Service Manual

Front-Side Applicator 3014 / 3016

Made in Germany

Service Manual
for the following products

Family	Type
Front-Side Applicator	3014
	3016

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Editor

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

Topicality

Due to the constant further development of our products discrepancies between documentation and product can occur.

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1 Introduction

1.1 Instructions

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

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

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

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

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

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

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

Environment!
Gives you tips on protecting the environment.

▶ Handling instruction

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

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

`Time` Information in the display.

1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to 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.

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

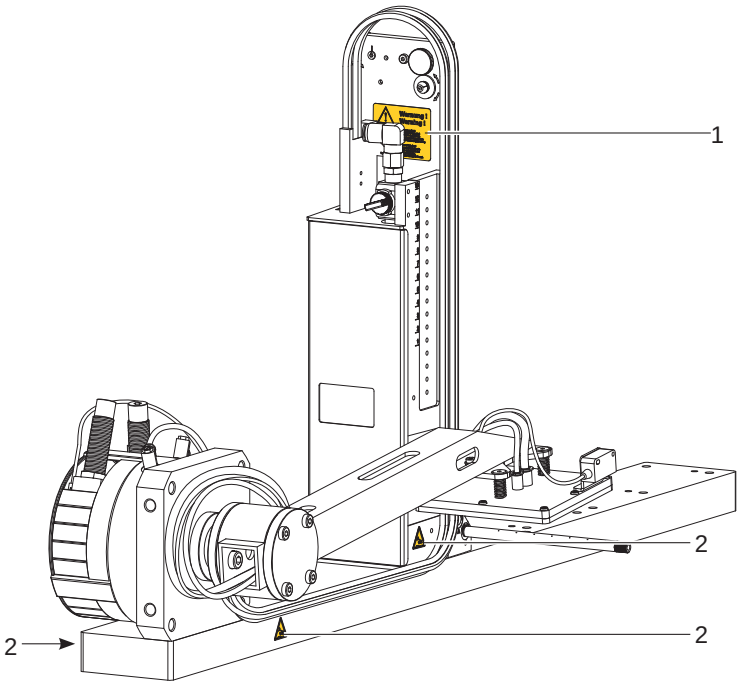
1.3 Safety Instruction

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 operating manual.
  Work going beyond this may only be performed by trained personnel or service technicians.
- Unauthorized interference with electronic modules or their software can cause malfunctions.
- Other unauthorized work on or modifications to the device can also endanger operational safety.
- Always have service work done in a qualified workshop, where the personnel have the technical knowledge and tools required to do the necessary work.
- There are various warning stickers on the device. They draw your attention to dangers. Warning stickers must therefore not be removed, as then you and other people cannot be aware of dangers and may be injured.

1.4 Safety 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

Label transfer mode		**Tamp pad**	**Spring loaded tamp pad**	**Blow pad**
		3014/16 L/R 1100	**3014/16 L/R 3100**	**3014/16 L/R 2100**
Label width in mm for Hermes$^+$4		25 - 114	80 - 114	25 - 114
for Hermes$^+$6		25 - 174	80 - 174	-
Label height in mm		25 - 250	80 - 250	25 - 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	■	■	■
	sideways	■	■	■
	from the front	■	■	■
	from the back	■	■	■
Product height	variabele	■	■	■
Length of swing lever[2)]	mm	200/300/400	200/300/400	200/300/400
Swing angle		0-90°	0-90°	0-90°
Cycle time about frequency/min.[1)]		15	15	15

Table 1 Technical Data

[1)] Determined with 100 mm lever length / label height / print speed 100 mm/sec.

[2)] Length of swing lever: achievable labeling position of 90° (bottom edge of label) below the Hermes$^+$ ground.

