



Stroke-Blow Applicator

4614

for the following products

Family	Type
Stroke-Blow Applicator	4614-200L
	4614-300L
	4614-400L
	4614-200R
	4614-300R
	4614-400R

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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 the life and limb of the user or third parties and/or damage to the device and other tangible assets can arise during use.
- The device may only be used for its intended purpose and if it is in perfect working order, and it must be used with regard to safety and dangers as stated in the operating manual.
- The device 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.



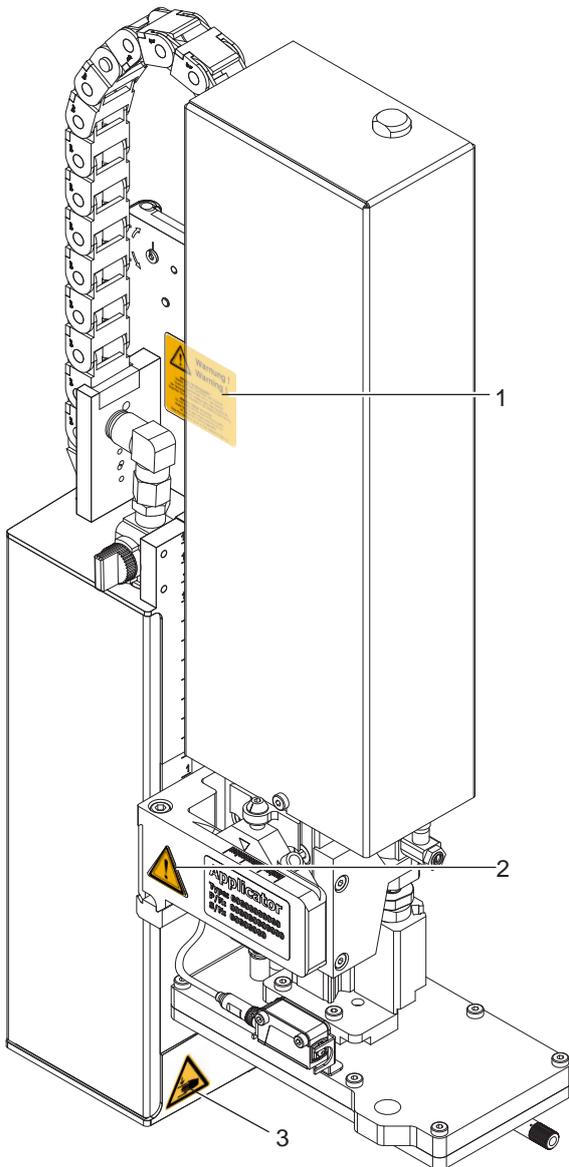
Warning!

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 at 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 manual.
- 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.
- There are various warning stickers on the device. They draw your attention to dangers. Warning stickers must therefore not be removed, as then you and other people cannot be aware of dangers and may be injured.

1.4 Safety Marking



1:  **Warnung !
Warning !** Risk of injuries by moving parts!
Achtung / Verletzungsgefahr!
Geben Sie beim Zerschneiden der Druckrolle
keine zu großen Kräfte an, um die Gefahr
des Herabfallens von Metallteilen zu vermeiden.
Attention / Danger of injury!
Do not reach into the area of moving parts
excessively the pad, when switching on the
or off the printer or during operation.
Note the directions given in the Operator's Manual.

2:  The cylinder is under pressure also if the printer is switched off. Possibility of residual energy!

3:  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	Blow pad with height sensor	
	4614 L/R 2100	
Label width in mm for Hermes ⁺⁴	20 -114	
for Hermes ⁺⁶	on request	
Label height in mm	20 - 100	
Compressed air pressure	0.45 MPa (4.5 bar)	
Sound pressure level	under 74 dB(A)	
Product during labeling	fixed	■
	in motion	■
Labeling onto the product	from the top	■
	from below	■
	sideways	■
Product height	fix	■
	variable	■
Product distance to lower edge at cylinder stroke	200 mm up to mm	140
	300 mm up to mm	240
	400 mm up to mm	340
Cycle time about frequency/min. ¹⁾	30	

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

Table 1 Technical Data

2.3 Overview without cover

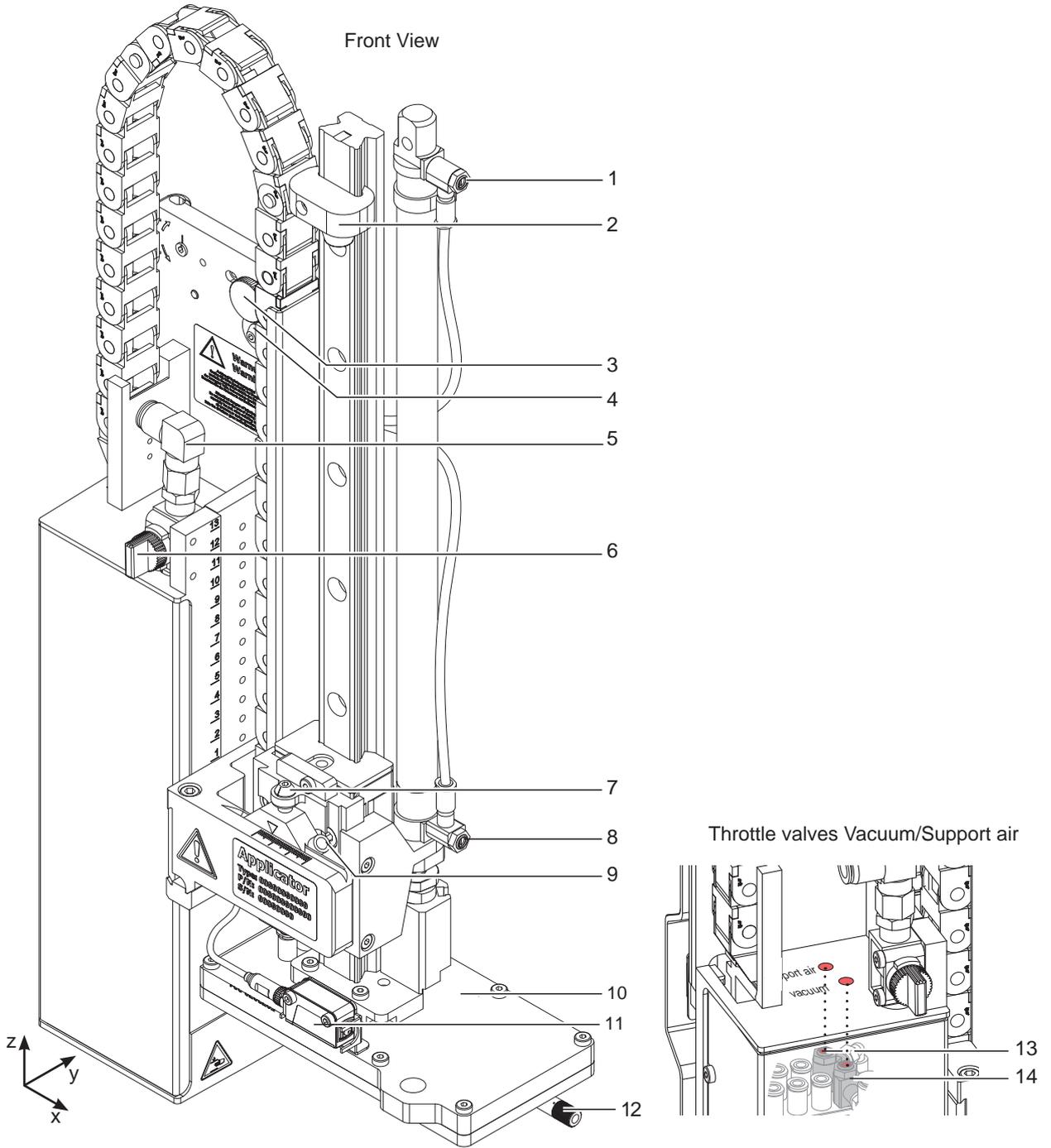


Table 2 Overview - Front View

Fig. 2 Throttle Valve Vacuum and Support Air

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Throttle valve cylinder - move in Z-direction 2 Stopper for the operation mode "Blow on", transport lock 3 Knurled screw for attaching the applicator to the printer 4 Setting screw to adjust the angle between applicator and printer 5 Compressed air connector 6 Shutoff valve 7 Setting screw for vertical adjustment cylinder assembly | <ul style="list-style-type: none"> 8 Throttle valve cylinder - move out Z-direction 9 Screw to fix the horizontal pad position - X-direction 10 Pad - customized 11 Product sensor 12 Blow tube support air 13 Support air throttle valve 14 Vacuum throttle valve |
|--|---|

