

PRODUCT CATALOG 2018



GEOLOGY



Organic Geochemistry



Thin section

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ROCK EVAL 6 ANALYSER

The Rock Eval 6 analyser is designed to improve Rock-Eval 2 technology and to increase the domain of application of the method, in the field of source rock characterisation (improved kerogen analysis and kinetic parameters) and in reservoir studies (taromat location).

The instrument is a completely automated device consisting of two micro-ovens which can be heated up to 850°C controlled by a thermocouple located in contact with the sample. An FID detector measures the H/C gas released during the pyrolysis while an on-line infrared cell is used to measure the quantity of CO and CO₂ generated during pyrolysis and oxidation of samples. A new integrated software (Rocksix), supervises the analyser and allows an easy interpretation of the data.



FEATURES

Oven temp. range:	100°C to 850°C
Oven temp. rates:	Adjustable from 0.2 up to 50°C/mn, with 0.1 °C step
Oven temp. Program:	Multiple rates program with 5 possible slopes
Material of crucible:	Incolloy
Crucible capacity:	150 mg of sample
Auto sampler capacity:	50 samples capacity, driven by two step motors and a linear actuator
FID detector:	Sensitivity 100 pA to 1 µA
IR Cell sensitivity:	CO: 12 ppm, CO ₂ : 25 ppm
Power supply:	110-220 VAC, 50 or 60 Hz

BENEFITS

- Rock-Eval Analysis up to 850°C
- TOC Analysis up to 100% C
- New Oxygen Index
- Mineral Type and Content
- HT Kinetics



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GEOCHEMICAL CALCULATION SOFTWARE (GEOWORKS)

GEOWORKS is Vinci's latest geochemical analysis software. It incorporates all of the improved functionalities of its predecessor Rockint as well as new modules, e.g. sulfur quantification, kinetics studies, shale gas interpretation, curve shape factor quantification... Similarly to Rockint, the program groups two main processes: Job Management and Study Management. The former's purpose is the raw data acquisition, visualization, and potential correction using the interactive cursor. The study management section encompasses the analysis. Specifically, derived parameters such as Hydrogen and Oxygen indices can be plotted to yield the standard Van Krevelen diagram or other customized graphs. Geochemical logs and reports in SI or Imperial units fall also within the scope of the Study Management section. Six different analysis methods are available to account for sample nature: bulk rock, (pure) kerogen, reservoir, pure oil, coal and gas shale. Optionally, the software can be equipped with a quick-kinetics module. Results from GEOWORKS have immediate relevance in well to well correlation, and data comparison. The most notable differences between GEOWORKS and Rockint are a flexible, user-friendly search engine and file storage process, compatibility with Windows 64 bit operating systems, the visualization of sulfur dioxide parameters (pyrolysis, oxidation, and sulfate), automatic window sizing, and online help with our qualified engineers.



Geoworks® covers the different analysis methods to account for sample nature through calculation software which help in the automated determination of:

- ✓ Type, quality and quantity of kerogen,
- ✓ Light oil, heavy oil and NSO compounds quantities in reservoirs
- ✓ Organic and mineral Sulfur quantification (SO₂ peaks)
- ✓ Shale gas interpretation: total quantities of gas and oil generated (free and adsorbed gas)
- ✓ Kinetics studies (optional)

Geoworks® comprises one core module which improves some functionalities of Rockint software used until now and includes the quick-kinetics module used to optimize S2 peak fit to expand its performance.



