

MES SEN GER



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"ISTRUZIONI ORIGINALI"

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"TRANSLATION OF ORIGINAL INSTRUCTIONS"

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2 WARRANTY AND LIABILITY

2.1 WARRANTY TERMS AND CONDITIONS

1. Keyline S.p.A. warrants the proper functioning of the machine for a period of 24 months from the date of purchase and undertakes to replace (also with a successor model, if necessary) or repair the machine, or individual components, if defects are found in the machine's original functioning.
Defects of damage caused by the negligent use or repairs or replacement of components by the customer or by maintenance performed by subjects not authorised by Keyline S.p.A., or by any circumstances outside the control of Keyline S.p.A., are not covered by the warranty. The professional use of the machines is regulated by the provisions of article 7 below.
2. Any repair or machine substitution expenses shall be paid by Keyline S.p.A., except for freight costs. Parts subject to wear, such as milling cutters, clamps brushes and tracer points are not covered by the warranty.
3. Keyline S.p.A. reserves the right to refuse free servicing if the required documentation (purchase invoice with machine serial number) is not provided or if the information is incomplete, illegible or inconsistent with factory data.
4. The repair, at Keyline S.p.A.'s discretion, may include the upgrading of certain parts and the replacement of components of equivalent functionality, new or repaired. The replaced components and accessories are guaranteed for the residual duration of the original warranty. This means that the warranty period shall not be prolonged in any way.
5. In the event that a machine covered by the warranty is fitted with non-original accessories, Keyline S.p.A. shall not be liable for any malfunctions and the warranty shall be considered void.
When the product is used together with non-original accessories or equipment, Keyline S.p.A. does not guarantee the correct functioning of the product/accessory combination, therefore Keyline S.p.A. will not accept warranty claims.
In order to make use of this guarantee, the customer undertakes, under penalty of forfeiture, to notify Keyline S.p.A. of any operating defect covered by the same within 30 days of evidence thereof. If, for whatever reason, this term is not applicable, the term set forth in Art. 1495 CC shall apply.

Warranty Exclusions

6. The following situations are not covered by this warranty:
 - Components subject to natural wear and tear or deterioration due to normal use and product defects attributable to the same causes.
 - Product defects attributable to non-compliance with the operating instructions, improper use, abnormal environmental conditions, improper operating conditions, lack of maintenance or care, professional use without an inspection certificate.
 - Defects or damage due to transport, moisture, liquids or seepage caused by incorrect use of the product.
 - Defects due to incorrect storage of the product in unsuitable or inappropriate environmental conditions that differ from those detailed in the product's technical specifications, operating instructions, installation guide;
 - Scratches or damage to any surface and any other external part caused by the normal use of the Product by the Customer.
 - Defects in the key cutting machine caused by the use of non-original Keyline S.p.A. accessories or spare parts.
 - Products on which unauthorised modifications or additions have been made.
 - Minor defects of product characteristics that do not affect the value and performance of the machine.

Other rights, other than the right to rectification of machine defects mentioned in these warranty conditions, do not apply.

Keyline S.p.A. Waives any and all liability for damage to people or property resulting from failure to ground or improper use of the product.

7. Machines subject to professional use that exceed the established number of cycles within the warranty period must undergo periodic product maintenance, performed exclusively by Keyline S.p.A. personnel; the cost of regular maintenance shall be borne by the customer. Failure to do so will make the warranty null and void when the number of cycles recommended by Keyline S.p.A. is exceeded

The maximum number of cycles/day recommended by the manufacturer is of 20÷30 cycles/day.

The number of cycles necessary to consider a machine for professional use is 5,000 cycles/year.

Transport is the responsibility of the user, who may choose the carrier he considers most appropriate. The costs and risks of transport are borne by the user himself.

Jurisdiction

8. Any dispute arising in connection with the validity, interpretation, execution, termination or non-fulfilment of this document shall be subject to the exclusive jurisdiction of the Courts of Treviso.

This manual was drafted by the Manufacturer and is an integral part of the machine package.

The information contained in the MESSENGER manual is intended for personnel operating and maintaining the machine.

The manual provides a series of information which must be known by qualified personnel, as they make it possible for the machine to be used in safe conditions.



MANDATORY! All personnel concerned, according to their duties and responsibilities, must read and ensure that they have understood the contents of this manual, before installation, use or any other operation to be carried out on the machine!

3.1 DEFINITIONS

- **Safety component:** a component or device used to ensure a safety function and whose failure or malfunction may affect the safety and/or health of exposed persons (e.g. fixed, movable guard, electronic safety device, etc.);
- **Protective device:** a device (other than a guard) which reduces the risk, either alone or in combination with a guard;
- **Operator:** the person or persons in charge of installing, operating, adjusting, cleaning, repairing and moving a machine or performing maintenance on it;
- **Danger:** a potential source of injury or damage to health;
- **Exposed person:** any person who is wholly or partially in a hazardous area;
- **Guard:** a machine element used specifically to provide protection by means of a material barrier;
- **Risk:** a combination of the probability and severity of an injury or damage to health occurring in a hazardous situation;
- **Residual risk:** risk remaining after protective measures have been taken;
- **Intended use:** the use of the machine in accordance with the information provided in the instructions;
- **Reasonably foreseeable misuse:** the use of the machine in a way other than as indicated in the instructions for use, but which may result from easily foreseeable human behaviour;
- **Danger zone:** any zone within and/or around machinery in which the presence of a person constitutes a risk to that person's health and safety.

3.2 STRUCTURE OF THE MANUAL

3.2.1 SECTIONS OF THE MANUAL

This manual is divided into sections. Each section, in turn, can be divided into paragraphs. On the external margin of each page (at the bottom), there is the page number and the total number of pages comprising the manual.

At the end of the manual there is a general summary to be used as quick reference.

3.2.2 FIGURES AND TABLES

Figures and tables are usually placed next to the text. If this is not possible, they are connected to the page and indicated as connected figure or connected table. All tables and figures are numbered and are completed by a caption (Table 2.2-1, Fig. 2.2-1, etc.).

3.2.3 APPENDICES

Appendices are all those technical documents that are an integral part of the operating and maintenance manual, such as wiring and pneumatic diagrams, declarations of conformity of components, data sheets, etc. They are listed at the end of the manual (after the table of contents and figure index).

3.3 UNITS OF MEASURE

The following units of measure, as defined by the International System (I.S.), according to ISO 80000-1, have been used in this manual. The units of measure normally used are:

- **Linear dimensions** - For length, the metre, symbol [m], or its submultiples (centimetres and millimetres, i.e. [cm] and [mm]) has been used as the unit of measure. In some cases, the inch may be used;
- **Time** - The unit of time is the second [s]. Where deemed convenient, minutes [min] and/or hours [h] may be used;
- **Mass** - For mass, the unit used is the kilogram [kg]. Where deemed convenient, grams [g] may be used;
- **Electric current intensity** - Electric current intensity is measured in amperes [A];
- **Thermodynamic temperature** - The fundamental unit of thermodynamic temperature, in the SI system, is the degree Kelvin [K]. The unit of temperature used in this manual is generally the Celsius [degree °C]. Only when particular processes concern parts for which the manufacturer provides technical specifications, has the temperature been kept in degrees Fahrenheit [°F];
- **Light intensity** - The light intensity per unit area is expressed in [lux];
- **Plane angle** - Plane angles, according to the standard, must be expressed in radians [rad]. Within this manual, they have been expressed in sexagesimal degrees, according to the relation: $360^\circ = 2\pi$ [rad].

3.3.1 DERIVATIVE UNITS

Derivative units of measure are all based on the fundamental units described until now. In addition to the units derived from metric fundamental units, some Anglo-Saxon fundamental units, and their derived units, may be used in some cases.

3 USING THE MANUAL

3.4 STORAGE OF THE MANUAL

3.4.1 HOW DO YOU STORE YOUR MANUAL?

This manual, the declaration of conformity (in original) and all technical annexes must be kept carefully throughout the life of the machine, including the decommissioning phase.

3.4.2 WHERE DO YOU STORE YOUR MANUAL?

The manual must be stored in a dry place next to the machine and must be always available to staff members in charge of the machine operation and supervision.

3.4.3 HOW TO COPY THE MANUAL

This manual may only be photocopied from the original, as reproduction from copies reduces the clarity of the images and thus of the information.



PROHIBITION! This manual may be copied exclusively to obtain a spare copy for safety purposes.

Keyline S.p.A., in compliance with the relevant legislation, reserves ownership of this manual, and prohibits its transfer to third parties and/or its unauthorised copies.

3.4.4 WHAT DO I DO IF IT IS LOST OR DAMAGED?

If the manual is damaged or lost, it is possible to request a true copy thereof.

In the request, please include the manual code and revision number.

These data are shown at the bottom of each page (Figure 1 - Manual identification data.).

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Cod. Cod. B411600FG / Rev. 0.0 / MESSENGER
Rev. Cod. B411600FG / Rev. 0.0

8

Figure 1 - Manual identification data.

3.4.5 WHAT DO I DO IF I SELL THE MACHINE?

If the machine is transferred to a third party, the manual must be handed over to the new owner.

3.4.6 WHAT DO I DO IF I MODIFY THE MACHINE?

Before carrying out any modifications to the machine, contact the manufacturer or dealer for clarification on their feasibility without altering the characteristics or safety conditions.

If substantial modifications are made to the machine, or to the control elements, the machine's certification, and consequently this manual, **cannot be considered valid**.

4 GENERAL WARNINGS

4.1 WORKING SAFE

The safety instructions in the user and maintenance manual refer to operations that can be carried out on the machine.

Safety symbols are inserted into the text at points that require special attention. It is very important that these safety instructions are followed at all times. Failure to do so could result in personal injury and/or damage to the machine or other equipment.

With this in mind, here are some basic safety instructions:





- Read and understand this section of the safety instructions before installing, operating, maintaining or repairing the machine;
- Read and follow the safety instructions in the text that refer to specific operations;
- Wear personal protective equipment (PPE), such as safety goggles, gloves and work footwear, when necessary;
- Know and follow the safety instructions prescribed by Keyline S.p.A., the general rules for accident prevention and the legal safety regulations.

4.2 SAFETY SIGNS

The symbols shown below are used (if pertinent) in the user and maintenance manual. These symbols were used to alert the operators about hazards or potential sources of danger. **Learn them.**

Failure to pay attention to these signs may cause bodily injury, death and/or damage the machine or equipment.

Generally speaking, there may be three types of signs (Tab 1 - Types of safety signs):

SYMBOL	SHAPE	TYPE	DESCRIPTION
	Framed triangular shape	Danger signs	They indicate prescriptions concerning present or possible dangers
	Framed barred circular signs	Prohibition signs	They indicate actions that must be avoided
	Full circle sign	Obligation signs	They indicate information that must be read and complied with.
	Framed circular signs	Information	They indicate useful information, other than danger / prohibition / obligation.

Tab. 1 - Types of safety signs

Depending on the information to be conveyed, the signs may contain symbols that, by association of ideas, help to understand the type of danger, prohibition or obligation.

4.2.1 DANGER SIGNS



General danger

This sign is used to highlight dangerous situations which may cause harm to persons, animals and property. Failure to observe the requirements associated with the signal may lead to danger.



Danger due to the presence of voltage

This signal is used to highlight the danger of electrocution through direct or indirect contact, due to the presence of live machine parts. Failure to comply with the prescriptions associated with the signal may result in serious injury or death.

4 GENERAL WARNINGS

4.2.2 PROHIBITION SIGNS



Generic prohibition

This sign is used to highlight the prohibition of certain manoeuvres, operations or the prohibition of particular behaviour. Failure to observe the prohibitions associated with the sign may result in damage to property, animals or persons.



Prohibition of the use of compressed air

This sign is used to highlight the ban on the use of compressed air for cleaning operations. Failure to comply with the prohibitions associated with the sign may result in flying chips and eye/face damage

4.2.3 OBLIGATION SIGNS



Generic obligation

This signal is used to highlight the operator's obligation to comply with the prescriptions. Failure to comply with the prescriptions associated with the signal may result in damage to property, animals and persons.



Obligation to use special PPE

These signs are used to highlight the obligation to use special personal protective equipment while carrying out operations. Failure to comply with the prescriptions associated with the sign may result in serious injury to the operator.



Earthing obligation

This sign is used to highlight the obligation to connect the machine to an efficient earthing system. Failure to comply with the prescriptions associated with the signal may result in damage to property, animals and persons.



Obligation to pull the plug from the socket

This signal is used to highlight the obligation to unplug the power supply before carrying out any other operation. Failure to comply with the prescriptions associated with the signal may result in damage to property, animals and persons.



Obligation to check the efficiency of the protections

This sign is used to highlight the obligation to check the efficiency of the protections (removed during maintenance, repair, cleaning, lubrication). Failure to comply with the prescriptions associated with the signal may result in damage to property, animals and persons.



Obligation to read the instructions

This sign is used to highlight the obligation to read the instructions (user and maintenance manual, data sheets, etc.), before installation, use or any other operation to be carried out on the machine!

4 GENERAL WARNINGS

4.3 GRAPHIC SIGNS AND SIGNAL WORDS

Below are the graphic signs and written warnings on the machine. The signs are intended to warn the operator of residual dangers or possible sources of danger. Next to each purely graphic signal there is a written commentary with the meaning of the signal. **Learn them.** For the exact location of the signs, please refer to paragraph 4.3.3 below.



WARNING! Failure to know or pay attention to these signs and warnings may cause bodily injury, death and/or damage the machine or equipment.

4.3.1 PROHIBITION GRAPHIC SIGNS AND SIGNAL WORDS



This signal highlights the **prohibition** for the operator to use compressed air to clean the machine. Failure to observe the prohibitions associated with the sign may result in damage to the eyes and/or face due to the projection of swarf.

4.3.2 OBLIGATION GRAPHIC SIGNS AND SIGNAL WORDS



This signal highlights the **obligation** for the operator to read and understand the user manual before using the machine. Failure to follow the instructions may cause death or serious injuries.

4 GENERAL WARNINGS

4.3.3 LOCATION OF GRAPHIC SIGNS AND SIGNAL WORDS

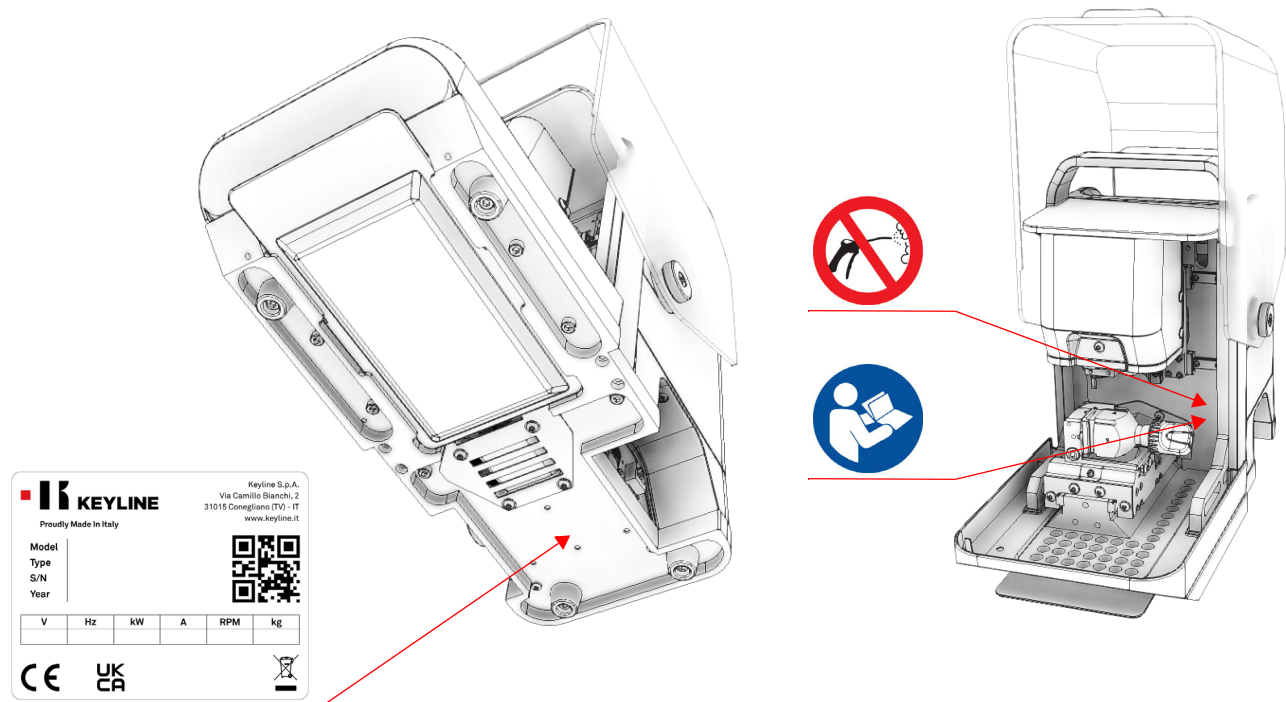


Figure 2 - Location of the CE plate, the graphic signs and the signal words

4.4 WORKERS' PHYSICAL AND INTELLECTUAL REQUIREMENTS

Personnel must be capable, including physically, of carrying out the necessary operations and be familiar with the safety instructions and regulations. Such personnel have been trained (depending on the tasks performed/assigned) to be able to operate and/or maintain the machine safely.



WARNING! Failure to know or pay attention to these signs and warnings may cause bodily injury, death and/or damage the machine or equipment.



PROHIBITION! Personnel may not operate the machine if they take substances that reduce reaction times.

Personnel can be subdivided into:

- Personnel in charge of tooling;
- Personnel in charge of non-routine maintenance (servicing);
- Operating personnel.

Each profile is characterised by specific skills described below.

4 GENERAL WARNINGS

4.5 PERSONNEL IN CHARGE OF TOOLING

The people in charge of the machine setup must be able, besides setting up and operating the machine, to:

- Carry out tests with it in order to verify the correctness of the intervention carried out;
- Detect any malfunctions, which may be the responsibility of the operators carrying out maintenance and repair;
- Train the operators in charge in the details of tooling;
- Replace tools and any other parts subject to wear associated with machining, such as fixtures, that are not part of routine machine maintenance.

The tooling personnel must intervene whenever a factor relating to use has changed.

If adaptation to the new application factors requires a different tooling of the machine, this must be done in consultation with the manufacturer.

4.6 PERSONNEL IN CHARGE OF NON-ROUTINE MAINTENANCE (SERVICING)

The EN 15628 standard (Maintenance - Qualification of maintenance personnel), covers the following professional persons in the maintenance organization, for which it defines the relevant skills required:

- Maintenance manager (indicatively referable to EQF levels 6 and 7¹);
- Maintenance supervisor and maintenance engineer (indicatively referring to EQF levels 5 and 6);
- Maintenance specialist technician (indicatively referable to EQF levels 4 or 5).

The competences of the **maintenance specialist technician** consist in the independent execution of maintenance activities, including the following core competences:

- Execute or ensure the safe execution of maintenance plans according to company strategies;
- Intervene promptly in the event of a breakdown or anomaly, ensuring the effectiveness of the restoration work;
- Carrying out or ensuring the correct execution according to legislation and procedures relating to safety, the health of people and environmental protection;
- Ensuring the availability of materials, equipment and tools necessary for the execution of maintenance activities;
- Coordinating and/or supervising maintenance operational activities;
- Ensuring the quality of maintenance activities;
- Using and ensuring the use of ICT systems (information and communication technology).



MANDATORY! NON-routine maintenance work (service) may only be carried out by Keyline S.p.A.'s own personnel or by dealers/installers authorised by Keyline S.p.A..

4.7 OPERATING PERSONNEL

The machine must be operated by a **professional** operator as described in paragraph 5.4 below, in which his position and duties are also listed.

The operator must never intervene to carry out operations on the machine other than driving as described below, with the exception of those described in paragraphs 9.4, 9.5, 9.6, 9.7 (ordinary maintenance) and 9.8 (cleaning of the machine); all NON-routine maintenance, repair or other operations other than operating the machine are to be considered reserved for qualified personnel.



PROHIBITION! Never intervene on your own initiative to resolve machine downtime situations that are not strictly related to the operating task.

Never attempt to assist maintenance or tooling personnel.

1. The EQF is the European Qualifications Framework, a reference job description standard that adopts a system based on learning outcomes obtained at the end of the training course. Learning outcomes are defined in terms of Knowledge, Skills and Competences. The overall result is an index, between 1 and 8, which is intended to quickly and unambiguously identify the level of depth achieved in a certain field.

4 GENERAL WARNINGS

4.8 STAFF TRAINING

The machine can be used exclusively by skilled operators who have successfully passed the training agreed upon in the purchasing contract phase and who are therefore authorised to do so. In any case, it is forbidden for untrained staff members not instructed in the correct use of the machine and of the safety devices to use the machine,



WARNING! Keyline S.p.A. Waives any and all all liability arising from incorrect operations carried out by personnel not trained in the use of the machine, and from non-compliance with the general safety regulations for work protection.

4.9 IMPROPER USE

The machine is designed to be used only for the purposes described in the relevant section of this manual (paragraph 5.3). Any other use is to be considered improper and therefore non compliant with the safety regulations.



WARNING! The improper use of the machine may cause bodily injury, death and/or damage the machine or equipment.

Below is a list of possible misuses that may cause injuries or damage the machine and equipment., for which Keyline S.p.A. waives any and all responsibility and liability.

- Unauthorised modifications or replacements of parts of the machine;
- Non compliance with the safety instructions;
- Non compliance with the instructions on the use, operation, maintenance or repair of the machine or when these operations are performed by unskilled technicians;
- Use of unsuitable and incompatible materials or of auxiliary equipment;
- Non compliance with the workplace safety rules or of the safety legislation from time to time in force.

5.1 MACHINE DESCRIPTION

MESSENGER (Figure 3) is an electronic key cutting machine.

MESSENGER is a machine that can electronically cut edge cut, laser and dimple keys for residential and automotive purposes.

The machine comprises the following components:

- Machine body;
- Key holder clamp, with integrated linear axis X;
- Cutter/tracer point unit, with integrated axes Y and Z;
- Control system.

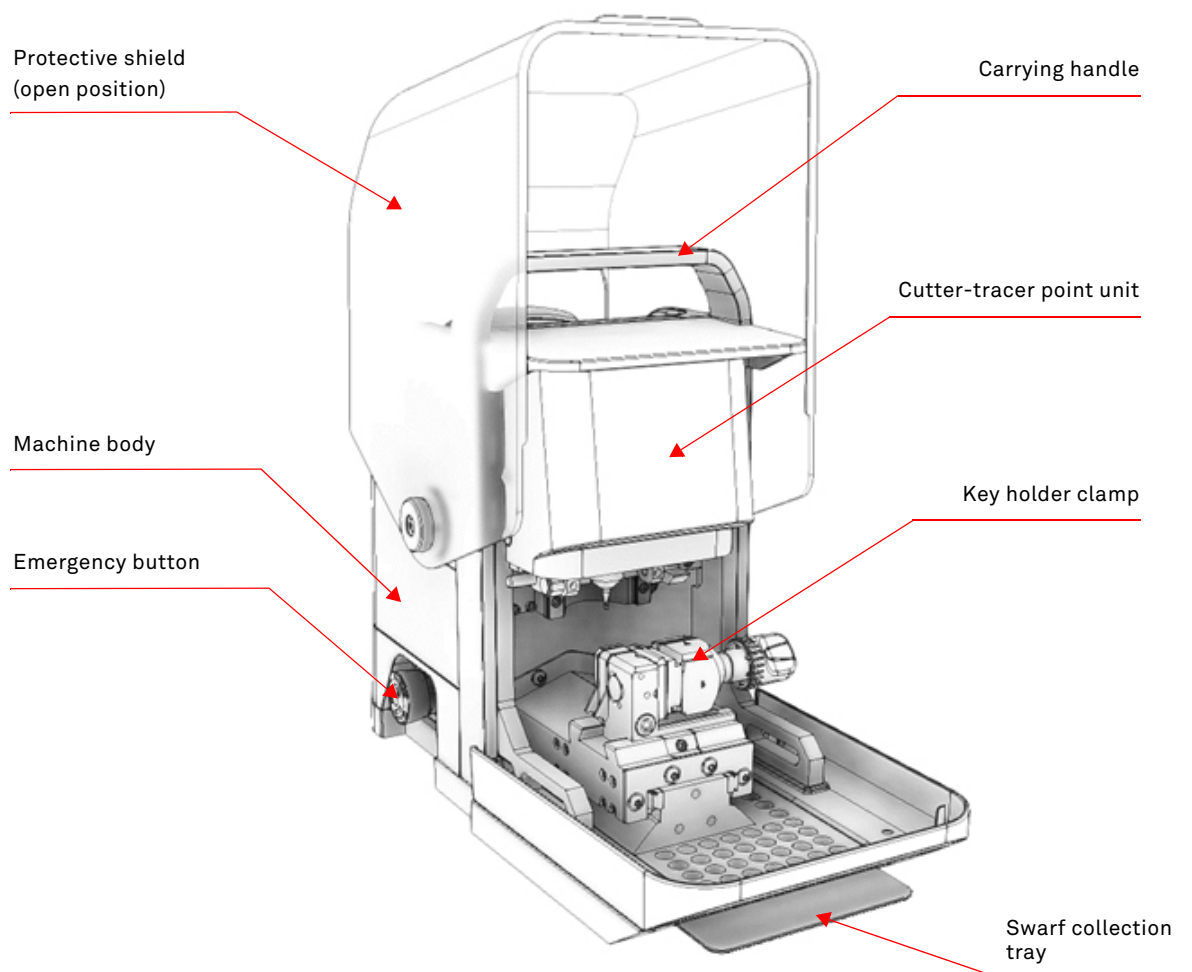


Figure 3 - MESSENGER Key cutting machine

5 CHARACTERISTICS AND TECHNICAL DATA

5.2 RELEVANT TECHNICAL STANDARDS AND RULES AND REGULATIONS

The machine was designed in compliance with the European Community machinery safety standards:

- EN 614-1:2006+A1:2009 Safety of machinery - Ergonomic design principles - Part 1: Terminology and general principles
- EN 614-2:2000+A1:2008 Safety of machinery - Ergonomic design principles - Part 2: Interactions between the design of machinery and work tasks;
- EN ISO 12100:2010 Safety of machinery -- General principles for design -- Risk assessment and risk reduction;
- EN ISO 13849-1:2015, Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design;
- EN ISO 13849-2:2013, Safety of machinery - Safety-related parts of control systems - Part 2: Validation
- EN ISO 13850:2015 Safety of machinery - Emergency stop - Principles for design;
- EN ISO 13857:2019 Safety of machinery -- Safety distances to prevent hazard zones being reached by upper and lower limbs;
- EN ISO 14118:2018 Safety of machinery - Prevention of unexpected start-up;
- EN ISO 14119:2013 Safety of machinery - Interlocking devices associated with guards - Principles for design and selection;
- EN ISO 14120:2015 Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards;
- EN ISO 20607:2019: Safety of machinery - Instruction handbook - General drafting principles;
- EN 60204-1:2006+A1:2009 Safety of machinery. Electrical equipment of machines - Part 1: General rules;
- IEC/IEEE 82079-1:2019 Preparation of information for use (instructions for use) of products Principles and general requirements.

Additionally, the following European Community Directives have also been complied with:

- Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast);
- Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast);
- Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits;
- Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment;
- Commission delegated directive (EU) 2015/863 of 31 March 2015 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances.



INFORMATION! As far as the machine complies with the applicable EU Directives, it is not excluded that they may have (been) transposed at local (national) level through appropriate legislation.

5.3 INTENDED CONDITIONS OF USE

MESSENGER is designed to perform only the functions described in paragraph 5.1 of the manual.

The machine must operate under compliant environmental conditions as described in the relevant section (Permissible environmental values) of Table 4 on page 18.

The product, on which the machining operations are carried out, must comply, in terms of both type and dimensional characteristics, with the requirements set out in paragraph 5.6 on the relevant product characteristics.

