

POLISHING TECHNOLOGY



M a c h i n e s f o r s a m p l e s p r e p a r a t i o n

Who's LAM PLAN

*Located in France, at the border of Switzerland, **LAM PLAN SA** is a **French manufacturer of lab consumables** for more than 50 years.*



*After partnerships with famous machines manufacturers, we've taken good knowledge in mechanical and electronical design. That's why **LAM PLAN is also a lab machines manufacturer** since 2010.*

CUTTING MACHINES

- Micro cutting Machines
 - Cutting of accurate and thin sections
- Cutting machines
 - Medium and rough cutting

CUTTING

➤ Micro cutting Machines



CUTLAM Micro 1.1

∅ of cutting wheel	From 75 to 150 mm
Variable speed of the wheel	From 50 to 1500 rpm
Power	0,18 kW
Manual movement of X-axis (rotation of micrometer)	25 mm, accuracy 0,02 mm: to do parallel cuts
Pressure on sample during the cut	Movable weight on the arm's sample-holder: gravity cut
End of cut	Mechanical system, near micrometer
Cooling	Tank of 10 liters, outside of the machine: better cleaning and maintenance

CUTTING

➤ Micro cutting Machines

CUTLAM Micro 2.0



∅ of cutting wheel	From 75 to <u>200 mm</u>
Variable speed of the wheel	From 200 to 4000 rpm: fast cut
Power	0,60 kW
Manual movement of X-axis (rotation of micrometer)	80 mm, accuracy 0,02 mm: to do parallel cuts
Pressure on sample during the cut	2 movable weights on the arm's sample holder: gravity cut, accurate
End of cut	Electronic sensor
Cooling	Tank of 10 liters, outside of the machine: better cleaning and maintenance
Control and settings	Touch screen 3,8"

CUTTING

➤ Micro cutting Machines

Sample holders for CUTLAM Micro 2.0 and CUTLAM micro 1.1



CUTTING

➤ Micro cutting Machines

CUTLAM Micro 3.0



Ø of cutting wheel	Ø 230 mm max
Variable speed of the wheel	From 1000 to 4000 rpm
Power	0,60 kW
Automatic movements	Y and Z, accuracy 0,1 mm
3 cutting modes	-Manual (joystick), semi-auto and full auto -continuous or pulsed cut
Feed speed	0,1 to 20 mm/s
Intelligent motion	Feed speed adjust following cutting effort
Cooling	Tank of 40 liters, outside of the machine
Control and settings	-Touch screen 5,7" -Joysticks -real time displaying of the movements + estimate time of cut -USB plugs to save programs (capacity of 150)

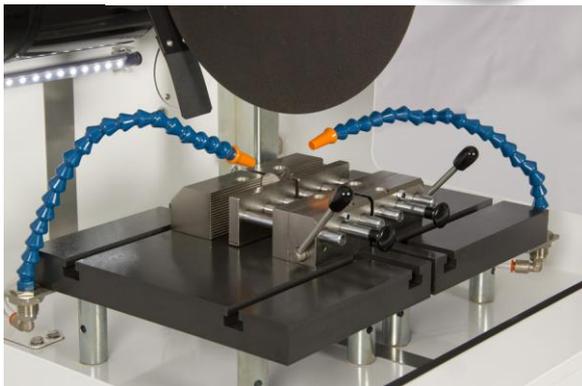
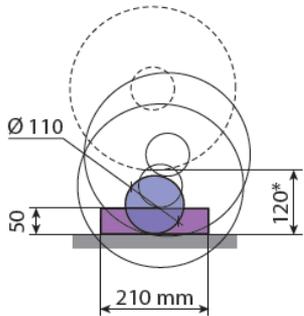


CUTTING

➤cutting Machines medium and high capacities

CUTLAM 1.1 manual cutter

CUTLAM 1.1 - Ø 305 mm



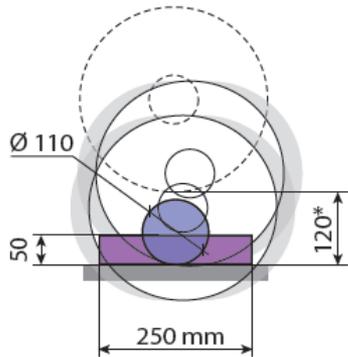
Ø of cutting wheel	From 250 to 300 mm
Variable speed of the wheel	From 1000 to 4000 rpm
Power	3,8 kW
Manual movement of cutting	With lever, right side of the machine
Transmission	Belt Drive – Increasing of cutting capacity (motor is not in the axis of the wheel)
Cooling	Tank of 60 liters, outside of the machine with cleaning gun: better cleaning and maintenance. 4 cooling nozzles (2 on the table, 2 each side of the wheel)
Lightening	LED
Working table	steel, anti-rust treatment with 4 grooves

