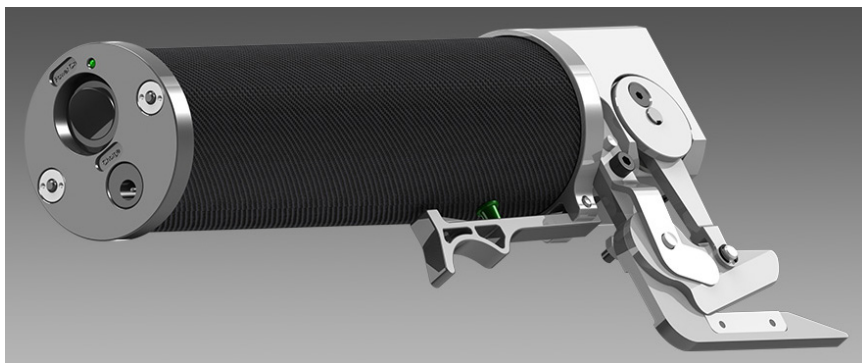




Operating Instructions

elaxa® Cordless Shears (Standard, XL)



Translation of original operating instructions: Keep in a safe place for future reference!



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Foreword

Dear reader,

These operating instructions will familiarise you with the safe operation of your cordless shears.

The cordless shears are designed and constructed in accordance with state of the art technology and recognised safety standards. Persons and materials can however be endangered, as not all danger points can be eliminated if the functional capability is to be maintained. Accidents due to these dangers and malfunctions can be prevented, by observing the operating instructions and the notes therein.

Over and above this, the operational efficiency of the cordless shears can be exploited to its fullest and unnecessary faults can be prevented.

WARNING!

There are a number of risks of suffering personal injury and material damage involved in the operation and maintenance of the cordless shears.

Therefore:

- Read these operating instructions carefully before operating or carrying out maintenance on the cordless shears. Always observe the notes and information contained therein, in particular the notes regarding safety.
 - If lost or illegible, please request a new set of operating instructions from the manufacturer.
-



These operating instructions only apply to the electrical tool specified on the cover page and in the footnotes.

Please check these details against those on the rating plate.

Having read the operating instructions for the first time, keep them readily available in a safe place for the entire service life of the cordless shears, so that they can be referred to at any later point in time.

If you sell the cordless shears, hand these operating instructions over to the new owner.

All details, figures and dimensions contained in these operating instructions are without obligation. No claims in any form can be derived from these.

Subject to technical modifications.

This document must not be reproduced or duplicated, in full or in part, without the prior, written permission of the manufacturer.

The cordless shears must not be converted or modified in any way, without seeking the prior, written permission of the manufacturer. The manufacturer will not be held responsible in any way whatsoever if conversions or modifications are carried out without authorisation.

Use only original spare parts or spare parts which are authorised for use by the manufacturer. If spare parts other than these are used, this can have a negative effect on the specified characteristics, the functionality and safety of the cordless shears. Using non-original or unauthorised spare parts will render the guarantee null and void.

Contact our customer services department to order spare parts or accessories (see Chapter 12, page 67).

If maintenance work is required on the cordless shears, our customer service department will be pleased to assist.

Denotations in the Operating Instructions

To improve understanding, the following conventions should be met for these operating instructions.

1. Note

The following types of special note are used to highlight text passages of an important nature.



DANGER!

...warns of a situation of immediate danger, which will lead to serious or even fatal injuries, if not avoided.



WARNING!

...warns of a potentially dangerous situation, which can lead to serious or even fatal injuries, if not avoided.



CAUTION!

...warns of a potentially dangerous situation, which can lead to slight or minor injuries, if not avoided.



ATTENTION!

...warns of a potentially dangerous situation, which can cause material damage, if not avoided.



...contains general notes and useful information.



...gives a reference to important information in other sections and documents.

2. Text structure

Some text passages serve a special purpose. These are highlighted as follows:

- List
 - ⇒ Instruction or sequence of instructions
 - ↳ Result of an action

3. Device designation

In order to improve readability, the terms "cordless shears" and "charger" will be used in many places. These terms refer exclusively to the elaxa® cordless shears and the elaxa® charger.

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1 Safety

Prerequisite to the safe handling and trouble-free operation of the cordless shears is a thorough knowledge of the applicable notes regarding safety and the safety regulations.

It is therefore of the utmost importance that this chapter is read thoroughly before operating the cordless shears and that the instructions and warnings herein are strictly observed. The notes regarding safety and warnings contained in the following chapters, at the appropriate places, must also be strictly observed. The manufacturer will not be held responsible if safety information and warnings are not observed.

The owner of the machine is solely responsible for adherence to accident prevention regulations and proper use of the machine.

The cordless shears are insofar operated at the owner's personal risk.

The manufacturer cannot foresee all possible dangers! It is therefore possible, that the warnings contained in these operating instructions and those attached to the machine may not cover all dangers.

In addition to the information given in these operating instructions, local legislative regulations must be taken into consideration, in particular those regarding safety and accident prevention.

1.1 Safety instructions

In addition to the trade association's safety and accident prevention regulations, the following instructions must be observed in order to prevent injury to persons or material damage:

- The elaxa[®] cordless shears must only be used for the purpose for which they are intended, otherwise dangerous situations may occur (Proper use: see Section 2.1, page 17).
- Only cut materials that conform with the details specified in the Technical Data, e.g. regarding the cutting performance.
- Safety devices must not be modified or rendered inoperative.
- Warning and information labels and markings must not be removed or rendered illegible. Missing or damaged warning labels and markings must be replaced immediately. Contact the customer service department.
- The operating instructions must be stored in the vicinity of the device and must be readily available to anyone using it.
- If the operating instructions or parts thereof are lost or become illegible, request a new copy from the manufacturer.
- Operating and maintenance personnel must always wear close-fitting clothing and must remove loosely hanging items such as necklaces, bracelets, kerchiefs, scarves or ties for example before starting work. Long hair must be tied up and/or a hair net must be worn.

1.1.1 Safety instructions specifically for operation

- The cordless shears must only be used in work-places that are provided with adequate lighting.
- The cordless shears must only be operated by authorised personnel.
- Wear personal protection equipment (PPE):
 - cut-resistant glove (chain mesh glove) on the hand that is not holding the cordless shears
 - protective goggles
 - dust mask for certain materials
- Keep the cutting device clean at all times.
- Blunt or worn blades must be replaced immediately.
- The cordless shears must not be operated in a faulty condition, as serious injuries may be caused by this. If faults occur, stop operating the cordless shears and repair them or have them repaired.

1.1.2 Safety instructions specifically for maintenance and repair

- Maintenance and repair work is also part and parcel of proper use and must therefore be carried out at the maintenance intervals specified. If such work is not carried out, the trouble-free function cannot be guaranteed and personal injuries and/or material damage may be caused. We recommend that maintenance records be kept.
- Maintenance and repair work must only be carried out by authorised, specialist personnel.
- Always switch the cordless shears OFF at the master switch before carrying out maintenance or repair work, this also includes cleaning work.
- Only use original replacement parts and accessories authorised by the manufacturer. If non-original or unauthorised replacement parts are used, this will render the guarantee null and void.

1.2 Safety labels

In addition to the safety instructions given in these operating instructions, labels, warning of particular dangers, are attached to the elaxa® cordless shears. The significance of these safety labels is described in the following table:




CAUTION!

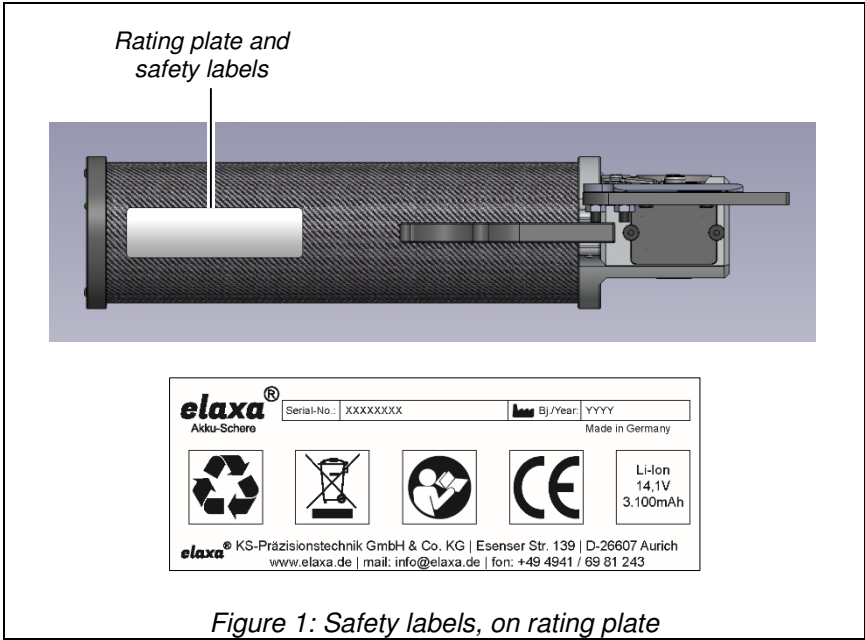
If safety labels are missing, sources of danger cannot be adequately recognised.

