

User Manual

Release 1.3

EL-Cut

High precision cutting pliers



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The information provided in this documentation includes general descriptions and/or technical characteristics regarding the performance of the equipment described herein. This documentation cannot serve as a proper evaluation of the suitability or reliability of the equipment for any specific application by any user and should not be relied upon as a substitute for such evaluation. Each user or installer is responsible for conducting an appropriate and complete risk assessment, evaluation, and testing of the equipment for their specific application. EL-Cell GmbH cannot be held responsible or liable for any misuse of the information contained herein.

Always comply with all relevant state, regional, and local safety regulations when installing and using this device. For safety reasons and to ensure compliance with the documented system data, only the manufacturer is authorised to perform repairs on components.

Disregarding this information may result in injury or damage to the equipment.

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Shipping Address for Repairs

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Please contact our customer service department before making a return. We will not open or process shipments without a completed decontamination report or RMA.

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1 Preamble

1.1 Purpose and Target Audience

This manual covers the structure, function, operation, and maintenance of the device described. It is intended for end users. An end user can be defined as any person who interacts directly with the device. The term "end user" usually includes laboratory personnel who have been specifically trained to operate this instrument and are familiar with all the precautions required to work in the laboratory.

Only an authorized and properly qualified and experienced person 18 years of age or older may use the device, who:

- has read and understood these installation and operating instructions
- is familiar with the installation and operation of this or a similar device
- is aware of all possible dangers and acts accordingly

1.2 Usage Instructions

Make sure you have read and understood the complete instructions and all safety information before using this product. Failure to follow these instructions may result in minor or serious injury.

Follow all instructions. This will prevent accidents that could result in property damage or injury. Keep all safety information and instructions for future reference and pass them on to subsequent users of the product.

The manufacturer is not liable for property damage or injuries resulting from incorrect handling or failure to comply with the safety instructions. In such cases, the warranty becomes void.

1.3 Obtaining Documents and Information

A current version of the documentation is available on the following website:

<https://el-cell.com/support/manuals/>

Alternatively, you can scan this QR code,
to access the website:



2 Product Description

The EL-Cut is a high-precision punching tool designed to punch electrodes from coated Cu and Al foils.

Unlike conventional punching (stamping), the EL-Cut cuts electrodes (fine blanking) using three active forces and tools with only a few microns of cutting clearance. The fine blanking process produces electrodes with clean cutting surfaces, without torn or chipped edges, and with an almost perfectly flat surface.

The EL-Cut punching tool is permanently installed and cannot be changed. EL-Cut is available in different versions, each with a different cutting tool. The tool diameter can range from **5 to 40 mm**. Different shapes, e.g., squared, are possible.



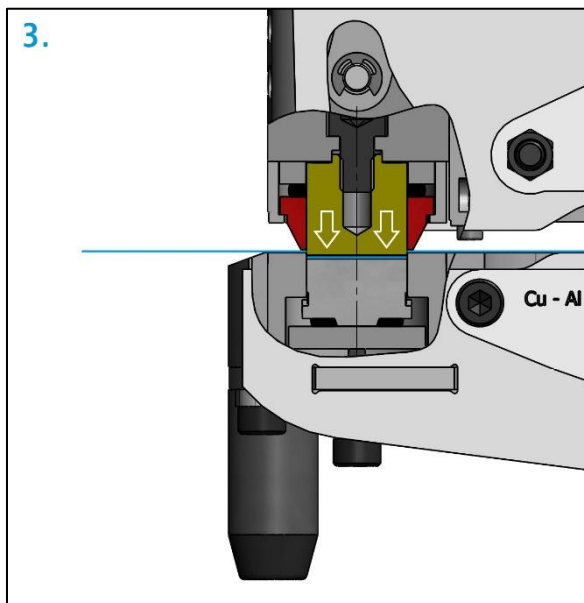
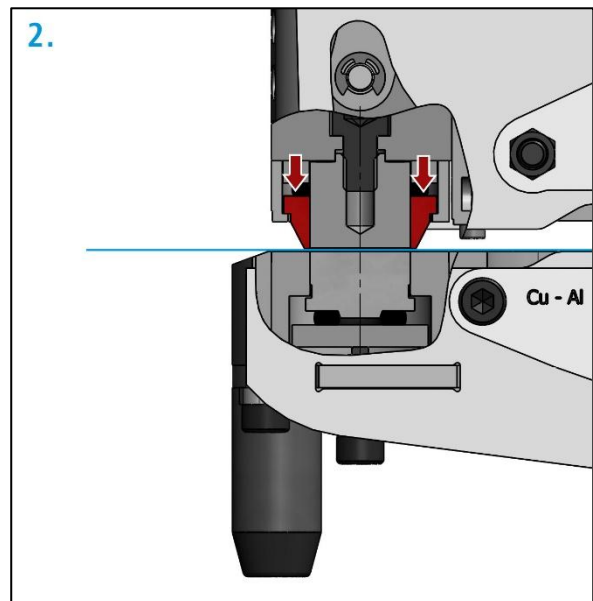
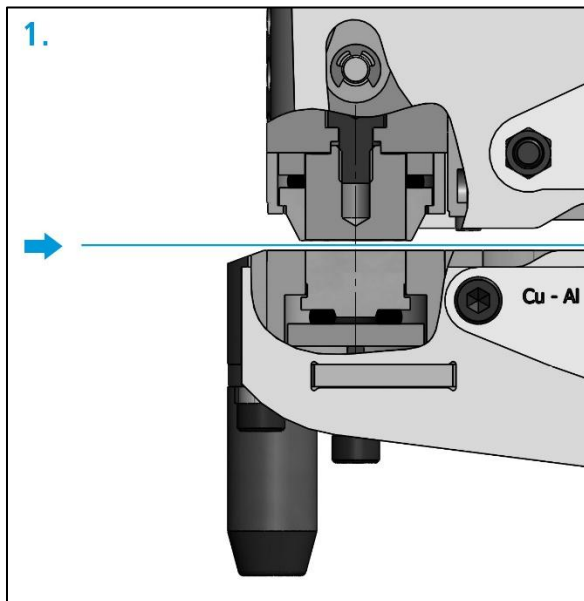
2.1 Features