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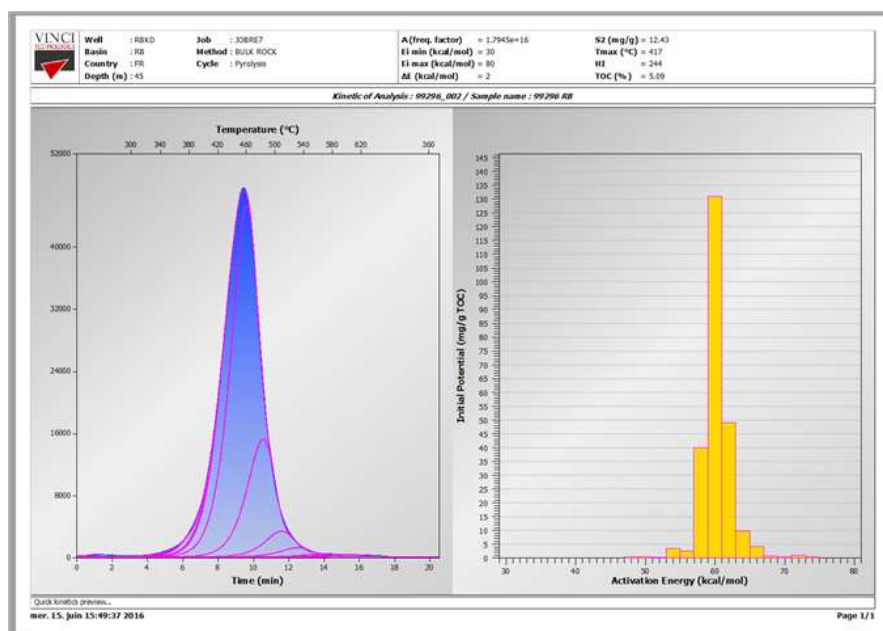
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QUICK KINETICS MODULE

This module allows by virtue of the Tissot-Espitalié model, the rapid determination of activation energy distribution for both S2 and sulfur SO2 peaks obtained with a single pyrolysis heating rate (°C/min).



KEROGENATRON

This instrument is designed for pure kerogen extraction and mineral destruction by acidification. It is a fully assembled, free-standing unit, requiring only one electrical connection, one tap water inlet, and a sewage outlet. The apparatus consists of several reactors, a neutralization tank, water heating and purification system, and a specialized acid vapor extraction fume hood. In order to minimize manual acid handling, a built-in automatic peristaltic pump injects acidic solutions into the reactors.



FEATURES

Temperature:.....60°C
 Acid:.....HCL and HF
 Stirring:.....By Nitrogen bubbling
 Electrical:.....220 VAC , 50hz

Model 1:

Number of reactor chamber:.....8
 Reactor capacity:.....200cc
 Equivalent rock sample weight:.....10g

Model 2:

Number of reactor chamber:.....4
 Reactor capacity:.....1 liter
 Equivalent rock sample weight:.....30 g

BENEFITS

- Extremely pure kerogen
- No loss nor alteration of organic matter
- Rapid and safe with limited acid handling
- Easy, clean and accurate kerogen extraction



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VACUUM OVEN

The portable vacuum oven DR 3003 incorporates all the advantages of the conventional vacuum oven at a small scale. Its small dimensions make it an efficient and convenient laboratory accessory. Furthermore the glass bell provides a total (360°) visibility of the products being dried. The main components of the portable oven are a machined stainless steel heating plate (Option: Heating plate with Teflon coating) and a glass bell, designed to withstand the internal and external pressure difference. The sealing is secured by a Viton O-ring between the heating plate and the bell. The total volume is approximately 5 litres and the maximum usable volume is 0.6 litres. The required temperature is easily adjusted by a digital display electronic regulator. Heat is transferred from the heating plate via conduction. A small volume and compact design guarantee a fast heating process. The portable vacuum oven is safe, user-friendly, and extremely durable.



FEATURES

Vacuum:	10 ⁻³ mm Hg (0.13 Pa)
Temperature:	30°C to 170°C (precision 0.3%)
Material:	stainless steel 316L
Seal:	Viton O-ring
Overall dimensions:	340 x 320 x 270 mm
Weight:	13 kg
Inside diameter of bell:	230 mm
Inside height of bell:	130 mm
Glass bell volume:	5 l
Power supply:	220V / 50Hz or 110 V / 60 Hz

BENEFITS

- User friendly and reliable.
- Light and small
- Accurate temperature control.
- Allow to work under inert atmosphere.
- Visual control during drying operation.



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RADIAL SLABBING SAW (RSS 400)

The RSS 400 is a versatile diamond impregnated radial blade used for sectioning large specimens down to a manageable size. It comes with a worktable, blade guard, motor to power the saw, core clamp assembly for holding core, sample trolley on ball bearing guide, coolant feeding system, coolant recovery pan and diamond impregnated saw blade.



