Service Manual

Stroke Applicator

4126C / 4136C

MADE IN GERMANY

Service Manual
for the following products

Family	Type
Stroke applicator	4126C-300
	4126C-400
	4136C-300
	4136C-400

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Editor

Regarding questions or comments please contact cab Produkttechnik GmbH & Co. KG.

Topicality

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1 Introduction

1.1 Instructions

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

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

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

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

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

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

Note!
Advice on 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 printer is intended exclusively for printing suitable materials. 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 documentation is included in the scope of delivery on DVD, and can also currently 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 labeling 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.
  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

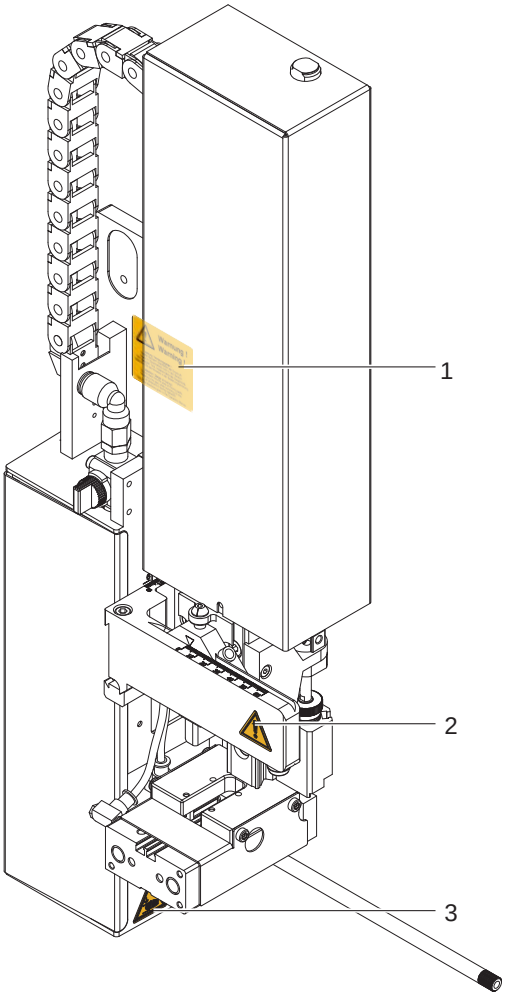


Fig. 1 Safety markings

1: 

Warning to damages by moving parts!

2: 
Cylinder is under pressure, also is it switched off
Possibility of remain 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!

1.5 Environment

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

▶ Send to suitable collection points, separately from residual waste.

The modular construction of the printer enables it to be easily disassembled into its component parts.

▶ Send the parts for recycling.

2.1 Important Features

- The supporting air and the vacuum as well as the speed of the cylinder are adjustable. This 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 pulses at the end of each application.
- For operation within a system the I/O interface of the printer can be used.

2.2 Technical Data

Stroke Applicator		**4126C-300**	**4126C-400**	**4136C-300**	**4136C-400**
Cylinder stroke	mm	300	400	300	400
Product height		variable	variable	variable	variable
Horizontal cylinder	mm	25	25	25	25
Labeling onto the product		from the top, from below, from the side	from the top, from below, from the side	from the top, from below, from the side	from the top, from below, from the side
Compressed air pressure	bar	4,5	4,5	4,5	4,5
Blow tube	number	1	1	2	2
Cycle time about frequency aprox. labels/min.[1)]		20	20	20	20
Tamp pad		**4126C-11 F 4126C-12 F 4126C-19 F**		**-**	
Label width	mm	46-174		-	
Label height	mm	20-100		-	
Product distance to lower edge	up to mm	220	320	-	
Immersion depth pad F[2)]	mm	50		-	
Product during labeling		fixed		-	
Tamp pad spring-loaded		**4126C-3900**		**4136C-3900**	
Label width	mm	80-174		80-174	
Label height	mm	80-150		151-350	
Product distance to lower edge	up to mm	215	315	215	315
Product during labeling		fixed		fixed	
Roll on pad		**4126C-4900**		**4136C-4900**	
Label width	mm	50-174		50-174	
Label height	mm	80-150		151-350	
Product distance to lower edge	mm	245-275	345-375	275-360	375-460
Product during labeling		in motion		in motion	

[1)] Determined at 100 mm label height / print speed 100 mm/s .

[2)] Immersion depth at applicator >25 mm, the cover of the Hermes C must be modified.

Table 1 Technical Data

2.3 Mode of operation

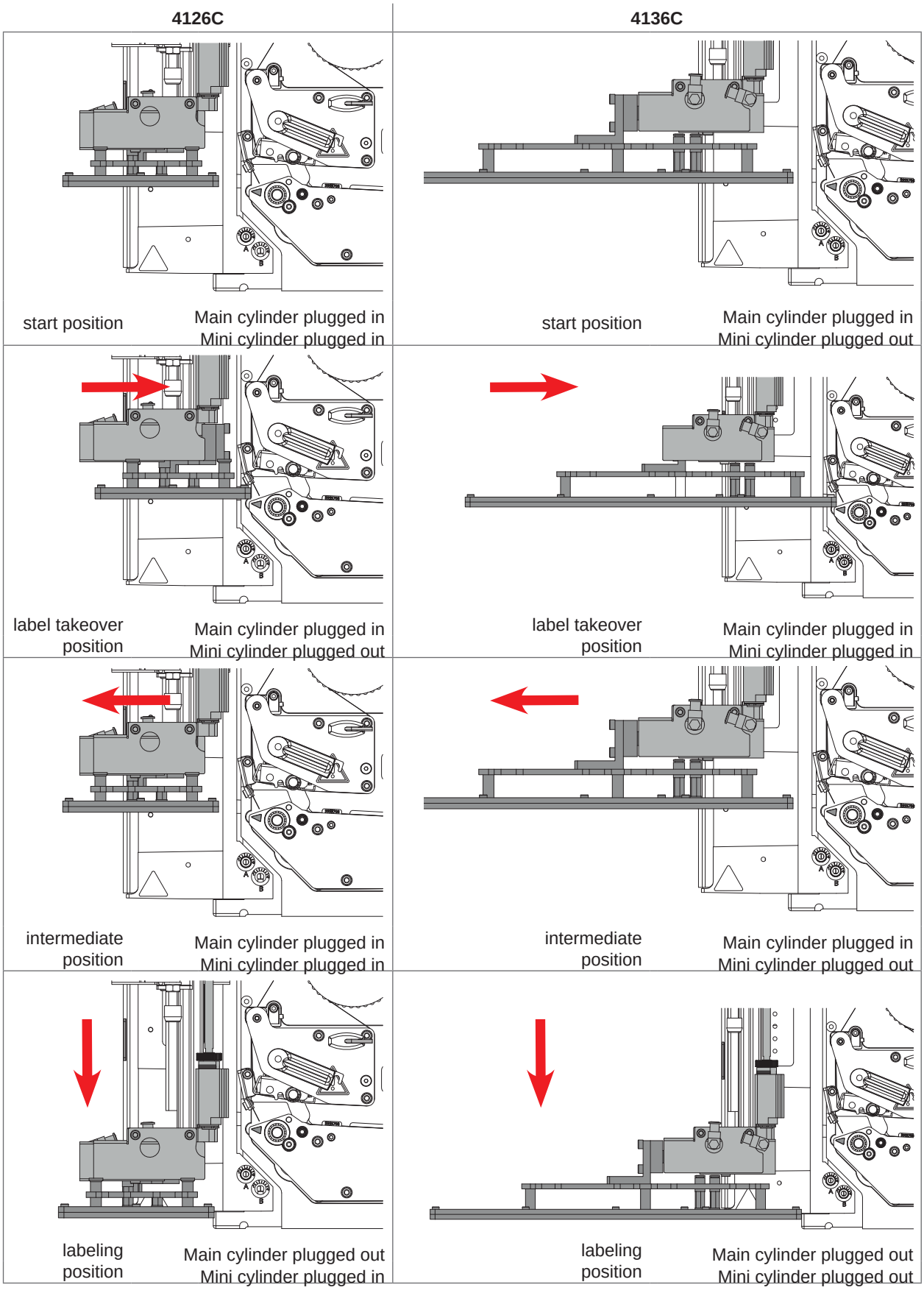
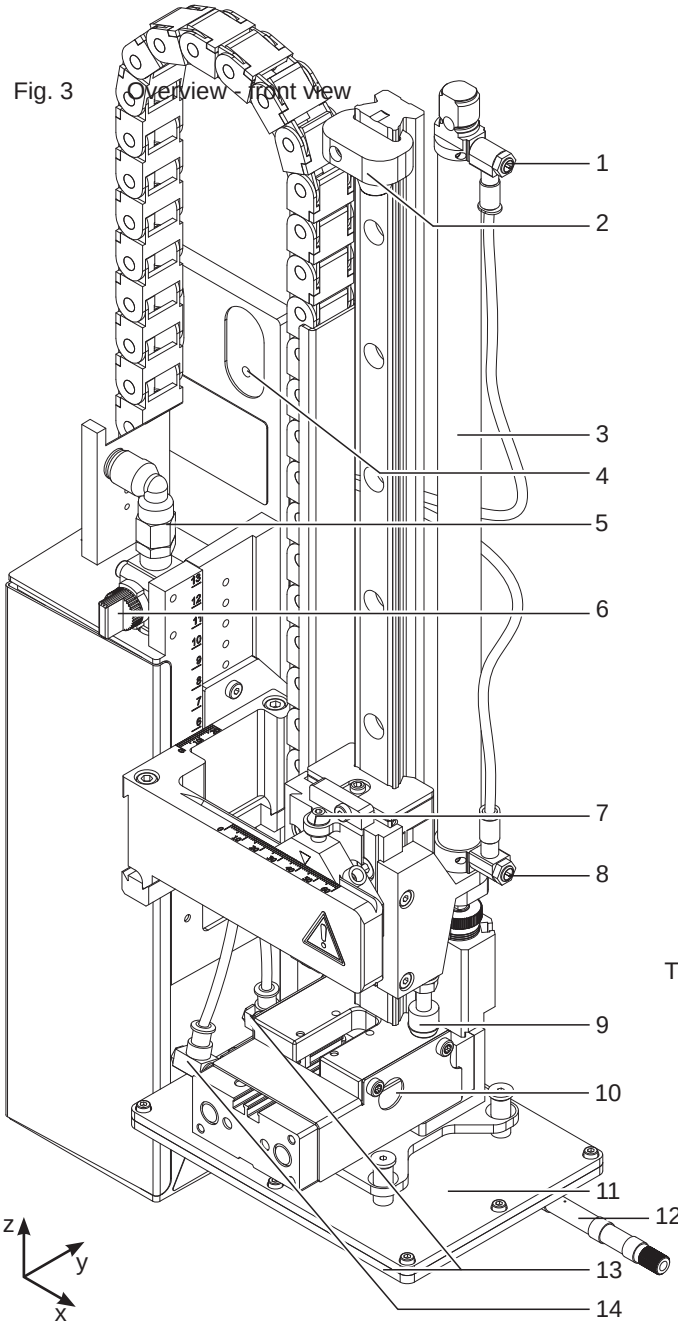