- The diameter of the tool can be between 5 and 40 mm. Different shapes, e.g., squared, are possible
- Specifically designed for cutting electrodes coated on Al and Cu foil
- High-accuracy and durable cutting unit.

3 Technical Data

Height	140 mm
Width	380 mm
Depth	60 mm
Cutting tool diameter	5 to 40 mm (not interchangeable)
Max. material thickness	0.3 mm

4 Mode of Operation



The sheet to be punched is inserted with the electrode coating pointing downwards (1).

When the pliers handle is operated, the sheet is first fixed at the edge outside the punch contour (2) before the inner part is extracted (3). This process is sometimes referred to as fine blanking.

5 Guidelines for Intended Use

- These punch pliers are designed for use with Cu and Al foils in 0.1 to 0.3 mm thickness. If you would like to use them for other materials or thicknesses, please contact us if you have any questions. (e-mail: support@el-cell.com)
- Do not punch lithium metal foil with the pliers.
- Do not punch electrode films wetted with electrolyte, or any sticky films
- For punching, place the electrode film into the punching slit with the electrode coating pointing downwards.
- The high-precision cutting unit is very sensitive. Prevent impacts, for example, if the tool falls over.
- Actuate the pliers with gentle force only. **If the pliers are blocked**, unlock them by pushing the small lever (blue arrow) upward while slightly compressing the two handles.



6 Cleaning

After use, clean the punch and the die with alcohol and compressed air. If the cutting tool is contaminated (especially the lower part), moisten a sturdy cloth with alcohol and push it between the cutting irons. Now gently squeeze the plier handle so the fabric is slightly pinched, and pull it out again.

NOTICE

The punch and die are made of hardened steel and have limited corrosion resistance. Don't expose to a corrosive atmosphere. Don't leave wetted.

7 Warranty

For a period of one year from the date of shipment, EL-Cell GmbH (hereinafter Seller) warrants the goods to be free from defects in material and workmanship to the original purchaser. During the warranty period, Seller agrees to repair or replace defective and/or nonconforming goods or parts without charge for material or labour, or, at the Seller's option, demand return of the goods and tender repayment of the price. Buyer's exclusive remedy is repair or replacement of defective and nonconforming goods or parts, or, at Seller's option, repayment of the price.

Seller excludes and disclaims any liability for lost profits, personal injury, interruption of service, or for consequential, incidental or special damages arising out of, resulting from, or relating in any manner to these goods.

This Limited Warranty does not cover defects, damage, or nonconformity resulting from abuse, misuse, neglect, lack of reasonable care, modification, or the attachment of improper devices to the goods. This Limited Warranty does not cover expendable items. This warranty is void when repairs are performed by a non-authorized person or service centre. At Seller's option, repairs or replacements will be made on site or at the factory. If repairs or replacements are to be made at the factory, Buyer shall return the goods prepaid and bear all the risks of loss until delivered to the factory. If Seller returns the goods, they will be delivered prepaid, and Seller will bear all risks of loss until delivery to Buyer. Buyer and Seller agree that this Limited Warranty shall be governed by and construed in accordance with the laws of Germany.

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