

Swing Applicator

3214

Made in Germany

Family	Type
Swing Applicator	3214L

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1.1 Instructions

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



Danger!

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



Danger!

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



Warning!

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



Caution!

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



Attention!

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



Note!

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



Environment!

Gives you tips on protecting the environment.



Handling instruction.



Reference to section, position, illustration number or document.



Option (accessories, peripheral equipment, special fittings).

Time Information in the display.

1.2 Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to life and limb of the user or third parties and/or damage to the device and other tangible assets can arise during use.
- The device may only be used for its intended purpose and if it is in perfect working order, and it must be used with regard to safety and dangers as stated in the operating manual.
- The device applicator mounted on a cab printer of the Hermes+ series is intended exclusively for applying suitable materials that have been approved by the manufacturer. Any other use or use going beyond this shall be regarded as improper use. The manufacturer/supplier shall not be liable for damage resulting from unauthorized use; the user shall bear the risk alone.
- Usage for the intended purpose also includes complying with the operating manual, including the manufacturer's maintenance recommendations and specifications.



Note!

The complete and current version of the documentation can be found in the Internet.

1.3 Safety Instructions



Attention!

Initiation, adjustments and changing of parts are to be performed by qualified service personnel only.

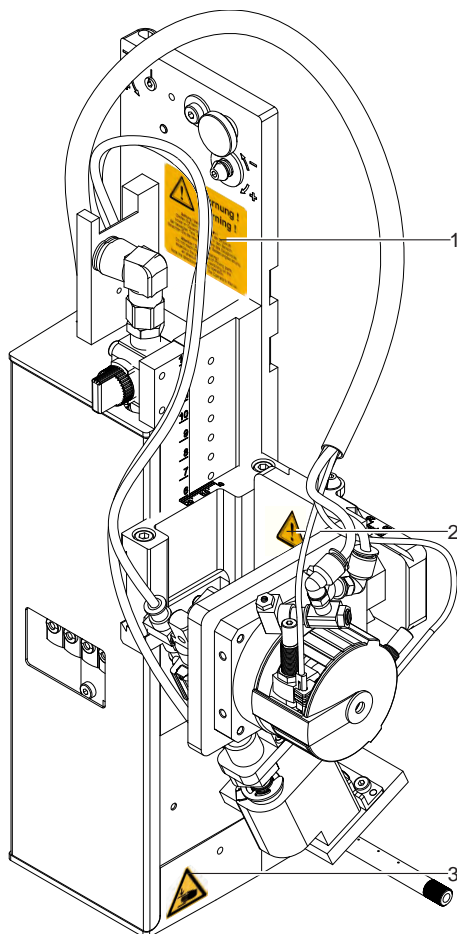


Warning!

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

- Before mounting the delivered components disconnect the printer from the power supply and close the shutoff valve of the applicator.
- Only connect the device to other devices which have a protective low voltage.
- Switch off all affected devices (computer, printer, accessories) before connecting or disconnecting.
- In operation, moving parts are easily accessible.
This applies especially for the zone, where the pad is moved between the starting and the labelling position.
During operation do not reach into that zone and keep long hair, loose clothes, and jewelry distant. Before any manipulations in those areas, close the shutoff valve.
- The device may only be used in a dry environment, do not expose it to moisture (sprays of water, mists, etc.).
- Do not use the device in an explosive atmosphere.
- Do not use the device close to high-voltage power lines.
- Perform only those actions described in this operating manual.
Work going beyond this may only be performed by trained personnel or service technicians.
- Unauthorized interference with electronic modules or their software can cause malfunctions.
- Other unauthorized work on or modifications to the device can also endanger operational safety.
- Always have service work done in a qualified workshop, where the personnel have the technical knowledge and tools required to do the necessary work.
- There are various warning stickers on the device. They draw your attention to dangers. Warning stickers must therefore not be removed, as then you and other people cannot be aware of dangers and may be injured.

1.4 Safety Markings



1:



Warning potential injury by moving parts!

2:



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

3:



Danger of crushing hands and/or fingers by the moving pad!



Attention!

Never remove or cover safety markings!
Replace it in case of damage!

Fig. 1 Safety marking

1.5 Environment



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

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

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

- Send the parts for recycling.

2.1 Important Features

- The supporting air and the vacuum as well as the speed of the cylinder are adjustable. That way the applicator can be adapted to different label materials and sizes.
- To avoid contamination within the vacuum channels they are cleaned by air pressure impulse at the end of each application.
- For operation in a system the I/O interface of the printer can be used.

2.2 Technical Data

Label transfer method	Tamp pad	Tamp pad with foam	Tamp pad with label stop	Blow pad
	3214 L/R 11 F	3214 L/R 12 F	3214 L/R 61 F	3214 L/R 2100
Label width in mm for Hermes ⁺ 4	4 - 58	10 - 58	10 - 58	10 - 58
for Hermes ⁺ 6	10 - 114	10 - 114	10 - 114	10 - 80
Label height in mm	5 - 80	10 - 80	5 - 80	10 - 80
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	sideways	■	■	■
Product height	fix	■	■	■
Distance of product to dispensing edge in mm	250 - 280	250 - 280	250 - 280	250 - 280
Horizontal short stroke cylinder in mm	5 - 30	5 - 30	5 - 30	5 - 30
Swing angle	45° - 95°	45° - 95°	45° - 95°	45° - 95°
Immersion depth pad F ²⁾ up to mm	30	30	30	-
Cycle time about frequency/min. ¹⁾	25	25	25	25

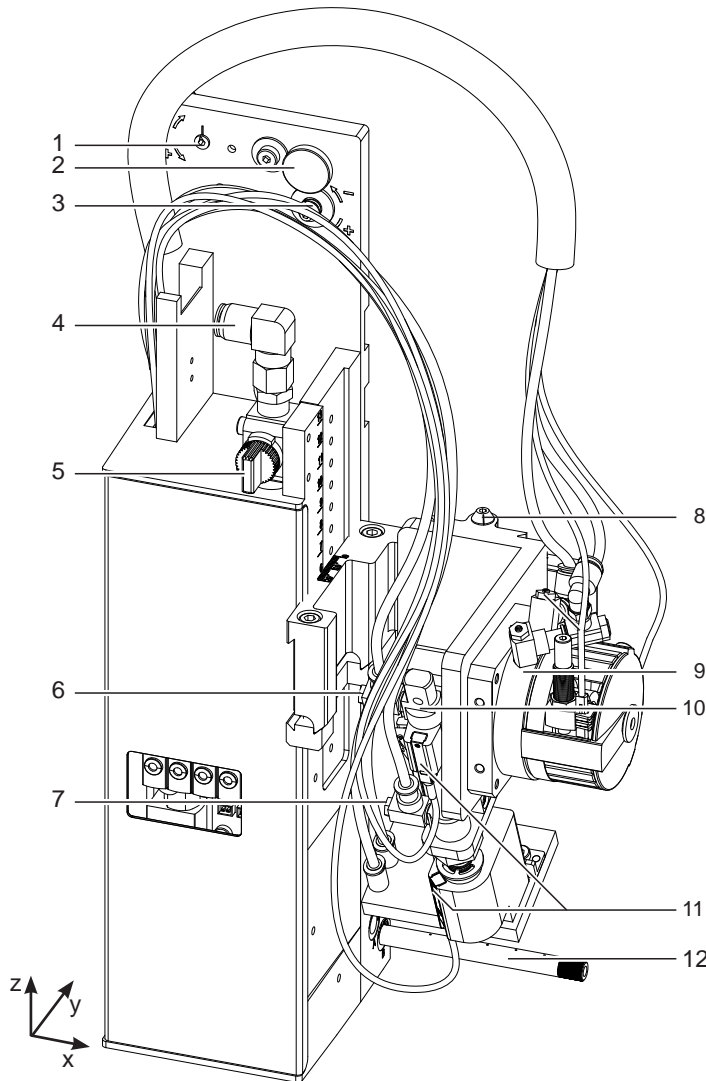
¹⁾ Determined at 100 mm stroke below device / smallest label height / print speed 100 mm/s .