Rückansicht

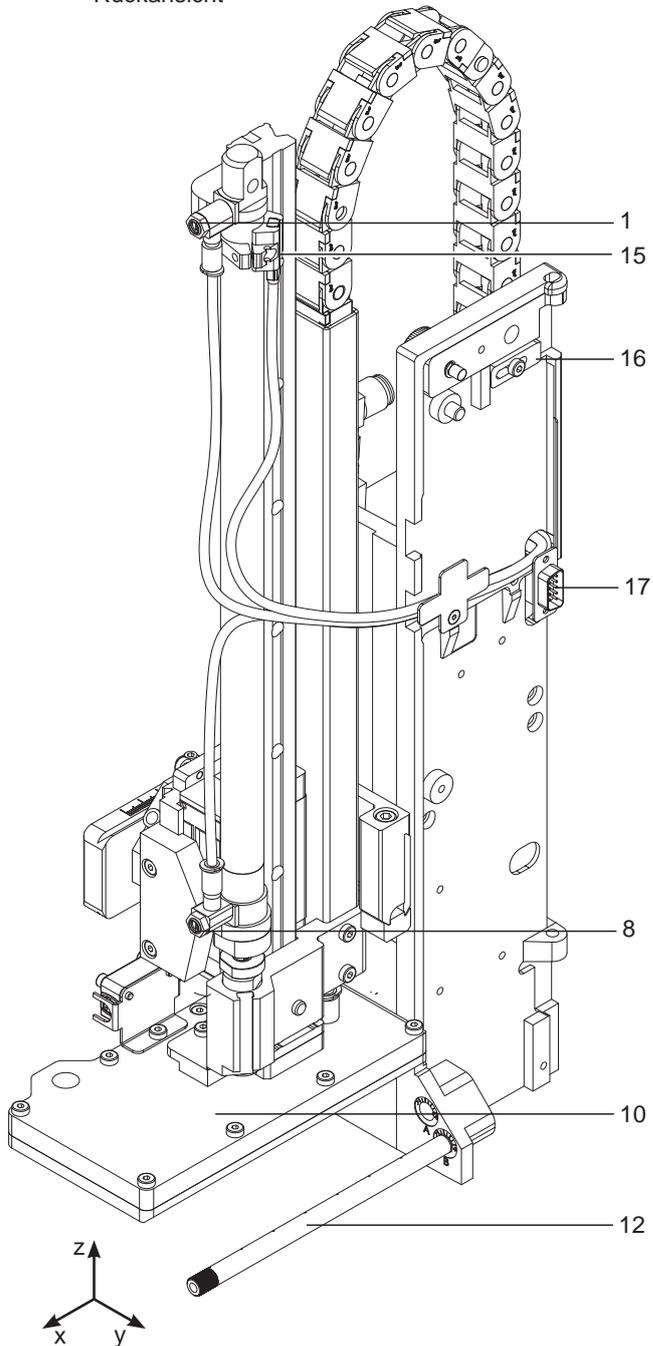


Fig. 3 Overview - Back view

- 1 Throttle valve cylinder - move in Z-direction
- 8 Throttle valve cylinder - move out Z-direction
- 10 Pad - customized
- 12 Blow tube
- 15 Sensor start position cylinder Z
- 16 Locking for hinges
- 17 Interface to the printer

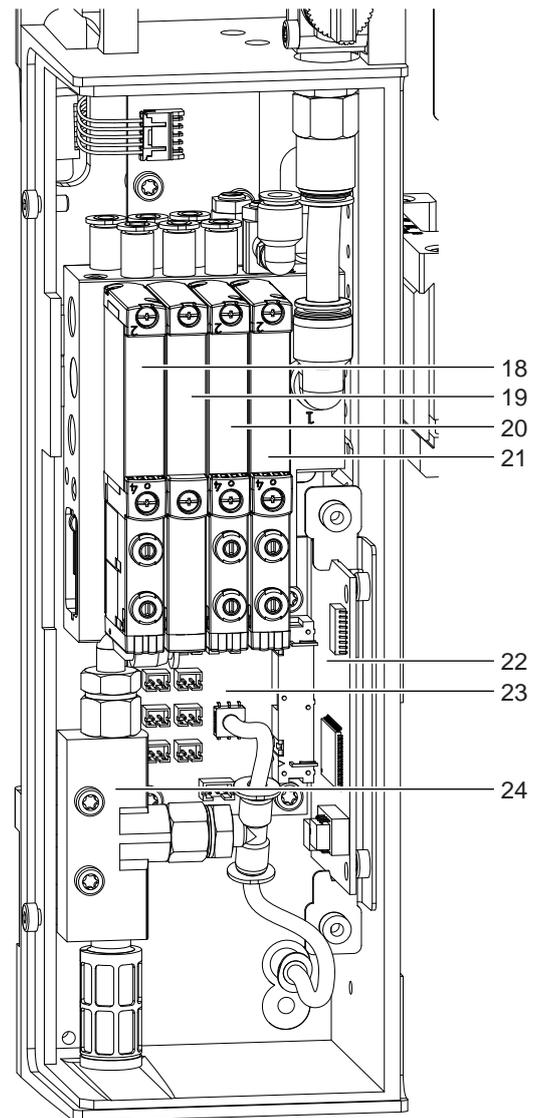


Fig. 4 Overview - Control system

- 18 Valve Cylinder Z
- 19 Cover plate
- 20 Valve Blow air
- 21 Valve Vacuum and Support air
- 22 PCB Applicator Control
- 23 PCB Applicator Interfaces
- 24 Vacuum Generator

2.4 Contents of Delivery

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

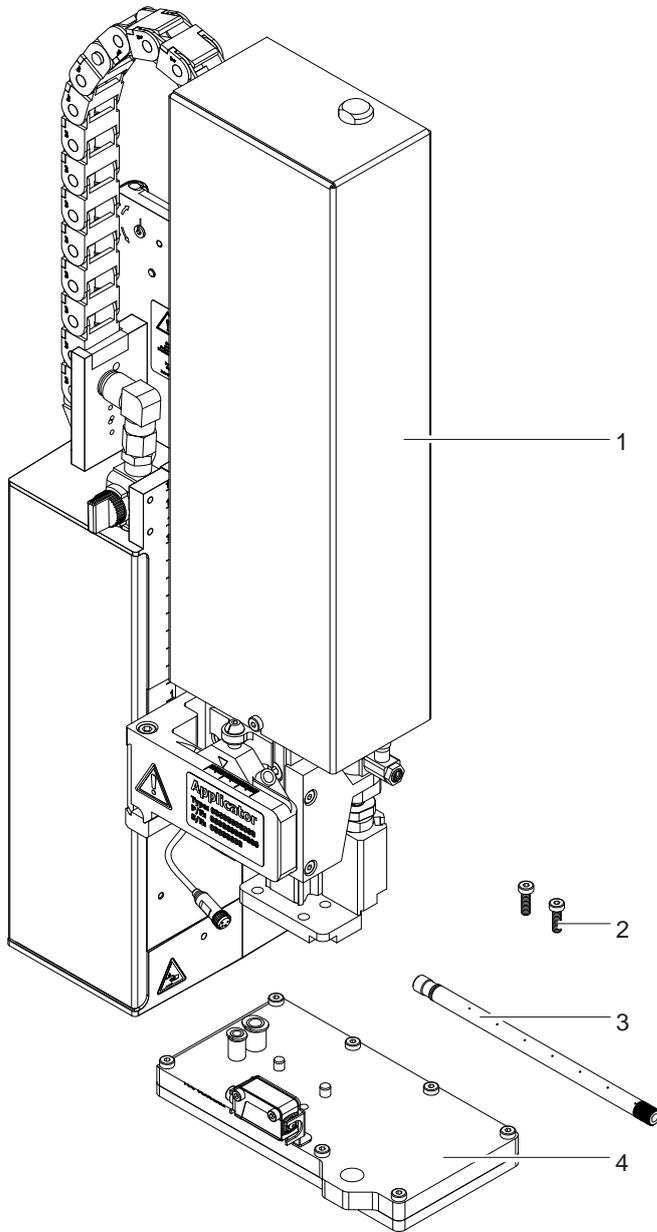


Fig. 5 Contents of delivery

**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.

- ▶ Set up label printer with applicator only in dry locations protected from splashes, dampness and water.

3.1 Standard Operation

- ▶ Check all external connections.
- ▶ Load the material.
- ▶ 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 start position when the printer is switched on an error message appears on the display.

Press button pause on the printer.

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

- ▶ Press the **feed** button at the printer.
A synchronization feed is released. 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.

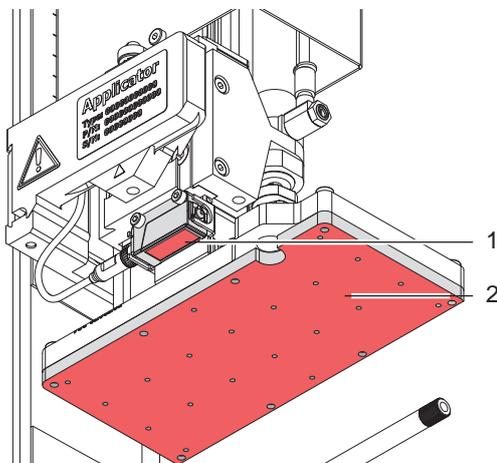
Error messages during labelling process are shown in the display of the printer ▷ Error messages.

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.
- ▶ Especially at the slide foil (1) debris may gather. To ensure an ideal takeover and handling of the label it is necessary to clean the surface of slide foil at regular intervals.
- ▶ Clean the surface of the product sensor (1) with glass cleaner and a cotton bud.

