



**Air-Jet Box**

**6014**

Made in Germany

Family	Type
Air-Jet Box	6014

**Edition:** 10/2017 - Part No. 9009587

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#### Germany

cab Produkttechnik  
GmbH & Co KG  
Postfach 1904  
D-76007 Karlsruhe  
Wilhelm-Schickard-Str. 14  
D-76131 Karlsruhe  
  
Telefon +49 721 6626-0  
Telefax +49 721 6626-249  
  
[www.cab.de](http://www.cab.de)  
[info@cab.de](mailto:info@cab.de)

#### France

cab technologies s.a.r.l.  
F-67350 Niedermodern  
Téléphone +33 388 722 501  
  
[www.cab.de/fr](http://www.cab.de/fr)  
[info.fr@cab.de](mailto:info.fr@cab.de)

#### USA

cab Technology Inc.  
Tyngsboro MA, 01879  
Phone +1 978 649 0293  
  
[www.cab.de/us](http://www.cab.de/us)  
[info.us@cab.de](mailto:info.us@cab.de)

#### Asia 亚洲

cab Technology Co., Ltd.  
希愛比科技股份有限公司  
Junghe, Taipei, Taiwan  
Phone +886 2 8227 3966  
  
[www.cab.de/tw](http://www.cab.de/tw)  
[info.asia@cab.de](mailto:info.asia@cab.de)

#### China 中国

cab (Shanghai) Trading Co., Ltd.  
铠博(上海)贸易有限公司  
Phone +86 21 6236-3161  
  
[www.cab.de/cn](http://www.cab.de/cn)  
[info.cn@cab.de](mailto:info.cn@cab.de)

Representatives in other countries on request

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## 1.1 Instructions

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



### **Danger!**

Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages.



### **Danger!**

Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.



### **Warning!**

Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.



### **Caution!**

Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.



### **Attention!**

Draws attention to potential risks of property damage or loss of quality.



### **Note!**

Advice to make work routines easier or on important steps to be carried out.



### **Environment!**

Gives you tips on protecting the environment.



Handling instructions.



Reference to section, position, illustration number or document.



Option (accessories, peripheral equipment, special fittings).

Time

Information in the display.

## 1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to 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 applicator mounted on a cab printer of the Hermes+ series is intended exclusively for applying suitable materials that have been approved by the manufacturer. 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.



### **Note!**

The complete and current version of the documentation can be found in the Internet.

## 1.3 Safety Instructions



### **Attention!**

Initiation, adjustments and changing of parts are to be performed by qualified service personnel only.



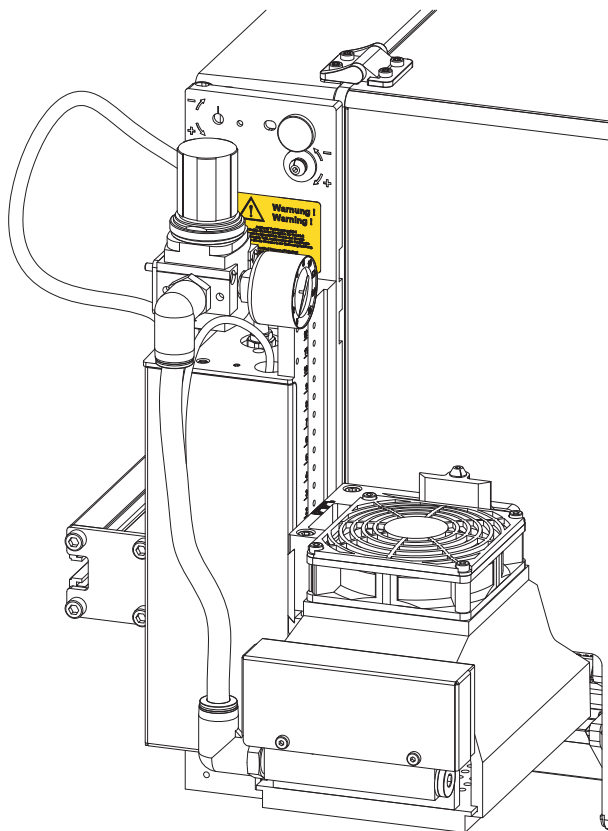
### **Warning!**

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

- Before mounting the delivered components disconnect the printer from the power supply and close the shutoff valve of the applicator.
- Only connect the device to other devices which have a protective low voltage.

- Switch off all affected devices (computer, printer, accessories) before connecting or disconnecting.
- In operation, moving parts are easily accessible.  
This applies especially for the zone, where the pad is moved between the starting and the labelling position.  
During operation do not reach into that zone and keep long hair, loose clothes, and jewelry distant. Before any manipulations in those areas, close the shutoff valve.
- The device may only be used in a dry environment, do not expose it to moisture (sprays of water, mists, etc.).
- Do not use the device in an explosive atmosphere.
- Do not use the device close to high-voltage power lines.
- Perform only those actions described in this operating manual.  
Work going beyond this may only be performed by trained personnel or service technicians.
- Unauthorized interference with electronic modules or their software can cause malfunctions.
- Other 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 Markings



1:



Warning damages by  
moving parts!



### Attention!

Never remove or cover safety markings!  
Replace it in case of damage!

Fig. 1 Safety marking

## 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 applicator enables it to be easily disassembled into its component parts.

- Send the parts for recycling.

