

EN

ORIGINAL INSTRUCTIONS
ENGRAVING PEN



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Notes regarding the instructions

Symbols

 **Warning of electrical voltage**
 This symbol indicates dangers to the life and health of persons due to electrical voltage.

 **Warning of explosive substances**
 This symbol indicates dangers to the life and health of persons due to potentially explosive substances.

 **Warning of sharp object**
 This symbol indicates dangers to the life and health of persons due to pointed objects.

 **Warning**
 This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.

 **Caution**
 This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

Note
 This signal word indicates important information (e.g. material damage), but does not indicate hazards.

 **Info**
 Information marked with this symbol helps you to carry out your tasks quickly and safely.

 **Follow the manual**
 Information marked with this symbol indicates that the instructions must be observed.

 **Wear hearing protection**
 Information marked with this symbol indicates that you should wear hearing protection.

You can download the current version of the instructions and the EU declaration of conformity via the following link:



PEGS 10-230V



<https://hub.trotec.com/?id=43698>

Safety

General Power Tool Safety Warnings

 **Warning**
Read all safety warnings, instructions, illustrations and specifications provided with this power tool.
 Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.
Save all warnings and instructions for future reference.

The term *power tool* in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

 **General Power Tool Safety Warnings – Work area safety**

- **Keep work area clean and well lit.** Clutter or dark areas invite accidents.
- **Do not operate power tools in explosive atmosphere, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

 **General Power Tool Safety Warnings – Electrical safety**

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

- **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.



General Power Tool Safety Warnings – Power tool use and care

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.



General Power Tool Safety Warnings – Personal safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.



Use personal protective equipment. Always wear eye protection. Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.

- **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situation.
- **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.



General Power Tool Safety Warnings – Service

- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.



Device-specific safety warnings for engraving pens

- **The device is not designed for continuous operation.** Too long operation may cause overheating. Over a period of 10 minutes, do not use the device for more than 2 minutes in continuous operation. Afterwards, let the device cool down for the time remaining.

Intended use

The device PEGS 10-230V is intended for engraving or decorating various materials, e.g.: metal, plastics, glass, ceramic, wood and leather.

We recommend using the power tool with original Trotec accessories.

Foreseeable misuse

The device is not suitable for engraving electronic media such as CDs, DVDs, etc. They may be damaged during the engraving process.

The device is not intended for continuous operation.

Eine andere Verwendung als die im Kapitel Bestimmungsgemäße Verwendung beschriebene gilt als vernünftigerweise vorhersehbare Fehlanwendung.

Personnel qualifications

People who use this device must:

- have read and understood the instructions, especially the Safety chapter.

Personal protective equipment



Wear hearing protection.

Excessive noise can lead to hearing loss.



Wear eye protection.

With it you protect your eyes from splintering, falling and flying pieces which could cause injuries.



Wear a protective mask.

It saves you from inhaling harmful dusts generated when processing workpieces.



Wear protective gloves.

They protect your hands from burns, crushing injuries and skin abrasions.

Residual risks



Warning of electrical voltage

Electric shock from insufficient insulation.

Check the device for damages and proper functioning before each use.

If you notice damages, no longer use the device.

Do not use the device when the device or your hands are damp or wet!



Warning of electrical voltage

Work on the electrical components must only be carried out by an authorised specialist company!



Warning of electrical voltage

Before any work on the device, remove the mains plug from the mains socket!

Hold onto the mains plug while pulling the power cable out of the mains socket.



Warning of electrical voltage

There is a risk of a short-circuit due to liquids penetrating the housing!

Do not immerse the device and the accessories in water. Make sure that no water or other liquids can enter the housing.



Warning of hot surface



The insertion tool might still be hot after the application. Burn hazard when touching the insertion tool.

Do not touch the insertion tool bare-handed!

Wear protective gloves!



Warning of sharp object



Parts of the saw blade are sharp. Risk of injuries if handled without due care.

Wear protective gloves!



Warning

Toxic dusts!



The harmful / toxic dusts produced during operation pose of risk to the health of the operator and persons in the vicinity.



Wear eye protection and a dust mask!



Warning

Do not process materials containing asbestos. Asbestos is considered carcinogenic.



Warning

Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!