2.3 Overview

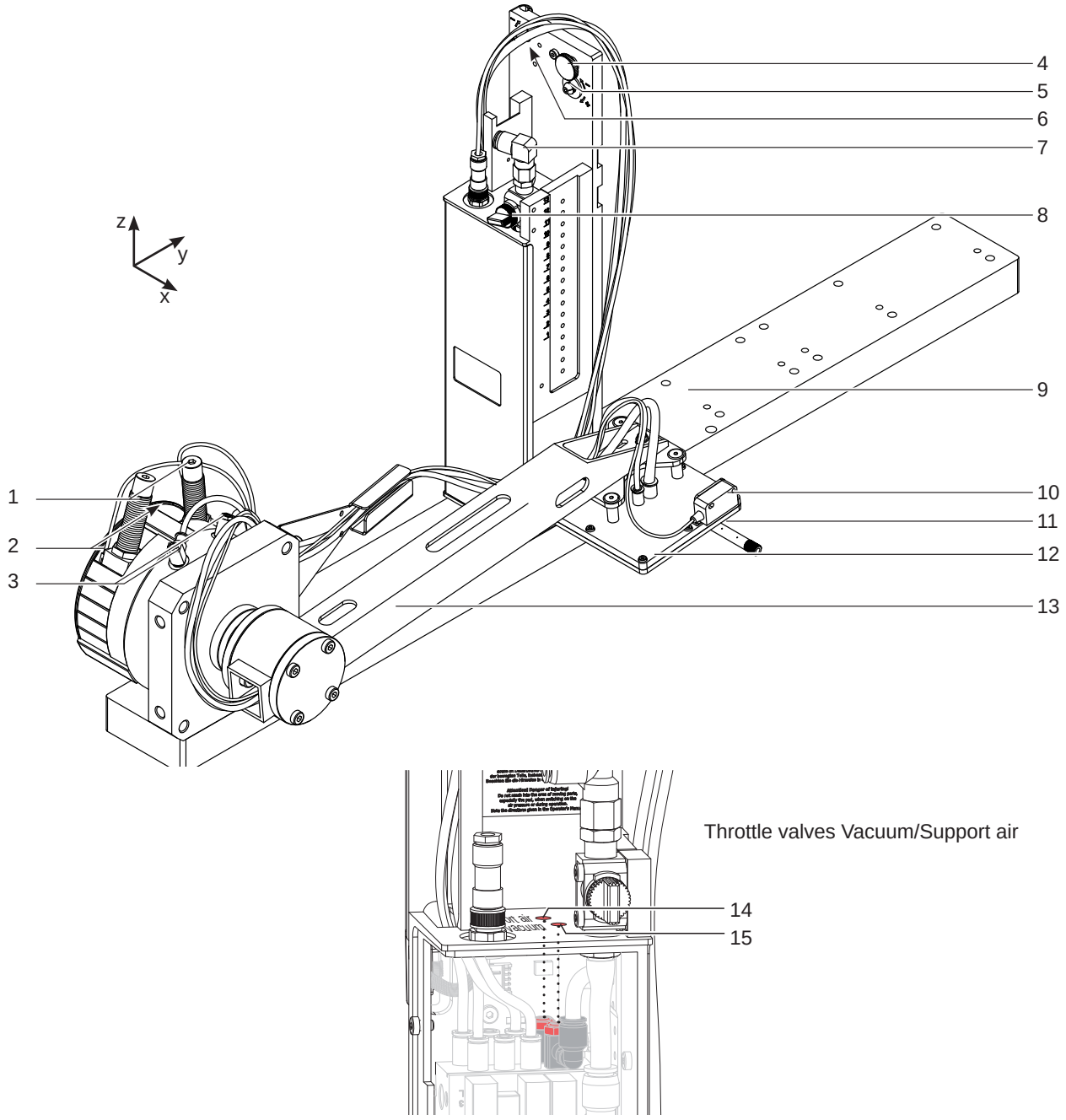


Fig.2 Overview front side

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

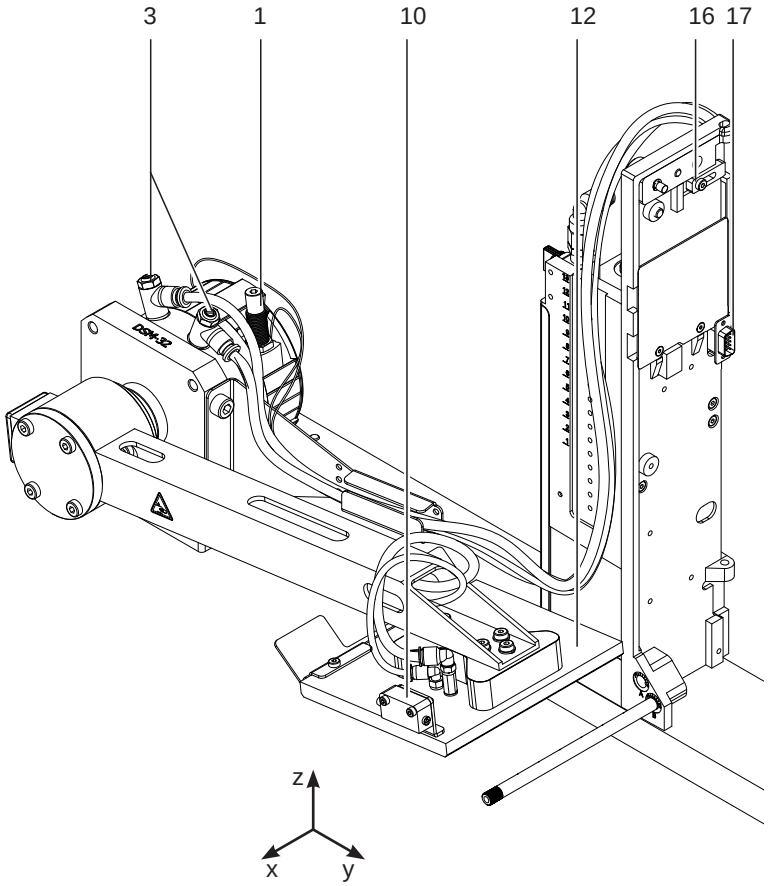


Fig.3 Overview rear side

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

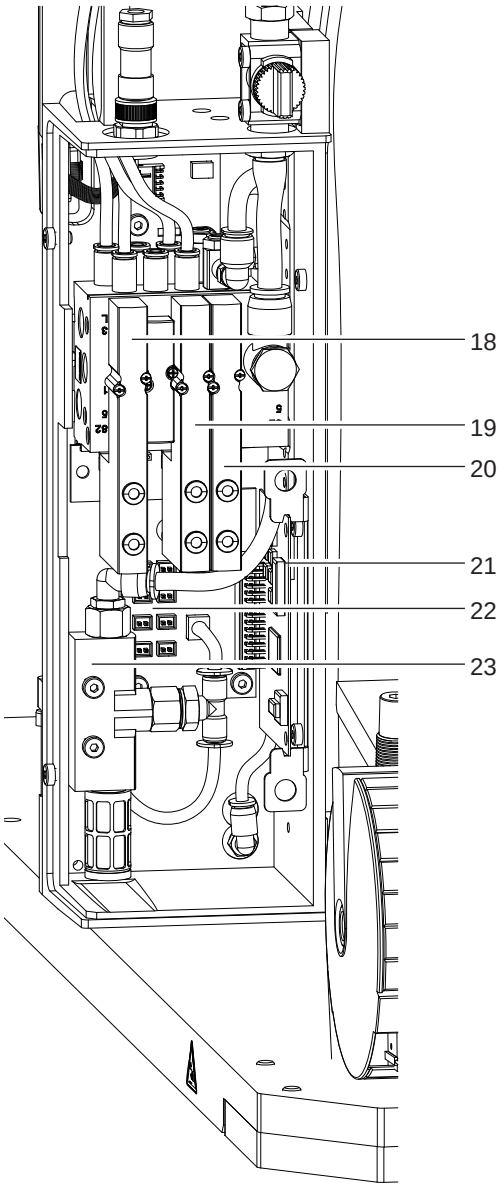


Fig.4 Overview control elements

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

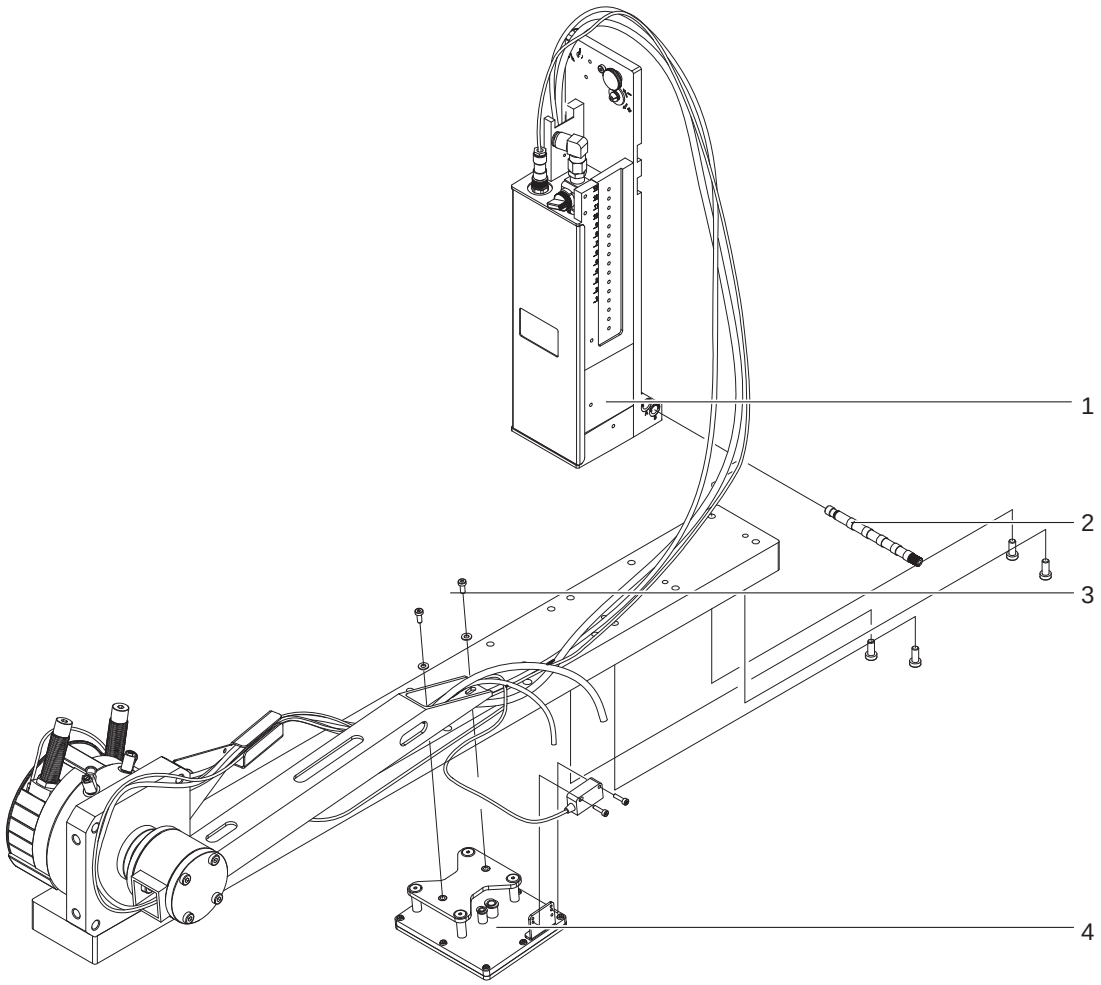


Fig.5 Contents of delivery

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

Notice!
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 faultily.**

- ▶ Switch on the printer.

Notice!
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.

- ▶ Press the button ***feed*** 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

Notice!
This synchronizing 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 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.

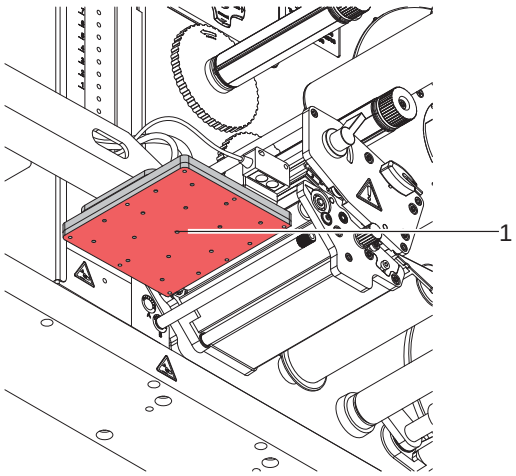


Fig.6 Cleaning pad with slide foil

- ▶ 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

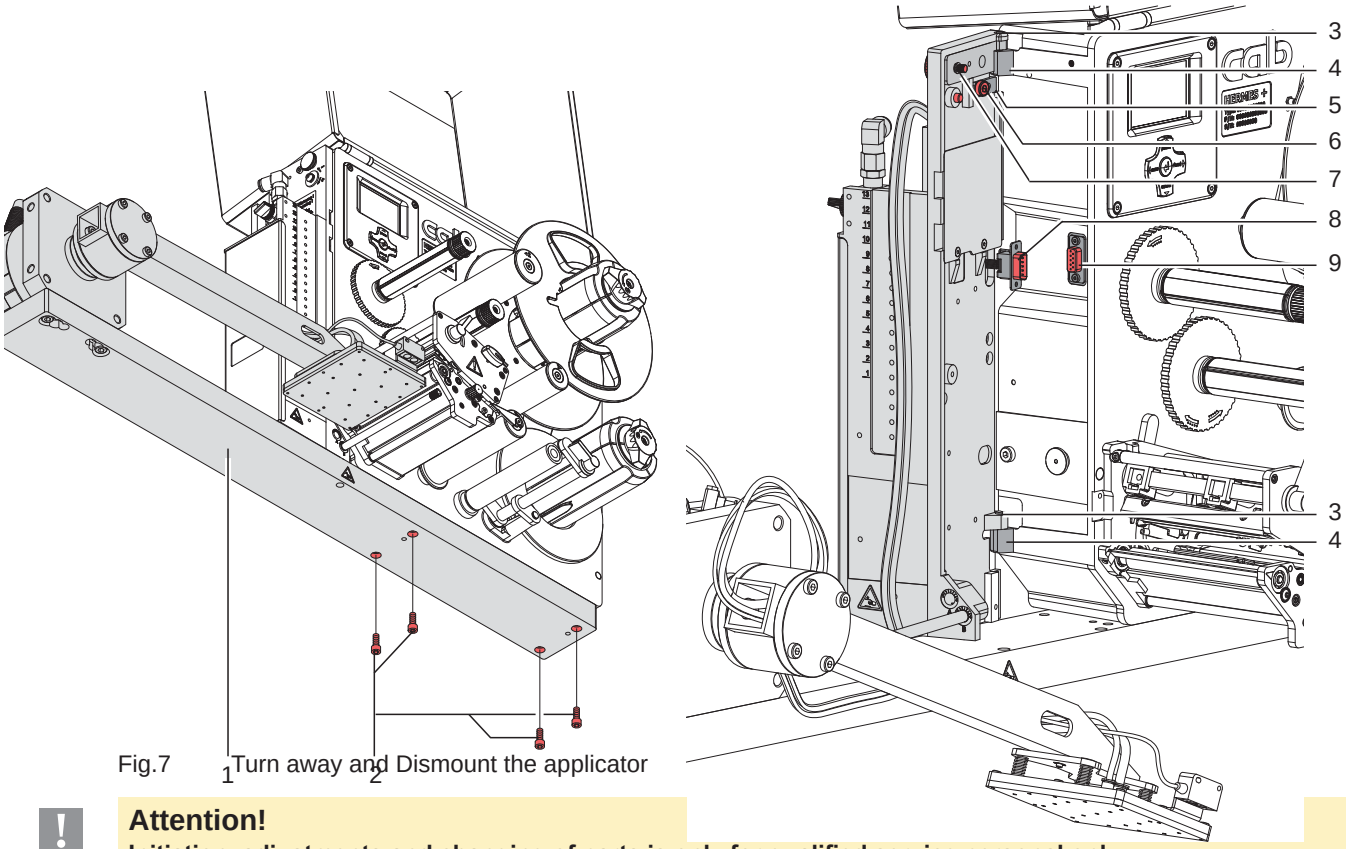


Fig.7 Turn away and Dismount the applicator

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.) ▷ Operator's manual of the printer

Error treatment :

- ▶ Clear the error results
- ▶ Press the **feed** key to synchronize the label feed, remove the 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 ti high > 6 bar
`Label not depos.`	Label has not been placed onto the product; after the pad has moved back the label still sticks on the pad.
`Lower position`	Pad is not in start position if the printer switched on.
	Pad has not reached the labeling position within 2s after the movement of the pad was started
	Pad has undefined leaving the start position.
`Process Error`	Process of labeling was braked via the I/O interface of the printer with the XSTP 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.
`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.
`Upper 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 unauthorized

Table 2 Error messages of the applicator

Error treatment :

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

Notice!