## 2.1 Important Features

- The supporting air and the vacuum as well as the speed of the cylinder are adjustable. That way the Air-Jet Box can be adapted to different label materials and sizes.
- To avoid contamination within the vacuum channels they are cleaned by air pressure impulses at the end of each application.
- For operation within a system the I/O interface of the printer can be used.

## 2.2 Technical Data

Label transfer method		Air-jet module 6014 L/R 9000
Label width Hermes+ 4 <sup>2)</sup>	mm	50 - 114
Label height <sup>2)</sup>	mm	50 - 150
Product during labelling	fix	■
	in motion	■
Labelling onto the product	from top	■
	sideways	■
Product height	variable	■
Product distance to lower edge	mm	10 - 100
Air pressure	bar	4,5 - 6
Cycle time <sup>1)</sup>	about pulse/min	60

<sup>1)</sup> At H = 150 mm without back feed and 250 mm/s print speed.  
Higher cycle rates are possible with smaller labels.

<sup>2)</sup> Smaller labels under 50 mm need to be tested beforehand.

Table1      Technical data

### 2.3 Overview

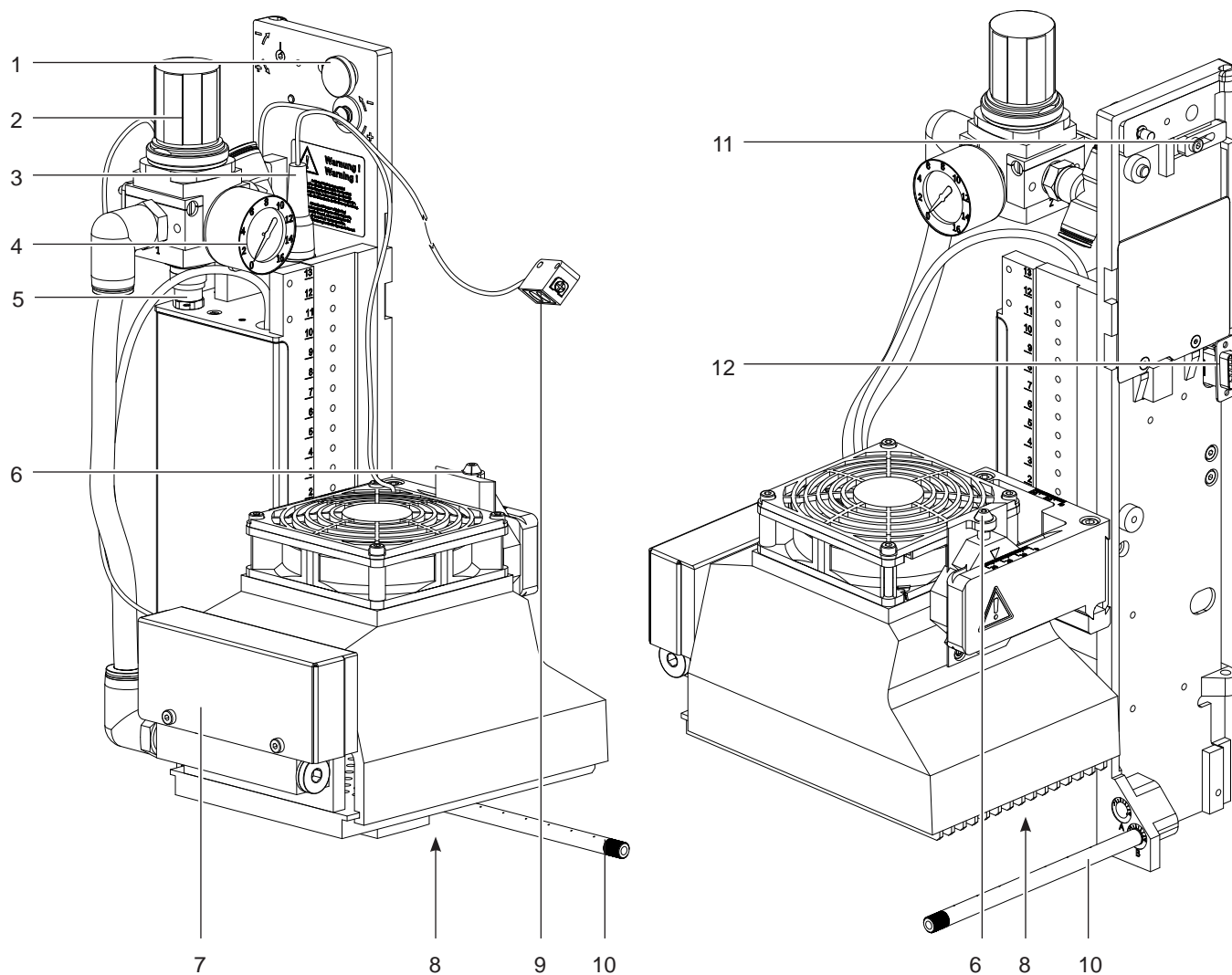
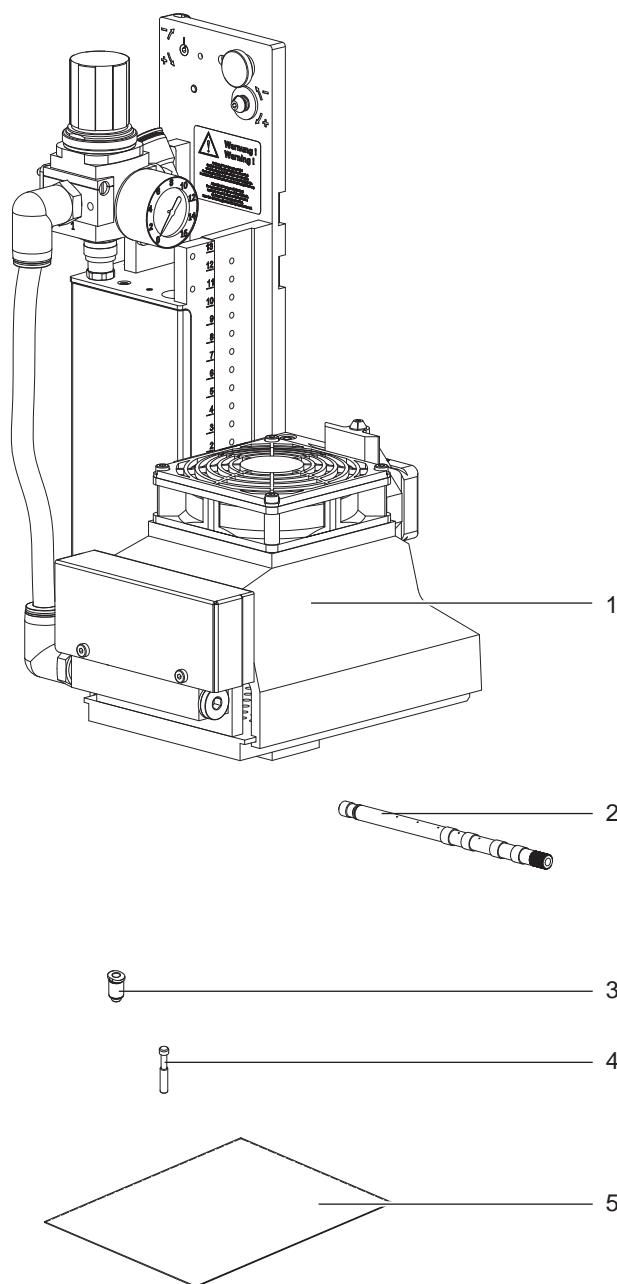


