Service Manual

Front-Side Applicator

3014 / 3016

Made in Germany

Service Manual
for the following products

Family	Type
Front-Side Applicator	3014
	3016

Edition: 10/2021 - Part No. 9009529

Editor

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

Topicality

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Table of Contents

1 Introduction

1.1 Instructions

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

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

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

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

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

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

Note!
Advice to make work routine easier or on important steps to be carried out.

Environment!
Gives you tips on protecting the environment.

▶ Handling instruction

▷ Reference to section, position, illustration number or document.

∗ Option (accessories, peripheral equipment, special fittings).

Time Information in the display.

1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to 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 Q series. Any other use or use going beyond this shall be regarded as improper use. The manufacturer/supplier shall not be liable for damage resulting from unauthorized use; the user shall bear the risk alone.
- Usage for the intended purpose also includes complying with the mounting manual, including the manufacturer‘s maintenance recommendations and specifications.

Note!
The complete documentation can currently be found in the Internet.

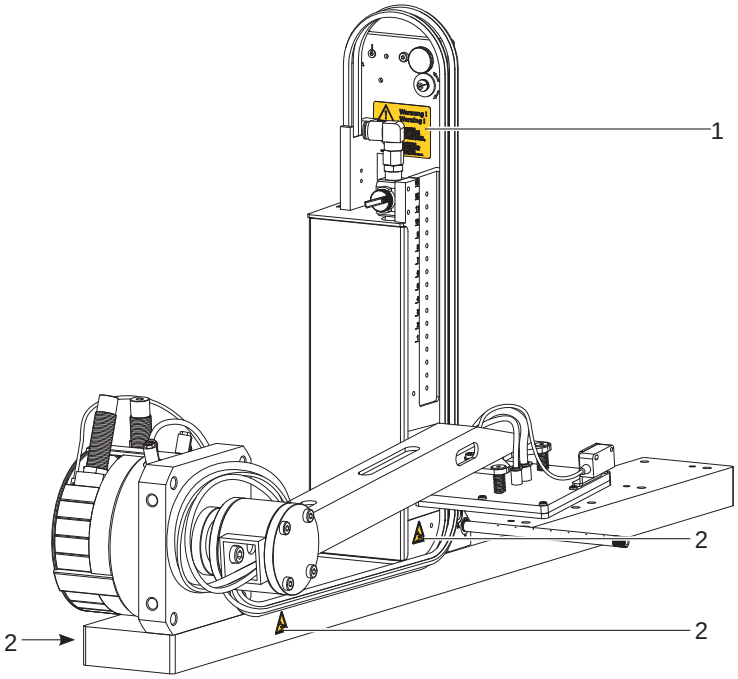
1.3 Safety Instruction

Attention!
Initiation, adjustments and changing of parts is only for qualified service personal only.
▷ Initiation/ Service Manual Applicators

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 Marking



1: 

Risk of injuries by moving parts!

2: 
Danger of crushing to hand and fingers by the moving pad!

Fig. 1 Safety marking

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 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

			Tamp-on pad	Tamp-on pad, spring-mounted	Blow-on pad
Technical data			**3014, 3016 L/R 1100**	**3014, 3016 L/R 3100**	**3014 L/R 2100**
Label widths operating a	HERMES Q4/Q4.3	mm	25 - 114	80 - 114	25 - 114
	HERMES Q6.3	mm	25 - 174	80 - 174	-
Label heights operating a	HERMES Q4/Q4.3	mm	8 - 250	80 - 250	10 - 100
	HERMES Q6.3	mm	25 - 250	80 - 250	25 - 100
State of a package at the moment a label is applied		at rest	■		
		in motion	■		
Label applications		from the top	■		
		from the side	■		
		from the front	■		
		from the back	■		
Package heights		variable	■		
Pivot arm lengths[1)]		mm	200 / 300 / 400		
Pivot angles			0 - 90°		
Compressed air		bar	4.5		
Cycle rate[2)]		labels/min approx.	15		

[1)] Pivot arm length defines the spot of a label (lower margin) to be reached at 90° below a HERMES Q footprint.
[2)] calculated using a pivot arm 200 mm long, labels 100 mm high, a print speed of 100 mm/s

Table 1 Technical Data

2.3 Overview

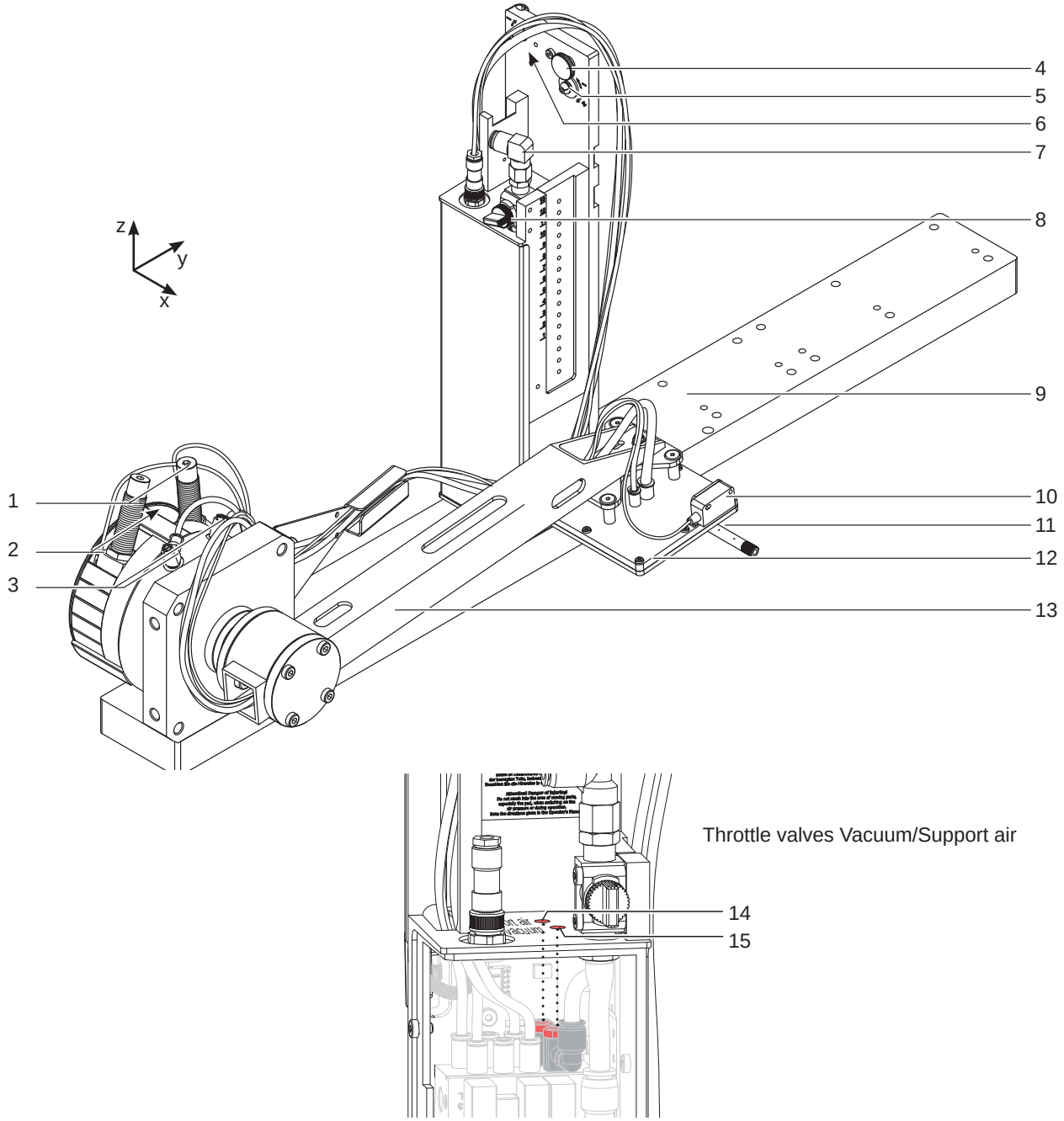


Fig. 2 Overview front side

1 Setting screw - stopper for the swing movement
2 Sensors - End position of the swing cylinder
3 Throttle valves - Speed of the swing cylinder
4 Knurled screw for attaching the applicator to the printer
5 Setting screw to adjust the angle between applicator and printer in X/Y-layer
6 Setting screw to adjust the angle between applicator and printer in Z/X-layer
7 Compressed air connector
8 Shutoff valve
9 Base plate - Printer/Applicator
10 Sensor - Product detecting
11 Blow tube for supporting air
12 Pad - customized
13 Swing lever
14 Support air throttle valve
15 Vacuum throttle valve