Therefore:

- Do not remove safety labels.
- Loose or lost safety labels must be replaced immediately.

Safety labels	Meaning and location
	<p>The operating instructions must have been read and understood before using the cordless shears. All information contained therein must always be strictly adhered to.</p> <p>Position: On the grip.</p>

For an explanation of other labels, refer also to Chapter 11, page 65.



1.3 Safety devices

1.3.1 Overload protection

The motor is protected by an overload protection facility. If excessively loaded, the elaxa[®] cordless shears will switch OFF.

This can happen if there is material in the cutting device when switched ON for example (see Section 5.2.1, page 33).

The overload protection must be reset before the cordless shears can be switched ON again (see Section 5.2.2, page 33).

1.3.2 Thermal overload protection

Continuous use of the elaxa[®] cordless shears under high load conditions can cause overheating. In order to protect the cordless shears and its components, it is equipped with thermal overload protection.

If the maximum permissible operating temperature is exceeded (see Section 3.4, page 26), the cordless shears will switch OFF.

The cordless shears must be allowed to cool down before they can be used again.

2 Proper Use

Safe operation of the elaxa® cordless shears is only ensured, if they are only used for the purpose for which they were intended. The elaxa® cordless shears must therefore only be put to proper use.

The elaxa® cordless shears are only deemed to be in proper use if they are used to cut single and multi-layer fabrics such as glass fibre, carbon fibre, aramid fibres, textiles, paper, cardboard, floor coverings, tarpaulins, plastic sheeting, sailcloth, leather, or similar materials and tinfoil.

Proper use also includes strictly adhering to the information given in these operating instructions.

WARNING!

Improper Use.

If the elaxa® cordless shears are used for any other purpose than that described above, dangerous situations for persons or material damage may be caused. This will also render any guarantee claims null and void.

Therefore:

- Only put the elaxa® cordless shears to proper use.
- Carry out maintenance and repair work at the specified intervals.
- The elaxa® cordless shears must only be operated or maintained and repaired by the appropriate personnel.



2.1 Improper use

Any type of use, other than that mentioned in section 2 is deemed to be improper use.

The elaxa[®] cordless shears are deemed to be improperly used if for example:

- they are used to process foodstuffs,
- they are used in human or veterinary medical applications,
- they are used by unsuitable personnel (see Section 2.3, page 18)

2.2 Product monitoring

Please contact us immediately if faults or problems are encountered when operating the elaxa[®] cordless shears or if accidents or "near-misses" occur. With your help we will find a solution to the problem and the knowledge gained will flow into future projects.

Contact: see Chapter 12, page 67.

2.3 Personnel requirements

Operating the elaxa® cordless shears is only permitted to individuals who

- are at least 16 years old,
- are physically and mentally capable of operating the cordless shears,
- have read and understood this Manual,
- are not under the influence of alcohol, narcotics, medication or other such substances,
- are sufficiently rested and concentrated,
- of whom it can be expected, that they will execute the job entrusted to them in a responsible and reliable manner,
- who have been designated to use the cordless shears by the owner and
- who have been trained in using the cordless shears by the owner.

The elaxa® cordless shears must only be maintained, repaired and disposed of by personnel with the appropriate technical experience.

2.4 Danger zone

The danger zone is the area, within which the safety or health of persons is endangered. For this reason, no unprotected body parts must be within this zone when operating the elaxa® cordless shears.

The danger zone is the area in the immediate vicinity of the cutting device.

3 Description of the elaxa® cordless shears

The following materials can be cut using the elaxa® cordless shears: Glass fibre, carbon fibre, aramid fibre, flooring (PVC, carpet), tarpaulins, plastic sheeting, rubber, tinfoil, sailcloth, textiles, leather, cardboard, paper and similar materials.

They can thus be used for applications in interior fittings, in saddlery/upholstery, in the packaging industry, in the construction of blades for wind turbines, in the automotive industry, in yacht building or motor sports.

The elaxa® cordless shears can be modified to suit other applications, e.g. by:

- changing the gearing ratio
- changing the motor power (XL version)
- the number of battery packs (XL version)
- changing the cutting device (e.g. to HD)
- changing the blades (e.g. VHM blades)

For further information, please contact your specialist dealer or the customer service department (see Chapter 12, page 67).

3.1 Rating plate

The rating plate is located on the grip.

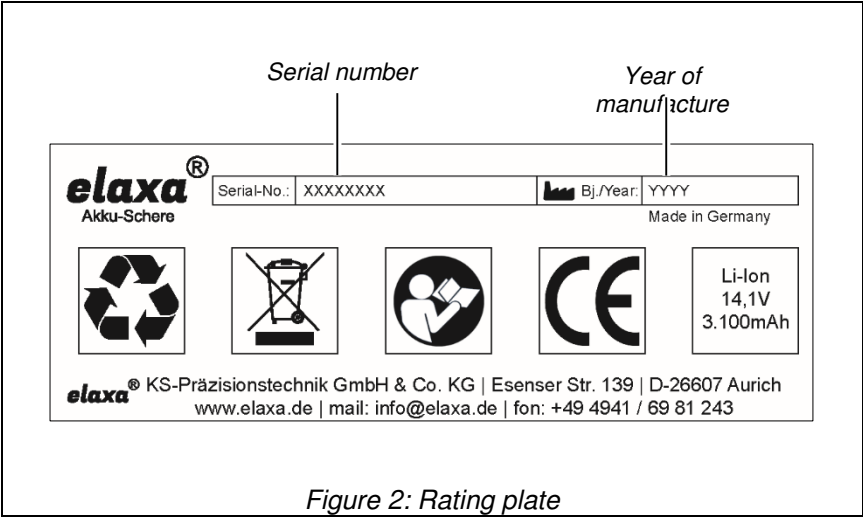


Figure 2: Rating plate

3.2 Layout and function

The main components of the elaxa® cordless shears include the following:

- the grip with integrated battery pack
- the rear cover with operating controls and indicators
- the rocker switch
- the cutting device

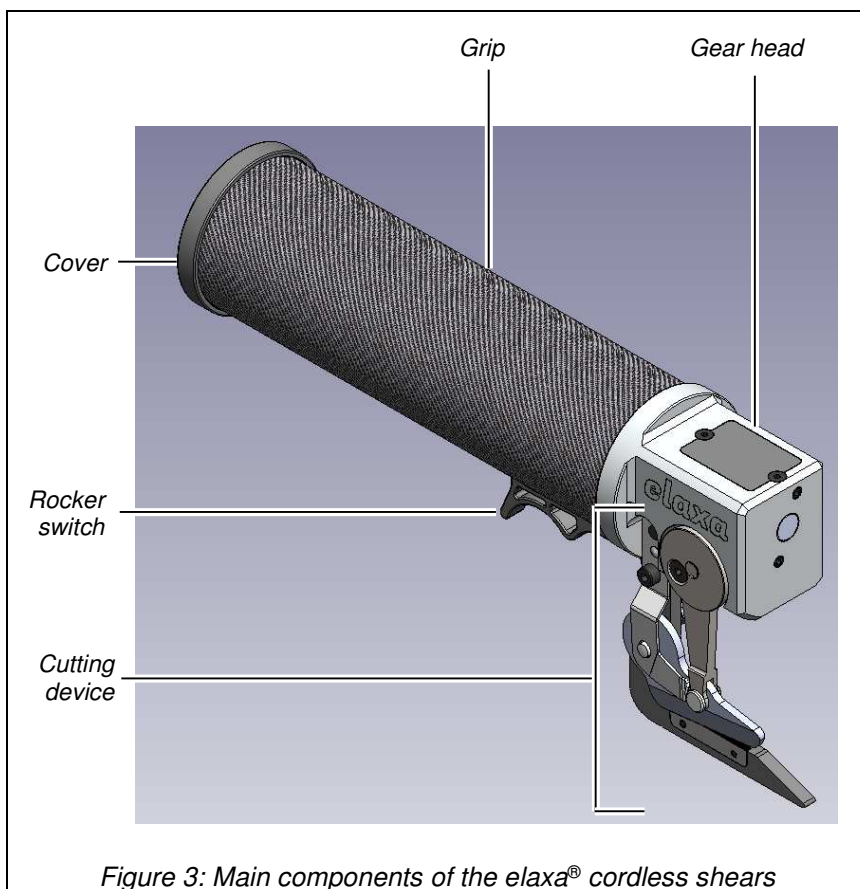


Figure 3: Main components of the elaxa® cordless shears

3.2.1 Grip

The cordless shears are held and guided by the grip.

The grip contains the battery pack. The battery pack cannot be removed. The battery pack has a protective circuit to prevent the batteries from being overcharged, totally discharged and overloaded. These measures ensure maximum battery life.

3.2.2 Cover

The cover contains operating controls and indicators (see Section 3.3, page 23).

