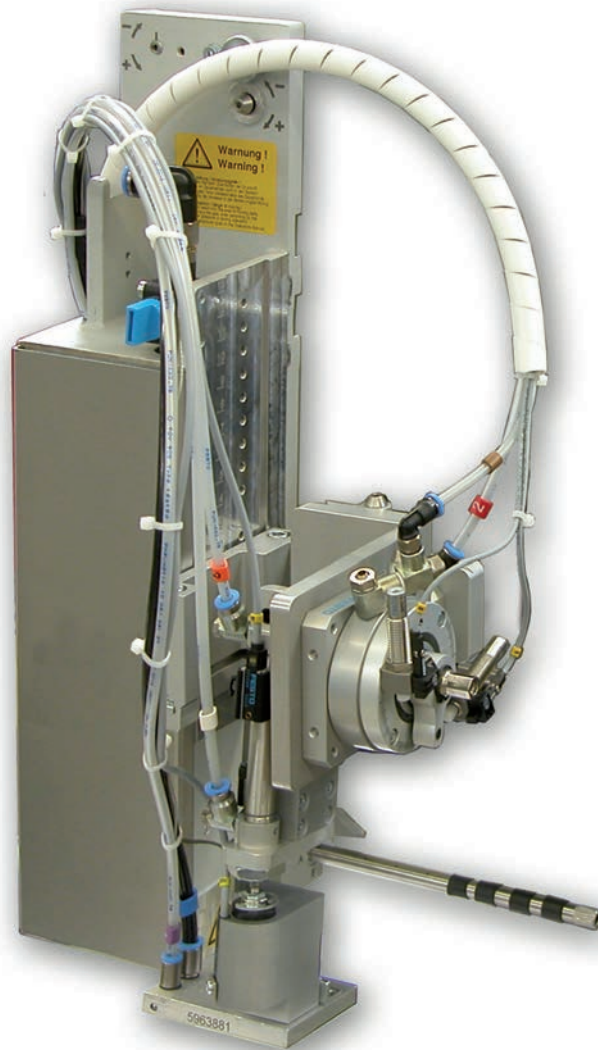


## Service Manual



Swing Applicator

# 3214

MADE IN GERMANY

Family	Type
Swing Applicator	3214L

**Edition:** 01/2020 - Part.-No. 9009524

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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 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 manual.
- The device is designed to use on a cab printer of the HERMES Q series. 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 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.



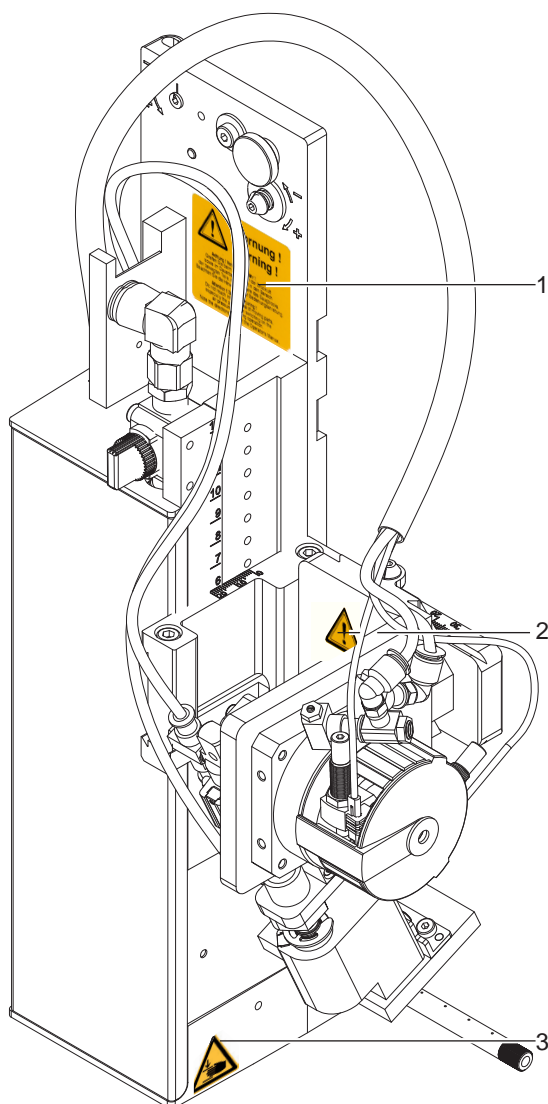
### **Warning!**

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 potential injury by moving parts!

2:



Cylinder is under pressure, also after it is switched off!

3:



Danger of crushing hands and/or 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 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 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

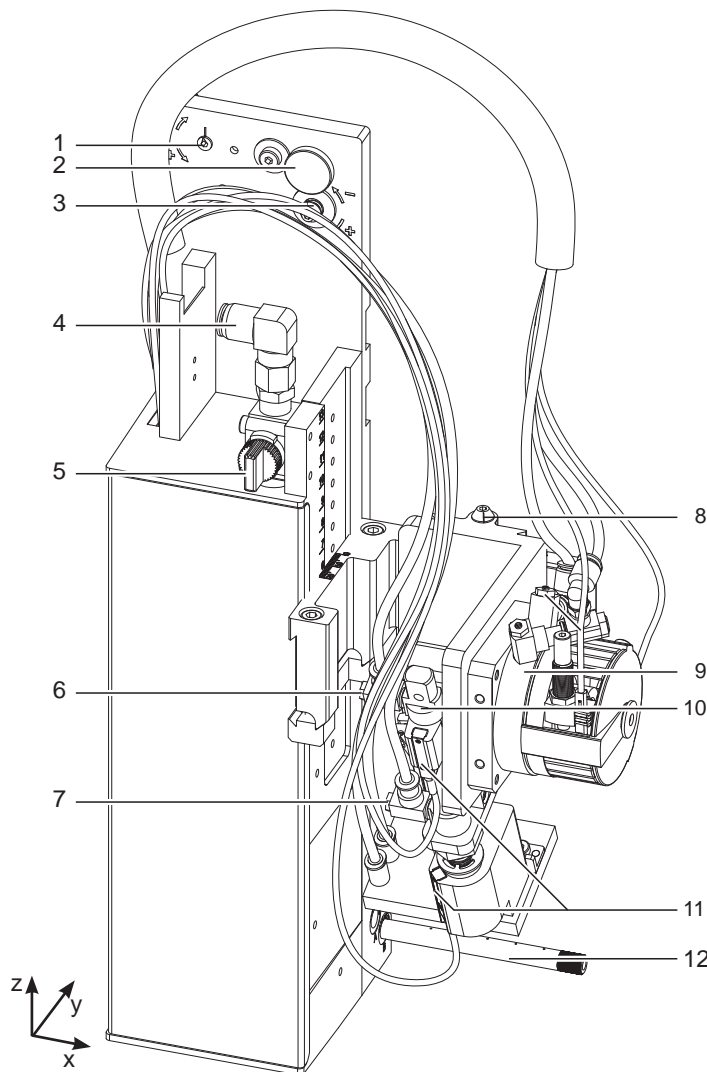
		Tamp-on pad	Tamp-on pad, providing a damping layer	Tamp-on pad, providing a label stop	Blow-on pad
Technical data		3214 L/R 11 F	3214 L/R 12 F	3214 L/R 61 F	3214 L/R 2100
Label widths operating a HERMES Q2	mm	4 - 58	10 - 58	10 - 58	10 - 58
HERMES Q4/Q4.3	mm	10 - 114	10 - 114	10 - 114	10 - 80
Label heights operating a HERMES Q2	mm	5 - 80	8 - 80	5 - 80	10 - 80
HERMES Q4/Q4.3	mm	8 - 80	8 - 80	8 - 80	10 - 80
State of a product at rest					■
at the moment a label is applied	in motion	-	-	-	■
Label application	from the side				■
Product heights	uniform				■
Distance of a product to the peel-off plate	mm			250 - 280	
Linear guidance, horizontal	mm			5 - 30	
Pivot angles				45° - 95°	
Depth of a pad immersing F	up to mm	30	30	30	-
Compressed air	bar			4.5	
Cycle rate <sup>1)</sup>	labels/min approx.			20	

<sup>1)</sup> calculated using labels 40 mm high and a print speed of 100 mm/s

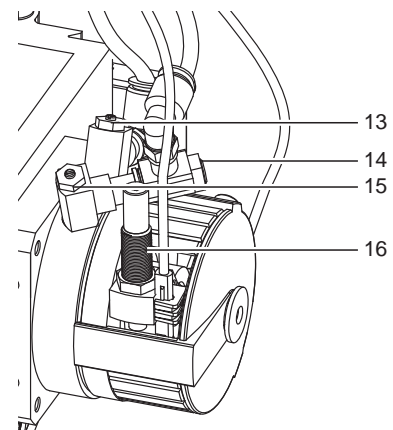
Table 1 Technical Data

## 2.3 Overview

Front view



Swing drive



Throttle valves vacuum/support air

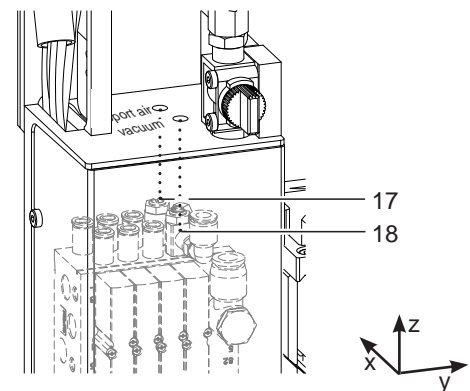


Fig. 2 Device overview - front view

- |  |  |
|--|--|
| 1 Eccentric o adjust the angle between applicator and printer      | 9 Swing drive  |
| 2 Knurled screw for attaching the applicator to the printer        | 10 Cylinder - Z-direction                              |
| 3 Setting screw to adjust the angle between applicator and printer | 11 Sensor labeling position                            |
| 4 Compressed air connector   | 12 Blow tube for supporting air                        |
| 5 Shutoff valve  | 13 Throttle valve swing drive - swing in               |
| 6 Throttle valve cylinder - move in Z-direction                    | 14 Throttle valve swing drive - swing in               |
| 7 Throttle valve cylinder - move out Z-direction                   | 15 Throttle valve swing drive - swing out              |
| 8 Setting screw for vertical adjustment cylinder assembly          | 16 Setting screw to adjust the angle of the swing area |
|  | 17 Support air throttle valve                          |
|  | 18 Vacuum throttle valve                               |