Fig. 6 Cleaning pad with slide foil

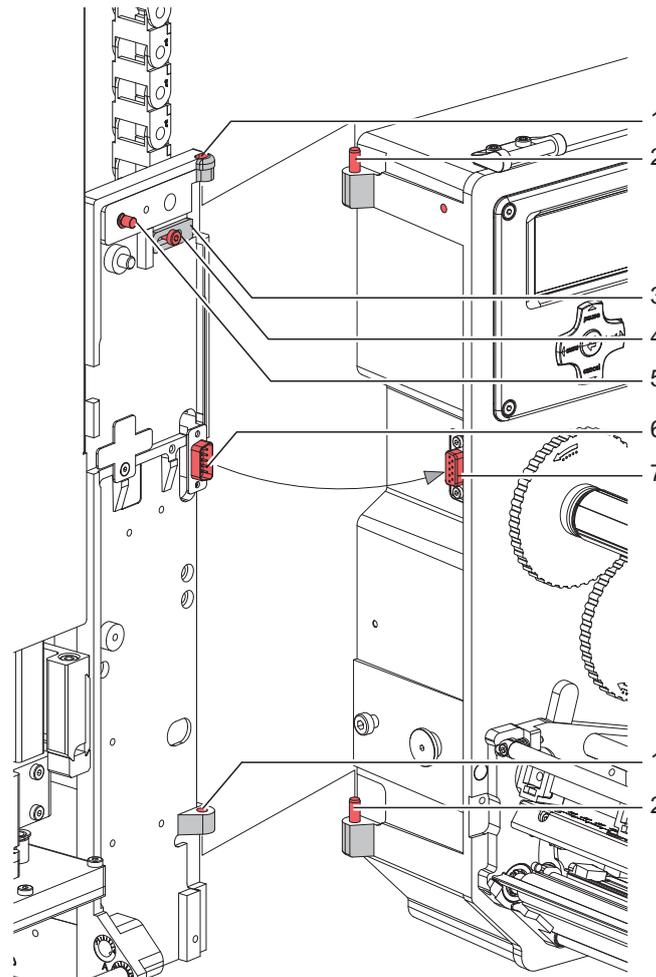


Fig. 7 Mounting the applicator to the printer



Attention!

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

▷ „1.3 Safety Instructions“



Attention!

- ▶ Disconnect the printer from the power supply before mounting the applicator!
- ▶ Ensure a stable placement of the printer!
- ▶ 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 dismantle 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 ▷ 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
<i>Air pressure ins.</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 is still sticking to the pad.
<i>Lower position</i>	Pad is not in the starting position when the printer is switched on.
	Pad has not reached the starting position within 2s after the pad has left the labelling position.
	Pad has left the starting position without authorization.
<i>Process Error</i>	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.
<i>Refl. sensor blk.</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>Upper position</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 3 Error messages of the applicator

Error treatment:

- ▶ Clear the error results
- ▶ Press the **pause** button 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 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:

- Connecting on a cab Hermes+ printer, vertical
- 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 Product sensor
Hexagon key L-wrench	0.8		To adjust the sensors (in delivery state of the applicator)
	2.5		or matched norm parts (in delivery state of the applicator))
	4		Pad adjustments Changing pad
Flat-round nose - straight - angled			Mount/Dismount of tubes
Open spanner	SW 8		Changing the throttle valves
	SW 13		Setting the spring power on the adapter bolt
	SW20		Changing the cylinder
Manometer			± 7 bar Air pressure control

Table 4 Tools

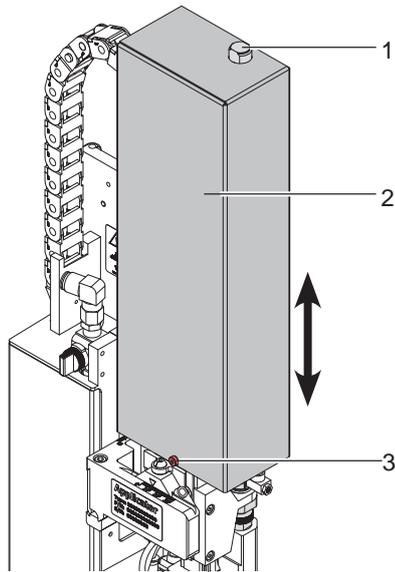
5.3 Mounting and Dismounting the Cover

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 cover (2).
- ▶ Only dismount the cover when servicing the applicator.



Dismount

1. Loosen screw (3).
2. Lift off cover (2).

Mount

3. Move the cover (2) over the cylinder assembly.
4. Put in the cylinder (1) through the hole in the cover (2).
5. Tighten screw (3) to fasten the cover (2).

Fig. 8 Cover

5.4 Transportation Lock

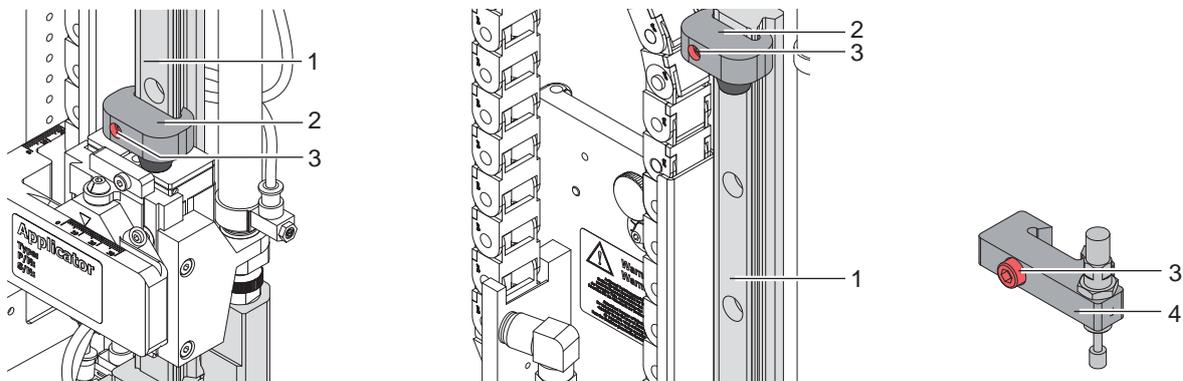


Fig. 9 Stopper as transportation lock

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 delivery status the stopper (2) is used as transportation lock.



Note!

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

Releasing the transportation 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.

