

NEW GEM

Gemstones Oiling Machine

Operation Manual



CE



Made in Italy

CONTENTS

1	INTRODUCTION	10	CAUTIONS
2	DESCRIPTION	11	HAZARD IDENTIFICATION
3	DEVICE SPECIFICS	12	OVERALL DIMENSIONS
4	TECHNICAL FEATURES	13	MAINTENANCE PROCEDURES
5	DEVICE COMPONENTS	14	DISPOSAL
6	UNPACKING AND INSTALLATION	15	HOW TO ORDER SPARE PARTS
7	OPERATING INSTRUCTIONS	16	HANDLING AND TRANSPORT
8	HOW TO USE THE DEVICE	17	WARRANTY
9	DESCRIPTION OF ERRORS AND SOLUTIONS	18	CONFORMITY DECLARATION

1 INTRODUCTION

The present user's and maintenance guide refers to the oiling and crack filling machine for gemstones called "NEWGEM". It is possible to receive the latest version from our Technical Commercial Department or by visiting our website www.gemmarum.it

The present user's and maintenance manual contains important information for the operator's health and safety. Read this manual carefully and keep it cautiously in order to be always at the operator's disposal in case of need. The company Gemmarum Lapidator s.r.l. cannot be held liable for any damage to things or injury to persons caused by improper use in contrast with these instructions. Any possible modifications or injury on any part or components of this device or any different use relieve Gemmarum Lapidator Srl from any latter responsibility of injury to persons and / or damage to things, voiding any warranty bindings, as well.

2 DESCRIPTION

NEWGEM, is an oiling and crack filling machine; this procedure is used to improve and up-grade the appearance of gemstones. The oiling machine "fills" the cracks/fissures of gemstones to hide imperfections and to increase their clarity. Thanks to this treatment, the gem gains a uniform colour without any visible cracks, hence is restored, gaining a new value, as well. This device is suitable for treating just cut stones before they are put onto the market, or previously oiled gems, in which the oil has dried out in the course of time and consequently they progressively returned to their original appearance.

3 DEVICE SPECIFICS

On the back of the unit you find a label indicating type, serial number, year of construction and the supply voltage of the same.

4 TECHNICAL FEATURES

TECHNICAL FEATURES	
Power supply	220V – 1Ph – 50 Hz
Max power absorbed	180 W
Operating air pressure	6 bar
Pressure inside the oil chamber during operating cycle	~ 6 bar
Loudness of sound	< 50 dBA
Operating Temperature	+5 ÷ +90 °C
Operating humidity	90 % max.
Storing Temperature	-20 ÷ +50 °C
Ext. Dimensions	Width 330 x Depth 170 x Height 450 mm.
Net weight	10 Kg
Total Dimensions with packaging	485 x 385 x 270 mm
Gross weight with packaging	11 Kg



WARNING: DO NOT PLUG-IN IN CASE OF DIFFERENT POWER/VOLTAGE SUPPLY.

5 DEVICE COMPONENTS

This device has been designed compact and durable. Heavy construction with stainless steel framework, which protects from burnings.

The framework is provided with specially designed grips for a completely safe handling.



On the front part you find:

- the main switch (0 = OFF – 1 = ON) – the green button,
- vacuum pump switch (0 = OFF – 1 = ON) – the black one - and the main menu display.

On the rear part you find the cable holder with relative electric cable featuring a Schuko plug-in.

The framework contains furthermore: the display, the switches, the vacuum generating pump, the well-insulated tank (to avoid any loss of heat), the ring-shaped 90W heater with thermostat set at 80°C, stabilizing the low hysteresis of the working temperature.

Two pilot bars are placed on the top part for centring and moving uprightly the piston. Between the two pilot bars, there is a small bar in which runs the cylinder moving screw. This small bar is fixed by a pin into one of the two pilot bars, whereas it is driven/locked by means of a trigger action by the other; this small bar features on the side a small spring pin for the positioning with lever interlock. The steel piston is mounted on the (partially pre-loaded) spring and on the counter-piston by means of 3 shoulder screws, thus allowing the compress and decompress the spring with just a few screw turns and in complete safety.



The “piston – spring – counter-piston” assembly is in turn fixed to the screw, but can rotate freely; in this way no component has to be disassembled or assembled to carry out an entire treatment cycle, most of all it is not necessary to touch the piston or the spring, thus avoiding any risks of burns. Furthermore, it is possible to carry out several treatment cycles in a row, without having to wait for the components to cool down before taking out the gemstones.