CUTTING

➤cutting Machines medium and high capacities

CUTLAM 2.0

CUTLAM 2.0 - Ø 305 mm
oscillation 60 mm



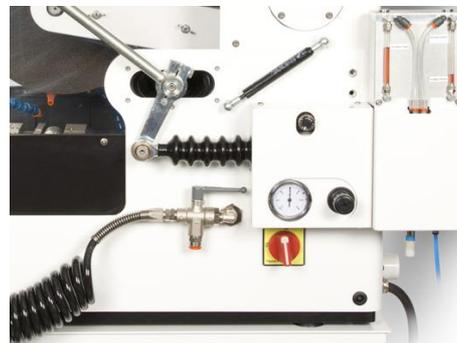
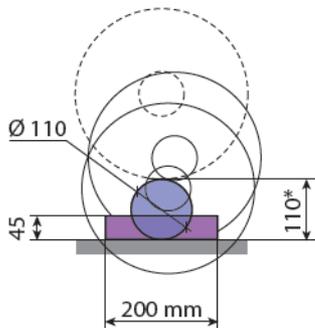
Ø of cutting wheel	From 250 to 300 mm
Variable speed of the wheel	From 1000 to 4000 rpm
Power	3,8 kW
Manual movement of cutting	With lever, right side of the machine + Manual Oscillating Cutting : fast cut, better surface finishing
Transmission	Belt Drive – Increasing of cutting capacity (motor is not in the axis of the wheel)
Cooling	Tank of 60 liters, outside of the machine with cleaning gun: better cleaning and maintenance. 4 cooling nozzles (2 on the table, 2 each side of the wheel)
Lightening	LED
Working table	Stainless steel, with 12 grooves
Option	Cutting wheel Ø350mm

CUTTING

➤ cutting Machines medium and high capacities

CUTLAM 3.0 automatic cutter

CUTLAM 3.0 - Ø 305 mm



Ø of cutting wheel	From 250 to 300 mm
Variable speed of the wheel	From 1000 to 4000 rpm
Power	3,8 kW
Automatic movement of descent	Automatic descent of the wheel. (oil + pneumatic movement, need pneumatic supply) – variable feed speed
Transmission	Belt Drive – Increasing of cutting capacity (motor is not in the axis of the wheel)
Cooling	Tank of 60 liters, outside of the machine with cleaning gun: better cleaning and maintenance. 4 cooling nozzles (2 on the table, 2 each side of the wheel)
Lightening	LED
Working table	Stainless steel, with 12 grooves

CUTTING

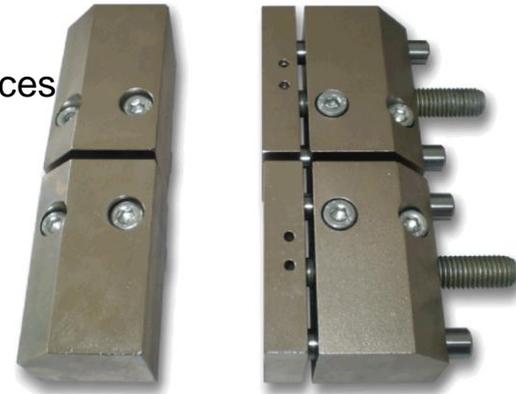
➤ cutting Machines medium and high capacities

Accessories for CUTLAM



Fast clamping vices

Screw clamping vices



Manual cross-feed table (X-axis), accuracy 0,01mm

Cooling tank (included in machine price)

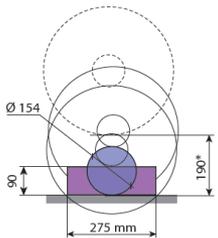


CUTTING

➤ **cutting Machines medium and high capacities**

CUTLAM 4.0 automatic cutter high capacity

CUTLAM 4.0 - Ø 400 mm



Ø of cutting wheel	From 350 to 400 mm
Variable speed of the wheel	From 1000 to 4000 rpm
Power	5,50 kW
Automatic movement of descent	Automatic descent of the wheel. (oil + pneumatic movement, need pneumatic supply) – variable feed speed
Transmission	Belt Drive – less noise
Feed speed	1 to 200mm-min
Cooling	Tank of 140 liters, under the machine with cleaning shower: better cleaning and maintenance. 4 cooling nozzles (2 on the table, 2 each side of the wheel)
Lightening	LED
Working table	Stainless steel, with 12 grooves