- Warning**
The device is not a toy and does not belong in the hands of children.
- Warning**
Risk of suffocation!
Do not leave the packaging lying around. Children may use it as a dangerous toy.
- Caution**
Vibration emissions can cause a health hazard if the device is used for an extended period of time or if it is not properly handled and maintained.
- Caution**
Keep a sufficient distance from heat sources.

Note

If you store or transport the device improperly, the device may be damaged.
Note the information regarding transport and storage of the device.

Note

The device is not suitable for continuous operation. Over a period of 10 minutes, do not use the device for more than 2 minutes in continuous operation. Allow the device to cool down for the remaining time. If the device overheats nonetheless, switch the device off and disconnect it from the mains. Allow the device to cool down sufficiently before switching it back on.

Behaviour in the event of an emergency

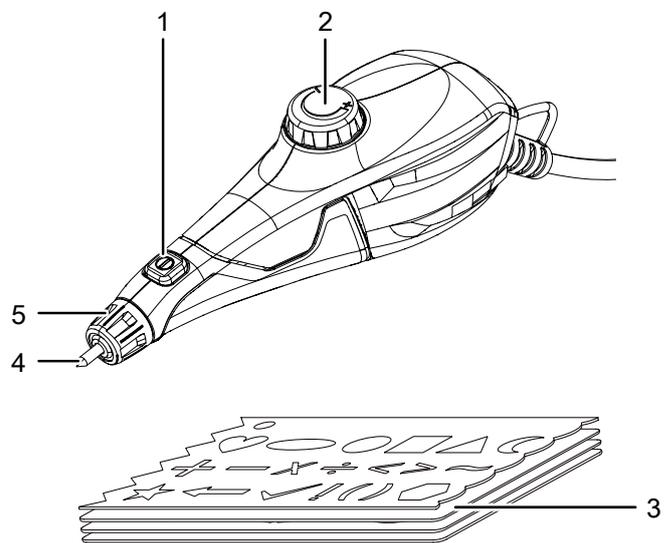
1. Switch off the device.
2. In an emergency, disconnect the device from the mains feed-in: Hold onto the mains plug while pulling the power cable out of the mains socket.
3. Do not reconnect a defective device to the mains.

Information about the device

Device description

The device is suited for precise engraving or decorating of various materials, e.g.: metal, plastics, glass, ceramic, wood or leather. Furthermore, the device is equipped with an ergonomic handle and a setting wheel for adjusting the engraving depth.

Device depiction



No.	Designation
1	On-/off-switch
2	Setting wheel for stroke depth selection
3	Engraving templates
4	Engraving bit
5	Engraving bit locking mechanism

Scope of delivery

- 1 x Gerät PEGS 10-230V
- 4 x Engraving templates
- 1 x Manual

Technical data

Parameter	Value
Model	PEGS 10-230V
Power supply	~ 230 V / 50 Hz
Nominal current	0.15 A
Idle speed	6,000 rpm
Operating mode	S3 20 % 10 min*
Max. stroke depth	4 mm
Cable length	2 m
Protection class	II / 
Weight	370 g
Vibration information according to EN 60745	
Vibration emission value a_h	1.47 m/s ²
Uncertainty K	1.5 m/s ²
Sound values according to EN 60745	
Sound pressure level L_{pA}	76.7 dB(A)
Sound power L_{WA}	87.7 dB(A)
Uncertainty K	3 dB
*Operating mode S3 20 % 10 min: This device is designed for intermittent operation. This means that over a period of 10 min the maximum switch-on time may be 20 % (2 min).	

Information on noise and vibration:

- The vibration level specified in these instructions was determined by means of a measuring method standardized in EN 60745 and can be used for a device comparison. The specified vibration emission value may also be used for a preliminary assessment of the exposure.



Caution

- Vibration emissions can cause a health hazard if the device is used for an extended period of time or if it is not properly handled and maintained.
- The vibration level will change depending on the application of the power tool and may in some cases differ from the value specified in these instructions. The vibration load may be underestimated if the power tool is used regularly in such a way. For a precise estimation of the vibration load during a certain work period, it is also important to consider the periods during which the device is switched off, or is running but not actually employed. This can reduce the vibration load over the entire work period significantly.



Wear hearing protection.

Excessive noise can lead to hearing loss.

Transport and storage

Note

If you store or transport the device improperly, the device may be damaged.

Note the information regarding transport and storage of the device.

Transport

Before transporting the device, observe the following:

- Switch off the device.
- Hold onto the mains plug while pulling the power cable out of the mains socket.
- Allow the device to cool down.