3.2.3 Rocker switch

The rocker switch is an operating control (see Section 3.3, page 23). When the rocker switch is operated, the cutting device starts up, allowing material to be cut.

3.2.4 Cutting device

The cutting device contains the cutting mechanism. It is made of tool steel.

The blades (upper and lower blades) are fitted to the cutting device.

Optional micro-serrated and/or surface-coated cutter blades are available (see Section 6.5, page 40).

The blades can be easily replaced (see Section 6.5, page 40).

3.3 Operating controls and control elements:

The operating controls and control elements for the elaxa® cordless shears are located on the cover at the rear and on the underside.

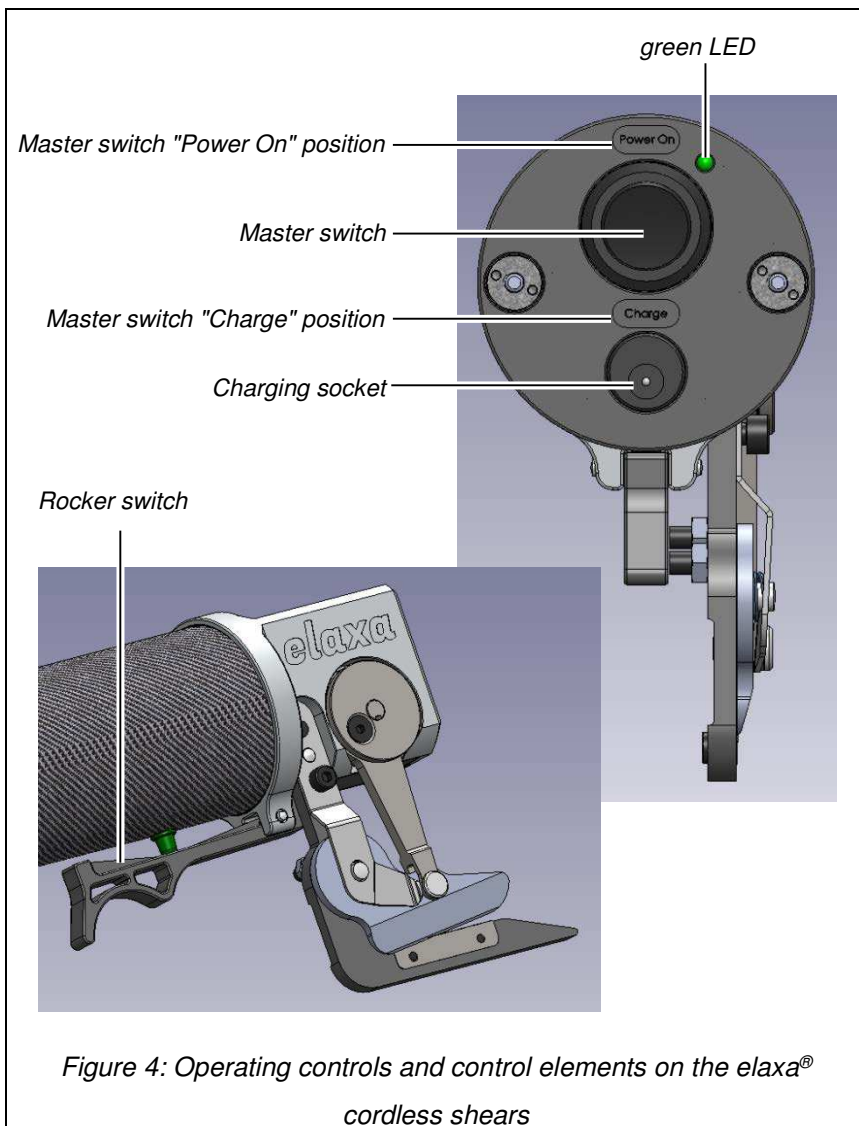


Figure 4: Operating controls and control elements on the elaxa® cordless shears

No .	Designation	Function
1	Green LED	Indicates the operating status: on = cordless shears are switched ON off = four possibilities: (a) the cordless shears are switched OFF. (b) the motor's overload protection has tripped and switched the cordless shears OFF automatically. (c) the cordless shears have overheated and were switched OFF automatically. (d) the battery is discharged.
2	Master switch	Switches the power supply to the cordless shears ON and OFF and switches between operating and charging modes. Master switch "Power On" position = cordless shears in the operating mode Master switch "Charge" position = cordless shears in the charging mode
3	Charging socket	The barrel plug (6) from the elaxa® charger is connected here.
4	Rocker switch	Starts the cutting device up.

The following operating controls and indicators are located on the charger:

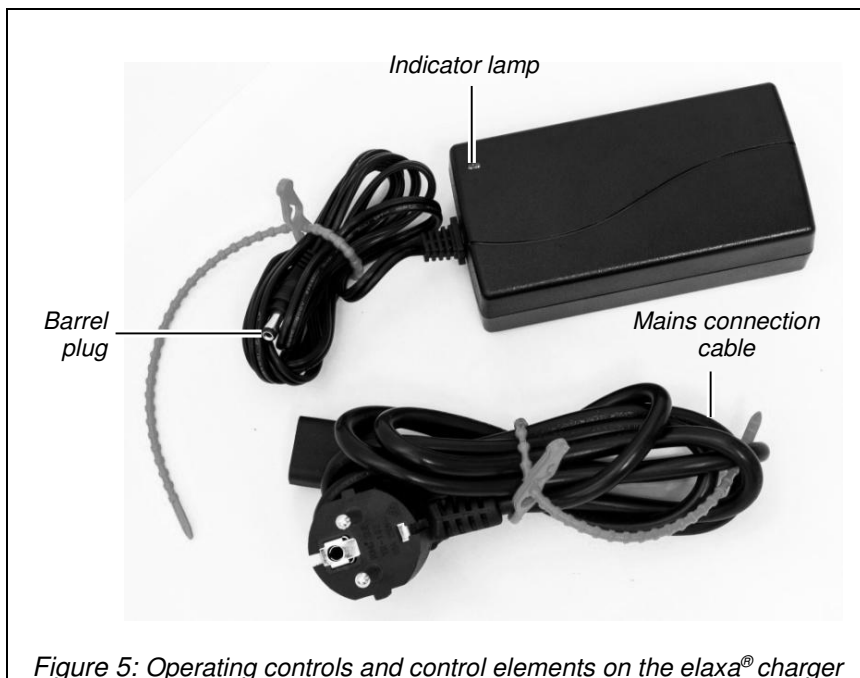


Figure 5: Operating controls and control elements on the elaxa® charger

No.	Designation	Function
5	Indicator lamp	Indicates the operating status: green = when the cordless shears are not connected: The charger is connected to the mains power supply and is ready for operation. green = when the cordless shears are connected: The battery is fully charged. red = charging is in progress. off = charger is not connected to the mains power supply.
6	Barrel plug	Is plugged into the charging socket (3) to charge the cordless shears' battery.

3.4 Technical data

Scope of delivery	Elaxa® cordless shears elaxa® charger Tool box Tools (Allen keys)
Materials to be cut	Glass fibre, carbon fibre, aramid fibre, PVC, carpet, tarpaulins, plastic sheeting, rubber, tinfoil, sailcloth, textiles, leather, cardboard, paper
Cutting	Tool steel, optionally hard metal
Cutting performance	max. 3 layer, 1,200 g/m ² glass fibre mat- ting per layer (matching cutting device)
Motor	Electronically commutated motor, suitable for work in an environment with conduc- tive dusts (CFRP), maintenance-free
Motor power	max. 150 W (standard) 300W (XL)
Battery	Built-in lithium-ion battery (cannot be re- placed by user) with protective circuit, 14.1V, 3.1 Ah (standard), 14.1V, 6.2 Ah (XL)
Charger	elaxa® charger, 3.0 A
Charging duration	approx. 75 minutes (standard) approx. 150 minutes (XL) (for fully discharged battery)
Operating voltage Charger	110-240 V / 50-60 Hz AC
Weight	850 g (standard), approx. 1,200 g (XL)

Dimensions	
Length x width x height (without cutting device)	26 x 8.5 x 6 cm
Length (with cutting device)	approx. 28 cm (standard), approx. 32 cm (XL)
Grip diameter	approx. 5.6 cm
Ambient temperature:	-5 °C to +40 °C
Maximum operating temperature	Approx. 70 °C

4 Start-up



WARNING!

Danger to life.

If the cordless shears are used improperly, serious or even fatal injuries can be caused.

Therefore:

- Read the entire operating instructions before putting the elaxa® cordless shears into operation!
-



ATTENTION!

Risk of material damage.

The battery can suffer permanent damage if an incorrect charger is used.

Therefore:

- Only use the elaxa® charger
-



ATTENTION!

Risk of material damage.

The battery can suffer permanent damage if charging is prematurely interrupted.

Therefore:

- Before operating the elaxa® cordless shears for the first time, charge the battery fully, without interruption!
-



With the exception of the initial charging procedure, all other charging procedures can also be carried out as partial charging procedures if necessary. This means that breaks in work for example can be used sensibly to re-charge the elaxa® cordless shears. Partial charging procedures can also be interrupted without affecting the life of the battery, even if the battery is not fully charged.



