

User Manual
LEADER MACHINE
2023





Index

1. Introduction	04
2. Machine description	04
Application	
Accessories	
3. Product label	04
4. Safety	05-06
Safety precautions	
Safety instructions	
5. Initial operations	07-08
Tipping position	
Electrical safety checklist	
Mechanical safety checklist	
Tool attachments	
6. Function	09
Handle adjustments	
Grinding operation	
Machine shut off	
7. Accessory use	10-12
Tank	
Transport trolley	
Work trolley	
Pad holder / brush	
Orbital pad holder	
Splashguard / Vacuum shroud	
8. Maintenance	15
9. Technical data	16
Declaration of conformity CE	17

1. Introduction

It is important than anyone using or performing maintenance on the machine be familiar with the entire contents of the manual.

This manual contains important information for the use and safety when using the machine. Keep this manual handy as a reference while using the machine.

Use of this machine is limited only to authorized personnel.

We remind you that our help service is always available to provide any needed advice or assistance.

2. Machine Description

LEADER MACHINE is an electrically powered grinding machine with planetary motion. It can be equipped with a planetary drive with three tool holders for grinding, levelling and polishing floors.

Without the planetary head, it can also be used for cleaning floors using a pad driver or brush drive.

Applications

LEADER MACHINE can be used on practically any floor surface in commercial, civil and industrial settings that require grinding, polishing, preparation, the removal of coatings, residues or adhesives as well as for cleaning and maintaining polishing floors.

Accessories

There are various types of accessories available for concrete, marble, granite and terrazzo in 100 and 140 mm diameter. For maintenance and regular cleaning, we recommend the use of buffing or abrasive pads.

3. Product Label

The product label is placed in the lower part of the machine handle. It lists the general characteristics of the machine as well as the serial number. The serial number is an important piece of information since it must be provided with any request for assistance or parts purchase.

4. Safety

Before using the machine, the personnel involved must be familiar with the safety instructions provided in this manual.

Keep the manual handy in order to be able to easily refer to it.

Failure to consult the manual could lead to damage or danger to the user and others nearby.

The machine must only be used according to its intended use as described in the user manual.

Any improper use of the machine that violates what is indicated by the user manual provided by the manufacturer exempts the manufacturer of any liability.

The manufacturer cannot be held responsible for damages caused to goods or persons.

Safety Precautions

- The surface to be treated must be swept clean and be free of any rocks, nails and other debris that could damage the planetary drive.
- Do not use the machine when the surface is not clean or whenever there is a risk of disengagement of or damage to the planetary drive
- Remove any power cable and/or vacuum hoses from the surface to be treated
- Do not allow yourself to become distracted during work.

Safety Regulations

- Ensure that the machine is clean and that the handles are dry and free of oil or grease
- Do not perform any part replacement on the machine. Always use approved, grounded power cables.
- Do not connect to an outlet with a non-regulation power cable. Do not pull the power cable
- Regularly inspect and test electrical components. Electrical components must satisfy all related requirements.
- Always contact a licensed electrician or your local vendor when there are questions related to the safety of electrical components
- Maintenance on electrical equipment or tools may be carried out exclusively by a licensed electrician or highly trained personnel under the guidance and supervision of a licensed electrician, in adherence to the instructions for electrical components.
- Disconnect the main plug during inspections and maintenance procedures on the machine. Exercise caution with power cables and plugs when the floor is wet
- Never use the machine in the rain
- Keep the machine clean but never wash the machine by spraying it with water or submerging it in water or other liquids

Safety Instructions:

- Ensure that the machine is kept clean and the handles are free of oil and grease
- Disconnect the main plug when changing the diamond discs
- Wear protective gear such as gloves, dust masks, safety goggles and safety shoes while using the machine

5. Initial Operations

Before using the machine it is important to inspect it.

The use of the machine is not permitted unless the machine is in compliance with the following safety requirements.