Valves and control

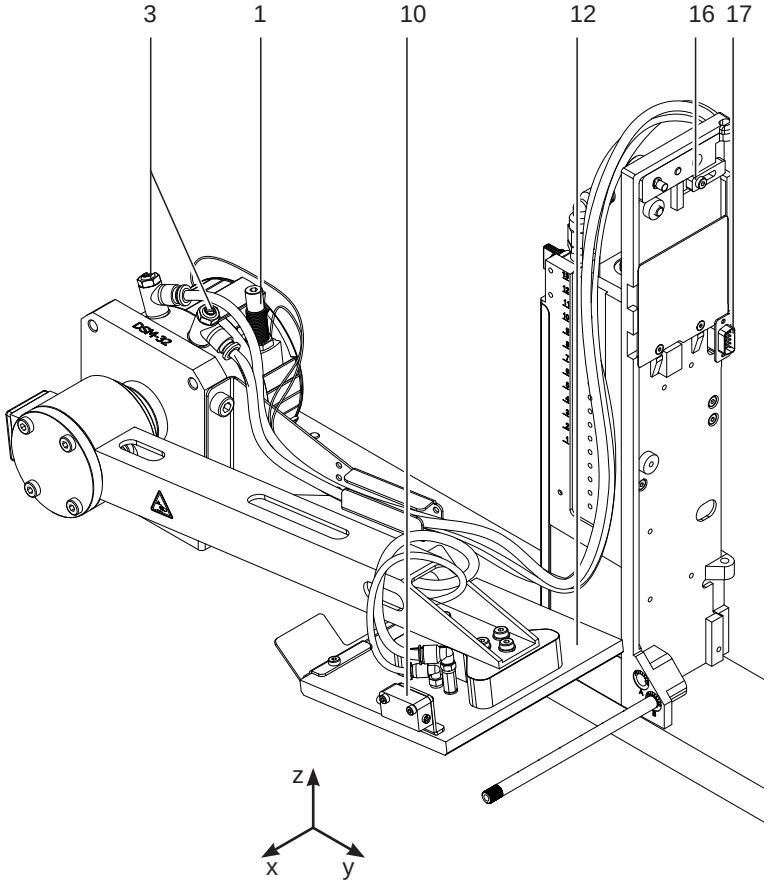


Fig. 3 Overview rear side

1 Setting screw - Limitation of the swing movement
3 Throttle valves - speed of the swing cylinder
10 Sensor - Product detecting
12 Pad (customized)
16 Locking - Applicator
16 Interface to the printer
17 Valve swing cylinder

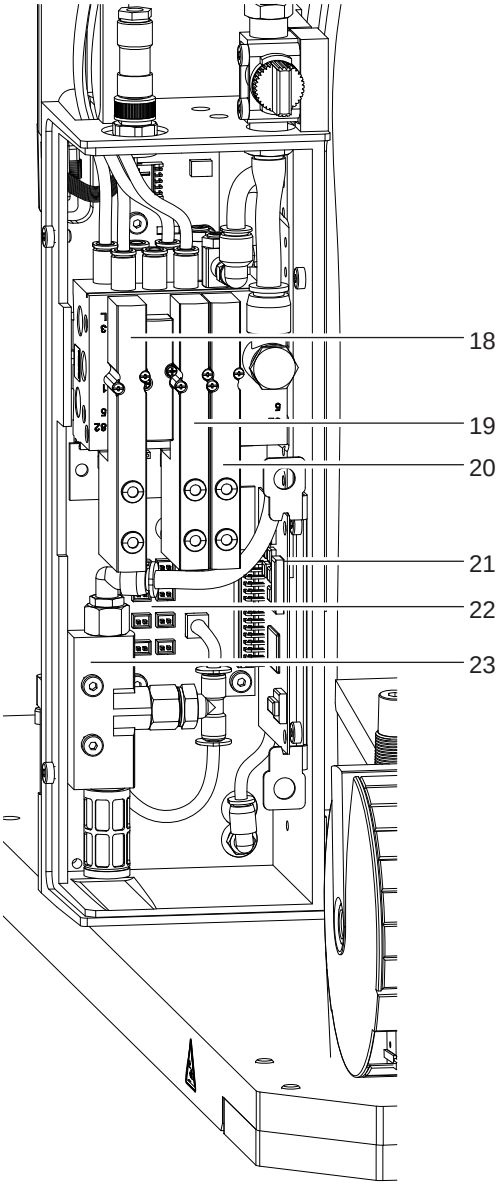


Fig. 4 Overview control elements

18 Valve blow air
19 Valve Vacuum and support air
20 PCB applicator control
21 PCB applicator interface
22 Vacuum generator

2.4 Contents of Delivery

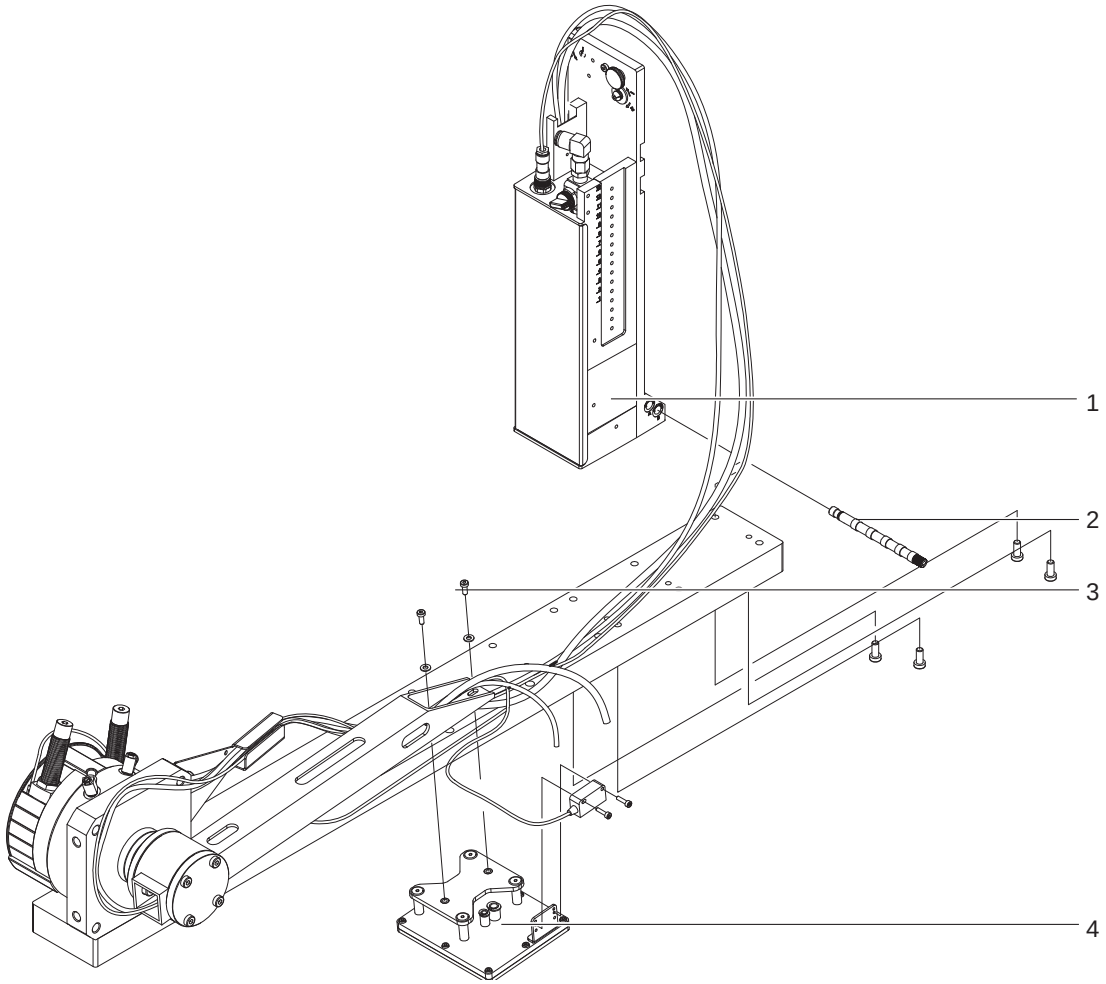


Fig. 5 Contents of delivery

- Applicator (1)
- Blow tube - customized (2)
- Screws - included the pad assembly (3)
- Pad - customized (4)
- Documentation

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

Attention!
The device and printing materials will be damaged by moisture and wetness.
► Set up label printer with applicator only in dry locations protected from splash water.

