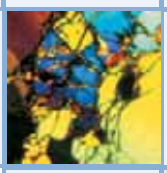
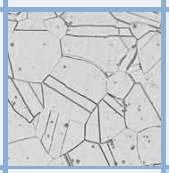
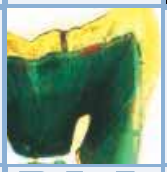
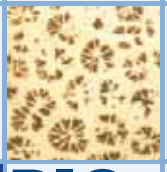
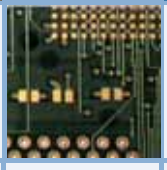
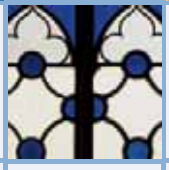
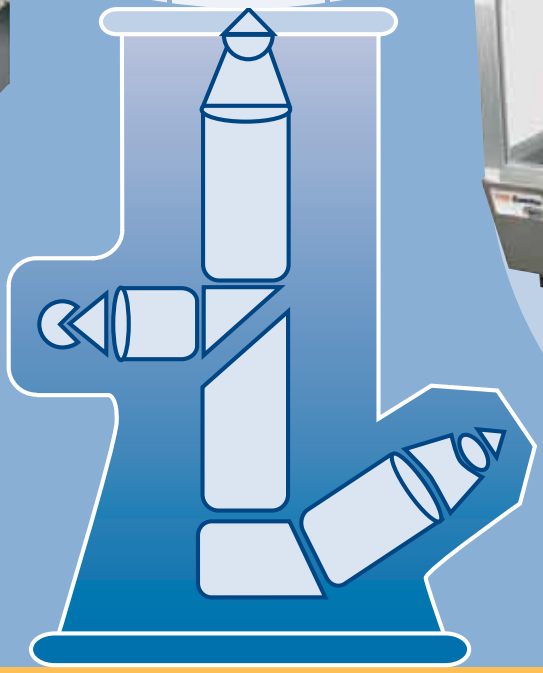
# SOLIDOGRAPHY

Remet



| | | | | |
|---|---|---|---|---|
| PETROGRAPHY |  | METALLOGRAPHY |  | COMPOSITES |
|  | HISTOLOGY |  | CERAMIC |  |
| PLASTIC |  |  |  | ARCHEOMETRY |
|  | 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.

| 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 |

## 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°

## 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

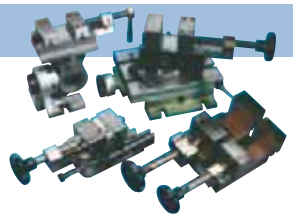
Compact and inexpensive bench top cut-off machines with stainless steel frame, plexiglas hood with tubular aluminium frame, stainless steel components and electroless nickel plated cast iron parts. Cutting wheel directly assembled on the spindle of the cast iron motor. Ergonomic controls located on the 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 |

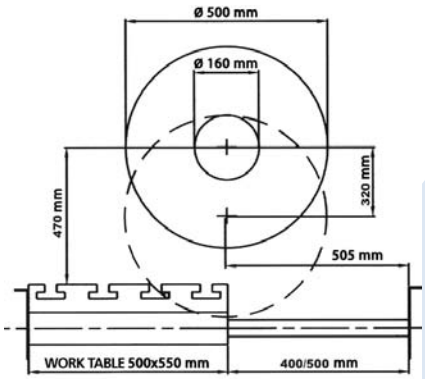
# TR100 S and TR100 L cut-off machines

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.


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.

### Technical Spacifications

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).

## 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<br>0÷300 | 0÷300 | 150/<br>300 | 0÷300 | 0÷300<br>0÷300 | 0÷300 | 0÷300 | 0÷300<br>0÷300 | 0÷300 |
| Power (W) | 180 | 250 | 180/<br>250 | 250/<br>90 | 300/<br>450 | 380 | 380/380 | 380/<br>90 | 250 | 250/<br>250 | 380 |
| Power supply | 220 V / 1-phase | | | | 380V<br>3-phase | 220 V / 1-phase | | | | | |
| Weight (kg) | 31 | 32 | 62 | 50 | 42 | 44 | 83 | 70 | 38 | 75 | 60 |
| Dimensions (mm): W | 370 | 370 | 730 | 370 | 460 | 460 | 900 | 460 | 370 | 730 | 600 |
| D | 500 | 500 | 500 | 500 | 630 | 630 | 630 | 630 | 500 | 500 | 675 |
| H | 300 | 300 | 300 | 650 | 380 | 380 | 380 | 820 | 300 | 300 | 400 |

## 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.


### COMPUMET

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

*Campione singolo*


### 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 some 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

SM 1000

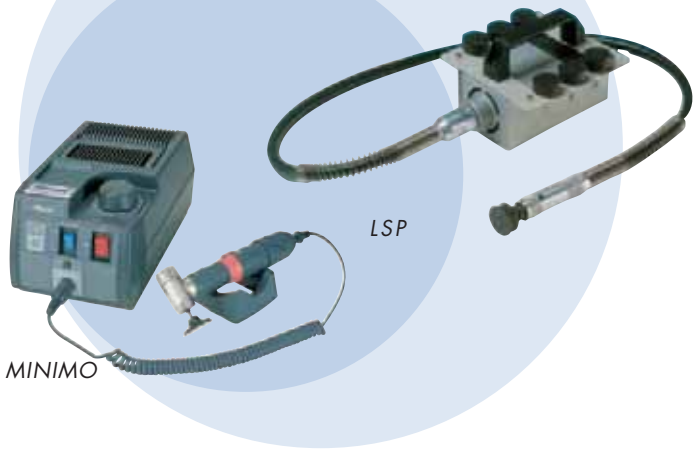
Ideal machines for rapid manual removal of metallic burrs and to generate initial flat surfaces even with large, rough specimens.
Available in dry or wet models.
The wet version has a built-in belt coolant flushing system with faucet and drainage into the standard sewer laboratory system.
The great power, 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.

| 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.

# Remet PRESSES

## 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.

**SEMIAUTOMATIC 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 | 225 |
| | D | 400 | 400 | 400 | 480 | 480 | 480 |
| | H | 510 | 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 | 400 |
| | D | 500 |
| | H | 510 |


## 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 | 225 |
| | D | 480 | 480 | 480 |
| | H | 680 | 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.