



## Stroke Applicator

# 4414

Made in Germany

Family	Type
Stroke Applicator	4414L-200
	4414L-300
	4414L-400
	4414R-200
	4414R-300
	4414R-400

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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.  
锐博(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 Introduction

### 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 routine easier or on important steps to be carried out.



#### **Environment!**

Gives you tips on protecting the environment.



Handling instruction



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.

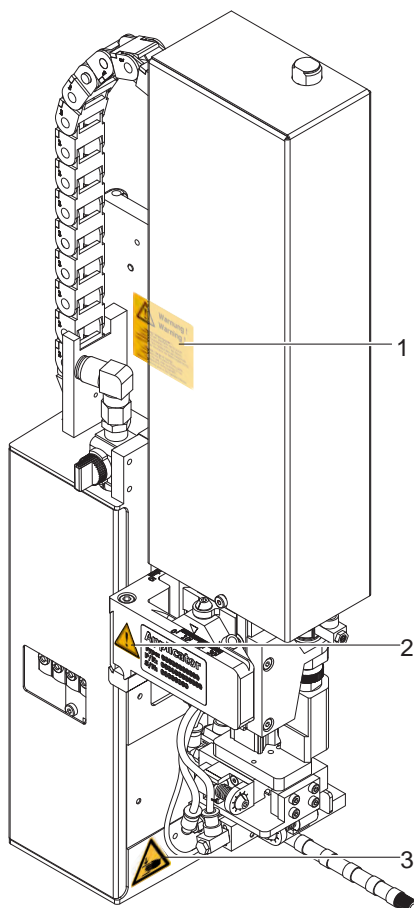


#### **Warning!**

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 away. Before any alterations are undertaken in those areas, close the compressed air shutoff valve.
- The device may only be used in a dry environment, do not expose it to moisture (water splashes, sprays and mist)
- 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 service 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 by 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 danger. Warning stickers may therefore not be removed.

## 1.4 Safety Marking



1:



Warning to damages by moving parts !

2:



Danger of crushing to hand and fingers by the moving pad !



### 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 print module 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 applicator can be adapted to different label materials and sizes.
- To avoid contamination within the vacuum channels they are cleaned by air pressure impulse at the end of each application.
- For operation in a system the I/O interface of the printer can be used.

## 2.2 Technical Data

Label transfer method		Tamp pad	Tamp pad with foam	Tamp pad with label stop
		4414 L/R 11 F	4414 L/R 12 F	4414 L/R 61 F
Label width in mm for Hermes <sup>+</sup> 2		4 - 58	10 - 58	10 - 58
	for Hermes <sup>+</sup> 4	10 - 114	10 - 114	10 - 114
Label height in mm		4 - 80	10 - 80	4 - 80
Compressed air pressure		0,45 MPa (4,5 bar)		
Sound pressure level		under 74 dB(A)		
Product during labeling	fixed	■	■	■
Labeling onto the product	from the top	■	■	■
	from below	■	■	■
	sideways	■	■	■
Product height	variable	■	■	■
Horizontal short stroke cylinder	x-direction	3 - 7	3 - 7	3 - 7
	y-direction	11 - 15	11 - 15	11 - 15
Product distance to lower edge at cylinder stroke	200 mm up to mm	135	135	135
	300 mm up to mm	235	235	235
	400 mm up to mm	335	335	335
Immersion depth pad F <sup>2)</sup> up to mm		90	90	90
Cycle time about frequency/min. <sup>1)</sup>		25	25	25

Table 1 Technical Data

<sup>1)</sup> Determined at 100 mm stroke below device / smallest label height / print speed 100 mm/s .

<sup>2)</sup> Immersion depth at applicator >25 mm, the cover of the Hermes<sup>+</sup> must be modified.

## 2.3 Overview without a Cover

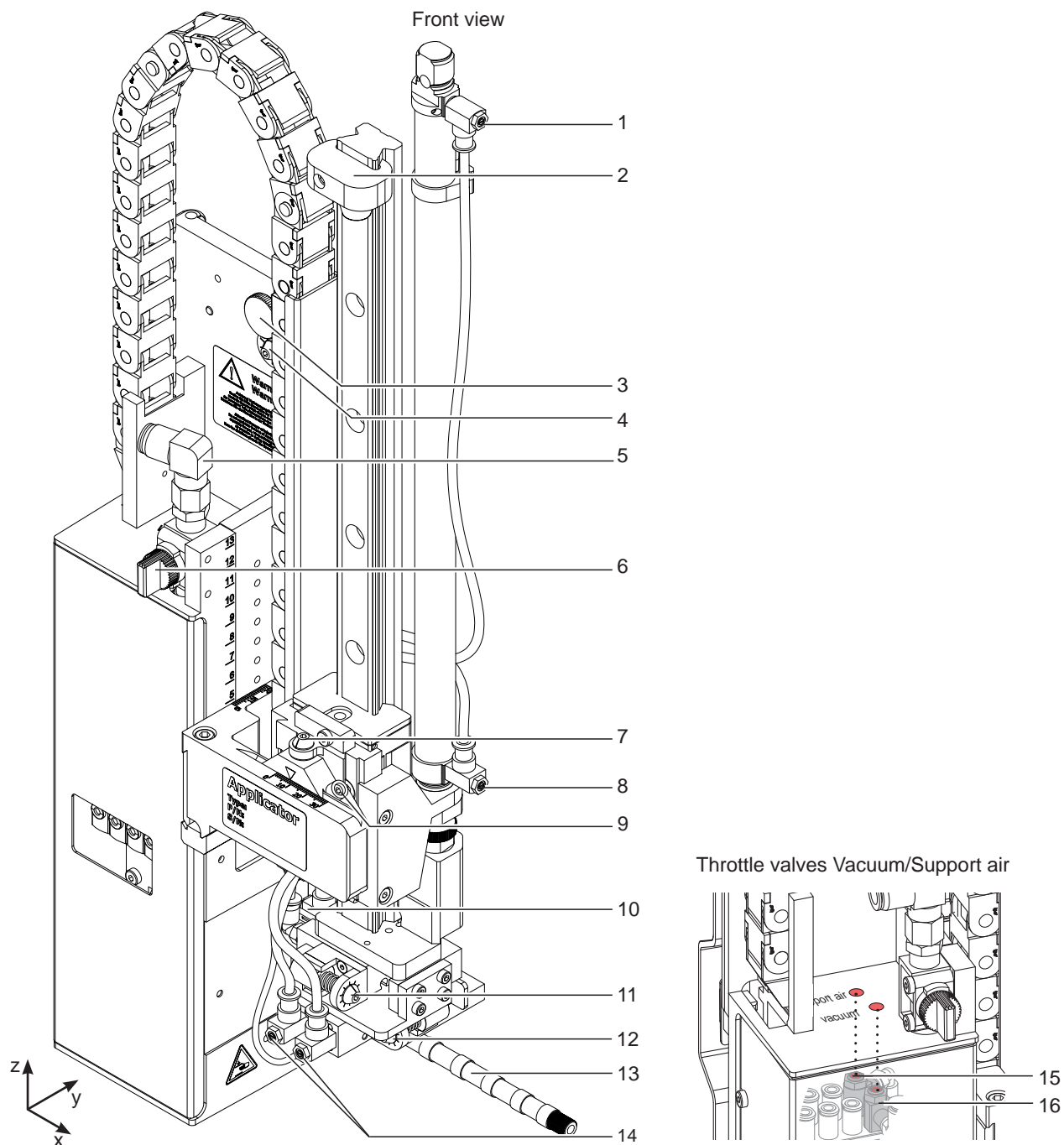


Fig. 2 Device overview - front view

- |  |   |
|--|---|
| 1 Throttle valve cylinder - move in Z-direction                    | 8 Throttle valve cylinder - move out Z-direction  |
| 2 Stopper for the operation mode "Blow on", transport lock         | 9 Screw to fix the vertical tamp position         |
| 3 Knurled screw for attaching the applicator to the printer        | 10 Throttle valve cylinder - move out X-direction |
| 4 Setting screw to adjust the angle between applicator and printer | 11 Setting screw stopper cylinder X-direction     |
| 5 Compressed air connector   | 12 Setting screw stopper cylinder Y-direction     |
| 6 Shutoff valve  | 13 Blow tube for supporting air                   |
| 7 Setting screw for vertical adjustment cylinder assembly          | 14 Throttle valve cylinder - move Y-direction     |
|  | 15 Support air throttle valve                     |
|  | 16 Vacuum throttle valve                          |



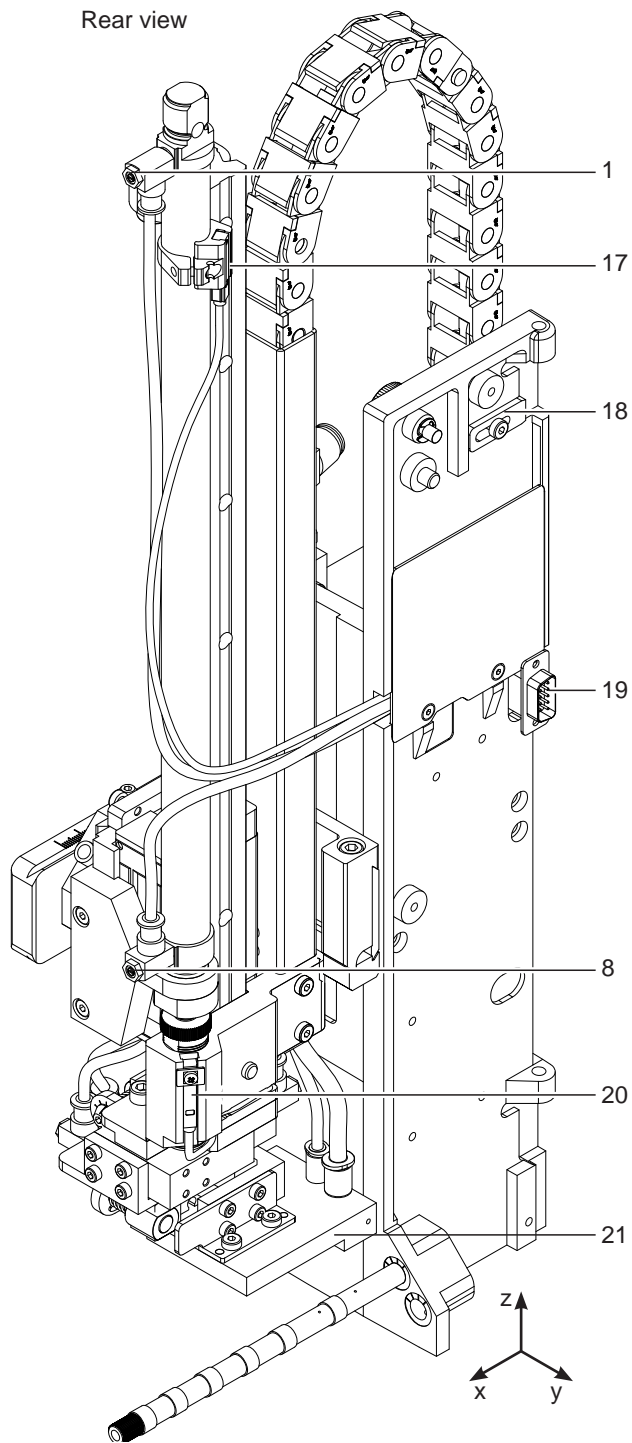


Fig. 2 Device overview - rear view

- 1 Throttle valve cylinder - move in Z-direction
- 8 Throttle valve cylinder - move out Z-direction
- 17 Sensor "Start Position"
- 18 Locking for hinges
- 19 Interface to the printer
- 20 Sensor labeling position
- 21 Pad (customized)

Valves and control system

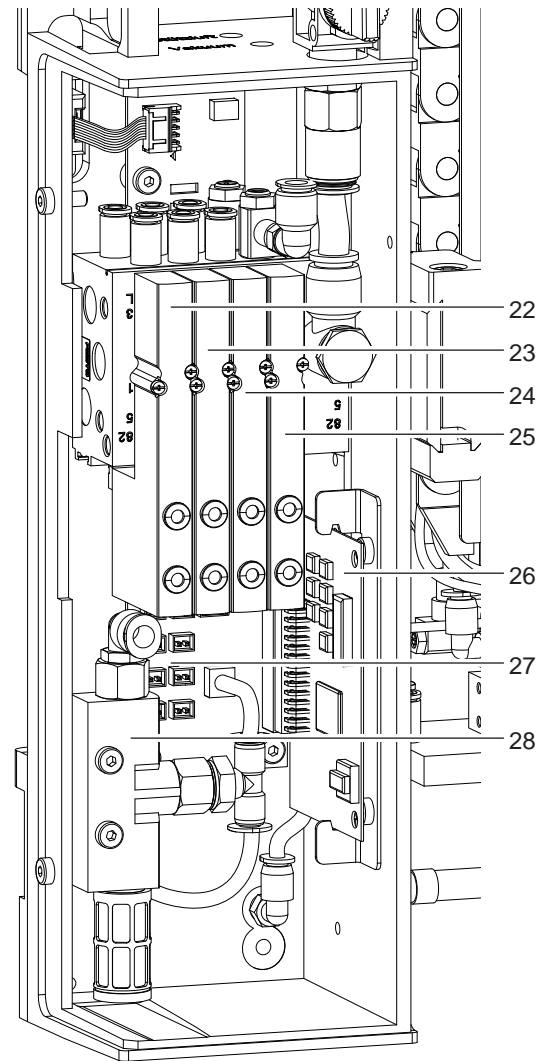
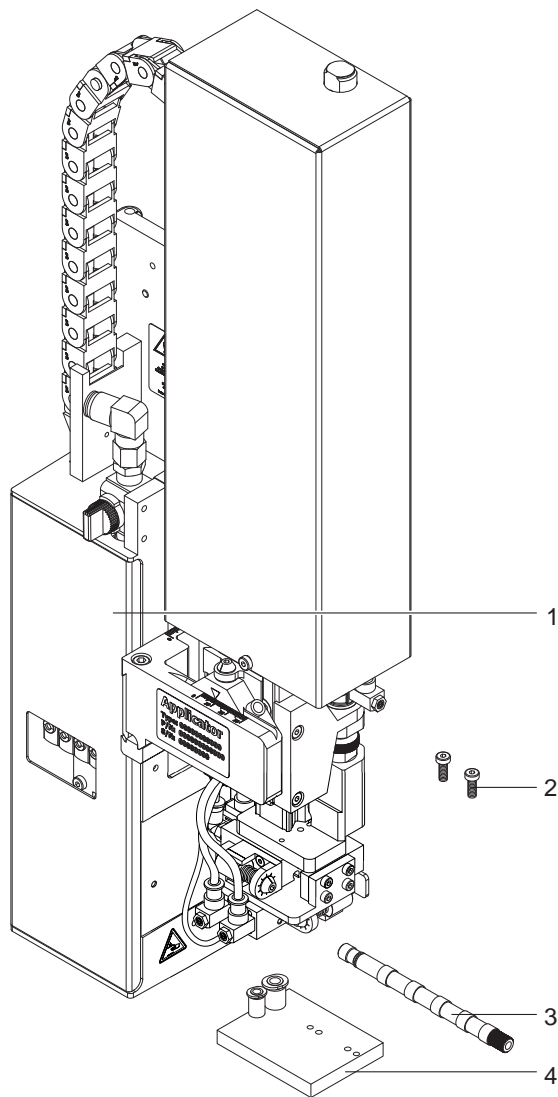


Fig. 3 Device overview - control system

- 22 Valve Cylinder Z
- 23 Valve Cylinder X/Y
- 24 Valve Blow air
- 25 Valve Vacuum and Support air
- 26 PCB Applicator Control
- 27 PCB Applicator Interfaces
- 28 Vacuum Generator

## 2.4 Contents of Delivery



- 1 Applicator
- 2 Screws (part of the pad)
- 3 Blow tube (as ordered)
- 4 Pad (as ordered)
- 5 Documentation

Fig. 4 Contents of delivery



### Note!

Please keep the original packaging in case the applicator must be returned.