Fig. 2 Mode of operation 4126C mode of operation 4136C

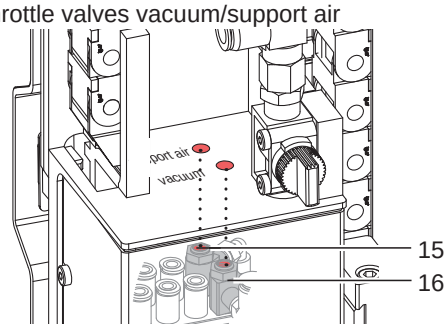
2.4 Overview without Cover

front view

Fig. 3 Overview - front view



Throttle valves vacuum/support air



1 Throttle valve cylinder - move out Z-direction
2 Stopper for the transport lock
3 Cylinder Z-direction
4 Higher holes for mounting on the printer
5 Compressed air connector
6 Shutoff valve compressed air
7 Setting screw for vertical adjustment cylinder assembly
8 Throttle valve cylinder - move in Z-direction
9 Stopper for pad assembly
10 Cylinder Y-direction
11 Pad (customized)
12 Blow tube for supporting air
13 Throttle valve cylinder - move out Y-direction
14 Throttle valve cylinder - move in Y-direction
15 Support air throttle valve
16 Vacuum throttle valve

rear view

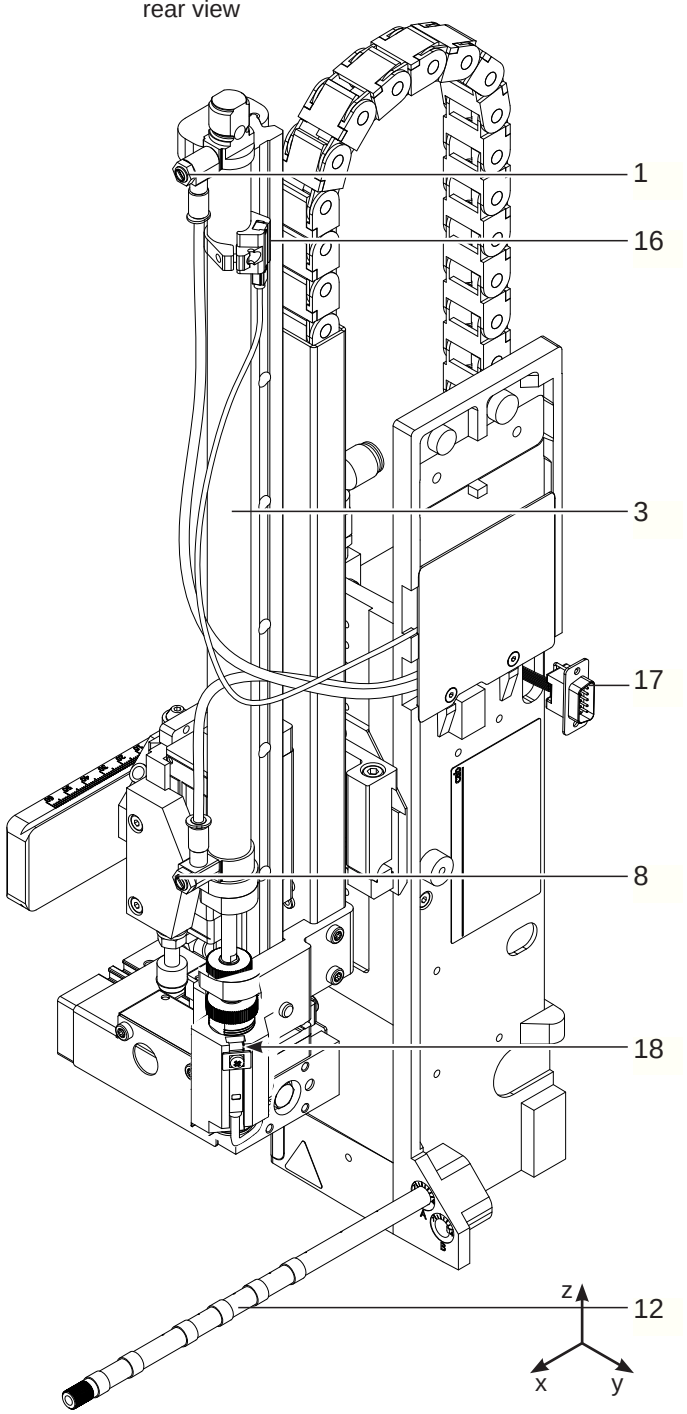


Fig. 4 Device overview - rear view

valves and control system

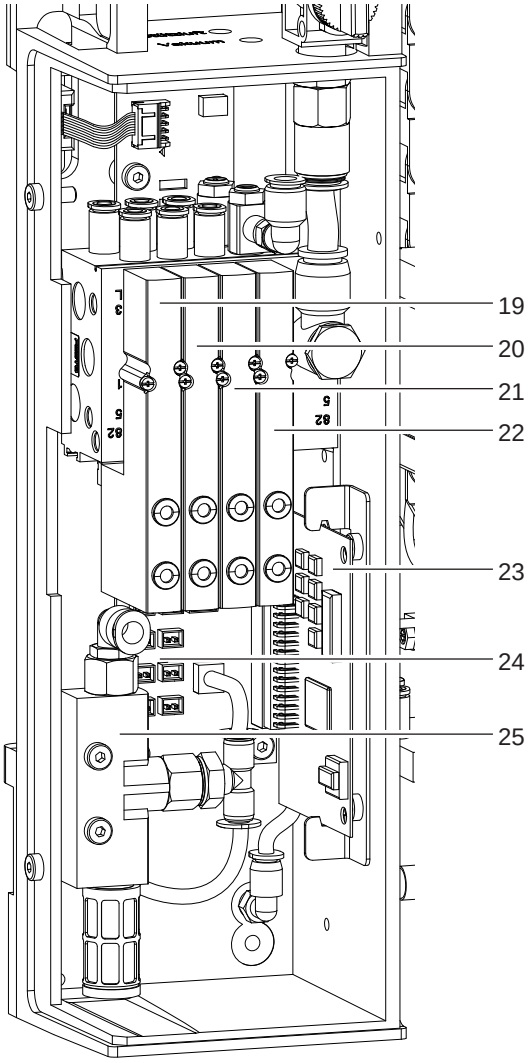
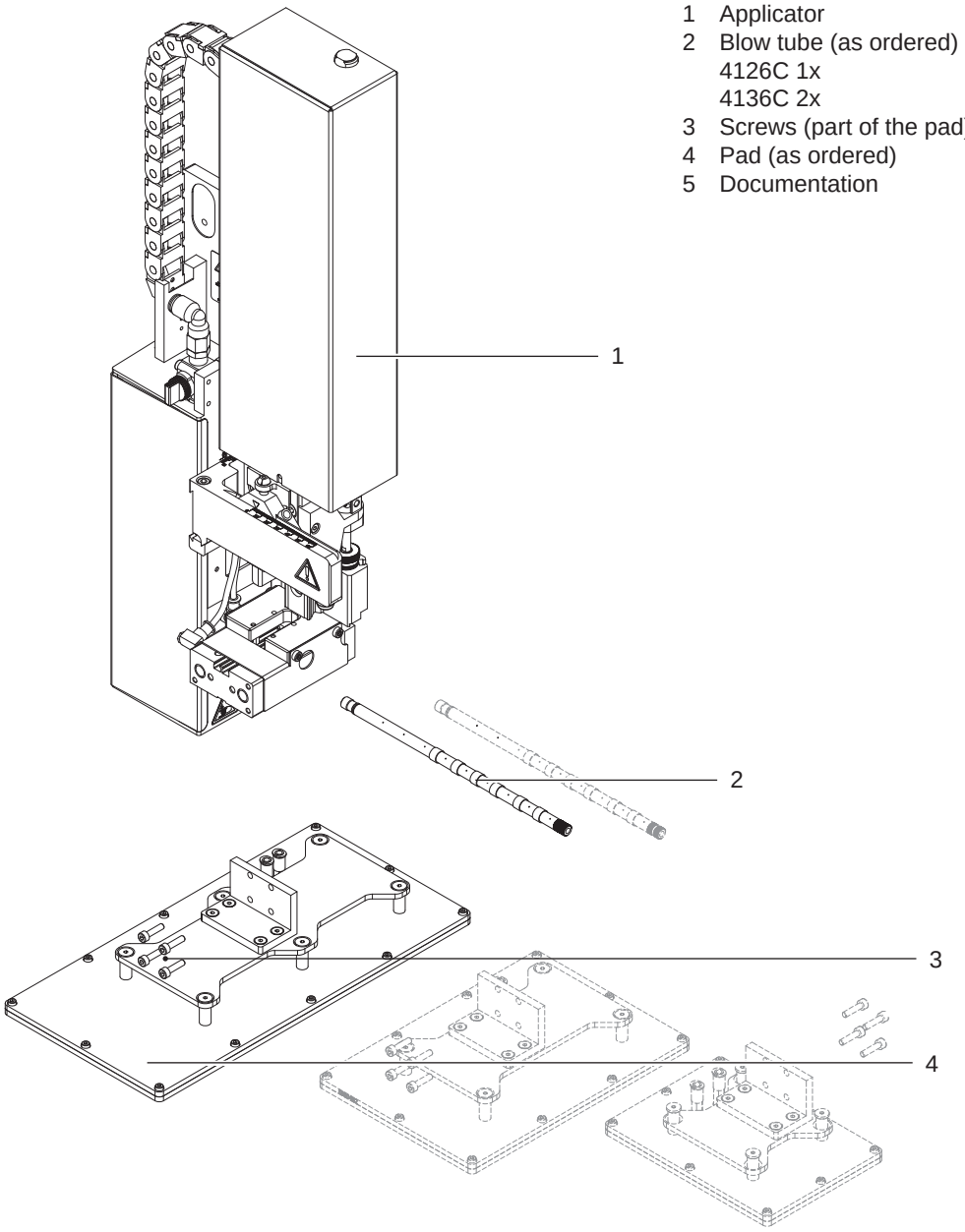


Fig. 5 Device overview - control system

1 Throttle valve cylinder - move out Z-direction
3 Cylinder Z-direction
8 Throttle valve cylinder - move in Z-direction
12 Blow tube for supporting air
16 Sensor "start position" cyl. Z
17 Interface to the printer
18 Sensor "end position" cyl. Z

19 Valve Cylinder Z
20 Valve Cylinder Y
21 Valve Blow air
22 Valve Vacuum and Support air
23 PCB Applicator Control
24 PCB Applicator Interfaces
25 Vacuum Generator

2.5 Contents of Delivery



1 Applicator
2 Blow tube (as ordered)
4126C 1x
4136C 2x
3 Screws (part of the pad)
4 Pad (as ordered)
5 Documentation

Fig. 6 Contents of delivery

Note!
Please keep the original packaging in case the applicator must be transported or returned.

