

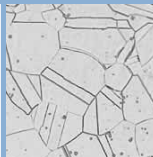
SOLIDOGRAPHY

Remet

PETROGRAPHY



METALLOGRAPHY



COMPOSITES



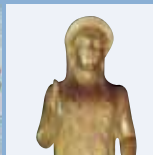
HISTOLOGY



CERAMIC



PLASTIC



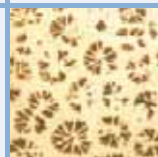
ARCHIMETRY



SUPERFICIAL COATINGS



RESTORATION



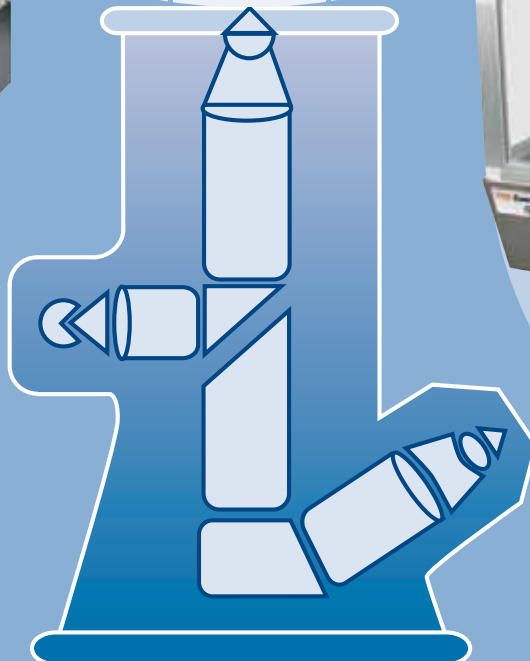
ELECTRONIC



GLASS



BIOLOGY



Remet

CUT OFF MACHINES

Micromet



Available versions are:
AUTOMATIC - SEMIAUTOMATIC - MANUAL
These machines, made of stainless steel, are the ideal tools for precision cuts of delicate samples in all the research fields and for metrological inspection. Main characteristics are: variable blade speed, variable working load, accurate micrometric positioning of the sample holder arm. Transparent cutting hood made of shock resistant plexiglas.



Sample holders



- A** For irregular shaped samples
- B** Vacuum type
- C** Flat for samples to be glued
- D** Mechanical type for glass slides
- E** With "V" groove for bars and tubes
- F** For cylindrical samples (d. max 30 mm)
- G** For thin samples
- I** Micro vice
- L** Goniometric holder, rotation 360°

Technical Specifications	MICROMET Automatic	MICROMET Semiautomatic	MICROMET Manual
Max cut-off wheel diameter (mm)	150	200	200
Max cup wheel diameter (mm)	150		
Max cutting diameter (mm)	45	60	60
Motor power (kW)	0,2		
Cutting wheel speed (rpm)	0÷3000		
Pump capacity (litre/min)	8		
Tray capacity (litres)	5,5	4	4
Max working load (kg)	3,5	1	Manual
Cross arm travel (mm)	25		
Power supply	220V / 1-phase		
Weight (kg)	40	38	36
Dimensions (mm):			
W	500	500	500
D	600	460	460
H	420	380	380

Micromet EVOLUTION

Manual and semiautomatic micro cut-off machine.
It is compact and inexpensive, made of stainless steel.
Ideal for precision cuts of delicate work pieces.



Technical Specifications	
Max cut-off wheel diameter (mm)	150
Max cutting diameter (mm)	45
Motor power (W)	95
Cut-off wheel speed (rpm)	0÷2.100
Pump output (litre/min)	8
Tank capacity (litres)	2,6
Semiautomatic working load (kg)	0,5
Cross arm travel (mm)	25
Weight (kg)	15
Power supply	220 V / 1-phase
Dimensions (mm):	
(WxDxH)	310x300x300

SECOTRON 200

3-axes cut-off machine for high precision cuts, due to the longitudinal work table with cutting force control and automatic table feed rate control with programmable PLC.
Stainless steel frame and plexiglas hood. Height adjustment of the cutting wheel and cross-feed work table for precise positioning of the samples. Especially suitable for applications in the electronic field and in research.