### Attention!

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

► Only set up label printer with applicator in dry locations protected from moisture and 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 be calibrated incorrectly.

- ▶ Switch on the printer.



#### Note!

If the pad is not in the starting position when the printer is switched on an error message will appear on the display.

Press pause button on the printer.

The applicator will move into the start position and is ready for work.

- ▶ Press the **feed** button 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 backfeed to position the front edge of the next label at the printing line.



#### Note!

This synchronization also has to be carried out when the print job has been interrupted with the cancel button.

Synchronizing is not necessary when the print head was not lifted between print jobs. This also applies if the printer was powered off between print jobs.

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

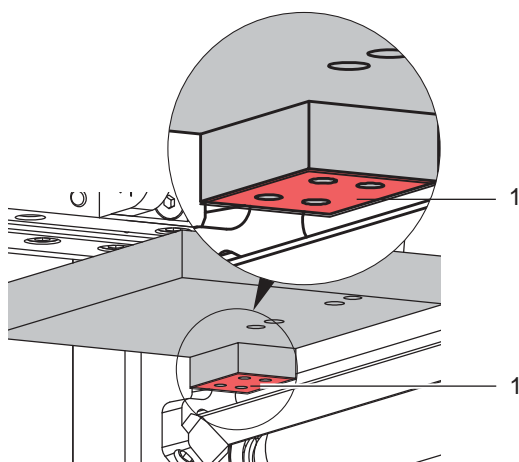
Error messages during labelling process are shown in the display of the printer ▷ „4 Error Messages“

### 3.2 Cleaning



#### Attention!

Never use solvent and abrasive.



- ▶ Clean the outside surfaces with multi purpose cleaner.
- ▶ Remove dust particles and leftover label pieces with a soft brush and/or vacuum cleaner.
- ▶ The slide foil (1) requires regular cleaning as most of the dirt will accumulate here.

Fig. 5 Cleaning the pad with slide foil

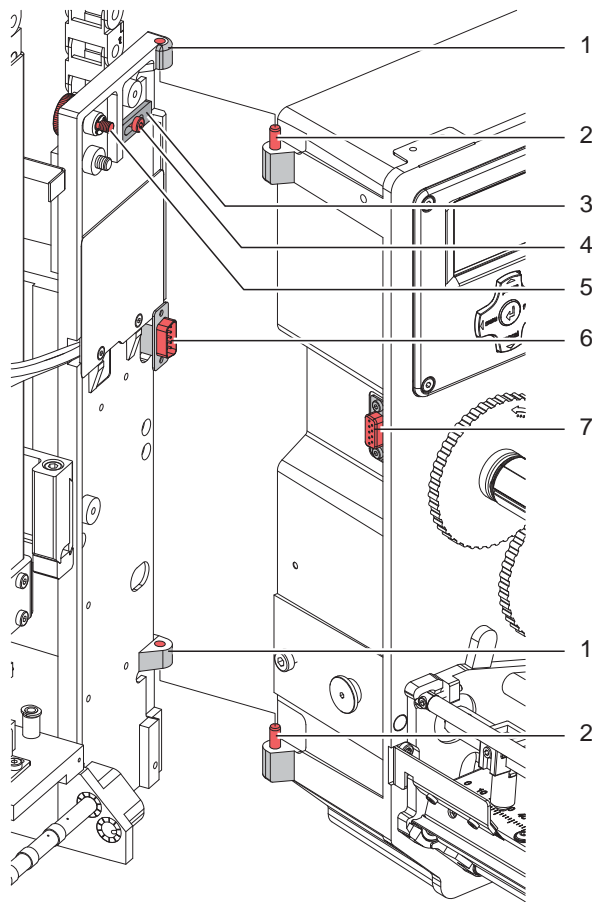


Fig. 6 Mounting applicator on printer



### Attention!

Initiation, adjustments and changing of parts is only for qualified service personal only.

▷ Initiation / Service Manual Applicators



### Attention!

- ▶ Disconnect the printer from the power supply before mounting the applicator!
- ▶ Ensure the printer is standing in a stable, secure 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.

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

### Pivot Away/Dismount the applicator

1. Loosen thumbscrew (5) and swing the applicator away.
2. Disconnect SUB-D 15 male connector (6) from the female connector (7) of the printer.
3. Loosen screw (4) and remove the locking plate (3) from the hinges.
4. Lift the applicator from the hinges.

### Mount the applicator

5. Hang on the applicator with the female parts (1) of hinges on the hinges parts (2) of the printer.
6. Connect the SUB-D 15 male connector (6) to the female connector (7) of the printer.
7. To secure the applicator against slipping out of hinges, loosen screw (4), move metal part (3) under the hinge and tighten screw (4).
8. Swing the applicator to the printer and tighten the thumbscrew (5).

### 4.1 Error Messages of the Printer

For detailed information about printer errors (e.g. 'Paper out', 'Ribbon out', etc.) ▷ Check the operator's manual of the printer.

Error treatment:

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

After error correction, the label causing the error will be reprinted.

### 4.2 Error messages of the Applicator

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 to low < 4 bar
	Pressure to high > 6 bar
Label not depos.	Label has not been placed onto the product; after the pad has moved back the label is still sticking to the pad.
Lower position	Pad has not reached the starting position within 2s after the pad has left the labelling position; or pad has left the starting position without authorization.
Process Error	Process of labeling was interrupted via the I/O interface of the printer with the STP signal.
Refl. sensor blk.	There has been no change of state of the upper sensor of the cylinder from the start of the labelling process and the signal of the labelling position sensor.
Upper position	Pad is not in the starting position when the printer was switched on.
	Pad has not reached the labelling position within 2s after the movement of the pad was started.
	Pad has left the printing position without authorization.
Vac. plate empty	Label has not been picked up properly by the pad; or label fell off the pad before it could be placed onto the product.

Table 2 Error messages of the applicator

Error treatment:

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



#### Note!

In the case of errors check the **Service Manual** for adjustments and settings.



#### Warning!

After the error has been resolved the pad will immediately move back to the starting position!

**Danger of injury to hands and fingers by the moving pad!**

- ▶ Do not reach into the area of the moving pad and keep long hair, loose clothes, and jewelry away.

After error correction, the printing of the label causing the error cannot be repeated without restarting the print job except the error "Vac. plate empty". In this case, the last label will be printed again after resolution via the **pause** key and then pressing the Enter button ↵.

- ▶ In the application mode "Apply/Print" sends the signal "Print first label" or press the button ↵ to send a printed label to the tamp.

## 5.1 Declaration of Incorporation




Gesellschaft für Computer-  
und Automations-  
Bausteine mbH & Co KG  
Wilhelm-Schickard-Str. 14  
D-76131 Karlsruhe,  
Germany

## 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>Stroke Applicator</b>
Type:	<b>4414</b>
Applied EU Regulations and Norms:	
<b>Directive 2006/42/EC on machinery:</b>	<ul style="list-style-type: none"> <li>• <b>EN ISO 12100:2010</b></li> <li>• <b>EN ISO 13849-1:2008</b></li> <li>• <b>EN 60950-1:2006 +A11:2009+A12:2011+A1:2010+A2:2013</b></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, 01.03.2016</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.


## 5.2 EU Declaration of Conformity



Gesellschaft für Computer-  
und Automations-  
Bausteine mbH & Co KG  
Wilhelm-Schickard-Str. 14  
D-76131 Karlsruhe,  
Germany

## 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>Stroke Applicator</b>
Type:	<b>4414</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 55022:2010</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, 01.03.2016</b>
<b>cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda</b>	 <b>Erwin Fascher Managing Director</b>

## 6.1 Factory default Settings

**Note!**

The applicator is set up in a standard configuration by the factory. These values guarantee a smooth operation.

**Note!**

In the case of a customer specific setup with special material the settings can deviate from the standard values.

In this case the standard values in the setup protocol are as follows.

The factory default settings are:

- Connected to a cab Hermes+ printer, vertical
- Used Pad:  
cab part No.: 5963881 54x36 for L  
cab part No.: 5963878 54x36 for R
- Material used for factory default settings: cab part No.: 5556472 54x35.5
- Pressure value of the compressed air: 0.45 MPa (4.5 bar)



## 6 Installation

### 6.2 Tools






Screwdriver with parallel blade	2.5		<ul style="list-style-type: none"> <li>To adjust the throttle valves and product sensor</li> </ul>
Hexagon key L-wrench	0.8		<ul style="list-style-type: none"> <li>To adjust the sensors (in contents of delivery)</li> </ul>
	2.5		<ul style="list-style-type: none"> <li>For matched norm parts (in contents of delivery)</li> </ul>
	4		<ul style="list-style-type: none"> <li>Pad adjustments</li> <li>Changing pad</li> </ul>
Flat-round nose - straight - angled			<ul style="list-style-type: none"> <li>To mount/dismount tubes</li> </ul>
Open spanner	SW 8		<ul style="list-style-type: none"> <li>To change the throttle valves</li> </ul>
	SW 13		<ul style="list-style-type: none"> <li>Setting the spring strength of the adapter bolt</li> </ul>
	SW20		<ul style="list-style-type: none"> <li>Changing the cylinder</li> </ul>
Manometer	± 7 bar		<ul style="list-style-type: none"> <li>Air pressure control</li> </ul>

Fig. 7 Tools

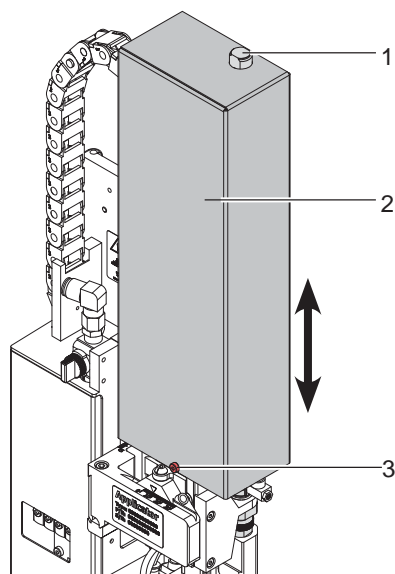
### 6.3 Mount and dismount the cover

To initiate the applicator or for adjustments it is necessary to dismount the cover (2). After these adjustments have been completed remount the cover.



#### Warning!

- ▶ Do not operate the applicator without the cover (2).
- ▶ Dismount the cover only for service and/or adjustment purposes.



1. Loosen screw (3).
2. Lift cover (2) upwards.
3. Move the cover (2) from top over the cylinder assembly.
4. Put in the cylinder (1) into the hole in the cover (2).
5. Tighten screw (3) to fix cover (2).

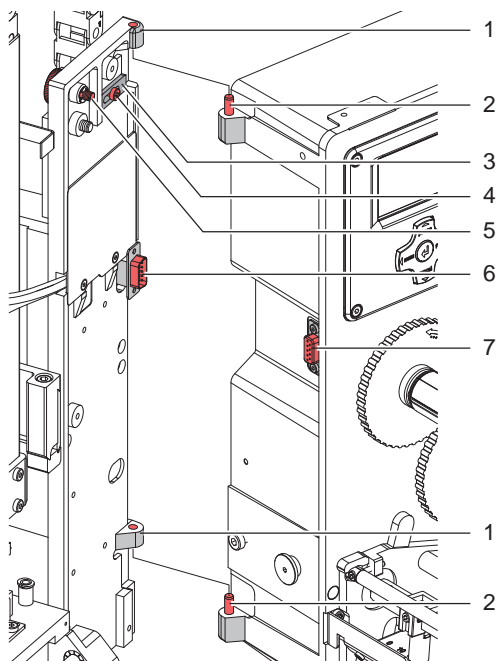
Fig. 8 Cover

## 6.4 Mounting the Applicator to the Printer



### Attention!

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



1. Hang the applicator to the printer via the female hinges (1) to the male hinges (2) of the printer.
2. Connect the SUB-D 15 male connector (6) to the female connector (7) of the printer.
3. To ensure the applicator does not slip out of the hinges, loosen screw (4), move the locking plate (3) to secure the applicator and tighten screw (4) again.
4. When pivoting the applicator onto the printer ensure that the cable is not caught between the two units.
5. Tighten the thumbscrew (5).
6. Raise the stopper on the rail to enable movement of the lifting cylinder. ▷ „6.5 Transportation Lock“

Fig. 9 Mounting applicator to the printer

## 6.5 Transportation Lock

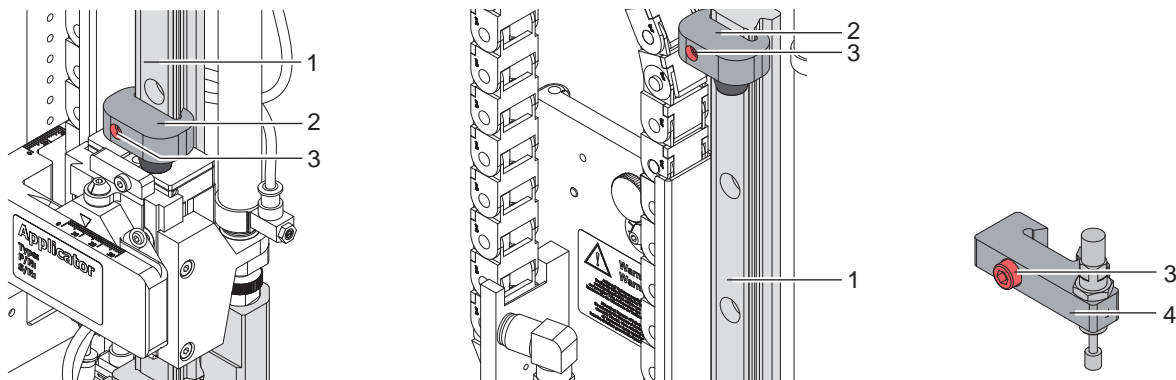


Fig. 10 Stopper as transport lock

When the applicator is delivered, the stopper (2) is mounted on the rod (1). With this stopper (2) the labelling position for the operation mode "Blow on" can be adjusted.

In transit the stopper (2) is used as a transport lock.



### Note!

To reduce the impact energy it is possible to use a stopper with cushion (4).

### Releasing the transport lock

1. Loosen screw (3) of the stopper (2).
2. Move the stopper (2) along the rod (1) into the position as in operation mode:
  - Operation mode "Blow on": ▷ 7.4 Adjusting the stopper
  - Operation mode "Stamp on" : Move the stopper (2) up to the end of the rod (1).
3. Tighten screw (3) to fix the stopper (2) in position.

## 6.6 Mounting the Pad

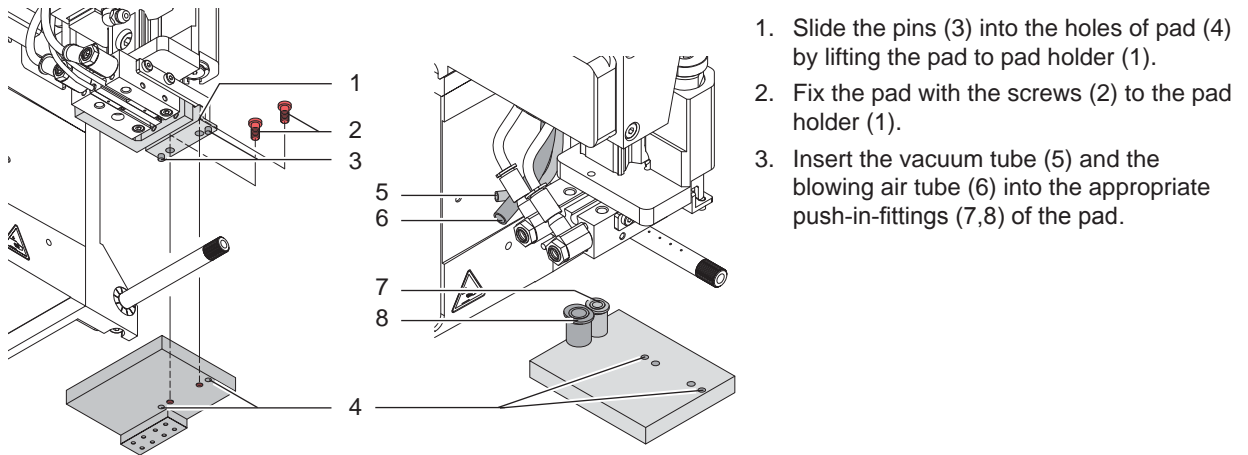


Fig. 11 Mounting the pad

**Attention!**

- To avoid possible collisions of the pad with other parts of the printer-applicator system, please roughly align the pad in all directions (► „7 Adjustments“) before connecting the applicator to the compressed air supply!