Numbers and letters in brackets refer to the identification of operating controls and indicators and components described in Sections 3.3 and 6.5

4.1 Checking the Scope of Delivery

Before operating the cordless shears for the first time, make certain that the scope of delivery is complete (see Section 3.4, page 26).

4.2 Charging the cordless shears

The battery must be fully charged before using the cordless shears for the first time.

4.2.1 Connecting the charger

- ⇒ Connect the mains connector on the elaxa® charger to a suitable mains outlet socket with protective earth (see Chapter 3.4, page 26).
 - ↳ The indicator lamp (5) lights up green.
 - ↳ The charger is ready for operation.

4.2.2 Charging



WARNING!

Accumulation of heat.

Heat is produced when charging the battery.

Therefore:

- Make certain that adequate heat dissipation and ventilation is provided during the charging procedure!
-

- ⇒ Switching the cordless shears to the charging mode: Select the master switch (2) to the "Charge" position.
 - ⇒ Plug the barrel plug (6) on the elaxa® charger into the cordless shears' charging socket (3).
 - ↳ The indicator lamp (5) lights up red.
 - ↳ The battery is charging.
-



A full charging cycle for a completely discharged battery takes approx. 75 minutes (150 minutes for the XL version).

When the battery is fully charged, the indicator lamp (5) once again lights up green.

4.2.3 Concluding charging

- ⇒ Disconnect the charger's barrel plug (6) from the charging socket (3) cordless shears.
- ⇒ Disconnect the mains connection plug from the mains socket.
 - ↳ The indicator lamp (5) goes out.

5 Operation



Numbers and letters in brackets refer to the identification of operating controls and indicators and components described in Sections 3.3 and 6.5.

5.1 Safety Regulations for Operation



Before operating the machine, the notes regarding safety must have been read (see Chapter 1, page 8).

WARNING!

There are numerous dangers involved in cutting with the cordless shears.

Risk to health through lacerations, eye injuries and the inhalation of airborne material fibres.

Therefore:



- Wear personal protection equipment (PPE):
 - Protect the free hand, which does not hold the cordless shears, by wearing a cut-resistant glove (chain mesh glove).
 - Wear protective goggles.
 - Depending upon the material being cut, wear a dust mask.
 - Depending upon the material being cut, use a stationary dust extraction device.
-



CAUTION!

Long hair and loose-fitting clothing.

Risk of long hair, jewellery or loose-fitting clothing being caught up by and tangled round the cutting device and/or parts of the drive mechanism or gearing.

Therefore:

- Tie long hair up and/or wear a hair net.
 - Wear close-fitting clothing.
 - Remove loosely hanging objects like e. g. necklaces, bracelets, kerchiefs, scarves or ties.
-



CAUTION!

Hot gear head.

The gear head can become extremely hot when the cordless shears have been operated for long periods. Risk of burns.

Therefore:

- Do not touch the hot gear head.
-

5.2 Switching the cordless shears ON/OFF

Make certain that daily maintenance has been carried out before starting work (see Section 6.2, page 38).

5.2.1 Switching ON (operational readiness)



There must be no material in the cutting device when switching ON!

If there is material in the cutting device when it is started up, this will prevent it from starting up, the motor will be overloaded, the overload protection will trigger and the cordless shears will be switched OFF immediately.

- ⇒ Select the master switch (2) to the "Power On" position.
 - ↳ The green LED (1) lights up (providing the battery is charged).
 - ↳ An acoustic signal sounds after 2 seconds (operating mode ready).
 - ↳ The cordless shears are switched ON and ready for operation.

5.2.2 Switching ON after overload protection has triggered

- ⇒ Connect the cordless shears up to the elaxa® charger for a short period, as for normal charging (see Chapter 4.2, page 29). If necessary, carry out a full charging cycle.
- ⇒ Switch the cordless shears ON (see Section 5.2.1, page 33).

5.2.3 Switching off

- ⇒ Select the master switch (2) to the "Charge" position.
 - ↳ The green LED (1) goes out.
 - ↳ The cordless shears are switched OFF.

5.3 Cutting

WARNING!

Risk of serious personal injury.

Limbs and other body parts can be lacerated or even amputated by the sharp, motor-driven blades.

Therefore:

- Do not touch the cutting device.
 - Do not allow limbs or other body parts to enter the danger zone.
 - Wear personal protection equipment (PPE):
 - Protect the free hand, which does not hold the cordless shears, by wearing a cut-resistant glove (chain mesh glove).
 - Wear protective goggles.
-



WARNING!

Blunt, worn and dirty blades.

The material to be cut can be trapped between the blades, resulting in damage to the material and cordless shears and possible personal injuries.

Therefore:

- Replace blunt or worn blades.
 - Clean dirty blades.
-



CAUTION!

Danger of crushing.

Body parts can be crushed by the mechanical movement of the cutting device.

Therefore:

- Do not touch the cutting device.
 - Do not allow limbs or other body parts to enter the danger zone.
-





ATTENTION!

Risk of material damage.

The cordless shears can be damaged by attempting to cut material that is too thick.

Therefore:

- Before cutting materials, compare the material properties with those given in the technical data (material to be cut, cutting performance).
 - Contact the customer service department if there is any doubt. The manufacturer may be able to carry out material trials.
-

5.3.1 Starting the cutting procedure

- ⇒ Switch the cordless shears ON (see Section 5.2.1, page 33).
- ⇒ Use the fingers on the grip to pull the rocker switch (4) towards the grip.
 - ↳ The cutting device starts up.
- ⇒ Wait until the cutting device has reached its maximum stroke frequency (speed).
- ⇒ Guide the cutting device through the material.
 - ↳ The material will be cut.

5.3.2 Finishing the cutting procedure

- ⇒ Withdraw the cordless shears from the material.
- ⇒ Release the rocker switch (4).
 - ↳ The cutting device comes to a standstill.
- ⇒ Switch the cordless shears OFF (see Section 5.2.3, page 33).

6 Maintenance and repair

The maintenance schedule lists the maintenance work that must be carried out at regular intervals.

Contact the customer service department for maintenance work that must be carried out by a specialist (see Chapter 12, page 67).



Numbers and letters in brackets refer to the identification of operating controls and indicators and components described in Sections 3.3 and 6.5.

6.1 Safety Regulations for Maintenance and Repair



Before carrying out maintenance, the notes regarding safety must have been read (see Section 1, page 8).

WARNING!

Risk of serious or even fatal injuries.

If the cordless shears are started up inadvertently, serious or even fatal injuries can be caused. The cordless shears must always be switched OFF before carrying out maintenance or repair work.

Therefore:

- Always switch the cordless shears OFF before carrying out any type of maintenance or repair work: Select the master switch (2) to the "Charge" position.
- Always make certain that the cordless shears are switched OFF before carrying out any type of maintenance or repair work!





CAUTION!

Hot gear head.

The gear head can become extremely hot when the cordless shears have been operated for long periods. Risk of burns.

Therefore:

- Allow the gear head to cool down sufficiently before starting maintenance or repair work.
-



CAUTION!

Risk of injury.

Risk of long hair, jewellery or loose-fitting clothing being caught up by and tangled round the cutting device and/or parts of the drive mechanism or gearing if they get between the cutting device.

Therefore:

- Tie long hair up and/or wear a hair net.
 - Wear close-fitting clothing.
 - Remove loosely hanging objects like e. g. necklaces, bracelets, kerchiefs, scarves or ties.
-

6.2 Maintenance schedule

Please heed safety regulations from Section 6.1, page 36.

Interval	Activity	see
Daily (before starting work)	Carry out a visual inspection for damage or faults.	Section 6.3
	Inspect the cutting device for dirt and debris, clean if necessary.	Section 6.4
Daily	Check the cordless shears for unusual noises during operation.	
	Visually inspect the blades, to see whether they are sufficiently sharp.	
As required	Clean the cordless shears.	Section 6.4
	Replace the blades.	Section 6.5

6.3 Repairing Faults

If damage, faults or unusual noises are detected:

- ⇒ Take the cordless shears out of operation.
- ⇒ Contact a specialist dealer or the customer service department (see Chapter 12, page 66).

6.4 Cleaning the Cordless Shears



ATTENTION!

Aggressive cleaning agents.

The cordless shears can be damaged.

Therefore:

- Do not use aggressive cleaning agents!
 - Use a dry cloth to clean the cordless shears.
-

- ⇒ Make certain that the cordless shears are switched OFF (see Section 5.2.3, page 33).
 - ⇒ Wipe the exterior of the cordless shears using a dry cloth.
-



We recommend that the cutting device be cleaned using an ultrasonic bath and a suitable cleaning agent. The shear foot must be removed to do this. Never immerse the entire cordless shears in the ultrasonic bath!

On our website, www.elaxa.de, you can find a **web video** with corresponding instructions.