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

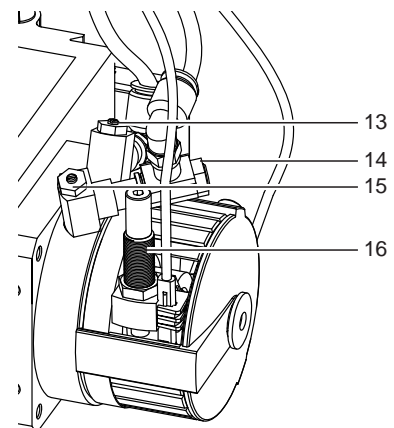
Table 1 Technical Data

2.3 Overview

Front view



Swing drive



Throttle valves vacuum/support air

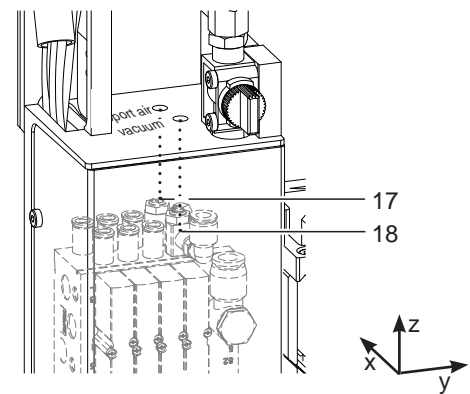


Fig. 2 Device overview - front view

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

Rear view

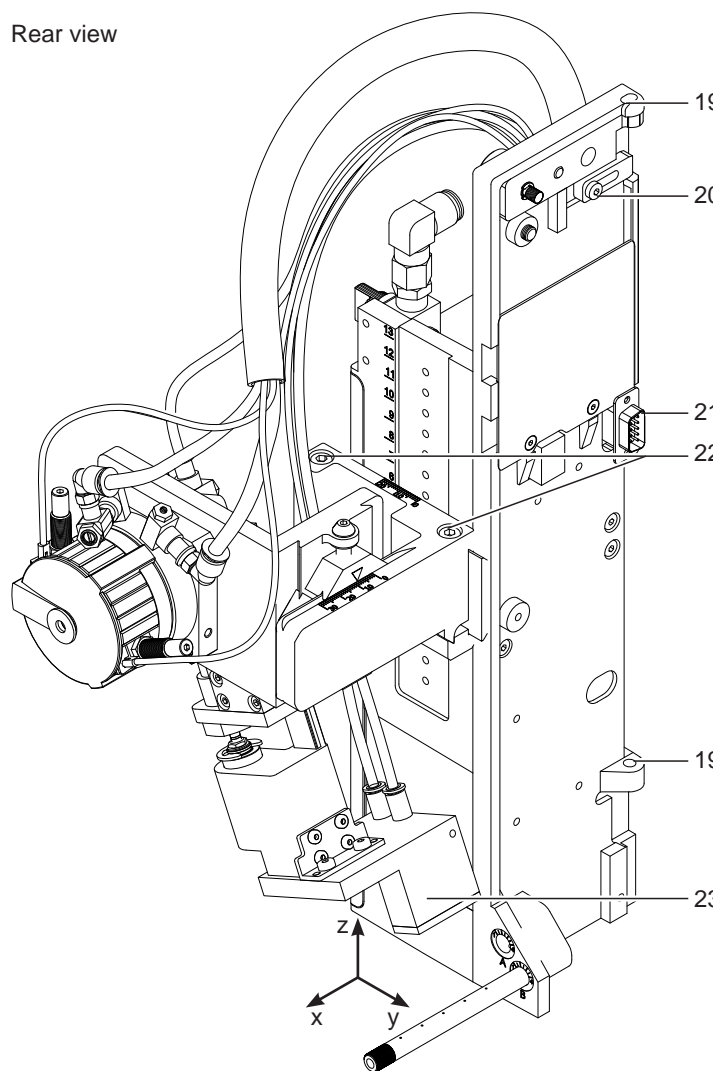


Fig. 3 Device overview - rear view

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

Valves and control system

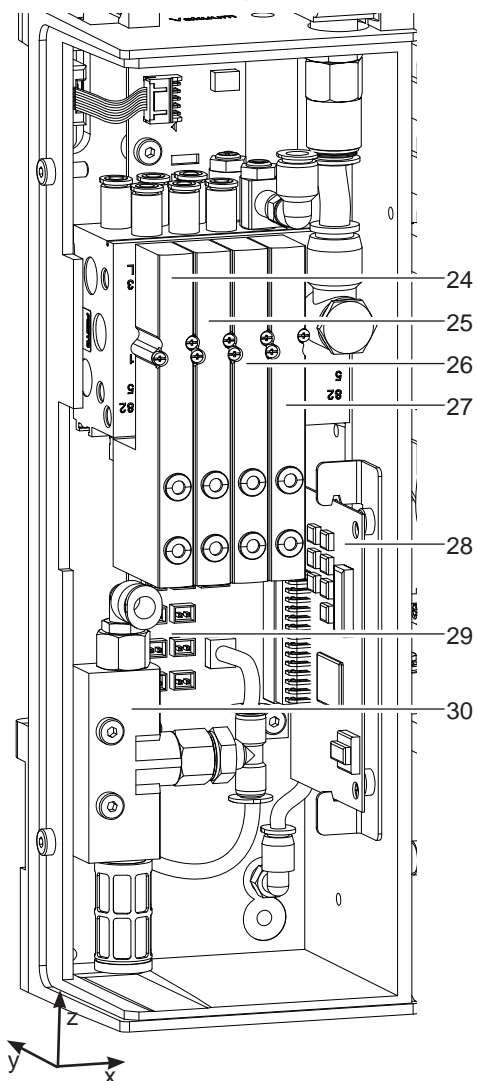
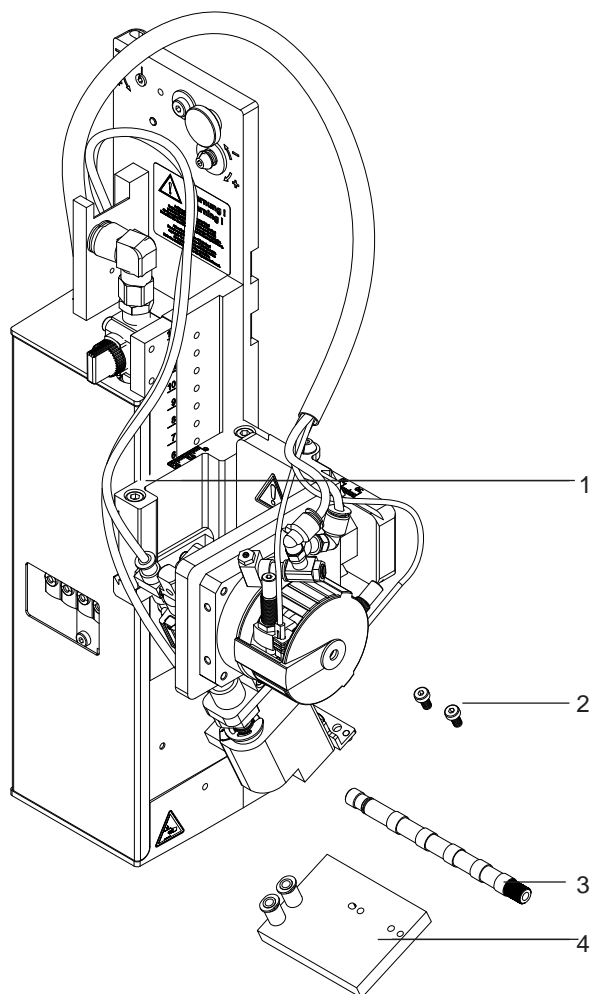


Fig. 4 Device overview - control system

- 24 Valve swing drive
- 25 Valve Cylinder Z/Y-direction
- 26 Valve Blow air
- 27 Valve Vacuum and Support air
- 28 PCB Applicator Control

2.4 Contents of Delivery



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

Fig. 5 Contents of delivery



Note!

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



Attention!

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

► Only set up the label printer with applicator in dry locations protected from moisture and splashes.

3.1 Standard Operation

- ▶ Check all external connections.
- ▶ Load the material. Ensure that the locking system is closed ▷ "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, or the vacuum sensor may be calibrated incorrectly.

- ▶ Switch on the printer.



Note!

In case the pad is outside the starting position at the moment of switching on the air pressure the procedure will be interrupted and an error message will be displayed.

By pushing the pause button on the printer the error is acknowledged and the pad will move back to its starting position.

The Applicator is ready for work.

- ▶ Press the **feed** key of the printer.
A synchronization feed is initiated and 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 start of the printing line.



Note!

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 labelling process via PLC interface.

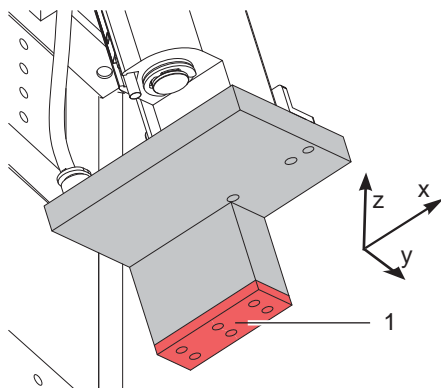
Error messages that occur during the labelling process are shown in the display of the printer ▷ 4 Error Messages.

3.2 Cleaning



Attention!

Never use solvent and abrasive.



- ▶ Clean the outside surfaces with multi purpose cleaner.
- ▶ Remove dust particles and leftover label pieces with a soft brush and/or vacuum cleaner.
- ▶ The slide foil (1) requires regular cleaning as the most dirt is deposited here.

Fig. 6 Cleaning pad with slide foil

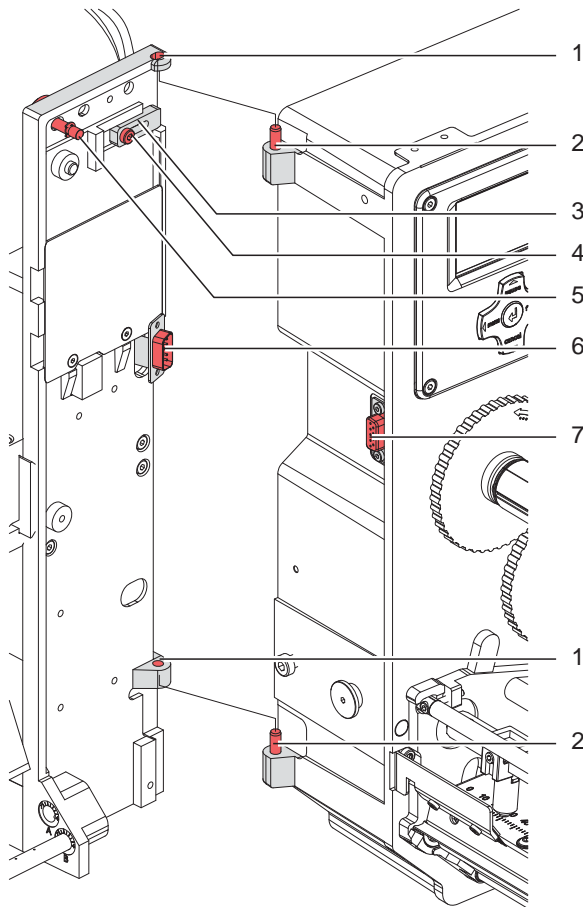


Fig. 7 Mounting applicator to printer



Attention!

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

▷ Initiation/Service Manual Applicators



Attention!

- ▶ Disconnect the printer from the power supply before mounting the applicator!
- ▶ Ensure that the printer is positioned stably and securely.
- ▶ Connect the compressed air only after mounting the applicator to the printer!

To clean the applicator and printer it is sometimes necessary to turn away or even dismount the applicator from the printer.

Take care not to adjust the setting screws, throttle valves or other alignment elements. This will enable use of the applicator directly after cleaning.

Pivot away/dismount the applicator

1. To turn away the applicator loosen thumbscrew (5) and swing the applicator aside.
2. Disconnect SUB-D 15 male connector (6) from the female connector (7) of the printer.
3. Loosen screw (4) and slide the locking plate (3) off.
4. Lift the applicator off the hinges.

Mount the applicator

1. Mount the applicator to the printer via the female hinges (1) to the printer via the male hinges (2).
2. Connect SUB-D 15 male connector (6) to the female connector (7) of the printer.
3. To secure the applicator from slipping out of hinges loosen screw (4) and move the locking plate (3) under the hinges and tighten screw (4).
4. Swing the applicator to the printer and tighten the thumbscrew (5).

4.1 Error Messages of the Printer

For detailed information about printer errors (e.g. 'Paper out', 'Ribbon out', etc.) ▷ 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 printing 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 too low < 4 bar
	Pressure too high > 6 bar
Label not depos.	Label has not been placed onto the product; after the pad has moved back the label is still on the pad.
Lower position	Pad is not in start 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 undefined leaving the start position.
Process Error	Process of labeling was interrupted via the I/O interface of the printer with the XSTP signal.
Refl. sensor blk.	There has been no change in state at the upper sensor at the cylinder between the start of the labelling process and the signal from the labelling 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 labelling 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.



Note!

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 hands and fingers by the moving pad!

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

After error correction, the print of the label causing the error cannot be repeated without re-start of the print job. Except at the error "Vac. plate empty". In this case, the latest label will print again after quit the error with the **pause** key and then press the Enter button ↵.

- ▶ 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:	Swing Applicator
Type:	3214
Applied EU Regulations and Norms:	
Directive 2006/42/EC on machinery	<ul style="list-style-type: none"> • 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:	Sömmerda, 19.06.2017
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	 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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GmbH & Co KG
Wilhelm-Schickard-Str. 14
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Deutschland

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:	Swing Applicator
Type:	3214
Applied EU Regulations and Norms:	Applied Norms:
Directive 2014/30/EU relating to electromagnetic compatibility	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • EN 50581:2012
Signed for, and on behalf of the Manufacturer:	Sömmerda, 19.06.2017
cab Produkttechnik Sömmerda Gesellschaft für Computer- und Automationsbausteine mbH 99610 Sömmerda	 Erwin Fascher Managing Director

6.1 Factory Defaults

**Note!**

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

**Note!**

In case of a customer setup will be the adjustments with the customized configuration.

It's possible that the values are different to the standard values.

Then the values in the setup protocol are valid.