Fig. 2 Device overview

- |  |  |
|--|--|
| 1 Knurled screw for attaching the Air-Jet Box to the printer               | 11 Locking for hinges                    |
| 2 Compressed air control unit  | 12 SUB-D 9 plug interface to the printer |
| 3 Interface for external sensor  |  |
| 4 Manometer to check Compressed air control unit (2)                       |  |
| 5 Connection valve   |  |
| 6 Connector with setting screw for the adjustment of the cylinder assembly |  |
| 7 Air pressure valve   |  |
| 8 Suction plate  |  |
| 9 External sensor  |  |
| 10 Blow tube   |  |

## 2.4 Contents of Delivery



- 1 Air-jet module\*
- 2 Bow tube (as ordered)
- 3 Push In Fitting x 18
- 4 Plug x 20
- 5 Spare Cover Foil x 2
- 6 Documentation

\* The air-jet module can be delivered as a customized or universal version.

Fig. 3 Contents of delivery



**Note!**

Please keep the original packaging in case the Air-Jet Box must be returned.



**Attention!**

The device and printing materials will be damaged by moisture and wetness.

- Only set up the label printer with the Air-Jet Box in dry locations protected from moisture and water splashes.



## 3.1 Standard Operation

- ▶ Check all external connections.
- ▶ Load the material. Ensure that the locking system is locked ▷ "Operator's Manual" of the printer.
- ▶ Open the shutoff valve.



### Attention!

- ▶ Ensure that the pad is not covered by a label when switching on the printer-applicator system. Otherwise the vacuum sensor may not be calibrated correctly.

- ▶ Switch on the printer.



### Note!

In the case of the pad being outside the starting position when switching on the printer the process will be interrupted and an error message will be shown on the display.

If you push the pause button on the printer the applicator will move into the start position.  
The Applicator is ready for work.

- ▶ Press the **feed** key on the printer.  
A synchronization feed is initiated. The processed labels have to be removed manually. After a few seconds the printer carries out a short backward feed to position the front edge of the next label at the printing line.



### Note!

The synchronization also has to be carried out when the print job has been interrupted with the cancel key. Synchronizing is not necessary when the print head was not lifted between print jobs. This also applies if the printer was powered down between print jobs.

- ▶ Start a printing job.
- ▶ Start the labelling process via PLC interface.

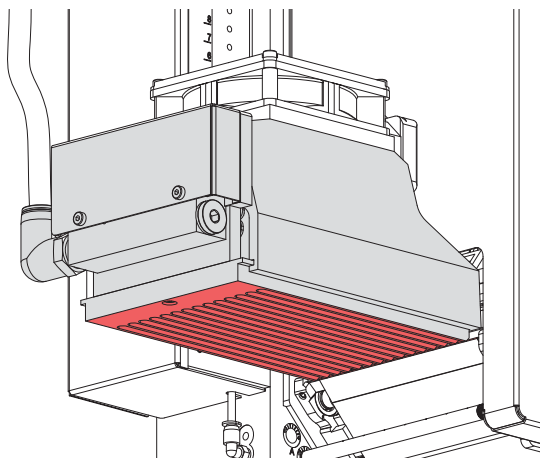
Error messages during the labelling process are shown on the display of the printer ▷ 4 Error Messages.

## 3.2 Cleaning



### Attention!

Never use solvent and abrasive.