Technical Specifications	
Max cut-off wheel diameter (mm)	200
Motor power (W)	800
Cut-off wheel speed (rpm)	0 ÷ 3.000
Pump output (litre/min)	11
Tank capacity (litres)	10
Table longitudinal travel (mm)	250
Table speed (mm/sec)	0,1 ÷ 1
Table cross-feed travel (mm)	50
Cut-off wheel vertical travel (mm)	50
Weight (kg)	75
Power supply	220 V / 1-phase
Dimensions (mm):	
(WxDxH)	620x600x450

EVOLUTION Cut-off Machines

Compact and inexpensive bench top cut-off machines with stainless steel frame, plexiglas hood with tubular aluminium frame, stainless steel components and electroless nickel plated cast iron parts. Cutting wheel directly assembled on the spindle of the cast iron motor. Ergonomic controls located on the handle. Side port on the wheel side allows sectioning long workpieces. Great stability thanks of the cut-off machine weight and the coolant contained inside its body.

Technical Specifications	TR 80 E	TR 100 E
Max cutting diameter (mm)	80	100
Cutting wheel diameter (mm)	250	300
Distance cut-off wheel spindle/work table (mm)	230	240
Motor power (kW)	1,3	2,2
Coolant tank capacity (litres)	18	20
Power supply	380 V / 3-phase (others on request)	
Weight (kg)	80	100
Dimensions (mm):		
W	625	625
D	730	730
H	550	570



Metallographic cut-off machines



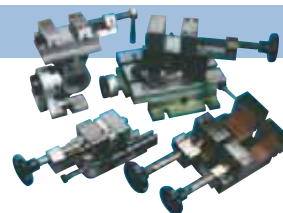
Bench top and floor models having great power, large work area and access ports on both sides.

Stainless steel body, plexiglas hood, stainless steel and electroless nickel plated cast iron parts, cast iron wheel motor and Poly-V belt driven spindle.

The cooling liquid is contained inside the body of the bench top models, while the floor models are supplied with a metal cabinet containing a stainless steel wheeled tank.



Cross feed table



Clamping systems

Technical Specifications	TR 60	TR 70	TR 80 bench top	TR 80 floor	TR 100 bench top	TR 100 floor
Max cutting diameter (mm)	60	70	80	80	100/120	100/120
Cut-off wheel diameter (mm)	200	230	250	250	300/350	300/350
Distance cut-off wheel spindle/work table (mm)	220	230	280	280	300	300
Power (kW)	1,1	1,3	2,2	2,2	3/3,7	3/3,7
Tank capacity (litres)	20	20	25	40	25	40
Power supply	380 V / 3-phase					
Weight (kg)	100	105	130	160	145	175
Dimensions (mm):						
W	800	800	850	850	900	900
D	910	910	1030	1030	1030	1030
H	590	590	640	1490	680	1530

TR100 S and TR100 L cut-off machines



3-axis floor model cut-off machines.

TR 100 S has a vertical development and TR 100 L an horizontal development. Both the machines can cut long pieces, thanks to the longitudinal-feed table.

Stainless steel body, plexiglas hood, stainless steel and electroless nickel plated cast iron parts, cast iron wheel motor and Poly-V belt driven spindle.

The cooling liquid is contained in a wheeled tank placed inside the metal cabinet.

Technical Specifications	TR 100 S floor model	TR 100 S longitudinal work table	TR 100 L floor model
Max cutting section (mm)	100/120	100 x 400	120 x 550
Cut-off wheel diameter (mm)	300/350	300/350	350
Distance cut-off wheel spindle/work table (mm)	420	300	320
Power (kW)	3/3,7	3/3,7	3,7
Tank capacity (litres)	50	50	100
Power supply	380 V 3-phase (others on request)		
Weight (kg)	210	240	280
Dimensions (mm):			
W	800	800	900
D	840	1150	1370
H	1800	1800	1465

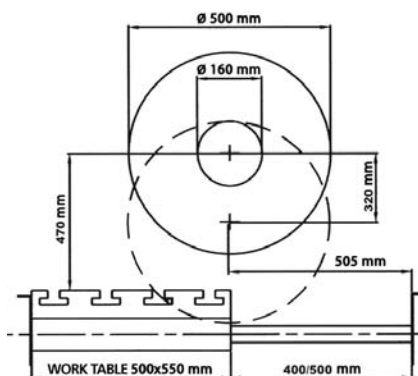


SECOMET 400 - SECOMET 500

Large and powerful cut-off machines for cutting very large and irregular shaped workpieces. 3-axis X-Y-Z movement: downward movement of the cut-off wheel with an hydraulic cylinder, longitudinal and cross-feed movement of the work table. All the movements can be automated.