In fault check adjustments and settings with help of the Service Manual.

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.**

After error correction, the print of the label causing the error cannot be repeated without re-start of the print job.

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

5.1 Declaration of Incorporation

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Declaration of Incorporation

We declare herewith that the following „partly completed machinery“ as a result of design, construction and the version put in circulation complies with the essential requirements of the **Directive 2006/42/EC on machinery** :

Annex I, Article 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.3.2, 1.5.2, 1.5.8, 1.6.3, 1.7

In the event of any alteration which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

Device:	**Applicator**
3014, 3016	**3014, 3016**
Applied EU Regulations and Norms:	
Directive 2006/42/EC on machinery	• **EN ISO 12100:2010**
	• **EN ISO 13849-1:2008**
	• **EN 60950-1:2006 +A11:2009+A12:2011+A1:2010+A2:2013**
Person authorised to compile the technical file :	**Erwin Fascher Am Unterwege 18/20 99610 Sömmerda**
Signed for, and on behalf of the Manufacturer : **cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda**	**Sömmerda, 19.06.2017**  **Erwin Fascher Managing Director**

The product must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Directive on machinery

The documents according annex VII part B from the incomplete machinery are created and will commit to state agencies on request in electronic kinds.

5.2 EU Declaration of Conformity

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EU Declaration of Conformity

We declare herewith that as a result of the manner in which the device designated below was designed, the type of construction and the devices which, as a result have been brought on to the general market comply with the relevant fundamental regulations of the EU Rules for Safety and Health. In the event of any alteration which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

Device:	**Applicator**
Type:	**3014, 3016**
Applied EU Regulations and Norms:	Applied Norms:
Directive 2014/30/EU relating to electromagnetic compatibility	• **EN 55032:2012**
	• **EN 55024:2010**
	• **EN 61000-6-2:2005**
Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment	• **EN 50581:2012**
Signed for, and on behalf of the Manufacturer : **cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda**	**Sömmerda, 19.06.2017**  **Erwin Fascher Managing Director**

6.1 Standard adjustments ex factory

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

Notice!
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)

6.2 Tools

• Screwdriver with parallel blade	2.5		Adjust the throttle valves
• Hexagon key L-wrench	0.8 2.5 4		Adjust the sensors (in delivery state of the applicator) for matched norm parts (in delivery state of the applicator) Pad adjustments Changing pad
• Flat-round	noise-straight angled		Mount/Dismount of tubes
• Open spanner	SW 8 SW 20		Changing the throttle valves
• Manometer			± 7 bar Air pressure control

Table 3 Tools

6.3 Mounting the applicator parts on the printer

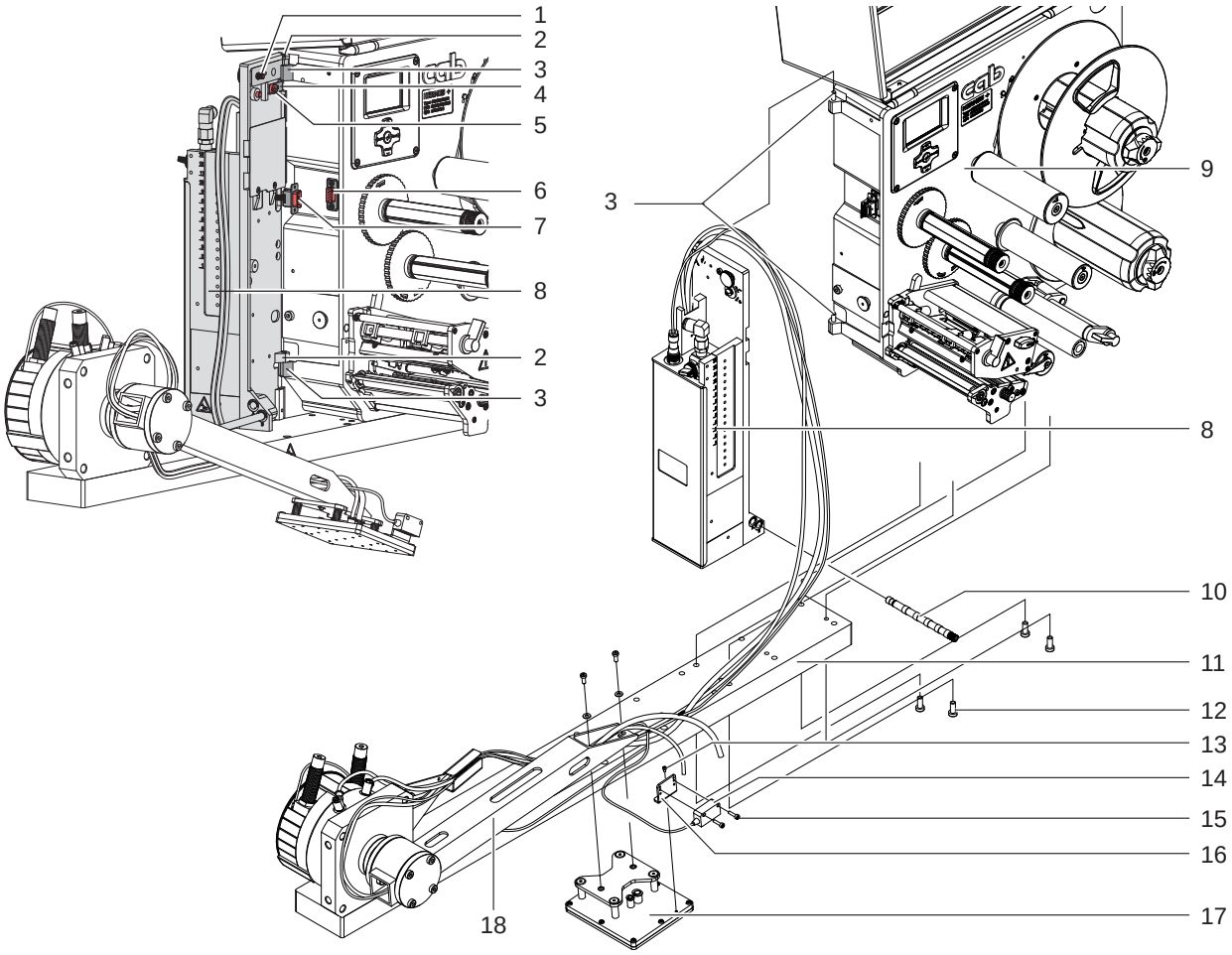


Fig.8 Mounting Applicator - Printer

Notice!
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

6.4 Mounting the blow tube

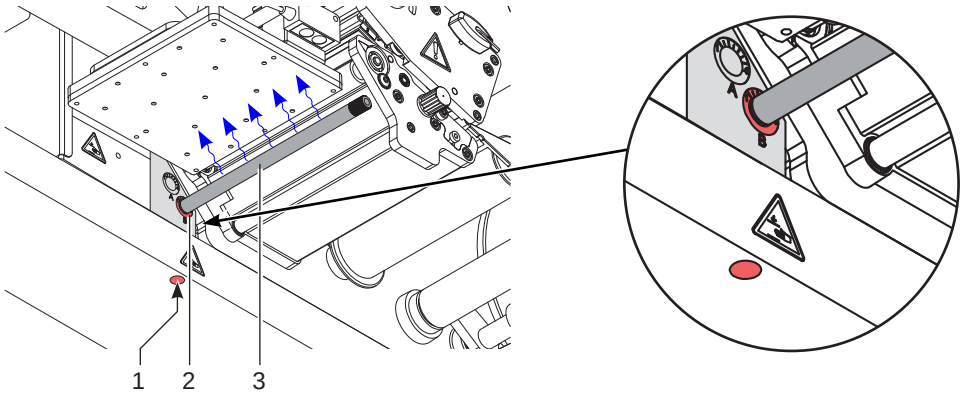


Fig.9 Mounting the blow tube

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 ▷ „7.2 Blow Tube and Support Air Adjustments“

6.5 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.

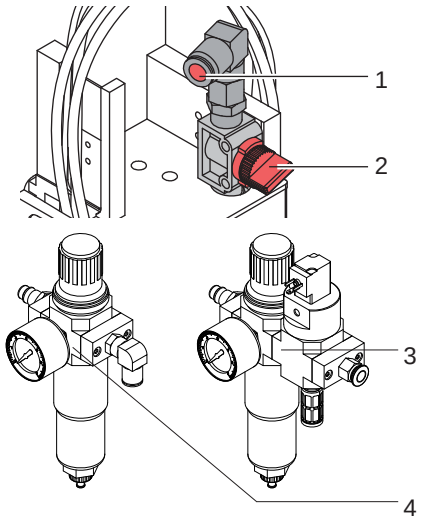


Fig.10 Compressed air connection

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)

Notice!
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.