- ▶ Clean the outer surfaces with a multi purpose cleaner.
- ▶ Especially the surface of the suction plates needs regular cleaning as left over debris is likely to adhere to the pad preventing an optimal label take over.

Fig. 4 Cleaning the pad

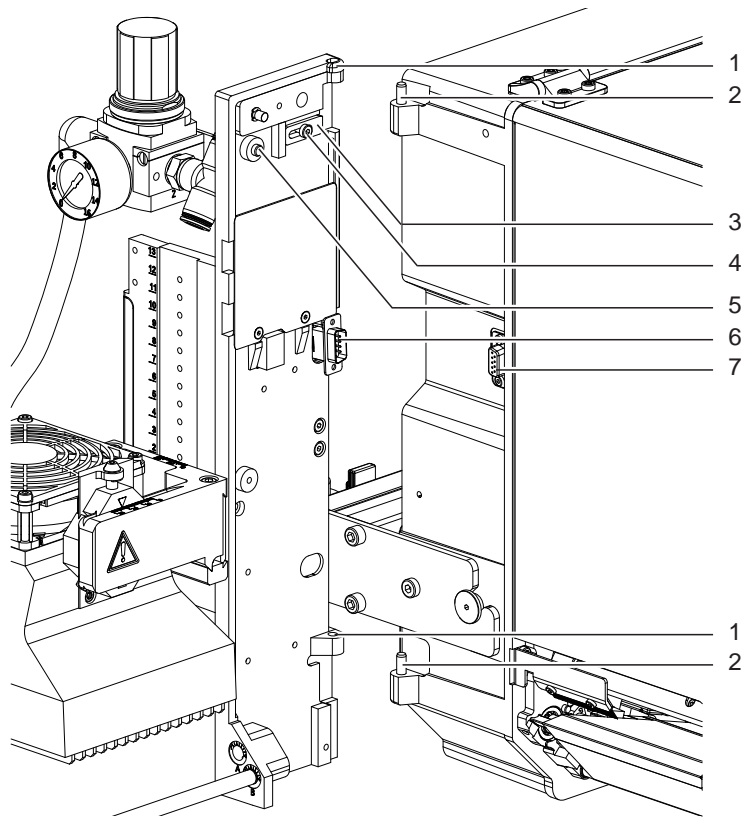


Fig. 5 Mounting the Air-Jet Box to the printer



### Attention!

Initiation, adjustments and changing of parts is to be performed by qualified service personnel only.

▷ Service Manual Applicator.



### Attention!

- ▶ Disconnect the printer from the power supply before mounting the applicator!
- ▶ Ensure the printer is in a stable position!
- ▶ Connect the compressed air only after mounting the applicator to the printer!

To clean the applicator and printer it is sometimes necessary to turn away or even dismount the applicator from the printer.

Do not adjust the setting screws, throttle valves or other alignment elements. This will enable use of the applicator directly after cleaning.

### Turning away & dismounting the applicator

1. To turn away the applicator loosen thumbscrew (5) and swing the applicator to the side.
2. Disconnect SUB-D 15 male connector (6) from the female connector (7) of the printer.
3. Loosen screw (4) and move the locking plate (3) from the hinges.
4. Lift the applicator upward and off the printer.

### Remounting the applicator

5. Attach the applicator via the female part (1) of hinges to the male printer mounted hinges parts (2).
6. Connect SUB-D 15 male connector (6) to the female connector (7) of the printer.
7. To secure the applicator slide the locking plate (3) under the hinge and tighten the screw (4).
8. Swing the applicator to the printer and tighten the thumbscrew (5).

In order to get the perfect label application it is necessary to set the jets of the applicator to the size and shape of the used label.

Ideally the settings will have been set by the manufacturer with predetermined labeling material.

Should this not be possible the following steps will assist with the initiation and/or adjustments.

### 4.1 Sizing the Covering Foil

1. Loosen screws (3).
2. Pull out the suction plate with valve unit (2) in place.
3. Place the label on the colored area (4) and mark the label size on the on the covering foil.

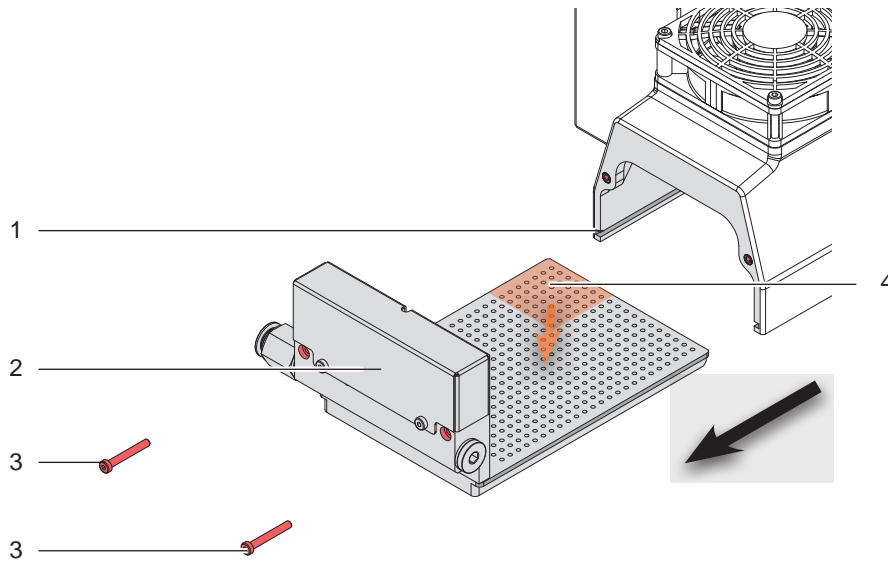


Fig. 6 Dismount the suction plate

4. Remove the label and cut out an area that is 10 mm smaller than the label.
5. Remove the foil from the marked area (4).