Attention!
The device and printing materials will be damaged by moisture and wetness.
▶ **Only set up the label printer-applicator system in dry locations protected from moisture and water splashes.**

3.1 Standard Operation

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

Attention!

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

- ▶ Switch on the printer.

Note!

In case the pad is outside the start position when switching it on, the procedure will be interrupted and an error message will be visible on the display of the printer.

Pushing the pause button on the printer negates the error and the applicator will move into the starting position. The Applicator is now ready for work.

- ▶ Press the **feed** key on the printer.
  A synchronization feed is released. The processed labels need 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 was 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 off between print jobs.

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

Error messages during labeling process are shown in the display of the printer ▷ 4 Error Messages.

3.2 Cleaning

Attention!

Never use solvent and abrasive.

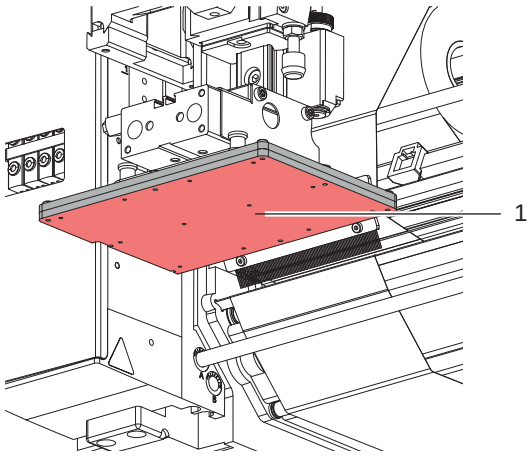


Fig. 7 Cleaning the pad with slide foil

- ▶ 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.

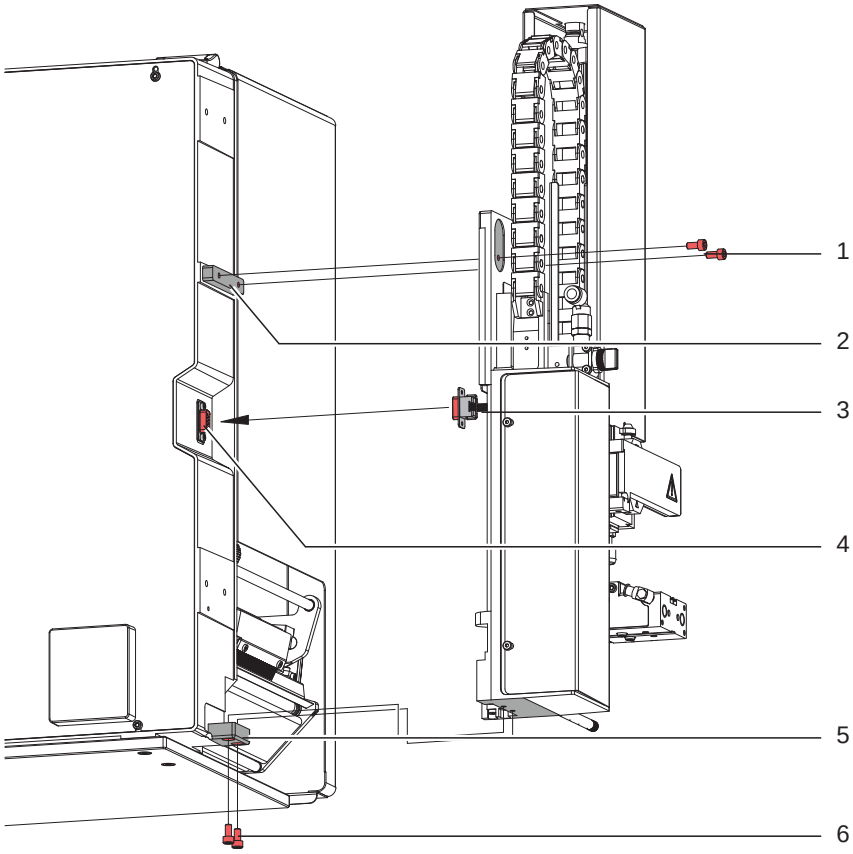


Fig. 8 Mounting the applicator to the printer

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

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

To clean the applicator and printer it is sometime necessary to turn away or/and dismount the applicator.
Do not change the adjustments of setting screws, throttle valves or other.

Dismount the applicator

1. Undo the screws (6) on the lower support (5).
2. Hold the applicator steady and loosen screws (1).
3. Disconnect SUB-D 15 connector (3).
4. Lift the applicator forward and off the printer.

Mount the applicator

5. Move the applicator to the printer and connect the SUB-D 15 connector (3) to its counterpart (7) on the printer.
6. Place the applicator on the lower support (5) and move the applicator to align the holes of the mounting plate over the holes (2) of the printer.
7. Insert and tighten screws (1).
8. Insert and tighten screws (6).

4 Error Messages

4.1 Error Messages of the Printer

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

Error treatment:

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

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

4.2 Error messages of the applicator

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

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

Table 2 Error messages of the applicator

Error treatment:

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

Note!

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

Warning!

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

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

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

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

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

5.1 Standard Adjustments Ex Factory

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 standard values for the settings ex-factory are:

- Connecting on a cab Hermes+ printer, vertical
- Used Tamp: cab Artikel Nr.: 5963881 54x36 for L
  cab Artikel Nr.: 5963878 54x36 for R
- Used material for ex-factory settings: cab Artikel Nr.: 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 - angled			• To mount/dismount tubes
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

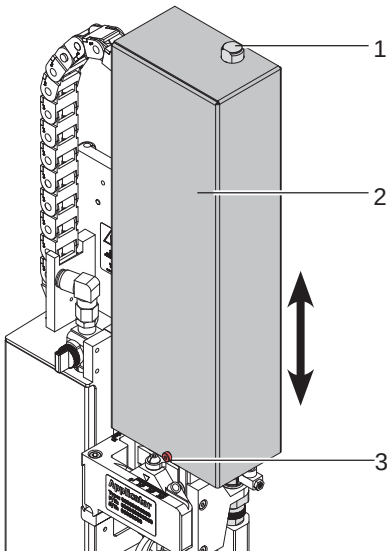
Fig. 9 Tools

5.3 Mounting and Dismounting the Cover

To initiate the applicator or for adjustments it is necessary to dismount the cover (2).
After these works are finished 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

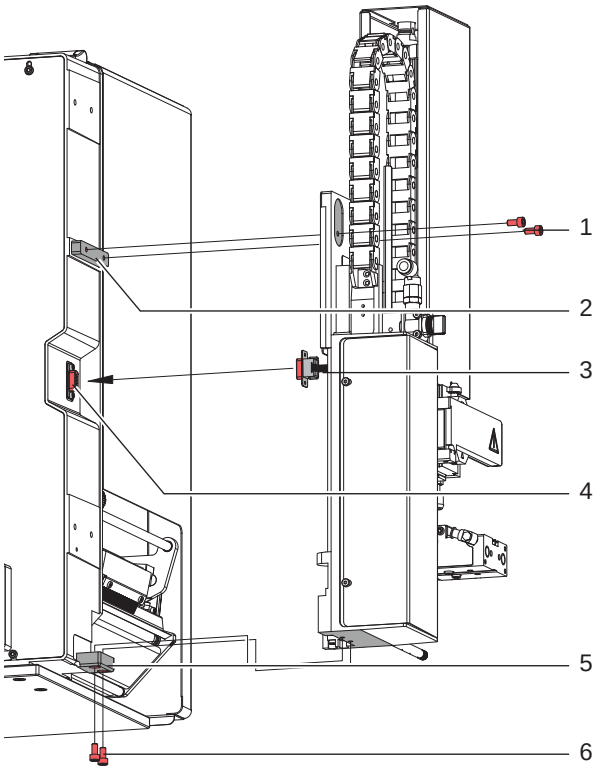
3. Move the cover (2) over the cylinder assembly.
4. Put in the cylinder (1) through the hole in the cover (2).
5. Tighten screw (3) to fasten the cover (2).

Fig. 10 Cover

5.4 Mounting the Applicator

Attention!