## 6.7 Mounting the Blow Tube

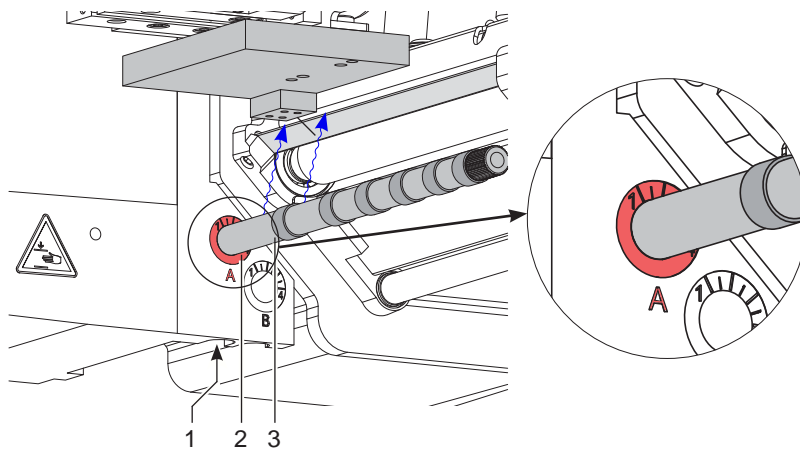


Fig. 12 Mounting the blow tube

It is possible to rotate the blow tube to optimize the direction of the support air for the take over procedure of the label from printer to applicator.

1. Loosen screw (1).
2. Put in the blow tube (3) into the hole A (2).
3. Tighten screw (1) gently to secure it. ► „7.4 Adjustment of the Stopper for Blow on Mode“

## 6.8 Connecting the Compressed Air



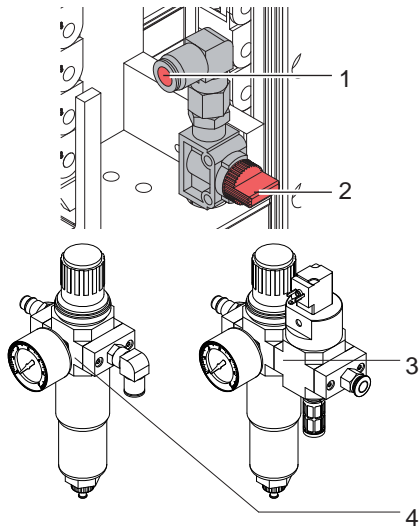
### Attention!

Adjustments and function control were done with a compressed air value of 4.5 bar.  
The applicator operating range is between 4.0 and 6.0 bar.



### Warning!

When connecting the applicator to compressed air it is considered "IN USE!" Cylinder motion is possible!  
► Do not reach into the zone of the moving pad and keep long hair, loose clothes, and jewelry away.



- 1 Check that the stop valve (2) is closed as illustrated
- 2 Attach compressed air to connector (1).
- 3 Open the stop valve (2) by turning it into the direction of air flow.
- 4 Switch on the printer by the power switch.

It is possible to use an air pressure regulation unit.

cab offers two versions of air pressure regulators.

- Air pressure regulation unit with included magnetic valve (3)  
Controlling via printer  
▷ Interface description of the printer
- Standard version (4)

Fig. 13 Compressed air connection



### Note!

If the pad is not in the start position when the printer is switched on an error message appears on the display.

Press the pause button on the printer.

The applicator will move into the start position and will be ready for use.



### Note!

Only mount the air pressure regulation unit as illustrated otherwise the functionality of the air-water separator cannot be guaranteed.

## 7.1 Pad Adjustments

For optimal functionality it is necessary to place the pad exactly over the label for the takeover procedure.

### Moving the pad in X-, Y- and Z-direction

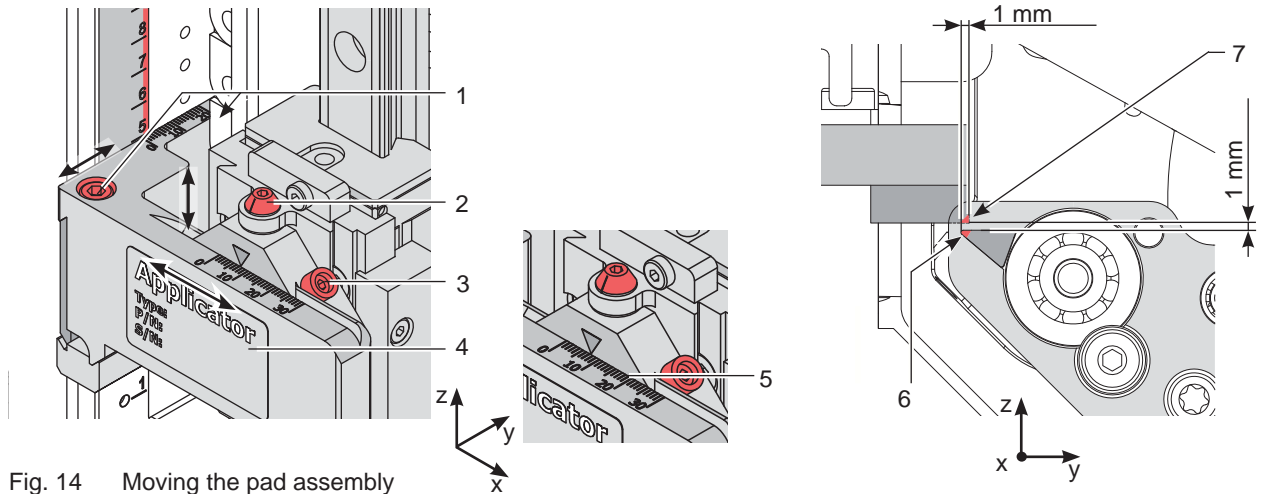


Fig. 14 Moving the pad assembly

#### Adjustment in the X-direction - Sideways Adjustment

1. Loosen screw (3).
2. Move the cylinder assembly group (4) including pad along the cross beam until the pad is over the middle of the label intended for application. For better orientation there is a graduation mark (5) depicted on the assembly group.
3. Tighten screw (3).

#### Adjustment in the Y-direction - Print Direction

1. Loosen screws (1).
2. Move cylinder assembly (4) including pad along the guide rail so that the distance between the edge of the pad (6) and the edge of the dispense plate (7) of the printer is approximately 1 mm.
3. Tighten screws (1).

#### Adjustment in Z-direction - Height Adjustment

1. Loosen screw (3).
2. Turn setting screw (2) so that the bottom of the pad is 1 mm over the top edge of the dispense plate (7).
3. Tighten screw (3).

#### Adjusting the Parallelism between Pad and Dispense Edge

The edge of the pad must be parallel to the dispense edge of the printer.

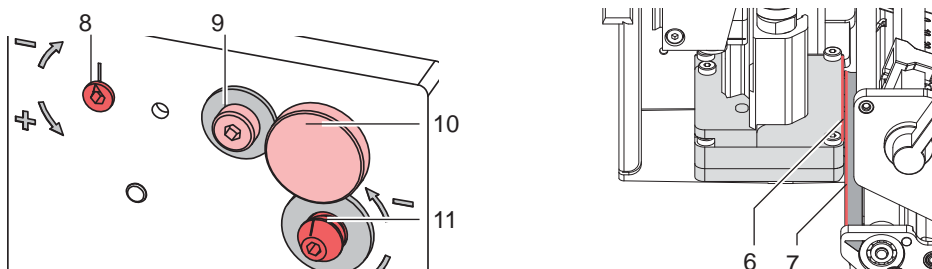


Fig. 15 Adjusting the pad to the dispense edge

1. Loosen knurled screw (10) and screw (9).
2. Press the applicator against the printer and adjust the angle between applicator pad edge (6) and printer dispensing plate (7) via the setting screw (11) and the eccentric (8).
3. Tighten screw (9) and fasten the applicator with knurled screw (10).

## 7.2 Vacuum Adjustments

The label will be held on the pad by a vacuum.

The vacuum needs to be set up in such a way that the label covers all the suction holes and is not hindered before it reaches its intended position on the pad.

**The default Value of the Vacuum is -0.6 bar.**

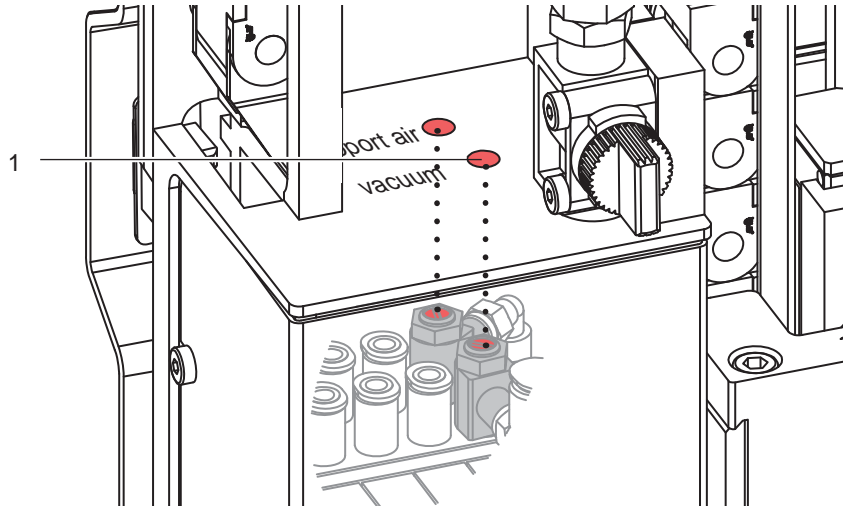
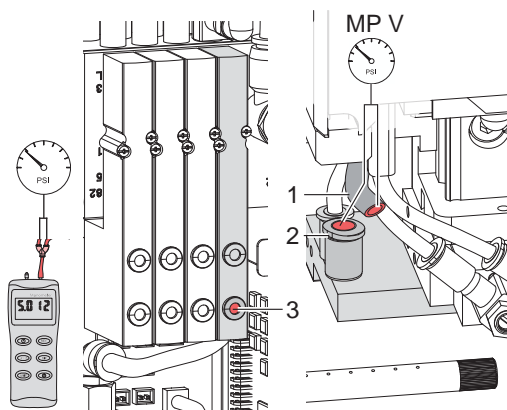


Fig. 16 Throttle valve "vacuum"

- ▶ Adjust the vacuum on the throttle valve "vacuum" (1) so that the label will be sucked up over the entire area.
- ▶ To increase the vacuum turn the setting screw on the throttle valve (1) counterclockwise.

### Measuring Point Vacuum (MP V)



Use a manometer with a measurement area -7 to 7 bar for measurement the pressure.

#### MP V: Vacuum -standard value -0.6 bar

1. Remove cover.
2. Cover the suction plate so it is airtight.
3. Attach manometer between tube (1) at the energy track and fitting (2) on the pad.
4. Activate the valve manually by pressing the micro switch (3) to measure the pressure.
5. Mount cover.

Fig. 17 Measuring points for the vacuum



### Attention!

**After pressure measurements, reconnect all components correctly.**

### 7.3 Blow Tube (Support Air) Adjustments

The blow tube must be adjusted in such a way that the label takeover is unhindered by turbulence and the supporting air blows the label evenly against the pad.

The default factory value is 2 bar.



**Note!**

When changing the label size (2", 4" or 6") the appropriate blow tube is to be used.

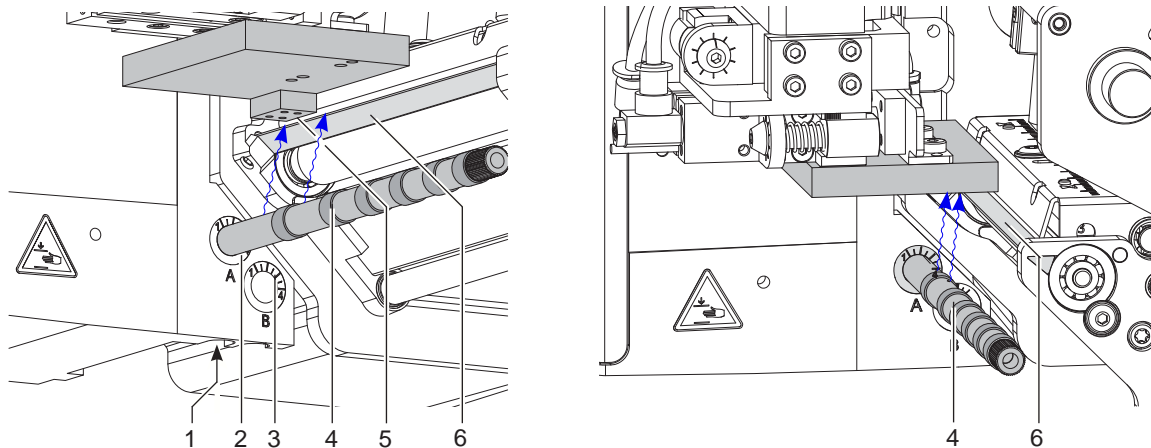


Fig. 18 Adjust the blow tube

The blow tube (2) for the supporting air can be rotated around its axis. This allows the direction of the supporting air can be optimized.

1. Loosen screw (1).
2. Put in the blow tube (4) into the tube adapter A (2).  
Turn the blow tube (2) in the direction that the air current can support the take up of the label.
  - For small labels direct the air current to the dispensing edge (4) of the printer.
  - For larger labels direct the air current away from the dispense edge (4).  
Use the graduation to orientation.
3. Open as many holes of the blow tube as are needed to cover the label width. Remove rings (4) if necessary.  
All holes outside the label width should be covered with the shrink tube rings provided. Once the unneeded holes have been covered the shrink tube should be shrunk.
4. Tighten screw (1).

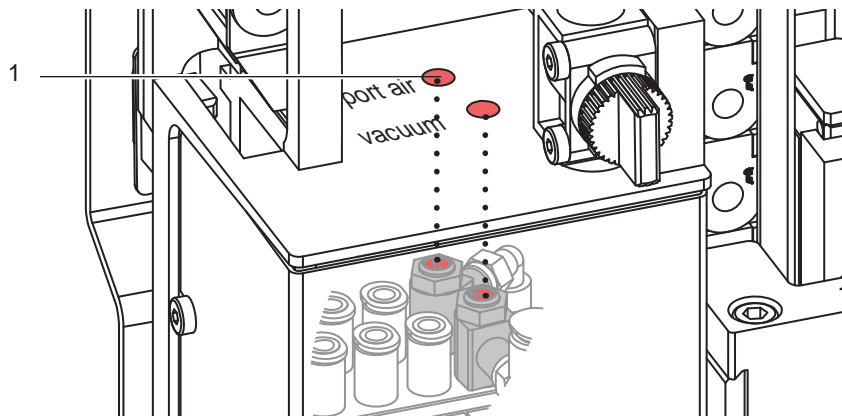
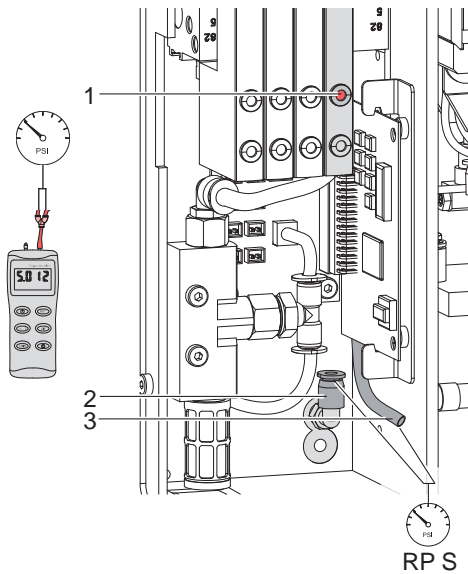


Fig. 19 Throttle valve "support air"

The strength of the supporting air can be varied via the provided throttle valve (1).