Notice!
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.

7.1 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

Notice!
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.

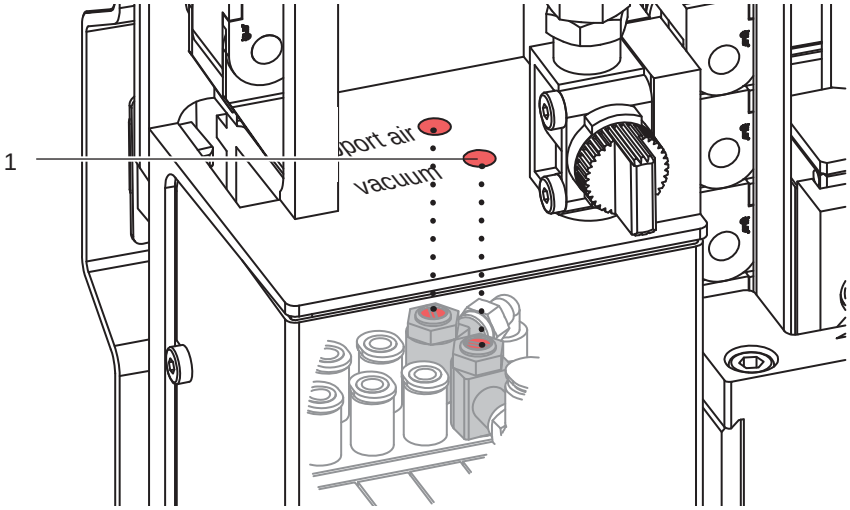
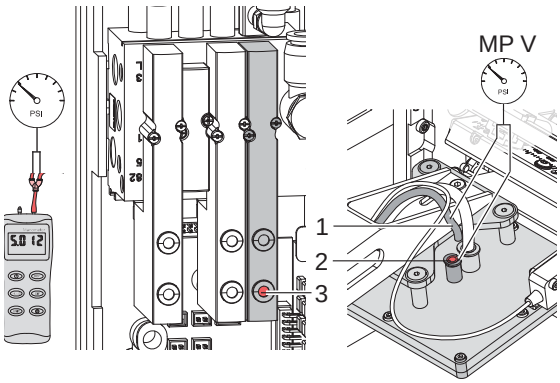


Fig.11 Throttle valve "vacuum"

- ▶ 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.

7.2 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.

Notice!
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.

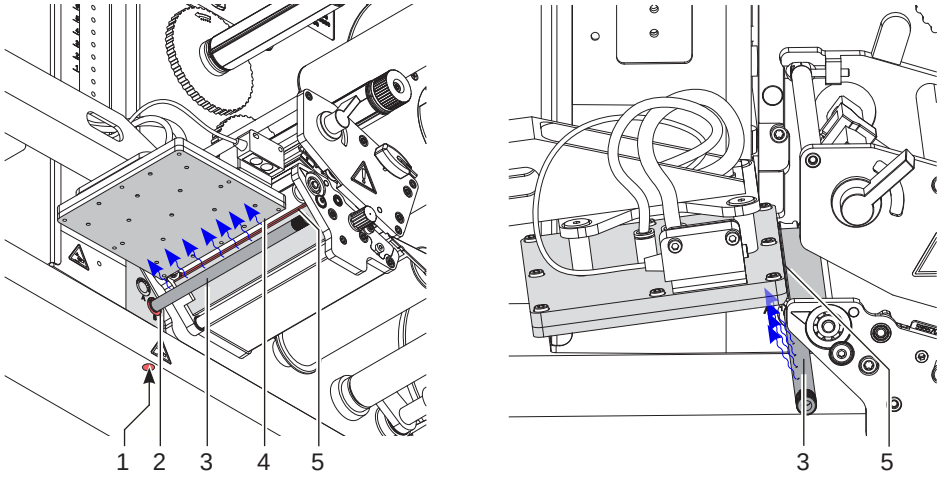


Fig.13 Adjust the blow tube

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).

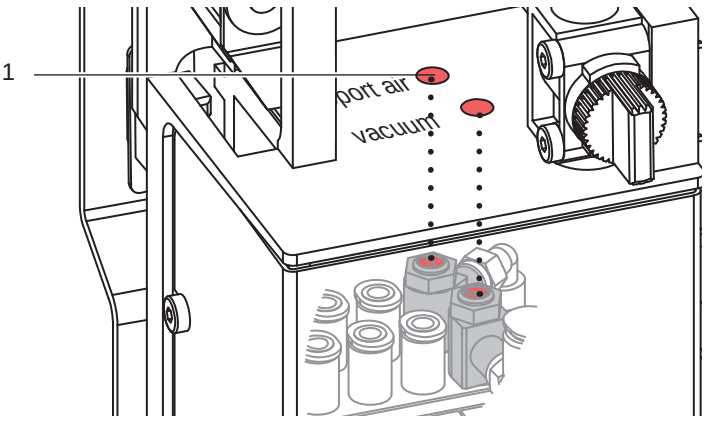
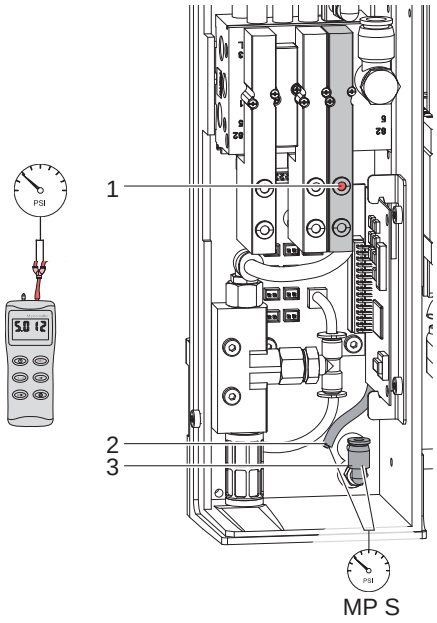


Fig.14 Throttle valve "support air"

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



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.

Fig.15 Reading points to measure the pressure

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

7.3 Adjusting the sensors of the swing cylinder

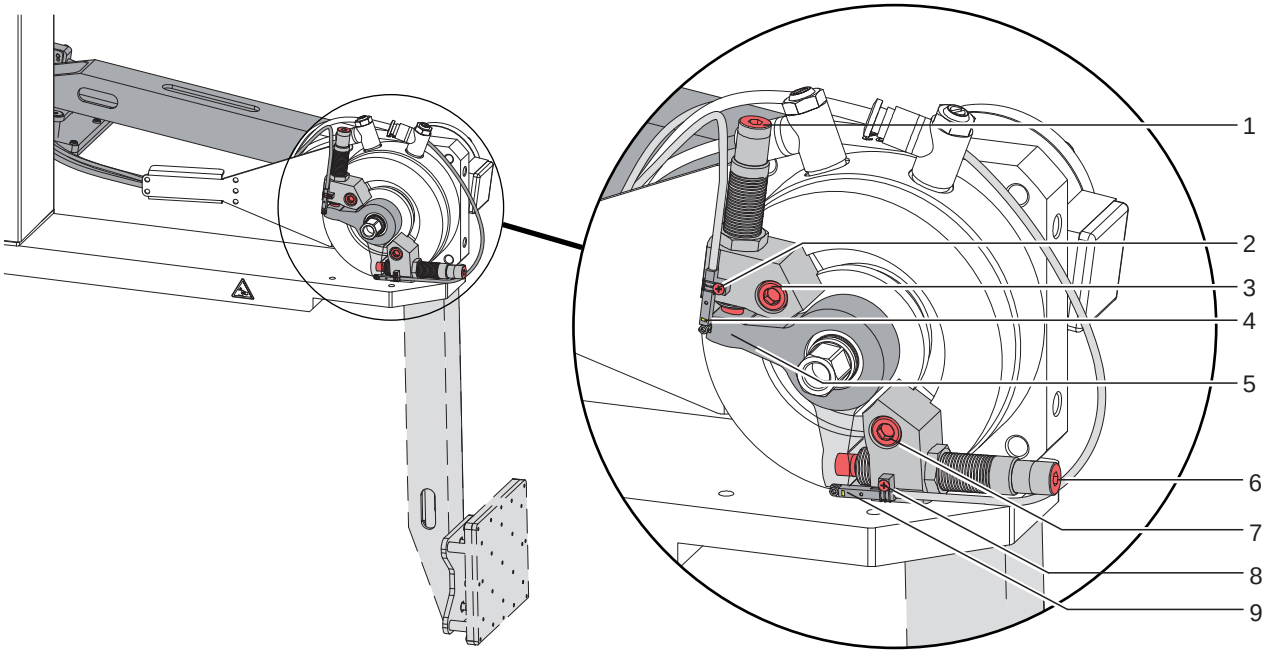


Fig.16 Adjusting the sensors of the swing cylinder

- ▶ 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) .

