PETROGRAPHY

GEOCUT
GEOFORM

MetLab Corporation

GEOCUT®
GEOFORM

GEO Line of equipment...a complete range of instruments for petrographic sample preparation, starting with a piece of rock and finishing at 20 microns...

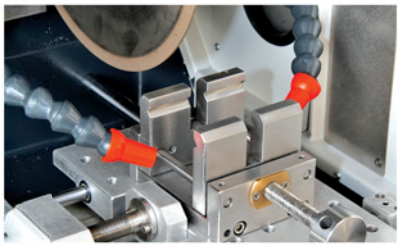
GEOCUT

- Advanced Cutter for Minerals, Rocks and Geological Specimens
- Cutting capacity upto 100 mm in diameter
- Uses diamond blade 250 / 300 mm
- Linear Table Feed Cutting method
- X-Y table bed with cutting cross feed
- Various Clamping systems available

GEOCUT consists of a cast aluminium base on which the motor and the working space are provided in the form of two separate housing. A large window of Lexan and a sealed 12V lamp in the cutting chamber allow precise observation of the cutting process at an optimum degree of safety. A large feed table located in the cutter's generous work area can accommodate a variety of different clamping devices which need to be selected. The feed table provides a long travel depth making the GEOCUT ideal for cutting long or deep samples in a single pass. X-Y Cross table is available as standard for parallel and serial cutting. Cooling water recirculating system is an optional part of GEOCUT. Cooling is effected by two water jets located on both sides of cutt-off wheel.

GEOCUT cutting machines have the highest safety standards. The interlocking safety device does not allow the motor to be started unless the hood is closed. The hood can not be opened before the cutting motor is stopped. The electronic brake system, which is a standard feature, brings the cutter to a quick full stop in seconds after it has been switched off.

Many petrographic cutting applications require the sectioning of a specimen from an irregular shaped sample. The small size or irregular sample shape can create positioning and clamping difficulties for the operator. To overcome these difficulties, GEOCUT offers a number of special clamping devices for use with petrographic cutter.



GEOCUT is a robust manual cutter with X-Y bed designed for cutting minerals, rocks, concrete, glass, ceramics, refeactory and other geological samples

GEOFORM

- Precision thin sectioning instrument for mineralogy.
- Cutting and Grinding processes combined.
- Specimen Holder with Vacuum for standard slides.
- Built in micrometer with digital readout.
- Water cooling

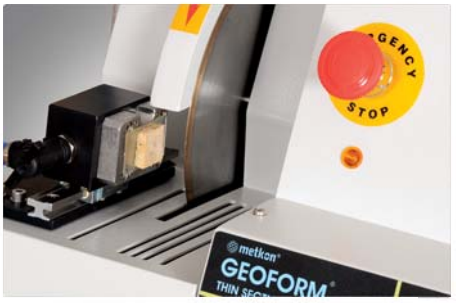
Preparing thin sections requires highly precise instruments and knowhow. GEOFORM is a bench-top instrument that will cut and grind down to 30 microns or less depending on the hardness of the material because mineralogical specimens usually contain hard and soft phases.

GEOFORM has two parts: Cutting and Grinding. On the cutting module, the specimen is fixed on a holder with vacuum and resectioned upto a thickness of approx. 0,5mm. Water cooling during cutting avoids deformation.

GEOFORM can accomodate diamond and CBN cut-off discs upto 200 mm diameter.

Ergonomically designed font panel (above)
GEOFORM designed to accept most common petrography slides (left)

The grinding module is designed for precision grinding. A universal vacuum holder accepts different sizes of glass slides by changing the location pins. A vacuum pump delivered as standard holds the glass slide fixed on the holder during grinding process. A built-in digital micrometer ensures high precision and the specimen is ground with an accuracy of 2 microns. Diamond cutting disc and grinding wheels are both on the same spindle which is precisely alligned for high accuracy. A dual in-line filtering unit removes the moisture from the vacuum line and drains into the cutting chamber when the vacuum pump is turned off.



GEOFORM is a universal product that can be used for precision sectioning, re-sectioning and grinding operations

VACUMET

- Compact and simple
- Built-in vacuum sytem with Gauge
- Efficient impregnation
- Multi-specimen application.

VACUMET is designed for embedding and impregnation of porous materials. It removes the trapped air from the mounting material and eliminates the gaps between the specimen and the resin.

Most mineralogical specimens have porosities, cavities and cracks and ther fore need to be embedged under vacuum. VACUMET fulfills this requir ment easily and efficiently. In addition, VACUMET can also be used for glueing the specimens on the glass slides for further processing in thin section preparation.

FORCIPOL 300-1V with FORCIMAT-TS

- Automatic Operation
- Single force application for petrography
- Special holders for thin section lapping and polishing.

FORCIPOL 300-1V is a strong grinding and polishing instrument with variable speed between 60-600 rpm and for 300 mm diameter wheels. By using appropriate working discs, it can carry the grinding, lapping and polishing processes very smoothly.

FORCIPOL, when coupled with FORCIMAT-TS becomes an automatic thin section preparation system. FORCIMAT-TS is an automatic head with low speed for thin section and petrographic samplepreparation. The force is individually applied and adjustable from the front panel.

Thin section holders LAP-Holder and POL-Holder ensure plane and perfect surfaces. LAP-Holder has Boron Carbide stops for precise lapping whereas POL-Holder is used for polishing process.