- ▶ **Disconnect the printer from the power supply before mounting the applicator!**
- ▶ **Ensure a stable positioning of the printer!**
- ▶ **Connect the compressed air only after mounting the applicator to the printer!**



1. Move the applicator to the printer and connect the SUB-D 15 connector (3) to its counterpart (7) on the printer.
2. Place the applicator on the lower support (5) and move the applicator to align the holes of the mounting plate over the holes (2) of the printer.
3. Insert and tighten screws (1).
4. Insert and tighten screws (6).▷ 6.3 Mount and dismount the cover
5. Move the transportation lock up along the stopper to enable movement along the lifting cylinder. ▷ 6.5 Transport lock

Fig. 11 Mounting applicator on printer

5.5 Lift the Transport lock

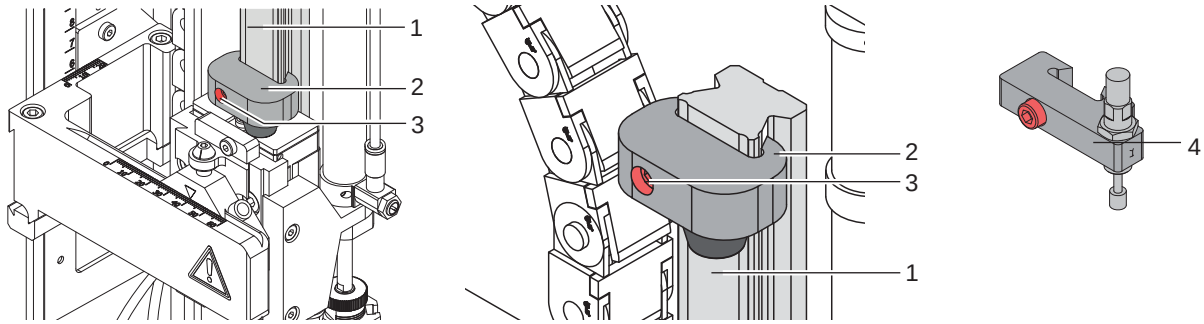


Fig. 12 Stopper as transport lock

When the applicator is delivered, the stopper (2) is mounted on the rod (1). With this stopper (2) the labeling position for the operation mode "Blow on" can be adjusted. In delivery status the stopper (2) is used as transport lock.

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

Releasing the transport lock

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

5.6 Mounting the Pad

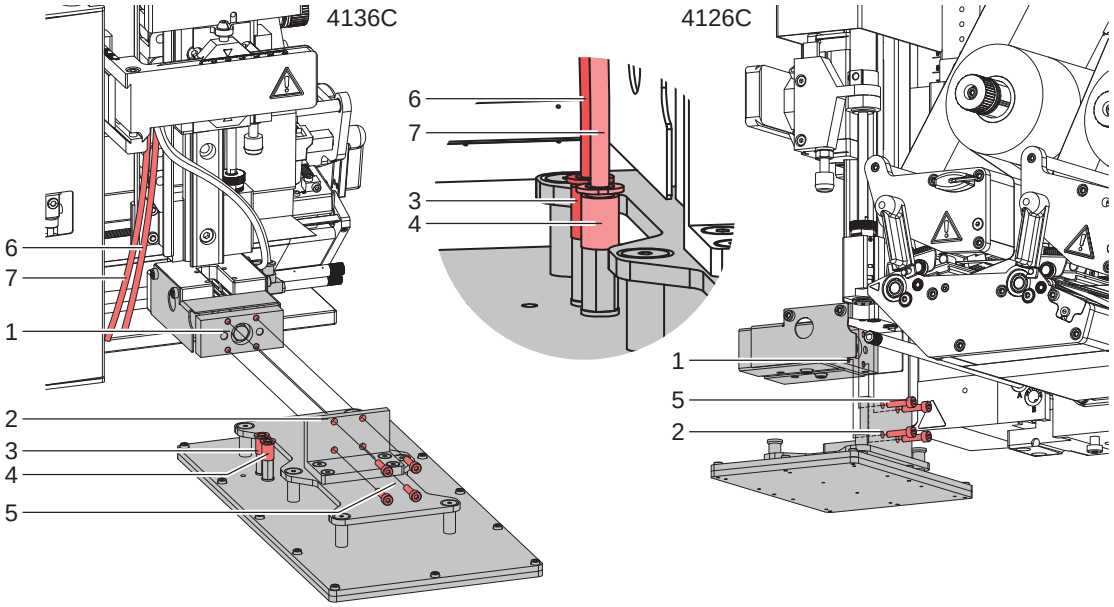


Fig. 13 Mounting the pad

1. Hold the pad with the mounting bracket (3) on the cylinder. The hole in the mounting bracket (5) must be over the holes of the cylinder (2) .
2. Set on and tighten screws (5) .
3. Put in the tube (6) into the Push-in connector(3) and the tube (7) into the Push-in connector(4).

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 Adjustments) before connecting the applicator to the compressed air supply!**

5.7 Mounting the Blow Tube

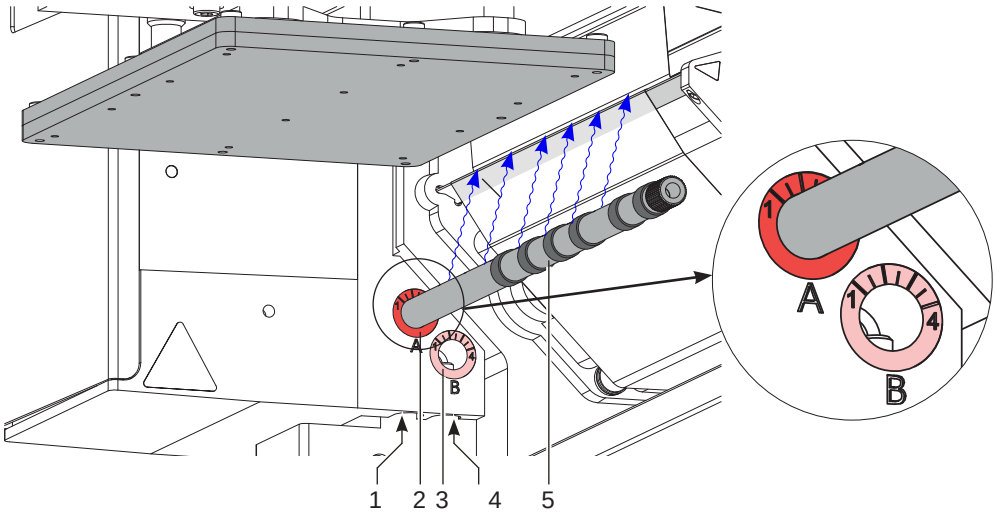


Fig. 14 Mounting the blow tube

The blow tube (5) 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) and on applikcator 4136C screw (4) too.
2. Put in the blow tube (5) into the hole A (2) so far as possible.
   For applicator 4136C the second blow tube put into the hole B (3).
3. Tighten screw (1) and maybe screw (4). ▷ Adjust the blow tube(s) (Support air)

5.8 Connecting the Compressed Air

Attention!
Adjustments and function control was made with a compressed air value of 4,5 bar.
The applicator operating range is between 4,0 and 6,0 bar.

Warning!
n case of connecting printer and compressed air the applicator is regard as in operation.

▶ **Do not reach into the zone of the moving pad and keep long hair, loose clothes, and jewelry distant. Danger of striking by the moving rods!**

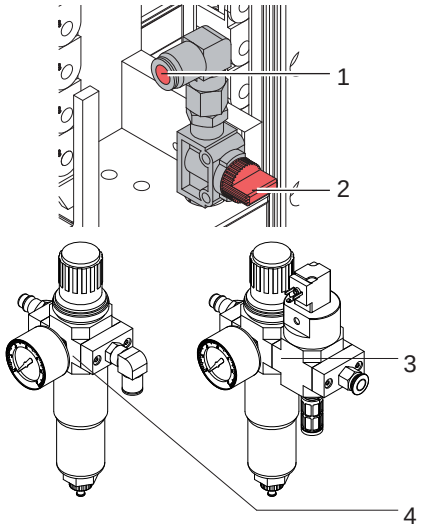


Fig. 15 Compressed air connection

1 Check the vertical position of the stop valve (2). (stop valve closed like picture)
2 Attach compressed air at the fitting (1).
3 Open the stop valve (2) (arm in direction of flow).
4 Switch on the printer by the power switch.

It's possible to use a air pressure regulation unit with included magnetic valve * (3)

Controlling via printer
▷ Interface description of the printer

air pressure regulation unit * (4)

Note!
In case the pad is outside the start position in the moment of switching on it will interrupted the procedure and give notice an error message on the display of the printer.

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

Note!
Mount and use the air pressure regulation unit only in the described position. Else the function of the air-water separator can't be guaranteed.

6.1 Pad Adjustments

For a perfect function of the applicator it's necessary that the pad for the take over procedure (printer to applicator)is to place exact over the label.

Moving the tamp in X-, Y- and Z-direction

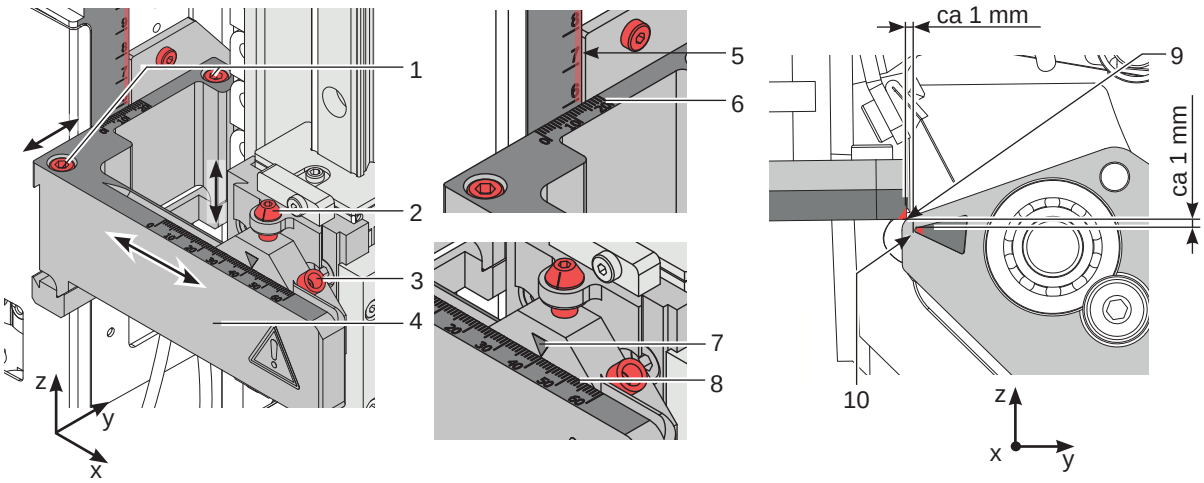


Fig. 16 Moving the pad assembly

Adjustment in X-direction (Side adjustment)

1. Loosen screw (3)..
2. Move cylinder assembly (5) with pad at the bearing (4) so that the dispensed label is aligned centrally to the pad. As reference use the graduation on the cross beam. Orientation: Graduation (8) and Marking (7)
3. Tighten screw (3).