The standard settings are:

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

6.2 Tools







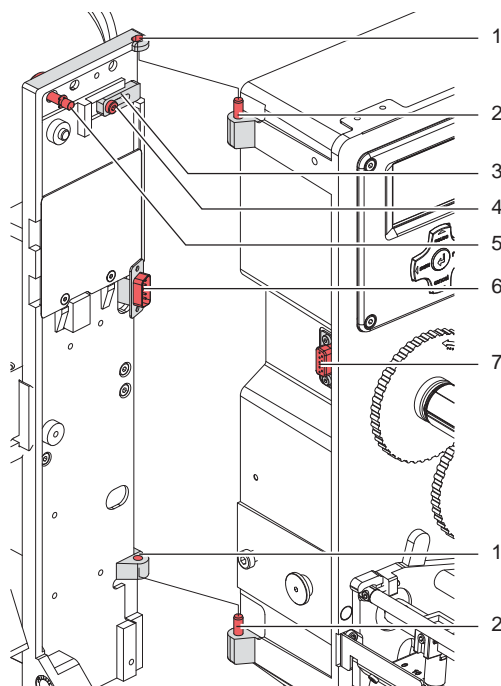
Screwdriver with parallel blade	2.5		To adjust the throttle valves and product sensor
Hexagon key L-wrench	0.8		To adjust the sensors (in contents of delivery)
	2.5		For matched norm parts (in contents of delivery)
	4		Pad adjustments Changing pad
Flat-round nose	straight		To mount/dismount tubes
	angled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

Fig. 8 Tools

6.3 Mounting the applicator

**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!



1. Hang the applicator to the printer via the female hinges (1) and the male hinges (2).
2. Connect SUB-D 15 male connector (6) to its female counterpart (7).
3. To secure the applicator from slipping out of hinges loosen screw (4) and move locking plate (3) under the hinges. Tighten screw (4).
4. Swing the applicator to the printer and ensure that the cable is not caught between the two.
5. Tighten the thumbscrew (5).
6. Raise the stopper from the transport position to enable movement of cylinder Z.

Fig. 9 Mounting applicator to printer

6.4 Transport lock

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

**Warning!**

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

**Warning!**

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

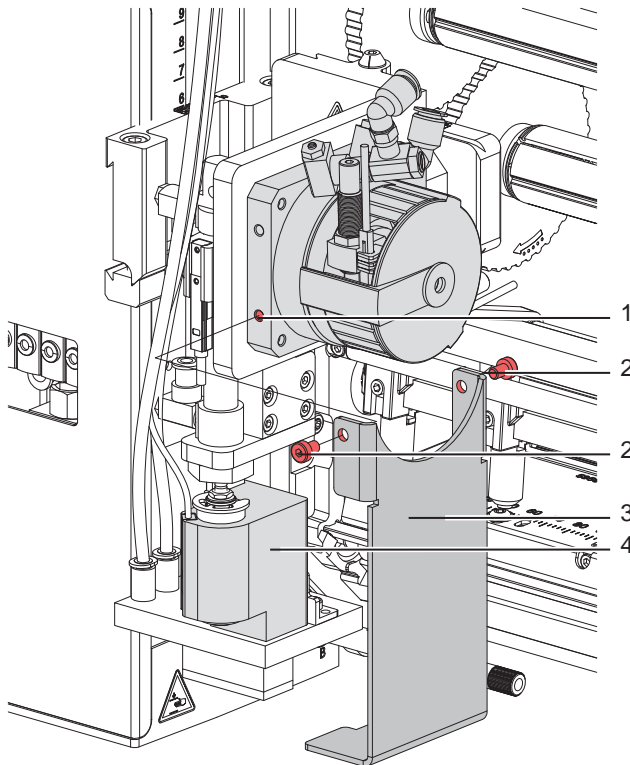


Fig. 10 Transport lock

Remove the transport lock

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

**Attention!**

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

Mounting the transport lock

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

6.5 Mounting the Pad

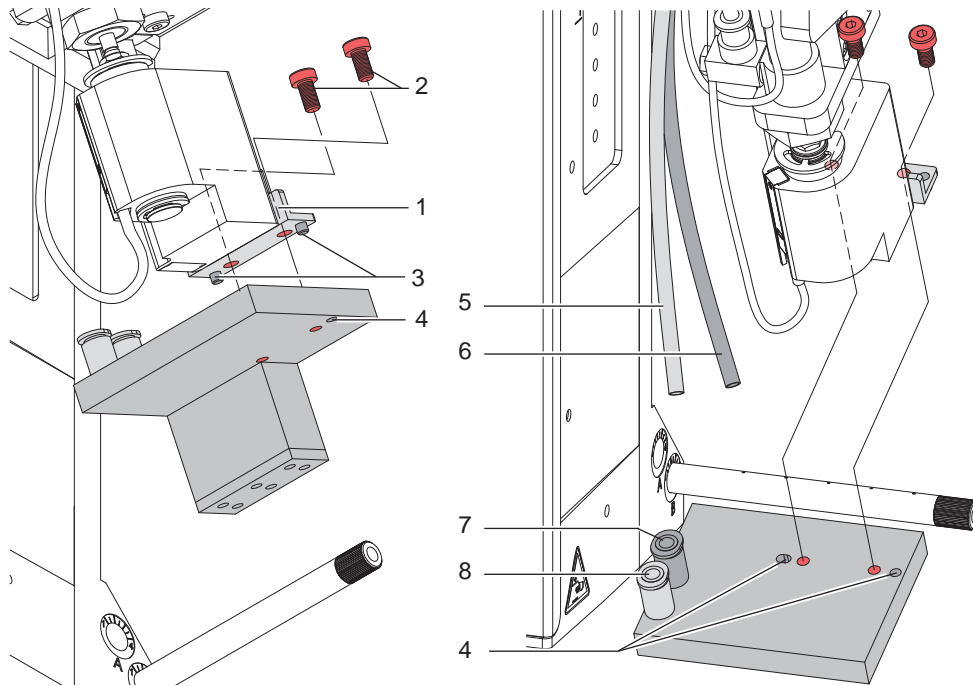


Fig. 11 Mounting the pad

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



Attention!

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

6.6 Mounting the Blow Tube

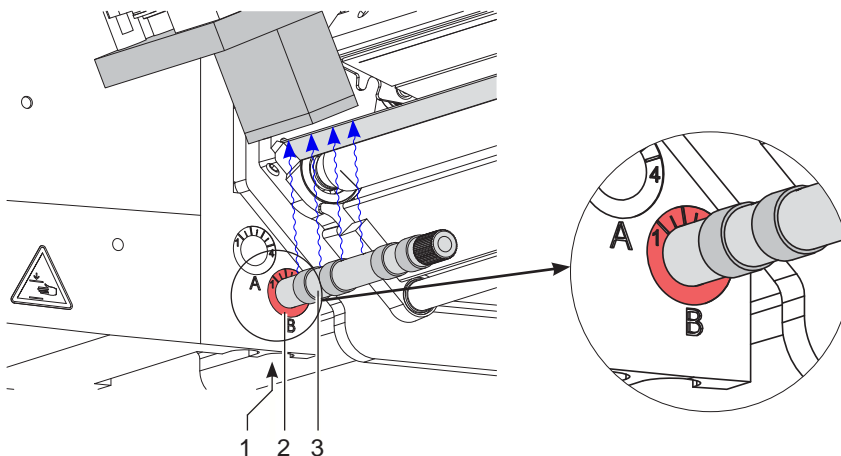


Fig. 12 Mounting the blow tube

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

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

6.7 Connecting the Compressed Air



Attention!

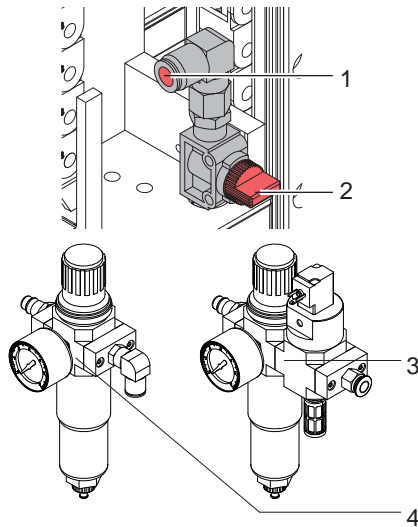
Adjustments and function control where undertaken with a compressed air value of 4.5 bar. The applicator operating range is between 4.0 and 6.0 bar.



Warning!

In 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 away. Danger of injury and damage by the moving rods!



- 1 Check the vertical position of the stop valve (2). (The stop valve is closed in the picture.)
- 2 Attach the compressed air via the fitting (1).
- 3 Open the stop valve (2). (The lever indicates the direction of air flow.)
- 4 Switch on the printer.

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

Controlling via the printer.

▷ Interface description of the printer air pressure regulation unit *(4)

Fig. 13 Compressed air connection



Note!

In case the pad is outside the starting position at the moment of switching on the air pressure the procedure will be interrupted and an error message will be displayed.

By pushing the pause button on the printer the error is acknowledged and the pad will move back to its starting position.

The Applicator is ready for work.



Note!

Only mount and use the air pressure regulation unit in the illustrated position or the functionality of the air-water separator cannot be guaranteed.

7.1 Pad Adjustments

For optimal results it is necessary to place the pad precisely over the dispensed labels for the take over procedure.

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

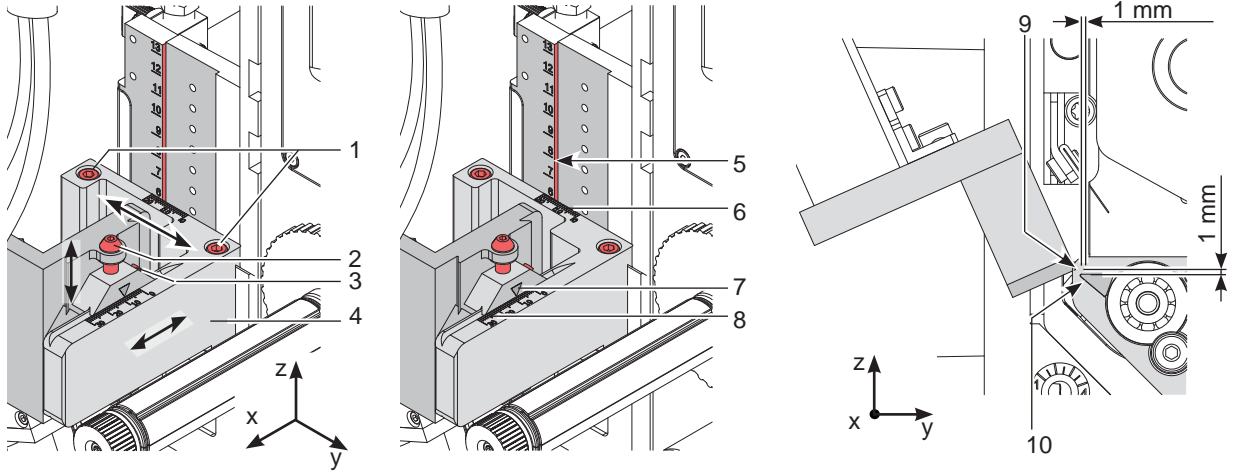


Fig. 14 Moving the pad assembly

Adjustment in X-direction (sideways adjustment)

1. Loosen screw (3).
2. Move the cylinder assembly group (5) including pad along the cross beam until the pad is over the middle of the label intended for application. For better orientation there is a graduation mark (7,8) depicted on the assembly group.
3. Tighten screw (3).

Adjustment in Y-direction (print direction)

1. Loosen screw (1).
2. Move cylinder assembly (4) including pad along the guide rail so that the distance between the edge of the pad (5) and the edge of the dispense plate (6) of the printer is approximately 1 mm. Graduation (5,6) can be used for orientation.
3. Tighten screws (1).

Adjustment in Z-direction (height adjustment)

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

Adjusting the Parallelism between Pad and Dispense Edge

The edge of the pad must be parallel to the dispense edge of the printer.