3.1 Standard Operation

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

Attention!

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

- ▶ Switch on the printer.

Note!

If the pad is outside the starting position when the printer-applicator system is switched on the procedure will be interrupted with an error message visible on the display.

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

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

Note!

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

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

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

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

3.2 Cleaning

Attention!

Never use solvent and abrasive.

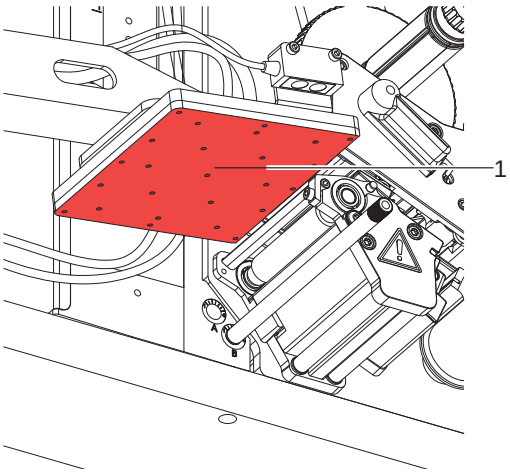


Fig. 6 Cleaning pad with slide foil

- ▶ Clean the outside surfaces with multi purpose cleaner.
- ▶ In regularly function it is possible that accrue dust particles and label splits. Remove that by a soft brush or/ and a vacuum cleaner.
- ▶ Especially at slide foil (1) it is possible that fouling deposit. To receive an ideal takeover and handling of the label it is necessary to clean the surface of slide foil at regular intervals

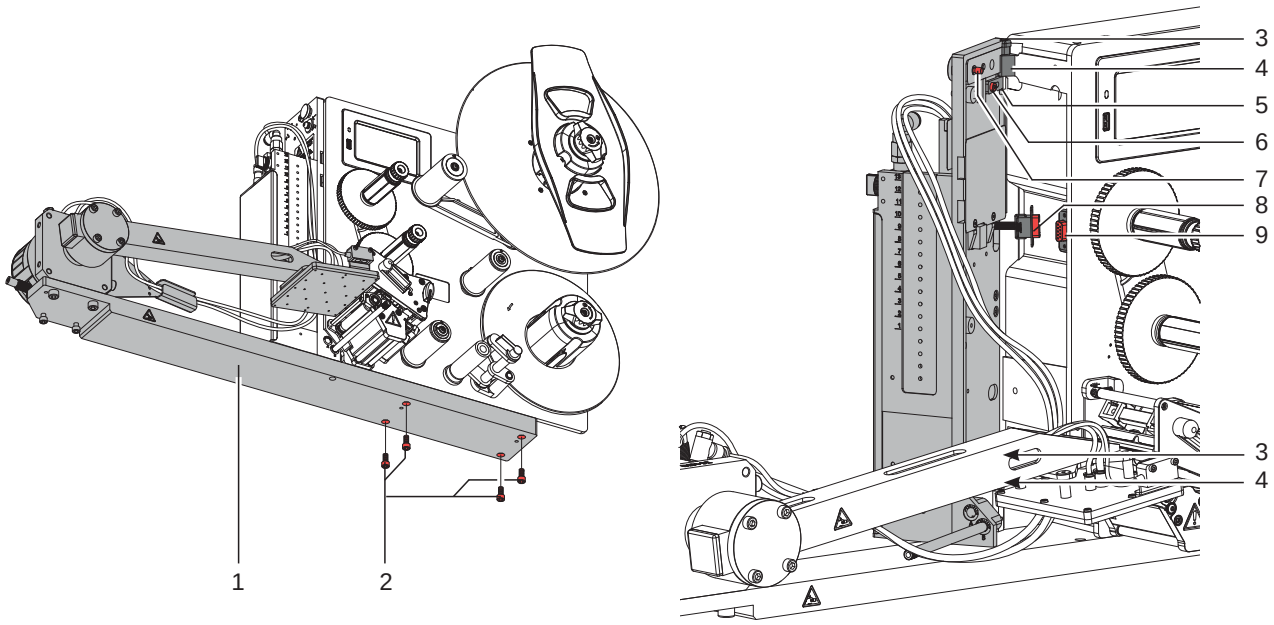


Fig. 7 Turn away and Dismount the applicator

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

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

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

So it is possible the use the applicator direct after remounting.

Turn away / Dismount the applicator

1. To turn away the control assembly loosen thumbscrew (7) and swing the applicator.
2. Disconnect SUB-D 15 male connector (8) to the female connector (9) of the printer.
3. Loosen screw (6) and move off the locking plate (5) from hinges.
4. Lift the control assembly upward.
5. Loosen screws (2) and take up base plate with swing cylinder.(1).

Mount the applicator

6. Set the base plate with swing cylinder.(1) on the bottom side of the printer. The holes on the base plate must be over the holes in the printer chassis. Tighten the screws (2) to mount the base plate (1) on the printer.
7. Control assembly hang with the female part (3) of hinges at the printer hinges male parts (4).
8. To secure the applicator to slip out of hinges loosen screw (6) and move metal part (5) under the hinges and tighten screw (6).
9. Connect SUB-D 15 male connector (8) to the female connector (9) of the printer.
10. Swing the applicator to the printer and tighten the thumbscrew (7).

4.1 Error Messages of the Printer

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

Error treatment:

▶ Clearing the error results.

▶ Press the  respectively **feed** to synchronize the label feed, remove the left over labels manually.

To quit the error state press *Repeat* (HERMES Q) respectively the **pause** key (Hermes +**)**.

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 applicator specific error messages and their possible causes. It also suggests methods to resolve the error states:

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

Table 2 Error messages of the applicator

Error treatment:

▶ Clear the error state.

▶ In order to clear the error state press **continue, repeat** or **cancel.**

Continue with the next label in the printing queue.
Repeat repeat the print of the label causing the error.
Only applicable with error *Vac. plate empty.*
Cancel the current print job.

Warning!

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

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

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

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

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

5 Installation

5.1 Factory Default Settings

Note!
The applicator is adjusted in a standard configuration by the factory. Adjustments with these values guarantee a smooth operation with same configuration.

Note!
In case of a customer setup with special material the adjustments can deviate from standard values. Then the values in the setup protocol are valid.

