LAMPLAN®

LAPPING & POLISHING

CONTACTS



SDS
Safety data sheets

Download all the safety data sheets in PDF format LAM PLAN according to the REACH and CLP regulations: (Classification Labelling Packaging).



fdsen.lamplan.com

CATALOGS
The 4 catalogues in English

Download in PDF format LAM PLAN the LAM PLAN catalogs and find all the polishing technologies.



caten.lamplan.com

MANUALS
Instructions for use

Download in PDF format the operating instructions and manuals of the different LAM PLAN machines and products.



manen.lamplan.com

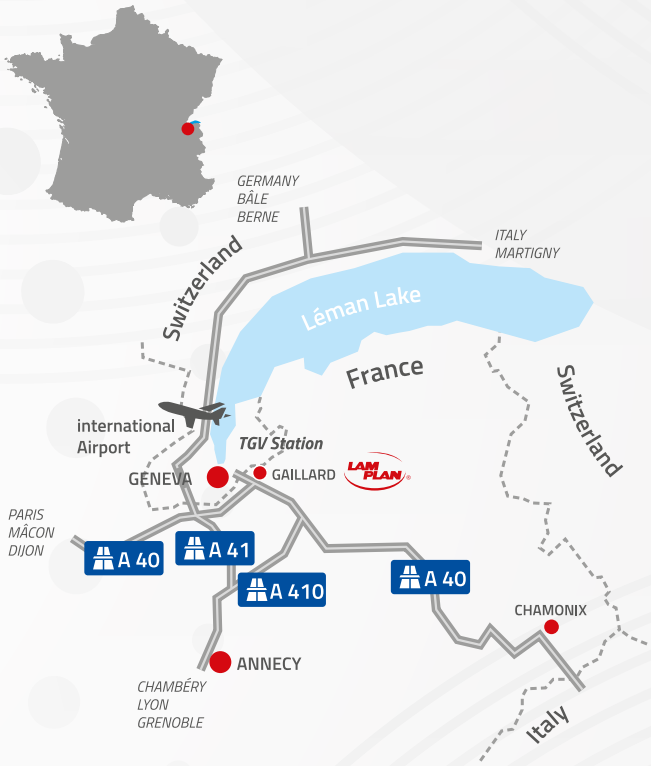


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www.lamplan.com



VIDEOS

Machine and product films

Watch the videos of our different machines by scanning the QRcode located on the «machine» pages of this catalog using your smartphone and find all of our videos.



viden.lamplan.com

Contact our technical team

email: essai@lamplan.fr

For all questions

Tel. +33 (0)4 50 43 96 30

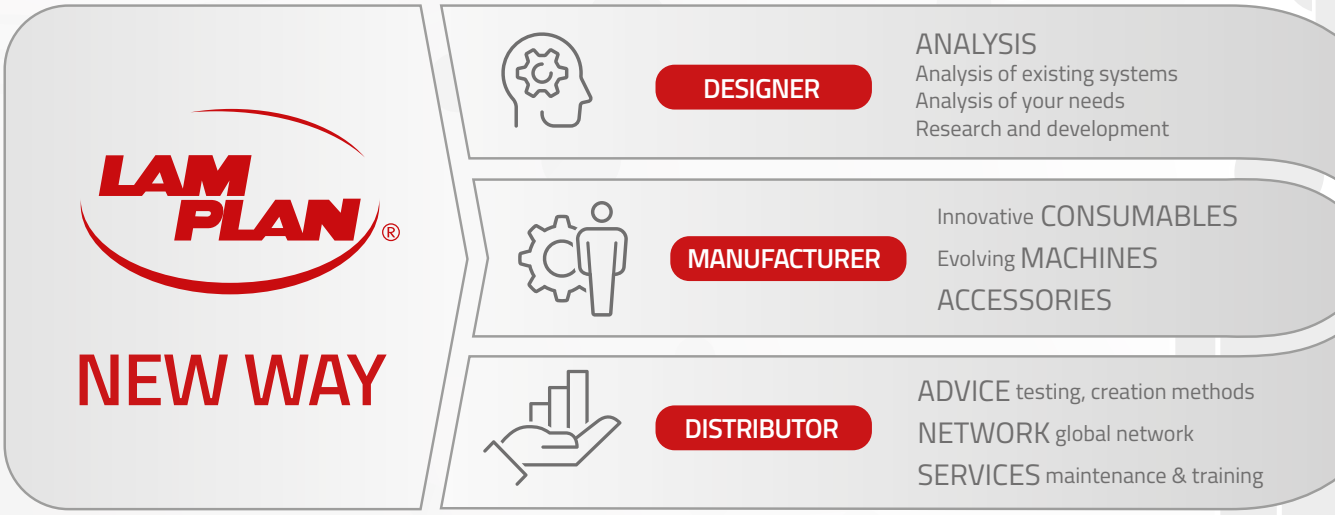
Social networks

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LAM PLAN NEW WAY, is a commitment to devote all our resources to working together to find innovative and effective solutions that will enable you to achieve new goals in

SURFACE PREPARATION



Innovative consumables

Our expertise extends from analysis to the development of products and processes to meet the specific requirements of each application. Whether we're talking about abrasives or substrates, thanks to our research and commitment we make metallography and lapping easier and more efficient. We work every day to create consumables that are easier to use, more respectful of the health of users and the environment, without compromising on quality.

Technical support

Our ability to continually innovate enables us to meet the specific challenges of each customer. LAM PLAN is committed to designing bespoke solutions through a dedicated test centre, where we model and test surface preparation methods prior to production on site. Our manufacturing and quality control processes ensure that each solution precisely meets the end-user's expectations.

Scalable machines

Every project is unique and requires tailored solutions. That's why we offer a complete range of machines and consumables designed to meet the specific needs of each customer.



POLISHING TECHNOLOGY®

We specialise in the design and manufacture of innovative solutions for lapping, polishing and metallography. For decades, we have been committed to providing our customers with state-of-the-art equipment and high-quality consumables, meeting the most stringent requirements.

the most stringent requirements. Our solutions cover a wide range of industrial needs, guaranteeing precise and reliable results for surface finishing in all sectors of activity.

Take a virtual tour of our test centre on
360en.lamplan.com

Download our trial request form
MÉTALLOGRAPHIE
testen.lamplan.com

Download our trial request form
LAPPING POLISHING
testen.lamplan.com

Maintenance

To maximise the life and performance of your machines, LAM PLAN offers preventive maintenance contracts tailored to each piece of equipment. These regular interventions ensure that the condition of your machines is monitored, reduce breakdowns and optimise management of production stoppages.

CERTIFIED COMPANY
ISO 9001

ISO 9001 certification is the cornerstone of our approach to continuous improvement and to taking account of our customers' needs so that we can respond in the most appropriate way. This certification of quality management within our organisation provides you with the guarantee of ongoing monitoring of the performance of our system, our products and our services, our objective :
customer satisfaction.

THE COMMERCIAL NETWORK

LAM PLAN is present throughout the world thanks to an extensive network of technical and commercial partners, made up of skilled professionals ready to meet your lapping, polishing, metallography and shape polishing needs.



Worldwide sales network

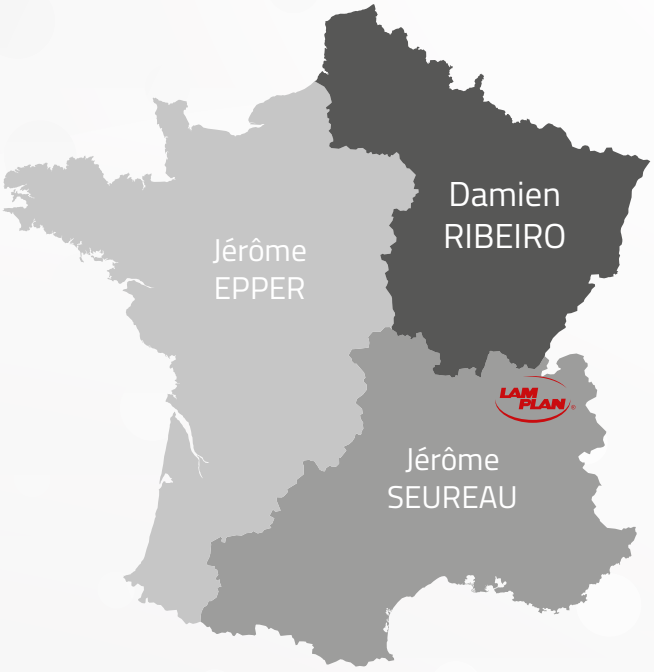
If you are looking for a LAM PLAN subsidiary or distributor LAM PLAN in the world, find the country of your choice from the list of our distributors on our website with this flash code.

All requests from other countries are handled directly by our head office in France.

Languages spoken : English, Italian, German and French.

French sales network

North - North East Damien RIBEIRO		Paris and West Jérôme EPPER		South East Jérôme SEUREAU	
Departments		Departments		Departments	
02	59	14	49	01	38
08	60	16	50	03	42
10	62	17	53	04	43
21	67	18	56	05	46
25	68	19	61	06	48
39	70	22	64	07	63
51	71	23	72	09	65
52	80	24	75	11	66
54	88	27	76	12	69
55	89	28	77	13	73
57	90	29	78	15	74
58		33	79	26	81
		35	85	30	82
		36	86	31	83
		37	87	32	84
		40	91	34	
		41	92		
		44	93		
		45	94		
		47	95		



A SALE TEAM AT YOUR SIDE

We are proud to introduce our LAM PLAN sales team. Passionate and dedicated, this sales force is made up of six talented professionals.

Each member of our team brings a unique set of skills and experience to meet the varied needs of our customers and guide them towards the most appropriate solutions.

At LAM PLAN, our sales team works with our technical and R&D teams to provide you with tailor-made solutions to meet your specific needs. We firmly believe in building lasting relationships with our customers, based on trust, integrity and innovation. Trust our team to guide you through our diverse range of products and services.

We are here for you every step of the way.



Daniel FERRAT
Sales Director

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With 35 years' experience in the polishing and lapping industry, Daniel began his career in France as a salesman. From 2001, he played a central role in LAM PLAN's export development. Daniel took over the management of our team in 2020 with determination and strategic vision. His leadership inspires our team to achieve excellence and exceed customer expectations.



Guillaume LARDON
Export area manager
Europe - North and East

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Guillaume joined LAM PLAN's export department in 2016. Building on the experience he gained at the head office, he decided to get more involved in the field as of 2018. He is in charge of prospecting and development in Northern and Central Europe. Through his commitment, Guillaume maintains strong relationships with our strategic customers and distributors.



Julien CARRIER
Technical expert
France and exports

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Julien, our technical expert, has in-depth knowledge of our machines, products and services. He is the link between customers' needs and LAM PLAN's innovative solutions. Julien assesses our customers' investment needs and organises the commissioning, maintenance or upgrading of existing equipment.

Commercial technicians France

Sales force for France, from their respective sectors, they collaborate fully in growing the business, identifying new opportunities and establishing promising relationships with our customers. Jérôme E., Damien and Jérôme S. are experienced professionals with in-depth knowledge of their areas of responsibility. The experience and training they have acquired have enabled them to become specialists in surface preparation.



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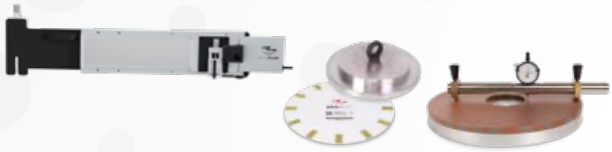
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MASTERING LAPPING & POLISHING IN PRODUCTION AND MAINTENANCE

SINGLE AND DOUBLE PLATE LAPPING POLISHING

The guarantee of repeatable lapping and polishing operations requires the use of modular or customized machines.
The equipment, accessories and options can be selected upstream by the customer's R&D team or be subject to adjustments or recommendations by the LAM PLAN team.

Integrated modem
for remote maintenance



Maintaining the plate's geometry
and surfacing: //Autoplan //Diabloc //Flatness gauge



Wireless stock removal
measuring system

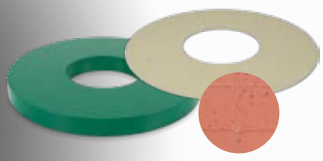


Special machines
custom development
multi-step set

Production data acquisition
and integration into
the **INDUSTRY 4.0**
environment



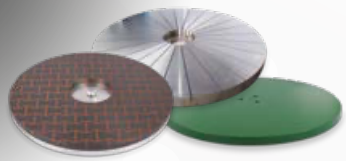
Temperature
control system



Customized Pads
and FAS® coating



Dosing and dispensing units:
//Diamond //Conventional abrasive



Plates: //Cast iron and composite
//FAS and magnetic



Carriers



Conditioning rings:
//Cast iron //Ceramic //PVC



Pressure systems:
//Weight //Pneumatic
//Weight compensation



Safety devices

AN OFFER COVERING ALL MARKET NEEDS

LAPPING

The lapping process consists in obtaining a flatness and/or a specific roughness for the finishing of parts for production or maintenance work.

The surface finish obtained on a cast iron plate with conventional abrasives is in the range of 0.4 µm Ra with a matt aspect.

With a composite plate and a diamond abrasive, a Ra of 0.07 µm and a shiny aspect can be achieved.

Diamond plates DIALAM®



Cast iron plates



Patented New Lam M'M'® and EVOLAM® composites plates



Expandable rods



New Lam M'M'® composite rods



NEOLAP® diamond liquids and BioDIAMANT® pastes



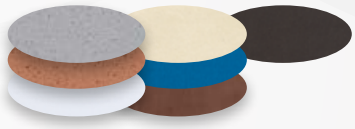
LAQUA LAM® abrasive liquids and pastes (SiC, Al_2O_3, B_4C, CeO_2)



POLISHING SUPER FINISHING

The polishing and surface finishing operations need to meet technical, dimensional and aesthetic requirements. The surface finish obtained is characterized by a low roughness 0.01 µm Ra, a brightness which is subjected to visual and/or microscopic control. Due to the diversity of the materials encountered, the surface finish of the raw parts and the result to be sought, the superfinishing requires extremely varied preparation techniques which make use of the full range of LAM PLAN know-how.

TOUCHLAM® polishing pads: polyurethane, woven, non-woven, flocked, compressed



Diamond abrasive films
Alumine abrasive films



Abrasive preparations ECOA® , NEODIA®, NEOLAP®, BioDIAMANT® M.M. Series



Colloidal silicas



Super finishing liquids ALPLAN, L1, L2 and FINAL



EQUIPMENT

LAPPING & POLISHING MACHINES

Machine capacities

LAM PLAN lapping and polishing machines have been developed and perfected with LAM PLAN M'M' patented technology. They respond to all market requirements which require the obtention of high quality polished surfaces or flatnesses under one micron.

The wide range of the machine versions in this catalogue, will enable you to treat pieces from micro-mechanic up to a seal part measuring several decimetres. Linked to our consumables range, you will be assured of repeatable results on all industrial materials.

SIMPLE FACE LAPPING MACHINE CAPACITIES

Number of parts per ring.

Part Ø (mm)	Number of parts							
	M.M.9400 M.M.9380 E/S	**M.M.9480 E/S**	**M.M.9610**	**M.M.9700 E/S**	**M.M.9914 E/S**	**M.M.9100 E/S**	**M.M.9120 E/S**	**M.M.9150 E/S**
Ø 5	170	230	320	362				
Ø 10	67	95	150	160	190	225		
Ø 20	20	30	53	67	88	105	175	263
Ø 30	8	19	25	32	52	63	97	145
Ø 40	6	11	18	23	32	42	60	90
Ø 50	4	6	10	16	20	26	33	54
Ø 70	1	3	6	7	12	16	24	29
Ø 100	1	1	3	4	6	7	14	18
Ø 130	1	1	1	2	4	5	7	10
Ø 160		1	1	1	2	3	5	7
Ø 210			1	1	1	1	3	4
Ø 290					1	1	1	2
Ø 350						1	1	1
Ø 450							1	1
Ø 480								1
Ø 580								1

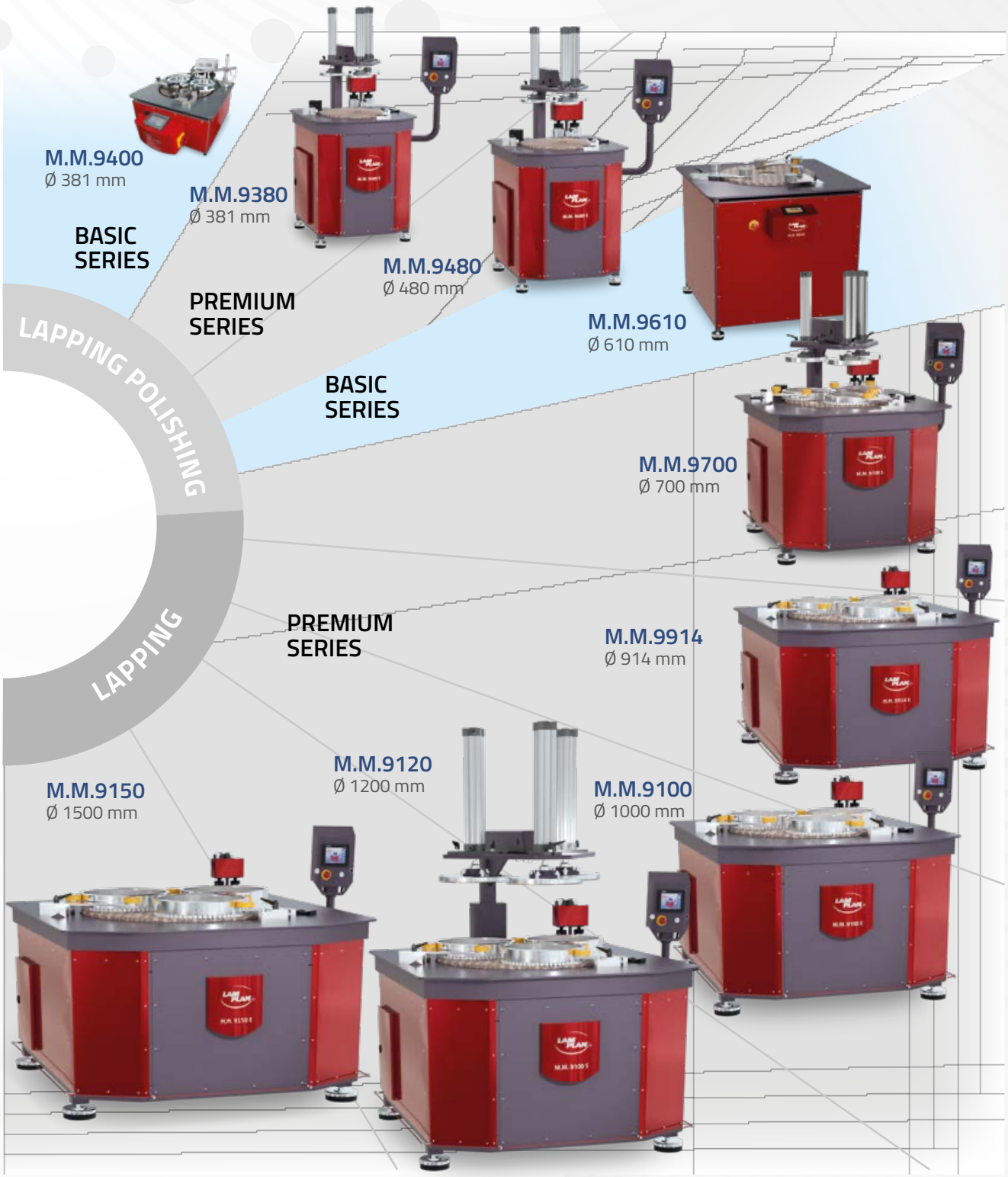
DOUBLE-SIDE LAPPING MACHINE CAPACITIES

Number of parts per satellite.

Part Ø (mm)	Number of parts	
	M.M.2380	**Masterlam EVOLUTION**
Ø 5	180	46
Ø 10	70	18
Ø 15	30	8
Ø 20	20	4

More than just lapping and polishing equipment, LAM PLAN machines are modular and versatile lapping and polishing solutions. The wide range of machines and accessories makes them extremely efficient and versatile production resources.

SINGLE SIDE LAPPING & POLISHING MACHINES



M.M. 9000 BASIC SERIES

A range of lightweight lapping machines, the M.M.9400 and M.M.9610 are highly versatile and accessible pieces of equipment that will enable you to achieve all types of surface finish.



M.M. 9400

Variable production of small parts: Ø 5 to 130 mm

Technical data	M.M.9400
Plate Ø	381 mm (Ø 400 mm optional)
Inner ring Ø	140 mm
Capacity per ring	1 piece Ø130 mm or 170 pieces Ø 5 mm
Number of rings	3
Electric power supply	230 V single-phase
Motor Power	0.75 kW
Control	4.3'' touch screen
Plate rotation speed	From 20 to 120 rpm
Dimensions (W x D x H)	625 x 720 x 365 mm
Weight (without plate)	75 kg
Abrasive distribution system	Optional - see table
Reference	10 09400 00



Support unit special M.M.9400

M.M.9400 NEW

For this new version of our best-selling M.M.8400, we've tried to retain the essence of this table-top trimmer/polisher by making a number of fundamental improvements.

The M.M.9400 is a solution for integrating a means of finishing flat surfaces into your workshop at a contained price. The machine's compact dimensions and ergonomic controls are still there, but it has become more rigid and even more versatile. It can be fitted with a wide range of accessories to adapt your equipment to your needs. Integrated control of LAM PLAN feeders, recipe memory and motorised drive are just some of the possibilities.

Versatility

The M.M.9400 can be fitted with cast iron, DIALAM®, NEW LAM® M'M' or FAS® platens, enabling you to achieve all types of surface finish defined in your specifications (e.g. honing, thickness adjustment, honing, polishing, etc.). It is also perfectly suited to your maintenance needs on all sealing parts (e.g. lapping of flaps, safety valves or small mechanical seals).

New configuration and improvements

- More rigid welded tubular steel chassis, stainless steel tank,
- Ergonomically improved controls (better visibility of screen in working position),
- 4.3' touch screen,
- Programme import/export on USB key,
- Multiple attachment points for accessories, such as dosing devices, jib, etc,
- Memory for 30 recipes,
- Mobile water inlet controlled by solenoid valve,
- Improved connectivity, ability to control 3 dispensers, remote maintenance facility.

Options and accessories

Dedicated, more rigid support cabinet with improved storage capacity (flat storage for trays or discs up to Ø 400 mm, storage for products up to 5-litre drums).

Characteristics	Ref.
E M.M.9400 stem accessory support	109 400PA 00
Table option Ø 400 mm for M.M.9400*	109 400T4 00
Support unit, height 73 cm, 1 door and 2 shelves	10 M8400 00

**For use with a 400 mm diameter table top, a special table is available as an option.*

SINGLE SIDE LAPPING & POLISHING MACHINES

M.M.9610 NEW

The M.M.9610 is a very competitive machine, suitable for maintenance work as well as occasional or moderate production.

The M.M.9610 incorporates the technical choices of the M.M.9400. It will enable you to achieve all your objectives in terms of geometry and surface finish with an interesting capacity thanks to its 610 mm diameter table.

The M.M.9610 is compatible with all lapping and polishing supports as well as with the LAM PLAN range of dispensing units.

Technical data	M.M.9610
Plate Ø	610 mm
Inner ring Ø	248 mm
Capacity per ring	1 part Ø210 mm or 320 parts Ø 5 mm
Number of rings	3
Electric power supply	230 V single-phase
Motor Power	1,5 kW
Control	Touch screen 4,3 inches
Plate rotation speed	From 20 to 90 rpm
Dimensions (W x D x H)	1020 x 1010 x 1000 mm
Weight (without plate)	280 kg
Abrasive distribution system	Optional - see table
Reference	109610E00



M.M. 9610
Moderate production of parts : Ø 5 to 210 mm

Options and accessories

MOTORISED ARMS NEW

Compatible with the M.M.9400, 9380 and 9480 machines, the motorised arms are accessories that optimise ring rotation for parts or supports with high adhesion.

They are modular kits comprising 1 control unit and 1 to 3 motorised arms, servo-assisted start/stop, speed of rotation adjustable by potentiometer.

Characteristics	Qty	Ref.
Motorised arm control unit M.M.9400*	1	109400UC00
Motorised arm for M.M.9400	1	109400BM00
Motorised arm control unit M.M.9380 and M.M.9480*	1	109380UC00
Bras motorisé pour M.M.9380/9480	1	109380BM00

**Up to 3 arms can be controlled by one control unit*



MESUREO

Material removal control, compatible with the M.M.9400, 9380 and 9480 machines, enabling flat surfaces to be obtained to less than one micron, combined with parallelism of less than 5 microns between the lapped face and a reference.

The MESUREO consists of a perfectly flat ceramic-coated pressure disc that moves on a vertical axis.

This tool is equipped with a wireless probe, enabling the removal of material to be displayed in real time on a PC placed close to the lapping machine. The target dimension can be set. Using a highly intuitive set of colours, the operator can quickly see on his computer monitor whether the parts are within the defined thickness tolerance.

Characteristics	Qty	Ref.
MESUREO assembly with storage case	1	10 84003 00





M.M. 9000 PREMIUM SERIES

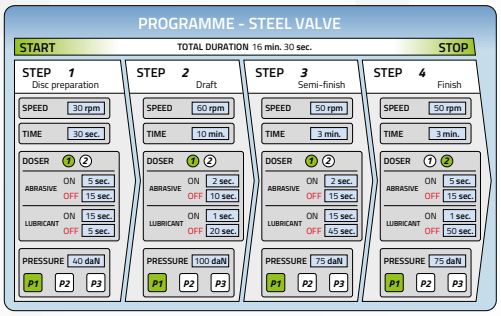
Range of heavy-duty lapping machines, covering diameters from 381 mm to 1500 mm. Designed to accommodate all LAM PLAN accessories and production support options.