Fig. 17 Adjustment in Y-direction (print direction)

1. Loosen screw (1).
2. Move cylinder assembly (4) with pad at the guide rail that the distance over the edge of the pad (5) to the edge of the dispense plate (6) of the printer is approximately 1 mm. Orientation: Graduation (6) and Edge (5)
3. Tighten screws (1).

Adjustment in Z-direction (Height adjustment)

1. Loosen screw (3).
2. Turn setting screw (2). so that the bottom side of the pad is 1 mm over the top side of the dispense plate (6) of the printer.
3. Tighten screw (3).

6.2 Vacuum Adjustments

With an under pressure (vacuum) will be the label fixed on the tamp. This vacuum must be so strong that the label is fixed on the tamp and all suction holes of the tamp are covered by the label. The vacuum doesn't be so strong that the correct transport of the label from printer to applicator will be risk. This is depend of the label material.
The standard value ex factory is -0,6 bar.

Note!
Over the adjustment of the vacuum it's possible that the form feed of the label to the tamp could be manipulate.
If the vacuum to strong it's possible that the form feed of the label stop to early.

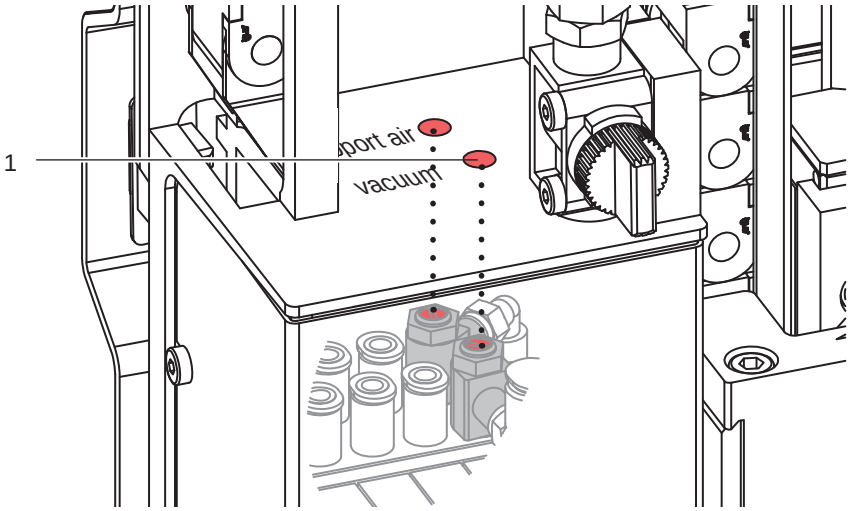
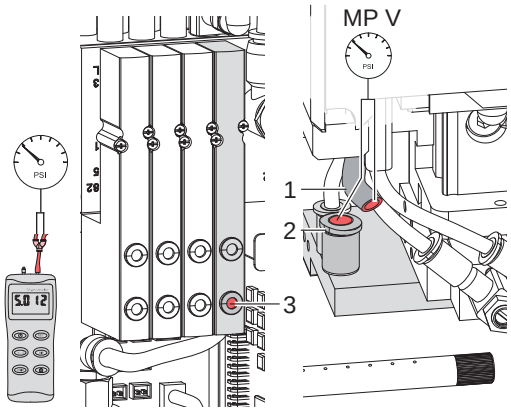


Fig. 18 Throttle valve "vacuum"

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

Reading Point (RP V) to measure the Vacuum



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

MP V: Vacuum (standard value -0,6 bar)

1. Remove cover.
2. Cover suction plate hermetic.
3. Attach manometer between measurement points RP V.
   - Tube (1) at the energy track
   - Fitting (2) from the fitting on tamp
4. Activate the valve manually with open compressed air supply and pressing of micro switch (3) to measure the pressure.
5. As and when required adjust it on vacuum throttle valve "vacuum".
6. Mount cover again.

Fig. 19 Reading point to measure the vacuum

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

6.3 Blow Tube (Support Air) Adjustments

Adjust the support air that the label can constant without swirl come to the tamp from the dispense edge of the printer.

All drilling in the blow tube which are over the broadness from the label must be covered.

Make the holes free depend of the pad and label broadness via removing the rings.

The standard value ex factory is 2 bar.

Note!

If changed the printer broadness (2", 4" or 6") use a blow tube for the used type of printer. If changed the broadness of the labels check the count of free holes of the blow tube and change it if necessary.

Make free so many holes that the support air can cover the full broadness of the label, no more.

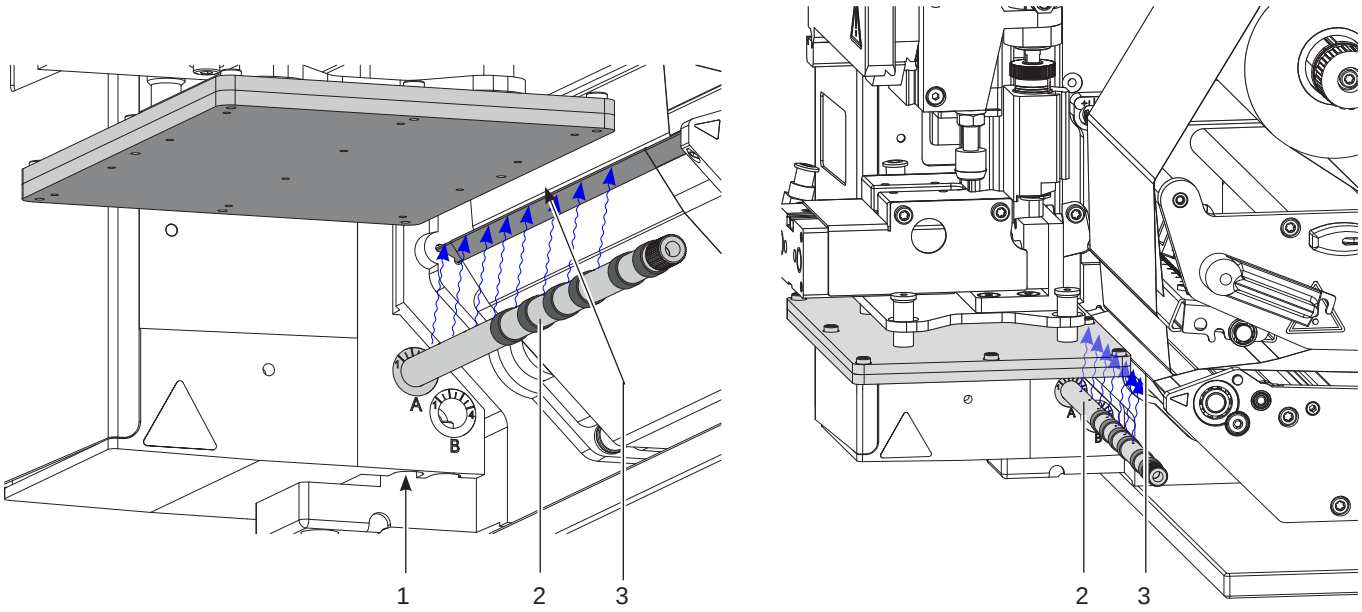


Fig. 20 Adjust the blow tube

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. Put in the blow tube (2) into the tube adapter A.
   Turn the blow tube (2) in that direction, that the air current supports the sucking of the label from the dispense edge by the pad (3).

- For small labels direct the air current to the dispense edge of the printer.
- For larger labels direct the air current away from the dispense edge.

  Use the graduation to orientation.

3. Tighten screw (1).

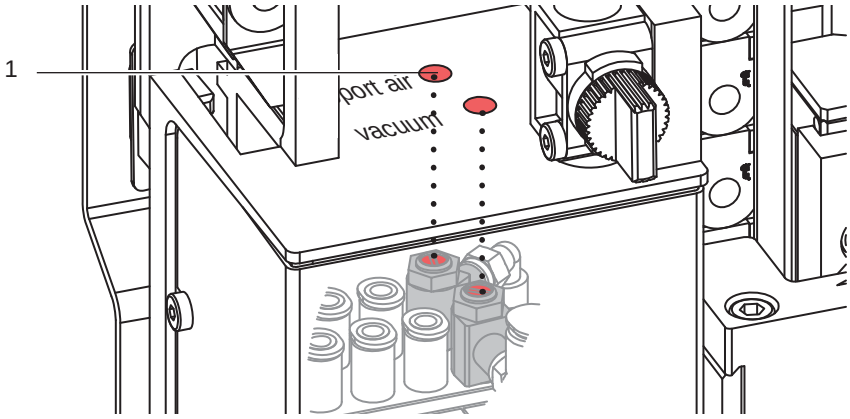
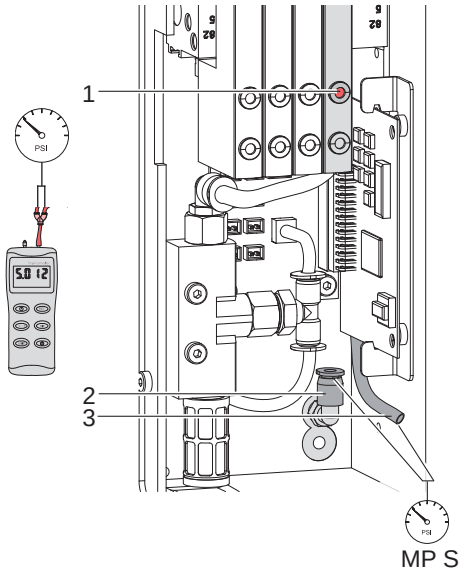


Fig. 21 Throttle valve "support air"

Adjust with the valve "support air" (1) the supporting air to blow the label against the pad.