Storage

Before storing the device, observe the following:

- Switch off the device.
- Hold onto the mains plug while pulling the power cable out of the mains socket.
- Allow the device to cool down.
- Clean the device as described in the Maintenance chapter.

When the device is not being used, observe the following storage conditions:

- dry and protected from frost and heat
- ambient temperature below 45 °C
- protected from dust and direct sunlight

Start-up

Unpacking the device

- Take the device and the accessories out of the packaging.



Warning of electrical voltage

Electric shock from insufficient insulation.

Check the device for damages and proper functioning before each use.

If you notice damages, no longer use the device.

Do not use the device when the device or your hands are damp or wet!

- Check the contents for completeness and look for damages.



Warning

Risk of suffocation!

Do not leave the packaging lying around. Children may use it as a dangerous toy.

- Dispose of the packaging material according to the national regulations.

Replacing the engraving bit

The engraving bit must be replaced when it is worn and if it no longer supplies the desired engraving results.



Warning of electrical voltage

Before any work on the device, remove the mains plug from the mains socket!

Hold onto the mains plug while pulling the power cable out of the mains socket.



Warning of hot surface

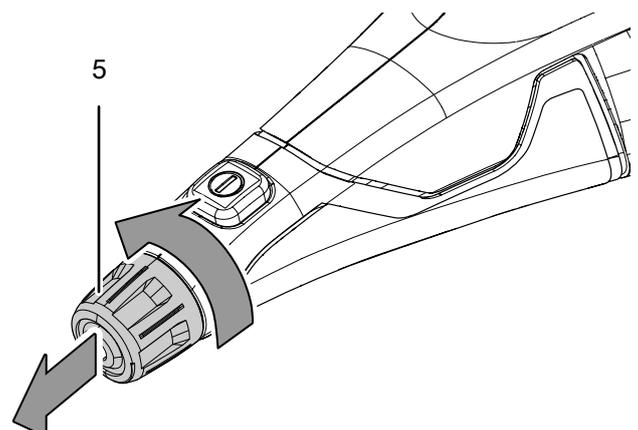
The insertion tool might still be hot after the application. Burn hazard when touching the insertion tool.

Do not touch the insertion tool bare-handed!

Wear protective gloves!

- ✓ Ensure that a new engraving bit is at hand

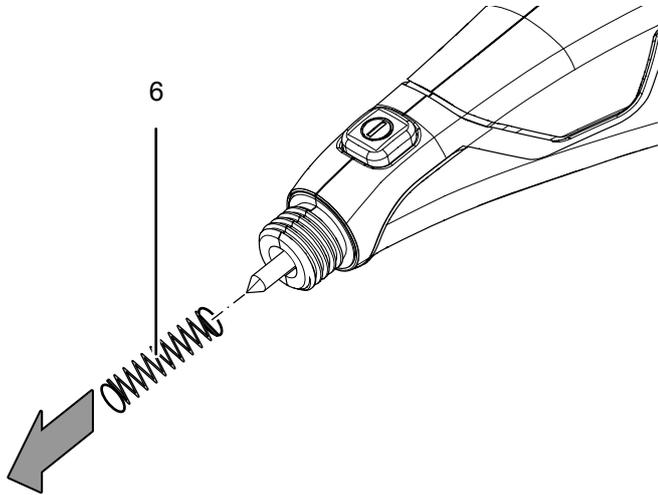
1. Rotate the latch of the engraving bit (5) in counter-clockwise direction and remove it.