7.4 Adjust the speed of the swing cylinder

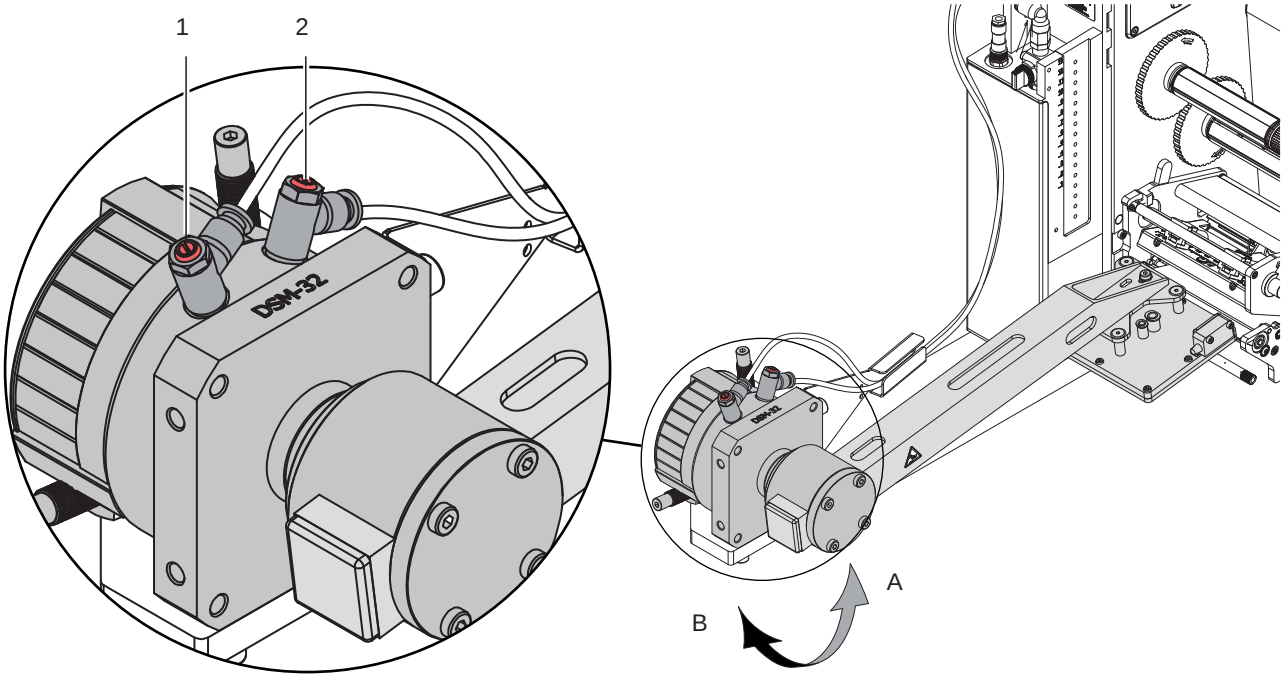


Fig.17 Throttle valves on the swing cylinder

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.

7.5 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.

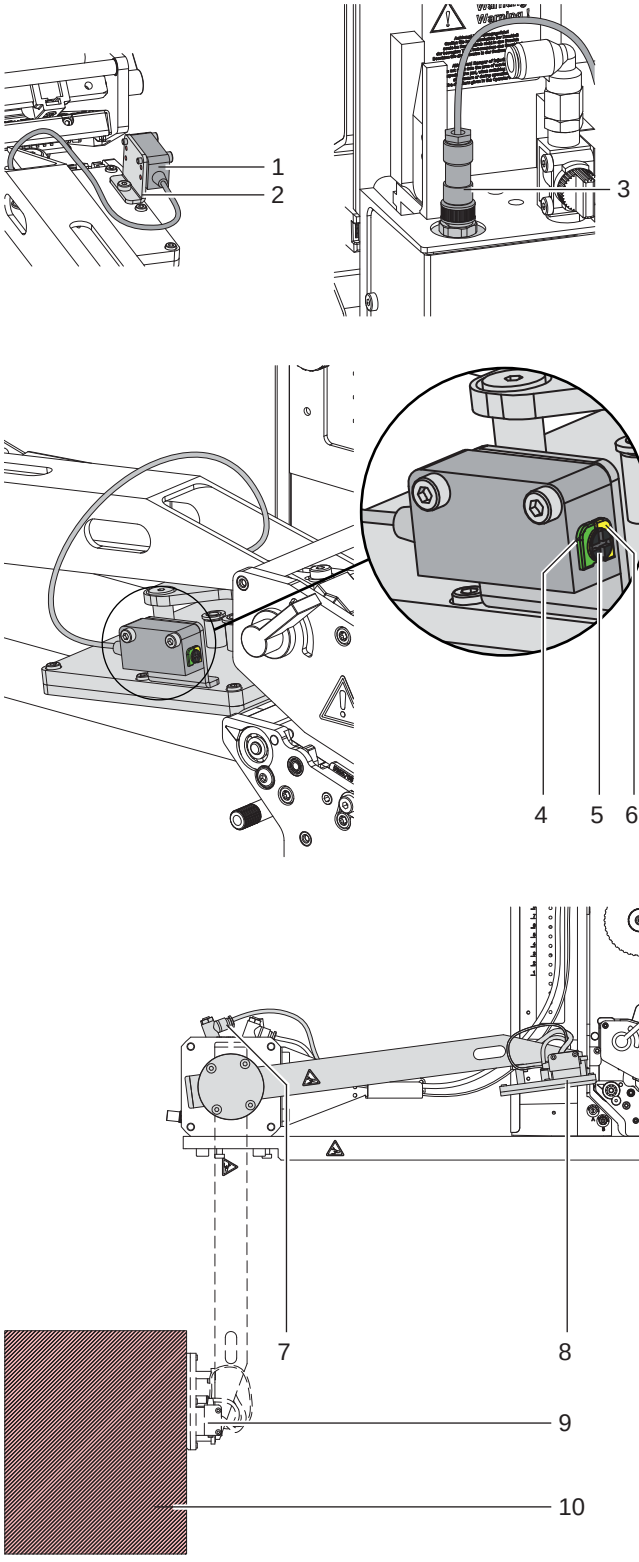


Fig.18 Product Sensor

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 within the printer setup.

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

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

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

Table 4 Operation and application modes

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

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

8.1 Method for Changing the Printer Setup

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

8.2 Quick Mode for Setting the Delay Times

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

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.

8.3 Configuration Parameters of the Applicator

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

Parameter	Meaning	Default
`Applicator`	Configuration parameters of the applicator	
`> Mode of oper.`	Setting the operation mode `Stamp on, Roll on, Blow on`	`Stamp on`
`> Mode of appl.`	Setting the application mode `Print-Apply / Apply-Print` `Print-Apply`: An external start signal releases the print of a label and following the application of the label. After a cycle is complete, the pad without label waits in the start position. `Apply-Print`: An extra signal starts the print of the first label and the transfer of the label to the pad. The external start signal releases the application of the label and following the print and transfer of the next label. After a cycle is complete, the pad with a label is in the waiting position.	`Print-Apply`
`> Waiting position`	**only at Mode of oper. `Blow on` and 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`
`> Blow time`	**only at Mode of oper. `Blow 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 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	`Out`
`> 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`

Table 5 Applicator parameters

8.4 Setting the Peel Position

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

Attention!

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

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

Parameter "Peel Position" in the printer configuration

- Check the basic setting in the printer setup. Perform labeling cycles by alternately pressing the **feed** key and the pre-dispense key ▷ „9.1 Test Mode without Print Job“ .
- Adjust the "Peel Position" in such a way, that the blank labels are peeled-off completely from the liner ▷„8.3 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 ▷ „9.2 Test Mode with Print Job“
- Adjust the peel-off offset in such a way, that the printed labels are peeled-off completely from the liner ▷ Programming manual or software documentation.

8.5 Activation of Peel-off Mode

Notice!

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

For direct programming use the P command ▷ Programming manual.

9.1 Test Mode without Print Job

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

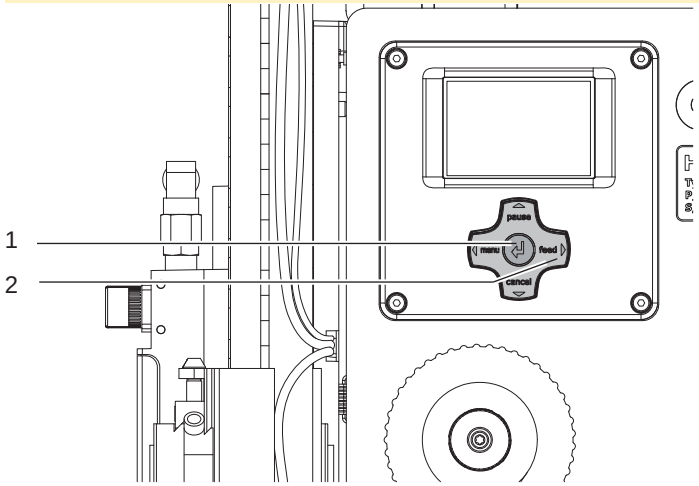


Fig.19 Test mode via Enter key

Notice!
▶ **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.

9.2 Test Mode with Print Job

Notice!
▶ **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.

9.3 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

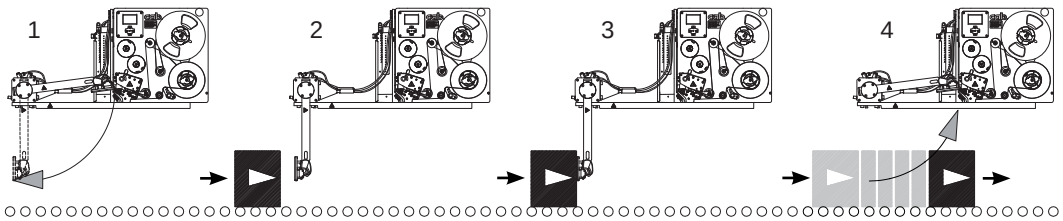


Fig.20 Labeling Front Side

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).