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

Reading point (RP S) of support air



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

RP S: support air (reference value 2 bar)

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

Fig. 22 Reading points to measure the pressure

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

6.4 Lift Speed of Cylinder Z

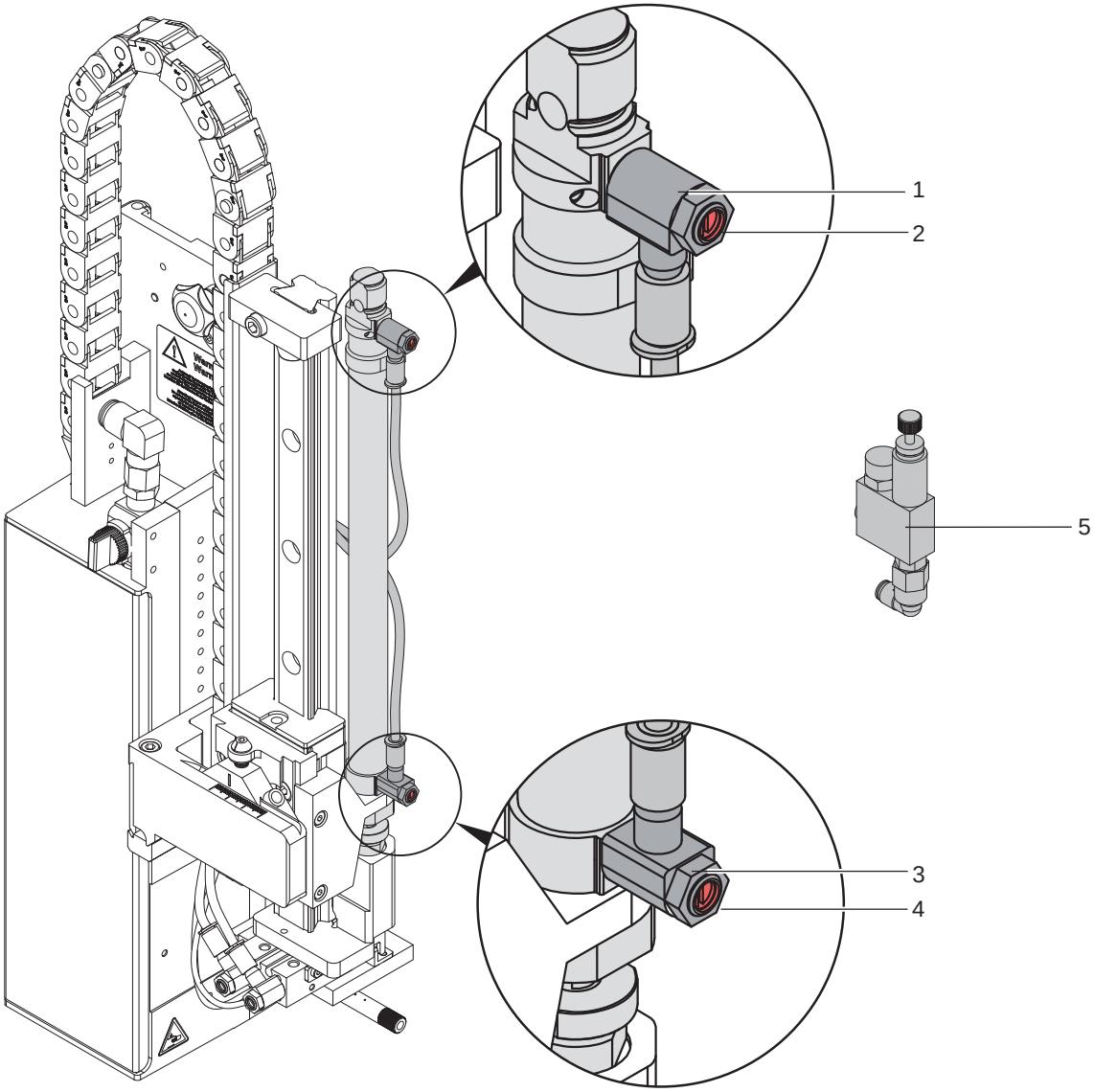


Fig. 23 Throttle valves on the cylinder Z

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

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

Note!
The application pressure of the pad is mainly dependent on the downward speed of the pad.

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

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

Note!
To reduce the air pressure in Z-direction it's possible to use a pressure reduction valve (5) as option.

6.5 Sensors on Cylinder Z

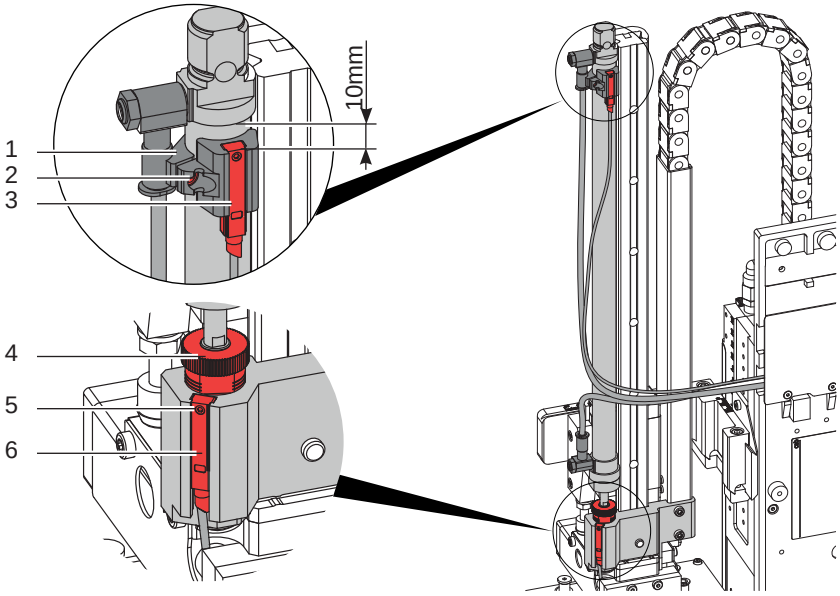


Fig. 24 Sensors on cylinder Z

Sensor Start Position 1

1. Loosen screw (1) on sensor "Start Position" (3) and move the sensor so that the top edge of the sensor is on the same level like the sensor holder.
2. Close the compressed air supply and pull out the tubes from cylinder-Z. Switch on the printer with a connecting to the applicator via the electronic interface (SUB-D).
3. Move the tamp by hand on top to the stopper.
4. Loosen screw (2) on the sensor holder.
5. Move the sensor that the LED will glow if the cylinder is competed moved in. It's a distance of 10 mm between top edge of the sensor and the lower edge of the connecting ring of cylinder (Fig.).
6. Tighten screw (2).

Labeling Sensor 2

The position of the labeling sensor (6) is depend of the tamp assembly weight and the mounting position. The spring tension on the adapter bolt is depend of this parameters and must adjust so that the sensor can't switch unintended. The triggering magnet is integrated into the adapter bolt and change the position if the spring tension will changed.

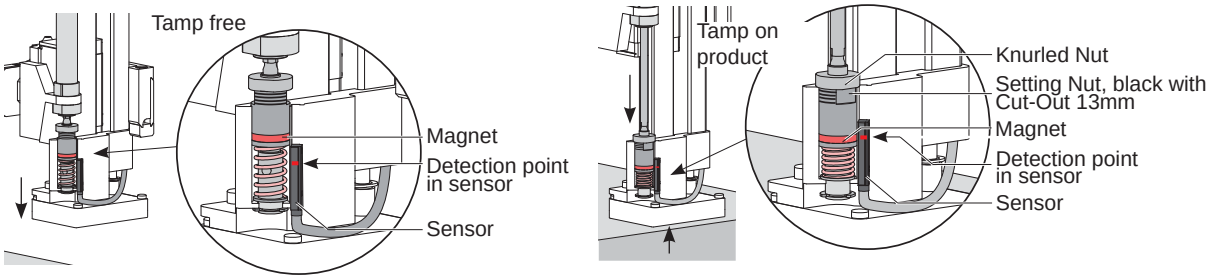


Fig. 25 labeling sensor principle

1. Mount printer and applicator in the finally mounting position.
2. Adjust the spring tension on the adapter bolt (4), the counter force to the cylinder Z so that the adapter bolt will pressed into the tamp assembly only at the labeling on or in "Blow Mode" by the stopper.
   Turn the setting nut with a open spanner 13 mm and hold to fix the knurled nut .
   - Turning clockwise, the spring tension will be higher up to three steps (marking).
   - Turning counterclockwise, the spring tension will be lower up to one steps (marking).
   The cylinder pressed more if the tamp assembly will stopped by the stopper. The adapter bolt will pressed then into the tamp assembly and the labeling sensor switched.
3. Loosen screw (5) and move the sensor (6) that the LED glow and go out if the adapter bold will pressed into the tamp assembly.
4. Tighten screw (5).

6.6 End Position Cushioning

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

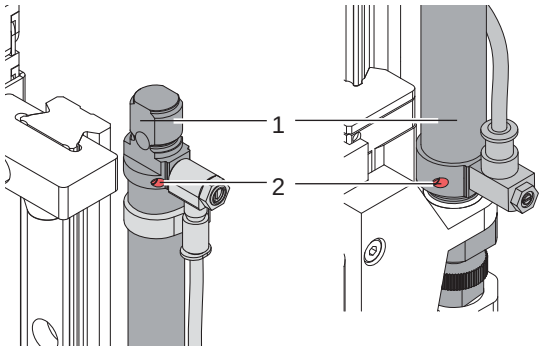


Fig. 26 End Position Cushioning

The end position cushioning of the main cylinder serves mechanical release during high speed of lift, large masses and high impact energy.

Adjust the end position cushioning that the piston arrive the end position certainly but don't strike to hard.

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

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

6.7 Adjusting the Options for Z-Direction Movement

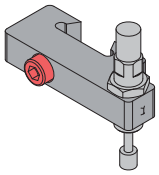


Fig. 27 Stopper (Guide Rail)

The stopper (guide rail) with absorption reduced the speed of the cylinder Z short before impact like end position cushioning. So it serves mechanical release during high speed of lift, large masses and high impact energy.

Make adjustments like chapter 7.5 "Stopper for Blow Mode Adjustment"

Adjust the stopper with maximum compressed spring like description.

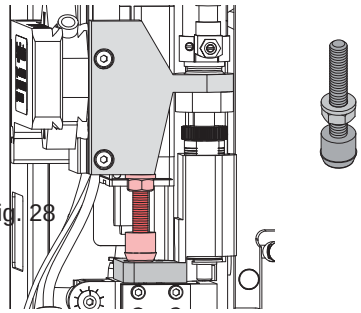


Fig. 28

Stopper (Tamp Assembly)

The stopper (tamp assembly) would-be the switching of the labeling sensor by the weight of the tamp assembly in the move-in movement in case of an installation in 90° or 180°.

The adjustment must make in the start position of the applicator.

1. Loosen the counter nut of the stopper.
2. Turn the stopper, that the stopper touched easy the tamp retainer.
   Don't change the take over position of the tamp by the stopper..
3. Tighten the counter nut to fix the stopper.