On the top part of the screw, there is a turning handle for an easy and precise insertion and compression of the piston.

The handle allows a clear and precise way to insert the piston inside the cylinder for a correct positioning before the decompression.

IMPORTANT! Please keep the screw of the piston well greased!

The device is equipped with **two stainless steel canisters for gemstones**: the thinner is for holding about 150 cc, the thicker one for 100 cc.



Stainless Steel Canisters for holding gemstones

6 UNPACKING AND INSTALLATION

WARNING: The unit must be installed, opened and repaired by fully qualified technicians only.



6.1 UNPACKING

Find the most suitable place to put the device, and then remove the packaging. Make sure that it has not been damaged during the transport and the storage.

The packaging material does not require any special precautions for its disposal: it is not dangerous or polluting at all. Please refer to the local/national regulations for its disposal.

6.2 DEVICE INSTALLATION

The machine has not to be anchored to the floor, it requires however a firm supporting surface. For a correct use and operation, as well as for an easy maintenance, leave enough free space around the machine.

Do not place the machine in dangerous and/or explosive/inflammable areas.



6.3 ELECTRICAL WIRING

Plug in the machine making sure that the supply voltage and the frequency correspond to the range indicated on the rating plate. The dimensions of the supply cable must suit the machine absorption and comply with the current regulations.

It is absolutely necessary to install a switch with suitable fuses or a circuit breaker on the line. Connect the plug supplied along with the device into the power socket, which has to be power supplied only after this step.



WARNING: After connecting make sure that the cable is protected against any possible hits and is suitably fixed.

7 OPERATING INSTRUCTIONS



7.1 PREPARATION FOR PUTTING INTO OPERATION

- The whole unit can be used, opened and repaired by qualified technicians only.
- It is forbidden to use the machine if flooded by liquids or in particularly aggressive or explosive/inflammable places.
- Follow the hygienic and safety regulations and avoid any dangerous behaviour.
- Use always personal protective equipment for your own safety during any operation.
- Check that the electrical wiring / plug-in correspond to the current regulations, and that the fuse blocks are closed and complete of fuses



• BEFORE USING...

- Check if the machine is intact.
- Check the plug-in and electrical supply.
- Once the device is connected and switched on, it is ready for use. Switch on the vacuum generator and the heater by turning on the buttons on the front part.



- Check that the cylinder is filled with enough treatment product. If not, fill in up to the right level. For an optimal level: first put inside the gems to be treated and then pour the treatment product, the ideal level is about one centimetre from the small hole you find on the can.

7.2 TURN ON THE SWITCHES AND CONTROL PANEL



- The main power is “GENERAL IGNITION”: it turns on the unit.
- The left-hand Switch “PUMP IGNITION” controls the vacuum generating pump.
- Use the other program buttons to heat the unit.

8 HOW TO USE THE DEVICE



- Place the gems to be treated inside one of the small canisters.
- Put the small canister with the gems into the cylinder by using the provided hook.
- Pour the treatment product you need: the ideal level is about one centimetre from the small hole you find on the can’s side. Each time you need different quantities: it depends on the can you use, and how many stones you treat.
- Turn the clamp up to the mechanical stop.
- Lock the clamp rotating by 180° the **locking lever** placed sideways of the clamp.



Locking Lever


- Turn the screw crank clockwise (the piston goes down), until the **second black ring** (O RING) disappears (see details)



Second black O-Ring
 First black sealing O- Ring



Correct position with second O-Ring lowered:

- Turn on the unit, wait until the device reaches the ambient temperature and the set up oil temperature on the display (see Fig. 1).
- Press Set button  one time for SET1 (do not modify) – See Fig. 2
- Press Set button twice you see on the display Set 2 – use the arrow up and down to modify oil temperature – Fig. 3
- Fig. 4 – Set 3 DO NOT MODIFY (if you press three times SET)