Rear view

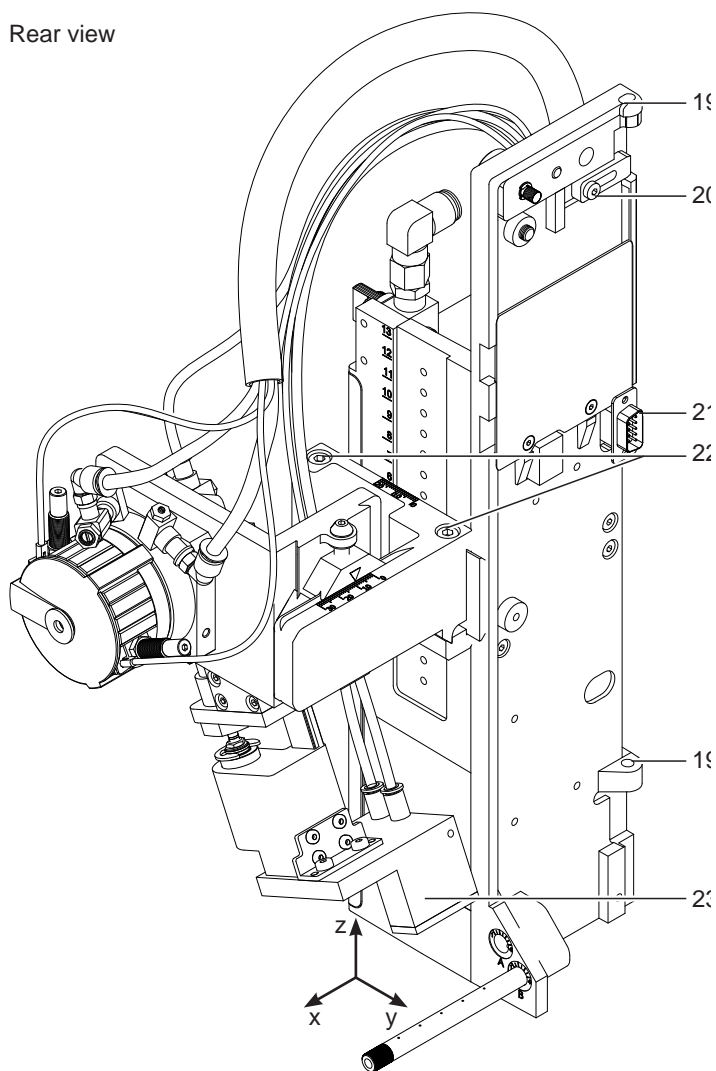


Fig. 3 Device overview - rear view

- 19 Hinges
- 20 Locking for Hinges
- 21 Interface to the Printer
- 22 Screws to fix the Z-direction
- 23 Pad (customized)

Valves and control system

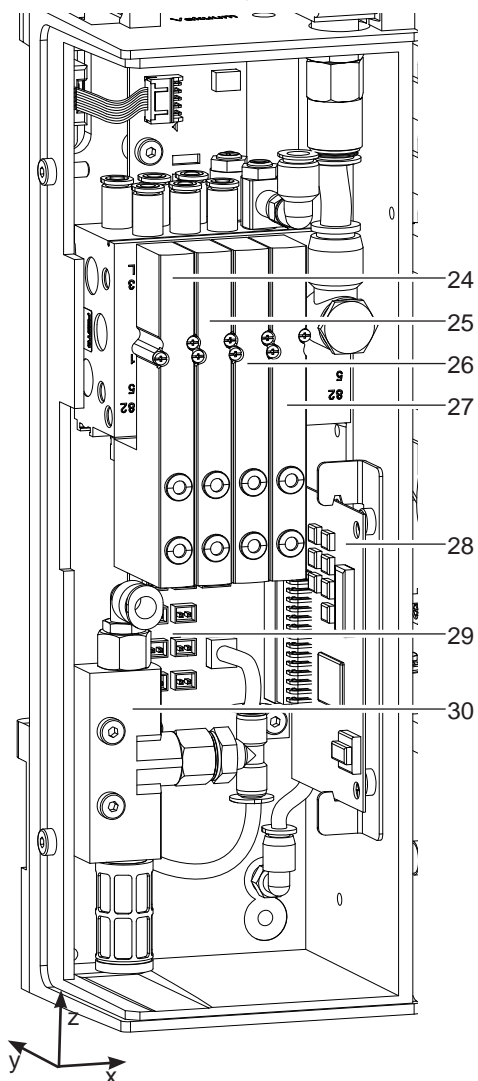
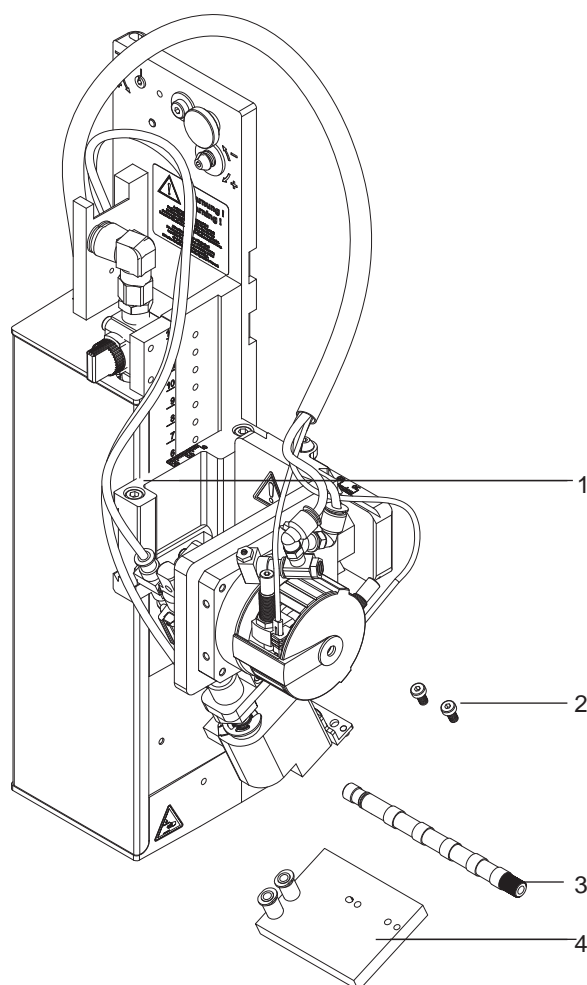


Fig. 4 Device overview - control system

- 24 Valve Swing Drive
- 25 Valve Cylinder Z/Y-direction
- 26 Valve Blow air
- 27 Valve Vacuum and Support air
- 28 PCB Applicator Control
- 29 PCB Applicator Interface
- 30 Vacuum Generator



## 2.4 Contents of Delivery



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

Documentation

Fig. 5 Contents of delivery

**Note!**

Please keep the original packaging in case the applicator needs to be returned.

**Attention!**

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

► Only set up the 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 outside the starting position when the printer-applicator system is switched on the procedure will be interrupted with an error message visible on the display.


Pushing the pause button on the printer will negate the error moving the pad to the starting position. The Applicator is ready for work.

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

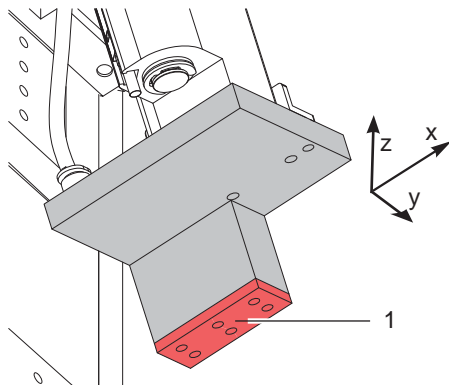
Error messages during labelling process are shown in the display of the printer ▷ „4 Error Messages“

### 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. 6 Cleaning the pad with slide foil

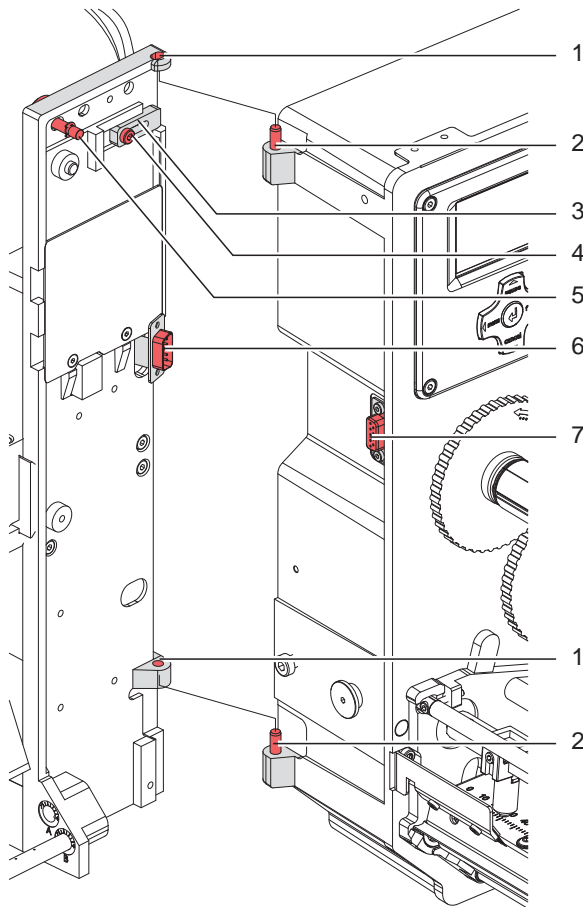


Fig. 7 Mounting applicator to printer



### Attention!

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

▷ Initiation/Service Manual Applicators



### Attention!

- ▶ Disconnect the printer from the power supply before mounting the applicator!
- ▶ Ensure that the printer is positioned stably and securely.
- ▶ 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. To turn away the applicator loosen thumbscrew (5) and swing the applicator aside.
2. Disconnect SUB-D 15 male connector (6) from the female connector (7) of the printer.
3. Loosen screw (4) and slide the locking plate (3) off.
4. Lift the applicator off the hinges.

### Mount the applicator

1. Mount the applicator to the printer via the female hinges (1) to the printer via the male hinges (2).
2. Connect SUB-D 15 male connector (6) to the female connector (7) of the printer.
3. To secure the applicator from slipping out of hinges loosen screw (4) and move the locking plate (3) under the hinges and tighten screw (4).
4. 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  to synchronize the label feed, remove the left over labels manually.

To quit the error state press *Repeat*.

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
<i>Air pressure error</i>	Compressed air is switched off
	Pressure too low < 4 bar
	Pressure too high > 6 bar
<i>Label not depos.</i>	Label has not been placed onto the product; after the pad has moved back the label still sticks on the pad
<i>Upper position not reached</i>	Pad is not in start position if the printer switched on
	Pad has not reached the home position within 2s after the movement of the pad was started
	Pad has undefined leaving the start position
<i>External error</i>	Process of labeling was braked via the I/O interface of the printer with the XSTP signal
<i>Upper position not left</i>	There has been no change of the switch state at the upper sensor at the cylinder between the start of the labelling process and the signal from the labelling position sensor
<i>Vac. plate empty</i>	Label has not been picked up properly by the pad; or label fell off the pad before it could be placed onto the product
<i>Lower position not reached</i>	Pad has not reached the starting position within 2s after the pad has left the labelling position; or pad has left the starting position unauthorized

Table 2 Error messages of the applicator

Error treatment:

- Clear the error state.
- In order to clear the error state press **continue**, **repeat** or **cancel**.
  - Continue* with the next label in the printing queue.
  - Repeat* repeat the print of the label causing the error.  
Only applicable with error *Vac. plate empty*.
  - Cancel* the current print job.




### 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.**

Reprinting a label, interrupted by an error, is not possible without a new printing job.

- In the mode "apply/print" before the standard cyclic operation can commence the signal "print first label" must be sent or push  to send a printed label to the pad.