The standard values for the settings ex-factory are:

- Connecting on a cab Hermes+ printer, vertical
- Pressure value of the compressed air 0.45 MPa (4.5 bar)

5.2 Tools

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

Table 3 Tools

5.3 Mounting the applicator parts on the printer

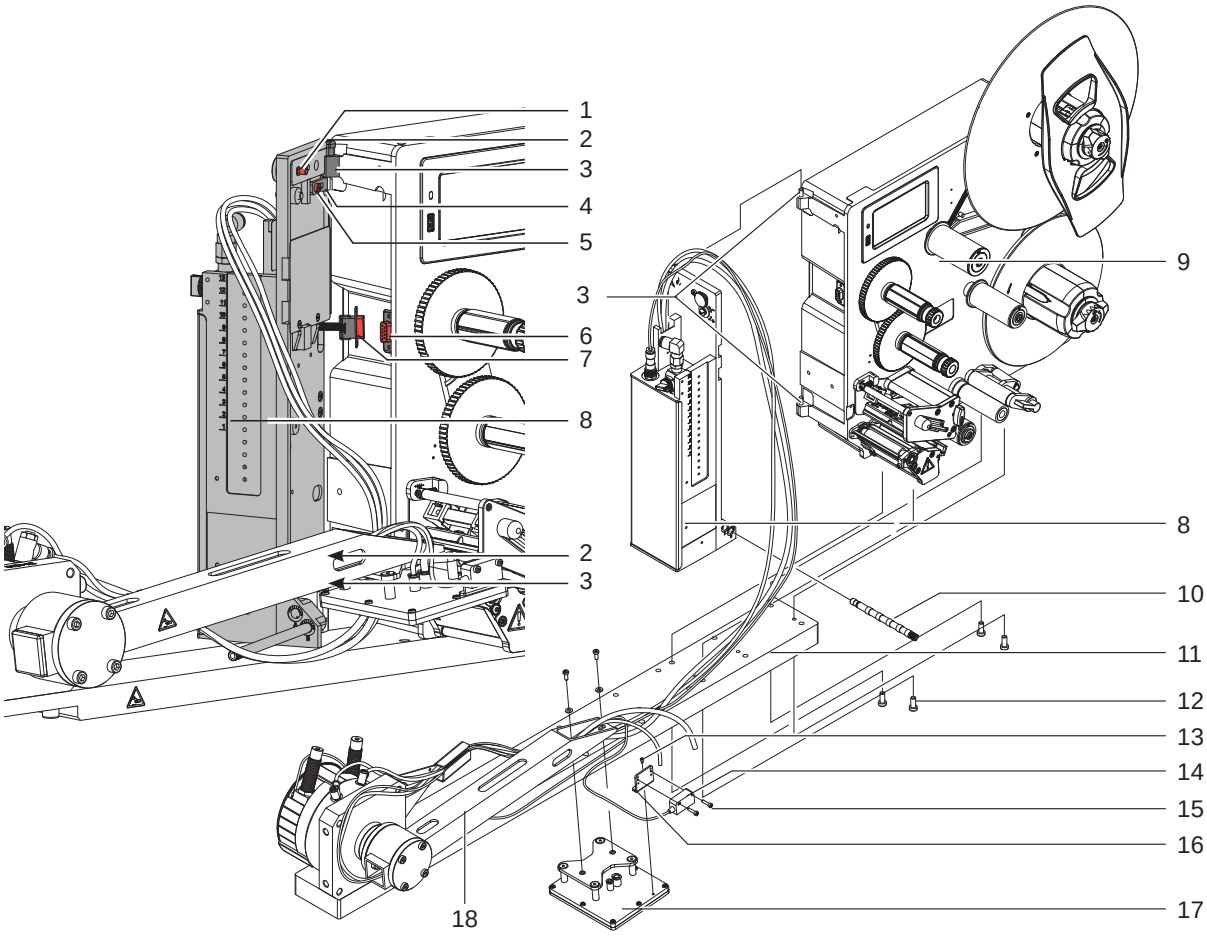


Fig. 8 Mounting Applicator - Printer

Note!
In case of order a complete / configured system will be mounted some parts.
Several steps of mounting dropped. Particularly pad and product sensor.

1. Hang on the control assembly (8) with the female part of hinges (2) at the printer mounted hinges (3).
2. Connect SUB-D 15 male connector (7) to the female connector (6) of the printer.
3. To secure the applicator against slipping out out of hinges loosen screw (5) and move metal part (4) under the hinges and tighten screw (5).
4. Swing the applicator to the printer and tighten the thumbscrew (1).
5. Set the base plate with swing cylinder.(11) on the bottom side of the printer (9). The holes on the base plate must be over the holes in the printer chassis. Tighten the screws (12) to mount the base plate (1) on the printer (9).
6. Mount the pad (17) with the screws (part of the pad assembly) on the swing lever (18) of the applicator.
7. Mount the sensor bracket (16) with screws (13) on pad (17) .
8. Mount product sensor (14) with screws (15) M3x16 on the the sensor bracket (16).
9. Mount blow tube(10) . ▷ next chapter

5.4 Mounting the blow tube

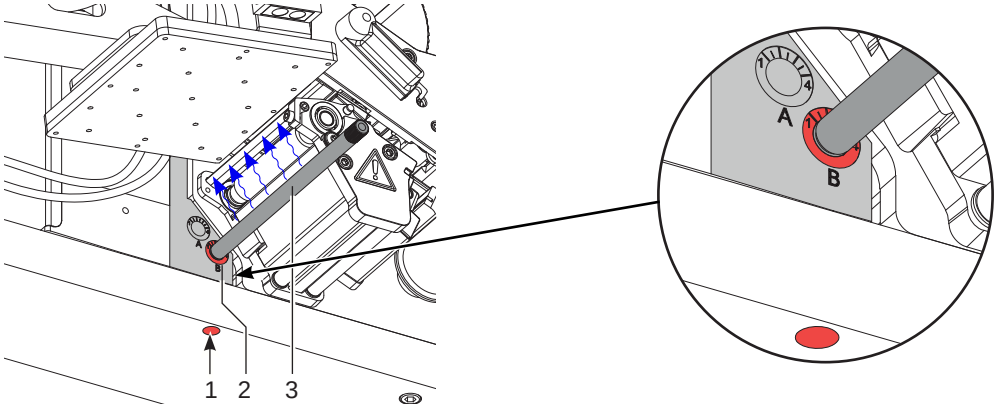


Fig. 9 Mounting the blow tube

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

1. Loosen screw (1).
2. Put in the blow tube (3) into the hole A (2).
3. Tighten screw (1) easily to secure it ▷ „6.2 Blow Tube and Support Air Adjustments“

5.5 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!
When the applicator is connected to the compressed air cylinder movements are possible.
▶ Do not reach into the zone of the moving pad and keep long hair, loose clothes, and jewelry distant.

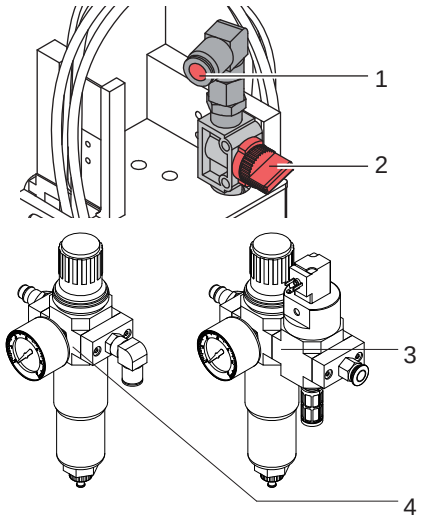


Fig. 10 Compressed air connection

1 Check that the stop valve (2) is closed shown in figure 11.
2. Attach compressed air at the fitting (1).
3. Open the stop valve (2) .
4. Switch on the printer by the power switch.

It is possible to use a air pressure regulation unit

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

Air pressure regulation unit (4)

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

Note!
Mount and use the air pressure regulation unit only in the shown orientation. Otherwise the function of the air-water separator can not be guaranteed.

6.1 Vacuum Adjustments

With an under pressure (vacuum) will be the label fixed on the pad. This vacuum must be so strong that the label is fixed on the pad and all suction holes of the pad 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 is possible that the form feed of the label to the pad could be manipulate.

If the vacuum to strong it is possible that the form feed of the label stop to early.