Tipping position

The machine has a specific handle incline configuration that must be followed each time the user must:

- Attach/detach the pad/pad holder/Free Plate/Fix Plate
- Attach/detach planetary drive
- Attach/detach tools for the planetary drive

The following is the procedure for correctly tilting the machine:

- Ensure that the transport wheels (1) are situated lower than the working wheels (2). The machine must touch the floor only at the casing (3) and the transport wheels.
- Ensure that the handle bar (4) is locked in the elongated position.
- Ensure that the power cable (5) is unplugged during attachment/detachment of accessories, or at least that there are no risks or accidental start on the part of other users



Electrical Safety Checklist

- To extend main power cable length, use only extension cords that are of the correct thickness and that conform to the power requirements of the machine.
- Do not use damaged power cables
- Use grounded extension cords

Mechanical Safety Checklist

Ensure that:

- The safety features are working correctly
- Diamond tools are not missing or damaged
- There is no damage to the electrical components
- There are no loose nuts or bolts
- The power is disconnected

Tool Attachment

- Tilt and rest the machine according to the proper tilting position so that it rests upon the handle bar.

IMPORTANT: To avoid damage to the gas shock, the tilting must be carried out while the machine is in proper tilting position: with the handle positioned upright, not tilted as when in use. (Warning labels are located on the bar of the handle)

- Attach the 3 metalbond or resinbond discs (6) with a B attachment onto drive plate (7) by positioning them on the base of the planetary drive, FIX PLATE or FREE PLATE, ensuring that they are firmly fixed in place, not loose.

TOOLS WITH B ATTACHMENT

When using discs with a B attachment, they must be replaced with the use of a screwdriver that should be used to wedge them out from the exterior edge of the pad holder.



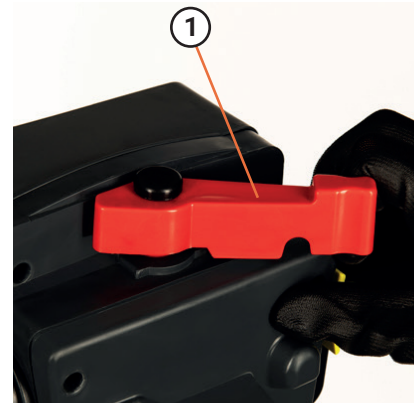
6. Function

Adhere scrupulously to the following safety instructions while using LEADER MACHINE

Handle Adjustment

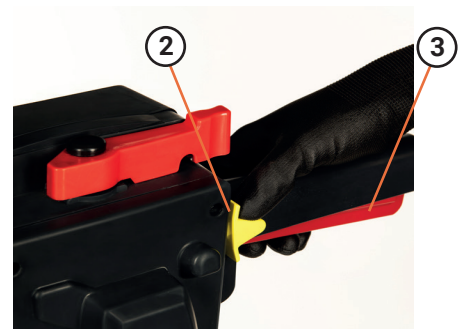
An ergonomic lever on the machine handle allows the user to adjust it to the desired height.

- Pull lever (1) and maintain pressure until the handle is in the desired position
- Release the lever to lock the handle in the desired position ensuring that it is at a comfortable height for use



Machine Start

- Insert machine plug into power outlet
- To start the machine, press the yellow button (2), then pull one of the two levers (3)



IMPORTANT: in case of emergency or any sort of danger, release the power lever(s) in order to immediately stop the machine

Function During Grinding

- Place the machine upon the work surface and after having adjusted the handle, prepare to initiate work
- Begin grinding process
- The machine can be controlled by the user by moving it to the right and left or viceversa
- Movement is controlled through the handle: lowering it to move to the left and raise it to move to the right

This machine allows the user to obtain a uniform and flat surface thanks to its planetary system.