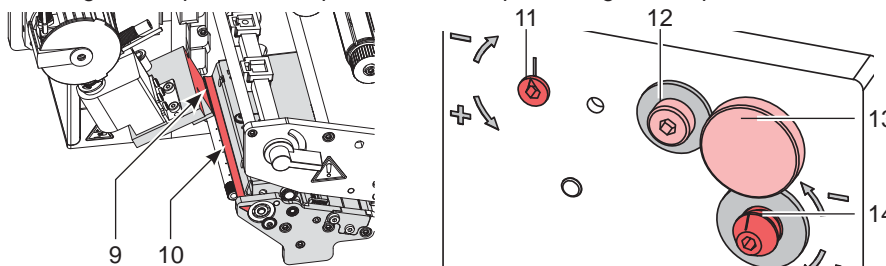
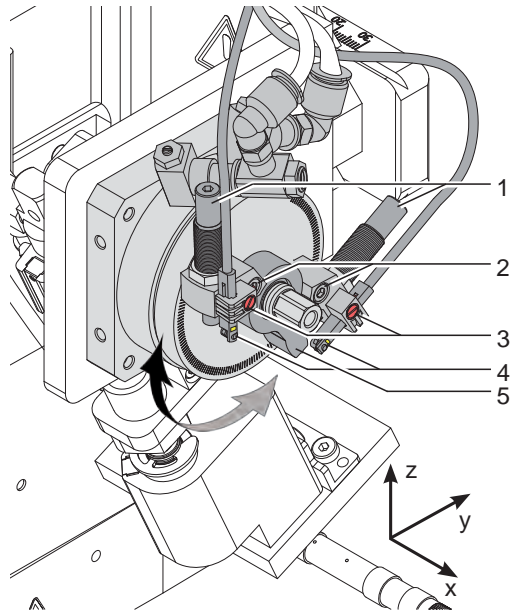


Fig. 15 Adjusting the pad to the dispense edge

1. Loosen knurled screw (13) and screw (12).
2. Push the applicator against the printer and adjust the angle between applicator pad edge (9) and printer dispensing plate (10) via the setting screw (14) and the eccentric (11).
3. Tighten screw (12) and refix the applicator via knurled screw (13) of the printer.

7.2 Adjusting the Swing Area of the Pad

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



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

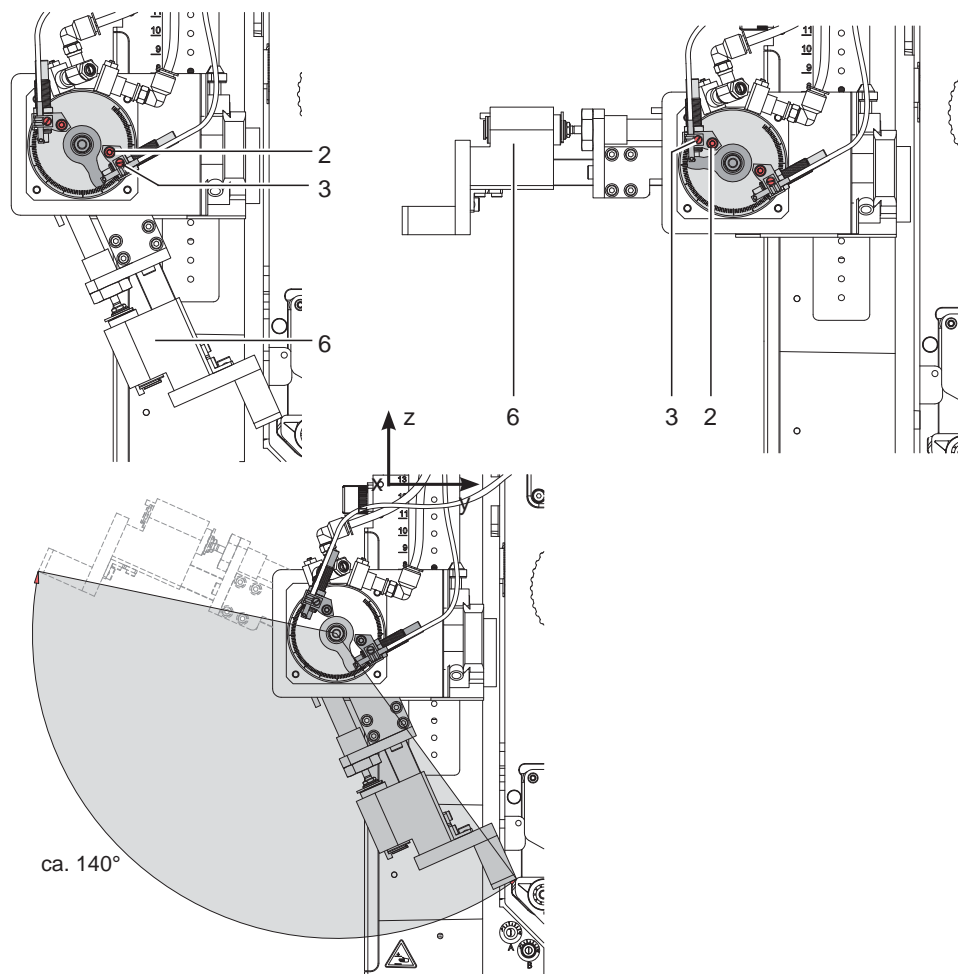


Fig. 16 Adjusting the swing area of the pad

7.3 Stopper for Operation Mode "Blow on"

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

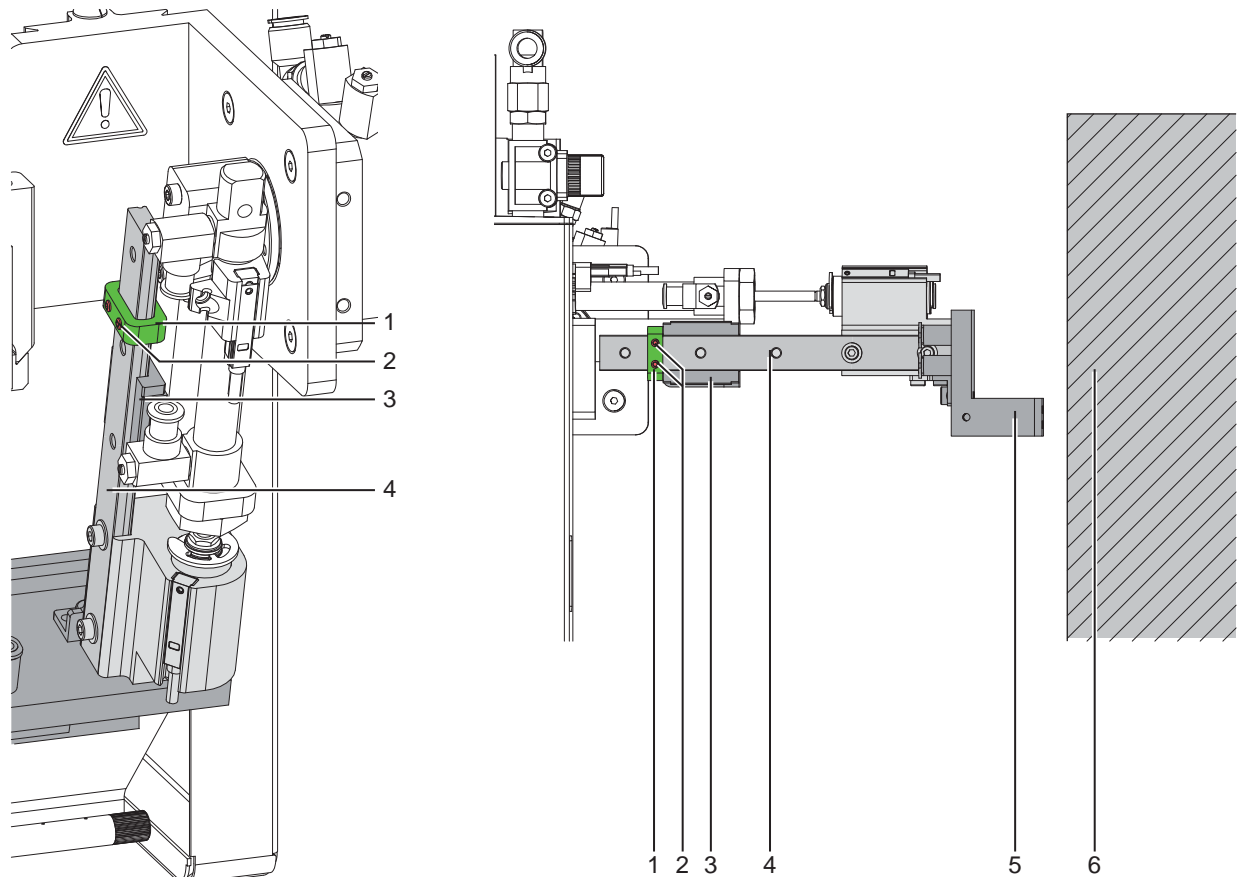


Fig. 17 Adjust the stopper in the operation mode "blow"

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

7.4 Adjusting the Sensors of the Swing Drive

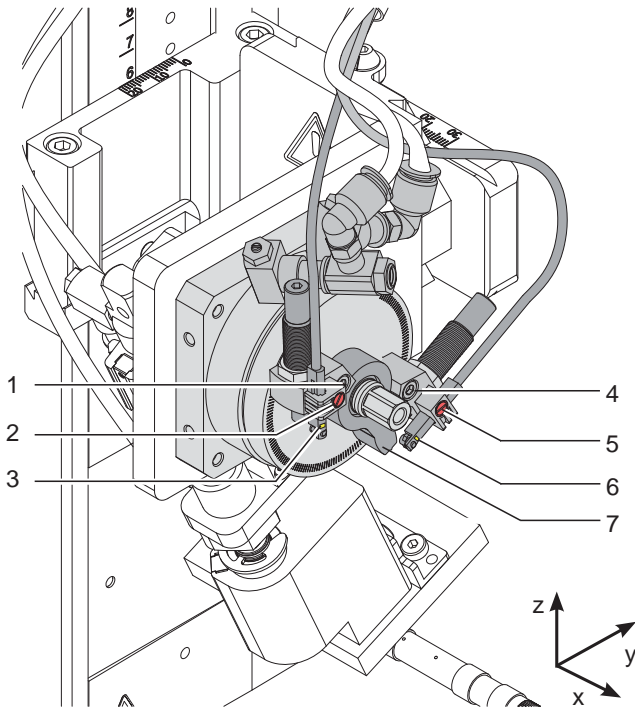


Fig. 18 Adjusting the sensors of the swing drive

► Disconnect the pressure air.

► Switch on the printer.

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

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

7.5 Adjusting the Speed of the Swing Drive

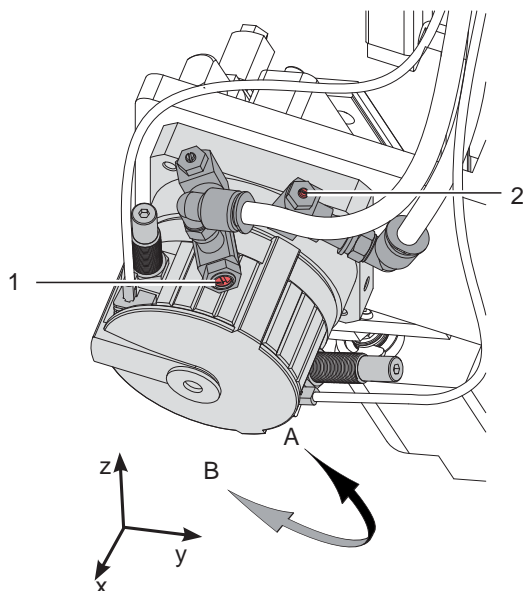


Fig. 19 Throttle valves on the swing drive

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

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



Attention!