PLUG & PLAY

Whether electrical or pneumatic, the connectivity of the machines has been designed to accommodate production support accessories in a simple way. When you plug in a piece of equipment, it is immediately recognised by the machine control system.

CONTROL AND PROGRAMMING

Take control of your honing and polishing operations by creating new recipes, and evolve them using the programming interface for the machine and peripherals.



SMART LAPPING

Intuitive multi-step programming, with the option of storing up to 45 5-step programmes.

DOSERS DISTRIBUTORS



PNEUMATIC PRESSURE SYSTEM

AUTOPLAN® AUTOMATIC PLATE RECONDITIONING SYSTEM



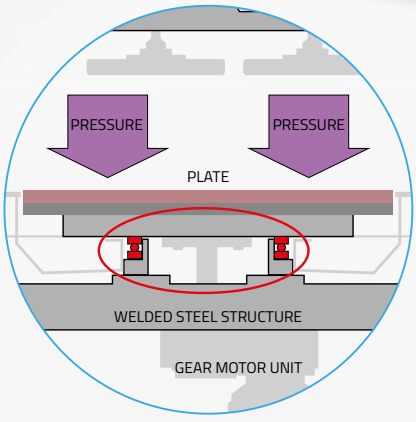
MOTORISED RING DRIVE





MECHANICAL DESIGN

Integrating a LAM PLAN lapping solution goes beyond what is offered by conventional equipment on the market. We design machines ready to withstand the highest stresses.



ANCHORING POINTS DOSING SYSTEMS

RIGID AND STABLE CHASSIS

MOUNTING PLATE FOR PNEUMATIC PRESSURE SYSTEM

HEIGHT ADJUSTABLE ARMS

ANCHORING POINTS FOR AUTOPLAN®

FALSE PLATE SUPPORTED BY A BALL BEARING

SIMPLE SIDE LAPPING & POLISHING MACHINES

M.M.9380 et M.M.9480

M.M.9000 PREMIUM series small-diameter flat lapping machines.

These lapping machines incorporate all the technical solutions used on higher-capacity models, making them particularly robust and stable. As a result, they are particularly robust and stable.

The S version can be fitted with an electronically-controlled jib with 3 pressure cylinders. The compact size of these machines makes it easy for the operator to handle all the accessories, such as changing the tray or loading and unloading the rings. The 7-inch touch screen lets you control all the dispensers in the LAM PLAN range and save 45 recipes, each containing 5 sub-steps.

Particularly well-suited to maintenance workshops, workshops producing small parts and finishing parts for fine watchmaking. These compact, first-rate machines can meet the most demanding finishing requirements, as well as intensive production.

The M.M.9380 and M.M.9480 lapping machines are compatible with the AUTOPLAN platen reconditioning system.



Options and accessories for M.M.9380 et M.M.9480

LED light option (for S versions)	10 9000S 10
Multi abrasive option	10 9000S 20
Micrometric ruler for checking the flatness of the honing plate	08 00899 10
Level sensors for diamond and lubricating fluids	08 90001 00
Torque spanner set	60 01485 90

NEW **M.M. 9380**

Intensive production of parts : Ø 5 to 130 mm

M.M. 9480

Intensive production of parts : Ø 5 to 160 mm

M.M.9380 AND M.M.9480 VERSION E AND S

Technical data	M.M.9380 version E	M.M.9380 version S	M.M.9480 version E	M.M.9480 version S
Plate Ø	381 mm	381 mm	480 mm	480 mm
Inner ring Ø	140 mm	140 mm	182 mm	182 mm
Capacity per ring	1 part Ø 130 mm or 170 parts Ø 5 mm	1 part Ø 130 mm or 170 parts Ø 5 mm	1 part Ø 160 mm or 95 parts Ø 10 mm	1 part Ø 160 mm or 95 parts Ø 10 mm
Number of rings	3	3	3	3
Electric power supply	230 V single-phase	230 V single-phase	230 V single-phase	230 V single-phase
Motor Power	1,5 kW	1,5 kW	1,5 kW	1,5 kW
Control	7-inch touch screen	7-inch touch screen	7-inch touch screen	7-inch touch screen
Plate rotation speed	From 30 to 90 rpm	From 30 to 90 rpm	From 30 to 90 rpm	From 30 to 90 rpm
Pressure application system	n.c.	3 adjustable double-acting pneumatic cylinders	n.c.	3 adjustable double-acting pneumatic cylinders
Pression applicable	n.c.	100 to 800 N	n.c.	100 to 800 N
Type of stem	n.c.	Fixed	n.c.	Fixed
Dimensions (W x H x D)	1160 x 860 x 1000 mm	1160 x 860 x 1620 mm	1160 x 860 x 1000 mm	1160 x 860 x 1620 mm
Weight (without plate)	250 kg	290 kg	250 kg	290 kg
Abrasive distribution system	Optional - see table	Optional - see table	Optional - see table	Optional - see table
Reference	10 9380E 00	10 9380S 00	10 9480E 00	10 9480S 00



M.M. 9700

Intensive production for parts: Ø 5 to 210 mm

From a mechanical point of view, a large ball thrust bearing has been inserted under the machine's sub-platen. This ensures the stability of the plate, even under heavy loads. This new design also reduces the stress on the gearbox, ensuring a long service life for the equipment. Machine safety has also been improved with anti-pinch devices coupled to the castors of the self-encoding ring support arms.

Options for M.M.9700

Torque spanner set	60 01485 90
Level sensors for diamond liquid and lubricating fluid	08 90001 00
Flatness gauge for checking the flatness of the lapping plate	08 00894 00
Optional LED lighting	10 9000S 10
P803 cooling and heating unit, for honing plate	10 80003 90
Multi-abrasive option	10 9000S 20

M.M.9700

In order to meet the most demanding specifications in terms of surface flatness and process repeatability, LAM PLAN has developed the M.M.9000 series of machines, of which the M.M.9700 is the mid-range model.

Equipped with a 700 mm Ø honing plate, this machine features a highly intuitive touchscreen interface, making it easy to get to grips with the equipment.

The new design of the electrical part makes it easy to upgrade the machine's functions to meet your changing needs, with, for example, the subsequent integration of the AUTOPLAN system or the different types of LAM PLAN dispensing feeders.

This machine is therefore designed for all production workshops where large quantities of parts need to be processed.

M.M.9700 VERSION S

The S version of the M.M.9700 incorporates a pneumatic pressure system controlled electronically from the general interface.

Comprising three double-acting cylinders and three aluminium discs mounted on ball joints, this system eliminates the need to handle weights, optimising loading and unloading times and reducing handling effort. This optimises loading and unloading times and reduces handling effort.

The applicable pressure can vary from 100 to 1000 N.



M.M.9700

Technical data	M.M.9700 version E	M.M.9700 version S
Plate Ø	700 mm	700 mm
Inner ring Ø	274 mm	274 mm
Capacity per ring	1 part Ø 210 mm or 160 parts Ø 10 mm	1 part Ø 210 mm or 160 parts Ø 10 mm
Number of rings	3	3
Electric power supply	400 V - 50 Hz - 3 phases + ground + neutral	400 V - 50 Hz -3 phases + ground + neutral
Motor Power	2.2 kW	2.2 kW
Control	7-inch touch screen	7-inch touch screen
Plate rotation speed	From 30 to 90 rpm	From 30 to 90 rpm
Pressure application system	n.c.	3 adjustable double-acting pneumatic cylinders
Applicable pressure	n.c.	100 to 1000 N
Dimensions (W x H x D)	1500 x 1300 x 1450 mm	1500 x 1300 x 1900 mm
Weight (without plate)	500 kg	600 kg
Abrasive distribution system	Optional - see table	Optional - see table
Reference	10 9700E 00	10 9700S 00

SIMPLE SIDE LAPPING & POLISHING MACHINES

M.M.9914 NEW

Offshoot of our M.M.9100 machine, the M.M.9914 is designed to meet the needs of workshops using standard 36' consumables.

It is available in 3 rings, without a pressure system for the E version and with a pneumatic pressure system on a fixed stem for the S version.

Options and accessories for M.M.9914

Torque spanner set	60 01485 90
Level sensors for diamond and lubricating fluids	08 90001 00
Micrometric ruler for checking the flatness of the honing plate	08 00893 00
LED lighting option	10 9000S 10
P803 cooling and heating unit, for honing plate	10 80003 90
Multi-abrasive option	10 9000S 20

Temperature control system

Flat lapping is based on the laws of mechanics and physics, where the importance and constancy of temperatures are essential.

Variations in the temperature of a lapping plate, whether inherent in the lapping operations or dependent on external conditions, can adversely affect the quality of the desired result. To avoid this, the use of our NEW LAM®M'M' high performance plates may require the use of a temperature control system.



Micrometric ruler for checking the flatness of the plate



Refrigeration and and heating unit P803



M.M. 9914

Intensive production for parts: Ø 10 to 290 mm



M.M.9914

Technical data	M.M.9914 version E	M.M.9914 version S
Plate Ø	914 mm	914 mm
Inner ring Ø	368 mm	368 mm
Capacity per ring	1 part Ø 290 mm or 190 parts Ø 10 mm	1 part Ø 290 mm or 190 parts Ø 10 mm
Number of rings	3	3
Electric power supply	400 V - 50 Hz - 3 phases + ground + neutral	400 V - 50 Hz - 3 phases + ground + neutral
Motor Power	5,5 kW	5,5 kW
Control	7-inch touch screen	7-inch touch screen
Plate rotation speed	From 30 to 90 rpm	From 30 to 90 rpm
Pressure application system	n.c.	3 adjustable double-acting pneumatic cylinders
Applicable pressure	n.c.	150 to 2500 N
Dimensions (W x H x D)	1900 x 1800 x 1500 mm	1900 x 1800 x 2300 mm
Weight (without plate)	875 kg	950 kg
Abrasive distribution system	Optional - see table	Optional - see table
Reference	10 9914E 00	10 9914S 00

SIMPLE SIDE LAPPING & POLISHING MACHINES



M.M. 9100

Intensive production for parts: Ø 10 to 350 mm

The rigidity of their structures and the torque of the gear units are specifically adapted to the high abrasion of LAM PLAN honing supports.

The many peripherals available make these machines particularly versatile and efficient. Specific equipment can be fitted as required.

M.M.9100

When it comes to honing, heavy loads and intensive use call for specially adapted, hard-wearing equipment. This is what the LAM PLAN range of medium and large diameter machines offers.

M.M.9100 E

Ø 1000 mm grinder without pressure system.

M.M.9100 VERSION S

Version with pneumatic pressure, comprising three double-acting cylinders mounted on a fixed bracket.

M.M.9100 VERSION SR

The SR type honing machine is fitted with a pneumatic pressure system installed on a mobile bracket. The bracket rotates around its axis through 180° thanks to a motorised crown controlled by the by the HMI ("Human Machine Interface"). This facilitates access to the work area, plate changes and the passage of a robotic loading/unloading arm.



M.M.9100

Technical data	M.M.9100 version S	M.M.9100 version E	M.M.9100 version SR
Plate Ø	1000 mm	1000 mm	1000 mm
Inner ring Ø	406 mm	406 mm	406 mm
Capacity per ring	1 part Ø 350 mm to 225 parts Ø 10 mm	1 part Ø 350 mm to 225 parts Ø 10 mm	1 part Ø 350 mm to 225 parts Ø 10 mm
Number of rings	3	3	3
Electric power supply	400 V - 50 Hz - 3 phases + ground + neutral	400 V - 50 Hz - 3 phases + ground + neutral	400 V - 50 Hz - 3 phases + ground + neutral
Motor Power	5,5 kW	5,5 kW	5,5 kW
Control	7-inch touch screen	7-inch touch screen	7-inch touch screen
Plate rotation speed	From 30 to 90 rpm	From 30 to 90 rpm	From 30 to 90 rpm
Pressure application system	3 adjustable double-acting pneumatic cylinders	n.c.	3 adjustable double-acting pneumatic cylinders
Applicable pressure	150 à 2500 N	n.c.	150 à 2500 N
Stem type	Fixed	n.c.	Motorised rotary
Dimensions (W x H x D)	1900 x 1800 x 2300 mm	1900 x 1800 x 1500 mm	1900 x 1800 x 2300 mm
Weight (without plate)	1000 kg	900 kg	1100 kg
Abrasive distribution system	Optional - see table	Optional - see table	Optional - see table
Reference	10 9100S 00	10 9100E 00	10 9100SR 00

SIMPLE SIDE LAPPING & POLISHING MACHINES

M.M.9120

Our Ø 1200 mm honing machine is based on 2 specific chassis.

The first is dedicated to the 3-ring versions, M.M.9120 E without pneumatic pressure and M.M.9120 S with a 3-cylinder pneumatic pressure system on a fixed bracket.

The second chassis is dedicated to the M.M.9120 S4 4-ring intensive production version equipped with a reinforced fixed bracket.

Both versions can also be supplied with motorised rotating brackets: models M.M.9120 SR and M.M.9120 SR4.



M.M.9120 VERSION S4 AND SR4

For intensive production applications, we offer a 4-ring version of our Ø 1200 mm machine.

The M.M.9120 S4 is equipped with a 4-cylinder pneumatic pressure system.

SR4 rotary bracket available as an option.

M.M. 9120
Intensive production for parts:
Ø 20 to 450 mm
Maintenance of large parts





M.M.9120

Technical data	M.M.9120 version E	M.M.9120 version S - SR	M.M.9120 version S4 - SR4
Plate Ø	1200 mm	1200 mm	1200 mm
Inner ring Ø	480 mm	480 mm	432 mm
Capacity per ring	1 part Ø 450 mm to 175 parts Ø 20 mm	1 part Ø 450 mm to 175 parts Ø 20 mm	1 part Ø 350 mm to 225 parts Ø 10 mm
Number of rings	3	3	4
Electric power supply	400 V - 50 Hz - 3 phases + ground + neutral	400 V - 50 Hz - 3 phases + ground + neutral	400 V - 50 Hz - 3 phases + ground + neutral
Motor Power	7,5 kW	7,5 kW	7,5 kW
Control	7 inches touch screen	7 inches touch screen	7 inches touch screen
Plate rotation speed	From 30 to 90 tr/min	From 30 to 90 tr/min	From 30 to 90 tr/min
Pressure application system	n.a.	3 adjustable double-acting pneumatic cylinders	4 adjustable double-acting pneumatic cylinders
Applicable pressure	n.a.	150 à 2500 N	150 à 2500 N
Power-operated rotating bracket	no	Optional (M.M.9120 SR)	Optional (M.M.9120 SR4)
Dimensions (W x H x D)	2100 x 1840 x 1500 mm	2100 x 1840 x 2300 mm	2100 x 1840 x 2300 mm
Weight (without plate)	1000 kg	1200 kg	1400 kg
Abrasive distribution system	Optional - see table	Optional - see table	Optional - see table
Reference	10 9120E 00	10 9120S 00	10 9120S 40



SIMPLE SIDE LAPPING & POLISHING MACHINES

M.M.9150

As a result of our experience in the maintenance or production of large sealing parts, particularly for the petrochemical and nuclear sectors, we offer versions of our machines with plates of Ø 1500 mm, based on the M.M.9000 series.

The M.M.9150 is available in version E without pneumatic pressure and version S with pneumatic pressure.

Detailed specifications and a technical study are available on request.

EQUIPMENT

All machines in the M.M.9000 PREMIUM series are fitted as standard with an integrated modem for remote maintenance of the PLC.

They are compatible with dedicated

LAM PLAN dedicated feeders and can be fitted with an optional abrasive and lubricant level sensor.

Production data can be collected via the USB interface. Recipes can be imported and exported in CSV format. Recipes can be modified via Excel before being imported back into the machine.

M.M. 9150

Intensive production of parts: Ø 20 to 580 mm
Maintenance of large parts



AUTOPLAN Plotting and grooving the plate.





The AUTOPLAN system provides effective control of the flatness and grooving of the plate, which can be positioned and dismantled in just a few minutes using the dedicated fixing points built into the machine.



M.M.9150

Technical data	M.M.9150 version E	M.M.9150 version S
Plate Ø	1500 mm	1500 mm
Inner ring Ø	605 mm	605 mm
Capacity per ring	1 part Ø 580 mm to 263 parts Ø 20 mm	1 part Ø 580 mm to 263 parts Ø 20 mm
Number of rings	3	3
Electric power supply	400 V - 50 Hz 3 phase + ground + neutral	400 V - 50 Hz 3 phase + ground + neutral
Motor Power	7,5 kW	7,5 kW
Control	7-inch touch screen	7-inch touch screen
Plate rotation speed	From 30 to 90 rpm	From 30 to 90 rpm
Pressure application system	n.a.	3 adjustable double-acting pneumatic cylinders
Applicable pressure	n.a.	150 to 3000 N
Stem type	n.a.	Fixed
Dimensions (W x H x D)	2450 x 2100 x 1500 mm	2450 x 2200 x 2400 mm
Weight (without plate)	1700 kg	2000 kg
Abrasive distribution system	Optional - see table	Optional - see table
Reference	10 9150E 00	10 9150S 00

OPTIONS AND ACCESSORIES FOR M.M.9000 PREMIUM SERIES GRINDERS

	M.M.9380 E M.M.9480 E	M.M.9380 S M.M.9480 S	M.M.9700 E	M.M.9700 S	M.M.9914 E	M.M.9914 S	M.M.9100 E	M.M.9100 S
Motorised arm kit (KIT1093800BM) **Control unit for motorised arms** (109380UV00) **Motorised arm** (109380BM00)	✔	✔						
Stem E	✔ 109380PA00		✔ 109700PA00				✔ 109100PA00	
Micrometric ruler for checking the flatness of the honing plate	✔ 080089910	✔ 080089910	✔ 080089400	✔ 080089400	✔ 080089300	✔ 080089300	✔ 080089300	✔ 080089300
Level sensors for diamond and lubricating fluids (089000100)	✔	✔	✔	✔	✔	✔	✔	✔
LED lighting for S version (109000S10)		✔		✔		✔		✔
Torque spanner set (600148590)	✔	✔	✔	✔	✔	✔	✔	✔
Multi-abrasive option M.M.9000 (109000S20)	✔	✔	✔	✔	✔	✔	✔	✔
P803 cooling and heating unit (for honing plate) (108000390)	✔	✔	✔	✔	✔	✔	✔	✔
AUTOPLAN® System	✔ 109480AP00	✔ 109480AP00	✔ 109700AP00	✔ 109700AP00			✔ 109100AP00	✔ 109100AP00

	M.M.9100 SR	M.M.9120 E	M.M.9120 S	M.M.9120 SR	M.M.9120 S4	M.M.9120 SR4	M.M.9150 E	M.M.9150 S
Motorised arm kit (KIT1093800BM) **Control unit for motorised arms** (109380UV00) **Motorised arm** (109380BM00)								
Stem E								
Micrometric ruler for checking the flatness of the honing plate	✔ 080089300	✔ 080089500	✔ 080089500	✔ 080089500	✔ 080089500	✔ 080089500	✔ 080089700	✔ 080089700
Level sensors for diamond and lubricating fluids (089000100)	✔	✔	✔	✔	✔	✔	✔	✔
LED lighting for S version (109000S10)	✔		✔	✔	✔			✔
Torque spanner set (600148590)	✔	✔	✔	✔	✔	✔	✔	✔
Multi-abrasive option M.M.9000 (109000S20)	✔	✔	✔	✔	✔	✔	✔	✔
P803 cooling and heating unit (for honing plate) (108000390)	✔	✔	✔	✔			✔	✔
AUTOPLAN® System		✔ 109120AP00	✔ 109120AP00				✔ 109150AP00	✔ 109150AP00

DOUBLE-SIDE POLISHING MACHINES



M.M.2380 NEW VERSION

Reliable, optimised solution for double-sided honing and polishing.

Stable, reproducible results cycle after cycle

Developed on the basis of tried-and-tested technology, this optimised version is the perfect answer to your lapping or double-sided polishing requirements for production workpieces with diameters of between 5 and 30 mm.

The M.M.2380 can be fitted with LAM PLAN lapping plates, making it ideal for applications where precise geometry and dimensions are key criteria.

In addition, the possibility of combining the M.M.2380 with the TOUCHLAM® range of polishing surfaces will meet the demands of the watchmaking or optical sectors where a polished surface finish is the main criterion.

10.5' touch screen control interface

The architecture of the man-machine interface means that the equipment can be operated very quickly. This screen will display, among other things, the pressure applied to the parts and the motor torques in real time.

Stop quote

The M.M.2380 is equipped with a 'stop-cote' device. Irrespective of the cycle time, the machine automatically stops its cycle when the target workpiece thickness is reached.

M.M. 2380

Double-sided production for parts : Ø 5 to 30 mm

The plates (top and bottom) and central pinion are driven by brushless motors. This means that speeds and directions of rotation can be varied. The plates have an external diameter of 380 mm and can accommodate 5 satellites (useful capacity Ø 125 mm).

Technical data	M.M.2380
Plate capacity	5-satellite track Ø 380 mm ext. / Ø153 mm int.
Useful capacity	5 satellites Ø 125 mm
Plate rotation speed	0 to 120 rpm; bidirectional rotation
Pinion speed	0 to 80 rpm; bidirectional rotation
Plate and pinion motor power	0.75 kW for each motor
Max. applicable pressure	120 kg
Energy required	400 V - 50 Hz 3 phases + ground + neutral Compressed air 6 bars filtered 10 µm
Dimensions W x H x D (mm)	960 x 2030 x 780 work table height 1040
Cumulative power	2.5 kW
Noise level	<80 db at 1 metre
Weight	750 kg
Reference	10 23800 00



Drive sprockets available with teeth or pins.

DOUBLE-SIDE POLISHING MACHINES

Production support accessories

The M.M.2380 can be fitted with a solution for the rapid positioning of workpiece-carrying satellites. A 'rack' system can be used to store several satellites loaded by the operator in hidden time. The machine's gear ring has a removable part. When the polishing phase is complete, the operator can move the satellites and retrieve them directly from a magnetic shelf provided for this purpose. Conversely, the satellites (pre-filled with parts) can be loaded into the machine (to restart a new cycle) in the same way.

The FIXPAD® system combined with the FAS® plate will make it much easier to change polishing supports and adjust the fluid injection holes.

Accessories for M.M.2380

M.M.2380 flatness control ruler	08 00898 10
Cast iron plate Ø 380 Ra15x15	V0 15RID BL
Cast iron plate Ø 380 Ra15x15	V0 15RSD BL
Cast iron plate inf Ø 380 40R rad	V0 15RID BM
Cast iron plate Ø 380 40R rad	V0 15RSD BM
Toothed stainless steel central sprocket	10 1008 35
Stainless steel external crown with sect. teeth	10 1008 30
External toothed stainless steel crown	10 1008 32
FAS inf plate Ø 380 mm H 152 mm	09 FASINDP 400
FAS sup plate Ø 380 mm H 152 mm	09 FASSUDP 400
Satellite cast iron 66 Dents Rainu	10 1008 65
Satellite download system	09 2380DE 10
Satellite unloading system	09 2380DE 20
Tablet S satellite download	09 2380DE 30
Stainless steel external crown with Sect pins	10 1008 40
Stainless steel central pinion	10 1008 45

M.M.2380 new version, what's new: NEW

- You can save 96 recipes, each containing 5 sub-steps,
- Cooling the sequenced plate,
- Cleaning shower,
- End of cycle detachment' programme,
- Password-protected access, import/export of recipes on USB stick in CSV format,

Remote maintenance (connection required).

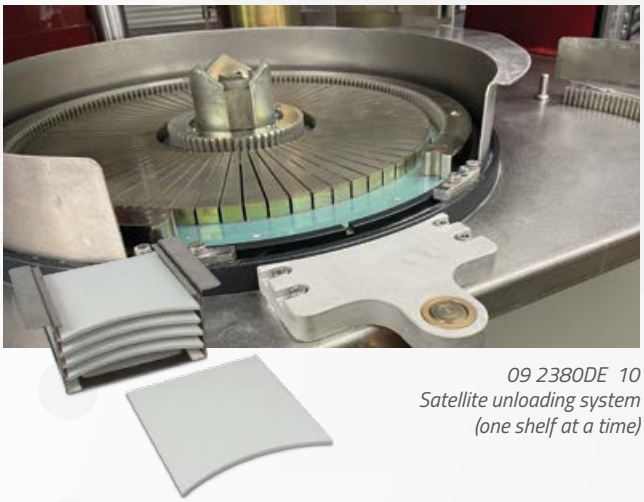
Consumables

TOUCHLAM® LAM PLAN offers its TOUCHLAM® range of discs, specially adapted to the dimensions of the machine's upper and lower plates with holes for distributing the abrasive product.

ECOA® Discover LAM PLAN's ECOA® range of abrasives specially designed for double-sided applications.



10.5' touchscreen



09 2380DE 10
Satellite unloading system
(one shelf at a time)



09 2380DE2 0
Satellite unloading system with preparation ramp



08 00898 10
Micrometric ruler

FIXPAD

See the ACCESSORIES section for details of the FIXPAD®.
This tool makes it quick and easy to position polishing discs on the top and bottom plates of double-sided machines.



MASTERLAM® Evolution

In order to answer to double-side polishing issues in small series or development phase, LAM PLAN proposes the MASTERLAM® Evolution, an original and innovating approach for double-side polishing.

The MASTERLAM® Evolution is a compact and economical solution for double-side polishing, to realise high quality polishing on any kind of small parts. This equipment is particularly well-adjusted for the finishing of watch components in small series, pre-series or prototyping.