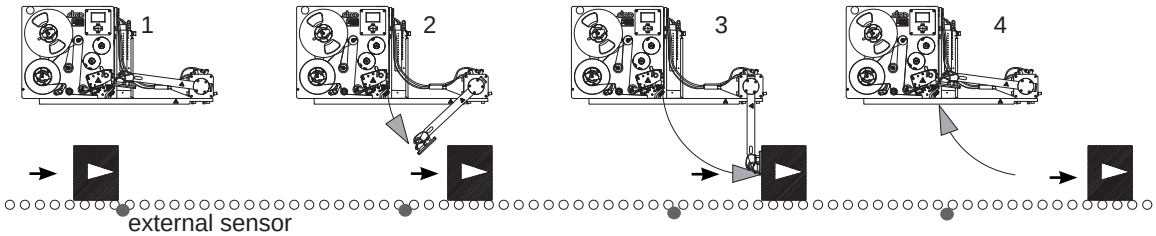
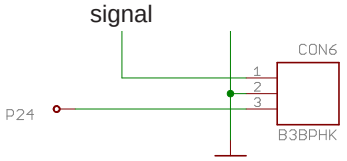


Fig.21 Labeling Rear Side

9.4 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

10.1 Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
1	5902489.001	Screw DIN7984-M4x8	10		
2.1	5964129.001	Cover L	1		
2.2	5964260.001	Cover R	1		
3	5964367.001	Knurled Screw	1		
4	5965963.001	Set Screw	1		
5	5904544.001	Spring	10		
6	5902241.001	Screw DIN7984-M4x10	10		
7.1	5970261.001	Mounting Plate L L	1		
7.2	5970266.001	Mounting Plate R R	1		

No.	Part-No.	Description	PU	Serial No.	
				from	to
8	5966530.001	Eccentric	1		
9.1	5966529.001	Hinges L L	1		
9.2	5966531.001	Hinges R R	1		
10	5964090.001	Bar	1		
11	5903525.001	E-Ring DIN6799-4	10		
12.1	5964429.001	Plate L	1		
12.2	5964438.001	Plate R	1		
13	5902021.001	Screw DIN7991-M3x6	10		

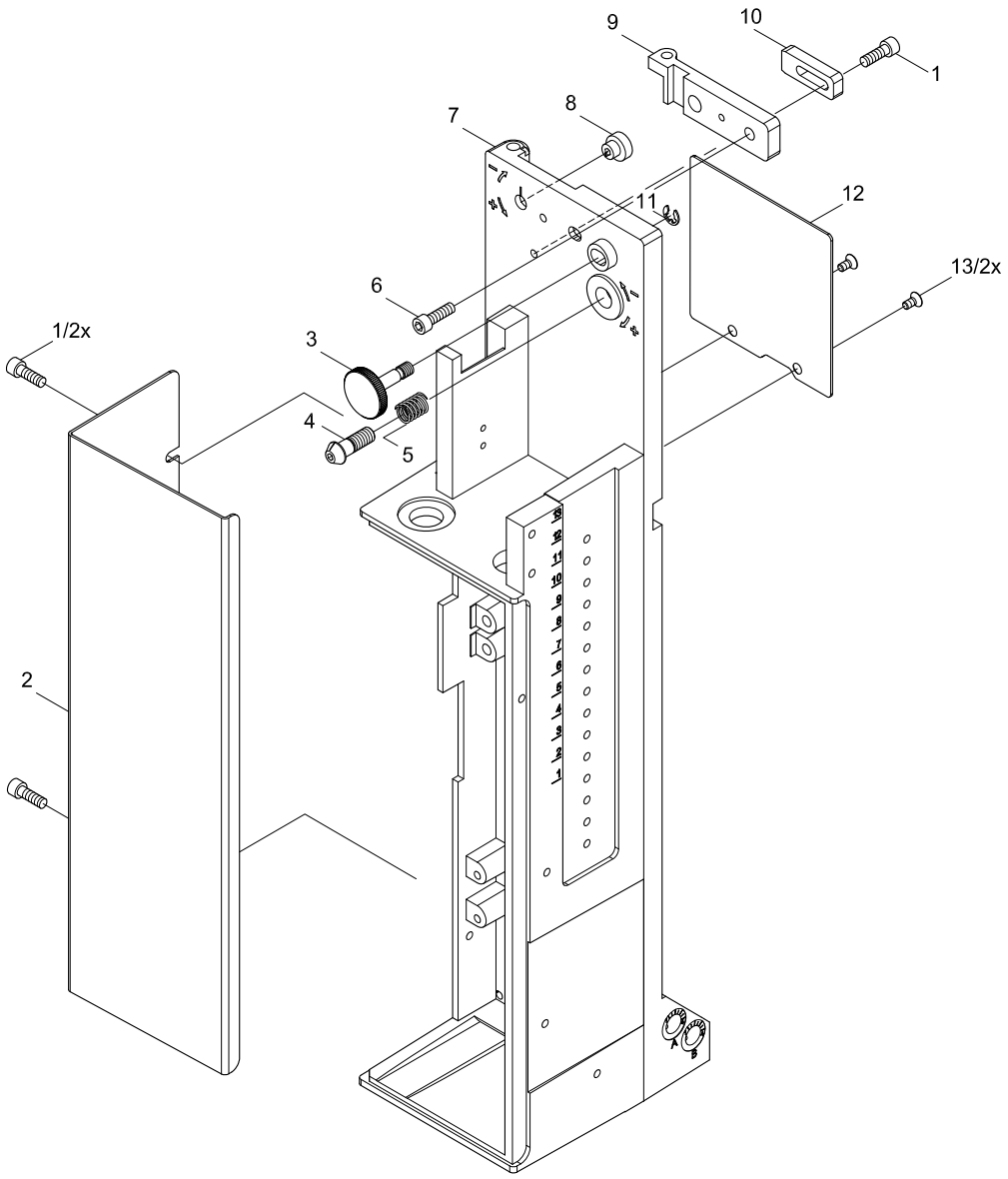


Fig.23 Retainer Assembly - Spare Parts

10.2 Pneumatics Retainer Assembly

No.	Part-No.	Description	PU	Serial No. from	Serial No. to
1	5902489.001	Screw DIN7984-M4x8	10		
14	5902863.001	Screw DIN7984 M4x25	10		
15	5905285.001	Push-in L-Connector	1		
16	5905284.001	Block Valve	1		
17	5906656.001	Push-in/threaded Fitting	1		
18	5966414.001	Pressure Reduce Valve	1		
19.1	5906852.001	Valve Block L	1		
19.2	5906868.001	Valve Block R	1		
20	5966460.001	Tube	2m		
21	5966463.001	Tube	2m		
22	5966464.001	Tube	2m		
23	5966465.001	Tube	2m		

No.	Part-No.	Description	PU	Serial No. from	Serial No. to
24	5905972.001	Push-in Y-Fitting	1		
25	5906021.001	Valve	1		
26	5906022.001	Valve	1		
27	5902862.001	Screw DIN7984 M4x20	10		
28	5905317.001	Push-in L-Connector	1		
29	5906844.001	Vacuum Generator	1		
30	5905257.001	Silencer	1		
31	5905338.001	Push-in T-Connector	1		
32	5905283.001	Push-in/threaded Fitting	1		
33.1	5964277.001	Blow Tube 2"	1		
33.2	5964095.001	Blow Tube 4"	1		
33.3	5964614.001	Blow Tube 6"	1		