For optimal results during grinding, the machine should not remain still, it should be kept in continuous motion

Machine Stopping

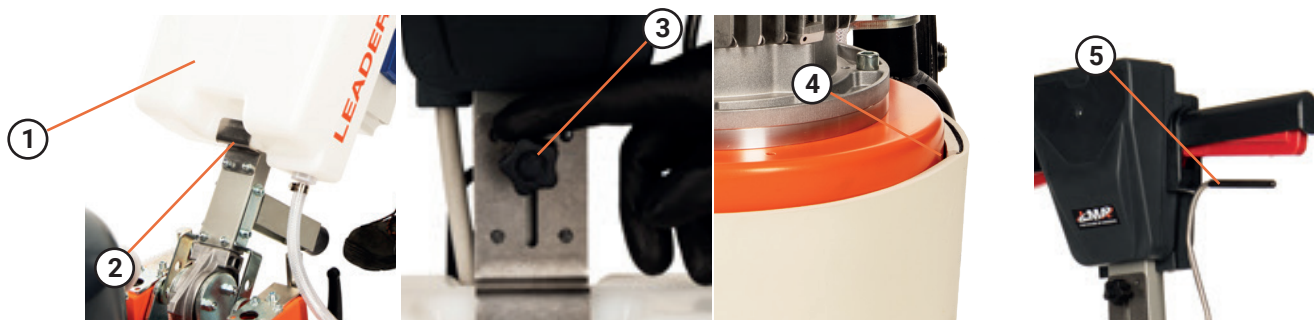
- Release power lever on machine handle and the machine will stop
- Unplug power cable from outlet

7. Accessory Use

▪ Tank 20lt

Place the water tank on the bar of the handle as shown in the picture

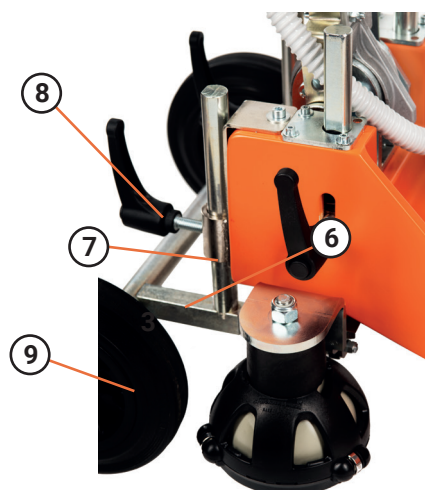
- Rest the tank on the tank holder bracket (1) near the bottom of the bar (2)
- Loosen the bracket, position it tight to the underside of the tank and secure it in place by tightening the knob (3)
- Insert the short metal tube on the end of the flexible water tube (4) into the hole on the machine casing or in the elbow coupling in the splashguard ensuring that it is locked in place
- To release water, pull lever attached to water tank (5)



▪ Transport Trolley

The transport trolley is composed of two main pieces: the frame (6) (fixed to the casing) and the bars with wheels (7) (self propelled). With the threaded knob (8) the user can adjust the wheel height.

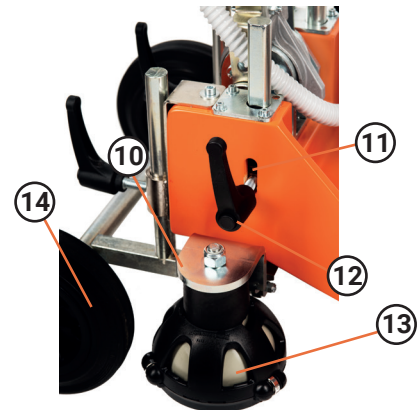
- To transport the machine, incline the trolley slightly forward, unscrew the threaded knobs (9) and allow the wheels to move freely (8) to the lowest position before screwing the knobs back in to lock it in position.
- Tilt the machine backward to transport it, if possible by pushing it instead of pulling.