Note

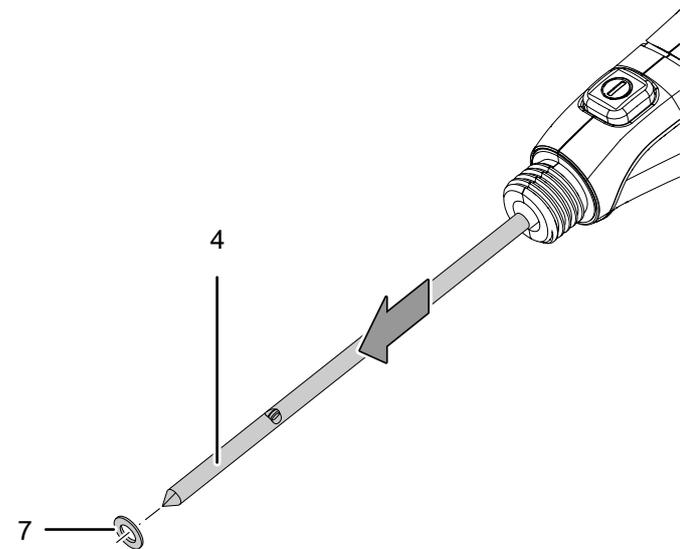
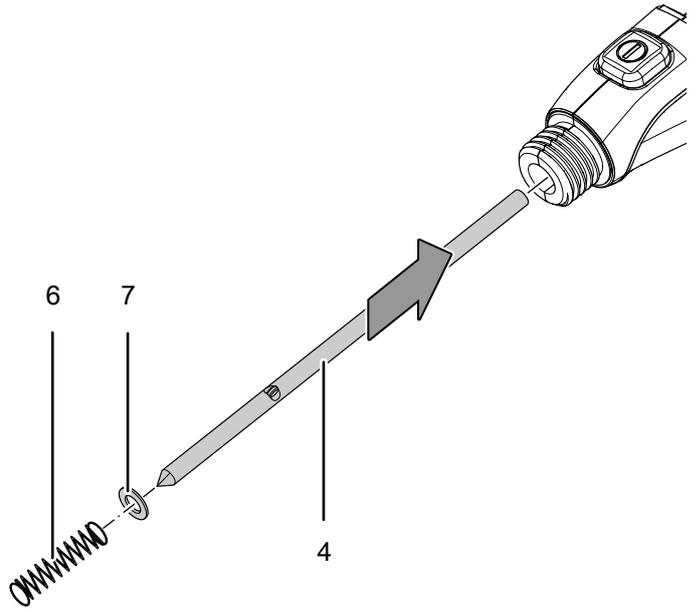
Behind the latch of the engraving bit (5) there is a spring (6), which is tensioned! Make sure that the spring does not snap free.

2. Remove the spring (6) from the engraving bit (4).



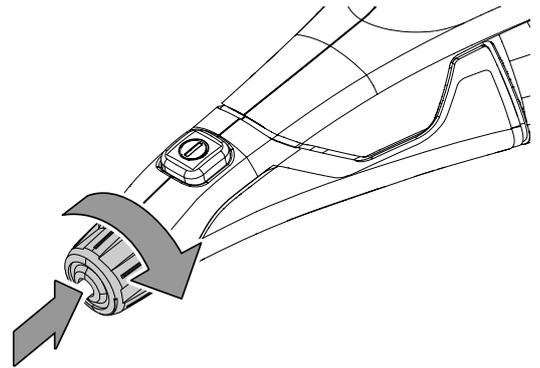
3. Carefully pull the engraving bit (4) out of the device.

7. Insert the spring (6) by sliding it onto the engraving bit (4)



4. Remove the washer (7) from the engraving bit.
5. Place the washer (7) on a new engraving bit (4)
6. Carefully push the new engraving bit (4) into the device.

8. Put on the latch of the engraving bit (5) and screw it tight again in clockwise direction.



Connecting the power cable

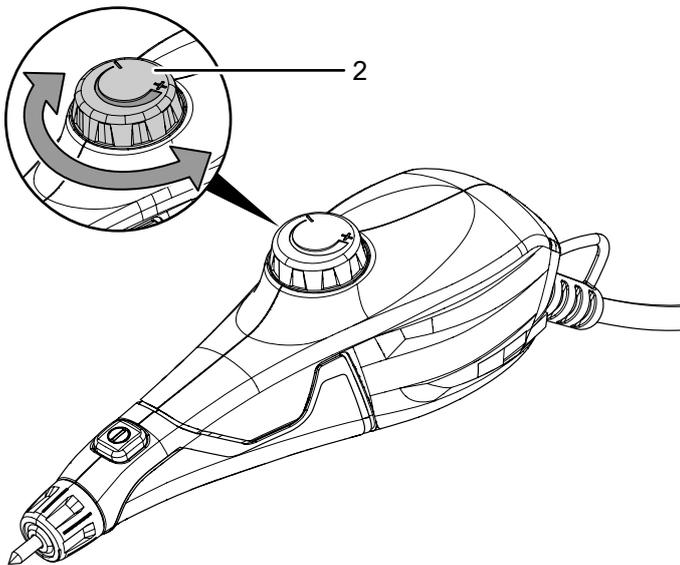
1. Insert the mains plug into a properly secured mains socket.

