 pt. (0.47ℓ)	20-8120-032
EpoThin® Resin	1 qt. (0.95ℓ)	20-8140-032
EpoThin® Resin	1 gal. (3.8ℓ)	20-8140-128
EpoThin® Hardener	1 pt. (0.47ℓ)	20-8142-016
EpoThin® Hardener	64 oz. (1.9ℓ)	20-8142-064

Buehler continuously makes product improvements; therefore, technical specifications are subject to change without notice.

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*For metallurgical equipment produced by BUEHLER LTD. USA



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