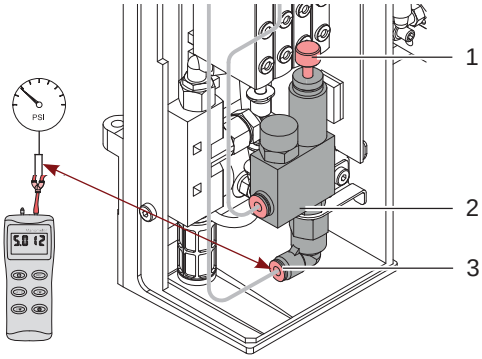


Fig. 29 Pressure reduction valve Cylinder Z

The pressure reduction valve (2) will used in case of labeling pressure-sensitive products or generally safety aspects to reduce the pressure into the cylinder in Z-direction.

The setting 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's possible to upgrade the pressure reduction valve as set or it's ex factory integrated with order.

With the upgrade set it will deliverd a mounting instruction.

6.8 Lift Speed of Cylinder Y

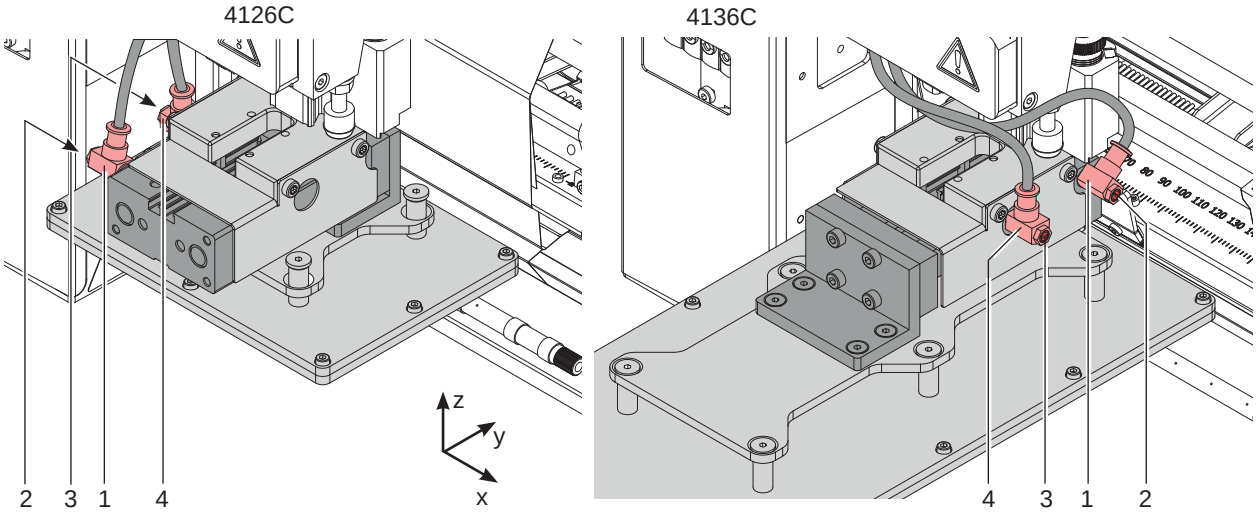


Fig. 30 One-Way Flow Control Valve on Cylinder Y

- ▶ Adjust lift speed as necessary.
- ▶ To push the movement out in Y-direction turn the screw (2) on throttle valve (1) counterclockwise. Turning screw (2) clockwise on throttle valve (1) to reduce the speed (move out) in Y-direction.
- ▶ To push the movement in in Y-direction turn the screw (3) on throttle valve (4) counterclockwise. Turning screw (3) clockwise on throttle valve (4) to reduce the speed (move in) in Y-direction.

6.9 Adjust the Sensors Y

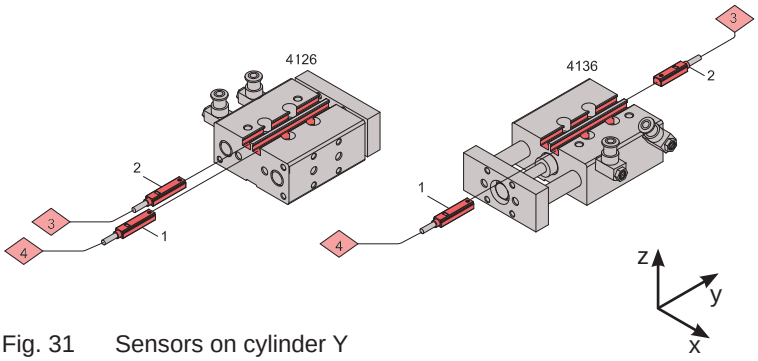


Fig. 31 Sensors on cylinder Y

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

4126C	4136C
- Place sensor start position (1) on cylinder Y so that it switched on in case the cylinder is full moved in and switched off if the cylinder leaved this position.	- Place sensor start position (2) on cylinder Y so that it switched on in case the cylinder is full moved out and switched off if the cylinder leaved this position.
- Place sensor end position (2) on cylinder Y so that it switched on in case the cylinder is full moved out and switched off if the cylinder leaved this position.	- Place sensor end position (1) on cylinder Y so that it switched on in case the cylinder is full moved in and switched off if the cylinder leaved this position.

Table 3 Sensor position

7 Configuration

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

The applicator has different application modes concerning the order of printing and applying within one labeling cycle

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

7.2 Quick Mode for Setting the Delay Times

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

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

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

7.3 Configuration Parameters of the Applicator

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

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

Fig. 32

Table 4 Applicator parameters

7.4 Setting the Peel Position

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

Attention!

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

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

Parameter "Peel Position" in the printer configuration

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

Peel-off offset in the software

- ▶ Check the setting in the software. Perform labeling cycles by repeatedly pressing the the pre-dispense key ▷ 6.4 Test Mode with Print Job.
- ▶ Adjust the peel-off offset in such a way, that the printed labels are peeled-off completely from the liner ▷ Programming manual or software documentation.

7.5 Activation of Peel-off Mode

Note!

- ▶ **For labeling operation activate the peel-off mode in the software.**

For direct programming use the P command ▷ Programming manual.

8.1 Test Mode without Print Job

Warning!
The pad will immediately be moved in the starting position!
Danger of crushing to hand and fingers by the moving pad!
▶ **Do not reach into the zone of the moving pad and keep long hair, loose clothes, and jewelry distant.**

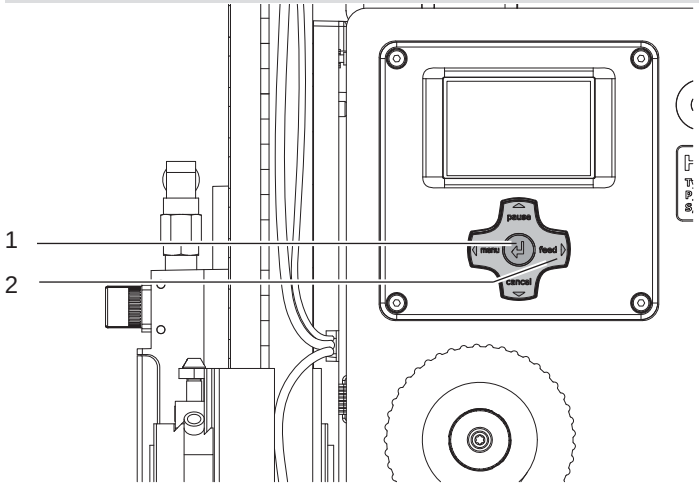


Fig. 33 Fig. 32 Test mode via Enter key

Note!
▶ **Please use that test mode to adjust the parameter "Peel position" in the printer configuration.**

The whole labeling process can be simulated without the need of a print job or a connection to a computer by alternately pressing the **feed** (2) key and the Enter key ↵ (1):

▶ Press the **feed** key (2).
A blank label is fed. The vacuum at the pad as well as the supporting air (blow tube) are switched on. After the label has been picked up by the pad, the supporting air is switched off.

▶ Press the Enter key ↵ (1).
The pad is moved to the labeling position. A sensor signals when the labeling position is reached. The vacuum is switched off and the label is placed onto the product. Then, the pad is moved back into the starting position.

8.2 Test Mode with Print Job

Note!
▶ **Please use that test mode to adjust the peel-off offset in the software.**

That method allows to check labeling process with the real print data using the Enter key ↵ (1).

▶ Send a print job.

The test mode is executed in two half cycles:

▶ Press the Enter key ↵ (1).
Half cycle 1
A label is printed. The vacuum at the pad as well as the supporting air (blow tube) are switched on. After the label has been picked up by the pad, the supporting air is switched off.

▶ Press the Enter key ↵ (1) again.
Half cycle 2
The pad is moved to the labeling position. A sensor signals when the labeling position is reached. The vacuum is switched off and the label is placed onto the product. Then, the pad is moved back into the starting position.