5.5 Mounting the Applicator to the Printer

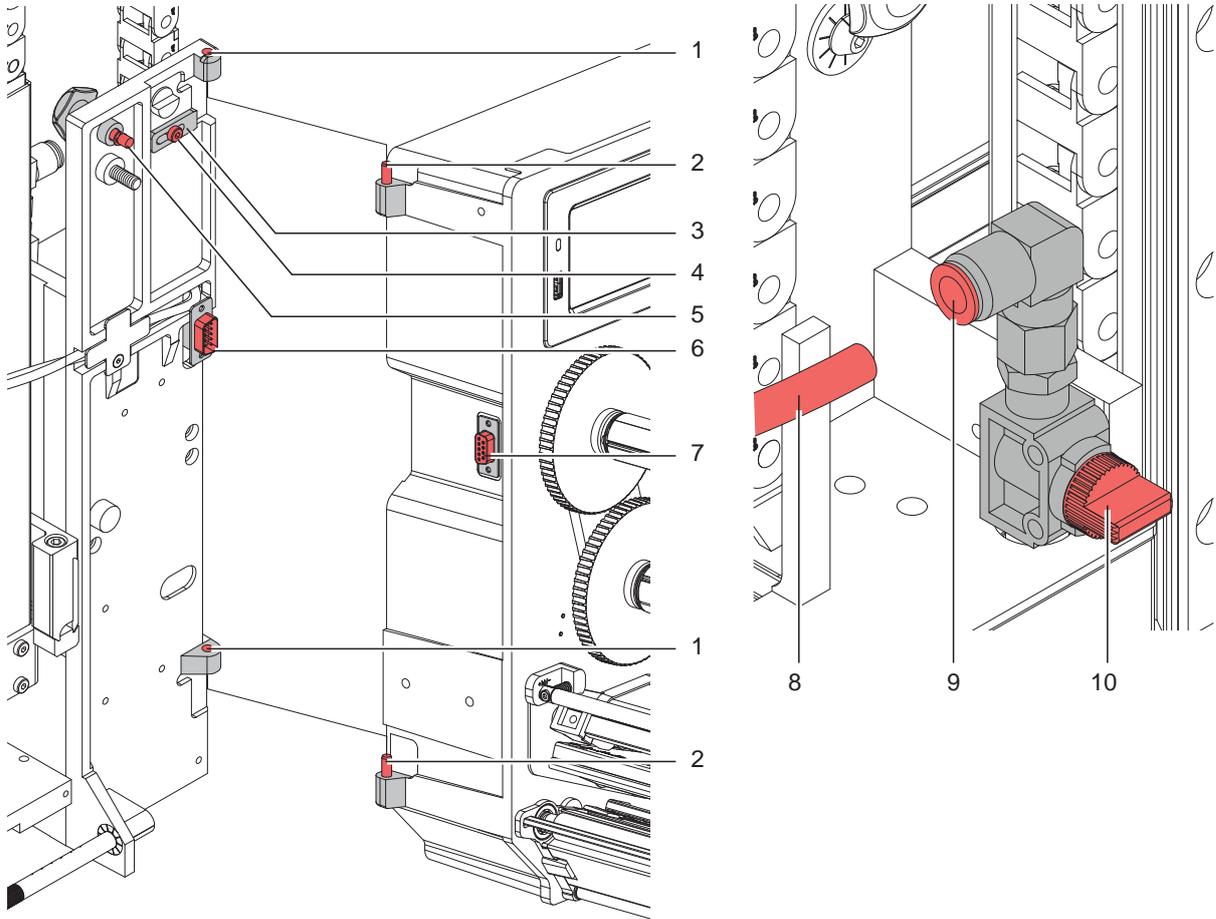


Fig. 10 Mounting applicator on printer

**Attention!**

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

▷ Service Manual

Mount the applicator

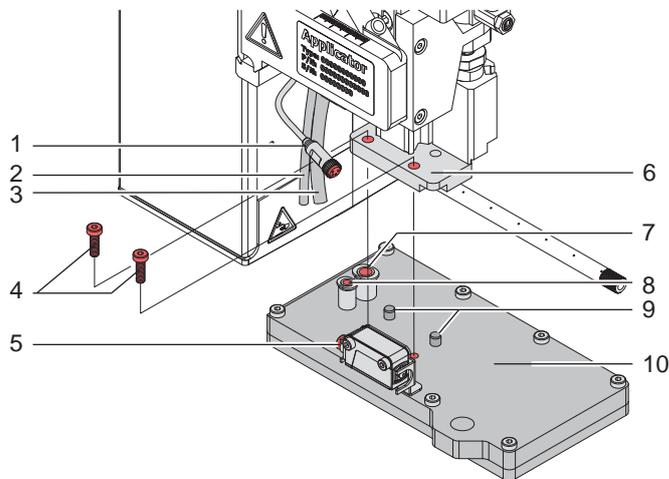
1. Hang the applicator with the female part of hinges (1) at the printer mounted hinges parts (2).
2. Connect SUB-D 15 male connector (6) to the female connector (7) of the printer.
3. To prevent the applicator from slipping out of the hinges loosen screw (4) and move the locking plate (3) under the 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.

5.6 Mounting the Pad



1. Insert the two pins (9) on the pad (10) into the holes on the bottom of the pad holder (6).
2. Fix the pad (10) with the screws (4) to the pad holder (6).
3. Insert the vacuum tube (2) and the support air tube (3) into the appropriate push-in-fittings (7, 8) of the pad.
4. Insert the connector (1) into the female connector (5) of the product sensor and tighten the nut.

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 (▷ „6.1 Pad Adjustments“) before connecting the applicator to the compressed air supply!

5.7 Mounting the Blow Tube

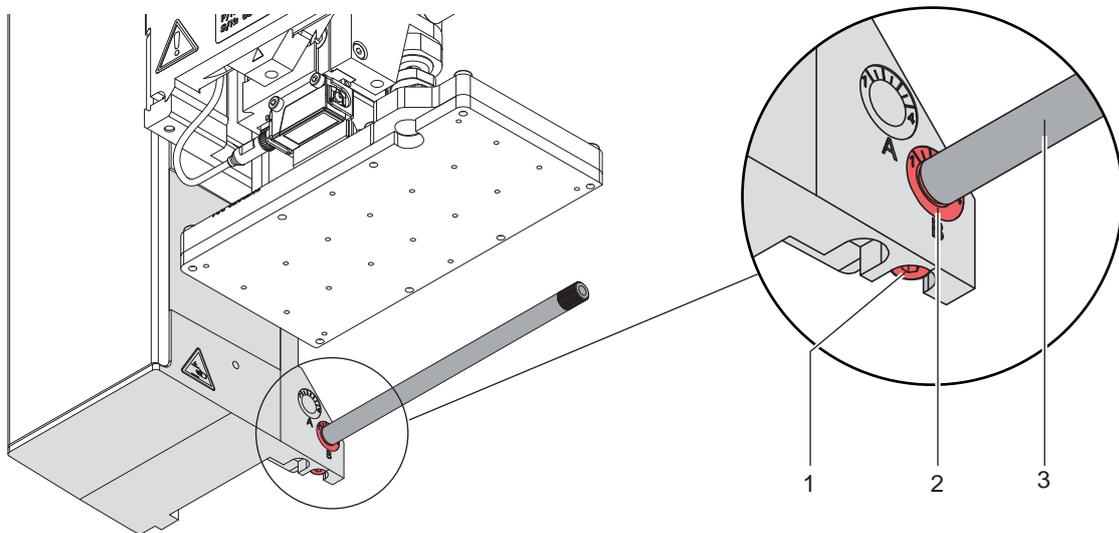


Fig. 12 Mounting the blow tube

It is possible to rotate the blow tube to optimize 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 blow tube hole B (2).
3. Tighten screw (1) lightly to secure it. ▷ „6.2 Vacuum Adjustments“

5.8 Connecting the Compressed Air

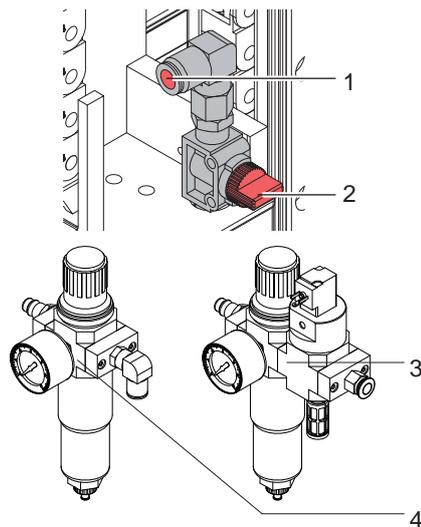
**Attention!**

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 air pressure regulation unit (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.

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.

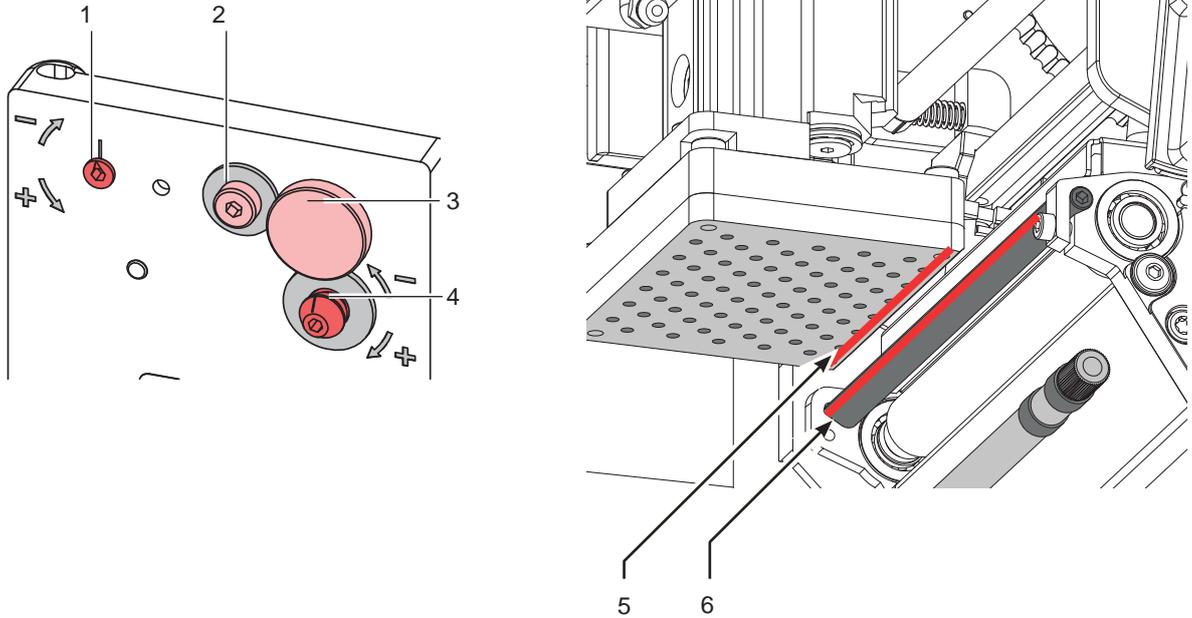
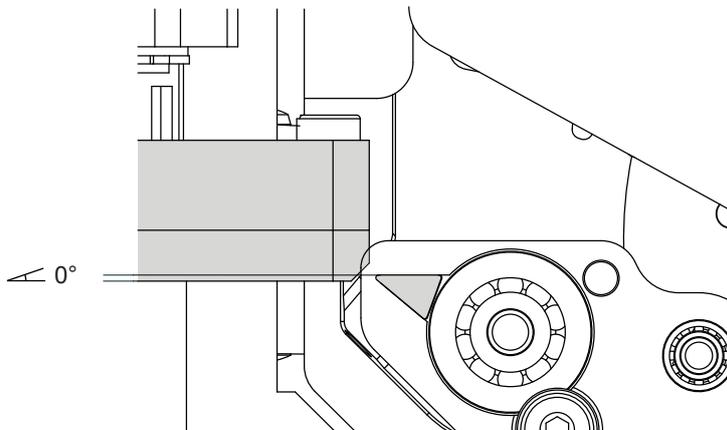


Fig. 14 Aligning the pad to the dispensing plate

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

Aligning the pad at an angle to the dispensing plate



4. If the angle between the pad surface and the dispensing edge - support surface is not 0° loosen screw (2).
5. Correct the angle of attack by turning the eccentric (1).
6. Tighten screw (2).