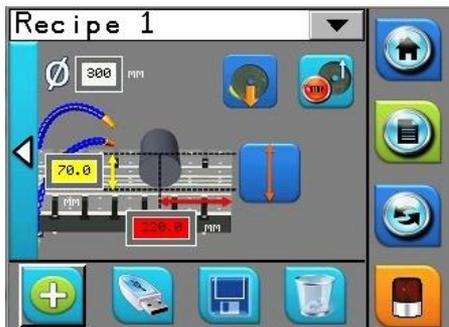
CUTTING

➤cutting Machines medium and high capacities

CUTLAM 5.0 automatic cutter high capacity

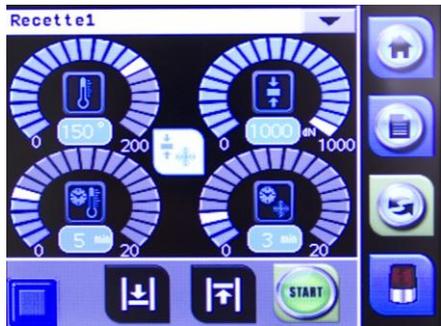


Ø of cutting wheel	Ø 350 mm option Ø 400 mm
Variable speed of the wheel	From 1000 to 4000 rpm
Power	5,5 kW
Automatic movements	Y and Z, accuracy 0,1 mm, feed speed 0,1 to 25 mm/s, stroke 350 mm (Y 325 with wheel 400 mm) Option X axis, stroke 125 mm, accuracy 0,05 mm
Space under wheel and cutting capacities	252,5 mm with Ø350 mm 227,5 mm with Ø400 mm Cutting capacity 127 mm with Ø350 mm (152 with 400)
3 cutting modes	Manual (joystick), semi-auto and full auto, continuous or pulsed cut
Intelligent motion	Feed speed adjust following cutting effort
Cooling	Tank of 140 liters, outside of the machine
Control and settings	Touch screen 5,7" Joysticks real time displaying of the movements + estimate time of cut USB plugs to save programs (capacity of 300)



MOUNTING

PRESSLAM 1.1



Heating system + mold Ø 50 mm + spacer



Heating system + mold Ø 25, 30 & 40 mm + spacers

Ø of samples	From 25 to 50 mm, with spacer
Heating power	2400 W around the mold
Easy mold changing	No tools require
Water saving function	Until 25 % of water save (in comparison with a continuous water flowing)
Programs	USB plug to save programs. Internal capacity 300 programs
Software	Very intuitive machine, with real time displaying.
Pressure application	4 modes, for fragile materials, standard material or specifics resins.

POLISHING MACHINES

- Manual polisher
- Automatic polishers

POLISHING

➤ **Manual polisher**

SMARTLAM 2.0

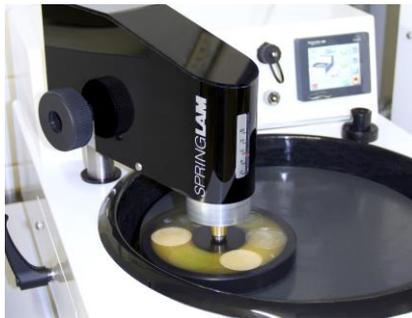
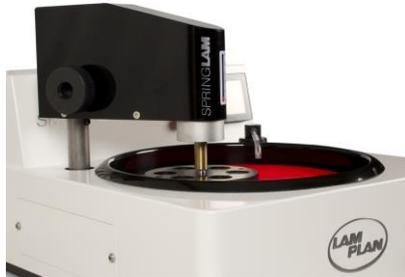


Speed of plate	From 20 to 650 rpm
Parameters setting	By touch screen. (able to modify speed, direction of plate, timer disable/enable)
Ø of plate	From Ø200 to 300 mm
Water	Electronic solenoid valve following the Start/Stop machine.
Saving programs	USB plug to save/load on a key
Rinsing function	Function available to dry the plate
Improvement	-This machine can received a "SPRINGLAM" head (to transform the manual polisher to a semi-auto machine central pressure) -It can also received a doser MM909M to transform the machine in fully auto polisher central pressure.