For removal of blades (see Section 6.5.1, page 43).
For removal of the shear foot, see Section 6.6.1, page 49.

6.5 Replacing the Blades

Replace blunt or worn blades in order to

- always achieve optimum cutting performance,
- prevent the motor, parts of the drive mechanism and/or gearing from overloading,
- preserve the capacity of the battery,
- prevent material from becoming trapped, which can cause dangerous situations.



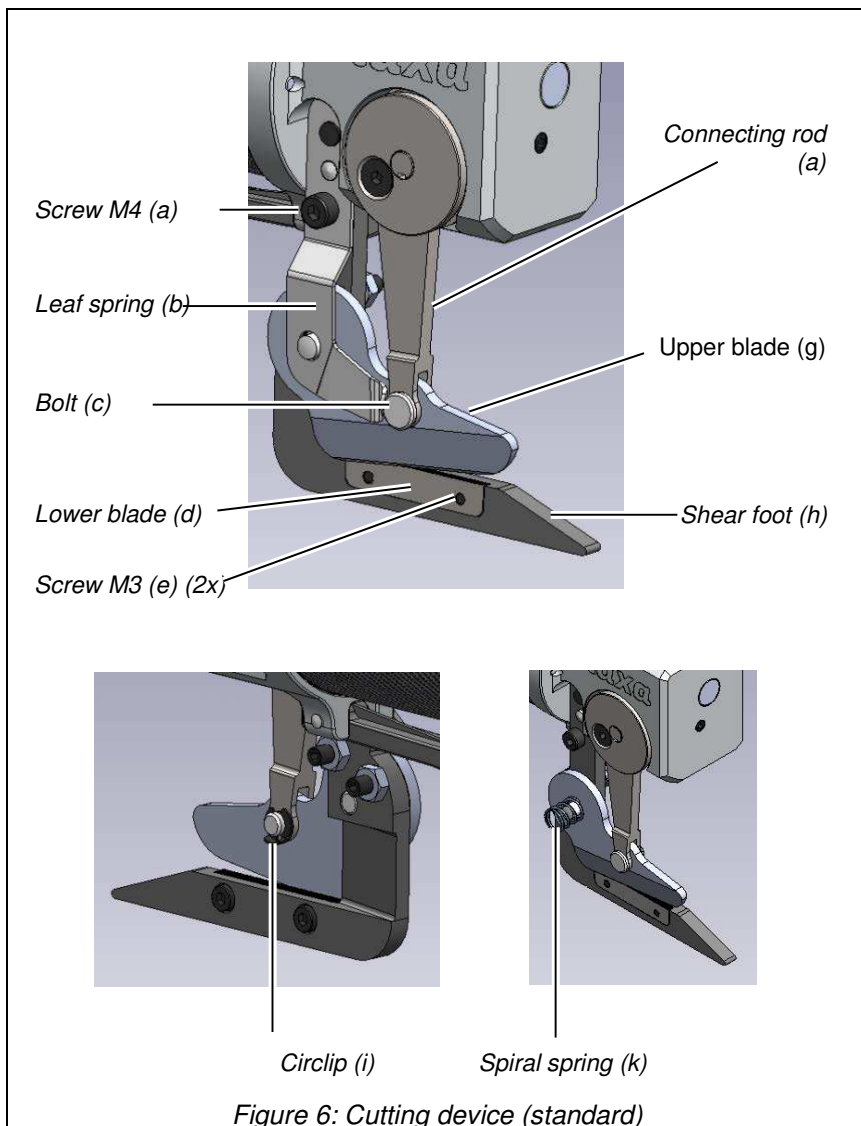
Blunt blades can be sharpened up to four times (depending upon the degree of wear) by the manufacturer and/or specialist dealer. Sharpening reduces the thickness of the material, such that one or more shim plates (see Figure 8) must be inserted between the shear foot (h) and the lower blade (d). These compensate for material lost in sharpening.

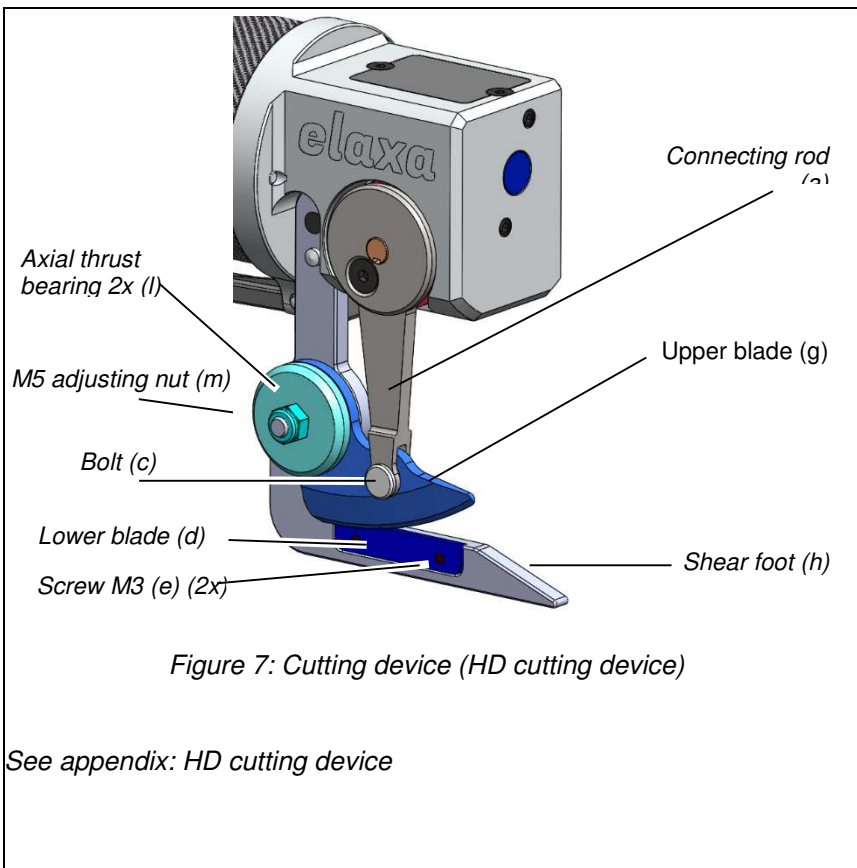
Shim plates are available in several thicknesses. Either a single shim plate can be inserted or several shim plates, which add up to the required thickness, can be inserted. Tailor made shim plates are normally provided when sharpened blades are returned.

Contact a specialist dealer or the customer service department for blade sharpening (see Chapter 12, page 67).



A wide, ever-increasing range of spare/expendable and accessory parts are available for the elaxa® cordless shears. Information is available from your specialist dealer or from our website - www.elaxa.de.





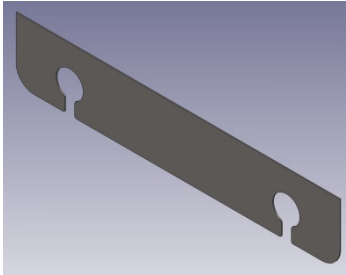


Figure 8: Shim plate

6.5.1 Removing the blades (standard)



On our website, www.elaxa.de, you can find a **web video** showing blade replacement (only standard cutting device).

- ⇒ Make certain that the cordless shears are switched OFF (see Section 5.2.3, page 33).
- ⇒ Remove the circlip (i) from the stud.
- ⇒ Remove the stud (c).
- ⇒ Use an SW3 Allen key to remove the M4 screw (a), then remove the leaf spring (b) and the spiral spring (k) beneath it.
- ⇒ Swivel the upper blade (g) downwards, out of the connecting rod.
- ⇒ Remove the upper blade (g).
- ⇒ Use an SW2.5 Allen key to remove the two M3 screws (e).
- ⇒ Remove the lower blade (d) and shim plate(s) (e) if fitted.

6.5.2 Removing the blades (HD cutting device)

- ⇒ Make certain that the cordless shears are switched OFF (see Section 5.2.3, page 33).
- ⇒ Remove the circlip (i) from the stud.
- ⇒ Remove the stud (c).
- ⇒ Swivel the upper blade (g) downwards, out of the connecting rod.
- ⇒ Unscrew the self-locking adjusting nut M5 (m).
- ⇒ Remove the axial thrust bearing.
- ⇒ Remove the upper blade (g).
- ⇒ Use an SW2.5 Allen key to remove the two M3 screws (e).
- ⇒ Remove the lower blade (d) and shim plate(s) (e) if fitted.

6.5.3 Fitting the blades (standard)



On our website, www.elaxa.de, you can find a **web video** showing blade replacement (only standard cutting device).

- ⇒ Make certain that the cordless shears are switched OFF (see Section 5.2.3, page 33).
- ⇒ If a re-sharpened lower blade is to be fitted: Place the relevant shim plate(s) into the recess in the shear foot.
- ⇒ Fit the lower blade (d) to the shear foot, such that the side of the blade marked with a cross faces towards the contact surface of the shear foot or shim plates respectively.

CAUTION!

Blade fitted incorrectly.