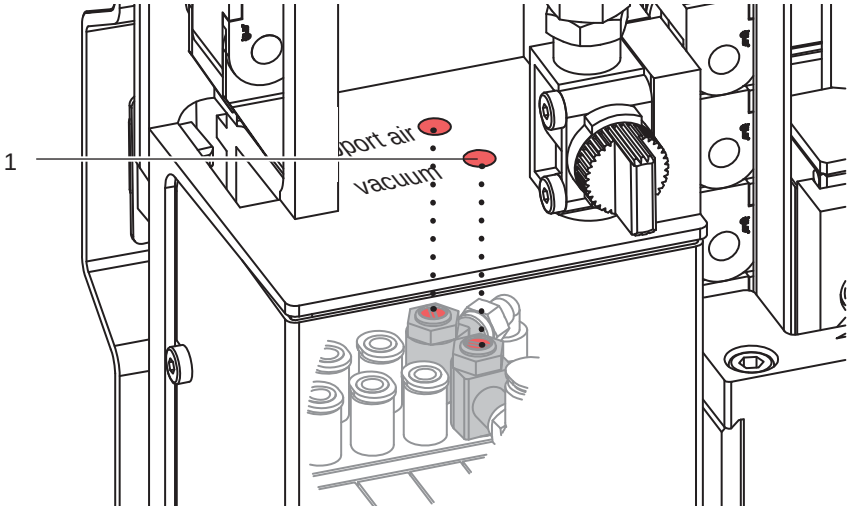
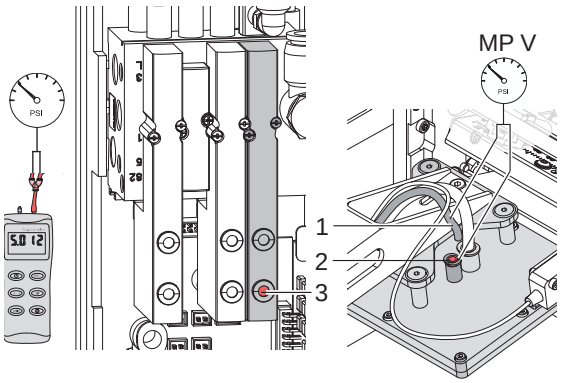


Fig. 11 Throttle valve "vacuum"

- ▶ 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.

Measuring Point (MP V) to measure the Vacuums



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 MP V.
   - Tube (1) at the energy track
   - Fitting (2) on the pad
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. 12 Measuring point to measure the vacuum

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

6.2 Blow Tube and Support Air Adjustments

Adjust the support air that the label can constant without swirl come to the pad from the dispense edge of the printer. All blow tube holes which are over the broadness from the label must be covered.

The standard value ex factory is 2 bar.

Note!
Use a blow tube for the used type of printer.

A number of holes in blowing tube is covered by plastic rings. It is necessary remove so many rings that the supporting air can reach whole label width.

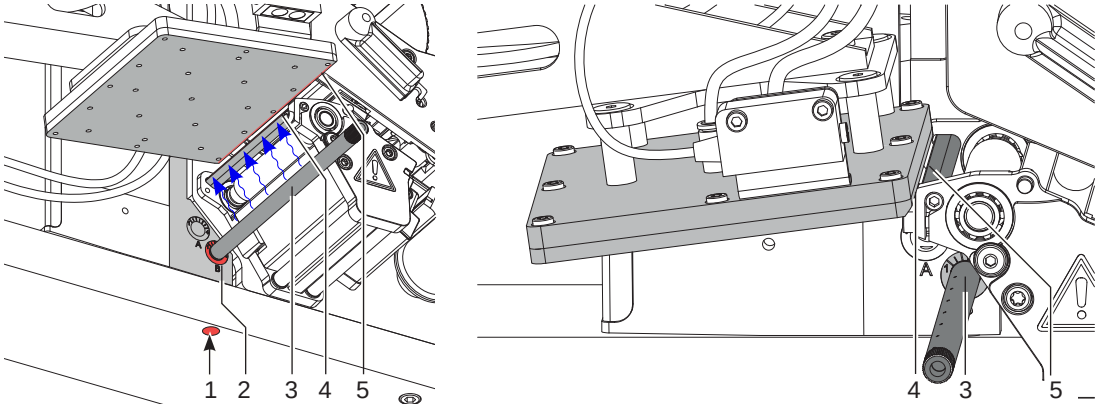


Fig. 13 Adjust the blow tube

The blow tube (3) 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 (3) into the tube adapter A (2).
   Turn the blow tube (3) in that direction, that the air current supports the sucking of the label from the dispense edge (5) by the pad (4).
   - For small labels direct the air current to 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).

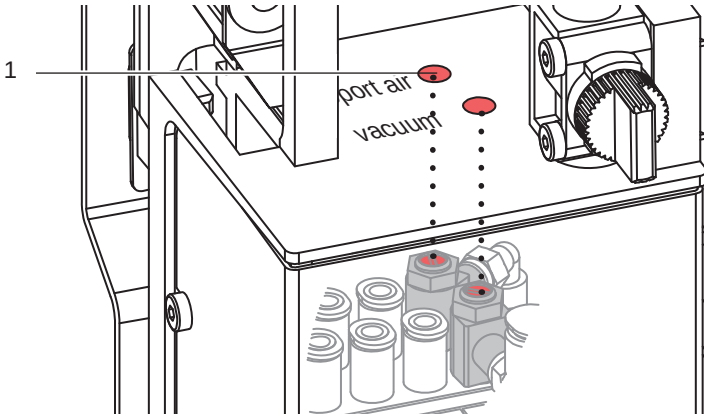


Fig. 14 Throttle valve "support air"

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).

Measuring point (RP S) of support air

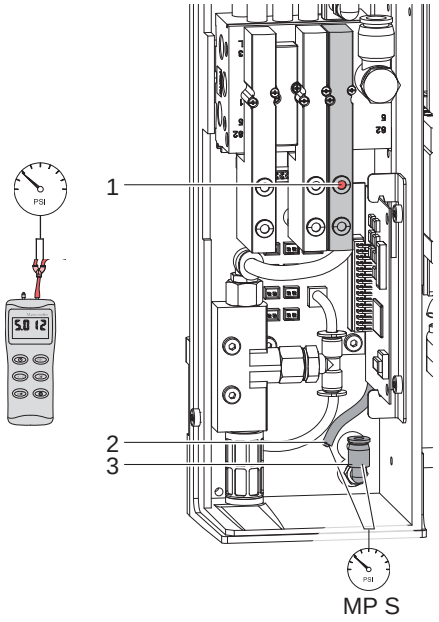


Fig. 15 Reading points to measure the pressure

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

MP 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.

Attention!