▪ Work Trolley

The work trolley is composed of one primary accessory (10) and the casing with shock absorption (11) exclusively designed by LMA Machine and protected under pending copyright. With its spring actuated handles (12) the user can adjust the wheel height of the spherical wheels (13)

- Once the planetary drive is attached with the machine in tilted position, after having returned the machine to the upright position, raise the transport wheels up (14) and unscrew the handles (12) so that only the work wheels touch the floor
- Adjust the tension of the springs by tilting the machine forward and pressing on the handles (12). The greater the degree of inclination before the adjustment, the greater the tension will be in the springs.
As a result, the work wheels will increase their shock absorbing ability, thereby increasing stability. On the contrary, there less pressure is exerted upon the wheels by the spring, the less stability is achieved (almost none when the wheels are not touching the floor).
In any case, the work wheels can be adjusted to achieve the desired balance of machine stability and manoeuvrability.

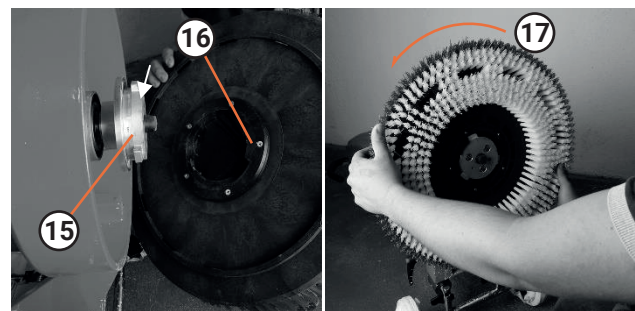


▪ Pad Holder / Brush

Leader Machine can easily be equipped with brushes/pad holders from 16-17" and 18-20" with Numatic attachment plate. We do, however recommend the use of 17" brushes and pad holders.

- To attach the pad holder with pad, tilt the machine back, after ensuring that the machine is in proper tilting position: with the gas shock closed and the bar locked in elongated position.
- Bring the pad holder up to the machine flange and insert it by fitting the attachment segments of the machine flange (15) to the notches on the attachment plate (16). Then rotate the pad holder counter-clockwise (17) to lock it in place
- Lower the machine to allow the disc to touch the floor, adjust handle height and lock the extendable bar into position (if applicable). Raise the transport wheels and begin to use Leader Machine.

The work wheels are not required when using pad holders or brushes, so it would be best to remove them and store them in a safe location, free from any contaminating agents and/or risks of damage.