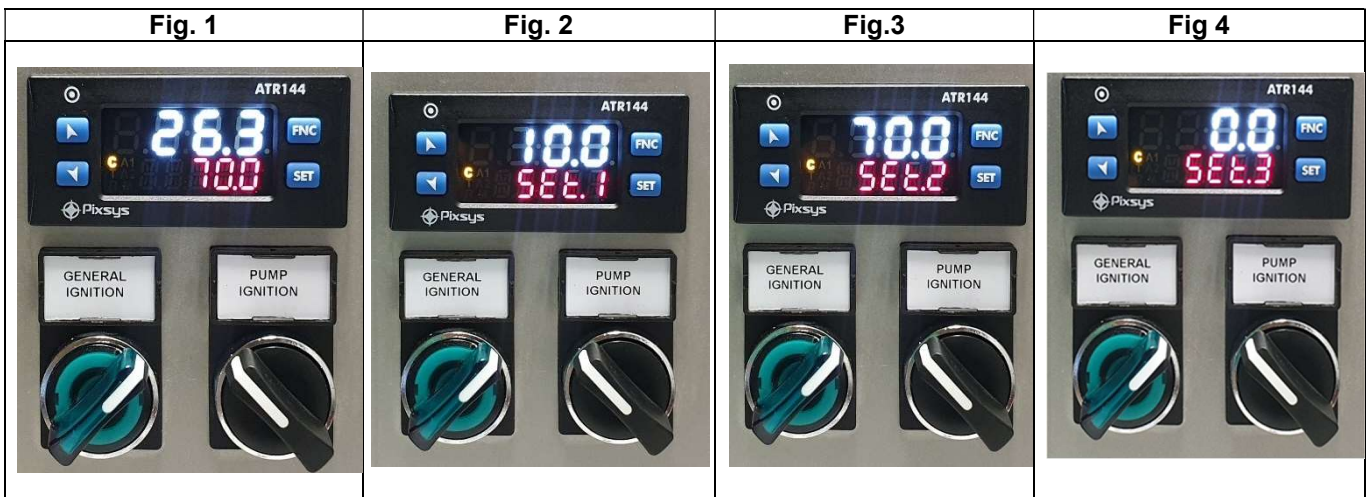




FIG. 5

How to modify the timer:

- Press “SET” button 4 times till the display shows “Mat1”, use the arrow to modify the timer (from 0.00 to 24:00 hours)
- Then turn on the vacuum generating pump (the black right-hand switch)
- Wait from 30 to 120 minutes.
- Turn the screw crank clockwise (the piston goes down) and stop, without forcing, as soon as the rotation lock is reached (spring completely compressed), then rotate counter-clockwise for one entire turn.
- Stop the vacuum generating pump.
- Let the product react in these conditions for at least 60 minutes, but not for more than 24 hours.
- The unit stops automatically when the time set has been reached.
- Wait at least 60 minutes until the unit cools down, check the temperature on the digital display and wait until the display shows 35°C or less.
- Turn off the unit after each use.
- Turn the screw crank counter-clockwise (the piston goes up), until the piston has completely come out of the cylinder.



- Unlock the clamp’s rotation by turning 180° the **locking lever**.
- Turn the clamp counter-clockwise, until the cylinder opening is completely free (180°).

Locking Lever



- Take out the small canister containing the gems, use the specially provided hook, trickle it for some seconds above the cylinder, and then place it upon a dry cloth.
- The device is ready for another treatment cycle.



WARNING: During the cycle and for some minutes afterwards, some components of the device reach high temperatures (DANGER OF BURNS). Wear personal protective equipment (thermal-protective gloves and protective glasses).

9 DESCRIPTION OF ERRORS AND SOLUTIONS

The following diagnostic table indicates the main problems which may occur, their probable causes and possible solutions.

In case of doubts and/or of problems, DO NOT disassemble parts of the device, but contact our Technical Department or the Gemmarum Lapidator.

DIAGNOSTIC TABLE		
PROBLEMS	CAUSES	SOLUTIONS
The machine doesn't turn on:	Main switch is turned OFF.	<i>Turn on the main switch.</i>
	There is no power supply.	<i>Check the power supply.</i>
The vacuum generator doesn't turn on, whereas the warning light on the button is switched on	The generator does not work	<i>Replace the vacuum generator with a new one.</i>
The cylinder doesn't heat up, whereas the warning light on the button is switched on	The heater or the temperature controller does not work	<i>Replace the thermostat with a new one.</i>

10 CAUTIONS

Read carefully the instructions before use it.

Energy Supply

Disconnect the energy supply if you have to carry out any inspection on the device.

All the electrical devices have to be grounded.

Inflammability

Avoid any direct contact with hot components or flames. Put fire extinguishers near the machine for an immediate intervention in case of fire.

HIGH Temperature

Disconnect the device, switch off the heater, and wait until all the components are cooled down (they may cause burns!).

Noise

The machine's noise level is low: it remains below 50 dB (A).

11 HAZARD IDENTIFICATION

Hazard Identifications are according to EC safety rules of the machinery directives.