5 CHARACTERISTICS AND TECHNICAL DATA

5.4 RESIDUAL RISKS

Under normal working conditions, the machine presents no residual risk only if the operating personnel, during the working phase:

- Stands at the intended workstation, highlighted in green in Figure 4;
- Operates according to the prescribed procedures;
- The guards are effective¹.

The machine has the workstations indicated in the following table:

WORKSTATION	N° OF OPERATORS	OPERATIONS PERFORMED
In front of the machine	1	<ul style="list-style-type: none"> • Calibration • Product loading and unloading • Cutting cycle start/stop




Tab. 2 - Workstations

In normal operating conditions, access to the machine dangerous zones, highlighted in red in Figure 4, is prevented by fixed guards and by the front (interlocked) mobile cover.

Such guards shall on no account be removed.

The guards can be removed or the machine body can be opened only by Keyline S.p.A.'s own or authorised skilled operators (see paragraph 4.6).

In any case the following residual risks should be taken into account:

PHASE	RISKS	PPE *
Transport and handling	Residual risks of crushing lower limbs from accidental falling of the machine.	
Installation (electrical connection)	Risk of electrocution and electric arc if the machine is connected to an unsuitable/inadequate electrical installation or if the machine or the power supply/cable connection is damaged.	
Adjustments and use	Residual cutting hazards: the machine uses milling cutters that could result in cuts to the fingers: be extremely careful when approaching the tool.	
	Residual risks from projected swarf or machining particles. Although the use of compressed air is prohibited, incorrect use by the operator cannot be ruled out.	
Maintenance	Risks of electrocution and electric arc: since the machine uses electrical energy, it is necessary that work on live or off-voltage electrical parts be performed only by the manufacturer's qualified technical personnel, who must take the necessary precautions (EN 50110-1).	

* The employer must assess, in the context of the specific activity, the suitability of the PPE for the residual risk associated with the use of the machine, also in relation to the presence of other risks present in the activity.

Tab. 3 - Residual risks

1. Guards (fixed and mobile interlocked) can only be defined as efficient if: intact, correctly installed and in perfect condition.

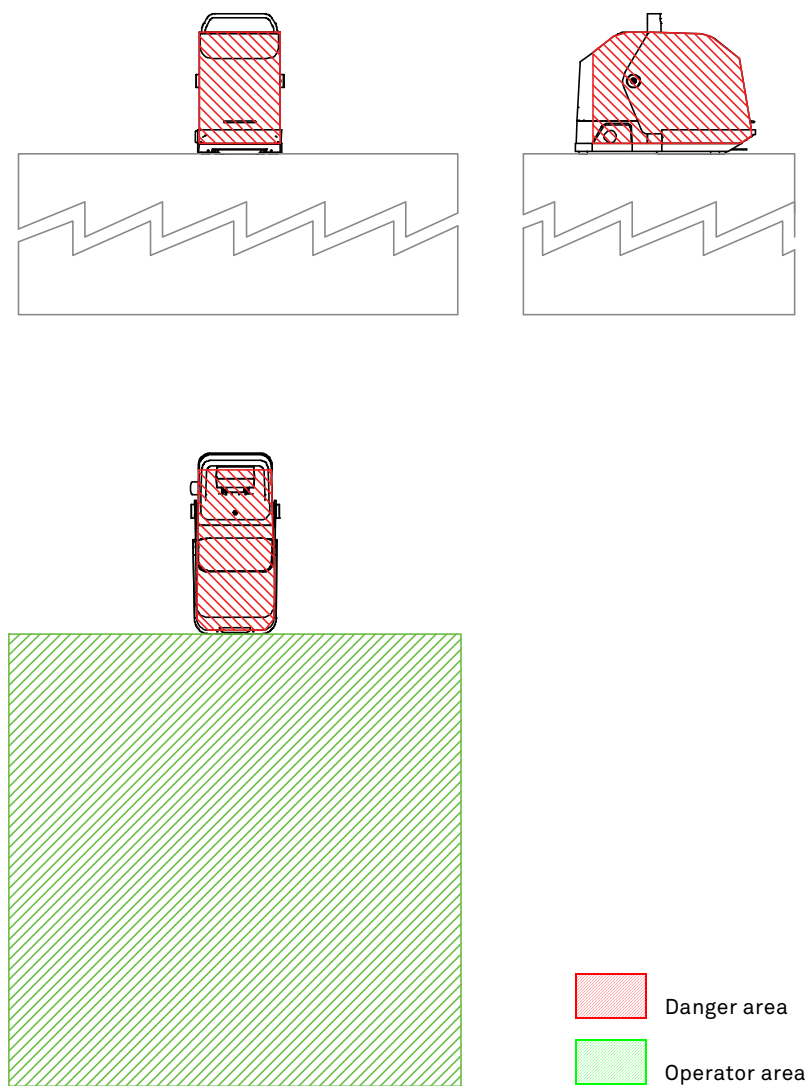


Figure 4 - Operator area and danger areas

5 CHARACTERISTICS AND TECHNICAL DATA

5.5 MACHINE SPECIFICATIONS

5.5.1 MINIMUM INSTALLATION FOOTPRINT

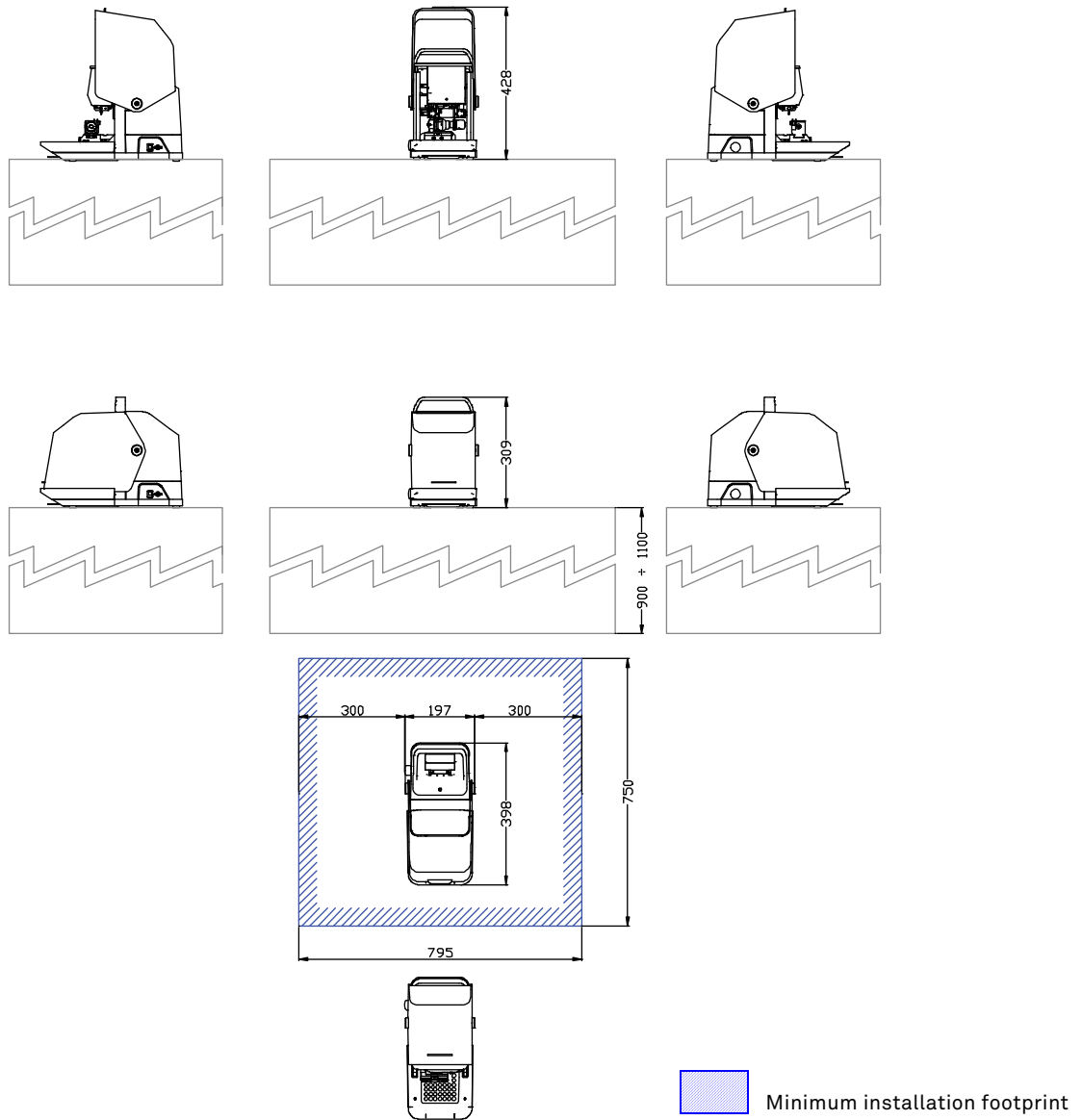


Figure 5 - Minimum installation footprint and machine size (in mm)

5 CHARACTERISTICS AND TECHNICAL DATA

5.5.2 TECHNICAL DATA

DIMENSIONS	Installation area minimum length	795 mm	
	Installation area minimum width	750 mm	
	Workbench height	900 ÷ 1100 mm	
	Installation area minimum height	2500 mm	
	Length	197 mm	
	Width	398 mm	
	Height	With the front screen closed (lowered)	309 mm
		With the front screen open (raised)	428 mm
	Machine + packaging total weight	15 Kg	
	Machine net weight	10.5 kg	
	DATA	Power pack	GST160A48-R7B
		Power supply voltage	1/N/PE/110-230 VAC +/- 5%
		Power supply frequency	50/60 Hz
Output voltage		48 VDC	
Absorbed current		In : 1 A – Out : 3.34A	
Maximum power		160 W	
Battery		Bosch GBA 36V 2.0Ah (or similar)	
Absorption		120W (6W in stand-by)	
Electronic equipment		High resolution axes control Battery power feeding module	
User interface		Keyline Duplicating Tool App. (on Android devices vers. 7.0 and higher)	
Milling cutter		Tungsten carbide	
Milling cutter motor		Brushless	
Milling cutter speed		With Power Pack	6000 ÷ 10000 rpm
		With Battery	6000 ÷ 7000 rpm
Axes motors		3 stepper motors	
Axis X speed		50 mm / 20 mm/sec	
Axis Y speed		30 mm / 20 mm/sec	
Axis Z speed		35 mm / 20 mm/sec	
Cycle time		110 sec.	
Max. productivity		20-30 pcs./day	
Max. autonomy with battery		40 keys	
Machine life cycle		max. 5,000 cycles/year	
Sound pressure level Lp (A)		_____ dB(A)	
Working temperatures		+10 °C ÷ +40 °C	
Average temperature		< +35°C / 24 h	
Relative humidity (RH) range		60% at 20°C	
Vibration		≤ 0,5 G	
Height a.s.l.		Up to 1000 m a.s.l.	

Tab. 4 - Technical data

5 CHARACTERISTICS AND TECHNICAL DATA

5.5.3 NOISE

The machine was designed and manufactured in such a way as to reduce the sound emission level at source. Under normal operating conditions, the sound power level of the machine is:

SOUND PRESSURE	
Weighted equivalent continuous sound pressure (A)	_____ dB
Weighted instantaneous sound pressure	_____ dB

Tab. 5 - Sound pressure

The noise values given are emission levels measured under normal operating conditions in accordance with EN ISO 3744, 3745, 3746 and 11200-11204. If changes are made to the machine, the above values may change and must therefore be determined on the machine itself. The noise values indicated are emission levels and do not necessarily represent safe operating levels.

Although there is a relationship between emission levels and exposure levels, this cannot be used reliably to determine whether or not additional precautions are necessary. Factors that determine the exposure level to which workers are subject include the duration of exposure, the characteristics of the work room and other noise sources (number of machines, adjacent processes, etc.). Moreover, the permissible exposure levels may also vary from country to country. In any case, the information mentioned will enable the machine user to make a better assessment of the hazard and risk to which he is subjected.



WARNING! The acoustic impact produced by the machine on the surrounding environment is negligible, in test conditions. It should be noted, however, that in compliance with the legal provisions form time to time in force (in the country in which the machine is marketed), the exposure of the relevant machine operator to noise must be assessed in the actual working conditions the machines shall be operating in.



In accordance with EU Directive 2003/10/EC, as the sound pressure produced by the machine in question, under test conditions, does not cause a worker who stations in the installation area, in an appropriate and continuous manner, to have a personal daily exposure of 80 dB (A) or more, the manufacturer is not obliged to provide information on the noise produced with it.

5.5.4 VIBRATION

The vibrations produced are of a very small magnitude, not such as to be a source of danger to the operator.

However, the levels were determined according to ISO 5349 for vibrations transmitted to the hand/arm system (HAV).

VIBRATIONS PRODUCED	
Hand/arm vibrations	< 2,5 m/s ²

Tab. 6 - Vibrations produced



MANDATORY! Here are no special precautions to take in order to protect the operator from the effects of the vibration produced by the machine. In case of abnormal vibration, the operator shall stop the machine immediately and notify the issue to the maintenance staff.

5.5.5 IP RATING

PROTECTION RATING OF ELECTRICAL EQUIPMENT (IP ^A)	
Degree of protection against solid foreign bodies (protected against dust)	3
Degree of protection against water (protected against water splashes)	0

a. According to IEC EN 60529.

Tab. 7 - Vibrations produced

5.5.6 TOOLS

For the execution of the planned machining operations, the machine is delivered with the tools described in the following table:

TYPE OF TOOL	DESCRIPTION	KEYLINE CODE
Milling cutters	Dimple key cutter	V001
	Laser key cutter	V037
Tracer points	Tracer for clamp calibration	T00

Tab. 8 - Tools included

5.6 CHARACTERISTICS OF THE PRODUCT TO BE PROCESSED

5.6.1 GLOSSARY

The machine duplicates keys, machining a key blank from a sample key.

A **blank key** is defined as a key without engravings that is duplicated following the trace of the sample key.

Sample key means the original key from which the duplicate key is made.

The figure below (Figure 6) highlights all the elements of the product to be machined, so that the parts can be uniquely identified.

All descriptions of the product to be machined (and/or its parts, if any) in this document will always refer to this illustration.

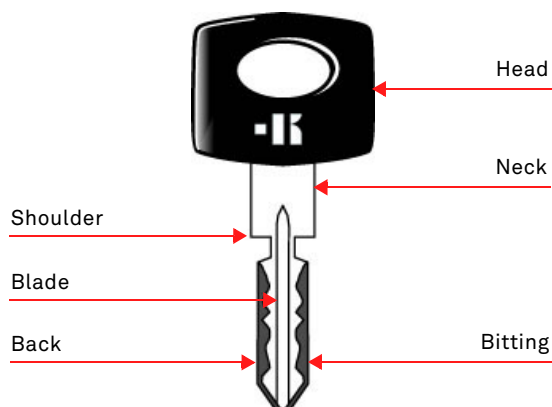


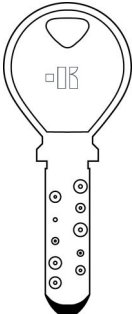
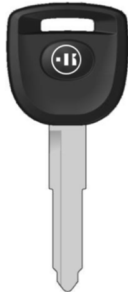

Figure 6 - Elements of the product to be processed

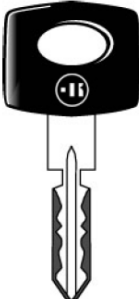

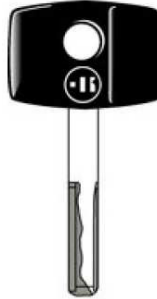

5 CHARACTERISTICS AND TECHNICAL DATA

5.6.2 TECHNICAL CHARACTERISTICS OF PROCESSABLE PRODUCTS

The product to be processed consists of keys, both residential and automotive, such as:

- Dimple keys (Figure 7) with flat bitting: keys whose cuts are made by removing material from the outer sides of the blade;
- Double bitting keys (Figure 8, Figure 9): for vehicles
- Laser keys (Figure 10, Figure 11, Figure 12 Figure 13) with internal or external tracks: a key with a particular cross-profile bitting.

		
Figure 7 - Dimple key with flat bitting	Figure 8 - Double bitting key with back stop	Figure 9 - Double bitting key with front stop

			
Figure 10 - Four-track external cut laser key	Figure 11 - Two-track internal cut laser key	Figure 12 - Two-track external cut laser key	Figure 13 - Four-track internal cut laser key

The products that can be processed with this machine must be made in the size and material shown in the following table:

TECHNICAL CHARACTERISTICS OF PROCESSABLE PRODUCTS		
Dimensions	Maximum blade length	30 mm
	Maximum blade width	10 mm
	Maximum blade thickness	3.5 mm
Materials	Tracer for clamp calibration	Brass, steel, alpacca, non-anodised aluminium



The machine is not designed to process key heads, painted keys or plates or products made of non-conductive material.

Tab. 9 - Technical characteristics of processable products

5 CHARACTERISTICS AND TECHNICAL DATA

The machine is delivered with the key holders described in the following table, for the positioning and clamping of the keys to be processed:

DESCRIPTION	KEYLINE CODE
4 sides clamp	Q clamp
Clamp for double-sided flat keys	N clamp

Tab. 10 - Key holder clamps included

6 TRANSPORT AND INSTALLATION

6.1 DELIVERY

The machine, including the standard accessories, is normally delivered packed in a cardboard box.

For long-distance transport, the packed machine can be secured on a transport pallet. In this case, the transport pallet with the machine must be lifted and moved with a forklift of suitable capacity. The lifting gear must have a load capacity equal to at least the weight of the machine with the packaging, increased by 20%.



INFORMATION!

- Keep the box, at least throughout the warranty period, for storage and/or further transport and/or transfer;
- Dispose of any unnecessary packaging materials according to type and in compliance with the waste management regulations from time to time in force.

6.2 HANDLING AND PACKAGING REMOVAL



WARNING! Please comply with the following requirements.

The box containing MESSENGER (or the machine itself, once it has been removed from the packaging) may be lifted and/or handled manually:

- while observing the safety conditions described in paragraph 6.3 on page 24;
- by grasping the upper handle of the machine (Figure 14);
- Taking care not to bump and drop the machine, in order to avoid damage to electrical parts and the machine body.



WARNING! When handling the machine (alone or with its box) take care not to tip or drop it. Damage to the machine, even if slight, will impair its operation.

Go to the installation site and open the box:

- Take out the instruction booklet, the power pack and power cable, the second key holder clamp as well as all optional machine accessories (if supplied);
- Remove MESSENGER from the box and place it on the work surface, so that it rests on all its feet (Figure 15) (see also paragraph 6.5);
- Remove the protective film from the machine;
- Connect the machine to the power supply (paragraph 6.8).

If you are not going to use the machine for some time, you can store it in its box, performing the installation and box removal steps backwards.

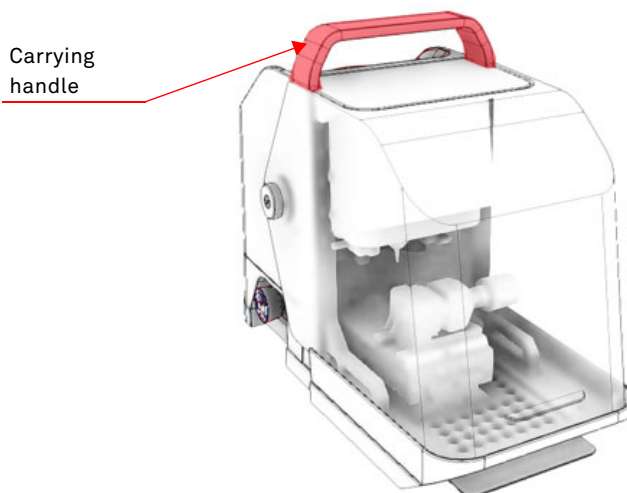


Figure 14 - Carrying handle for the machine

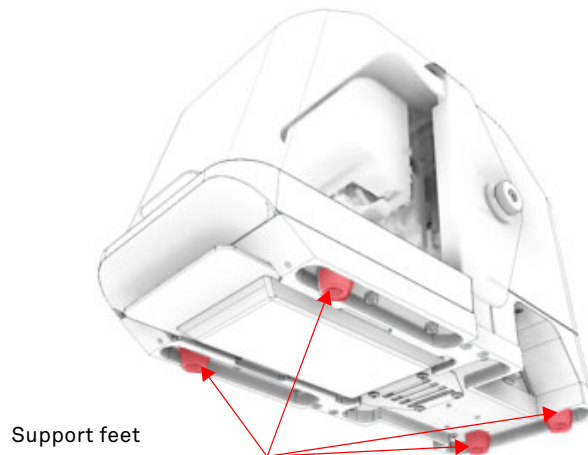


Figure 15 - Machine support feet

6.3 MANUAL HANDLING OF LOADS

Manual handling of loads (MHL) must be carried out under safe conditions to avoid overloading the dorso-lumbar spine. Below are some safety instructions regarding the manual handling of loads.



WARNING! Lifting and handling operations must be carried out in compliance with the maximum weight that can be lifted by one person¹; use suitable lifting devices in order to avoid risks of back injuries.



PROHIBITION! Do not lift products manually if their weight exceeds the permissible limit!

Remember that operators are subject to the following risks during manual handling:

- Falling load;
- Crushing of the foot.

In order to prevent risks arising from improper handling of loads, observe the following general tips:

- Make sure that the floor is stable and even;
- Use suitable transport devices e.g. hand trolleys (Figure 16), forklifts or cranes;



Figure 16 - Transport devices

1. 25 kg for men and 15 kg for women, in accordance with ISO 11228-1 (also check the limits stipulated by the current national health and safety legislation for workers).

6 TRANSPORT AND INSTALLATION

- Take a stable position;
- Bend your knees (at a 90° angle) and use your leg muscles to lift the load. Slowly lift the load while keeping your back straight (Figure 17);



Figure 17 - Lifting technique

- Avoid twisting the upper body (Figure 18);

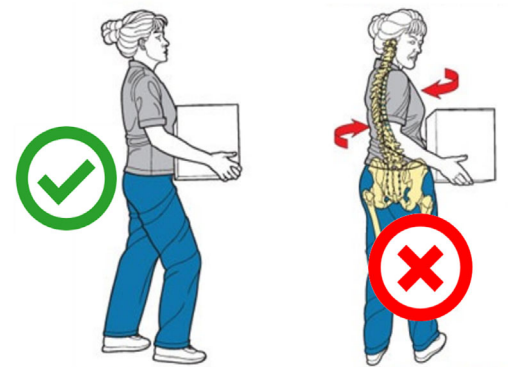


Figure 18 - Handling technique

- Hold the load as close to the body as possible;
- Distribute the load on both sides;
- Keep a clear view;
- Get help from another operator if you have to lift unwieldy loads (Figure 19);
- Respect the indications on the maximum weight that can be lifted by one person;
- If the load is too heavy or requires considerable physical effort to be lifted, choose one of the following solutions:
 - Use auxiliary means,
 - Divide the load into several individually transportable parts,
 - Move the load in pairs.

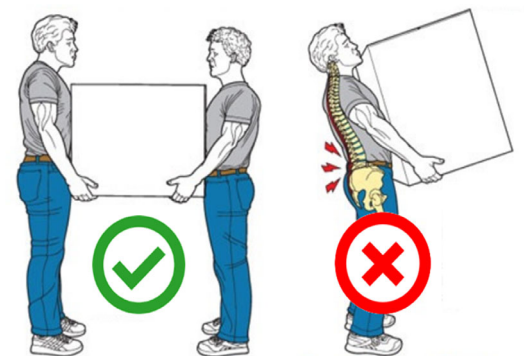


Figure 19 - Handling technique

If it is necessary to move components by means of pushing or pulling, observe the following general guidelines:

- Always operate from a stable position;
- If possible, place the load on devices with wheels;
- preferably push with your back against the load and keep your arms parallel to your body; if you push the load with it in front of you, take care to keep your back straight;
- Remember that pushing is always preferable to pulling;
- If it is necessary to pull, always use secure gripping points (which cannot break due to the action of pulling).

6 TRANSPORT AND INSTALLATION

6.4 INSTALLATION



WARNING! Please read the following warnings and instructions carefully before installation. Failure to observe the following warnings may result in injury, death, or damage to the machine. Keyline S.p.A. Waives any and all liability for personal injury or property damage resulting from installation in an environment that presents one of the following situations.

6.4.1 INSTALLATION LIMITS



PROHIBITION! The machine must not be installed in an environment with an explosive atmosphere as defined in EN 60079-10-1 "Explosive Atmospheres. Part 10-1: Classification of places - Explosive atmospheres due to the presence of gas" and EN 60079-10-2 "Explosive atmospheres. Part 10-2: Classification of places - Explosive atmospheres due to the presence of combustible dusts".



Machines and their components or equipment designed to operate in explosive atmospheres must be marked  (ATEX).



PROHIBITION! The machine cannot be installed in environments requiring a protection rating higher than IP30.



6.5 INSTALLATION SITE PREPARATION

In order to operate at its best, without vibrations and stresses, the machine must be installed on a stable, perfectly horizontal work surface of adequate size to allow the machine to rest and operate.

As far as it is reasonably feasible, the work bench on which the machine is to be positioned must have a height from the ground of 900 ÷ 1100 mm to allow operations to be performed ergonomically.

The machine must rest on the surface with all its feet (Figure 15 - Machine support feet).

The installation area must have a minimum size of 795 mm x 750 mm to ensure adequate access to the machine and adequate manoeuvring space around the machine.

If the machine is installed permanently into a building, the minimum height of the building must be 2500 mm.

The customer must provide the power supply network (electricity).

The relevant network shall be suitably designed and sized to guarantee the correct operation of the machine and compliance with the safety standards.

6.6 LIGHTING

The machine is equipped with its own internal lighting in its working area.

In any case, the environment in which it is positioned and used must have adequate natural and/or artificial lighting.

The optimum level of illumination obviously varies depending on the type of activity; consult standard EN 12464-1 (paragraph 5.3) for detailed information relating to the type of activity and the working environment.



WARNING! Sufficient lighting must be provided at the installation site for operation and maintenance.



6 TRANSPORT AND INSTALLATION

6.7 HOW TO SECURE THE MACHINE TO THE WORK BENCH

How to proceed:

- Remove the two screws (3) from the key cutting machine (1).
- Fasten the supplied bracket (2) with the screws (3).
- Then fasten the bracket (2) to the work bench the machine is supposed to be used on.

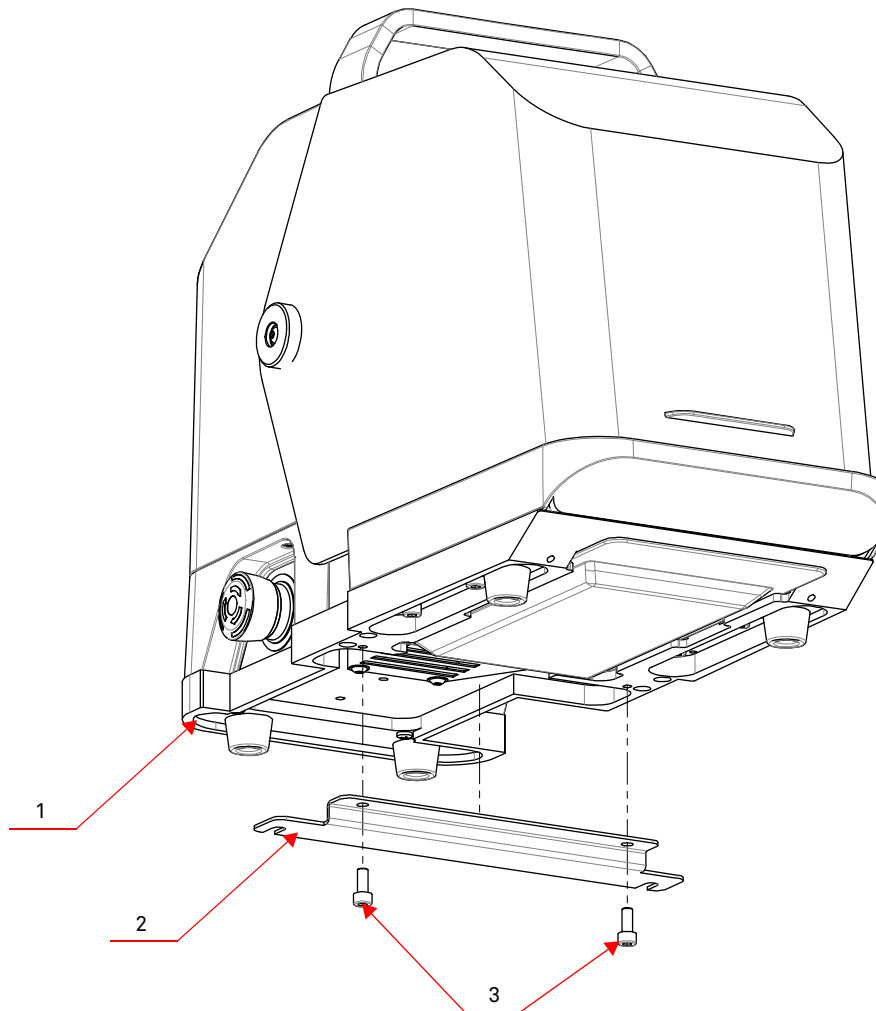


Figure 20 - How to secure the machine to the work bench

6.8 GRID CONNECTION



MANDATORY! The power supply line to which the machine will be connected must be protected by an earth leakage circuit breaker of suitable capacity.