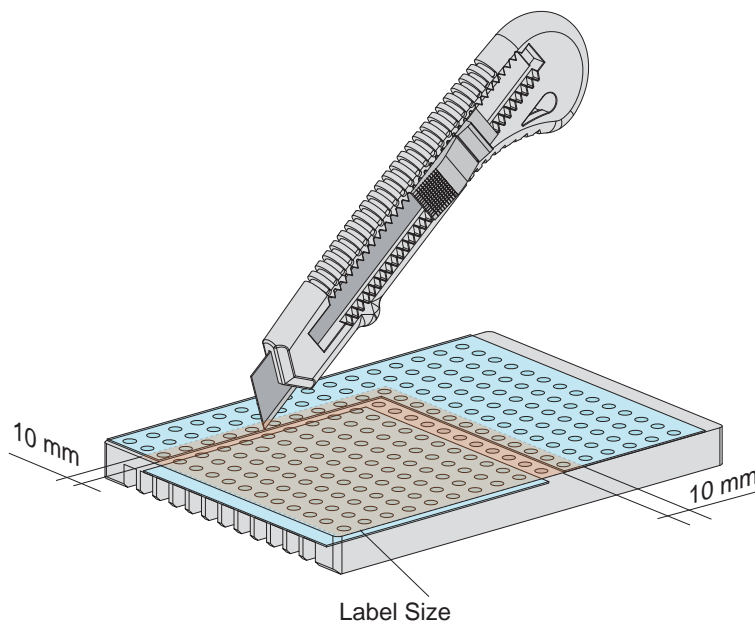


Fig. 7 Cutting the covering foil to size

6. Once the covering foil has been cut to size leave one row of holes open around the label to enhance the suction effect.

## 4.2 Blow Nozzle positioning

1. Different label shapes and sizes will determine the array of blow nozzles to best apply them with. The array most used is in the shape of a star. Large, long and very small labels require a specific setup. The following illustrations offer examples of arrays for different label shapes.