Sturdy structure with stainless steel inside, plexiglas hood with anodised aluminium frame and electroless nickel plated worktable.

Cooling liquid contained in a stainless steel wheeled tank with separate container for collecting the cutting swarf.



Technical Specifications	SECOMET 400	SECOMET 500
Max cutting capacity (mm)	170 x 400	170 x 500
Cut-off wheel diameter (mm)	500	500
Distance cut-off wheel spindle/work table (mm)	470	470
Power (kW)	11	11
Coolant tank capacity (litres)	250	250
Power supply	380V / 3-phase	
Weight (kg)	1200	1400
Dimensions (mm):		
W	1100	1100
D	1900	2000
H	1700	1700



ROBOMET

COMPUTERIZED AUTOMATIC POLISHER WITH 6 WORKING STATIONS

**THE IDEAL MACHINE FOR PREPARING
MANY SAMPLES, WHEN
HIGH REPRODUCIBILITY IS ESSENTIAL.**



Technical Specifications

Power supply: 380 V / 3-phase
Dimensions (mm): W=1270 D=1100 H=1500 mm
Weight (kg): 500
PLC programming system with LCD display.
Manufactured with corrosion resistant, shock resistant and scratch resistant materials (stainless steel, oven painted steel, electroless nickel-plated steel).

ROBOMET is a computerized grinding-polishing machine designed for the preparation of metallographic samples according to completely automatic cycles.

The polisher is composed by the sample holder head surrounded by 5 working stations and one cleaning/drying station. The samples are clamped in a specimen holder, which is inserted, thanks to a rapid coupling system, in the automatic head.

The head moves the specimen holder from station to station, performing the preparation cycle following the selected programme. The nozzles for dosing the abrasive suspension are placed in the head and the tank of the grinding stone recirculation cooling unit is inside the machine.

The operator is protected from the work area by a plexiglas hood equipped with a safety micro-switch.

ROBOMET carries out the metallographic sample preparation according to the selected method. Every preparation program can be composed by a maximum number of 100 steps, divided into groups of 4 steps at a time. For every step it is possible to set up every parameter of the preparation process.

The machine can store up to 60 different preparation methods in the CPU and furthermore it is possible to record other 60 cycles on a removable smart card.

The preparation methods are protected by a password.

ROBOMET allows to set up the following parameters in every station:

- Grinding stone station: start up/stop of the grinding stone, sharpening with diamond tool, start up/stop of the cooling liquid.
- Cleaning/drying station: washing with water or alcohol and drying the specimens with compressed air.
- Grinding/Polishing station: start up/stop of the plate, adjustment of the rotation speed from 0 to 300 rpm.
- Work pressure from 0 to 6 bar.
- Bi-directional rotation of the sample holder.
- Work time of every step from 0 to 3200 sec.
- Control of 7 fluids: water, lapping oil and 5 diamond suspensions.

Display of the following parameters on the LCD screen:

- Actual preparation method
- Step of the running method
- Total number of steps
- Residual time to finish the step
- Speed of the work plate
- Work pressure
- Sample holder rotation direction
- Used suspension or fluid and dosing cycle

The running cycle can be interrupted and restarted at any time, by pushing a stand-by key. The working methods can be programmed both while the machine is running or not. The machine is equipped with a main switch, with an emergency stop push button and it complies with the CE norms.

Consumables



REMET offers a large range of standard or special consumables:

- Cut-off abrasive wheels and diamond wheels
- Abrasive paper with or without self adhesive backing
- Polishing cloths
- Diamond paste, diamond spray, diamond suspensions
- Diamond discs for grinding and polishing
- Alumina and OPS for lapping
- Cold and hot mounting resins
- Etchants
- Collections of metallographic samples, atlases and specialistic books.

The range of consumables is increased by a new family of innovatory products, that drastically shortens the metallographic preparation time by reducing the number of steps and the changing time, thanks to the great operating life and the possibility of magnetic backing products.