When connecting the machine to the mains, use only the power pack supplied!

The power cable is supplied with the plug compatible with the country for which the machine is intended.

Do not replace or change the plug. If necessary, contact Keyline S.p.A..



MANDATORY! The machine must be connected to the earthing system available at the installation site.

The customer must provide the connection points to their own earthing system, which must meet the requirements of the relevant legislation from time to time in force.

The machine is powered by the power pack supplied:

- Connect the C13 (IEC320) socket of the power cable to the C14 (IEC320) plug of the power pack (Figure 21);
- Connect the R7B plug of the power pack to the machine connector on the right side of the machine body (Figure 22);
- Insert the plug of the power supply cable into the power pack socket (examples in Figure 23 and Figure 24).

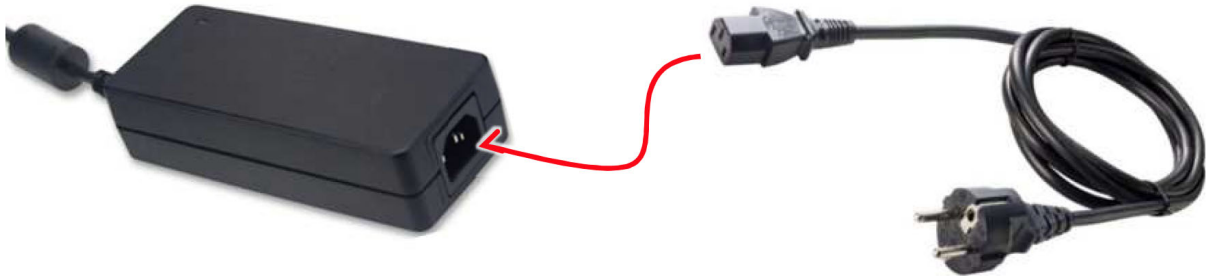


Figure 21 - Connecting the power pack with the power cable (example with Schuko-type plug)

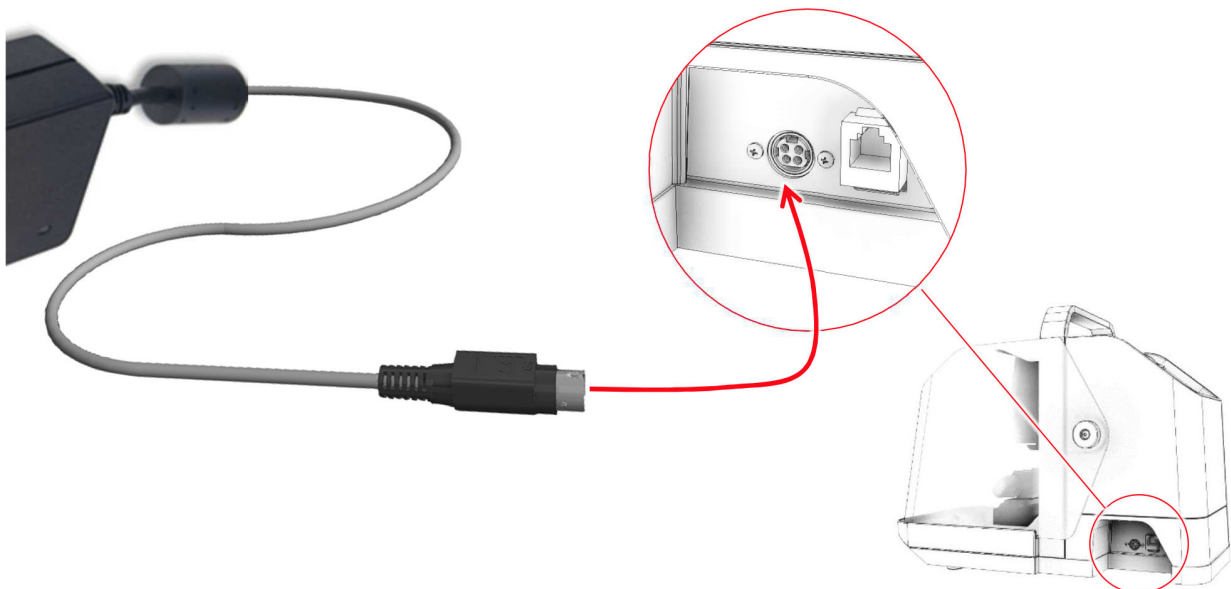


Figure 22 - Connecting power pack with machine port.



Figure 23 - Socket / 2-pin plug + earth connection example



Figure 24 - Example of socket (Schuko) / 2-pin plug + earth connection

6.9 BATTERY POWER SUPPLY (OPTIONAL)

The machine can also be powered by a Bosch GBA 36V 2.0Ah battery or similar (*optional*).

The battery power supply of the machine can either support the mains supply or be the only source of power.

In the first case, the machine is powered directly via the power pack and, only in the event of a power failure, does the machine control automatically switch to draw current from the battery.

In the second case, the machine is powered by the battery alone and does not need to be connected to the mains via its own power pack. The battery must be inserted into the battery compartment at the rear of the machine body (Figure 25), using the guides, and so that it is firmly engaged on the connection pins.

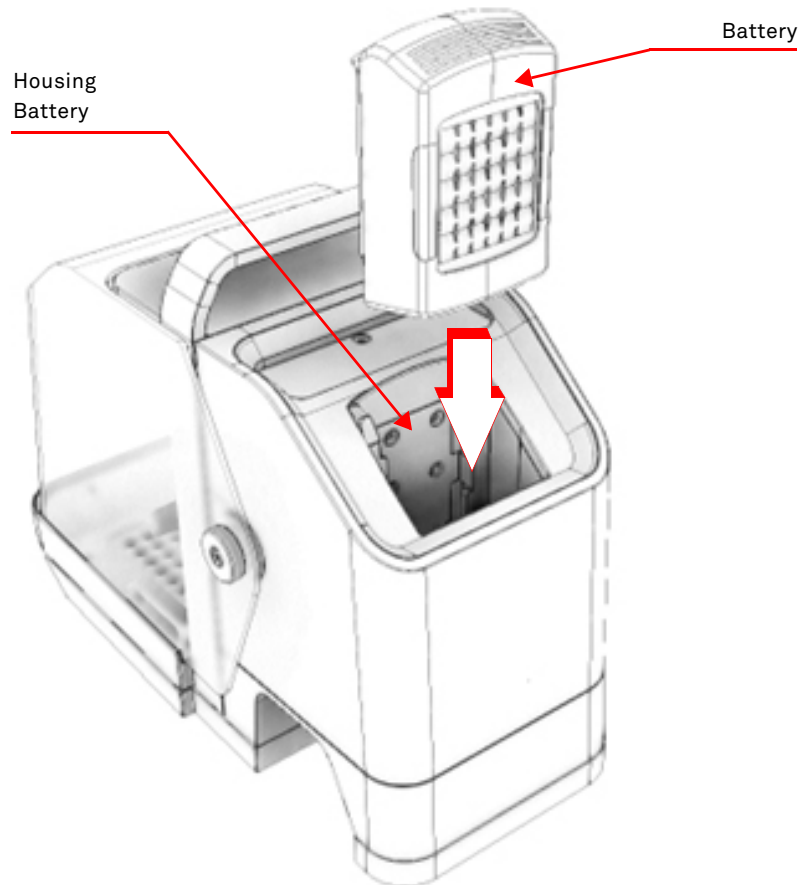


Figure 25 - Battery Power Supply Insertion



INFORMATION! The performance of the machine powered by the battery alone is lower than when the machine is powered by the mains.

This results in lower tool speeds and longer cycle times!



INFORMATION! The machine does not recharge the battery.

Check the battery charge level regularly and recharge it if necessary.

Refer to the original instructions for the battery and its charger.



WARNING! If the battery charge is below a certain threshold, the machine will not switch on.
If the threshold is exceeded during operation, the machine switches off to protect the battery.



MANDATORY! Store the battery in a cool environment, away from heat sources!

6 TRANSPORT AND INSTALLATION

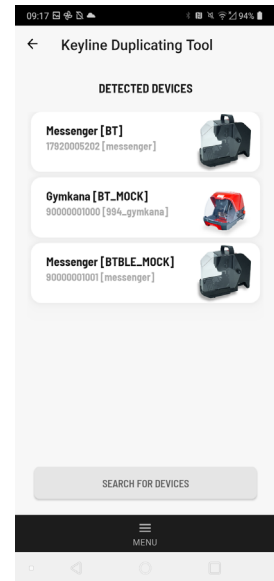
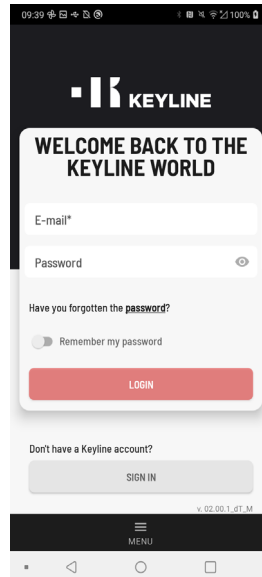
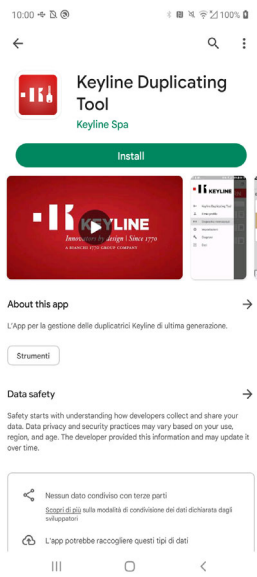
6.10 INSTALLING THE “KEYLINE DUPLICATING TOOL” APP AND CONNECTING THE MACHINE TO THE CONTROL SYSTEM

To install the “Keyline Duplicating Tool” (KDT) application for controlling the machine in your tablet/smartphone, follow the sequence of steps described below.

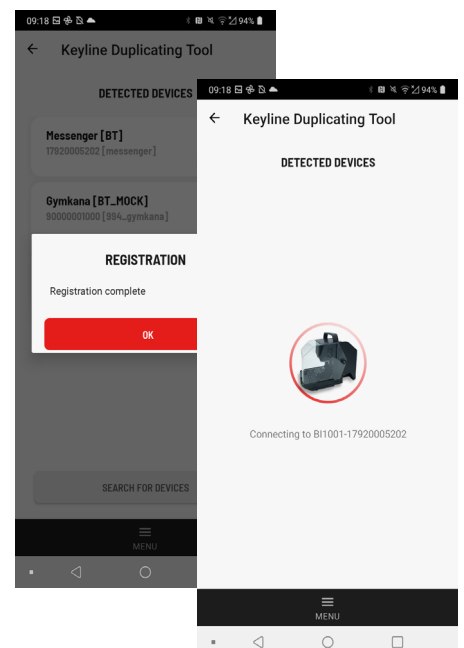
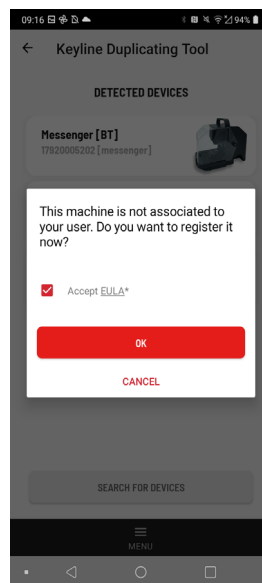
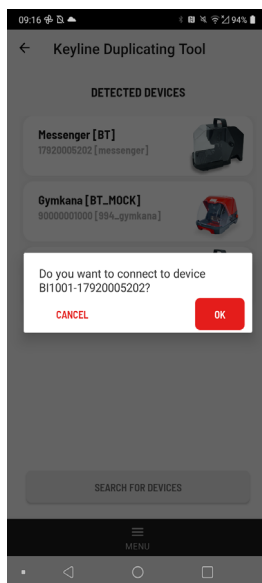
If the application has already been installed, check that it is updated to the latest version.

If necessary, access the *Google Play Store* and manually update the application.

1. On your Android device, go to the *Google Play Store* and search for the “Keyline Duplicating Tool” application.
2. Press “INSTALL”.
3. After installation, open the application.
4. Enter the e-mail and password of your registered account.
5. If you need to register a new account, see paragraph 8.9.1.
6. When the user is logged in, KDT searches for devices in the vicinity.
7. Once the machine is found, press on it to connect.



8. Press “YES” to confirm the pairing of the machine to KDT.
9. If the Bluetooth pairing does not occur automatically, enter the password “1234” on your tablet/smartphone.
10. Accept the EULA and press “OK” to confirm the pairing of the machine to your registered account.
 - It is possible to associate more than one device to a registered account.
 - A device can be associated to a single account only.
11. After completing the registration procedure, press “OK” to connect the KDT app to the device.



7.1 MACHINE OPERATION

MESSENGER (Figure 26) is an electronic key cutting machine.

MESSENGER is a machine that can electronically cut edge cut, laser and dimple keys for residential and automotive purposes.

The machine comprises the following components:

- Machine body;
- Key holder clamp, with integrated linear axis X;
- Cutter/tracer point unit, with integrated axes Y and Z;
- Control system.

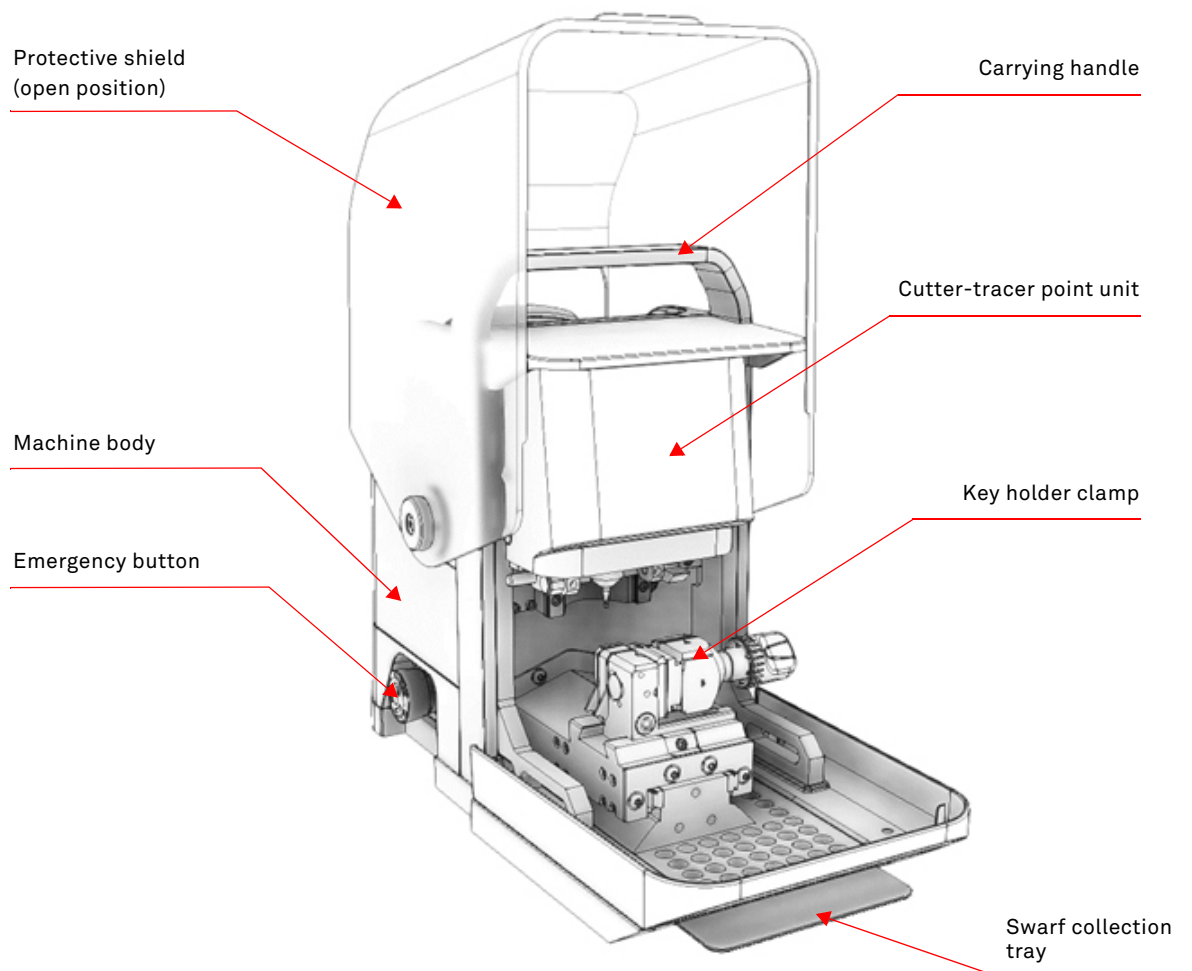


Figure 26 - MESSENGER Key cutting machine

7.1.1 OPERATION PRINCIPLE

Briefly, the machine has the following operating cycle:

1. Change and/or adjustment of the key holder clamp;
2. Switching on the machine;
3. Positioning of the tracer point;
4. Positioning and locking of the sample key in the key holder clamp;
5. Starting the tracing cycle via App (with mobile guard closed);
6. Once copying is complete, removal of the sample key from the clamp;
7. Removal of the tracer point;
8. Positioning and locking of blank key in the key holder clamp;
9. Setting the program and start of the milling cycle for duplication via App (with mobile guard closed);
10. Once the duplication process is complete, removal of the duplicate key from the key holder clamp.

The above sequence of operations includes the tracing phase, which may not be necessary if in possession of the encryption code (among those available in the App).

7 OPERATION

7.1.2 MACHINE BODY

The machine body (Figure 27) is characterised by an aluminium base structure supporting the motorised axes, tool unit and key clamp. The bottom of the base is perforated so that chips formed during machining can fall out of the work area, and be collected by a removable tray underneath (Figure 26).

A handle is attached to the structure to transport the machine easily.

There are ABS covers at the rear and top.

At the rear there is the compartment where the battery can be inserted to power the machine in the absence of a mains connection. The battery is commercially available, with its own charger, but not supplied.

On the right side of the machine body there is the port for the power cable.

The two power supplies, through an external power pack and through a battery, are parallel: when both are available, the machine always takes power from the mains, and only in the event of a voltage drop does the control system automatically switch over by taking power from the battery.

Using the machine on battery power results in lower performance characteristics.

When powered only by the battery, the machine can only be started if the battery is loaded to a certain minimum load level.

On the left side of the machine there is the machine emergency button (Figure 26).

On the front side there is a transparent polycarbonate protection screen, which, when lifted, gives access to the internal machining area, i.e. the area where the clamp and tool described in the following paragraphs are located.

The protection screen is a mobile interlocking guard which, when not closed, makes it impossible to start the axes and tool.

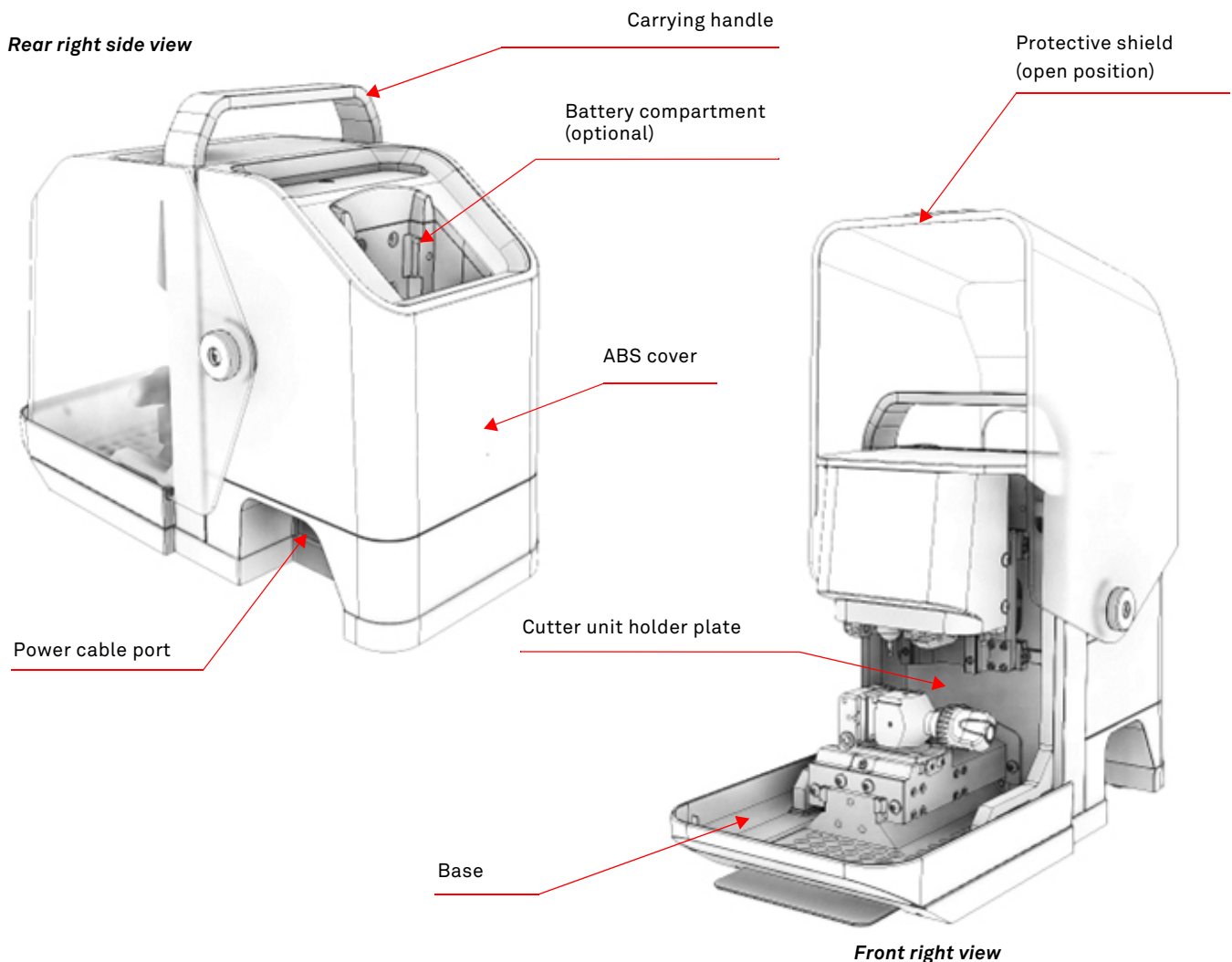


Figure 27 - Machine body

7.1.3 KEY HOLDER CLAMP, WITH INTEGRATED LINEAR AXIS X

During the processing cycle, the key is locked in a clamp (Figure 28) tightened manually by means of a knob.

Two different types of key holder clamp can be mounted on the machine (see Table 10).

The key holder clamp consists mainly of a pair of jaws.

The Q key holder clamp can accommodate different types of keys: its jaw assembly can be rotated so that one of its four sides faces upwards.

Each side of the clamp is marked with a letter of the alphabet.

The key holder clamps are equipped with gauges (hook-shaped elements that can be rotated over the clamp), and with magnetic blocks, which allow the key to be positioned correctly on the clamp for machining.

The key holder clamp is attached to the slide connected to a motorised axis, which allows it to move back and forth (X axis).

The stepper motor driving the X-axis is located inside the machine body.

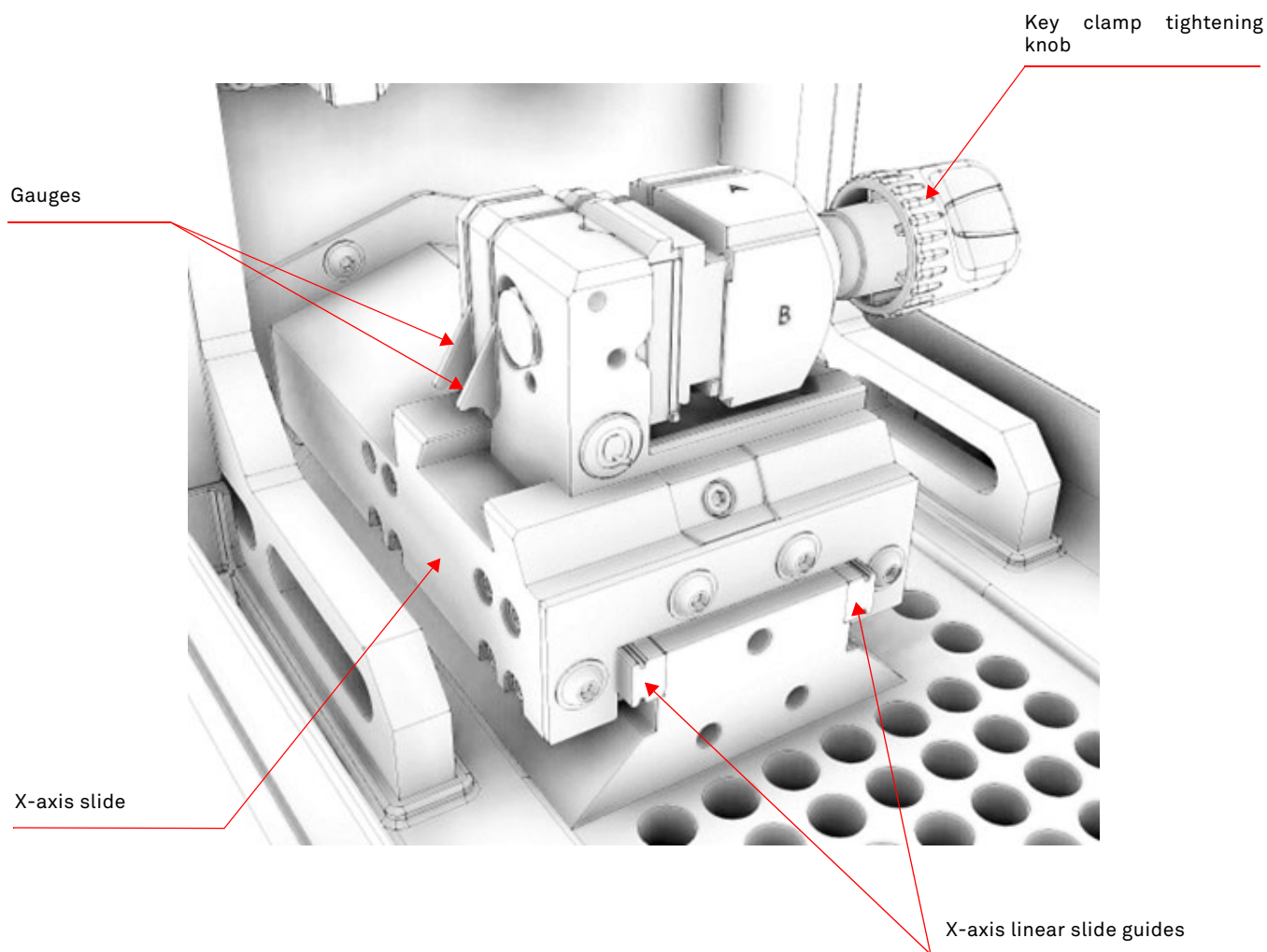


Figure 28 - Key holder clamp

7.1.4 CUTTER/TRACER POINT UNIT, WITH INTEGRATED AXES Y AND Z

At the front of the machine, above the clamp, there is the cutter/tracer point assembly (Figure 29).