## 5.1 Factory Defaults

**Note!**

The applicator is by the factory adjusted after default values in a standard configuration. Attitudes after these values guarantee a smooth operation with same configuration.

**Note!**

In case of a customer setup will be the adjustments with the customized configuration. It's possible that the values are different to the standard values. Then the values in the setup protocol are valid.

The standard settings are:

- Connecting on a cab Hermes+ printer, vertical
- Used Pad: cab part No.: 5963881 54x36  
cab part No.: 5963878 54x36
- Used material for ex-factory settings: cab part No.: 5556472 54x35.5
- Pressure value of the compressed air 0.45 MPa (4.5 bar)

## 5.2 Tools







Screwdriver with parallel blade	2.5		To adjust the throttle valves and product sensor
Hexagon key L-wrench	0.8		To adjust the sensors (in contents of delivery)
	2.5		For matched norm parts (in contents of delivery)
	4		Pad adjustments Changing pad
Flat-round nose	straight		To mount/dismount tubes
	angled		
Open spanner	SW 8		To change the throttle valves
	SW 13		Setting the spring power on the adapter bolt
	SW20		Changing the cylinder
Manometer	± 7 bar		Air pressure control

Fig. 8 Tools

### 5.3 Transport lock

The transportation lock of the applicator prevents movement of the applicators parts to avoid damage and ensure safe transportation for the applicator and the persons executing it.



#### Warning!

Ensure that the printer's power supply is disconnected and the compressed air supply is closed before dismantling the applicator.



#### Warning!

Risk of injury and damage in the case of incorrect use and/or operation of the devices.  
The applicator may only be used with a Hermes+ series printer.

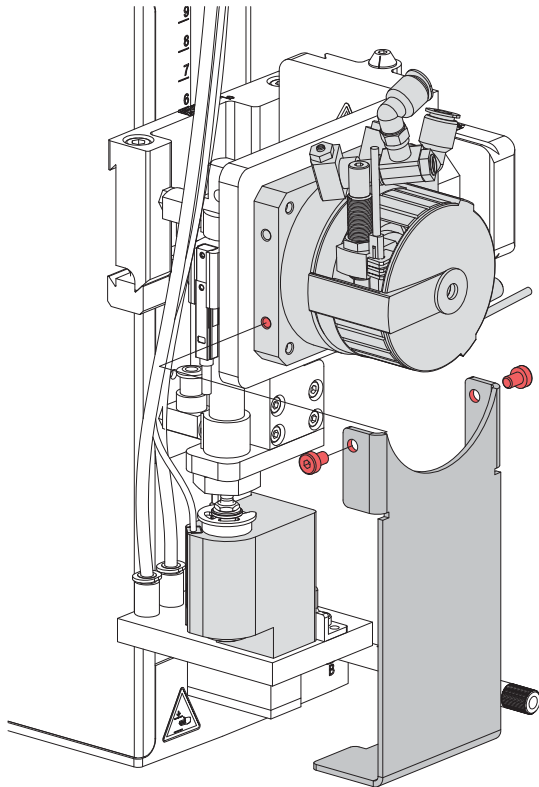


Fig. 9 Transport lock

#### Remove the transport lock

1. Loosen screws (2) of the transport lock (3) .
2. Remove the transport lock (3).



#### Attention!

Mount the transportation lock for every transport.  
Keep the transport lock and the screws.

#### Mounting the transport lock

1. Turn the swing arm (4) so that the pad holder is in the cut-out of the transport lock (3) .  
This is an almost vertical position.
2. Place the transport lock (3) so that the holes in the transport lock (3) are over the holes (1) on both sides of the swing cylinder socket.
3. Tighten screws (2).

## 5.4 Mounting the Applicator to the Printer

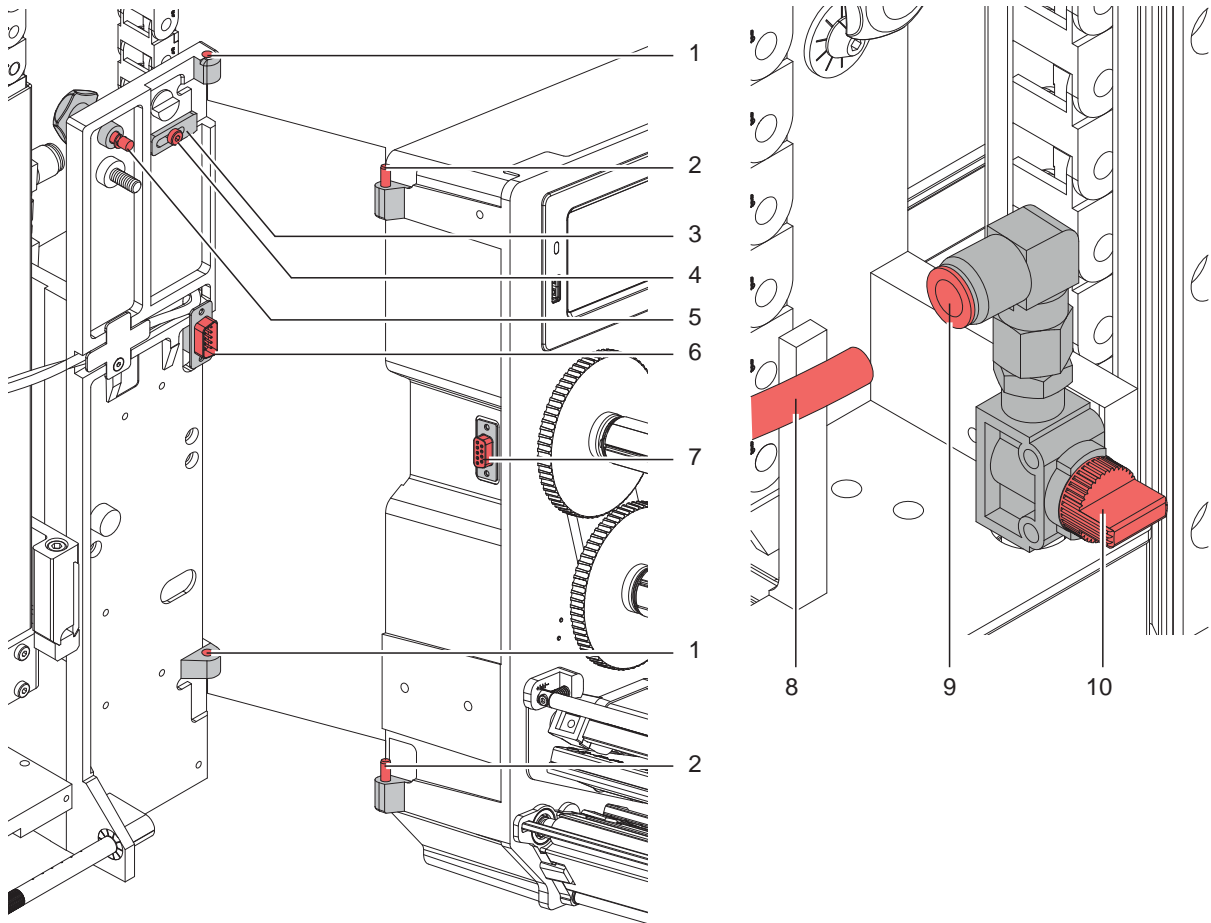


Fig. 10 Mounting applicator on printer

**Attention!**

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

▷ Service Manual

**Mount the applicator**

1. Hang the applicator with the female part of hinges (1) at the printer mounted hinges parts (2).
2. Connect SUB-D 15 male connector (6) to the female connector (7) of the printer.
3. To prevent the applicator from slipping out of the hinges loosen screw (4) and move the locking plate (3) under the hinges and tighten screw (4).
4. Swing the applicator to the printer and tighten the thumbscrew (5).
5. Keep the external compressed air supply closed and close the shut-off valve (10) on the applicator ▷ see illustration
6. Insert external compressed air supply (8) into the plug connector (9) on the shut-off valve (10).
7. Switch on compressed air and open shut-off valve (10) by turning 90 °.

For cleaning the applicator and printer it's sometime necessary to turn away or/and dismount the applicator. Don't change the adjustments of setting screws, throttle valves or other.

**Turn away/Dismount the applicator**

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

### 5.5 Mounting the Pad

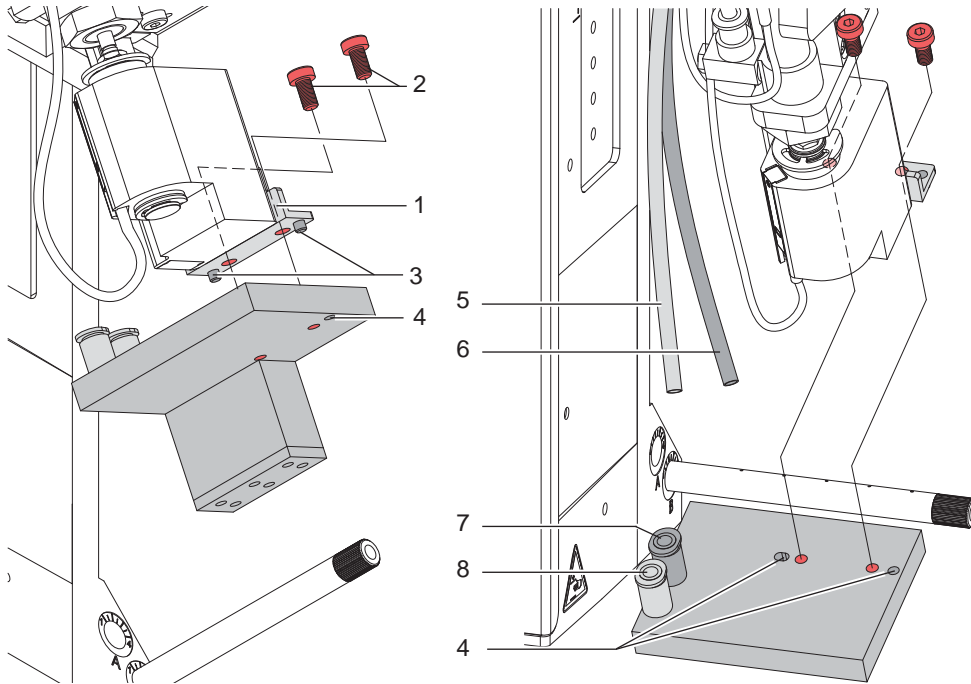


Fig. 11 Mounting the pad

1. Slide the pad with the holes (4) onto the pad holder (1) via the pins (3).
2. Fasten the pad to the pad holder (1) with the screw (2).
3. Insert the vacuum tube (5) and the support air tube (6) into the appropriate push-in-fittings (7,8) of the pad.