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

6.3 Adjusting the sensors of the swing cylinder

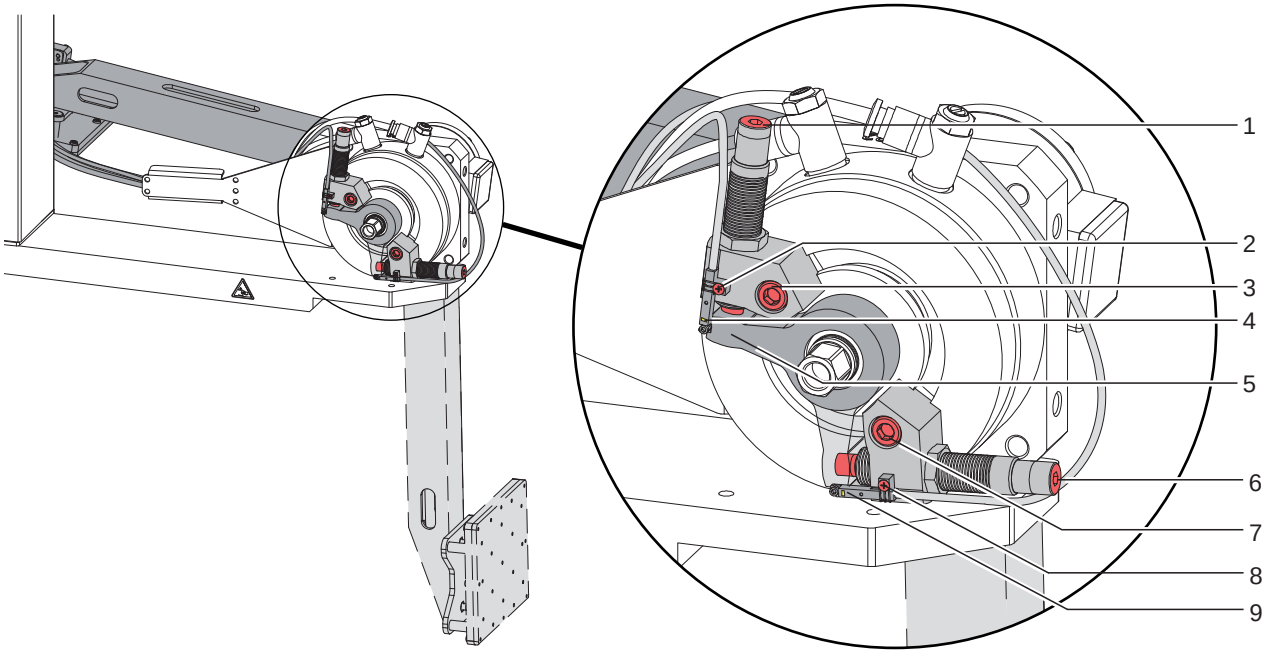


Fig. 16 Adjusting the sensors of the swing cylinder

- ▶ Close the pressure air support.
- ▶ Switch on the printer.
- ▶ The sensors (4 and 9) detect the end position of the swing cylinder movement.
  The generated signal is necessary for the next steps in the operation process.
- - Sensor (4) is switched: pad is in start position and the print and labeling process can start.
- - Sensor (9) is switched: pad is in labeling position. The application of the label will start via the product sensor.
- ▶ Swing the pad assembly in the used position.
- ▶ Loosen screw (3 or 7) and make a first adjustment. The damper on the setting screw is full pressed in in this position.
- ▶ Tighten screw (3 or 7) .
- ▶ Loosen screw (2 or 8) and move the sensor (4 or 9) so that the sensor will trigger sure via the switch arm (5) .
  It is to see on the glowing of the LED on the sensor.
- ▶ If the pad assembly has leave the end position, the LED at the sensor does not glow .
- ▶ Tighten screw(2 or 8) .

6.4 Adjust the speed of the swing cylinder

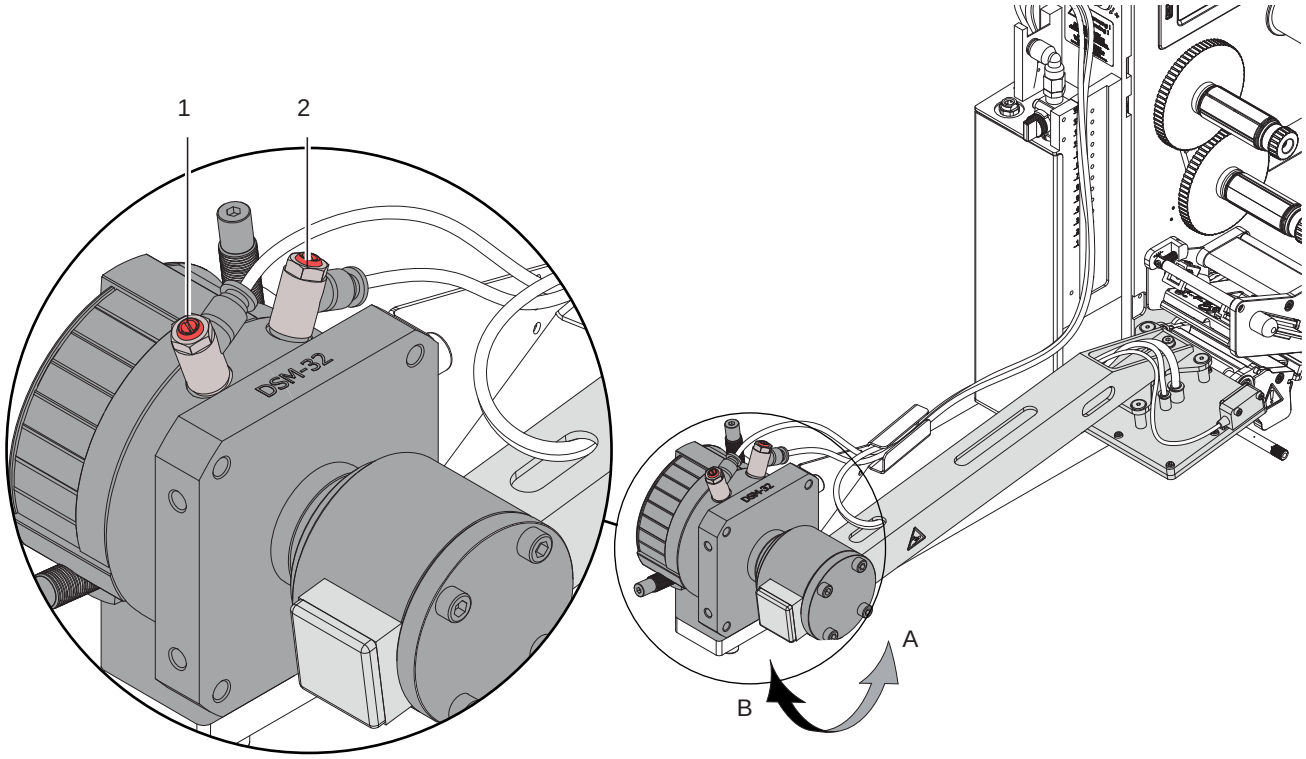


Fig. 17 Throttle valves on the swing cylinder

To adjust the speed of the cylinder movements use the throttle valves 1 and 2 on the swing cylinder. Over the throttle valves will controlled the outflow of the pressure air.

- ▶ Setting screw (1) turning clockwise for a slowly movement of the pad assembly in direction labeling position (B).
- ▶ Setting screw(1) turning counterclockwise for a faster movement of the pad assembly in direction labeling position (B).
- ▶ Setting screw (2) turning clockwise make the movement of the pad assembly in direction start position (A) slowly
- ▶ Setting screw (2) turning counterclockwise make the movement of the pad assembly in direction labeling position (A) faster.

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

6.5 Adjusting the Product Sensors

The product sensor detects the labeling position of the pad in relation to the product. The adjusting of the product sensor is depending of operation mode - stamp on or blow on. The detecting distance of the sensor is 5 - 200 mm from the lower edge of the sensor.