- To increase the strength of the supporting air turn the throttle valve (1) counterclockwise.

### Measuring Point Support Air (MP S) of support air



Use a manometer with a measurement area -7 to 7 bar for measurement the pressure.

#### RP S : support air (reference value 2 bar)

1. Remove cover and connect the manometer on RP S.
  - Tube (2) from valve block to blow tube connector.
  - Fitting (3) on the blow tube.
2. Activate the valve manually with open compressed air supply and pressing of micro switch (1) to measure the pressure.
3. As and when required adjust it on support air throttle valve "support air" .
4. Mount cover again.

Fig. 21 Reading points to measure the pressure



#### Attention!

After pressure measurements, connect all component exactly and check it.

## 7.4 Labelling Position of the Tamp

The labelling position is depend of the customer environment and must adjust finally on-site.

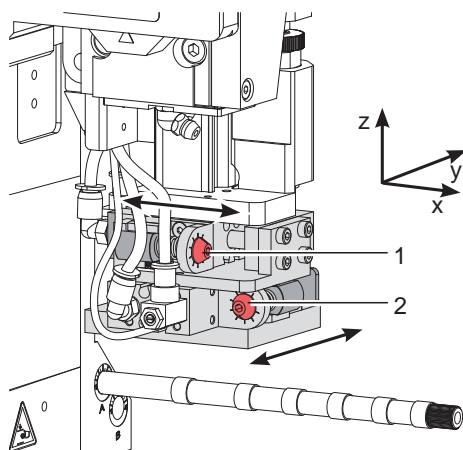


Fig. 20 Adjusting the labeling position

The labelling position of the tamp is different to the start position in X- and Y-direction and will adjust by setting screws in both directions.

With the setting screws is a positioning space up to  $\pm 2$  mm possible.

- Setting in Y-direction by setting screw (1) .
- Setting in X-direction by setting screw (2) .



## 7.5 Adjustment of the Stopper for Blow Mode

**Note!**

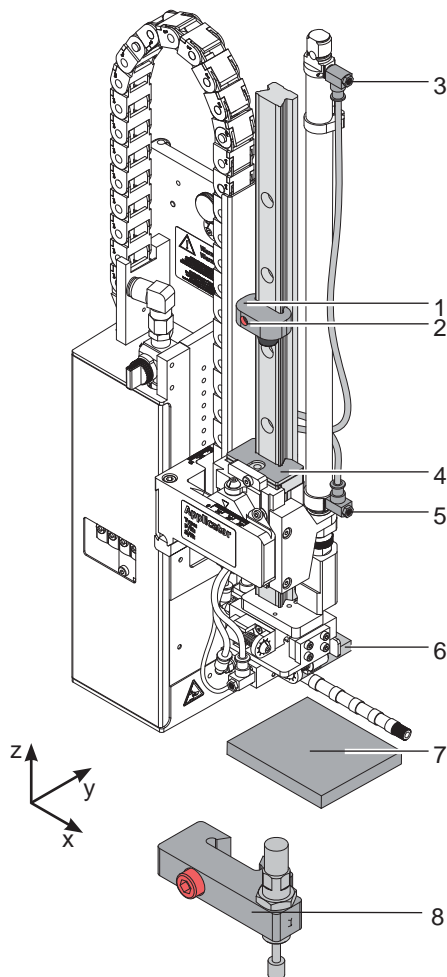
For operation mode "Blow on" only!

The operation mode "Blow on" allows labelling without contact.

The pad does not press on the product. The label will be blown from the pad onto the product over a distance of up to 10 mm.

**Attention!**

► Switch off the printer and close the shutoff valve of the compressed air via the shut-off valve!



1. Place a product sample (7) at the labelling point.
2. Pull the tubes out of the push-in-fittings (3,5).
3. Loosen the screw (2) in the stopper (1).

**Note!**

In case you move the tamp assembly manually move in the Y-cylinder. So that the tamp doesn't touch the dispense plate or blow tube during movement.

4. Move the pad manually in the required labelling position. The distance between the blow pad (6) in the labelling position and the product surface (7) must not exceed 10 mm.
5. Move the stopper (1) along the guide block (4) and tighten the screw (2)
6. Insert the tubes into the appropriate push-in-fittings (3,5).
7. Open the shutoff valve and switch on the printer.

**Note!**

To reduce the impact energy of the tamp it's possible to use a stopper with absorption as option.

Fig. 21 Adjusting the Stopper

## 7.6 Lift Speed of Cylinder Z

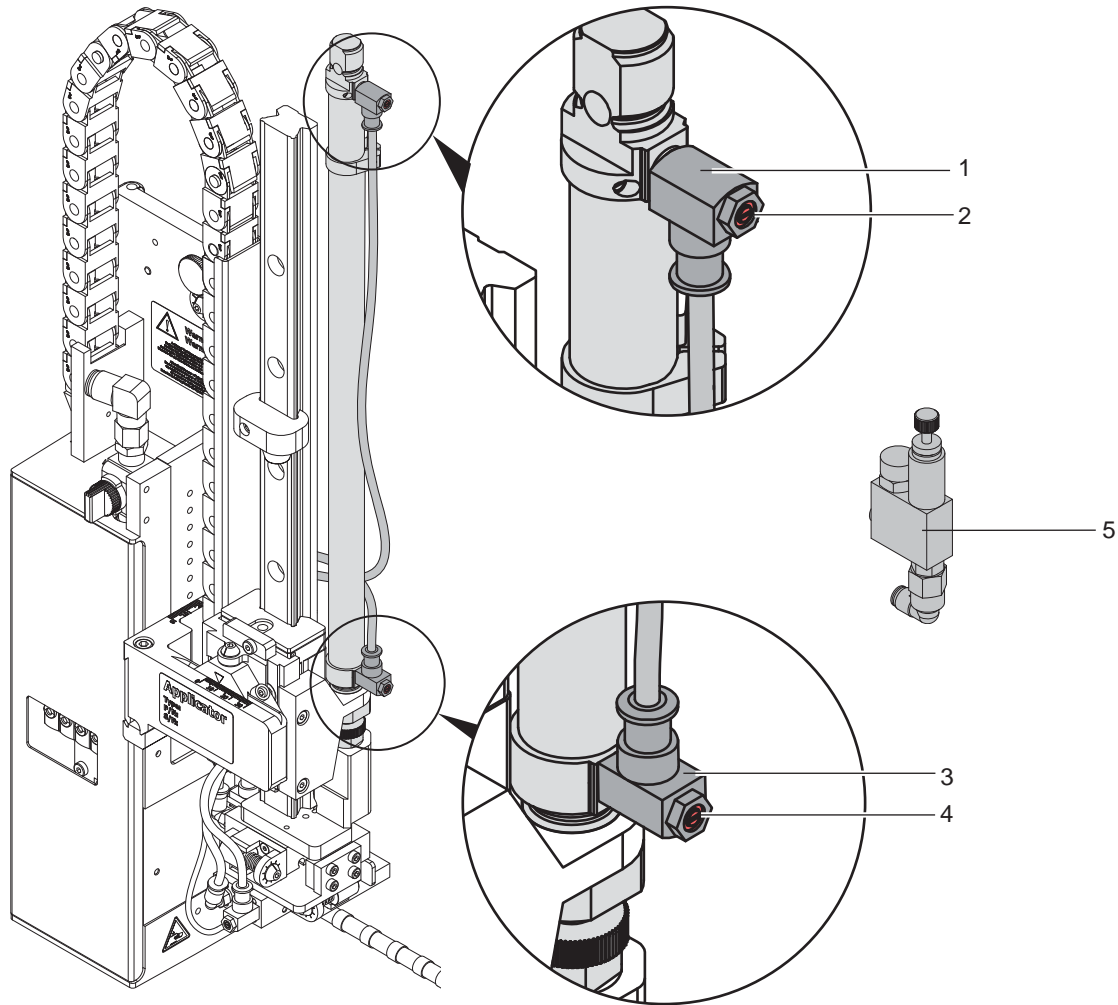


Fig. 22 Throttle valves on the cylinder Z

The speed of the pad movement can be regulated by two throttle valves (1, 3).

- Adjust the pad movement speed as necessary.
- To increase the downward speed turn screw (4) at the lower valve (3) counterclockwise.
- To increase the upward speed turn screw (2) at the upper valve (1) counterclockwise.



**Note!**

The application pressure of the pad is mainly depending on the downward speed of the pad.

- In order to reduce the application pressure turn screw (4) clockwise.



**Attention!**

The time for the downward movement of the pad may not exceed 2 seconds otherwise the error message "Lower position" will appear.



**Note!**

To reduce the air pressure in Z-direction it is possible to use an optional pressure reduction valve (5).

- ▷ „7.8 Adjusting the Options for Z-Direction Movement“

## 7.7 Sensors on Cylinder Z

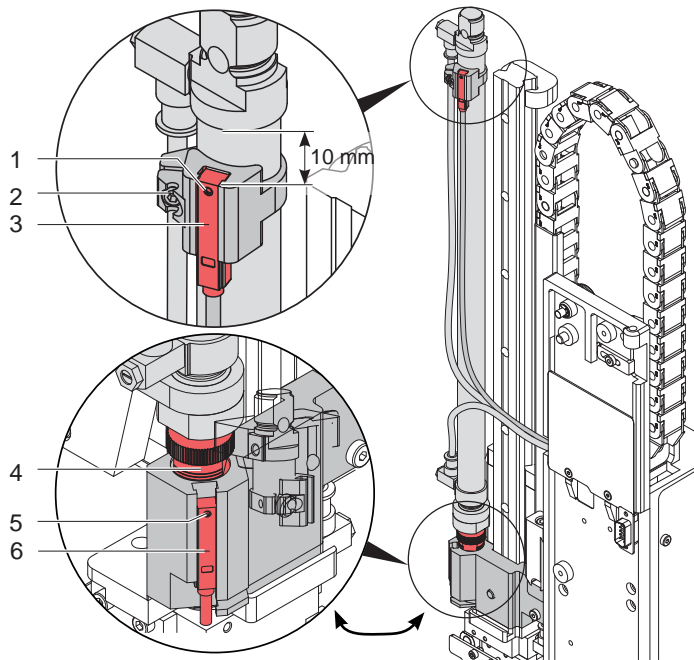


Fig. 23 Sensors on cylinder Z

**Sensor Start Position 1**

1. Loosen screw (1) of sensor "Start Position" (3) and move the sensor so that the top edge of the sensor sits comfortably in the sensor holder.
2. Remove the compressed air tubes of the cylinder Z and power up the printer with connection to the applicator.
3. Move the pad toward the stopper manually.
4. Loosen screw (2) of the sensor holder.
5. Position the sensor so that it triggers securely with lit up LED at complete contraction of cylinder Z. This is achieved with the top edge of the sensor being about 10 mm from the top edge of the connection ring. (Fig. 23)
6. Tighten screw (2).

**Labelling Sensor 2**

The position of the labelling sensor (6) is dependant on the pad assembly's weight and the mounting position. The spring tension on the adapter bolt is dependant on these parameters and must be adjusted so that the sensor does not trigger unintentionally. The triggering magnet is integrated in the adapter bolt and changes position with the tension spring.

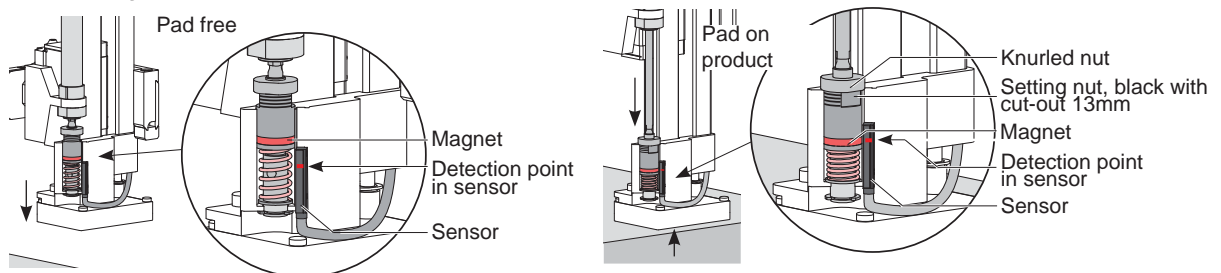


Fig. 24 Labelling sensor principle

1. Getting the printer and applicator into the final orientation.
2. Adjust the spring tension on the adapter bolt (4) via the black setting nut so that:
  - The adapter bolt is not pushed into the stamp assembly group during motion.
  - The sensor triggers when the pad has reached the labeling position.
3. Turn the setting nut with an open spanner 13 mm and fix the knurled nut by holding it.
  - Turning the setting nut clockwise will increase the spring tension.
  - Turning the setting nut counterclockwise will decrease the spring tension.
4. Loosen screw (5) and move the sensor (6) so that the LED lights up when the adapter bold is pushed into the pad assembly.
5. Tighten screw (5).

## 7.8 End Position Cushioning



### Note!

The end position cushioning on the cylinder is adjusted by factory at customer project values. It's not necessary to change it if you don't change the configuration.

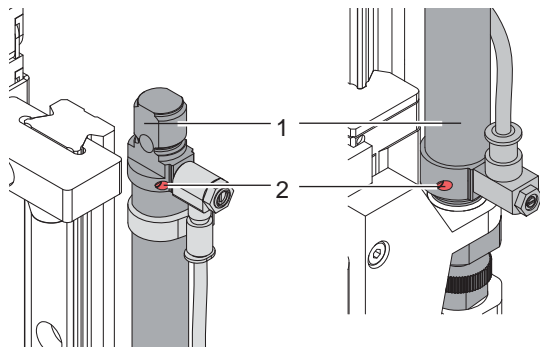


Fig. 27 End Position Cushioning

The end position cushioning of the main cylinder reduces the impact energy when the applicator is operating at high speeds and/or mass.

Adjust the end position cushioning so that the piston arrives the end position definitively but does not strike it to hard.

A higher level of end position cushioning will reduce the lift speed.

- ▶ To increase the value of the end position cushioning turn the setting screw (2) clockwise on cylinder (1).
- ▶ To reduce the value of the end position cushioning turn the setting screw (2) counterclockwise on cylinder (1).

## 7.9 Adjusting the Options for Z-Direction Movement

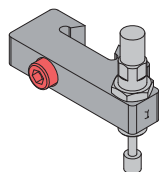


Fig. 28 Stopper (Guide Rail)

The stopper with cushioning (guide rail) reduces the speed of the cylinder Z shortly before impact when the applicator is operated at higher cylinder speeds and with larger pads. Adjustments like chapter ▷ „7.5 Adjustment of the Stopper for Blow Mode“

Adjust the stopper with maximum compressed spring.

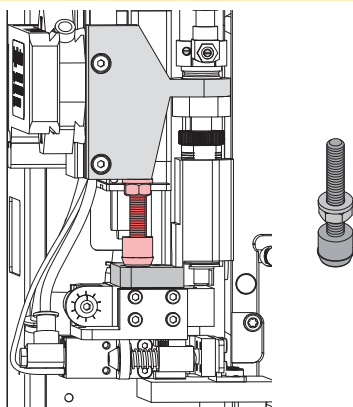


Fig. 29 Stopper (Tamp Assembly)

The stopper avoids the triggering of the labelling sensor by the weight of the pad assembly at the inward motion in case of an installation of 90° or 180°.

The adjustment must be done in the start position of the applicator.

1. Loosen the counter nut of the stopper.
2. Turn the stopper until it easily touches the pad retainer. Do not change the take over position of the pad by the stopper.
3. Tighten the counter nut to fix the stopper.