#### Attention!

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

### 5.6 Mounting the Blow Tube

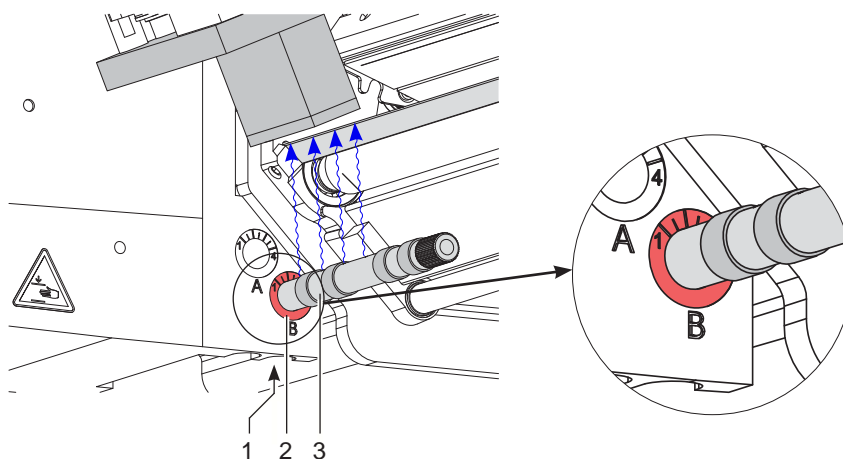


Fig. 12 Mounting the blow tube

The blow tube (3) for the supporting air can be rotated around its axis. This allows the direction of the supporting air to be optimized.

1. Loosen screw (1).
2. Put the blow tube (3) into the hole A (2) as far as possible.
3. Tighten screw (1). ► Adjust the blow tube (Support air)



### 6.1 Adjusting the Pad

For the perfect application of labels it is necessary that the pad is placed precisely above the dispensed label.

#### Aligning the pad parallel to the dispensing plate

The edge of the pad should be positioned parallel to the dispensing plate of the printer in order to position the label exactly on the pad.

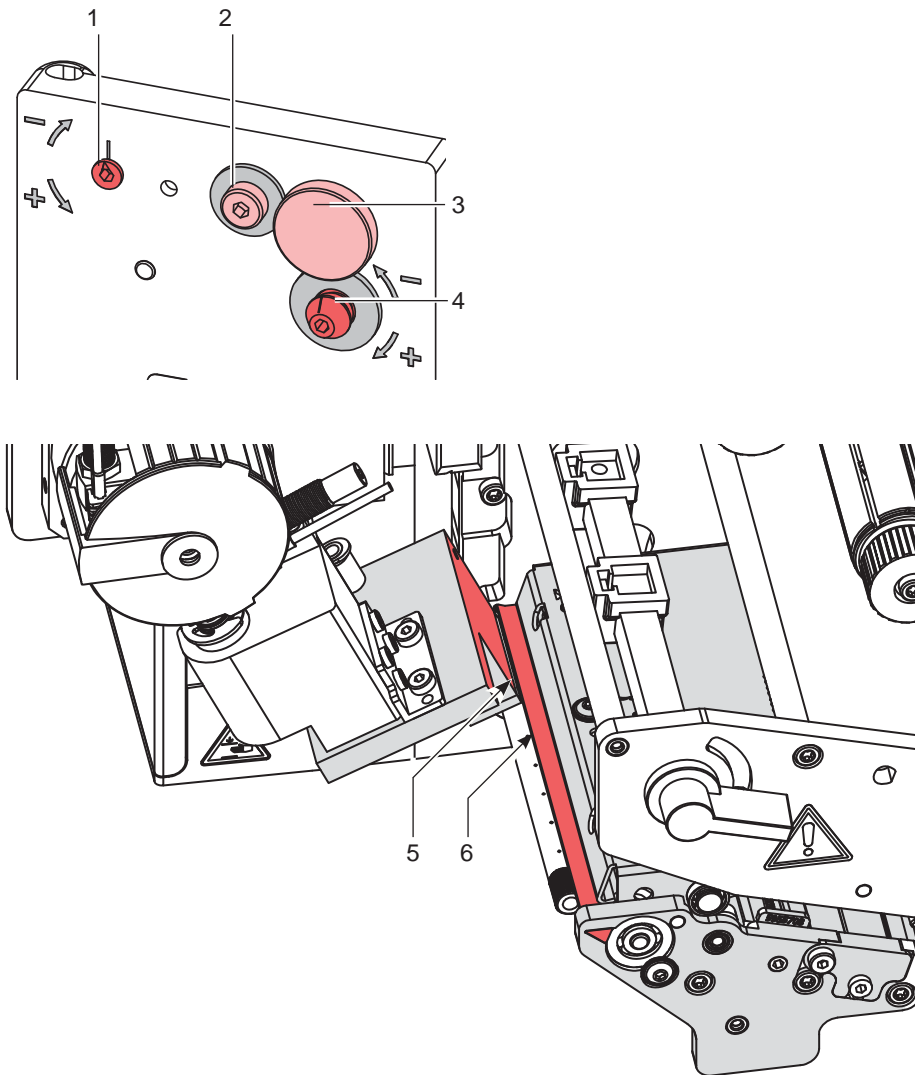


Fig. 13 Aligning the pad to the dispensing plate

Loosen the knurled screw (3) and the set screw (4).

1. Screw in the knurled screw (3) until the pad edges (5) are aligned parallel to the dispensing edge (6) of the printer.
2. Tighten the set screw (4) until it touches the printer.

### 6.1.1 Moving the Pad in Y-Direction

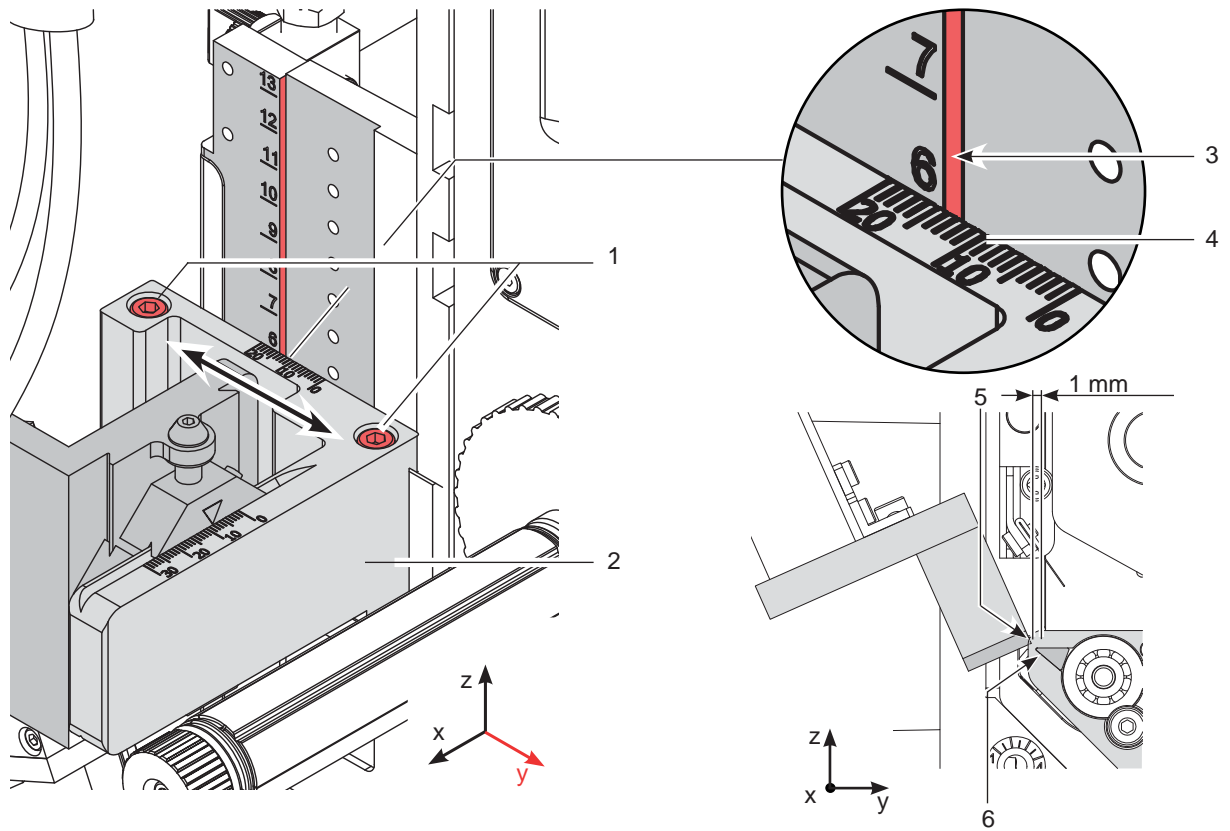


Fig. 14 Displacement in the Y direction

#### Displacement in the Y direction (printing direction)

1. Loosen screws (1) on the cross beam (2).
2. Move cylinder assembly with the pad and crossbeam (2) along the guiding rail that the distance from the edge of the pad (5) to the edge of the dispensing plate (6) of the printer is approximately 1 mm.  
Orientation: Graduation (4) on the edge (39) of the mounting support
3. Tighten screws (1).

### 6.1.2 Moving the Pad in Z-Direction

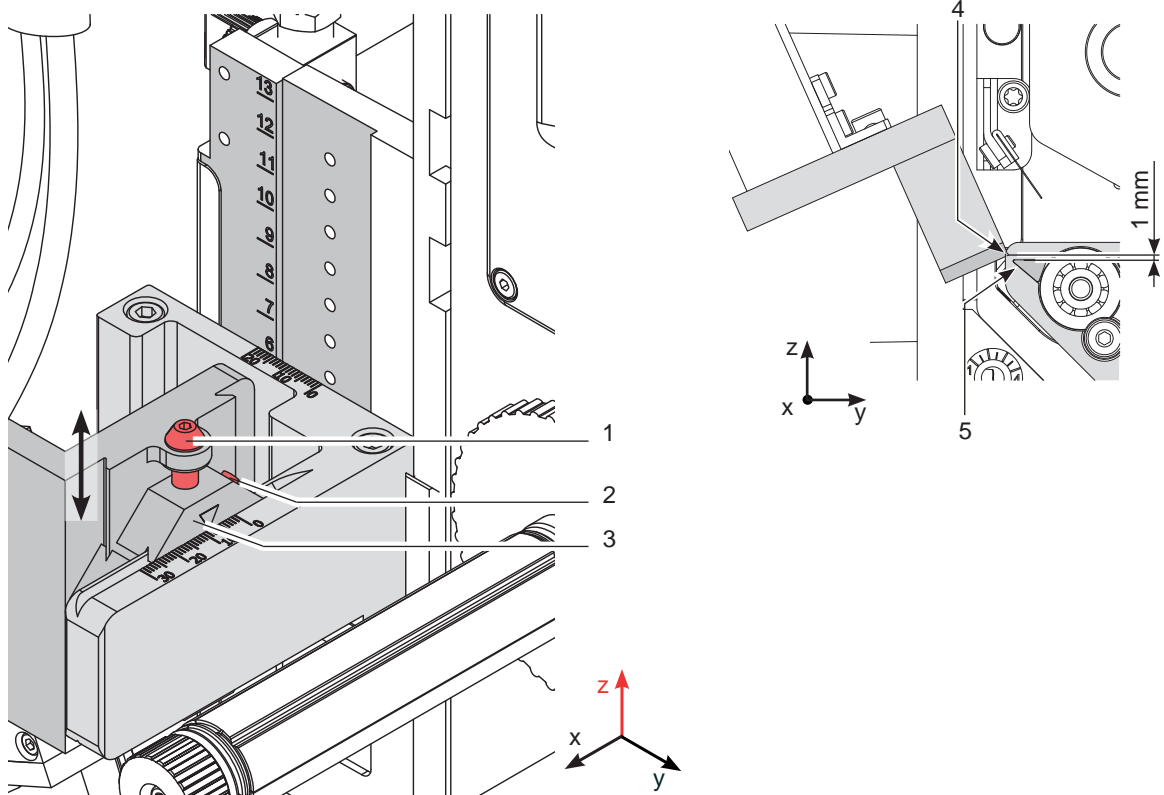


Fig. 15 Displacement in the Z direction

1. Loosen screw (2) on the binder (3).
2. Turn the setting screw (1) so that the bottom side of the pad (4) is 1 mm over the top of the dispensing plate (5) of the printer.
3. Tighten screw (2).