The tracer point can be used to decode the key (copy duplication function instead of code duplication).



The machine is not designed to process key heads, painted keys or plates or products made of non-conductive material.

The tracer point is attached to a U-shaped holder that can be positioned by hand, either vertically, to be used, or horizontally (turned to the rear) to be put to rest.

When the tracer point is positioned for use, the tool sits inside a cavity in the holder itself so that it is protected during the tracing cycle. In addition, the cutter is automatically electrically disconnected so that it cannot come into operation during the tracing cycle.

The tool mounted on a spindle is set into rotation by a brushless motor with belt drive.

The tool can move automatically both horizontally and vertically by means of slide systems connected to electric axes with stepper motors:

- Tool up/down movement (Z axis);
- Tool right/left movement (Y axis).

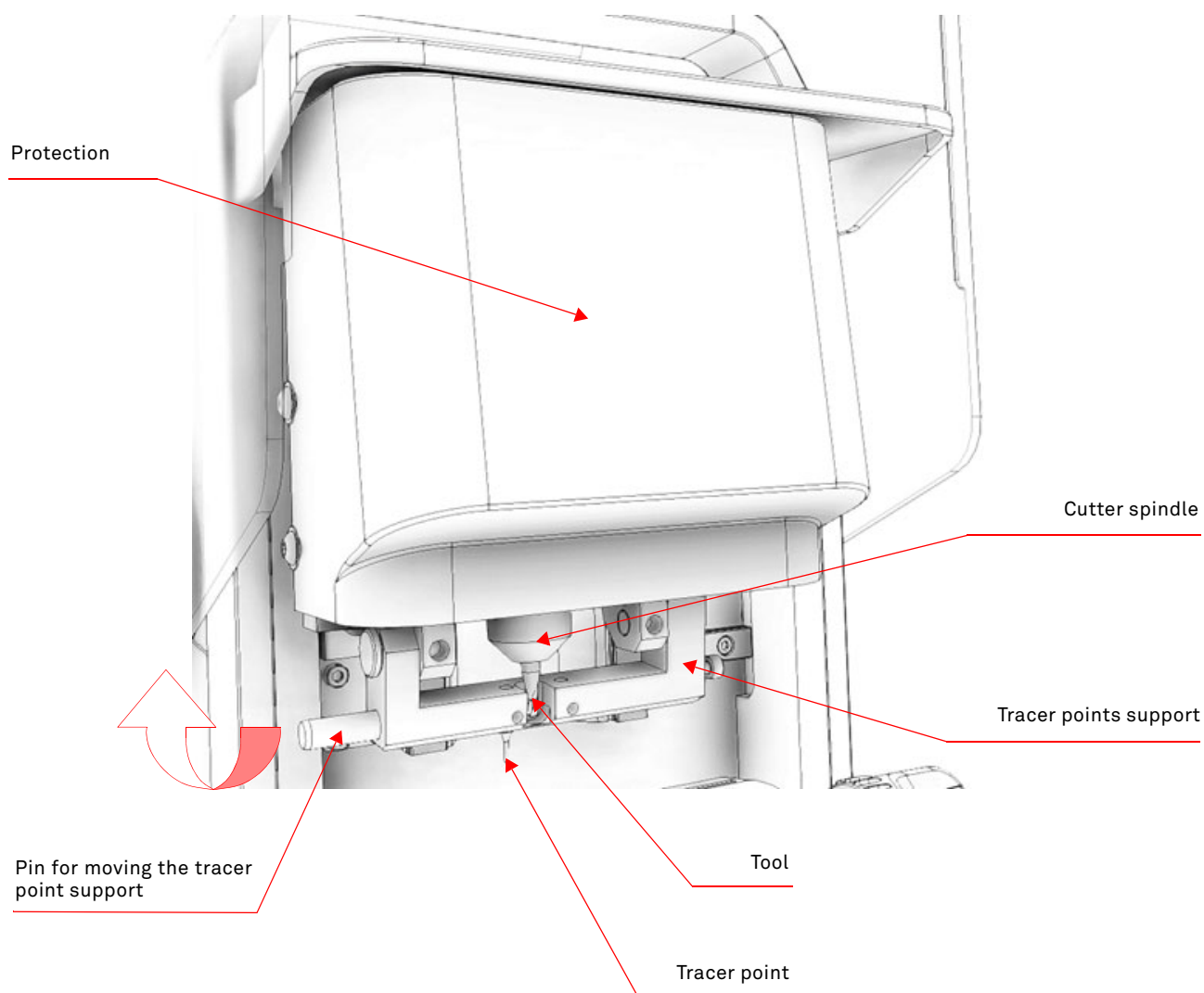


Figure 29 - Cutter/tracer pointy unit with the tracer point in the use position.

7 OPERATION

7.2 CONTROL SYSTEM

7.2.1 "KEYLINE DUPLICATING TOOL" APPLICATION

The machine is controlled via an App, downloadable to **tablet/smartphone**, called *Keyline Duplicating Tool* (KDT)



To download the App from the web, simply access the web store: Google Play Store



To use the application, please refer to the relevant section of the manual (chapter 8 on page 43).

7.2.2 EMERGENCY STOP BUTTON

On the left side of the machine there is the red mushroom-shaped emergency stop button (Figure 30).

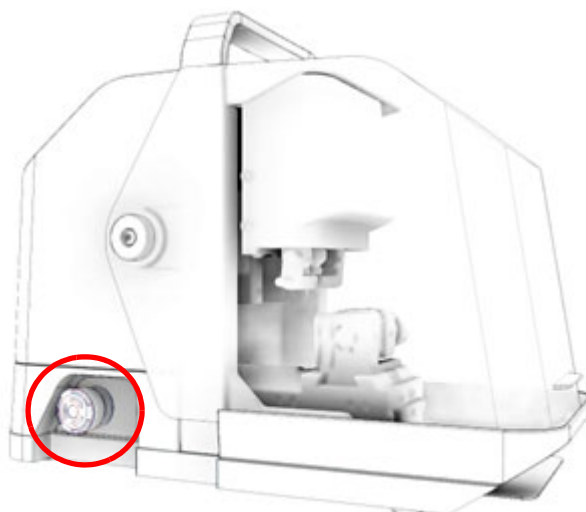


Figure 30 - Machine emergency stop button



WARNING! Resetting the emergency button means that the machine is immediately live and reconnecting to the device in which the App is installed.

7.3 SAFETY DEVICES

The machine is equipped with some safety devices described in the next few paragraphs.

7.3.1 EMERGENCY BUTTONS

The emergency buttons (Figure 31), when operated, allow the operator to stop the machine in an emergency situation.

Their protruding shape (mushroom-shaped) allows easy operation with the palm of the hand.

They are always red in colour and have a yellow highlight ring at the base.

Once pressed, these buttons require a manual release, which is achieved by turning the button clockwise or pulling it back.

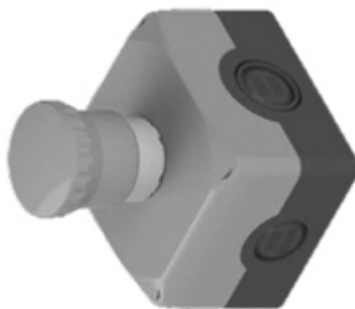


Figure 31 - Example of an emergency button

Pressing the emergency button leads to the electrical disconnection of MESSENGER, whatever its power source (mains or battery).

7.3.2 INDUCTIVE SENSORS TO CHECK PROTECTIVE SHIELD POSITIONS

Inductive sensors (Figure 32) are a type of proximity sensor capable of detecting the presence of a metal object at a close distance. Inductive sensors operate on the basis of a magnetic field formed on the front side of the sensor in an open magnetic circuit. The recognition principle is based on the activation (attenuation) of the magnetic field by the approaching metal object. The amplitude of the internal circuit is reduced by virtue of the activation until a switching wave is reached and the sensor emits a switching signal.



Figure 32 - Example of an inductive sensor

Inductive sensors (type 3 devices) check that the machine's protection shield is closed. If this is not the case, all moving elements of the machine (axes and spindle) are not allowed to move.

7.3.3 GUARDS

Guards are parts of a machine specifically used to provide protection by means of a physical barrier.

Depending on their construction, guards can be called: cap, cover, screen, door, full segregation guard, etc..

A guard can only act on its own, and therefore be effective, when it is closed or associated with an interlocking device with or without locking the guard; in this case, protection is provided whatever the position of the guard.

The types of guard used on the machine are described below:

- **Fixed guard:** guard kept in place (i.e. closed) either permanently (by welding, etc.) or by means of fasteners (screws, nuts, etc.) which make it impossible to remove/open without tools;
- **Movable guard:** guard which is generally mechanically connected (e.g. by means of hinges or guides) to the machine frame or to a nearby fixed element and which can be opened without the aid of tools;
- **Interlocked guard:** guard associated with an interlocking device so that:
 - The dangerous machine functions "subjected" to the guard cannot be carried out until the guard is closed,
 - If the guard is opened while dangerous machine functions are being carried out, a stop command is given,
 - Closing the guard allows the dangerous functions of the machine 'subjected' to the guard to be performed, but does not command them to start.

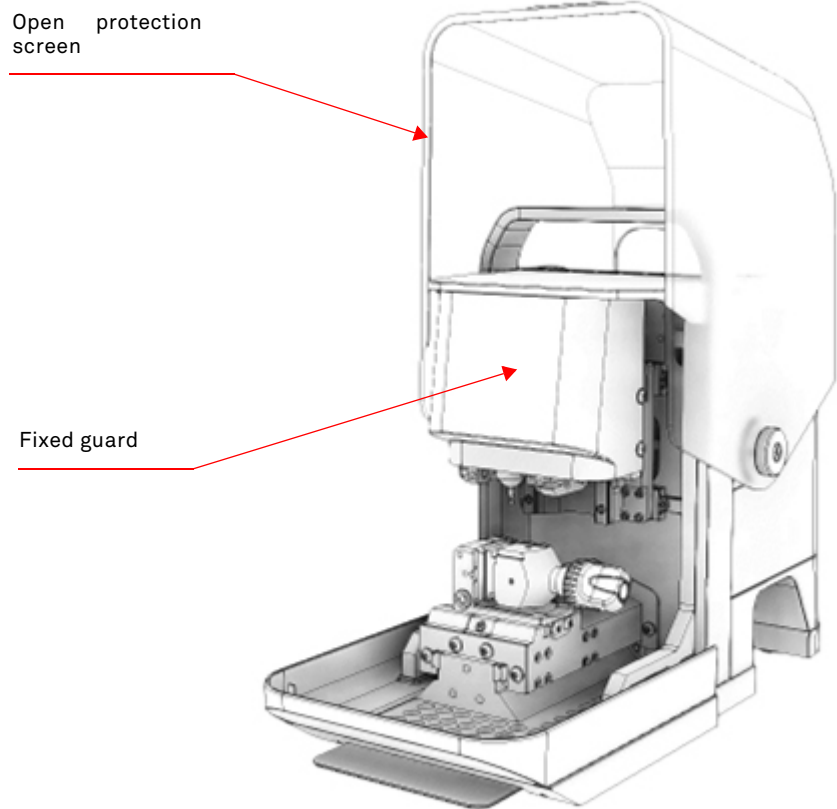


Figure 33 - Machine with open protection screen (movable interlocked guard)

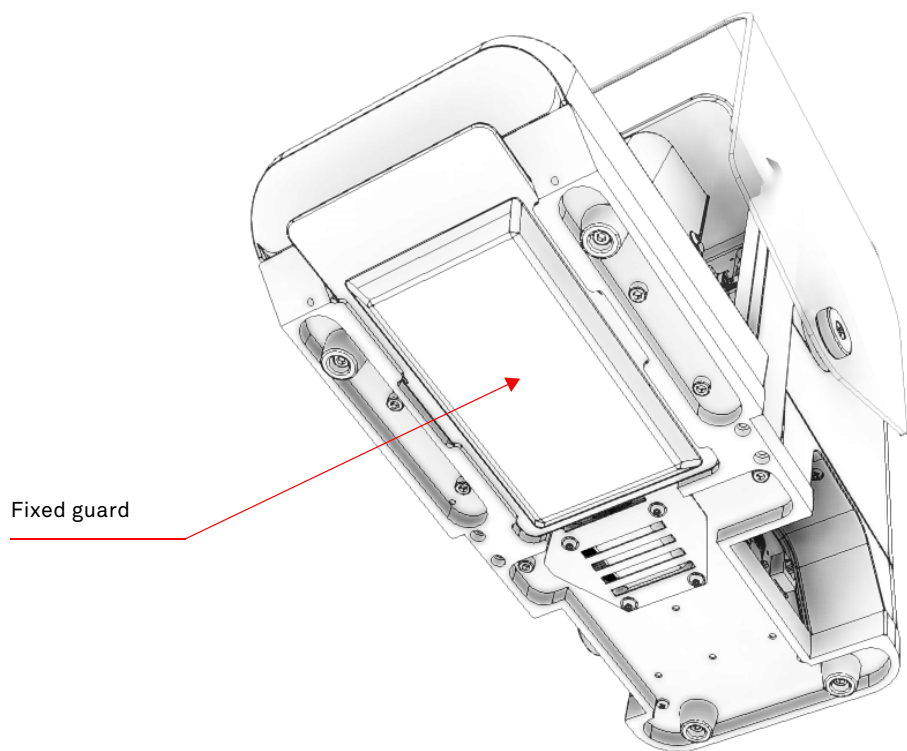


Figure 34 - View of underside of machine without swarf tray

7.4 PRELIMINARY CALIBRATION



MANDATORY! Before carrying out any preliminary calibration, carefully read the warnings and instructions in this section (and its sub-sections)!
Failure to observe the following warnings / instructions may result in injury, death or damage to the machine.



WARNING! Failure to carry out preliminary calibrations may damage the machine and/or the installed equipment.



WARNING! All preliminary calibrations must be carried out with the machine at standstill.
If it is necessary to operate the machine's equipment in order to make calibrations, please follow the instructions in chapter 8 on page 43.

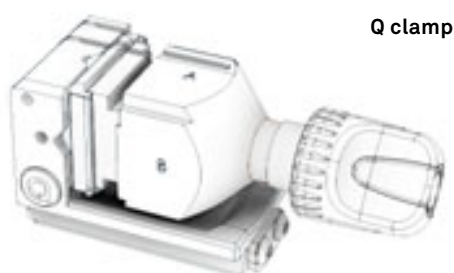
7.4.1 REPLACING THE KEY HOLDER CLAMP

The machine is supplied with two clamps, each dedicated to one or more key types.

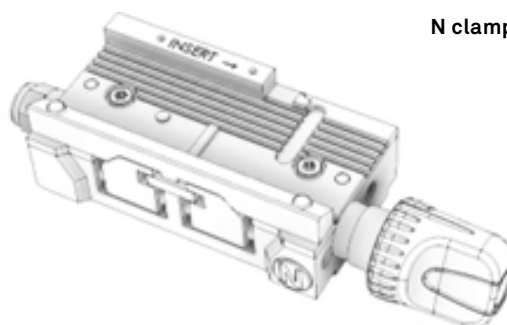
Depending on the type of key you wish to duplicate, you will have to mount the appropriate clamp on the linear slide of the X axis.

The application itself, when starting the cutting cycle, indicates which jaw must be mounted on the machine to clamp the key to be duplicated.

The identification code of the clamps is on the clamps themselves.



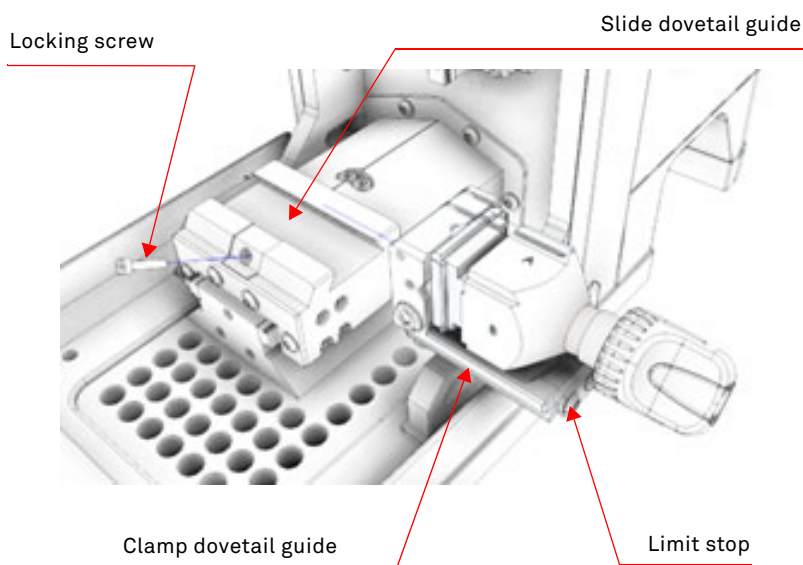
Q clamp



N clamp

To replace the key holder clamp, follow the sequence of operations described below.

1. Using a 2.5 mm hex key, loosen the socket-head cap screw that holds the clamp.
2. Remove the clamp from the machine by sliding it out of the dovetail guide on the X-axis slide from the right.
3. Slide the new clamp into the dovetail guide from right to left and bring it to a stop.
4. Using the 2.5 mm hex key, fasten the socket-head cap screw to secure the clamp position on the slide.



7.4.2 SELECTING THE Q CLAMP SIDE TO BE USED

The Q clamp is designed to accommodate different types of keys.

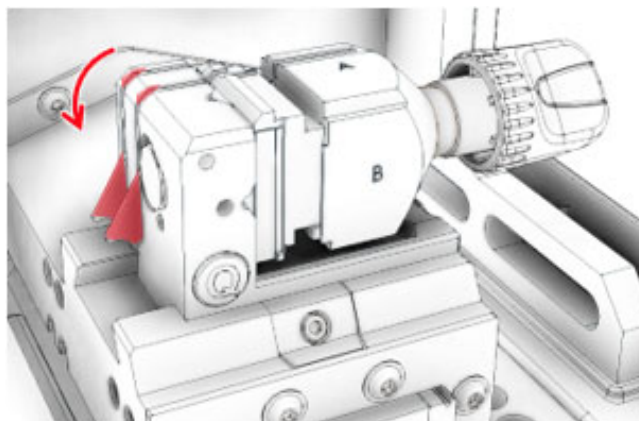
Depending on the type of key to be duplicated, it will be necessary to rotate the jaws of the clamp so that one of its four sides is brought up.

Each side of the Q clamp is marked with an identifying letter.

The application itself, when starting the cutting cycle, indicates which side of the clamp is to be used for clamping the key to be duplicated.

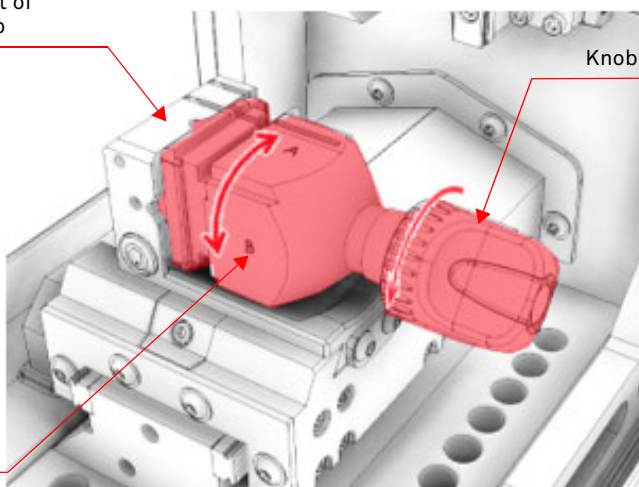
Once the Q clamp has been installed, as indicated in paragraph 7.4.1, follow the sequence of operations described below to settle the side to be used.

1. Make sure that the key locking gauges are off the jaws.



2. Turn the knob of the Q clamp counter-clockwise until the clamp is completely loose.

Fixed part of the clamp

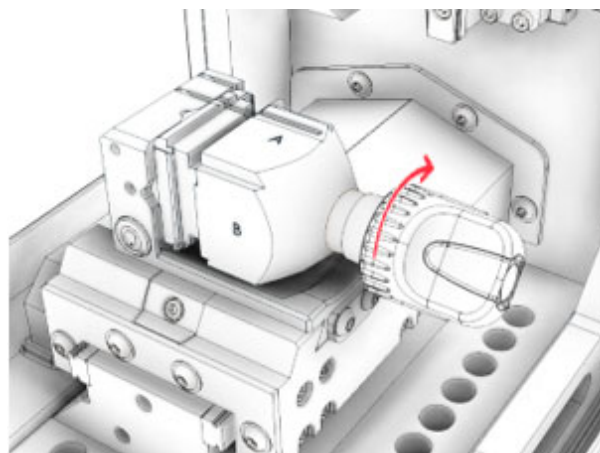


Knob

Jaw assembly

3. Grasp the jaw pair and turn it towards you (or the machine), 90° by 90°, until the desired side is facing up.

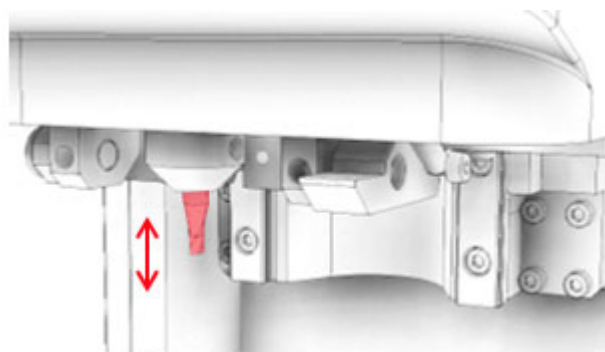
4. Tighten the knob of the Q clamp.



7.4.3 TOOL CHANGE

To change tools, follow the sequence of operations described below.

1. Lift up the protective shield.
2. With a 2.5 mm hex key, loosen the cutter locking screw on the spindle.
3. Remove the cutter from the spindle.
4. Insert the new cutter in the spindle, bringing it up to the end stop.
5. Lock the cutter in the spindle, tightening the grub screw.



7.5 PRELIMINARY CALIBRATIONS



WARNING! Tools are sharp, handle them with care.



MANDATORY! Use the appropriate Personal Protective Equipment (PPE) for hands. Wearing suitable cut-resistant gloves to handle the tools is mandatory.

7.5.1 TRACER POINT REPLACEMENT

To replace the tracer point, follow the sequence of operations described below.

1. Lift up the protective shield.
2. Lower and rotate the tracer point holder, so that the tracer point is in the position to be used.
3. Using a 1.5 mm hex key, remove the tracer point locking screw on the holder.
4. Remove the tracer point from the holder.
5. Insert the new tracer point into the holder, bringing its groove to the centre of the hole in the grub screw.
6. Insert and tighten the grub screw to secure the tracer point in the holder.
7. Carry out the tracer point calibration procedure.

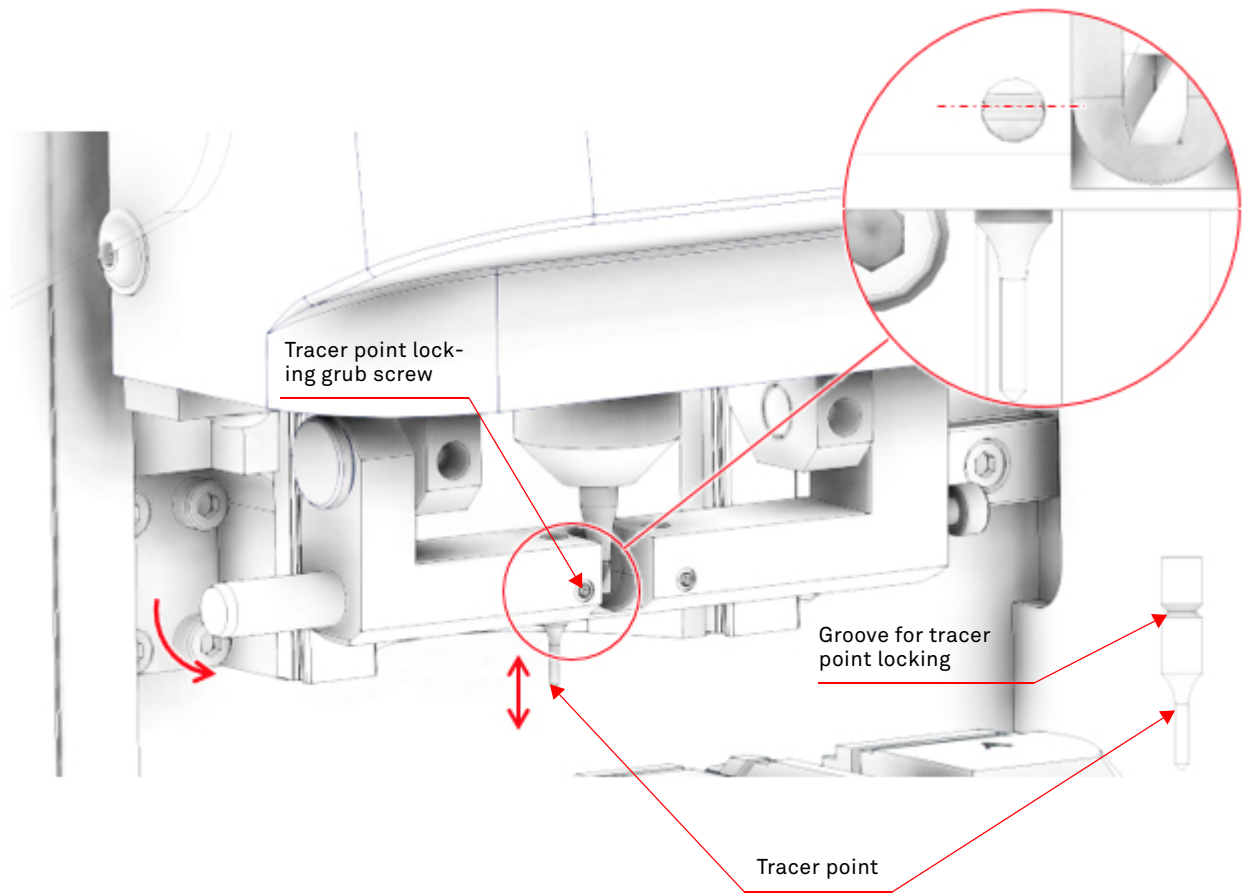


Figure 35 - Replacing the tracer point

8.1 SAFETY INSTRUCTIONS



MANDATORY! Please read the warnings and instructions in this section carefully before using the machine. Failure to observe the following warnings / instructions may result in injury, death or damage to the machine.

The machine must be commissioned by “**qualified personnel**” in accordance with the relevant instructions in this manual. Below are some check procedures to be carried out before and after starting up the machine.

8.1.1 CHECKS TO BE PERFORMED BEFORE STARTING THE MACHINE

- Check that your clothing is suitable. You shall not wear loose-fitting clothes, wrist watches, rings, necklaces or similar things. Long hair you must be tied up;
- Check that there are no foreign bodies (tools, rags, etc.) inside the machine;
- Check the integrity of the protective shield and the operation of the emergency stop button;
- Check that no machine component has been removed or modified.

8.1.2 CHECKS AND BEHAVIOUR TO BE ADOPTED AFTER STARTING THE MACHINE

- Stop the machine immediately if it makes abnormal noises after starting. Restart the machine only after the cause of the noise has been removed;
- Only stand in the operator’s area;
- Keep a safe distance from moving parts;
- Never leave the machine unattended when in operation;
- Monitor the correct working cycle of the machine,
- Stop the machine immediately in the event of abnormal operation.