- **Planetary Drive GEAR PLATE**

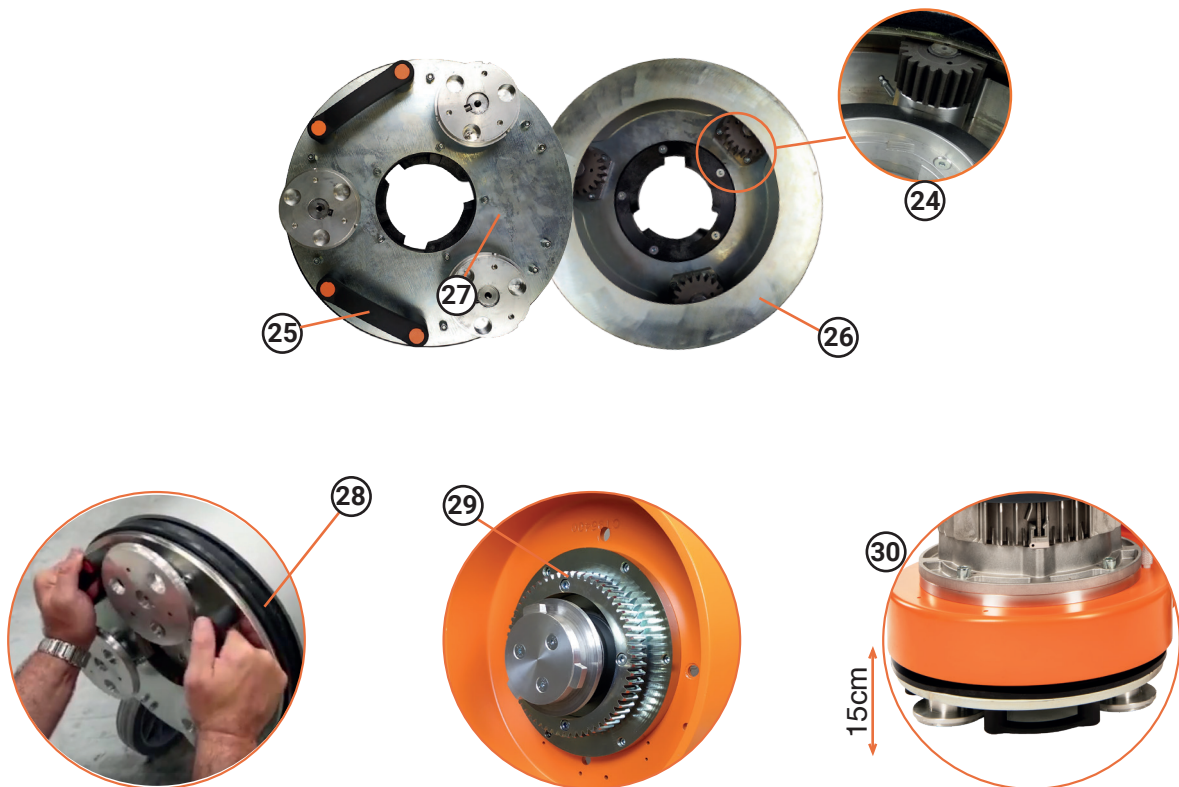
- For all pad holder types, the method of attachment is the same and is as follows:
Place the machine in the tilting position (page 7). Bring the pad holder near (18), holding it by its handles (19), toward the casing (20) and attach it by fitting the teeth of the flange (21) to the notches of the plate; following the first connection, move the tool holders (22) to fit the pinions in the drive to the machine head (23) within the chassis.
- Once the fitting of the pinions is secure, the plate has topped out and can go in no further, rotate the plate counter clockwise until it can rotate no further.
Only THEN is it possible to fit the needed tools according to the type of pad holder and the type of work required. Once the tooling has been firmly secured as well, the machine can be lowered once again.



Planetary drive made entirely of tempered stainless steel that is resistant to chemical agents.

Available in Ø140mm and Ø100mm

- Rotational speed 600 rpm (to be used with LEADER MACHINE at fixed speed)
- Rotational speed 300-600 rpm (to be used with LEADER MACHINE at variable speed)
- Self lubricating gears (24). Greater ease in regular and specialized cleaning and maintenance. Does not require greasing. Easy to repair.
- Ergonomic handles (25) for lifting, attachment, transportation and removal of the Gear Plate. Thanks to its weight below 20Kg, it is easy to transport even separately from the machine.
- Lower cover (26) and upper cover (27): lower cover for complete protection from dust during work, upper cover for easy attachment to the bottom of the machine head.
- Dust proof seal (28) to guarantee separation between GEAR PLATE and the machine chassis keep dust out of the gears (29)
- Height of 15cm (30) allows the user to grind up to wall edges, radiators, under stair cases and other tight spaces.



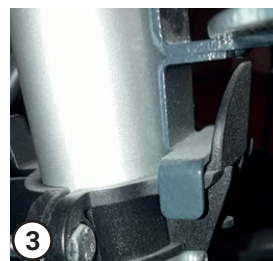
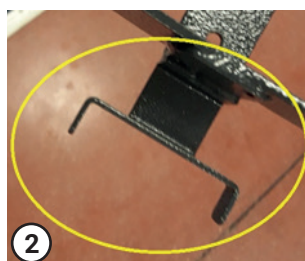
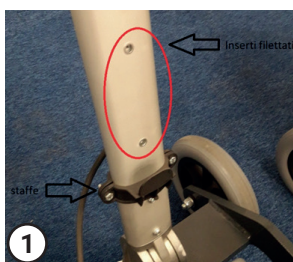
▪ Splashguard or Vacuum Shroud

- With the machine lowered, select the type of shroud needed for the job and attach it only with the machine switched off or unplugged
- The machine can be equipped with a splashguard (31) or vacuum shroud (32) depending on the model chosen. The two shrouds are similar in form, the difference being the accessory it comes with: an elbow nozzle on the splashguard and a hose attachment on the vacuum shroud. Attach the shroud so as to match the cut-out sections with the machine chassis in order to lock it in place with the nozzle is located on the left of the user. Attach the vacuum shroud so as to match the cut-out sections with the machine chassis in order to lock in place with the vacuum attachment to the left of the user.
- Once the pad holder, the tools and the shroud have been attached, connect to power and switch the machine on.