- Diamond disks for fast grinding
- Pre-polishing discs to be used with diamond sprays



Remet

POLISHERS

Manual polishers

Very sturdy polishing machines due to the chemical resistant oven painted steel body, the stainless steel drainer and the great powerful and noiseless special gear reducer.

The manual polishers are available with wheel diameter of 200, 250, 300 or 400 mm, with fixed or variable speed and with single or double wheel.

Technical Specifications	LS1	LS2	DOUBLE WHEEL LS1/LS2	LS2A	LS3	LS3V	DOUBLE WHEEL LS3V/LS3V	LS3VA	LS250	LS250 TWIN	LS 400
Wheel diameter (mm)	200	200	200	200	300	300	300	300	250	250	400
Speed (RPM)	300	0÷300	300 0÷300	0÷300	150/ 300	0÷300	0÷300 0÷300	0÷300	0÷300	0÷300	0÷300
Power (W)	180	250	180/ 250	250/ 90	300/ 450	380	380/380	380/ 90	250	250/ 250	380
Power supply	220 V / 1-phase			380V 3-phase	220 V / 1-phase						
Weight (kg)	31	32	62		50	42	44	83	70	38	75
Dimensions (mm):	W	370	370	730	370	460	460	900	460	370	730
	D	500	500	500	500	630	630	630	630	500	500
	H	300	300	300	650	380	380	380	820	300	300



Automatic polisher



The pneumatic automatic system LSA can be installed in every polisher. It is the ideal tool to dramatically reduce the production costs of metallographic samples, with a perfect repeatability of the final result and less work for the operator. The automatic system is available in two versions:

CENTRAL FORCE:

The force is applied to the sample holder.

SINGLE AND CENTRAL FORCE:

The force can be applied on each individual sample or to the sample holder.



Campione singolo

COMPUMET

microprocessor controlled machine with preparation procedures data storage for completely repeatable processes.



Sample holders

A wide range of standard sample holders is available. It is also possible to manufacture special holders for specific needs.



Mechanical Automatic Systems

These simple automatic systems can be mounted on any polisher and allows the economic preparation of several metallographic specimens at the same time.

Available in two versions:

- **FORCE SUPPLIED BY WEIGHTS:** the force on each individual sample can be adjusted adding or taking away weights.
- **FORCE SUPPLIED BY A PRELOADED SPRING:** the force is supplied by an adjustable spring acting on the sample holder.

These automatic systems can be used for preparing specimens of any material and shape.



Automatic Dispenser

Designed for dosing abrasive suspensions and lubricants and used with automatic polishers, allows automatic, unattended specimen preparation. It is an automatic unit with a programmable timer for presetting the total working time and the spray/pause time. It can control up to 3 dispensers which can be individually selected.

The abrasive suspension is sprayed by means of the depression caused by a jet of compressed air inside the nozzle.



Belt grinders

Ideal machines for rapid manual removal of metallic burrs and to generate initial flat surfaces even with large, rough specimens.

Available in dry or wet models.

The wet version has a built-in belt coolant flushing system with faucet and drainage into the standard sewer laboratory system.

The great power, the belt size (100 x 1000 mm), the work table for the operator and the vertical arrangement of the machine, makes it extremely safe and easy to use.



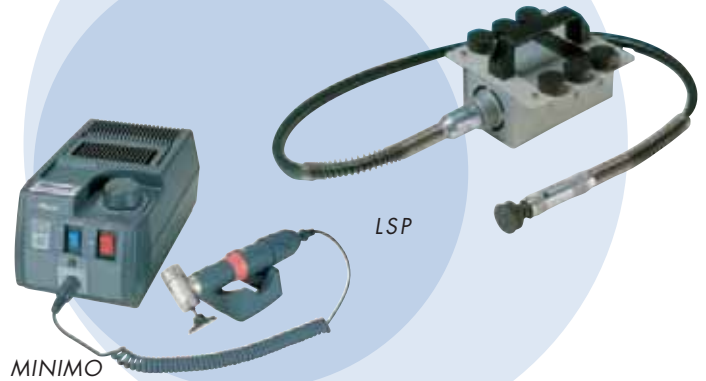
SM 1000

Technical Specifications	SM 1000	SM 1000 WET
Belt size (mm)	100 x 1000	100 x 1000
Speed of the belt motor (rpm)	2800	2800
Power (W)	450	450
Weight (kg)	30	31
Power supply	220 V / 1-phase	
Cooling	NO	Disposable water
Dimensions (mm):		
W		420
D		320
H		580

Portable polishers

Portable grinding and polishing machines for on-site non-destructive metallographic preparation.