Description

The MASTERLAM® Evolution is based on a simple kinematic proposing 2 movements: clock-wise or anti-clockwise rotation of the superior plate and the main cogwheel with speed programming. These 2 movements will allow you to respond to most of your needs in terms of polishing of small series of all types of materials.

Touch screen control panel

The 5.7 inches' touch screen in this machine will enable you to manage all the settings: cycle time, rotational speed, rotation movement, pressure during cycle and abrasives distribution sequences. This intuitive screen is also offering you the possibility to save more than 300 operating ranges. A water rinse phase is also possible at the end of the cycle.

A well-equipped and safe machine

The MASTERLAM® Evolution outer ring gear is made of 316 L stainless steel, assuring a durability of the moving parts. The machine is also equipped with two FAS® plates facilitating the setting up of the polishing cloths.

MASTERLAM®

Small series & double-side prototyping for parts: Ø 5 to 20 mm

Technical data	MASTERLAM® Evolution
Plate Capacity	7 carriers track Ø 250 mm ext. Ø 130 mm int.
Useful capacity	7 satellites Ø 65 mm
Superior plate rotational speed	20 to 150 rpm; Bidirectional rotation
Cogwheel rotational speed	20 to 150 rpm; Bidirectional rotation
Cogwheel motor power	0.75 kW
Superior plate motor power	0.2 kW
Pressure	5 to 400 N
Required energies	230 V-50 Hz single-phase Compressed air 6 bars filtered 10 µm
Dimensions (WxHxD)	550 x 670 x 670 mm
Total power	2.5 kW
Noise level	< 80 db at 1 metre away
Weight	95 kg
Reference	6 0ML1EVO 00



Lifting and lowering of the superior plate with pneumatic cylinder

DOSING UNIT

Automated dosing

Automated dosing ensures precise, even product distribution. This is the solution for controlling the abrasive film and lubrication. Material removal performance and temperature control depend directly on the quality and consistency of the abrasive film.

Different settings, distribution intervals, spraying times and nozzle positioning ensure consistent, reproducible polishing results and savings on consumables.

A dosing solution for every product and every application.

The venturi system is reserved for products with low viscosity and high settling rates, such as certain oil bases. The peristaltic system is more versatile and has the advantage of not generating mist.

The large-capacity dispensers in the 8000 series are based on vortex pump systems for models 8003 and 8007, and high-flow peristaltic pumps for model 8017. These different models are suitable for the large product distributions generally required by production applications. They are mainly reserved for abrasives from the SiC family, which have a strong tendency to settle.



DOSING UNITS LAM PLAN, CHARACTERISTICS

DOSING UNIT Designation	Pump type	Distribution	No. of pumps	Capabilities	Continuous flow rate per pump*	Products compatible	Stirring	Slave version LAM PLAN	Autonomous adaptable version
709	Peristaltic	Drip	2	2 x 500 cc	0,5 ml/sec.	Water base	Yes/1 bottle	08 01709 00	n.a.**
710	Peristaltic	Drip	2	2 x 500 cc	0,5 ml/sec.	Oil base	Yes/1 bottle	0801710 00	n.a.
719	Venturi	Spraying	2	2 x 500 cc	n.a.	Oil base + decantation	Yes/1 bottle	08 01719 00	n.a.
909	Peristaltic	Drip	3	3 x 500 cc	0,5 ml/sec.	Water base	Optional	n.a.	08 03799 00
909 HV	Peristaltic	Drip	2 standard 1 high-speed	3 x 500 cc	0,5 ml/sec. 3,5 ml/sec.	Water base + high viscosity	Optional	n.a.	08 007992 00
910	Peristaltic	Drip	2	2 x 500 cc	0,5 ml/sec.	Oil base	Yes/1 bottle	n.a.	08 00799 30
910.2	Peristaltic	Drip	4	4 x 500 cc	0,5 ml/sec.	Oil base	Yes/ 2 bottles	n.a.	08 00799 40
910.3	Peristaltic	Drip	6	6 x 500 cc	0,5 ml/sec.	Oil base	Yes/ 4 bottles	n.a.	08 00799 50
920	Venturi	Spraying	2	2 x 500 cc	n.a.	Oil and water base	Yes/1 bottle	n.a.	08 00799 30
920.2	Venturi	Spraying	4	4 x 500 cc	n.a.	Oil and water base	Yes/ 2 bottles	n.a.	08 00799 40
920.3	Venturi	Spraying	6	6 x 500 cc	n.a.	Oil and water base	Yes/ 3 bottles	n.a.	08 00799 50
8017	Peristaltic	By casting	1	7 L	3,5 ml/sec.	All	Yes	08 08017 00	08 18017 00
8003	Vortex	By casting	1	50 L	50 L/min.	All	Yes	W00008003	W001 08003
8007	Vortex	By casting	1	7 L	25 L/min.	All	No	W00008007	W001 08007

**depends on the viscosity of the liquid used. **not applicable*

Dedicated dosing units for LAM PLAN machines

This series of dispensers is fitted to LAM PLAN lapping machines. They are controlled from the machine interface and are fully integrated into the programming cycles.

The different models can be used to dispense all types of products.

The range of nozzles available covers all machine diameters LAM PLAN.



DOSING UNIT 709 - PERISTALTIC

Peristaltic model for WATER-BASED abrasives.

Technical data	709 - Peristaltic
Reference	08 01709 00
Capacity	2 x 500 cc
Pump	2
Pump flow rate	0,5 ml/sec.
Stirrer	1
Distribution system	Nozzles not included, see machine recommendation.
Electric power supply	220V single-phase + 24V control input



DOSING UNIT 710 - PERISTALTIC

Peristaltic model for OIL-BASED and EMULSION abrasives - High-capacity pumps.

Technical data	710 - Peristaltic
Reference	08 01710 00
Capacity	2 x 500 cc
Pump	2 - large-capacity type
Pump flow rate	3,5 ml/sec.
Stirrer	1
Distribution system	Nozzles not included, see machine recommendation.
Electric power supply	220V single-phase + 24V control input



DOSING UNIT 719 - VENTURI

Venturi model for OIL-BASED and EMULSION abrasives with settling tendency.

Technical data	719 - Venturi
Reference	08 01719 00
Capacity	2 x 500 cc
Venturi	2
Pump flow rate	n.a.
Stirrer	1
Distribution system	Nozzles not included, see machine recommendation.
Electric power supply	220V single-phase + 24V control input

OPTIONAL LEVEL SENSORS

Level sensor for diamond and lubricant fluids.

Designation	Qty	Ref.
Level Sensor of Diamond Liquid/Lub	1	08 90001 00

DOSING UNIT

Compact stand-alone dosing units

The 909 and 909HV compact stand-alone dosing units make it easy to equip small-capacity machines with a high-performance dosing system. Their compact size makes them ideal for retrofitting equipment. They are designed for dispensing water-based abrasives with low decantation.

The possibility of connecting one or 2 stirrers (optional) extends the range of uses for these devices.

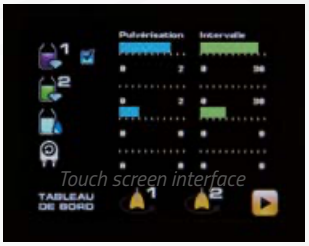
Recommended for machines from Ø 380 to 700 mm.



DOSING UNIT 909 - PERISTALTIC

WATER-BASED abrasive model.

Technical data	909 - Peristaltic
Reference	08 03799 00
Capacity	3 x 500 cc
Pump	3 standard peristaltic pumps
Pump flow rate	0,5 ml/sec.
Stirrer	2 in option
Drain function	yes - by flow inversion
Distribution system	Nozzles not included, see machine recommendation.
Electric power supply	220V single-phase - 50 Hz
Communication dosing unit and machine	1 24 V input for machine control



Touch interface

DOSING UNIT 909 HV- PERISTALTIC

Model equipped with 2 standard pumps and a high-flow pump recommended for high-viscosity abrasive liquids, can be used for small quantities of SiC abrasive.

Technical data	909 HV- Peristaltic
Reference	08 00799200
Capacity	3 x 500 cc
Pump	2 standard peristaltic pumps 1 high-flow peristaltic for high-viscosity liquids
Pump flow rate	0,5 ml/sec. / 3,5 ml/sec.
Stirrer	2 in option
Drain function	yes - by flow inversion
Distribution system	Nozzles not included, see machine recommendation.
Electric power supply	220V single-phase - 50 Hz
Communication dosing unit and machine	1 24 V input for machine control

STIRRER OPTION

Helps manage settling problems in the liquid bottle. Up to 2 stirrers can be added to each 909 dosing unit.

Designation	Qty		Ref.
Stirrer for 909 dosing units	1	for 500 cc glass bottle	08 02816 00



Stirrer for 909 dosing unit

Modular stand-alone automated dosing units

With TYPE 910 peristaltic dosing units for oil-based diamond abrasives with low decantation and TYPE 920 venturi dosing units for oil- and water-based diamond abrasives with high decantation, you can equip all types of machine with an autonomous, modular and programmable dosing system.

The separate control unit allows the positioning of the module(s) to be adapted to the machine configuration.



910 dosing unit



910.2 dosing unit



910.3 dosing unit

DOSING UNITS SERIES 910 - PERISTALTICS

Models for low-settling OIL-BASED abrasives.

Technical data	SERIES 910
Drain function	No
Distribution system	Nozzles not included, see machine recommendation.
Electric power supply	220V single-phase - 50 Hz
Communication dosing unit and machine	1 24 V input for machine control

Models	910	910.2	910.3
Applications	For machines from Ø 380 to 700 mm.	For machines from Ø 762 to 1000 mm.	For machines from Ø 1200 to 1500 mm.
References	08 MM910A 00	08 MM910A 20	08 MM910A 30
Capabilities	2 x 500 cc	4 x 500 cc	6 x 500 cc
Pumps	2 - large-capacity type	4 - large-capacity type	6 - large-capacity type
Stirrers	1	2	3



920 dosing unit



920.2 dosing unit



920.3 dosing unit

DOSING UNITS SERIES 920 - VENTURI

Models for high-settling OIL-BASED and WATER-BASED abrasives.

Technical data	SERIES 920
Drain function	yes
Distribution system	Nozzles not included, see machine recommendation.
Electric power supply	220V single-phase - 50 Hz
Communication dosing unit and machine	1 24 V input for machine control

Models	920	920.2	920.3
Applications	For machines from Ø 380 to 700 mm.	For machines from Ø 762 to 1000 mm.	For machines from Ø 1200 to 1500 mm.
References	08 MM920A 00	08 MM920A 20	08 MM920A 30
Capabilities	2 x 500 cc	4 x 500 cc	6 x 500 cc
Venturis	2	4	6
Stirrers	1	2	3

Dosing pumps

These dispensing systems are suitable for any type of abrasive immersed in a liquid. They solve the problem of settling and guarantee regular and guarantee regular, repeatable results. Contact us if you would like to link the dosing unit/pum to your honing machine.

DOSING PUMP TYPE 8003

Model for ALL TYPES OF ABRASIVES dispensed in large quantities, controlled by the machine interface or by an integrated sequencer for the autonomous version

Technical data	8003
References	W000 08003 - slave version for LAM PLAN machine W001 08003 - autonomousversion
Capacity	50 liters capacity with drain valve
Pump	1 vortex type
Pump flow rate	50 liters/minute
Stirrer	Yes - variable speed paddle mixer
Drain function	yes
Distribution system	3-way adjustable outlet. 3-way solenoid valve
Dimensions	H 870 mm X floor Ø 600 mm
Electric power supply	220V single-phase - 50 Hz
Communication dosing unit and machine	1 24 V input for machine control
Option	Low abrasive warning system for 9000 series machines - Ref. 08 90002 00



Autonomous version

DOSING PUMP 8007

Model for ALL TYPES OF ABRASIVES dispensed in large quantities, controlled by the machine interface or by an integrated sequencer for the autonomous version.

Technical data	8007
References	W000 08007 - slave version for LAM PLAN machine W001 08007 - autonomous version
Capacity	Useful tank volume 7 liters
Pump	1 vortex type
Pump flow rate	25 liters/minutes
Stirrer	no
Distribution system	3-way adjustable outlet. 3-way solenoid valve
Dimensions	H 420 mm X floor Ø 250 mm
Electric power supply	220V single-phase - 50 Hz
Communication dosing unit and machine	1 24 V input for machine control



DOSING PUMP 8017

Model for ALL TYPES OF ABRASIVE. Controlled by the machine interface or by an integrated sequencer for the stand-alone version.

Technical data	8017
References	08 08017 00 - slave version for LAM PLAN machine 08 18017 00 - autonomous version
Capacity	Useful tank volume 7 liters
Pump	1 peristaltic
Pump flow rate	3,5 ml/sec.
Stirrer	yes - paddle mixer
Distribution system	Nozzle 813 on mobile stand sold separately
Dimensions	H 430 mm X floor Ø 250 mm
Electric power supply	220V single-phase - 50 Hz
Communication dosing unit and machine	1 24 V input for machine control



DOSING UNIT LAM PLAN, CHARACTERISTICS

Designation DOSING UNITS	Pump type	Distribution	No. of pumps	Capabilities	Continuous flow rate per pump*	Products compatible	Stirring	Slave version LAM PLAN	Autonomous adaptable version
709	Péristaltique	Drip	2	2 x 500 cc	0,5 ml/sec.	Water base	Yes/1 bottle	0801709 00	n.a.**
710	Peristaltic	Drip	2	2 x 500 cc	0,5 ml/sec.	Oil base	Yes/1 bottle	0801710 00	n.a.
719	Venturi	Spraying	2	2 x 500 cc	n.a.	Oil base + decantation	Yes/1 bottle	0801719 00	n.a.
909	Peristaltic	Drip	3	3 x 500 cc	0,5 ml/sec.	Water base	Optional	n.a.	08 03799 00
909 HV	Peristaltic	Drip	2 standard 1 high-speed	3 x 500 cc	0,5 ml/sec. 3,5 ml/sec.	Water base + high viscosity	Optional	n.a.	08 00799200
910	Peristaltic	Drip	2	2 x 500 cc	0,5 ml/sec.	Oil base	Yes/1 bottle	n.a.	08 00799 30
910.2	Peristaltic	Drip	4	4 x 500 cc	0,5 ml/sec.	Oil base	Yes/ 2 bottles	n.a.	08 00799 40
910.3	Peristaltic	Drip	6	6 x 500 cc	0,5 ml/sec.	Oil base	Yes/ 4 bottles	n.a.	08 00799 50
920	Venturi	Spraying	2	2 x 500 cc	n.a.	Oil and water base	Yes/1 bottle	n.a.	08 00799 30
920.2	Venturi	Spraying	4	4 x 500 cc	n.a.	Oil and water base	Yes/ 2 bottles	n.a.	08 00799 40
920.3	Venturi	Spraying	6	6 x 500 cc	n.a.	Oil and water base	Yes/ 3 bottles	n.a.	08 00799 50
8017	Peristaltic	By casting	1	7 L	3,5 ml/sec.	All	Yes	08 08017 00	08 18017 00
8003	Vortex	By casting	1	50 L	50 L/min.	All	Yes	W00008003	W00108003
8007	Vortex	By casting	1	7 L	25 L/min.	All	Non	W00008007	W00108007

**depends on the viscosity of the liquid used. **not applicable*



Nozzles 813 and 813 LH



Nozzles 811 L and 811 HL



Nozzles 815, 815 L and 815 XL with anti-fog system



Distribution system for dosing unit type 8003 and 8007

Consumables for dosing units

CONSUMABLES FOR 709

Designation	Ref.
Versitec silicone hose Ø 5-3 per meter - Water base	60 00271 90
Peristaltic pump body standard model	60 00667 90
Stirring paddle for dosing unit	08 00124 90

CONSUMABLES FOR 710

Designation	Ref.
Hose Ø 7-3,2 Yellow for - Oil base - Emulsion base - Sold by the metre	08 1050 10
Peristaltic Pump for M.M.710	60 01291 90
Stirring paddle for dosing unit	08 00124 90

CONSUMABLES FOR 719 AND 920

Designation	Ref.
Flexible Crystal Hose Ø 6-3 (venturi) per meter - Oil and water base	60 00270 90
Stirring paddle for dosing unit	08 00124 90

CONSUMABLES FOR 909

Designation	Ref.
Versitec silicone hose Ø 5-3 per meter - Water base	60 00271 90
Peristaltic pump body standard model	60 00667 90
HV peristaltic pump body	60 00893 90
Versitec silicone hose Ø 7-4 per metre	60 00272 90
Stirring paddle for dosing unit	08 00124 90

CONSUMABLES FOR 8017

Designation	Ref.
HV peristaltic pump body - Water base	60 00893 90
Versitec silicone hose Ø 7-4 per meter	60 00272 90

NOZZLES

Designation	Lapping machine	Product	Dosing unit type	Ref.
813	Ø 381 to 700 mm	Water base	Peristaltic	08 00813 00
813 L	Ø 910 to 1500 mm			08 00813 10
813 H	Ø 381 to 700 mm	Oil and emulsion bases		08 00813 20
813 LH	Ø 910 to 1500 mm			08 00813 40
811	Ø 381 to 700 mm	Water base		08 00811 00
811 L	Ø 910 to 1500 mm			08 00811 10
811 H	Ø 381 to 700 mm	Oil and emulsion bases		08 00811 40
811 LH	Ø 910 to 1500 mm			08 00811 20
815	Ø 381 to 700 mm	All bases	Venturi	08 00815 20
815 L	Ø 910 to 1000 mm			08 00815 40
815 XL	Ø 1200 to 1500 mm			08 00815 60

GLASS BOTTLES

Designation	Qty.		Ref.
Glass bottle	2	500 cc	08 02804 00
Glass bottle / stopper / tube	3	For 909 and 909 HV	08 01804 00

ACCESSORIES

Cast iron conditioning rings



We carefully select special high quality cast iron for optimum, durable results.
Suitable for all lapping machines, whatever the brand or size.
Available from stock or produced to order.

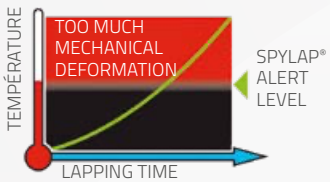
Compatible machines	Ø plates	Ø (mm)		Height	Weight	Ref.
		Ext.	Int.	mm	kg	1 piece
	14"	166	130	45,5	2,28	U166 A0355
M.M. 9400 (Ø 381 mm)	15"	178	140	45,5	2,97	U178 A0381
M.M. 9480 (Ø 480 mm)	19"	218	182	45,5	4,20	U218 A0480
M.M. 9600 (Ø 610 mm)	24"	286	248	70	7,84	U286 A0610
M.M. 9700 (Ø 700 mm)	27"	315	275	70	9,24	U315 A0711
M.M. 9914 (Ø 914 mm)	36"	419	368	100	20,80	U419 A0914
M.M. 9100 (Ø 1000 mm)	40"	457	406	100	24	U457 A1000
M.M. 9120 (Ø 1200 mm)	48"	545	480	100	36,60	U545 A1219
M.M. 9120 (Ø 1200 mm)	(4x) 48"	510	432	125	41	U510 A1219
M.M. 9150 (Ø 1500 mm)	59"	685	605	125	55	U685 A1500

ECORING ceramic self-self-lapping rings NEW



Prevent mechanical deformation problems. Ceramic rings enable you to keep your plates flat and control their heating, while limiting pollution thanks to the absence of graphite. The new ECORING ring system has the economic advantage of being able to be reloaded when worn. The studs can be removed and REFILL PACKS are available.

The SPYLAP® detector enables the user to visually prevent excessive mechanical deformation of the honing (or polishing) surface and the workpieces being honed. The SPYLAP® continuously senses the temperature of the substrate and switches from black to red at a predefined temperature.





Standby



Alert

ECORING CERAMIC RINGS SPYLAP®

1 piece

Designation	Ø int. (mm)	Compatible machines	Ref.
Ring ECORING Dint 140	140	15" - Ø 381 mm	08 94006 30
Ring ECORING Dint 182	182	19" - Ø 480 mm	08 94806 30
Ring ECORING Dint 248	248	24" - Ø 610 mm	08 96106 30
Ring ECORING Dint 275	275	27" - Ø 700 mm	08 97006 30
Ring ECORING Dint 368	368	36'' - Ø 914 mm	08 99106 30
Ring ECORING Dint 406	406	40" - Ø 1000 mm	08 91006 30
Ring ECORING Dint 480	480	48" - Ø 1200 mm	08 91206 30
Ring ECORING Dint 605	605	58" - Ø 1500 mm	08 91506 30

REFILL PACKS OF ECORING CERAMIC STUDS SPYLAP®

Designation	Specifications	Ref.
Studs recharge pack 140	25 studs for ring Ø int.140	09 10119 80
Studs recharge pack 182	30 s tuds for ring Ø int.182	09 10119 81
Studs recharge pack 248	33 studs for ring Ø int. 248	09 10119 82
Studs recharge pack 275	36 studs for ring Ø int. 275	09 10119 83
Studs recharge pack368	46 studs for ring Ø int. 368	09 10119 89
Studs recharge pack 406	50 studs for ring Ø int. 406	09 10119 84
Studs recharge pack 480	45 studs for ring Ø int. 480	09 10119 85
Studs recharge pack 605	50 studs for ring Ø int. 605	09 10119 86

PVC rings NEW

Plastic rings are recommended for holding workpieces to be polished on cloth supports. The new system of ECORING rings offers the economic advantage of being able to be recharged when worn. The PVC studs can be removed and REFILL PACKS are available.

ECORING PVC RINGS

1 piece

Designation	Ø int. (mm)	Height	Compatible machines	Ref.
Ring ECORING PVC Dint 140	140	41	15" - Ø 381 mm	08 94001 30
Ring ECORING PVC Dint 182	182	43,5	19" - Ø 480 mm	08 94801 30
Ring ECORING PVC Dint 248	248	46	24" - Ø 610 mm	08 96101 30
Ring ECORING PVC Dint 275	275	51	27" - Ø 700 mm	08 97001 30
Ring ECORING PVC Dint 386	386	51	36" - Ø 914 mm	08 99141 30
Ring ECORING PVC Dint 406	406	81	40" - Ø 1000 mm	08 91001 30



REFILL PACKS OF ECORING PVC STUDS

Designation	Specifications	Ref.
Studs PVC recharge pack 140	25 studs for ring Ø int. 140	09 10129 80
Studs PVC recharge pack 182	25 studs for ring Ø int. 182	09 10129 81
Studs PVC recharge pack 248	25 studs for ring Ø int. 248	09 10129 82
Studs PVC recharge pack 275	25 studs for ring Ø int. 275	09 10129 83
Studs PVC recharge pack 386	25 studs for ring Ø int. 386	09 10129 87
Studs PVC recharge pack 406	25 studs for ring Ø int. 406	09 10129 84

Interleaving discs

PROTECTION DISCS 881 SERIES

Designation	Qty.	Dim. (mm)	Ref.
Protection disc Thickness : 1,4 mm	10	138	08 83501 00
	10	180	08 94801 00
	10	245	08 86001 00
	10	275	08 87501 00
	10	368	08 89101 00
	10	406	08 81001 00
	10	480	08 81201 00



881 series

COMPENSATING DISCS 883 SERIES

Designation	Qty.	Dim. (mm)	Ref.
Compensation disc	3	138	08 83503 00
	3	180	08 94803 10
	3	245	08 86003 00
	3	275	08 87503 00
	3	368	08 89103 00
	3	406	08 81003 00
	3	480	08 81203 00



883 series

Holder discs

HOLDER DISC 885 SERIES

Designation	Qty.	Dim. (mm)	Ref.
Non-slip holder disc for thin thickness. Thickness 4 mm.	3	138	08 83505 00
	3	180	08 94805 00
	3	245	08 86005 00
	3	275	08 87505 00
	3	368	08 89105 00
	3	406	08 81005 00
	3	480	08 81205 00

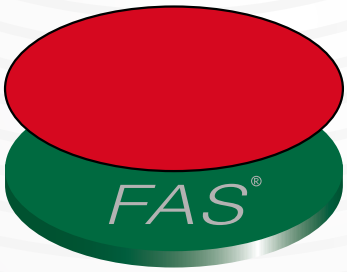


885 Series

FAS® system

PLATES WITH ANTI-ADHESION COATING FOR SELF-ADHESIVE SUPPORT

Self-adhesive support



FAS® Plate

Designation	Qty.	Ø in mm	Ref.
FAS® plate	1	381	09 FAS00 40
	1	400	09 FAS00 80
	1	480	09 FAS00 30
	1	610	09 FAS00 60
	1	700	09 FAS00 70

TREATMENT OF YOUR PLATES WITH THE FAS® COATING

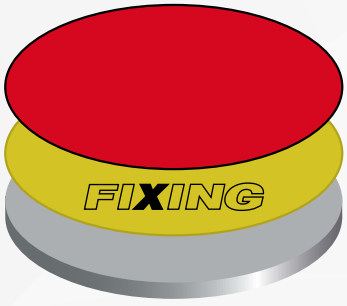
Designation	Qty.	Ø in mm	Ref.
FAS® plate coating	1	80	09 FAS0R 02
	1	220	09 FAS0R 05
	1	250	09 FAS0R 10
	1	300	09 FAS0R 50
	1	381	09 FAS0R 40
	1	400	09 FAS0R 80
	1	480	09 FAS0R 30
	1	500	09 FAS0R 51
	1	520	09 FAS0R 52
	1	610	09 FAS0R 60
	1	700	09 FAS0R 70
	1	910	09 FAS0R 90
	1	1000	09 FAS0R 100

Other diameters on request

FIXING® discs

Semi-flexible support disc: 1 self-adhesive side. Allow easy sticking and unsticking of large self-adhesive polishing supports.