Risk of damage to the cordless shears and to the material being cut if the lower blade is fitted the wrong way round.

Therefore:

- Fit the lower blade such that the side marked with the cross faces towards the contact surface of the shear foot.
- The cross on the lower blade must not be visible when it is fitted to the shear foot.



- ⇒ Insert the two M3 screws (e) for the lower blade (d) and tighten them using an SW2.5 Allen key.
- ⇒ Insert the upper blade (g).
- ⇒ Swivel the upper blade (g) upwards into the connecting rod.
- ⇒ Fit the spiral spring (k), followed by the leaf spring (b), then insert the M4 screw (a) and tighten it using an SW3 Allen key.
- ⇒ Insert the stud (c).
- ⇒ Replace the circlip (i) to secure the stud.

6.5.4 Fitting the blades (HD cutting device)

- ⇒ Make certain that the cordless shears are switched OFF (see Section 5.2.3, page 33).
- ⇒ If a re-sharpened lower blade is to be fitted: Place the relevant shim plate(s) into the recess in the shear foot.
- ⇒ Fit the lower blade (d) to the shear foot, such that the side of the blade marked with a cross faces towards the contact surface of the shear foot or shim plates respectively.

CAUTION!

Blade fitted incorrectly.

Risk of damage to the cordless shears and to the material being cut if the lower blade is fitted the wrong way round.

Therefore:

- Fit the lower blade such that the side marked with the cross faces towards the contact surface of the shear foot.
- The cross on the lower blade must not be visible when it is fitted to the shear foot.



-
- ⇒ Insert the two M3 screws (e) for the lower blade (d) and tighten them using an SW2.5 Allen key.
 - ⇒ Insert the lower axial thrust bearing (l) (take heed of the position of the O-rings).
 - ⇒ Insert the upper blade (g).
 - ⇒ Insert the upper axial thrust bearing (l) (take heed of the position of the O-rings).
 - ⇒ Put on the bearing cover.
 - ⇒ Set the blades with the M5 adjusting nut (m) so there is no play, but so they move smoothly.
 - ⇒ Swivel the upper blade (g) upwards into the connecting rod.

- ⇒ Insert the stud (c).
- ⇒ Replace the circlip (i) to secure the stud.

(see Chapter 9 “HD cutting device”, page 54)

6.6 Removing and fitting the shear foot (standard and HD cutting device)

To clean the shear foot in an ultrasonic bath (see Section 6.4, page 39) it must first be removed.

6.6.1 Removing the shear foot

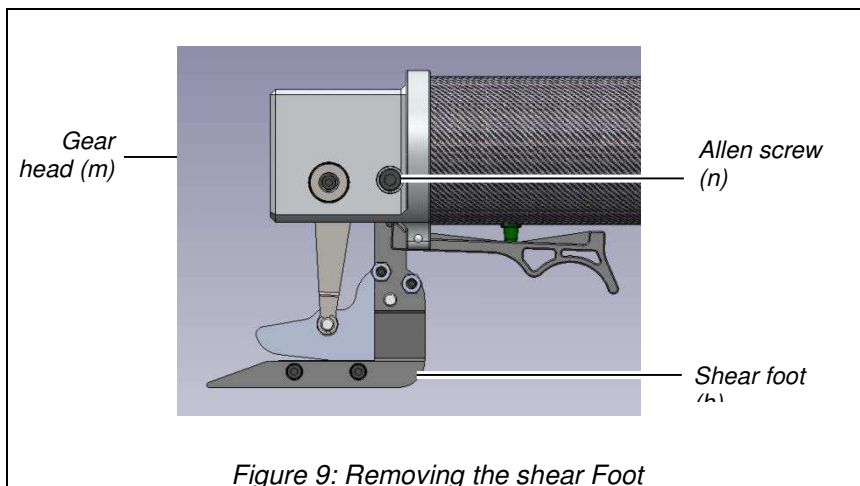


Figure 9: Removing the shear Foot

- ⇒ Make certain that the cordless shears are switched OFF (see Section 5.2.3, page 33).
- ⇒ Remove the circlip (i) from the stud.
- ⇒ Remove the stud (c).
- ⇒ Swivel the upper blade (g) downwards, out of the connecting rod.
- ⇒ Remove the Allen screw (n) from the gear head (m).
- ⇒ Remove the shear foot (h).

6.6.2 Fitting the shear foot

Fit the shear foot in the reverse sequence as that for removing it.

6.7 Maintenance and repair records

Maintenance work that has been carried out must be recorded in the table below and confirmed if necessary. This provides a traceable record of maintenance work. For maintenance work records over and above these, it is recommended to keep your own lists.

Maintenance work carried out		
Date	Signature	Remarks / work carried out

7 Storage and transportation

If the elaxa® cordless shears are not required for use, they must be stored, together with the elaxa® charger, in the toolbox provided.

The cordless shears should be kept under lock and key, to secure them against unauthorised use.

The manufacturer will accept no liability whatsoever for damage caused by incorrect storage.

8 Troubleshooting

If faults occur on the elaxa® cordless shears, proceed in accordance with the troubleshooting table below. If this does not help to remedy the fault, consult the customer service department (see Chapter 12, page 67).

Malfunctions are often caused by incorrect operation or maintenance. The information given in this Chapter must be strictly observed.



If your elaxa® cordless shears require any other repairs than those to the cutting device, these will be carried out by your specialist dealer. If necessary, he will also lend you some replacement shears for the duration of the repair.



Numbers and letters in brackets refer to the identification of operating controls and indicators and components described in Sections 3.3 and 6.5.

Faults	(possible) Causes	Remedial Measures
Cordless shears do not work.	Cordless shears are not switched ON	Select the master switch (2) to the "Power On" position (see Section 5.2.1, page 33).
The cordless shears cannot be put into operation.	The battery is discharged.	Charge the battery (see Chapter 4, page 28).
The cordless shears stop working.	The battery is discharged.	Charge the battery (see Chapter 4, page 28).
	The overload protection has tripped.	Make sure that there is no material in the cutting device when switching ON.
		Make sure that the material to be cut is not too thick. Cut a piece of thinner material for test purposes and see if the problem persists. If the material is too thick, it may be possible to remedy the problem by fitting a special cutting device and blades (see Chapter 3.4, page 26). Contact your specialist dealer or the customer service department and provide a sample piece of material.
	The thermal overload protection has tripped. The cordless shears have become too warm.	Switch the cordless shears OFF and let them cool. The thermal overload protection will automatically reset when the shears have cooled sufficiently.

Faults	(possible) Causes	Remedial Measures
Cordless shears cannot be charged.	The charger is not connected to the mains power supply.	Connect the mains connector on the charger to a suitable mains outlet socket with protective earth.
	Mains power supply is defective or has failed.	Check the outlet socket and mains power supply.
	The cordless shears are not switched to the "Charge" mode.	Select the master switch (2) to the "Charge" position (see Section 4.2.2, page 30).
The cordless shears no longer cut the material or cut it poorly.	The blades are blunt and worn.	Replace the blades (see Section 6.5, page 40).
	Unsuitable blades are fitted.	Replace with suitable blades.
	Incorrect shim plates are fitted.	Replace with suitable shim plates.
	Incorrect assembly	Replace the blades in strict accordance with instructions (see Section 6.5, page 40).
The cutting device does not perform a cutting motion.	cutting device defective.	If this does not help to remedy the fault, consult the customer service department (see Chapter 12, page 67).
	Drive defective.	

9 HD cutting device

For the trimming and cutting of particularly strong structures (E.g. glass fibre fabrics 1.700 g / m² up to three layers) or aramid fabrics, it is preferable to use the new HD shear foot on the elaxa[®] cordless shears.

The newly developed HD shear foot for elaxa[®] cordless shears foot is characterised by the following features:

- 1) Upper blade solidly guided between two axial thrust bearings.
- 2) Bearing encapsulated in O-ring package.
- 3) Full system compatibility with all lower and upper blades from the elaxa[®] product range.
- 4) Changing from the standard to the HD shear foot can be carried out at any time without making any alterations to the elaxa[®] cordless shears.

9.1 General notices regarding the HD cutting device

- The axial thrust bearing must be lightly greased when inserted.
- Check the condition of the O-rings and replace if necessary.
- Always use new self-locking nuts.
- Check the thrust bearings for wear.
- Ensure that the O-ring seal on the upper at the top and bottom are seated correctly.
- Insert slightly greased O-rings.
- Regularly check the bearing play and adjust if necessary.