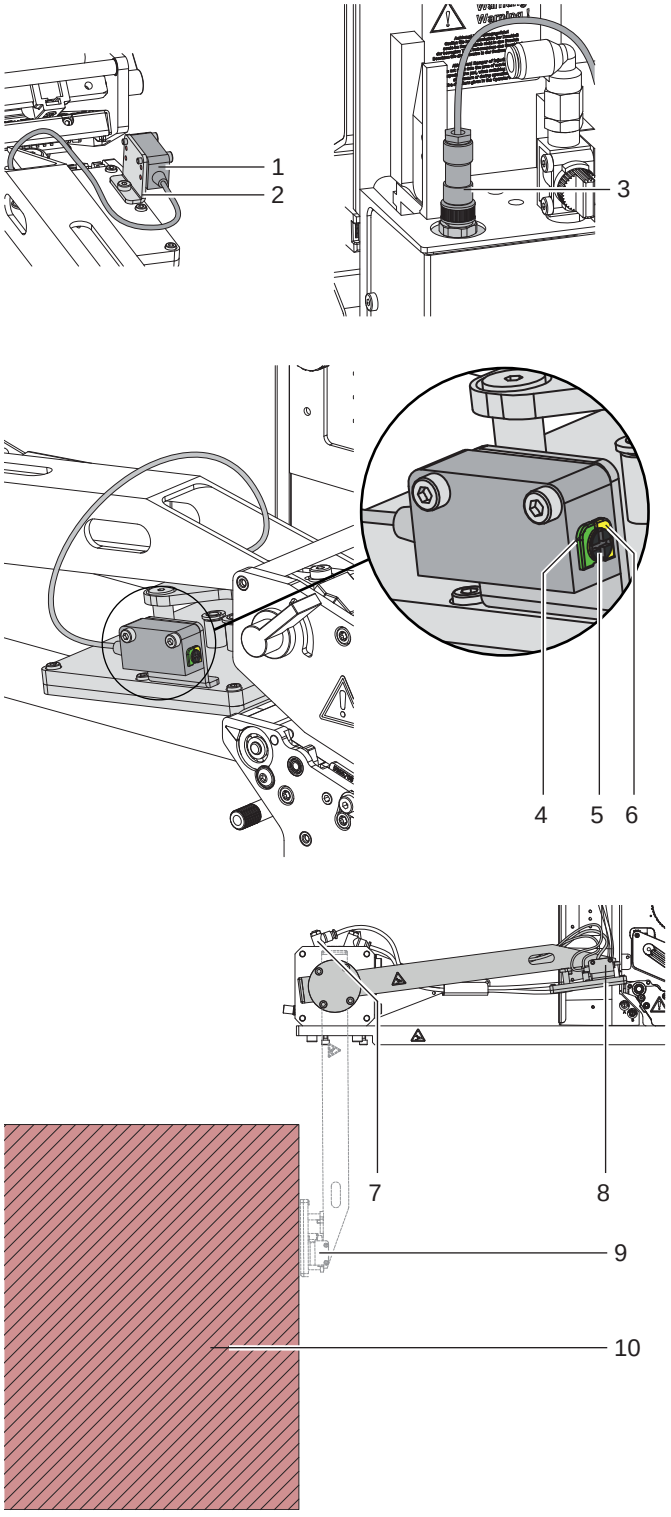


Fig. 18 Product Sensor

Mounting the product sensor

1. Screw on the sensor (1) on the bracket (2).
2. Mount the bracket (2) with installed sensor (1) on the pad with the screws (included the pad).
3. Put the cable of the product sensor like the tubes to the control unit of the applicator.
4. Put in the male round connector (3) into the female round connector on the control unit of the applicator.

Adjusting the product sensor

On the product sensor are two LED's to show the operation condition.

green LED (4) glow - Sensor in operation

yellow LED (5) glow - Sensor is switched

A small red light point show the detection point on the product.

Attention!

Disconnect the compressed air before the adjustment will be started!

1. Move the product (10) in the labeling position and switch on the printer with closed pressure air shutoff valve .
2. Pull out the tube from the throttle valve (7) and swing the lever with pad from position (8) to the product (10) in position (9) .
   stamp on: direct on the product
   blow on: maximum 10 mm distance to the product
3. If the yellow LED (6) glow in this position turn the setting screw (5) counterclockwise that the yellow LED (6) will be out.
4. Turn the setting screw (5) slowly clockwise so that the yellow LED (6) glows again.
5. After settings put in the tube into the throttle valve (7) and switch on the pressure air shutoff valve.
6. Quit the error message on the printer with the pause-button. Pad will move to the start position.

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

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

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

	Stamp on	Blow on
Print/Apply	**x**	**x**
Apply/Print Waiting position top	**x**	**x**
Apply/Print Waiting position bottom	**-**	**x**

Table 4 Operation and application modes

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

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

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
 *Transfer mode*	Setting the operation mode *Stamp on, Roll on, Blow on*	*Blow on*
 *Cycle sequence*	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.	*Apply-Print*
 *Waiting position*	∗ Only at *Transfer mode* = *Blow on* and *Cycle sequence* = *Apply-Print* *up*: Pad waits in the start position for the start signal *down*: Pad waits in the labelling position for the start signal	*up*
 *Blow time*	∗ Only at *Transfer mode* = *Roll on* Switch-on time (max. 2,5 s) of the blowing air for the label transfer	*0 ms*
 *Support delay on*	Setting the switch-on delay (max. 2,5 s) for the supporting air between print start and switching on the supporting air. The delay prevents swirling at the front of the label and, consequently, avoids faults when the label is being picked up from the printer.	*0 ms*
 *Support delay 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*
 *Start delay*	Delay (max. 2,5 s) between start signal and the start of an labelling cycle. Allows e.g. the use of product sensors at conveyors.	*0 ms*
 *Lock time*	All start signals coming in following the first start signal are ignored when they arrive within the lock time (max. 2,5 s).	*0 ms*
 *Vacuum delay*	*On* - The vacuum will be switched on after the label feed is completed. *Off* - The vacuum will be switched on when the label feed starts.	*Off*
 *Vacuum control*	Setting the label transfer check from printer to pad and from pad to product by the vacuum sensor	*On*
 *Label hand-over*	*Passive* - The pad waits in front of the dispense edge for the label. *Active* - The pad moves to the dispense edge and takes the label.	*Passive*
 *Cleaning blow*	Activation of a short blow impulse after the application of the label to clean the suction channels.	*On*
 *Peel-off position*	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.	*0.0 mm*

Table 5 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 Enter button  .
  ▷ „8.2 Test Mode with a Print Job“.
- Adjust the peel-off offset in such a way, that the printed labels are peeled-off completely from the liner
  ▷ Programming manual or software documentation.

7.4 Activation of Peel-off Mode

Note!

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

8.1 Test Mode without a Print Job

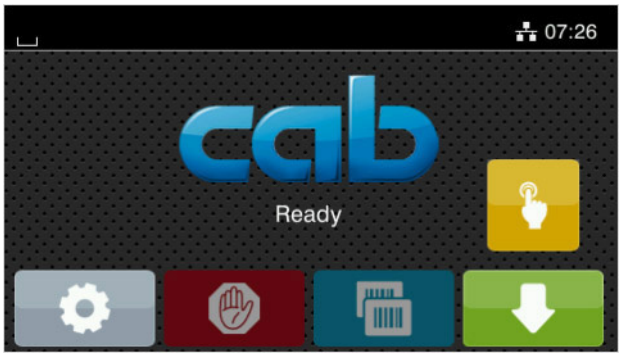


Fig. 19 Display

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 signalized 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.**

8.3 Application mode

Labeling the front side, in direction of the transport

- Label will printed and takeover of the applicator.
- Pad is swinging in the labeling position (1 and 2).
- Product touched the pad and will detect over the product sensor. Figure - section 2 and 3
- Vacuum will switched off and the label will apply (stamp on or blow on). Figure - section 3
- Pad moves back to the start or takeover position (printer to applicator) Figure - section 4

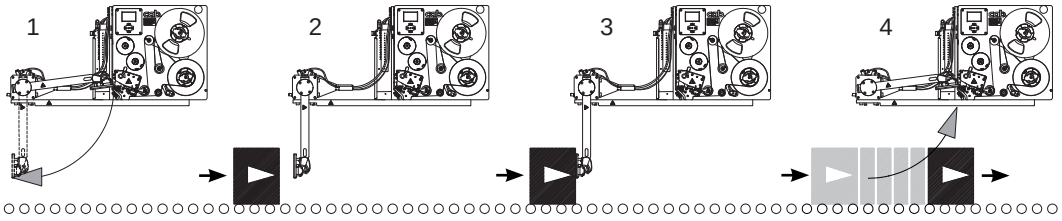


Fig. 20 Labeling Front Side

Labeling rear side, in direction of the transport

Setup settings:

Operation Mode > Stamp on Parameters, such as mode and waiting position are set automatically.

Operation Mode > Blow Set parameters, such as mode and waiting position as follows!

Mode of appl. > Apply-Print

Waiting position > up

- Pad is waiting in start position. Figure - section 1
- A signal of an external sensor, initialize by the product will start the labeling process. Figure - section 1
- Pad will swinging behind the product and apply the label. Figure - section 2 and 3
- It will start the movement return to the start position (4).

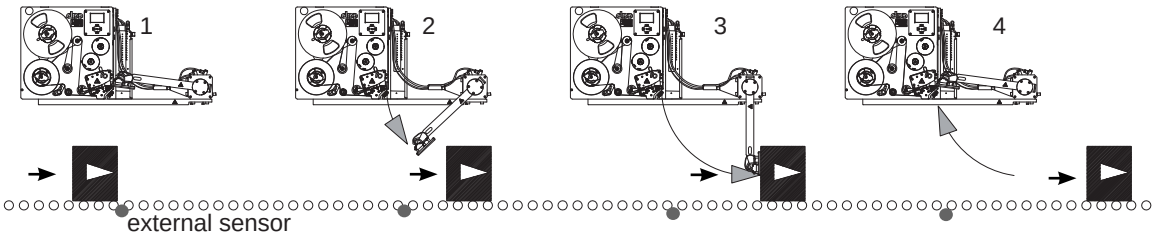
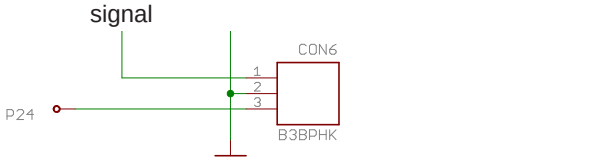


Fig. 21 Labeling Rear Side

8.4 External Sensor for Labeling Rear Side

Circuit of the 3 pole connector on the applicator. This is connected to CON 6 on the PCB applicator control.



start signal: high.