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

7.6 Sensors on Cylinder Z

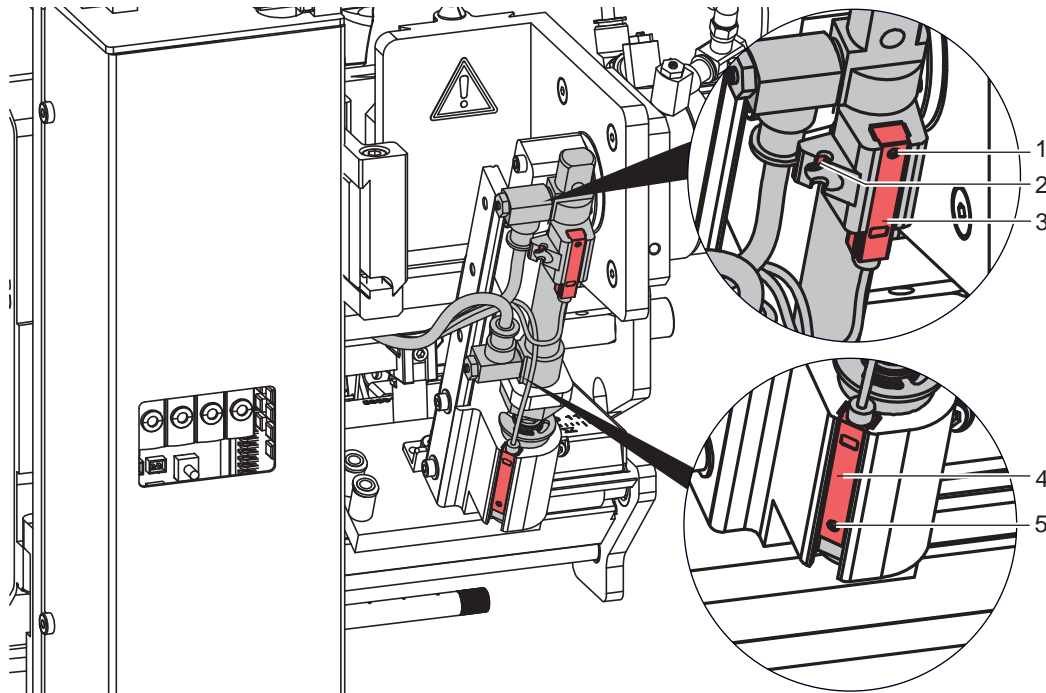


Fig. 20 Sensors on cylinder Z

Sensor Start Position 1

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

Labelling Sensor 2

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

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

7.7 Lift Speed of Cylinder Z

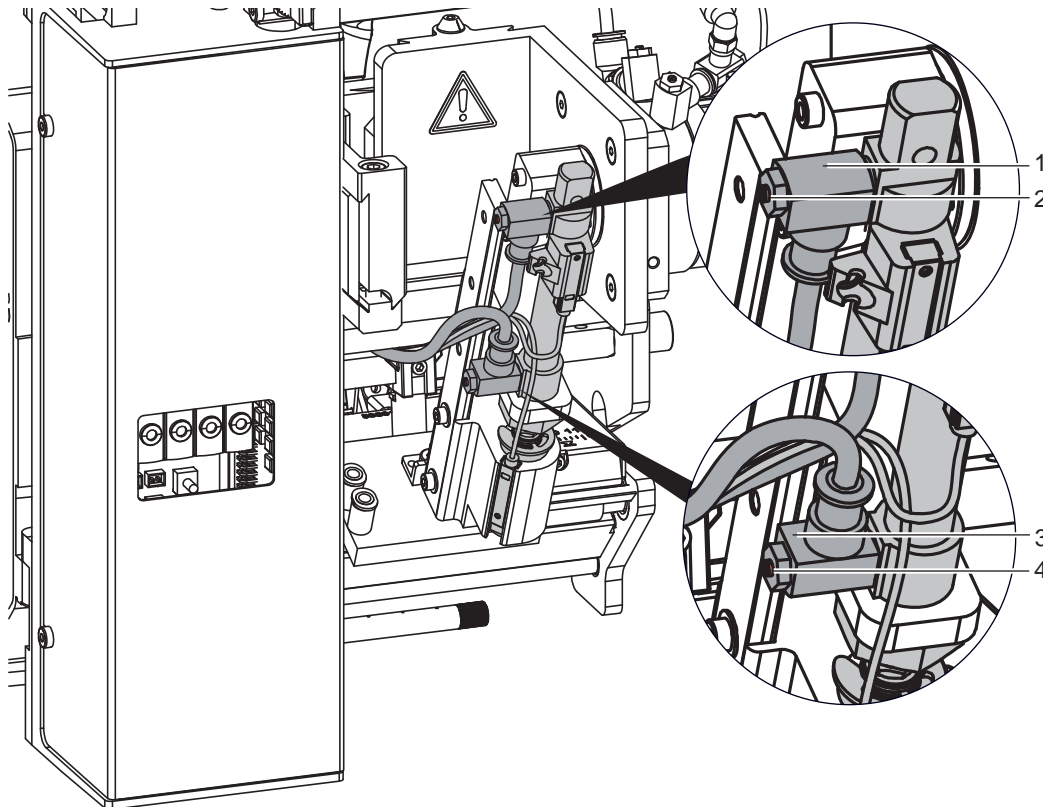


Fig. 21 Throttle valves on the cylinder Z

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

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



Attention!

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

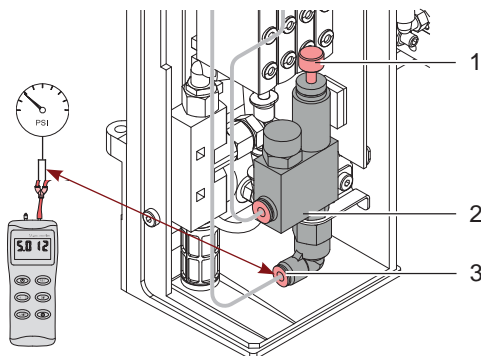


Note!

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

- ▷ 7.8 Adjusting the pressure reduction valve

7.8 Adjusting the pressure reduction valve



The pressure reduction valve (2) will when labelling pressure-sensitive products or to increase generally safety by reducing the pressure of the cylinder in Z-direction.

The standard value is 2.5 bar.

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

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

Fig. 22 Pressure reduction valve Cylinder Z

7.9 Vacuum Adjustments

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

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

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



Note!

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

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

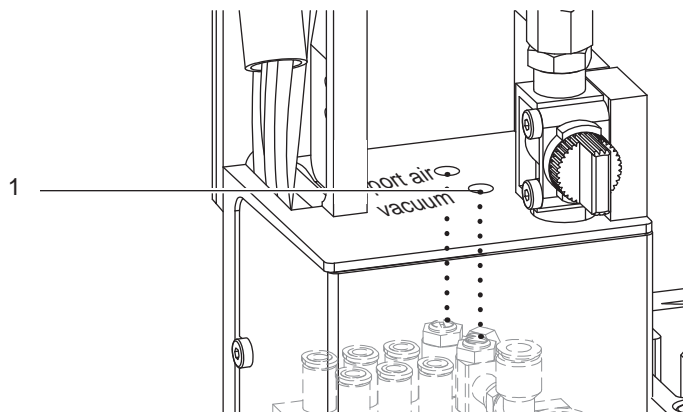
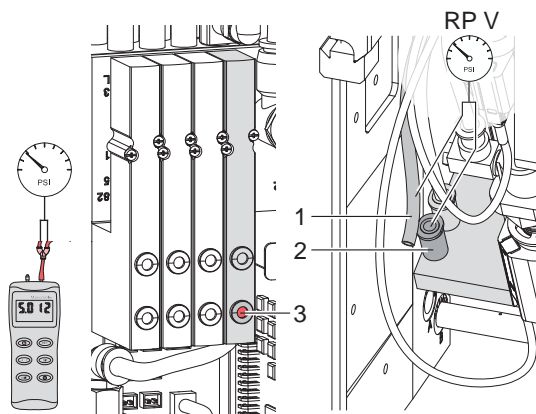


Fig. 23 Throttle valve "vacuum"

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

Measuring Point Vacuum (MP V).



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

MP V: Vacuum (default value -0.6 bar)

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

Fig. 24 Measure the vacuum



Attention!

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

7.10 Blow Tube (Support Air) Adjustments

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

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

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



Note!

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

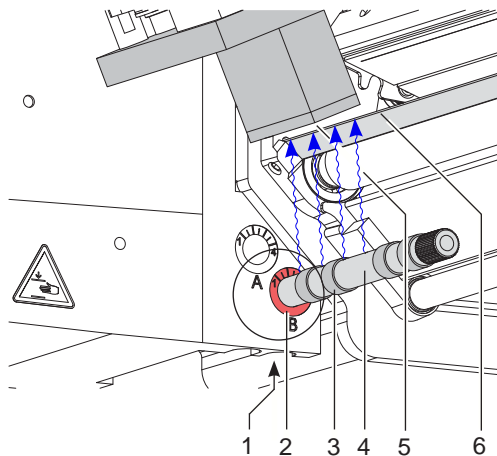


Fig. 25 Adjust the blow tube

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

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

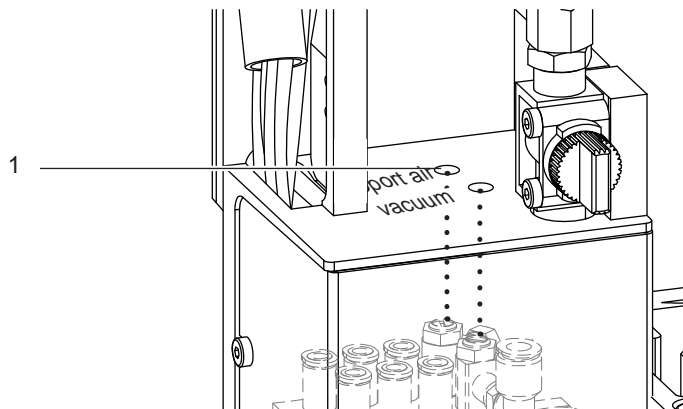
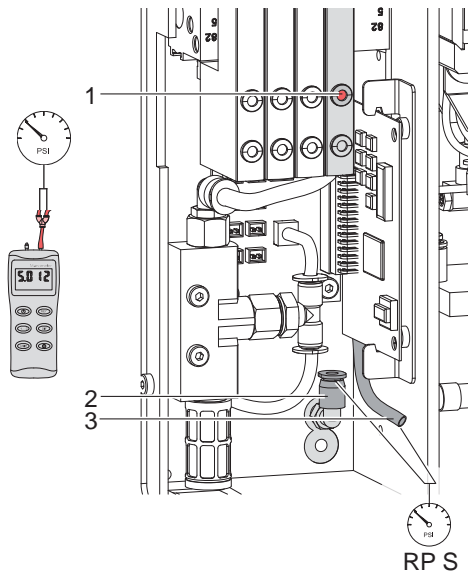


Fig. 26 Throttle valve "support air"

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

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

Measuring Point Support Air (MP S)



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

MP S: Support Air (default value 2 bar)

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

Fig. 27 Measuring points for support air.



Attention!

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

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

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

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

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

Table 3 Operation and application modes

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



Note!

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

8.1 Method for Changing the Printer Setup

1. Press the **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 available delay times.



Note!

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

1. Press and hold 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 or **▼** 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 saved.