8.1.3 BEHAVIOUR IN THE EVENT OF FIRE/FIRE OUTBREAK

- If there is a specific company procedure for handling this emergency, follow it;
- If there is no specific company procedure, in the event of a fire or fire outbreak:
 - Before taking action, make sure that the room where you are and where the fire has started cannot be quickly invaded by smoke. Remember that smoke inhalation is the first cause of death during a fire. If you are not sure, do not intervene!
 - Press the emergency button and disconnect the machine from the power supply;
 - Use suitable extinguishing media to extinguish the fire (e.g. CO2 on live electrical parts). Extinguishing a fire must only be carried out by trained and instructed personnel. If it is not within your competence, do not intervene directly and immediately inform the supervisor or emergency management personnel;
 - If it is not possible to control the fire, leave the room, taking care to close the doors.

8.1.4 UNAUTHORISED ACTIONS



PROHIBITION!

- MESSENGER is a machine made for professional use. Use of the machine is **FORBIDDEN** to minors and vulnerable persons (persons with reduced physical, sensory or mental capabilities);
- It is forbidden to use MESSENGER if it shows signs of tampering or damage (in particular breaks in the casing and protective shield). Do not attempt to repair the machine. The machine may only be repaired by the manufacturer or by personnel authorised by the manufacturer;
- It is forbidden to work on electrical equipment or to open the machine body or remove fixed guards. Any intervention requiring access to the internal parts of the machine may only be carried out by the manufacturer or personnel authorised by him;
- Do not remove the protective shields or guards, and do not tamper with the safety devices;
- It is forbidden to carry out checks on the product being processed or to intervene inside the work area before the machine has come to a complete standstill;
- It is forbidden to use the machine in environments where an explosive atmosphere (flammable dusts or gases) may be present;
- It is forbidden to use the machine with damaged (not intact) power cable and/or power pack;
- Do not expose the machine to sources of heat, moisture, oil, water.

8.1.5 HIDDEN DANGERS

WARNING! Both the Keyline S.p.A. qualified operator and the technical personnel working on the machine must be aware of other less obvious hazards, which are often underestimated on production sites:

- Protruding machine parts;
- Machine parts that may have cutting or sharp-edged surfaces for functional reasons;
- Electrostatic charges present even after switch off;
- Hot machine parts.

8.2 PRODUCT LOADING AND UNLOADING

The key must be positioned in the key clamp.

Depending on the type of clamp mounted on the machine (see paragraph 7.4.1), the side of the clamp in use (see paragraph 7.4.2), and the type of key to be duplicated, the positioning of the key may vary.

Once the type of key to be duplicated is identified and the encryption code established (see paragraphs 8.6 and 8.7), when the cutting (or decoding) cycle starts, the application tells you which clamp and side to use.

In general, the key should be placed in the clamp with the stop at the tip or on the back shoulder of the key itself.



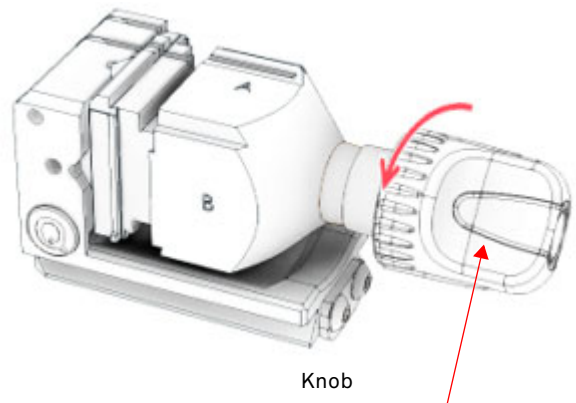
WARNING! Once you have positioned and locked the key in the clamp, you must always remove the gauges or the magnetic bar, to avoid damage to the machine during the cutting cycle.



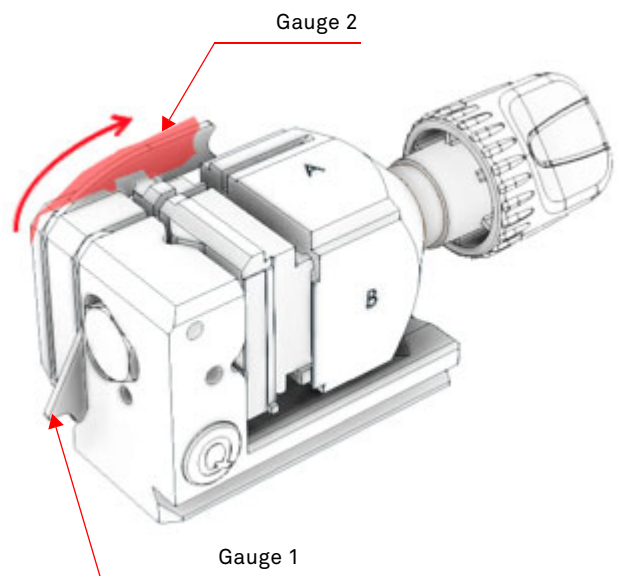
8.2.1 PLACING THE KEY IN THE Q CLAMP

The Q key holder clamp has two gauges for positioning the key with the stop at the tip, and the clamp itself as a back stop for the key. To place a key in the clamp, follow the sequence of operations described below.

1. Open the protective shield.
2. Loosen the clamp by turning the knob counter-clockwise, so as to be able to insert the key into the slot between the two jaws.

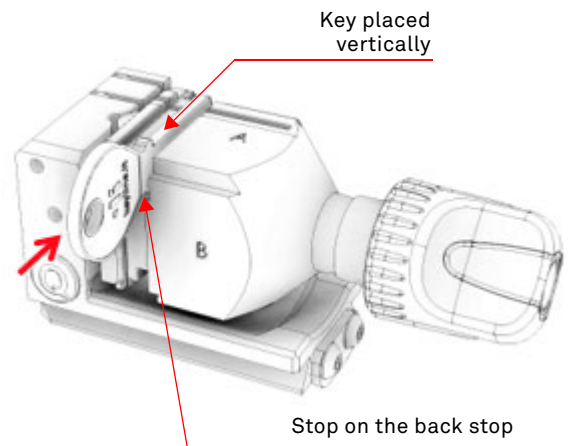


3. If the key is to be positioned **with the front stop** (at the tip), place the gauge provided for and indicated by the Application on the clamp.

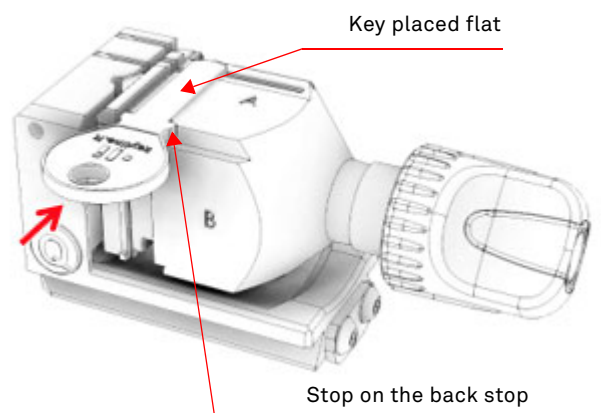


8 OPERATOR INSTRUCTIONS

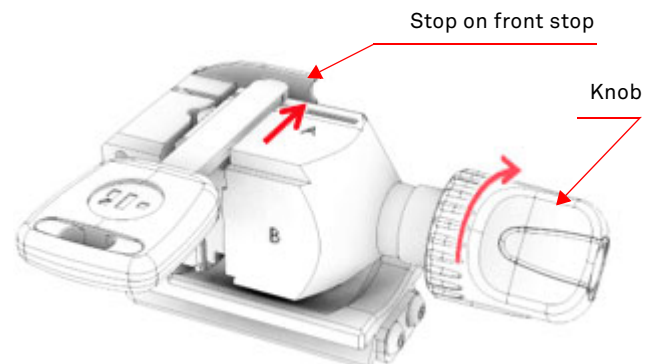
4. Position the key in the slot between the two jaws of the clamp, either **flat or vertically** as required by the Application.



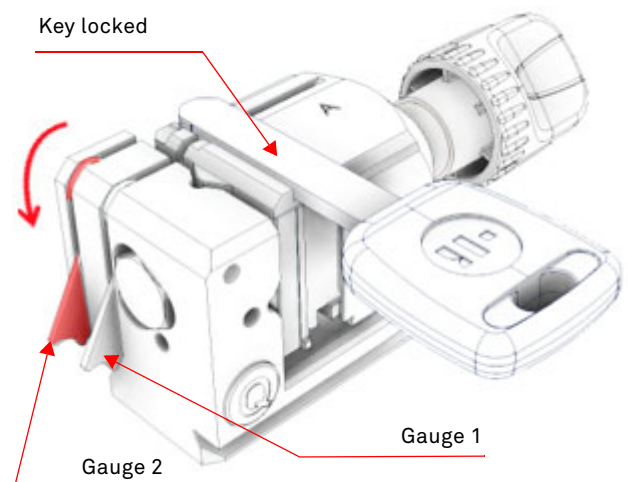
5. Push the key forward until it is against the gauge (front stop) or against the clamp (rear stop), whichever is required.



6. Tighten the clamp, turning the knob clockwise, until the key is firmly locked between the two jaws.



7. If the key has been positioned with the front stop (at the tip), remove the gauge from the clamp by turning it to the left.



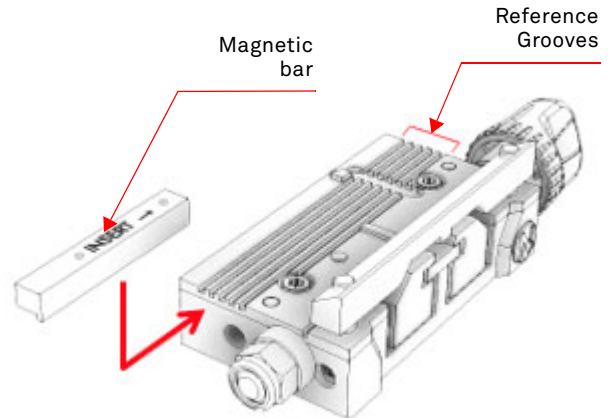
8. Close the protective shield.

8.2.2 PLACING THE KEY IN THE N CLAMP

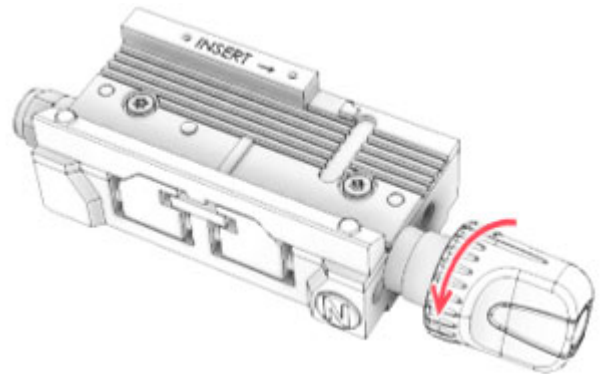
The N key holder clamp requires the use of a magnetic bar, which is inserted into one of the grooves on the surface of the clamp, to act as a stop on the tip or back stop of the key itself.

To place a key in the N-clamp, follow the sequence of operations described below.

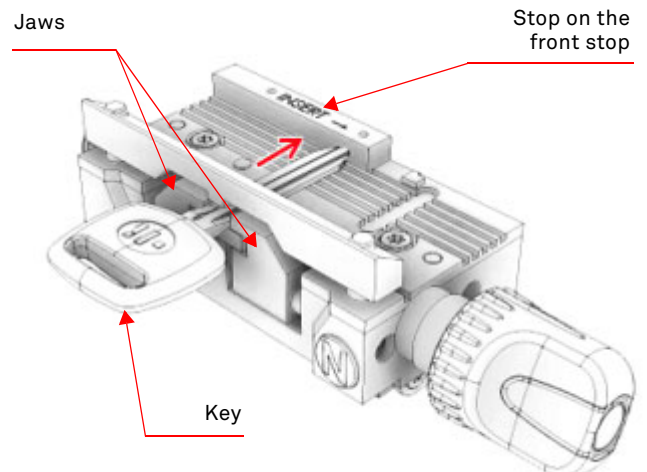
1. Open the protective shield.
2. Slide the magnetic bar from left to right over the clamp groove required and indicated by the application.



3. Loosen the clamp by rotating the knob counter-clockwise, so as to be able to insert the key in the slot between the two jaws and the upper bar.

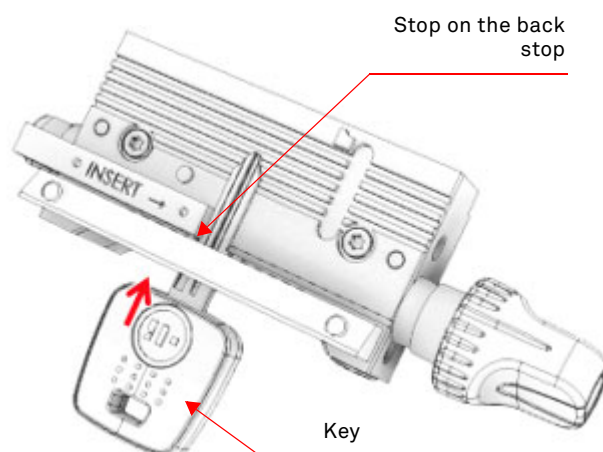


4. Position the key in the slot between the two jaws of the clamp and below its upper bar.

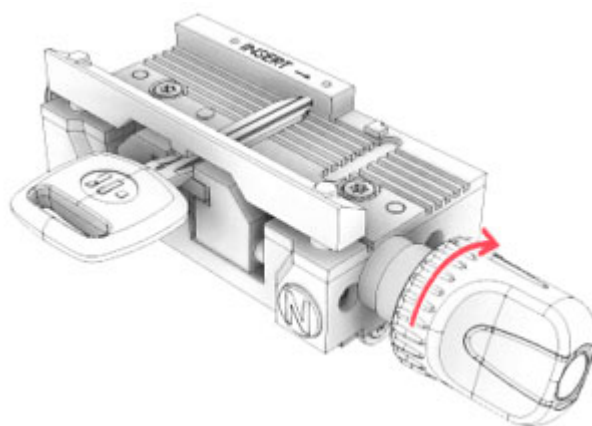


8 OPERATOR INSTRUCTIONS

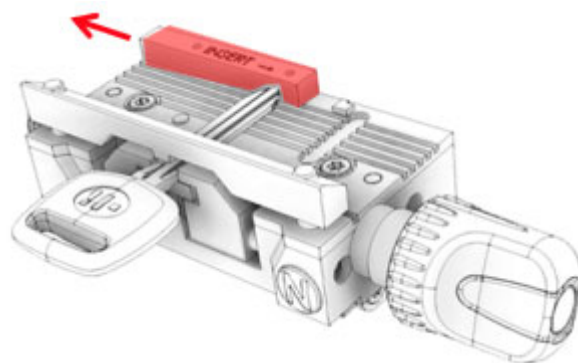
5. Push the key forward, until its tip is on the front stop or its rear stop is against the magnetic bar, whichever is intended.



6. Tighten the clamp, turning the knob clockwise, until the key is firmly locked between the two jaws.



7. Remove the magnetic bar from the clamp.



8. Close the protective shield.

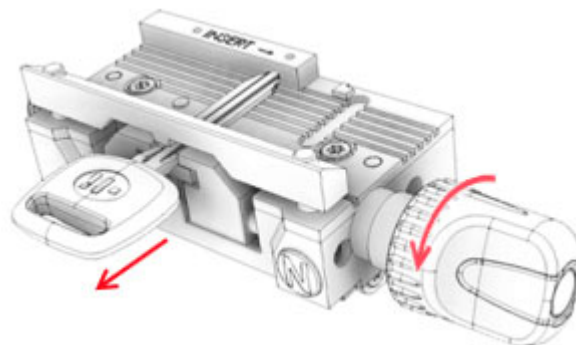
8 OPERATOR INSTRUCTIONS

8.2.3 REMOVING THE KEY FROM THE CLAMP

To remove the key from a clamp, follow the sequence of operations described below.

The pictures refer to the N clamp, but the procedure for removal for the Q clamp is the same.

1. Open the protective shield.
2. Loosen the clamp by turning the knob anti-clockwise as necessary to remove the key.
3. Pull the key out of the clamp.
4. Close the protective shield.



8.3 START-UP PREPARATION

If you are not using the battery, before starting MESSENGER make sure that the electrical system in the building where it is to be installed is switched on. To start this system, follow the instructions provided by the relevant manufacturer-installer.

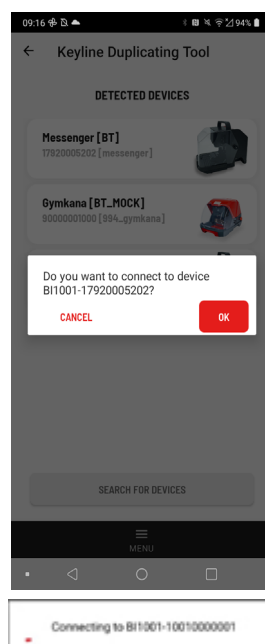
8.4 POWERING AND START-UP

Follow the sequence of steps described below to energise MESSENGER and make it ready for use.

1. Make sure that all the required preliminary calibrations have been carried out. See paragraph 7.4 on page 39.
 - Connect the power pack to the machine and insert the plug of the power cable into the mains socket (see paragraph 6.8 on page 27), and/or
 - If present, insert the battery into the battery compartment at the rear of the machine (see paragraph 6.9 on page 29).
2. Reset the previously pressed red mushroom emergency button.

Note: Resetting the button will switch the machine on.

3. From your Android device, start the “Keyline Duplicating Tool” App and log in to your registered account: KDT searches for devices in the vicinity.
4. Once the machine is found, press on it to connect.
5. Press ‘OK’ to confirm the connection of KDT to the machine.



6. Wait for KDT to connect to the machine

Note: If the connection between the App and the Device is made with the protective shield closed (or after it has been lowered), the machine’s linear axes move to the cycle start position (reset).

8 OPERATOR INSTRUCTIONS

8.5 OPERATION






MESSENGER can only work through the 'Keyline Duplicating Tool' application.

After switching on (power-up) and starting the machine, you can perform key duplication by following the sequence of operations described below.


1. Search and identify the type of key you want to duplicate (see paragraph 8.6).
2. Determine the encryption code (see paragraph 8.7).
3. Run the cutting cycle, following KDT's instructions (see paragraph 8.8.1).


8.6 KEY SEARCH FUNCTIONS

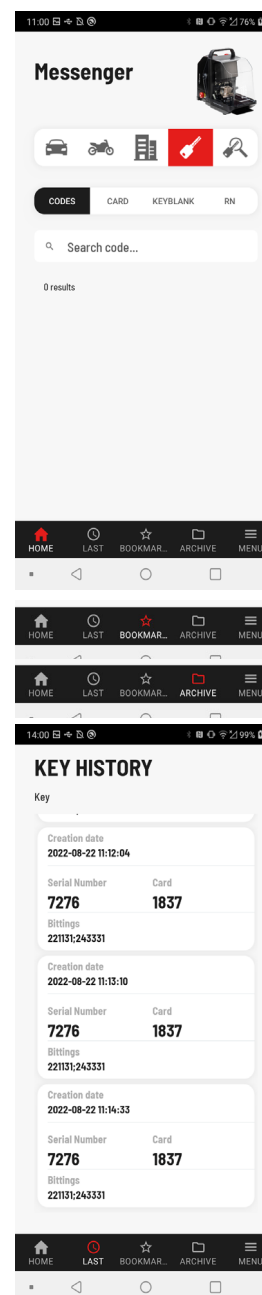
To duplicate a key:

- Press  to search by car (see paragraph 8.6.1);
- Press  to search by motorbike (see paragraph 8.6.2);
- Press  to search by cylinder (see paragraph 8.6.3);
- Press  to search by serial number, then:
 - Press "CODES" to search for an original indirect code (see paragraph 8.6.4);
 - Press "CARD" to search for a card (see paragraph 8.6.5);
 - Press "KEYBLANKS" to search for a blank key (see paragraph 8.6.6);
 - Press "RN" to perform a Keyline Record Number search (see paragraph 8.6.7);
- Press  to perform the advanced search (see paragraph 8.6.8).

Alternatively, press "★ FAVOURITES" in the bottom bar to call up the list of keys saved as favourites (see paragraph 8.6.9).

Alternatively, press  "ARCHIVE", located on the bottom bar, to call up the archive with the list of saved keys with encryption (see paragraph 8.6.10).

Alternatively, press  "LAST", in the bottom bar, to call up the history of already cut keys and select one of them.

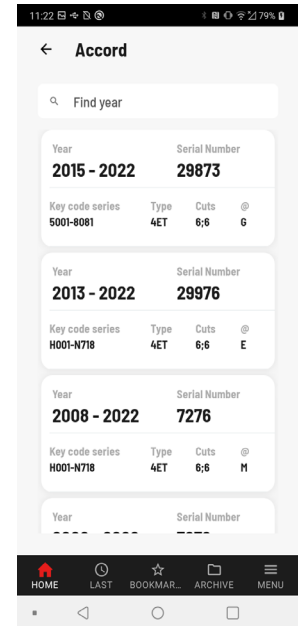
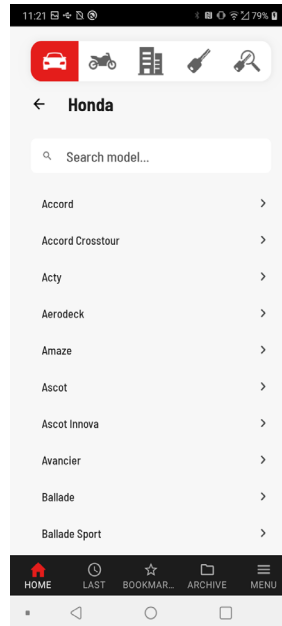
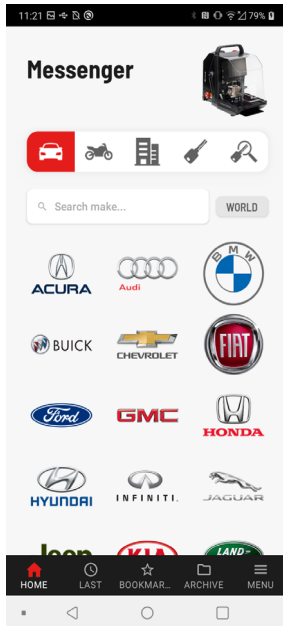


8 OPERATOR INSTRUCTIONS

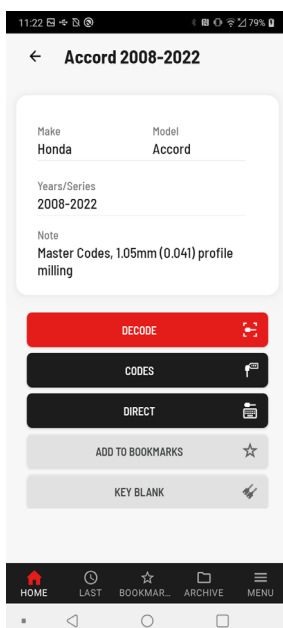
8.6.1 SEARCH BY CAR

To search for a key by car, follow the sequence of steps described below.

1. Select the desired car make.
2. Press **"WORLD"** to filter the list according to geographical area of use.
3. If useful, you can use the search function, typing in the make.
4. Select the desired car model.
5. If useful, you can use the search function by typing in the model.
6. Select the year of production of the car.
7. If useful, you can use the search function by entering the year.



8. Select the coding function you want to use for cutting the identified key.
9. See paragraph 8.7.

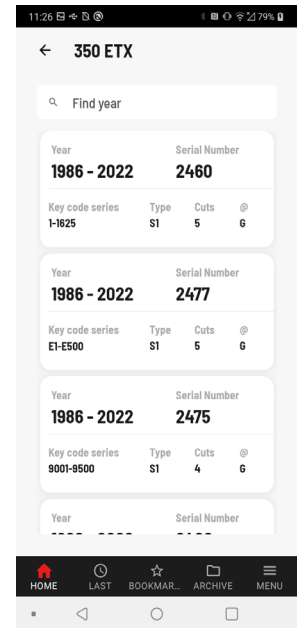
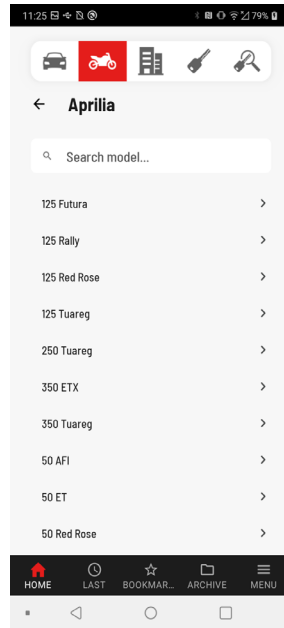
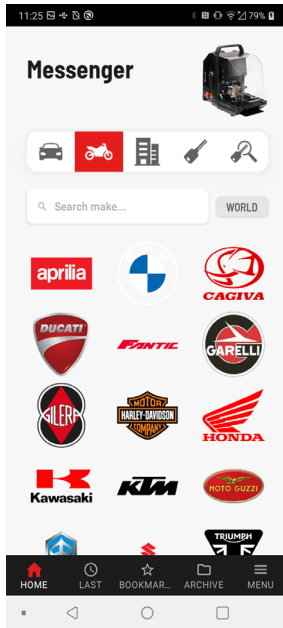


8 OPERATOR INSTRUCTIONS

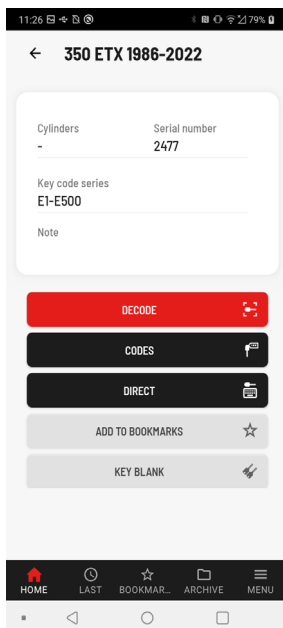
8.6.2 SEARCH BY MOTORBIKE

To search for a key by motorbike, follow the sequence of steps described below.

1. Select the desired make of motorbike.
2. Press "WORLD" to filter the list according to geographical area of use.
3. If useful, you can use the search function, typing in the make.
4. Select the desired motorbike model.
5. If useful, you can use the search function by typing in the model.
6. Select the motorbike's year of manufacture.
7. If useful, you can use the search function by entering the year.



8. Select the coding function you want to use for cutting the identified key.
9. See paragraph 8.7.

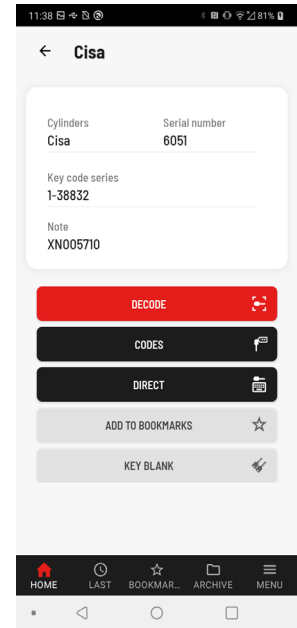
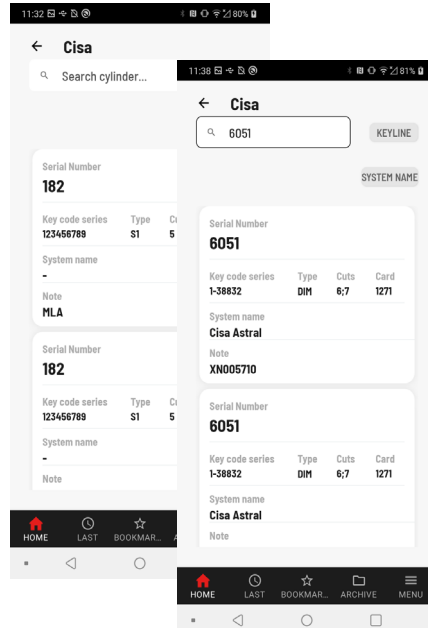
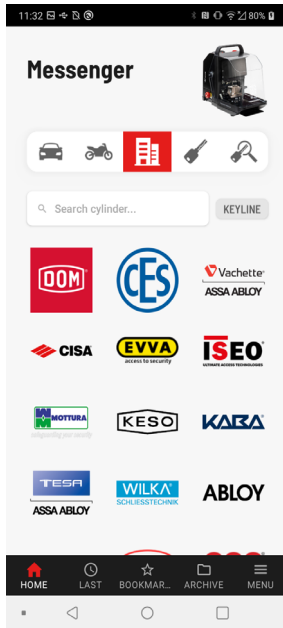


8 OPERATOR INSTRUCTIONS

8.6.3 SEARCH BY CYLINDER

To search for a key by cylinder, follow the sequence of steps described below.