6.1.1 Moving the Pad in Y-Direction

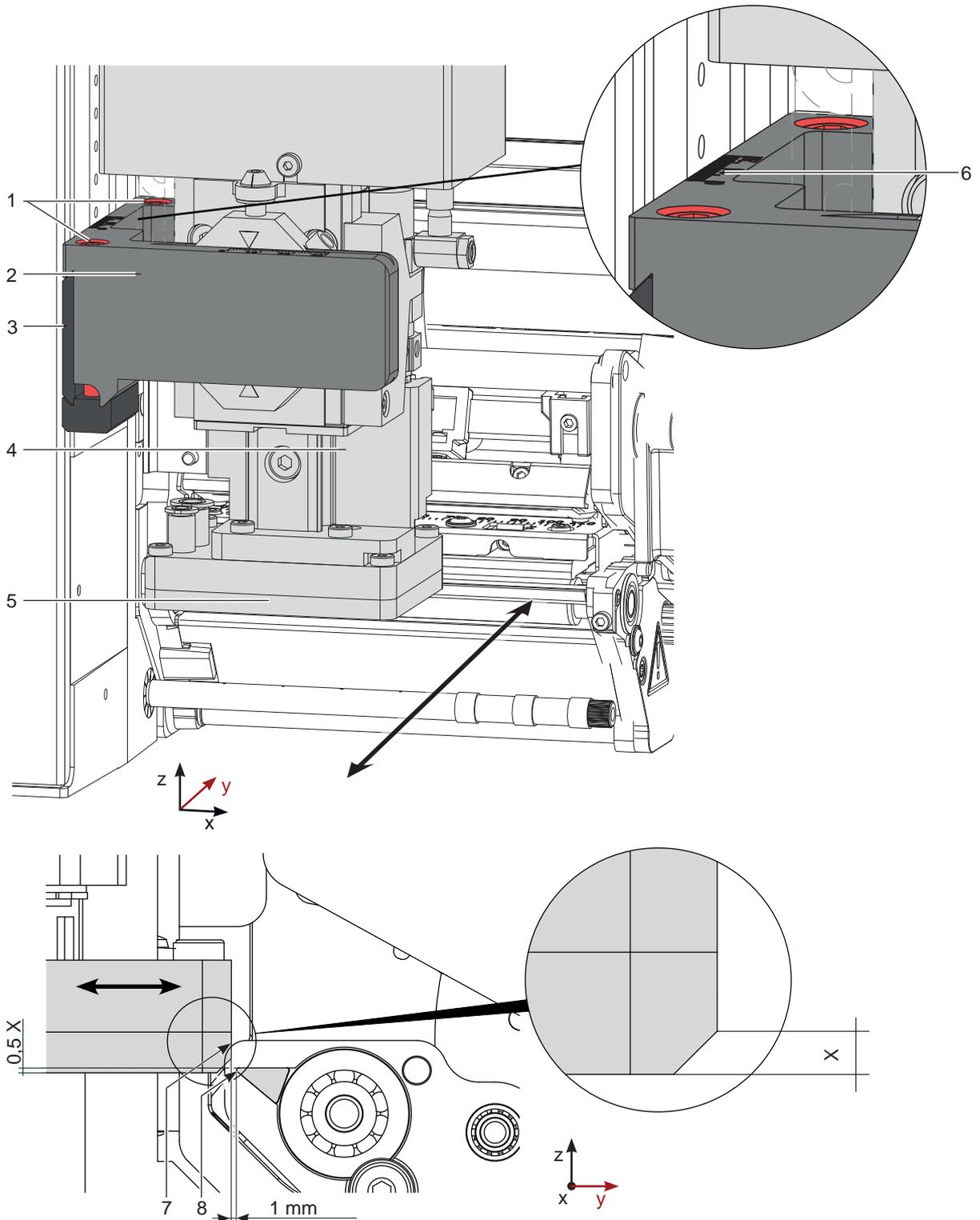


Fig. 15 Displacement in the Y direction

Displacement in the Y direction (printing direction)

1. Loosen screws (1) on the cross beam (2).
2. Move cylinder assembly (4) with the pad (5) and crossbeam (2) along the guiding rail (3) that the distance from the edge of the pad (7) to the edge of the dispensing plate (8) of the printer is approximately 1 mm.
Orientation: Graduation (6)
3. Tighten screws (1).

6.1.2 Moving the Pad in Z-Direction

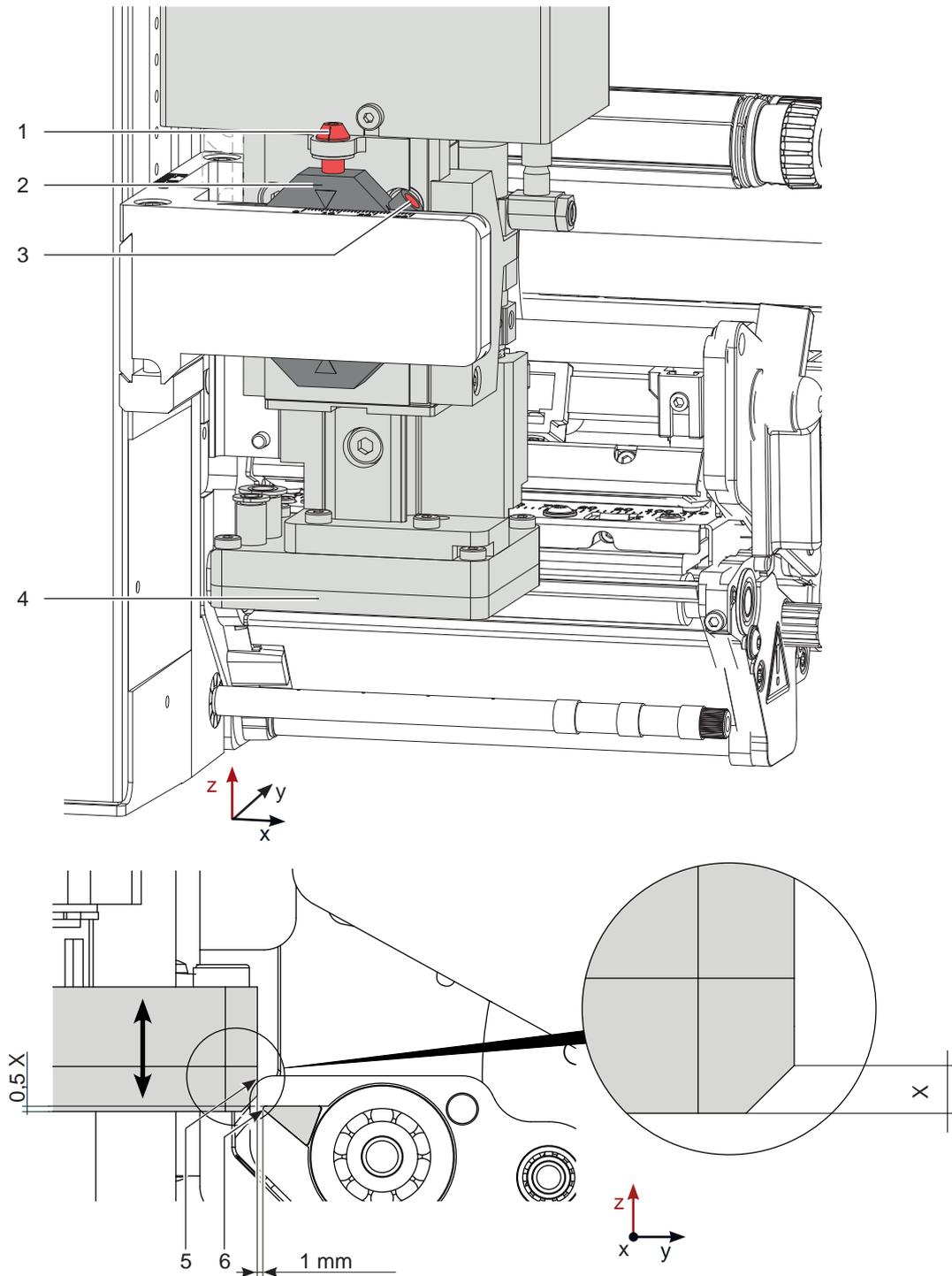


Fig. 16 Displacement in the Z direction

1. Loosen screw (3) on the binder (2).
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 (6) of the printer.
3. Tighten screw (3).