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 initiates the printing of a label followed by the application thereof. When the cycle is complete the pad waits in the starting position without a label. Apply-Print: An extra signal starts the printing of the first label and transfers this to the pad. The external signal causes the label to be applied followed by the printing of the next label. After a cycle is complete the waits in the labelling position with a printed label.	Print-Apply
 > Waiting position	only in 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 labelling position for the start signal	up
 > Blow time	only in mode of oper. Blow on Switch-on time (max. 2.5 s) of the supporting air for the label transfer	0 ms
 > Support delay on	Switch on the time delay (max. 2.5 s) of the supporting air after the printing has started. The delay reduces turbulence of the front end of the label during the transfer from the dispensing edge to the pad and thus faults during this transfer.	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 liner to avoid faulty transfers 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 labelling cycle. Allows e.g. the use of product sensors within conveyors systems.	0 ms
 > Lock time	All start signals received within the lock time are ignored to prevent duplications.	0 ms
 > Peel position	Shift the position of the dispensed label relative to the dispense edge. In the software an extra peel offset value is available. The offset values from "Peel position" and from the software are added together when executed. ▷ "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 directly from the dispense edge via contact between pad and dispense edge. Function not available for applicator types: 4014/4016,4314/4316.	Off
 > Cleaning blow	Activate/Deactivate - air pressure pulses to clean the pad after every application.	On
 > Vacuum delay	On - The vacuum will be switched on after end of the label transportation. Out - The vacuum will switched on with the start of the label transport.	Out

Table 4 Configuration parameter of the Applicator

8.4 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.

This course of action is particularly important when loading new material, restarting the device and error treatment.

Parameter "Peel Position" in the printer configuration

- ▶ Check the basic setting in the printer setup. Perform labelling 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 settings in the software. Perform labelling cycles by repeatedly pressing the Enter button ↵.
- ▶ Adjust the peel-off offset in such a way, that the printed labels are peeled off completely from the liner
▷ Programming manual or software documentation.

8.5 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.

9.1 Test Mode without Print Job



Warning!

The pad will be moved to the starting position immediately!

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

► Do not reach into the zone of the moving pad and keep long hair, loose clothes, and jewelry away.

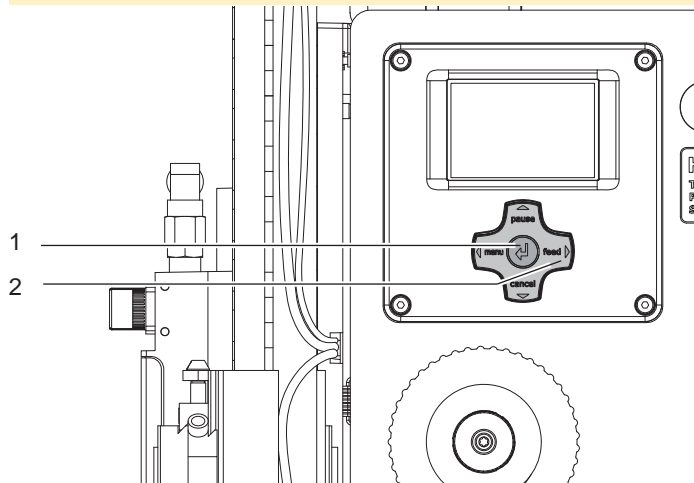


Fig. 28 Test mode via Enter key



Note!

► Please use the test mode to adjust the parameter "Peel position" in the printer configuration.

The whole labelling process can be simulated without the need for 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 of 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 labelling position. A sensor signals when the labelling 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



Note!

► Please use the test mode to adjust the peel-off offset in the software.

This method allows the checking of the labelling process with 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 of 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 labelling position. A sensor signals when the labelling 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 Enter key ↵ key is pressed again.

10.1 Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
1	5902489.001	Screw DIN7984-M4x8	10		
2	5964129.001	Cover	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	5964036.001	Base Plate	1		
8	5966530.001	Eccentric	1		
9	5966529.001	Hinges	1		
10	5964090.001	Bar	1		
11	5903525.001	E-Ring DIN6799-4	10		
12	5964429.001	Plate	1		
13	5902021.001	Screw DIN7991-M3x6	10		
14	5970013.001	Adapter Profile	1		
15	5902167.001	Screw DIN912 M5x50	10		
16	5964331.001	Crossbeam	1		
17	5964328.001	Clamping Element	1		
18	5964062.001	Binder	1		

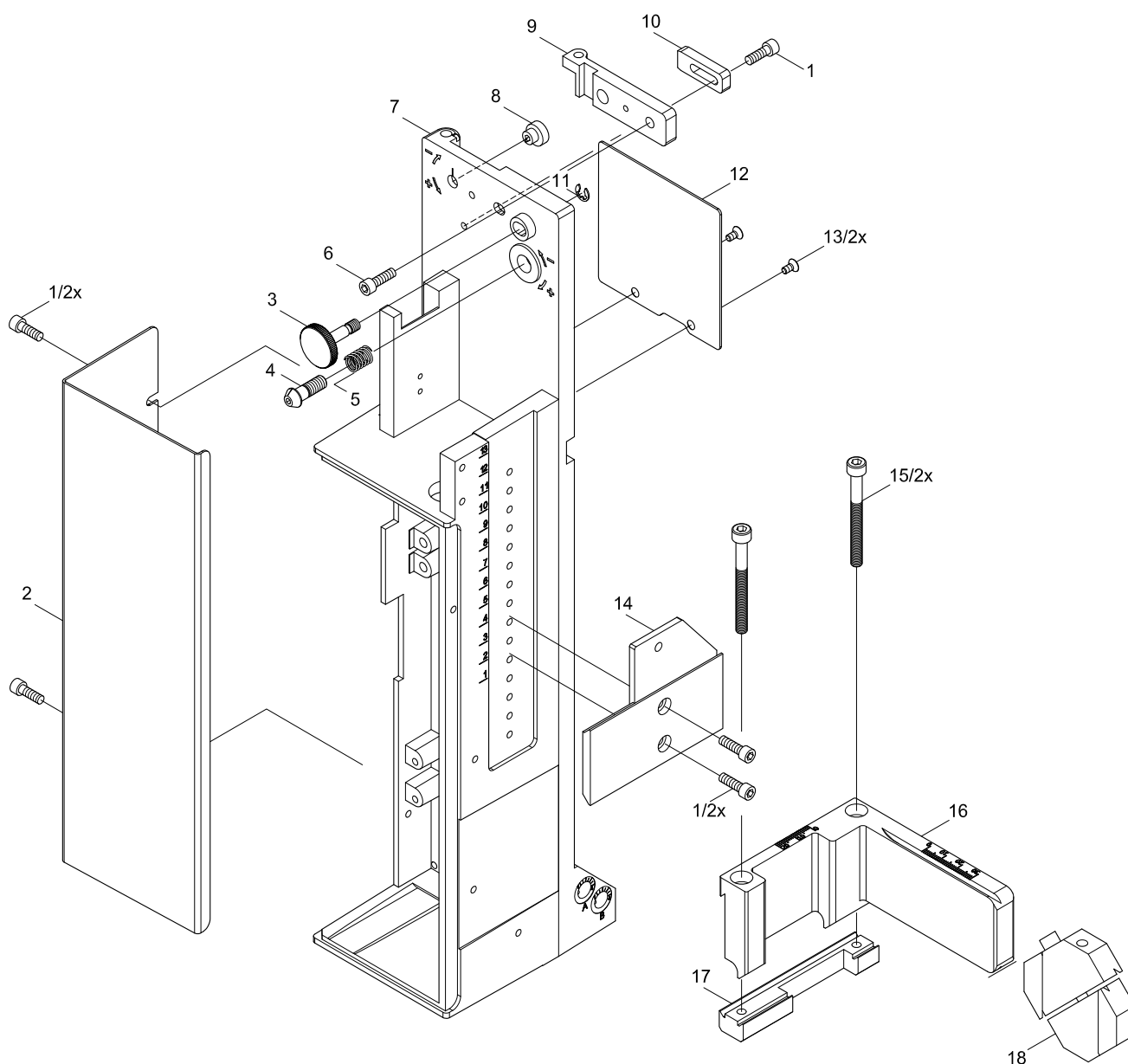


Fig. 29 Retainer Assembly - Spare Part

10.2 Pneumatics Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
1	5902489.001	Screw DIN7984-M4x8	10		
19	5905285.001	Push-in L-Connector	1		
20	5902863.001	Screw DIN7984 M4x25	10		
21	5905284.001	Block Valve	1		
22	5906656.001	Push-in/threaded Fitting	1		
23	5966414.001	Pressure Reduce Valve	1		
24	5966460.001	Tube	2m		
25	5966465.001	Tube	2m		
26	5966466.001	Tube	2m		
27	5966464.001	Tube	2m		
28	5966463.001	Tube	2m		
29	5905972.001	Push-in Y-Fitting	1		

No.	Part-No.	Description	PU	Serial No.	
				from	to
30	5906852.001	Valve Block	1		
31	5906021.001	Valve	1		
32	5906022.001	Valve	1		
33	5902863.001	Screw DIN7984 M4x25	10		
34	5905317.001	Push-in L-Connector	1		
35	5906844.001	Vacuum Generator	1		
36	5905257.001	Silencer	1		
37	5905338.001	Push-in T-Connector	1		
38	5905283.001	Push-in/threaded Fitting	1		
39.1	5964277.001	Blow Tube	2"	1	
39.2	5964095.001	Blow Tube	4"	1	

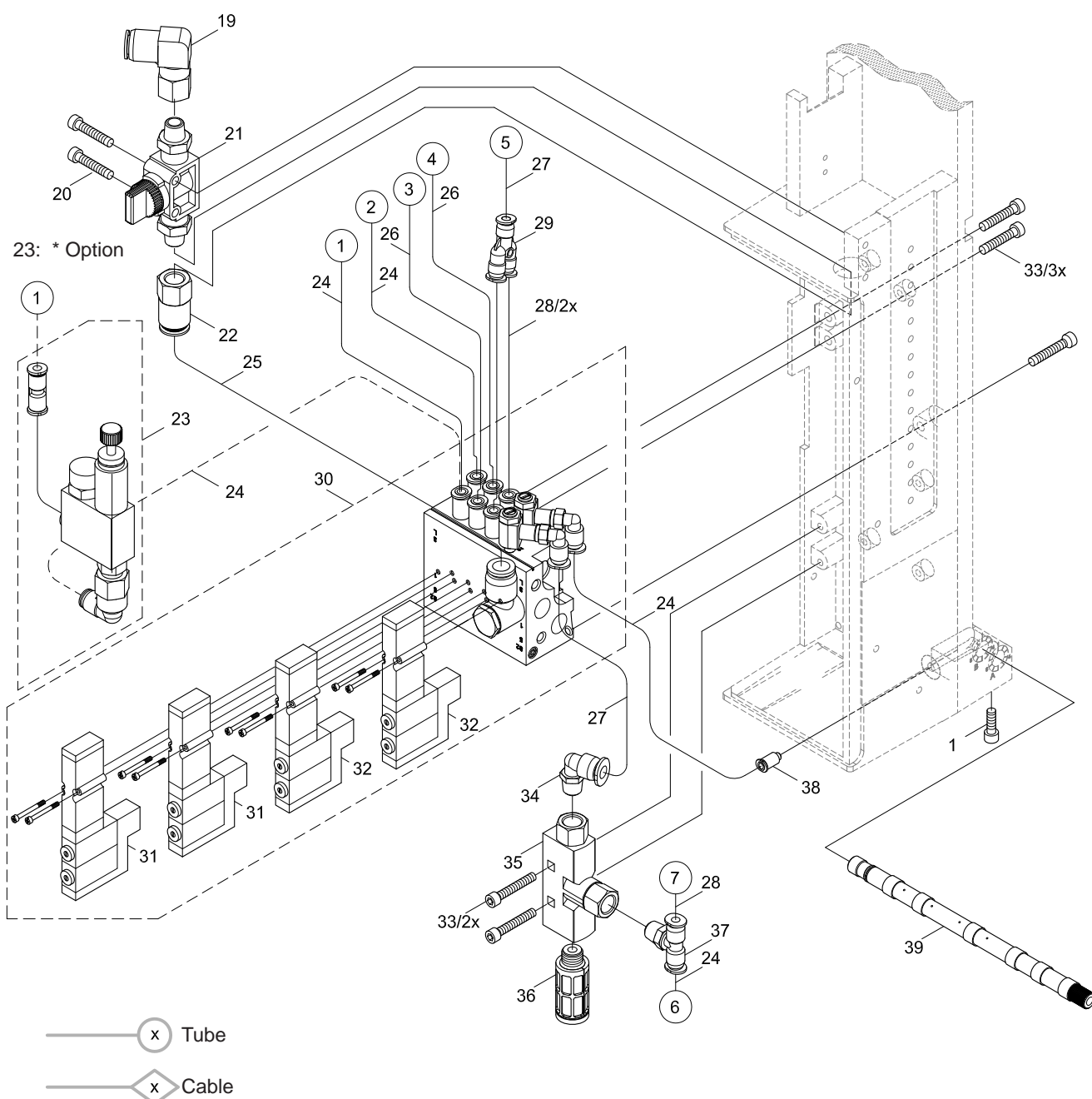


Fig. 30 Pneumatics Retainer Assembly - Spare Part

10.3 Electronics Retainer Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
28	5966463.001	Tube	2m		
40	5902144.001	Screw DIN7984-M3x5	10		
41	5964045.001	Bracket	1		
42	5955586.001	Cable	1		
43	5966584.001	Spiral Tube	1		
44	5902571.001	Screw DIN7984-M4x6	10		
45	5964590.001	Cable	1		
46	5906943.001	Sealing Ring	1		
47	5955585.001	PCB Valve Block	1		