Safety requirements are according:

- List of risks (EN 1050 referring to EN 292)
- Necessary safety measures (according to Machinery Directive– annex 1, part 1)

The following risks have not been completely removed, but are deemed to be acceptable:

- When you use this device you may get in contact with very hot components, causing possible burns (use always personal protection equipment).
- Provide for protection against burns avoiding direct contacts with very hot mechanical or liquid parts, use always personal protective equipment (suitable thermal protective gloves and glasses).

12 OVERALL DIMENSIONS

Dimensions:

Width: 330 mm

Depth: 170 mm

Height: 450 mm



13 MAINTENANCE PROCEDURES

The device doesn't require any routine maintenance. In case of irregularities or malfunctioning, please contact our Technical Commercial Department or visit our website www.gemmarum.it.

Periodically please check following:



OPERATION	SCHEDULE
Pour treatment product	Every treatment/cycle
Cylinder cleaning	50 hours
Lubrication of rods and of all moving parts subject to friction	50 hours



This device does not require any special equipment for checking and/or maintenance operations. It is however advisable to use suitable tools and personal protective equipment according to 93/68EC.

Before checking disconnect the power supply and wait until all the device components are cooled down

14 DISPOSAL

Please refer to the local/national regulations for its disposal. In case of scrapping, the identifying rating plate and any other document have to be destroyed.

15 HOW TO ORDER SPARE PARTS

When you order a spare part, please always quote:

Machine type, serial number, quantity of the requested spare parts, article number (these data can be read on the rating plate or supplied by the technical information of the machine and by the user's and maintenance manual). For electrical components with a different voltage and frequency than V 220/50Hz (data available on the rating plate of the faulty component), specify the right voltage and frequency after having mentioned the article number. The technical data, the descriptions, and pictures included in this manual are not binding. The manufacturer Gemmarum Lapidator s.r.l. reserves the right to make any necessary modification at any moment without warning or up-dating the present manual.

16 HANDLING AND TRASPORT

Before shipping the device is carefully packed in a carton box. During its shipment and storage, pay particular attention to the upside indication on the packaging. Upon receipt, please check that the packaging is intact and store the machine in a dry place.

17 WARRANTY

All Gemmarum Lapidator s.r.l. products are guaranteed for a maximum period of 12 months from delivery date as far as material and construction defects are concerned.

The warranty is extended as follows:

In case of a malfunction of the equipment, please contact your Gemmarum Lapidator-reseller, specifying the noticed defect, type, serial number and furthermore the operating conditions of the machine.

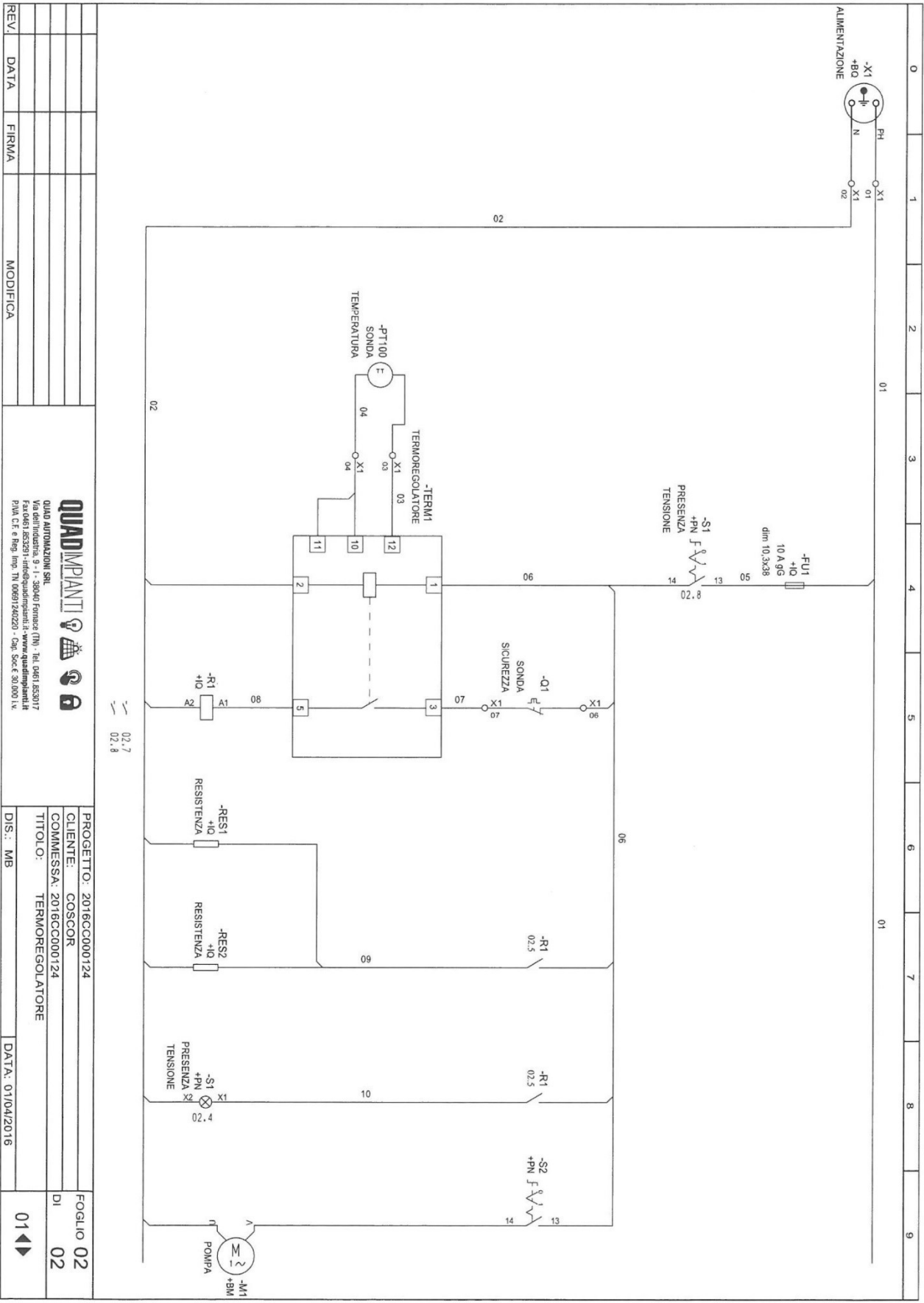
After having received the equipment and after an accurate test, the company Gemmarum Lapidator reserves the right, whether to repair or to replace the product. If the device is still under guarantee, the Gemmarum Lapidator-reseller will carry out the service or replacement at the manufacturer's charge.