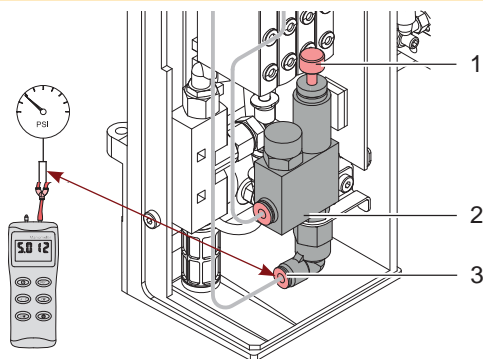


Fig. 30 Pressure reduction valve Cylinder Z

The pressure reduction valve (2) can be used when labelling pressure-sensitive products or considering general safety aspects to reduce the pressure of the cylinder in Z-direction.

The standard value is 2.5 bar.

- ▶ Connect the manometer between tube and exit (3) and adjust the pressure to 2.5 bar with the knurled screw (1).

It is possible to order an upgraded set with a pressure reduction valve.

Instructions are provided with the upgraded set.

### 7.10 Lift Speed of Cylinder X/Y

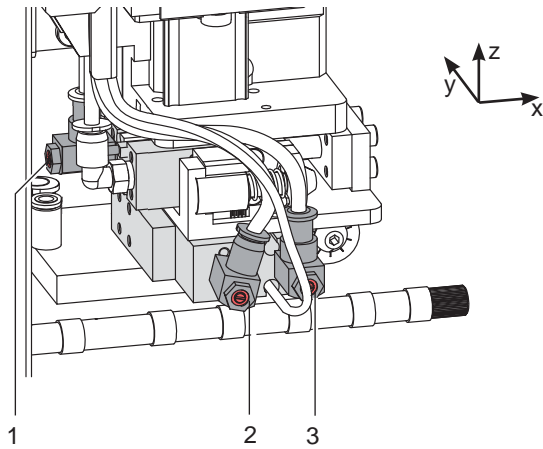


Fig. 25 One-Way Flow Control Valve on Cylinder X/Y

- ▶ Adjust lift speed as necessary.
- ▶ To push the movement out in X-direction turn the screw on throttle valve (1) counterclockwise. turning clockwise on throttle valve (1) reduces the speed (move out) in X-direction.
- ▶ To push the movement out in Y-direction turn the screw on throttle valve (2) counterclockwise. turning clockwise on throttle valve (2) reduced the speed (move out) in Y-direction.
- ▶ To push the movement in Y-direction turn the screw on throttle valve (3) counterclockwise. turning clockwise on throttle valve (3) reduced the speed (move in in Y-direction).

### 7.11 Sensors on Cylinder X/Y

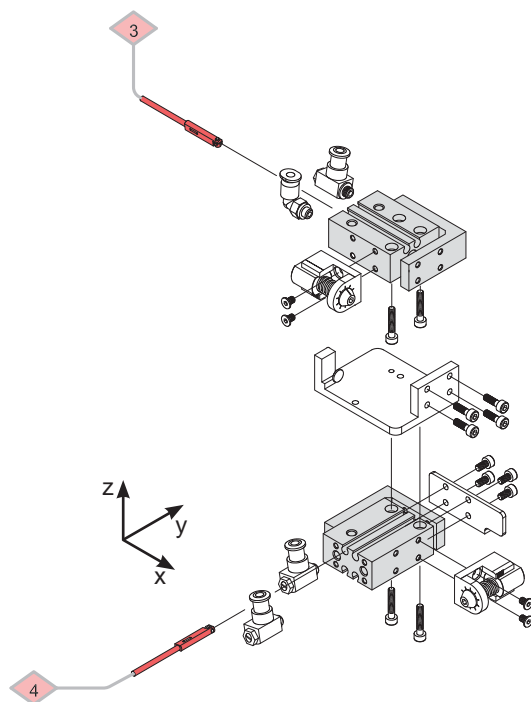


Fig. 26 Sensors on cylinder X/Y

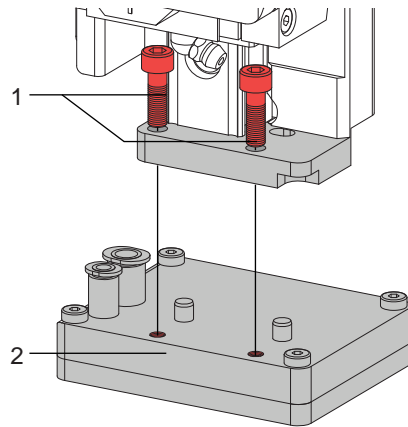
The sensors on the X- and Y-cylinder detect the right start position of the cylinder and the applicator start position.

- Place sensor 3 on cylinder X so that it switched on in case the cylinder is full moved in and switched off if the cylinder leaved this position.
- Place sensor 4 on cylinder Y so that it switched on in case the cylinder is full moved out and switched off if the cylinder leaved this position.

### 7.12 Labeling from Below - Changing the Spring of the Impact Sensor

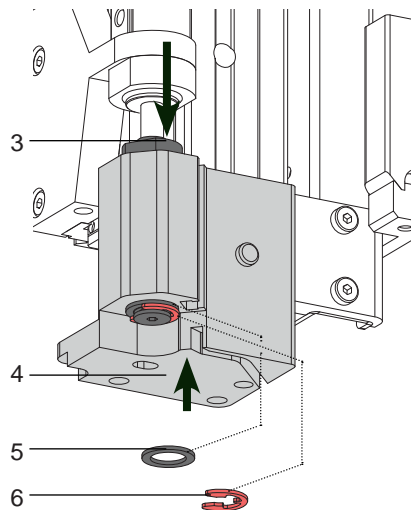
For fault free labeling in a side- or upward-motion it is necessary to change the spring of the impact sensor.

The stronger spring prevents the unwanted triggering of the impact sensor due to the inertia of the cylinder and stamp assembly group.



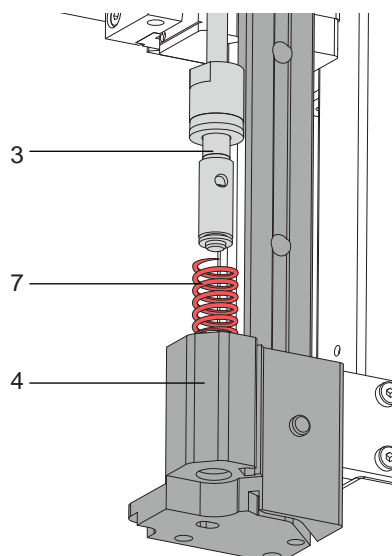
- Loosen screw (1) and dismount the stamp (2) to get to the locking washer (6).

Fig. 27 Demounting the stamp



- Push the adapter bolt (3) into the stamp uptake (4) to ensure that the bottom of the bolt is pushed out. Demount locking plate (6).
- Remove washer (5).

Fig. 28 Loosening the adapter bolt



- Hold onto the adapter bolt (3) and pull off the stamp uptake (4).
- Pull out the pressure spring (6) and replace it with the alternative.
- Push together the stamp uptake (4) and the adapter bolt (3).
- Replace the washer (5).
- Place the locking washer (6) back into it's position.

Fig. 29 Changing the spring

The tamp applicator can be operated in different ways. While the original process stays the same, the operation mode can be chosen within the printer setup.

The most important setting is the selection between the operation modes "Stamp on" and "Blow on".

Additionally the applicator has different application modes concerning the order of printing and applying within one labelling cycle

	Stamp on	Blow on
Print/Apply	x	x
Apply/Print Waiting position up	x	x
Apply/Print Waiting position down	-	x

Table 3 Operation and application modes

Additionally all operating modes can be adjusted by setting different time delays.



**Note!**

For more information about the printer configuration and the function of the keys in the navigator pad  
 ▷ Configuration manual of the printer or ▷ Operator's manual of the printer

## 8.1 Method for Changing the Printer Setup

1. Press **menu** key.
2. Select **Setup > Machine param. > Applicator**.
3. Select and adjust the needed parameters.
4. Return to the "Ready" mode.

## 8.2 Quick Mode for Setting the Delay Times

Beside the standard method for the printer configuration there is a quick mode to adjust the delay times available.



**Note!**

The quick mode settings can be made during operation . The changes affect directly the current print job.

1. Press the **menu** key for at least 2 seconds.  
The first delay time appears on the display.
2. Adjust the delay time by pressing the **▲** key and **▼** key.
3. To switch between the different delay times press the **►** key.
4. To leave the quick setup mode press the **◄** key.  
The selected delay times are stored in the printer.

### 8.3 Configuration Parameters of the Applicator

The configuration parameters of the applicator can be found in the menu `Setup > Machine param.`















Parameter	Meaning	Default
 Applicator	Configuration parameters of the applicator	
 > Mode of oper.	Setting the operation mode Stamp on, Roll on, Blow on	Stamp on
 > Mode of appl.	Setting the application mode Print-Apply / Apply-Print Print-Apply: An external start signal releases the print of a label and following the application of the label. After a cycle is complete, the pad without label waits in the start position. Apply-Print: An extra signal starts the print of the first label and the transfer of the label to the pad. The external start signal releases the application of the label and following the print and transfer of the next label. After a cycle is complete, the pad with a label is in the waiting position.	Print-Apply
 > Waiting position	<b>only at Mode of oper. Blow on and Mode of appl. Apply-Print</b> up : Pad waits in the start position for the start signal down : Pad waits in the labelling position for the start signal	up
 > Blow time	<b>only at Mode of oper. Blow on</b> Switch-on time (max. 2,5 s) of the blowing air for the label transfer	0 ms
 > Support delay on	Setting the switch-on delay (max. 2,5 s) for the supporting air between print start and switching on the supporting air. The delay prevents swirling at the front of the label and, consequently, avoids faults when the label is being picked up from the printer.	0 ms
 > Support del. off	Setting the switch-off delay (max. 2,5 s) for the supporting air between the end of label forwarding and switching on the supporting air. The delay can be useful to separate the rear edge of the label from the carrier to avoid errors and to improve the accuracy of label positioning	270 ms
 > Delay time	Delay (max. 2,5 s) between start signal and the start of an labelling cycle. Allows e.g. the use of product sensors at conveyors.	0 ms
 > Lock time	All start signals coming in following the first start signal are ignored when they arrive within the lock time.	0 ms
 > Peel position	Shift the position of the dispensed label relatively to the dispense 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
 > Vacuum control	Setting the label transfer check from printer to pad and from pad to product by the vacuum sensor	On
 > Hand-over up	Take over the label direct from the dispense edge via contact between pad and dispense edge. Not in function for Type 4014 / 4016, 4314 / 4316.	Off
 > Cleaning blow	Activate / Deactivate - air pressure impulse to clean the pad	On
 > Vacuum delay	On - The vacuum will switched on after end of the label transport. Out - The vacuum will switched on with start of the label transport.	Off

Table 4 Applicator parameters



### 8.4 Setting the Peel Position

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



#### Attention!

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

**It is very important to follow that procedure for a certain start after label loading and for the re-start after error treatment.**

#### Parameter "Peel Position" in the printer configuration

- ▶ Check the basic setting in the printer setup. Perform labelling cycles by alternately 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-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.

### 8.5 Activation of Peel-off Mode



#### Note!

- ▶ For labelling operation activate the peel-off mode in the software.  
For direct programming use the P command ▷ Programming manual.

## 9.1 Test Mode without Print Job



### Warning!

The pad will immediately be moved in the starting position !

Danger of crushing to hand and fingers by the moving pad !

► Do not reach into the zone of the moving pad and keep long hair, loose clothes, and jewelry distant.

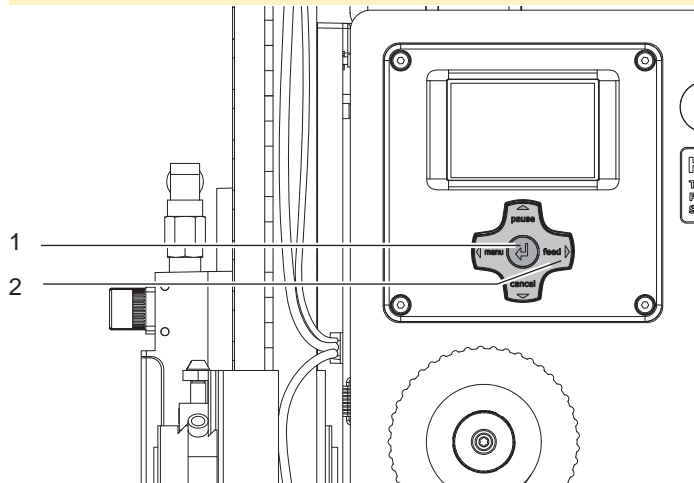


Fig. 30 Test mode via Enter key



### Note!

► Please use that test mode to adjust the parameter "Peel position" in the printer configuration.

The whole labelling process can be simulated without the need for a print job or a connection to a computer by alternately pressing the **feed** (2) button and the Enter button ◀ (1):

- Press the **feed** button (2).  
A blank label is fed. The vacuum at the pad as well as the supporting air (blow tube) are switched on. After the label has been picked up by the pad, the supporting air is switched off.
- Press the Enter button ◀ (1).  
The pad is moved to the labelling position. A sensor signals when the labelling position is reached. The vacuum is switched off and the label is placed onto the product. Then, the pad is moved back into the starting position.

## 9.2 Test Mode with Print Job



### Note!

► Please use the test mode to adjust the peel-off offset with the software.

This method allows to check labelling processes with the real print data using the Enter button ◀ (1).

- Send a print job.

The test mode is executed in two half cycles:

- Press the Enter button ◀ (1).

#### Half cycle 1

A label is printed. The vacuum of the pad as well as the supporting air (blow tube) are switched on. After the label has been picked up by the pad, the supporting air is switched off.

- Press the Enter button ◀ (1) again.

#### Half cycle 2

The pad is moved to the labelling position. A sensor signals when the labelling position has been reached. The vacuum is switched off and the label is placed onto the product. Then, the pad is moved back to the starting position.

If the label is manually removed from the pad after the first half cycle, the half cycle 1 will be repeated when the pre-dispense button is pressed again.