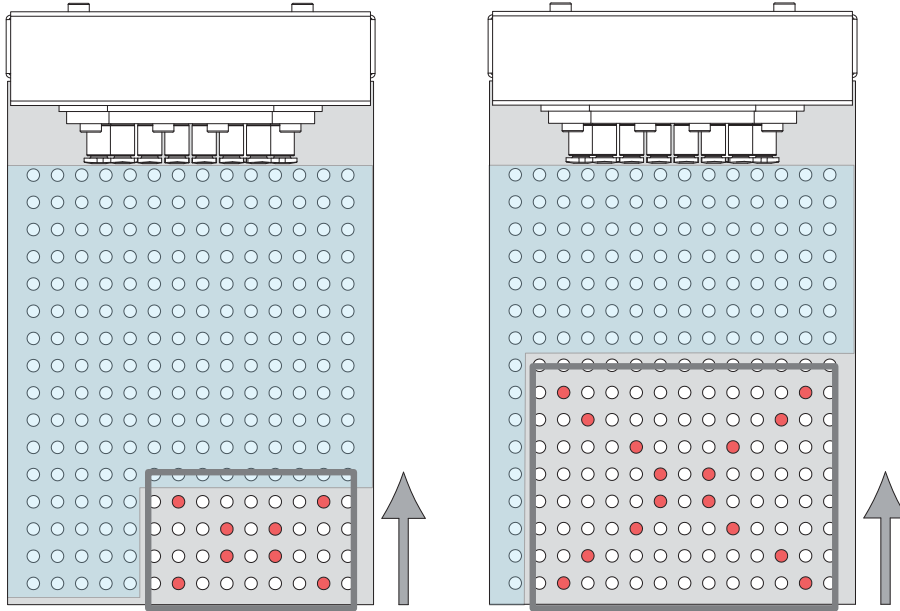


Fig. 8 Blow nozzle array for rectangular labels

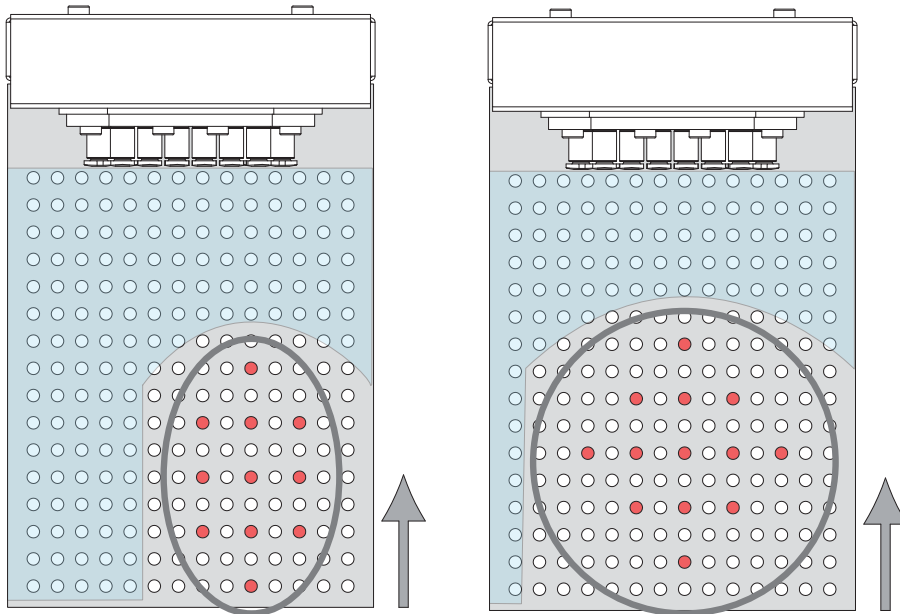


Fig. 9 Blow nozzles array for oval and round labels

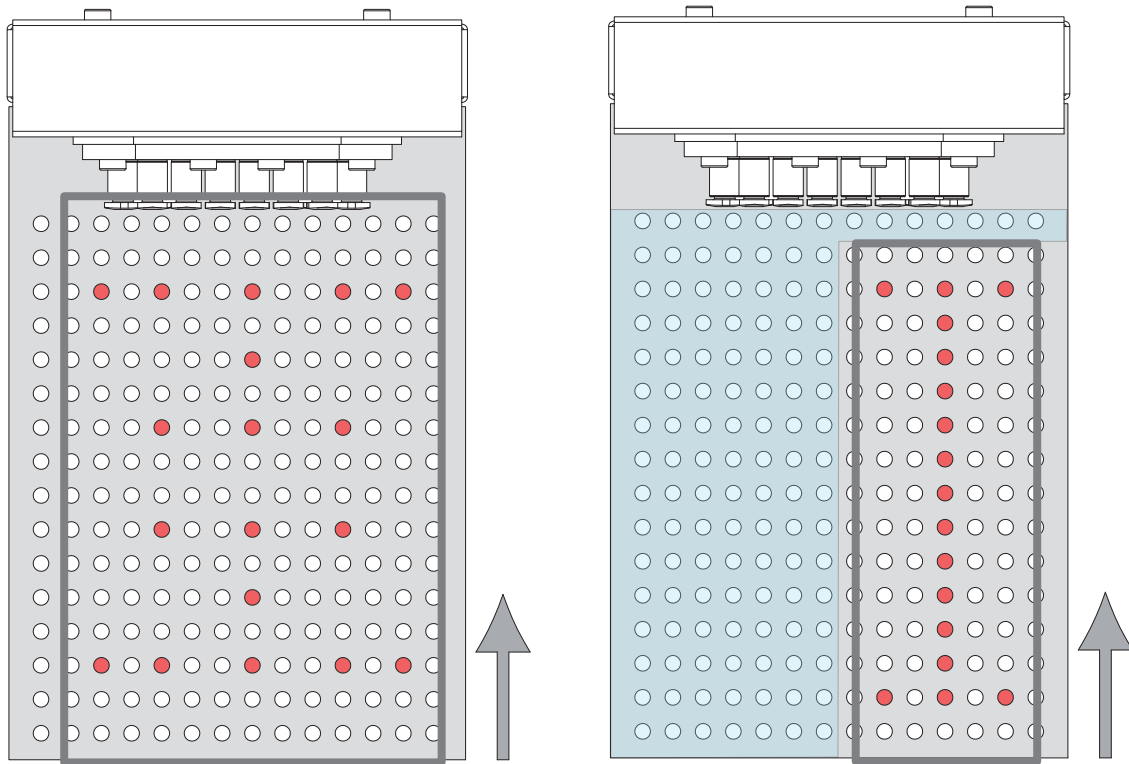


Fig. 10 Blow nozzles array for big and small/long labels

2. Screw the plug-in connectors into the holes of the array.
3. Push the tubes from shipment into the plug-in connectors on the suction plate and the valve unit on the opposite side.
4. Close unused plug-in connectors on the valve unit via the stopper unit also within the shipment.
5. Slide the suction plate into the chassis of the air-jet module. Take care not to kink the tubes!
6. Reconnect any tubes with the control unit should they have disconnected.

### 4.3 Adjusting the Air-Jet Module

1. Start a printing job ▷ 3.1 Operation
2. Set peel position

To optimize the transfer of the labels from the printer to the pad there two different parameters available for adjusting the peel position.




#### Attention!

- ▶ First adjust the parameter "Peel Position" in the printer configuration.
- ▶ Then adjust the additional peel-off offset in the software.

It is very important to follow this course of action for a problem free start after loading labeling material or when correcting errors.

Parameter "Peel Position" in the printer configuration.

- ▶ Check the basic setting in the printer setup. Perform labelling cycles by reciprocally pressing the **feed** key and the pre-dispense key ▷ 6.3 Test Mode without Print Job.
- ▶ Adjust the "Peel Position" in such a way, that the blank labels are peeled-off completely from the liner  
▷ 4.3 Configuration Parameters of the Applicator.

 > Peel position	Shift the position of the dispensed labels relative to the dispensing edge. In the software an extra peel offset value is available. The offset values from "Peel position" and from software are added together for execution. ▷ "Setting the Peel Position".	0, 0 mm
--	--	---------

Peel-off offset in the software

- ▶ Check the setting in the software. Perform labelling cycles by repeatedly pressing the the pre-dispense key  
▷ 6.4 Test Mode with Print Job.
  - ▶ Adjust the peel-off offset in such a way, that the printed labels are peeled-off completely from the liner  
▷ Programming manual or software documentation.
3. Move the air-jet module body (1) so that the labels move perpendicularly to it and has a row of holes preferably running along the edges on the base (5).

