

## Off-cut Remover Hektor 2

| Description     | Type     |
|-----------------|----------|
| Off-cut Remover | Hektor 2 |

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## 1.1 Instructions

Important information and instructions in this documentation are designated as follows:



### **Danger!**

**Draws your attention to an exceptionally grave, impending danger to your health or life.**



### **Warning!**

**Indicates a hazardous situation that could lead to injuries or material damage.**



### **Attention!**

**Draws attention to possible dangers, material damage or loss of quality.**



### **Notice!**

**Gives you tips. They make a working sequence easier or draw attention to important working processes.**



### **Environment!**

Gives you tips on protecting the environment.



Handling instruction



Reference to section, position, illustration number or document.



Option (accessories, peripheral equipment, special fittings).

## 1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to the life and limb of the user or third parties and/or damage to the device and other tangible assets can arise during use.
- The device may only be used for its intended purpose and if it is in perfect working order, and it must be used with regard to safety and dangers as stated in the operating manual.
- The device is intended exclusively for separating milled PCB's regarding the limits of the Technical Data. Any other use or use going beyond this shall be regarded as improper use. The manufacturer/supplier shall not be liable for damage resulting from unauthorized use; the user shall bear the risk alone.
- Usage for the intended purpose also includes complying with the operating manual, including the manufacturer's maintenance recommendations and specifications.



### **Notice!**

**The complete documentation can also currently be found in the Internet.**

## 1.3 Safety Instructions

- Partly encase the device for protection from ejected parts. Especially cover the area above the cutting zone to protect eyes and face.
- Risk of hand injury. Wear protective gloves while PCB separating.
- Risk of eye injury. Wear protective goggles while PCB separating.
- Use only faultless cut tools.
- Do not increase the operating pressure beyond 6 bar.
- Protect the foot switch against unintentional releasing.
- Keep hands out of the blade area if the compressed air is switched on.
- Disconnect the device after use from the compressed air.

- Work going beyond this may only be performed by trained personnel or service technicians.
- Unauthorized work on or modifications to the device can also endanger operational safety.
- Always have service work done in a qualified workshop, where the personnel have the technical knowledge and tools required to do the necessary work.
- There are various warning stickers on the device. They draw your attention to dangers. Warning stickers must therefore not be removed, as then you and other people cannot be aware of dangers and may be injured.

## 1.4 Safety Marking

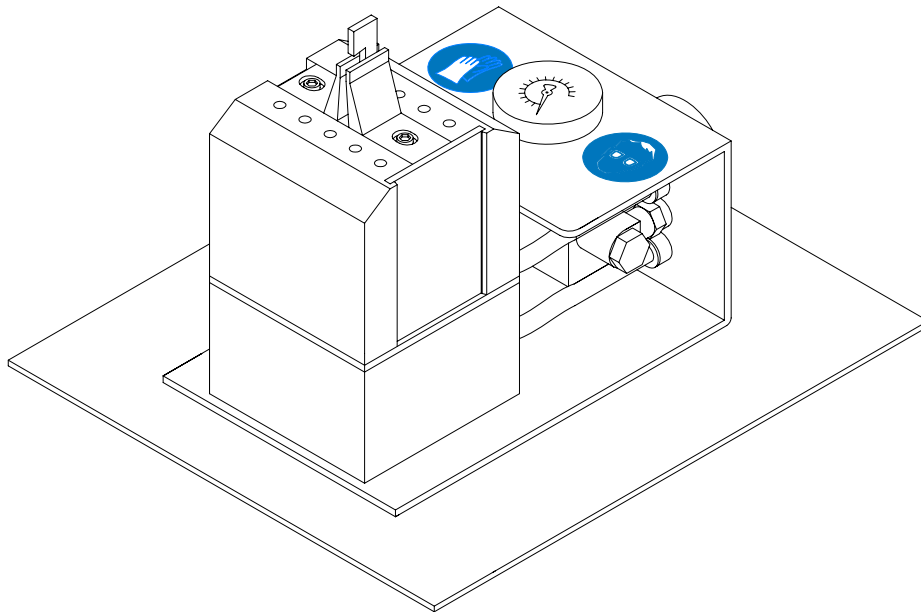


Fig. 1 Safety Marking



**Risk of hand injury by blade movement !**

- ▶ **Wear protective gloves while PCB separating.**



**Risk of eye injury by ejected parts !**

- ▶ **Wear protective goggles while PCB separating.**

## 1.5 Environment



Obsolete devices contain valuable recyclable materials that should be sent for recycling.