## 10 Spare Parts

### 10.1 Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
1	5902489.001	Screw DIN7984-M4x8	10		
2.1	5964129.001	Cover L	1		
2.2	5964260.001	Cover R	1		
3	5964367.001	Knurled Screw	1		
4	5964104.001	Set Screw	1		
5	5904544.001	Spring	10		
6	5964090.001	Bar	1		
7.1	5964429.001	Plate L	1		
7.2	5964438.001	Plate R	1		
8	5964429.001	Screw DIN7991-M3x6	1		
9	5902021.001	E-Ring DIN6799-4	10		
10.1	5903525.001	Mounting Plate L	10		
10.2	5964036.001	Mounting Plate R	1		

No.	Part-No.	Description	PU	Serial No.	
				from	to
11.1	5964318.001	Adapter Profile under 400H	1		
11.2	5970013.001	Adapter Profile from 400H	1		
12	5964318.001	Screw DIN912 M5x50	1		
13.1	5902167.001	Crossbeam	10		
13.2	5964312.001	Crossbeam	1		
14.1	5964331.001	Clamping Element L	1		
14.2	5964310.001	Clamping Element R	1		
15	5964328.001	Binder	1		
98	5966530.001	Eccentric	1		
99	5966529.001	Hinges	1		

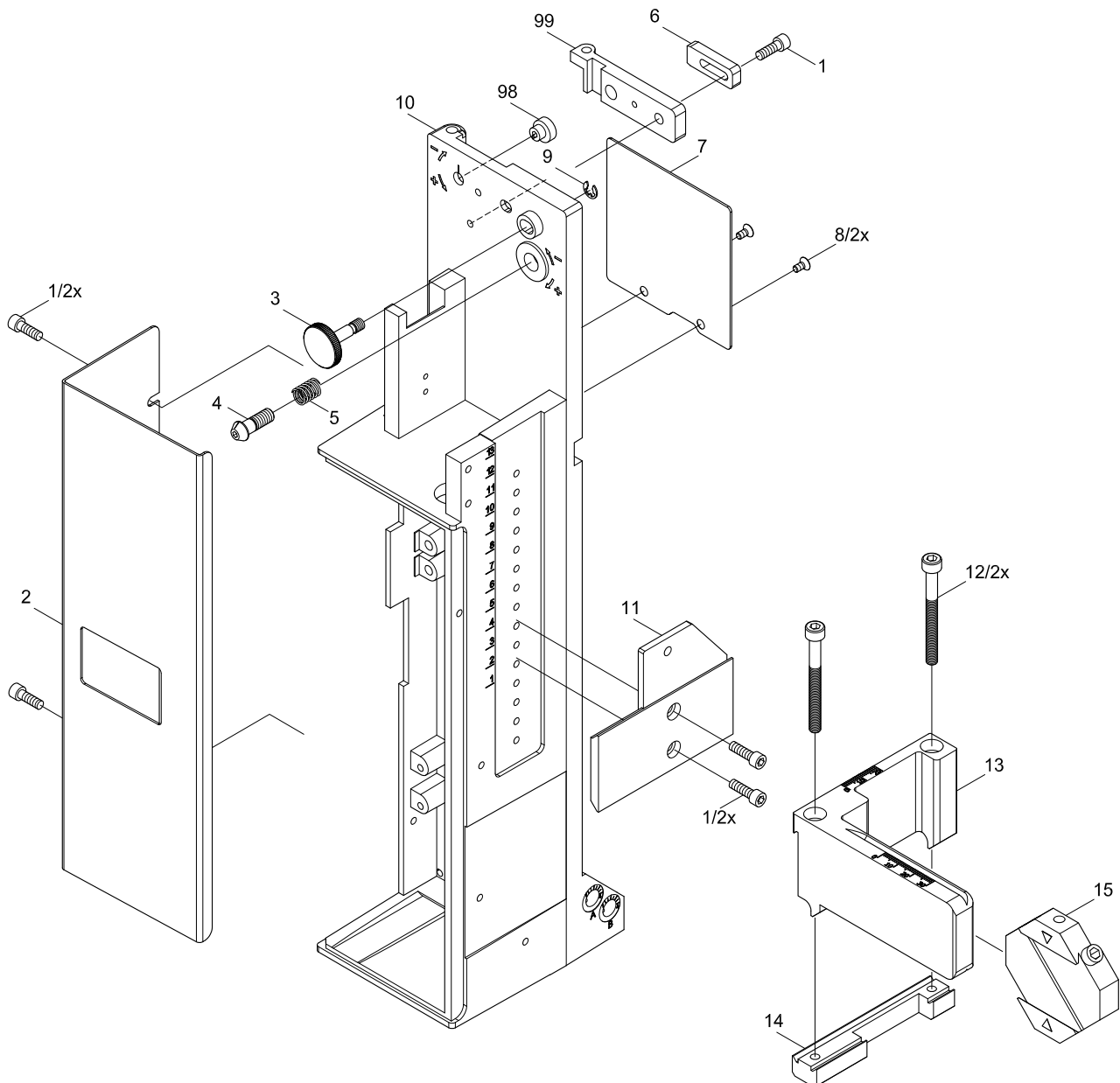


Fig. 31 Retainer Assembly - Spare Parts

## 10.2 Pneumatics Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
1	5902489.001	Screw DIN7984-M4x8	10		
16	5902863.001	Screw DIN7984 M4x25	10		
17	5905285.001	Push-in L-Connector	1		
	FESTO 153276	QSLF-1/8-8-B			
18	5905284.001	Block Valve	1		
	FESTO 153296	HE-3-1/8-1/8			
19	5906656.001	Push-in/threaded Fitting	1		
	FESTO 153023	QSF-1/8-6-B			
20	5966460.001	Tube Ø 4	2m		
	FESTO 152584	PUN 4x0,75-SI			
21	5966463.001	Tube Ø 4	2m		
	FESTO 159663	PUN-4x0,75-SW			
22	5966464.001	Tube Ø 6	2m		
	FESTO 159665	PUN-6x1-SW			
23	5966465.001	Tube Ø 8	2m		
	FESTO 159667	PUN-8x1,25-SW			
24	5966466.001	Tube 2x Ø 4	2m		
	FESTO 152822	PUN-4x0,75-DUO-SI			
26	5905371.001	Push-in Y-Fitting	1		
	FESTO 153371	QSMY-4			
27.1	5966651.001	Valve Block	L	1	
27.2	5966655.001	Valve Block	R	1	
28	5906021.001	Valve	1		
29	5906022.001	Valve	1		
32	5905317.001	Push-in L-Connector	1		
	FESTO 153336	QSM-L-1/8-6			
33	5906844.001	Vacuum Generator	1		
	FESTO 193509	VN-10-H-T3-PI4-VI4-RO1			
34	5905257.001	Silencer	1		
	FESTO 2307	U-1/8			
36	5905338.001	Push-in T-Connector	1		
	FESTO 153355	QSM-T-1/8-4			
38	5905283.001	Push-in/threaded Fitting	1		
	FESTO 153315	QSM-M5-4-I			
39.1	5964277.001	Blow Tube	2"	1	
39.2	5964095.001	Blow Tube	4"	1	
86	5966414.001	Pressure Reduce Valve	1		

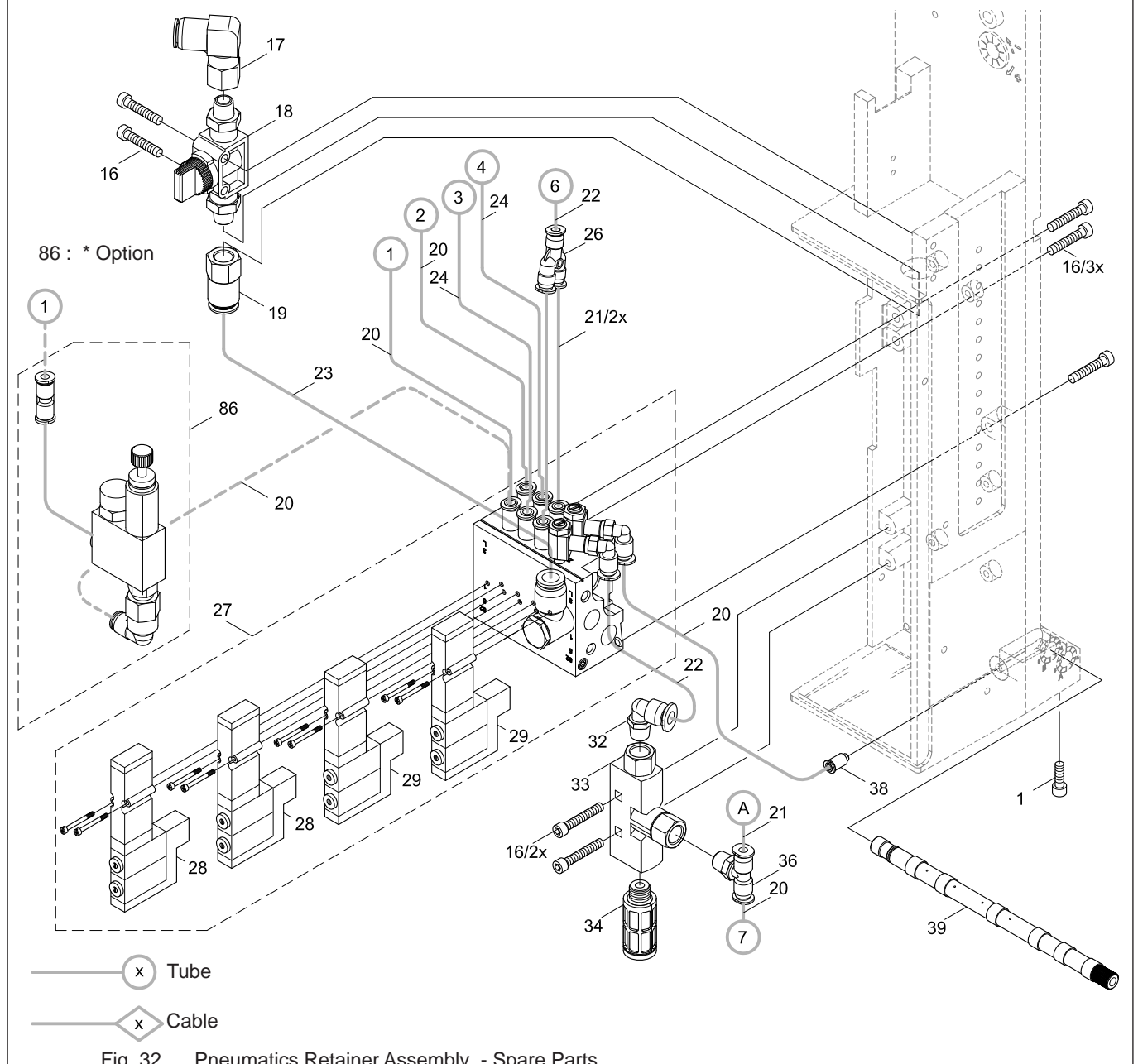


Fig. 32 Pneumatics Retainer Assembly - Spare Parts

## 10.3 Electronics Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
21	5966463.001	Tube Ø 4	2m		
	FESTO 159663	PUN-4x0,75-SW			
40	5964045.001	Bracket	1		
41	5955586.001	Cable	1		
42.1	5964590.001	Cable Ground 200H	1		
42.2	5964591.001	Cable Ground 300H	1		
42.3	5964592.001	Cable Ground 400H	1		
43	5902571.001	Screw DIN7984-M4x6	10		
44.1	5955579.001	Applicator Interfaces L	1	6123	
44.1	5971416.001	Applicator Interfaces L	1	6124	
44.2	5964188.001	Applicator Interfaces R	1	6123	
44.2	5971417.001	Applicator Interfaces R	1	6124	
45	5955585.001	PCB Valve Block assem.	1		
46.1	5964454.001	Sensor Start Pos. Cyl.Z 200H	1		
46.2	5964494.001	Sensor Start Pos. Cyl.Z 300H	1		
46.3	5964495.001	Sensor Start Pos. Cyl.Z 400H	1		
47.1	5964490.001	Sensor End Pos. Cyl.Z 200H	1		
47.2	5964594.001	Sensor End Pos. Cyl.Z 300H	1		
47.3	5964595.001	Sensor End Pos. Cyl.Z 400H	1		

No.	Part-No.	Description	PU	Serial No.	
				from	to
48	5964612.001	EEPROM	1		
49	5955575.001	Applicator Contro	1		
50	5964041.001	Holder	1		
51	5902144.001	Screw DIN7984-M3x5	10		
67.1	5964416.001	Sensor Start Pos. Cyl.X 200H	1	5751	
67.1	5971186.001	Sensor Start Pos. Cyl.X 200H	1	5752	
67.2	5964496.001	Sensor Start Pos. Cyl.X 300H	1	5751	
67.2	5971187.001	Sensor Start Pos. Cyl.X 300H	1	5752	
67.3	5964497.001	Sensor Start Pos. Cyl.X 400H	1	5751	
67.3	5971188.001	Sensor Start Pos. Cyl.X 400H	1	5752	
77.1	5964498.001	Sensor Start Pos. Cyl.Y 200H	1	5751	
77.1	5971189.001	Sensor Start Pos. Cyl.Y 200H	1	5752	
77.2	5964499.001	Sensor Start Pos. Cyl.Y 300H	1	5751	
77.2	5971193.001	Sensor Start Pos. Cyl.Y 300H	1	5752	
77.3	5964500.001	Sensor Start Pos. Cyl.Y 400H	1	5751	
77.3	5971194.001	Sensor Start Pos. Cyl.Y 400H	1	5752	
97	5906943.001	Sealing Ring	10		

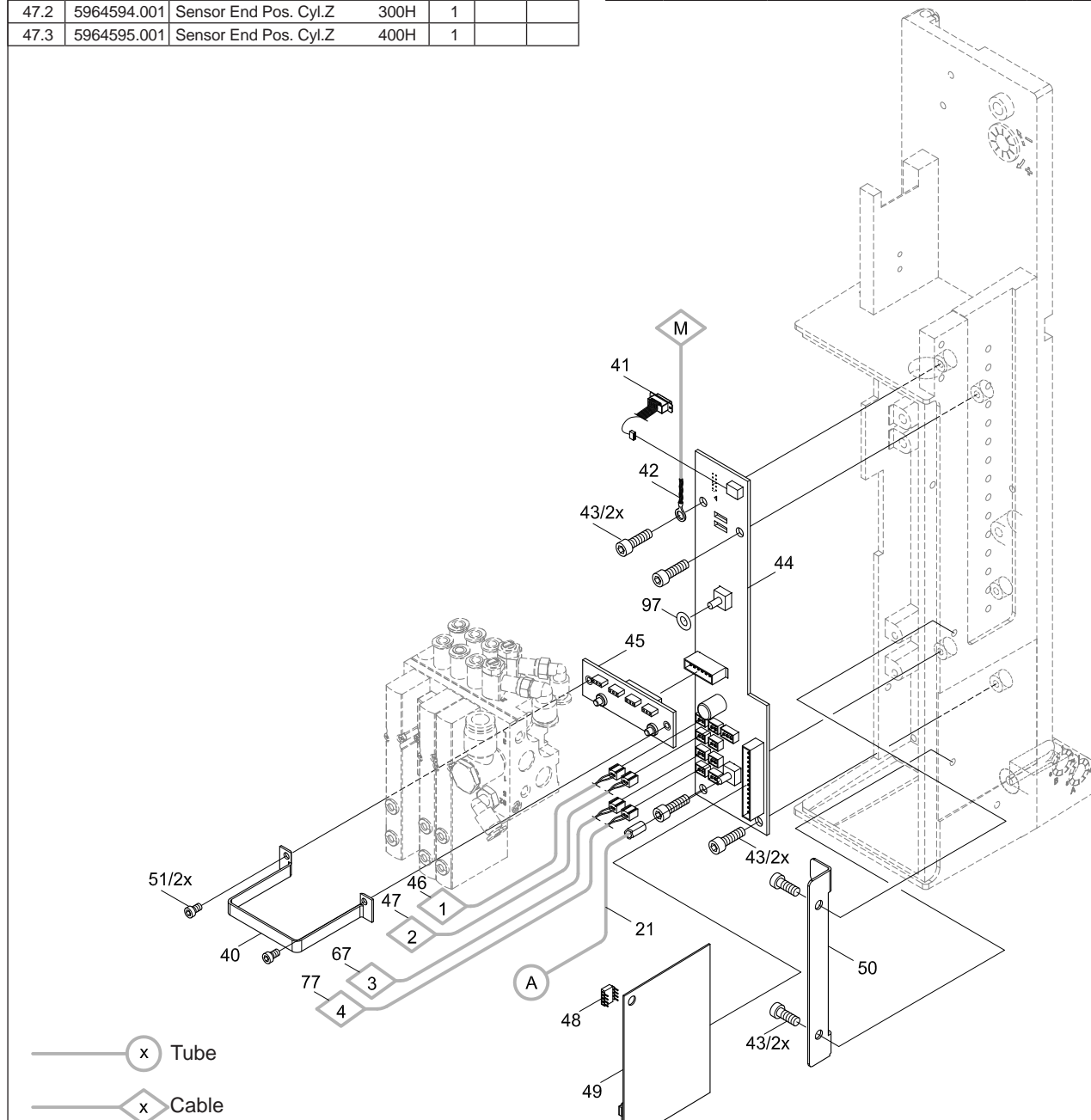
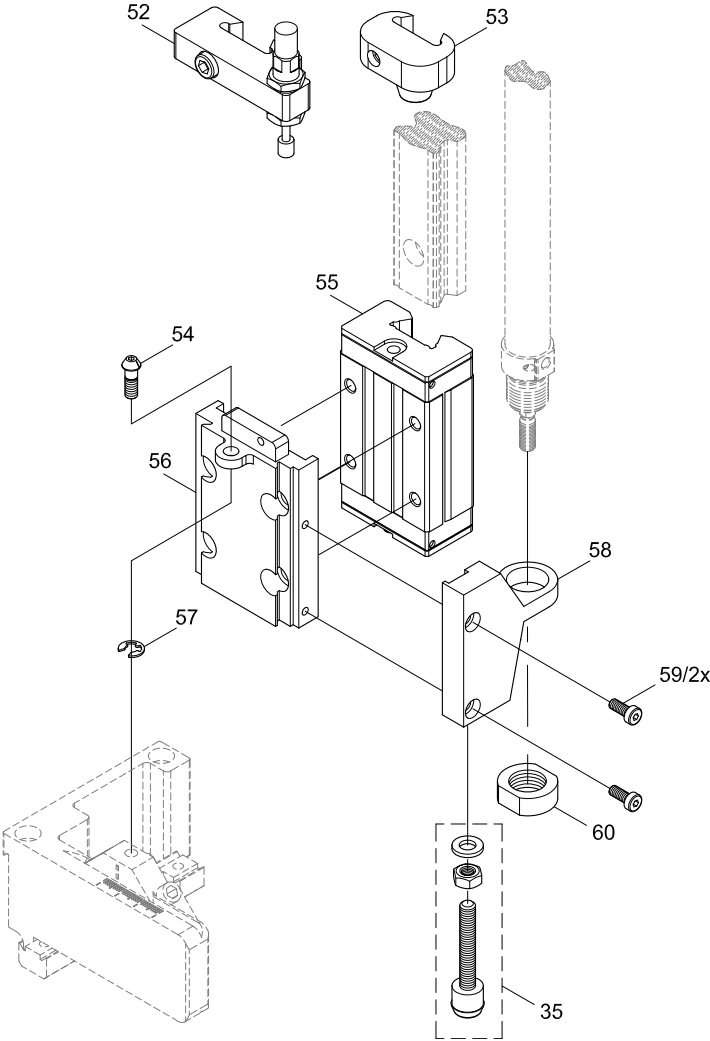