### 6.1.3 Moving the Pad in X-Direction

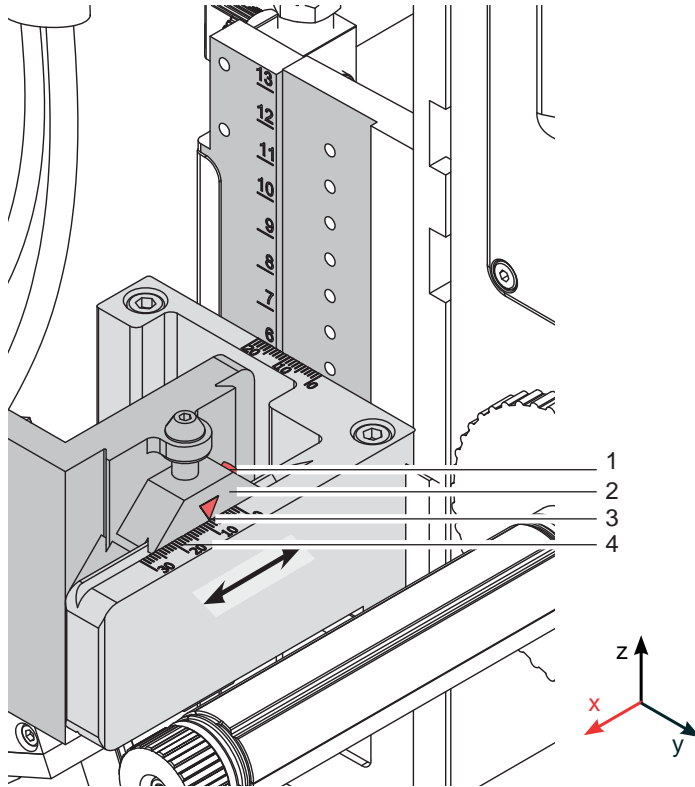


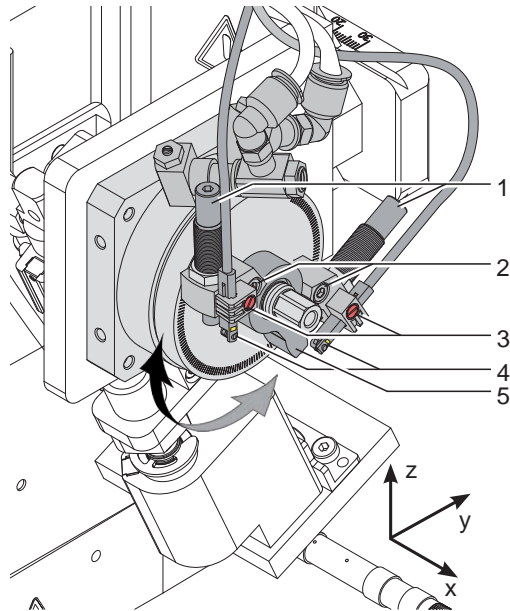
Fig. 16 Displacement in the Y direction

#### Displacement in the X direction (Side)

1. Loosen screw (1) on the binder (2).
2. Move cylinder assembly with the pad along the crossbeam (4) so that the dispensed label is aligned centrally to the pad. As reference use the provided graduation/ruler on the crossbeam.  
Orientation: Graduation (4) and Marking (3)
3. Tighten screw (1) on the binder (2).

## 6.2 Adjusting the Swing Area of the Pad

The swing area of the pad assembly and thus the labelling position are set to client specifications by the factory. In case of changing the labelling position or the pad type it may be necessary to adjust the swing area (angle).



- Loosen screw (2).
- Turn the lever (6) with the stopper (3) in the desired labelling position.
- Turn stopper with the sensor (1/4) so that the spring is pushed in entirely.
- Tighten screw (2) .
- Loosen screw (3) and move the sensor (4) so that the LED will lights up.
- Tighten screw (3) .
- Loosen nut of the stopper (1). Fine tune the setup by turning the stopper (1) and tighten the nut to lock the system in place.
- If necessary readjust sensor (4).

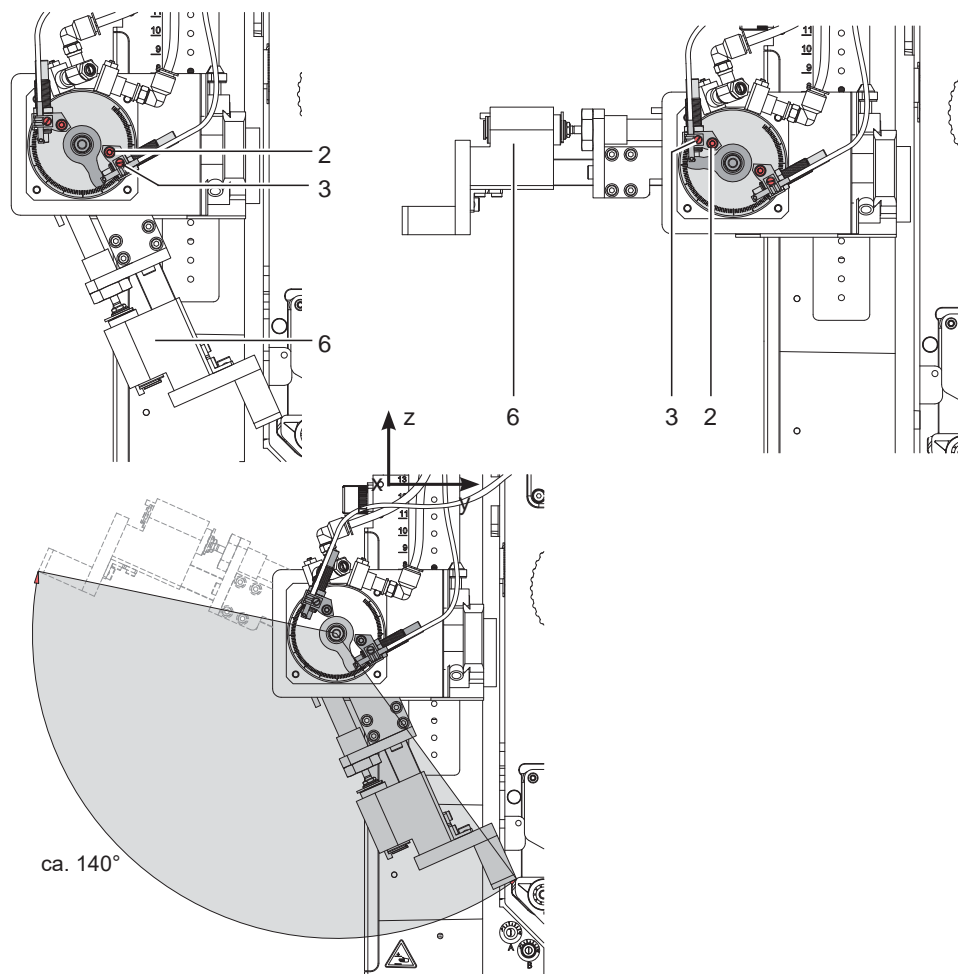


Fig. 17 Adjusting the swing area of the pad

### 6.3 Stopper for Operation Mode "Blow on"

In order to label a product without physically coming into contact with it use the "blow on" mode. The stopper (1) will limit the downward movement of the cylinder and prevent contact with the product.

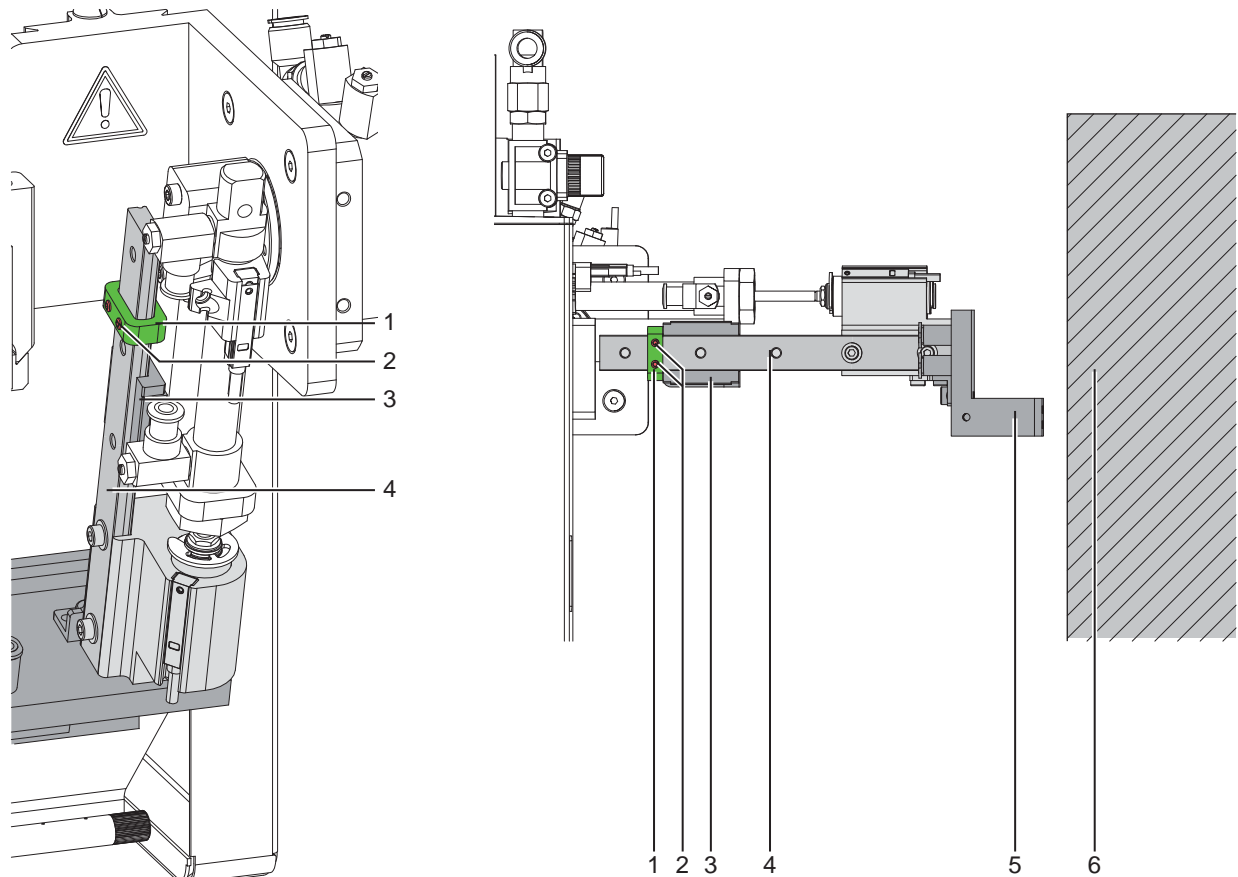


Fig. 18 Adjust the stopper in the operation mode "blow"

1. Turn off the air pressure.
2. Remove the tubes from the throttle valves of the swing-, extension- and lift- cylinder.
3. Loosen the screws (2) on the stopper (1).
4. Place the product (6) in the position it is to be labeled in.
5. Swing the pivot arm to the stopper manually. This pivot cylinder is adjusted according to ► 4.1.5.
6. Pull the pad assembly (5) toward the product (6) until the distance between pad (5) and the product (6) is a maximum of 10 mm apart.
7. Move the stopper (1) along the rail (4) to the carriage (3) and tighten screws (2).
8. Reconnect the tubes into the throttle valves and pivot out the swing cylinder as well as the lift cylinder again.