SPECIFICATIONS

Saw blade diameter.....	400 mm (16'')
Maximum cutting depth.....	125 mm (5 inches)
Max core length.....	300 mm,
Compatible coolants.....	water
Power supply.....	220 VAC 1 ph 50/60 Hz
Power.....	4000 watts
Weight.....	100 kg
Volume.....	1500x1100x1700 mm

BENEFITS

- Simple and robust
- Ideal to cut from small to big samples
- Can be used with or without sample holder



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CUTTING SAW (CS 200)

The CS 200 is a bench top diamond cutting saw designed to manually cut with impressive precision, bulky rock to a manageable size. The unit is ideal for both production and research environments in all geology sectors. The device is perfectly suited for versatile rock cutting (hard and soft) and voluminous thin section production. The bulk material is manually fed through the blade while a splash shield and blade coolant deflector contain the coolant specks. All wetted components are composed of high grade stainless steel to eliminate the risk of corrosion wear. A lamp located on top of the assembly provides a clearer resolution of the cutting area.



FEATURES

Saw blade.....	200 mm (8'')
Saw blade thickness.....	2 mm
Lubricants.....	water
Power supply.....	220 VAC, 50/60 Hz
Motor power.....	550 W, 3,000 RPM
Weight.....	70 kg
Dimension.....	765x750x660 mm

BENEFITS

- Compact, simple and robust
- Easy to operate and clean
- Excellent cut quality

VACUUM EMBEDDING UNIT (VEU)

The vacuum embedding unit has been developed for impregnating porous and fragile specimens with an adequate bonding material that fills pores, cracks and prevents fracture. Up to 10 specimens can be processed sequentially without disrupting the vacuum. The former are placed on a rotating plate in individual moulds inside the vacuum chamber. A silent electrical vacuum pump, a pressure gauge and a vacuum regulating valve generate and maintain the vacuum. Once the latter condition established, the moulds are successively brought under the resin's feeding nozzle and filled using a resin dispenser. This component consists of a disposable plastic cup which contains the resin, a disposable plastic tube that channels the resin, a rubber stopper ensuring effective sealing and a ball joint allowing the tube to be manipulated and orientated inside the chamber. A lamp helps to monitor the extraction of bubbles from the resin. The glass chamber prevents strong resin adhesion, therefore facilitating maintenance and cleaning.



SPECIFICATIONS:

Weight	20 kg
Overall dimensions	440x300x450 mm
Chamber dimensions	200 Ø x 150 mm (Height)
Turntable plate diameter	200 mm
Max standard moulds	10
Power supply	220 VAC, 50/60 Hz

BENEFITS:

- ✓ Simple operation and effortless cleaning
- ✓ Ideal for soft, porous and friable specimens
- ✓ Up to 10 specimens can be impregnated together
- ✓ Compact, bench top unit with integral vacuum pump
- ✓ Specimen impregnation is performed isothermally (up to 80°C)



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BONDING JIGS (BJ 12)

The bonding jig is designed to provide a uniform bonding material thickness between specimens and glass slides. Bonding a sample to its glass slide is a crucial step in thin section preparation. Successful grinding, lapping and polishing relies heavily on bonding quality, i.e. minimizing the layer of glue's thickness. First, a thin layer of epoxy resin is applied on both slides and specimen. Each slide is then meticulously adhered to the specimen. To increase bonding efficiency, the assembly is placed on a heated bonding press allowing bondage under pressure and temperature. The specimen is pressed against its glass slide with variable weight while the temperature is set between 20°C to 130°C +/- 2°C to ensure perfect bonding. A maximum of either 12 samples of small dimensions (26x46, 27x47, 28x48, 30x45), 6 large samples (50x75) or a combination of 6 small and 3 large specimens can simultaneously be processed.



SPECIFICATIONS

Temperature.....	20 to 130°C
Weight.....	10 kg
Dimensions.....	217x124x708 mm
Power supply.....	220 VAC, 50/60 Hz

BENEFITS

- Heating system
- No springs
- Individual weight
- Up to 12 samples prepared in a row



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SLICING/GRINDING MACHINE (SG 200)

The SG200 is a semi-automatic device able to concomitantly prepare two thin sections rapidly and with great accuracy. The apparatus consists of a diamond-cutting blade, a diamond-grinding wheel and a versatile vacuum chuck for various slide sizes. The latter grasps the thin section during slicing and grinding operations. The sample is directly transferred from the cutting blade to the grinding wheel, by virtue of a manually rotated wheel, thereby facilitating the procedure and saving time. An adjustable screw controls the slicing thickness while a precision micrometer monitors grinding thickness of thin section.