GEOFIX

Fixture for mounting specimens to glass slides for thin-sectioning, provides a uniform thickness of bonding material between the specimen and the glass slide, spring activated loading system with capacity upto 8 specimens, easily plcable on hot plate
Order No:45 61

GEO Line for Petrography

GEO Line of equipment...a complete range of instruments for petrographic sample preparation, starting with a piece of rock and finishing at 20 microns...

This exciting product range offers you the latest in technology and functional design to provide high levels of performance in preparation of minerological samples and thin section specimens. For minerological specimens, the surface is prepared for examination with a reflected light microscope and the preparation procedure is basically similar to the preparation of metallographic specimens.

Preparing thin sections, on the other hand, requires highly specialized equipment and skills because the specimen is extremely thin, generally around 20 microns for observations with transmitted light microscope. Below is a short description of a general procedure to prepare thin sections.

THIN SECTION PREPARATION

OPERATION Nr.1

Operation: Sectioning (bulk)
Instrument: GEOCUT

OPERATION Nr.2

Operation: Re-sectioning
Instrument: GEOFORM
Specimen thickness: 8-10 mm

OPERATION Nr.3

Operation: Grinding of glass slide
Instrument: GEOFORM

OPERATION Nr.4

Operation: Fixing the specimen
on the glass-slide
Instrument: GEOFIX

OPERATION Nr.5

Operation: Precision sectioning
Instrument: GEOFORM
Specimen thickness: 0,5 mm

OPERATION Nr.6

Operation: Precision grinding
Instrument: GEOFORM
Specimen thickness: 50 microns

OPERATION Nr.7

Operation: Lapping of specimen
Instrument: FORCIMAT 300 -1V
& FORCIMAT

OPERATION Nr.8

Operation: Polishing
Instrument: FORCIMAT 300 -1V
& FORCIMAT
Specimen thickness: 20 microns

Specifications

GEOCUT

Geological Cutting Machine,
for sectioning of rock, ceramics, minerals, glass, concrete etc., with Z-axis cutting wheel positioning and table-feed cutting system, manual positioning of the specimen X and Y axis, X-Y table bed and cross feed table for cutting of plane parallel sections, mechanical display of cutting thickness, cutting capacity upto 90/100 mm solid stock, for diamond wheels upto 250/300 mm, 6,4 HP compact cutting motor,electronic brake system, interlocking safety switch for hood, bottom part as rugged alloy base casting.
220V, 3 phase, 50/60 Hz.
Without Recirculating System.
Without clamping devices.
Order No: 14 03

GR 13 94 Ricurcilating coolant tank, stainless steel, 40 lt. capacity, with pump, level indicator, hoses etc.

Clamping Devices for GEOCUT
GR 18 11 Quick Clamping Device for round petrographic specimen
GR 18 12 Universal Vise for large specimens,rocks, etc.
15 03 MBU 10 51 Vertical Clampin Device, small.
15 04 MBU Vertical Clamping Device, large.

GEOFORM

Precision Thin Section Cutting and Grinding Machine,
For fast and precise material removal of petrographic thin sections, vacuum chuck to hold a variety of slide dimensions, vacuum pump with gauge and filter, separate cutting and grinding compartments, corrosion free aluminium cast base, digital micrometer for precise grinding of material from the sample on the slide, for diamond cutting wheels upto 200 mm. in dia., complete and ready for operation.
220V, 3 phase, 50/60 Hz.
Without Recirculating System.
Without diamond cutting and grinding wheels.
Order No: 18 01

GR 1383 Recirculating Coolant System,
composed of 40 litres stainless steel cooling tank, double 24V recirculating pump and connection hoses, etc.

VACUMET

Self-contained vacuum impregnation unit,
with built-in pneumatic vacuum system of –0.65 bar, vacuum gage and one set of supplies for casting epoxy resins.
Order No: 25 06

GEOFIX

Fixture for mounting specimens to glass slides for thin-sectioning, provides a uniform thickness of bonding material between the specimen and the glass slide, spring activated loading system with capacity upto 8 specimens, easily placable on hot plate
Order No:45 61

FORCIPOL 300-1V

Lapping and polishing machine,
Single wheel, suitable for 300 mm wheel size, standard interface for FORCIMAT automatic specimen mover, variable speed between 50-600 rpm, with digital display, 1,5 HP motor with overload protection, including water inlet and outlet.
110V, 3 phase, 50/60 Hz.
Order No: 36 06

Accessories for FORCIPOL 300-1V

33 12 Cast iron lapping disc, 300 mm
31 31 PVC wheel, 300 mm
31 73 Splash guard, 300 mm
31 34 Paper ring, 300 mm
31 36 Cover

FORCIMAT TS

Automatic Specimen Mover
For the preparation of mineralogical specimens, Microprocessor controlled, pneumatically adjustable individual force loading system, upto 6 specimens, 90 Watt DC Motor, low rotational speed of 12 rpm, front panel with touch-pad controls, audible warning signal, steel mounting column and with LUBOMAT automatic and exchangable drip lubricator.
Complete and ready for operation.
110V, 3 phase, 50/60 Hz.
Order No: 30 10

Accessories for FORCIMAT - TS

33 07 FORCIMAT specimen mover, 4 x 50 mm
33 01 FORCIMAT specimen mover, 6 x 40 mm
33 02 Set of rings for 30 mm
33 03 Set of rings for 25 mm
33 10 LAP-TS special specimen holder with Boron Carbide stops for lapping of thin sections, 50 mm Dia.
33 11 POL-TS special specimen holder for polishing of thin sections, 50 mm Dia.

*Other voltages and frequencies avaibable upon request.
Please state when ordering.
All specifications are subject to change without notice.