9.2 Adjusting blade tension

The tension of the upper and lower blades is specified by the position of the flange faces towards each other. If the blade pressure is no longer sufficient due to wear, the lower blades can be adjusted for pressure again by placing the shim plates. Always start with the smallest shim plate possible. In the case of the HD shear foot, it is not possible to optimise it this in the case of decreased cutting quality by increasing the bearing tension by tightening the M5 adjusting nut. This only leads to an increased level of wear. (see Chapter 6.5.4, page 47)

9.3 Troubleshooting

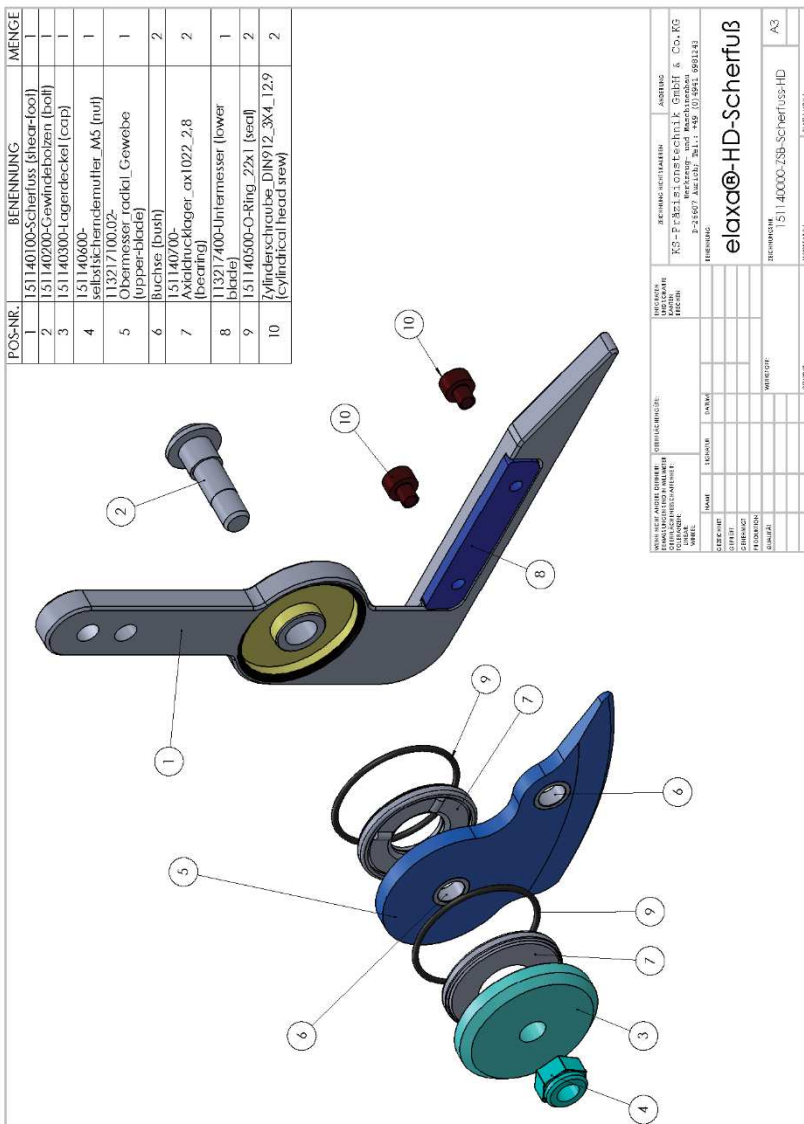
Bad cutting quality:

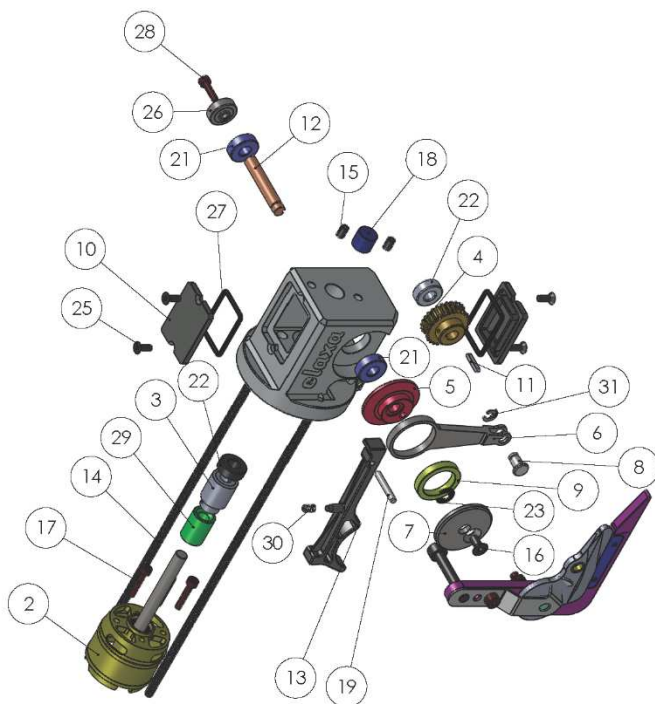
Possibly Causes:

- Lower and/or upper blades are worn
→Sharpen blades, replace if necessary.
- Lower blade inserted backwards → Insert blade correctly.
- Blades dirty / sticky →Clean blades thoroughly.
- Bearing adjusted improperly →Adjust bearing using the M5 adjusting nut so it is free of play.
- Blade pressure to low→Place lower blades accordingly.

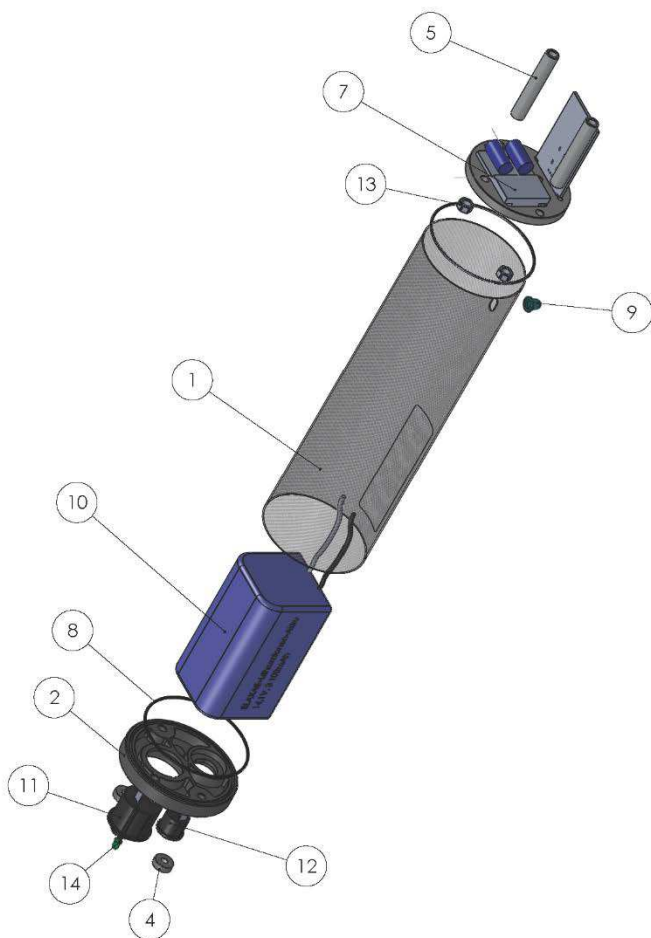
- Inappropriate blade combination → Replace blades with appropriate ones.
- M5 adjusting nut loosens during operation → use new self-locking adjusting nuts.