SPECIFICATIONS:

Specimen size.....	two specimens of 30x45mm or 1"x1.5" one specimen of 60x45 mm or 1"x 3" (other upon request)
Slicing Blade.....	Ø200mm
Grinding wheel.....	Straight cup-wheel, Ø200. Grit 46
lubricants.....	water
Motor speed.....	3,000 rpm
Weight.....	48 kg
Dimensions:.....	640x340x350 mm
Power supply.....	220 VAC, 50/60 Hz

BENEFITS

- Compact, simple and robust
- Fast and very accurate slicing and grinding operations
- Two instruments in one



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SLICING/GRINDING/LAPPING MACHINE (SGL 200)

The multi-purpose SGL200 can slice, grind and lap specimens using only one instrument. A high grade steel lapping disc, diamond-cutting blade, diamond-grinding wheel, and versatile vacuum chuck for various slide sizes are the key components of the machine. The latter grasps the thin section during slicing and grinding operations. The sample is directly transferred from the cutting blade to the grinding wheel, by virtue of a manually rotated wheel, thereby facilitating the procedure and saving time. An adjustable screw controls the slicing thickness while a precision micrometer monitors grinding thickness of thin section. Sample lapping consists of first manually holding the sample in place while a silicon carbide solution is periodically poured over the disc.



SPECIFICATIONS:

Specimen size.....	two specimens of 30x45mm or 1"x1.5" one specimen of 60x45 mm or 1"x 3" (other upon request)
Blade for slicing.....	Ø200mm, for miscellaneous stones
Grinding wheel.....	Straight cup-wheel, Ø200. Grit 46
Lapping disc diameter.....	200 mm
Lapping Plate speed.....	150 rpm
Lubricants.....	water
Motor speed.....	3,000 rpm
Weight.....	50 kg
Dimensions:.....	640x340x350 mm
Power supply.....	220 VAC, 50/60 Hz

BENEFITS

- Three functions in one instrument
- Compact, simple and robust
- Fast and very accurate slicing grinding and lapping operations



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MANUAL LAPPING, GRINDING AND POLISHING MACHINE (LGP 250)

The LGP 250 is a complete apparatus specifically designed for small-scale lapping, grinding and polishing operations. In low production volume applications, the device is an ideal educational tool for practical laboratory modules, where the goal is to familiarize students with the final thin section preparation steps. The robust, simple to use system provides high quality polished finish for a minimum investment. The disc speed can be varied from 10-600 rpm, during manual grinding, lapping and polishing processes and the final oxide suspension polishing. The LGP 250 allows for lapping on cast iron discs with SiC lapping powder, grinding with magnetic diamond grinding disc available in different grades and polishing with polishing cloths or magnetic polishing disc.



SPECIFICATIONS

Variable plate speed.....	10 to 600 rpm
Plate diameter.....	250 mm
Dimensions.....	526 x 589 x 380 mm
Weight.....	50 kg
Power supply.....	220 VAC, 50/60 Hz

BENEFITS

- Vibration-free at low speeds
- Easy accessibility for fast cleaning
- Manual lapping and grinding



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SEMI-AUTOMATED POLISHING MACHINE (LGP 250-P)

The LGP 250-P is a single purpose apparatus specifically designed for small-scale polishing operations. The robust, simple to use system provides high quality polished chips and thin sections with the minimum capital investment. The disc speed can be varied from 10-600 rpm. Polishing is achieved by means of polishing cloths or magnetic polishing discs. A polishing head with four holders for the chip or thin section production is supplied. The former allows efficient, simultaneous polishing of up to 4 samples. Variable up to 200 gram weights apply a force to hold the sample's position on the disc. Two sets of four specimen holders are supplied to suit either 30x45mm or 1 x 1.5 inch samples.



SPECIFICATIONS

Variable plate speed.....	10 to 600 rpm
Plate diameter.....	250 mm
Specimen size.....	30x45mm or 1 x 1.5 inches
Dimensions.....	526 x 589 x 380 mm
Weight.....	50 kg
Power supply.....	220 VAC, 50/60 Hz

BENEFITS

- Vibration-free at low speeds
- Polishes chips and thin sections
- Easy access for rapid and effortless cleaning
- Simultaneous polishing up to four samples



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AUTOMATED POLISHING MACHINE (AP 250)

The AP-250 performs simultaneous flawless polishing of up to 4 thin sections. With the variable speed motor (50-600 rpm), various polishing processes can be carried out, including final polishing with oxide polishing suspensions. The device functions with both polishing cloths and magnetic polishing discs. The robust polishing head is composed of corrosion-proof materials. The former is driven by a powerful, low voltage DC motor that can provide sufficient torque to rotate the fully loaded carousel at speeds of up to 8 rpm, enabling a synchronous specimen rotation. The force is evenly applied to the thin section via individually adjustable (up to 800g) weights. Four sets of four specimen holders are supplied to suit either 30x45mm slides, 1 inch x 1.5 inch slides, 60 x 45mm or 1 inch x 3 inch.