6.1.3 Moving the Pad in X-Direction

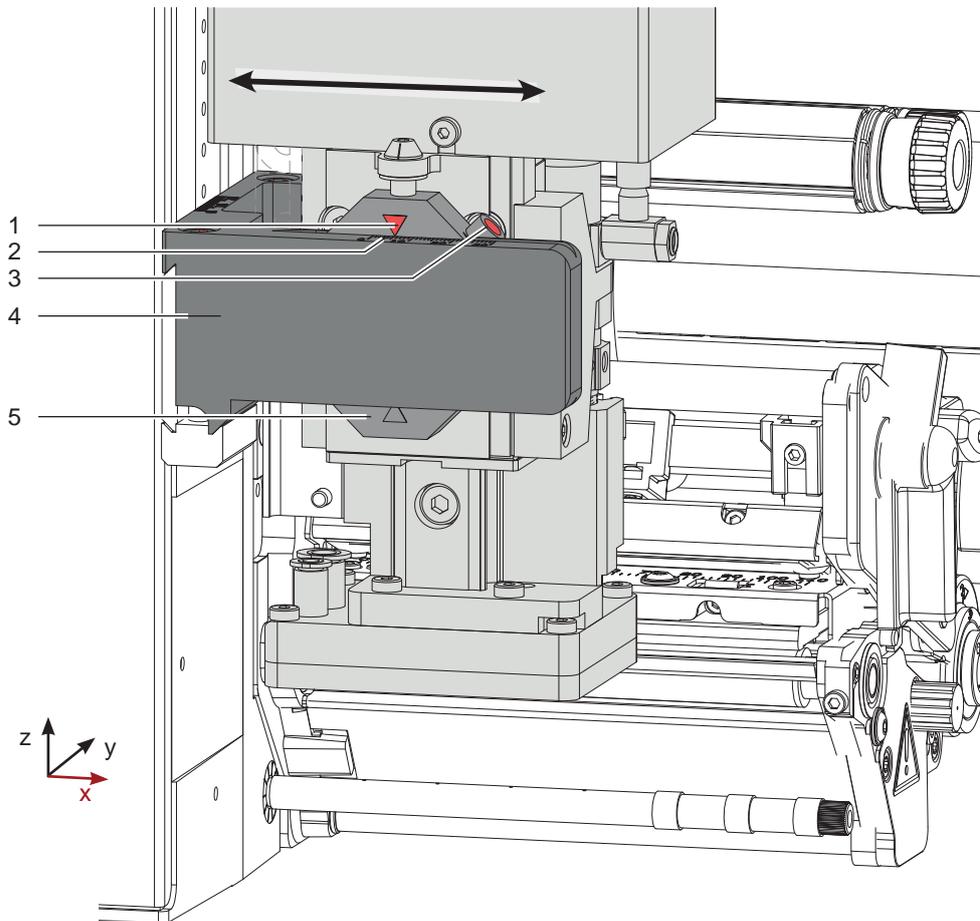


Fig. 17 Displacement in the Y direction

Displacement in the X direction (Side)

1. Loosen screw (3) on the binder (5).
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 (2) and Marking (1)
3. Tighten screw (3).

6.2 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.

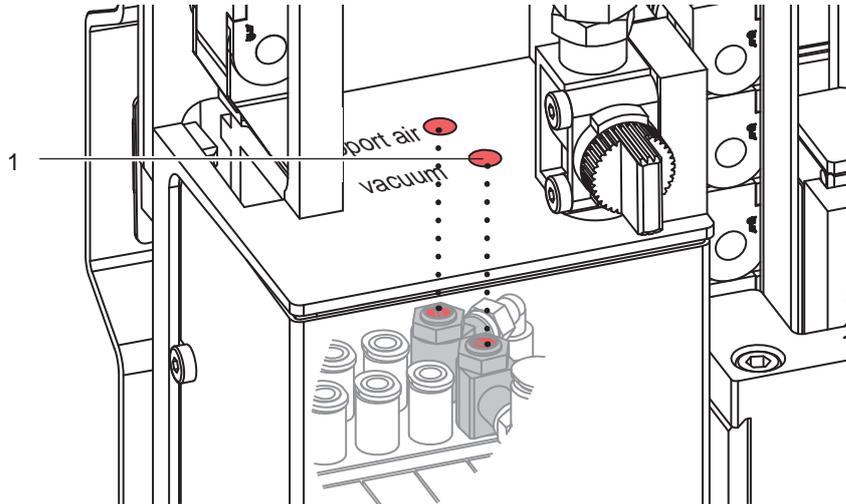


Fig. 18 Throttle valve "vacuum"

- ▶ Adjust the vacuum on the throttle valve "vacuum" (1) so that the label will be sucked up over its 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 range of -7 to 7 bar to control the pressure.

MP V : Vacuum - Reference Value (-0.6 bar)

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

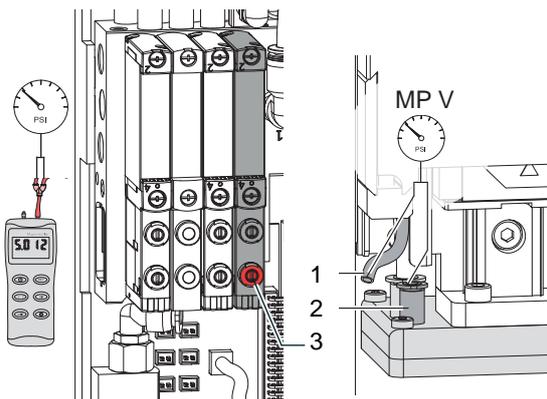


Fig. 19 Measuring points for the vacuum



Attention!

After pressure measurements, reconnect all components correctly.

6.3 Blow Tube and 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. When changing the label size check the number of holes needed to support the entire label and set the supporting air respectively.

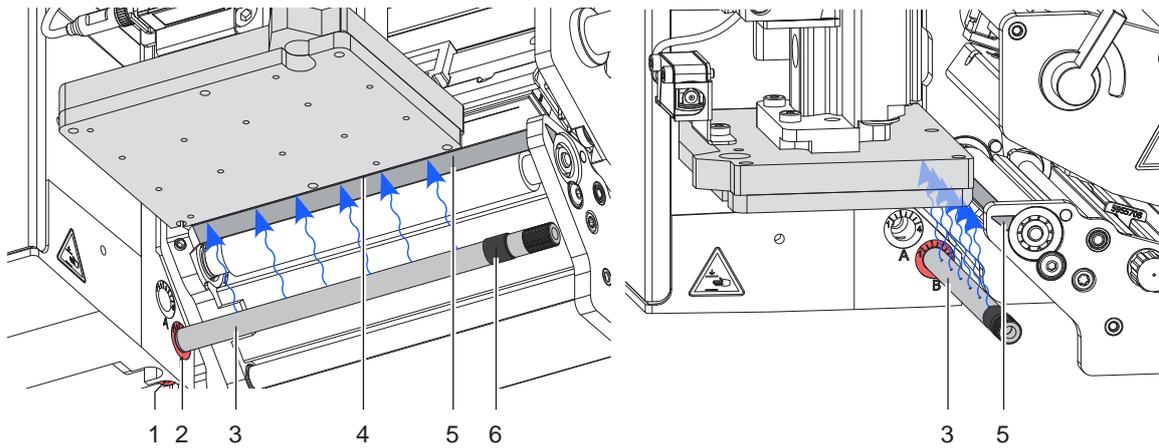


Fig. 20 Adjusting the blow tube

The blow tube (4) supplying 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. Put in the blow tube (3) into the tube adapter B (2).
Turn the blow tube (3) in the direction, that the air current supports the take up of the label from the dispense edge (5) of the pad.
- For smaller labels direct the air current toward the dispense edge (4) of the printer.
- For larger labels direct the air current away from the dispense edge (4) .
Use the graduation to orientation.
3. Tighten screw (1).
4. Remove as many rings (6) as needed to allow the supporting air to blow on the entire label width.

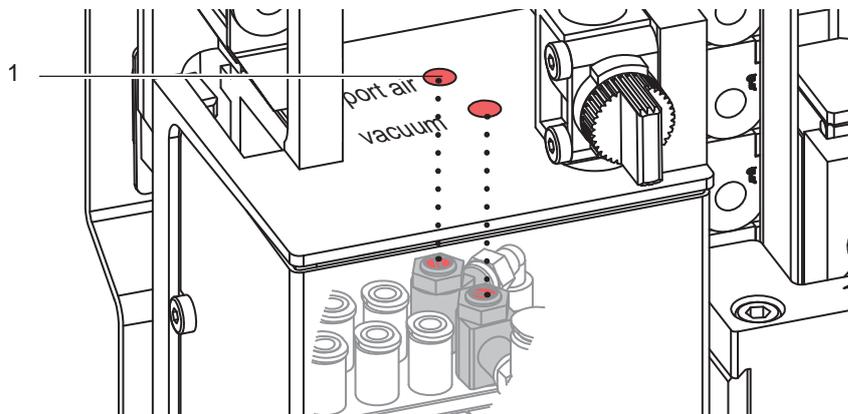
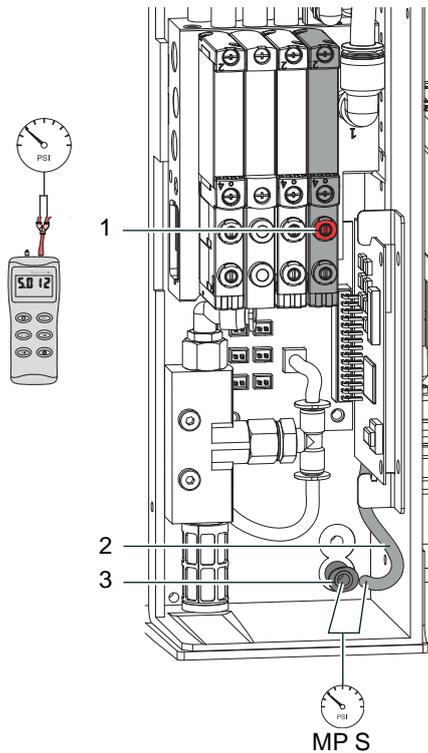


Fig. 21 Throttle valve "support air"

To vary the strength of the "support air" use the throttle valve (1).