Technical Specifications	LSP	MINIMO
Disc diameter (mm)	32	32
Power supply	220 V / 1-phase	
Handle	Straight	90°
Handle power supply	Flexible cable	Low voltage
Handle speed (RPM)	300÷3000	1400÷14200



COMPUPLAN

Powerful and fast plane grinding machine for pre-grinding of metallographic and spectrographic samples. Using this machine sample preparation time and cost can be remarkably decreased, as it drastically reduces the subsequent grinding and polishing time and allows to save consumables.



Technical Specifications	
Grinding stone dimensions (mm)	d. 365 x 45
Abrasive belt (mm)	115
Power of grinding stone motor (kW)	3
Grinding stone speed (RPM)	1500
Grinding stone stop	Magnetic brake
Max. diameter sample holder (mm)	200
Sample holder speed (RPM)	150
Sample holder rotation	Bi-directional
Power sample holder motor (kW)	0,25
Max. working pressure (bar)	6
Working force (N)	200 ÷ 700
Cooling system	Recirculation system
Power pump motor (kW)	0,12
Weight (kg)	250
Dimensions (mm):	
W	600
D	775
H	1440

PULITROL

The electrolytic polisher makes easy the polishing and the etching of specimens that are difficult to be prepared with the traditional methods.

Pulitrol is available in a tabletop version and in a portable version. This machine consists of a power supply and programming unit that controls the polishing and etching unit. The control unit incorporates the programming and monitoring functions for polishing and etching: voltage, current, time and electrolyte flow. The machine is supplied with a set of fundamental electrolytes.



Thin sections



This system allows the preparation of thin sections to the desired thickness.

It consists of:

- Variable speed polisher LS2 or LS3V (0-150 rpm)
- Precision thinning device with micrometric thickness control and vacuum holder for specimens or glass slides.

- Vacuum impregnation apparatus (necessary for brittle and porous materials)
- Vacuum pump
- Black granite surface plate with dial gauge

This system, having the micrometric thinning adjustment, it is useful for preparing flat plane-parallel specimens with a few micron tolerance and for thinning samples to the desired thickness for stratigraphic analyses.

Automatic, Semiautomatic and interchangeable mold assembly mounting presses

These mounting presses quickly produce perfect embedding of metallographic specimens using every kind of thermoplastic and thermosetting resins.

The mounting cycle is totally controlled by a microprocessor with user-friendly touch panel controls. The full range of available presses can satisfy any requirement of a metallurgic laboratory.

AUTOMATIC PRESSES

Compressed air operated machines. The operator only tasks are positioning the specimens and pouring the resin.

SEMI-AUTOMATIC PRESSES

Equipped with a hand operated hydraulic cylinder, they automatically restore the operating pressure to compensate the pressure decrease due to the melting of the resin during mounting process.

PRESSES WITH INTERCHANGEABLE MOLDING UNIT

Both automatic and semiautomatic. A full range of mounts with different diameter can be produced simply by changing the molding unit with a very fast system.

Technical Specifications	IPA 30	IPA 40	IPA TI	IPA SA 30	IPA SA 40	IPA SA TI
Mounting diameter (mm)	30	40	20÷65	30	40	20÷65
Max. heating temperature (°C)	200					
Max. mounting time (min)	99					
Power (kW)	0,6	0,65	0,6÷0,7	0,6	0,65	0,6÷0,7
Power supply	220 V Monofase					
Weight (kg)	42	43	45	35	36	38
Dimensions (mm):	W	400	400	400	225	225
	D	400	400	480	480	480
	H	510	510	680	680	680



Hydraulic mounting press

Fully automatic hydraulic operated press.

The mounting cycle is totally controlled by a microprocessor with user-friendly touch panel controls.

This machine is recommended when high molding pressures are needed.

This press is extremely noiseless, because the electronic pressure control stops the hydraulic system when the programmed working load has been reached.