Self-adhesive support



Metal plate

Designation	Qty.	Ø in mm	Ref.
FIXING® discs	5	381	TFIX 603 80
	5	400	TFIX 604 00
	1	480	TFIX 604 80
	1	550	TFIX 605 50
	1	610	TFIX 606 10
	1	700	TFIX 607 00
	1	914	TFIX 609 14

ACCESSORIES

Specific carriers

CARRIERS SERIES 884 FOR SINGLE SIDE MACHINES

Easily usinable plastic disc holding your parts during the lapping process. 3mm thick.
On demand, PMMA carriers are delivered with honeycomb cells according to the dimension of your parts.

Designation	Qty.	Dim. (mm)	Ref.
PVC carriers for the production of holding grids	3	138	08 83504 00
	3	180	08 94804 00
	3	245	08 86004 00
	3	275	08 87504 00
	3	368	08 89104 00
	3	406	08 81004 00
	3	480	08 81204 00
Self-adhesive thermoplastic skids	600	Ø 12	UPAT 012AC
	100	Ø 12	UPAT 012ACU100
	600	Ø 20	UPAT 020AC



Self-adhesive thermoplastic skids

CARRIERS FOR DOUBLE-SIDE MACHINES

The carriers are used to maintain the parts on the double-side machine. Their conception is realised according to the geometry of your parts or according to your drawings. Our carriers are available in a wide range of thickness, from a few millimetres to 200 µm.

Depending on your application and the nature of your parts, we propose our carriers in a large range of materials, such as stainless steel, blue steel (hardened until 600 Hv), glass fibre, aramid, PVC, epoxy,... For any double-side machine brand.



Designation
Epoxy carrier
PVC carrier
Metallic carrier

Avantages

- Excellent flatness and parallelism
- Quality of cuts
- Very low thickness dispersal
- Cuts atypical forms.

Exemples of application domain

- Optical
- Watchmaking
- Mechanic industry
- LED and semi-conductors.



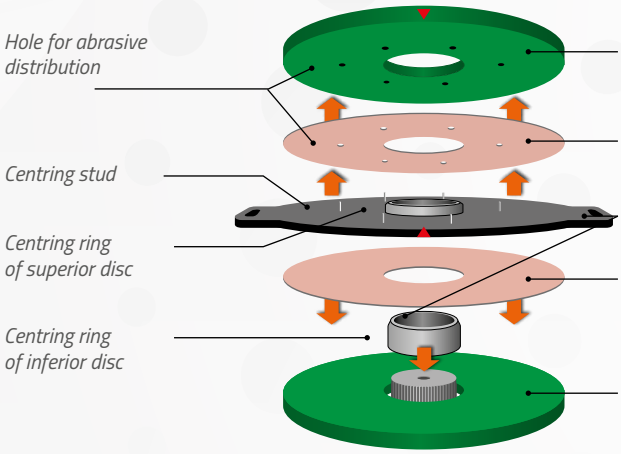
Fixpad® system

FIXPAD® is a tool that allows simple and fast positioning of polishing discs on the plates of double-side machines.

Developed by LAM PLAN, FIXPAD® allows you to stick the discs to the plate without trapping air bubbles and without folds. Due to its design and thanks to the pre-cut TOUCHLAM® discs, the installation of discs on the upper plates is carried out in just seconds. The FIXPAD® pins guide the positioning of the pad when inserted in the distribution holes of the upper plate. This tool will simplify the installation of polishing pads and will limit machine stoppage time.

Designation	Ref.
FIXPAD® system for double-side machine	97 02033 00
FIXPAD® system for SOMOS DP400 machine	97 02034 00

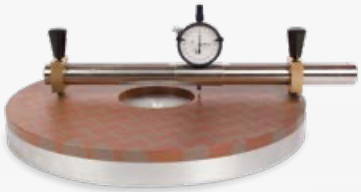
FIXPAD



Micrometric gauges



Micrometric gauge for Ø 200 to 600 mm machines



For a fast and precise check of your lapping plates, with a direct reading of the measurements. Precision: 1 µm. Each set includes:

- 1 marble, accuracy : 0,8 µm.
- 1 gauge made of stabilised aluminium or stainless steel for machines Ø 200 to 600 mm.
- 1 micron comparator.
- 1 transport and storage case.
- 1 user guide with charts and mapping formulas.

Designation	Qty.	Ref.
For machine Ø 200 to 400 mm	1	08 00898 00
For machine Ø 400 to 600 mm	1	08 00899 10
For machine Ø 610 mm	1	08 00892 00
For machine Ø 700 mm	1	08 00894 00
For our machine Ø 1000 mm	1	08 00893 00
For machine Ø 1200 mm	1	08 00895 00
For machine Ø 1500 mm	1	08 00897 00

Monochromatic lamps

The use of a monochromatic lamp and an optical flatness gauge allow a simple reading of the geometry of your parts for their flatness check. The light from the low pressure sodium vapour bulb has a specific wavelength compatible with LAM PLAN's optical gauge.



Monochromatic lamp and optical gauges

REMOVABLE MONOCHROMATIC LAMP

Designation	Qty.	Ref.
Removable monochromatic lamp with Ø 200 mm mirror	1	08 00801 00
Spare bulb 18 w	1	08 00801 90

Control capacity	Gauge Ø 150 mm maximum
W x D x H	280 x 330 x 390 mm



Removable, usable without its stand

MONOCHROMATIC LAMP MAX NEW

Designation	Qty.	Ref.
Monochromatic lamp MAX	1	08 00803 00
Spare bulb 36 w	1	08 00803 10

Control capacity	Optical gauge Ø300 mm maximum
W x D x H	380 x 330 x 390 mm

Optical gauges

Our new range of quartz optical gauge is also available on demand with boring or in a rectangular shape..

Ø (mm)	Thickness (mm)	Number of faces	Accuracy	Ref.
50	10	1	Lambda/10	08 01805 00
75	15	1	Lambda/10	08 01807 00
100	17	1	Lambda/10	08 01810 00
125	20	1	Lambda/10	08 01812 00
150	25	1	Lambda/10	08 01814 00
200	30	1	Lambda/10	08 01820 00
250	35	1	Lambda/10	08 01825 00
300	40	1	Lambda/10	08 01830 00
50	10	2	Lambda/10	08 00805 00
75	15	2	Lambda/10	08 00807 00
100	17	2	Lambda/10	08 00810 00
125	20	2	Lambda/10	08 00812 00
150	25	2	Lambda/10	08 00814 00
200	30	2	Lambda/10	08 00820 00
250	35	2	Lambda/10	08 00825 00
300	40	2	Lambda/10	08 02830 00



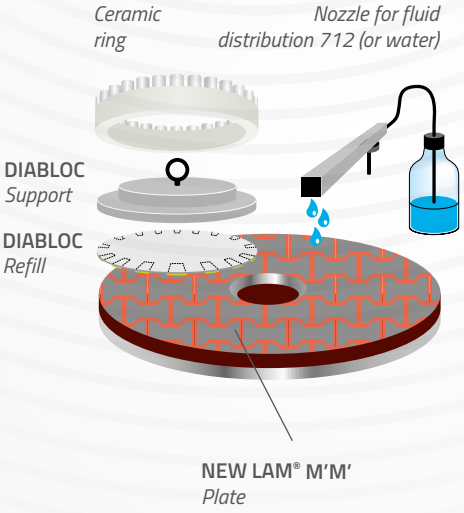


Plate maintenance and integrated reconditioning and grooving system

DIABLOC SYSTEM

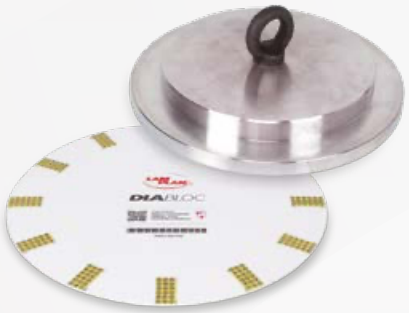
The reconditioning of composite plates can be carried out in different ways.

The DIABLOC is a self-adhesive disc which has a series of diamond pellets. It is stuck onto a stable and lapped aluminium support. It allows the reconditioning of NEW LAM®M'M', EVOLAM ULTIMATE and 2000 series plates. It corrects distortion and surface faults (glazing, scratching) of your plates. The new VIOLET and BLACK DIABLOCS are more aggressive, enabling you to accelerate the reconditioning phase notably on large diameter plates.

DIABLOCS

1 holder + 1 disc

Designation	For plate Ø	Ø in mm	Ref.
DIABLOC BLACK Super aggressive. **For COMPOSITE rough lapping plates in great diametre.**	Ø 381 mm	178	08 00907 60
	Ø 480 mm	224	08 00907 64
	Ø 610 mm	286	08 00907 70
	Ø 700 mm	315	08 00907 90
	Ø 914 mm	419	08 00907 80
	Ø 1000 mm	451	08 009071 80
	Ø 1200 mm 4 rings	500	08 009075 00
	Ø 1200 mm	545	08 00907 00
DIABLOC PURPLE Aggressive. **For COMPOSITE rough lapping plates.**	Ø 381 mm	178	08 00906 60
	Ø 480 mm	224	08 00906 64
	Ø 610 mm	286	08 00906 70
	Ø 700 mm	315	08 00906 90
	Ø 914 mm	419	08 00906 80
	Ø 1000 mm	451	08 00906180
	Ø 1200 mm 4 rings	500	08 009065 00
	Ø 1200 mm	545	08 00906 00
	Ø 1500 mm	available on request	
DIABLOC BLUE **For fine and super finish COMPOSITE lapping plates lapping plates in great diametre.**	Ø 381 mm	178	08 00900 60
	Ø 480 mm	224	08 00900 64
	Ø 610 mm	286	08 00900 70
	Ø 700 mm	315	08 00900 90
	Ø 914 mm	419	08 00900 80
	Ø 1000 mm	451	08 00900180
	Ø 1200 mm 4 rings	500	08 009005 00
	Ø 1200 mm	545	08 00900 00
DIABLOC GREEN **For fine and super finish COMPOSITE lapping plates.**	Ø 381 mm	178	08 00901 60
	Ø 480 mm	224	08 00901 64
	Ø 610 mm	286	08 00901 70
	Ø 700 mm	315	08 00901 90
	Ø 914 mm	419	08 00901 80
	Ø 1000 mm	451	08 009011 80
	Ø 1200 mm 4 rings	500	08 009015 00
	Ø 1200 mm	545	08 00901 00
	Ø 1500 mm	available on request	



ACCESSORIES

Mains plate Ø	EVOLAM	NEW LAM M'M'		
	Ultimate	Blue	Green	Yellow
381 mm (15")	■	■	■	■
480 mm	■	■	■	■
610 mm (24")	■	■	■	■ ■ ■
700 mm	■	■	■	■ ■ ■
914 mm (36")	■	■	■ ■	■
1000 mm	■	■	■ ■	■
1200 mm (48")	■	■	■ ■	■

GUIDANCE

Depending on the plate to be reconditioned, the right DIABLOC can be chosen

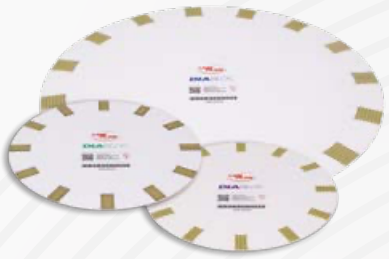
There are four variants designed with different degrees of aggressiveness:

- Black - super agressive
- Purple - agressive
- Blue DIABLOC - for finishing plate great diametre
- Green DIABLOC - for finishing plate

REFILLS FOR DIABLOCS

1 piece

Designation	For plate Ø	Ø in mm	Ref.
■ **REFILLS DIABLOC BLACK** Super aggressive. **For COMPOSITE rough lapping plates in great diametre.**	Ø 381 mm	178	08 01907 60
	Ø 480 mm	224	08 01907 64
	Ø 610 mm	286	08 01907 70
	Ø 700 mm	315	08 01907 90
	Ø 914 mm	419	08 01907 80
	Ø 1000 mm	451	08 019071 80
	Ø 1200 mm 4 rings	500	08 019075 00
	Ø 1200 mm	545	08 01907 00
■ **REFILLS DIABLOC PURPLE** Aggressive. **For COMPOSITE rough lapping plates.**	Ø 381 mm	178	08 01906 60
	Ø 480 mm	224	08 01906 64
	Ø 610 mm	286	08 01906 70
	Ø 700 mm	315	08 01906 90
	Ø 914 mm	419	08 01906 80
	Ø 1000 mm	451	08 019061 80
	Ø 1200 mm 4 rings	500	08 019065 00
	Ø 1200 mm	545	08 01906 00
	Ø 1500 mm	available on request	
■ **REFILLS DIABLOC BLUE** **For fine and super finish COMPOSITE lapping plates lapping plates in great diametre.**	Ø 381 mm	178	08 01900 60
	Ø 480 mm	224	08 01900 64
	Ø 610 mm	286	08 01900 70
	Ø 700 mm	315	08 01900 90
	Ø 914 mm	419	08 01900 80
	Ø 1000 mm	451	08 01900180
	Ø 1200 mm 4 rings	500	08 01901500
	Ø 1200 mm	545	08 01900 00
■ **REFILLS DIABLOC GREEN** **For fine and super finish COMPOSITE lapping plates.**	Ø 381 mm	178	08 01901 60
	Ø 480 mm	224	08 01901 64
	Ø 610 mm	286	08 01901 70
	Ø 700 mm	315	08 01901 90
	Ø 914 mm	419	08 01901 80
	Ø 1000 mm	451	08 019011 80
	Ø 1200 mm 4 rings	500	08 019015 00
	Ø 1200 mm	545	08 01901 00
	Ø 1500 mm	available on request	



AUTOPLAN system

The AUTOPLAN system enables efficient plate flatness and grooving in order to create structures which modifier it's properties. The principle lies in plate machining with a moving cutting tool. The AUTOPLAN is positioned and mounted in a few minutes thanks to the dedicated fixation points integrated in our machines.



Dedicated to series 9000 machines

At present, the automatic AUTOPLAN system can be integrated in LAM PLAN machines up to model M.M.9100. It is installed on dedicated points on the machine structure. Driven directly by the control interface, you can manage forward speed in order to carry out flattening or grooving operations. The AUTOPLAN produces spiral grooving. This system is faster and more precise than the DIABLOC. It is also easier to manage and to reproduce the required support geometry (flat, concave or convex).

Production stoppage for plate reconditioning is reduced and productivity is increased.







AUTOPLAN FOR LAPPING MACHINES M.M.9000 SERIES

Designation	Ref.
AUTOPLAN for M.M.9480 version S with SUPPORT TROLLEY.	10 9480AP 00
AUTOPLAN for M.M.9700 version E, S and S HP with SUPPORT TROLLEY.	10 9700AP 00
AUTOPLAN for M.M.9100 version E, S, SR and EC with SUPPORT TROLLEY.	10 9100AP 00
AUTOPLAN for M.M.9120	10 9120AP 00
AUTOPLAN for M.M.9150	10 9150AP 00

Cleaning products

STANOL BARREL

Solvent for washing stand.

Designation	Qty.	Ref.
Stanol barrel	60 litres	08 00614 00

DETERGENT 742



Concentrated detergent in aqueous phase used to degrease and clean parts after lapping or polishing cycles. This detergent with a high anticorrosion power is an excellent alternative to conventional cleaning solvents. Non inflammable, it is ideal for cleaning all types of materials (steels, cast irons, aluminium, etc.). Dilute 2 to 5% with water for use in ultrasonic cleaning tanks (40 to 55 °C) or 7 to 20% with water for fountain based cleanings.

Designation	Qty.	Ref.
Detergent 742	5 litres	08 01742 10
	30 litres	08 01742 30

DETERGENT 743

Aqueous detergent specifically adapted for the cleaning of ceramics, refractory materials and glasses. Dilute 1 volume of detergent in 9 volumes of water.

Designation	Qty.	Ref.
Detergent 743	5 litres	08 01743 10

Protective products

PROTECLAM FLUID NEW

Liquid corrosion inhibitor used to protect the surface of metal parts after lapping and polishing operations. The product is effective in protecting ferrous metals ferrous metals, copper, aluminium and their respective alloys. Ready-to-use product.

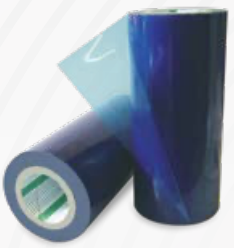
Designation	Qty.	Ref.
PROTECLAM Pulmatic fluid	100 ml + 250 ml refill	080161000



PROTECTIVE FILM

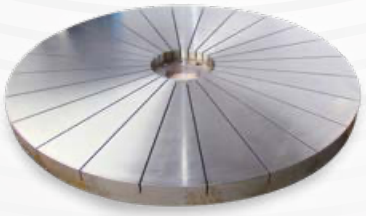
Technical film adhesive on one side.
Protects surfaces after polishing or treatment.

Designation	Dimensions	Qty.	Ref.
Film de protection	30 cm x 100 m	1	Z000 G7BL1



SUPPORTS

LAPPING SUPPORTS

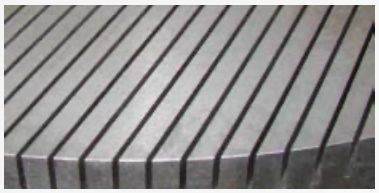


Cast iron plates

As a manufacturer and designer of cast iron plates and rings, we select specific high quality cast iron for optimum and long lasting results. AQUA LAM® plates and rings are suitable for all lapping machines of any brand or size. Available from stock or made to order within the shortest deadlines, AQUA LAM® cast iron plates and rings offer exceptional value for money.

Radial grooved cast iron plate with LAM PLAN adaptation system, other machine adaptations on request.

Dimension Ø	Thickness (according to lapping machine types)	Ref.
14" 355 mm	25 - 40 mm	V014RASTD
15" 381 mm	25 - 40 mm	V015RASTD
19" 480 mm	25 - 40 mm	V019RASTD
24" 610 mm	35 - 40 mm	V024RASTD
28" 700 mm	55 mm	V028RASTD
36" 914 mm	57 - 58 mm	V036RASTD
39" 1000 mm	57 - 60 mm	V040RASTD
1200 mm	70 mm	V047RASTD
48" 1219 mm	70 mm	V048RASTD
59" 1500 mm	80 - 100 mm	V059RASTD







AQUA LAM®

Lapping cast iron plates with radial grooving by default, available on request in full or with all types of grooves, Concentric, Helical and Linear.

LAM PLAN, designer and manufacturer of a full range of lapping and polishing supports to cover all your requirements in terms of material removal, surface finish and flatness.

LAPPING SUPPORTS

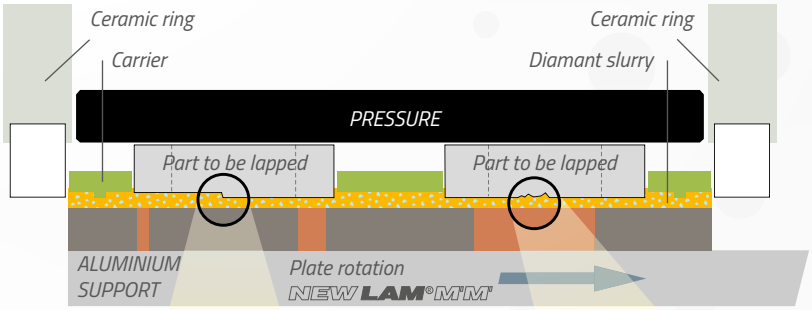
NEW LAM® M'M' plates

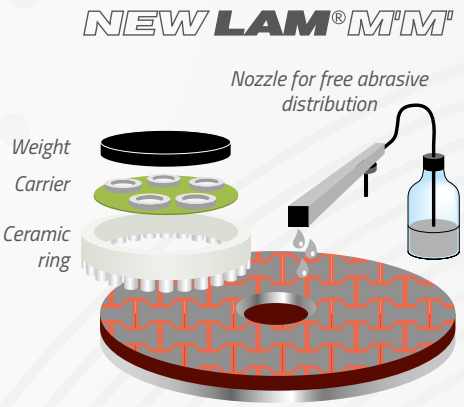
25 years ago, LAM PLAN designed the patented NEW LAM® M'M' poli-lapping system. Since then LAM PLAN has constantly made its process evolve to respond to the technical requirements of its customers. The system patented and established in production plants throughout the world is today a must in the lapping polishing process.

The NEW LAM® M'M'plate, uses free diamond abrasives for its operation. As soon as the plate starts rotating, under the effect of the initial weight of the parts and the load applied by the machine's jacks, the diamond grains move and fix on the surface of the plate producing a unique abrasive action on the side of the parts to be lapped.

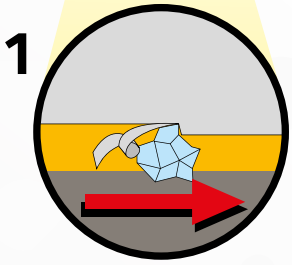
The patent

The disposition and the shape of the two components of the plate permit an optimum alternation between the hard areas and the soft areas. The cut angle of the diamond grainsis permanently changed, which ensures a large stock removal and a perfect inherent flatness.

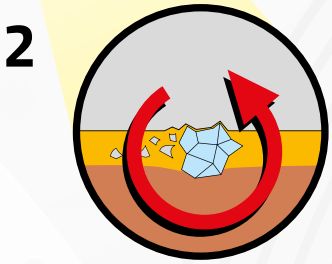




NEW LAM® M'M' *plate*



The free diamond contained in the abrasive film is momentarily fixed in the plate's hard material; when they are solid with each other, they produce a cut off effect which favours the stock removal.



In contact with the plate's soft material, the free diamond is driven in, while remaining mobile, and removes the material by impact; it is the stock effect which contributes to the quality of the surface condition.

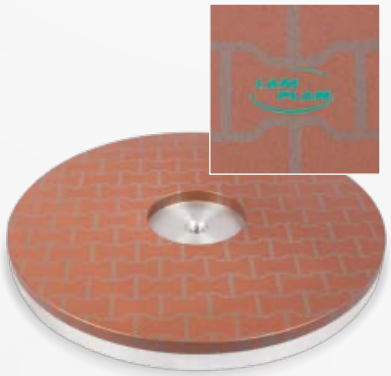
NEW LAM® M'M' patented plates

BLUE - ROUGH LAPPING



			Standard	Incorporated cooling circuit
Ø	Thickness	Ø central bore	Ref.	Ref.
14" 355 mm	13 mm		09 NL103 20	
15" 381 mm	13 mm	100 mm	09 NL103 30	09 NL203 30
16" 406 mm	13 mm	100 mm	09 NL103 40	
19" 480 mm	13 mm	100 mm	09 NL103 55	
24" 610 mm	15 mm	115 mm	09 NL103 60	09 NL203 60
27" 700 mm	15 mm	150 mm	09 NL103 70	09 NL203 70
30" 762 mm	15 mm	152 mm	09 NL103 80	
36" 914 mm	15 mm	175 mm	09 NL103 90	
1000 mm	15 mm	188 mm	09 NL103 00	09 NL203 00
1200 mm	15 mm	240 mm	09 NL103 50	09 NL203 50
1500 mm	15 mm	300 mm	09 NL103 10	09 NL203 10

GREEN - FINE LAPPING/POLISHING



			Standard	Incorporated cooling circuit
Ø	Thickness	Ø central bore	Ref.	Ref.
14" 355 mm	13 mm		09 NL106 20	
15" 381 mm	13 mm	100 mm	09 NL106 30	09 NL206 30
16" 406 mm	13 mm	100 mm	09 NL106 40	
19" 480 mm	13 mm	100 mm	09 NL106 55	
24" 610 mm	15 mm	115 mm	09 NL106 60	09 NL206 60
27" 700 mm	15 mm	150 mm	09 NL106 70	09 NL206 70
30" 762 mm	15 mm	152 mm	09 NL106 80	
36" 914 mm	15 mm	175 mm	09 NL106 90	
1000 mm	15 mm	188 mm	09 NL106 00	09 NL206 00
1200 mm	15 mm	240 mm	09 NL106 50	09 NL206 50
1500 mm	15 mm	300 mm	09 NL106 10	09 NL206 10

YELLOW - SUPER FINISHING POLISHING



			Standard	Incorporated cooling circuit
Ø	Thickness	Ø central bore	Ref.	Ref.
14" 355 mm	13 mm		09 NL105 20	
15" 381 mm	13 mm	100 mm	09 NL105 30	09 NL205 30
16" 406 mm	13 mm	100 mm	09 NL105 40	
19" 480 mm	13 mm	100 mm	09 NL105 55	
24" 610 mm	15 mm	115 mm	09 NL105 60	09 NL205 60
27" 700 mm	15 mm	150 mm	09 NL105 70	09 NL205 70
30" 762 mm	15 mm	152 mm	09 NL105 80	
36" 914 mm	15 mm	175 mm	09 NL105 90	
1000 mm	15 mm	188 mm	09 NL105 00	09 NL205 00
1200 mm	15 mm	240 mm	09 NL105 50	09 NL205 50
1500 mm	15 mm	300 mm	09 NL105 10	09 NL205 10

LAPPING SUPPORTS

EVOLAM® composite plates

A plate for 3 steps

The new EVOLAM® ULTIMATE and EVOLAM® lapping plates have been specially developed for hard materials such as sapphire and technical ceramics. The specific composition of these plates gives them an excellent stock removal combined with a low roughness. A poly-lapping operation with our EVOLAM® plates allows to obtain the superfinishing stage in only one step.

A C or H groove is generally made on EVOLAM® plates to increase their performance.