- ▶ Send to suitable collection points, separately from residual waste.
- The modular construction of the printer enables it to be easily disassembled into its component parts.
- ▶ Send the parts for recycling.

Hektor separates milled PCBs carefully and fast. The off-cut material is removed smoothly and precisely. Compressed air is used for the separation process. The operating pressure can be set on the machine. When the foot switch is pressed, the off-cut is punched out.

The off-cuts are collected in the collecting box. The box must be cleared manually or by using an industrial vacuum cleaner.

For Hektor 2 blades are offered which are adapted to the milled groove. The blades have one cut edge (L-Blades) or two cut edges (T-Blades).

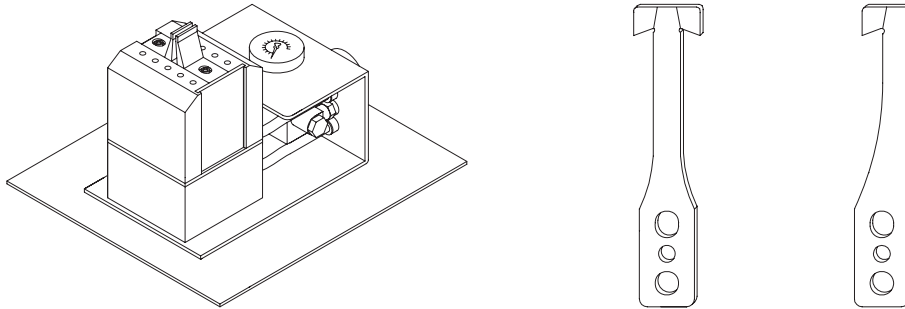


Fig. 2 Hektor 2, T-Blade, L-Blade

|                                   |   |  |
|-----------------------------------|---|--|
| Separation Length                 | up to 3,5 mm  |  |
| Weight                            | 2,7 kg  |  |
| Separation Principle              | Punch blade   |  |
|                                   | T-Blade<br>Off-cuts can be punched out right and left of the blade without turning the PCB. | L-Blade<br>For small distances between the off-cuts. |
| PCB Thickness                     | up to 2,5 mm  |  |
| Air connection                    | 1/4"-plug-in coupler  |  |
| Operating pressure                | typical 4 bar, maximum 6 bar  |  |
| Operating Temperature             | 10 - 35 °C  |  |
| Storage and Transport Temperature | -20 - +50 °C  |  |
| Humidity                          | 10 - 85%, non-condensing  |  |
| Dimension H x W x D               | 170 mm x 220 mm x 255 mm  |  |
| Maximum Sound Pressure Level LpA  | < 70 dB(A)  |  |

Table 1 Technical Data

- \* An industrial vacuum cleaner with an adapter tube is available on request.

#### 3.1 Unpacking and Setting-up the Device

- ▶ Lift the device out of the box.
- ▶ Check device for damage which may have occurred during transport.
- ▶ Check delivery for completeness.

Contents of delivery:

- Off-cut Remover Hektor 2
- Blade as ordered
- Foot switch
- Tube for compressed air supply
- Triplex tube for the foot switch
- Screw to fix the blade
- Allen key 3 mm to fix the blade
- Allen key 4 mm to fix the matrices
- Adapter plate to connect an industrial vacuum cleaner



#### Warning!

Risk of injury by ejected parts !

- ▶ Set up device on a level surface and partly encase the device. Especially cover the area above the cutting zone to protect eyes and face.

Notice!



- ▶ Please keep the original packaging in case the device must be returned.