POLISHING

➤ Options to upgrade manual polisher to central pressure auto polisher

Springlam



MM909M Doser



POLISHING

➤ Sample-holders for SMARTLAM 2.0 + Springlam



Standard sample-holder for centrale pressure (for masterlam 1.0)



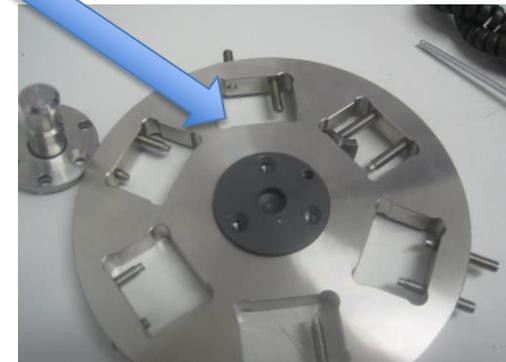
Remove the main-spindle (remove 3 screws)



Screw the adaptor
(replace the main spindle)



Levelling disk



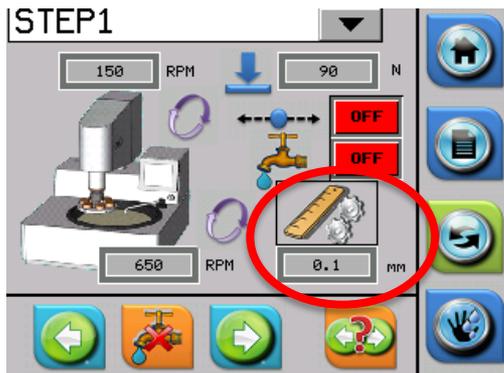
POLISHING

➤ **Automatic polishers**

MASTERLAM 1.0 central pressure



MASTERLAM® 1.0 oscillating head



Speed of plate	From 20 to 650 rpm, clock wise/counter clock wise
Speed of head	From 20 to 150 rpm, clock wise/counter clock wise
Ø of plate	From Ø 250 to 300 mm (available with plate Ø400 mm : MASTERLAM 1.1)
Diamond dispenser	Intelligent connection. Only one plug to connect on the machine. Can be add after the machine purchasing!
Saving programs	150 programs. USB plug to save/load on USB device.
Parameters setting	Intuitive displaying of functions. Touch panel 5,7 inches
Oscillating (option)	Create very good flatness on samples, and achieve very high level of polishing. (cross the scratches of diamond, improving the quality)
Stock removal measurement(option)	From 0,1 to 3,5mm. (Accuracy 0,02mm) Can be switch off, to use as a standard machine
Central pressure/individual pressure	From 5 to 400N, with pressure reducing at the end of the cycle

POLISHING

➤ Automatic polishers

MASTERLAM 2.0 individual pressure

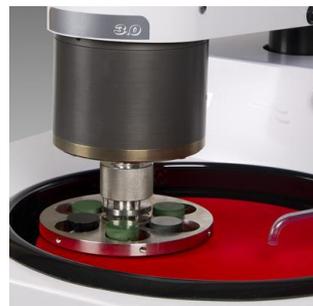
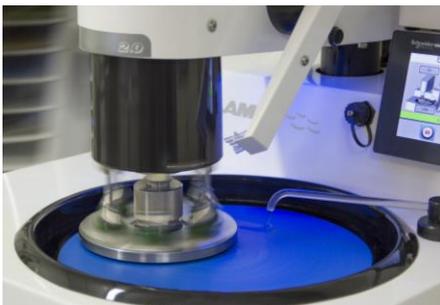


Speed of plate	From 20 to 650 rpm, clock wise/counter clock wise
Speed of head	From 20 to 150 rpm, clock wise/counter clock wise
Ø of plate	From Ø 250 to 300 mm
Diamond dispenser	Intelligent connection. Only one plug to connect on the machine. Can be add after the machine purchasing!
Saving programs	150 programs. USB plug to save/load on USB device.
Parameters setting	Intuitive displaying of functions. Touch panel 5,7 inches
Individual pressure	From 5 to 100 N, with pressure reducing at the end of the cycle
Piston	Foam insert under piston, to stabilize samples and avoid noise during pressure application.

POLISHING

➤ Automatic polishers

MASTERLAM 3.0 Central/ Individual pressure



Speed of plate	From 20 to 650 rpm, clock wise/counter clock wise
Speed of head	From 20 to 150rpm, clock wise/counter clock wise
Ø of plate	From Ø 250 to 300 mm
Diamond dispenser	Intelligent connection. Only one plug to connect on the machine. Can be add after the machine purchasing!
Saving programs	300 programs. USB plug to save/load on USB device.
Parameters setting	Intuitive displaying of functions. Touch panel 5,7 inches
Oscillating (option)	Create very good flatness on samples, and achieve very high level of polishing. (cross the scratches of diamond, improving the quality)
Central pressure and individual pressure	From 5 to 400 N/5 to 100 N with pressure reducing at the end of the cycle
Piston	Foam insert under piston, to stabilize samples and avoid noise during pressure application.

POLISHING

➤ Automatic polishers sample-holders

Centrale pressure: MASTERLAM 1.0 & 3.0



Individual pressure: MASTERLAM 2.0 & 3.0