10 Exploded views, spare parts

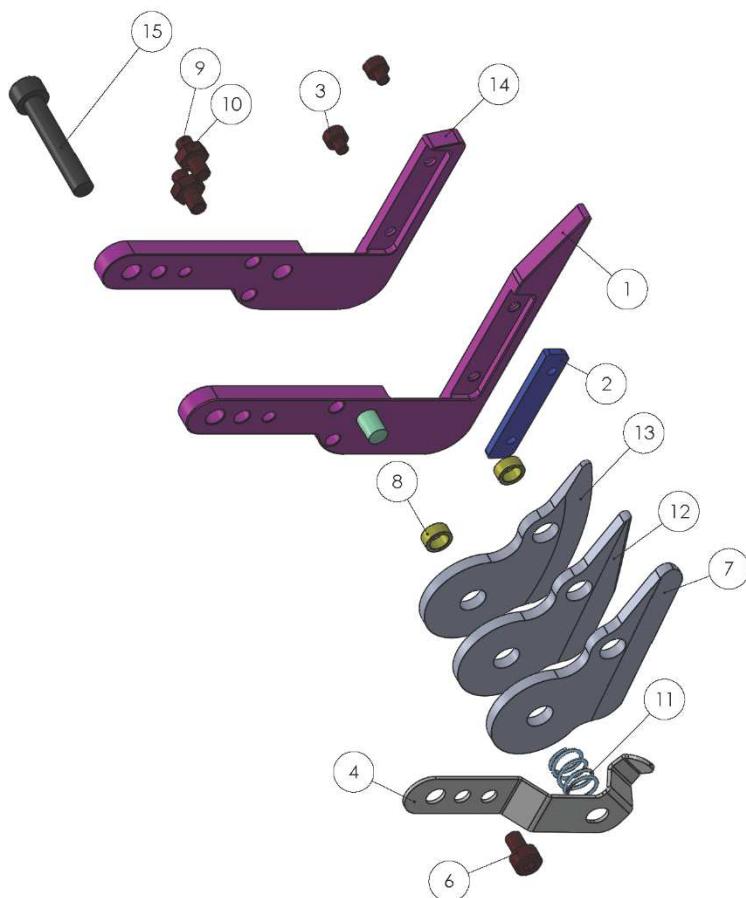




POS-NR.	BENENNUNG	BESCHREIBUNG	MENGE
1	113215000-Getriebegehäuse	Gehäuse, housing	1
2	113210500-Antriebsmotor	Antriebsmotor, bl-drive-motor	1
3	113210000.100-Schnecke_Standard_i4.5	Antriebsschnecke, worm-gear	1
4	113210000.101-Schneckenrad_Standard_i4.5	Schneckenrad, worm-wheel	1
5	113215100-Exzenter	Exzenter, excentric-drive	1
6	113215200-Pleuel	Pleuel, connecting-rod	1
7	113215300-Deckscheibe	Lagerdeckel, cover	1
8	113215400-Bolzen	Bolzen, bolt	1
9	113215500-Duennringlager_61703_2RS	Rillenkugellager, bearing	1
10	113215600-Deckel	Deckel, cap	2
11	113216000-Passfeder_2x2x12	Paßfeder, featherkey	1
12	113215800-Welle6	Welle, shaft	1
13	113210600-Schaltwippe	Schaltwippe, switch-lever	1
14	113216100-Zuganker_M4	Gewindestange, threaded-rod	2
15	Z35_4X6	Gewindestift, stud	2
16	Z33_4X8	Senkkopfschraube, countersunk-screw	1
17	Z31_3X16	Zylinderschraube, cylindrical-head-screw	2
18	Nadellagerbuechse_BK_0609	Lagerbüchse, bearing	1
19	113216400-Lagerbolzen_Schaltwippe	Zylinderstift, cylindrical-pin	1
20	Z25_4X20		1
21	Rillenkugellager_696_2RS	Rillenkugellager, bearing	2
22	Axialdrucklager_B6_14x6x5	Drucklager, bearing	2
23	113216300-Seeger_Sicherungsring	Sicherungsring, secure	1
24	113216500-O-Ring1x54	Dichtung, seal	1
25	Z33_3x8	Senkkopfschraube, countersunk-screw	4
26	113216900-Ring	Deckel, cap	1
27	113211000-Deckeldichtung	Dichtung, seal	2
28	Z31_3X12	Zylinderschraube, cylindrical-head-screw	1
29	113218000-Distanzhülse_Alü	Buchse, bush	1
30	113210000.123-Druckfeder_D-053A	Druckfeder, spring	1
31	113214800-KL_Sicherungsring	KL-Sicherungsring, secure	1
32	113217000-ZSB-Scherfuss_Standard		1
33	151140000-ZSB-Scherfuss-HD		1

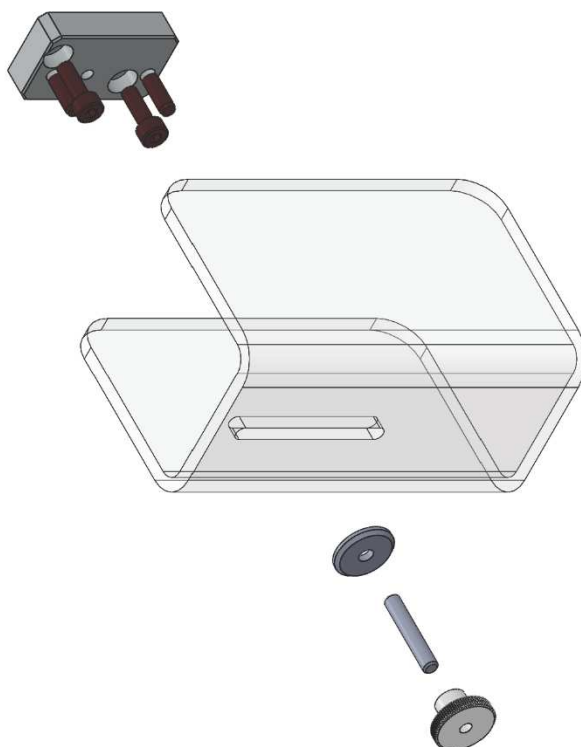


POS-NR.	BENENNUNG	BESCHREIBUNG	MENGE
1	113210100-Griffstueck	Handgriff, handle	1
2	113210200-Deckel_hinten	Gehäusedeckel, cap	1
4	113210400-Verschlussmutter	2-Loch-Mutter, nut	2
5	113210900-Abstandshuelse	Distanzhülse, bush	2
7	113210800-Platine2	Steuerplatine, pcb-board	1
8	113216500-O-Ring1x54	Dichtung, seal	2
9	113216600-Gummdichtung	Dichtung, seal	1
10	113211100-Lilon-Akkupack_m_Schutzschaltung	Akku-Pack, battery-pack	1
11	113216800-Wippenschalter_SCL_ON_ON	Hauptschalter, main-switch	1
12	113216700-Ladebuchse_Lumberg	Ladebuchse, charging-connector	1
13	Mutter_M4	Mutter, nut	2
14	LED_GRUEN_3mm	LED	1



POS-NR.	BENENNUNG	BESCHREIBUNG	MENGE
1	113217000-Scherfuss	Standard-Scherfuß, shear-foot - standard	1
2	113217400-Untermesser (lower blade)	Untermesser, lower- knife	1
3	M3X4	Zylinderschraube, cylindrical-head- screw	2
4	113217300- Blattfeder_Obermesser_t_0.8	Blattfeder, leaf-spring	1
5	113217200-Lagerbolzen_Obermesser		1
6	M4X6	Zylinderschraube, cylindrical-head- screw	1
7	113217100-Obermesser	Obermesser-Geometrie "A", upper-knife type "A"	1
8	Buchse (bush)	Buchse, bush	2
9	Ø4X12	Gewindestift, stud	2
10	Mutter M4	Mutter, nut	2
11	113217302-Druckfeder_VD_122C	Druckfeder, spring	1
12	113217100.01- Obermesser_linear_Gewebe	Obermesser Geometrie "B", upper-knife type "B"	1
13	113217100.02- Obermesser_radial_Gewebe	Obermesser Geometrie "C", upper-knife type "C"	1
14	113218600-Scherfuss_kurz	Standard-Scherfuß, kurz, shear-foot - standard, short	1
15	M5X30	Zylinder-Schraube, cylindrical-head- screw	1

OPTIONAL: zusätzliche Schutzabdeckung (verstellbar)
OPTION: additional safety-guard (adjustable)
Bst.Nr.: / part-no.: 113219100



elaxa®-Akkuschere mit optionaler Schutzabdeckung
 elaxa®-battery-shear with optional safety-guard



11 Disposal

The elaxa® cordless shears must not be disposed of as household waste.

It can be returned to your specialist dealer free of charge. They will dispose of it in an environmentally friendly manner.

Dispose of packaging and packaging materials in accordance with local environmental regulations.



Do not dispose of the device as household waste!

The EC Directive 2002/96/EC and the Electronic Equipment Act (ElektroG) state that the owners of equipment, that is no longer required for use, are legally bound to hand over such items to a separate waste disposal system.

International recycling symbol: The device contains recyclable materials.

The manufacturer will accept no liability for damage caused by incorrect disposal.

12 Customer Service

The customer service department will be pleased to assist in ordering spare parts, with maintenance and repair work and with general problems or queries.

Contact:

KS-Präzisionstechnik GmbH & Co. KG
Esenser Strasse 139
D-26607 Aurich
Deutschland (Germany)

Tel.: +49 (0) 4941 6981-243

Fax: +49 (0) 4941 6981-244

E-Mail: info@elaxa.de
info@ks-praezisionstechnik.de

Internet: www.elaxa.de
www.ks-praezisionstechnik.de

Dealer's Stamp

Date of purchase:

13 Declaration of conformity

EC Declaration of Conformity

In accordance with the EC Machinery Directive 2006/42/EC, Appendix II
A

We, the manufacturer, declare that the below mentioned, incomplete machine complies with the fundamental health and safety requirements of EC Directive 2006/42/EC in its conception and design as well as in the version introduced to the market by us. This declaration will be rendered null and void if alterations are made to the machine without our consent.

Designation: **cordless shears**

Serial number: - - - -

Manufacturer:

Company: **KS-Präzisionstechnik GmbH & Co. KG**

Address: **Esenser Strasse 139
26607 Aurich**

Conformity with the following Directives applicable to the machine is declared:

Low Voltage Directive (2006/95/EC), Electromagnetic Compatibility (2004/108/EC), Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) (2011/65/EC)

Harmonised standards applied:

DIN EN 1037, DIN EN 12100, DIN EN 60745-1, DIN EN 60745-2-8

Other technical standards and specifications applied:

-Authorised agent for the technical documentation:

Kai-Eric Sandvoss (Address: see manufacturer's address)

Aurich, 07.08.2013

Kai-Eric Sandvoss,
Managing Director

Place, date

Signature

Details of signatory

14 Notes