Fig. 22 Connector circuit

9 Drawings

9.1 Block Diagram

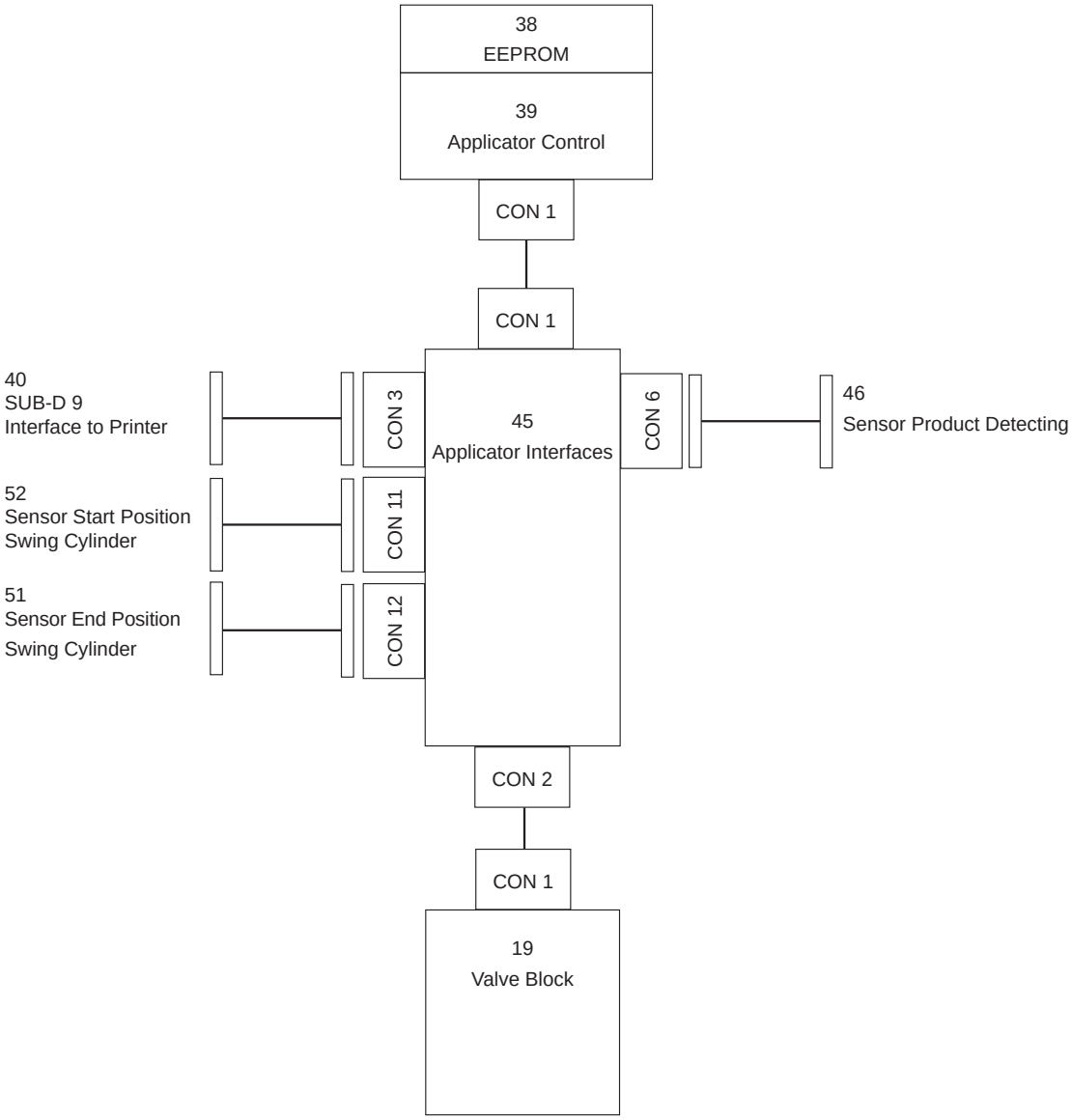
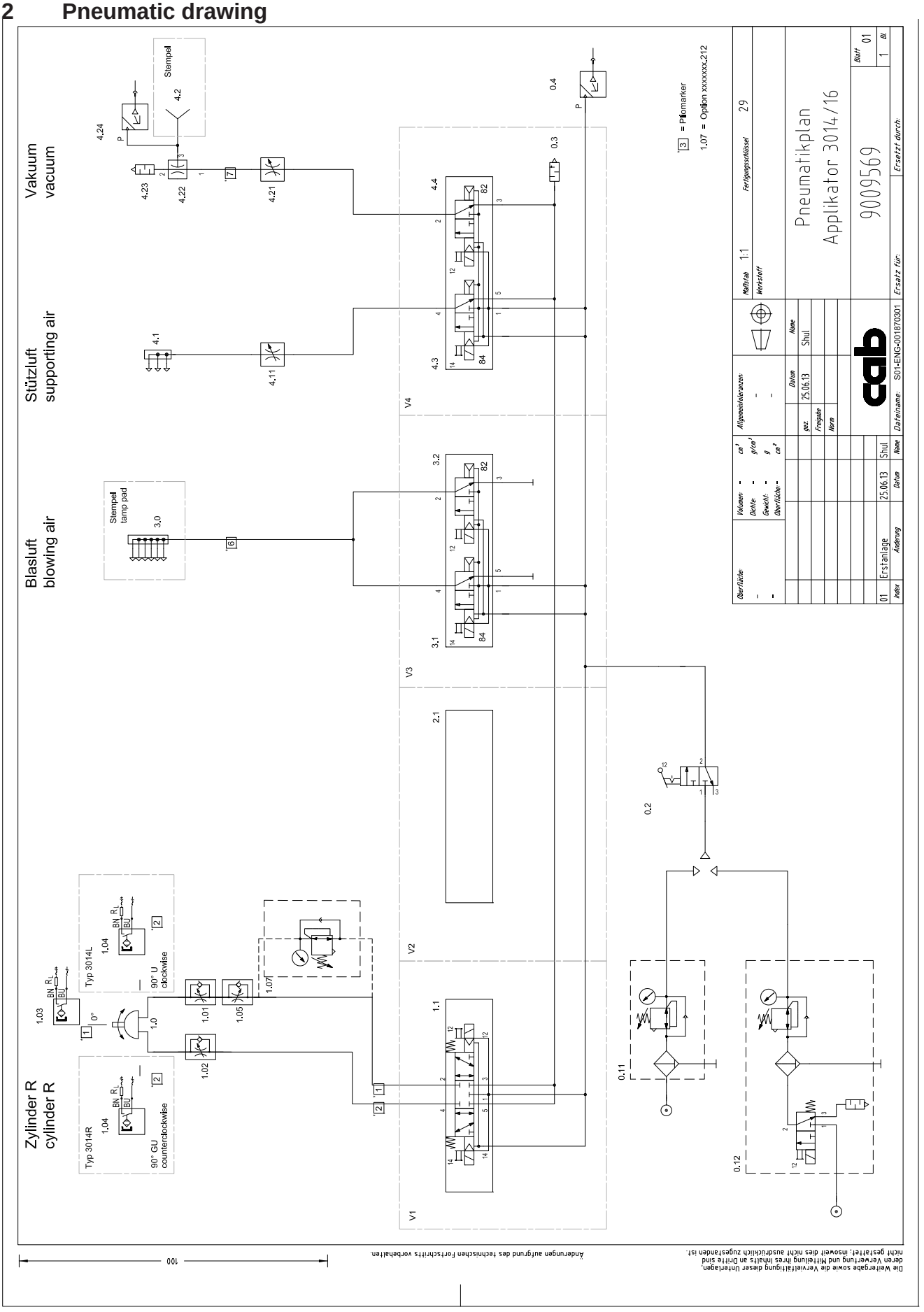


Fig. 23 Block diagram

9.2 Pneumatic drawing



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