▪ Vacuum Kit

- The machine can be equipped with a VACUUM KIT when the WOOD model is purchased.
- Vacuum Kit includes the basket (33) and a two-stage vacuum (34)
- Vacuum shroud (35)
- The handle of the LEADER MACHINE includes 2 threaded inserts and plastic rods
- The basket has a guide on its bottom side that allows it to be fitted to the plastic rod
- To attach it, line up the threaded inserts on the handle with the holes in the basket
- These are the fasteners provided:
 - 2 6x20 hexagonal head screws
 - 2 6x18x1.5 washers
 - 2 6x2.5x1.8 spring washers



8. Maintenance

Work exclusively with LMA Machine elements

Perform regular checks to ensure that the diamond tools are in good condition.
Replace them only if they are damaged or worn out.

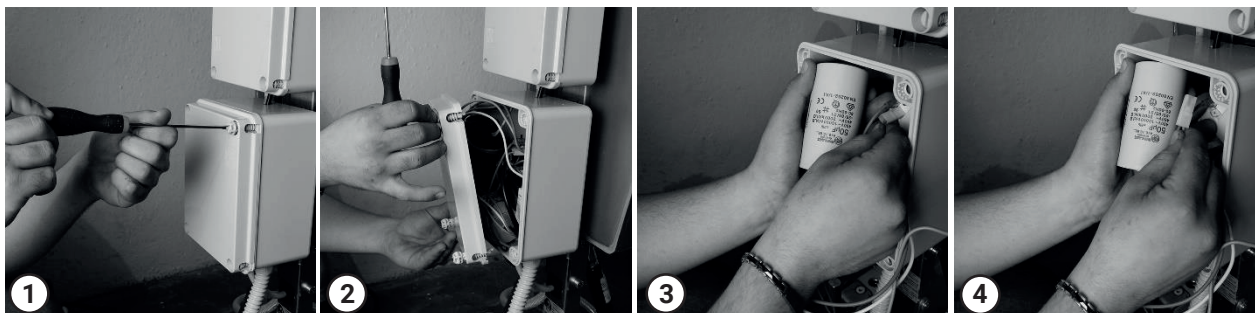
Clean the machine regularly with non-abrasive materials.
Never use a pressure washer to clean the machine.

Keep the machine clean and dry in a location that is dry and free of humidity.
Protect the electrical motor from humidity, heat, dust and impact.

Any repair work must be performed by qualified personnel or by your LMA dealer in order to guarantee the safety and reliability of the machine.

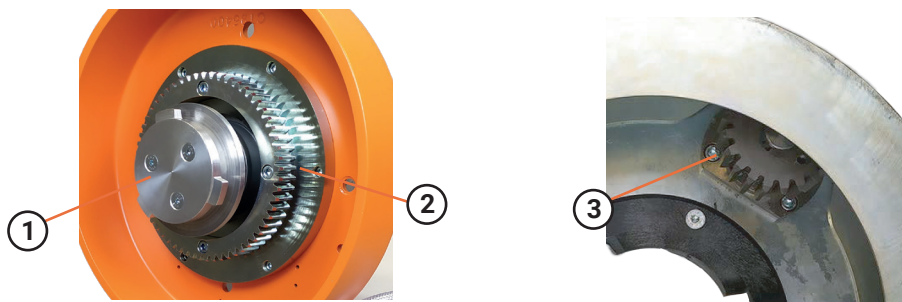
Capacitor Replacement

- Open the electrical box by unscrewing the 4 screws (1-2)
- Replace the damaged capacitors using the appropriate connectors (3-4)