EVOLAM®

Ø	Type	Thickness	Ref.
15" 381 mm	ULTIMATE	8 mm	09 EL154 30
19" 480 mm	ULTIMATE		09 EL154 55
24" 610 mm	ULTIMATE		09 EL154 60
700 mm	ULTIMATE		09 EL154 70
30" 762 mm	CLASSIC	13 mm	09 EL104 80
36" 914 mm	CLASSIC		09 EL104 90
1000 mm	CLASSIC		09 EL104 00
1200 mm	CLASSIC		09 EL104 50
1500 mm	CLASSIC		09 EL104 10



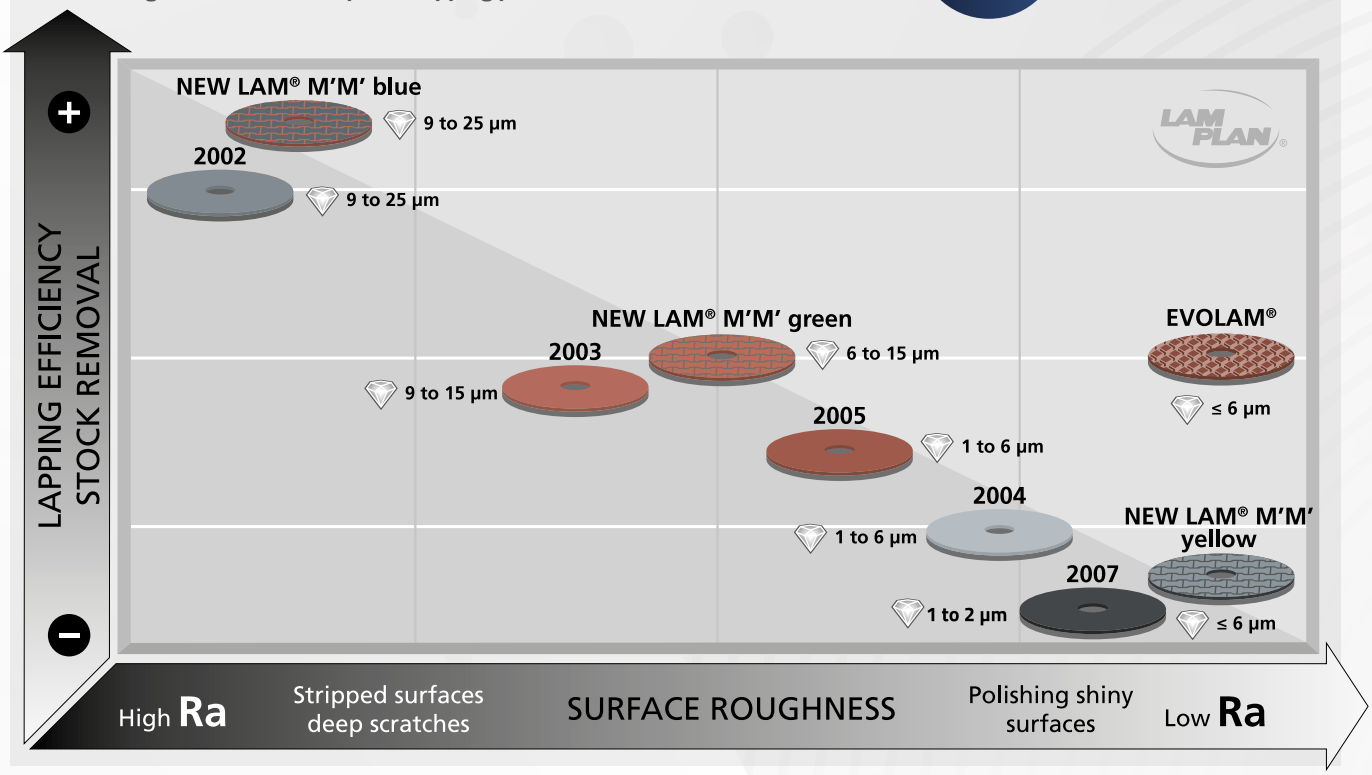
EVOLAM® ULTIMATE



EVOLAM® classic

GUIDANCE

Positioning of LAM PLAN composite lapping plates

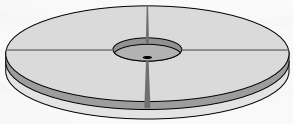




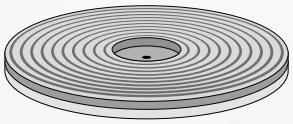
Series 2000 mono-component plates

Primarily used during pre-polishing phases these plates allow a surface condition which facilitates the finishing step on polishing cloths to be optained.
Available in solid version or to order with radial, concentric, spiral or linear grooving.

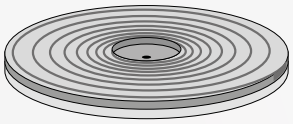
Different kinds of grooves



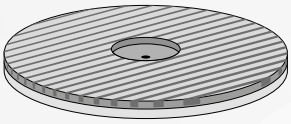
Radial (R)



Concentric (C)



Spiral (S)



Linear (L)

2001 - FINE LAPPING - HARD MATERIAL

For abrasive 1 µm to 15 µm		
Ø	Thickness	Ref.
15" 381 mm	6 mm	09 P2001 30
19'' 480 mm		09 P2001 55
24" 610 mm		09 P2001 60
700 mm		09 P2001 70
1000 mm		09 P2001 00

2002 - ROUGH LAPPING - ALL MATERIALS

For abrasive 15 µm to 30 µm		
15" 381 mm	13 mm	09 P2002 30
19'' 480 mm		09 P2002 55
24" 610 mm		09 P2002 60
700 mm		09 P2002 70
1000 mm		09 P2002 00

2003 - FINE LAPPING - ALL MATERIALS

For abrasive 3 µm to 9 µm		
15" 381 mm	13 mm	09 P2003 30
19'' 480 mm		09 P2003 55
24" 610 mm		09 P2003 60
700 mm		09 P2003 70
1000 mm		09 P2003 00

2004 - FINE LAPPING - ALL MATERIALS

For abrasive 3 µm to 9 µm		
15" 381 mm	13 mm	09 P2004 30
19'' 480 mm		09 P2004 55
24" 610 mm		09 P2004 60
700 mm		09 P2004 70
1000 mm		09 P2004 00

2005 - SUPER FINISHING POLISHING - ALL MATERIALS

For abrasive 1 µm to 3 µm		
15" 381 mm	13 mm	09 P2005 30
19'' 480 mm		09 P2005 55
24" 610 mm		09 P2005 60
700 mm		09 P2005 70
1000 mm		09 P2005 00

2007 - SUPER FINISH POLISHING - ALL MATERIALS

For abrasive 1 µm to 2 µm		
15" 381 mm	13 mm	09 P2007 30
19'' 480 mm		09 P2007 55
24" 610 mm		09 P2007 60
700 mm		09 P2007 70
1000 mm		09 P2007 00

LAPPING SUPPORTS

Manual lapping & polishing plates

Extend the usage of your sealing parts.

LAMBLOCK are simple, inexpensive and easy to use tools that will allow preventive maintenance of sealing parts on industrial sites at a lower cost. Your maintenance department carries out manual lapping/polishing operations to recondition worn sealing parts.

BI-LAMBLOCK

2 operations: Lapping and Polishing for the servicing of sealing part up to Ø 40 mm.

Designation	Ø in mm	Ref.
- 1 ergonomic double plate - Grey lapping / Copper polishing - 2 diadosers Bio DIAMANT® 400 series of 30 g	300	09 04LB9 00



LAMBLOCK NEW LAM®M'M' PLATE

Lapping with the guarantee of a perfect flatness for parts with a Ø 40 mm max and rings with a Ø 70 mm max.

Designation		Ø in mm	Ref.
- 1 NEW LAM M'M' plate - 1 Dosing-stick Bio DIAMANT® 10 g - 1 fluid bottle lubricant M.M.712	LAMBLOCK Blue - Lapping	300	09 04LB0 00
	LAMBLOCK Green - finishing	300	09 04LB1 00
	LAMBLOCK Yellow - Super finishing	300	09 04LB2 00



LAMBLOCK FAS®

Portable plate with non-stick LAM PLAN FAS® coating for use with the range of self-adhesive TOUCHLAM® discs. Combined with LAM PLAN abrasives, it is an economical solution for finishing and super-finishing steps on all materials.

Designation	Ø in mm	Ref.
- 1 plate with FAS® coating - 2 diadosers Bio DIAMANT® 400 series 30 g 3 and 6µ	300	09 04LB3 00



TRI-BLOCS NEW LAM®M'M' CASE

3 operations: lapping, polishing and superfinishing, for the servicing of your sealing rings up to Ø 40 mm.

Designation	Ø in mm	Ref.
- 3 NEW LAM® M'M'plates - 3 dosing sticks Bio DIAMANT® 10 g - 1 bottle of fluid lubricant M.M.712 - 1 Diabloc for reconditionning	140	09 03NL0 00
Blue Diabloc for TRI-BLOCS		08 00900 10
Blue Diabloc refill		08 01900 10



Temperature control system

Flat lapping is based on the laws of mechanics and physics where a constant temperature is essential.

Temperature variations of a lapping plate, whether inherent in the lapping process or dependent on external conditions, can be detrimental to the quality of the desired result. To avoid such damage, the use of our plates at high yield NEW LAM M'M' requires the use of a temperature control system.

COMPOSITE LAM PLAN plates with an integrated cooling system ensure temperature fluctuation control during series production. This option enables avoidance of plate distortion and consequently, distortion of your pieces.

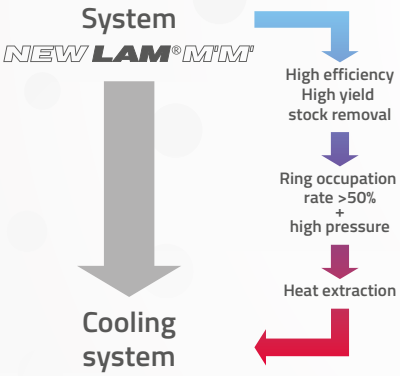
To control the flatness of the trays, the temperature must be controlled

P803 Regulator

To control plate flatness, temperature must be regulated. The LAM PLAN P803 temperature regulation unit is reversable. It can also raise the plate temperature before use. This enables lapping to start in optimum geometric conditions in any work environment.

The P803 regulator is designed to maintain the temperature between 2 set values. It is an autonomous machine which has its own command interface.

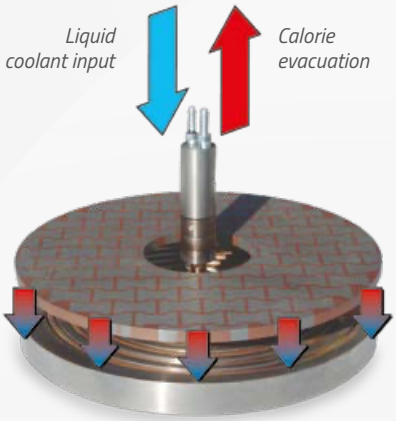


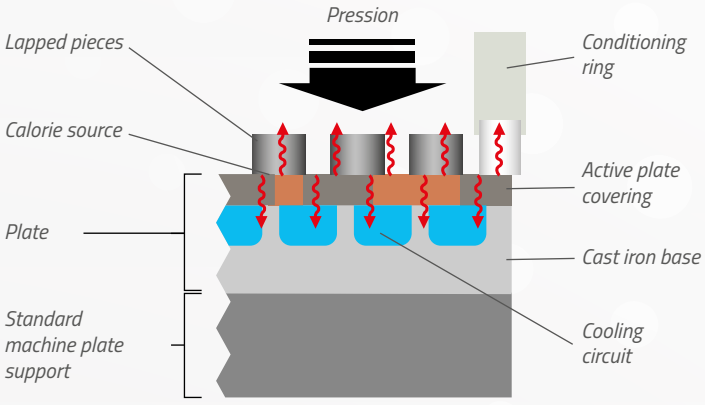


Designation	Ref.
Refrigeration/Heating Unit P803-AW-BASIC series 50 Hz	10 80003 90

NEW LAM M'M' plate with temperature control system

The LAM PLAN cooling system captures calories directly under the active plate surface. It is adaptable for all machines.





LAPPING SUPPORTS

Lapping rods M.M.®

Immediately shape your rods in all form, from patented M.M.® preliminary shape containing no abrasive.



Applications

For internal and external lapping, and super finishing of spherical, conical and cylindrical parts and many other shapes.

The solution

LAM PLAN offers an original, functional and adapted solution; it responds to the requirements of surface conditions difficult to attain with tools or grinding wheels. LAM PLAN delivers its rods in preliminary shape condition. The user finalises the form of his choice. A fast machining using common tools (never a grinding wheel) allows adapting the rods to the shape of the parts to be lapped. This technique is possible thanks to the LAM PLAN M.M.® system which combines rods and free diamond abrasives.

The technique

The LAM PLAN M.M.® rods consists of two different materials in terms of mechanical, physical and resistance characteristics. The composition and arrangement of the two components associated with the usage of specific diamond abrasive is the base of the patented LAM PLAN M.M® system and its effectiveness.

The advantages of the LAM PLAN M.M.® system associated with Bio DIAMANT®

The LAM PLAN M.M.® system uses special abrasives. A chemical binder allows homogeneous, stable distribution of calibrated diamond grains, while preventing any settling phenomenon. As soon as the rod starts rotating under the effect of the applied pressure and the passage on the two different materials, the diamond grains move and fix alternatively. This causes a phenomenon of significant acceleration of these particles ensuring a high stock removal. Penetrating very low and for a very short time in the rod's metal mass, each diamond particle always presents an edge opposite to the part to be machined.

All the cutting edges work under an over speed. The abrasive's efficiency is therefore better and more sustainable.

In addition, thanks to the use of diamond, the rod coating does practically not wear out (good behaviour in terms of shape or inherent flatness).

The LAM PLAN type M.M.® lubricant vaporised in a very small quantity allows cleaning the diamond's cutting edges loaded with metal waste and operates cooling action.

The small quantity of lubricant significantly reduces the "machining sludge" volume. The work is cleaner and produces less waste.

Qualities

In order to obtain surface conditions varying from 0.2 to 0.01 micron/Ra, LAM PLAN proposes various types of rods. The distribution of the 2 materials which make up the patented bi-component rods type M.M.® remains constant, regardless of the shape given to them. The rods type 2000 are mono-components. They benefit from the quality of bi-component materials, but their efficiency is lower and their wear more rapid.

GUIDANCE

Shapes	**Preliminary shapes**	A cylindrical
		B flat
		C rectangular
Types	**Patented M.M. Rods Bi-components**	M.M.® 980 lapping
		M.M.® 991 finishing
		M.M.® 992 superfinishing
	Economic range Mono-component	2002 lapping
		2003 polishing



RODS M.M.® SHAPE A

Cylindrical preliminary shape intended to be machined by turning with a dry carbide tool in order to adapt to the parts to be treated.

Implementation example				
Lapped part	**Material**	**Rod**	**Abrasive**	**Result**
Cupule for thigh prosthesis	Chromium cobalt	Shape A Type 992	Stick M.M.143	Sphericity 3 µm

LAPPING SUPPORTS

RODS M.M.® SHAPE B

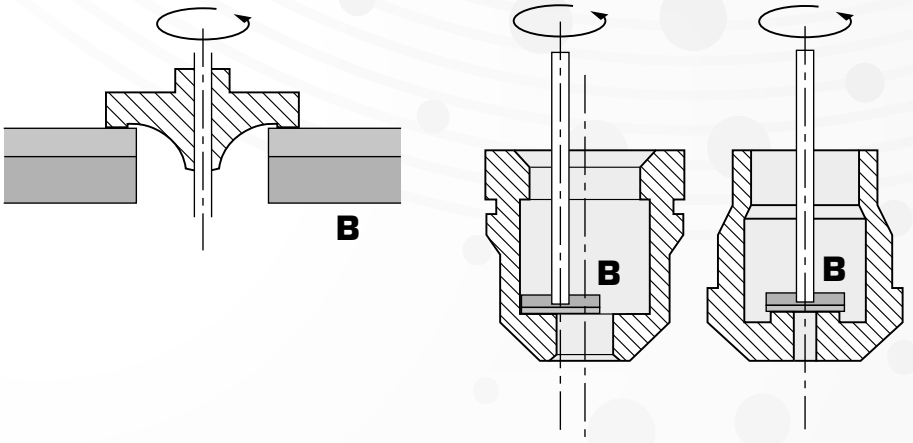
Our Shape B rods are composed of a 5mm active part fixed to a steel* ensuring great rigidity. Please contact us for dimensions above 200 mm. To machine the rods and use them, the shapes A or B must be tightened in a mandrel one turn mounted on a metal rod (by tapping or gluing).

NOT: The tapping must always remain below the steel* thickness in the case of shapes B. In any case (shapes A or B), the centre of the coating has to be cleared to avoid the dead point. During shaping, it is recommended to recover the chips and dusts to reduce the cleaning time.

**aluminium base on demand*



Implementation example				
Lapped part	**Material**	**Rod**	**Abrasive**	**Result**
Safety valve	Satellite	Shape B Type 991	Stick M.M.141	Tightness

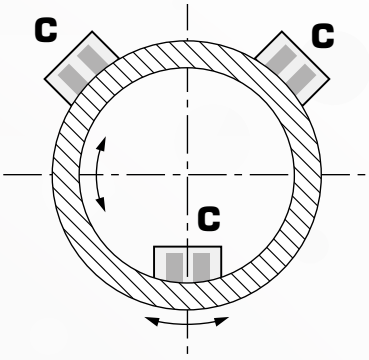


LAPIDARY M.M.® SHAPE C

Intended to prepare the rods for the machine of special shaped parts.



Implementation example				
Lapped part	**Material**	**Rod**	**Abrasive**	**Result**
Rolling machine cylinder	Cast iron	Shape C Type 980	Stick M.M.133	Roughness Ra 0,08



RODS SHAPE A

Type	Ø in mm	Ref.
980	25 x 100	09 09980 28
991	25 x 100	09 09991 28
992	25 x 100	09 09992 28
2002	25 x 100	09 20022 20
2003	25 x 100	09 20032 20
980	50 x 50	09 09980 10
991	50 x 50	09 09991 10
992	50 x 50	09 09992 10
2002	50 x 50	09 20021 10
2003	50 x 50	09 20031 10
2002	50 x 100	09 20022 10
2003	50 x 100	09 20032 10
2002	50 x 150	09 20023 10
2003	50 x 150	09 20033 10
980	75 x 50	09 09980 80
991	75 x 50	09 09991 80
992	75 x 50	09 09992 80
2002	75 x 50	09 20021 80
2003	75 x 50	09 20031 80
2002	75 x 100	09 20022 80
2003	75 x 100	09 20032 80
2002	75 x 150	09 20023 80
2003	75 x 150	09 20033 80
2002	100 x 50	09 20021 90
2003	100 x 50	09 20031 90
2002	100 x 100	09 20022 90
2003	100 x 100	09 20032 90
2002	100 x 150	09 20023 90
2003	100 x 150	09 20033 90

RODS SHAPE B

Type	Ø in mm	Ref.
980	50 x 15	09 09980 30
991	50 x 15	09 09991 30
992	50 x 15	09 09992 30
2002	50 x 15	09 02002 30
2003	50 x 15	09 02003 30
980	100 x 15	09 09980 40
991	100 x 15	09 09991 40
992	100 x 15	09 09992 40
2002	100 x 15	09 02002 40
2003	100 x 15	09 02003 40
980	150 x 15	09 09980 50
991	150 x 15	09 09991 50
992	150 x 15	09 09992 50
2002	150 x 15	09 02002 50
2003	150 x 15	09 02003 50
980	200 x 15	09 09980 60
991	200 x 15	09 09991 60
992	200 x 15	09 09992 60
2002	200 x 15	09 02002 60
2003	200 x 15	09 02003 60

RODS SHAPE C

Type	Ø in mm	Ref.
980	10 x 20 x 560	09 08445 30
991	10 x 20 x 560	09 08446 30
992	10 x 20 x 560	09 08449 30

CUSTOM MACHINING PACKAGE

Designation	Qty.	Ref.
Custom machining package	1	99 SAV0F 00

GUIDANCE

Example of implementation

Type	Rods	Sticks	Gels	Treated steel		Tungsten carbide		Stellite	
				Surface condition µm Ra	Stock removal	Surface condition µm Ra	Stock removal	Surface condition µm Ra	Stock removal
Rough	M.M.980 M.M.980	**M.M.131** M.M.132	**M.M.31** M.M.32	0,3 0,2	6 µm/min 3 µm/min	0,1 0,07	2,4 µm/min 1,5 µm/min	0,15 0,09	4 µm/min 2 µm/min
Finishing	M.M.991 M.M.991	M.M.133 **M.M.141**	M.M.33 **M.M.41**	0,09 0,06	1,6 µm/min 1,3 µm/min	0,03 0,02	0,7 µm/min 0,5 µm/min	0,05 0,03	1,2 µm/min 0,6 µm/min
Super finishing	M.M.992 M.M.992	**M.M.142** M.M.143	**M.M.42** M.M.43	0,05 0,03	1 µm/min 0,6 µm/min	0,01 0,005	0,4 µm/min 0,3 µm/min	0,02 0,01	0,5 µm/min 0,4 µm/min

The Sticks and gels used for an everyday usage are put in bold letters.

Expandable cylindric rods

The formula for the accuracy of borings. The set is composed of:

- A conical shaft to be mounted on the mandrel.
- A cast iron rod with pinched structure. A helical slot allows the expansion while maintaining its geometric shape. The rod's interior is conical in order to receive the shaft.
- A tube-shaped pushrod is here allows driving the rod on the shaft.



Conical shaft



Rod



Tappet



Extractor

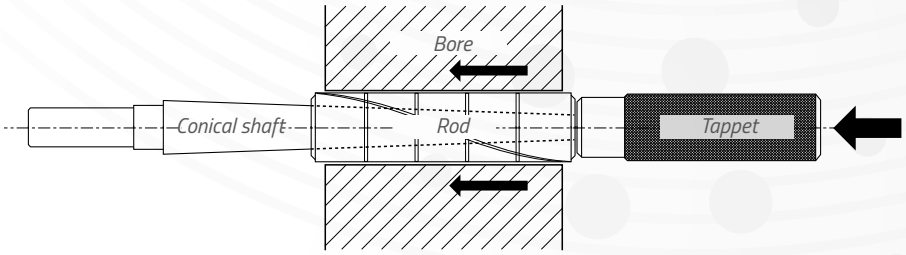
Procedure

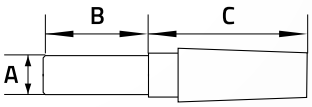
The abrasive to be used with the rods is selected according to their tasks:

- Important stock removal: diamond dosing stick M.M.132
- Super-finishing: diamond dosing stick M.M.142 or 144.

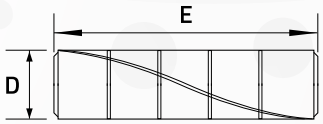
Lubrication thanks to the M.M.712 fluid.

Use

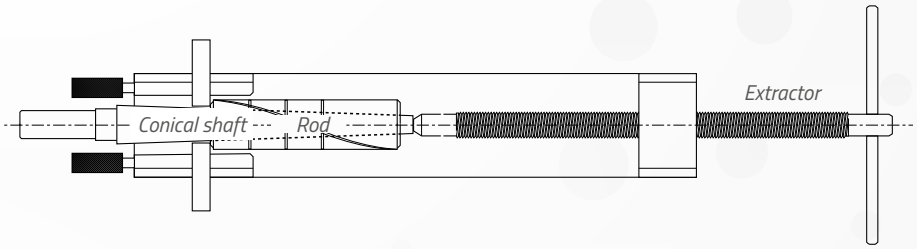




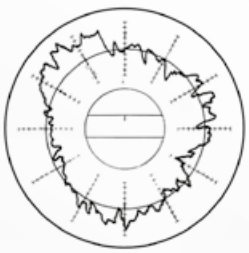
Conical shaft



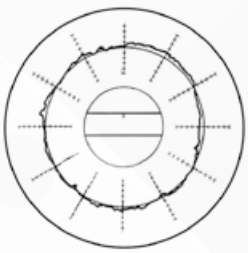
Rod



Results



A 15,9 mm diameter has been drilled on a 38 mm length. After checking, an ovalisation of 4/100th mm has been revelled and a surface condition of 0.5-micron Ra.



First operation
With rod and diamond dosing stick M.M.132: ovalisation reduced to 4/10th micron. surface condition of 0.12-micron Ra.



Second operation
With rod and diamond dosing stick M.M.144: limited ovalisation to 1/10th micron. Surface condition to 0.03-micron Ra.