### 6.4 Adjusting the Sensors of the Swing Drive

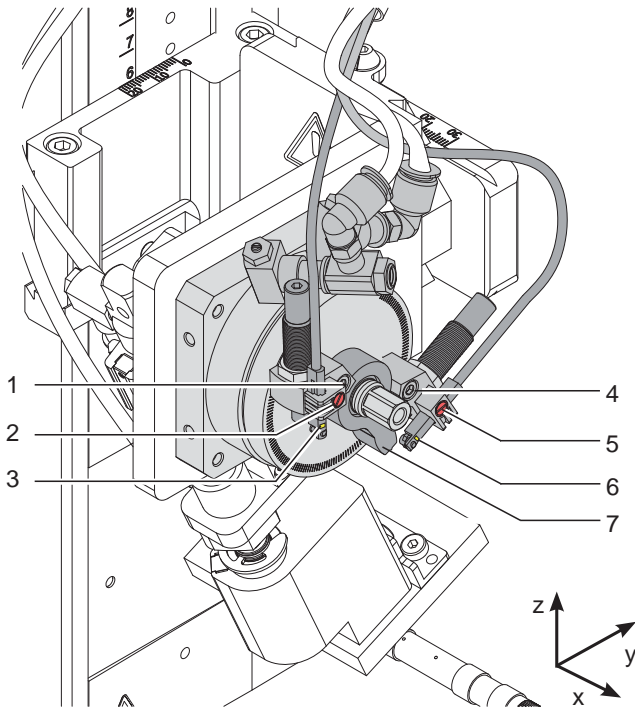


Fig. 19 Adjusting the sensors of the swing drive

► Disconnect the pressure air.

► Switch on the printer.

The sensors (3 and 6) detect the arrival of the end position of the swing lever. The generated signals are necessary for the following processes.

- When the sensor (6) is triggered in the start position the printing and application process can begin.
  - When the sensor (3) is triggered in the rotated position cylinder Z can be extended to start the procedure to stamp the label onto the product.
- Turn and hold the pad assembly into the needed end position.
- Loosen screw (2 or 5) .
- Move the sensor (3 or 6) so that the sensor will be securely triggered by the stopper (7) .  
Secure triggering is recognizable by the lit up LED on the sensor.
- As soon as the assembly group leaves the extended position the sensor should untrigger. This is made visible by the LED switching off.
- Tighten the appropriate screw (2 or 5) .

### 6.5 Adjusting the Speed of the Swing Drive

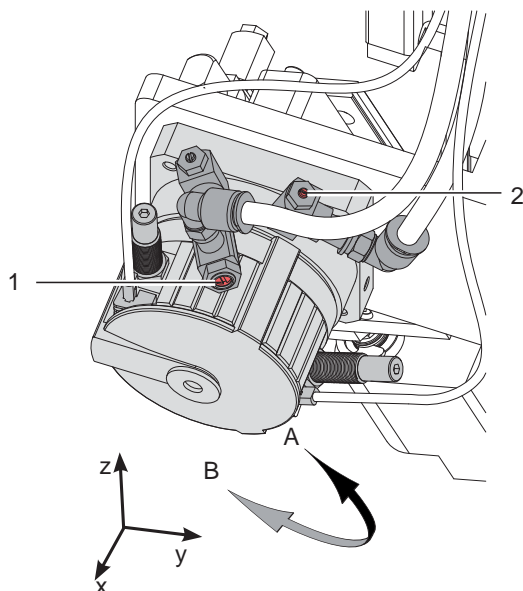


Fig. 20 Throttle valves on the swing drive

The speed of the swing drive is controlled by air throttle valves. Towards the end of the swing movement the arm is slowed by the damper (3). If the dampening is too strong and the swing arm cannot reach its end position to trigger the sensors and ERROR message will be displayed and the process is interrupted.

- To increase the swing out speed turn the screw (1) counterclockwise. Swing movement in direction to B.
- To reduce the swing out speed turn the screw (1) clockwise. Swing movement in direction to B.
- To increase the swing in speed turn the screw (2) counterclockwise. Swing movement in direction to A.
- To reduce the swing in speed turn the screw (2) clockwise. Swing movement in direction to A.



#### Attention!

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

## 6.6 Sensors on Cylinder Z

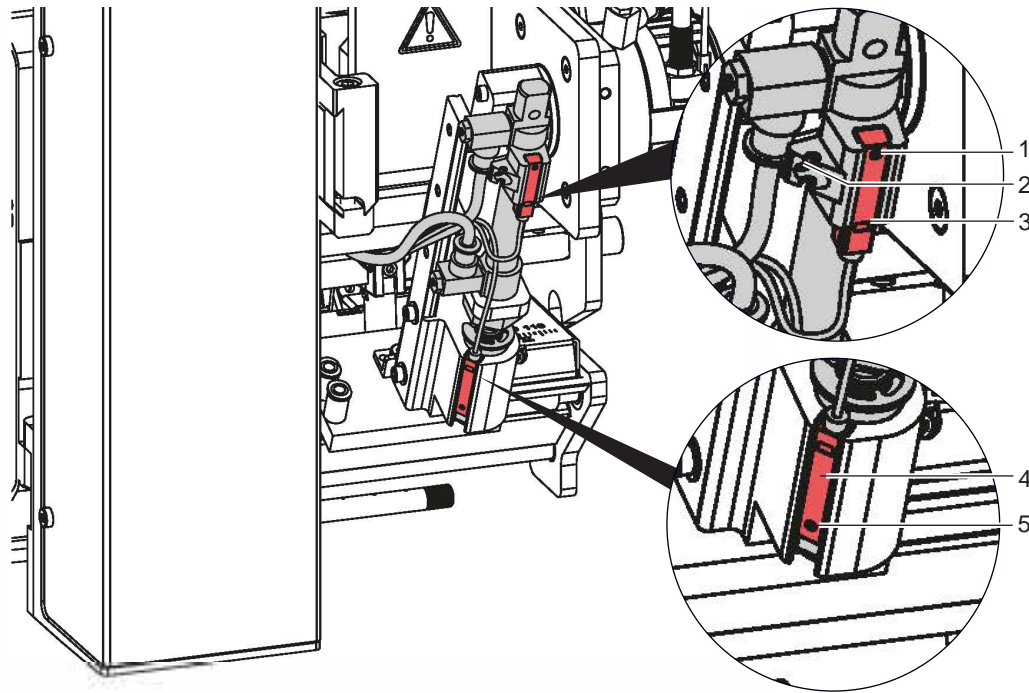


Fig. 21 Sensors on cylinder Z

### Sensor Start Position 1

1. Loosen screw (1) on sensor (3) "Start Position" and move the sensor so that the top edge of the sensor is on the same level as the sensor holder and fits comfortably into it.
2. Close the compressed air supply and pull out the tubes from cylinder-Z. Switch on the printer with an existing connection to the applicator via the electronic interface (SUB-D).
3. Manually move the pad to the top of the stopper.
4. Loosen screw (2) on the sensor holder.
5. Move the sensor so that the LED lights up when the cylinder is completely contracted. A distance of 10 mm between the top edge of the sensor and the lower edge of the connecting ring of cylinder is required as illustrated in the figure above.
6. Tighten screw (2).

### Labelling Sensor 2

The position of the labelling sensor (6) is dependant on the pad assembly's weight and the angle of the mounting position. The triggering magnet is integrated into the adapter bolt.

1. Bring the printer and applicator into their intended operational position.
2. Swing the pad in the labelling position.
3. Loosen screw (5) and move the sensor (4) so that it triggers and the LED lights up when the adapter bolt is driven into the tamp assembly group.
4. Tighten screw (5).



## 6.7 Lift Speed of Cylinder Z

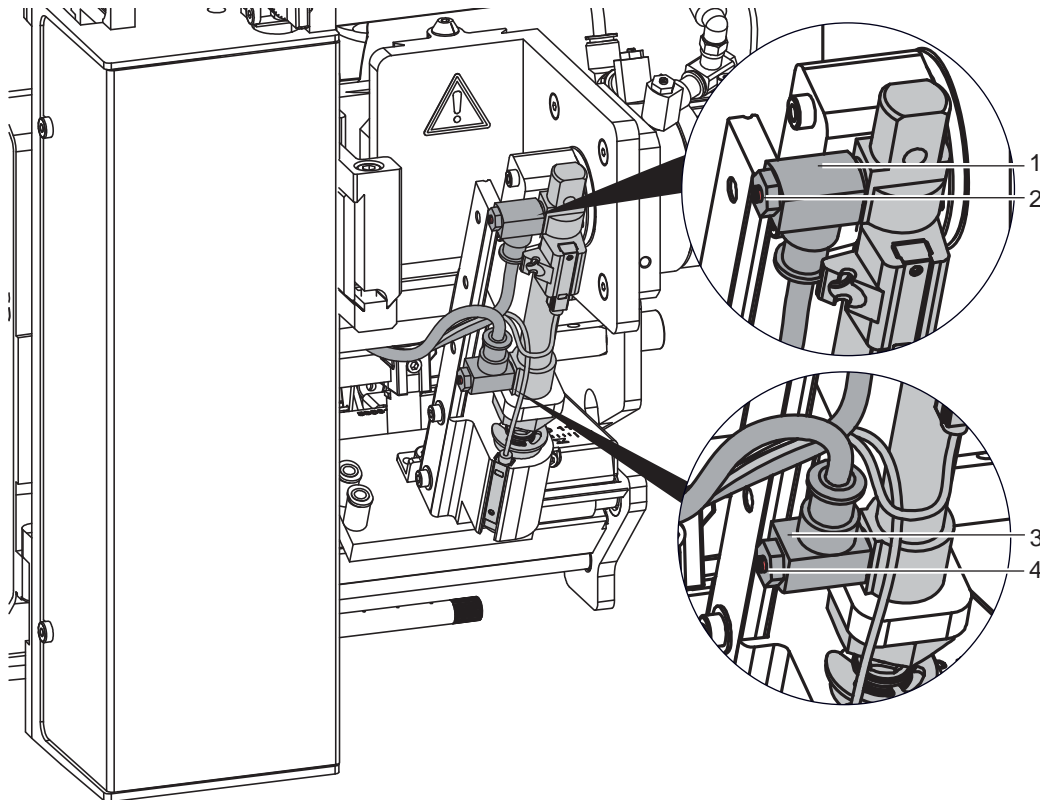


Fig. 22 Throttle valves on the cylinder Z

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

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

**Attention!**

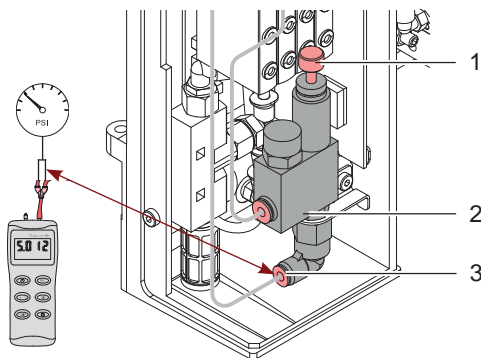
The time for the downward movement of the pad may not exceed 2 seconds  
Otherwise the error message "Lower position" will appear.