- Loosen screws (4) to move the air-jet module in the printing direction.  
Move air-jet module (1) and tighten screws (4).
- Loosen screw (2) to move the air-jet module perpendicular to the printing direction.  
Move air-jet module (1) and tighten screw (2).

**Adjust the air-jet module so that the label is direct and in the center of the nozzle array.**

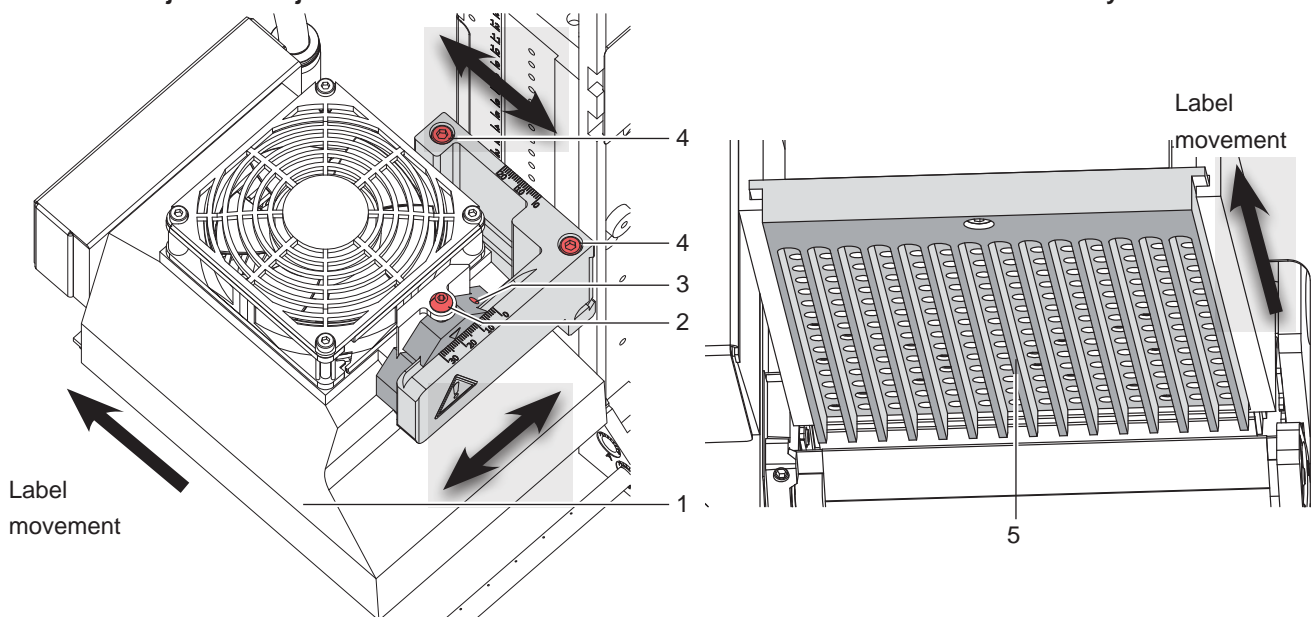


Fig. 11 Adjusting the air-jet module sidewise

4. Loosen screw (3).
5. By turning setting screw (2) the tamp assembly moves up or down. Turn the screw until the dispensing plate and the suction plate are about 1 mm apart.
6. Tighten screw (3).