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

9.1 Block Diagram

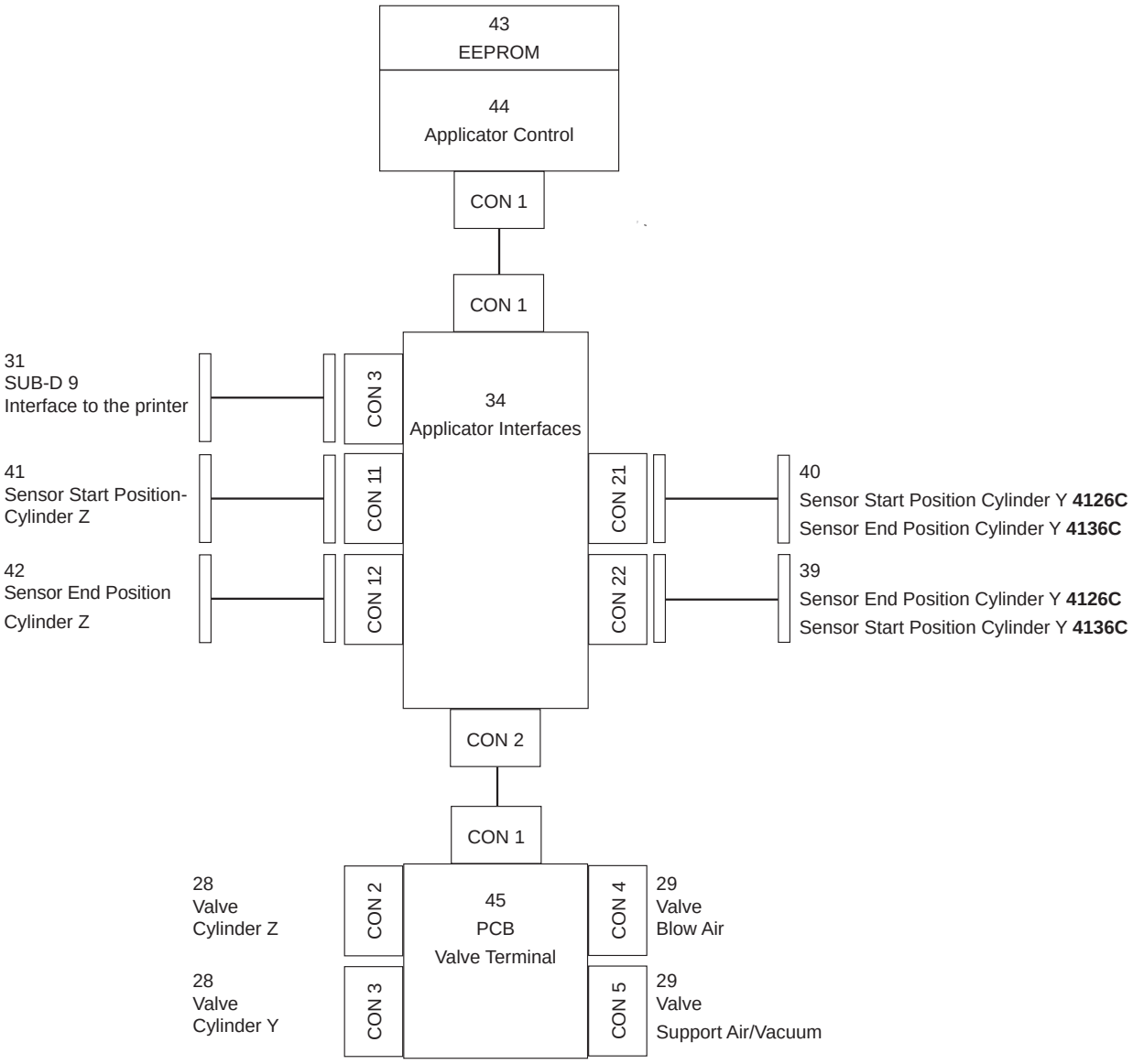


Fig. 34 Block Diagram

9.2 Pneumatic Drawing Type 4126C

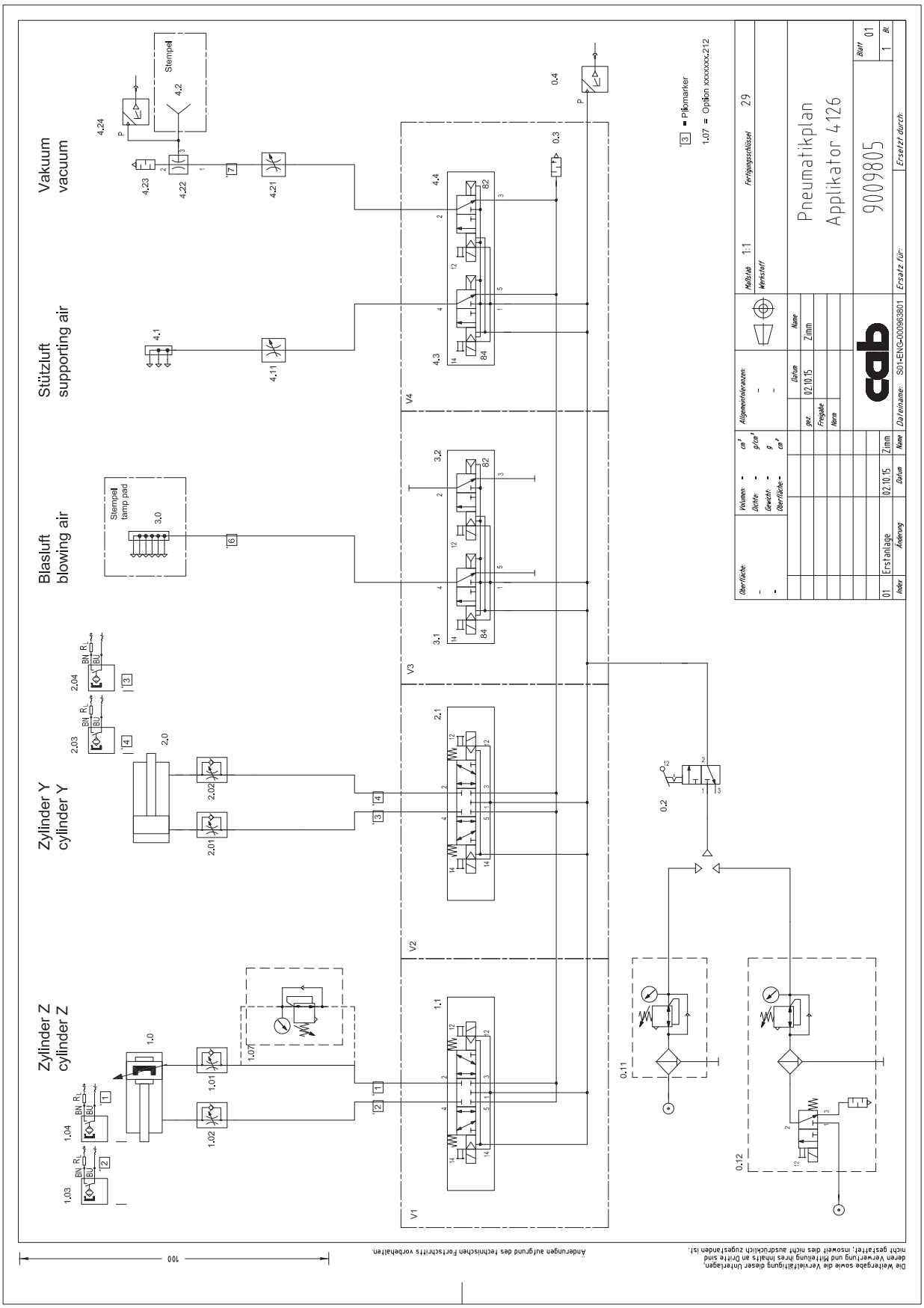


Fig. 35 Pneumatic Drawing Type 4126C

9.3 Pneumatic Drawing Type 4136C

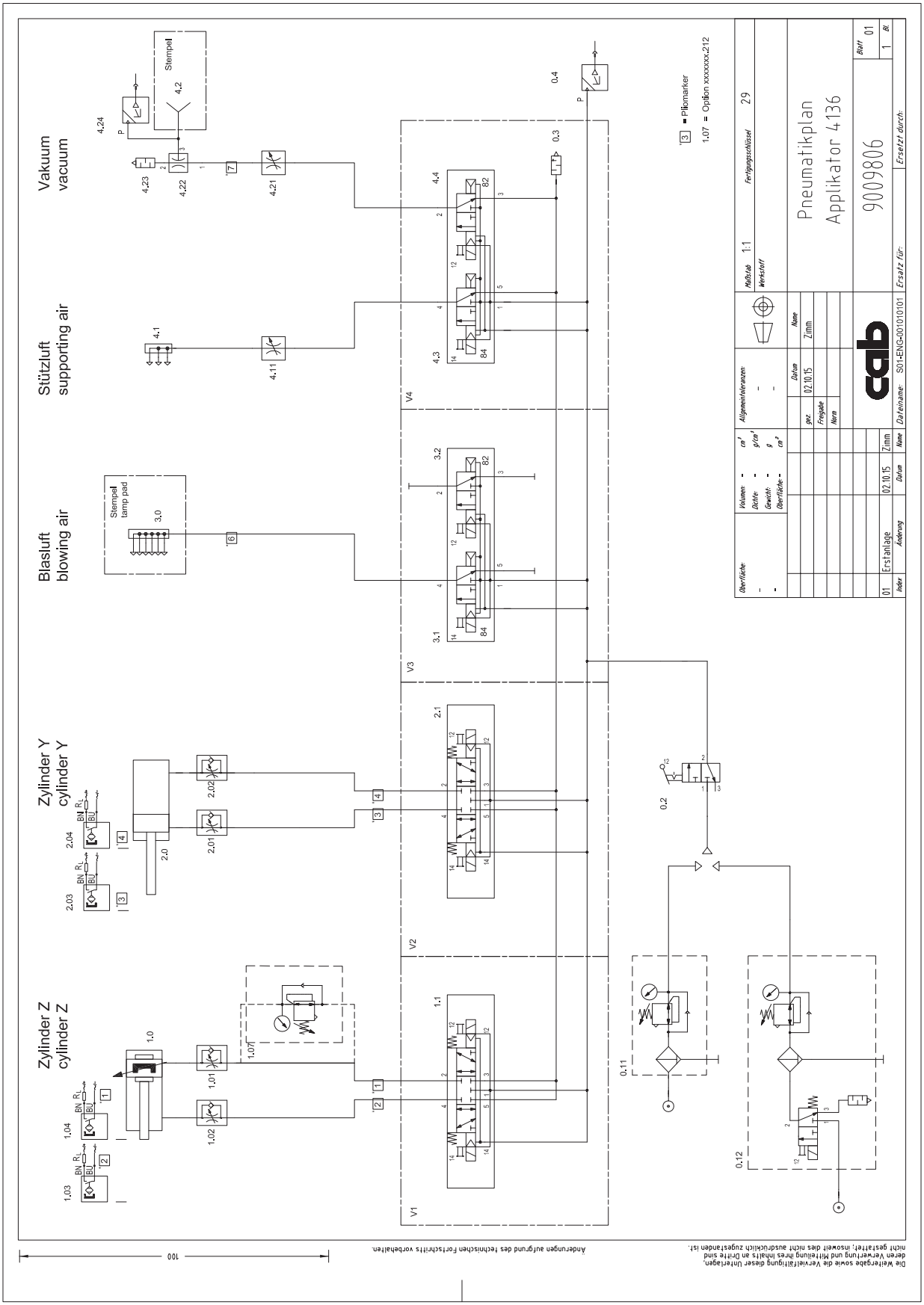


Fig. 36 Pneumatic Drawing Type 4136C

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