Fig. 33 Electronics Retainer Assembly- Spare Parts

10.4 Guiding Cylinder Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
35	5964351.001	Stopper*	1		
52	5964343.001	Stopper*	1		
53	5964364.001	Stopper	1		
54	5964061.001	Setting Screw	1		
55	5965966.001	Sliding Carriage	1		
56.1	5964302.001	Plate L	1		
56.2	5964337.001	Plate R	1		
57	5903505.001	E-Ring DIN6799-5	10		
58.1	5964301.001	Holder	1		
58.2	5964336.001	Holder	1		
59	5902562.001	Screw DIN7984-M4x14	10		
60	5521159.001	Nut	1		

35, 52 : \* Option



— (x) Tube

— (x) Cable

Fig. 34 Guiding Cylinder Assembly- Spare Parts

## 10.5 Cylinder Assembly X/Y

No.	Part-No.	Description	PU	Serial No.	
				from	to
20	5966460.001	Tube Ø 4	2m		
	FESTO 152584	PUN 4x0,75-SI			
24	5966466.001	Tube 2x Ø 4	2m		
	FESTO 152822	PUN-4x0,75-DUO-SI			
26	5905371.001	Push-in Y-Fitting	1		
	FESTO 153371	QSMY-4			
47.1	5964490.001	Sensor End Pos. Cyl.Z 200H	1		
47.2	5964594.001	Sensor End Pos. Cyl.Z 300H	1		
47.3	5964595.001	Sensor End Pos. Cyl.Z 400H	1		
61.1	5964236.001	Tamp Retainer L	1		
61.2	5964241.001	Tamp Retainer R	1		
62	5964311.001	Adapter Bolt	1		
63.1	5905069.001	Spring	1		
63.2	5905049.001	Spring			
64	5521157.001	Washer	1		
65	5521158.001	Washer	1		
66	5903501.001	E-Ring DIN6799-7	10		
67.1	5964416.001	Sensor Start Pos. Cyl.X 200H	1		5751
67.1	5971186.001	Sensor Start Pos. Cyl.X 200H	1	5752	
67.2	5964496.001	Sensor Start Pos. Cyl.X 300H	1		5751
67.2	5971187.001	Sensor Start Pos. Cyl.X 300H	1	5752	
67.3	5964497.001	Sensor Start Pos. Cyl.X 400H	1		5751
67.3	5971188.001	Sensor Start Pos. Cyl.X 400H	1	5752	
68	5906636.001	One-way Flow Control Valve	1		
	FESTO 175056	GRLA-M5-QS-4-LF-C			
70	5964424.001	Adjusting Plate	1		
71	5902047.001	Screw DIN7991-M3x5	10		

No.	Part-No.	Description	PU	Serial No.	
				from	to
72.1	5906953.001	Cylinder	X	1	5751
	SMC MXH6-10	MXH6-10			
72.2	5906690.001	Cylinder	X	1	5752
	FESTO 170486	SLS-6-10-P-A			
73	5902018.001	Screw DIN912-M3x16		10	
74.1	5964447.001	Cylinder Clamp	L	1	
74.2	5966452.001	Cylinder Clamp	R	1	
75	5902010.001	Screw DIN912-M3x10		10	
76.1	5964428.001	Adapter	L	1	
76.2	5966445.001	Adapter	R	1	
77.1	5964498.001	Sensor Start Pos. Cyl.Y 200H		1	5751
77.1	5971189.001	Sensor Start Pos. Cyl.Y 200H		1	5752
77.2	5964499.001	Sensor Start Pos. Cyl.Y 300H		1	5751
77.2	5971193.001	Sensor Start Pos. Cyl.Y 300H		1	5752
77.3	5964500.001	Sensor Start Pos. Cyl.Y 400H		1	5751
77.3	5971194.001	Sensor Start Pos. Cyl.Y 400H		1	5752
92.1	5906964.001	Cylinder	Y	1	
	SMC MXH6-15	MXH6-15			
92.2	5907119.001	Cylinder	Y	1	
	FESTO 170487	SLS-6-15-P-A			
93.1	5964278.001	Plate	L	1	
93.2	5964279.001	Plat	R	1	
94	5902281.001	Screw DIN7984-M5x12		10	
101	5902838.001	Screw DIN7984-M3x6		10	

63.1: Labeling  
from above and  
horizontally  
63.2: Labeling  
from below

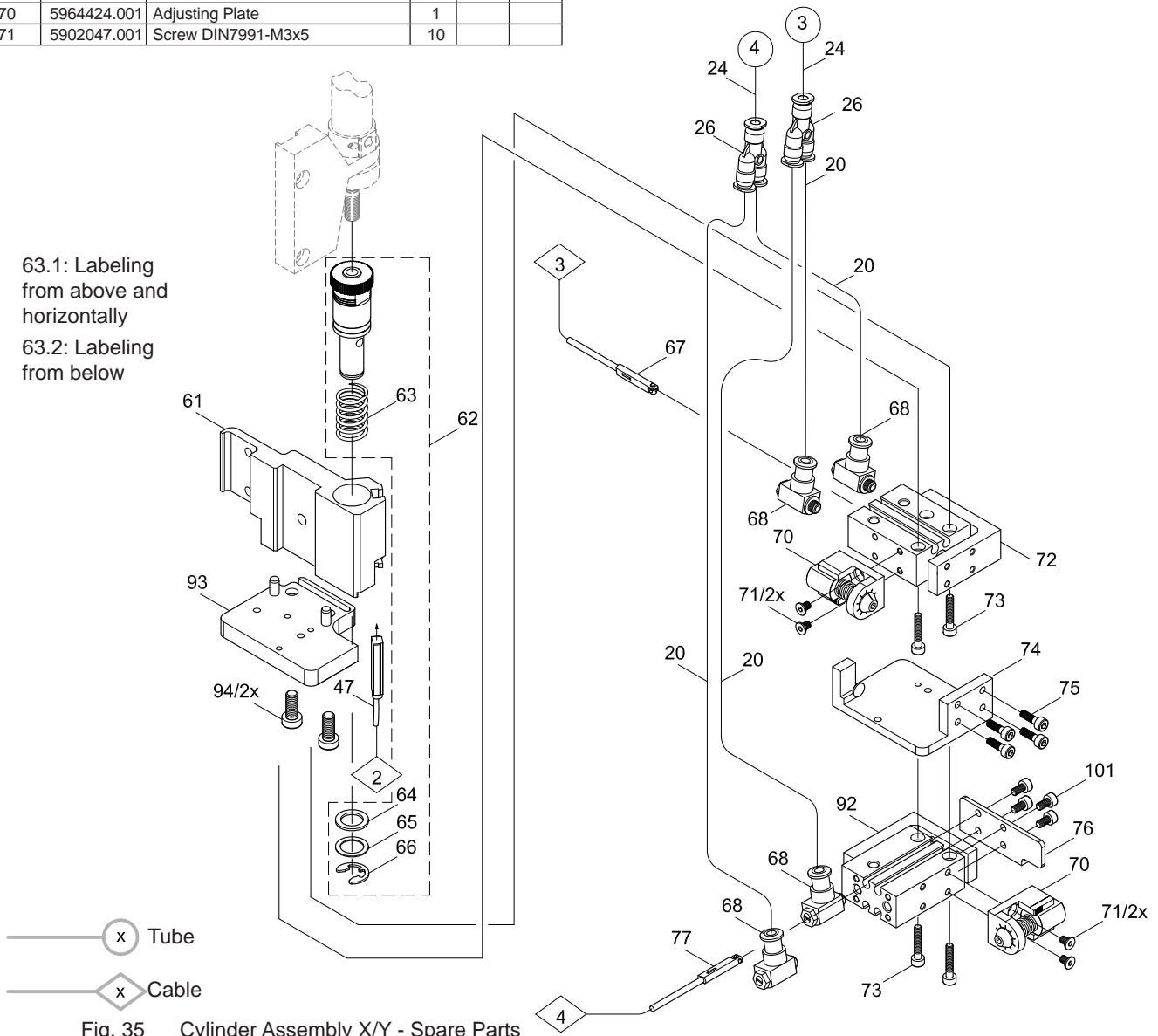
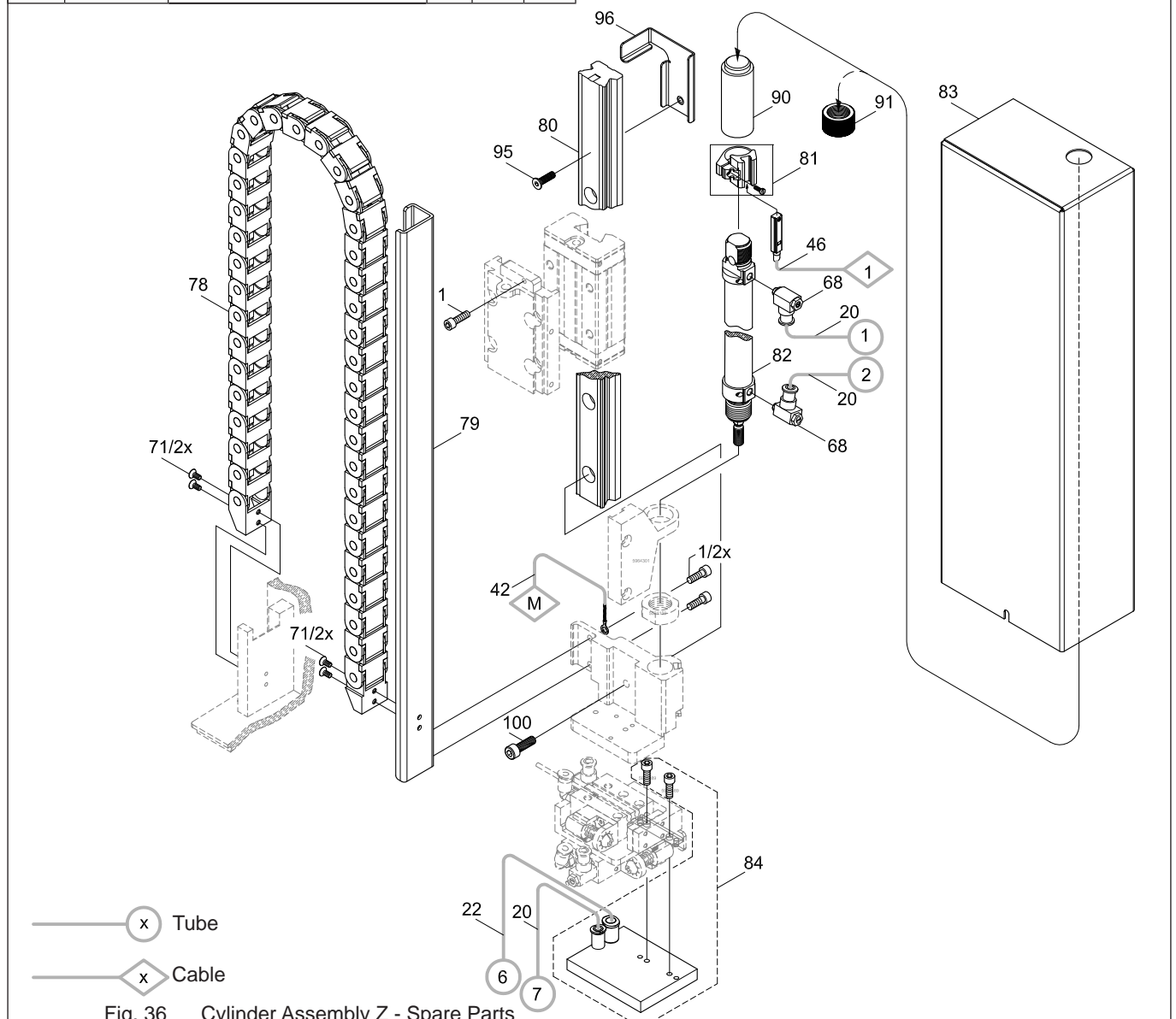


Fig. 35 Cylinder Assembly X/Y - Spare Parts

## 10.6 Cylinder Assembly Z

No.	Part-No.	Description	PU	Serial No.	
				from	to
1	5902489.001	Screw DIN7984-M4x8	10		
20	5966460.001	Tube Ø 4	2m		
	FESTO 152584	PUN 4x0,75-SI			
22	5966464.001	Tube Ø 6	2m		
	FESTO 159665	PUN-6x1-SW			
42.1	5964590.001	Cable Ground 200H	1		
42.2	5964591.001	Cable Ground 300H	1		
42.3	5964592.001	Cable Ground 400H	1		
46.1	5964454.001	Sensor Start Pos. Cyl.Z 200H	1		
46.2	5964494.001	Sensor Start Pos. Cyl.Z 300H	1		
46.3	5964495.001	Sensor Start Pos. Cyl.Z 400H	1		
68	5906636.001	One-way Flow Control Valve	1		
	FESTO 175056	GRLA-M5-QS-4-LF-C			
71	5902047.001	Screw DIN7991-M3x5	10		
78.1	5964373.001	Energy Track 200H	1		
78.2	5964374.001	Energy Track 300H	1		
78.3	5964375.001	Energy Track 400H	1		
79.1	5964347.001	Bracket L200H	1		
79.2	5964357.001	Bracket L300H	1		
79.3	5964358.001	Bracket L400H	1		
79.4	5964396.001	Bracket R200H	1		
79.5	5964398.001	Bracket R300H	1		
79.6	5964402.001	Bracket R400H	1		
80.1	5964306.001	Guide Rail 200H	1		
80.2	5964307.001	Guide Rail 300H	1		
80.3	5964308.001	Guide Rail 400H	1		
81	5905593.001	Mounting Clip	1		
	FESTO 175094	SMBR-8-16			
82.1	5906938.001	Cylinder Z 200H	1		
	FESTO 19235	DSNU-16-200-PPV-A			
82.2	5905973.001	Cylinder Z 300H	1		
	FESTO 14320	DSNU-16-300-PPV-A			
82.3	5906117.001	Cylinder Z 400H	1		
	FESTO 14420	DSNU-16-400-PPV-A			
83.1	5964440.001	Cover L200H	1		
83.2	5964483.001	Cover L300H	1		
83.3	5964484.001	Cover L400H	1		
83.4	5964451.001	Cover R200H	1		
83.5	5964453.001	Cover R300H	1		
83.6	5964485.001	Cover R400H	1		
84		Pad (customized)			
90	5964443.001	Bolt	1		
91	5964489.001	Knurled Nut	1		
95	5902224.001	Screw DIN7991-M4x12	10		
96.1	5966524.001	Support L 400H	1		
96.2	5966528.001	Support R 400H	1		
100	5902335.001	Screw DIN7984-M6x25	10		