Stroke depth selection

Via the setting wheel (2) for the stroke depth selection, the penetration depth and therefore the engraving depth is adjusted. It is not intended to be an off-switch. The required stroke depth depends on the material and the operating conditions and can be determined by way of field-testing. To do this, ideally use some excess material residues. As a rule of thumb, generally the lowest setting can be selected. In most cases this supplies engraving results of a sufficient depth.

You can change the stroke depth which you have preselected at any time.

1. Turn the setting wheel (2) in + or - direction to increase or reduce the stroke depth



Note

The setting wheel (2) has no locking point in + direction. When setting the stroke depth, make sure that you do not turn the setting wheel (2) too far in the + direction. Otherwise you may unscrew the setting wheel (2) from the product.

Operation

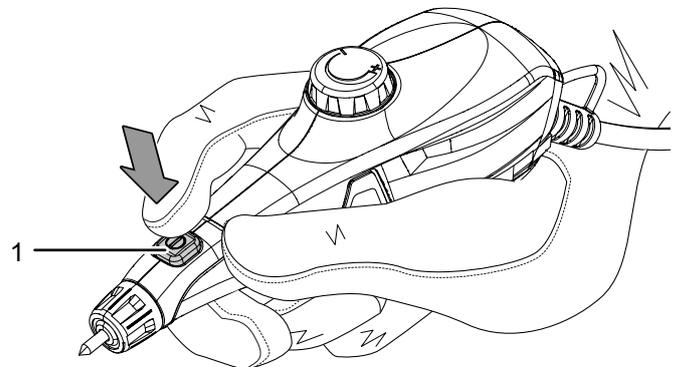
Tips and notes for handling the engraving pen

- Hold the device at a slight angle similar to the position of holding a pen. Your arm should be resting on the table.
- Guide the engraving bit (4) over the workpiece applying slight pressure.
- Preferably use excess material to test the feed rate.

Switching the device on and off

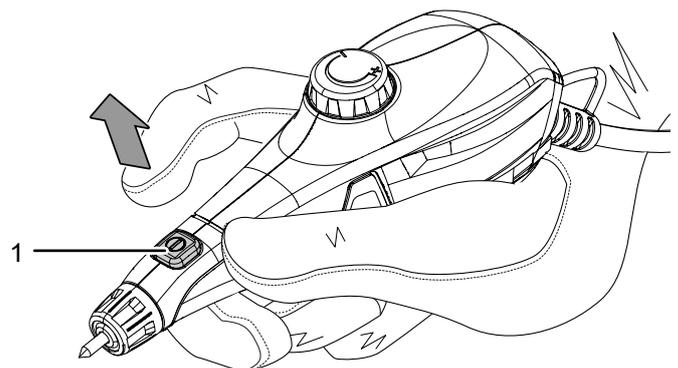
Wear your personal protective equipment when working with the device.

1. Check whether the stroke depth set is suitable for the intended application.
2. Press the on/off switch (1) and hold it during operation.



⇒ The device operates with the previously selected settings.

3. Let go of the on-/off-switch (1) to stop the device.



Shutdown



Warning of electrical voltage

Do not touch the mains plug with wet or damp hands.

- Switch off the device.
- Hold onto the mains plug while pulling the power cable out of the mains socket.
- If required, allow the device to cool down.
- Clean the device according to the Maintenance chapter.
- Store the device according to the Storage chapter.

Errors and faults

The device has been checked for proper functioning several times during production. If malfunctions occur nonetheless, check the device according to the following list.

Troubleshooting tasks which require the housing to be opened must only be carried out by an authorized specialist electrical company or by Trotec.

Beim ersten Gebrauch tritt leichter Rauch oder Geruch auf:

- Hierbei handelt es sich nicht um einen Fehler oder eine Störung. Nach kurzer Laufzeit verschwinden die Merkmale.

Das Gerät läuft nicht an:

- Überprüfen Sie den Netzanschluss.
- Check the power cable and mains plug for damages. If you notice damages, do not try to take the device back into operation. To avoid safety hazards, do not perform any repairs. Send the device to a specialist electrical company or to Trotec to have the power cable and mains plug replaced.
- Überprüfen Sie die bauseitige Netzabsicherung.



Info

Wait for at least 10 minutes before switching the device back on.