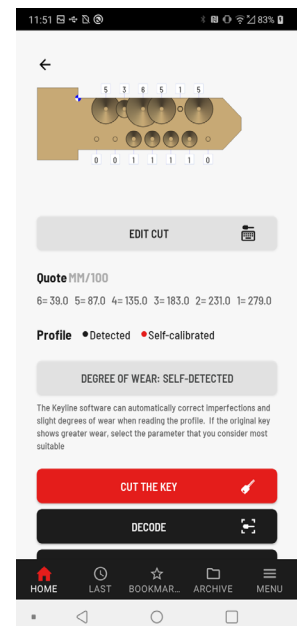
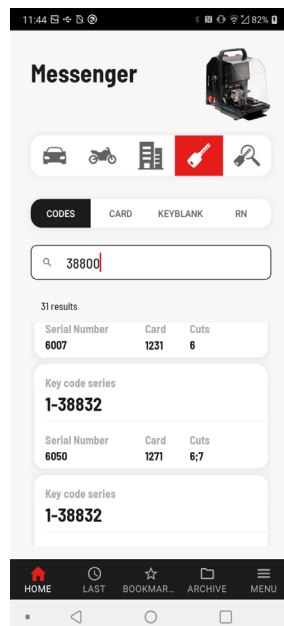
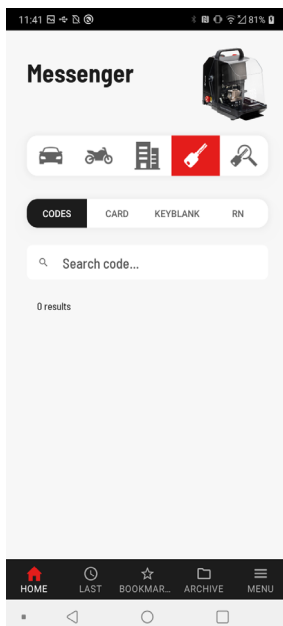
1. Select the desired cylinder make.
2. Press "KEYLINE" to sort the list by alias type.
3. If useful, you can use the search function, typing in the make.
4. Select the serial number of the requested cylinder.
5. If useful, you can use the search function.
6. Select the coding function you want to use for cutting the identified key.
7. See paragraph 8.7.



8.6.4 SEARCH BY ORIGINAL INDIRECT CODE

To search for a key by its original indirect code, follow the sequence of steps described below.

1. Input the key code (or part thereof) in the search field.
2. The search results are displayed automatically.
3. Select the relevant key from among the displayed ones.
4. Now the key cutting cycle can be started, or it is possible to modify the identified code.
5. See paragraph 8.8.1 or paragraph 8.7.4.

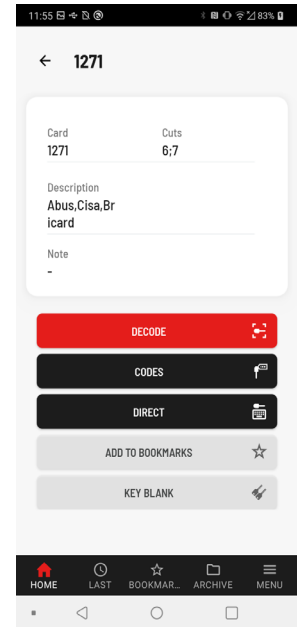
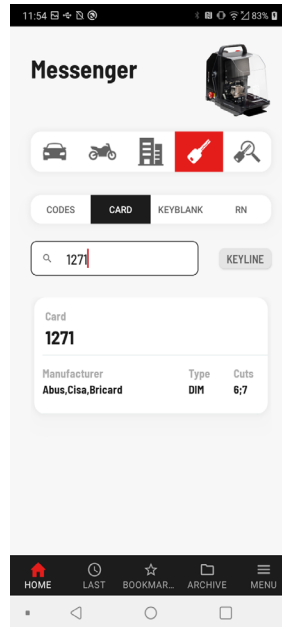
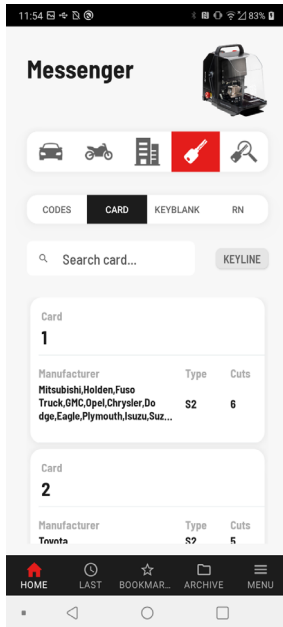


8 OPERATOR INSTRUCTIONS

8.6.5 SEARCH BY CARD

To search for a card, follow the sequence of steps described below.

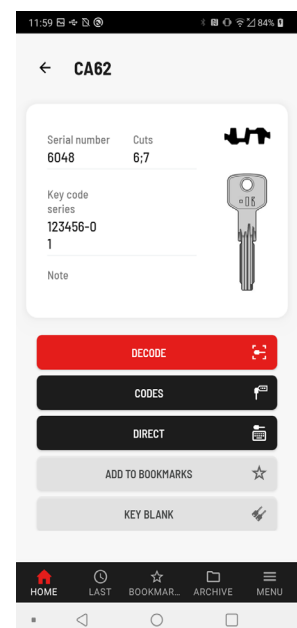
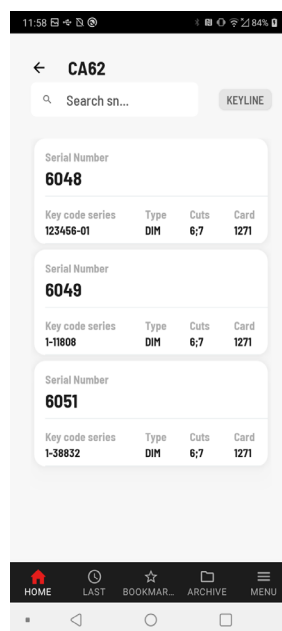
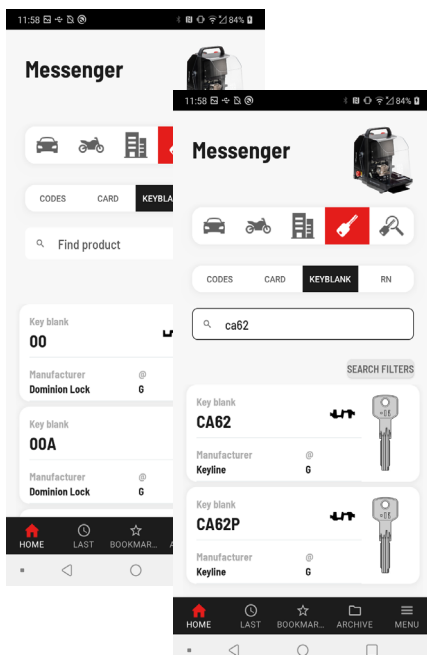
1. Select the relevant type of card.
2. Press "KEYLINE" to sort the list by alias type.
3. With the search function it is possible to filter the listed cards.
4. Select the coding function you want to use for cutting the identified card.
5. See paragraph 8.7.



8.6.6 SEARCH BY KEY BLANK

To search for a key blank, follow the sequence of steps described below.

1. Select the blank identification code.
2. With the search function it is possible to filter the listed blanks.
3. Select the serial number of the key blank from among the displayed ones.
4. Press "KEYLINE" to sort the list by alias type.
5. Select the coding function you want to use for cutting the identified key.
6. See paragraph 8.7.

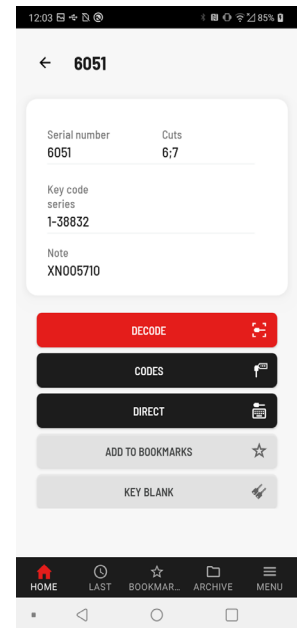
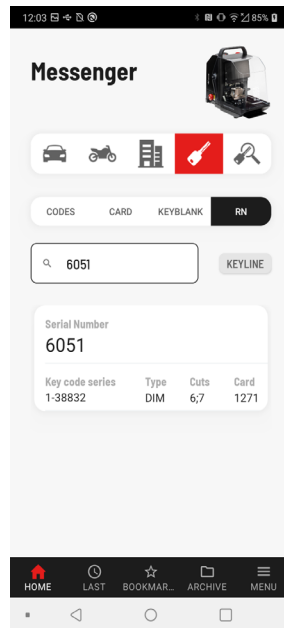
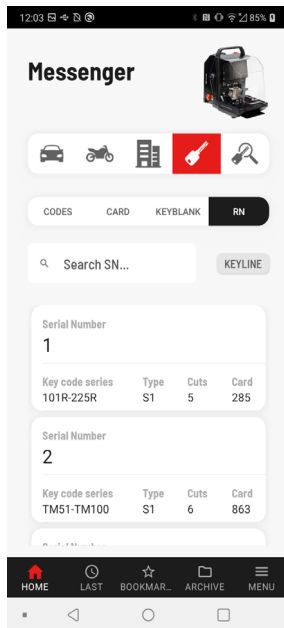


8 OPERATOR INSTRUCTIONS

8.6.7 SEARCH BY KEYLINE RECORD NUMBER

To search for a specific series, key or card, and select its data by means of the record number assigned by Keyline, or by entering the system number of the key itself, follow the sequence of operations described below.

1. Select the serial number of the requested key.
2. Press "KEYLINE" to sort the list by alias type.
3. With the search function it is possible to filter the listed keys.
4. After identifying the key, select the coding function to be used.
5. See paragraph 8.7.

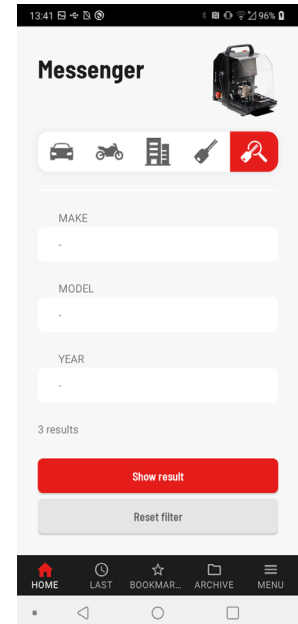
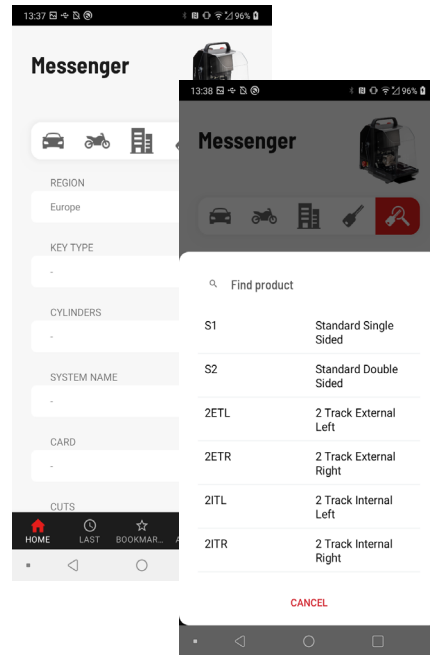
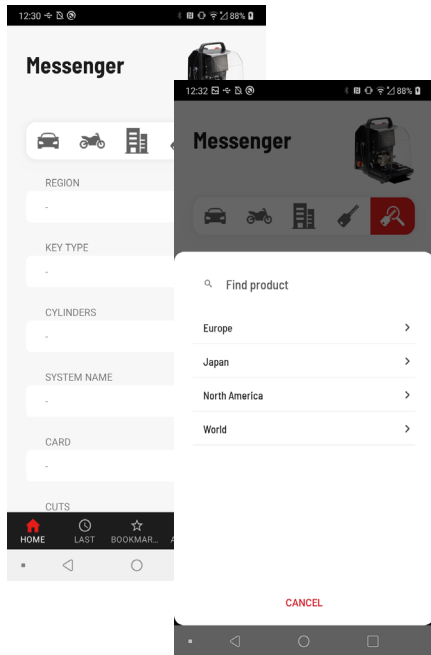


8 OPERATOR INSTRUCTIONS

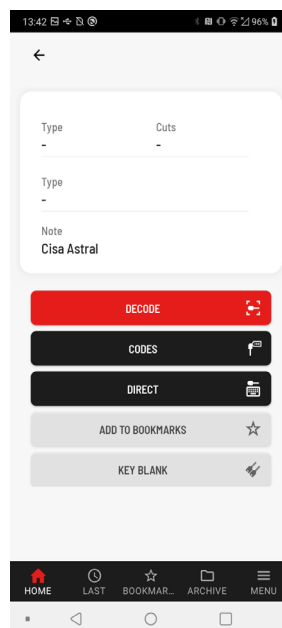
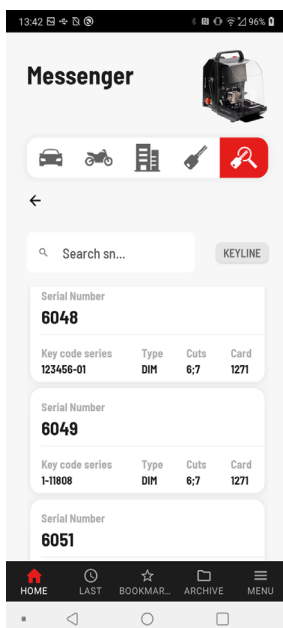
8.6.8 ADVANCED SEARCH

To search for a key using all the available search fields, follow the sequence of steps described below.

1. Fill the selected search fields: for each field, a menu with a list of choices is displayed.
2. Press **"CANCEL"** to close the menu without making a choice.
3. Every time a field is filled in, the data available for input in the remaining fields are filtered.
4. The number of results found is dynamicaly updated.
5. Press **"SHOW RESULT"** to show the keys that match the search filters set.
6. Press **"RESET FILTER"** to reset all the search fields.





7. Select the relevant key.
8. Press **"KEYLINE"** to sort the list by alias type (serial number, ...).
9. Select the coding function you want to use for cutting the identified key.
10. See paragraph 8.7.

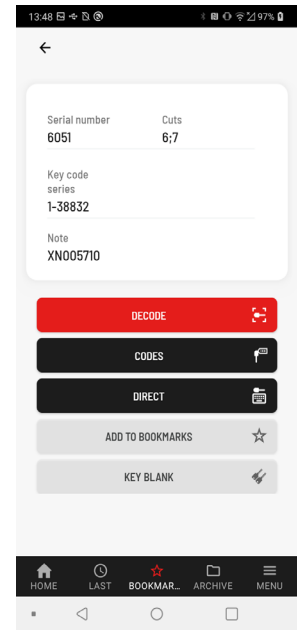
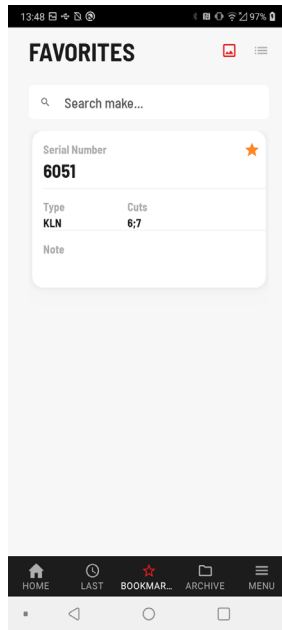
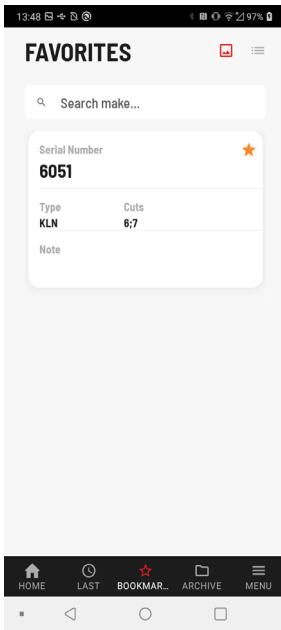


8.6.9 SEARCH IN FAVOURITES

To select a key directly from those marked as 'favourites', follow the sequence of operations described below.

If you wish to remove a key from the favourites, press  next to it: the key automatically disappears from the list.

1. Select the desired key from those marked as favourites.
2. You can display the list as  tabs or as a  list .
3. If useful, you can use the search function, typing in the make.
4. After identifying the key, select the coding function to be used.
5. See paragraph 8.7.

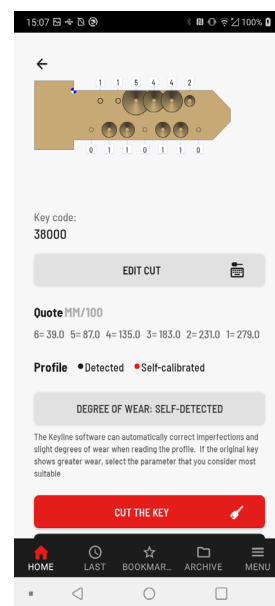
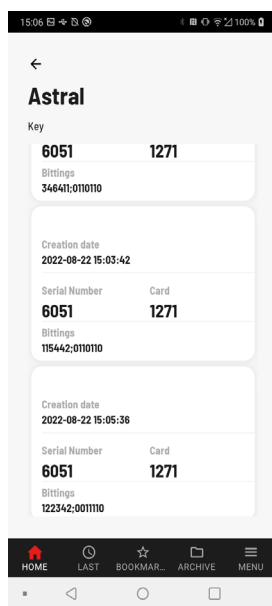
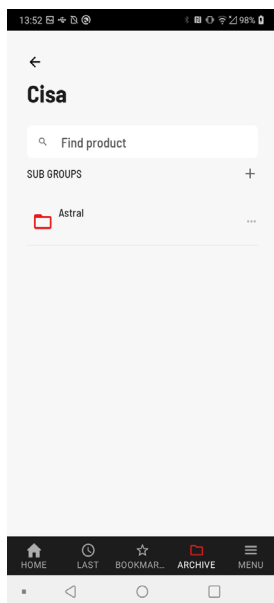


8 OPERATOR INSTRUCTIONS

8.6.10 SEARCH IN ARCHIVE

To select a key with associated key code directly from those saved in the 'archive', follow the sequence of operations described below. If you want to remove a key with an associated key code from the archive, keep the key pressed to make the drop-down menu with "DELETE" appear: by pressing it, the key automatically disappears from the list.

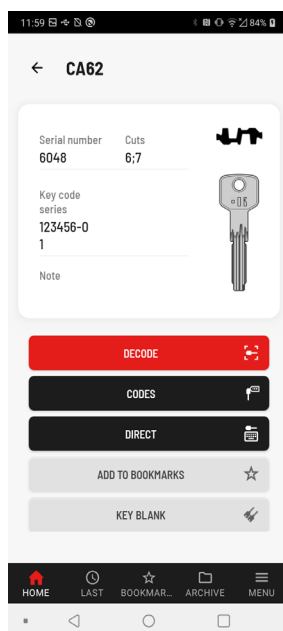
1. Select the folder (group) where the key is located.
2. If useful, you can use the search function by typing the product name directly.
3. Select the desired key with associated key code.
4. Now the key cutting cycle can be started, or it is possible to modify the key code associated with the key.
5. See paragraph 8.8.1 or paragraph 8.7.4.



8.7 CODING FUNCTIONS

Once the type of key to be duplicated has been identified:

1. Press "DECODE" to copy the sample key (see paragraph 8.7.1);
2. Press "CODES" to select one of the unique indirect encryption codes already stored in the application (see paragraph 8.7.2);
3. Press "DIRECT" to set the encryption code directly (see paragraph 8.7.3);
4. Press "ADD TO BOOKMARKS ★" if you want to store it in your list of favourites;
5. Press "KEY BLANK" if you want to display the list of key blank similar to the one selected.



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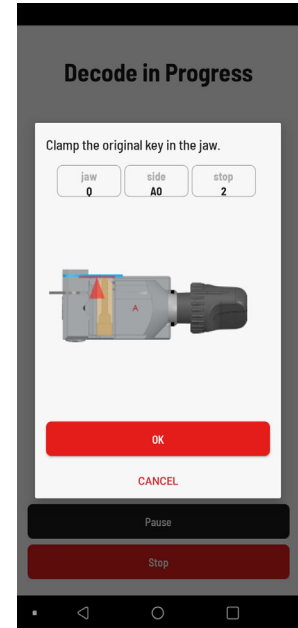
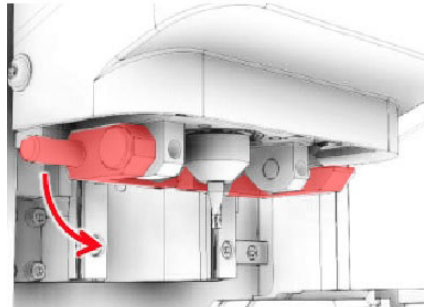
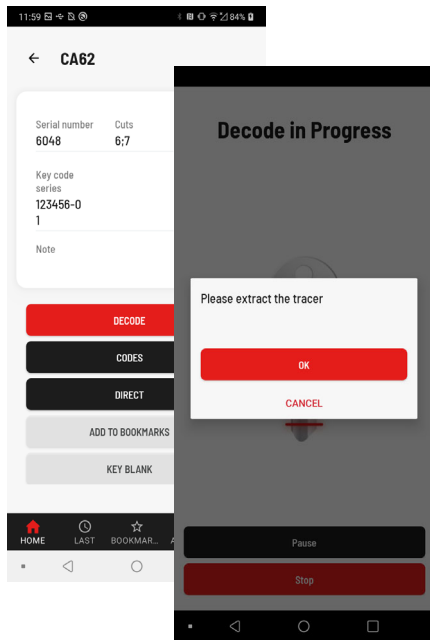
8.7.1 DECODING A KEY

After having identified the type of key to be duplicated (see paragraph 8.6), press “**DECODE**”, to execute the copy cycle of the sample key, following the sequence of operations described below.

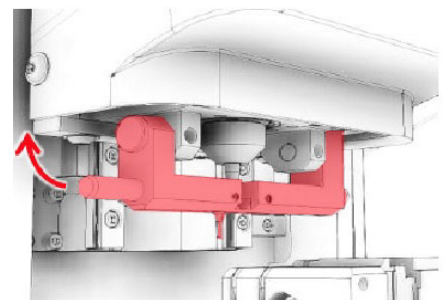
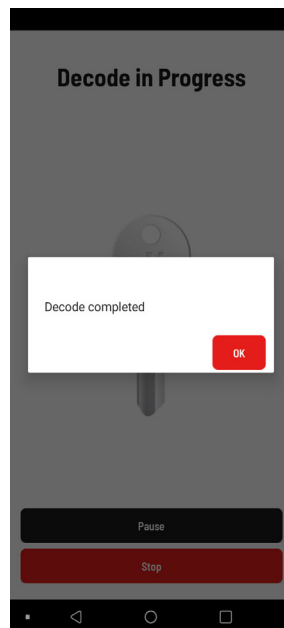
1. Press “**DECODE**” to perform a decoding cycle on the key to be duplicated.
2. Lower the tracer point holder, so that the tracer point is in the position to be used.
3. Set the clamp as instructed by KDT.
4. Place the sample key on the clamp. Lower the protective shield.
5. Press “**OK**”.



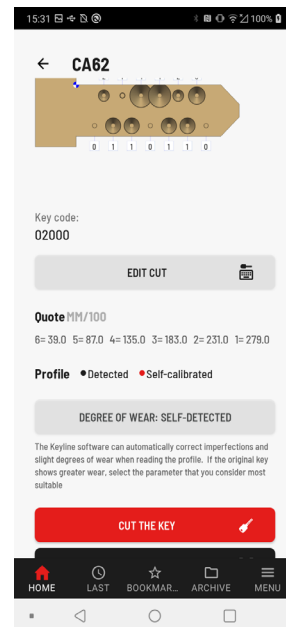
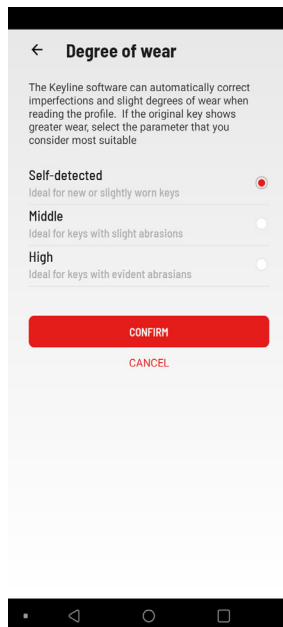
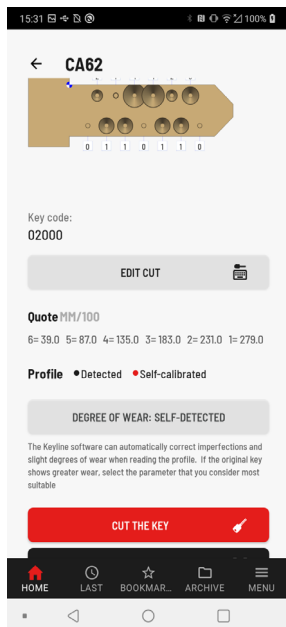
The machine is not designed to process key heads, painted keys or plates or products made of non-conductive material.



6. Wait until the sample key copy cycle is complete.
7. After completing the decoding cycle, press “**OK**”.
8. Lift up the protective shield.
9. Lift the tracer point holder so that the tracer point is in the idle position.
10. Remove the sample key from the clamp.



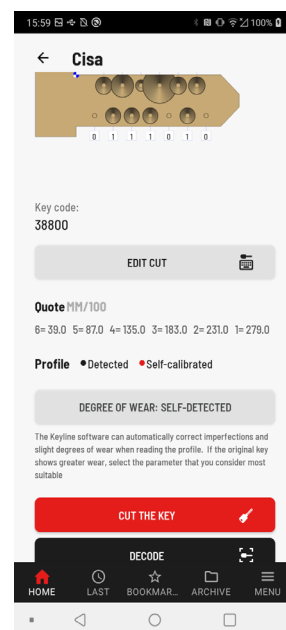
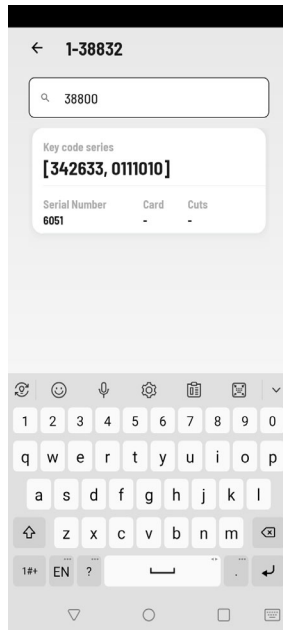
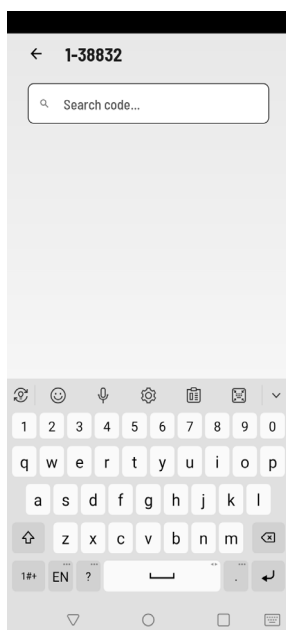
11. To change the decoded key code, press **“EDIT CUT”**.
12. See paragraph 8.7.4.
13. If you want to declare the degree of wear of the key, press **“DEGREE OF WEAR”**.
14. Select the degree of wear of the decoded key (self-detected, medium or high).
15. Then press **“CONFIRM”**.
16. Proceed with the execution of the cutting cycle.
17. See paragraph 8.8.1.