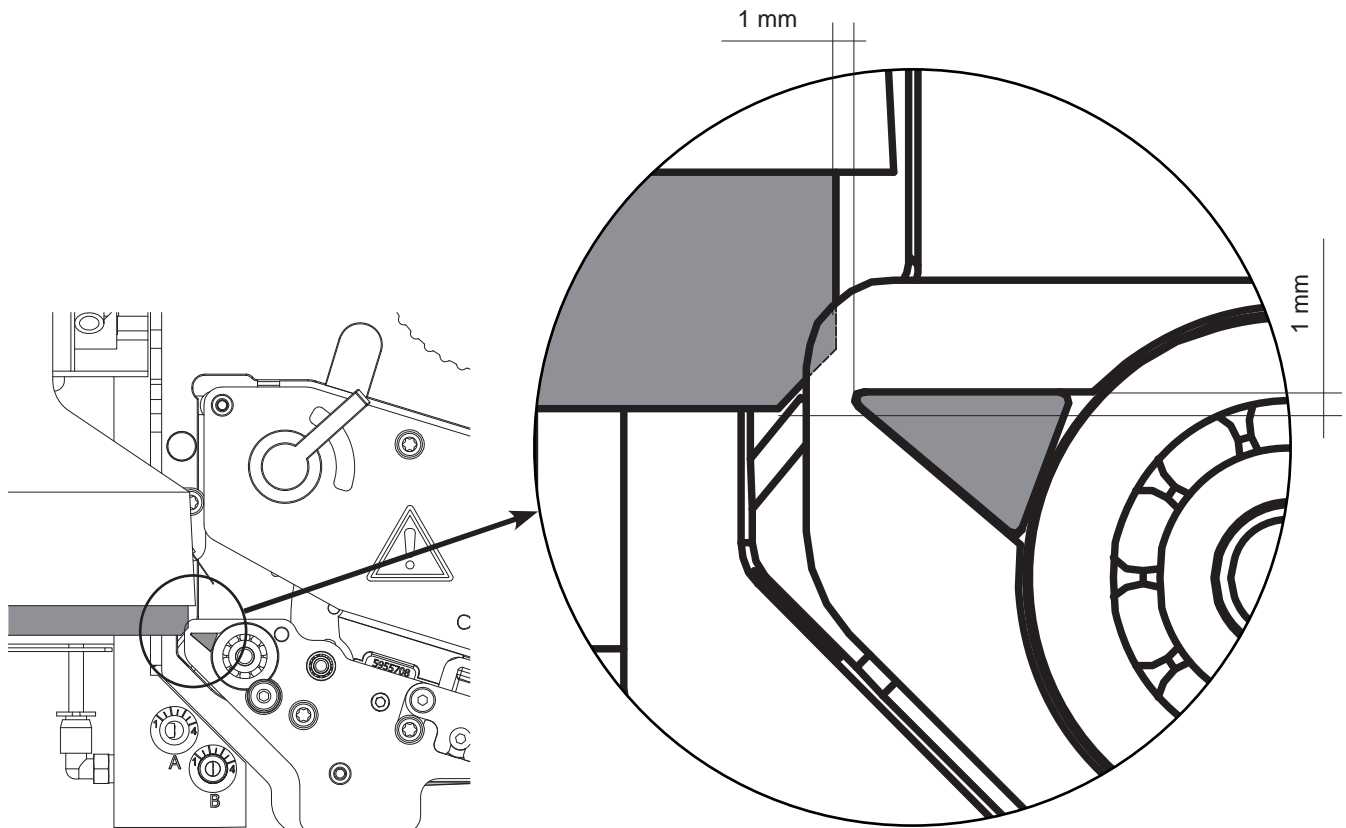


Fig. 12 Adjusting the height of the air-jet module

7. After successful adjustments to the air and the sizing of the covering foil have been successfully completed fasten the two together.

## 5.1 Error Messages of the Printer

For detailed information about printer errors (e.g. 'Paper out', 'Ribbon out', etc.) ▷ Operator's manual of the printer  
Error treatment:

- ▶ Clear the error results.
- ▶ Press the **feed** key to synchronize the label feed, remove the peeled labels manually.
- ▶ Press the **pause** key to quit the error state.

After error correction, the print of the label causing the error will be repeated.

## 5.2 Error messages of the Air-Jet Box

The following table contains an overview of error messages and their possible causes. It also suggests methods to resolve the problem:

Error Message	Possible Cause
Air pressure ins.	Compressed air is switched off
	Pressure too low < 4 bar
	Pressure too high > 6 bar

Table2 Error messages of the Air-Jet Box

Error treatment:

- ▶ Clear the error results
- ▶ Press the **pause** key to quit the error state.



### Note!

**When receiving errors check adjustments and settings with help of the Service Manual.**

After error correction, the print of the label causing the error cannot be repeated without re-start of the print job.



## 6.1 Declaration of Incorporation




cab Produkttechnik  
GmbH & Co KG  
Wilhelm-Schickard-Str. 14  
D-76131 Karlsruhe  
Deutschland

## Declaration of Incorporation

We declare herewith that the following „partly completed machinery“ as a result of design, construction and the version put in circulation complies with the essential requirements of the **Directive 2006/42/EC on machinery**:

Annex I, Article 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.3.2, 1.5.2, 1.5.8, 1.6.3, 1.7

In the event of any alteration which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

Device:	<b>Air-Jet Box</b>
Type:	<b>6014</b>
Applied EC Regulations and Norms:	
<b>Directive 2006/42/EC on machinery:</b>	<ul style="list-style-type: none"> <li>• EN ISO 12100:2010</li> <li>• EN ISO 13849-1:2015</li> <li>• EN 60950-1:2006 +A11:2009+A12:2011+A1:2010+A2:2013</li> </ul>
Person authorised to compile the technical file:	<b>Erwin Fascher Am Unterwege 18/20 99610 Sömmerda</b>
Signed for, and on behalf of the Manufacturer:	<b>Sömmerda, 04.10.2017</b>  <b>Erwin Fascher Managing Director</b>
<b>cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda</b>	

The product must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Directive on machinery.

The documents according annex VII part B from the incomplete machinery are created and will commit to state agencies on request in electronic kinds.


## 6.2 EU Declaration of Conformity



cab Produkttechnik  
GmbH & Co KG  
Wilhelm-Schickard-Str. 14  
D-76131 Karlsruhe  
Deutschland

### EU Declaration of Conformity

We declare herewith that as a result of the manner in which the device designated below was designed, the type of construction and the devices which, as a result have been brought on to the general market comply with the relevant fundamental regulations of the EU Rules for Safety and Health. In the event of any alteration which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

Device:	<b>Air-Jet Box</b>
Type:	<b>6014</b>
Applied EU Regulations and Norms:	Applied Norms:
<b>Directive 2014/30/EU relating to electromagnetic compatibility:</b>	<ul style="list-style-type: none"> <li>• <b>EN 55032:2012</b></li> <li>• <b>EN 55024:2010</b></li> <li>• <b>EN 61000-6-2:2005</b></li> </ul>
<b>Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment:</b>	<ul style="list-style-type: none"> <li>• <b>EN 50581:2012</b></li> </ul>
Signed for, and on behalf of the Manufacturer:	<b>Sömmerda, 04.10.2017</b>
<b>cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda</b>	 <b>Erwin Fascher Managing Director</b>