#### 3.2 Connecting the Device

##### 3.2.1 Connecting the Foot Switch

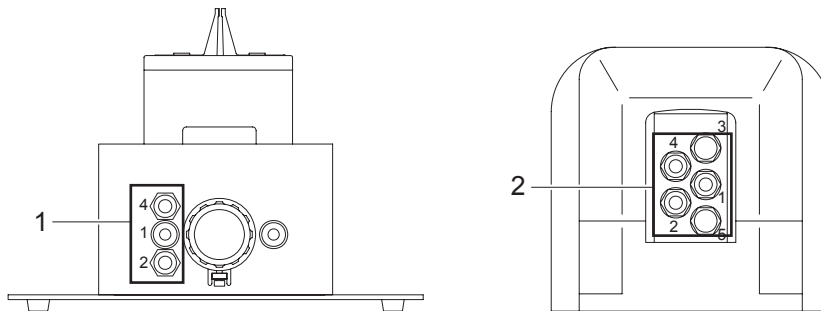


Fig. 3 Connecting the foot switch



#### Warning!

Risk of unintended blade moving when switching on the compressed air !

- ▶ Note the markings "1", "2" and "4" on the triplex tube and the fittings (1,2).

- ▶ Connect the triplex tube regarding the markings to the fittings of the Hektor (1) and the foot switch (2).
- ▶ To loosen the connection press the ring of the fitting light against the fitting and then pull out the tube.

### 3.2.2 Connecting the Compressed Air

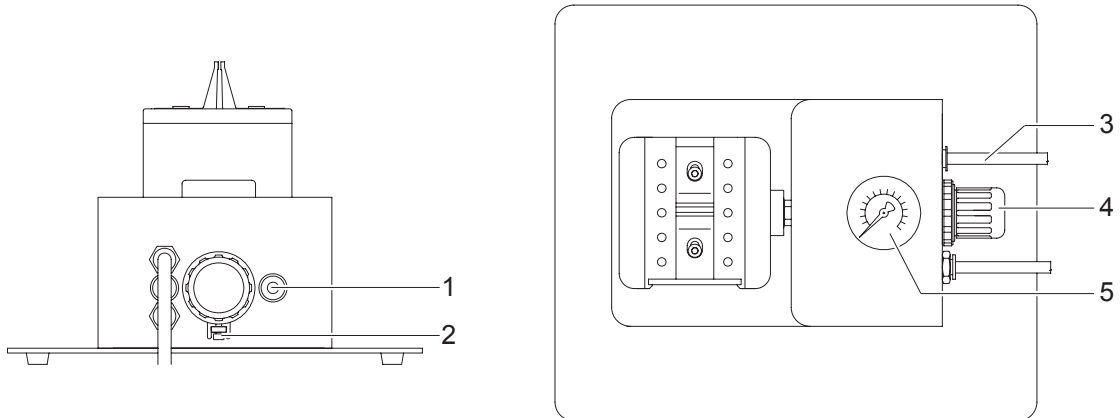


Fig. 4 Connecting the compressed air

#### Attention!

- ▶ Use only waterless and filtered compressed air.

1. Push the tube for the compressed air supply into the fitting (1).
2. Connect the tube (3) to the compressed air supply.
3. Loosen the screw (2) at the lower side of the hood (4).
4. Pull out the hood (4).
5. Adjust the pressure by turning the hood. Check the pressure at the manometer (5). Typically operate the device at 4 bar.



#### Warning!

Risk of blade overload !

- ▶ Do not raise the operating pressure beyond 6 bar.