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

Measuring point (MP S) of the Supporting Air



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

MP S: Supporting Air (reference value 2 Bar)

1. Dismount cover and connect the manometer to the MP S.
 - Tube (2) from valve block to blow tube connector.
 - Fitting (3) on the blow tube.
2. Activate the valve manually by pressing the micro switch (1) to measure the pressure.
3. If needed adjust the pressure using the throttle valve "support air".
4. Mount cover.

Fig. 22 Measuring points to measure the support air



Attention!

After the pressure has been measured ensure that all connections are properly reestablished.

6.4 Adjusting the Sensor on Cylinder Z

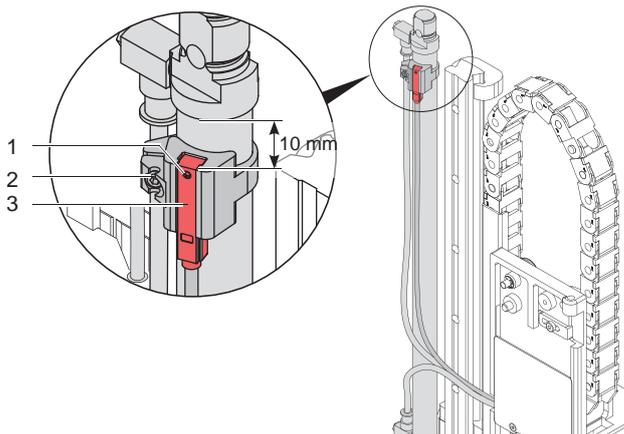


Fig. 23 Sensors on cylinder Z

Sensor Start Position 1

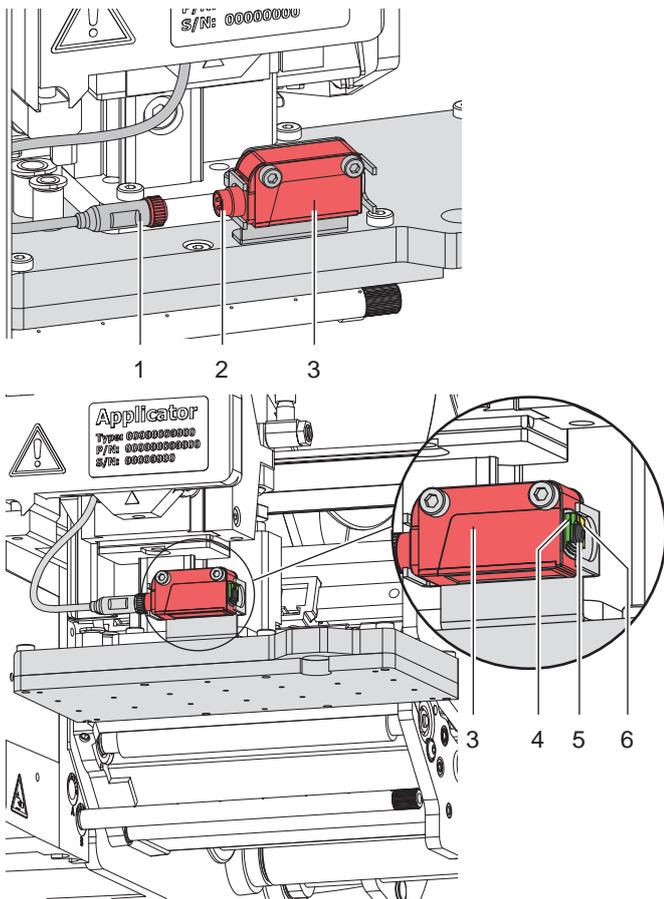
1. Loosen screw (1) of the sensor "Start Position" (3) and move the sensor to the top edge of the sensor holder.
2. Loosen screw (2) and move the sensor holder to a distance of 10 mm between top edge of the sensor and the bottom edge of the connecting ring of cylinder, as illustrated.
3. Tighten screw (2)
4. Check the sensor during the applicator operation.
 - When the cylinder is moved in and the pad is in start position the LED at the sensor lights up.
 - The pad is not in the start position. - LED at the sensor does not light up.

6.5 Adjusting the Product Sensor

The product sensor detects the labelling position of the pad in relation to the product.
 The adjustment of the product sensor is dependant on the operation mode - blow on.
 The detection distance of the sensor is 5 - 200 mm from the bottom edge of the sensor.



Note!
 To apply the label correctly onto the product the distance between pad and product may exceed 10 mm.



Setting the product sensor

There are two LEDs on the product sensor to indicate the operational status.

- green LED (4) lit up - Sensor operational
- yellow LED (5) glow - Sensor has switched

A small spot of red light shows the detection point of the product.



Attention!
 Before undertaking any adjustments disconnect the compressed air supply.

1. Insert the male round connector (1) into the female round connector (2) on the sensor (3) and tighten the nut.
2. Place a product under the pad.
3. Pull the tubes out of the throttle valves (7, 8) and move the pad from position A to position B with a maximum of 10 mm distance to the product.
4. If the yellow LED (6) lights up in this position turn the setting screw (5) counterclockwise until the yellow LED (6) switches off.
5. Turn the setting screw (5) clockwise slowly so that the yellow LED (6) lights up again.
6. After successful setting put in the tubes into the throttle valves (7, 8) and switch on the pressurized air.
7. Quit the error message on the printer with the **pause** button. Pad will move to the start position.

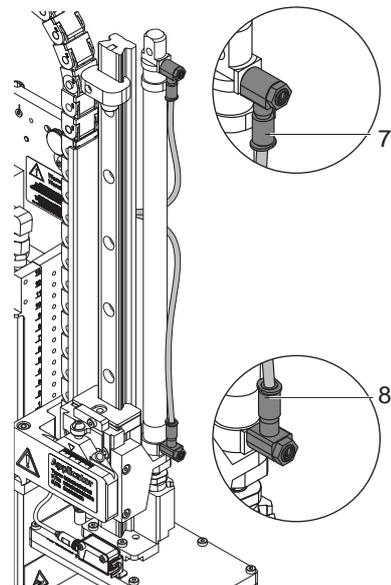
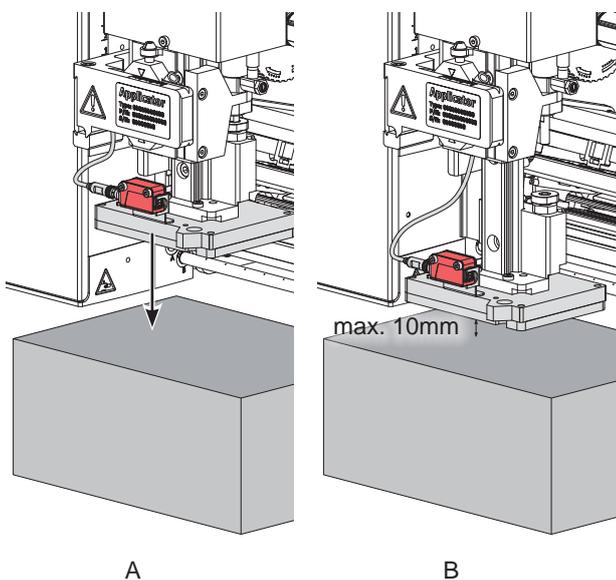