8.7.2 SELECTING AN EXISTING CUTTING CODE

Once you have identified the type of key you wish to duplicate (see paragraph 8.6 on page 49), by pressing **“CODES”**, you can select a unique indirect encryption code with which to perform the key cut, following the sequence of operations described below.

1. Type the unique indirect code (or part of it) into the search field.
2. The search results are displayed automatically.
3. Select the relevant unique indirect code from the displayed ones.
4. Now the key cutting cycle can be started, or it is possible to modify the identified code.
5. See paragraph 8.8.1 or paragraph 8.7.4.

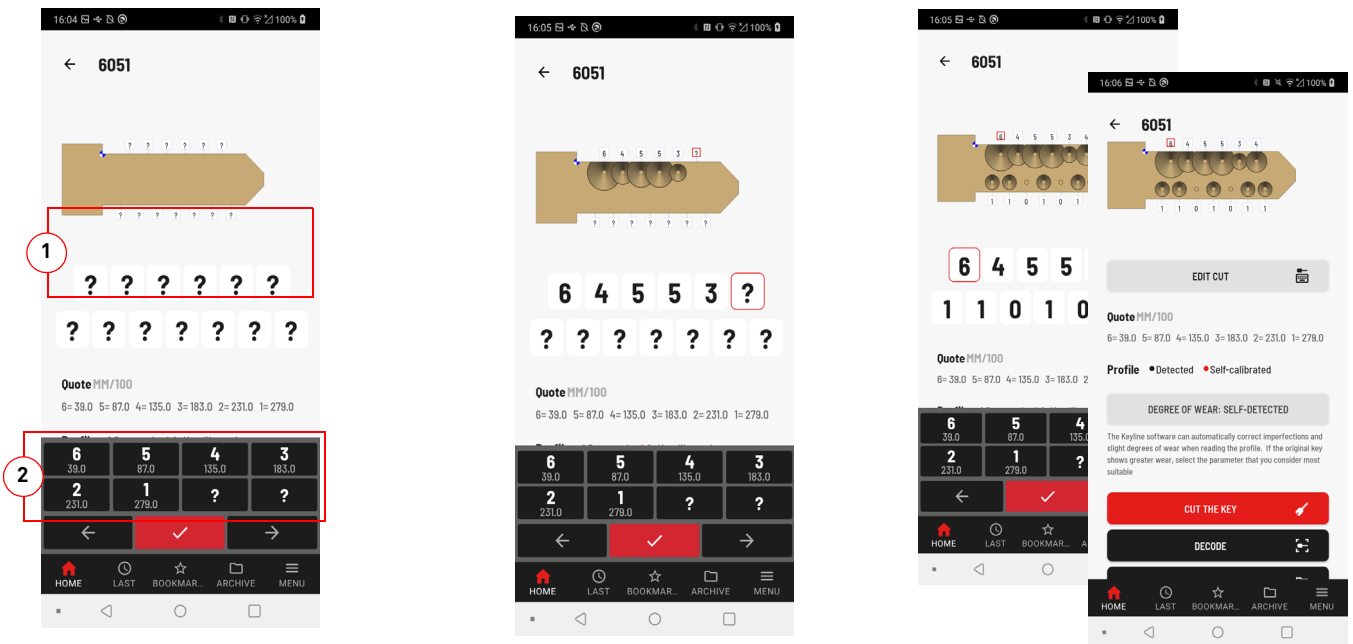


8 OPERATOR INSTRUCTIONS

8.7.3 INSERTING A CUTTING CODE

After having identified the type of key to be duplicated (see paragraph 8.6), press “DIRECT” to set the encryption code, or to set the cutting depths to be carried out at the planned points on the key, following the sequence of operations described below. The cutting points of the key to be set are identified with the symbol “ ? ”.

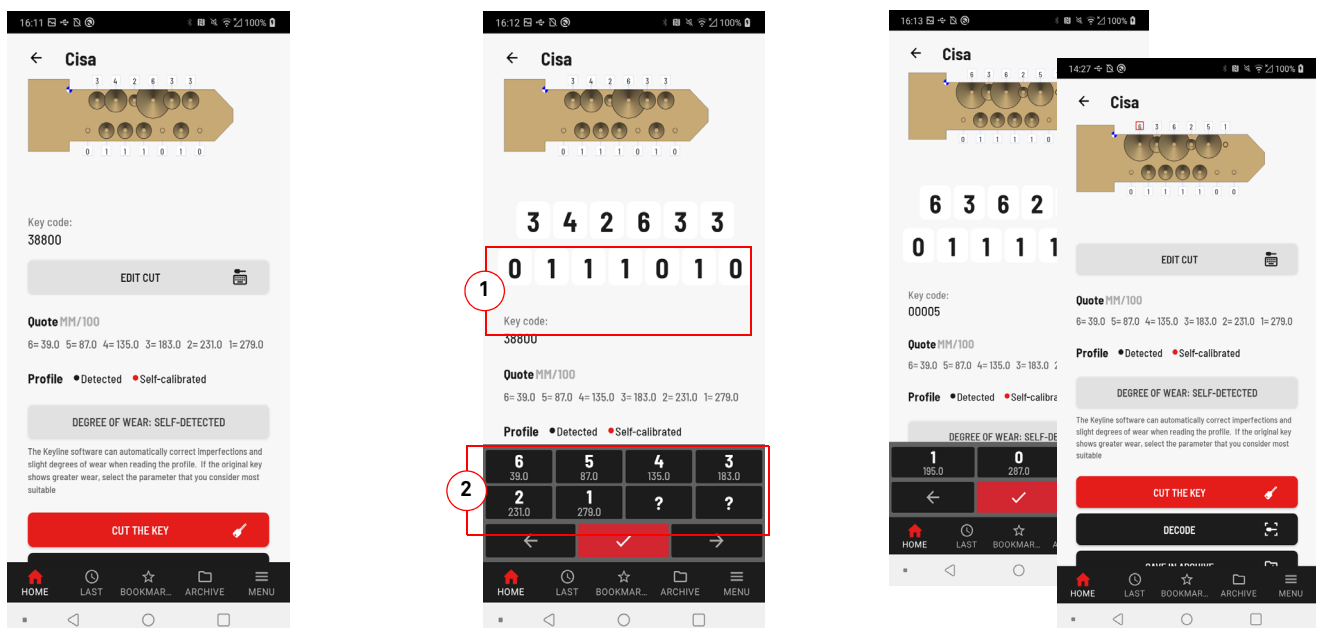
1. For each point of the key in ①, select the depth of the cut you wish to make in ②, from those available for the key type.
2. While setting the encryption code, the key image shows the result.
3. It is possible to move between key points using the directional arrows ← →.
4. The selected key point has a red outline.
5. After setting the encryption code, press ✓ to confirm and go to the screen for starting the cutting cycle.



8.7.4 EDITING A CUTTING CODE

After setting the encryption code, you can always edit it by following the sequence of operations described below.

1. Press “EDIT CUTTING”.
2. For the key points in ① to be edited, select the new cut depth in ② from those available.
3. It is also possible to move between the key points using the directional arrows ← →.
4. After changing the key code, press ✓ to confirm and return to the screen for starting the cutting cycle.

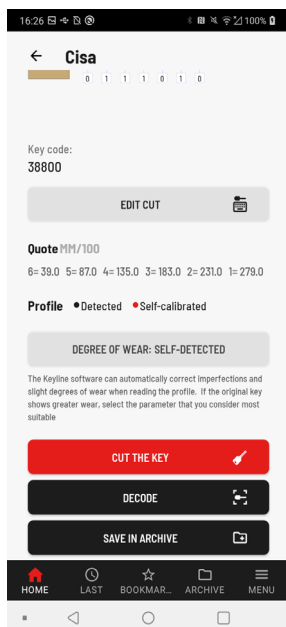


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8.8 OPERATING FUNCTIONS

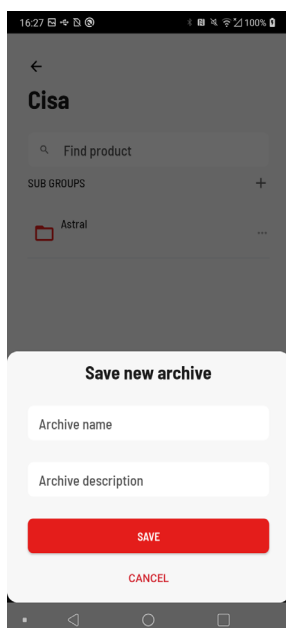
After setting the encryption code for the selected key to be duplicated:

1. Press **“EDIT CUT”** to change the encryption code (see paragraph 8.7.4);
2. Press **“CUT THE KEY”** to start the cutting cycle (see paragraph 8.8.1).



Alternatively, press **“SAVE IN ARCHIVE”** to store the key type and associated encryption code in an archive. To save it in a new group:

1. Press **“+”**;
2. Fill in the **“Archive Name”** field and, if necessary, **“Archive Description”**;
3. Press **“SAVE”**.

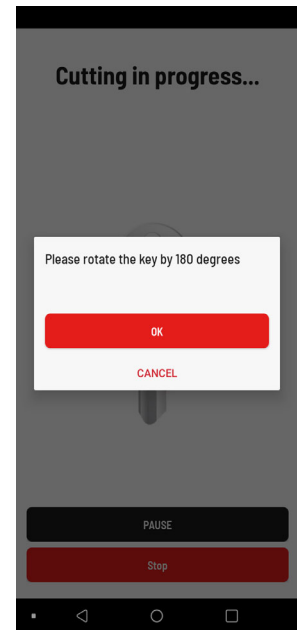
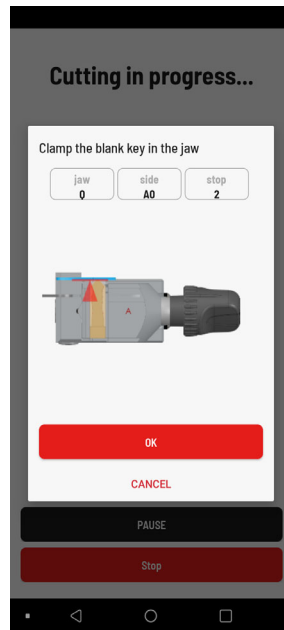
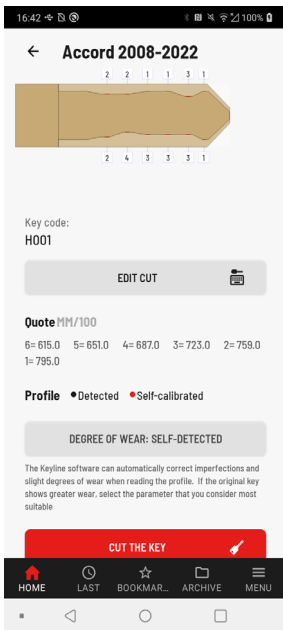


8.8.1 PERFORMING THE CUTTING CYCLE

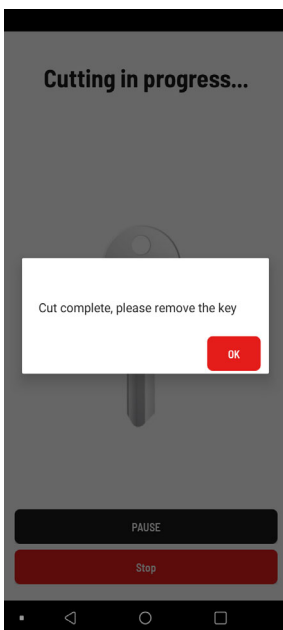
After decoding or selecting or setting the encryption code (see paragraphs 8.7.1, 8.7.2, 8.7.3 respectively), you can start the key cutting cycle.

You can cancel execution of the cutting cycle by pressing “CANCEL”.

1. Press “CUT THE KEY” to start the cycle.
2. Set the clamp as indicated.
3. Load the key (see paragraph 8.2).
4. Lower the protective shield.
5. Press “OK”.
6. If required, tilt the key and reposition it on the clamp so that the opposite side is also cut.
7. Lower the protective shield.
8. Press “OK”.



9. After completing the cutting cycle, press “OK”.
10. Remove the key from the clamp.
11. To cut another key, press “CUT THE KEY AGAIN” to start another cutting cycle.
12. To change the encryption code used, press “EDIT CUT”.
13. See paragraph 8.7.4.



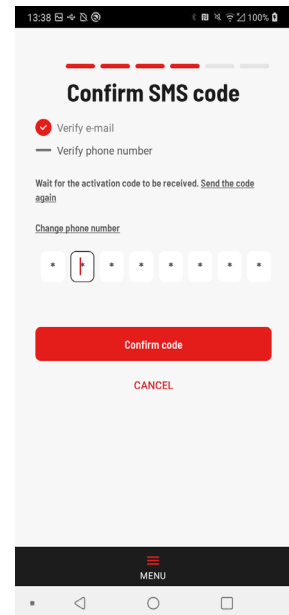
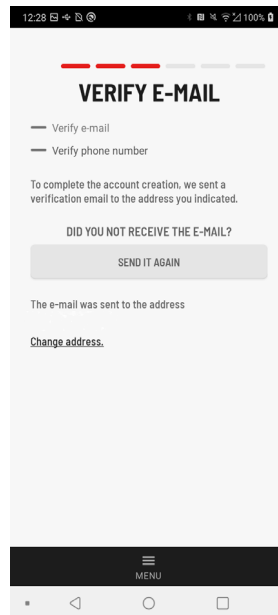
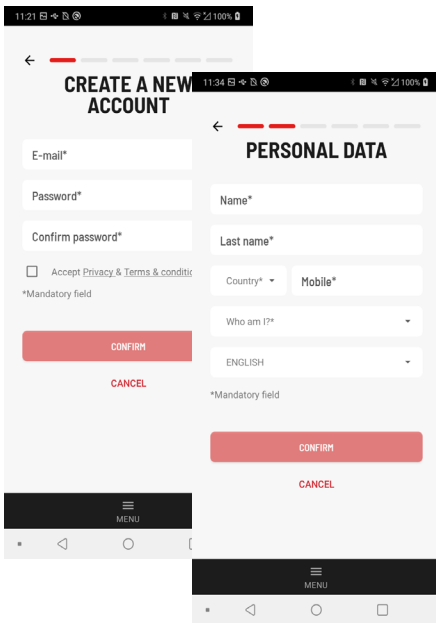
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8.9 OTHER FUNCTIONS

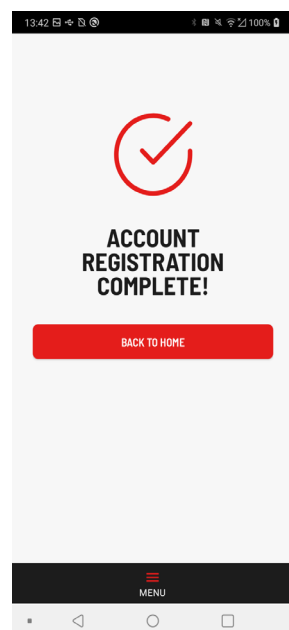
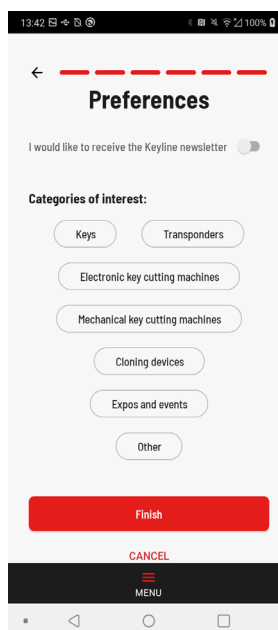
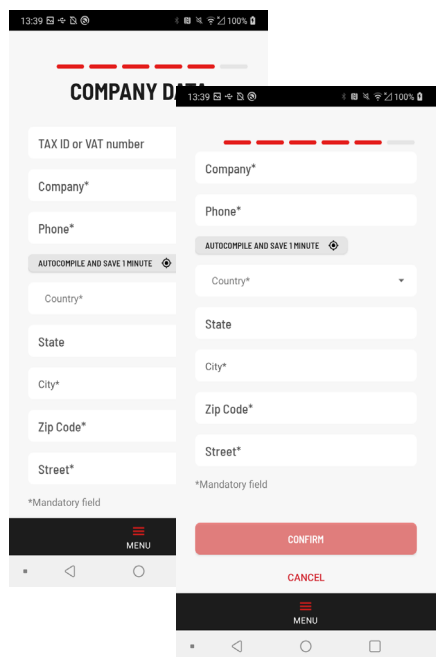
8.9.1 REGISTERING A NEW ACCOUNT

If you do not have a Keyline profile, you shall have to register as a new user.
To register a new account, follow the sequence of operations described below.

1. Fill in the information requested by the application, then press **“CONFIRM”**.
2. The fields with the * symbol are mandatory in order to go to the next phase.
3. KDT shall send an e-mail message to the address you input.
4. Click on the link contained in the e-mail message to confirm.
5. KDT then shall send a message to the phone number you input.
6. Input the code you received and press **“CONFIRM CODE”**.



7. Fill in the information requested by the application, then press **“CONFIRM”**.
8. Fill in the information requested by the application, then press **“END”**.
9. After completing the procedure correctly press **“GO TO HOME”**.



8.10 "KEYLINE DUPLICATING TOOL" APP SETTINGS

8.10.1 "KEYLINE DUPLICATING TOOL" APP MENU SETTINGS

When you press '≡MENU' on the bottom bar, a drop-down menu (Figure 36) appears, through which you can access the various sections for setting up the KDT, described below.

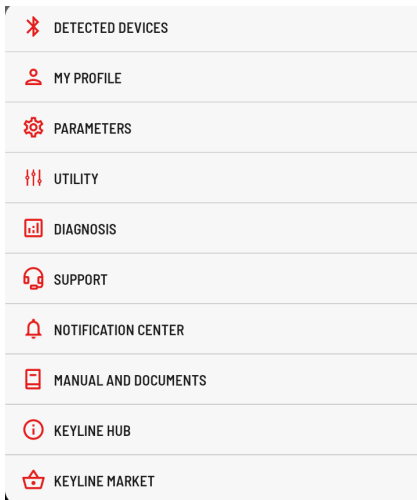
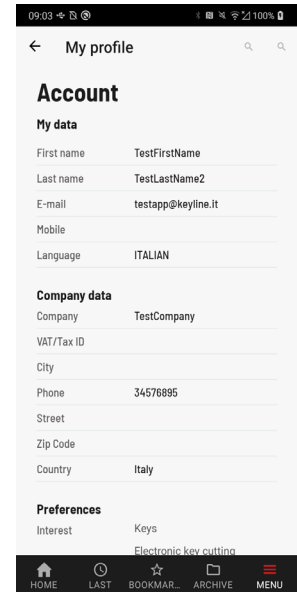
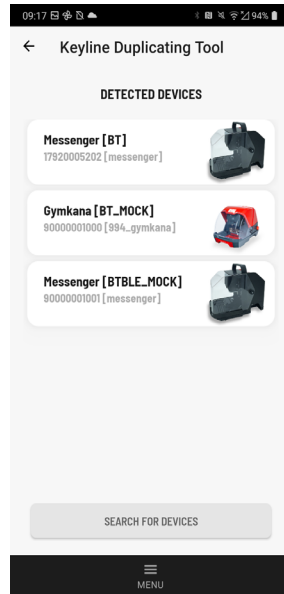
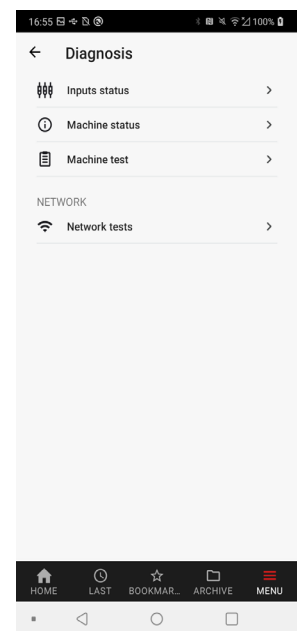
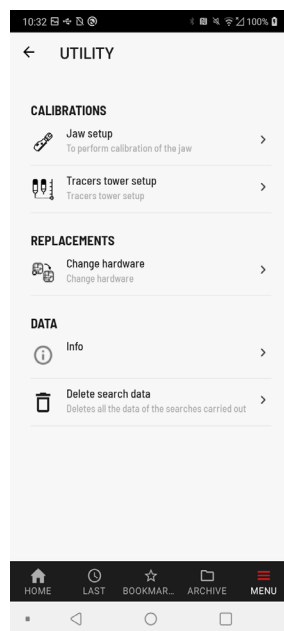
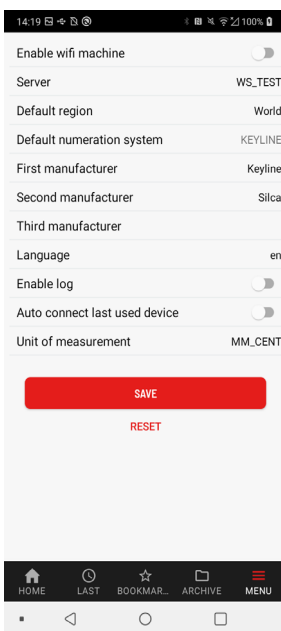


Figure 36 - Menu


1. If you press "🔍 Detected Devices", the devices found by the application are displayed.
2. By pressing on one of them, you can connect KDT to the device.
3. If you press "👤 My Profile", your account information is displayed.
4. It is possible to edit information, including the password.
5. It is possible to log out of one's account from KDT.

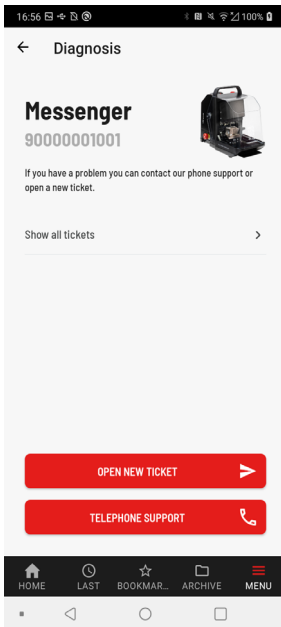



6. If you press "⚙️ Parameters", KDT's parameters are displayed, including the default search region, default display numbering system, language.
7. If you press "🔧 UTILITY", you can access the functions for calibrating the machine devices, the procedure for replacing the device's electronic axes control board and the information on the version of KDT.
8. If you press "📊 Diagnosis", you can check the status of the Device signals, run the spindle check test, start the check test of the Bluetooth connection between KDT and the Device.

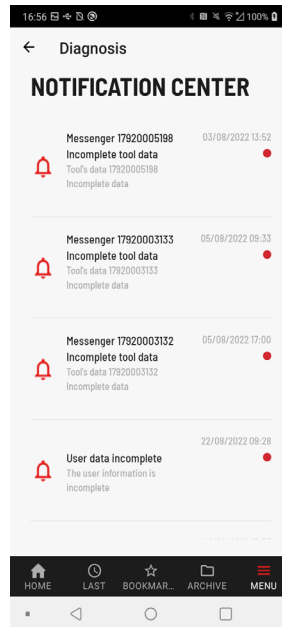



8 OPERATOR INSTRUCTIONS

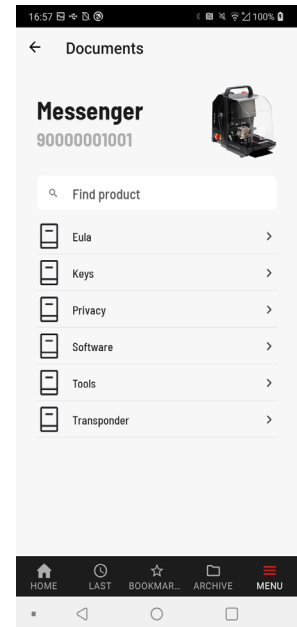
9. If you press “ **Service**”, you can communicate directly with Keyline’s technical support.




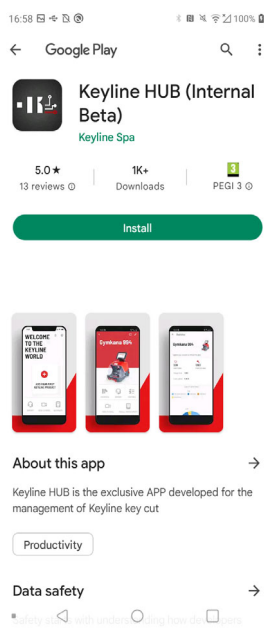
10. If you press “ **NOTIFICATION CENTRE**”, you can check for messages regarding updates on software, accounts, etc.



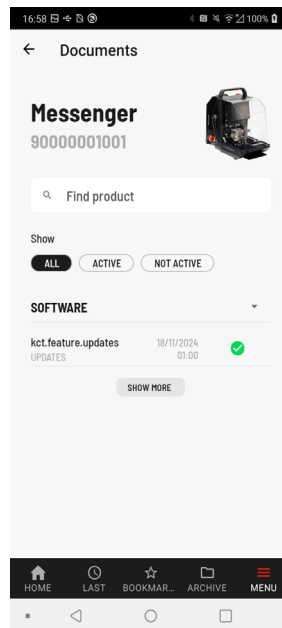
11. If you press “ **MANUAL AND DOCUMENTS**”, you can directly access the link to download manuals and technical documentation.



12. If you press “ **Keyline HUB**”, you can access directly the link to download **Keyline HUB**, the exclusive APP developed for the management of Keyline key cutting machines and devices.



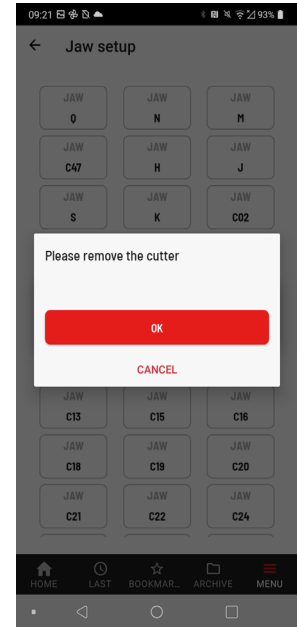
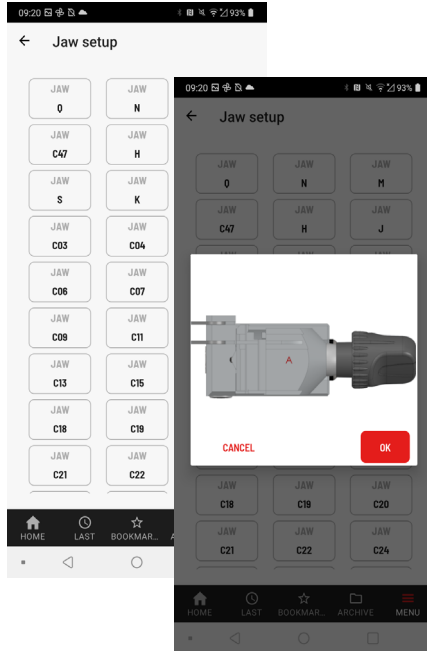
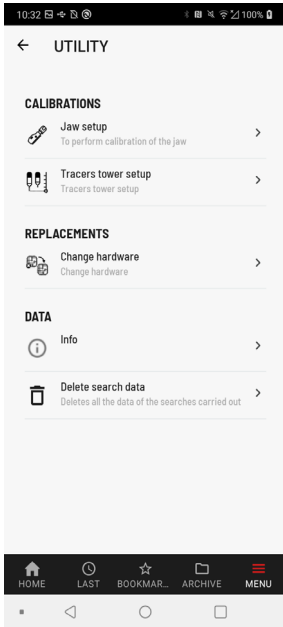
13. If you press “ **Keyline Market**”, you can view the software packages you can purchase.