Maintenance, cleaning and greasing

- Ensure that the motor flange (1) the machine head (2) are always kept clean and that the teeth of the head don't become dented
- Ensure that the GEAR PLATE and the gears (3) are well cleaned and not damaged
- In case of damage or breakage of the gears, contact your LMA dealer to guarantee the safety and reliability of the machine



7. TECHNICAL DATA

		LM 4Hp	LM 4Hp VS
POWER	[W]	2200	2200
POWER	[Hp]	4Hp max	4Hp max
POWER SUPPLY*	[V-Hz]	230/50-60	230/50-60
AMPERAGE	[A]	14	12
N. MOTOR FLANGE REVOLUTIONS	[rpm]	140	100-190
SPEED OF ROTATION WITH PLANETARY Ø100mm	[rpm]	1000	700-1300
SPEED OF ROTATION WITH PLANETARY Ø140mm	[rpm]	800	560-1040
DISCS DIAMETER	[mm]	100-140	100-140
WORKING WIDTH	[mm]	430	430
MACHINE LENGTH	[mm]	630	630
MACHINE WIDTH	[mm]	550	550
MACHINE HEIGHT	[mm]	1310	1310
WEIGHT	[kg]	90	90

*Also available 110/60 V-Hz

VACUUM		
MOTOR	[N]	1
STAGES	[N.]	1
VOLTAGE; FREQUENCY	[V; Hz]	220-240/50-60
POWER	[W]	800
AIR FLOW	[l/s]	40
WATER LIFT	[mm H2O - kPa]	2200; 22
TOTAL CAPACITY TANK	[l]	22
CABLE LENGHT	[m]	10
NOISE LEVEL	[dB]	70
WEIGHT	[kg]	7,5
DIMENSIONS W x D x H	[mm]	400x380x570

DECLARATION OF CONFORMITY



The Fabricator:

LMA MACHINE S.r.l. di Barbone Daniele & C.

Administrative and Legal Headquarters: Via Teramo 11, 65024 Manoppello (Pe) ITALY

Tel +39 085 8562076 / +39 329 4715858

info@lmamachine.com - <http://www.lmamachine.com/>

declares under its own responsibility that the product:

LEADER MACHINE, LM40, LM44, LM WOOD

TYPE: **GRINDER**

FACTORY No.: LMA/2017/001

PRODUCTION CODE:

conforms to the regulation and specific typology of equipment belong to and as further it can be determined by the attached user's manuals and by the CE Declarations of Conformity of the respective Fabrication Companies, the equipment is produced in the location that is hereby indicated:

LMA Machine
Via Teramo,11 - 65024 MANOPPELLO (PE) ITALY

complies with the following directives and regulations:

- MACHINERY DIRECTIVE (98/37 CE),
- LOW VOLTAGE DIRECTIVES (2006/95/CE)
- ELECTROMAGNETIC COMPATIBILITY DIRECTIVE (2004/108/CE)
- HARMONISED STANDARDS if applicable
- SAFETY STANDARDS (Dgls 81/2008 e s.m.i.)

The correspondence and conformity of the product revision as well as the assembled parts as provided and installed according to the instructions of individual Fabrication Companies and in adherence to the rules and regulations in effect by LMA MACHINE have been verified by Eng. Giovanni Raffaelli, member No.6178 of the Albo dei Ingegneri della Provincia di Genova.

Genova, 06/07/2018

Barbone Daniele



Il Tecnico

(Giovanni Raffaelli)

Project and specifics are subject to modification without notice on the part of LMA Machine

LMA Machine S.r.l.

Via Teramo, 11

65024 Manoppello (PE)

Tel: 0039 085 8562076

info@lmamachine.com

<https://www.lmamachine.com/>





Via Teramo, 11, 65024
T. +39 085 8562076 / +39 085 81210
Manoppello Scalo (PE) Italy
email: info@lmamachine.com
www.lmamachine.com