No.	Part-No.	Description	PU	Serial No.	
				from	to
48.1	5955579.001	Applicator Interfaces	1		6123
48.2	5971416.001	Applicator Interfaces	1	6124	
49	5966556.001	Sensor	1		
50	5966557.001	Sensor	1		
51	5966559.001	Sensor	1		
52	5966558.001	Sensor	1		
53	5966570.001	Sensor	1		
54	5955575.001	Applicator Control	1		
55	5966417.001	Retainer	1		

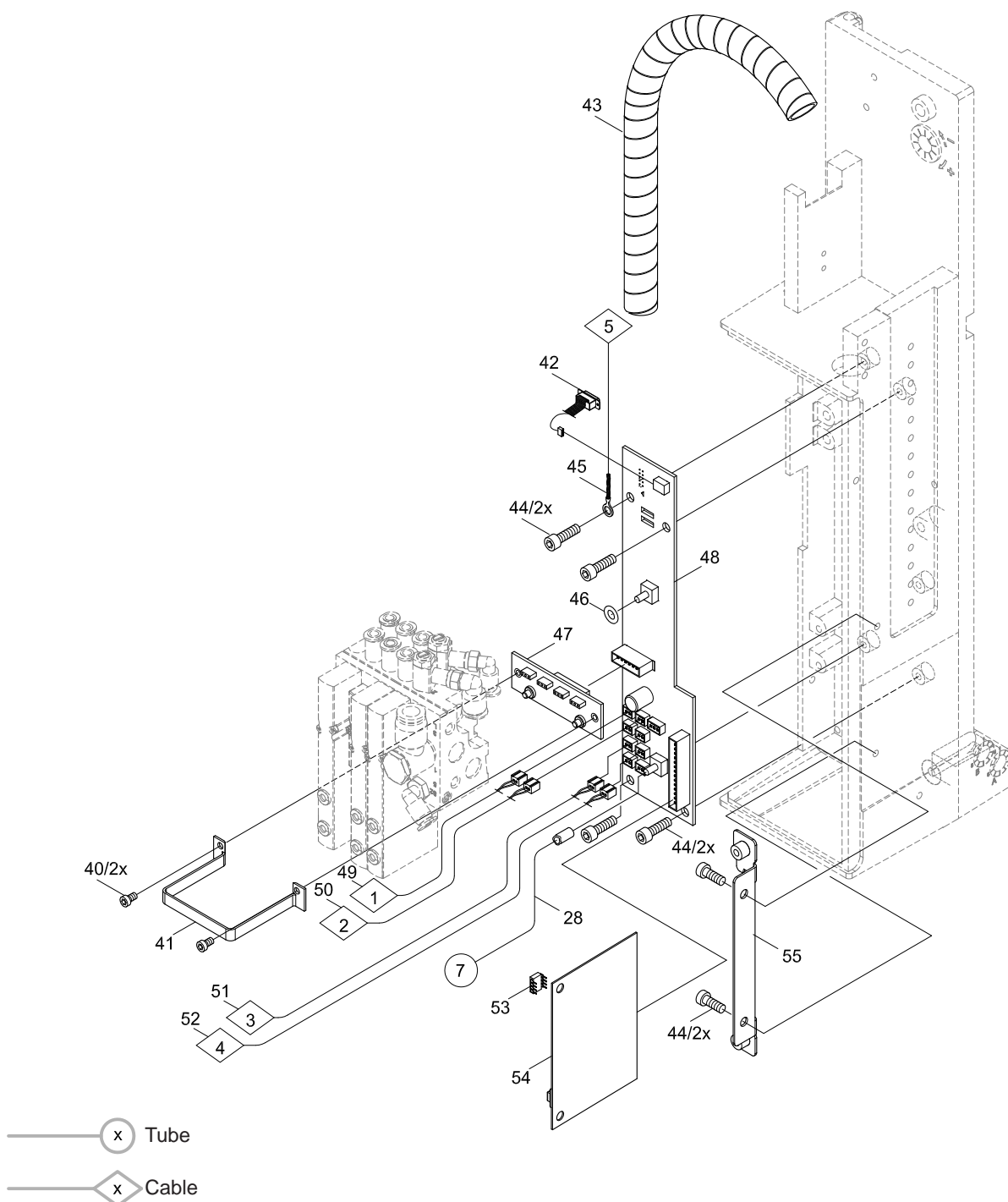


Fig. 31 Electronics Retainer Assembly - Spare Part

10.4 Swing Drive / Cylinder Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
24	5966460.001	Tube	2m		
26	5966466.001	Tube	2m		
49	5966556.001	Sensor	1		
50	5966557.001	Sensor	1		
51	5966559.001	Sensor	1		
52	5966558.001	Sensor	1		
56	5905249.001	One-way Flow Control Valve	1		
57	5906645.001	Cylinder	1		
58	5902112.001	Screw DIN7984-M3x25	10		
59	5917932.001	Guide Rail	1		
60	5966535.001	Swing Arm	1		
61	5902143.001	Screw DIN7991-M4x16	10		
62	5902011.001	Screw DIN912-M3x20	10		

No.	Part-No.	Description	PU	Serial No.	
				from	to
63	5966538.001	Retainer	1		
64	5902562.001	Screw DIN7984-M4x14	10		
65	5966536.001	Adjustment Bracket	1		
66	5964061.001	Setting Screw	1		
67	5903505.001	E-Ring DIN6799-5	10		
69	5905470.001	One-way Flow Control Valve	1		
70	5905255.001	Push-in L-Connector	1		
71	5907068.001	Swing Drive	1		
72	5907061.001	Sensor Retainer	1		
73	5907066.001	Cover	1		
81	5902010.001	Screw DIN912-M3x10	10		
88	5906646.001	Mounting Clip	1		
91	5966985.001	Transport Locking	1		

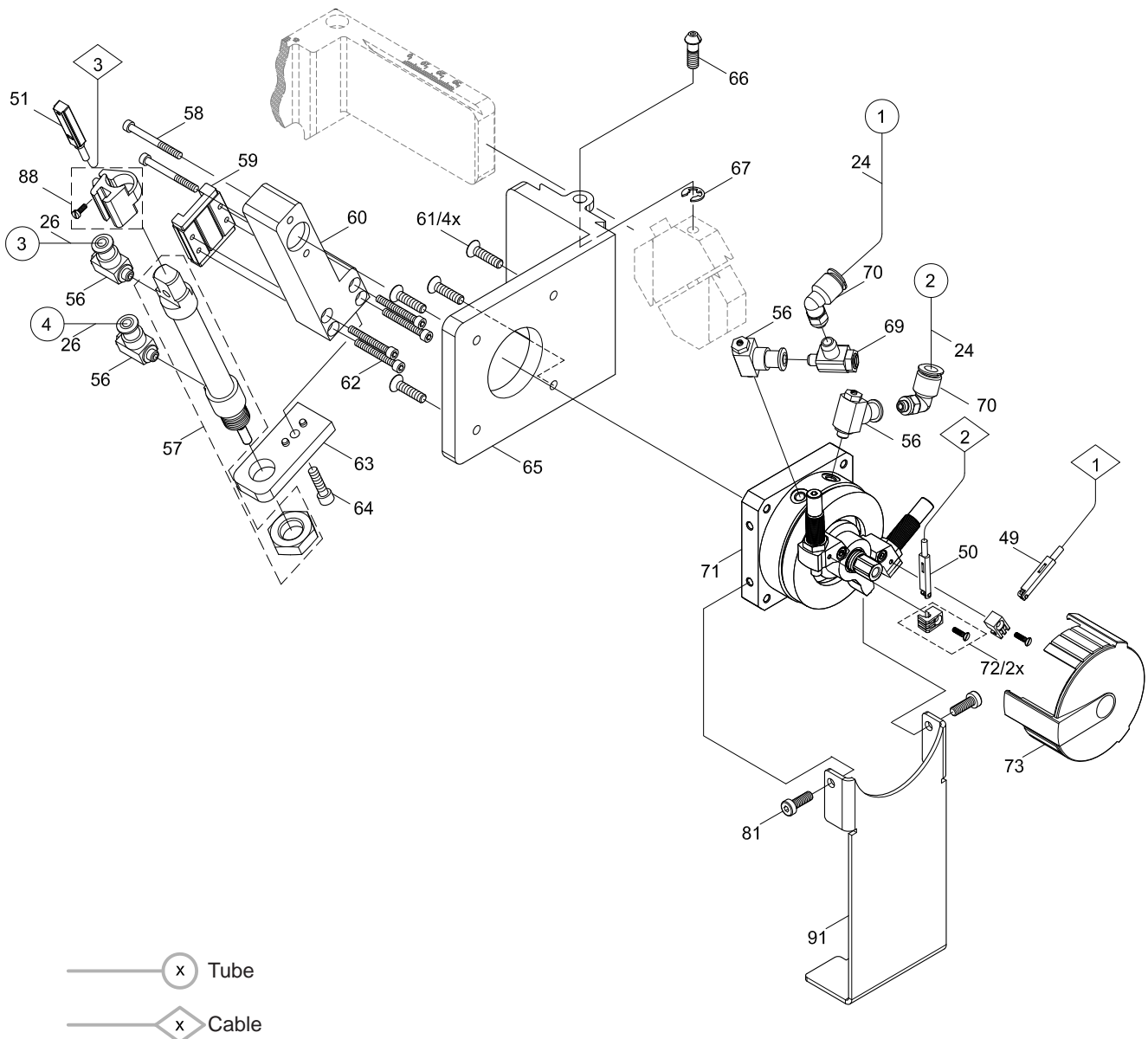


Fig. 32 Swing Drive/Cylinder Assembly - Spare Part

10.5 Pad Assembly

No.	Part-No.	Description	PU	Serial No.	
				from	to
1	5902489.001	Screw DIN7984-M4x8	10		
24	5966460.001	Tube	2m		
27	5966464.001	Tube	2m		
45	5964590.001	Cable	1		
52	5966558.001	Sensor	1		
74	5903510.001	E-Ring DIN6799-9	10		
75	5941808.001	Bushing	1		
76	5905602.001	Ring Magnet	1		
77	5949191.001	Adapter Bolt	1		
78	5905096.001	Spring	5		
79	5521158.001	Washer	1		