Fig. 24 Product Sensor

6.6 Lift Speed of Cylinder Z

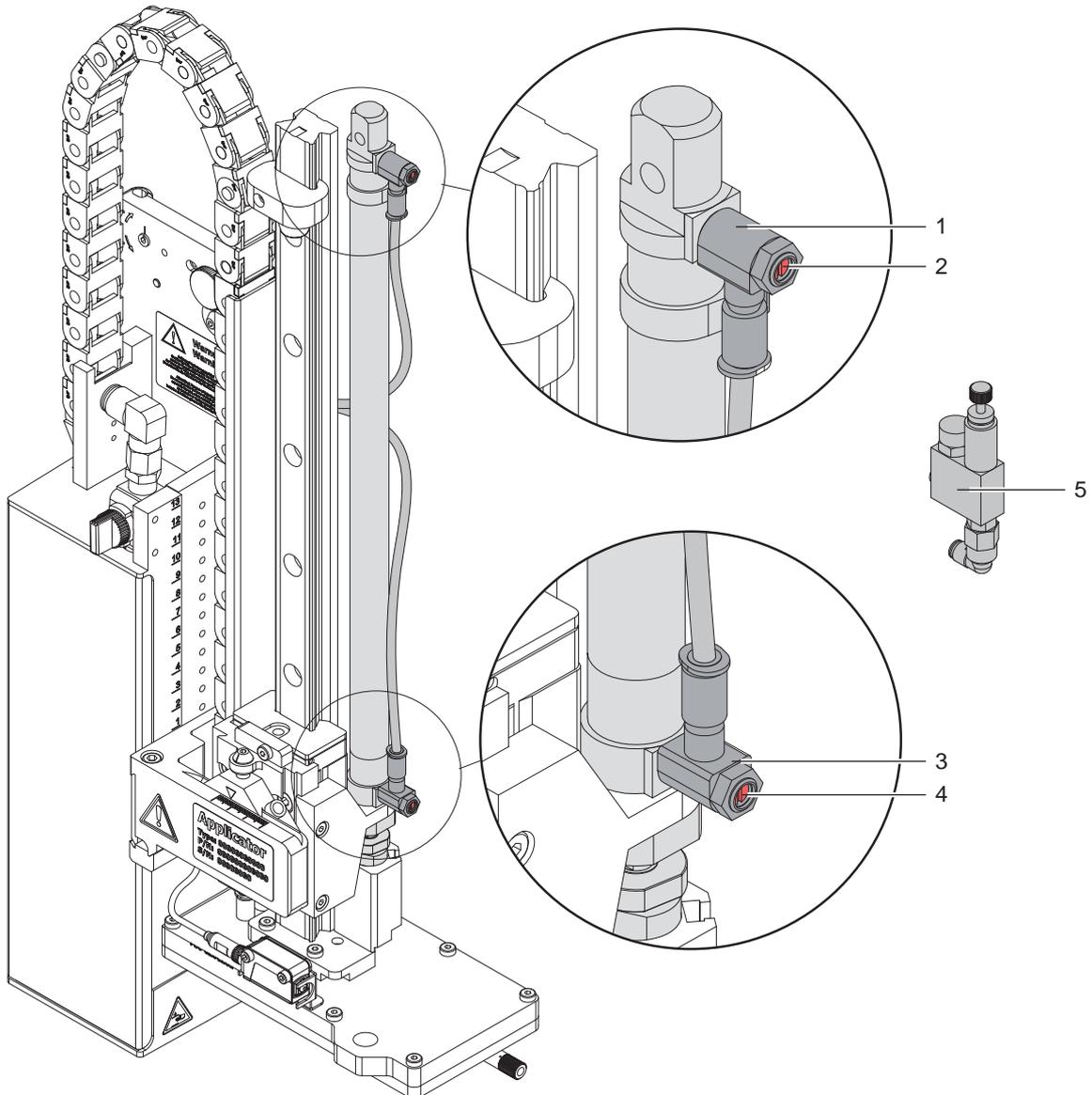


Fig. 25 Throttle valves of cylinder Z

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

**Note!**

The severity of the impact of the pad onto the product is mainly dependant on the downward motion of the cylinder Z.

- ▶ In order to reduce the impact of the pad onto the product turn the 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 direction Z it is possible to use an optional pressure reduction valve (5).

- ▷ 7.8 Adjusting the Options for Movement in Direction Z

6.7 End Position Dampening



Note!

The end position dampening of the lifting cylinder is set to the clients specifications and, under normal circumstances, do not need to be adjusted.

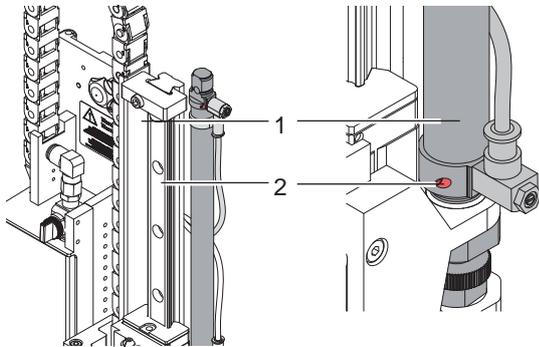


Fig. 26 End Position Cushioning

The end position dampening reduces mechanical strain, especially when the device operates at higher speeds and with larger masses and thus impact energy.

The dampening should be set up in such a way that both ends of the cylinders motion are reached securely but with as little force as possible.

By increasing the end position dampening the lifting speed of the cylinder is reduced and so the duration for each cycle is increased.

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

6.8 Adjusting the Options for Movement in Direction Z

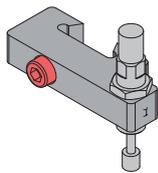


Fig. 27 Stopper (Guide Rail)

The stopper (guide rail), with absorption, reduces the speed of the cylinder Z shortly before impact, as with the end position dampening, it reduces mechanical strain on the components.

Make adjustments as described in chapter „6.4 Adjusting the Sensor on Cylinder Z“

Adjust the stopper with a completely compressed spring.
▷ „5.5 Transportation lock“

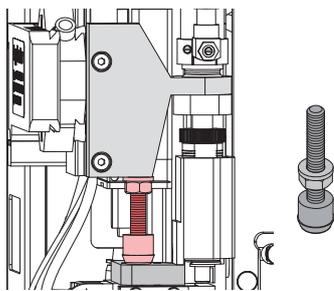


Fig. 28 Stopper (Pad Assembly)

The stopper hinders the triggering of the labeling sensor due to the weight of the pad assembly when the installation is rotated by 90° or 180°.

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

1. Loosen the counter nut of the stopper.
2. Turn the stopper until it lightly 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.

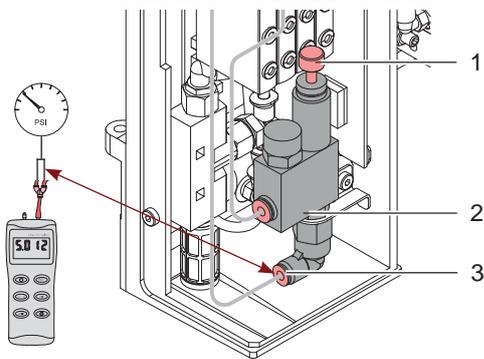


Fig. 29 Pressure reduction valve Cylinder Z

The pressure reduction valve (2) is used to better label pressure-sensitive products or to increase the general safety aspects by reducing the pressure within the cylinder moving in direction Z.

The standard value is 2.5 bar.

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

It is possible to order an upgraded set with pressure reduction valve retrospectively or have it installed before delivery. Installation instruction will be provided with the delivery of the pressure reduction valve.

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".

For the applicator 4614/16 the operation mode "Blow on" must be selected.

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

	Blow on
Print/Apply	x
Apply/Print Waiting position top	x
Apply/Print Waiting position bottom	x

Table 5 Operation and application modes

1.

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

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>Roll-on time</i>	* Only at <i>Transfer mode = Roll on</i> Dwell time (max. 5 s) of the pad in the labelling position	<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 6 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 . ▷ „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 button .
- ▶ 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

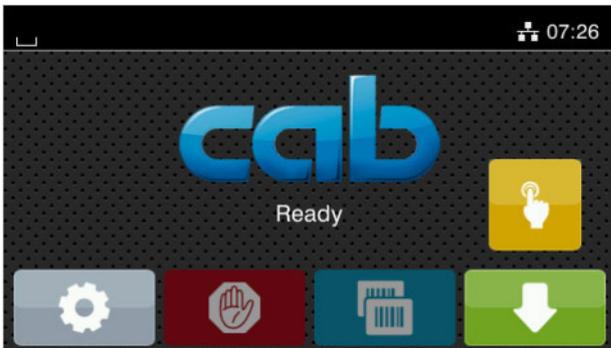


Fig. 30 Display

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 4614/16

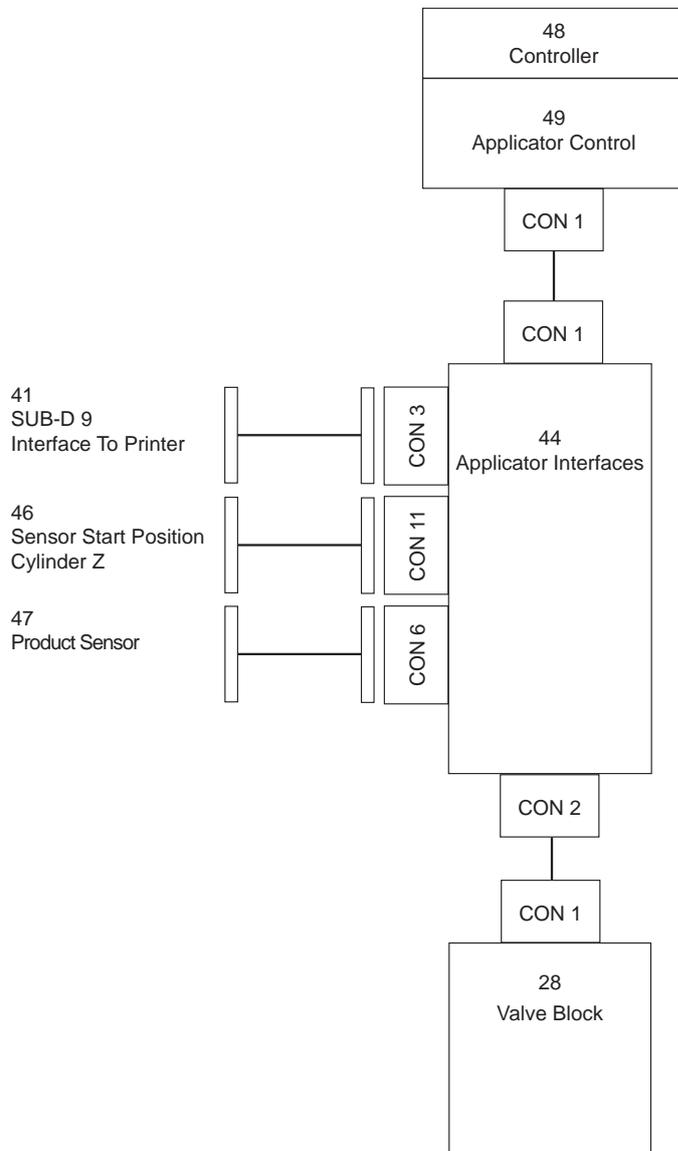


Fig. 31 Block diagram 4614/4616

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