RODS

Ø (mm)	Lenght E (mm)	Expansion D (mm)	Ref.
1,19	12,70	1,168 to 1,397	99 91011 90
1,59	15,85	1,574 to 1,930	99 91015 90
1,98	15,85	1,956 to 2,311	99 91019 80
2,38	19,05	2,362 to 2,743	99 91023 80
2,78	19,05	2,743 to 3,099	99 91027 80
3,17	22,19	3,149 to 3,479	99 91031 70
3,57	22,19	3,530 to 3,886	99 91035 70
3,97	22,19	3,937 to 4,318	99 91039 70
4,37	22,19	4,318 to 4,673	99 91043 70
4,76	34,91	4,724 to 5,105	99 91047 60
5,16	34,91	5,130 to 5,461	99 91051 60
5,56	44,45	5,537 to 5,918	99 91055 60
5,95	44,45	5,918 to 6,248	99 91059 50
6,35	50,80	6,324 to 6,705	99 91063 50
6,75	50,80	6,731 to 7,010	99 91067 50
7,14	50,80	7,112 to 7,340	99 91071 40
7,54	50,80	7,518 to 7,670	99 91075 40
7,94	50,80	7,924 to 8,305	99 91079 40
8,33	50,80	8,305 to 8,610	99 91083 30
8,73	50,80	8,712 to 8,915	99 91087 30
9,13	50,80	9,093 to 9,245	99 91091 30
9,53	63,50	9,499 to 9,855	99 91095 30
9,92	63,50	9,906 to 10,185	99 91099 20
10,32	63,50	10,287 to 10,515	99 91103 20
10,72	63,50	10,693 to 10,845	99 91107 20
11,11	63,50	11,074 to 11,430	99 91111 10
11,51	63,50	11,480 to 11,785	99 91115 10
11,91	63,50	11,861 to 12,090	99 91119 10
12,30	63,50	12,268 to 12,420	99 91123 00
12,70	82,55	12,674 to 13,081	99 91127 00
13,49	82,55	13,462 to 13,868	99 91134 90
14,29	82,55	14,249 to 14,579	99 91142 90
15,08	82,55	15,062 to 15,290	99 91150 80
15,88	82,55	15,849 to 16,256	99 91158 80
16,67	82,55	16,637 to 16,941	99 91166 70
17,46	82,55	17,424 to 17,627	99 91174 60
18,26	82,55	18,237 to 18,415	99 91182 60
19,05	88,90	19,024 to 19,380	99 91190 50
19,84	88,90	19,812 to 20,116	99 91198 40
20,64	88,90	20,599 to 20,853	99 91206 40
21,43	88,90	21,412 to 21,615	99 91214 30
22,23	88,90	22,199 to 22,580	99 91222 30
23,02	88,90	22,987 to 23,342	99 91230 20
23,81	88,90	23,774 to 24,079	99 91238 10
24,61	88,90	24,587 to 24,790	99 91246 10

CONICAL SHAFTS

Nº	Ø A (mm)	Lenght. B (mm)	Lenght C (mm)	Ref.
4/0	3,17	19,05	38,10	99 92004 00
3/0	3,17	19,05	39,10	99 92003 00
3/0	3,17	19,05	39,10	99 92003 00
2/0	3,17	19,05	41,25	99 92002 00
2/0	3,17	19,05	41,25	99 92002 00
0	3,17	19,05	44,45	99 92000 00
0	3,17	19,05	44,45	99 92000 00
0	3,17	19,05	44,45	99 92000 00
0	3,17	19,05	44,45	99 92000 00
1	4,74	25,40	69,85	99 92000 10
1	4,74	25,40	69,85	99 92000 10
2	4,76	25,40	76,20	99 92000 20
2	4,76	25,40	76,20	99 92000 20
3	4,76	25,40	101,60	99 92000 30
3	4,76	25,40	101,60	99 92000 30
3	4,76	25,40	101,60	99 92000 30
3	4,76	25,40	101,60	99 92000 30
4	5,53	25,40	101,60	99 92000 40
4	5,53	25,40	101,60	99 92000 40
4	5,53	25,40	101,60	99 92000 40
4	5,53	25,40	101,60	99 92000 40
5	9,79	38,10	101,60	99 92000 50
5	9,79	38,10	127,00	99 92000 50
5	9,79	38,10	127,00	99 92000 50
5	9,79	38,10	127,00	99 92000 50
6	7,90	38,10	127,00	99 92000 60
6	7,90	38,10	127,00	99 92000 60
6	7,90	38,10	127,00	99 92000 60
6	7,90	38,10	127,00	99 92000 60
7	9,51	38,10	152,40	99 92000 70
7	9,51	38,10	152,40	99 92000 70
7	9,51	38,10	152,40	99 92000 70
7	9,51	38,10	152,40	99 92000 70
8	10,27	38,10	152,40	99 92000 80
8	10,27	38,10	152,40	99 92000 80
8	10,27	38,10	152,40	99 92000 80
8	10,27	38,10	152,40	99 92000 80
9	12,70	50,80	177,80	99 92000 90
9	12,70	50,80	177,80	99 92000 90
9	12,70	50,80	177,80	99 92000 90
9	12,70	50,80	177,80	99 92000 90
10	12,70	50,80	177,80	99 92001 00
10	12,70	50,80	177,80	99 92001 00
10	12,70	50,80	177,80	99 92001 00
10	12,70	50,80	177,80	99 92001 00

TAPPETS

Nº	Ref.
4/0	99 93004 00
3/0	99 93003 00
3/0	99 93003 00
2/0	99 93002 00
2/0	99 93002 00
0	99 93000 00
0	99 93000 00
0	99 93000 00
0	99 93000 00
1	99 93000 10
1	99 93000 10
2	99 93000 20
2	99 93000 20
3	99 93000 30
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9	99 93000 90
9	99 93000 90
9	99 93000 90
9	99 93000 90
10	99 93001 00
10	99 93001 00
10	99 93001 00
10	99 93001 00

EXTRACTORS

Characteristics	Ref.	Characteristics	Ref.
For rods Ø 1,19 to 4,37 mm	99 94000 10	For rods Ø 4,76 to 415,48 mm	99 94000 2
For rods Ø 4,76 to 15,48 mm	99 94000 20	For rods Ø 15,88 to 31,75 mm	99 94000 3
For rods Ø 15,88 to 31,75 mm	99 94000 30	**Any other dimension, on demand**	

POLISHING SUPPORTS

RODS

Ø (mm)	Lenght E (mm)	Expansion D (mm)	Ref.
13,10	82,55	13,081 to 13,487	99 91131 0
13,89	82,55	13,868 to 14,224	99 91138 9
14,68	82,55	14,655 to 14,935	99 91146 8
15,48	82,55	15,443 to 15,595	99 91154 8
16,27	82,55	16,256 to 16,661	99 91162 7
17,07	82,55	17,043 to 17,297	99 91170 7
17,86	82,55	17,830 to 18,008	99 91178 6
18,65	82,55	18,618 to 18,770	99 91186 5
19,45	88,90	19,405 to 19,735	99 91194 5
20,24	88,90	20,218 to 20,497	99 91202 4
21,03	88,90	21,005 to 21,234	99 91210 3
21,83	88,90	21,793 to 21,971	99 91218 3
22,62	88,90	22,580 to 22,936	99 91226 2
23,42	88,90	23,393 to 23,723	99 91234 2
24,21	88,90	24,180 to 24,434	99 91242 1
25,00	88,90	24,968 to 25,146	99 91250 0

CONICAL SHAFTS

N°	Ø A (mm)	Lenght. B (mm)	Lenght C (mm)	Ref.
7	9,51	38,10	152,40	99 92004 00
7	9,51	38,10	152,40	99 92003 00
7	9,51	38,10	152,40	99 92003 00
7	9,51	38,10	152,40	99 92002 00
8	10,27	38,10	152,40	99 92002 00
8	10,27	38,10	152,40	99 92000 00
8	10,27	38,10	152,40	99 92000 00
8	10,27	38,10	152,40	99 92000 00
9	12,70	50,80	177,80	99 92000 00
9	12,70	50,80	177,80	99 92000 10
9	12,70	50,80	177,80	99 92000 10
9	12,70	50,80	177,80	99 92000 20
9	12,70	50,80	177,80	99 92000 20
9	12,70	50,80	177,80	99 92000 30
9	12,70	50,80	177,80	99 92000 30
9	12,70	50,80	177,80	99 92000 30

TAPPETS

N°	Ref.
7	99 93000 7
7	99 93000 7
7	99 93000 7
7	99 93000 7
8	99 93000 8
8	99 93000 8
8	99 93000 8
8	99 93000 8
9	99 93000 9
9	99 93000 9
9	99 93000 9
9	99 93000 9
9	99 93000 9
9	99 93000 9
9	99 93000 9
9	99 93000 9

High concentration abrasive films

Available in different grains from 0.3 µm to 40 µm, they generate excellent flatness and finishing results.
The uniformity of the abrasive layer ensures exceptional regularity of the polishing process and prolonged durability of the disc.

Recommended lubricants: FLUIDE 712 water-based or FLUIDE 705 oil-based.

ALUMINA

100 pieces

Self-adhesive					
Ø mm	µm	Ref.	Ø mm	µm	Ref.
200	0,3	05A98A0200C	300	0,3	05A98A0300C
200	0,5	05A95A0200C	300	0,5	05A95A0300C
200	1	05A01A0200C	300	1	05A01A0300C
200	2	05A02A0200C	300	2	05A02A0300C
200	3	05A03A0200C	300	3	05A03A0300C
200	5	05A05A0200C	300	5	05A05A0300C
200	9	05A09A0200C	300	9	05A09A0300C
200	12	05A12A0200C	300	12	05A12A0300C
200	15	05A15A0200C	300	15	05A15A0300C
200	30	05A30A0200C	300	30	05A30A0300C
200	40	05A40A0200C	300	40	05A40A0300C
250	0,3	05A98A0250C	400	0,3	05A98A0400C
250	0,5	05A95A0250C	400	0,5	05A95A0400C
250	1	05A01A0250C	400	1	05A01A0400C
250	2	05A02A0250C	400	2	05A02A0400C
250	3	05A03A0250C	400	3	05A03A0400C
250	5	05A05A0250C	400	5	05A05A0400C
250	9	05A09A0250C	400	9	05A09A0400C
250	12	05A12A0250C	400	12	05A12A0400C
250	15	05A15A0250C	400	15	05A15A0400C
250	30	05A30A0250C	400	30	05A30A0400C
250	40	05A40A0250C	400	40	05A40A0400C



Easy to use, high stock removal and polishing quality enables you to significantly reduce your sample polishing time.
They can be used with all material types.

ABRASIVE FILMS IN ROLLS

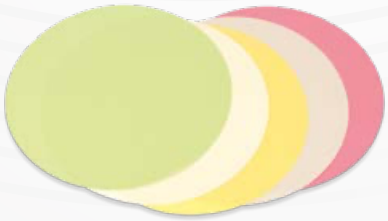
Films of all types available in rolls with choice of mandrel diameter, width from 1.2 to 100 mm, max length 200 meters.



Diamond abrasive films

High concentration abrasive films. Available in different grains from 0.5 µm to 45 µm, they generate excellent flatness and finishing results. The uniformity of the abrasive layer ensures great regularity of the polishing process and prolonged durability of the disc. Easy to use, the strong stock removal and polishing quality enables you to significantly reduce your sample polishing time. They can be used with all material types.

Recommended lubricants: FLUIDE 712 water-based or FLUIDE 705 oil-based.



Diamond

DIAMOND HC

5 pieces

Self-adhesive				Non adhesive
Ø mm	Color	µm	Ref.	Ref.
200		45	05D45A02005	05D45N02005
200		30	05D30A02005	05D30N02005
200		15	05D15A02005	05D15N02005
200		9	05D09A02005	05D09N02005
200		6	05D06A02005	05D06N02005
200		3	05D03A02005	05D03N02005
200		1	05D01A02005	05D01N02005
200		0,5	05D95A02005	05D95N02005
250		45	05D45A02505	05D45N02505
250		30	05D30A02505	05D30N02505
250		15	05D15A02505	05D15N02505
250		9	05D09A02505	05D09N02505
250		6	05D06A02505	05D06N02505
250		3	05D03A02505	05D03N02505
250		1	05D01A02505	05D01N02505
250		0,5	05D95A02505	05D95N02505
300		45	05D45A03005	05D45N03005
300		30	05D30A03005	05D30N03005
300		15	05D15A03005	05D15N03005
300		9	05D09A03005	05D09N03005
300		6	05D06A03005	05D06N03005
300		3	05D03A03005	05D03N03005
300		1	05D01A03005	05D01N03005
300		0,5	05D95A03005	05D95N03005
400		45	05D45A04005	05D45N04005
400		30	05D30A04005	05D30N04005
400		15	05D15A04005	05D15N04005
400		9	05D09A04005	05D09N04005
400		6	05D06A04005	05D06N04005
400		3	05D03A04005	05D03N04005
400		1	05D01A04005	05D01N04005
400		0,5	05D95A04005	05D95N04005

POLISHING SUPPORTS

DIALAM plates and coverings

DIALAM is a rough honing plate designed for demanding applications requiring efficient material removal and consistent precision. DIALAM incorporates diamond abrasives, guaranteeing long-lasting, high-performance cutting action. It is available in two versions:
- DIALAM Blue - Contains coarser diamonds (D151), ideal for operations requiring a high rate of material removal.
- DIALAM Green - Incorporates finer diamonds (D39), offering a compromise between material removal and finish quality.
DIALAM is used with BOOSTER lubricant. This innovative system maintains cutting efficiency and improves process control.

DIALAM PLATES

Type	Characteristics	Ø (mm)	Qty.	Ref.
DIALAM Blue - D151	For plate Ø 381	178	1	09 DL140 30
	For plate Ø 480	224	1	09 DL140 55
DIALAM Green - D39	For plate Ø 381	178	1	09 DL150 30
	For plate Ø 480	224	1	09 DL150 55



DIALAM COVERINGS

Type	Characteristics	Ø (mm)	Qty.	Ref.
DIALAM Blue - D151	For plate Ø 381	178.	2	09 DL141 30
	For plate Ø 480	224	2	09 DL141 55
DIALAM Green - D39	For plate Ø 381	178	2	09 DL151 30
	For plate Ø 480	224	2	09 DL151 55

ABRABLOC Dressing ring

ABRABLOC straightening rings are designed for straightening and sharpening DIALAM supports. ABRABLOCs correct the geometry of the plate and enhance the cutting effect of DIALAMs.

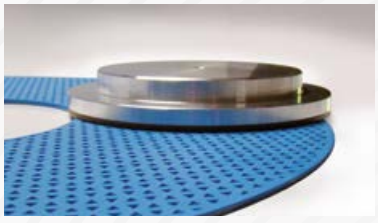
ABRABLOC

	Characteristics	Ø (mm)	Qty.	Ref.
ABRABLOC Brown	For DIALAM Bleu	178	1	08 00200 60
	For plate Ø 480	224	1	08 00200 64
ABRABLOC Ivory	For DIALAM Vert	178	1	08 00201 60
	For plate Ø 480	224	1	08 00201 64



ABRABLOC RECHARGES (to be glued to a ground aluminium base)

Type	Characteristics	Ø (mm)	Qty.	Ref.
ABRABLOC Brown recharge	For DIALAM Bleu	178.	2	08 01200 50
	For plate Ø 480	224	2	08 01200 64
ABRABLOC Ivory recharge	For DIALAM Vert	178	2	08 01201 50
	For plate Ø 480	224	2	08 01201 64



BOOSTER Lubricant

BOOSTER lubricant has been specially developed to optimise the performance of DIALAM supports. It is used as a drip lubricant during grinding cycles, regenerating the DIALAM and guaranteeing consistent material removal, cycle after cycle.

Type	Packaging	Qty.	Ref.
BOOSTER fluid	5 litres	1	07 BP030 40



TOUCHLAM®

TOUCHLAM® polishing cloths

LAM PLAN proposes a new generation of TOUCHLAM® polishing cloths. High technological products realised from exclusive materials, these cloths are intended to satisfy high precision demand concerning surfaces and geometry. The TOUCHLAM® range is dedicated to aspect polishing and for all other kinds of accurate high quality polishing. Oriented towards industrial applications and research, these cloths integrate new materials and treatments in their manufacturing to facilitate their use and guarantee high quality results. Self-adhesive, their implementation is fast and easy. Available in all diameters.

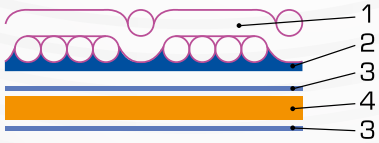
Composition of TOUCHLAM® polishing cloths

A polishing cloth is a complex gathering of various coats of materials, each one having their specific function:

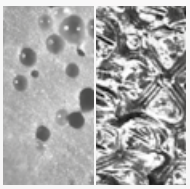
- The active and visible part (1) of a cloth is the primary criteria. It gathers 4 classes, all with different characteristics.
- A coating (2) which defines the cloth's impermeability
- An adhesive film (3) having varying thickness and power of adhesion
- A support (4) defining the rigidity or the softness of the cloth.

For each application, the polishing cloth needs to be associated with the correct abrasive. LAM PLAN proposes 3 families of product: the diamond abrasives NEOLAP®, the composite abrasives ECOA® and the standard abrasive of the AQUA LAM® range.

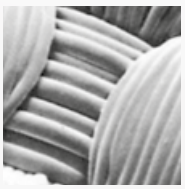
The combination of these elements will allow to answer the 3 criteria composing the user's specification: stock removal (SR), flatness, finishing or roughness.



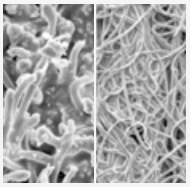
TOUCHLAM® polishing cloths gathers 4 major classes:



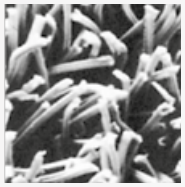
Polyurethanes and Foams



Woven



Non-woven and compressed



Flocked

GUIDANCE

Summary table

TOUCHLAM® polishing cloth	Characteristics			
	SR*	Flatness	Finishing	Super finishing
1PU1	X	X		
1PU2	X	X		
1PU3	X	X		
1PU4	X	X	X	
1PC2		X	X	
2NT1	X		X	
2PC1		X	X	X
2PC2		X	X	X
2TT2	X	X		
2TS1		X	X	
2TS2			X	
2FL1			X	
2FL2			X	
2MS1			X	
3FP1				X
3SE2		X	X	X
3SA2		X	X	X
3SA4		X	X	X
3FV1				X
3FV2				X
4FV3				X
4MP2				X

**Stock removal*

POLISHING SUPPORTS

1PU1 SELF-ADHESIVE

Box of 5 pieces

Characteristics	Ø in mm	Ref.
Polyurethane loaded with cerium oxide - Extra hard. From rough polishing to polishing of all materials. Inherent flatness and long life service. Commonly used with ECOA® abrasive slurries.	381	1PU1 0A0 3815
	400	1PU1 0A0 4005
	480	1PU1 0A0 4805
	610	1PU1 0A0 6105
	700	1PU1 0A0 7005



1PU2 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Polyurethane loaded with zirconium oxide - Hard. From rough polishing to polishing of all materials. Inherent flatness and long life service. Commonly used with ECOA® abrasive slurries.	381	1PU2 0A0 3815
	400	1PU2 0A0 4005
	480	1PU2 0A0 4805



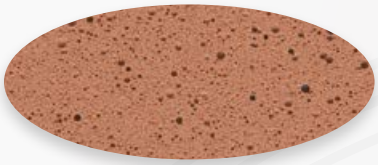
1PU3 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Polyurethane not loaded - Hard. From rough polishing to polishing of all materials. Inherent flatness and long life service. Commonly used with ECOA® abrasive slurries. **Available with grooves.**	381	1PU3 0A03 815
	400	1PU3 0A0 4005
	480	1PU3 0A0 4805
	610	1PU3 0A0 6105
	700	1PU3 0A0 7005



1PU4 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Polyurethane loaded with cerium oxide - Medium-hard. From rough polishing to polishing of all materials. Inherent flatness and long life service. Commonly used with ECOA® abrasive slurries. **Available with grooves.**	381	1PU4 0A0 3815
	400	1PU4 0A0 4005
	480	1PU4 0A0 4805
	610	1PU4 0A0 6105
	700	1PU4 0A0 7005



1PC2 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Polyurethane compressed impregnated fibres. Very hard. Excellent flatness, high durability. Can be used with all types of abrasives.	381	1PC2 0A0 3815
	400	1PC2 0A0 4005
	480	1PC2 0A0 4805
	610	1PC2 0A0 6105
	700	1PC2 0A0 7005
	914	1PC2 0A0 9145
	1000	1PC2 0A1 0005



2NT1 SELF-ADHESIVE

Box of 5 pieces

Characteristics	Ø in mm	Ref.
Non-woven polyester/polypropylene composite. High durability. Multi-purpose disc, can be used for rough or finish polishing. Commonly used with BioDIAMANT® NEOLAP® and ECOA abrasive slurries.	381	2NT1 0A0 3815
	400	2NT1 0A0 4005
	480	2NT1 0A0 4805
	610	2NT1 0A0 6105
	700	2NT1 0A0 7005
	914	2NT1 0A0 9145
	1000	2NT1 0A1 0005

2PC1 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Polyurethane compressed impregnated polyester fibres - Hard. Excellent flatness and high durability. Can be used with diamond slurries or colloidal silicas. **Available in various patterns.**	381	2PC1 0A0 3815
	400	2PC1 0A0 4005
	480	2PC1 0A0 4805
	610	2PC1 0A0 6105
	700	2PC1 0A0 7005

2PC2 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Polyurethane compressed impregnated with polyester fibres - Medium-dur. Excellent flatness and high durability. Commonly used with diamond slurries or colloidal silicon. **Available in various patterns.**	381	2PC2 0A0 3815
	400	2PC2 0A0 4005
	480	2PC2 0A0 4805
	610	2PC2 0A0 6105
	700	2PC2 0A0 7005



2TT2 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Taffeta woven synthetic fibres. High stock removal and inherent flatness on all materials. High durability. Commonly used with NEOLAP® diamond slurries .	381	2TT2 0A0 3815
	400	2TT2 0A0 4005
	480	2TT2 0A0 4805
	610	2TT2 0A0 6105
	700	2TT2 0A0 7005
	914	2TT2 0A0 9145
	1000	2TT2 0A1 0005

2TS1 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Satin woven natural fibres. Excellent finishing of all materials. Good inherent flatness. Commonly used with NEOLAP® diamond slurries.	381	2TS1 0A0 3815
	400	2TS1 0A0 4005
	480	2TS1 0A0 4805
	610	2TS1 0A0 6105
	700	2TS1 0A0 7005
	914	2TS1 0A0 9145
	1000	2TS1 0A1 0005

POLISHING SUPPORTS

2TS2 SELF-ADHESIVE

Box of 5 pieces

Characteristics	Ø in mm	Ref.
Satin woven natural fibres on flexible support . Excellent finishing of all materials. Good durability. Commonly used with NEOLAP® diamond slurries.	381	2TS2 0A0 3815
	400	2TS2 0A0 4005
	480	2TS2 0A0 4805
	610	2TS2 0A0 6105
	700	2TS2 0A0 7005
	914	2TS2 0A0 9145
	1000	2TS2 0A1 0005



2FL1 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Compressed wool felt. Finishing of plastics and glasses. High durability. Commonly used with AQUA LAM® cerium oxide.	381	2FL1 0A0 3815
	400	2FL1 0A0 4005
	480	2FL1 0A0 4805
	610	2FL1 0A0 6105
	700	2FL1 0A0 7005
	914	2FL1 0A0 9145
	1000	2FL1 0A0 1005



2FL2 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Wool felt, extra flexible. Finishing of plastics and glasses. High durability. Commonly used with AQUA LAM® cerium oxide.	381	2FL2 0A0 3815
	400	2FL2 0A0 4005
	480	2FL2 0A0 4805
	610	2FL2 0A0 6105
	700	2FL2 0A0 7005
	914	2FL2 0A0 9145
	1000	2FL2 0A1 0005



2MS1 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Foam. Finishing, on soft and medium-hard materials. Moulds to the shape of the part to be polished. Commonly used with ECOA® abrasive slurries.	381	2MS1 0A0 3815
	400	2MS1 0A0 4005
	480	2MS1 0A0 4805
	610	2MS1 0A0 6105
	700	2MS1 0A0 7005
	914	2MS1 0A0 9145
	1000	2MS1 0A1 0005



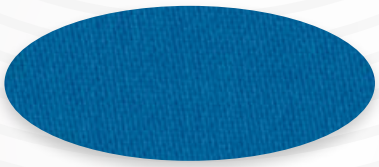
3FP1 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
Flocked polyester fibres. Finishing of organic and mineral glasses. Very resistant. Commonly used with AQUA LAM® oxides.	381	3FP1 0A0 3815
	400	3FP1 0A0 4005
	480	3FP1 0A0 4805
	610	3FP1 0A0 6105
	700	3FP1 0A0 7005
	914	3FP1 0A0 9145
	1000	3FP1 0A1 0005

3SE2 SELF-ADHESIVE

Characteristics	Ø in mm	Ref.
High-resistance synthetic silk fibres. Superfinishing of medium hard and soft materials. Excellent inherent flatness. Commonly used with NEOLAP® diamond slurries.	381	3SE2 0A0 3815
	400	3SE2 0A0 4005
	480	3SE2 0A0 4805
	610	3SE2 0A0 6105
	700	3SE2 0A0 7005
	914	3SE2 0A0 9145
	1000	3SE2 0A1 0005





3SA2 SELF-ADHESIVE

Box of 5 pieces

Synthetic silk fibres.
Superfinishing of all types of materials.
Excellent inherent flatness.
Commonly used with NEOLAP® diamond slurries.

Characteristics	Ø in mm	Ref.
	381	3SA2 0A0 3815
	400	3SA2 0A0 4005
	480	3SA2 0A0 4805
	610	3SA2 0A0 6105
	700	3SA2 0A0 7005
	914	3SA2 0A0 9145
	1000	3SA2 0A1 0005

3SA4 SELF-ADHESIVE

Composite synthetic fibres.
Super finishing of soft materials .
Good inherent flatness.
Commonly used with NEOLAP® diamond slurries.

Characteristics	Ø in mm	Ref.
	381	3SA4 0A0 3815
	400	3SA4 0A0 4005
	480	3SA4 0A0 4805
	610	3SA4 0A0 6105
	700	3SA4 0A0 7005
	914	3SA4 0A0 9145
	1000	3SA4 0A1 0005



3FV1 SELF-ADHESIVE

Semi-hard flocked short viscose fibres.
Super finishing of hard materials.
Commonly used with NEOLAP® diamond slurries.