A full range of mounts with different diameter can be produced simply by changing the mold assembly with a very fast system.

Technical Specifications	IPA
Mounting diameter (mm)	25÷50
Max. heating temperature (°C)	200
Max. mounting time (min)	99
Power (kW)	0,7
Power supply	220 V / 1-phase
Weight (kg)	42
Dimensions (mm):	W
	D
	H



EVOLUTION Automatic mounting presses

A new range of compressed air operated machines with the mounting cycle totally controlled by a microprocessor with user-friendly touch panel controls.

Main features of these new machines are the low price and the compact footprint configuration. It is available with single diameter mold assembly and with interchangeable mold assemblies to produce mounts with different diameter simply by changing the mold assembly with a very fast system.

Technical Specifications	IPA 30-E	IPA 40-E	IPA E-TI
Mounting diameter (mm)	30	40	25÷40
Max. heating temperature (°C)	200		
Max. mounting time (min)	99		
Power (kW)	0,6	0,65	0,6÷0,7
Power supply	220 V / 1-phase		
Weight (kg)	25		
Dimensions (mm):	W	225	225
	D	480	480
	H	680	680



Technical Furniture

Modular technical furnishing system to create working benches of any dimensions.

Modular components are available with internal shelves, drawers, sinks, angular cabinets, and with different heights to be used as working benches or desks.

This furniture is manufactured with sturdy fireproof and waterproof panels and scratch resistant plastic laminate or tiled worktops.



POKER, THE MULTIFUNCTIONAL CABINET

Used as metallographic samples storage cabinet with plastic containers for Ø 30 or Ø 50 mm samples. Without the plastic containers it could be a good document storage cabinet.



Instruments and Accessories for Metallurgical Laboratory



MICROHARDNESS TESTERS

Available versions:

- Automatic with motorized turret - mod. HX 1000 TM
- Computerized with 3-axes motorized stage - mod. HX 1000 COMP



PROXIMO

Analysing and archiving software. It allows measurements, multilevel analyses and video conferences.



EQUIPMENT FOR THE JOMINY HARDENABILITY TEST

It allows a quick and effective Jominy test, complying to the existing norms. The Jominy test fixture can be mounted on every hardness tester and allows an easy hardness measurement to create the Jominy profile.



MONOCHROMATIC LIGHT UNIT

For use with optical flats or optical parallels to measure by interferometry both the flatness and parallelism of the measuring faces of lapped parts and for the calibration of instruments (gauge blocks, anvils of micrometers).



BAR CUTTERS

Manual and automatic machines for cold cut with high accuracy and flatness in the production department (high-frequency hardened bars, etc.).



QUANTOPLAN

Quick grinding and milling machine for spectrographic sample preparation:

- With grinding stone for steel and cast iron.
- With milling tool for aluminium alloys, copper alloys and non ferrous alloys.

AUTOVICKERS

Ideal software for a quick and automatic measurement of the Vickers microhardness. It can be used with every microhardness tester.



PORTABLE MICRO HOOD

Ventilated hood with active charcoal filter. It is recommended for the elimination of gas and vapour produced during the polymerization of cold mounting resins or during etching of metallographic samples.



"JOLLY" PORTABLE MICROSCOPE

It allows on-site metallographic analyses, after a local metallographic preparation. It can be connected to a computer using a CCD camera and an optional mechanical TV port. It is supplied in a handy suitcase, together with a battery and a recharging unit.



"ISOLA" METALLOGRAPHIC WORKTABLE

Worktable with painted steel mainframe, stainless steel top, electric board, sink and draining and sedimentation tank.



ULTRASONIC CLEANERS

Available in different sizes and equipments. They can be used with water or special cleaning solutions.



MICRO-FURNACE MAC-QUAID

Fixed or revolving micro-furnaces that quickly and precisely perform thermal cycles on metallographic specimens with very limited energy consumption.



ANALYSIS LABORATORY



REMET has been offering, for the last 35 years, a complete analytical and consulting service in his very well equipped technological laboratory:

- Mechanical and technological tests
- Chemical and metallographic analyses
- Dimensional control service
- Non destructive testing (X-rays, ultrasonic flaw detection, penetrating liquids, magnetic particle inspection)
- Training courses
- Technical assistance

Authorized dealer:

Remet

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