6. Press in the hood (4).
7. Tighten the screw (2).

### 3.2.3 Connecting an Industrial Vacuum Cleaner

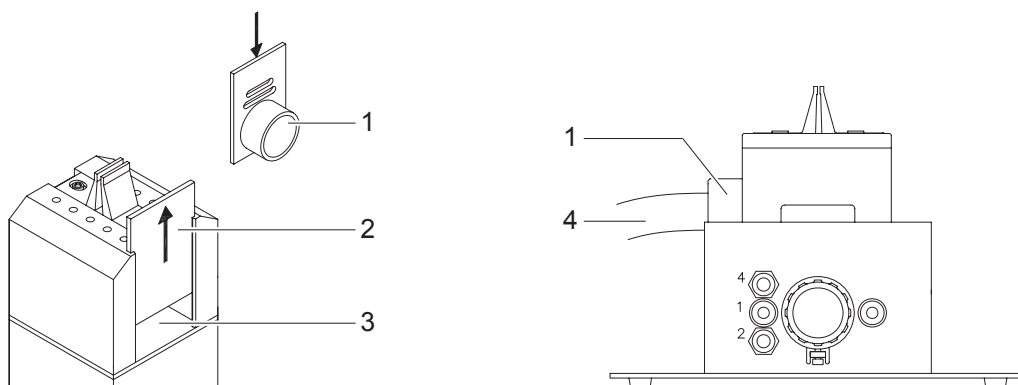


Fig. 5 Connecting an industrial vacuum cleaner

1. Remove the acrylic pane (2) from the container (3) and replace it by the adapter plate (1).
2. Connect the tube of the industrial vacuum cleaner to the adapter plate (1).



## 3.3 Mounting the Blade

**Warning!**

Risk of hand injury !

► Disconnect the device from the compressed air.

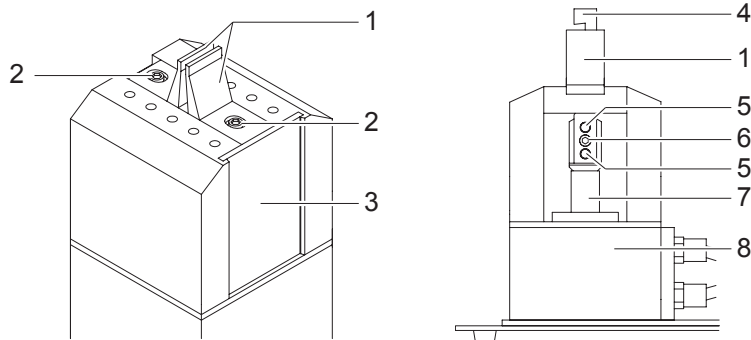


Fig. 6 Mounting the blade

1. Remove the acrylic pane (3) or the adapter plate.
2. Loosen the screws (2) and slide the matrices (1) apart as far as possible.
3. Slide the blade (4) from the top through the matrices to the blade holder (7) and set the blade onto the pins (5).
4. Fix the blade with the screw (6) included in contents of delivery at the blade holder.
5. Re-connect the device to the compressed air supply. That way blade holder (7) connected to the pneumatic cylinder (8) reaches a defined position.

**Warning!**

Risk of hand injury !

► Protect the foot switch from unintended release.

6. Slide the matrices to the blade (4) until they gently touch the blade and tighten the screws (2).
7. Check the blade alignment.  
The blade (4) has to be parallel to the guide flanks of the matrices (1) !
8. Adjust the blade (4) as necessary :
  - Disconnect the device from the compressed air.
  - Turn the blade holder (7) with the blade (4) using a wrench 17 mm.
  - Check again the setting of the matrices (1).
9. Re-insert the acrylic pane (3) or the adapter plate to close the container.

**Warning!**

Risk of hand and eye injuries !



- Wear protective gloves and protective goggles while PCB separating.