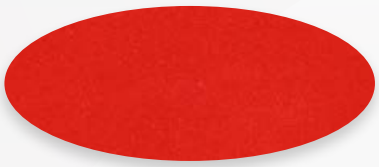
Characteristics	Ø in mm	Ref.
	381	3FV1 0A0 3815
	400	3FV1 0A0 4005
	480	3FV1 0A0 4805
	610	3FV1 0A0 6105
	700	3FV1 0A0 7005
	914	3FV1 0A0 9145
	1000	3FV1 0A1 0005



3FV2 SELF-ADHESIVE

Flocked short viscose fibres.
Super finishing of all materials.
Resistant to agressive abrasive .
Commonly used with NEOLAP® diamond slurries and AQUA LAM® oxides.

Characteristics	Ø in mm	Ref.
	381	3FV2 0A0 3815
	400	3FV2 0A0 4005
	480	3FV2 0A0 4805
	610	3FV2 0A0 6105
	700	3FV2 0A0 7005
	914	3FV2 0A0 9145
	1000	3FV2 0A1 0005



4FV3 SELF-ADHESIVE

Soft flocked long viscose fibres.
Super finishing of all materials, even very soft.
Used with NEOLAP® diamond slurries and AQUA LAM® oxides.

Characteristics	Ø in mm	Ref.
	381	4FV3 0A0 3815
	400	4FV3 0A0 4005
	480	4FV3 0A0 4805
	610	4FV3 0A0 6105
	700	4FV3 0A0 7005
	914	4FV3 0A0 9145
	1000	4FV3 0A1 0005



4MP2 SELF-ADHESIVE

Microporous polyurethane foam.
Extreme super finishing of all materials (chemical polishing).
High durability.
Commonly used with colloidal silica AQUA LAM® oxides, and ECOA® abrasive slurries.

Characteristics	Ø in mm	Ref.
	381	4MP2 0A0 3815
	400	4MP2 0A0 4005
	480	4MP2 0A0 4805
	610	4MP2 0A0 6105
	700	4MP2 0A0 7005
	914	4MP2 0A0 9145
	1000	4MP2 0A1 0005

POLISHING SUPPORTS

Structured cloths

The polishing cloths **TOUCHLAM® 1PU3 and 1PU4** are available with grooves on their surface in order to improve their performances. Dimensions: 10 x 10 mm and 30 x 30 mm, depth of the grooves: 1 mm.

The polishing cloths **TOUCHLAM® 2PC1 and 2PC2** are available with various structures: embossed and quartered (dimensions of the grooves 4,3 x 4,3 mm and 18,4 x 18,4 mm). The action of the abrasive slurry is optimised on the entire surface of the parts.

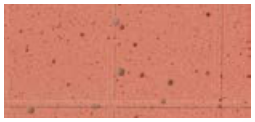
The principal benefits are:

- Higher stock removal
- Excellent flatness control
- Limitation of the suction effect
- Modulation of the stock removal and surface condition.

Available structures for 1PU3 and 1PU4 with grooved matrix.



1PU4 grooved 10 x 10 mm



1PU4 grooved 30 x 30 mm

Available structure for 2PC1 and 2PC2 with grooved, and embossed matrix.

Grooved 4,3 x 4,3 mm

Grooved18,4 x 18,4 mm

Embossed

Tailor-made cutting

LAM PLAN masters the production of its polishing cloths. In order to facilitate the use and the application of polishing cloths on your supports, we are capable of providing our discs, already cut to your needs. The geometry of the polishing cloth or pad will correspond perfectly to your fixation support. The cutting quality will be perfect which will guarantee a high durability of your polishing cloth.

We can provide all geometric shapes as the petals illustrated just below. For double-side machines, we make the bore and the holes for the distribution of the abrasive on the superior plate.



TOUCHLAM® QUICK FIX NEW

New attachment technology for TOUCHLAM® polishing discs

The QUICK FIX system allows you to move on to the finishing stage without having to change plates. Position the polishing discs directly on the NEW LAM M'M' lapping plates, without using adhesive.

Thanks to this innovative coating, the installation and removal of TOUCHLAM® discs is ultra-fast and simple, while guaranteeing optimum fixation. What's more, no residue is left on the surface of the plate, ensuring impeccable cleanliness and ease of use.

TOUCHLAM® QUICK FIX discs are available in diameters from 610 to 1000 mm (larger diameters on request).



CONSUMABLES

DIAMOND ABRASIVES

Bio DIAMANT® NEOLAP® abrasive slurries

All the experience of LAM PLAN in a diamond abrasive with incomparable performance. In direct line with our famous Bio DIAMANT® range, NEOLAP® diamond abrasive liquids go even further in terms of efficiency and ease of use.

High efficiency - Low consumption

The quality of the abrasive used, the strict calibration and concentration criteria and the use of new-generation water-based binders mean that we can achieve better roughness results while maintaining a high level of material removal.

The wettability of these diamond suspensions is specially designed and optimised for NEW LAM® M'M' plates. The consistency of the binder allows the diamond liquid to spread quickly over the entire surface of the plate, producing an excellent abrasive film very quickly, for immediate cutting results.

Flatness

Contains specific additives to make it easier to mix the diamond liquid with the NEOFLUID lubricating fluid and improve heat dissipation from the plates during honing work.

Free of VOCs and CMRs

NEOLAP® Diamond Liquids are composed of a specific new-generation binder. This liquid is VOC-free (Volatile Organic Compounds) and CMR-free (Carcinogenic, Mutagenic, Reprotoxic).

User health and environmental impact

NEOLAP® diamond liquid is, of course, over 70% biodegradable in accordance with the criteria of our Bio DIAMANT® label. Non-toxic and non-harmful, they are neutral, so the user's working conditions are respected.



NEOLAP®

BIODIAMANT®

DIAMOND ABRASIVES

Improved roughness

This new generation of diamond abrasives delivers improved roughness results while maintaining high stock removal rates.

Easy to clean

Clean with water for NEOLAP® 300 and 400 series or with a washing fountain for the 100 series.

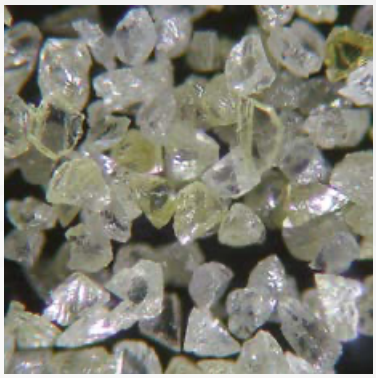
Quality, guaranteed supply and total traceability

Compliance with REACH regulation

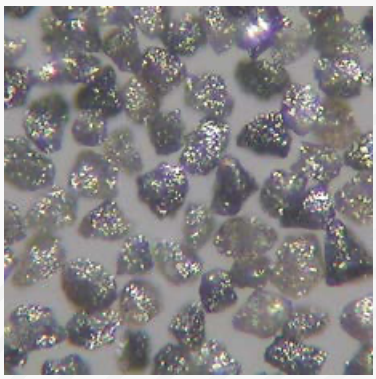
LAM PLAN has put in place all the necessary measures to guarantee the quality and availability of all its products over the long term. All the substances contained in our preparations comply with the specifications of the REACH regulation. To facilitate your administrative procedures, all the Safety Data Sheets (SDS) for our products comply with current legislation and can be downloaded from: fds.lamplan.com

Available in monocrystalline and polycrystalline

100 series emulsion - monocrystalline.
300 series water-based - monocrystalline.
400 series water-based - polycrystalline.



Monocrystalline diamond



Polycrystalline diamond

Bio DIAMANT® NEOLAP® slurries, key points

Use	Top-of-the-range diamond abrasive specific for lapping polishing applications	
Positioning	Ready-to-use, decantation-free, to be sprayed or dosed drop by drop. It is indicated for all your lapping work on NEW LAM® M'M' plates and polishing work on our range of polishing cloths	
Range	Monocrystalline, polycrystalline - grains from 1/4 to 45 µm	
Bases	Water and emulsion	
Packagings	400 ml - 2 L	
Lubricants	water base	712 or NEOFLUID
	emulsion base	990-140 or NEOFLUID

Reference reading:

106 Grain in µm

Bases

1 = emulsion - monocrystalline
3 = water - monocrystalline
4 = water - polycrystalline

GUIDANCE

Diamond slurries Bio DIAMANT® NEOLAP®



Diamond slurry

Single face lapping polishing

VOC free, biodegradable

Aqueous detergent

SERIES 100 - MONOCRYSTALLINE EMULSION

		400 ml	2 litres
Type	µm	Ref.	Ref.
197	0,25	02 NO197 60	02 NO197 70
195	0,75	02 NO195 60	02 NO195 70
101	1	02 NO101 60	02 NO101 70
102	2	02 NO102 60	02 NO102 70
103	3	02 NO103 60	02 NO103 70
106	6	02 NO106 60	02 NO106 70
109	9	02 NO109 60	02 NO109 70
112	12	02 NO112 60	02 NO112 70
115	15	02 NO115 60	02 NO115 70
125	25	02 NO125 60	02 NO125 70
145	45	02 NO145 60	02 NO145 70



SERIES 300 - MONOCRYSTALLINE WATER BASE

		400 ml	2 litres
Type	µm	Ref.	Ref.
397	0,25	02 NO397 60	02 NO397 70
395	0,75	02 NO395 60	02 NO395 70
301	1	02 NO301 60	02 NO301 70
302	2	02 NO302 60	02 NO302 70
303	3	02 NO303 60	02 NO303 70
306	6	02 NO306 60	02 NO306 70
309	9	02 NO309 60	02 NO309 70
312	12	02 NO312 60	02 NO312 70
315	15	02 NO315 60	02 NO315 70
325	25	02 NO325 60	02 NO325 70
345	45	02 NO345 60	02 NO345 70



SERIES 400 - POLYCRYSTALLINE WATER BASE

		400 ml	2 litres
Type	µm	Ref.	Ref.
497	0,25	02 NO497 60	02 NO497 70
495	0,75	02 NO495 60	02 NO495 70
401	1	02 NO401 60	02 NO401 70
402	2	02 NO402 60	02 NO402 70
403	3	02 NO403 60	02 NO403 70
406	6	02 NO406 60	02 NO406 70
409	9	02 NO409 60	02 NO409 70
412	12	02 NO412 60	02 NO412 70
415	15	02 NO415 60	02 NO415 70
425	25	02 NO425 60	02 NO425 70

DIAMOND ABRASIVES

Bio DIAMANT® finishing fluids

M.M.140

High-performance emulsion for superfinishing all materials.
Strong concentration. Clean with solvent or detergent 742. **New packaging.**

Characteristics	Type	Packaging	Ref.
Diamond emulsion	M.M.140	250 ml	02 MM140 00
Diamond emulsion	M.M.140	1 000 ml	02 MM140 20



M.M.180 NEW

Polishing suspension for crystals and natural composite materials (mother-of-pearl).
Liquid specially formulated to provide superfinish chemical-mechanical polishing and high gloss on the surface of parts, without altering the structure. Oil-free composition, cleans with water or 742 detergent, guaranteeing clean, residue-free use.

Characteristics	Type	Packaging	Ref.
Water-based diamond liquid	M.M.180	250 ml	02 MM180 00
Water-based diamond liquid	M.M.180	1 000 ml	02 MM180 20

Diamond fluids

High-performance oil-based single-crystal and polycrystalline diamond liquids containing additives to limit diamond settling. Produce excellent results in terms of gloss and roughness on very hard materials such as ceramics and silicon carbides. As they contain no water, these products are particularly suitable for lapping/polishing water-sensitive materials.
Ready to use, they can be used with MM990-140 or MM950-140 fluid.
Clean with Stanol or 742 detergent, leaving no greasy residue on parts.

SERIES 241 - MONOCRYSTALLINE

		500 ml	5 litres
Type	µm	Ref.	Ref.
99 241	0,1	02 99241 00	02 99241 40
97 241	0,25	02 97241 00	02 97241 40
01 241	1	02 01241 00	02 01241 40
02 241	2	02 02241 00	02 02241 40
03 241	3	02 03241 00	02 03241 40
06 241	6	02 06241 00	02 06241 40
09 241	9	02 09241 00	02 09241 40
14 241	14	02 14241 00	02 14241 40
25 241	25	02 25241 00	02 25241 40

SERIES 241P - POLYCRYSTALLINE

		500 ml	5 litres
Type	µm	Ref.	Ref.
99 241P	0,1	02 99241P 00	02 99241P 40
97 241P	0,25	02 97241P 00	02 97241P 40
01 241P	1	02 01241P 00	02 01241P 40
02 241P	2	02 02241P 00	02 02241P 40
03 241P	3	02 03241P 00	02 03241P 40
06 241P	6	02 06241P 00	02 06241P 40
09 241P	9	02 09241P 00	02 09241P 40
14 241P	14	02 14241P 00	02 14241P 40
25 241P	25	02 25241P 00	02 25241P 40



Diamond slurry

Single face lapping polishing

0% of water

No decantation

ECOA® abrasive slurries

Double side polishing



Multi abrasives

Custom-made formulas

Packaging 5 L

Liquid slurries for double plate machines

The ECOA® range is carrying all LAM PLAN's knowledge in terms of classic and diamond slurries applied for polishing and super-finishing on double plate machines. It is the guarantee of an efficient response to various materials.

Ready-to-use high quality industrial products

The manufacturing and the packaging are adapted to the constraints and consummation encountered in industrial production polishing.

Control your VOC emission

For many years, the LAM PLAN R&D department has been committed to develop new products respecting the user's health but also the environment without compromising the efficiency. Composed with a specific new generation binder, this slurry is VOC free (Volatile Organic Compounds).

Improved technical performances

The abrasive film, specially elaborated for double side lapping polishing assures a good distribution of the slurry on the polishing supports. The new generation formulations reduce heating during the polishing process and keep the abrasive film wet.

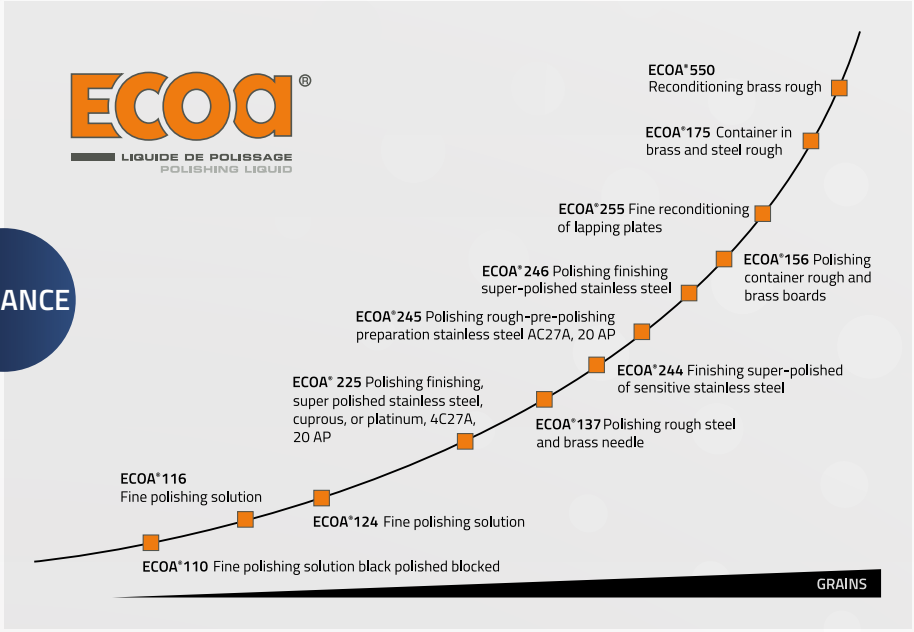
Easy cleaning

Specially conceived to limit and distribute the polishing residues, the ECOA® liquids can be washed easily with water or with aqueous detergents.

Respect the users and the environment

The products of the ECOA® range are biodegradable by more than 70%. Nontoxic and harmless, the users' working condition are thus respected. Also anticipating the new regulations concerning greenhouse gas emission. Consolidation of your ISO 14001 and ISO 26000 approach.

Supply guarantee and total traceability
Wide range available, custom development.



DIAMOND ABRASIVES

Stick Bio DIAMANT® M.M.140 A

Diamond pastes dosing stick for the finishing of watch parts.

Characteristics

The Bio DIAMANT® M.M.140 A stick is constituted of a solid chemical binder, soluble in water and oil. The Bio DIAMANT® M.M.140 A stick can be used with the M.M.712 fluid (water base) or with the M.M.705 fluid (oil base).

Applications

Particularly recommended for the watch parts. Easy to use, its yield and its abrasive quality allows obtaining exceptional results well known in this branch of industry. Its pairing with TOUCHLAM® polishing cloths authorises the final polishing of various materials and principally the ones used in the watchmaking field (brass, silver, stainless steel, stavax, coating, etc.). It is often used in restoring terminated parts, to remove micro-scratches, it can also be integrated in a complete production polishing process.

Use and presentation

This stick is intended for manual use. The accurate dosing of the paste distribution is insured by a graduated drum. Each division represents 0.2 gram.

This system allows loading any new polishing cloth with a perfectly repetitive material without direct contact with the product.

BIODIAMANT®



Diamond paste

Manual polishing Proven results

High efficiency

High abrasive capacity

Characteristics	Packaging	Type	µm	Ref.
Monocrystalline diamond High concentration	10 g	M.M.140 A	<1	01 MM149 00

These are the necessary quantities to load a new polishing cloth:

Nature of cloth	Ø 150 mm	Ø 200 mm	Ø 250 mm	Ø 300 mm	Ø 400 mm
Woven	0,2 g	0,2 g	0,4 g	0,4 g	0,6 g
Flocked	0,3 g	0,4 g	0,5 g	0,6 g	0,7 g

Please adjust each operation according to the surface of the samples.

GUIDANCE

BIODIAMANT®



Bio DIAMANT® Sticks

The sticks allow controlling the dosage in manual usage on lapping plates.

The diamond paste is distributed according to an accurate dosage, thanks to a drum, graduated every 0.2 g. The loading of the paste on the plate is insured to be repetitive and without finger contact.

Manual use on lapping and polishing plates and blocks

High efficiency

High abrasive capacity

SERIES M.M.130-140

Extra concentrated in monocrystalline diamond, these high performance sticks allow a high and fast stock removal on all types of materials. Their high concentration facilitates also the rapid acquisition of flat and shiny surfaces. The cleaning is done with water or detergent 742.

The M.M.130 series sticks are used for ROUGH operations.

The M.M.140 series sticks are used for FINISHNG operations.

Characteristics	Type	µm	Ref.
10 g Finishing	MM 140 A	0,75	01 MM149 00
	MM 145	1	01 MM145 00
	MM 144	2	01 MM144 00
	MM 143	3	01 MM143 00
	MM 142	6	01 MM142 00
	MM 141	9	01 MM141 00
10 g Rough	MM 133	12	01 MM133 00
	MM 132	14	01 MM132 00
	MM 131	25	01 MM131 00

8% discount from 3 products of the same reference

SERIE 122

High concentration monocrystalline diamond sticks, for all rough and finishing operations. The identification of grains of these sticks are colour coded in order to limit the risks of committing mistakes during the use. The cleaning can be done with water, alcohol or detergent 742.

Diamond abrasive

Manual lapping

For composite rods

Characteristics	Type	µm	Ref.
10 g Finishing on polishing support	025 122	1/4	01 97122 00
	1 122	1	01 01122 00
	3 122	3	01 03122 00
	6 122	6	01 06122 00
	9 122	9	01 09122 00
	15 122	15	01 15122 00

8% discount from 3 products of the same reference

Bio DIAMANT® pastes

Oil soluble pastes, with high diamond concentration, insuring an important productivity on hard and extra hard materials.

Use with lubricant type M.M.705. These pastes are available in 1 to 90 µm grains.
The cleaning of your parts can be done with water or alcohol.



Diamond abrasive
Lapping bore
0% of water
Lubrification anti-heating

SERIE 210

Characteristics	Type	µm	Ref.
10 g High yield abrasive Hard and extra-hard materials	1 213	1	01 01213 00
	3 213	3	01 03213 00
	6 213	6	01 06213 00
	8 213	8	01 08213 00
	14 213	14	01 14213 00
	25 213	25	01 25213 00
	40 213	40	01 40213 00
	60 213	60	01 60213 00
	90 213	90	01 90213 00

5% discount from 3 products of the same reference

Diadoseurs Bio DIAMANT®



Concentrated diamond abrasive
Ultra precise distribution
Repeatability of the distribution

BIO DIAMANT® GELS SERIES 400

Characteristics	Type	µm	Ref.
30 g Diadoseur precision Finishing on rods	01 400	1	010140030
	03 400	3	010340030
	06 400	6	010640030
	08 400	8	010840030
	14 400	14	011440030
	25 400	25	012540030

GUIDANCE

These are the necessary quantities to load a new polishing cloth:

Nature of cloth	Ø 150 mm	Ø 200 mm	Ø 250 mm	Ø 300 mm	Ø 400 mm
Woven	0,2 g	0,2 g	0,4 g	0,4 g	0,6 g
Flocked	0,3 g	0,4 g	0,5 g	0,6 g	0,7 g

Please adjust each operation according to the surface of the samples.

LUBRICATING FLUIDS



Lubricant

Dedicated to materials sensitive to corrosion

Fluids

NEOFLUID

Lubricating fluid recommended for Bio DIAMANT® NEOLAP® slurries. Formulation without volatile organic compounds (VOCs) and without dangerous substances, this biodegradable fluid is adapted for the lapping and polishing of most materials. It allows controlling perfectly the heating of the lapping plates during production cycles, thereby guaranteeing excellent flatness. Its association with the Bio DIAMANT® NEOLAP® slurries guarantees a stable, uniform abrasive film during the various work processes. Its active principles protect materials sensitive to corrosion.

Packaging	Ref.
1 litre	07 NEF10 30
5 litres	07 NEF10 40

M.M.712



Lubricant

Lapping in high production

Use with a dosing distributor

Aqueous lubricating fluid recommended with the Bio DIAMANT® series 122 and M.M.130-140, and liquid series M.M.330-340. It is compatible with the new Bio DIAMANT® NEOLAP® slurries series 300 and 400. Ready to use, its specific formula prevents the support from heating and facilitates the cleaning of parts with water or by adding the detergent 742.

Packaging	Ref.
1 litre	07 MM712 30
5 litres	07 MM712 40
Pulmatic 350 cc	07 MM712 50

M.M.705

Lubricating fluid to be used with the diamond compounds series 210. Ready-to-use, it ensures an excellent dispersion of the compound and optimises its lapping power. Cleans easily with the detergent 742 or Stanol.

Packaging	Ref.
1 litre	07 MM705 30
Pulmatic 350 cc	07 MM705 50

M.M.990-140

This lubricant fluid is recommended for usages with the diamond slurries series 241P. Ready-to-use, its low viscosity creates a very fine abrasive film during the work process, which ensures a high lapping efficiency. It is compatible with the new Bio DIAMANT® NEOLAP® series 100 and M.M. 130-140. Use the detergent 742, Stanol or apply solvents to clean the parts.

Packaging	Ref.
1 litre	07 MM711 30
5 litres	07 MM711 40

Lubricant

0 % of water

Use with a dosing distributor

M.M.950-140

Oil-based lubricating fluid. Due to its low evaporation rate, it is recommended for large lapping or polishing support. This fluid is not subjected to the regulation on the transport of dangerous materials (ADR, IMDG, IATA).

Packaging	Ref.
1 litre	07 MM950 30
5 litres	07 MM950 40

MANUAL DISTRIBUTOR

Characteristics	Packaging	Ref.
Bottle to be filled	Pulmatic 350 cc - 2 units	08 00802 00

COMPOSITE ABRASIVES

W**A high-performance product which has proven its adaptability to all usage, especially for large tanks and intensive usage. According to the concentration intended, 1 litre of abrasive solution allows obtaining between 5 and 10 litres of abrasive.**

Advantages

- Increasing working speed.
- Easy resuspension of the mixture.
- Soft abrasive film, efficient and balanced.
- Very low smell.
- Low running costs.
- Easy cleaning. Detergent 711-103.
- Ingenious packaging: packs 2 x 2 litres stackable and 4 x 2 litres (reduced handling).
- Concentrated abrasive slurry, easy-to-use and easy cleaning.

1 pack of 2 x 2 litres = 20 to 30 litres of solution. These products allow working with abrasive concentration adjustable to usage. Requiring a brewing while using it. Easy resuspension. Compatible with the additive 716.



Conventional abrasives

Lapping on cast iron plates

ALUMINIUM OXYDE (Al_2O_3)

		2 x 2 litres pack	4 x 2 litres pack
FEPA	µm	Ref.	Ref.
180	74	A074 S12L2	A074 S12L4
220	62	A062 S12L2	A062 S12L4
240	45	A045 S12L2	A045 S12L4
280	37	A037 S12L2	A037 S12L4
320	29	A029 S12L2	A029 S12L4
360	23	A023 S12L2	A023 S12L4
400	17	A017 S12L2	A017 S12L4
500	13	A013 S12L2	A013 S12L4
600	9	A009 S12L2	A009 S12L4
800	7	A007 S12L2	A007 S12L4
1000	5	A005 S12L2	A005 S12L4
1200	3	A003 S12L2	A003 S12L4
1500	1	A001 S12L2	A001 S12L4

SILICON CARBIDE (SIC)

		2 x 2 litres pack	4 x 2 litres pack
FEPA	µm	Ref.	Ref.
180	74	E074 S12L2	E074 S12L4
220	62	E062 S12L2	E062 S12L4
240	45	E045 S12L2	E045 S12L4
280	37	E037 S12L2	E037 S12L4
320	29	E029 S12L2	E029 S12L4
360	23	E023 S12L2	E023 S12L4
400	17	E017 S12L2	E017 S12L4
500	13	E013 S12L2	E013 S12L4
600	9	E009 S12L2	E009 S12L4
800	7	E007 S12L2	E007 S12L4
1000	5	E005 S12L2	E005 S12L4
1200	3	E003 S12L2	E003 S12L4

The CLASSICAL composite abrasive is also available in Boron carbide (B_4C) and cerium oxide (CeO_2). Other grains on demand..