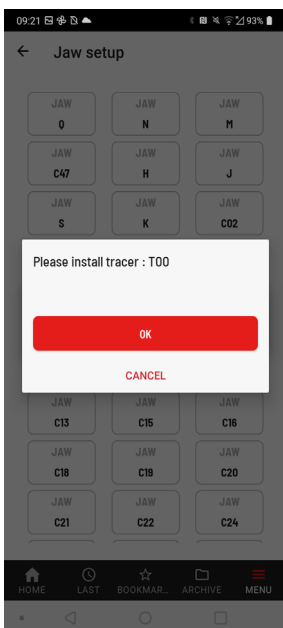
8.10.2 CALIBRATION MENU – JAW SETUP

To set up a jaw, follow the sequence of operations described below.

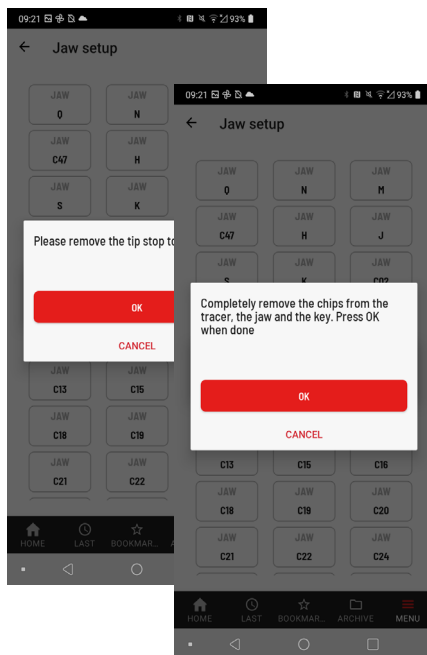
1. Lower the protective shield and press “Jaw setup”.
2. Select the clamp to be calibrated (e.g. Q clamp) and confirm with “OK”.
3. Raise the protective shield and remove the cutter.



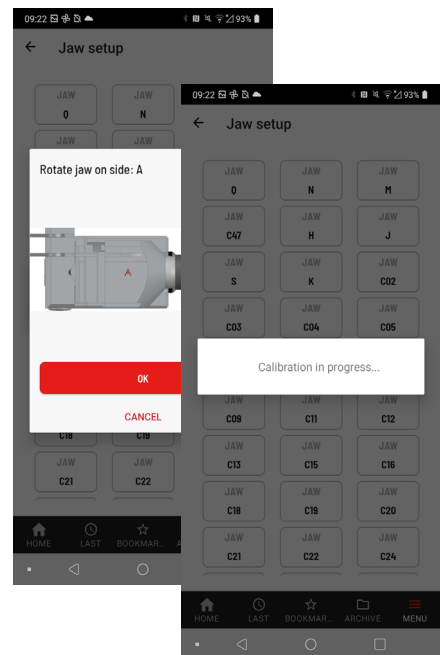
4. Install the “T00” tracer point.



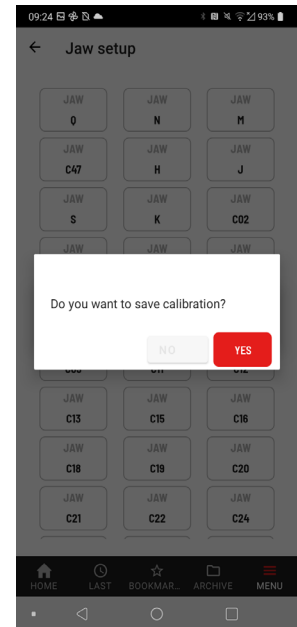
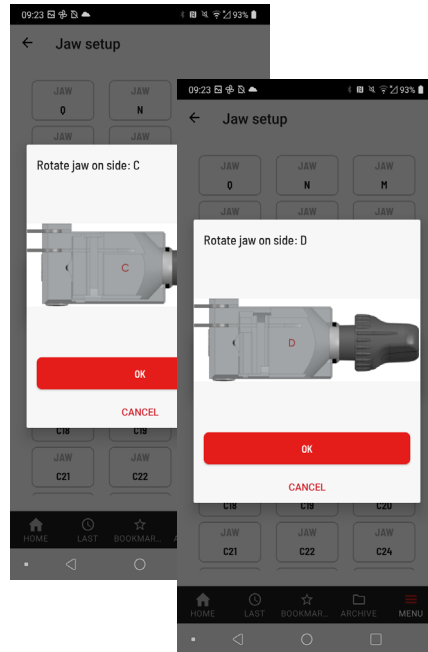
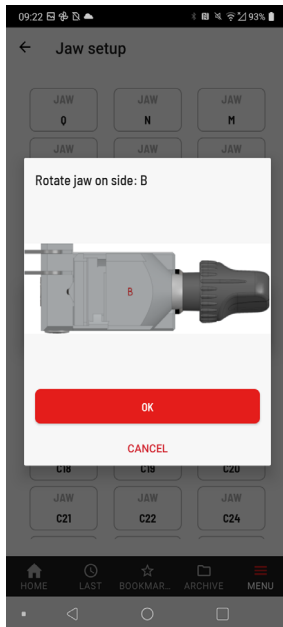
5. Remove the tip stop and remove any chips from the clamp or tracer point.



6. Turn the clamp to position “A”. Lower the protective shield and press “OK” to start calibration of the clamp Side A.



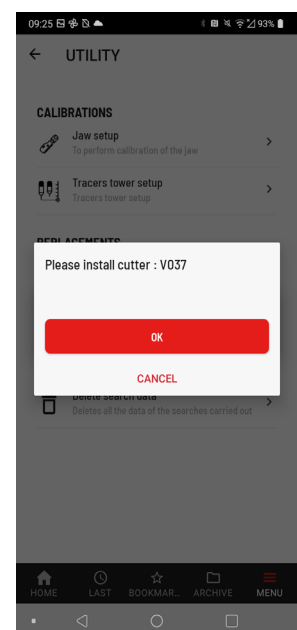
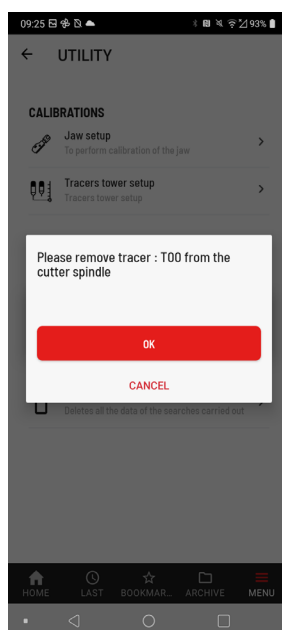
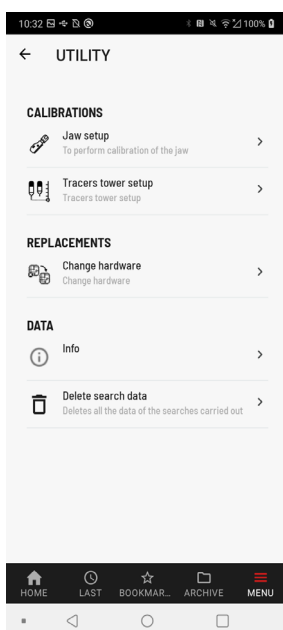
- Raise the screen and rotate the clamp to position 'B'. Lower the protective shield and press "OK" to start calibration of clamp side B.
- Repeat the calibration sequence for all sides.
- Save the new jaw setup.



8.10.3 CALIBRATION MENU – TRACERS TOWER SETUP

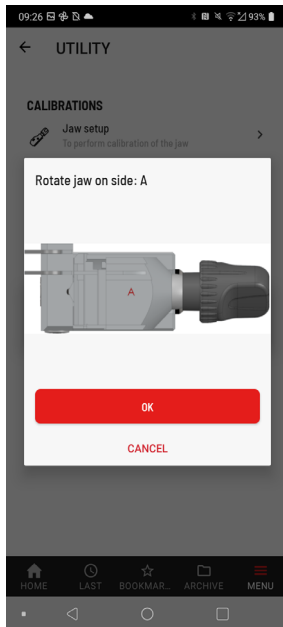
To set up a jaw, follow the sequence of operations described below.

- Lower the protective shield and press "Tracer tower setup".
- Raise the protective shield and remove the "T00" tracer point.
- Install the "V037" cutter.

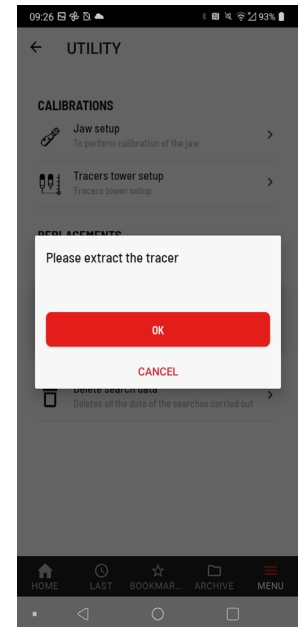
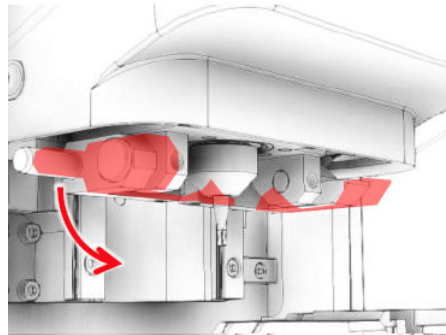


8 OPERATOR INSTRUCTIONS

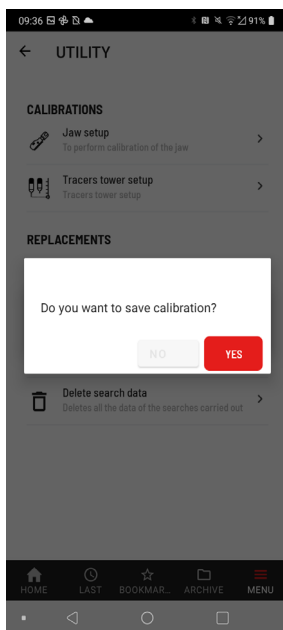
4. Turn the clamp to position “A”.



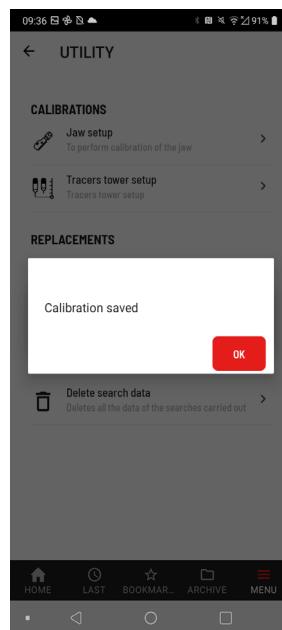
5. Lower the tracer point holder, so that the tracer point is in the position to be used. Lower the protective shield and press “OK” to start calibration.



6. Save the new tracer point setup.



7. Press **OK** to exit the calibration procedure.



8 OPERATOR INSTRUCTIONS

8.11 STOP

8.11.1 PREMISE

The following are the operating modes for stopping.
The modes described are the only ones permitted by the manufacturer.

8.11.2 NORMAL STOP

To stop MESSENGER, follow the sequence of operations described below.

1. Wait for any work cycle in progress to be completed, then unload the product.
2. Press the red mushroom emergency button.

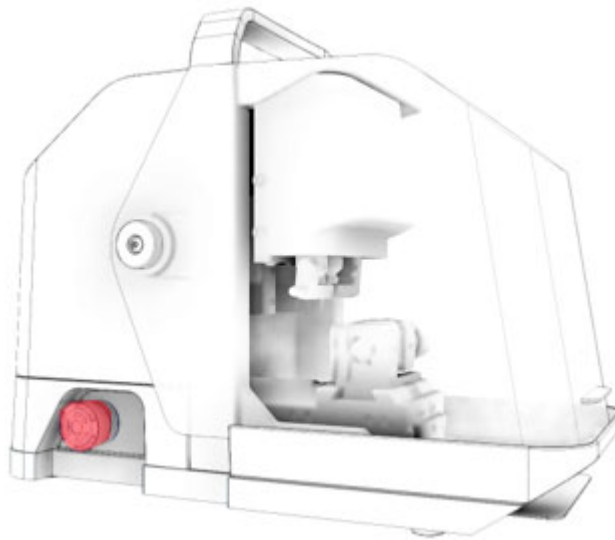


Figure 37 - Red mushroom emergency button position

8.11.3 TURNING OFF

To shut down the machine, follow the sequence of steps described below.

1. Close the “*Keyline Duplicating Tool*” application.
2. Disconnect the plug from the mains socket.
3. If present, remove the battery from the battery compartment at the rear of the machine.

9 MAINTENANCE

9.1 GLOSSARY AND TERMINOLOGY

Some recurring terms in the manual are described below in order to unambiguously determine their meaning:

1. **Routine maintenance:** the set of operations required to maintain the functionality and efficiency of the component/part. The following are considered ordinary (scheduled) maintenance operations: cleaning, inspection, lubrication/greasing, calibrations (e.g. tensioning of belts or belting), replacement of filters and consumables;
2. **Extraordinary maintenance:** the set of operations necessary to maintain the functionality and efficiency of the component/part. All operations other than those described in point 1 above are considered extraordinary maintenance (not scheduled); they must be carried out by qualified personnel (see paragraph 4.6);
3. **Overhaul:** Overhaul consists of the replacement of mechanical components that show signs of wear and tear to such an extent that the operation of the component/part is impaired. In addition, overhaul involves checking the condition of all components (couplings, seals, contacts, etc.). If they are damaged, they must be replaced and the causes investigated. This work must be carried out by qualified personnel (see paragraph 4.6).

9.2 PREMISE

This chapter provides information on the maintenance of the machine.

Routine maintenance is the only maintenance the user of the machine is permitted to carry out; all other maintenance must be carried out by the manufacturer's maintenance technicians or by qualified maintenance technicians authorised by the manufacturer.



MANDATORY! All NON-routine maintenance operations must only be carried out by qualified personnel (see paragraph 4.6) of Keyline S.p.A. or authorised by it, who have all the technical skills to carry out such operations in conditions of maximum safety and in full compliance with the relevant standards and laws in force.



MANDATORY! Please read the warnings and instructions in this section carefully before carrying out any maintenance.

9.3 SAFETY STANDARDS FOR MAINTENANCE AND CLEANING



WARNING! Failure to observe the following safety instructions can damage the machine, cause personal injury, or endanger life!



WARNING! All maintenance work must be carried out with the machine at a standstill, after disconnecting all power sources from the machine:

- Press the emergency stop button;
- Disconnect the power pack from the mains socket and from the machine port;
- If present, remove the battery from the machine housing.

Only in this way can you be sure that an untimely start-up does not occur while you are carrying out maintenance.



MANDATORY! The following warnings must be observed when cleaning the machine or some of its parts:

- Do not clean electrical equipment using water or other fluids. Use only a clean brush or dry cloth to remove any dust deposits;
- If you have to use water jets to clean the machine, make sure that electrically driven components and equipment are sufficiently protected. Before starting the machine, make sure that there is no water on the electrically operated components and equipment. Do not direct water jets towards other people;
- Do not use compressed air to clean the machine. Use a vacuum cleaner;
- Do not clean plastic surfaces with alcohol or solvents. Only use specific cleaning agents;
- Dispose of cleaning materials in accordance with the applicable regulations. Do not release used materials or cleaning residues into the environment.



MANDATORY! During maintenance and cleaning operations you must always wear personal protective equipment.

9.4 CHECK OF SAFETY SIGNAGE

Check the presence (in the dedicated places, see paragraph 4.3), integrity and legibility of all safety signs attached to the machine **every six months**.

If the labels or signs are damaged, replace them.



WARNING! The absence of safety signs may expose you to danger as you may not perceive any residual risk.

9.5 EMERGENCY BUTTON

Every time you use the machine, check that the mushroom-shaped emergency button is intact and functional.

9.6 GUARDS

Check the machine guards **at least every six months**.

In particular, check the following:

- Check for any loss of or damage to any part of the guard, particularly if this causes a decrease in safety functions (e.g. reduction in strength as a result of impacts or scratches on glazed/transparent parts);
- Check the correct functioning of the interlocks;
- Check the wear of joints and fastening points.

9.7 TOOLS WEAR

If the tool shows obvious signs of wear and tear and/or the quality of the workmanship is not compliant and/or not adequate, replace the tool.

If you have to replace the tool, please refer to paragraph 7.4.3.

9.8 CLEANING THE MACHINE

9.8.1 CHIP REMOVAL

Every day, after using the machine, chips must be removed in order to ensure the proper functioning of the machine, the integrity of the component parts and to avoid the dispersion of chips in the working environment.

Chips must be removed manually, by means of a brush or an industrial vacuum cleaner suitable for the purpose.

Empty the chip tray (Figure 38) regularly after each cleaning of the work area or whenever the work area is full of chips.

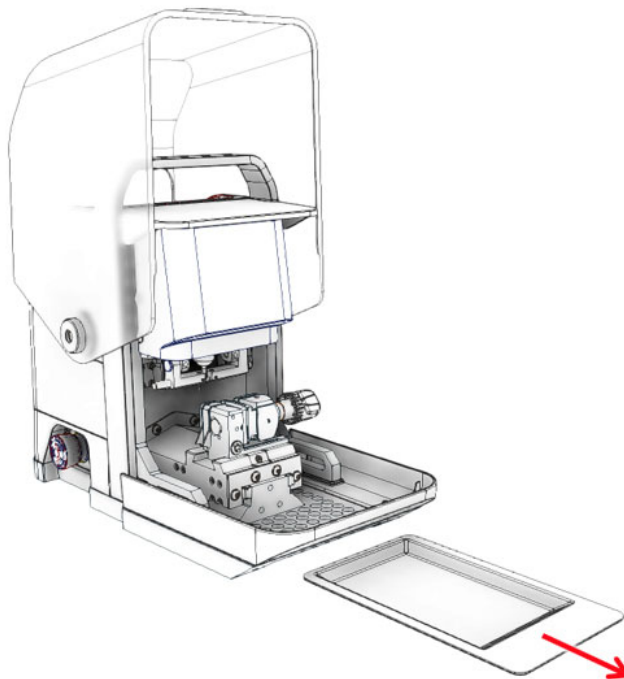


Figure 38 - Chip tray



MANDATORY! During maintenance and cleaning operations you must always wear personal protective equipment.



WARNING! Do not use compressed air to clean the machine.



MANDATORY! Use an industrial-grade vacuum cleaner.

9.8.2 CLEANING THE PROTECTIVE SHIELD

Clean the transparent protective shield **regularly** with a microfiber cloth.



PROHIBITION! Do not use alcohol-based detergents or solvents.

9.9 EXTRAORDINARY MAINTENANCE (SERVICE)

9.9.1 SAFETY DEVICES CHECKS AND MAINTENANCE

The integrity and functions of the safety devices must be checked **at least every six months** by a qualified and skilled technician (extraordinary maintenance staff, see paragraph 4.6).



INFORMATION! Components and devices that make up any safety system usually have a mission time of 20 years.

9.10 OTHER EXTRAORDINARY MAINTENANCE ACTIONS

After max. 5,000 cycles/year, the machine life cycle is to be considered at an end, and therefore MESSENGER must undergo overhauling and extraordinary maintenance.

For this reason, after the mentioned period of time, it is mandatory to overhaul the machine completely in order to make sure of its safety. This work must be carried out by Keyline S.p.A. skilled and qualified personnel (or bay technicians authorised by it).

9.11 SPARE PARTS

Should it be necessary to source spare parts (or accessories), please contact our customer service (see chapter 12 on page 75).

10 MACHINE STORAGE CONDITIONS

10.1 TEMPORARY SHUTDOWN

If the machine is to be shut down for short periods, disconnect the power pack from the mains and the machine.
If present, also remove the battery from the machine.

10.2 LONG-TERM DECOMMISSIONING

In case you anticipate that the machine will be out of service for an extended period of time, after carrying out the operations described in paragraph 10.1, clean the machine thoroughly.
Once these operations have been completed, it is recommended to store the machine in its original packaging.

11 DISASSEMBLY AND DISPOSAL

11.1 DISASSEMBLING THE MACHINE

The machine is considered to belong to the WEEE (Waste Electrical and Electronic Equipment) category.

The machine must be dismantled by a wrecking operation having the specific authorisations to carry out this activity.

In any case, below is a list of operations that must be carried out before demolition and in any case after decommissioning.



PROHIBITION! You must not dispose of the machine (or parts of it) through the normal municipal solid waste collection service (even if sorted).



MANDATORY!

- Remove any accumulators (batteries) from the machine. Removed accumulators must be disposed of in accordance with the relevant legislation from time to time in force;
- Remove and later destroy the identification plates from the machine, together with any other documents relating to the machine (manuals, diagrams, etc.).



According to current legislation the machine, once disposed of, is classified as special waste.

If you dispose of this equipment illegally or as urban waste, you will be subject to the sanctions provided for by the national regulations in force.

At the end of its life cycle, after carrying out the necessary operations for proper disposal, the equipment must be deposited at one of the separate collection centres for waste electrical and electronic equipment from households.

Please refer to the collection centres of your Municipality, which ensures the functionality, accessibility and adequacy of the separate collection systems, so that final holders and distributors can deliver the waste produced in their territory to the collection centre free of charge.

11.2 WASTE DISPOSAL

Individual Countries have different standards and regulations, so, every operation shall be performed in compliance with the laws and regulations of the relevant Country.

For EU countries, the reference standards are:

- Directive 91/156/EEC on waste;
- Directive 91/689/EEC on hazardous waste;
- Directive 94/62/EC on packaging and packaging waste;

For non-EU countries, the relevant laws and regulations must be checked and implemented.

With regard to key processing waste, this is classified as special waste and is equated to municipal solid waste (MSW) as steel wool.

This waste must be disposed of according to the classification given to it by the laws in force in Italy and the European Economic Community by sending it to the appropriate disposal plants.

Cases in which the waste is contaminated or contains toxic-harmful substances, turning the metal residue equated to MSW into toxic-harmful waste, are covered in the annexes to the laws that regulate waste disposal in force in Italy and the European Economic Community.

11.3 PACKAGING DISPOSAL

The packaging containing the key cutting machine during transport consists of cardboard, nylon and polyurethane foam.

Dispose of it in accordance with the regulations in force.

To request service or to order spare parts, the following data must be quoted, which can be found on the CE plate attached to the machine:

- Machine **MODEL**;
- **SERIAL** number;
- **YEAR** of manufacture;

And state the name of the Purchaser.

Requests shall be addressed to:

Keyline S.p.A.
Via Camillo Bianchi, 2 – 31015 Conegliano (TV) Italy
Phone: +39.0438.202511/ Fax +39.0438.202520
E-mail: info@keyline.it
Web site: www.keyline.it

I COPY OF THE CE DECLARATION OF CONFORMITY

**DICHIARAZIONE DI CONFORMITÀ / DECLARATION OF CONFORMITY**

Allegato II A - 2006/42/CE / Annex II A - 2006/42/EC

La ditta / The company:

KEYLINE S.p.A.

Via Camillo Bianchi, 2 – 31015 Conegliano (TV) +39 0438 202511

Dichiara sotto la propria responsabilità che la **MACCHINA** nuova:
 Declares, under its own responsibility, that the new **MACHINE**:

Anno di fabbricazione / Manufacturing year: **2022**

Descritta in appresso: / Described below:

La duplicatrice **Messenger** è una macchina che esegue elettronicamente la duplicazione di chiavi piatte, laser, punzonate, sia per il settore residenziale che automobilistico.
 Messenger is the key cutting machine that electronically carries out the duplication of laser, edge and dimple keys, both for residential and automotive sectors.

È conforme alle seguenti Direttive Comunitarie: / Is compliant with the following Community Directives:

Direttiva Macchine / Machinery Directive	2006/42/CE (EC)
Direttiva Compatibilità Elettromagnetica / Electromagnetic Compatibility Directive	2014/30/UE (EU)
Direttiva RoHS II + Direttiva delegata RoHS III / RoHS II Directive + RoHS III Delegated Directive	2011/65/UE (EU) + 2015/863/UE (EU)

Soddisfa gli obiettivi di sicurezza indicati dalla Direttiva bassa tensione (2014/35/UE).
 It meets the safety objectives given in the Low Voltage Directive (2014/35/UE).

Tuttavia, come previsto dal paragrafo §63 della Linea Guida all'applicazione della direttiva "macchine" 2006/42/CE, redatta dalla Commissione Europea imprese e industria, la presente Dichiarazione CE di conformità **NON** fa riferimento alla Direttiva bassa tensione.
 However, as indicated in paragraph §63 of the Guidelines on how to apply the Machinery Directive 2006/42/EC, written by the European Commission for business and industry, this EC Declaration of Conformity **DOES NOT** refer to the Low Voltage Directive.

Soddisfa, ove pertinenti, i requisiti delle seguenti Norme Tecniche:
 Satisfies, when pertinent, the requisites set by the following technical rules:

EN 614-1 – EN 614-2 – EN ISO 12100 – EN ISO 13849-1 – EN ISO 13849-2 – EN ISO 13850 – EN ISO 13857 – EN ISO 14118 – EN ISO 14119 – EN ISO 14120 – EN ISO 20607 – EN 60204-1 – IEC/IEEE 82079-1

Costituzione del fascicolo tecnico / Constitution of the technical file:

Resp.le / Technical File Manager: **Keyline S.p.A.**

Conservazione / Storage: Via Camillo Bianchi, 2 – 31015 Conegliano (TV)

Nome / Name:
 Posizione / Position:

Mariacristina Gribaudo
Legale Rappresentante / Legal representative

Luogo e data / Place & date:

Conegliano, 15/09/2022

Firma / Signature:



Note: An original copy of this declaration of conformity is attached to the Quickstart guide placed inside the machine packaging.

II COPY OF THE UKCA DECLARATION OF CONFORMITY



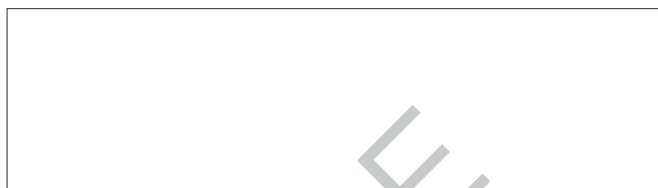
DECLARATION OF CONFORMITY

In accordance with UK Government Guidance

The company:

KEYLINE S.p.A.
Via Camillo Bianchi, 2 – 31015 Conegliano (TV) +39 0438 202511

Declares, under its own responsibility, that the new MACHINE:



Manufacturing year: **2022**

Described below:

Messenger is the key cutting machine that electronically carries out the duplication of laser, edge and dimple keys, both for residential and automotive sectors.

The object of the declaration described above is in conformity with the relevant UK Statutory Instruments and their amendments:

The Supply of Machinery (Safety) Regulations 2008 2008 No 1597
The Electrical Equipment (Safety) Regulations 2016 (LVD) 2016 No 1101
Electromagnetic Compatibility Regulations 2016 (EMC) 2016 No 1091
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (RoHS)

We hereby declare that the product described above, to which this declaration of conformity refers to, is in conformity with the essential requirements of the following designated standards:

EN 614-1 – EN 614-2 – EN ISO 12100 – EN ISO 13849-1 – EN ISO 13849-2 – EN ISO 13850 – EN ISO 13857 – EN ISO 14118 – EN ISO 14119 – EN ISO 14120 – EN ISO 20607 – EN 60204-1 – IEC/IEEE 82079-1

Technical documentation for the machinery:

Responsible Person: Keyline S.p.A.
Storage: Via Camillo Bianchi, 2 – 31015 Conegliano (TV)

Name:
Position:

Mariacristina Gribaudo
Legal representative

Place & date:

Conegliano, 15/09/2022

Signature:



Note: An original copy of this declaration of conformity is attached to the Quickstart guide placed inside the machine packaging.