No.	Part-No.	Description	PU	Serial No.	
				from	to
80	5521157.001	Washer	1		
81	5902010.001	Screw DIN912-M3x10	10		
82	5903004.001	Washer DIN125-A3.2	10		
83	5970123.001	Guide Rail L=230	1		
84	5902838.001	Screw DIN7984-M3x6	10		
85	5964456.001	Adapter	1		
86	5966534.001	Pad Retainer	1		
87		Pad (customized)			
89	5904528.001	Set Screw DIN913-M3x4	10		
90	5966918.001	Stopper	1		

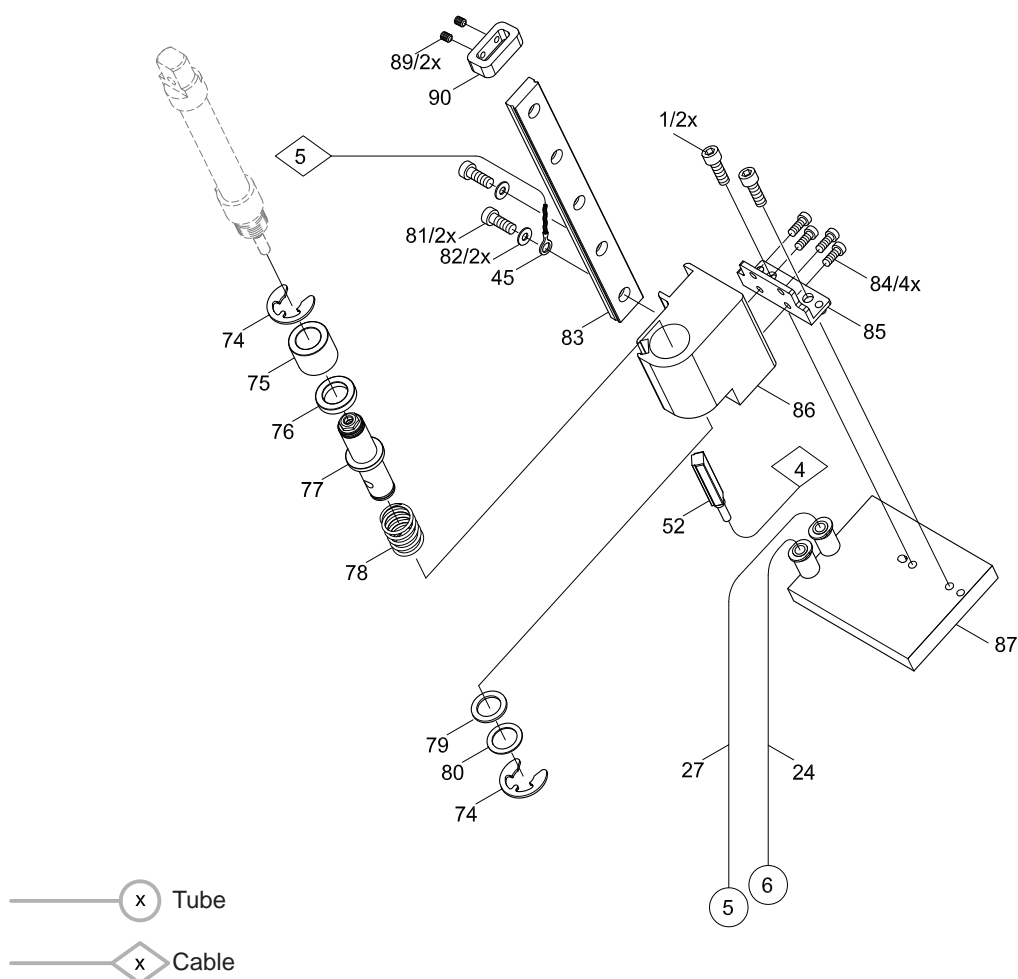


Fig. 33 Pad Assembly - Spare Part

11.1 Block Diagram Type 3214

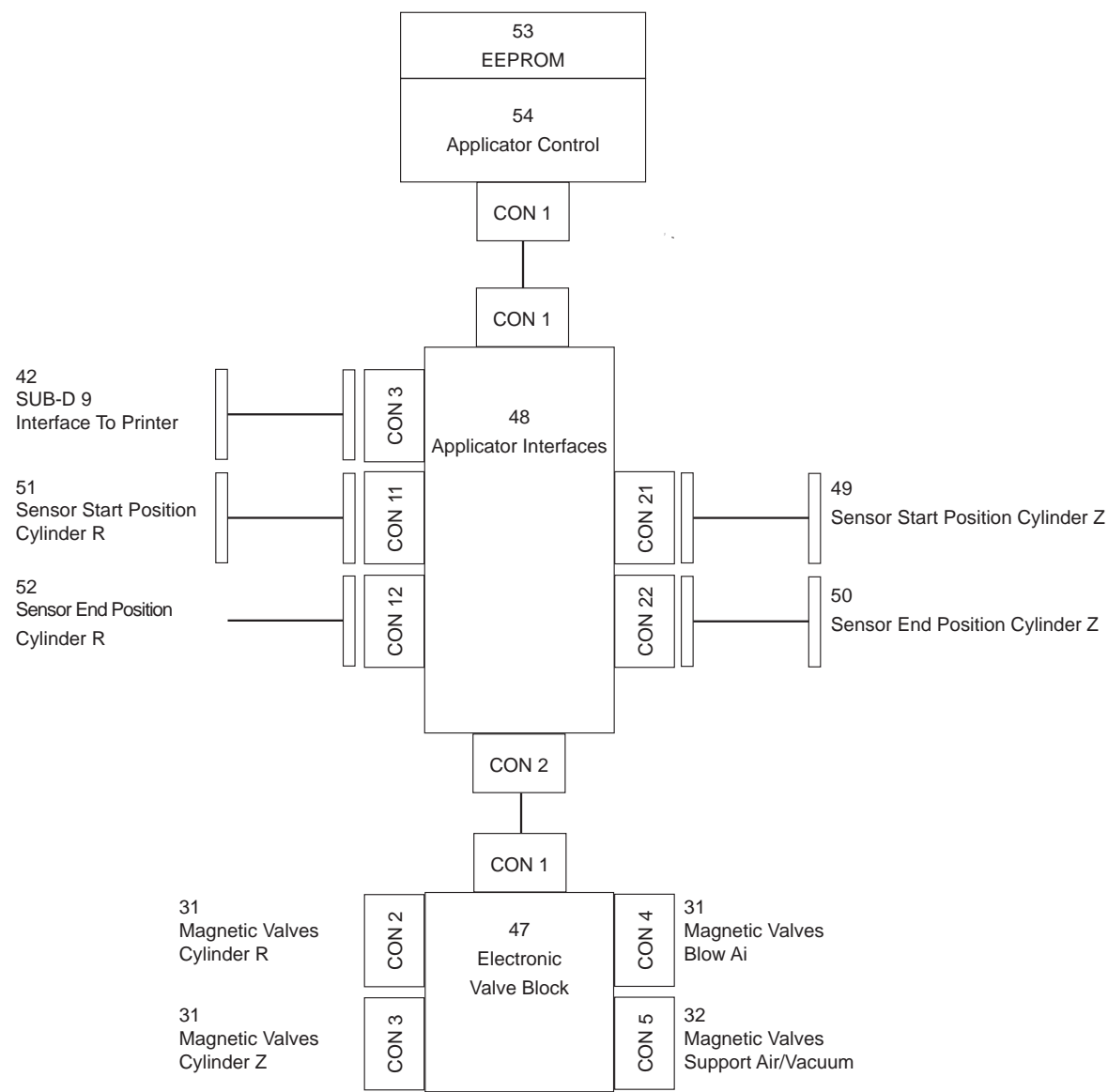
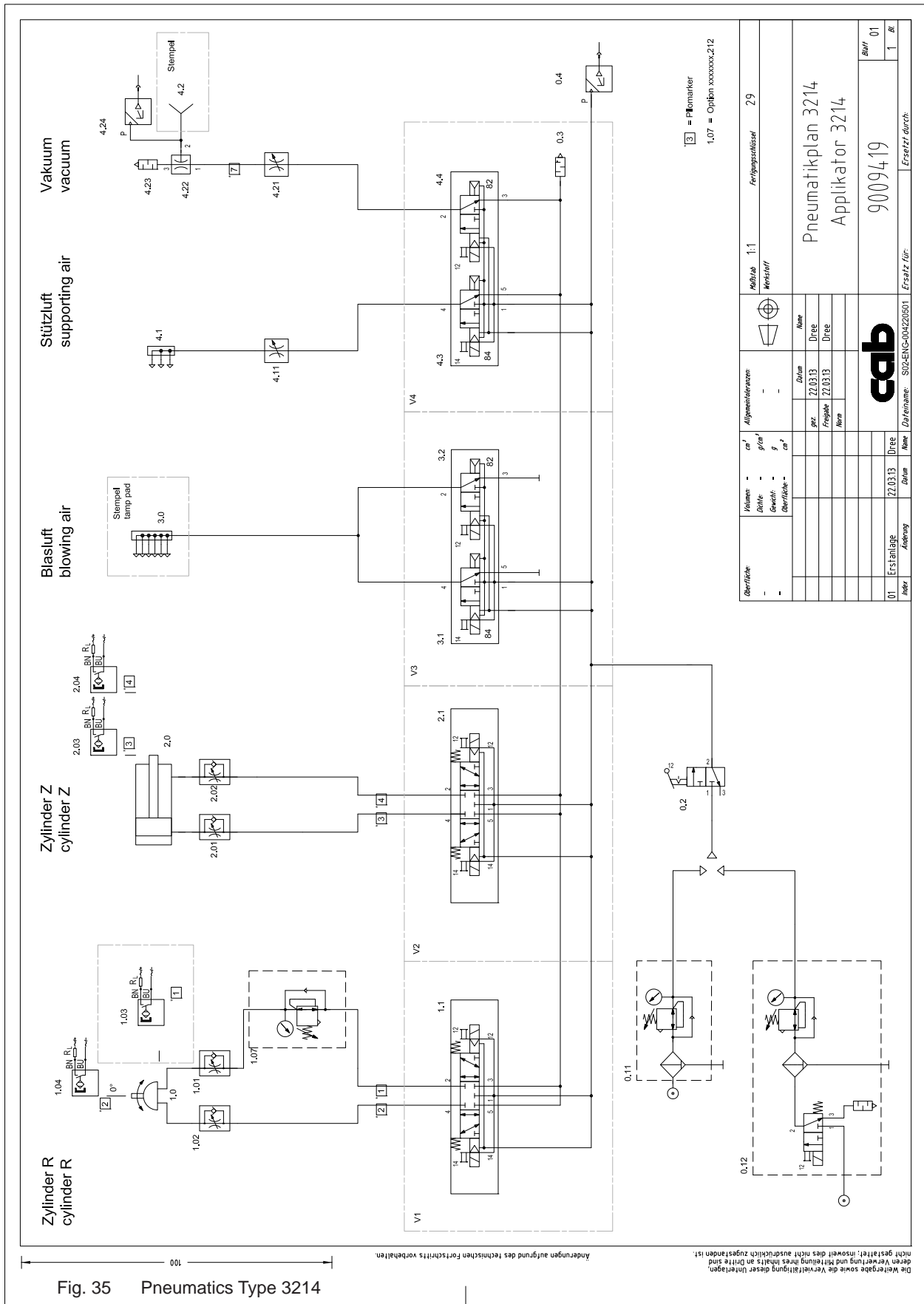


Fig. 34 Block diagram 3214

11.2 Pneumatic Drawing Type 3214



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