**Note!**

To reduce the air pressure in Z-direction an optional pressure reduction valve (5) is available.

- ▷ 7.8 Adjusting the pressure reduction valve

## 6.8 Adjusting the pressure reduction valve



The pressure reduction valve (2) will when labelling pressure-sensitive products or to increase generally safety by reducing 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 via knurled screw (1).

It is possible to upgrade to the pressure reduction as a set order with instructions, or as an integrated part of the default factory order.

Fig. 23 Pressure reduction valve Cylinder Z

## 6.9 Vacuum Adjustments

The label will be fixed to the pad by a vacuum that needs to be strong enough to hold the label onto the pad while not hindering the label on its way from the printer to the pad this is also dependant on the label material being used.

The label should cover all the suction holes of the pad.

**The standard factory value of the vacuum of the pad is -0.6 bar.**



### Note!

By adjusting the vacuum of the pad the transportation of the label from the dispensing edge to the pad will be affected.

If the vacuum is too strong the label will not reach the intended position on the pad.

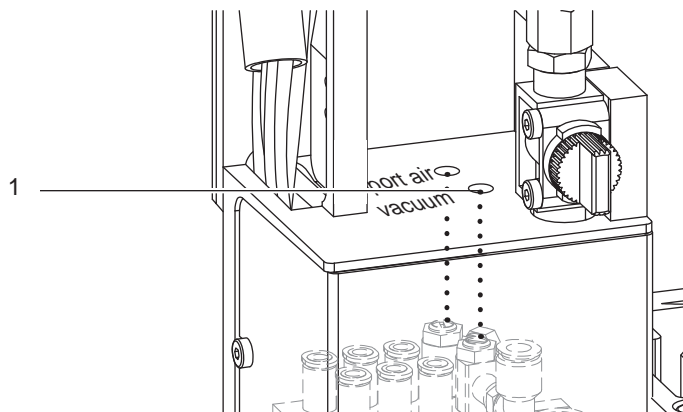
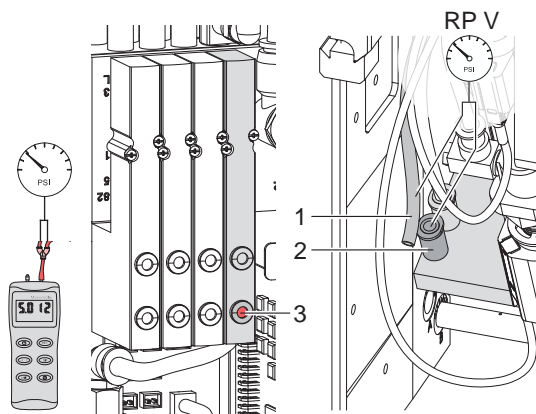


Fig. 24 Throttle valve "vacuum"

- ▶ Adjust the vacuum with the throttle valve "vacuum" (1) so that the label is sucked onto the pad over the entire area of the label.
- ▶ To increase the vacuum turn the setting screw of the throttle valve (1) counterclockwise.

### Measuring Point Vacuum (MP V).



Use a manometer with a measuring range of -7 to 7 bar.

#### MP V: Vacuum (default value -0.6 bar)

1. Remove the cover.
2. Cover the suction plate hermetically.
3. Attach the manometer to the MP V.
  - Tube (1) at the energy track
  - Fitting (2) of the pad
4. Activate the valve manually by pressing the micro switch (3) while the compressed air is switched on.
5. Adjust the vacuum via the throttle valve "vacuum" as required.
6. Remount the cover.

Fig. 25 Measure the vacuum



### Attention!

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

### 6.10 Blow Tube (Support Air) Adjustments

For an optimal take up of the label by the applicator set the supporting air so that the entire label is constantly, without turbulence, blown onto the pad.

All holes in the blow tube that exceed the width of the label should be covered by a rubber ring (3).

**The factory default air pressure of the blow tube is 2 bar.**



**Note!**

If the breadth of the printer is changed (2", 4" or 6") the appropriate blow tube should be used. When changing the label width check the number of covered holes of the blow tube and reconfigure the blow tube settings.

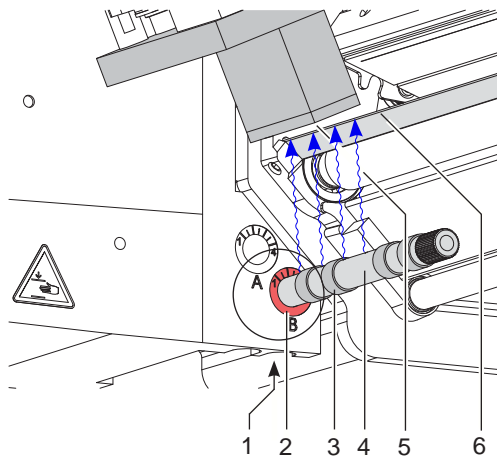


Fig. 26 Adjust the blow tube

The blow tube (4) for the supporting air can be rotated around its axis. That way the direction of the supporting air can be optimized.

1. Loosen screw (1).
2. Place the blow tube (4) into the tube adapter B (2).  
Turn the blow tube (2) in the direction that supports the uptake of the label from the dispensing edge (6) to the pad (5).  
Turn the blow tube (2) in that direction, that the air current supports the sucking of the label from the dispense edge (6) by the pad (5).
  - For smaller labels direct the air current to the dispense edge (5) of the printer.
  - For larger labels direct the air current away from the dispense edge (6) .  
Use the graduation for orientation.
3. Tighten screw (1).

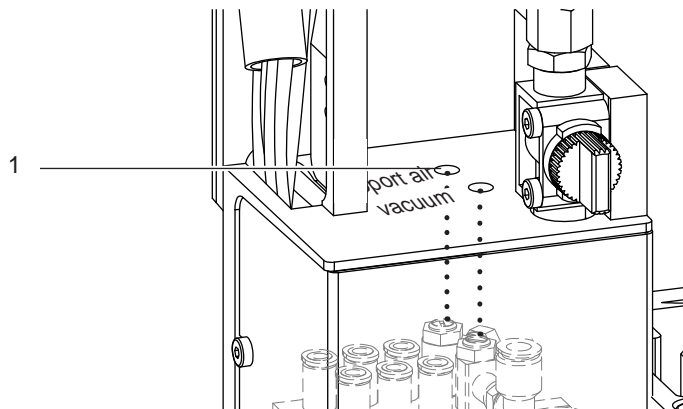
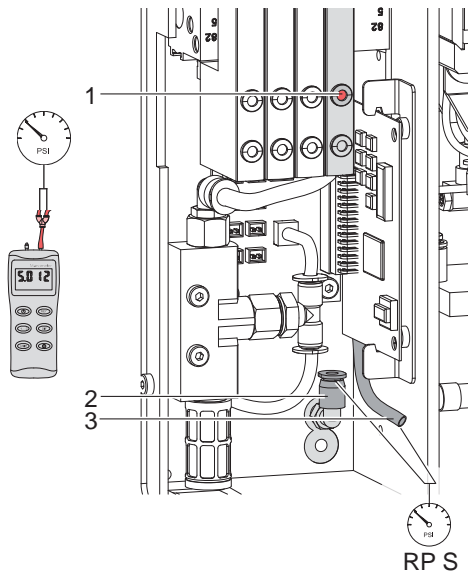


Fig. 27 Throttle valve "support air"

The throttle valve (1) enables the variation of the supporting air for optimizing the label take up procedure.

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

### Measuring Point Support Air (MP S)



Use a manometer with a measuring range of -7 to 7 bar.

#### MP S: Support Air (default value 2 bar)

1. Remove cover and connect the manometer to the MP S.
  - Tube (3) from valve block to blow tube connector.
  - Fitting (2) on the blow tube.
2. While the compressed air is connected, push the micro switch (1) to measure the pressure.
3. Adjust the strength of the "support air" via the corresponding throttle valve.
4. Remount the cover.

Fig. 28 Measuring points for support air.



#### Attention!

After pressure measurements have concluded reconnect and recheck all the tubes.

The applicator can be operated in different ways. While the original process stays the same, the operation mode can be chosen from 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 buttons in the navigator pad

▷ Configuration manual of the printer or ▷ Operator's manual of the printer

## 7.1 Method for Changing the Printer Setup

1. Press **menu** button.
2. Menu



*Setup>*



*Labelling >*

3. Select and adjust the needed parameters.
4. Return to the "Ready" mode.

## 7.2 Configuration Parameters of the Applicator

► Start menu.

► Select  Setup >  Labelling.














Parameter	Meaning	Default
 <i>Transfer mode</i>	Setting the operation mode <i>Stamp on, Roll on, Blow on</i>	<i>Stamp on</i>
 <i>Cycle sequence</i>	Setting the application mode <i>Print-Apply / Apply-Print</i> <i>Print-Apply:</i> 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. <i>Apply-Print:</i> 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.	<i>Print-Apply</i>
 <i>Waiting position</i>	* Only at <i>Transfer mode = Blow on</i> and <i>Cycle sequence = Apply-Print</i> <i>up:</i> Pad waits in the start position for the start signal <i>down:</i> Pad waits in the labelling position for the start signal	<i>up</i>
 <i>Blow time</i>	* Only at <i>Transfer mode = Roll on</i> Switch-on time (max. 2,5 s) of the blowing air for the label transfer	<i>1000 ms</i>
 <i>Support delay on</i>	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.	<i>0 ms</i>
 <i>Support delay off</i>	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	<i>0 ms</i>
 <i>Start delay</i>	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.	<i>0 ms</i>
 <i>Lock time</i>	All start signals coming in following the first start signal are ignored when they arrive within the lock time (max. 2,5 s).	<i>0 ms</i>
 <i>Vacuum delay</i>	<i>On</i> - The vacuum will be switched on after the label feed is completed. <i>Off</i> - The vacuum will be switched on when the label feed starts.	<i>Off</i>
 <i>Vacuum control</i>	Setting the label transfer check from printer to pad and from pad to product by the vacuum sensor	<i>On</i>
 <i>Label hand-over</i>	<i>Passive</i> - The pad waits in front of the dispense edge for the label. <i>Active</i> - The pad moves to the dispense edge and takes the label.	<i>Passive</i>
 <i>Cleaning blow</i>	Activation of a short blow impulse after the application of the label to clean the suction channels.	<i>Off</i>
 <i>Peel-off position</i>	Shift the position of the dispensed label relative to the dispensing edge. The setting can also be adjusted by the software. The settings of configuration and software are added together.	<i>0.0 mm</i>

Table 4 Parameters of the Setup > Labelling menu

### 7.3 Setting the Peel Position





To optimize the transfer of the labels from the printer to the pad there are 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 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 settings in the printer setup. Perform labelling cycles by alternately pressing the  button and Enter button  button.  
▷ „8.1 Test Mode without a Print Job“
- ▶ In the submenu  *Labelling* >  *Peel-off position* adjust the "Peel-off position" in such a way, that the blank labels are peeled-off completely from the liner  
▷ „7.2 Configuration Parameters of the Applicator“

**Peel-off offset in the software**

- ▶ Check the setting in the software. Perform labelling cycles by repeatedly pressing the Enter button .  
▷ „8.2 Test Mode with a 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.