## 11.1 Block Diagram Type 4414

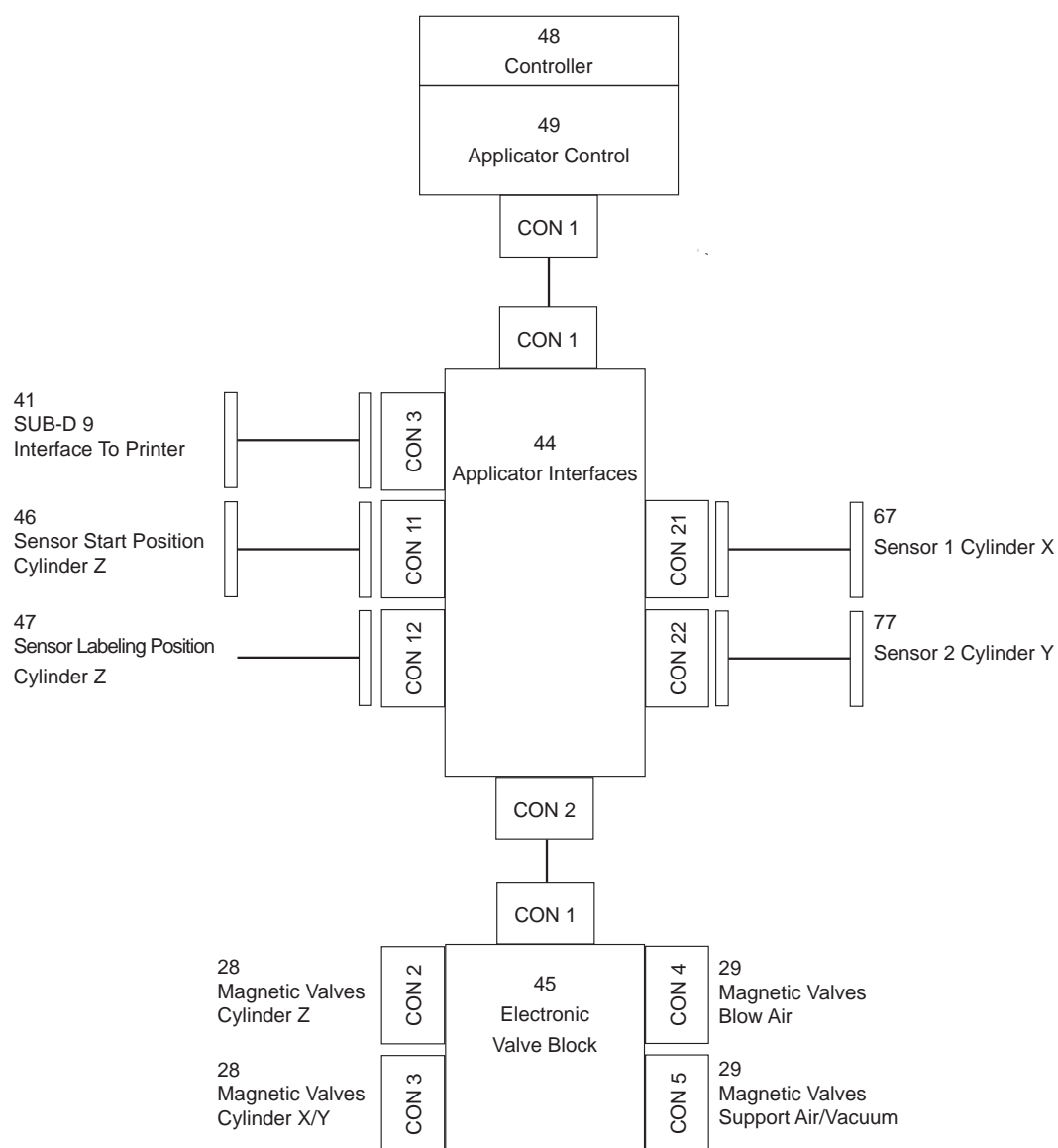


Fig. 37 Block diagram 4414

## 11.2 Pneumatic drawing Type 4414

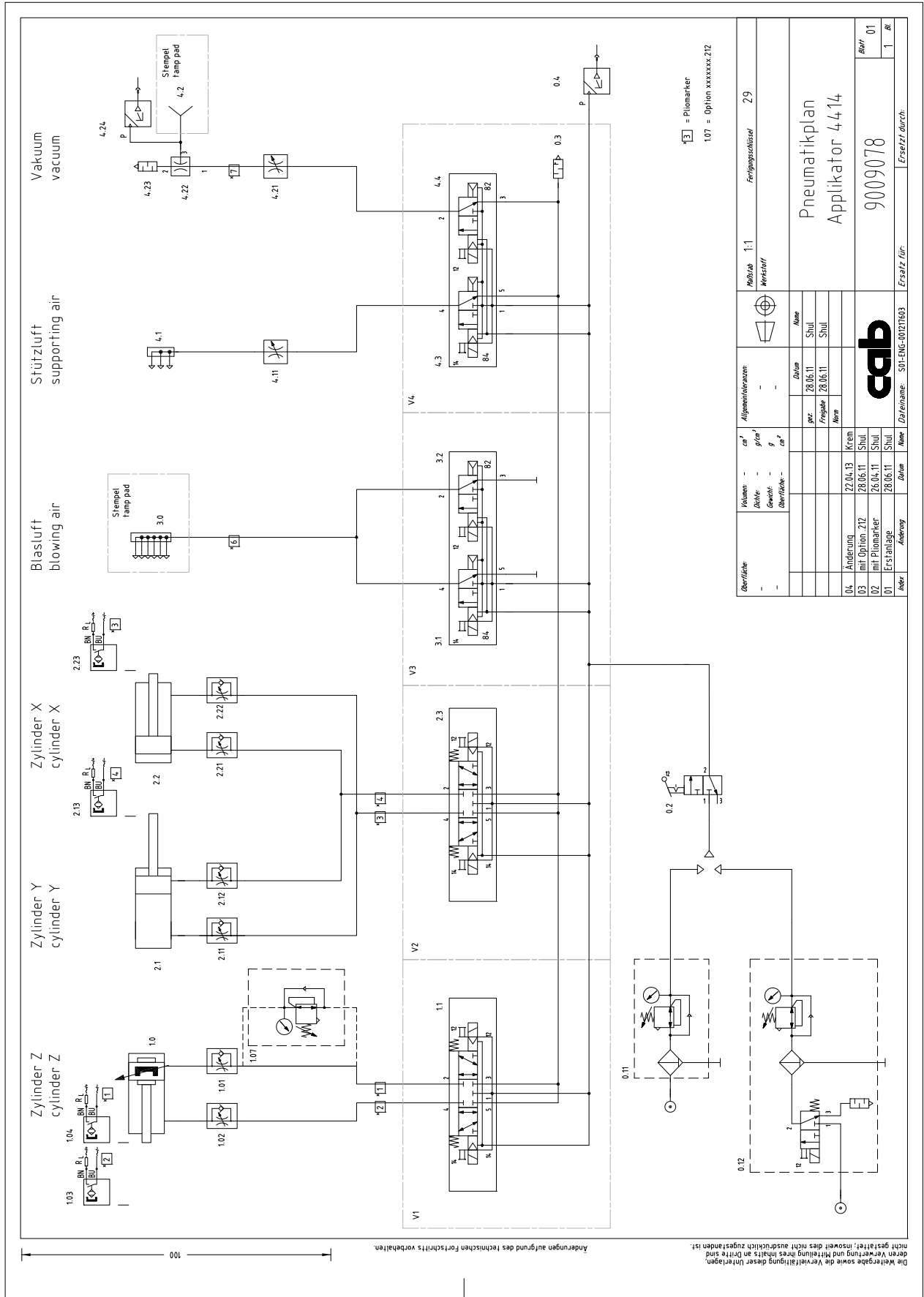


Fig. 38 Pneumatics Type 4414

11.3 Label position Type 4414 L

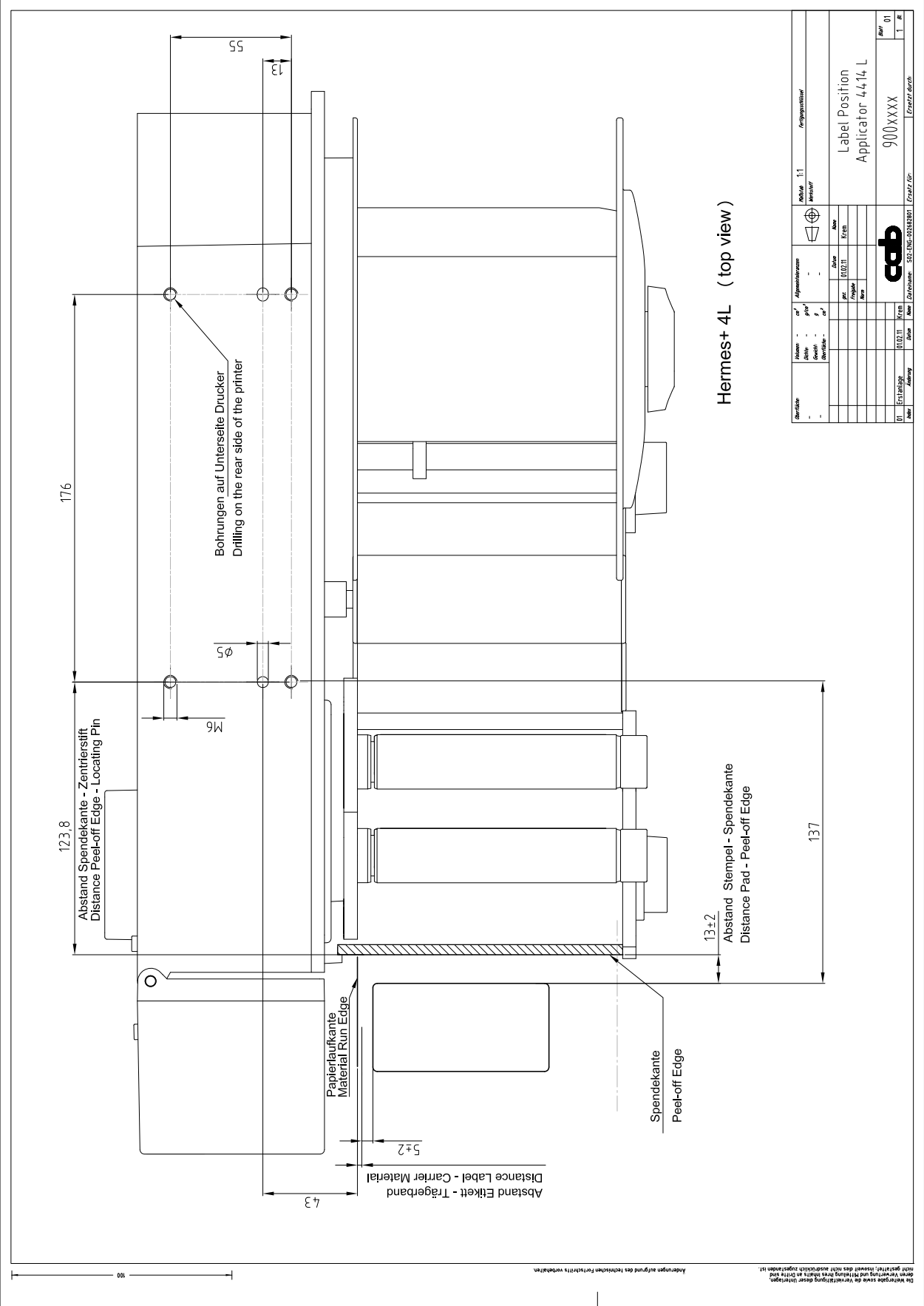


Fig. 39 Label position 4414L

#### 11.4 Label position Type 4414 R

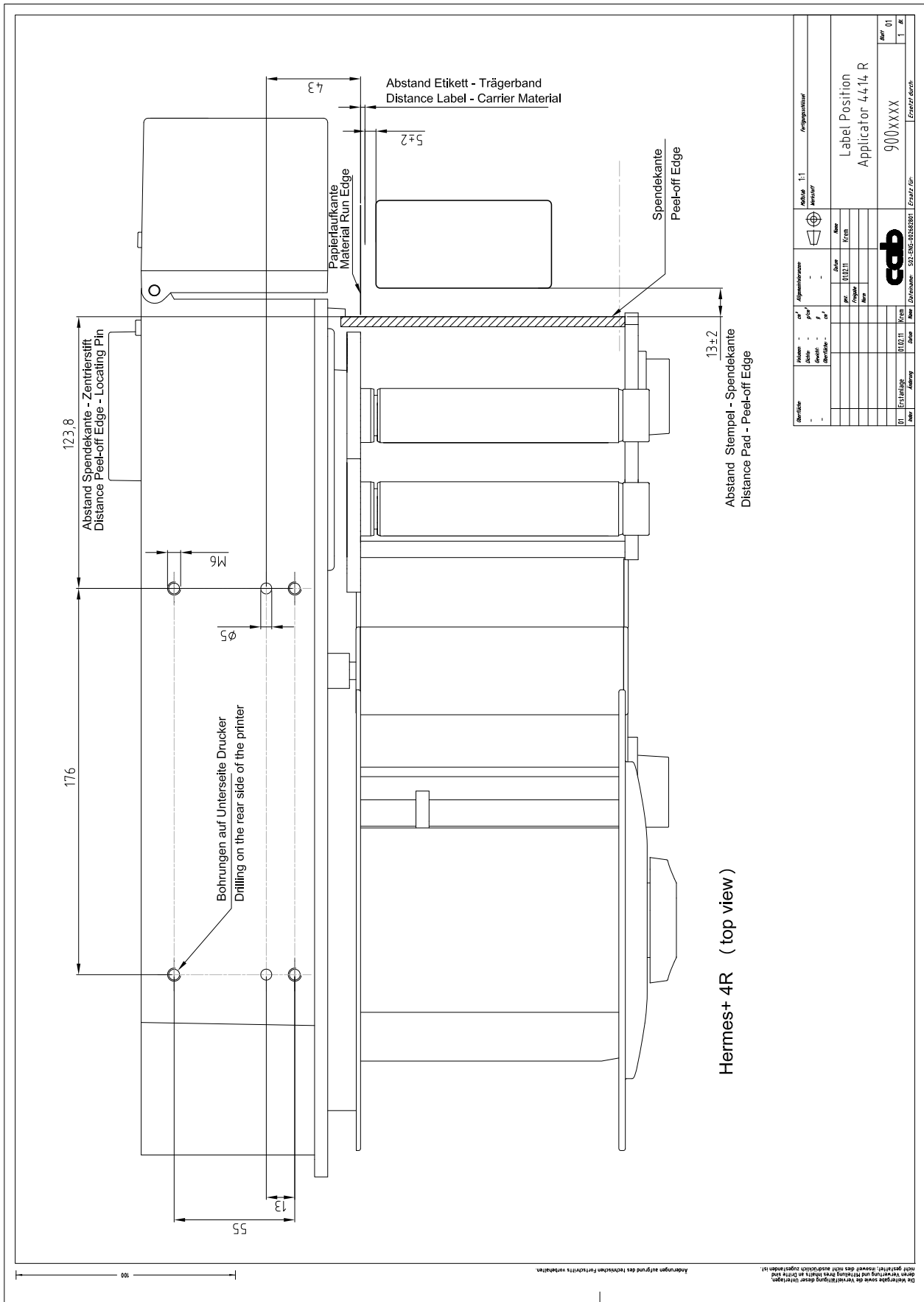


Fig. 40 Label position 4414R

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