The device becomes hot:

Note

The device is not suitable for continuous operation. Over a period of 10 minutes, do not use the device for more than 2 minutes in continuous operation. Allow the device to cool down for the remaining time.

If the device overheats nonetheless, switch the device off and disconnect it from the mains.

Allow the device to cool down sufficiently before switching it back on.



Info

Wait for at least 8 minutes before switching the device back on.

The device works, however, the engraving is hardly visible or not visible at all:

- Select a higher stroke depth by turning the setting wheel (2) for the stroke depth selection in + direction.
- Check the engraving bit (4), if the engraving bit is worn, replace it by a new one.

Note

Wait for at least 3 minutes after maintenance and repair work. Only then switch the device back on.

Your device still does not operate correctly after these checks?

Please contact the customer service. If necessary, bring the device to an authorized specialist electrical company or to Trotec for repair.

Maintenance

Activities required before starting maintenance



Warning of electrical voltage

Do not touch the mains plug with wet or damp hands.

- Switch off the device.
- Hold onto the mains plug while pulling the power cable out of the mains socket.
- Allow the device to cool down completely.



Warning of electrical voltage

Maintenance tasks which require the housing to be opened must only be carried out by authorised specialist companies or by Trotec.

Notes on maintenance

Inside the device, there are no parts that need to be maintained or lubricated by the user.

Cleaning

The device should be cleaned before and after each use.

Note

The device does not have to be lubricated after cleaning.



Warning of electrical voltage

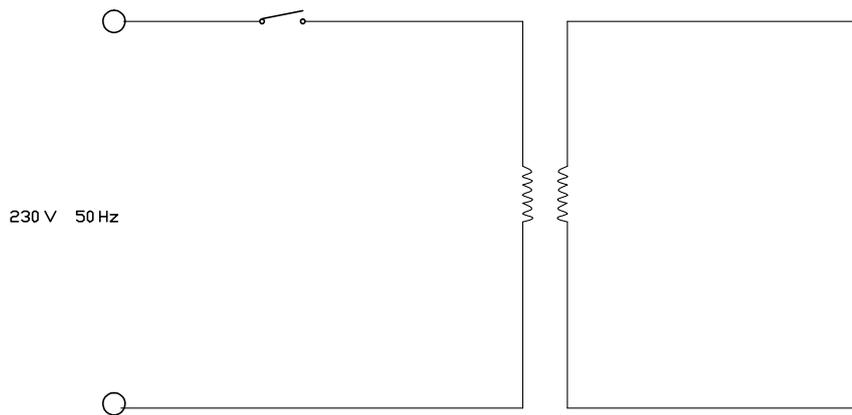
There is a risk of a short-circuit due to liquids penetrating the housing!

Do not immerse the device and the accessories in water. Make sure that no water or other liquids can enter the housing.

- Clean the device with a soft, damp and lint-free cloth. Make sure that no moisture enters the housing. Protect electrical components from moisture. Do not use any aggressive cleaning agents such as cleaning sprays, solvents, alcohol-based or abrasive cleaners to dampen the cloth.
- Dry the device with a soft, lint-free cloth.