Conventional abrasive

Lapping on cast iron plate

Biodegradable

BIOLAM® composite abrasive fluids

New generation of biodegradable abrasive liquids developed by our Research and Development department. Very practical for honing machines with small and medium capacity tanks.

Advantages

- Easy to use and to put in work.
- Low decantation of the abrasive, regularity of results.
- Consistent and ready abrasive film.
- No dangerous substances.
- Low running costs.
- Very low smell.
- Simple and easy cleaning (ex: water or water + ordinary detergent).
- Compact packaging: 2 and 20 litres jerrycans other packaging on demand.

BIOLAM® PLUS to dilute and BIOLAM S ready-to-use

Plus: Smooth abrasive slurry, no smell, biodegradable, easy to clean. Limited decantation, no additive needed. dilute 1 to 5 times in water.

S: Biodegradable and no smell liquid slurry, non-toxic. Easy to clean. Simple usage: to put directly in the abrasive tank of the machine, limited decantation. Depending of the use can be used pure or can be diluted up to 2 times in water.

OXYDE D'ALUMINIUM ($A_{l2}O_3$)

BIOLAM®PLUS to dilute				BIOLAM®S ready-to-use	
		2 litres	20 litres	2 litres	20 litres
FEPA	µm	Ref.	Ref.	Ref.	Ref.
100	125	A125 V92L1	A125 V9020		
120	105	A105 V92L1	A105 V9020		
150	88	A088 V92L1	A088 V9020	A088 V62L1	A088 V6020
180	74	A074 V92L1	A074 V9020	A074 V62L1	A074 V6020
220	62	A062 V92L1	A062 V9020	A062 V62L1	A062 V6020
240	45	A045 V92L1	A045 V9020	A045 V62L1	A045 V6020
280	37	A037 V92L1	A037 V9020	A037 V62L1	A037 V6020
320	29	A029 V92L1	A029 V9020	A029 V62L1	A029 V6020
360	23	A023 V92L1	A023 V9020	A023 V62L1	A023 V6020
400	17	A017 V92L1	A017 V9020	A017 V62L1	A017 V6020
500	13	A013 V92L1	A013 V9020	A013 V62L1	A013 V6020
600	9	A009 V92L1	A009 V9020	A009 V62L1	A009 V6020
800	7	A007 V92L1	A007 V9020	A007 V62L1	A007 V6020
1000	5	A005 V92L1	A005 V9020	A005 V62L1	A005 V6020
1200	3	A003 V92L1	A003 V9020	A003 V62L1	A003 V6020
1400	2	A002 V92L1	A002 V9020		
1500	1	A001 V92L1	A001 V9020	A001 V62L1	A001 V6020
2000	0,4	CP40 V92L1		CP40 V62L1	CP40 V6020
2200	0,2	CP20 V92L1		CP20 V62L1	CP20 V6020
4500	0,05	CP05 V92L1		CP05 V62L1	CP05 V6020

COMPOSITE ABRASIVES

SILICON CARBIDE (SIC)

BIOLAM®PLUS to dilute

BIOLAM®S ready-to-use

		2 litres	20 litres	2 litres	20 litres
FEPA	µm	Ref.	Ref.	Ref.	Ref.
80	177	E177 V92L1	E177 V9020	E177 V62L1	E177 V6020
100	125	E125 V92L1	E125 V9020	E125 V62L1	E125 V6020
120	105	E105 V92L1	E105 V9020	E105 V62L1	E105 V6020
150	88			E088 V62L1	E088 V6020
180	74	E074 V92L1	E074 V9020	E074 V62L1	E074 V6020
220	62	E062 V92L1	E062 V9020	E062 V62L1	E062 V6020
240	45	E045 V92L1	E045 V9020	E045 V62L1	E045 V6020
280	37	E037 V92L1	E037 V9020	E037 V62L1	E037 V6020
320	29	E029 V92L1	E029 V9020	E029 V62L1	E029 V6020
360	23	E023 V92L1	E023 V9020	E023 V62L1	E023 V6020
400	17	E017 V92L1	E017 V9020	E017 V62L1	E017 V6020
500	13	E013 V92L1	E013 V9020	E013 V62L1	E013 V6020
600	9	E009 V92L1	E009 V9020	E009 V62L1	E009 V6020
800	7	E007 V92L1	E007 V9020	E007 V62L1	E007 V6020
1000	5	E005 V92L1	E005 V9020	E005 V62L1	E005 V6020
1200	3	E003 V92L1	E003 V9020	E003 V62L1	E003 V6020

CERIUM OXYDE (CEO_2) LIQUID

Finishing Liquid for the finishing on glass, sapphire and plastic. Dilute 2 to 5 times in water.
2 litres tin.

BIOLAM®PLUS to dilute

Container of 2 litres		
FEPA	µm	Ref.
1200	3	I003 V92L1
1300	2	I002 V92L1
1400	1	I001 V92L1



The composite abrasives BIOLAM® are also available in boron carbide (B_4C).

Other grains on demand.

Dilution of AQUALAM® CLASSIC and BIOLAM®PLUS solutions

1 part concentrated abrasive product

2 parts ADDITIVE 716

4 parts tap water

GUIDANCE

ADDITIVE 716 optimises the abrasive film and protects the parts and the cast iron plate from corrosion.



Super-finishing
Polishing on cloth discs
Simplified cleaning

AQUA LAM® colloidal silicas

The colloidal silicas are stabilised suspensions with fine non-agglomerated spherical particles. This aqueous solution contains a high concentration of nanoscale silica.

During usage, colloidal silicas are generally diluted in water to proportions between 10 and 50%. We advise a 20% dilution in water for an optimum use.

These products are always used for super-finishing.

S.W. 30

Chemical-mechanical abrasive for compatible material
Super-finishing standard liquid to use pure or diluted up to 50%
Silica concentration: 30%
Size of particles: 30 nm
pH = 10

Packaging	Ref.
5 litres tin	Z000 A25L1
10 litres tin	Z000 A2010

S.W. 36

Silica concentration : 50%
Size of particles : 50 nm
pH = 9

Packaging	Ref.
5 litres tin	Z000 C55L1
10 litres tin	Z000 C5610

NOVAL S FINISHING

Super-finishing liquid. Obtaining ultra-low roughness
Contains an additive "anti-crystallisation" which facilitate the cleaning of the parts and the machines. Silica concentration : 30%
Size of particles: 30 nm
pH = 10

Packaging	Ref.
5 litres tin	Z000 F75L1
10 litres tin	Z000 F7010
20 litres tin	Z000 F7020

NOVAL CONCENTRATED

Formulated to be added to pure colloidal silica
Additive that cancels crystallisation and decantation of the pure colloidal silica pure
Increases the stock removal, powers the roughness
Silica concentration: 35%
Size of particles: 30 nm
pH = 9

Packaging	Ref.
10 litres tin	Z000 F8010
20 litres tin	Z000 F8020

COMPOSITE ABRASIVES

Abrasive compounds BIOLAP®

Concentrated fluid abrasive pastes. Oil base, auto-lubricants, intended for the lapping of parts between them and/or cylindrical lapping.
Biodegradables, no smell, no dangerous substances.



Advantages

- VOC free
- No water spots
- Alumina base, silicon carbide or boron carbide
- Grains from 0,05 to 125 microns
- Biodegradable products
- Low viscosity
- Packaging: in 50 and 250 cm³ pots

BIOLAP® L SERIES



Conventional abrasives

Complex parts Lapping polishing

Fluid texture

BIOLAP® Cr L SERIES



Conventional abrasives and chromium oxide

Lapping polishing

Operations under high constraints

Resistant to friction and heating

ALUMINIUM OXIDE (Al_2O_3)

		BIOLAP® L SERIES		BIOLAP® Cr L SERIES	
		Pot of 50 cm³	Pot of 250 cm³	Pot of 50 cm³	Pot of 250 cm³
FEPA	µm	Ref.	Ref.	Ref.	Ref.
100	125	A125 O3P05	A125 O3P25	A125 O5P05	A125 O5P25
120	105	A105 O3P05	A105 O3P25	A105 O5P05	A105 O5P25
150	88	A088 O3P05	A088 O3P25	A088 O5P05	A088 O5P25
180	74	A074 O3P05	A074 O3P25	A074 O5P05	A074 O5P25
220	62	A062 O3P05	A062 O3P25	A062 O5P05	A062 O5P25
240	45	A045 O3P05	A045 O3P25	A045 O5P05	A045 O5P25
280	37	A037 O3P05	A037 O3P25	A037 O5P05	A037 O5P25
320	29	A029 O3P05	A029 O3P25	A029 O5P05	A029 O5P25
360	23	A023 O3P05	A023 O3P25	A023 O5P05	A023 O5P25
400	17	A017 O3P05	A017 O3P25	A017 O5P05	A017 O5P25
500	13	A013 O3P05	A013 O3P25	A013 O5P05	A013 O5P25
600	9	A009 O3P05	A009 O3P25	A009 O5P05	A009 O5P25
800	7	A007 O3P05	A007 O3P25	A007 O5P05	A007 O5P25
1000	5	A005 O3P05	A005 O3P25	A005 O5P05	A005 O5P25
1200	3	A003 O3P05	A003 O3P25	A003 O5P05	A003 O5P25
1500	1	A001 O3P05	A001 O3P25	A001 O5P05	A001 O5P25
1800	0,7	CP70 O3P05	CP70 O3P25	CP70 O5P05	CP70 O5P25
2000	0,4	CP40 O3P05	CP40 O3P25	CP40 O5P05	CP40 O5P25
2200	0,2	CP20 O3P05	CP20 O3P25	CP20 O5P05	CP20 O5P25
4500	0,05	CP05 O3P05	CP05 O3P25	CP05 O5P05	CP05 O5P25

SILICON CARBIDE (SIC)

BIOLAP® L SERIES

BIOLAP® Cr L SERIES

		Pot of 50 cm³	Pot of 250 cm³	Pot of 50 cm³	Pot of 250 cm³
FEPA	µm	Ref.	Ref.	Ref.	Ref.
80	177	E177 O3P05	E177 O3P25	E177 O5P05	E177 O5P25
100	125	E125 O3P05	E125 O3P25	E125 O5P05	E125 O5P25
120	105	E105 O3P05	E105 O3P25	E105 O5P05	E105 O5P25
150	88	E088 O3P05	E088 O3P25	E088 O5P05	E088 O5P25
180	74	E074 O3P05	E074 O3P25	E074 O5P05	E074 O5P25
220	62	E062 O3P05	E062 O3P25	E062 O5P05	E062 O5P25
240	45	E045 O3P05	E045 O3P25	E045 O5P05	E045 O5P25
280	37	E037 O3P05	E037 O3P25	E037 O5P05	E037 O5P25
320	29	E029 O3P05	E029 O3P25	E029 O5P05	E029 O5P25
360	23	E023 O3P05	E023 O3P25	E023 O5P05	E023 O5P25
400	17	E017 O3P05	E017 O3P25	E017 O5P05	E017 O5P25
500	13	E013 O3P05	E013 O3P25	E013 O5P05	E013 O5P25
600	9	E009 O3P05	E009 O3P25	E009 O5P05	E009 O5P25
800	7	E007 O3P05	E007 O3P25	E007 O5P05	E007 O5P25
1000	5	E005 O3P05	E005 O3P25	E005 O5P05	E005 O5P25
1200	3	E003 O3P05	E003 O3P25	E003 O5P05	E003 O5P25

For personalised formulation please contact us (free estimate).

GUIDANCE

Dilution of AQUALAM® CLASSIC and BIOLAM®PLUS solutions

1 part concentrated abrasive product

2 parts ADDITIVE 716

4 parts tap water

ADDITIVE 716 optimises the abrasive film and protects the parts and the cast iron plate from corrosion.

COMPOSITE ABRASIVES

Abrasive compounds CLASSIC

High concentration abrasive compound. Optimises the texture of the abrasive film in order to obtain a rapid, maximal and extended abrasion. Non greasy, miscible to water and to the additive 716.



Abrasifs conventionnels

High purity

ALUMINIUM OXIDE (Al_2O_3)

		Pot of 1 kg	Bucket of 10 kg
FEPA	µm	Ref.	Ref.
100	125	A125 R101K	A125 R110K
120	105	A105 R101K	A105 R110K
150	88	A088 R101K	A088 R110K
180	74	A074 R101K	A074 R110K
220	62	A062 R101K	A062 R110K
240	45	A045 R101K	A045 R110K
280	37	A037 R101K	A037 R110K
320	29	A029 R101K	A029 R110K
360	23	A023 R101K	A023 R110K
400	17	A017 R101K	A017 R110K
500	13	A013 R101K	A013 R110K
600	9	A009 R101K	A009 R110K
800	7	A007 R101K	A007 R110K
1000	5	A005 R101K	A005 R110K
1200	3	A003 R101K	A003 R110K

SILICON CARBIDE (SIC)

		Pot of 1 kg	Bucket of 10 kg
FEPA	µm	Ref.	Ref.
120 ébauche	105	E105 R101K	E105 R110K
180 moyen	74	E074 R101K	E074 R110K
240 fine	45	E045 R101K	E045 R110K
320	29	E029 R101K	E029 R110K
400	17	E017 R101K	E017 R110K
500	13	E013 R101K	E013 R110K
600	9	E009 R101K	E009 R110K
1000	5	E005 R101K	E005 R110K
1200	3	E003 R101K	E003 R110K

For personalised formulations, please contact us (free estimate).





AQUA LAM® Al_2O_3 powder

ALUMINIUM OXIDE

Commonly called "polishing alumina", chemical symbol Al_2O_3. They are composed of various family: purified aluminas, melted aluminas, calcinated aluminas, submicron aluminas. Their choice is defined according to result criterias and economical expectancies. Grains included between 0,03 micron and 200 microns.

Standard abrasive

High purity

		Bucket of 5 kg	Bucket of 5 kg
FEPA	µm	Ref.	Ref.
100	125	A125 P105K	A125 P125K
120	105	A105 P105K	A105 P125K
150	88	A088 P105K	A088 P125K
180	74	A074 P105K	A074 P125K
220	62	A062 P105K	A062 P125K
240	45	A045 P105K	A045 P125K
280	37	A037 P105K	A037 P125K
320	29	A029 P105K	A029 P125K
360	23	A023 P105K	A023 P125K
400	17	A017 P105K	A017 P125K
500	13	A013 P105K	A013 P125K
600	9	A009 P105K	A009 P125K
800	7	A007 P105K	A007 P125K
1000	5	A005 P105K	A005 P125K
1200	3	A003 P105K	A003 P125K
1500	1	A001 P105K	A001 P125K





AQUA LAM® SiC powder

SILICON CARBIDE

The silicon carbide is a pure chemical corps, chemical symbol SiC. The grains are grey, green or black. The grain F1500 used for specific super-finishing is grey.

The silicon carbide AQUA LAM® endures a special treatment and a separation under a high magnetic intensity to insure a dusting and a maximal cleaning. AQUA LAM® proposes all the grains FEPA F useful in lapping, from F60 (250 microns) to F1200 (3 microns).

Standard abrasive

High purity

		Bucket of 5 kg	Bucket of 25 kg
FEPA	µm	Ref.	Ref.
60	250	E250 P105K	E250 P125K
80	177	E177 P105K	E177 P125K
100	125	E125 P105K	E125 P125K
120	105	E105 P105K	E105 P125K
150	88	E088 P105K	E088 P125K
180	74	E074 P105K	E074 P125K
220	62	E062 P105K	E062 P125K
240	45	E045 P105K	E045 P125K
280	37	E037 P105K	E037 P125K
320	29	E029 P105K	E029 P125K
360	23	E023 P105K	E023 P125K
400	17	E017 P105K	E017 P125K
500	13	E013 P105K	E013 P125K
600	9	E009 P105K	E009 P125K
800	7	E007 P105K	
1000	5	E005 P105K	
1200	3	E003 P105K	

COMPOSITE ABRASIVES

AQUA LAM® CeO_2 powder

CERIUM OXIDE

Chemical symbol CeO_2. Used in super finishing mostly for the polishing of glass (example BK7, 520 knoops) the cerium oxide reduces the roughness by a chemical and mechanical actions. Selected according to its maximum polishing action, the cerium oxide AQUA LAM® has grains from 3 to 0,5 microns (other grains dimensions on demand).

		Pot of 1 kg	Pot of 500 g
FEPA	µm	Ref.	Ref.
1200	3	I003 P101K	I003 P1P5K
1300	2	I002 P101K	I002 P1P5K
1400	1	I001 P101K	I001 P1P5K
1600	0,5	JP50 P101K	JP50 P1P5K



Additive

Additive for liquid preparations CLASSIQUES and BIOLAM®PLUS allowing an optimisation of the abrasive film (more resistant) without reducing the lapping power. Can be used in the preparation of the abrasive solution in addition to water.

Preserves the parts and the cast iron tray from corrosion.

ADDITIF 716

Packaging	Ref.
Can of 5 litres	Z000 F25L1
Can of 10 litres	Z000 F2010
Can of 20 litres	Z000 F2020
Keg of 200 litres	Z000 F2200



ADDITIFS, LUBRIFICANTS, OILS

Lapping oil

Classic lapping oil to use with the abrasive powder.

OIL 708

Packaging	Ref.
Can of 5 litres	Z000 A35L1
Can of 10 litres	Z000 A3010
Can of 20 litres	Z000 A3020
Keg of 60 litres	Z000 A3060



Lubricant for cylindrical lapping

AQUASUN OIL

Packaging	Ref.
Can of 10 litres	Z000 A4010

GUIDANCE

AQUA LAM®

Correspondences between different standards

MICRON µm	MESH	FEPA F Abrasif libre	W (grain)	GRIT ASTM
3	1200	F1200	W14	1200
5	1000	F1000	W10	-
7	800	F800	W9	-
9	600	F600	W7/8	800
13	500	F500	W5/6	600
18	400	F400	W4	500
23	360	F360	W2	400
29	320	F320	W0	360
37	280	F280	W350	280
45	240	F240	W340	240
58	220	F220	W240	220

GENERAL TERMS AND CONDITIONS OF SALE

1. Application of the General Terms and Conditions of Sale

Any order placed with LAM PLAN implies the customer's unreserved acceptance of the entirety of the General Terms and Conditions of Sale outlined below.

Customer orders are only recorded by LAM PLAN in accordance with these General Terms and Conditions of Sale, regardless of any contrary provisions on the customer's purchase orders or general terms, unless explicitly accepted in writing by LAM PLAN.

LAM PLAN's waiver of one or more clauses of these General Terms does not imply a waiver of any other clauses, which remain fully enforceable.

These General Terms and Conditions may be amended at any time without prior notice by LAM PLAN, with changes applying to all subsequent orders.

The customer acknowledges being fully informed that acceptance of these terms does not require signature of the document.

2. Orders

The sale is only considered final after LAM PLAN accepts the customer's order.

Products are provided and invoiced at the price in effect at the time of the order or, where applicable, in accordance with a specific commercial proposal accepted by the customer.

Any subsequent modifications to the order requested by the customer may be considered at LAM PLAN's discretion if notified in writing at least 15 days before the scheduled delivery date and accompanied by a new specific purchase order signed by the customer, possibly with a price adjustment.

3. Prices

Our quotations are valid for three months after they are issued.

Invoices are issued based on the price in effect on the order date.

Unless otherwise stated in writing, prices are in Euros, net, excluding tax, ex-works and excluding packaging.

Consequently, the customer shall bear the applicable VAT rate if any, transportation costs, any customs fees and duties, and insurance costs.

Special pricing terms may apply depending on specific requirements requested by the customer, particularly regarding delivery terms and deadlines, and payment terms and conditions.

A specific commercial offer will then be sent to the customer by LAM PLAN.

4. Payment

Payment must be made in full, in a single installment, within 30 days end of month from the invoice date.

In the event of late payment, LAM PLAN may suspend any ongoing orders, without prejudice to a late penalty due the day after the invoice due date, calculated on all amounts due, at a rate three times the legal interest rate in effect at the time of enforcement, as applied by the European Central Bank.

Furthermore, and in accordance with Article L 441-6 of the French Commercial Code, in addition to late penalties, the customer shall be liable for a fixed recovery fee of €40, with LAM PLAN reserving the right to claim additional compensation upon proof of recovery costs exceeding the fixed fee.

5. Retention of Title

LAM PLAN retains ownership of the delivered goods until full payment of the price, including principal, interest, and charges.

However, risk passes to the customer upon delivery and remains throughout the period of retention of title in favor of LAM PLAN.

The customer therefore agrees to take out insurance covering risks of loss, theft, or destruction of goods, until full payment is made.

Without prejudice to any claim for damages, LAM PLAN may cancel the sale and, without prior notice, recover all goods in question for any unpaid invoice at maturity.

The customer is prohibited from pledging or transferring ownership of the goods until full payment has been made.

If the customer becomes subject to insolvency proceedings or any event preventing payment for goods delivered, and the goods have been resold to a sub-buyer who has not paid yet, the customer agrees to promptly provide LAM PLAN with all necessary information to assert its rights over the outstanding receivable from the sub-buyer.

6. Deliveries

Delivery dates and deadlines are for informational purposes only and are not guaranteed.

LAM PLAN's obligation is one of means, not result. Therefore, any delay in delivery shall not result in cancellation of the order, rejection of the goods, or claims for penalties or damages.

LAM PLAN shall not be held liable for delivery delays or suspensions due to its service providers and/or subcontractors, or due to force majeure or unforeseen circumstances as defined by French jurisprudence.

LAM PLAN's warehouses are the designated place of delivery.

This rule shall not be altered by LAM PLAN's partial or full assumption of transportation costs, in which case LAM PLAN acts solely as an agent for the customer, who bears all transport risks.

Unless otherwise agreed, goods are shipped at the customer's sole expense, risk, and peril, via carrier, to the address specified on the order form.

The customer must inspect the goods upon receipt. In the event of missing or damaged goods, the customer must note all necessary reservations on the delivery slip at the time of receipt.

Such reservations must also be confirmed in writing to the carrier, in accordance with Article L 133-3 of the French Commercial Code, within three days of receipt, via registered letter with acknowledgment of receipt. It is the customer's responsibility to pursue any claims against the carrier(s).

7. Right of Withdrawal and Order Cancellation

For returns of standard, compliant products, the customer may exercise a right of withdrawal by:

1. Notifying their return request in writing within 10 calendar days from the product receipt date (Proof Of Delivery required);

2. Shipping the products at their own cost within 20 working days of written confirmation from LAM PLAN accepting the return.

Products must be returned in their original packaging, complete, in perfect condition, and unused. Any incomplete, damaged, or soiled product will not be refunded or exchanged.

Return costs are borne by the Customer. After verifying the condition of returned products, LAM PLAN will proceed with either a refund or issue a credit note, at its discretion.

Any request for order cancellation before product shipment or service execution must be made in writing to LAM PLAN and is subject to its acceptance.

Cancellation or withdrawal fees may be charged, at LAM PLAN's discretion, particularly to cover incurred costs and lost profit. These fees will be at least 20% of the total order amount.

Custom-made or tailored Products or Services are not subject to cancellation or withdrawal, except with LAM PLAN's express consent. In case of accepted cancellation, fees up to 100% of the order value may apply.

8. Limited Warranty

New equipment and materials sold by LAM PLAN are guaranteed against manufacturing defects for one year from the invoice date.

The buyer must inspect the goods upon receipt and notify LAM PLAN within 10 days of any discovered defects.

LAM PLAN will, at its discretion, remedy any defect during the warranty period by repairing, replacing, or refunding the product, provided it was used under normal conditions with LAM PLAN brand products and maintained properly.

The warranty does not cover:

- Use of materials provided by the customer or designs imposed by the customer;
- Force majeure, normal wear and tear, customer negligence, lack of supervision or maintenance, or improper use;
- Inappropriate storage or packaging conditions;
- Assembly or implementation faults by the customer or a third party;
- Modifications or repairs made by the customer or a third party without LAM PLAN's prior written authorization.

LAM PLAN provides no warranty for:

- The actual performance of the Products, other than compliance with specifications defined by LAM PLAN;
- Electronic components or associated accessories, including printed circuit boards and integrated circuits.

The customer must allow LAM PLAN sufficient time and means to make necessary repairs or replacements, failing which the warranty shall be void.

LAM PLAN's warranty is strictly limited as stated above.

All damages of any kind arising from defects in goods are expressly excluded from the warranty.

9. Assembly and Commissioning

Assembly and commissioning are not included in the delivery.

Exclusions include foundations, electrical, hydraulic, and compressed air connections, and associated supplies.

These services can be provided by LAM PLAN upon the customer's express request and will be billed separately.

If performed by a third party, only the third party's terms shall apply.

10. Copyrights

LAM PLAN retains copyright ownership over all documents of any kind. The Buyer receives a license to make a limited number of copies of these documents, provided that copyright and trademark notices are included as in the original.

Reproduction of any part of the texts, images, or graphics for promotional purposes is strictly prohibited without LAM PLAN's authorization.

11. Governing Law

All provisions are governed and interpreted solely by French law.

12. Jurisdiction

Any dispute regarding the interpretation and/or execution of these General Terms and Conditions of Sale shall first be subject to an attempt at amicable resolution.

Failing such resolution within two months from the date of the dispute, the matter shall be submitted exclusively to the Commercial Court of Paris.

This clause applies to summary proceedings, fixed-date proceedings, incidental claims, multiple defendants, or third-party claims, notwithstanding any jurisdiction clause to the contrary in the customer's documents.

LAM PLAN®

POLISHING TECHNOLOGY®

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999900REN - 07/2025