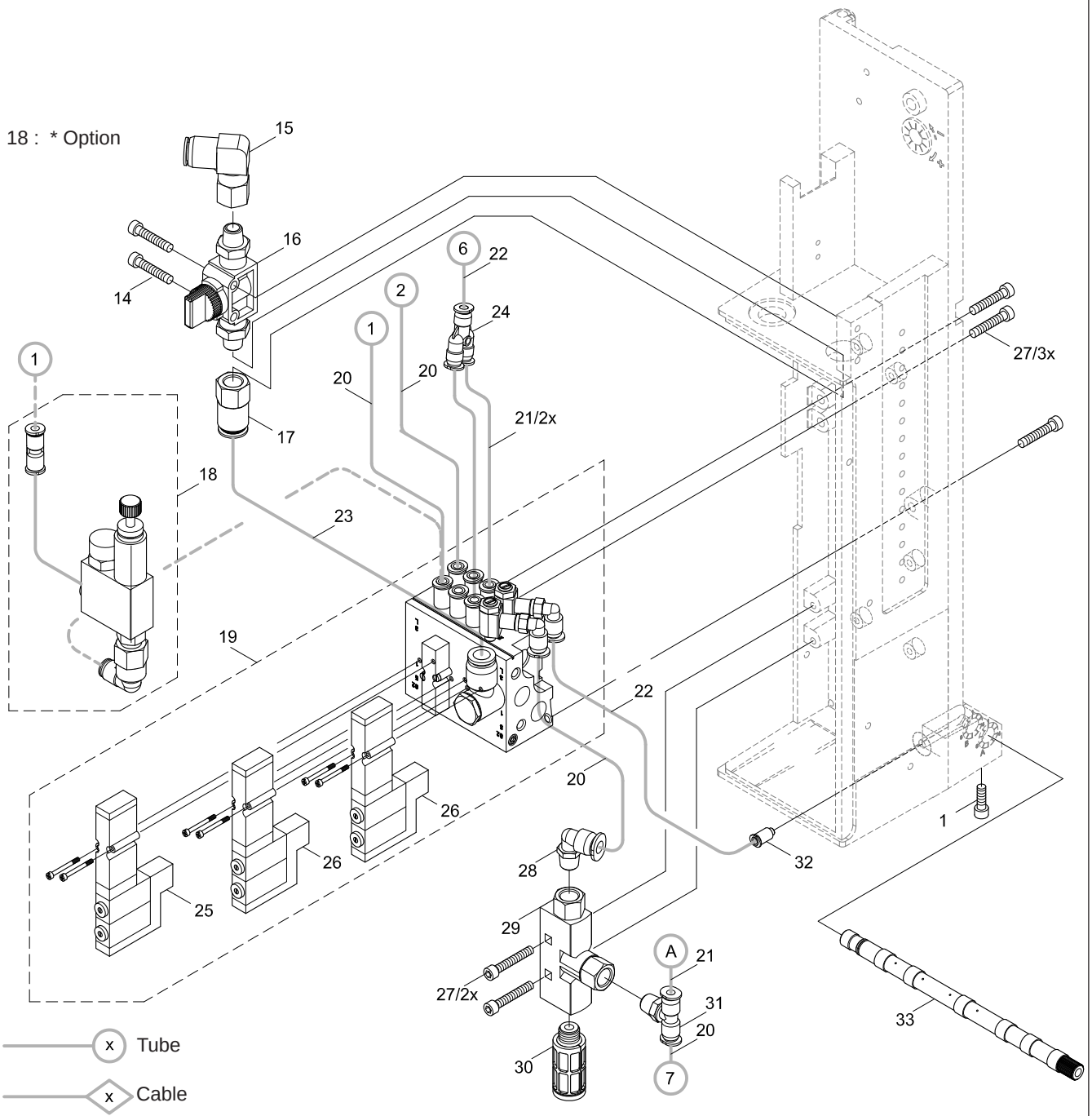


Fig.24 Pneumatics Retainer Assembly - Spare Parts

10.3 Electronics Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
21	5966463.001	Tube	2m		
34	5902144.001	Screw DIN7984-M3x5	10		
35	5964045.001	Bracket	1		
36	5970198.001	Sensor	1		
37	5970199.001	Sensor	1		
38	5970015.001	EEPROM	1		
39	5955575.001	Applicator Control	1		
40	5955586.001	Cable	1		
41	5971102.001	Cable Retainer	1		
42	5902571.001	Screw DIN7984-M4x6	10		
43	5906943.001	Sealing Ring	1		

No.	Part-No.	Description		PU	Serial No.	
					from	to
44	5955585.001	PCB Valve Block		1		
45.1	5955579.001	Applicator Interfaces	L	1		6123
45.2	5971416.001	PCB Applicator Interfaces	L	1	6124	
45.3	5964188.001	Applicator Interfaces	R	1		6123
45.4	5971417.001	Applicator interfaces	R	1	6124	
46.1	5971122.001	Cable	200	1		
46.2	5970208.001	Cable	300	1		
46.3	5971123.001	Cable	400	1		
47	5970246.001	Sensor Adapter		1		
48	5966417.001	Retainer		1		

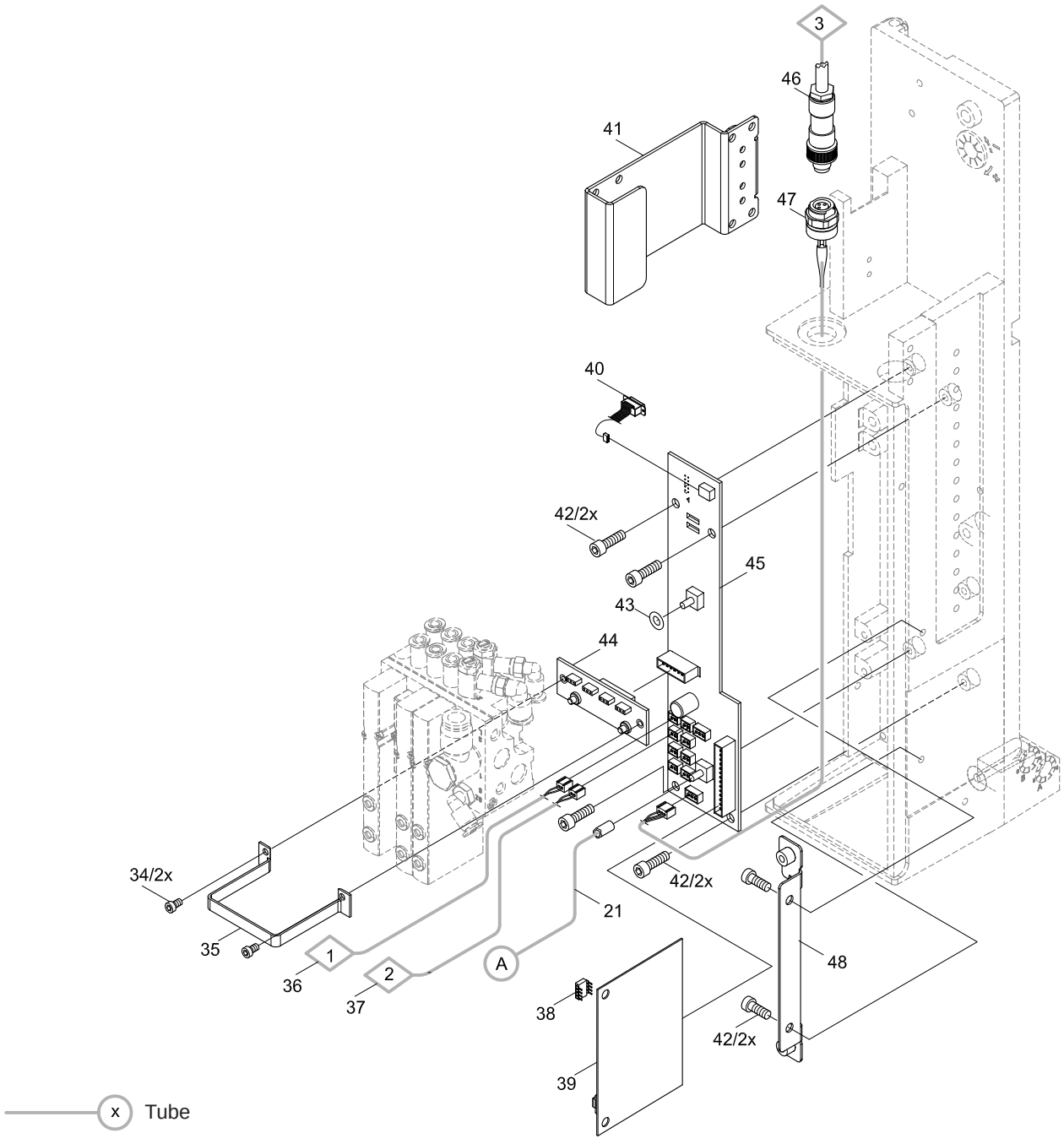


Fig.25 Electronics Retainer Assembly - Spare Parts

10.4 Cylinder assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
36	5970198.001	Sensor	1		
37	5970199.001	Sensor	1		
46.1	5971122.001	Cable 200	1		
46.2	5970208.001	Cable 300	1		
46.3	5971123.001	Cable 400	1		
49	5907071.001	Cover	1		
50	5907061.001	Sensor Retainer	1		
51	5905956.001	One-way Flow Control Valve	1		
52	5907069.001	Swing Drive	1		
53.1	5971101.001	Tube Retainer 200	1		
53.2	5970166.001	Tube Retainer 400	1		
54	5902199.001	Screw DIN912-M8x14	10		
55	5970116.001	Retainer	1		
56	5907083.001	Stopper 34x34	1		
57.1	5970096.001	Lever 200	1		
57.2	5970094.001	Lever 300	1		
57.3	5971103.001	Lever 400	1		

No.	Part-No.	Description	PU	Serial No.	
				from	to
58	5902358.001	Screw DIN7984-M4x6	10		
59	5970079.001	Bracket	1		
60	5902018.001	Screw DIN912-M3x16	10		
61	5902178.001	Screw DIN912-M6x20	10		
62	5970092.001	Flange	1		
63	5970257.001	Adapter Plate	1		
64	5902248.001	Screw DIN912 M8x25	10		
65	5902082.001	Screw DIN912-M6x30	10		
66.1	5971104.001	Support 200L	1		
66.2	5971109.001	Support 200R	1		
66.3	5970253.001	Support 300L	1		
66.4	5970256.001	Support 300R	1		
66.5	5970193.001	Support 400L	1		
66.6	5971111.001	Support 400R	1		
67		Pad (customized)	1		
68	5970263.001	Sensor Product Detecting	1		