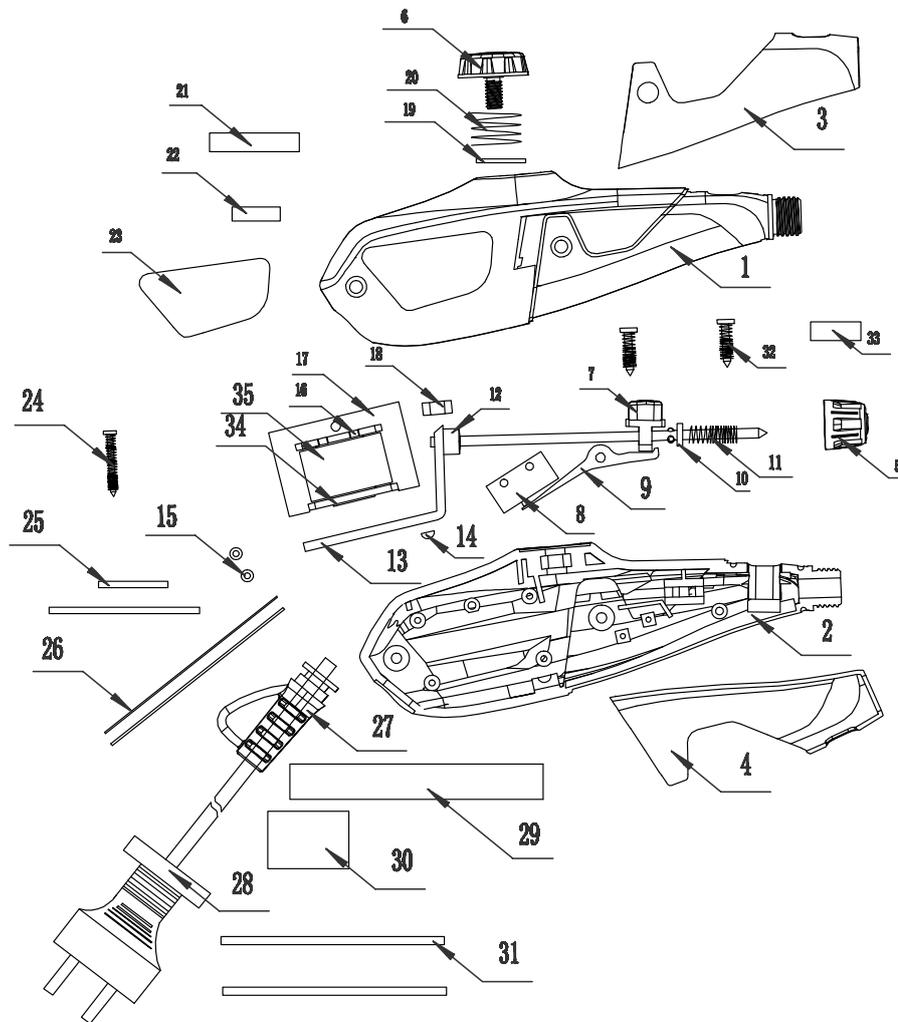
Technical annex

Circuit diagram



Overview of spare parts

Note: The position numbers of the spare parts differ from those describing the positions of the components mentioned in these instructions.



Spare parts list

NO.	SPARE PART	NO.	SPARE PART
1	Housing	19	Blunt needle compression spring
2	Nut	20	Knobs compression spring
3	Ajusting knob	21	Button
4	Silicon steel sheet	22	Needle cap
5	Coil	23	Microswitch
6	Coil former	24	The shell screw
7	Baffle	25	Transformer screw
8	Insulated rubber tape	26	Nut
9	Fish paper	27	Flat washer
10	High temperature wire	28	Flat washer
11	Power cord and plug	29	Heat shrinkable casing
12	Power cord sheath	30	Manual
13	Punching needle	31	Templates A
14	Shockproof set	32	Templates B
15	Briquette	33	Templates C
16	Blunt needle mat	34	Templates D
17	Cushion for leaning on	35	Name plate
18	Lever		

Disposal



The icon with the crossed-out waste bin on waste electrical or electronic equipment stipulates that this equipment must not be disposed of with the household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. For further return options provided by us please refer to our website www.trotec24.com.

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.

Declaration of conformity

The text below sets out the contents of the declaration of conformity. The signed declaration of conformity can be found at <https://hub.trotec.com/?id=43698>.

Declaration of conformity

in accordance with the EC Machinery Directive 2006/42/EC,
Annex II, Part 1, Section A

Herewith, we – Trotec GmbH– declare that the machinery designated below was developed, constructed and produced in compliance with the requirements of the EC Machinery Directive in the version 2006/42/EC.

Product model / Product: PEGS 10-230V

Product type: engraving pen

Year of manufacture as of: 2019

Relevant EU directives:

- 2011/65/EU: 1 July 2011
- 2014/30/EU: 29 March 2014

Applied harmonised standards:

- EN ISO 12100:2010
- EN 55014-1:2006/A1:2009
- EN 55014-1:2006/A2:2011
- EN 55014-2:1997/A1:2001
- EN 55014-2:1997/A2:2008
- EN 60745-1:2009 + A11:2010
- EN 61000-3-2:2014
- EN 61000-3-3:2013

Applied national standards and technical specifications:

- AfPS GS 2014:01 PAK
- EN 55014-1:2017
- EN 55014-2:2015

Manufacturer and name of the authorised representative of the technical documentation:

Trotec GmbH
Grebbeener Straße 7, D-52525 Heinsberg
Phone: +49 2452 962-400
E-mail: info@trotec.de

Place and date of issue:

Heinsberg, 13.09.2019

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