In case the returned goods are not defective, Gemmarum Lapidator reserves the right to charge the customer with the met expenses (freight charges, etc.)

The present warranty will be declared void, if the device has been damaged due to improper use, negligence, normal wear, chemical corrosion, installation not according to the provided instructions or to the manufacturer's warnings. Any modification, tampering, and alteration on the device or its components, carried out without prior written authorization by Gemmarum Lapidator, relieve the latter of any responsibility, and annul any warranty obligation.

The components subject to normal wear and tear, as well as the perishable ones are not under warranty. The same goes for everything, which has not been specifically indicated before, or for damages, injuries or expenses arising from defects of the same product.

The validity conditions of the guarantee provided by Gemmarum Lapidator, are considered implicitly accepted upon purchase of the device. Any possible changes to or derogations from the present guarantee are only valid prior written authorization of Gemmarum Lapidator.



REV.	DATA	FIRMA	MODIFICA

QUADRIPIANTI

Via dell'Industria, 9 - I - 38060 Fomace (TN) - Tel. 0461.853017
 Fax 0461.853291 - info@quadripianti.it - www.quadripianti.it
 P. IVA C.F. e Reg. Imp. TN 00691240220 - Cap. Soc. € 30.000 I.v.

PROGETTO: 2016CC000124
 CLIENTE: COSCOR
 COMMESSA: 2016CC000124
 TITOLO: TERMOREGOLATORE
 DIS.: MB
 DATA: 01/04/2016

FOGLIO 02
 DI 02
 01

18 CONFORMITY DECLARATION

Manufacturer:

Gemmarum Lapidator s.r.l.

Company

Via Unterberger, 13 - 38033 CAVALESE (TN) - Italy

Address

+39 0462.342662

Phone number

Declares that:

The machine:

NEWGEM

- * has been designed in compliance with the DIRECTIVES OF THE EUROPEAN COMMUNITY COUNCIL referring to machines (98/37/EC) and to low voltage (BT 73/23/CEE).
- * has been designed, as far as enforceable, in compliance with the following harmonized regulations and technical specifications:
EN 292-1/2, EN 1050, EN 982, EN 11200, EN 60947, EN 894-1/2.

Managing director

Product manager

Vaia Andrea

Name

Gemmarum Lapidator s.r.l.

Company

Signature

Date

Web site: <http://www.gemmarum.it> - **E-mail:** info@gemmarum.it



The Headquarters

*Gemmarum Lapidator srl Località Podera 16 38033 CAVALESE (TN)
www.gemmarum.it - info@gemmarum.it
+39 0462 342662 +39 0462 232959*