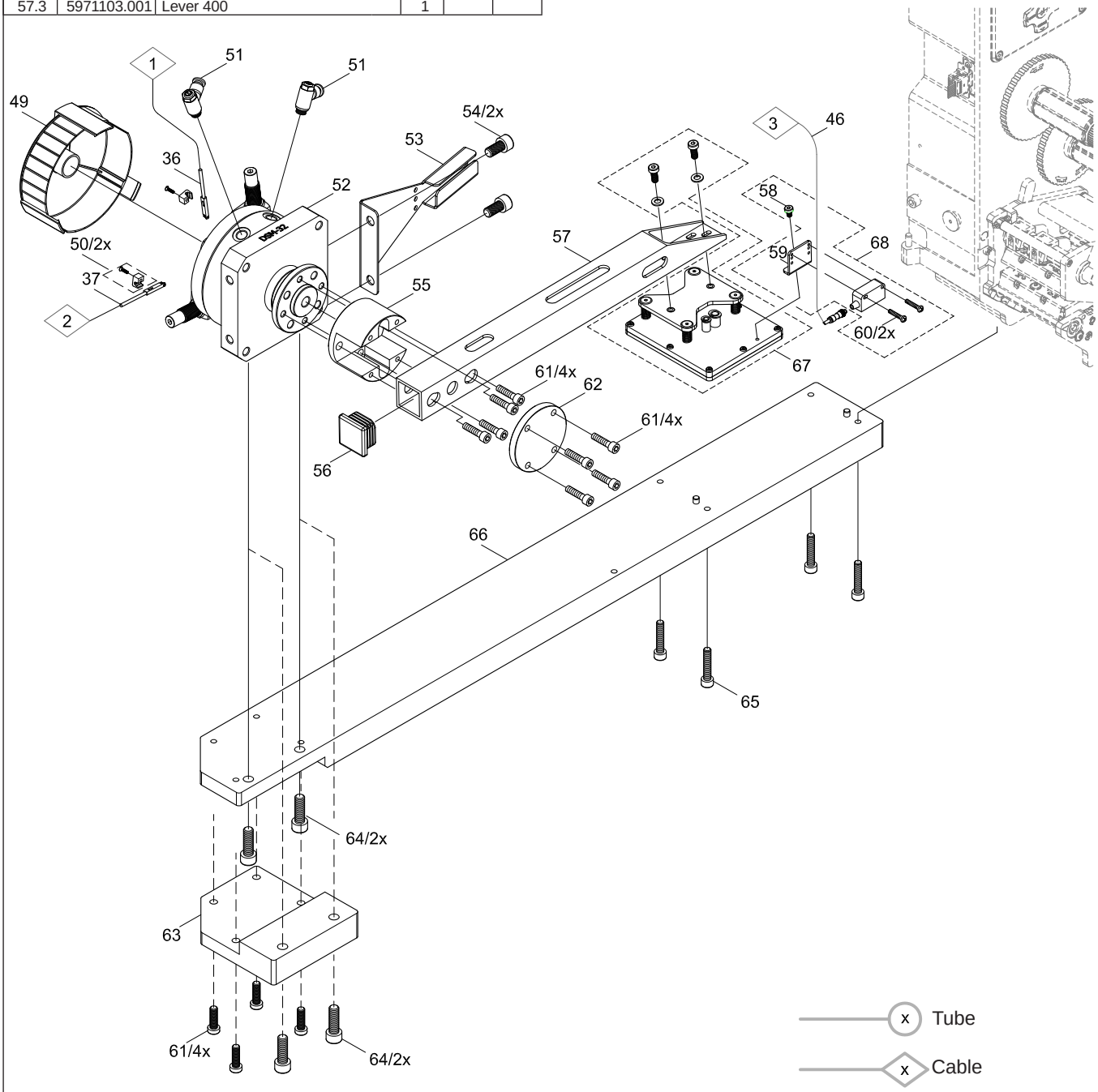


Fig.26 Tamp retainer - Spare Parts

11.1 Block Diagram

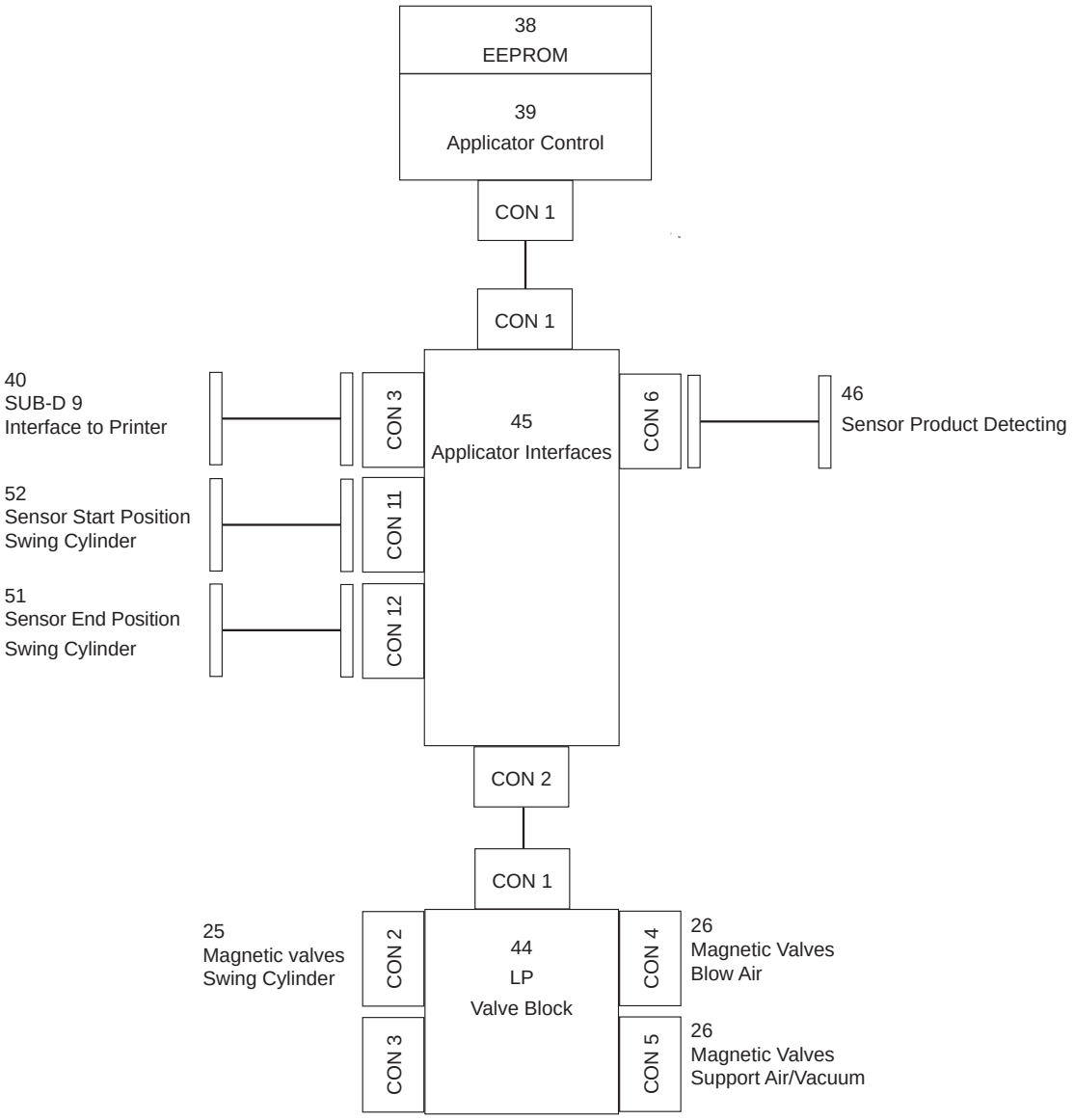


Fig.27 Block diagram

11.2 Pneumatic drawing

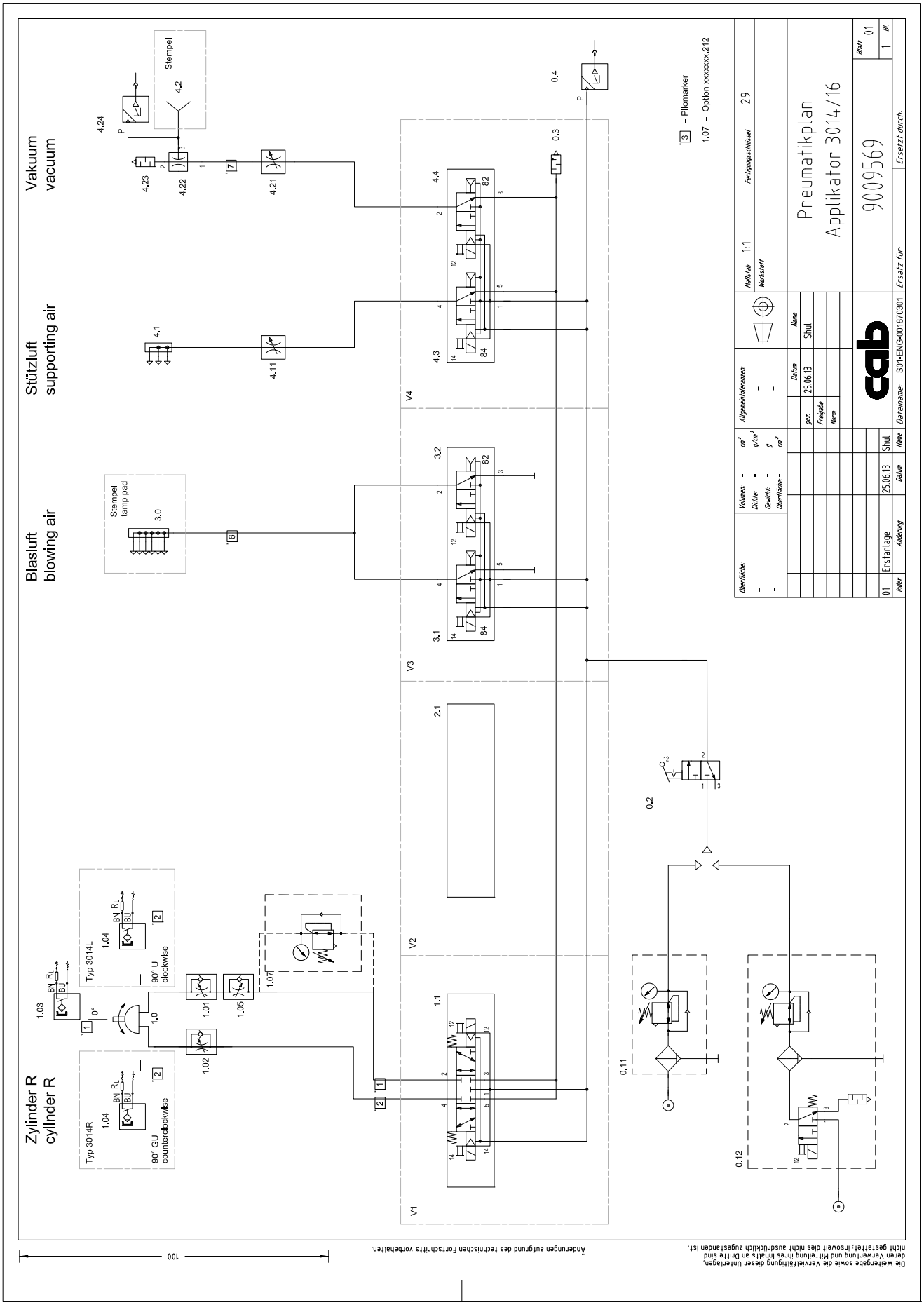


Fig.28 Pneumatics