SPECIFICATIONS

Variable plate speed.....	10 to 600 rpm
Plate diameter.....	250 mm
Specimen size.....	30x45mm, 1 inch x 1.5 inch, 60 x 45mm or 1 inch x 3 inches
Dimensions.....	526 x 589 x 380 mm
Weight.....	60 kg
Power supply.....	220 VAC, 50/60 Hz

BENEFITS

- Vibration-free at low speeds
- for rapid and effortless cleaning
- Motorized sample holder arm for 1 to 4 samples with 4 sets of 200g weights each
- 4 standard sample holders adaptable to various specimen geometries.
- Adjustable cycle time and plate speed



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AUTOMATED LAPPING MACHINE (LM 500)

The LM 500 is a bench floor single-plate lapping machine, utilized to flatten the chip face which will be glued to a slide and to perform the final thin section sample thickness reduction. The powerful apparatus can simultaneously process up to 6 chips or 24 thin sections, with an exceptionally high degree of surface finish. By removing subsurface damage caused by sawing and grinding, the desired specimen thickness and evenness are achieved. The device is mainly composed of a rotating grooved cast iron plate, a chip lapping jig, a precision thin section lapping jig, a lapping thickness tuning tool, an unevenness correction rim and an abrasive fluid (e.g. silicon carbide) dispensing and recycling system. Via a control panel, the operator can manually control the apparatus or run it in the automatic mode.



SPECIFICATIONS

Specimen size.....	30x45mm or 1"x1.5" (small size)
	60x45 mm or 1"x 3" (large size)
Jig capacity.....	according to the model
Variable plate speed...	20 to 75 rpm
Plate diameter.....	500 mm
Timer.....	0-10 hours
Dimensions.....	700x 700 x 1,400 mm
Weight.....	250 kg
Power supply.....	220 VAC, 50/60 Hz

BENEFITS

- Vibration-free at low speeds
- Laps chips and thin sections
- Easy access for rapid and effortless cleaning
- High simultaneous sample processing rate
- Automated operation



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HIGH PRECISION SLICING SAW (SS 150)

The SS 150 machine allows to thin slide-mounted rock chips as low as 200- μ m prior to final lapping with an extreme precision. The compact bench-top unit is made of a heavy duty frame that provides stable and vibration free base. The 150-mm-diameter diamond cutting blade, powered by an AC motor, rotates at fixed speed of 4,000 RPM. A sliding weight arm enables the end user to exert constant force on specimen while cutting. The saw blade passes parallel to the slide holder at an adjustable distance, from 0.2 mm to 20 mm. The distance can be accurately set using a digital micrometer that precisely controls specimen thickness with a resolution of 5 μ m. A versatile vacuum chuck allows various slide sizes to be used. A cutting compartment with transparent hood collects the coolant, thus reducing splashing and reducing noise. The device sits on a cabinet that includes a coolant recirculation unit made of a 10-litre capacity coolant tank and induction pump. A single stage rotary vacuum pump provides the specimen holder with vacuum source.



SPECIFICATIONS

Specimen size	30x45mm or 1"x1.5" (small size) 60x45 mm or 1"x 3" (large size)
Minimum specimen thickness	200 μ m
Cutting with resolution	5 μ m
Cutting speed	4,000 RPM
Saw blade	150 mm
Saw blade thickness	1 mm
Lubricants	water
Motor power	550 W, 3,000 RPM
Weight	150 kg
Dimension	700x700x1300 mm
Power supply	220 VAC, 50/60 Hz

BENEFITS

- Vibration-free operations
- Excellent cut quality and uniformity
- Produces ultra-thin specimen reducing subsequent lapping time
- Easy access for rapid and effortless cleaning
- Multiple slides of varying sizes



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