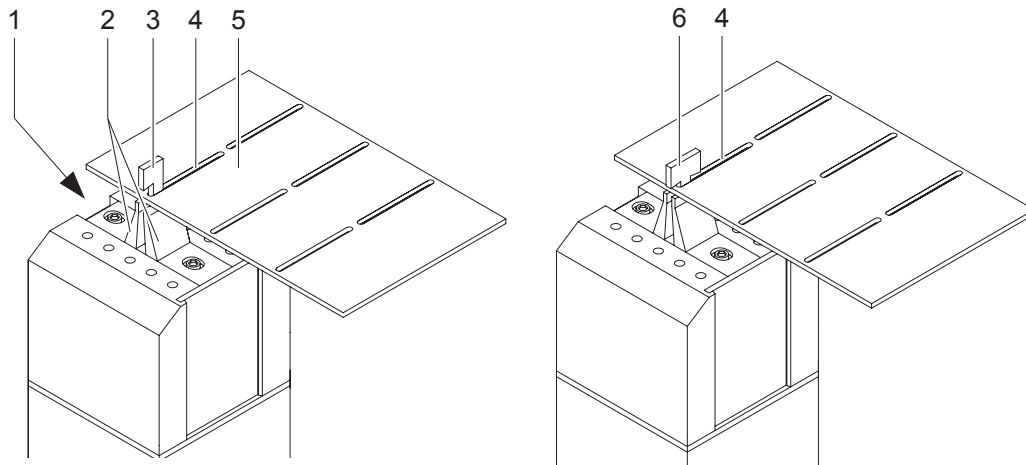


Fig. 7 Operation

1. Guide the PCB (5) with groove (4) from above over the blade (3).
2. Place the strip on the matrices (2) and slide it against the blade (3).
3. Hold the PCB with both hands in a horizontal plane.
4. Activate the separation by actuating the foot switch.  
The blade (3) moves downward and removes the strip. The strip falls down between the matrices (2) into the container (1).
5. By using a T-blade (6) it is possible to cut the strips at both ends of a groove (4).
6. Without using a vacuum cleaner clear the container regularly :
  - Disconnect the device from the compressed air supply.
  - Remove the acrylic pane from the container.
  - Clear the container from the strips.
  - Re-insert the acrylic pane.
  - Connect the device to the compressed air supply.

When a vacuum cleaner is connected the strips are disposed permanently.



**Warning!**  
Risk of hand injury !

► Disconnect the device from the compressed air.

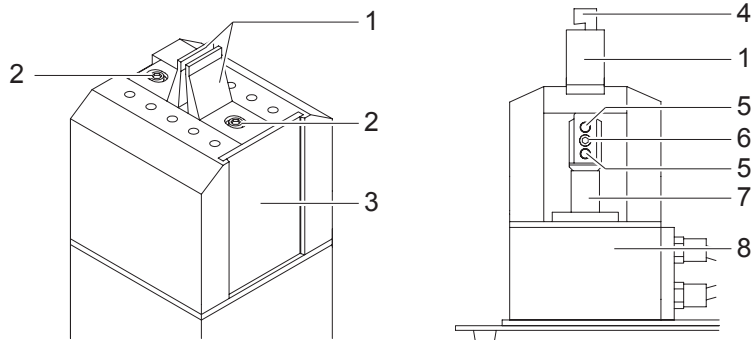


Fig. 8 Blade and matrices replacement

1. Loosen the screws (2) completely and remove the matrices (1).
2. Remove the acrylic pane (3) or the adapter plate.
3. Loosen the screw (6) completely, remove the blade (4) from the pins (5) and pull it upwards out of the device.
4. Insert the new blade (4) in the opposite direction, set it onto the pins (5) and fix it with the screw (6).
5. Mount the new matrices (1) and tighten the screws (2) loosely.
6. Re-connect the device to the compressed air supply. That way blade holder (7) connected to the pneumatic cylinder (8) reaches a defined position.



**Warning!**  
Risk of hand injury !

► Protect the foot switch from unintended release.

7. Slide the matrices to the blade (4) until they gently touch the blade and tighten the screws (2).
8. Check the blade alignment.  
The blade (4) has to be parallel to the guide flanks of the matrices (1) !
9. Adjust the blade (4) as necessary :
  - Disconnect the device from the compressed air.
  - Turn the blade holder (7) with the blade (4) using a wrench 17 mm.
  - Check again the setting of the matrices (1).
10. Re-insert the acrylic pane (3) or the adapter plate to close the container.




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## EC Conformity Declaration

Herewith we declare that the following described device, from the design and style and as we sell it, comply with the relevant EC Safety and Health Requirements.

This declaration will lose the validity if there are any changes of the device or the purpose without our consent.

|   |  |
|---|--|
| Description:  | <b>Off-cut Remover</b>   |
| Device:   | <b>Hektor 2</b>  |
| Applied EC-Directives   | Applied Standards:   |
| <b>Directive 2006/42/EC on machinery</b>  | • <b>EN ISO 12100:2010</b>   |
|   | • <b>EN ISO 13857:2008</b>   |
|   | • <b>EN 349:1993+A1:2008</b>   |
|   | • <b>EN 61029-1:2009+A11:2010</b>  |
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| Signature for the producer :  | <b>Sömmerda, 19.06.13</b>  |
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