### 7.4 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.

## 8.1 Test Mode without a Print Job

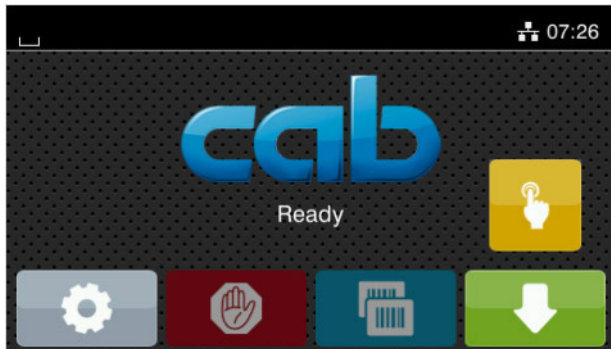






Fig. 29 Display

By alternating between buttons  and  on the display it is possible to simulate the labeling process without an active printing job.


- ▶ Push button .  
This causes the feed of an empty label. Simultaneously the vacuum of the pad as well as the supporting air are activated. As soon as the label has securely arrived at the pad the supporting air is switched off.
- ▶ Push button .  
When pushing this button the cylinder Z is extended into the labeling position. Reaching the labeling position is signaled by the triggering of the impact sensor. With that signal the vacuum is stopped and the label is applied to the product. With the application of the label the cylinder is contracted back into the starting position.



### Note!

- ▶ Use the printer configuration to find the best peel-off offset for the initiation.

## 8.2 Test Mode with a Print Job

This method allows testing of the labeling process with actual printing data by using the  button.

- ▶ Send a print job.

The test mode is executed in two half cycles:

- ▶ Push the  button.


### Half cycle 1

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

- ▶ Push the  button.

### Half cycle 2

The pad is moved to the labelling position. The triggered impact sensor signals when the labelling position is reached. The vacuum is switched off as soon as the label is placed onto the product. Then, the pad is moved back into the starting position.

If the label is removed by hand after **half cycle 1** has been completed and the  button is pressed, **half cycle 1** will be repeated with the next label in the printing line.



### Note!

- ▶ Use the software to find the best peel-off offset for the initiation.



## 9.1 Block Diagram Type 3214

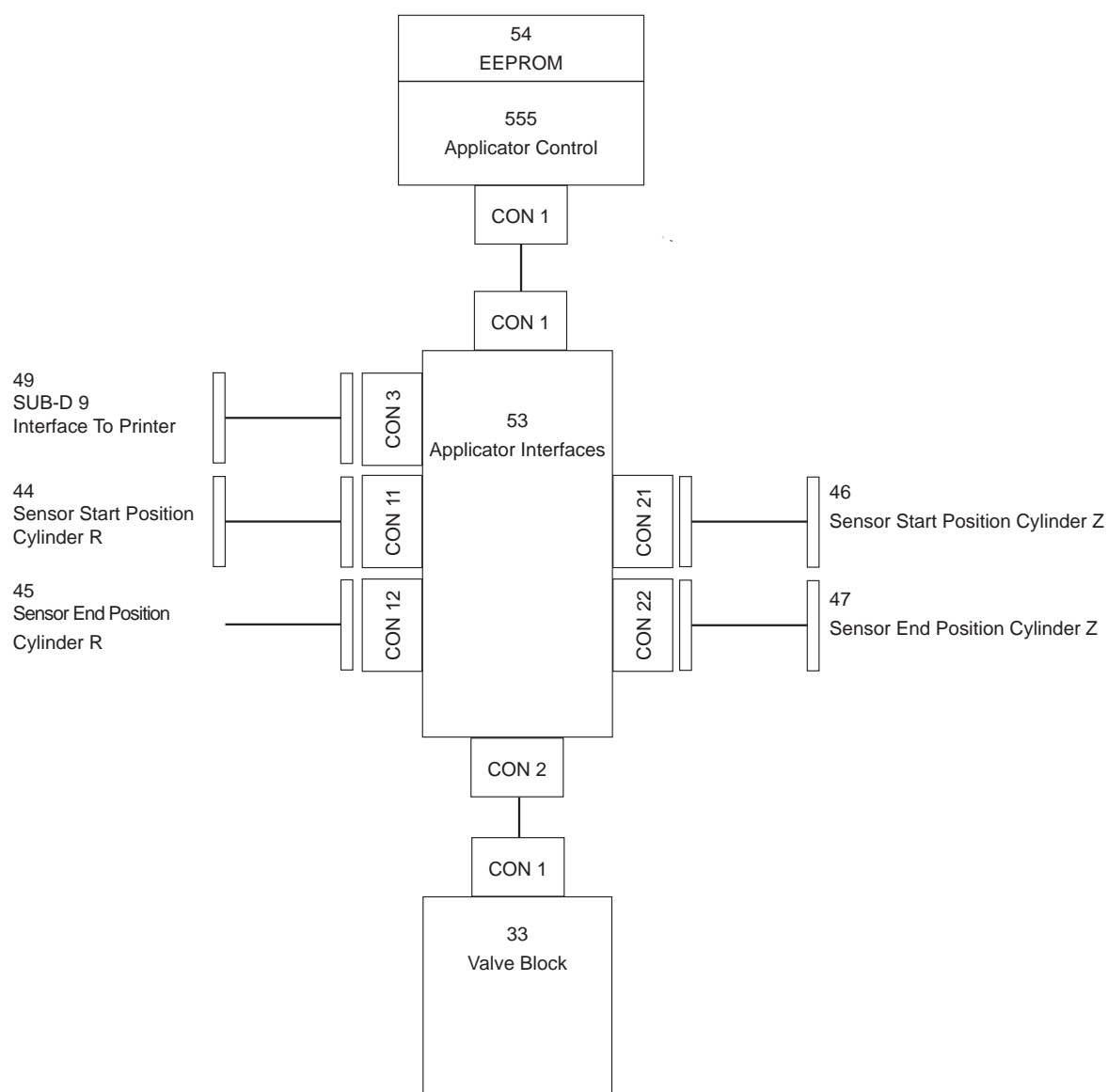


Fig. 30 Block diagram 3214

## 9.2 Pneumatic Drawing Type 3214

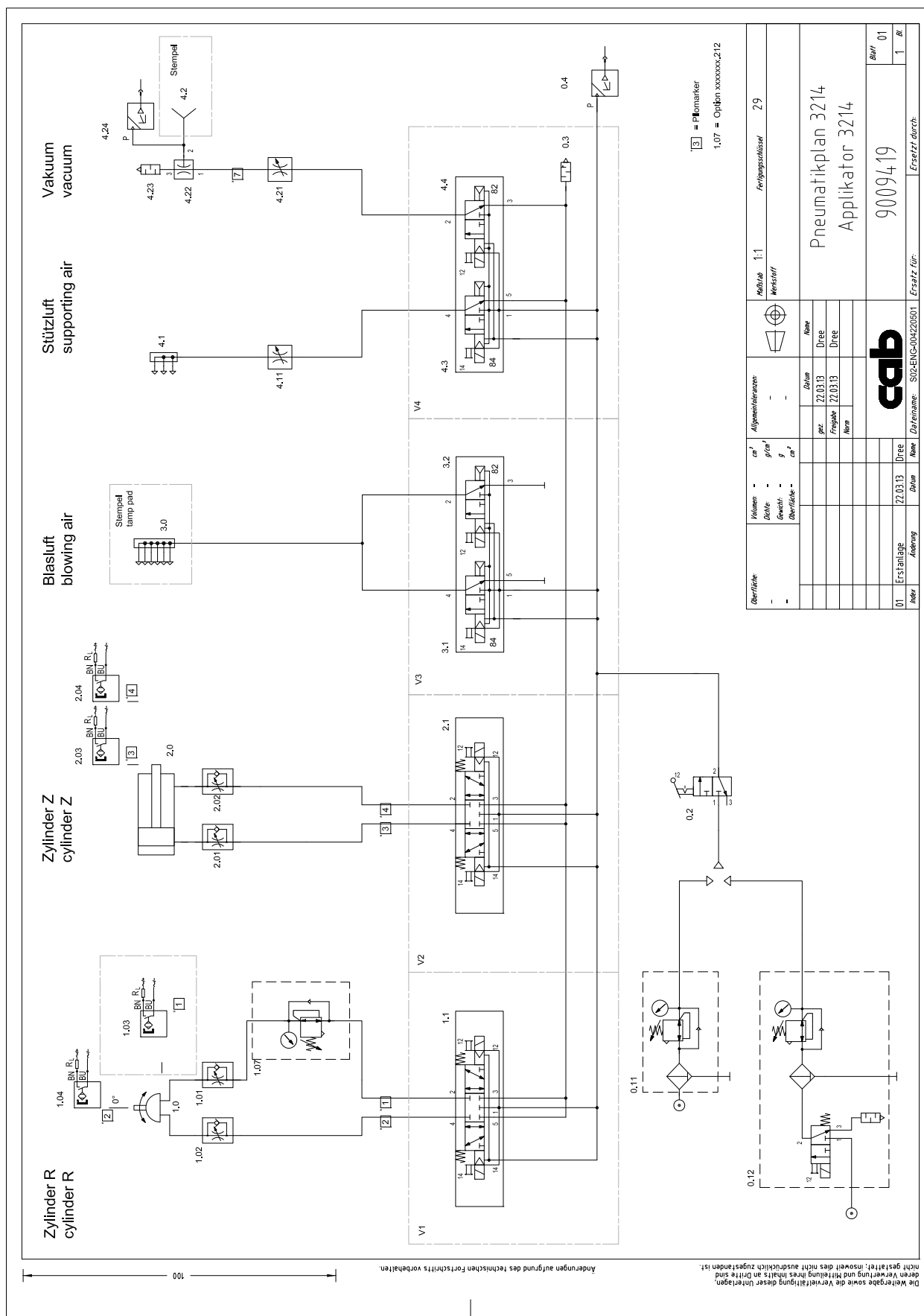


Fig. 31 Pneumatics Type 3214

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